

# Ultra Electronics

1993-2018

25 Years of Ultra**News**

**Ultra**  
ELECTRONICS

# **Ultra** Electronics

**1993-2018**

25 Years of Ultra**News**





Ultra Electronics has a proud history that dates back to the 1920s\*, however, Ultra as we know it today was formed from the management buy-out of seven business of the Dowty Electronics Systems Division on 13th October 1993.

This book is a compendium of every UltraNews, the company newsletter, published during the first 25 years since its rebirth in 1993. The first issue was published on the anniversary of the management buy-out in Oct 1994 and there have been a total of 41 editions to date.

For all the UltraNews stories; the contracts that we won, our innovative products, our satisfied customers, it is those of our employees and the sharing of their success that are the most memorable.

**Mike Baptist OBE**  
Ultra employee

\*Ultra Electric Ltd was established in 1925 and became a world leader in the production of wireless radio and televisions. Ultra introduced the world's first main powered wireless set in 1931 and the television receiver for the BBCs "High Definition Television Service" transmitted from Alexandra Place in 1939. During World War II, Ultra started manufacturing defence electronic products. In 1961, the consumer electronics arm of the business was sold to Thorn EMI, who continued to manufacture Radios and TVs under the Ultra brand until 1974. The remaining business was renamed Ultra Electronics, producing predominantly Aerospace and Defence products, including Sonobuoys, Search and Rescue systems, and Intercoms. Dowty acquired the business in 1977 and the Ultra Electronics name remained unused until 1993. Following the management buy-out of seven businesses of the Dowty Electronics Systems Division on 13th October 1993, Ultra Electronics was reborn.

The image displays a collection of 48 UltraNews magazine covers, organized in a 6x8 grid. Each cover represents a different issue, featuring a unique headline and visual theme. The headlines include:

- Row 1:**
  - UltraNews: ULTRA GETS OFF TO GREAT START
  - UltraNews: FIRST ACQUISITION
  - UltraNews: Ultra's Order Book goes from Strength to Strength
  - UltraNews: Year of Growth Celebrates in First Overseas Acquisition
  - UltraNews: Ultra goes Public
  - UltraNews: Good Start to 1997
  - UltraNews: US Expansion
- Row 2:**
  - UltraNews: Market Position Strengthened
  - UltraNews: High Profile at Eurofighter '96
  - UltraNews: EUROFIGHTER GO AHEAD
  - UltraNews: Growing International Presence
  - UltraNews: Ultra Systems for Avitac
  - UltraNews: New generation of fighter jets
  - UltraNews: Sonobuoy world champions
- Row 3:**
  - UltraNews: Growing position in 'barbarian' IT
  - UltraNews: Sonar breakthrough
  - UltraNews: Going for growth
  - UltraNews: Mainstream for Middle East
  - UltraNews: Air Contract Award
  - UltraNews: Entry into the ACIS
  - UltraNews: Part-time
- Row 4:**
  - UltraNews: Joining the US fleet
  - UltraNews: Digital Success
  - UltraNews: a cool \$12m
  - UltraNews: Emergency school for disabled and Tobago
  - UltraNews: New submarine hunter system
  - UltraNews: open for business
  - UltraNews: A new mission
- Row 5:**
  - UltraNews: LAUNCH
  - UltraNews: Bahrain
  - UltraNews: systems engineering
  - UltraNews: strategies for growth
  - UltraNews: building engine for growth
  - UltraNews: Small takes off
  - UltraNews: The results are in
- Row 6:**
  - UltraNews: LAUNCH
  - UltraNews: Bahrain
  - UltraNews: strategy
  - UltraNews: building engine for growth
  - UltraNews: building engine for growth
  - UltraNews: Our vision
  - UltraNews: Delivering excellence

The covers utilize a variety of images, including aircraft, ships, people, and abstract graphics, to represent the diverse content of each issue. The overall design is professional and informative, typical of a specialized industry publication.



# Ultra News

The Newspaper for Ultra Electronics Employees

ISSUE 1

AUTUMN '94

## ULTRA GETS OFF TO GREAT START

### Ultra wins £100m in new orders

IN OUR very first edition of *Ultra News* we are happy to report a good solid start to the new Ultra Electronics company with the first anniversary on 9th October 1994.

It is very satisfying to know that there has been no let up in the winning of new orders. This is confirmed by the £100 million of new contracts placed during the first 8 months of 1994 – a fine achievement.

The new work, which is spread across most of the Group, not only consolidates the smooth transition from Dowty to Ultra but also shows a healthy vote of confidence in Ultra by our customers. Some of these orders are reported in more detail in this issue.



### Progress on all fronts

*On the sea – Type 23 Frigate HMS Norfolk.*

*In the air – Airbus A340.*

*On the land – Challenger 2 Main Battle Tank.*



### FANTASTIC FARNBOROUGH

ULTRA'S FIRST major international aerospace exhibition took place in September at the Farnborough Air Show. The event was voted a major success with our stand attracting lots of attention.

Farnborough is a great opportunity to meet customers and make other important contacts in the aerospace and defence industries.

This year was no exception, as the picture shows Julian Blogh meeting Hans Kruger, President of Saab Aircraft on the Ultra

Stand. Saab aircraft is a very important customer to Controls, Electrics and Sonar

& Communications. The

occasion celebrated the

entry of our world leading

active sound control

system fitted on the Saab

2000, into passenger service

with Crossair in Europe.

*Dr Julian Blogh  
with Mr Hans  
Kruger, President  
of Saab Aircraft  
A.B.*



**You could win a dinner for two  
at a restaurant of your choice.  
See back page for details.**



WELCOME to the first issue of *Ultra News*. This newsletter will be published every 6 months – in October and April.

Through this newsletter we intend to keep you in touch with progress across the Group and to report on the activities and interests of the people who work for Ultra.

As you read this first issue you may well have ideas for items which could be included in future issues or ways in which *Ultra News* could be improved.

Do pass on your ideas to your local *Ultra News* contact whose name is listed below. We would like to thank all those who have contributed to the first issue, although it has not been possible to include all the articles and photographs supplied.

Finally we are looking for the best name to call *Ultra News* for future editions. You can find details of the competition to find a new name on the back page.

*Jack Telfer*

Jack Telfer

#### Local Newsletter Contacts:

Command & Control Systems – Adam Wainwright  
Controls – Angie Doyle  
Electrics – Jackie Foxton  
Magnetics – Bob Blakemore  
Ocean Systems – Richard Farwell  
Sonar & Communication Systems – Carol Doyle  
Weapon Systems – Nick Baird

## HIPPAG SELECTED FOR TRIGAT

WEAPONS Systems has been awarded a development contract worth £400,000 from Deutsche Aerospace to supply HIPPAG for the Trigat missile – next generation anti tank weapon.

# NEWS IN BRIEF

## WEAPON SYSTEMS WIN SIDEWINDER FOLLOW-ON CONTRACT

WEAPONS Systems at Hednesford has been awarded the follow-on contract for the repair and overhaul of the UK sidewinder AIM-9L missile.

The new contract started on 1st August and is worth about £8 million over a six and a half year programme. Competition for this contract was very tight with the MoD awarding Ultra the contract as best value for money and low risk.

Peter Smith who heads up the Sidewinder facility said, "The award of this contract reflects the good work done by the team at Hednesford and provides a sound basis for us to grow the business. We are currently pursuing a number of overseas opportunities for the repair and overhaul of sidewinder missiles."



The Sidewinder repair team.

## ELECTRICS DIVISION

IN JUNE, Electrics generated strong European interest in their fighting vehicle product range at two important exhibitions: Battlefield Systems International at Chertsey and Eurosatory '94 at Le Bourget, Paris.

Following on from the exhibitions, interest has been shown across Europe, Australia, Canada, South Africa and Singapore.

### Railway Switching

Railways throughout the world continue to demand from Electrics their high reliability switches. These switches are used in the clamp lock points control system. Many are being made for an updated model of the switch to be available by the end of 1994. Over 35,000 switches are in service world-wide.

## COMMAND & CONTROL WIN KOREAN EXPORT ORDER

AFTER four years of extensive negotiations and intense competition, BAeSema have won the prime contract to supply the Combat System to the new Korean Destroyer.

Command and Controls Systems, as a key supplier to BAeSema, will provide the console, commissioning software and target hardware for the Software Development System. The initial contract, worth £5 million, is for the development and for supply of the first production system. Follow-on orders are expected early 1995.

Delivery time scales are very critical – as the customer requires the first system installed and commissioned within 48 months!



HMS Vanguard.

## MAJOR CONTRACT AWARDS TO COMMAND & CONTROL

COMMAND & Control has been awarded two major contracts worth over £30m in total, for the Submarine Command System SMCS fitted to all the UK's Nuclear Submarines.

These contracts, which flow down through BAeSema, our prime contractor, are very important to the future of Command & Control and are a welcome boost to Ultra's already growing order book.

The SMCS system is already at sea in HMS Vanguard, the first UK Trident submarine, and has proved remarkably trouble free, despite being a major leap in technology.

## FRENCH SENSOR CONTRACT FOR MAGNETICS

THE FRENCH Government Naval Research Agency has awarded Magnetics a development contract for a High Sensitivity 3 Axis Differential Magnetometer.

The system which will be used on ships to monitor the magnetic field through the vessel will provide a feedback mechanism to the on-board degaussing system. If the system is successful then there could be a requirement for several hundreds of units.





Some of the team pictured on the stand. L-R Richard Thwaites, Maria Falzon, Alison Dunn, Elaine Gray and Marion Churchill.

# SBAC FARNBOROUGH AIR SHOW 1994

**ULTRA NEWS** talked to Richard Lane, Group Marketing Director, about the Farnborough Air Show which was Ultra's first major aerospace exhibition...

The SBAC Farnborough Air Show is one of the few really international aerospace exhibitions. This year Farnborough featured displays of world leading technology from over 30 countries. Over 100 aircraft were on display together with Europe's largest space exhibition celebrating the 25th anniversary of the first lunar landing.

Planning for Farnborough started early in February when Richard Thwaites, Head of Marketing at Electrics Division, was appointed Ultra's Project Manager.

Working with a team selected from across Ultra their first concern was to agree a theme for the stand. "Innovation and Capability" were the two key elements with a strong focus on new products. By the middle of March a detailed specification had been drawn up.

We needed a stand which would not only catch people's attention but would show off our capabilities and new products,



Richard Thwaites and Richard Lane discussing the Ultra stand design.

and provide adequate space for graphic displays and meeting rooms. Setting and achieving deadlines are the key to any successful project and in this case the stand was erected on site two weeks before the show opened.

Farnborough, like all other major exhibitions, is a costly undertaking so it is important to get good value. Getting the right people to visit our stand was vital to being successful. We did this by personal invitation and each Division produced a guest list and sent out invitations well in advance of the show. At the same time we took the opportunity to update all our sales brochures.

Five Ultra businesses were on display: Sonar and Communication Systems gave a demonstration of Active Sound Control, and Controls showed their new HIPSS used for propeller de-icing. Electrics had a mock up of the Eurofighter Cockpit showing

the position of their switches and indicators, and Weapon Systems displayed their latest range of HiPPAG compressors. Command and Control Systems demonstrated TagTrak - a brand new product for use in airports to ensure that you and your baggage arrive at your destination on the same aeroplane.

Richard Lane, said, "We had a very successful Farnborough this year with a lot of interest both in Ultra and our new products."

"I am very grateful to all of the helpers who contributed to its great success, especially Richard Thwaites' team, who put in a great deal of hard work which gave us the opportunity to meet many of our customers and partners. We all enjoyed taking part and found the Farnborough week a rewarding experience. We did a good job in putting Ultra firmly on the map amongst the best of the World's Aerospace Industry."



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# Ultra ELECTRONICS 'ONE YEAR ON'

## The Chief Executive's Review

I AM pleased to write to you on the first anniversary of Ultra Electronics. It has been an eventful year and one which seems to have passed by very quickly; a year of consolidation, achievement and setting the course for the future.

Since our formation we have made excellent progress, most notably perhaps the seamless transition from Dowty to Ultra in the market place. This has been demonstrated by our ability to win new business at an impressive rate – since January we have won over £100 million in new orders taking our current order book to over £150 million.

Important achievements were the moves of Controls to Greenford and Command and Control Systems to Loudwater. Relocation can be disruptive and I am grateful for the support given by all those involved in the moves which occurred right on schedule.

The theme "Innovation through Experience" was featured on our stand at the Farnborough Air Show in September. Innovation can be applied to all aspects of our business but it is most important in the design, manufacture and marketing of new products.

Understanding customers' requirements and meeting their demands responsively with innovative technical solutions is the key to our future success and the basis of our culture.

To this end, we shall be spending over 20% of our turnover on research and development next year with a strong commitment to new products. Within the Group we have some exciting developments – Active Sound Control, HIPAG, HIPSS for Propeller De-icing and Deep Scan 60 to name but a few.

Overall, Ultra Electronics has a well balanced portfolio of products, technologies and skills and we are well positioned as a long-term supplier on a number of key platforms such as Airbus, Eurofighter 2000, Challenger II Tank, Type 23 Frigate and Merlin helicopter.

For the longer term all our businesses have just completed their strategic reviews and produced their 5 year business plans. This process has focused attention on markets, particularly exports, and the product strategies to meet our planned sales and performance targets.

To help achieve our goals I would like to see the continued development of relationships between our individual businesses to maximise our skills, experience and synergies which will improve our chances of winning new businesses and securing the future. I have already seen several good examples of businesses working together to great effect.

Thank you for supporting Ultra through the transition period. Whilst the coming months and years will undoubtedly provide us with many challenges I believe we have a great future ahead of us.

**Dr Julian Blogh**  
Chief Executive.



# MOVING SITES

## Controls to Greenford and Command and Control Systems to Loudwater



Command and Control Systems new home – Loudwater.

IN JULY, the curtain was brought down on over 50 years' continuous occupation at Twickenham Road, Feltham, when Command and Controls moved to Loudwater.

As the lease was due to run out in 1995 and the landlord intended to redevelop the site, we had to move out sooner or

later, and the decision was made to move early. Command and Controls moving to Loudwater was possible because sufficient

## ACTIVE SOUND CONTROL FOR SAAB AIRCRAFT

The ASC system will be integrated into the new Saab 2000 interior.







**Farewell Feltham.**

space existed at Greenford for Controls Division to move in alongside Sonar and Communication Systems.

Following months of meticulous planning all the moves were carried out right on schedule.

Task teams in the three companies involved orchestrated the activities very effectively with minimum disruption to business.

The net result was that customer delivery schedules were met, and the moves were completed on time within budget. While the cost of the moves was about £2.5 million, they will provide greater benefits to the business through better communication, better use of space, better accommodation and a saving approaching £2 million per year.

It is worth pointing out that the Command and Control Logistics Group were not involved in the move to Loudwater and are operating as usual at Hook.



**Ultra Head Office and Controls Division Greenford.**

SONAR & Communication Systems has recently been awarded contracts to supply Active Sound Control Systems for both the Saab 2000 and Saab 340B plus turboprop aircraft. Together with their partner Noise Cancellation Technologies (NCT), Ultra leads the world in this innovative technology.

Ultra's ASC is used to significantly reduce cabin noise levels by propellers and jet engine fan

blades. ASC works by generating an antiphase sound field which cancels unwanted noise, thus dramatically improving passenger comfort.

Ultra and NCT have worked closely with Saab Aircraft and AIM Limited (the aircraft trim manufacturer) to

integrate the ASC system into the new Saab 2000 interior. Crossair is the first airline to fly ASC and have placed orders for 20 Saab 2000 with options on a further 25.



# PEOPLE IN THE NEWS

## New MD for Electrics

DR FRANK Hope has been appointed Managing Director of Electrics with effect from the 22nd August. Frank joins Ultra from Avimo Ltd.

During his career, Frank has managed both Technical and Operations functions within the Defence and Aerospace sectors. Frank has a BSc in Physics and a PhD in Low Temperature Physics. He is married and currently lives in Somerset.



## OTHER APPOINTMENTS

**Graham French** - Finance Director of Sonar and Communication Systems Division. Joined Ultra from Racal Communications.

**David Garbett-Edwards** - Finance Director of Electrics Division moving from Controls Division where he held the post of Financial Controller.

**Terry Stokes** - Marketing Director of Command and

Control Systems Division, joined Ultra from Ferranti Simulation and Training.

**Rakesh Sharma** - Marketing Director of Sonar and Communication Systems, where he was Chief Engineer - Communications.

**Keith Thomson** - Operations Director, Electrics Division where he was previously Operations manager.



**Keith Thomson**



**Graham French**



**David Garbett-Edwards**

# TECHNOLOGY UPDATE

CONTROLS have invested in a new mechanical computer-aided design package (MCAD).

Following extensive benchmarking of CAD packages, a decision was made to install SDRC's IDEAS MASTERSERIES.

This will, amongst other benefits, enable analysis to be performed to pinpoint possible design weaknesses before committing to tool making and manufacturing costs, thereby improving efficiency and response times.





Merlin Helicopter.

## Datalink Processor and Data Terminal for Merlin helicopter

THE DLP and DTS are Link 11 communication equipment for the Merlin EH101 helicopter. Sonar and Communication Systems was awarded the DLP project by Loral - ASIC (the Merlin prime contractor) in April 1994 and DTS in June 1994 by GEC Marconi Avionics (the communication subsystem supplier).

The production of 44 units on both projects will start in early 1995. Sonar and Communications teamed with General Attronics in Philadelphia to win the business.

The contract for Link 11 equipment, together with an order for over 100 R605 Sonobuoy receivers, brings Sonar and Communications total orders on Merlin to over £16 million and positions the company well for similar orders on the Replacement Maritime Patrol Aircraft.

# MAPPING THE OCEAN FLOOR

## At 6,000m Ocean Systems Launch Deepscan 60

THE OIL industry has plans to lay underwater pipelines to a depth of over 3500 metres; telecom companies routinely lay cables in the deepest parts of the oceans; scientists gather data from seafloor canyons as part of national research programmes.

They all need to be able to map the ocean floor and, its underlying sediments accurately.

Weymouth based Ocean Systems is leading a

high technological consortium of oceanic specialists to provide just that - the world's most advanced seabed mapping system.

Deepscan 60, the prototype for the new system, will go on trial in the North Sea this autumn. The underwater unit is a 3.5 metre long towfish shaped rather like a torpedo.

Deepscan 60 will perform in waters as shallow as 50 metres down to the deepest parts of the ocean - 6000 metres and beyond - and will produce image resolution just as good as existing shallow sonars.

Ocean Systems is developing Deepscan 60 in partnership with the Institute of Oceanographic Sciences (IOSDL) and the project

is being supported by the DTI's Offshore Supplies Office.

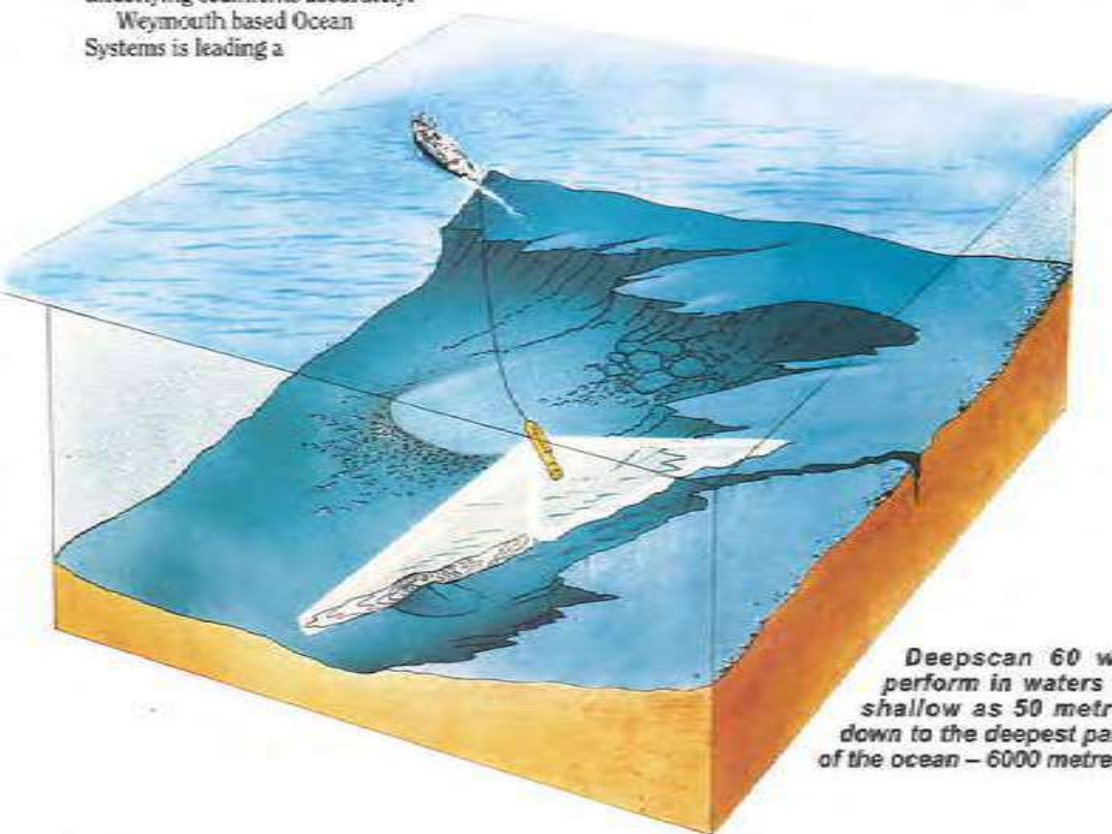
Further sponsorship is coming from the cable-laying and marine operations section of British Telecom while the offshore survey business is represented by SubSea Offshore, one of whose ships will be used for the trials.

## Ultra's Woman in Britain



Julie Balaam

JULIE Balaam, of Controls Division, is featured in a Foreign and Commonwealth Office brochure which highlights Government initiatives to improve the career prospects of British Women in Science and Technology. Julie is featured as a woman who chose an Electrical and Electronic Engineering degree and subsequently commenced her career in the Engineering Industry with Ultra Electronics.



Deepscan 60 will perform in waters as shallow as 50 metres down to the deepest parts of the ocean - 6000 metres.



# THREE PEAKS CHALLENGE

## COULD YOU DO IT?

AT THE end of June a team of 20 from Electrics successfully overcame the daunting "Three Peaks Challenge" and raised the magnificent sum of £6,500 for the Pied Piper Appeal which aims to raise funds to support a new children's hospital for Gloucestershire.

Ben Nevis, Scafell Pike and Snowdon – the highest points in Scotland, England and Wales were all climbed in 24 hours – this involved walking 23 miles, climbing a total of 9,608 feet (almost two miles) and driving 475 miles! Despite fighting their way

through atrocious weather conditions 15 people beat the challenge in 24 hours and the others took the leisurely approach of completing the "walk" in three days!

Obviously events such as this don't just happen; the idea germinated at the beginning of the year and involved a great deal of planning and research into issues like safety and logistics.

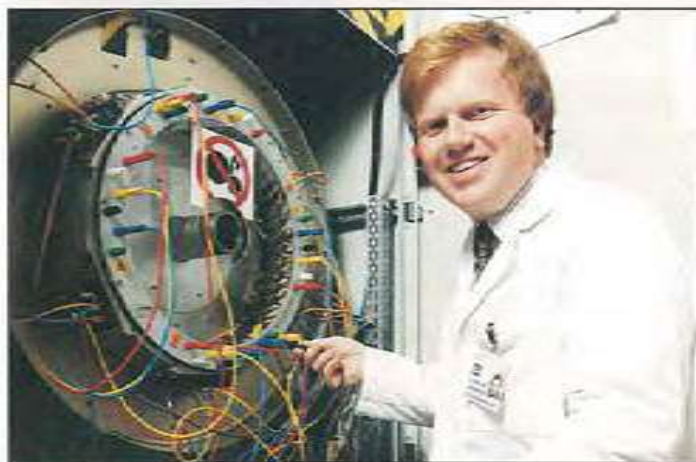
On a broader front, many others contributed to the fund raising in a variety of other ways ranging from cake sales to sponsored swims (presumably not at the same time!).



On top of Snowdon (l-r) Neil Cowie, Phil Thompson, Tony Stone, Libby Bather and Mervyn Minchin.

## FACE 2 FACE

INNOVATION through experience is a key feature in Ultra's culture. *Ultra News* in this issue talks to Tim Smith about Control's Hub Integrated Power Switching Systems HIPSS:



Tim Smith

TIM SMITH, a project engineer with Controls Division, is very enthusiastic about the innovative HIPSS project which he feels will have wide commercial applications. Basically HIPSS will enable propeller driven aircraft to generate electrical power within the hub of the propeller, making it a self-contained unit.

A feasibility study on HIPSS as an alternative power source was started in June 1992. This proved that the concept was viable, and Tim is now working on a prototype unit to be tested in flight trials in early 1995. HIPSS provides a cost-effective

alternative power source for propeller de-icing, which is a big drain on electrical power. It is hoped that HIPSS will enter production in 1997.

Tim read electrical engineering at Sheffield University and spent the first 7 years of his business life with British Aerospace at Stevenage working on missiles and satellites. Following a Masters Degree in "parallel processing" at Bristol University, he joined Controls in 1990. HIPSS is Tim's biggest project to date and he and the project team are looking forward to see it "take off" across the world.



L-r: Trevor Toft, Norman Wright, John Farley, Winston Williamson and Barry Battman.

TREVOR TOFT – A voice of experience:

"IT FEELS more like 37 years!" said Trevor Toft, reflecting on his 49 years service with the company.

Trevor joined Dowty Equipment in August 1945 seizing the opportunity to combine his fascination with aircraft with working in the aerospace sector.

Trevor said, "In the Cheltenham area, there were three options – Dowty, Smiths or Gloster Aircraft. I actually wanted to work on the aircraft themselves and my preference at the time was to work for Gloster Aircraft!"

Forty-nine years later, Trevor doesn't regret having joined the Dowty Group; he has had plenty of exposure to aircraft over the years. Joining the company as an apprentice, he remembers his first week well, particularly the fact that he didn't get paid for it! Fortunately, his foreman at the time gave him half a crown.

Over the years, Trevor's work has brought him into contact with all the major players in the aerospace sector. His stories are numerous, whether it is about walking inside the wing of the

ill-fated Brabazon aircraft or the operation of the Heavy Drop Test Rig which made everything (and everybody) jump in the nearby offices.

Throughout his career, Trevor's interest in aircraft has continued and he is now actively involved in the establishment of the Gloucestershire Aircraft Collection. This museum is dedicated to aviation in Gloucestershire and Trevor is seeking to pull together Dowty equipment.

He has recently secured the return of a Harrier Cockpit, formerly used by Dowty Fuel Systems for testing purposes.

Trevor is currently involved as marketing and support service engineer on HiPPAG at Weapon Systems. He appreciates the positive atmosphere within the Ultra Group.

He says, "It reminds me of my early days at Dowty Fuel Systems in terms of excitement and anticipation. Looking to the future, I see the next 5 to 10 years as a period of intensely interesting activity for those fortunate enough to participate."



# MAJOR ORDER BRINGS BIG SMILES

THE winning of a major order for 58,000 Difar sonobuoys from the Royal Air Force by Sonar and Communication Systems, has put a smile on the faces of their production staff. The order ensures continuity of production of Difar sonobuoys until 1997.



## WORLD CLASS MANUFACTURING

ELECTRICS Division recently organised a successful GEMBA KANRI training course.

Mark Doyle of Electrics Division explained, "The course helps to develop a vision of shop floor excellence. The concept of teams as mini-businesses

empowered to develop their own vision is presented."

Sonar and Communication Systems sent 7 key manufacturing personnel on the course in support of their own continuous improvement process.

## ULTRA PENSION SCHEME Appointment of Employee Elected Pension Trustees

ULTRA Electronics was pleased to announce the appointment of two employees as trustees to the Ultra Electronics Pension scheme:

● Martin Berns Goods Inward Audit Supervisor at Sonar and Communication Systems.

● Del Turner Principal Engineer Airworthiness at Electrics Division.



Martin Berns

The Government has recently issued its White Paper on the future for Pensions which follows on from the recommendations of the Pension Law Reform Committee. Jack Telfer, Human Resources Director, said, "When the Ultra Scheme was set up the Company was aware of the report of the Pension Law Reform Committee and ensured that the Scheme followed the Committee's recommendations, which included having employee elected Trustees."



Del Turner

## CAN YOU THINK OF A NAME FOR YOUR NEW NEWSLETTER?

Name \_\_\_\_\_

Address \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Division \_\_\_\_\_

"I think the name of the newsletter should be \_\_\_\_\_

Please tell us in not more than 20 words why you have chosen it. \_\_\_\_\_

THE FIRST edition of your new newsletter is called *Ultra News*. This is only a temporary name as we want you, our readers, to give it a name. There is a prize of a dinner for two at a restaurant of your choice (up to a value of £100) for the winner. So put your thinking caps on!

Complete the application form and send it to Jack Telfer, Human Resources Director, Ultra Electronics Ltd, Bridport Road, Greenford, Middlesex, UB6 8UA to arrive by 30th November 1994. The winner will be announced in the next newsletter. The judges' decision will be final and no correspondence will be entered into regarding the competition.

### Ultra News

#### ULTRA GETS OFF TO GREAT START

Ultra sales £200m in new orders

Ultra Electronics has announced that it has secured a major new order worth £200m from the Royal Air Force for the production of 58,000 Difar sonobuoys.

The order, which is a significant milestone for the company, will ensure the continuity of production of Difar sonobuoys until 1997.

The order is a testament to the company's long-standing relationship with the Royal Air Force and its commitment to excellence in manufacturing.

The order is a significant milestone for the company, which has been a leading manufacturer of sonobuoys for many years.

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# Ultra News

The Newspaper for Ultra Electronics Employees

ISSUE 2 SPRING '95

## FIRST ACQUISITION

ULTRA Electronics made its first acquisition in April by purchasing the aircraft noise cancellation business of Noise Cancellation Technologies Inc based in Cambridge. Ultra and NCT have been working in partnership on active noise cabin quietening systems since 1989 and the purchase of the Cambridge business strengthens Ultra's market leadership.

Chief Executive Dr Julian Blogh said:

"Ultra retains exclusive rights to NCT's key technology and future developments in this field. The acquisition provides security for our customers, with full ownership of the business passing to Ultra."

The new Division is to be based in Cambridge and will be run by Dr Colin Ross as Managing Director. Dr Ross, who is recognised in the industry as a leading expert in the field

of noise and vibration reduction, will report to Douglas Caster, Managing Director of Sonar & Communication Systems.

Ultra is the market leader in aircraft cabin active quietening and manufactures a range of noise cancelling systems suitable for both turboprop and jet aircraft. Ultra's systems are now in passenger service in all SAAB's 2000 and 340B plus turboprop aircraft.



### Controller Aircraft visits Greenford

ULTRA were pleased to welcome Air Marshal Sir Roger Austin, Controller Aircraft, to the Greenford Site recently. In addition to touring the facilities a presentation was given to the Air Marshal by all the Ultra businesses involved in aerospace. Our picture shows Sir Roger during his tour with Douglas Caster, Managing Director of Sonar & Communications Systems.

### Ultra shares in Airbus success

IN JANUARY this year United Airlines took delivery of the five hundredth A320 Airbus at a ceremony in Toulouse, France. Introduced in 1988, the aircraft is now in operation with over 35 airlines worldwide and is the world's fastest selling airliner and the first European airliner to top 500 delivered.

With Ultra Controls and Electronics Divisions supplying Landing Gear Computers and the Ruggedised Cable Harnesses to the Airbus Family of aircraft, Airbus is one of our key customers and Ultra is pleased to be associated with the success of the A320.



John Taylor, Managing Director of Command and Control Systems, presenting a model whaler to Vice Admiral Walmsley, watched by Julian Blogh, Chief Executive of Ultra Electronics, and Mrs Lesley Clarke.

### Controller Navy opens Loudwater

ALL employees celebrated the official opening by Controller Navy of the new Loudwater site for Command and Control Systems following the move of the business from Feltham.

Julian Blogh, Chief Executive of Ultra Electronics, was pleased to welcome Vice Admiral Rob Walmsley who unveiled a commemorative plaque. Also in attendance was the Mayor of High Wycombe, Mrs Lesley Clarke.



THAT was a quick six months! Producing the Newsletter bi-annually is going to make the year seem even shorter than it does already.

I very much appreciate the many positive comments received about the first issue – both from inside and outside the company.

Once again, we have a wealth of material, so apologies to anyone whose contribution was not used this time – it just goes to show that there really is so much going on within the businesses which make up Ultra.

We should not forget how good it is to work for a successful company committed to consolidating that success into the future. Life may be extremely busy at times, but no doubt there are many who would gladly swap places with us.

Finally, please let me have your thoughts and opinions on our Newsletter.

You may have noticed that the name has not been changed after all – read all about it on the back page!

Jack Telfer

## NEW USE FOR HiPPAG

WEAPON Systems are currently developing a variant of their HiPPAG 320 compressor for a new application – ejecting stores from aircraft.

Current military aircraft use pyrotechnic cartridges to generate the high gas pressures which drive the actuators to eject the stores from their pylons.

The HiPPAG 320 'cold gas' system will provide users with greater benefits in reducing maintenance and cleaning requirements and eliminates the need to use pyrotechnic cartridges which are a logistics burden.

## SUPPLIER AWARD FOR ELECTRICS



Staff of Electrics Division with their award.

MESSIER-Dowty recently held a Suppliers Conference which was attended by 135 of their suppliers including Frank Hope and Keith Thomson, of Electrics division. The highlight of the event was the presentation by Geoff Smith, Managing Director of Messier-Dowty Ltd – Gloucester, of five awards to high performing suppliers.

Electrics division was presented with an award for 'Most Improved and Sustained Level of Service'. This award is customer recognition of the hard work undertaken at Electrics over the last five years to improve customer service.

## GREAT CHALLENGE FOR ULTRA!

THE latest MoD orders for 259 Challenger 2 Main Battle Tanks include equipment orders of £7 million for Electrics and £10 million for the Controls Division, with production deliveries extended to 1999.

Electrics provide the ergonomic crew handles, displays for the weapon control system, and controls for electro-optical sighting whilst Controls provides the Digital Automotive System Control Unit. DASCUS is the full authority engine and transmission controller for the Challenger 2 powerpack.

These orders consolidate Ultra's growing business in fighting vehicles equipment.

## HIGH RATINGS FOR CUSTOMER SUPPORT

TO BE successful in civil aerospace vendors must fully support their equipment by providing technical support and equipment very quickly in the event of an airline need.

In the event of an Aircraft On Ground (AOG), replacement equipment must be despatched within four hours of receipt of the request. This requirement is 24 hours a day, seven days a week, 52 weeks a year.

### Support team

Controls Division customer support team led by Geoff Hatton in the UK and Dave O'Brien in Washington DC is on 24-hour call to meet airline requests. Spare parts are positioned with freight forwarders at airports around the world and can be released quickly to meet required deadlines. Despite the very demanding AOG response times Controls has achieved close to 100% success rate at meeting the industry measure of performance. Ultra has consistently achieved high ratings in surveys of customer support.

## NEW FRIGATE ON HORIZON

INITIAL work is set to begin on the European Common New Generation Frigate (CNGF).

Command and Controls are working with the EUROCOMBAT Consortium which consists of BAeSema, Thomson CSF and Alenia. Ultra has been actively involved in pre-bid work and is looking to be involved in prototyping of the Multi-Function Consoles and MMI for the Frigate's Combat Management System. In addition, Ultra hopes to secure business in the areas of Integrated Logistics Support, Installation, Integration and Acceptance.

## SUCCESSFUL TEAMING LIGHTS THE WAY



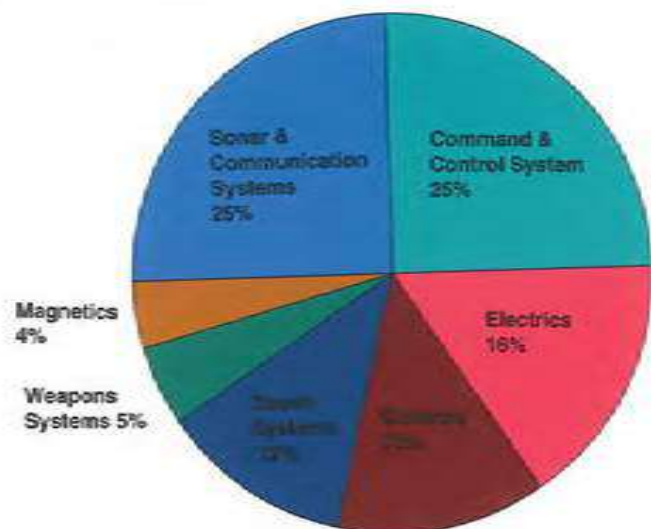
STRATEGIC teaming with Loctite Luminescent Systems Inc in the USA has enabled Electrics Division to extend their aircraft lighting product range to include Formation Lights for Eurofighter 2000 (pictured above) and Tornado. The teaming with Loctite has given Ultra access to the best technology available.

Electroluminescent light panels are fitted to the exterior of the aircraft and allow formation flying or refuelling to be performed more safely at night.



# RESULTS

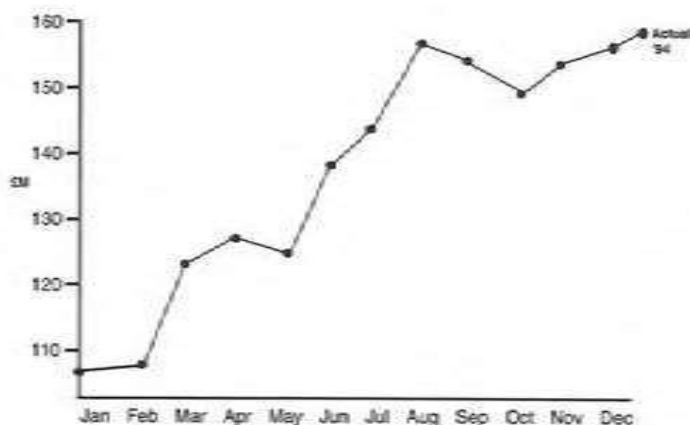
## STAFFING



Ultra employs just over 1,200 employees in total. The chart shows how these staff are distributed between the businesses.

## ORDER BOOK

As well as a sound sales performance in the year the volume of orders won in the period exceeded £150 million. The effect of this is that our Order Book at the end of December 1994 stood at £155.5 million, which represented an increase of £46 million over the Order Book which existed when Ultra was formed in October 1993.



## OTHER ACHIEVEMENTS

- Growing marketplace awareness
- 23% sales invested in R & D activities
- Successful new product launches
- Pension Scheme established in line with Goode Committee recommendations
- Company moves achieved ahead of schedule

## PEOPLE IN THE NEWS

### Non-executive Chairman

PETER MACFARLANE has been appointed non-executive Chairman of Ultra Electronics Holdings Limited, the parent company of Ultra Electronics Limited. As Chairman of the main Board he will particularly focus on the strategic development of the group, drawing on his significant experience of aerospace, naval and defence activities. In addition, his knowledge and relationship with financial institutions will be of great benefit to the company. Mr Macfarlane holds a senior appointment within the Allied Domecq group.



## OTHER APPOINTMENTS



Sir Frank Holroyd has also been appointed to the board as a non-executive director. He was until recently Chief Engineer of the RAF.



Paul Baxter has recently been appointed CBU Manager, Ocean Products at Ocean Systems Division. Paul was previously with GeoAcoustics Ltd.



Graham Daws has been appointed Finance Director of Controls Division where he was previously Finance Controller.



Alan Fisher has joined Controls Division as Marketing Director. Alan joins Ultra from Lucas Electronics.



The redeployable range for magnetic measurement

# OVERSEAS SUCCESS FOR TRANSMAG

MAGNETICALLY influenced sea mines pose one of the most serious threats of disruption to shipping. Underwater Magnetic Measurement Ranges are used to reduce the magnetic signature of a ship by providing the data needed to use the on board degaussing (DG) coils effectively.

On the shore the Range Management System processes the ship signature data and

provides information which allows the calculation of the corrections which need to be made to the on-board DG system. Once these have been made the ship sails over the range again to ensure that its signature has been modified to a safe level.

Ultra's TRANSMAG family of Range Modules ensures total flexibility for the customer as they can be provided as fixed, transportable or re-deployable systems. As a mobile or re-deployable system TRANSMAG is easily deployed using a small team and does not require heavy lifting equipment.

Designed for ease of use, the system can be used with all classes of ship and is tolerant of a wide variety of sea bed conditions. Using magnetic modelling techniques the system gives the user a very powerful ship field predictive capability. Because TRANSMAG is very fast at processing acquired data, ship time

over the range is kept to a minimum. The system can also be integrated with other influence sensors (eg. acoustic) to give the user a co-located multi-influence range.

Since 1986 the Magnetics division has provided 14 such Range Systems and is currently under contract to supply a fur-

ther four systems to overseas customers. The TRANSMAG shown in the photograph was delivered to the US Navy in January 1995.

The Royal Navy's seven OPEN SEA Ranges, deployed at Naval bases throughout the UK, are being upgraded with Ultra's TRANSMAG modelling software.



Magnetic sensor.



TRANSMAG 2000 awaiting shipment.

## Royal Navy to receive IBIS

SONAR and Communication Systems has been awarded a £1 million contract by the MoD to supply the Royal Navy with an Integrated Bathy Information System.

IBIS will soon be standard equipment in ships and submarines and has considerable export potential. Ultra has been working with Sippican Inc in the USA who are leaders in oceanographic data acquisition.

Besides the data collection and display function, IBIS has a powerful sonar analysis and range prediction capability with a range of sonar propagation models.

IBIS is important in the area of anti-submarine activities in analysing complex data about the underwater environment including the effects of wind,



waves, temperature and salinity variations, biological influences, traffic noise from other vessels, tides, current, water depth and seabed type.

● Ultra's IBIS Project team are pictured above with MoD personnel from Director General Fleet Support, Portland.

## Ultra leads in RDC technology

IN JANUARY, Controls Division delivered the emulation of a Remote Data Concentrator to British Aerospace Airbus at Filton, Bristol. The equipment is now installed and integrated with the Systems Digital Control Laboratory (SDCL) which is a real-time model of an advanced aircraft control system.

Ultra are the leaders in the Remote Data Concentrator work package which integrates fully with advanced equipment supplied by Lucas, Smiths Industries, GEC and others. RDCs are products that will be fitted to future aircraft and the work that has been done with British Aerospace Airbus Industries positions Ultra extremely well for the future.



## TAG TRAK

**ULTRA NEWS** in this issue talks to further members of staff who are making their mark in the field of innovation through experience – and a little serendipity.

SAIF PATHAN, Project Leader for Airport Information Systems, joined Command & Control Systems in 1992, right at the start of a new project – BIMS (Baggage Information Management System) which can be used by airlines to ensure reconciliation of passenger baggage.

As Systems Designer, Saif has seen the system grow from a blank sheet of paper to the sophisticated system which is now generating a lot of interest. BIMS

has become known as TagTrak, a name which better reflects the purpose of the system.

Saif's involvement in baggage reconciliation systems goes back to 1987 when, almost by chance, he was seconded onto a project.

He spent five years with a small company developing a system and gaining a wide exposure to airline operations. Saif explains: "Joining Dowty gave me the opportunity to take a product to market for a company committed to developing its capability in new product areas."

TagTrak has had its high points during development, in particular the installation of the pilot system at Stansted Airport and the key presentations to the BAA and major airlines. Saif finds that having developed a product that is both marketable and widely acknowledged within the industry is very satisfying. He is now looking forward to seeing the first systems being delivered.

A graduate in Computing Science, Saif's experience over the years has involved him in a lot of international travel, from working in Sweden with Ericsson to travelling the world through his involvement with baggage reconciliation. Despite all this travel Saif is pleased to say that he has never actually lost his own baggage although he has seen enough to believe in the need for TagTrak.



Saif demonstrating TagTrak to Lord John Mackay, Minister for Aviation.

**SERENDIPITY** – the art of making happy and unexpected discoveries by accident – is not something which most engineers would readily admit. Not so John Baxendale who is a Chartered Engineer and Chief Engineer with Ultra Electronics Ocean Systems in Weymouth. For 13 years he has been a key figure in the success Ocean Systems has had in the specialised printer market. But serendipity has helped: "Take our latest development, the Magicard printer," John explains. "This started when instant-photo booth operators asked us to develop a solid-state colour printer to replace their existing wet developing system. We did this successfully but the operator, for various reasons, pulled out of the arrangement."

The serendipitous turning point came in 1992 when John Baxendale went to a

### Ultra Electronics

John E Baxendale  
BSc, CEng, CPhys, MIED, MinstP



continuous tone printing conference in the United States.

"Just from one presentation it became immediately clear to me that the world was waiting for the technology we had already developed," he says. "All we had to do was refine it for the ID card. The result is Magicard which takes the fuss out of producing ID cards."

John graduated in Physics from Durham and he worked for ICI and J&S Seiger before joining Dowty to work on Sonar Systems. Work on printers began in 1984 with a brief to find a better way of producing sonar records.

The successes in technological innovation in the field of thermal printing which followed were formally recognised in 1990 with the Queen's Award for Technological Achievement. Particular successes include the development of a printer for the US Navy capable of producing 256 shades of grey and the export, in 1992, of 250 printers to Scientific Atlanta in California.

Under John Baxendale's stewardship this constant development programme – and some helpful serendipity along the way – keeps Ocean Systems at the forefront of the printer market.





## REVIEW OF FIRST ANNUAL REPORT

### The Chief Executive's Review

THIS, the second issue of *Ultra News*, coincides with the publication of the 1994 Annual Report which outlines the performance of Ultra Electronics during the 15 month period from 9 October 1993 to 31 December 1994, our first period of trading.

Key features of the Group's performance can be found adjacent to this review. These excellent results provide a strong platform upon which to build and give good cause for optimism as we look to the future.

Most encouraging was the increase in our order book which rose to £155.5 million by 31 December. This achievement demonstrates the ongoing confidence in dealing with Ultra, and is evidence of the quality and performance of our products and activities.

Our commitment to the future and to meeting market needs is demonstrated by the investment of 23% of our Sales Value, some £24 million, in Research and Development. Thanks to this investment, and that of previous years, we have an impressive range of world-beating products, many of which are mentioned elsewhere in this issue.

We are already well into 1995. However successful last year was, we can be sure that fresh challenges await us as we seek to build on our progress to date. To help in our task, two non-executive directors have joined us on the main Ultra Board. Peter Macfarlane, as Chairman, will assist with financial and aerospace matters. Sir Frank Holroyd, who until recently was Chief Engineer of the RAF, will provide expertise in our dealings with the MoD and the Aerospace Industry.

Ultra is projecting further expansion into worldwide markets. If this is to be realised we must compete with and beat the best in the world. Every one of us can play a part in this by personally committing ourselves to continuous improvement and by aiming to be not just good but the best at what we do. By becoming more innovative in all aspects of our business we will be more competitive and increase our chances of winning further new business.

Thank you for your continued support and contribution to Ultra. Let's aim for even greater success in the coming months.

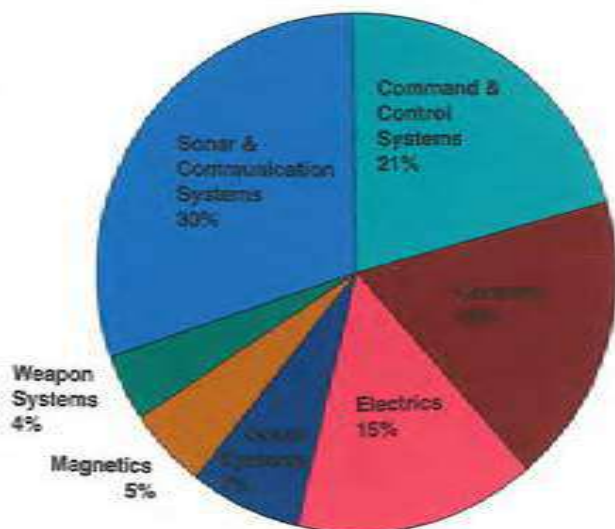
Dr Julian Bligh,  
Chief Executive.

# FINANCIAL FOR 1994

ULTRA Electronics has recently published its first Annual Report with the theme of "Making a real difference". The results, which are summarised below, are based on a 15-month period from 9 October 1993 to 31 December 1994.

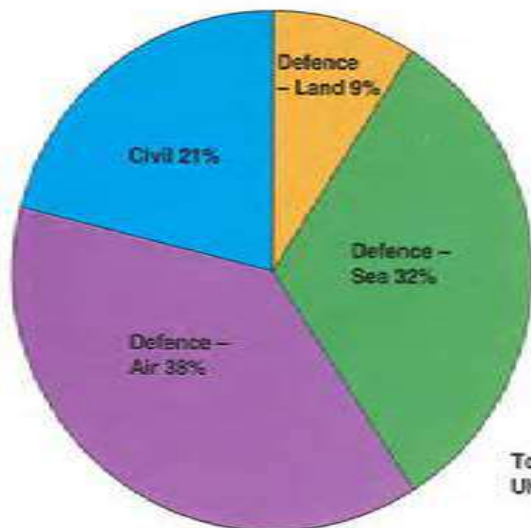
SALES	£106m	
OPERATING PROFIT	£ 5.4m	(after the impact of restructuring costs)
CASH FLOW	£ 19.5m	
ORDER BOOK	£155.5m	

## SALES BY DIVISION



Total sales for the 15 month period were £106 million, of which approximately one-third were exports.

## SALES BY MARKET SEGMENT



Total Sales -  
UK and Export





# ULTRA'S WORLDWIDE MARKETING SUCCESS

**Ultra News** talks to Richard Lane, Group Marketing Director, about Ultra's International Marketing Activities...

The world map shows Ultra's overseas activities spanning world markets in Aerospace and Defence.

Our main market areas are in Europe, North America and the Far East. Ultra's products are fitted on most European civil and military aircraft, with British Aerospace, Airbus, SAAB, Rolls-Royce, Panavia and Eurofighter 2000 being key customers. HiPPAG has been selected for Eurofighter and the Dassault Rafale fighter. Controls division's landing gear computers are fitted to Airbus aircraft in service with world airlines.

Building on our existing relationships, developing innovative and world-beating products for specialist markets, and forming strategic alliances are key to our success in export markets. Alliances with overseas companies not only enable us to win new business, but also to acquire niche technologies which we can adapt for our home market to get

competitive advantage.

Over the past 10 years Ultra's individual businesses have formed partnerships and alliances with over 20 companies in the United States and Canada. Ultra's men in Washington – George Straubs and Dave O'Brien – support our North American interests and remain in daily contact with our busi-



**Richard Lane**

nesses in the UK. South America provides opportunities for Active Noise Control and HIPSS.

Magnetics and Ocean Systems have been successful in selling ships ranging equipment to the Middle East, Africa and Singapore and our Command Systems equipment has been selected for the new Korean KD destroyer. We are actively selling into Australia, Japan, Hong Kong, Taiwan, South Korea and Indonesia a range of products including TagTrak, Sonobuoys, HiPPAG, HIPSS, Active Noise Control and others.

Ultra's Marketing and Sales Managers from all businesses are working enthusiastically together under the 'Ultra Electronics' banner exchanging information and reporting back new opportunities for other businesses.

## World beating products

- HIPSS is a very cost efficient way of generating electrical power on turbo prop aircraft for propeller de-icing.
- HiPPAG – miniature high pressure air compressors – provide significant operational benefits over traditional gas bottles.
- Active and Passive Sonobuoys are used by maritime patrol aircraft to locate submarines.
- Active Noise Control provides airline passengers and crews with a much quieter cabin environment.
- Magnetic and Acoustic Ranges – these can be rapidly deployed to world troublespots to reduce ships' susceptibility to mines.
- TagTrak at airports provides automatic control and accountability of baggage to give better security and a reduction in lost bags.
- Control Handles for fighting vehicles and aircraft.
- Sidescan Sonar for mapping the ocean floor.

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### I NAME THIS SHIP...

Competition results from last issue

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# Career opportunities across Ultra

YOU may have noticed an increasing number of blue notices appearing on your site notice-boards over the last few months.

Notices containing details of vacancies from across the Ultra Group are being circulated to help individuals find opportunities to progress their careers within Ultra. Jack Telfer, Group

Human Resources Director explains: "We are keen to see individuals progress both within and across the Ultra businesses."

The Career Opportunities notices are one part of a process which also includes top level Succession Planning which aims to highlight employees with potential to progress to senior

managerial positions within the group. Jack continues: "As far as Succession Planning goes within Ultra it is early days, but a good start has been made. The implementation of good appraisal and development practices across our businesses is key to making the process work. During 1994 most of our businesses have improved

these processes with a view to helping people enhance their performance today and their potential for tomorrow. As a forward looking group, Ultra recognises the need to develop capability for the future."

Keep an eye on those notice-boards so you too can realise your full potential.

# Ocean Systems on the ball



OCEAN Systems have provided a set of jerseys for their local rugby team - Weymouth RFC. This sponsorship helps to promote the Ultra name locally, and is of course an aid to recruitment. The two-tone blue shirts have a gold and white

Ultra logo emblazoned on the front and look really good until the first scrum!

Ray Coles, (pictured left) tested one of the shirts at the last British Open Practical Pistol Championship, coming sixth in the Modified Division.

## I NAME THIS SHIP...

THANK YOU to all those who participated in the competition to find a name for our newsletter. In all 26 entries were received giving a wide range of suggestions.

After much consideration we have decided to stay with 'Ultra News' as a name which most simply describes the purpose of this Newsletter, given its large circulation outside as well as inside the company.

Congratulations go to Alan Wignall of Sonar and Communication Systems who was the only entrant to suggest we stick with *Ultra News*. His

reasons were: "It is succinct. It defines exactly what it contains and gives Ultra prominence in the title."

In considering the other entries we particularly like the name 'Ultra-Bytes' suggested by Keith Franklin of Ocean Systems. We have decided to use this as the header for our News in Brief page and an additional prize has been awarded to him.

Both Alan and Keith have been able to enjoy a meal out for two to the value of £100 at a restaurant of their choice (but didn't have to go with each other!).



Andy with some of his victims.

## Look out for Red Robin

THE activities of Andy 'The Hood' Hamment have long been well known within Controls Division.

Individuals distracted by a telephone call have looked aghast as bulging (and not so bulging!) purses and wallets are systematically emptied during the last working day before Christmas.

Finding new depths to people's pockets, Andy scoured the offices of Controls and Head Office and succeeded in raising £300 for Mandeville Special School in Northolt for children with severe disabilities. The school is Controls Divisions' nominated charity for 1995.

**Ultra**  
ELECTRONICS

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Controls - Angie Doyle  
Electrics - Alison Dunn

Magnetics - Bob Blakemore  
Ocean Systems - Richard Farwell  
Sonar & Communication Systems  
- Carol Doyle  
Weapon Systems - Nick Baird



# UltraNews

The Newspaper for Ultra Electronics Employees

ISSUE 3 AUTUMN '95

## Ultra's Order Book goes from Strength to Strength

IT WAS not just the temperatures that rose in the UK this summer. In August the Group's Order Book reached £176m reflecting the steady growth in winning orders since Ultra's formation.

During the last few months a number of major orders have been won including a £17m four year contract to supply the latest CAMBS Sonobuoy to the Ministry of Defence (MOD) and also orders amounting to over £7m for Acoustic Countermeasures. As a result of these orders Sonar & Communication Systems have achieved their highest ever Order Book at £62.9m.

Major orders won in the United States include the supply of HiPPAG (£3.5m) and TRANSMAG ranges (£1.6m) to the US Navy. This important production order for HiPPAG is a major landmark for Weapon Systems.

In Hong Kong, Command & Controls have made a major breakthrough in winning their first TAGTRAK order for Cathay Pacific/Securair.

Talking to Ultra News Richard Lane, Group Marketing Director commented "Whilst the actual size of the Order Book



Jim Masson MD (front row third from left) with members of Weapon Systems team following the award of the US Navy contract for HiPPAG.

will always fluctuate with the timing of major order wins, what is particularly pleasing is the quality and strategic significance of the business obtained. Our

aim is to keep focused on what our customers require and, by performing well in satisfying these contracts, build on this success in the future."



Douglas Caster, Michael Bell, Paul Kahn and Julian Blogh during an Active Noise Control demonstration.

## MoD PE VISIT

AT THE end of May, Michael Bell Deputy Chief Defence Procurement (Support) MoD PE visited the Greenford site. During the visit briefings were given on the Group's activities. Our picture shows Mr Bell (seated left) accompanied by his Private Secretary, Paul Kahn during an Active Noise Control demonstration led by Douglas Caster, MD of Sonar & Communication Systems and Dr Julian Blogh, Chief Executive.



# Ultra EYE

... and then there were nine. With the arrival of Noise and Vibration Systems and Helitune into the Ultra Group there will be even more competition for space in future editions of Ultra News.

The Newsletter now has a wide circulation. Over and above the copies provided to all staff most Divisions order about double their headcount circulating to customers and suppliers. They are also given to potential recruits and are available in all reception areas. This year we took supplies of Ultra News to the Paris Air Show and RNBAEE for distribution to visitors to our stands.

May I thank all the Ultra News contacts on each site who have sought out news items for this issue - once again not everything could be included. If you have ideas that could be used to improve the Newsletter please see your local site contact as soon as possible. Keep the stories coming - work starts on Issue No 4 very soon!

I do hope that all our readers find Ultra News an interesting way of keeping up to date with developments across the Ultra Group.

Jack Telfer

## HiPPAG FOR US NAVY

WEAPON Systems has received its first major order from the US Government for the supply of the HiPPAG 320 system and associated support equipment. The contract is valued at \$5.7m and represents a major breakthrough into the fighter aircraft market. The HiPPAG units are for service initially on board US Marine Corps AV-8B Harrier aircraft.

It is anticipated that this represents the first tranche of a larger procurement for service with the US Navy and Marine Corps fleet of F/A-18 and AV-8B aircraft, and will open a large export market to other users of these aircraft worldwide.



## MAGNETICS SYSTEM FOR US NAVY

MAGNETICS Division have been awarded a \$3m contract to supply the US Navy with TRANSMAG Magnetic ranging equipment for the new Forward Area Combined Degaussing and Acoustic Range system (FACDAR). Ultra is teamed with Alliant Techsystems of Seattle, USA who have been awarded the overall \$7.4m contract for FACDAR. As the overall systems integrator, Alliant Techsystems will provide the acoustic signature analysis equipment plus the telemetry and tracking systems. Ultra will supply the magnetic signature analysis equipment.

## US REPAIR STATION



Geoff Hatton, Business Operations Manager at Controls with Steve Blackstone, Director Component Operation, FFV.

AN AGREEMENT was signed in June 1995 with FFV Aerotech Inc, Nashville USA to provide Repair Station facilities in the US for Controls Division products.

FFV Aerotech Inc is a member company of The Celsius Group, one of Sweden's leading industrial groups. The 104,000 square feet Nashville facility was built in 1991 specifically to cater for the repair and overhaul of regional aircraft. The capabilities offered by FFV will enhance Ultra's customer support capability.

## COUNTERMEASURES SUCCESS



SONAR & Communication Systems efforts to remain the UK leader in the field of acoustic countermeasures were rewarded with two important contracts. In June they won a major contract to develop and deliver production quantities of a new acoustic countermeasure for the Royal Navy. In addition, the Division was successful in securing the demonstration and validation phase of the joint UK/US Surface Ship Torpedo Defence (SSTD) system as part of the winning team led by Westinghouse.

## Sentinel Contract Award

HELITUNE has won their first major contract to supply 14 of their latest Sentinel SC3 Rotor Track and Balance Systems to Germany. The contract has been awarded through their German distributor, STN Atlas Elektronik, for supply to the BfW for use on their Bo105 helicopters. A number of other orders have been won and the level of worldwide interest in these systems is encouraging.

## HAWAIIAN PARTNER

FOLLOWING their successful bid for the Johns Hopkins Applied Physics Laboratory "Seaview" sonar in the USA, Ocean Systems has gained a new business partner in Hawaii. Oceanic Imaging Consultants are providing the sonar displays and image processing software for Ultra's new 120 kHz multi-beam sidescan sonar.

## FIRST TAGTRAK ORDER

AFTER 3 years of intensive sales effort Command and Control Systems has been rewarded with their first order by Securair in Hong Kong. Under the terms of the contract, worth over £1m, a Tagtrak system will be installed at KAI TAK airport for Cathay Pacific airlines. Tagtrak ensures positive reconciliation between the passengers and their luggage before the aircraft takes off.

## Sidewinder Repair for Pakistan

WEAPON Systems' Guided Weapons facility at Hednesford has followed up its success with the UK MoD by winning a further contract from the Pakistan Air Force to repair AIM-9L Sidewinder Guidance Control Sections. The five year contract is a result of a policy to pursue export contracts for Ultra's dedicated Sidewinder facility in competition with US and other companies.





Presenting Ultra to the world plus Sean McCarrick (right) of Electrics applying a few finishing touches.

## PARIS AIR SHOW '95

SIX divisions took part - Weapon Systems, Sonar & Communication Systems, Noise and Vibration Systems, Command & Control Systems, Controls and Electrics - though Helitune (who joined the Group on the Friday before the show) were present on their French agent's stand. Electrics (Alison Dunn and Keith Thomson) took the lead in organising the show with support from Richard Lane at Head Office. Marion Thornton (Controls) and Elaine Gray (Command & Control

*It was hot, it was humid and it was very busy at the 41st Paris Air Show in June. For the first time Ultra Group were represented at the world's largest air show and we were determined to make a good impression.*

Systems) deserve special mention for their hard work running the reception area. Our stand was very attractive and functional based on last year's successful format at Farnborough.

All in all it was a busy 9 days with a very large number of

guests and visitors to the stand. As for achieving our objectives we were certainly successful in promoting the Ultra name given the numerous press articles, excellent customer feedback and the development of a lot of major business opportunities.

### STOP PRESS

A report on Ultra's presence at the RNBAEE exhibition at Aldershot in September will be included in the next issue. All nine businesses were on show.

### UltraQuiet cabin

partner, Elliot Aviation who have ordered 30 systems, Noise and Vibration Systems have completed the design of the system installation on two variants of the King Air, the C90 and B200.

SAAB has also placed a further order for ANC systems for the SAAB 2000 and 340B aircraft providing order cover through to 1997.

THE PARIS Air Show saw the launch of the UltraQuiet system on the Beech King Air range of aircraft. Since then, working with our US

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### IT'S MAGIC - ID BADGES

Innovative Magicard colour printer used to produce ID Badges **PAGE 8**





INT  
**Helitune**

HELITUNE became part of the Ultra Group in June 1995. Employing just under 50 staff in Malvern, Worcestershire, Helitune is a world leader in the field of rotor track and balance and vibration analysis for propeller aircraft and helicopters.

Founded in 1977 by Noel Trigg, now Business Development Director, Helitune grew during the

1980's with the development of the "Rotortuner"; a major breakthrough in micro-processor based vibration manage-



Some of the Helitune team pictured at the Malvern site

## Introducing ... **NOISE AND VIBRATION SYSTEMS**

**N**OISE and Vibration Systems was formed in April 1995 following the acquisition of the aircraft noise control activities of Noise Cancellation Technologies Inc in Cambridge.

The relationship with NCT goes back to 1990 when a Teaming Agreement was signed between NCT Inc and Sonar and Communication Systems which enabled NCT's patents and

acoustics expertise to be combined with Ultra's ability to convert an innovative concept into a commercial product and take it to market.

The story actually began back



Colin Ross, MD (left) and Andrew Langley, Technical Director of NVS.



## **TWO YEARS ON** The Chief Executive's Review

OCTOBER 9th 1995 marks two years since the formation of Ultra Electronics. It has been an eventful period, during which we have had some excellent successes. I am pleased by the continuing positive reaction we are receiving in the market-place and by the steps we are taking internally to get competitive advantage from our Businesses by working more closely together.

In terms of business performance, our main objectives have been to position ourselves to sustain growth in profits and cash whilst increasing our business overall. Although we have performed well on cash targets, with some exceptional achievements in some Businesses, there is scope for improvement in others. The same comment is true for profit, but the overall Group performance is showing encouraging growth. The good cash performance has enabled us to pay off three years early the bank debt we incurred to buy the Businesses two years ago. This makes Ultra very secure and allows us to consider increased investments in our businesses and further acquisitions, although we intend to be very selective.

The good performance of our products and the good relationship with our customers, is helping us to improve our position in the difficult aerospace and defence markets. To continue this success we must all treat our customers fairly and be responsive to their needs. Our record Order Book bears testament to this approach, which in turn provides better security for Ultra employees.

During the past six months Noise and Vibration Systems and Helitune have joined Ultra, and by end of October I expect Hermes Electronics in Canada also to be part of Ultra. Their activities are closely linked with our existing Businesses and will improve Ultra's presence with our customers around the world.

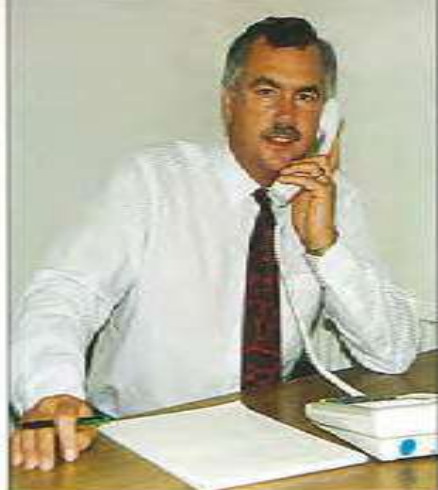
I would like to thank all Ultra employees for contributing to the excellent results of the Group so far and with your help we will continue our success.

*Dr Julian Blagh,  
Chief Executive.*



# PRODUCING ... tune

**Stephen Raven,**  
Managing Director



ment systems for helicopters. Over 800 Rotortuners are in service around the world.

New products include the Precision Balancer for the advanced turbo-prop market and a state of the art version of Rotortuner called "Sentinel" whose innovative modular design can be upgraded towards a full Health and Usage Monitoring System (HUMS).

Since 1991, Helitune has participated in a Dti Link programme with Yorkshire Water and Exeter University which has resulted in the development of

MARIA, an expert system for monitoring plant operation and condition reporting. MARIA has potentially wide applications across the industrial sector.

Stephen Raven, Managing Director of Helitune greeted the acquisition by Ultra enthusiastically. "Joining Ultra creates a platform for growth ... this is good news for our customers, many of whom are shared with other Ultra businesses, and for our staff who have played a key part in the development of a world beating range of products."



**Part of the NVS team based at Cambridge.**

in the late seventies when Colin Ross, now Managing Director of NVS, undertook a PhD at Cambridge on Active Noise Control (ANC). He explains, "Having decided to concentrate on Acoustics, ANC which was a relatively new concept, looked the most interesting. At that time I was one of only five or six people in the world working on ANC."

The nucleus of what became the NCT team was formed in the early eighties with the arrival of Andrew Langley, the Technical Director. Andrew, a fellow Cambridge graduate, had gained several years' experience working with loudspeaker technology which he was able to apply to the ANC concept.

On joining Ultra Electronics Colin Ross points to the benefits of creating one team focused on making the business

successful and satisfying customers' requirements. NVS currently employs eighteen people in Cambridge of which five have now transferred from Greenford - including Mike Baptist, Head of Engineering and David Brown, Sales and Marketing Manager. Numbers employed in Cambridge are expected to grow while NVS production will continue to be carried out by personnel based at Greenford.

Reflecting on his involvement with ANC Colin Ross comments, "It has been great to go through from theoretical concept to commercial product. We particularly appreciate the support of SAAB who awarded our first contract in 1990 and whose vision and keen interest has played an important part in the development of active noise cancellation for aircraft cabins."

## PEOPLE IN THE NEWS

### **Joe Humphries MBE**

Congratulations to Joe who was awarded the MBE in this year's Queen's Birthday Honours List. Following almost 25 years in the Navy Joe joined the company in 1973 rising to the position of Logistics Manager responsible for the Hook facility in 1989. He retired from Command & Control Systems at the end of March and all at Ultra Electronics wish him a very happy retirement.



**Malcolm Matlocks** has been appointed Logistic Manager for Command and Control Systems based at Hook. He was previously the Assistant Logistics Manager.



**Heather Garrett** has joined Controls as Personnel Manager. She joins Ultra from British Gas.

**Keith Thomson** has been appointed Marketing and Contracts Director for Electrics where he was previously Operations Director.

**Mark Doyle** has been promoted to be Operations Manager of Electrics where he was previously a Product Group Manager.

**Jennie Terry** has joined Electrics as People and Progress Manager. She previously worked at Dowty Group and at Dowty Hydraulics.

## TECHNOLOGY UPDATE

### Ultralock Gets Thumbs Up

CUSTOMER reaction to a new version of Electrics' Advanced Conduit System has been positive. "Ultralock" will provide cost savings on electrical wiring installations by eliminating the need for wire locking of threaded components. It is quick to assemble and disassemble, stops accidental unlocking and remains locked under severe shock and vibration. All of this is achieved in a very compact space envelope that will allow retrofit to existing applications.

### Surface Mount Extension

SONAR & Communication Systems are extending their PCB operation to include a new surface mount device assembly facility. The carefully researched hardware comprises a Contact 3 Surface Mounter, an Electrovert Infralow Reflow Oven and an SM Tech High Precision Screen Printer. Mike Masters, Manufacturing Director said, "The new facility is a significant investment which will reduce costs and lead-times for 30,000 boards a year required to meet orders for Active Noise Control, Sonobuoy Receivers and the CAMBS Sonobuoy."



# Super Manager



## Question

What makes a good manager?

## Question

When developing managers what are the priorities?

*For some the key is charm, personal drive, an MBA, a BMW or a combination of these and other attributes! In reality the answers are complex and an individual's effectiveness will always be as a result of a whole variety of factors.*



ULTRA has introduced a process to help with identifying managers' development by focusing on a range of competences. Senior managers across the Ultra Group were asked to indicate those competences

most important in their current role and whilst the resulting list is not exhaustive it does consist of competences considered important for effective performance at a senior level. The top twelve are listed below:

### Leadership

### Delegation

### Planning and organisation

### Initiative

### Work Standards

### Innovation

### Judgement

### Persuasiveness

### Teamwork

### Financial Awareness

### Customer Focus

### Commercial Focus

Ultra News spoke to Jack Telfer, Human Resources Director about these developments: "This list provides us with a good starting point for understanding a manager's development needs and potential relevant to our businesses. Evidence of

capability in these areas will be important to individual progression." Jack went on to say "The competences will form the basis of management development programmes on leadership and business management scheduled to be launched in early 1996 and should also provide a useful framework for focusing individual development on the job."

Jack Telfer (second from right) discussing the use of competences with colleagues.

## Financial Perspective

ULTRA has now been established for two years and it is interesting to look back over the Group's financial achievements in that time. Ian Yeoman, Group Finance Director, explains:

"The funds which enabled Ultra to buy the businesses from TI Group plc were provided mainly from City institutions. Roughly half of these funds, amounting to £20 million, were provided by a group of banks led by the Bank of Scotland. I am pleased to say that Ultra's excel-

lent performance enabled this loan to be repaid much earlier than originally anticipated."

The other half of the funds came from venture capitalists who specialise in buying shares in companies which are not quoted on the stock exchange. Ultra's major venture capitalists are Phil drew Ventures (part of Union Bank of Switzerland) and Montagu Private Equity (part of Midland Bank). Representatives from these two companies are Directors of Ultra and keep a watchful eye on their investments at monthly Board Meetings. There has been plenty to be pleased about in Ultra's performance over the last two years; orders in hand have grown by 65%, sales over the



Ian Yeoman - Group Finance Director

last year by an impressive 15% and a strong cash inflow has enabled us to repay all the debt.

Looking forward, Ian is already thinking of 1996 and beyond: "Results so far have

provided an excellent basis for the continued development of the Group. We have set ourselves ambitious targets, but the challenge is there to make 1996 a record year for Ultra."



# FACE 2 FACE

**In this month's Face 2 Face we highlight the activities of two USA based employees who are working hard to support Ultra's stateside interests:**

**DAVE O'BRIEN** has been Customer Support Manager for North America since 1991. Working for Controls Division, Dave provides a rapid response capability to

airlines throughout North America.

Based in Washington and close to the major airframe and engine manufacturers, Dave is kept busy looking after the 42 different airlines, who use Controls' Division products, with almost 650 aircraft in daily service. During the past year the scope of Dave's activities has been extended to cover products made by Electrics and Noise and Vibration Systems.

With 31 years' service at Ultra and his extensive experience of the civil aerospace sector Dave is well equipped for his role. Dave enjoys his job and looking to the future he says: "The expansion of



*Dave O'Brien ready for take off.*

USA repair station capability, and better communication links with Ultra's UK businesses, means that we can provide improved service to our customers whilst being ready for an anticipated growth in Ultra equipment operated in the Americas."

**George Straubs**, also a key member of the Ultra team in the USA, works as the New Business Executive for Weapon Systems. George was assigned to Washington

DC in 1986 by Dowty Fuel Systems to market the HiPPAG product and has remained there ever since. His main priority has been to sell HiPPAG to the US Navy and to see through to a successful conclusion the HiPPAG Foreign Comparative Test Program. The recent HiPPAG order win represents a major technology breakthrough in the tough US market.

George also represents Magnetics Division in the USA and was involved in winning the FACDAR contract for the Transmag Magnetic ranges.

George coordinates the Ultra Group activities for the Navy League Show, the largest naval equipment show in the USA. Talking of his role George says: "It is the variety of work that I enjoy most, ranging as it does from presentations to senior personnel in the Pentagon and Crystal City to equipment demonstrations to the fleet."

George, his wife and their four year old son live in Arlington, Virginia, conveniently located less than one mile from Naval Air Systems Command, Naval Sea System Command and the Pentagon.



*Dave O'Brien - admiring a few sleek lines.*



*George Straubs pictured with HiPPAG unit fitted on a US Navy F14 at Naval Air Station Oceana.*



## SAFER WORKING

A NUMBER of Ultra's businesses have recently received Safe Working Awards from the Engineering Employers Federation for 1994 - Ultra recipients included Controls, Command & Control Systems, Electrics and Sonar & Communication Systems. The awards were made to 700 companies across the UK who employ 50 or more people and whose accident rate was markedly lower than other businesses in the engineering sector.



## Trevor Tops 50 Years

CONGRATULATIONS to Trevor Toft of Weapon Systems who has reached 50 years service with the company, an outstanding achievement. Trevor, who joined Dowty in 1945, works in the Marketing Department based at Staverton and remains as enthusiastic as ever about his work.

*Trevor Toft - still smiling after all these years*



## It's Magic - ID Badges

OCEAN SYSTEMS has at last used its innovative MAGICARD colour ID printer to produce ID badges for all its staff.

Dave Mountjoy, Manufacturing

Director and Card Systems Business manager explained: "We were so busy keeping up with customer demand and new technical developments that we

never actually got round to producing badges for ourselves - a case of cobbler's children, I'm afraid!"

The problem was solved by

training Jane Knight, Ocean Systems Personnel Officer, to operate the MAGICARD system and all staff were processed within a few days.

## BARGEMASTER REQUIRED!

ONE OF the most unusual recruitment tasks of the year occurred within Ocean Systems who have the job of running the 'Maytime' facility on Loch Goil, in Scotland, on behalf of the DRA. Paul Nixon was recruited and joined as Bargemaster in June 1995 and is responsible for running this floating laboratory complex supported by a team of two engineers. The complex consists of a fixed barge and movable platforms and is used for active sonar measurement. The vacancy was described as "involving interesting and varied work often under arduous conditions afloat on Loch Goil." All the best, Paul!



*Ron pictured with some of his exhibits and well deserved trophy*

## Memorial Flight

RON KING of Electrics is an expert when it comes to Sweet Peas which he has been growing competitively for 15 years. Of the 2000 plants he grows each year only half are suitable for competition as his standards are so high. This has enabled him to win a number of championships over the years including the National on several occasions. Now Ron has reached the zenith of sweet pea breeding with his own variety, named "Memorial Flight" to commemorate the 75th anniversary of the RAF. Ron works as a Fitter and has been with the company for 25 years.



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Sonar & Communication Systems -  
Carol Doyle

Magnetics - Bob Blabmore  
Ocean Systems - Richard Farwell  
Weapon Systems - Nick Baird  
Noise & Vibration Systems -  
Evelyn Taylor  
Helitune - Alison Brown



# UltraNews

The Newspaper for Ultra Electronics Employees

ISSUE 4 SPRING '96

## Year of Growth Culminates in first Overseas Acquisition



Left to right: Wayne Trowse, President Hermes; Dr. Julian Blogh, Chief Executive Ultra; Dorothy Rice, Finance Director, Hermes; James M. Renner, President, Dextek Corporation; Ian Yeoman, Finance Director Ultra; and Richard Lane, Marketing Director Ultra.

THE ACQUISITION of Hermes Electronics of Canada by Ultra in November 1995 was an important landmark in the strategic development of the Group.

Dr. Julian Blogh, Chief Executive, explained, "Hermes' customer base and products complement those of Sonar & Communication Systems based in Greenford, UK. The acquisition strengthens Ultra's position in world markets for sonobuoys where we can offer our customers a wider range of active and passive buoys. Hermes will also provide a platform from where we will pursue growth opportunities for Ultra's products in North America."

1995 was a year of impressive growth for Ultra; a year which saw substantial organic Growth within the group, the acquisition of two businesses and the formation of a new Division, Noise and Vibration Systems.

### Tomahawk Contract for Command & Control Systems

COMMAND & CONTROL Systems were recently awarded a major contract from Loral Federal Systems of Manassas, Virginia, USA for the development, production and support of weapons interface equipment for the TOMAHAWK Land Attack Missile (TLAM) which is being fitted to the Royal Navy's submarines.

The six year contract also includes the development of a test and integration facility at Loudwater.



Tomahawk contract is confirmed - left to right: Ray Brown, Ultra's Submarine CBU Mgr; Tom McLeod, Loral's UK Subcontracts Mgr; Dave Seckinger, Loral's Program Mgr; John Taylor, Managing Director of Command & Control Systems; Paul Balkwill, Loral's Contract Mgr and Max Hunt, Ultra's Project Mgr.

Managing Director of Command & Control Systems, John Taylor, said, "We are pleased to win this important contract which builds on our long experience in submarine weapons interfacing. What started as a

study carried out by the logistics engineers based at Hook has now grown into a major project for the business. Our TLAM project team, led by Max Hunt, is fully committed to meeting this challenging programme."

### STOP PRESS

CONGRATULATIONS to all at Noise and Vibration Systems and at Sonar and Communication Systems on achieving the prestigious Queen's Award 1996 for Technological Achievement.

This honour has been awarded for noise and vibration systems used to reduce noise levels in aircraft passenger cabins. A full report will be included in the next issue.





# Ultra EYE

I EXTEND a warm welcome to our new readers at Hermes Electronics in Dartmouth, Canada who have joined the Ultra Group since the last issue. We are now all very firmly part of an international business.

In this issue you can read about the Group's second set of financial results which clearly demonstrate how we have continued to build on the excellent achievements of 1994. The importance of this continuing success in enabling investment to be maintained in our business, our products and our skills cannot be underestimated. 1995 was a year of growth for Ultra and with encouraging order wins during the early part of 1996 we expect this trend to continue.

We have tried to include material on a range of subjects to provide an overview of the many different activities which are currently underway within Ultra. If you have any suggestions for features or subjects you would like to see included in future issues please let me know.

I hope you will enjoy reading Ultra News and should like to take this opportunity of thanking all the contributors. Keep up the good work!

Jack Telfer

## HiPPAG GROWTH

WEAPON Systems have followed the success of their first US Navy order for HiPPAG 320 for the Marine Corps AV8-B with the award of two further contracts; Eurofighter 2000 and the Italian Navy AV8-B Harrier aircraft. This brings the value of the HiPPAG 320 orders received during 1995 to over £6 million.

Ultra will also be supplying Saab Dynamics with HiPPAG 340 compressors to cool rotating infra-red scanners used by the Swedish armed forces for detecting aircraft.



## DASH-8 CONTROLS



*The Dash 8-400 - scheduled to fly by 1997*

CONTROLS Division has been selected by Dowty Aerospace Propellers to develop and supply the Propeller Electronic Control Unit (PECU) for the latest de Havilland Dash 8-400 aircraft. The PECU controls the synchrophasing and feathering of the propeller by controlling the blade pitch angle. Future sales are expected to be over £15 million. In addition Controls Division will also supply the Timing Monitoring Control Unit for propeller de-icing on the same aircraft.

## INTERNATIONAL SENSORS ORDER

MAGNETICS Division has recently won several contracts for fluxgate sensors. Following a competitive development programme for DGN-GESMA in France a first production order has now been received. A contract has also been awarded to supply heading sensors for the next generation of Unmanned Air Vehicles being produced by Elbit Ltd. of Israel.

B&E Sema has awarded Ultra a contract to supply sensors and software for the Belgian Navy's Multi-Influence Sweep Ranging System.

## QUIETER CABINS

NOISE and Vibration Systems' new Active Tuned Vibration Attenuator system, which reduces aircraft cabin floor vibration as well as the propeller noise, has been selected by de Havilland for all new production of their current Dash 8 - 100, 200, 300

series aircraft. ATVA is a new approach to noise cancellation; in place of loud speakers fitted in the cabin, ATVA uses electromagnetic shakers attached to the aircraft frames to cancel the vibration in the structure which is the main source of the cabin noise.

## TORPEDO DEFENCE AWARD

IN January 1996 Sonar & Communication Systems received a £2 million contract from Westinghouse Systems for the joint UK/US Surface Ship Torpedo Defence programme. This maintains the Division's leading role in the counter-measures field.

## WEYMOUTH PCB WIN



*Richard Dear (centre back row) with members of the PCB Assembly team.*

WITH a growing customer list and a healthy order book Ocean Systems have confirmed their ability to compete with the best in contract manufacturing. GEC-Marconi have recently awarded a substantial contract to manufacture PCB assemblies in support of an export order for Mk24 torpedoes. Business Manager, Richard Dear commented, "Order intake during the early part of 1996 has been excellent and with customers such as GEC-Marconi, Penny and Giles, Normalair Garrett and DEK Printing Machines the future looks bright."

## JAGUAR SUCCESS

ELECTRICS Division responded to an urgent operational requirement from the RAF to design and supply a new control column and left-hand designator grips to enable integration of a new Thermal Imaging and Airborne Laser Designation System (TIALDS) into Jaguar aircraft. Ultra worked closely with the DRA Boscombe Down and RAF pilots to provide the optimum solution. This has proved so successful that the entire Jaguar fleet will now be fitted with them.



# INTRODUCING HERMES ELECTRONICS

Hermes  
ELECTRONICS



*The latest addition to the Ultra Group has long been a cornerstone of eastern Canada's high-tech industry.*

THIS Halifax/Dartmouth based Nova Scotia company was originally founded as British American Instruments in 1947 and since then ownership has

Recently two new product lines have been added – resonant power supplies and monitoring and control systems for the industrial electronics markets.



Members of Hermes staff brave the cold

transferred over time to A.C. Cosser, EMI, Magan International and, since 1981, has rested with the Devtek Corporation. On November 1, 1995 the company proudly hoisted the colours of Ultra Electronics.

Over the years Hermes' name has become synonymous with the design and production of sonobuoys and other detection equipment for anti-submarine warfare.

Hermes' President, Wayne Trowse, sees the acquisition by Ultra as an important stage in the development of



Wayne Trowse, President  
Hermes Electronics

the company. He explains, "I am very pleased that Hermes has become part of Ultra. Our five year relationship with Sonar & Communication Systems will, no doubt, be further strengthened and I look forward to developing business opportunities with several of the other Ultra divisions. As I toured the Ultra businesses last November I was impressed with their obvious capabilities in design, production and marketing. Hermes' recognised strength and presence in North America will support Ultra's efforts on our side of the Atlantic."

Hermes' manufacturing facility in Dartmouth's Woodside Industrial Park was constructed in 1976 and includes a modern manufacturing plant designed for medium to high volume production. The design and engineering area includes a hydroacoustic test facility housing a 150,000 gallon water tank.

Hermes employs around 160 people including approximately 85 in production and some 45 scientists, engineers and other technical support staff. Full time market managers are based in Ottawa and Washington D.C.

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### TOWED ARRAY TROPHY

Trophy for HMS Norfolk **PAGE 8**

## 'UltraResonant' Launch

HERMES ELECTRONICS have recently relaunched their industrial power supply business using the product name

'UltraResonant'. Based on parallel resonant power conversions, the new name highlights the Ultra association as well as identifying the technology used in the product line. These new power supplies benefit customers by offering low

EMI, higher efficiency, higher reliability and smaller size. Recent orders have come from video lottery terminal and gaming machine applications with current marketing efforts focused on the communications and data processing business sectors.





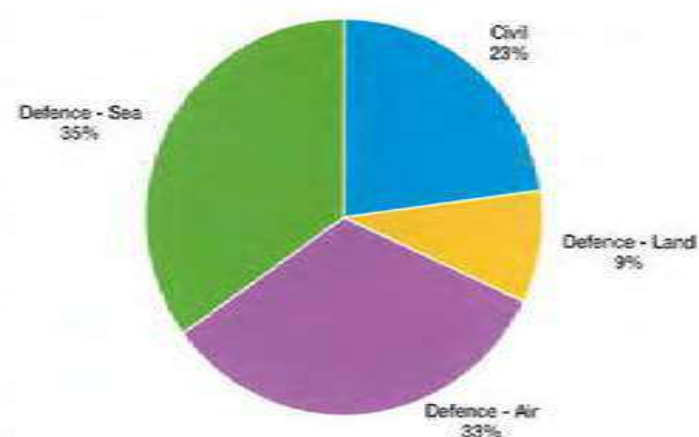
# FINANCIAL FOR 1995

ULTRA Electronics Holdings has recently published its 1995 Annual Report and Accounts for the 12 months ending 31 December 1995. Highlights of the report are summarised below and are compared with the equivalent figures for the 12 months ending 31 December 1994.

Total sales for the period at £97.3 million were up 16% on last year. The figure includes the contribution from the acquisition of Helitune and Hermes Electronics. The order book for the Group showed continued growth throughout 1995 from £156 million on 1st January to £183 million on 31st December.

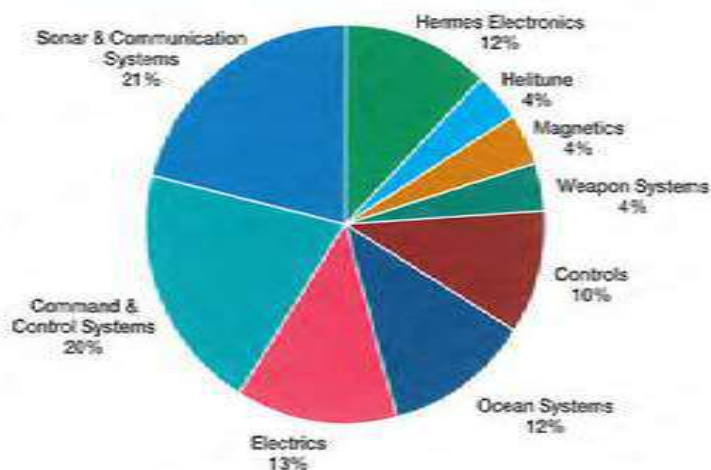
Cash flow was also good throughout the period, rising from £11.3 million for 1994 to £16.7 million for 1995.

## SALES BY MARKET SEGMENT



This chart shows the percentage of our sales in the civil and defence markets by market segment.

## STAFF LEVELS



Ultra now employs over 1450 people. This chart shows the approximate distribution of staff between businesses.



## REVIEW OF SECOND ANNUAL REPORT

### The Chief Executive's Review

THIS, the Spring issue of Ultra News, coincides with the publication of the 1995 Annual Report and Accounts for Ultra Electronics Holdings Ltd. Highlights of the Group's performance during the 12 months ending 31 December 1995 are shown adjacent to this review. These illustrate the satisfactory growth in sales and profit, although we still have some way to go to reach the profitability levels of the industry's best performers.

During 1995, we were successful in winning a number of important contracts which provide a firm basis for organic growth for the group and at £183 million, our order book increased by 18% on the previous year.

Supporting our objective of further expansion in world-wide markets, the strategic acquisition of Hermes Electronics in Canada and Helitune in Malvern have added new niche products to our portfolio and through Hermes we have opened up a gateway into the North American market. We are continuing to invest in innovative new product developments to meet the needs of the market as these will underpin future growth. These products include the HIPSS propeller de-icing system, "Tag Trak" for baggage reconciliation and new versions of HiPPAG, Active Noise Control and the Magicard ID card printer.

During my recent Chief Executive's presentation to all employees I mentioned some of the steps we are taking to raise our level of competitiveness. This we need to do so that we can compete more effectively in world markets. These steps include a new Group-wide training programme, Maximising Managerial Impact, and support for the national Investors in People accreditation.

We have come a long way in the last two years and have together established a firm base on which the business can continue to grow. To be successful we must all work together and have the personal commitment to improve continuously. I cannot stress too strongly the importance of working more closely with our customers to develop a better understanding of their requirements and our drive for continuous improvement in all areas.

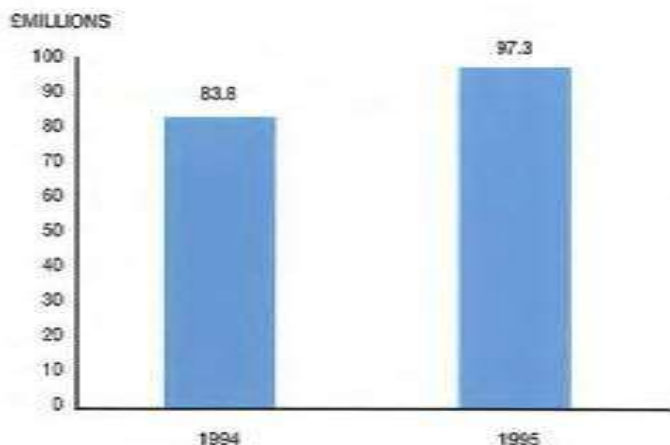
I look forward, with your continuing help, to a successful future for Ultra.

*Dr. Julian Bligh,  
Chief Executive.*

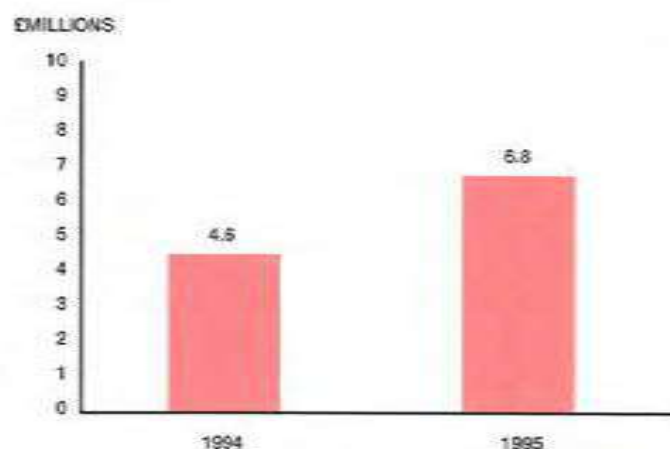


# RESULTS

## SALES £MILLIONS



## PROFIT £MILLIONS



## ORDER BOOK £MILLIONS



## PEOPLE IN THE NEWS



**Derek Armitage** Quality Manager of Controls Division, retired from the company at Easter after completing 36 years of unbroken service. An employee of the original Ultra, Derek worked in a variety of roles before moving into quality assurance. Derek is reputed to have missed less than one week's work due to illness in his career - we hope this robust health continues into his retirement.



**Peter Enoch** has been appointed Director of Sonar Systems at Ocean Systems where he previously held the post of Sonar Systems CBU Manager. Peter now has responsibility for all sonar systems and ocean products for the Division.

## TECHNOLOGY UPDATE

### HIPSS PROGRESS

DEVELOPMENT work at Controls Division on the Hub Integrated Power Switching System (HIPSS) has continued apace. HIPSS is a remotely switched hub mounted propeller ice protection system for aircraft. Designed to operate inside the propeller hub, a comprehensive schedule of functional and environmental testing has been successfully undertaken to ensure that the electronics will survive in this severe environment. Some of the research work undertaken during development is believed to be unique in relation to the centrifugal testing on components for extended periods of time at levels of up to 4000g.

### MAGICARD

SALES of *Magicard* are climbing steadily with a current sales forecast for 1996 of over 1,200 units. The new Magstripe encoder variant is selling well and a new product which includes a smart-chip encoder will be launched in April.



## Developing Capability for Business Success

THE FIRST Group-wide management development programme commenced in early March. The *Maximising Managerial Impact* programme, which consists of three short modules spread over three months, was formulated in

conjunction with Dr. David Kearney of Yeovil-based Opdc, Organisation and Personal Development Consultants. Twelve managers from across the Ultra Group are participating in this first programme with a second scheduled to com-

mence in May. In launching the programme, Group Human Resources Director, Jack Telfer, said, "This important programme supports our five year business plan by seeking to add to managers' existing capabilities. The focus is on the

personal and interpersonal skills essential for developing the high-performance organisation necessary in an increasingly competitive marketplace."



# LATEST PRODUCTS ON DISPLAY AT THE RNBAEE

THE latest products from Ultra's businesses were on display at the RNBAEE Show held at Aldershot last September. Our participation was co-ordinated by Gordon Gray from Command & Control Systems supported by staff drawn from across the Group.

In particular, the new range of multi-function work stations launched by Command & Control Systems attracted a great deal of attention.

Trevor Toft, of Weapon Systems, organised a demonstration of HiPPAG operating in the field on a British Army Land Rover to demonstrate thermal imager cooling.

Also on show were:

- the Deepscan Multi-beam Sonar from Ocean Systems.
- Zephyr, a meteorological processing system developed by Sonar & Communication Systems for naval applications.
- Helitune's latest range of Rotortuner 2000 - Track and Balance for helicopters.



Above; HiPPAG 100 ready for the demonstration at RNBAEE.



Far left; deploying the Deepscan 60 Towfish.



Left; The Zephyr System.



Jim Squire demonstrates the capability of the SEASCAPE Console to Landy Lanigan.

## NEW MULTI-FUNCTION CONSOLE

POTENTIAL customers are showing a great deal of interest in Command & Control Systems' new product, SEASCAPE, the multi-function work station of the future. The slim console design, which was successfully launched at last years RNBAEE, incorporates the latest in large flat panel colour displays and technology minimising power use. Design of SEASCAPE was carried out by the New Business Systems team led by Jim Squire.

Command & Control Systems' console equipments are fitted to all Royal Navy submarines, the RN

Type 23 frigates and the new Korean KDX destroyer. SEASCAPE, which is suitable for a wide range of applications in military and civil markets, incorporates the benefits of over 30 years experience in designing and building Naval command systems equipment.

Terry Stokes, Marketing Director, Command & Control Systems, said, "The savings in weight and space are considerable and SEASCAPE will also enhance the efficiency of the operations room by allowing the dynamic allocation of operator functions."



# FACE 2 FACE

This issue *Ultra News* talks to two employees who contribute in different ways to Ultra's success:

## ALISON TODD

WITH over 15 years' experience in defence contracts, Alison Todd, Contracts Manager of Weapon Systems, has been very involved in the development of the business since she joined three years ago.

Having joined the MOD from school Alison then gained industrial experience with GEC Marconi, Plessey and, for a brief spell, Dowty Propellers. Having heard about the vacancy at Weapon Systems from a colleague she picked up the phone to let MD, Jim Masson, know that he need look no further for someone to be the new Contracts Manager. Alison has no

regrets about the move particularly because of the enjoyment generated by the intense effort which has gone into bringing the HiPPAG product to market. She explains, "Winning the US Navy contract last year was a real highpoint and the culmination of a great team effort."

Alison's roles have given her the opportunity to travel – countries visited have included the United States, Pakistan, Norway, Sweden, Finland, Germany and Italy. She maintains that travel is not as glamorous as it sounds commenting, "You really only get to see airports, hotels and conference rooms." Recent visits to Pakistan were particularly



Alison Todd, Contracts Manager, Weapon Systems

interesting especially as she had to cope with 95 degrees and high humidity whilst wearing long sleeves and

trousers. But Peshawar brought the biggest surprise – a hot curry was an option at the breakfast buffet!



Steve Taylor on the roof at Greenford

## STEVE TAYLOR

As a Senior Principal Engineer with Sonar & Communication Systems, Steve Taylor enjoys breaking new ground. Most recently he has been involved in the application of the Global Positioning System (GPS) to sonobuoys. Steve explains "The NAVSTAR GPS com-

prises a constellation of twenty-four satellites each transmitting coded messages to earth which can be used to determine the absolute position of a receiver."

"The application to sonobuoys means that patrol aircraft would not need to overfly sonobuoys – a procedure which can leave the aircraft open to

counter detection and possible attack. In the words of Squadron Leader Nick Coley, RAF, "Once available the system will offer a far more user-friendly tactical option since the aircraft will be able to monitor progress from a safe distance."

Since the project was commissioned by the DRA in 1994 Steve and his colleagues at Ultra have had to wrestle with a number of technical challenges including ensuring that the resulting sensor was small enough to fit inside a sonobuoy float bag. Intense testing activity for both Ultra and their teaming partner NAVSYS during 1995 resulted in the roof of the Greenford site being adapted for use as a satellite monitoring platform. Finally, last autumn, a major sea trial successfully demonstrated the use of GPS in sonobuoys in an

operational environment. Trevor Kirby-Smith, GPS Assignment Manager at DRA, Farnborough commented "Ultra are to be congratulated in providing the system much sooner than originally planned."

Since joining Ultra in 1987 Steve has been involved with a number of world leading products including Underwater Countermeasures, Telemetry Receivers, Sonobuoys and Active Noise Control. Following graduation in 1979 from Bangor, Steve developed a specialism in analogue and power electronics and, prior to joining Ultra, ran his own switch-mode power supplies business. Nothing if not dedicated, Steve admitted that, during one particularly busy time at Ultra, he brought his sleeping bag into work one week-end and slept on the office floor at night!



## LOGISTICS MOVE

THE LOGISTICS GROUP at Hook is relocating to new premises adjacent to the Command & Control Systems site at Loudwater. The Logistics Group provides full customer support services for the division.

The move, which was announced last October, will add greater efficiency by the co-location of the business on one site at Loudwater. The resulting improvement in communications and business efficiency will ensure that our customers continue to receive a high level of service.

## Recruitment Success

ULTRA took part in the Engineering Recruitment Show held in Hammersmith,



Fern Palmer (2nd from right) with Debbie Sterling, Heather Garret & Cherise Pearson.

West London last November. Our stand was co-ordinated by Fern Palmer, Personnel & Training Officer of Sonar &

Communication Systems, with support from engineering and personnel staff from our divisions in Greenford and Loudwater. The theme of the stand was 'Your opportunity to make a real difference' and a special recruitment leaflet was produced for the event.

Over three thousand people attended the two day show of whom a vast number visited the Ultra stand. Over six hundred specific contacts were established and, as a result, a number of new recruits have joined the Group. We clearly achieved our aim of raising our profile within the engineering recruitment market.

## PRP Benefits Staff

FOLLOWING the success of Inland Revenue approved Profit Related Pay schemes introduced at Sonar & Communication Systems and Ocean Systems in 1995 similar schemes have been introduced across other Ultra businesses who are able to meet scheme requirements for 1996.

The schemes, which involve the employee in linking a portion of pay to company profits, result in a monthly increase in take-home pay through reduced tax payments. Whilst the schemes have been set up to benefit both the company and the employee, the benefits to employees are tangible as they equate to an increase in pay of about 3.7%.

The introduction of these PRP schemes has not taken the place of the normal salary review process and has therefore represented a worthwhile additional benefit for staff. As one pleased recipient commented, "It has got to be worth having - well, it is extra money that I wouldn't otherwise have had."



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Controls - Angie Doyle  
Electrics - Jennie Terry  
Sonar & Communication Systems -  
Carol Doyle

Magnetics - Bob Blakemore  
Ocean Systems - Richard Farwell  
Weapon Systems - Nick Baird  
Noise & Vibration Systems -  
Evelyn Taylor  
Helitune - Alison Brown  
Hermes Electronics - Dorothy Rice

## Towed Array Trophy for HMS Norfolk

ON THE 23rd February this year Dr. Julian Blogh, Chief Executive, presented the Ultra Electronics 'Towed Array Efficiency Trophy' to Commander Greenop RN and his ship's company on board the Type 23 Frigate HMS Norfolk at Plymouth.

The trophy is presented annually to the Royal Navy ship that is considered, by the Flag Officer Surface Flotilla, to have made the best contribution to passive sonar operations during the year.

Ocean Systems are the design authority and manufacturers of Sonar 2031 equipment, the passive towed array sonar fitted in the Type 22 and Type 23 anti-submarine warfare frigates of the Royal Navy. At the presentation Dr. Blogh was accompanied by Ray Coles, Managing Director of Ocean Systems and Nigel Walker, Sonar 2031 Project Manager. The presentation was followed by a tour of the ship which has recently been fitted with Ultra's Command System Console equipments.



Dr. Julian Blogh presenting the Ultra Electronics 'Towed Array Efficiency Trophy' to Commander Greenop on board HMS Norfolk.



Frank Hope, Managing Director of Electrics Division receiving the IIP award from Richard Noble, holder of the world land speed record.

## Investors in People

ELECTRICS Division and Ocean Systems have successfully achieved re-accreditation



### INVESTOR IN PEOPLE

of Investors in People (IIP). IIP is a national standard which highlights the importance of the appropriate development of people in support of business objectives.

Achieving the accreditation involves passing a rigorous external assessment which includes a review of how well business objectives are communicated to employees and of how they are used to identify the training and development needs of the business.

The importance of training and development was stressed by Dr. Blogh, Chief Executive, during site presentations with words of encouragement given to all divisions to seek IIP accreditation.



# UltraNews

The Newspaper for Ultra Electronics Employees

ISSUE 5 AUTUMN '96

## Ultra goes Public

ULTRA ELECTRONICS HOLDINGS plc was successfully floated on the London Stock Market on 3rd October. The placing at 250p per share was subscribed two and a half times for the 34.3 million ordinary shares on offer.

The 65 million ordinary shares issued in total include shares retained by the original investors. At close of first day's trading the share price had risen to 286.5p, a premium of 36.5p over the placing price and a market capitalisation for Ultra of over £180m.

**Ultra**  
ELECTRONICS



*"I am very pleased with the flotation which has been a great success for Ultra. It reflected not only the Group's excellent performance over the past three years, but also the dedication and hard work put in by those involved in the flotation process".*

Ultra's Chairman Peter Macfarlane.

**Dr. Julian Blogh, Chief Executive said,**  
*"The flotation marks an exciting step in Ultra's development. It will provide Ultra with access to capital markets and increase our flexibility to pursue opportunities for expansion both organically and through acquisition".*



Dr. Julian Blogh, Chief Executive and Ian Yeoman, Group Finance Director displaying the placing share price using Command & Control Systems latest flat panel display technology. During a two week period they gave over 60 presentations to potential institutional investors and analysts.

## Measurement Systems Inc. joins Ultra

MEASUREMENT SYSTEMS INC. (MSI) in July became Ultra's first US acquisition. Located in Fairfield, Connecticut, MSI's product range and

customer base complement those of Electrics division and the acquisition will strengthen Ultra's position as a leader in the design and

manufacture of ergonomic components for military aircraft cockpits and fighting vehicles. MSI, whose sales in 1995 were £5.6m, reports to Dr.

Frank Hope, Managing Director of Electrics division. Keith Thomson of Electrics division has been appointed President of MSI.



# Ultra EYE

It is now two years since the first issue of Ultra News. Scanning the previous issues, it is very apparent that Ultra has achieved much more than merely establishing itself as a new entity – the increase in our order book and the continuing growth, both organically and by acquisition, demonstrate the progress that has been made.

I am delighted to report that the circulation of Ultra News has increased and a warm welcome is extended to new readers at Measurement Systems Inc. based in Connecticut, USA, who joined the Group in July of this year.

It was a clear case of "hold the front page" for this issue as we approached the flotation of Ultra Electronics on the London Stock Market. You will already be aware of the successful flotation which provides a strong platform for the future.

Finally, thank-you to the Site Newsletter contacts, who have again coordinated inputs from their businesses, and to all those who have contributed material.

Jack Telfer

## "BRAVO ZULU" TO COMMAND & CONTROLS

DESPITE what appeared to be impossibly tight time-scales, Command & Controls have achieved, on time, the first two and arguably the most significant milestones in the Tomahawk Land Attack Missile Project. The Achievement was marked by a letter of thanks (known in the Royal Navy as a "Bravo Zulu" the flag signal for well done) from Kathy Hegmann of Lockheed Martin Federal Systems, Ultra's customer on the programme.



## SONOBUOY CONTRACT WINS

SONAR & Communication Systems won Sonobuoy contracts during June and July worth £15m to supply the latest design of Barra sonobuoys and Bathythermal buoys to the MoD. These new orders will help sustain sonobuoy production at Greenford and at Hermes, Halifax, Nova Scotia.

## PROPELLER ELECTRONICS DELIVERY

JUST 10 months after project go-ahead, the first Propeller Electronic Controller for the new de Havilland Dash 8-400 passenger aircraft was delivered to Pratt & Whitney in Canada to begin engine integration testing. This marks a significant achievement for the project team at Controls who pulled out all the stops to deliver this sophisticated piece of equipment within a very short timescale. The project team worked in three shifts to ensure the delivery dates were met and were supported by Sonar & Communication Systems staff involved in the manufacture of pcbs.



Left to right Tony Ireson; Malcolm Metlocks; Beth Rosam; Dave Flain; Steve Pilkington of the Logistics Group with a lorry containing the TACISYS System.

## ARMY CONTRACT AWARD

LOGISTICS Group at Command & Control Systems has been awarded a contract by the Military Survey Defence Agency for a mobile Tactical Information System. TACISYS combines geographic and tactical scenario information to provide mobile forces with an up-to-date tactical picture in theatre. Under the contract Ultra will supply 12 mobile systems and it represents a significant breakthrough into providing Army electronics.

## DEEPCAN ON DISPLAY EXPORT ORDERS FOR MAGNETICS



A FULL scale model of Ocean Systems' Deepscan 60, the multi-beam sonar, developed in partnership with the Institute of Oceanographic Sciences, for mapping the ocean floor has gone on permanent display at Southampton's Oceanographic Centre. The centre was formally opened earlier this year by HRH Prince Philip who is pictured reviewing the display.

MAGNETICS have been awarded two production contracts for their high performance 3 axis gradiometer for closed loop on-board degaussing applications. A total of 160 units have been ordered by the French Navy and the US Navy. Typically fifty gradiometers are positioned inside a vessel to monitor the magnetic field and provide compensation information for the on-board degaussing coils.

Magnetics has also won a strategically significant contract to provide underwater sensors to the US NSWC for a new roll and stray field range.

In addition, the first export order for the FACDAR range has been achieved with the purchase of two standard ranges by the Royal Thai Navy through US Foreign Military Sales.



# Farnborough Air Show

*THE FARNBOROUGH '96 Air Show was always going to be an event of great significance for Ultra not only for meeting our customers and doing business, but also because it would be in the lead up period to our Stock Exchange listing.*



Our theme for the show of "Advancing Technology Through Innovation" included Ultra's latest products and technology developments from the Air Systems divisions. Demonstrations included the UltraQuiet cabin for passenger aircraft from NVS and the HIPSS generator for propeller de-icing from Controls. Also on display were the airborne acoustic processor and multi channel sonobuoy receiver from Sonar

& Communications which have been selected for the BAe Nimrod 2000 Maritime Patrol Aircraft.

The project manager for this year's show was Rakesh Sharma supported by Carol Doyle of Sonar & Communication Systems. The photographs show our

impressive stand design and the reception team (left to right), Karen Rodway - Controls, Elaine Grey - Command & Control Systems, Maria Falzon - Electrics and Alison Dunn who was the Stand Manager. Karen Piggot from Electrics was also on the reception team.



## Replacement Maritime Patrol Aircraft

THE MoD choice of the British Aerospace Nimrod 2000 as the replacement maritime patrol aircraft is good news for Sonar &

Communication Systems who are part of the BAe team. Bidding through Boeing of Seattle, the mission system integrator, Ultra is selected to

provide both the acoustic processor and the sonobuoy receiver, vital parts of the aircraft's submarine detection capability.

## TEAMING AGREEMENT

CONTROLS Division has teamed with the Eldec Corporation in Seattle to collaborate on proximity sensing systems for future aircraft.



Agreement signed - left to right Alan Fisher (Ultra); Roy Robinson (Eldec); Julian Blogh (Ultra); Arian van Koeveing (Eldec); Andy Hammett (Ultra) and Bruno Vogele (Eldec).

Proximity sensors are niche products, used in the landing gear computer interfacing systems which Controls supply for Airbus aircraft and the Eurofighter. This teaming brings together complementary technology and systems expertise in proximity sensing and controls, thus enabling Ultra to offer our customers optimum solutions in a demanding market environment. The teaming agreement was signed at Farnborough by Dr. Julian Blogh, Chief Executive of Ultra, and Arian Van Koeveing, President of Eldec. Eldec which is a subsidiary of the Crane Corporation, has supplied proximity sensors and systems to the world's major aircraft manufacturers for over 30 years.

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Two teams from Electrics Division meet the challenge **PAGE 8**

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# Introducing Measurement Systems Inc.

*Measurement Systems Inc. (MSI) was originally founded in 1960 as a research and development company specialising in optical and infrared instruments. Since 1965 MSI has placed an increased emphasis on manufacturing, following the introduction of a range of joysticks and a growing concentration on a full range of position and tracking controls. MSI was acquired by Dover Incorporated in 1982 and was proud to become part of the Ultra Group on July 25, 1996.*

MSI has always had a strong customer base in the military/aerospace industry which accounts for 75% of all sales and two of the strongest segments of these military sales are simulators and fighting vehicles.

MSI employs some 65 staff at its facility in Fairfield, Connecticut which has been its home since 1982. It includes an engineering area featuring a CAD design group, a prototype machine shop for rapid modelling capability and a modern low to medium volume production facility. Supported by regional sales managers and a customer service department MSI retains a

network of representatives to market its products within the USA and around the world.

Keith Thomson of Electrics division, who has been appointed President of MSI, said, "MSI is an excellent fit with the Ultra group. In particular, Electrics division and MSI can now offer a broader range of products to an even bigger customer base".

Close teamwork between MSI and Electrics staff has already commenced with the visit of six MSI employees to Electrics in August. A return visit took place in September.



## ULTRA ACHIEVES A SUCCESSFUL FLOTATION

### The Chief Executive's Review

ON the 3rd October Ultra Electronics' shares began trading on the London Stock Market. This event marked Ultra's transformation from being a private company, with few mainly venture capital shareholders, into a public company with a much wider shareholding base. Being listed on the Stock Market means that ownership of the company is open to those who wish to become shareholders. Consequently, I am pleased that employees can now have a stake in the company, and Ultra schemes are being put in place to enable our employees to participate as shareholders. We intend to extend these schemes to our North American employees when we are clear what is allowable.

It was very encouraging that the value of Ultra was well recognised by potential investors during the flotation process and which resulted in a market capitalisation at the share placement of £162.5m. It is of course due to the efforts of all the employees that the company continues to be successful. This valuation does mean that our investors expect us to perform well in the coming years, but with our expanding product range, our growing order book and your skill and commitment, we can meet our shareholders expectations.

Being a public company means that, provided the right opportunities present themselves, we have more flexibility in implementing our strategy of growing the business by acquisition as well as organically. I also believe that the status of being a plc will help us in establishing Ultra in new markets and has been well earned in view of Ultra's performance over the past three years.

Finally I would like to welcome Measurement Systems Inc. to the Group. This is our first acquisition in the USA and we look forward not only to expanding MSI's activity but also to utilising MSI to support our growing business in the large American market.

**Dr. Julian Blogh,  
Chief Executive.**

## US SALES OFFICE

OCEAN Systems have opened a North America Sales and Support Centre for Card Systems products which is based in Redmond near Seattle. Dave Mountjoy, Card Systems business director said, "The North American market for our MAGICARD colour ID badge printers is the largest single market in the world and it is just not possible to address such a market from outside. US and Canadian customers want local supply, local support and a local warranty service".

We are assured that the choice of location had more to do with the existence of a well respected distributor who offered to help us in the beginning with staffing and temporary premises, than it did with the legendary quality of life in Washington State. The office is well equipped for the task with some growing space for sales expansion. The centre is managed by Deborah Olson and the team of three cover sales, administration and support – Deborah is pictured left



# Measurement Incorporated



The MSI team outside their facility (left).

Electrics Visit - six MSI staff seated with Frank Hope MD of Electrics far right, with their new colleagues in Cheltenham pictured below.



## FOR MAGICARD

with John Bush, Product Support Manager and Angela Schilling, Office Administrator. Deborah commented, "I have a great team and an excellent facility. The MAGICARD product line is quickly becoming a big success in North America and we are all very excited about the new



MAGICARDplus, MAGICARD Sprinter, PCinside and the unique Ultra-secure feature".

## PEOPLE IN THE NEWS



Andrew Walker has been appointed to the Board of Ultra Electronics Holdings as a Non-Executive Director. As a previous Managing Director of Dowty Maritime Ltd. he has in-depth knowledge of a major part of the activities of Ultra Electronics. More recently he was Chief Executive of South Wales Electricity plc from 1993 until its takeover by Welsh Water plc in 1996. He brings a wide experience of the Defence industry, the City and business activities in general.



Keith Thomson has been appointed President of MSI moving from Electrics division where he held the post of Marketing and Contracts Director.

David Brown has transferred from Noise & Vibration Systems to Controls division as Marketing Manager for airframe system electronics.

Rob McDonald has joined Noise and Vibration Systems as Head of Sales and Marketing. He joins Ultra from Smiths Industries Basingstoke.



Peter Williams, Project manager within Controls division, has successfully completed an MBA at Bath University.



Congratulations to Derek Armitage who was awarded the MBE this year shortly after his retirement from Controls division after 36 years service. Derek is pictured with his wife, Pam, at Buckingham Palace having just received his Badge of Honour.

## TECHNOLOGY UPDATE

A REAL-time facility for closed loop testing of control systems has been developed by Controls division as part of their Propeller Electronic Controller (PEC) development programme. The state of the art test facility utilises detailed mathematical models developed with Dowty Aerospace Propellers and other sub-system manufacturers.

Time is saved in the development cycle as the benefits of the test facility include:

- the development of control laws and the verification of control strategy.
- the closed loop testing of the PEC control laws immediately after they are written or modified thereby minimising risk when the PEC is first used to control a real engine and propeller.
- the rapid redesign and closed loop testing of control gains thus ensuring that the Ultra PEC has the tightest possible control performance.



# QUEEN'S AWARD FOR ACTIVE NOISE CONTROL

ULTRA Electronics Noise & Vibration Systems was awarded the Queen's Award 1996 for Technological Achievement (briefly reported in the last issue of Ultra News). The award was made for the application of Active Noise Control to aircraft cabins and recognised the innovation and success in applying the technology to the reduction of noise levels in aircraft passenger cabins.



Dr. Colin Ross, MD of Noise & Vibration Systems receives the Queen's Award from the Lord Lieutenant of Cambridgeshire, James Crowden.

Reflecting on the award, Ultra's Chief Executive Dr. Julian Blogh said, "Ultra is very proud to have received

this prestigious award for the innovative application of this advanced control technology to the international aerospace market. This is the first Queen's Award for the Ultra Electronics Group and gives credit to the dedication of our employees in providing innovative solutions for our customers".

In a special ceremony held at the Noise & Vibration Systems site in Cambridge, the Lord Lieutenant of Cambridgeshire, James Crowden, presented the award to Dr. Colin Ross, Managing Director of NVS. The Lord Lieutenant congratulated all Ultra staff involved with this innovative development.

The UltraQuiet cabin systems, which are manufactured at Sonar & Communication Systems in Greenford, are in service throughout the world including Europe, America, Japan, Australia and the Pacific Islands.



Attendees at the first MMI Programme pictured with Dr. Julian Blogh (centre front) with Dave Kearney and Amanda Harrington of Opdc to his left and right.

## MMI MAKES ITS MARK

TWENTY-four managers from across the Ultra group have participated in the Maximising Managerial Impact (MMI) development programmes this year. The programmes took place at Eynsham Hall, a Training and Conference centre just outside Oxford, and the tuition was led by David Kearney of the consultancy Opdc.

In addition to the main tuition, evening events were attended by Directors from across the Ultra group which provide the opportunity to

discuss matters relating to the business in an informal setting.

Feedback from delegates has been positive. Arising out of the programme a number of business management teams have held workshops led by David Kearney based on the core elements of MMI. More MMI programmes are being planned for 1997 along with the launch of Maximising Business Performance - a modular programme focusing on strategic marketing, finance and organisation.

EXHIBITION EXHIBITION EXHIBITION EXHIBITION EXHIBITION EXHIBITION EXHIBITION

## Collingwood

SEVEN of Ultra's businesses took part in the Royal Navy Exhibition held at HMS Collingwood in June to celebrate the 50th Anniversary of the Royal Navy's Weapon Engineering Branch. HMS Collingwood is the Royal Navy's school of Weapon Engineering and Communications Specialisation and is located near Gosport, Hants. Gordon Gray from Command & Control Systems was Project Manager for our stand which featured Ultra's extensive product range and technology capabilities for ships, submarines and helicopters. The Exhibition included one day Careers Fair supported by personnel staff from across

the Group.

Richard Lane, Group Marketing Director said, "The Collingwood exhibition was a unique and successful event for Ultra and demonstrated our commitment to support our major naval customer, the Royal Navy. Throughout the week we were able to meet Royal Navy staff at all levels and also the invited delegations from overseas".

Businesses attending were Command & Control Systems, Sonar & Communication Systems, Ocean Systems, Electrics, Weapon Systems, Magnetics and Helitune.





# FACE 2 FACE

This issue *Ultra News* talks to two employees who contribute in different ways to Ultra's success:

## DAVID LARKIN

THEY say that everyone has an opportunity to be famous for fifteen minutes. Certainly David Larkin, Production Team Leader for Harnesses at Electrics Division, knows something about being a local celebrity.

Born and raised in Connecticut, USA, David came to the UK with the US Airforce and settled this side of the Atlantic after marrying his wife who came from Cheltenham.

He joined Electrics in 1985 as an assembler and has moved through various sections and progressed to the position of Team Leader. Looking back over the years with Electrics David explains, "Despite a lot of change there has always been opportunity to grow and take on new challenges.

Being a team leader means that you get real satisfaction from seeing the team work together to meet targets".

David has recently completed the Certificate in Management Studies which has helped to broaden his awareness of what motivates people and his understanding of bottom line issues. He has also overseen a pilot National Vocational Qualification (NVQ) Scheme at Electrics and has seen the first members of his team achieve Electronic Assembly level 2.

Outside of work David became something of a local celebrity when he was

involved in setting up the Gloster Meteors – a local baseball team. David admits, "Having settled in the UK baseball was what I missed most. I played for a while with the Bristol Blacksox before deciding to set up a team locally".

Interest in the 'Meteors' took David by surprise with appearances on Central Television and regular local press coverage. His involvement with the club continues as Treasurer and he would be pleased to hear from any budding players.



David Larkin of Electrics division.

## PAT HARTSHORNE

MAGNETICS division's Pat Hartshorne began her thirty-nine years in manufacturing after being a telephonist, working in a shop and in an office. Pat joined Domain Magnetics (subsequently Magnetics division) in 1982 after twenty-five years with Lucas. Although she joined to work on the production of PCB's it did not take long for her previous experience of coil winding to be recognised and put to good use.

Since then Pat has spent most of her time winding the coils which are the core of the Magnetics product range. These windings have been supplied to customers



Pat Hartshorne, Magnetics.

all over the world and should be soon heading into space in 1997 as part of a planned probe making its way to Saturn!

Meeting customers deadlines is important to Pat

and there have been a number of projects where she and her team mates have started at 5.30 am to ensure that targets were met. Pat explains, "If we don't perform we will lose orders. I

know the windings have got to be A1. What gives me a real buzz is getting it right first time – any failures are a real disappointment".

Hednesford has been Pat's home town since 1956. When she joined Magnetics they were based in Stafford and, despite it making her journey more difficult, she stayed with them when they moved to Eccleshall. When Dowty decided to find a new site for the business she drew their attention to the availability of grants for businesses setting up in the Hednesford area and provided a list of possible sites. Pat's efforts seemed to work as Magnetics moved to their current site in Hednesford in 1986.



# Rising to the Challenge



THE ELECTRICS challenge for this year involved lifting two 1 lb. weights (called walking boots!) approximately 75,000 times up and down the five highest peaks in England - namely Scafell Pike, Scafell, Helvellyn, Lower Man and Skiddaw. All are based in the Lake District spread out over a twenty-five mile area.

Two teams of four from Electrics division took part - one team (suicidal!) undertook the challenge in one day, the other (almost sensible!) over two days. Weather conditions varied from rain with 'attitude'



Scafell, the second highest peak. Left to Right - Sean McCarrick, Frank Hope and John Taylor.

through rain horizontal to "after you with the sunblock". Both teams survived and on completing the challenge raised over £300 for the Gloucester based Spring Centre charity which provides support for disabled children and their families.

The descent from Scafell. Left to right - John Taylor, David Wiles and Frank Hope.

## Sun and Sundaes



THE LAST issue of Ultra News featured a picture of Hermes Electronics employees standing in the snow outside their factory. Just to prove that it is not always cold in Nova Scotia we

see them enjoying a company barbecue in the sun. The ice cream sundae bar was the main attraction as illustrated by the long line of employees waiting for a cool treat on a hot summers day.

## Jetski Success

COMMAND & CONTROL Systems sponsored the Jetski's of QA Engineer Dave Jackson who has competed to great effect in the Great Britain Championships this year. Dave came second and third in his categories and

this daughter, Maddie, third in hers. Dave also managed to qualify for the UIM World Championships to be held in Dubai later this year, although he is unfortunately not able to take part due to other commitments.



Dave Jackson approaching 60 mph.

## Workplace Education

THE INTRODUCTION of a pilot Workplace Education Programme for Production staff at Hermes Electronics has been well received by participants. This innovative programme, which covers a range of skills including reading, maths and communication, aims to increase employee self-

confidence and renew a desire for personal learning and growth.

Within the UK, Electrics division have implemented a pilot National Vocational Qualification (NVQ) scheme and have seen their first operators achieve NVQ level 2 in Electronic Assembly within the Harnesses section.

**Ultra**  
ELECTRONICS

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Weapon Systems - Nick Baird  
Noise & Vibration Systems -  
Evelyn Taylor  
Heliborne - Cathy Cutting  
Hermes Electronics - Dorothy Rice  
Measurement Systems Inc. -  
Norman Westphal



# UltraNews

The Newspaper for Ultra Electronics Employees

ISSUE 6 SPRING '97

## Good Start to 1997

**“MY CONFIDENCE for 1997 is reinforced by a strong order book and a good start to the year.”**

Peter Macfarlane, Chairman.

1997 HAS got off to a good start with new contracts taking the Group's order book to over £200m. New orders include Avionic systems for the BAe Nimrod 2000, Active Noise Control for de Havilland in Canada and follow-on orders for HiPPAG 320 for the US Navy.

Turnover for the Group for 1996 at £123.6m was up 27% of which organic growth within the businesses accounted for 17.5% – a significant achievement. A summary of the Group's results are included in this issue.



British Aerospace Nimrod 2000

## Team Effort on BAe Nimrod 2000

SONAR & COMMUNICATION SYSTEMS has been awarded a contract, to the value of £48m, to supply acoustic systems for the British Aerospace Nimrod 2000 – the next generation Maritime Patrol Aircraft for the Royal Air Force. Douglas Caster, Managing Director of Sonar & Communication Systems said, "This prestigious contract recognises and consolidates Ultra's capability in acoustic systems for submarine detection. The award is due to a tremendous team effort by many people in the business and I regard it as an excellent achievement." *Further details on page 3.*

## de Havilland select UltraQuiet systems

NOISE & VIBRATION SYSTEMS have received contracts from de Havilland worth £6.6m for their UltraQuiet noise cancellation systems. This means that UltraQuiet systems will be fitted to the full range of Dash-8 aircraft, including the latest de Havilland Dash 8-400 aircraft, for both new build and retrofit.



Colin Ross, MD of NVS pictured (left), with Helen Bastow from Cambridge and Pankaj Patel from Greenford, at Buckingham Palace when they attended a reception following the Queens Award for Technological Achievement.



# Ultra EYE

Once again there has been no shortage of material for this issue which features our first year end results as a plc. Many thanks to all coordinators and contributors of articles.

The capability of our employees is an important factor in the success of the Group and this is reflected in the fact that Ultra's investment in training and development doubled during 1996 compared with 1995.

Another important factor is continuous learning – something we all do that is not dependent on attendance at training events. Learning requires a willingness to think about what we do, how we do it and an openness to receive feedback from whatever source.

Talking of feedback, what do you think of Ultra News? Is it interesting? Are there topics you would like to see in future issues? Please drop me a line with your feedback.

Jack Telfer

## HiPPAG FOLLOW ON

PRODUCTION deliveries of the HiPPAG 320 on-board gas compressors to the United States Navy began in December 1996 following the successful completion of First Article Testing (FAT). Weapon Systems have now been awarded a second production contract worth £3.5m. The HiPPAG's will be fitted to the US Marine Corps' AV8B Harriers for cooling the Sidewinder air to air missile infra-red detectors. Achieving FAT and winning the production follow-on contract represents the successful culmination of eight years dedicated effort by the Weapon Systems team.



## AVRO RJ FLAP CONTROLS

CONTROLS have won a further production order to supply the Flap Control Units for the Avro RJ aircraft under contract to Dowty Aerospace, Wolverhampton. The Avro RJ, which is an updated version of the BAe 146, recently passed the 300th aircraft delivery landmark – a position not achieved by any other British commercial jet airliner. Controls also supply the Master Warning System for the aircraft.

On a broader note, the return to profitability of the world's major airlines has led to aircraft manufacturers increasing production rates with the result that new orders received at Controls during 1996 topped £20m for the first time.

## FLAT SCREENS

COMMAND & CONTROL SYSTEMS will supply the first 25 UltraThinVision rugged liquid display monitors as an extension to the main contract to supply the TACISYS systems to Military Survey. Fifty UltraThinVision monitors will also be provided as part of a Command Console contract for RN submarines. UltraThinVision delivers the benefits of flat screen technology – reduced size, weight and power consumption – at a competitive price. New design operator workstations featuring this technology are being provided to a number of potential customers for evaluation.



## SONOBUOY WINS

HERMES ELECTRONICS recently won Sonobuoy contracts for DIFAR in France, Taiwan and Norway and for Bathothermal buoys for the USA and Taiwan. Hermes was also awarded development contracts in Canada for DIFAR and Bathy, both in the smaller 'G' size. Hermes exhibited at the Downunder Airshow and Aerospace Expo in Melbourne, Australia in February.

Sonar & Communication Systems has also won a contract to supply Difar 'G' size sonobuoys to the French Navy.



Ken Walker pictured on the Hermes stand in the Canadian Pavilion.

## OCEAN SYSTEMS

OCEAN SYSTEMS have been awarded a second contract to provide another Seaview sonar to the John Hopkins Applied Physics Laboratory, Maryland, USA. Seaview comprises an advanced multibeam sidescan sonar with integral swath bathymetry for high resolution mapping of the sea bed, and uses Ocean Systems latest digital technology. The system is destined for use with the US Navy.

Ocean Systems also report strong demand for their thermal linescan recorders, used for continuous printing of high resolution grey scale images from sidescan sonars. Recorders have been supplied to the MoD, Rascal Radar Defence, the international offshore survey industry and customers in the USA.

## TORNADO TEST SET

ELECTRICS DIVISION have developed a Nosewheel Steering Test Set for the Tornado aircraft which should overcome problems encountered with the retraction of the noseleg into the undercarriage bay.

Electrics' Principle Engineer, Vic Shannon, has specific knowledge of the system controlling the noseleg alignment and was able to propose a test set able to analyse and adjust the whole system. The £1.3m development programme commenced in 1995 and customer acceptance was achieved in February 1997. Production test sets, worth £1m, will be supplied to the RAF and the product offered to other Tornado operators.



# Sensor to Display for Nimrod 2000



Darren Lock, Project Manager RIMPA (far left) with Members of the Sonar & Communication Systems team involved with the Nimrod 2000 bid.

**SONAR & COMMUNICATION SYSTEMS** have been awarded a £48m contract to supply the acoustic systems for the BAe Nimrod Replacement Maritime Patrol Aircraft for the Royal Air Force. One of the primary roles for Nimrod 2000 is submarine detection and this capability is provided through the deployment of sonobuoys into the sea and the on-board acoustic processing system which processes acoustic signals

received via the sonobuoy radio links to the colour display on the operator consoles.

This is a significant contract for Ultra which consolidates our capability in airborne acoustic systems for submarine detection. The contract builds on our experience in the design and manufacture of sonobuoys and sonobuoy receivers to provide a total integrated system capability.

Under the contract, Ultra will supply systems to the Boeing Defence and Space Group which is supplying portions of the mission system under the sub-contract to British Aerospace, the overall mission system integrator. In providing the integrated acoustic system Ultra is working in collaboration with Computing Devices Canada and Flightline Electronics in the USA.

Darren Lock, Ultra's Project Manager for the acoustic system, is working closely with Alan Wignall, Chief Engineer Systems, and Mike Baptist, Chief Engineer Communications as the project gets underway. An engineering team, led by systems engineer Andy Chance, will be based at Computing Devices in Ottawa for a twelve month period during the development of the acoustic processor.

## First Flight for Controls' New PEC

THE Propeller Electronic Controller (PEC) being developed by Ultra Electronics for the de Havilland Dash 8-400 new passenger aircraft made its highly successful debut in January on the Pratt and Whitney engine flying test bed. During the two hour flight test the PEC was tested over a wide range of speed and altitude and exceeded all the testing requirements. This excellent achievement came after an intense 14 month development programme during which Controls' systems engineers used extensive computer simulation, modelling and closed loop testing. The flight test programme will continue through 1997.

The PEC governs propeller speed and thrust through blade-pitch control. Features include

automatic take-off power control and propeller synchrophasing control. Advanced features also



Pratt & Whitney's Boeing 720 test aircraft with PW 150 engine mounted in nose.

include the ability to interface with Ultra's Active Noise Control System and propeller balancing.

## MSI WIN CANADIAN ORDER

MSI have a longstanding working relationship with Delco supplying Commander's and Gunner's Controls for the LAV25 Light Armoured Vehicle. The most recent

contract win worth US\$1.25m, for the Canadian Armoured Personnel Carrier, is one of the largest in MSI's 35 year history. The requirement placed great emphasis on

Canadian offset work from its suppliers and MSI was able to provide the necessary offset through an arrangement with Sonar & Communication Systems who are also purchasing equipment from Canada.

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Command & Control Systems provide training to Korean engineers **PAGE 8**

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Controls Division strive to become one of BAe's preferred equipment suppliers **PAGE 8**





## ULTRA PROFIT EXPECTATIONS EXCEEDED

### The Chief Executive's Review

In the flotation prospectus we promised our new shareholders that we would achieve a minimum of £120 million in sales and £13.9 million profit for 1996. As you can see from the results opposite both these numbers were comfortably exceeded, and it is thanks to your efforts that this performance was achieved. Of course the expectation of our shareholders and the Stock Market is that Ultra will continue to grow its profits year after year. With this in mind we must all continue our efforts to improve our efficiency and to ensure that we meet all of our customers requirements and expectations.

You may have noticed that the Ultra share price has moved up and down since the float, irrespective of the performance of the business. Ultra's share price is subject to changes in the market in general, the view taken by city of the engineering sector, and how investors see the future of Ultra. Although there may be day to day variations in Ultra's share price, if over the longer term we perform well, there will be a corresponding longer term increase in the valuation of the Company.

Turning to 1997, you can see from the first page of this edition of Ultra News that the year has started well with a high level of order backlog. It is normally difficult to single out any particular new contract, but the recent award for the BAe Nimrod 2000 acoustic systems represents the largest single contract since the formation of Ultra in 1993 and a significant step up in capability and market presence. The major task for 1997 is to turn these orders into sales providing high quality equipment and service in a timely manner whilst continuing to win new business.

There is already evidence that the continuing growth of Ultra is providing opportunities for capable employees to gain new experience and achieve their career aspirations within the Company. With the expansion of training within the Group, this is a trend which I expect to see continue.

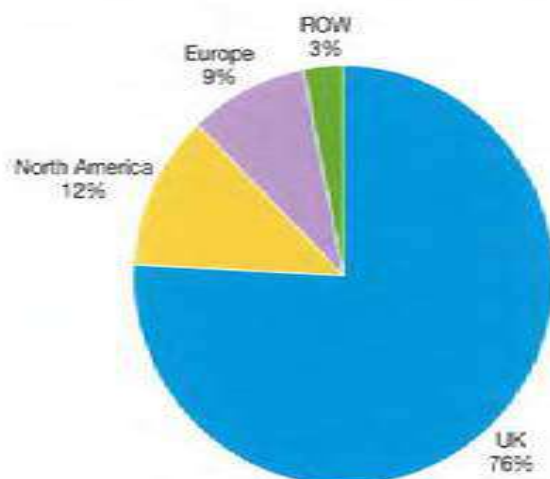
*Dr. Julian Blogh,  
Chief Executive.*

# FINANCIAL FOR 1996

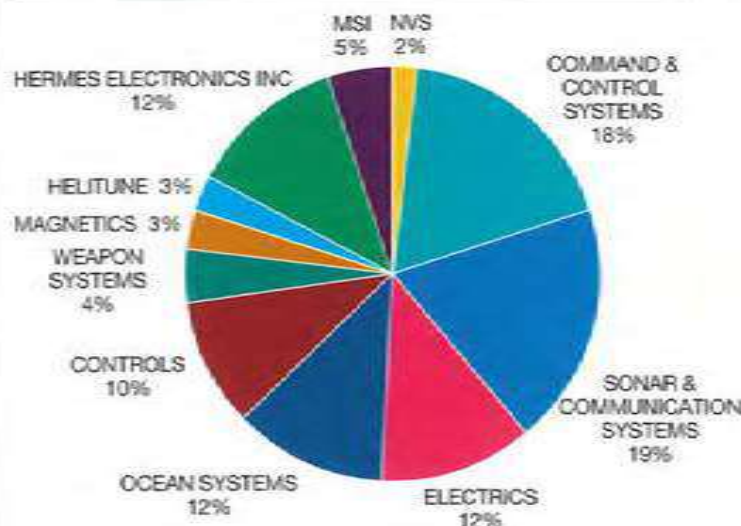
Ultra Electronics Holdings plc has recently issued its results for the 12 months ended 30 December 1996.

Sales for the period were £123.6 million, up 27% over 1995, and operating profit after exceptional items but before interest and tax increased from £6.4 million to 14.1 million. The order book for the year end was £174 million. The Company achieved a strong positive cash flow of £18.3 million for the year.

### SALES BY GEOGRAPHICAL DESTINATION



### STAFF LEVELS BY DIVISION



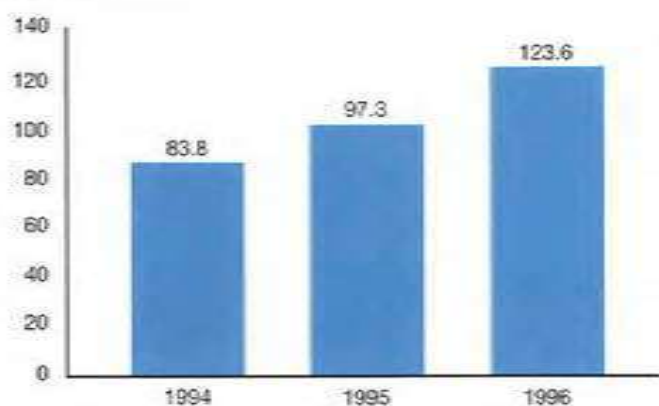
Ultra now employs over 1600 people. This chart shows the approximate distribution between businesses based on numbers employed at the year end and excluding contract staff.



# RESULTS

## SALES £MILLIONS

£MILLIONS



## PROFIT £MILLIONS

£MILLIONS



For each year the figures show operating profit after exceptional items but before interest and tax.

## ORDER BOOK £MILLIONS

£MILLIONS



The £48 million contract to supply acoustic systems for the Nimrod 2000 was awarded to Sonar & Communication Systems in February 1997, this raised the Group order book to £220.8 million at 28 February.

# PEOPLE IN THE NEWS



**Ian Mence** has been appointed Managing Director of Magnetics Division where he previously held the post of Operations Manager.



**Jane Williams** has joined Ultra as Personnel Manager of Controls Division. She joins from GEC/Marconi C3i at Frimley.



**Phil Evans** has been appointed Manufacturing Director of Sonar & Communication Systems. He was previously Materials & QA Manager.



**Jafin Asher** has been appointed Financial Controller of Weapon Systems where he was previously Reporting Accountant.



**Colin Pass** has joined Ultra as Personnel Manager, Sonar & Communication Systems. He joined Ultra from the AGF Insurance Group.



**Phil Brown** has joined Ultra as Product Development Manager at Electrics Division. He was previously with Flight Refuelling.



**Doug Burd** has transferred to Hermes Electronics in Canada as Director Technology Development from his position as Chief Engineer Sonar Products with Sonar & Communication Systems.



**Paul Summers** has joined Ultra as Business Manager for Airport Information Systems at Command & Control Systems. He joined Ultra from Easams.



# TACISYS CABINS DELIVERED

JOHN TAYLOR, Managing Director of Command & Control Systems, pictured with Colonel Simon Farley RA to signify Military Survey's acceptance of the first completed TACISYS system. All systems were delivered on schedule following a hectic 27 week programme for which Ultra took full prime contract

responsibility. Military Survey will also be the launch customer for the new UltraThinVision flat screen display. TACISYS systems are expected to be upgraded to incorporate UltraThinVision displays saving both power and space – always at a premium in cabin mounted systems.



Mark Doyle (holding brochures) with the Components Business Unit team

## PRODUCT FOCUS AT ELECTRICS

A SEPARATE Components Business Unit has been formed within Electrics to achieve long term growth from mature products and technologies. Mark Doyle has been appointed General Manager of the Components Business Unit with a team of fifty people and £5m annual sales. The product range includes toggle switches, NVG Indicators and Terminal Blocks. The Components team are being co-located in a separate, refurbished building on the Electrics site.

Cheltenham. This move provides an excellent platform for Ultra's continued investment into Helitune's range of vibration monitoring and rotor track and balance equipment for aircraft which will now be marketed from the Electrics site.



Keith Mowbray (pictured above) has been appointed Marketing and Customer Support Manager for the Helitune product range reporting to Frank Hope, Managing Director of Electrics.

This follows the decision to move the Helitune business from Malvern to

## TECHNOLOGY UPDATE

**M2 SIMULATION CONTROL** – Measurement Systems Inc has recently developed a reduced cost version of its M2 Bradley fighting gunner and commander simulation controls. The development was in response to demand in the simulation marketplace for rugged M2 controls that have the same ergonomic and reliability characteristics as the actual controls but with substantially lower pricing. A significant cost reduction was achieved by radically simplifying the design and by using standard commercial parts and manufacturing processes. The effort is now being extended to other product lines and should allow MSI to offer its controls to a broader customer base.

**DLPS LINK 16 UPGRADE** – Command & Control Systems is providing additional functions to the Data Link Processor System to give the Royal Navy a Link 16 capability and to allow the use of point to point or satellite links. Increasing the processing power and memory by a factor of five involved adding two new circuit board types to the DLPS. Both new boards use a similar processing kernel, comprising a 100/150 MHz Pentium processor and 32/64 Megabytes of parity checked RAM. New, top of the range EPLDs (Erasable, Programmable Logic Devices) were used instead of the normal discrete logic components or custom ASICs. The design and manufacture of the boards was challenging and the investment in electro-optical solder masking equipment was invaluable.

**COMPACT SENSOR** – Magnetics Division's MUWS9 high precision magnetic sensor was selected as the winning solution for the US Navy's Mine Countermeasures "roll" range. MUWS9, a 3-axis magnetic sensor providing state of the art magnetic vector measurement performance, will be installed in an underwater array to measure the magnetic fields of vessels moored in the range test facility. A major technical challenge was presented by the compact nature of MUWS9 – the overall underwater housing being only 50mm in diameter. To meet this challenge a 3-D CAD system has been used to optimise the detailed internal mechanical design of the sensor.



# FACE 2 FACE

## Ultra News talks to two more employees in this fascinating series:

### CRAIG HILLIS

*Hermes Electronics*

WORK HARD, play hard seems to be the motto for Craig Hillis who works in the engineering department at Hermes Electronics. Craig



Craig on the Tonto Trail, Grand Canyon

has lived in Dartmouth, Nova Scotia since the age of ten having been raised in Ottawa and Burlington, Ontario.

Craig began his career with Hermes Electronics in 1992, on a part-time basis, while completing his Bachelor of Electrical Engineering degree at the Technical University of Nova Scotia. After 5 years experience of Sonobuoy design and involvement over the past year in digital design and towed arrays, the highlight of Craig's career to date was "qualifying the 77B CFS/RFS with the new tuning algorithm."

Outside of work Craig has an interest in all sports. He



Craig on walkabout - at top of Yosemite Falls, Grand Canyon

is an avid rower, citing his most memorable experience as "winning a bronze medal whilst racing for the first time at the Canadian Championships." He also enjoys wilderness camping - an unforgettable recent experience was "the early morning hike in the Grand

Canyon and seeing the Canyon open up like a scene from Tolkein." Running, cycling and cross-country skiing help to fill what spare time remains along with a newly developed interest - photography; printing and processing photos in a basement dark room.

### ROB MUIRHEAD

*Command & Control Systems*

SINCE JOINING the company as an Apprentice at 16 years of age almost twenty years ago Rob Muirhead has worked in a range of technical and project related roles culminating most recently in his appointment as Project Manager for the Tomahawk (TLAM) project.

Of his current role Rob says, "with the tight timescales and high expectations of the customer I find this role is the most challenging and enjoyable I have held to date." Despite what appeared at times as impossibly tight timescales all development project and first of production milestones have been met. Rob attributes this in part to having a small committed

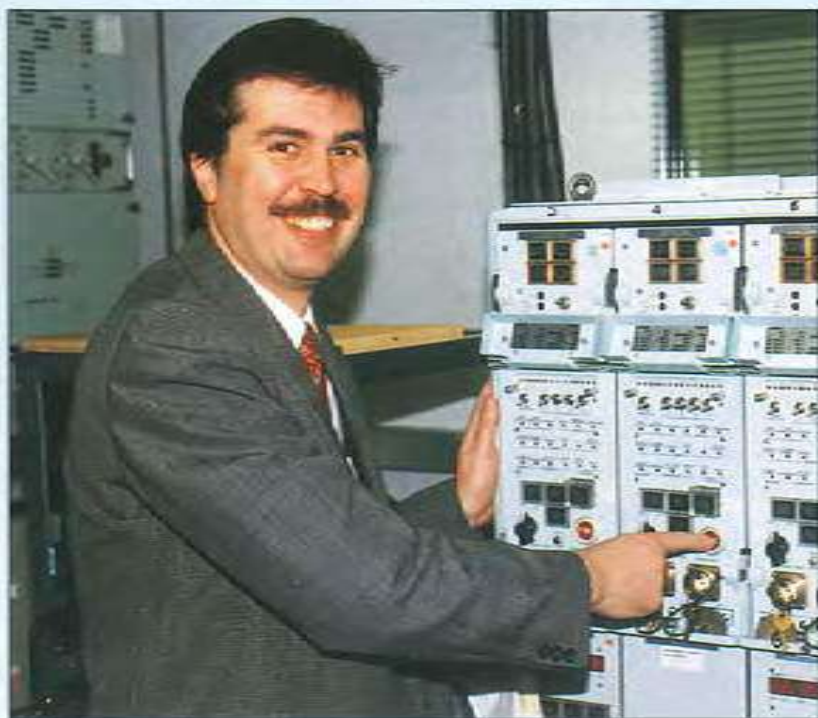
core team co-located in an open plan area to help maximise internal team communication.

Prior to his current role, Rob cites the delivery of the first SMCS kits destined for HMS Vanguard as especially satisfying. He explains, "this was achieved following a period of intense activity and it was great to see a product I had been so involved with go onto the shop floor and on into service."

Reflecting on his 'carefree' days as an apprentice when he had the time to be Social Secretary for the Apprentice

Association, life has changed in many ways for Rob. With a busy job, a young family and a 45 mile commute to

work Rob has a full agenda - which is just as well for someone who admits to "not coping well with lulls!"



Rob Muirhead, Command & Control Systems



# Korean Training

COMMAND & CONTROL SYSTEMS have completed delivery of three SSCS Mk7 systems for the Korean Navy through BAeSEMA as prime contractor. The first system was built and tested entirely in the UK with a large proportion of the second and third systems being built by Samsung in Korea under a licence production agreement. Part of the Offset arrangement involved training engineers from

Samsung at Loudwater in Quality Assurance, production techniques and system testing. Ultra's Project Manager, Ian Baynes, said that, "all the Samsung engineers spoke good English which helped us considerably as our grasp of Korean was minimal. Both parties gained useful experience from the exercise and we look forward to maintaining contact with the Koreans who visited us."



Mr. T. B. Choi, (Centre) of Samsung pictured with (from L-R) Peter Eatwell, Roger Williams, Ian Baynes and Manjit Sajoo.

# BAe Supplier Development

CONTROLS DIVISION have been selected by BAe Airbus at Filton to participate in their supplier development programme with the objective of becoming one of BAe's preferred equipment suppliers.

Under the supplier development programme both companies will work together to develop product strategies for future landing gear control systems, to run joint cost reduction activities

focusing on existing equipment supplies and to more effectively employ product support capabilities to improve customer satisfaction ratings.

Seven joint BAe/Ultra project teams have been formed to focus on cost reduction. These teams are assisted by Sonar & Communication Systems and Ocean Systems, who both manufacture for Control's Airbus product range.



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Controls - Karen Rodway  
Electrics - Jennie Terry

Sonar & Communication Systems -  
Carol Doyle

Magnetics - Bob Blackmore

Ocean Systems - Richard Farwell  
Weapon Systems - Jackie Reece

Noise & Vibration Systems -  
Evelyn Taylor

Hermes Electronics - Dorothy Rice  
Measurement Systems Inc. -  
Norman Westphal

# Man behind the Mask

SINCE our brief feature in the last issue of Ultra News, Dave Jackson has powered his Command & Control Systems sponsored Jetski to first place in the British Jet Sport Long track Championship in the 'Runabout Class.' This issue Dave is pictured (without mask!) brandishing his trophy.



# International Cuisine at MSI

ON THE last working day before Christmas MSI employees each brought in their favourite ethnic food dish or dessert to share with their colleagues. With a wide variety of geographic origins represented within MSI the smorgasbord turned out to be a true microcosm of global cuisine. Eric Silvera and the rest of the organising team, Millie Blazas and Mike Sprague among others, set up an event that was enjoyed by all.

# Quality Recognition

THE GOVERNMENT of the province of Nova Scotia presented Hermes Electronics with an award in recognition of their dedication to quality management and to their continued certification to the ISO 9001 International

Quality management standard. Pictured accepting the award from Nova Scotia Premier John Savage (centre) and MP Mary Clancy is Jim Evans, Director, Quality Systems at Hermes Electronics.



# New Starters from Show

FOR THE second year Ultra participated in the IEE Recruitment Show held at Hammersmith in November 1996. Teams of engineering personnel from Sonar & Communication Systems, Controls and Command & Control Systems manned the

stand over two very busy days. Nine job offers have been made to individuals met through the show and seven of these have joined Ultra. Many contacts are made at these events and a recruitment database has now been set up which will be available to all Ultra businesses.



# UltraNews

The Newspaper for Ultra Electronics Employees

ISSUE 7 AUTUMN '97

## US Expansion

MAY 1997 saw a significant expansion by Ultra Electronics in North America with the acquisition of both Flightline Electronics Inc and EMS Development Corporation.

Flightline, who have worked with

Sonar & Communication Systems since 1984, strengthens the Group's market position in submarine detection equipment and brings important technology in-house.

EMS' product range and customer

base complements those at Magnetics division and will enable Ultra to offer a complete magnetic silencing capability to navies worldwide.

Profiles of both businesses are included in this issue.



Far left, Airbus range, above, de Havilland Dash-8 and left Canadair's Challenger aircraft.

## Interim Results Well Received

INTERIM Results for Ultra Electronics Holdings plc for the six months to 30th June 1997 were announced on August 18th. Sales turnover for the period was £71.5m, representing a 23.7% increase over the same period in 1996. Excluding the impact of acquisitions, organic growth was 17.2%. With pleasing profit and cash performance in the period Ultra's Chairman, Peter Macfarlane, commented: "With a healthy order book, combined with continued progress and our

recent acquisitions performing in line with expectations, the outlook for the year is encouraging."

The civil aerospace market remains buoyant and this is reflected in Ultra's order intake with significant orders for landing gear computers for the range of Airbus aircraft and the selection of Ultra's Active Noise and Vibration systems for the de Havilland Dash-8 aircraft and the Canadair Challenger aircraft.



Pictured left to right Michael Buerk of the BBC, Dr. Julian Blogh, Arnaud Bamberger of Cartier Ltd, and Tim Hart of Philidrew Ventures

## Chief Executive wins Award for Ultra

DR. JULIAN BLOGH, Chief Executive, was named 1997 Venturer of the Year at a recent award ceremony in London. The award, sponsored by Cartier, the British Venture Capital Association and the Financial Times recognises "the achievements, vision and enterprise" of entrepreneurs running venture-backed companies. The award, now in its eighth year, was presented by Arnaud Bamberger, Managing Director of Cartier Ltd.



# Ultra EYE

Welcome to the latest edition of Ultra News – especially to our new readers at EMS Development Corporation and at Flightline Electronics. The fact that approaching one quarter of the Groups employees are now based in North America demonstrates Ultra's growing international presence.

I recently came across this quote: "During the decade of the 1980's, a total of 230 companies – 46% – disappeared from the 'Fortune 500.' Obviously size does not guarantee continued success."

Whilst Ultra's growth continues to be an important objective we recognise that it will not, in itself, guarantee future success. This will still be dependent on each of us as employees providing excellent service to our customers and colleagues. Size does not in any way diminish the importance of each employee's contribution.

Thanks again to our growing band of site newsletter contacts. Please keep the material coming in.

Jack Telfer



## TAGTRAK INTEREST

INTEREST continues to grow in the 'Tagtrak' baggage reconciliation system which is operational in Hong Kong. Command and Control Systems is working with Air France and CAP Gemini to install 'Tagtrak' at Terminal 2 of Charles de Gaulle airport Paris in early 1998. This could then be extended to Air France operations overseas. Virgin Atlantic have also awarded contracts to Ultra for mobile check-in systems at Heathrow. This system has been successfully trialled at a number of airports and has attracted much interest. The picture shows Richard Branson being checked in at Johannesburg on the Ultra 'virtual check-in desk.'



## MASTER CLASS AT LOCH GOIL

OCEAN SYSTEMS runs the Loch Goil 'Maytime' range facility on behalf of the DRA. Currently the facility consists of an old ammunition barge named Maytime, supported by a mobile platform known as a newt. Ocean Systems provides both high technology engineering design and support along with the more traditional skills of seamanship and naval engineering. However, Maytime is soon to be replaced by a purpose built platform capable of sea going operations which will require a bargemaster with a full Masters Certificate. As a result Ultra's bargemaster, Paul Nixon, is undergoing what must be this years most unusual training exercise which will gain him his Masters certificate.

## 'ULTRAQUIET' FOR CANADAI

NOISE AND VIBRATION SYSTEMS is providing cabin quietening equipment to Canadair for their new Challenger 604 aircraft. Canadair is a division of Bombardier Aerospace. This contract represents a breakthrough for NVS into the civil aircraft turbo fan market with their active noise and vibration technology. There are also good prospects for 'UltraQuiet' systems to be retrofitted to the earlier 604 aircraft and the Challenger 101.

## HERMES ASIA/ PACIFIC ORDERS

HERMES ELECTRONICS has been successful in the Asian-Pacific region with contracts for DIFAR sonobuoys in New Zealand and for DIFAR and Bathothermal buoys for Korea. Hermes is also under contract to develop the latest DIFAR sensor for the United States Navy.

## SENSORS SHIPMENT

MAGNETICS have shipped the first batches of their new 3 axis Magnetometer MUWS9 for US Navy measurement ranges. Orders for over 250 of this new sensor have been received.

## RB 211 LANDMARK

CONTROLS division were one of a handful of suppliers invited by Rolls Royce to attend the ceremony for the presentation of the 1000th RB211-535 engine which went to United Parcel Service. Controls have been supplying Bleed Valve Control Units to Rolls Royce for the RB211-535 engine since 1983. The impressive outlook for RB211-535E4 engine sales has resulted in a new contract for BVCU's up to the turn of the century and an opportunity to upgrade all in service units to the latest design standard.

## HiPPAG FLIES WITH US MARINE CORPS

It's thumbs up for HiPPAG after three US Marine Corps AV-8B aircraft flew captive Sidewinder missiles cooled by the first production HiPPAG units supplied to the US Navy. Pilots reported that the HiPPAG performed flawlessly and that they did not have to make any adjustments to their normal operation. Bill Swain and George Straubs of Weapon Systems are pictured following the successful flight.





# New Company Structure for ULTRA in the US

Following Ultra's expansion in the United States a new company structure has been created to satisfy Federal and Government requirements. The three businesses we now have in the United States are – Measurement Systems Inc. (MSI) Flightline Electronics Inc. (FEI) EMS Development Corporation (EMS).

The new structure consists of:

**Ultra Electronics Inc. (UEI)** has been set up as our US holding company.

**Ultra Electronics Defence Inc. (UED)** has been established and, amongst its other responsibilities, it will control the national security interests at FEI and EMS both of whom operate in the defence sector.

The Board of Directors for UED include:

Larry Garrett, *Chairman/Non-executive Director (Former Undersecretary of the Navy)*

Vice Admiral John 'Ted' Parker, *Non-Executive Director (US Navy Rtd)*

Captain Alan Ross, *Non-Executive Director (USAF Rtd)*

Carlos Santiago, *President acting, Flightline Electronics*

Louanne Martin, *President, EMS Development Corporation*

Ian Mence, *Managing Director, Magnetics division*

Rakesh Sharma, *Director of North American Operations for Sonar & Communication Systems*



The UED Board met for the first time in July at Flightline – those attending this meeting pictured left to right are: Carlos Santiago, Ted Parker, Rakesh Sharma, Douglas Caster (Managing

Director, Sonar & Communication Systems), Larry Garrett, Julian Bloch (Chief Executive), Ian Mence, Louanne Martin, Alan Ross and Chris Griner (legal counsel).



## ISO 9001 FOR MSI

In July 1997 TUV Rheinland of North America issued the certificate ISO 9001 registry to MSI. This was the culmination of over a year and a half of effort on the part of everyone at MSI to prepare and document procedures to conform to ISO 9001 requirements. During a recent visit to MSI Dr. Julian Bloch presented the certificate to Charles Caldwell, QA Manager, who is pictured holding the certificate surrounded by a number of colleagues.

## Partnership with ELDEC

FOLLOWING the teaming arrangement between Controls division and Crane Eldec announced at Farnborough in 1996, the two companies have won contracts for the design and development of Landing Gear and Proximity Control and Indication Systems. Programmes include Canadair's new 70 seat regional jet, the CRJ-700, and Raytheon's new regional aircraft, the Hawker Horizon.

## LINK 11 FOR NIMROD

SONAR & COMMUNICATION SYSTEMS has been awarded a contract to supply Link 11 equipment for Nimrod 2000 bringing the total order value for Nimrod 2000 to over £53m. A two year follow-on contract for DIFAR sonobuoys for the UK has also been received.

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Electrics recognised **PAGE 6**



### FACE 2 FACE

Ultra News talks to Nick Frearson, Noise & Vibration Systems and Michael Sprague, Measurement Systems Inc **PAGE 7**

### HALF MARATHON

Electrics team enter Gloucester Half Marathon **PAGE 8**

### CONTROLS FUN DAY

Staff and families enjoy fun day activities **PAGE 8**





**2 NEW  
BUSINESSES IN  
THE US**

**Introducing FEI**

*FLIGHTLINE ELECTRONICS INC (FEI), a world leader in Sonobuoy Receivers, joined the Ultra group in May. FEI employs about 100 staff and is based in Fishers, near Rochester, Upper New York State on the southern shores of Lake Ontario. FEI's specialist capabilities include expertise in the VHF, UHF, L and S RF bands for radio receivers and transmitters, signal generators and simulators for communications, navigation and data link applications.*

## **Introducing EMS DEVELOPMENT CORPORATION**

*EMS Development Corporation (EMS) was formed in 1972 to provide equipment in the field of magnetic countermeasures for mine warfare. EMS designs and manufactures specialised power supplies and control equipment for shipboard degaussing and underwater magnetic measurement systems which complement the products of Ultra's Magnetics division at Hednesford. The acquisition of EMS consolidates Ultra's position as a world leader in the field of magnetic silencing.*

Employing just over 40 staff, EMS are based in Yaphank on Long Island, New York. From there the highly skilled engineering and manufacturing teams have helped to establish EMS as a highly regarded and leading supplier in this specialist market. Their systems are used throughout the world with over 200 systems currently in use on over 24 different platforms.

In addition to supplying systems within the United States, EMS is currently under contract to certain Far Eastern and European navies. Sales and marketing is accomplished through a network of selected agents worldwide and through local contact with various military

agencies for new product development.

Louanne Martin, President of EMS since 1991, commenting on becoming part of Ultra said: "Together we achieve an excellent synergy of talents that will offer a broader range of products and capabilities to an even larger customer base."

Louanne, who has led the company through difficult times in recent years, acknowledges the commitment and skills of the EMS team that has seen them maintain a strong position in the marketplace. The recent award of a US\$ 9m development contract by General Dynamics is an indication of how highly their capability is viewed.



Left, Louanne Martin, President, EMS  
below, EMS staff outside their building.



## **PROGRESS RECOGNISED** The Chief Executive's Review

One year on from our flotation on the London Stock Exchange we continue to make sound progress. Our interim results, which were well received by our colleagues in the City, show an encouraging growth in sales compared to 1996 and demonstrate that the Group is able to generate the level of profit necessary to support the investment required for the future, while satisfying our investors.

Winning the 1997 'Venturer of the Year' award was an important external recognition of the progress made by Ultra since 1993. I was pleased to receive this award on behalf of the Group in recognition of the hard work and dedication of employees across the organisation.

The acquisitions of Flightline Electronics Inc and the EMS Development Corporation were completed in May. Both FEI and EMS are important to the strategic development of the Group and both fit with our declared strategy of growing Ultra's presence in the North American marketplace. I am pleased to welcome FEI and EMS to Ultra.

Whilst the Group will continue to consider opportunities to acquire new businesses this will not detract from our commitment to grow our existing activities. We achieved 17% organic growth in 1996 and have continued this rate of growth into the first six months of 1997. Maintaining or bettering this will require focused effort on the part of everyone in the Group. In particular, we must perform well in satisfying our current orders, remain alert to the needs of our customers and be open to new approaches and opportunities as they emerge.

Finally, I would like to congratulate Electronics division for achieving the British Aerospace Preferred Supplier Process Award. Longterm partnerships are an important feature of our industry and, increasingly, the world's best expect the best from their suppliers. We should welcome these developments which will encourage us to improve our efficiency, move closer to our customers and, ultimately, improve our ability to compete in the world markets.

*Dr. Julian Blogh,  
Chief Executive.*



# LIGHTLINE

The business was founded in 1970 as Edmac Corporation, subsequently purchased by Rospach in 1984 before being bought by former Rospach General Manager William Blossom who formed Flightline Electronics in 1989. Since 1984 FEI has worked with Sonar & Communication Systems in a successful teaming partnership and has won sonobuoy receiver contracts for the Royal Navy's Merlin helicopter and, more recently, for the BAe Nimrod 2000.

FEI is under contract to

supply sonobuoy receivers to the US Navy and to the Canadian Department of National Defence. FEI also produces a range of gyroscopes for both military and commercial platforms and offers a specialist overhaul and repair facility.

Commenting on the acquisition by Ultra, Carlos Santiago acting President said: "We are all delighted to

be part of the Ultra Group as it will allow us to draw upon the experience available within Ultra to address future opportunities." Carlos is pictured on the right receiving his certificate of completion following the Group's Strategic Marketing Workshop from Rakesh Sharma, Director of



Above, Flightline employees enjoying the Company Barbecue!



North American Operations for Sonar & Communication Systems.

## PEOPLE IN THE NEWS



Mike O'Neill has been appointed Marketing Director at Sonar & Communication Systems where he was previously General Sales Manager.



Paul Kelly has joined Electronics division as Sales, Marketing and Contracts Manager. He joins Ultra from Smiths Industries.



David Willson has joined Command & Control Systems as Finance Director. He joins Ultra from the Molex Group.



Geoff Hutton has joined Command & Control Systems as Human Resources Manager from P&O Containers.



Martin Carpenter has been appointed Head of Operations at Magnetics with responsibility for both engineering and manufacturing. He was previously Head of Engineering.



Bob Blakemore has been appointed Head of Business Development at Magnetics. In addition to sales and marketing his role now includes project management and commercial.



Alison Todd has been appointed Commercial and Marketing Manager at Weapon Systems where she previously held the position of Contracts Manager.



Nick Tiley has joined Noise & Vibration Systems as Head of Finance and Administration. He joins the Group from Philips Paging.



Ian Bradley has been appointed Quality and Customer Services Manager at Weapon Systems. He was previously Quality Manager for both Magnetics and Weapon Systems.



# EXHIBITION UPDATE

THROUGHOUT the year Ultra's businesses take part in many exhibitions and trade shows all over the world. These shows present a great opportunity for Ultra to present its latest technology and to meet existing and potential customers. At most shows several Ultra businesses work together – in this issue we highlight three of the major events during 1997.

**INDEX** – held in Singapore in May with a focus on Oceanology. Seven Ultra businesses exhibited here.

**PARIS AIR SHOW** – in June an impressive stand with an even more impressive array of products helped to ensure that this was a busy and successful show for Ultra. NVS's Active Noise demonstrator once again attracted significant interest and de Havilland were offering

flights to potential customers in the Dash 8Q-300 aircraft which has Ultra's Active Noise and Vibration System fitted as standard. The aircraft used was named 'Sounds of Silence'.

**RNBAEE** – in September at the Farnborough airfield, a prime position and a cleverly designed stand effectively showed off our wide range of naval and army products and drew a lot of interest. Command & Control Systems flat screen technology, including some of the latest applications, was a major feature.



Ultra's stand team

## INDEX



## RNBAEE



## PARIS

Colin Ross, MD of NVS, with the de Havilland Dash 8Q-300 aircraft 'Sounds of Silence'.



## BAe PREFERRED SUPPLIER AWARD

ELECTRICS division has received a bronze standard Preferred Supplier Process award from British Aerospace. PSP, one of a number of supplier development activities adopted by BAe to encourage supply chain improvement, involves a rigorous review of processes across all parts of the business. Commenting on the award Frank Hope, MD of Electrics, said: "The BAe PSP award is a significant milestone in our Strategic Plan. It is our intention to reach Gold Standard by 2001. The achievement provides real advantages for our relationship with BAe and our own internal continuous improvement plan. The current award recognises the

endeavour and efforts of the whole team at Electrics." Frank is pictured receiving the award from Mike Rouse, MD of British Aerospace Military Aircraft and Aerostructures.



## TECHNOLOGY UPDATE

**MODEL 501 HALL EFFECT JOYSTICK** – MSI's latest design is a significant departure from the standard potentiometer technology that exists in our current product line of displacement joysticks and hand controllers. The contactless Hall Effect design will result in better reliability and lower costs, and will provide access to new markets. MSI designed and fabricated prototype joysticks within four months to meet the needs of a major customer.



# FACE 2 FACE



**NICK FREARSON**  
*Noise & Vibration Systems*

Constant evolution has been welcomed by Nick Frearson, Senior Project Engineer at

## *Ultra News* talks to two more employees in this fascinating series:

Noise and Vibration Systems (NVS), who has been involved with the Active Noise Control (ANC) products since he joined the company in September 1993. Initially with Sonar & Communication Systems at Greenford, Nick acted as the interface between

Ultra at Greenford, NCT(UK) in Cambridge, and SAAB in Sweden to ensure that the first ANC systems were delivered on schedule.

During the early days of this world leading technology learning curves were steep at both Ultra and NCT. Nick believes his grey hairs began to appear during this time! In 1995, following the formation of NVS, Nick moved to Cambridge. He explains: "Having to move was inconvenient, but the fascination of the business and its tremendous potential were the deciding factors. Since then it has been great to be part of a business establishing itself successfully in the market place."

Nick's role has evolved steadily over this time and he has travelled extensively

in North America and Europe. He comments: "Everyone at NVS has had to take on tasks which may be considered outside of their core job responsibilities. Managed in the right way this has helped to maintain strong interest in the business in what is a relatively flat organisation structure."

Nick cycles to work most days (a 14 mile round trip!). His interests include tennis and squash and he is a member of the First Team of Newmarket Tennis Club taking part in matches across the south-east of England as and when his workload allows.

## **MICHAEL SPRAGUE**

*Measurement Systems Inc*

Variety is the spice of life, or so it seems for Michael Sprague of the Quality Assurance department at Measurement Systems (MSI).

Michael began his career at MSI in 1982 as a Mechanical Inspector progressing through the years to the position of Quality Control Supervisor. His current duties not only include new part verification on the Co-ordinate Measuring Machine but also chemical cleanup and engineering support. Michael says: "I like my job because it is never the same. I get to see all the projects from their infancy."

Michael was also instrumental in the ISO 9001 registration process recently completed at MSI. He developed the documentation required for the Quality department as well as assisting in the



overall project. Kayaking, canoeing, snow shoeing, fly tying and fly fishing are among Michael's hobbies. He is an active member of Trout Unlimited and participates in the

"Source to Sound" environmental clean up of local rivers. He is also an avid hiker whose most memorable trip was a solo 100 mile/2 week trek through the Adirondacks in

New York State. He considers that trip "the most fun I've had in ten years. It's almost a spiritual thing. Just being outdoors has a grounding effect and brings me back to centre."



# Ambassador of Workplace Education

LINDA Drake has been a production assembler at Hermes Electronics for 14 years and has recently completed their Workplace Education Programme. Each year as part of International Literacy Day, the Department of Education and Culture pays tribute to four adult learners who participated in a Nova Scotia Workplace Education programme. Nominees were submitted from the 80 programmes running this year and Linda was one of only four proclaimed as an Ambassador of Workplace Education. Linda is pictured (centre) with Leta Malone, Workplace



Education Instructor (left) and Shelley Stoyles, Occupational Therapist at Hermes.

# Half Marathon

A TEAM of five from Electrics division took part in the Gloucester half marathon to raise money for Wendy Neale, a disabled ex-employee, to help with the purchase of a chair hoist. The company agreed to match the sum raised by sponsorship and a grand total of £642 was achieved. The team were all pleased to complete the course – particularly the eldest who came in first out of five! The team were Sam Birtwhistle and, pictured left to right, Keith Woodhouse, Larry Stubbs, Mike Bassett and Mark Curley.



# Controls Fun Day



STAFF at Controls division enjoyed a fun day with their families in September.

During the morning the offices were opened for families to visit and during the afternoon a range of activities were organised. In addition to eating and drinking, these

included children's races and face painting, a cricket match and the stocks where several managers subjected themselves to a soaking. Our pictures show Geoff Hatton and Selva Suresh in the stocks and Ellie Hamment, daughter of MD Andy, trying hard to disguise her identity after her father achieved a 'golden duck' in the cricket.

# Skills at Arms

A WEAPON Systems team took part in the Infantry trials development unit 'Skills at Arms' Day in June. The team, consisting of Mike Taylor, John Davenport, Jim Vincent and Adrian Marfell competed in a variety of shooting contests with the professionals and other teams from the Industry. Although up at the crack of dawn to get to Warminster by 8 am the team managed a creditable 12th out of 22.

**Ultra**  
ELECTRONICS

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EMS Development Corporation -  
Paul Abelquist

Ocean Systems - Richard Farwell  
Weapon Systems - Jackie Reece  
Noise & Vibration Systems -  
Evelyn Taylor  
Hermes Electronics - Dorothy Rice  
Measurement Systems Inc. -  
Norman Westphal  
Flightline Electronics -  
Cindy Wilson

# MSI Technical Exchange

IN JUNE a technical exchange was held at MSI involving engineers from Electrics and MSI. By building the working relationships between Electrics and MSI, and sharing information on

their products and capabilities, the companies will assist each other in jointly developing new products and by creating new market opportunities. Further meetings will take place twice a year.



# UltraNews

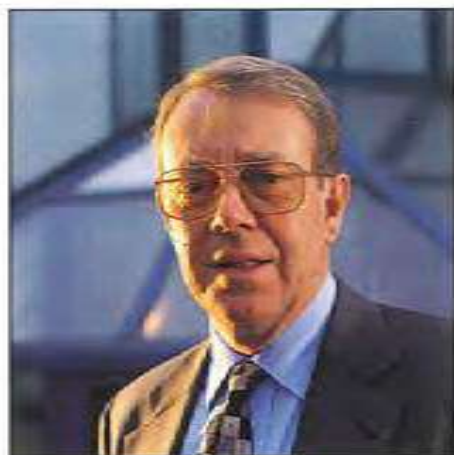
The Newspaper for Ultra Electronics Employees

ISSUE 8 SPRING '98

## Market Position Strengthened

ULTRA ELECTRONICS recently announced their Preliminary Audited Results for Year Ended 30 December 1997 which are summarised in this edition. Peter Macfarlane, Chairman, commented, "During the year Ultra achieved growth and a strengthened position in its target markets, with

encouraging sales and profit increases in both Air and Sea Systems. The Group's involvement in continuing programmes, together with the notable new orders secured during the year and since the year end, provide a solid forward order book. The Board is confident that Ultra will make further progress in 1998."



## EUROFIGHTER GO AHEAD

THE DECISION to go ahead with the production of Eurofighter was good news for Ultra's businesses set to supply equipment to the aircraft. The initial production requirement of 620 aircraft has a value of about £100m for Ultra with sales scheduled to commence in 2002.



Equipment supplied by Ultra includes:

- HiPPAG for missile cooling from Weapon Systems.
- Cockpit equipment including the pilot's control handle and throttle from Electrics.
- Landing gear control electronics from Controls.

Dr. Julian Bloch, Chief Executive, said, "Ultra Electronics is delighted to be associated with Eurofighter which should present significant long term business for the Group with opportunities for spares, exports and upgrades."



Doug Caster, MD Sonar & Communication Systems (third from right) with Kim Wrighton, Chief Engineer Sonar Products (centre) and some members of the team who will take HIDAR into production.

## Sonobuoy Orders Reach New High

ULTRA'S position as a world leader in Sonobuoy technology has been strengthened with the award of several contracts worldwide. In the UK Sonar & Communication Systems has been awarded a £32m five year contract to supply HIDAR (High Instantaneous Dynamic Range) sonobuoys to the MoD. Hermes Electronics will produce batteries and hydrophones for HIDAR. Both Sonar & Communication Systems and Hermes Electronics have recently been awarded contracts by France for DIFAR.

In the Asia-Pacific region, Hermes Electronics have won contracts for DIFAR in Australia and Taiwan and, in the USA, they continue to supply the US Navy with the leading edge products with the recent contract award for delivery of the latest DIFAR.



# Ultra EYE

A recent international study sought to identify key business skills for today and for five years hence. Whilst the results show a change in the perception of skills required in five years time, it is interesting to note that 'customer service orientation' was top of both lists.

Ultra is committed to developing the attitudes and skills that will enable us to satisfy our customers. Having doubled our investment in training and development in 1996, we increased it by a further 25% in 1997. Combining this with a desire to learn from our work will ensure that the business continues to grow as we approach the millennium.

I hope you find Issue 8 interesting - thanks again to all our contributors.

Jack Telfer

## MAGICARD ORDER IN THE BANK

OCEAN SYSTEMS have recently delivered 100 Magicard 300 plus ID card printers valued at over £250,000 to a large banking chain in Indonesia for the production of ATM cards. The equipment is fitted with magnetic encoding and smart card chip encoding facilities.

## 'UltraQuiet' for KingAir

NOISE AND VIBRATION SYSTEMS will supply Active Noise Control systems for the Beech KingAir 350 corporate turboprop. The excellent performance of the UltraQuiet system and the support of Elliott Aviation, NVS's distributor, ensured selection of the system by Raytheon. UltraQuiet is fast becoming the aerospace standard solution for the reduction of cabin noise using active cancellation technology.



## ULTRA BYTES



## NEW BUSINESS OPPORTUNITIES

COMMAND & Control Systems have been awarded a contract, the first for the newly formed Command Information Systems Business Unit, to fit the computer workstations and communications equipment required to control Rapier Air Defence Missile systems in rugged mobile shelters. The equipment is to be integrated into standard 20 ft containers so that it can be transported for rapid deployment, with an RAF Regiment, to protect front line airfields.

The Support Services CBU has been selected by Reading & Bates (UK) Ltd to develop, install and maintain a £1.2m Rig Management System on the 'Jack Bates' (pictured above) - one of the largest semi-submersibles in the world. It is currently drilling in the Adriatic with three Ultra service engineers on board. Several follow-on opportunities in the oil and gas sector are being explored.



## DASH 8-400 FIRST FLIGHT

CONTROLS achieved a significant programme milestone when, on 31 January 1998, de Havilland performed their first test flight of the new Dash 8-400 aircraft.

The flight crew described the flight as "beautifully uneventful" and the powerplant, for which Controls supplies the Propeller Electronic Control Unit (PECU), performed very smoothly.

The test aircraft, having passed a series of flight tests in Canadian airspace, has flown to Wichita in Kansas to support de Havilland's flight test programme.

## Multi-influence Ranging

MAGNETICS division have been awarded contracts by DERA worth almost £2m for the upgrade of the UK Open Sea Transportable Ranges. The existing ranges, which measure the static magnetic influence, were originally supplied by Magnetics between 1989 and 1991. The upgrade will allow DERA to measure a variety of vessel signatures and thereby minimise the threat caused by modern multi-influence mines and weapon platforms.

## Tagtrak Contracts



Paul Summers, Airport Information Systems Manager (centre) with members of the AIS team.

SOCIÉTÉ Internationale de Telecommunications Aeronautiques (SITA) has purchased Ultra's baggage reconciliation system, TagTrak, for both Glasgow and Gatwick airports. A further contract has recently been awarded for Vienna airport. With Air France due to install TagTrak at Charles de Gaulle, this new business represents significant growth. John Taylor, Managing Director of Command and Control Systems said, "These contracts confirm our position as a leader in the field of baggage reconciliation, with over 570 scanners connected to TagTrak systems world-wide this year."



## Controls looks to the future with Airbus



CONTROLS supply the Landing Gear Control and Interface Units for both the narrow and wide-bodied range of Airbus aircraft. Due to strong demand for these aircraft, Controls is increasing production rates to manufacture 100 LGCIUs per month.

Controls are also working on the LGCIU design required for the new A340-500 and A340-600 variant aircraft where

reduced cost of ownership is a major factor.

Airbus are also considering the massive A3XX which will be designed to carry about 650 passengers. Controls are part of a Europe-wide team of engineering companies studying what type of control systems will be needed for landing gear and associated systems for the A3XX and other aircraft into the 21st Century.

## EMS EXPORT TO SPAIN

EMS employees are pictured working on the SSM-7 gyro controlled degaussing system delivered, in February, to Spain for installation in the Spanish Navy Troop Transport. Whilst the system was in final testing, US Navy personnel visited the factory for a week of hands-on training on this system. EMS have recently received an order to provide the SSM-7 equipment for the next Nimitz Class aircraft carrier.



## STRATEGIC MARKETING DEVELOPMENT

THE STRATEGIC Marketing workshop, first introduced in June 1997, has now been run for a further twenty-five senior managers across the Group, with events in both the UK and the USA. The workshop, which is led by Shiv Mathur of the City Business School in London, aims to equip senior managers with a greater understanding of both the theory and practice of developing effective business strategies.

Richard Lane, Group Marketing Director, (pictured right) who led the opening session of the workshops said, "The sharpening of our understanding, both through what is taught

and through the healthy debate that develops, is invaluable. Each of our businesses have developed 5 year business plans which are practical working documents under continuous review. With the growing complexity of our markets, improving the quality of thought and analysis that goes into these business plans is the prime objective of these workshops."



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### ULTRA ON THE WEB

Ultra Electronics launches its own World Wide Web site on the Internet **PAGE 8**





# FINANCIAL FOR 1997

## EXCELLENT SET OF RESULTS

### The Chief Executive's Review

Once again, through the efforts of Ultra's employees, I was pleased to announce to our shareholders in February an excellent set of results for 1997. As reported in this issue, we made good progress in the growth of the Group and finished the year with a strong order book. One important aspect of our 1997 results was the increase in sales to North America which now account for almost a quarter of our turnover. This is due not solely to our acquisitions in North America but also to a big increase in exports from the UK.

Regarding our future, I am often asked about the impact on Ultra of the consolidation of the Defence industry in the United States and Europe, and of the UK Government's Strategic Defence Review (SDR). Regarding industry consolidation, Ultra is a supplier of niche products mainly to Prime Contractors and I believe that the need for our products will continue provided that we remain a competitive and responsive supplier. Ultra has the opportunity of becoming a partner of these larger organisations, which mainly see their role as system integrators. Consolidation has largely taken place in North America and despite this we doubled our sales there in 1997.

Regarding the SDR, an announcement is due around the middle of this year. At this stage it is difficult to predict the outcome, but the Government continues to emphasise that it is not a cost saving measure, but a redirection of resources to support UK Government Policy. No doubt there will be a reduction of opportunities in some areas of our business but with a corresponding increase in opportunities in others.

Through all such changes, our priority is to remain focused on satisfying our customers by providing them with cost effective and innovative solutions.

Thank you for your contribution in 1997.

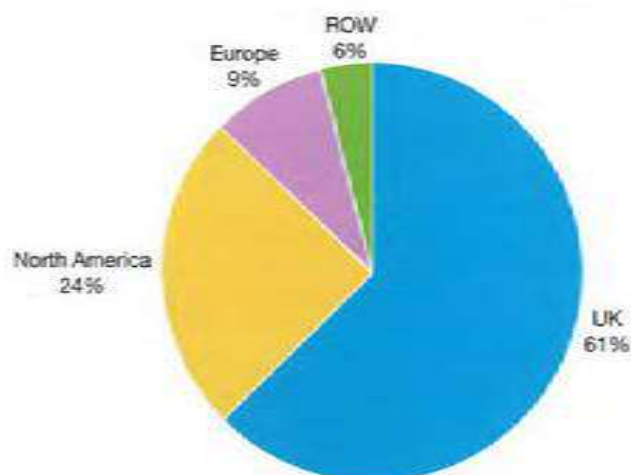
*Dr. Julian Blogh,  
Chief Executive.*

Ultra Electronics Holdings plc recently issued its results for the 12 months ended 30 December 1997.

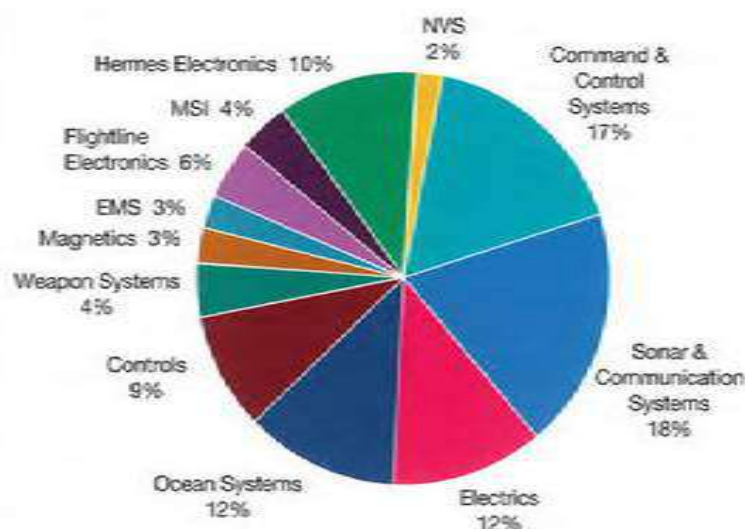
Sales for the period were £143.4 million, up 16% over 1996, and operating profit after exceptional items rose from £14.6 million to £18 million. The Order book at the year end was £229 million. Once again Ultra achieved a strong positive cash flow of £17 million for the year.

### SALES BY GEOGRAPHICAL DESTINATION

1997 saw a marked increase in the proportion of Ultra's sales going outside of the UK – the percentage figures for both North America and the Rest of the World doubled in the year.



### STAFF LEVELS BY DIVISION

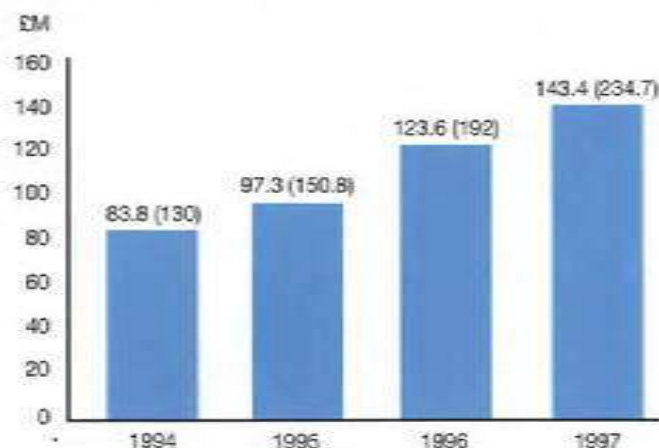


Ultra now employs over 1750 people of which 23% are based in North America.

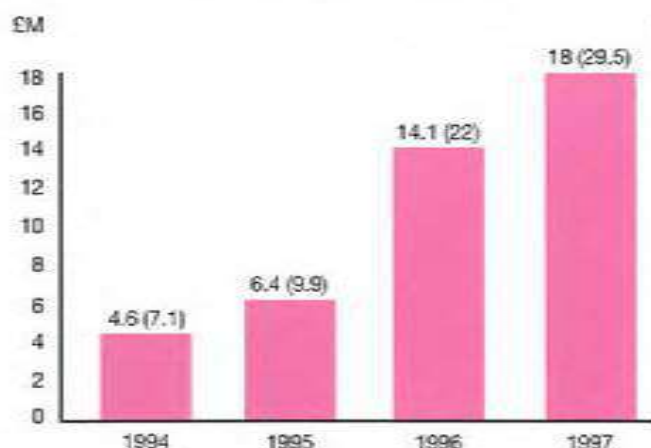


# L RESULTS

## SALES £MILLIONS (\$MILLIONS)



## PROFIT £MILLIONS (\$MILLIONS)



For each year the figures show operating profit after exceptional items but before interest and tax.

## ORDER BOOK £MILLIONS (\$MILLIONS)



## PEOPLE IN THE NEWS



**Paul Benson** has been appointed Managing Director of Weapon Systems where he was previously Head of Engineering.



**Andrew Farncombe** has joined Ultra as Technical Director, Command & Control Systems from GEC-Marconi Command & Information Systems.



**Martin Carpenter** has moved to the position of Head of Engineering at Weapon Systems. He was previously Head of Operations at Magnetics.



**Robert Scully** has joined Weapon Systems as Finance Controller. He joins Ultra from Dowty Propellers.



**Roger Brown** has been appointed to the management team of Magnetics as Engineering Manager.



**Don Brown** has been appointed to the management team of Magnetics as Manufacturing Manager.



**Stephen Wensley** has joined Ocean Systems as Sales and Marketing Manager. He joins Ultra from Schlumberger Industries Data Acquisitions and Recording.

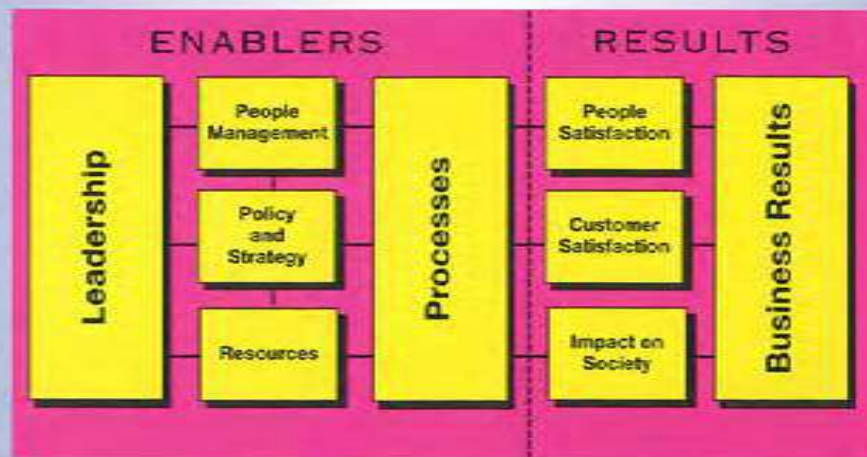


**Colin Williams** retired from Electrics division in February after 46 years service. He had most recently held the position of Operations Manager. We wish Colin a very happy retirement.



# BUSINESS EXCELLENCE FOR OCEAN SYSTEMS

OCEAN SYSTEMS is using the Business Excellence Model, an internationally recognised framework and scoring system for benchmarking the effectiveness of a business, for the first time this year. Points are apportioned across nine criteria which are described as **Enablers** and **Results**.



Scoring is done using a self-assessment process. At Ocean Systems a ten strong Consensus Team, drawn from all levels of the company, was empowered to find out the true answers to the probing questions posed in the questionnaire supported by a sixty strong control group.

The point of the exercise is to measure where the business is now and then to use the information to pinpoint areas for future improvement. The results of this exercise will soon be available to Ocean Systems' Continuous Improvement Teams to help drive the process of change. The cycle of self-assessment and self-improvement is then repeated on a regular basis to optimise performance.

# CONSOLIDATION MADE EASIER



Mark Stoddart, Group Financial Controller and Saroj Patel, Head Office Accountant.

THE JOB of consolidating the monthly financial performance of Ultra businesses may appear to be a simple matter of adding up the numbers! However, as a plc, it is important that the performance of the Group is carefully monitored and the impact of any changes to forecasts accurately assessed.

The monthly Head Office consolidation process is carried out by Mark Stoddart, Group Financial Controller and Saroj Patel, Head Office Accountant. With the Group continuing to grow steadily, the job of consolidating results within the required timescales was becoming more difficult. As a consequence new reporting software, Commander FDC, was introduced across the Group in October 1997.

Mark Stoddart said, "Our system, which was designed at the time of Ultra's formation, was proving to be cumbersome particularly when it came to adding in acquisitions and dealing with multi-currency analysis. The new system is easier to use and provides a valuable database of financial data, which should improve the quality of management information at both Group and business level."

# YEAR 2000 COMPLIANCE

There has been considerable publicity surrounding the inability of some computer systems to cope with dates after 31 December 1999. With the new millennium rapidly approaching Mark Stoddart, Group Financial Controller, and Richard Mulhall, Group IT Manager/IT Manager for Command & Control Systems, are co-ordinating Ultra's process to achieve Year 2000 compliance.

The issue affects much more than whether your PC will cope with the new dates. Six key areas for attention have been identified:

- key suppliers on whom the business depends.
- mainframe, workstation and PC hardware ancillaries.
- business information systems.
- infrastructure systems eg telephone, access control, utilities.
- production tools and test equipment.
- deliverable product, hardware, software, test equipment.



Richard Mulhall (pictured above) explained, "Having briefed all business Managing Directors on the nature of the problem we have established a compliance process for each of the six key areas. The output from a questionnaire issued to all businesses has enabled us to confirm where we stand against our key actions. All Ultra businesses are working hard on this issue and progress is being carefully monitored by the Group main Board."



# FACE 2 FACE

## Ultra News talks to two more employees:

### RAY NUPP

*Flightline Electronics Inc.*

RAY NUPP, VP, Technology at Flightline Electronics has no regrets about choosing engineering as a career – which is just as well 30 years on! Not surprising, perhaps, for someone who was mending televisions for his neighbours at the age of ten.

Ray was one of the original members of Flightline which was formed after General Dynamics decided to close their anti-submarine warfare division in Rochester in 1971. Ray explains, "There was initially about 15 of us. No-one was paid a salary until we won our first contract which was won in competition with General Dynamics."

Since then Ray has been involved at the forefront of sonobuoy receiver technology. He derives great satisfaction from being associated with



a technology that is better than that offered by anyone else. He can point to

many landmarks – one specific example from the 1970's relates to a modification he made to the receiver used on the P3 aircraft. The modified receiver succeeded in discovering a Soviet submarine which was not picked up by the unmodified version.

There have been some laughs along the way. Whilst giving a presentation at an international conference to a group of 25 government representatives from all over the world, Ray managed to catch the end of his pointer in a net curtain. Despite trying to continue with his presentation, his attempts to shake the pointer loose resulted in the meeting gradually dissolving into fits of laughter!

On innovation, Ray says, "The two most important factors are staying abreast of technology and being proactive to look out for new needs and solutions – not just waiting for a customer to say something."

### STUART VANSTONE

*Ocean Systems*

STUART is a Production Supervisor at Ocean Systems, where he joined in 1986 as a Prototype Wireman following a Government sponsored training programme.

He is involved in manufacturing PCB's for both Ocean Systems products and third party customers. His satisfaction at work comes from 'seeing the product going out the door and not coming back!' Stuart explains, "Understanding what the customer wants is vital. Long standing customers who chose to place repeat orders with the company are the best form of congratulation."

Outside of work he is involved with amateur radio, admitting that his enjoyment comes more from assembling and building the equipment

than actually using it. His practical skills are put to good use as an on-call volunteer to mend 'talking book machines' for the blind. Another pastime is working with old PC's and getting them to work for friends.

Clearly not one to sit around, Stuart is actively involved in the Scouting movement helping to organise fundraising activities. In particular, he enjoys being Quartermaster on the annual camp looking after all supplies and the cooking – cooked breakfast a speciality!

For colleagues at Ocean Systems, Stuart is remembered for a Comic Relief fund raising initiative in which he was sponsored to have his beard removed – the great event took place in the car park so colleagues could enjoy the moment. Stuart's sacrifice raised £550 – he clearly enjoyed his new look as the beard never returned.



## MSI ORDER BOOK GROWS

FOR THE first time in their 37 year history MSI's order intake exceeded \$10m in 1997. Keith Thomson, MSI's President, explained, "Most of the sales team were new to MSI and,

with great support from the rest of the company, they worked very hard to achieve this goal. A number of new opportunities made up the total including orders from Delco Systems

for controls for the Canadian APC programme, simulation controls for Lockheed Martin and pre-production units of the new Hall Effect joysticks."





## Magnetics Technology on Cassini Spacecraft

A VERY high performance 3-axis Magnetometer instrument developed and manufactured by Magnetics Division is fitted aboard the CASSINI spacecraft. It will explore the distant magnetic fields surrounding the planet Saturn. Ian Mence,

MD of Magnetics, said, "Magnetics are very excited at being chosen to have equipment on-board the CASSINI spacecraft and pleased to have worked so successfully, in a joint effort, with Imperial College, London."

## Ultra on the Web

ULTRA Electronics has launched its own World Wide Web site on the Internet. Initial development was carried out by Electrics division and the site provides an overview of the group, access to press releases, financial information and brief details of all the Ultra businesses and their products. It is planned to further develop the site to include more information specific to each business. Because the Web is so widely accessible care has to be

taken to monitor what is included and the publication of material is being co-ordinated by Richard Lane, Group Marketing Director. The 'Home' page of the site is as shown and the group site address is:

[www.ultra-electronics.co.uk](http://www.ultra-electronics.co.uk)



## Chinese Software Collaboration

IN THE interest of furthering new business interest in China, Controls have signed a Learning Agreement with the China National Aero Technology International Supply Corporation (CAISC). Under the arrangement, a software development

facility capable of operating to Controls' procedures will be established in Beijing. Controls will provide training at Greenford for Chinese software engineers. The facility will be run to the mutual benefit of Controls and CAISC.

## Fundraising Efforts



MSI employees braved a windy day at Sherwood Island State Park, to give their support, along with 4,500 others, to the five mile fundraising walk in aid of the American Cancer Society. The event was organised by Brenda Buck and Charles Caldwell who were joined by several of their colleagues. MSI raised over \$2,500 for an event total of \$250,000.

Another example of local fundraising comes from Controls Division. Jayne Marshall co-ordinated a

range of events, with the result that sufficient funds were raised, to enable a local school for children with special needs to build a new climbing frame with a safe surface.



## It's a 'mad' world!

FOLLOWING on from the success of the Maximising Managerial Impact a new management development programme, called Making a Difference, has been developed with consultancy OPDC. Group Human Resources Director, Jack Telfer explains, "MMI has been very successful, and this new programme is an attempt to make the material from MMI more accessible to a wider number of employees across the Group."

The MAD programme consists of short stand alone modules focusing on influencing and negotiation skills, leadership, managing change and developing capability. Implementation is being extended across Ultra's UK businesses during 1998 following a successful trial in January. As with MMI, the focus is on skills essential for the development of a high performance organisation.



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Ocean Systems - **Richard Farrell**  
Weapon Systems - **Jackie Reece**  
Noise & Vibration Systems -  
**Evelyn Taylor**  
Hermes Electronics - **Dorothy Rice**  
Measurement Systems Inc. -  
**Norman Westphal**  
Flightline Electronics -  
**Judy Arnold**



# UltraNews

ISSUE 9

The Newsletter for Ultra Electronics Employees

AUTUMN '98

## High Profile at Farnborough '98



Above: Dr. Julian Bligh on the left with Sir Robert Walmsley.  
Right: Chief Executive, Dr Julian Bligh talks to HRH Duke of Kent.  
Left: The Q400 aircraft.

THE 50th SBAC Farnborough Air Show certainly lived up to expectations. With over 1200 exhibitors from 31 countries, 150,000 trade visitors and 150,000 visitors on the public days – it was the biggest and busiest Farnborough so far.

We enjoyed numerous VIP visits including HRH Duke of Kent and the Chief of Defence Procurement Sir Robert Walmsley KCB. A great deal of interest was shown in Ultra's Active Noise Systems particularly as Bombardier have re-named their Dash 8 series the Q series – the Quiet Ones. A Q300 aircraft took part in the daily air display and Ultra Electronics were mentioned in the live commentary.



### VIP Visits

SECRETARY of State for Defence, Rt Hon George Robertson MP, toured the Ocean Systems facility at Weymouth as part of a fact finding visit to the area to assess the impact of the Government's defence expenditure plans on modern defence suppliers. He is pictured with Production Operator, Sue Henry.

John Speller MP, Parliamentary Under Secretary of State Ministry of Defence, visited Greenford in August for a business briefing on Ultra. He was accompanied by Steve Pound, MP for Ealing North.

### Interim Results

INTERIM Results for Ultra Electronics Holdings plc for the six months to 30th June 1998 were announced in August. Compared with the same period in 1997 Sales were up 9.4% to a new record figure of £78.2m. Operating profit increased by 16.5% to £9.9m. The Order Book for the group stood at £240.4m.



# Ultra EYE

Have you noticed how often one comes across the word 'ultra' in a variety of product advertisements, the music charts and on supermarket shelves? The motto seems to be, 'if in doubt add the word ultra to your product's name.'

So, what does the word ultra actually mean. The Oxford dictionary suggests something 'beyond or surpassing a specified extent, range or limit.' A small selection of those actually involved in the advertising industry came up with these suggestions:

- as far as you can go
- the pinnacle
- beyond the norm
- 110%
- exceeding expectation
- to the max

Any of the above suggests that our company name will raise expectations of the performance we deliver to our customers. In this increasingly competitive world, living up to the name is a vital challenge.

I hope you enjoy Issue 9 along with the design changes. Thank-you to all our contributors.

Jack Telfer

## Hermes Sonobuoys for Greece

The Hellenic Navy has awarded Hermes Electronics a contract to supply 3,000 DIFAR sonobuoys to be used in their recently acquired fleet of P-3B Orion Maritime Patrol aircraft.

Hermes have also been awarded a £1.7m Canadian dollar contract to fund the development of a low frequency active sonobuoy. This programme will culminate in late 1999 with a Defence Research Establishment Atlantic sea trial.

# Ultra Bytes

## HiPPAG Contract

WEAPON Systems have been awarded a contract valued at \$4.3m for HiPPAG 320 for the US Naval Air Systems Command. HiPPAG has now passed the anniversary of its in-service date with over 300 systems delivered and some 250 in full operational service with the US Marine Corps on Harrier AV8B's. With over 6000 hours in operation HiPPAG has achieved excellent reliability figures.

### Eurofighter qualification

HiPPAG is nearing completion of qualification testing for all rail launchers for the Eurofighter 2000 aircraft. HiPPAG will supply cooling gas to all nations' air-to-air missiles including ASRAAM, Sidewinder and IRIS-T.



## Quiet Fleet

BRYMAN Airways, a partner airline to British Airways, has recently launched its new Dash 8Q-300 fleet. On a specially arranged flight the difference made by the UltraQuiet system was demonstrated to the press – the performance was described as astounding. Rob McDonald, Head of Sales and Marketing at NVS, is pictured (far right) with Ian Durnley of Bombardier and Bryan Field, General Manager of Bryman (centre).

## Challenger 2 Enters Service

IN a spectacular display of fire power, the Challenger 2 main battle tank (pictured) entered British Army service in June, following a formal hand-over in Germany by Sir Colin Chandler, Chairman of Vickers Plc. Each tank incorporates equipment supplied by both Controls and Electronics divisions.

In the hand over display, a single Challenger 2 first engaged and destroyed eight targets in 40 seconds. Then, a troop of three tanks conducted an assault,

hitting static and moving targets, whilst travelling cross country at speed.



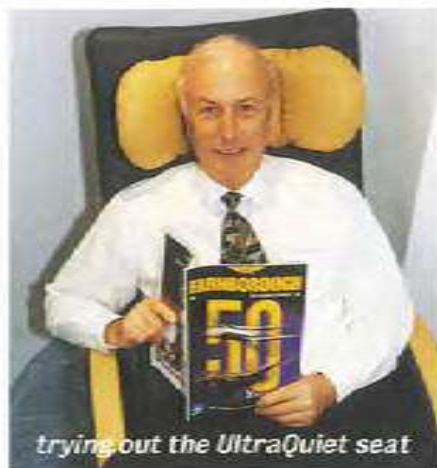
## Upper Air Technology



BENNY Mistry of Sonar & Communication Systems is pictured onboard HMS Illustrious during the installation of AUASS (Automated Upper Air Sounding System), a system which allows the Carrier to determine the upper air weather forecast for aircraft operations. Six systems are now in operation with the Royal Navy with six more due.



## More From Farnborough '98



trying out the UltraQuiet seat

Seven of our businesses were represented on the Ultra stand which was busy all week with the attendance of numerous VIP's, 23 overseas delegations and 1000 trade visitors.

There was also time for...



...a quick break



...a little fun



and, of course...

service with a smile.

## HIPSS Progress

CONTROLS division has completed the first flight of their Hub Integrated Power Switching System (HIPSS) used for propeller anti-icing. The flight, on a Raytheon Beech 1900D Trials aircraft, was very successful with HIPSS operating perfectly, fully demonstrating the capabilities of its contactless communication and control system. Further ground testing is now taking place at Pratt and Whitney Canada's Montreal factory. Ultra is also working on a funded Feasibility Study for the US Navy, evaluating the possible application of the HIPSS system on the P3 Orion and C130 aircraft.

## MSI First

MSI have received their first ever order for flightworthy controls. Kaman Aerospace, a Connecticut based helicopter manufacturer, have ordered cyclic and collective controls to be used as part of the pilots flight controls on the Australian SH-2G(A) Super Seasprite Helicopter programme.

## Airbus Award

CONTROLS division has been presented with an award by Airbus Industrie in recognition of their achievement in reaching the 'excellent' category of vendor to Airbus. Only five of the 35 vendors in the rating system were assessed as 'excellent' and Ultra is the only UK company to achieve this honour.

## TAGTRAK Live at Gatwick

COMMAND & CONTROL SYSTEMS' baggage reconciliation system, TagTrak, went live at London's Gatwick airport this summer. This installation represents the

largest system to be commissioned with over 200 scanners. TagTrak is also being installed in Vienna and the new Chep Lap Kok airport in Hong Kong with both

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systems expected to be up and running by the autumn. Following our success in the UK and Europe, the TagTrak sales team has been expanded to include a North American office.



# CHIEF EXECUTIVE'S REVIEW



FIVE YEARS on from our formation in October 1993, I am pleased that we can reflect on the steady progress of the Ultra Group. You can read about some of our achievements during this five year period below.

In the two years since our flotation, and particularly recently, we have seen for ourselves the volatility of the Stock Market. Whilst following the Ultra share price over the last few months has been somewhat unnerving, the movements were reflected across the engineering sector and were caused by the impact of economic uncertainties both in the UK and world-wide.

My primary focus has to be on the performance of the business and I am pleased to report that this continues to be sound. Our Interim Results for the period to 30 June 1998 were well received by the City and demonstrate that we remain capable of delivering growth in both sales and profitability.

In my position, I often meet colleagues from across our industry and I am always pleased to receive positive feedback on our performance. Occasionally, our efforts are more formally acknowledged by our customers and I congratulate Controls division for achieving an award as an "excellent" supplier to Airbus Industrie.

Looking forward, we have good reason to be confident. The UK Government's Strategic Defence Review was, on balance, good news for Ultra and at Farnborough '98 we experienced high levels of interest in the company and our products. If we continue to meet our customer's expectations and ensure that our prices remain competitive, there will be significant opportunities for our business in the future.

Finally, I would like to thank all our employees who have contributed to Ultra reaching our five year landmark so successfully.

*Dr. Julian Blogh, Chief Executive.*

## Five years on

ULTRA has had an exciting time in the five years since it was formed in October 1993. Here are a few reflections on our performance over this five year period:



- **Market confidence** - From the beginning Ultra demonstrated its ability to win business by focussing on customer requirements. As a result orders placed with the Group since its formation have reached almost £675m. In annual terms, sales will be approaching double the 1993 level in 1998.
- **Investment** - the group has achieved excellent cash performance which, in addition to enabling the early paying off of bank loans in 1995, has resulted in substantial investment in our future:
  - Product development* - high levels of expenditure have been maintained on product development throughout the five years - figures in excess of 20% of our sales have been invested in the future of the business. New products have been brought to market with others in the pipeline.
  - Acquisitions* - the Group has strengthened its position in key product areas with several acquisitions representing a total investment to date in excess of £20m.
- **People** - Ultra started with 1250 employees, only two of which were based outside of the UK! We currently employ 1850 people, a quarter of which are located in North America.
- **International growth** - a combination of increased exports from the UK and the impact of our acquisitions in North America have resulted in a growing proportion of our sales being outside the UK. The growth in sales by destination to North America from 5% of total group sales in 1995 to 24% in 1997 serves to demonstrate this point.



# Ultra Supports Airbus Success

AIRCRAFT manufactured by Airbus Industrie as part of the A320 single aisle family and of the A330 and A340 long range family of aircraft contain a significant amount of Ultra equipment. Controls division supplies two Landing Gear Control and interface units (LGCUs) for each aircraft and Electrics division supplies a range of rugged Landing Gear Harnesses.

In the first half of 1998, Airbus Industrie achieved greater than 50% market share against traditional rivals, Boeing. In addition to being good news for Ultra, the success of the Airbus aircraft has resulted in some interesting statistics:



*Airbus Industrie's single-aisle family comprises the 124-seat A319, the 150-seat A320 and the 185-seat A321.*

## A320 single aisle family of aircraft

- Celebrated its 10th anniversary in passenger service this year.
- During the ten years they have carried 517 million passengers – the equivalent of the entire population of Europe.
- The 850 'in-service' aircraft have flown more than 9 million hours in over 5 million flights.
- One of these aircraft takes off or lands, on average, every fifteen seconds.

## The A330 and A340 long-range family of aircraft

- In the first half of 1998 the first A340 aircraft to be delivered celebrated five years of passenger service.
- Typically these aircraft spend 4,000 hours each year in the air.
- Two new versions of the A340 aircraft are currently being developed – Controls division have been confirmed as suppliers of LGCUs for these new variants.
- One of these new variants, the A340-500, will be the longest range passenger carrying aircraft yet built.

## People in the News

### Recent appointments in the Company



#### Top left – Devra Bevona

Devra has joined Flightline Electronics as VP Finance from Seneca Foods Corporation.

#### Top middle – Niel Miele

Niel has been appointed VP Program Management at EMS Development Corporation. He joined EMS from Telephonics Corporation.

#### Top right – Jill Kilby

Jill has rejoined Ultra as People & Progress Manager at Electrics division. Jill was Personnel Manager of Controls division at the time that Ultra was formed.

#### Bottom left – Ken Walker

Ken has been promoted to the position of Director, Marketing at Hermes Electronics having previously held the position of Defence Products Manager.

#### Bottom middle – Richard Muir

Richard has been promoted to the position of Marketing, Sales and Contracts Manager at Electrics division where he previously held the position of Sales Manager.

#### Bottom right – Mike Creagh

Mike has joined Ultra as Operations Manager at Electrics division. He joined from Spectrol Reliance.



## Technology Update



### SELECTED FOR ASTOR PROPOSAL

THE BROADCAST MOVING TARGET INDICATOR DATA LINK (BMDL) developed by Sonar & Communication Systems has been selected by Raytheon for their Airborne Stand-Off Radar (ASTOR) proposal to MoD. This two-way encrypted, jam resistant link enables data and control signals to be transferred between the aircraft and several ground terminals. The BMDL is virtually identical to the system used for the US Joint STARS aircraft and will enable interoperability between the UK ASTOR,

proposed by Raytheon, and the US Joint STARS. The data link system for the US Joint STARS was developed by Cubic Defense Systems who selected Ultra as their UK collaborative partner for the BMDL because of Ultra's proven capability with other data link products, including Link 11.

*Douglas Castor, MD Sonar & Communication Systems with Ray Barker, VP Business Development of Cubic Defense Systems.*



## Towed Array Trophy

EACH year Ocean Systems presents the Ultra Electronics Towed Array Efficiency Trophy to the Royal Navy ASW frigate which has used Ultra's 2031Z towed array sonar to best effect during the year. The 1997 winner was HMS Richmond, one of the latest Type 23 ASW frigates. Peter Enoch, Director of Sonar Systems at Ocean Systems presented the award to the CO Commander Elliott Seatherton.



## Flat Screen Exports

COMMAND & CONTROL SYSTEMS have taken several orders, for its new Ultra Compact console, from overseas customers. These new design multi-function consoles incorporate flat screen technology. All orders have been placed by new customers and include the division's first sale direct to an overseas navy. A major European defence company has also ordered our consoles for use in its standard range products. In all ten consoles, in four different configurations, will be manufactured with the hope that these initial sales will lead to significant follow-on orders.

## Safety at Work

PROCESSES aimed at encouraging continuous improvement in health and safety are now well established across our UK businesses. External audits, conducted every two years by the Engineering Employer's Federation, cover a comprehensive list of requirements. In addition, Managing Directors produce annual Health and Safety Reports which indicate the performance of their businesses against key criteria.

Health and Safety contacts meet three times a year to share knowledge and experience and receive legal updates from the advisors at the EEF and from our insurers, Sedgwick.

Jack Telfer, Human Resources Director, said, "Whilst such processes can help, all of us as employees have a part to play in achieving a safe working environment."

### What we can all do !

- + Know and understand local safety procedures
- + Ask - if there is anything we do not understand
- + Think about the safety implications of what we do
- + Guard against complacency
- + Take the initiative to report safety hazards and any accidents

Although different processes apply, health and safety is also an important priority in our North American businesses. MSI has recently been presented with the State

Safety and Health award by the Connecticut Workers' Compensation Commission - one of only three awarded for combined Safety and Health.



Members of the MSI team with their Safety and Health award.





## Ultra News talks to two employees who joined the Company in 1993

### **Darren Lock** **Sonar & Communication Systems**

Darren Lock is Project Manager for the MIRA4 (Nimrod 2000) Acoustic Processor, Ultra's largest single contract. Having spent most of his years with Ultra responsible for managing high profile projects, he is used to working under pressure particularly with customers and suppliers who are themselves under pressure.

He regards the ability to understand the priorities and maintain a focus on them as a key in his role. "Understanding customer needs is essential, along with maintaining good two-way communication," says Darren. "This means sharing both the good news and the bad news." He admits that this is not always easy but sees it as crucial if the job is going to be completed on time. One particular lesson, learnt soon after joining Ultra, was the importance of

knowing where you are going. Having arranged to meet his MD at a meeting on a customer site, he assumed which site it was and on arrival was ushered into a meeting. It did not take long for him to realise that he was in the wrong meeting, and that his meeting (and his MD!) were on a sister site some thirty miles away.

Reflecting on his years with Ultra, one particular highpoint was being told by his customer that he had played a 'slam dunker' at the end of a particularly difficult project. He is hoping to achieve

### **Sam Davidson,** **Magnetics division**

Sam Davidson, Group Leader Research (Ranges), joined Magnetics in the summer of 1993 having just completed her PhD. in Magnetics at Oxford University. Sam explains, "Joining gave me the opportunity to stay in the field of magnetics, along with the benefits of working in a smaller organisation where the greater variety of projects helps to maintain interest. You also have visibility of the whole project – the practical and the theory."

Sam admits to the technical challenge being the favourite part of her job citing the 'hard maths' within the Multi-influence range as a particular example. Not that her work allows her to hide away in the office; Site work involves her in trials,

which prove the performance of the system, and in customer training, vital if the complex systems are to be used effectively.

She has also spoken at specialist conferences, such as the recent UDT conference in Sydney, Australia, which involved speaking to groups of up to 50 people. Although not her favourite pastime, Sam finds talking about her work relatively easy compared with the presentation skills course she attended which included making after dinner, political and fundraising speeches on a wide range of topics.

Relaxing for Sam involves the relatively new hobbies of Tai Chi and Chi Kung. She also enjoys walking and cycling in the Peak District and has been involved in sponsored events for the World Wide Fund for Nature.



the same on his current project. Darren believes that he has been able to grow individually during his time with Ultra because the significant growth of the business has created the opportunities.





## Bluefish Induction

HARBOR YARD, the new home of the Bridgeport Bluefish baseball team, provided an evening of food and fun for 48 MSI employees and visitors from Electrics who cheered the home team on to victory. During a break in action 'BB the Fish', the team mascot, explained the fine points of the game to Frank Hope, MD of Electrics division.

## On The Buses!

NATALIE WRIGHT, Commercial Administrator at Weapon Systems, was involved in organising a charity fund raising event as part of a company sponsored BTEC Business and Finance course. Her team decided on a sponsored bus clean and car boot sale to support the RSPCA and, as can be seen from the picture below, Natalie (pictured left) and her colleagues donned wet weather gear and set about cleaning a fleet of fifty buses! Nearly £700 was raised and all achieved a distinction in their assignment.



## Icing on the Cake

FLIGHTLINE employees gathered in their cafeteria for cake and refreshments to celebrate their first anniversary as a subsidiary of Ultra Electronics. The cake, which was decorated in Ultra colours, was cut by Carlos Santiago, President of Flightline.



## Peddling for Pounds

ERIC ROWLANDS of Electrics division has peddled his way to raising over £400, in the past three years for the British Heart Foundation by taking part in the annual Cotswold Cycle Run. Eric also celebrates 25 years with the Group this year.

## On Location

AROUND twenty employees at Hermes Electronics were hired as 'extras' when a part of a 'made for TV' movie was filmed at the Hermes facility in August. The movie, 'Loving Evangeline', is scheduled for a late autumn release. Calls from Hollywood are eagerly awaited!

## Dressed for Success

AS THE Field service team at Command & Control Systems is spending more time working on customers sites, the team has come up with working wear which they feel presents the company in a professional way. The new gear meets requirements for both offshore working and the shipyard environment and is accompanied by styled tool and brief cases that also reflect the company image.



**Ultra  
ELECTRONICS**

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Noise & Vibration Systems -  
Evelyn Taylor

Ocean Systems - Richard Farwell

Sonar & Communication Systems -  
Carol Doyle

Weapon Systems - Jackie Reece



# UltraNews

ISSUE 10

The Newsletter for Ultra Electronics Employees

SPRING '99

## Strong growth in 1998

ULTRA Electronics Holdings plc reported improved performance when the 1998 results were announced on 22 February 1999. The results, summarised in our centre pages, show strong growth in both sales and profit. The Group's order book reached a record level at £302m at the end of January.

Peter Macfarlane, Chairman, (pictured right) said, "Our strong performance demonstrates the buoyancy of defence and aerospace markets for Ultra's products and our strong competitive position in the US. I would like to thank all Ultra employees for their hard work and loyalty."



## 1 million sonobuoys

SONAR & COMMUNICATION Systems celebrated the manufacture of 1 million sonobuoys at Greenford on 25 February. The celebrations included a reception for 140 guests, a flypast by a Nimrod from RAF Kinloss and a lunch for employees. Parliamentary

Under Secretary of State for Defence, John Spellar MP, presented the millionth sonobuoy to Dr. Julian Bloch. Full report on page 8.



John Spellar MP (pictured left) presents the millionth sonobuoy to Dr. Julian Bloch.

## HiPPAG for RAF Harrier GR7

WEAPON Systems have received the first UK production order for the HiPPAG 320. The HiPPAG's will be supplied to Flight Refuelling Military Systems division for integration into their new Common Rail Launcher which is being fitted to the RAF Harrier GR7 fleet.

A third follow-on contract has also been received to supply HiPPAG's for the US Marine Corps AV8B Harrier.





In this issue we report another successful year for the Group. Our strong cash performance has supported investment in the future that is now reflected in our growing order book and our profitability. Given the backdrop of a market that is increasingly challenging, continuing this upward trend will require prudent decision making and a commitment to excellent customer service.

Hopefully, we can all enjoy the sense of satisfaction that comes from being part of a healthy and growing business while recognising the need to keep fit as a business for the challenges of to-morrow. Due to the amount of editorial we have increased Ultra News to twelve pages for this issue. I particularly extend a welcome to our new readers within PMES and UnderSea Sensor Systems and my thanks, once again, to all our contributors.

Jack Telfer

## Challenger certification

A NEW Active Noise and Vibration Control System was certified by the FAA for optional fitment to both new and in service Bombardier Challenger aircraft. NVS have also successfully flight tested a new design of controller on the King Air 200 following two years of development.

### STOP PRESS • STOP PRESS

Just before going to print, Ultra announced the agreement to acquire all of the issued share capital of Advanced Programming Concepts (APC) Inc. of Austin, Texas. The purchase is subject to approval of the US Regulatory Authorities.

APC supplies equipment which combines battlefield information derived from tactical data communication links, intelligence sources and other sensors, such as radars, to provide a coherent tactical picture to operational commanders for command and control purposes.

# Ultra Bytes

## Korean Destroyer

COMMAND & CONTROL Systems have been awarded a £6.2m contract by British Aerospace Defence Systems to supply command and control systems equipment for the Korean Destroyer KDX Batch 2 order. Ultra supplied similar systems for the Batch 1 ships and this follow-on order reflects both our good performance and the relationships established with BAe Defence and the Korean Navy.

## On track

RAILTRACK Southern and ABB Power T & D Ltd have awarded contracts to PMES totalling £7m to supply rectifier equipment replacements for existing substations along the London Northern Line and in the counties of Sussex, Kent, Surrey and Hampshire.

## Astute contract

PMES have been awarded a £3.25m contract from Rolls-Royce Marine Power to supply rod control gear for the Astute submarine.

## Coast to coast USA



Back row left to right: Ian Bradley, Peter Sedgwick, Richard Prosser. Front row left to right: Martin Carpenter, Andy Chilton

WORKING their way across four time zones the Weapon Systems HIPAG roadshow visited customers and suppliers in twelve cities in 14 working days. Martin Carpenter, George Straubs, Bill Swain, Andy Chilton and Peter Sedgwick took part in the technical tour and were joined by Ian Bradley and Richard Prosser for the final stage. They experienced freezing conditions, pouring rain and a day of Californian sunshine. On the tour a new solution for pneumatic bomb racks was presented to major prime contractors – the team returned to the UK with plenty of work to do including new opportunities.

## Facdar for Egypt

MAGNETICS Division have been awarded a contract to supply two Facdar (Forward Area Combined Degaussing and Acoustic Range) systems to the US Navy as part of the Foreign Military Sales Egyptian programme. This brings the total number of such systems supplied to ten.

## Route 66

OCEAN Systems, via their Card Systems US office in Redmond, WA, has received an order to supply 66 Magicard UltraShield card laminators to the state of Nevada for the production of drivers' licences.





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## First EFA production orders

CONTROLS Division have received orders for the supply of landing gear control modules for the first production batch of Eurofighter aircraft. The initial order covers 148 aircraft plus spares

with deliveries commencing in late 2001. Controls are a work share partner with Dunlop and Bodenseewerk Geratechnik GmbH who will jointly supply landing gear computers for the aircraft.

## 2000th Airbus wing

ANDY HAMMENT and Malcolm Hall of Controls Division attended a celebration held in February at the BAe Airbus factory in Chester at which the 2000th set of Airbus wings was handed over. Keynote speeches were given by Stephen Byers MP, Secretary of State for Trade and Industry and Sir Dick Evans, Chairman of British Aerospace.

All the wings for Airbus aircraft have been built in Chester - following manufacture they are transported by the enormous Beluga aircraft to Toulouse, for assembly to Airbus aircraft. Controls Division has also been selected to supply the Landing Gear Control Computers for the A340-500/600 variants of the aircraft.





# Introducing PMES

PMES became part of the Ultra Group on 30 November 1998. The acquisition has strengthened the Group's presence in the international naval defence market by enhancing existing areas of business and by adding innovative new product areas to our portfolio.

PMES was formed in 1946 by a small group of engineers working in the field of automatic control for industry. Originally known as British Electronic Products Ltd there were several owners before the business became Thorn Automation. PMES - Power Magnetics and Electronic Systems, was formed in 1994 following a management buy-out from Thorn-EMI. Employing just over 200 employees, PMES will focus on four key product areas:

- Power Systems for naval applications
- Rectifiers for industrial and rail applications
- Data Distribution Systems
- Sonar and Acoustics



Adrian Evans, Managing Director



PMES employees brace the cold

The Magnetics and Signature Control activities of PMES have moved to Ultra's Magnetics Division based five miles away in Hednesford. Some 22 employees transferred in March. Since the acquisition PMES has been awarded several major UK and export contracts and the order book is set to grow further. Adrian Evans, Managing

Director, said: "We believe that joining the Ultra Group is a very positive move for the Company and its employees. Ultra is already successful with complementary products in naval markets and we look forward to working closely with the other Sea Systems businesses in strengthening our combined market position."

## Tomahawk flies



The excellent progress made on the integration of the Tomahawk Land Attack Missile (TLAM) for the Royal Navy was clearly demonstrated in an impressive first launch in November 1998 off the Californian coast.

The missiles recently became operational with the Royal Navy. The trial was the first launch of a live TLAM from a British submarine. The submarine "Splendid" launched the missile from a torpedo tube whilst



submerged. After breaking the surface of the sea the missile followed a pre-programmed course off the Southern Californian coast. During the final phase of its flight the missile - accompanied by three fighter jets - flew past a specially constructed viewing area. The assembled guests then fixed their binoculars on the target, a stack of cargo ship containers located 3.5 miles away, which was suddenly engulfed by fire as the missile impacted.

Ultra was represented by John Taylor, Managing Director of Command & Control Systems, who supply the TLAM weapon interfacing electronics in the submarine.



# Sea Systems re-organisation

Douglas Caster has been appointed Managing Director of Command & Control Systems and, in addition, he has responsibility for the activities of both Ocean Systems and PMES. Douglas, who moves to Loudwater following 11 years at Sonar & Communication Systems where he had been Managing Director since 1992, takes over at Command & Control Systems from fellow main board member John Taylor who retired at the end of February.

Douglas Caster  
Far right: John Taylor

The closer linkage of Sea Systems businesses will recognise their complementary capabilities to maximise scope for winning new business and improving the technology base.

John Taylor joined Ultra at its formation in 1993 and has overseen a comprehensive strategic review at

Command & Control Systems as the business adapted to changing market conditions. Over the last five years he has seen the business established on one site at Loudwater from Feltham and Hook. In addition, TagTrak has been established as the leader in baggage reconciliation at airports worldwide.

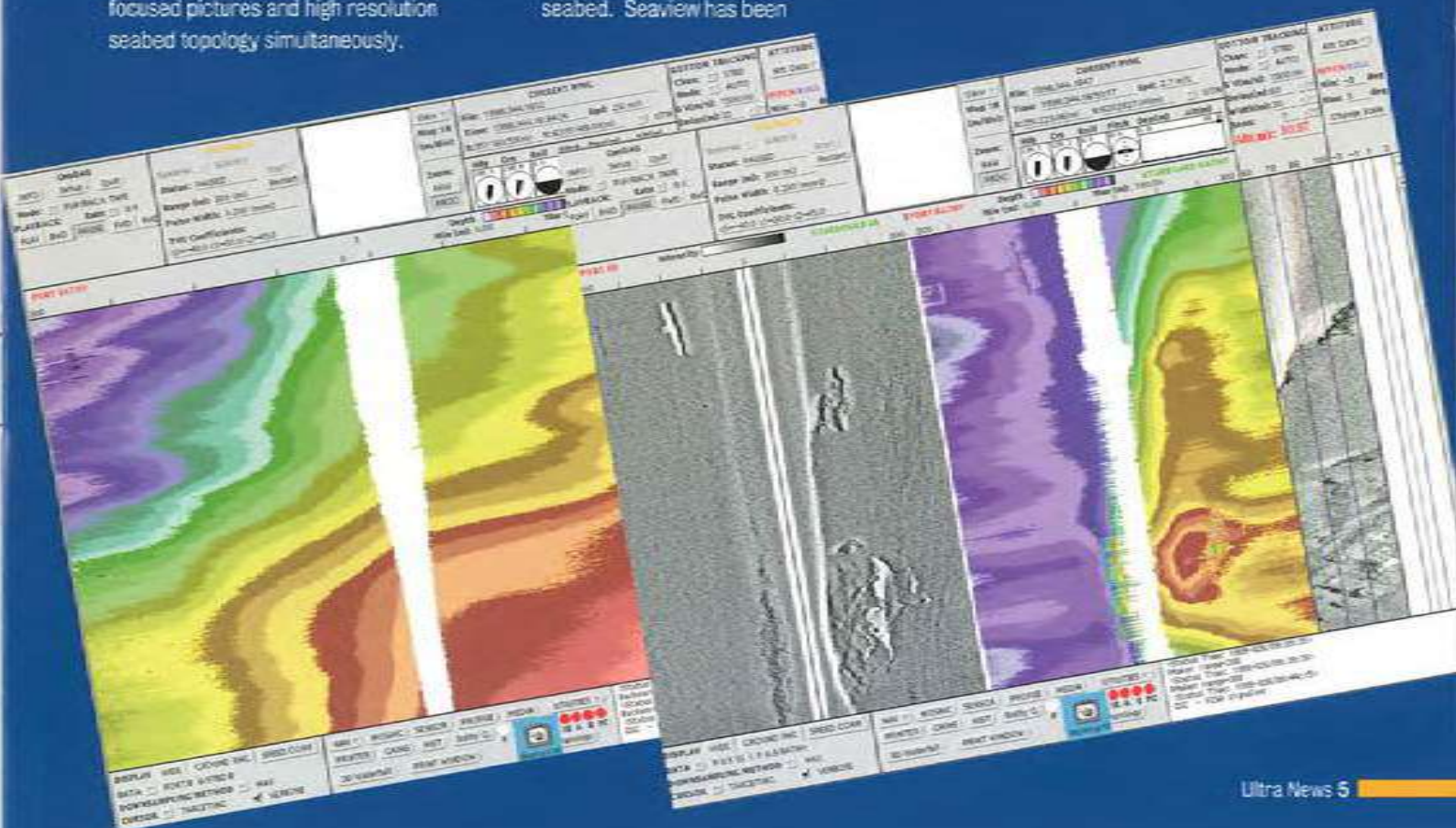


## Ocean Systems – Seaview images

Ocean Systems have collected some spectacular records with their Seaview Advanced Sidescan sonar during recent trials in Loch Fyne. The technology is unique in that it provides both high quality focused pictures and high resolution seabed topology simultaneously.

The picture (below right) shows a Seaview image of the wrecked submarine and rocky outcrops on the bed of the Loch on the left, while on the far right is a colour contour map of the seabed. Seaview has been

produced to meet US Navy requirements but the technology should also be of interest to the oil and telecommunications industries.





# CHIEF EXECUTIVE'S REVIEW



My objective has been to see the Ultra Group expand profitably to become a more significant niche player in Aerospace and Defence, both through organic growth and by acquisition. The results outlined in this issue of Ultra News illustrate our success in 1998. As a result of your help we achieved sales growth of the existing business close to 8%. Towards the end of the year, two acquisitions were made which should contribute to the growth of the Group in the future.

The acquisition of PMES strengthens our naval capability and takes us into a new market area of power conversion for civil and military markets. UnderSea Sensor Systems expands our sonobuoy product range and improves our capability in the important US market. Both these acquisitions are in line with our strategy of acquiring companies which are closely related to our existing activities. I am delighted to welcome these companies to the Group. Every business within the Group operates in a marketplace that is becoming more competitive and more demanding day by day. Success in this environment requires that we all look for innovative and clever solutions. To help provide the skills we need as a Group, we are investing increasing amounts in training and employee development and I intend to continue this growth for the foreseeable future. On this subject, I congratulate Sonar and Communication Systems on achieving the UK Investors In People accreditation.

Ultimately, it is the competitiveness of our products and the quality of our service that will secure success into the future. I would like to thank all our employees for their contribution during the year.

**Dr. Julian Blogh, Chief Executive.**

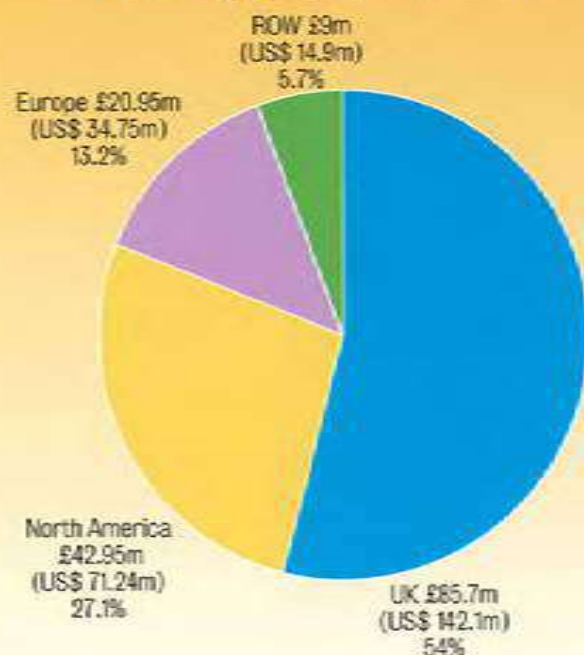
## Financial Results for 1998

ULTRA Electronics Holdings plc announced its results for the twelve months to 30 December 1998 on 22 February 1999.

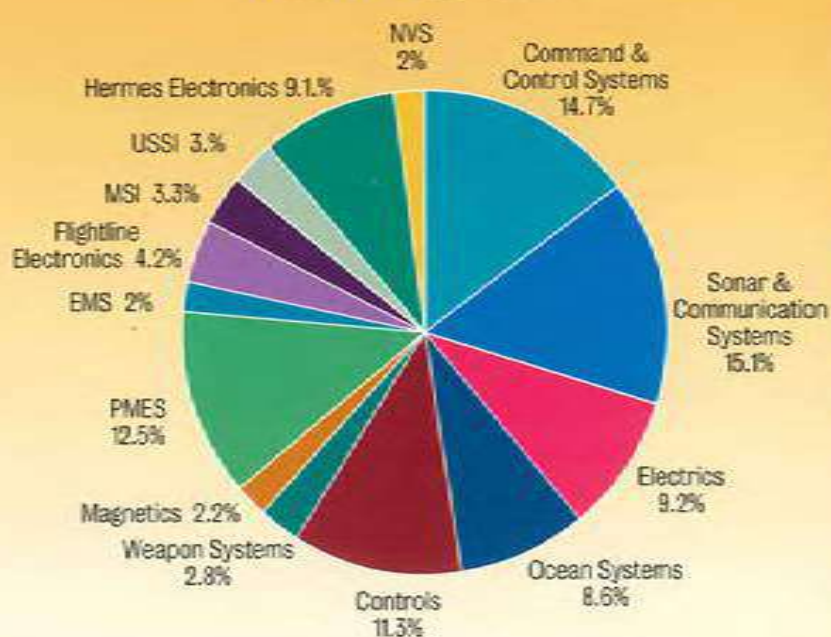
Sales for the period increased by 10.7% to £158.7m. Operating profit after exceptional items but before interest and

tax increased by 16.1% to £20.9m. Continued focus on cash flow resulted in a positive cash flow of £21.8m for the year.

**Sales by geographic destination**



**Staff levels by division**



At the year end Ultra employed over 2100 people, 22% of whom were based in North America. This chart is based on numbers employed at the year end.



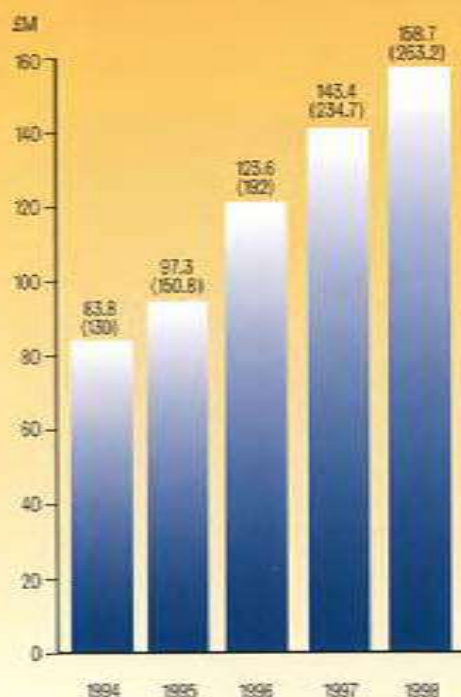
# People in the News

## Recent appointments in the Company

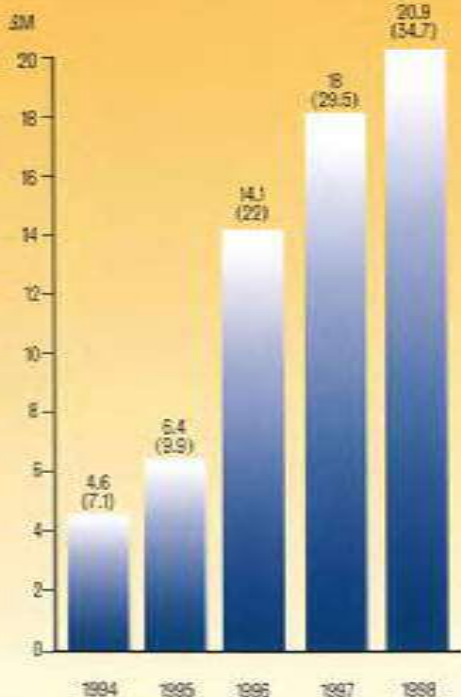


1. Dr. Frank Hope, Managing Director of Electrics Division, has been appointed to the Ultra Electronics Holdings plc main board. Frank joined Ultra in 1994 from Avimo.
2. Dr. Brendan Pain has been appointed Managing Director of Sonar & Communication Systems where he previously held the position of Engineering Director.
3. Mick Drustup has joined the Group as President, EMS Development Corporation. He was previously Manager, International Programs with Northrup Grumman.
4. Mark Stoddart has moved to Controls Division as Finance Director from Group Financial Controller at Head Office.
5. Alan Wignall has been appointed Technical Director at Sonar & Communication Systems where he was Chief Engineer, Systems.
6. Mike Baptist has been appointed Engineering Director at Sonar & Communication Systems where he was Chief Engineer, Communications.
7. Dr. Francis Mullins has joined the Group as Technical Director, Controls Division from the Radamec Group where he held the position of Technical Director.

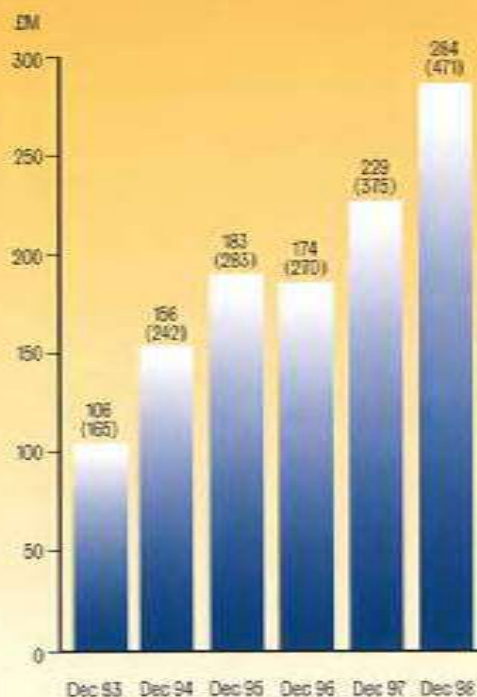
### Sales £MILLIONS (\$millions)



### Profit £MILLIONS (\$millions)



### Order Book £MILLIONS (\$millions)



For each year the figures show operating profit after exceptional items but before interest and tax.

The Group's order book exceeded £300m at the end of January 1999



# Greenford celebrates millionth sonobuoy

SONAR & COMMUNICATION SYSTEMS celebrated the manufacture of one million sonobuoys at Greenford in February.

At a reception, which was preceded by a flypast by a Nimrod from RAF Kinloss, John Spellar MP, Parliamentary Under Secretary of State for Defence acknowledged this milestone and praised Ultra's innovative engineers for their achievements in this field over 50 years. Mr. Spellar unveiled a specially cast bronze plaque and presented the millionth sonobuoy to Dr. Julian Blogh.



The Chief of Defence Procurement, Sir Robert Walmsley also attended the event as a guest of honour. The event brought together many friends from different parts of the UK anti-submarine warfare community who, in addition to the formal reception, toured the sonobuoy production lines and an exhibition of products. A special souvenir brochure covering Ultra's 50 years in sonobuoys was also handed to guests. On the following day a special lunch was provided for Sonar and Communication Systems employees with an invitation for families to visit the site to see the exhibition. Altogether some 500 people

toured the facility over the two days. The event coincided with Douglas Caster's farewell to the business. Speaking of the event he said, "I was very encouraged that so many wanted to share this landmark with us. It took almost 40 years to achieve the first half million sonobuoys and only twelve to achieve the second. This highlights the skill, dedication and hard work of our employees over these years as we have had to win this business in the face of fierce competition."



John Spellar MP (left) unveils the plaque - with Douglas Caster



Site Tour



Mike Masters, formerly Manufacturing Director for 25 years, renews acquaintances

Sir Robert Walmsley, CDP

## OPEN DAY



Musical accompaniment by the Salon Orchestra of the RAF  
(By permission of the Air Force Board of the Defence Council)



Site Tour - a hands on experience



Employees and their families

## US sonobuoy success

ULTRA'S two North American sonobuoy businesses have secured contracts worth a total US\$35m for the delivery of sonobuoys to the US Navy. UnderSea Sensor Systems of Fort Wayne, Indiana

were awarded contracts for Active DICASS, Passive DIFAR and calibrated sensors, whilst Hermes Electronics received its largest contract for DIFAR buoys and a contract for Bathy buoys.



Joe Abella,  
President



# Introducing UnderSea Sensor Systems Inc.

Below: members of the USSSI team



IN DECEMBER 1998, Ultra acquired the sonobuoy product line of the Raytheon Company in Fort Wayne, Indiana, USA.



Left to right: Dorothy Rice, VP Finance Hermes, Ian Yeoman, Group Finance Director, Steve Reece, VP Marketing USSSI, Richard Lane, Group Marketing Director, Wayne Trowse, Director North American Operations, UnderSea Sensor Systems. Front: Dr. Julian Bligh, Chief Executive, Joe Abella, President

Still known to many in the business as "Magnavox," the employees have been through several changes of ownership in the last few years including the Hughes Corporation and then Raytheon.

The business, which has been renamed UnderSea Sensor Systems Inc (USSSI), brings a long heritage of sonobuoy systems development and production and is credited with developing and fielding the first practical and tactically effective sonobuoy in the early 1950's. Since then USSSI has produced 4.8 million sonobuoys for air ASW forces worldwide. Nearly 70 employees transferred from Raytheon into the newly formed organisation and there are plans to add a further 65 employees by the end of 1999. The business, which is currently operating

out of a Raytheon Systems company facility near Columbia City, Indiana, plans to relocate this summer to its own facility in the Fort Wayne area.

Joe Abella, President of USSSI, expressed his enthusiasm at being part of Ultra, "With the acquisition by Ultra we have the opportunity to create a new era for UnderSea Sensor Systems. I look forward to working with other businesses in the Ultra Group to our mutual benefit and that of our customers."

Wayne Trowse, President of Hermes Electronics is responsible for the activities of both USSSI and Hermes as Director of North American Operations, UnderSea Sensor Systems. This acquisition makes Ultra the largest producer of sonobuoys in the world.

## Sonobuoy Receiver Training

AS PART of the introduction of the AN/ARR-502 Sonobuoy Receiver into the Canadian National Defence Forces

aboard the Aurora CP-140, Flightline successfully completed a week of Initial Cadre Training at their facility during

January 1999. The customer was represented by Trainers from the 404 Squadron, Maintainers from the 14th Aircraft Maintenance Section, and Operators from the Maritime Patrol Evaluation Unit. In addition to classroom training, the students also spent two days in practical exercises with the receiver utilising the Flightline developed Maintenance Kit software. At the conclusion of the training, Carlos Santiago, President of Flightline, presented the students with their Certificates of Completion.





## Technology Updates

● **COMMAND & CONTROL SYSTEMS** have been awarded a contract to migrate the British Army's TACISYS onto Windows NT based systems. A key element in securing the contract was the development of a Geographic Information Systems (GIS) facility at Loudwater which was used to prove that the required capability could be delivered by Windows NT. The facility is now being used to demonstrate advanced GIS solutions to potential customers.

● A US patent has been awarded to MSI for their new Hall effect sensor technology. An international patent is expected during 1999. The technology will be used in military, simulation and industrial controls and is key to MSI's product range due to exceptional reliability and very low cost.

● MSI is working on the design of a 'fly by wire' multiple redundant controller for a new generation submarine which will control the rudder and diving plane movement in 2 dimensions; port-starboard and dive-rise.

● **COMMAND & CONTROL SYSTEMS** is working to improve the interface between 'man and machine' on complex real-time tactical decision making. A current example is the Naval Officer of the Watch demonstration. Developed in conjunction with British Aerospace, this

allows the user to communicate with the ship's command system and interrogate visual contacts using voice commands. The head mounted display shows the command system's local area tactical picture and permits totally hands free operation.



## Matrixx management

CONTROLS DIVISION is using the Matrixx control simulation software for non real-time modelling of the propeller system for the de Havilland Q-400 aircraft. Stephanie Bartlett has been working with her opposite numbers at de Havilland, Pratt & Whitney, Hamilton Standard and Dowty Aerospace Propellers and her contribution has been recognised by this international team. Stephanie was recently invited by the suppliers of Matrixx to present a paper on her work at the European Design Automation Aerospace symposium held in January.

## BAe Warton visits



SEVERAL visits have taken place by teams from Electronics Division to the British Aerospace Warton facility in a continuing programme to develop the

business and personal relationships between the two companies. During the visits team members have seen the Eurofighter first hand, visited the control tower and seen the Tornado in the

## Approvals

FLIGHTLINE ELECTRONICS have successfully completed the registration process and are certified to ISO 9001. This was an important achievement and Carlos Santiago, President of Flightline, acknowledged the hard work and efforts of the ISO 9001 team members, in particular, Art Bielewicz, Mark Fraterrigo and Phil Masiewicz for their dedication to the cause.

Controls Division have achieved JAR21 Sub-part JB Design Organisation approval. Controls are the only parts/accessories design organisation so far to be approved by the Civil Aviation Authority on behalf of the Joint Aviation Authorities.

*Pictured far left, David Parkinson-Gene of BAE who facilitated the visits with (from left to right) Keith Woodhouse, Ron King, John Cassell and Morgan Patel from Electronics Division.*

process of the GR4 upgrade. During a visit to the telemetry room the team was able to observe displays of the cockpit and pilot controls being monitored on the ground as the trials aircraft was in flight.





## Ultra News talks to two employees

**Pat Reader,  
Electrics Division**

Pat Reader has shown a certain resilience to the changes in her five years with Ultra. This is no surprise as the changes she has seen here are relatively small compared with those she experienced when she moved from the Philippines to the UK in 1991. Pat joined Heltune in 1994 initially through an Information Technology "Training for Work Scheme" linked to a local college. Whilst most of her work has related to the administration of software for the Heltune range of products, she has recently become involved in the production of product manuals in the PDS department at Electrics. Settling into the UK was a challenge which was greatly helped by her husband and

by the fact that she met so many friendly and helpful people in the Malvern area. One of her biggest problems was language – not in actually having to speak English so much as in coming to terms with local colloquialisms! Needless to say her vocabulary has grown. During 1996 the Heltune business was integrated into Electrics Division at Cheltenham and Pat admits to initially feeling worried about the move. Looking back she feels it has helped her career, giving her the opportunity to broaden her experience with a larger group of people. Outside of work Pat is actively involved in the local Lions International Club and their range of charitable activities. She is also a member of the Malvern Singers, a local choir that gives charity concerts, their repertoire being popular songs from the musicals.

**Sharon Messam  
Controls Division**

Sharon Messam has worked for Controls Division for eleven years in the software engineering department. During that time she has worked at three different sites and played an active part in two company moves.

Joining in 1988 at Acton, West London, Sharon operated the VAX 11/780 used by the engineering department. Her role has gradually changed as the computing environment developed and she is now primarily employed on Configuration Management; a vital activity in a business which produces safety critical software. Her job includes ensuring that software records are maintained and all changes are properly tracked.

Thinking about major projects, the move of the business from Loudwater to Greenford in 1994 stands out in her mind. She had to ensure that the engineering computer systems transferred efficiently to ensure minimum disruption to



projects. Sharon said, "It was a lot of hard work and required detailed planning involving cabling layouts, seating layouts and linkages to the computer room. Given the number of people I had to deal with I had to be forceful at times – a useful trait when needed!" Sharon hopes to develop her career and is currently studying for a computing degree. The degree course will take her

2 years and includes attending college a half day a week. What with her busy job and studying, things are a little hectic at the moment. So much so that when asked about life outside of work her immediate response was, "I haven't got one!" Having said that Sharon admits to enjoying the occasional trip to the theatre and, of course, the odd night out with the girls.



## Corporate Identity

THE GROUP has published a new Corporate Identity Manual which provides guidelines to all Ultra businesses on how to present the business in a consistent and professional way. Talking about the manual, Richard Lane, Group Marketing Director said, "As the profile of the Group increases it is becoming even more important that all businesses are presented to a consistently high standard in all aspects of doing business."

## Enter the Dragon

AN OCEAN SYSTEMS team won a 'Spirit of the Event Award' for raising more than £250 for charity in the Weymouth Dragon Boat Challenge. The team of 20 paddlers sat side-by-side in a 40 foot boat together with a drummer to beat time. Our picture below shows the team relaxing between heats. Dragon boat racing is claimed to be one of the fastest growing water activities in the UK.



Pictured here from left to right are: Colin Pass, Personnel Manager, Sonar & Communication Systems, Lisa Porter, West London TFC Board and Phil Evans, Manufacturing Director, Sonar & Communication Systems

## IIP Award

SONAR & COMMUNICATION SYSTEMS have become the third Ultra business to receive the UK National Accreditation for Investing In People. The award focuses on processes that identify and assess the

investment needed in people development. Several other UK businesses are currently working towards the achievement of the Accreditation which Electronics Division and Ocean Systems have held for some time.

## Toner donors

OLYMPIC Gold Medallist, Tessa Sanderson, has thanked Ocean Systems for taking part in a successful inkjet and toner cartridge recycling scheme. The Toner Donor Scheme is one of a number of fundraising initiatives undertaken by the British Institute for Brain Injured Children.

## Charity walk

MSI employees and their families again took part in a five mile walk to aid the American Cancer Society. Charles Caldwell and Brenda Westphal organised MSI's participation which raised over \$4000 including a generous donation from Electronics Division. In all \$270,000 was raised through the day.



## Video Link

Controls Division have raised £2,500 for the Frank Barnes School for the Deaf. The money will be used to buy and run a Video Phone which will enable the children, aged 4 to 11, to communicate with other schoolchildren with similar disabilities around the world using sign language. This will be the first in the UK using this technology. Representing Controls at the presentation was Cherise Pearson, Karen Rodway, Kannan Mahadevan and Jonathon Stern, nominator of the charity. Jonathon and Karen are pictured presenting the cheque.

**Ultra**  
ELECTRONICS

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Paul Abelquist

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Judy Arnold

Hermes Electronics -  
Dorothy Rice

Magnetics - Jayne Brady

Measurement Systems Inc. -  
Norman Westphal

Noise & Vibration Systems -  
Philippa Coe

Ocean Systems -  
Richard Farwell

PMES - Julie Graddon

Sonar & Communication  
Systems - Carol Doyle

UnderSea Sensor Systems -  
Carol Reilly

Weapon Systems - Jackie Reece





# UltraNews

ISSUE 11

The Newsletter for Ultra Electronics Employees

AUTUMN '99

## Growing International Presence



Dr. Julian Bligh with Sir Michael Jay, KCMG, British Ambassador to France.



Left to right: Harry Young, President, APC; Richard Lorne, Group Marketing Director, Ultra; Philip Lader, US Ambassador to London; Dr. Julian Bligh, Chief Executive, Ultra; Tim Stanley, APC.



Mick Dring, President of EMB, talks to Rear Admiral J.A. Cornuelle US Navy FFG-1022 with Dr. Julian Bligh and, far right, Ian Menzies, MD, Magetics.



ULTRA's International standing was highlighted at the Paris Air Show in June where we were part of the SEAC UK Pavilion, and also at the Defence Systems Equipment International exhibition - DSEI, at Chertsey in September. Attendance levels were high and our stands were kept busy with visits by VIP's and delegations from countries around the world. At Paris we announced that the Raytheon Aircraft Company had selected

HIPSS and, as an option, UltraQuiet for their successful Beech 1900D aircraft. We also demonstrated the Air Defence Systems Integrator - ADSI, from APC. At DSEI there was great interest in the CANbus data bus system supplied by

Electrics Division for military vehicles.

The Beech 1900D



## Interim Results

INTERIM Results for Ultra Electronics Holdings plc for the six months to 30 June 1999 were announced in August. Compared to the same period in 1998 sales were up 22.1% to £95.5m. Operating profit increased by 16.2% to £11.5m. The Order Book for the Group stood at £285.8m.



Pictured celebrating the Beech 1900D agreement at the Paris Air Show, are (left to right) Colin Ross - NVS, Mike Scheidt - Raytheon Aircraft Company and Andy Hommes - Controls.



For the last issue of the millennium we welcome new readers especially those from APC, who joined the Group in July. As always, I am very grateful to our site contacts for gathering material for Ultra News. Have you noticed that items put in the diary several months ago have come and gone with amazing speed? I am regularly reminded that this is a function of age but I do get the feeling that many share my hunch that time is simply shorter these days. Time is an amazing resource that we appear to have in limited quantities. Every day we can save it, use it or waste it – all as a result of the decisions we make. We cannot grow more time, all we can do is try to make the best use of what we have. Some people have tired of the build up to the millennium – some are preparing for the celebrations while others are busy stockpiling food just in case. One thing we all can do, however, is try to identify one action at work and one outside of work that could help us to make more of a very precious resource – our time.

Jack Telfer

## PMES to supply Swedish Navy

Power Magnetics and Electronic Systems Limited (PMES), has been awarded a contract from FMV, worth over £1 million, to supply its Underway Digital Acoustic Measurement System (UDAMS) to the Swedish Navy. UDAMS uses state of the art digital signal processing technology to provide acoustic signature measurement of the latest 'stealthy' surface ships and submarines.

# Ultra Bytes

## MSI Grips for C-17

MSI has won an order from Lockheed Martin for the Pilot and Co-Pilot hand controls for the C-17 Globemaster III transport. The C-17 is built by Boeing in Seattle and is a new generation cargo plane developed for the US Air Force, although it also has commercial potential.

## Magicards for Kosovo



A UNHCR (United Nations High Commissioner for Refugees) requirement to provide registration and ID cards for up to 400,000 Kosovar refugees in Albania resulted in a major order for Magicard Turbo ID card printers. The turbo flip double-sided printers were supplied to London based Securit World for integration into its Securit 5500 ID badging system which used notebook computers and portrait capture cameras

configured for field use. Our picture shows the printers set up for use in Albania. Ray Coles, Managing Director Ocean Systems, commented: "This was a very tight programme to carry out for an urgent humanitarian task. I was impressed by the way the contributors moved quickly to specify and implement solutions, and I was pleased that Ultra has been able to assist in such a positive way."

## HIPSS awarded Millennium Product Status

CONTROLS Division's Hub Integrated Power Switching Systems (HIPSS) for propeller aircraft has been awarded Millennium Product Status by the UK Design Council. The Millennium Products programme, an initiative launched by the UK Government in 1998, is the search for the UK's most brilliant products and services. Speaking at the launch of the initiative, Prime Minister Tony Blair said, "Millennium Products show the range of creativity and innovation in Great Britain – world-beating designs that will help improve the quality

of our lives and give our economy the edge over our competitors." HIPSS will now form part of a collection of the most innovative products and services created in Britain for the new Millennium. Selected products will feature in a special section of the Millennium Dome at Greenwich. Andy Hamment, managing director of Controls Division was delighted with the award. "Our aim is to deliver cutting edge technology where it benefits our industry. This award demonstrates that we are doing just that – and in the best league."





## HiPPAG for Super Hornet

EXCELLENT opportunities continue to open up for Weapon Systems' HIPPAG 320. A contract has been awarded by the US Navy to qualify HIPPAG for the F/A-18 E/F aircraft – the high profile Super Hornet (pictured). This award creates new market opportunities for Weapon Systems as it represents both a new aircraft platform and a new launcher for HIPPAG.

## Sonobuoy Positioning Award

THE DEPARTMENT of National Defence Canada has awarded Flightline Electronics, Inc. a contract valued in excess of Cdn\$1.9 million for the development of an embedded Sonobuoy Positioning System (SPS) for the AN/ARR-502 Sonobuoy Receiver.

The SPS can provide the acoustic operator with the geographic location of up to 99 deployed sonobuoys. This represents an important next step in Flightline's commitment to remain at the forefront of sonobuoy receiver technology worldwide.

## Data Link Success

SONAR AND COMMUNICATION Systems will supply the Broadcast MTI Data Link for the UK's Airborne Stand-Off Radar (ASTOR) project teamed with Cubic Defense Systems of San Diego as members of the Raytheon team, which was recently selected by the UK Defence Procurement Agency. Sonar and Communication Systems has

also won a study contract to specify the requirements for a new High Integrity Data Link (HIDL) for maritime UAVs working with Cubic Defense Systems. The study will determine the characteristics of a robust link to provide command and control of up to four UAVs simultaneously and a relay capability.

## Controls Open French Office

SITUATED in the south west of France, near the Pyrénées Mountains and the Mediterranean, Toulouse has more than 80 years of history in the aircraft industry. Toulouse, a world centre for aircraft design and manufacture, hosts the Airbus Industrie Headquarters and also Aerospatiale Matra. Controls Division, in conjunction with the SBAC, has opened an office in Toulouse to be closer to Airbus so that

we can improve our customer support to Airbus and maximise our business opportunities. Fabrice Hamel, pictured right, joined Controls Division in July to run the Toulouse office. He has over 10 years' experience in the aircraft industry in France and in the USA, including engineering, project management, customer support and sales experience with Aerospatiale and Sextant.

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# CHIEF EXECUTIVE'S REVIEW



With over two thousand people now employed by Ultra in the UK and North America, the performance of the Group relies on the effectiveness of each of you, our employees. To employ people who are enthusiastic and capable of meeting and exceeding the requirements of their role is therefore a major objective. To assist, I am ensuring that year on year we spend more on training, both internally and externally, so that we all have the tools necessary to meet our objectives. That is why I am encouraging the UK Businesses to achieve the Investors in People accreditation.

To remain successful in very competitive markets, we must continually examine the efficiency of our operations and occasionally, to protect our position, we find it necessary to undertake some restructuring. This has been necessary in some locations during 1999 but it is essential for the continuing wellbeing of the Group.

In order that we can remain a supplier of high quality and cost effective products and services to all our customers, we must all try to be innovative in the way we perform at work. I am delighted that HIPSS, our new propeller de-icing system, has been selected as a Millennium Product by the Department of Trade and Industry (DTI). In the UK, Ultra has been judged as one of the top twenty companies for innovation-led growth, again by the DTI. We can all be proud of this achievement.

Finally, I am pleased to welcome APC as the fifteenth member of the Group. APC's products fit Ultra's innovative culture, and we look forward to working with APC to help their business to grow.

**Dr. Julian Blogh, Chief Executive.**

## Introducing APC



*Some of the APC team.*

ADVANCED Programming Concepts, Inc (APC), based in Austin, Texas, joined the Ultra Group on 20 July 1999. APC, formed in 1987, develops and supports world-class C4I systems. Over the years APC has established a leading position as an innovative premier supplier of tactical

systems. Their flagship product, the ADSI, is based on commercial off-the-shelf hardware and sold to military forces around the world. APC's business offices, software development facility, and engineering shops are located in a 20,000 sq ft facility on the outskirts of Austin. APC has a dedicated staff of 65 professionals



*Harry Young, President.*

combining both academic and real-world training. Many have extensive operational and technical military backgrounds.

APC recently attained ISO 9000 registration.

APC's President, Harry Young, sees joining Ultra as an important milestone in the development of the company. He explains, "With the Ultra partnership, we believe that the UK and other international markets will be much more accessible to APC and hopefully, APC can pull Ultra products from the UK into the US markets - our customers have already asked us for demonstrations of Ultra's flat panel displays."

This acquisition of APC has strengthened the Group's presence in the command and control market by adding extensive real time system capabilities to our expanding line of command and control products. APC is already working with Command and Control Systems and Sonar and Communication Systems on several major UK and export projects.



## People in the News

### Recent appointments in the Company



**Rakesh Sharma** has been appointed Managing Director of PMES. Rakesh was previously Director, North American Operations for Sonar & Communication Systems based at Flightline.



**David Loose** has joined Ultra as Chief Financial Officer, North America. David joins from British Aerospace where he had just completed a second secondment in the UK.



**Mark Doyle** has been appointed Business Director, Mechatronics, at Electrics Division where he was previously responsible for the Components business.



**Anil Sharma** has joined Head Office as Group Financial Controller from KPMG.



**Arnold Levine** has joined EMS Development Corporation as VP Finance from General Microwave Corp.



**John Slezinski** has joined Measurement Systems Inc as Operations Manager from ITT Canon.



**Bill Organ** has joined Electrics Division as People and Progress Manager. He was previously with the Somerfield Group.



**Ian Stothers** has been promoted to the position of Head of Engineering at Noise and Vibration Systems. He was previously Engineering Specialist.

Two further appointments include:

**Richard Buckley** who has joined Flightline Electronics Inc as Director of Engineering from Harris Communications and **Sue Wilder**, appointed Financial Controller at Flightline Electronics Inc where she was previously Accounting Manager.

## New Acoustic Product Line for Hermes

AT THE end of July, Hermes Electronics acquired Spartan of Canada's acoustic projector product line. The products comprise a family of high power low frequency sonar projectors suitable for a variety of military ASW and oceanographic applications. The active projector technology complements Hermes' existing passive products. Compared to some of the existing sonobuoy components manufactured at Hermes, these new devices are of a different magnitude with individual transducers being up to three feet in diameter and weighing 250kg.

## New Facility for USSI

CONSTRUCTION of new factory premises for UnderSea Sensor Systems, Inc has commenced near Columbia City, Indiana, just a few miles from the facility they are currently leasing from Raytheon. Completion and occupancy of the 96,300 sq ft facility is scheduled for the end of 1999.

*Pictured at the ground-breaking ceremony from left to right: Douglas Banaki, (USSS); Dale Puff (DDMC); Dorinda Holden, (Whitley County); Peter LeStrange, (USSS); Joseph Abella, (USSS); Jon Pettigrew, (Whitley County); Cindy Materna, (Park Development); William Overdeer, (Whitley County).*





# Bridging the Ocean

The Sonobuoy team:  
(left to right) Steve Reece, USSS;  
Ken Walker, Hermes;  
Cliff Barnes and Bob Henry,  
Sonar & Communication  
Systems.



SEVERAL of Ultra's businesses are having to manage working together across the 3000 miles of the Atlantic Ocean. In these days of e-mails and tele-conferencing one might think that it should be easy, but all of the businesses highlight the need to make a concentrated effort at trans-Atlantic communications.

Over the last year Magnetics Division and EMS Development Corporation have worked at developing a shared vision for the Signature Management market worldwide. Meetings of marketing and technical staff have helped bring clarity to

how the two businesses can best meet the needs of their customers.

Ian Mence, managing director of Magnetics, stressed the importance of regular contact. "Getting the teams together to develop a shared vision is the key. Regular face-to-face contact builds relationships and teamwork and makes the more formal communication via e-mails and telephone more effective." Electronics Division and MSI have the longest experience of making this work. They have also developed a unified strategy but admit that this has taken time and a lot of hard work. While there has been investment in common IT systems and

the establishment of shared business processes, they also stress the importance of face-to-face contact and of people developing relationships if the more difficult issues associated with developing a common vision are to be addressed.

On a similar theme the first meeting of technical and marketing staff from all three of Ultra's sonobuoy businesses – Sonar and Communication Systems, Hermes Electronics and UnderSea Sensor Systems – took place in Fort Wayne recently. Between them the businesses offer a full range of sonobuoys used by NATO and most of the world's ASW Forces.



## RAF Kinloss Presentation

BRENDAN PAIN, Managing Director of Sonar & Communication Systems is pictured left on a visit to RAF Kinloss presenting Station Commander Group Captain Stuart Butler with a commemorative replica of the 1 millionth sonobuoy manufactured at Greenford. Brendan then joined the members of the Nimrod MR2 crew from 201 Squadron on an ASW practice sortie.

## Jar 21 – First in Europe

CONTROLS Division, have successfully been approved to JAR21 subpart G (Production Organisation Approval). This is in addition to the JAR21 Subpart JB (Design Organisation Approval) achieved in August 1998. This approval establishes Controls as the first European Parts and Accessories supplier to achieve both approvals. The CAA have requested that Controls documentation is used as a working sample due to its ease of use and comprehensive content.

## MSI Control Panels for RAP

A PROTOTYPE Integrated Control Panel for the Nimrod Mk 2 replacement acoustic processor programme has been designed by MSI for Sonar and Communication Systems. This complex system integrates a touch screen, a keypad and an MSI trackball with 3 switches. The system required extensive software development and represents a new category of products for MSI.



## TIM/MIDAS

SONAR & COMMUNICATION Systems are working with DERA Malvern to exploit the TIM/MIDAS Multi link Interoperability Data Analysis System. This self-contained mobile system enables data link messages to be monitored and analysed in the field so that any link problems can be located and corrected quickly.

Pictured above from left to right are Mick De Polo and Kevin Ruff of the DERA Malvern with Dairian Crookford Sales Manager, Ultra by the TIM/MIDAS vehicle at DSEI, Chertsey.



## Ultra News talks to two more employees

### Ed Anwander, EMS Development Corporation

Ed Anwander is a Master Welder and Machinist who loves his work. In fact, few who have visited EMS will fail to have been impressed by his skill and the care he takes in building ruggedized steel cabinets.

Ed was born in the Redhook section of Brooklyn, New York and as a child moved around quite often with his family. He eventually settled in Hauppauge on New York's Long Island. Before joining EMS, Ed tried his hand at running a gas station with a business partner but, as it turned out, it was not in a very good location. However, next door was a Funeral Home and when business was slow, Ed would lock the

doors of the gas station to act as a "for hire" pallbearer to earn a few extra dollars!

Ed has been employed with EMS for over eighteen years. He first started when EMS was located in Farmingdale, New York. He recalls the hard times the company has endured but prefers to focus on the good times and the success of the business over the years. Ed is married to Pat, an accountant, and they have two daughters, aged 13 and 20. Ed likes to socialise with EMS friends and he has formed many lasting personal relationships. He feels very fortunate to have gone through the



recent transition of the company and looks forward to a bright future for EMS within Ultra.

### Steve Putman UnderSea Sensor Systems, Inc

TRONICS



Steve joined the organisation in June 1962 as a Drafting Apprentice and is now the longest serving employee. He was one of the sixty-seven staff who transferred to UnderSea Sensor



Systems, Inc when Ultra purchased the Sonobuoy Product Line from Raytheon. Over the last thirty-seven years he has seen many

changes in the technology. Back in 1962 everything was drawn on a manual basis with a pen or pencil in a very time-consuming manner. Now Steve uses state of the art tools, such as Pro-E for

drafting design, which make it possible to produce complex three-dimensional drawings in a matter of hours that can be used for concept design, fabrication and production.

Steve admits that the challenge of a new design is the favourite part of his job.

Over the years, he has been involved with at least 25 integrated sonobuoy development teams and the variety of work on these new designs has kept his interest in the job. Currently he co-ordinates the design and documentation activities for the Drafters assigned to the various sonobuoy programmes. He is also working on the bill of materials system and standardised work practices in preparation of ISO 9000 certification. Steve and his wife, Karen, have four children and four grandchildren. In his free time, he enjoys using his computer and making model boats and aircraft (see inset).





## Anyone for Cricket?

CONTROLS Division's cricket team capped a successful season by winning the local Glaxo 8-a-side-league trophy. The team's record in this competition is impressive, losing one out of six games this season and three out of eleven games over the past 2 years. The team also broke the league scoring record. Some of the successful squad are pictured with their captain Zulf Fazel (front row centre with cup).

## Chinese Software Collaboration

LAST December Controls Division signed a Teaming agreement with the China National Aero Technology International Supply Corporation. As a result two software engineers from China joined us in Greenford for software training and work experience. They have now returned to Beijing to establish and maintain a software facility compatible with that of Controls. Our intention is to sub-contract software projects to China, benefiting from competitive rates whilst fostering a close working relationship with a country that has an enormous growth potential in the aerospace market. A second group of engineers from China has recently arrived at Greenford and will join the team in Beijing following completion of nine months' training.

## Ocean Systems Awarded IIP

TONY WARD, Chief Executive of the Dorset Training & Enterprise Council (TEC), has presented the national quality award, Investors in People, to Ocean Systems for the third time. One of the first organisations in Dorset to achieve Investors in People status in December '92, Ocean Systems has continued to maintain its commitment to staff development.



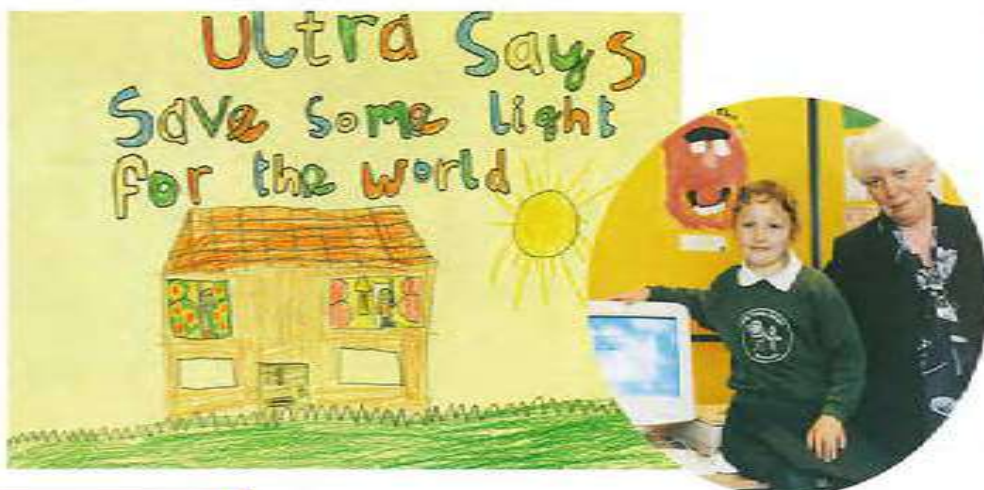
Left to right: Ken Spies and Roger Bloor from CAMS Production with Mark Eaton.



Staff took on as Tony Ward (centre left) presents the Investors in People certificate to Ocean Systems M.D. Ray Coles and Personnel Manager, Jane Knight.

## Product Awareness

SONAR AND COMMUNICATION Systems have undertaken a programme of Product Awareness for non-technical staff. Using both a handbook and posters, they aim to show how their principal products function in an operational environment. The programme was led by Mark Eaton and Paul Payne.



## Amy makes her point

AMY WRIGHT, from Holy Trinity Infants School in Weymouth, beat off fierce competition to win the top prize of a multi-media PC with accessories worth £1,500 for her school. Organised by Ocean Systems, local schoolchildren throughout the Weymouth and Portland area were asked to design a poster to encourage Ultra's staff to remember to turn off lights at work as part of an energy saving project. Beryl Kite, Chief Executive of Dorset Business Link (pictured above with Amy), congratulated the children on their achievement and presented the prize to Amy. She also commented on the environmental importance of energy efficiency in the workplace and welcomed Ultra's initiative.



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Hermes Electronics -  
Dorothy Rice  
Magnetics - Mike Heliard

Measurement Systems Inc. -  
Norman Westphal  
Noise & Vibration Systems -  
Philippa Coe  
Ocean Systems -  
Richard Farwell  
PMES - Julie Graddon  
Sonar & Communication  
Systems - Carol Doyle  
UnderSea Sensor Systems -  
Carol Reilly  
Weapon Systems - Jackie Reece



# UltraNews

ISSUE 12

The Newsletter for Ultra Electronics Employees

SPRING 2000

## Ultra Systems for Astute



THREE of Ultra's businesses have been successful in securing contracts worth over £36 million for the Royal Navy's ASTUTE class submarine. The prime contractor for the ASTUTE class pro-

gramme is BAE Systems and three boats are being built initially. Ultra's businesses under contract for this programme are Command & Control Systems, Magnetics and PMES. For full story see page 4.

## Millennium Awards

NOISE and Vibration Systems' UltraQuiet cabin became the second Ultra product to be awarded Millennium Product Status by the UK Design Council. HIPSS – the Hub Integrated Power Switching System from Controls division had already won the award.

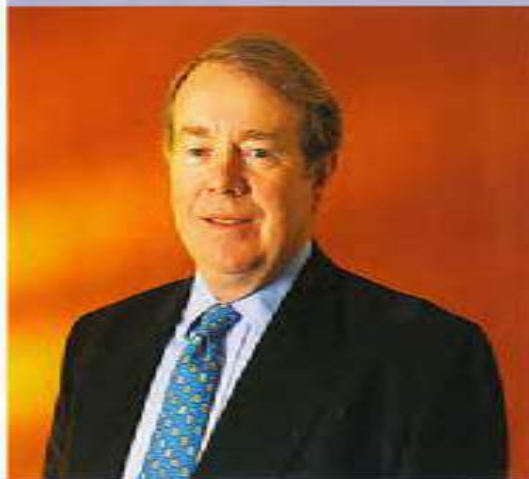
Delighted with the Noise and Vibration Systems award, Managing Director, Dr Colin Ross said, "The UltraQuiet Cabin

has defined new levels of passenger comfort in terms of cabin noise and vibration, transforming journeys on corporate and regional aircraft for tens of thousands of passengers worldwide."



## Thank-you

ULTRA Electronics Holdings plc announced results for the year ending 30 December 1999 on 21 February, 2000. The results, summarised on page 7, show that the Group continues to make good progress as it applies niche technologies to key defence and aerospace markets. The results were achieved against a backdrop of integrating new acquisitions that offer significant potential for the future and of the restructuring of some parts of the business.



Peter Macfarlane - Chairman

The Group's year end order book has been boosted by significant order wins since the year end and Ultra looks well placed to continue its record of sales and profit growth in 2000. Concluding this year's Chairman's statement, Peter Macfarlane expressed his thanks to all Ultra employees for their consistent hard work and dedication throughout the year.



# Ultra EYE

In this issue we reflect on the progress made by the Group over the past year. Our growing band of site contacts have done a sterling job, once again gathering together a diverse range of interesting material that both communicates the achievements of the Company and also of some of our individual employees. It should be no surprise, given the performance of the Group in recent years, to find that Ultra has more than its fair share of extraordinary people. If you have an interesting story to tell, or know of a colleague who has, please alert your newsletter contact. You never know it could be in the next issue of Ultra News. Hope you enjoy issue 12

Jack Teller



## New TagTrak Orders

RECENT orders for TagTrak include Sri Lankan Airways in Colombo, Prague Airport, the new International Airport at Incheon, Seoul in Korea and the International Terminal at San Francisco Airport. In addition to these international successes, the Airport Information Systems team were also delighted to be awarded a contract to fit TagTrak in the Isle of Man Airport – collectively these establish TagTrak as the baggage solution for airports of any size.

# Ultra Bytes



*The Bombardier Challenger 604*

## UltraQuiet Challenger

NOISE and Vibration Systems recently commissioned its 'UltraQuiet' cabin system in the first Bombardier Challenger 604 to be registered in the UK.

The UltraQuiet option is proving to be increasingly popular with Challenger customers – being taken up on one-third of all new aircraft.

## Team effort wins NH90 Receivers



THE SONAR & Communication Systems/Flightline Electronics team have won a key contract to qualify the APR-502 sonobuoy receiver for the NH90 European ASW helicopter. A production contract is expected later this year.

Flightline has also been awarded contracts by Lockheed Martin to supply APR-84 99x channel sonobuoy receivers for the Spanish SH-60B ASW helicopter and initial quantities for the US Navy's SH-60 Romeo.

## Magicard Sales up

INTEREST in Ocean Systems' Magicard increased last year with sales of 2,312 units, 77.8% up on 1998. Dye film sales were also at a high, whilst overall sales topped £6 million for the year.



# MSI Sales record

MEASUREMENT Systems Inc celebrated its 40th anniversary in style with sales for 1999 breaking US \$10 million for the first time. It was fitting that the delivery that took MSI over this figure was to Lockheed Martin, their single largest customer. Keith Thomson, President

said, "The whole company has contributed to this success. The challenge for 2000 is to raise the 'high-bar' up another notch and continue this successful pattern of growth."

MSI has developed a 4-axis damped side-arm controller for the RAH-66 Comanche helicopter (pictured left).

The product will be used in simulation applications. Additional sales have already been made to Lockheed Martin.



## US Sonobuoy Awards for USSI and Hermes

UNDERSEA Sensor Systems and Hermes Electronics have been awarded sonobuoy contracts totalling US \$18 million by the US Navy. These awards are for the supply of over 41,000 buoys – SSQ 53F, 62E and the 36B Bathythermal buoy.

The 53F DIFAR COMBO sonobuoy is a joint

development between USSI and Hermes and is the latest generation passive acoustic sensor designed for the US Navy. In addition, Hermes has won a US \$7.3 million contract for Difar sonobuoys and Bathythermal buoys for the Royal Netherlands Navy.

## Airbus Landing Gear Controls

CONTROLS division are developing the Landing Gear Control & Interface Unit for the new Airbus A340-500 and A340-600 aircraft. The A340-600 will be the world's longest airliner with a maximum take-off weight of 365 tonnes. To cater for this

increased weight, Airbus has developed a new four-wheel landing gear unit – probably the largest in existence. In order to maximise space in the rear cargo hold the gear will stow forward and will be mechanically rotated by the LGCIU prior to retraction.



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Chris Geraghty conquers the New York Marathon





# HiPPAG Pneumatic Bomb Rack

BOEING have integrated the Weapon Systems' HiPPAG 540 into their SMER Multiple Ejector Rack system. The innovative SMER system, which uses the compressed air from HiPPAG to eject aircraft stores, is being evaluated by the US Air Force on an F-16 aircraft.

*Pictured at a recent visit by Weapon Systems to St. Louis: left to right - John Foster, Boeing Program Manager; George Straub, Jim Murphy and Bill Swain of Weapon Systems; and Ted Jacobowski, Fellow of Boeing St. Louis and SMER designer.*



## Ultra on Astute



*From the left: Jarda Chlapik, Commercial Controller, Graham Suffield, Commercial Manager, David Fordham, Sales and Marketing Manager, Gordon McVey, Bid Manager, ASTUTE Combat Management, Mike Clayton, Naval Systems Business Manager, Rob Muirhead, Bid Manager, ASTUTE Weapons Interface Equipment, Marc Kennan, Contracts Manager, Ruy Brown, Bid Manager, ASTUTE Navigation System.*

ULTRA'S businesses, as reported on page 1, have been successful in securing several contracts worth over £36 million for the Royal Navy's ASTUTE class submarine. The prime contractor for the ASTUTE class programme is BAE Systems and three boats are being built initially - ASTUTE, AMBUSH and ARTFUL. **Command and Control Systems** have been selected to supply equipment for the ASTUTE Combat Management System and the Weapons Interface Electronics - in total over £21 million of development and production work for Loudwater. A new project team has

been set up under Mike Clayton, the Naval Systems Business Manager, charged with delivering the systems to tight timescales and challenging budgets. Mike said, "This work will give a new impetus and direction to the naval business here at Loudwater and provide potential support and follow-on programmes well into the future." **PMES** have won a £5 million contract to supply the Main Static Converter. The MSC design utilises the latest insulated gate bi-polar transistor technology to convert the submarine's alternating current power supply to direct current

(DC) for battery charging and other services. In the event of the main AC power supply failing the MSC will instantly reverse the power flow using the submarine's main battery. **PMES** will also supply the emergency propulsion system, the rod control gear and pressuriser heater control for the nuclear steam-raising plant, and electrolyser power supplies. **Magnetics** have been awarded a contract worth £4.8 million to supply the degaussing system for ASTUTE. **EMS Development Corporation** will support Magnetics in this activity.



## APC Selected for C2P Upgrade

APC's Air Defense Systems Integrator (ADSI) has been selected by the U.S. Navy's SPAWAR office as the baseline for re-hosting the Command and Control Processor (C2P) functionality. APC's President, Harry Young said, "The ADSI-C2P will interface with Link-16, Link-11, Link-4A, and Satellite Link-16 in support of command and control operations. The contract will place the ADSI directly into the US Navy's command and control architecture and should also give us good prospects for overseas sales."

## PMES Establishes US company

POWER Magnetics and Electronics Systems have established Ultra Electronics Power Systems LLC (UEPS) in Maryland, USA, at the David Taylor Research Centre in Annapolis, formerly part of the NSWC research laboratories. The business will be led by Joel Patton, President, who joins Ultra after twelve years with the NSWC Carderock Division. Rakesh Sharma, Managing Director of PMES said, "UEPS is an exciting opportunity to expand Ultra's unique



*Joel Patton, President,  
Ultra Electronics Power Systems LLC.*

position in power electronics at a time when technology has enabled a radical rethink of naval architecture." UEPS, who won their first order in February for engineering support to the DoD Integrated Propulsion System, currently comprises six staff but it is hoped to have more than twenty staff by the end of 2000.

## Deepscan Success in Deepwater Survey

OCEAN SYSTEMS' Deepscan team has recently returned from its first major deepwater survey, carried out aboard the USNS Henson NAVOCEANO T-AGS60 survey ship. The Naval Oceanographic Office (NAVOCEANO) selected the Ultra Deepscan 60 system for the 600 km survey

because of the combination of a high resolution sidescan imager, wide swathe bathymetry and sub-bottom profiling in a single towfish designed for deployment in water depths of up to 3000 metres. Despite the very bad weather conditions experienced throughout the 39-day survey

period, all the objectives were achieved. Ray Coles, Managing Director of Ocean Systems, remarked: "We have been investing in the revolutionary Deepscan sonar technology for several years, and we now have an unique world beating system."





## Dr Julian Blogh

**Q** Was 1999 a good year for Ultra?

**A** Yes, we made very good progress in the year. Our sales were up 21.6% and despite the costs associated with integrating our recent acquisitions and some restructuring, we were able to maintain operating profit margins consistent with 1998. PMES and USSI have successfully integrated into the Group and APC, who joined us in July, bring a new expertise in command and control.

**Q** What highlights particularly stand out for you?

**A** It is difficult to pick out a few highlights when many efforts are being successful throughout the Group. For the first time we delivered over 100,000 sonobuoys to our customers and also had an excellent order intake. In November I was delighted when we received a contract to qualify our sonobuoy receiver for the European NH90 helicopter. Winning a contract to qualify HIPAG for the US Navy's F-18 Super Hornet was an excellent achievement, and of course we won contracts for equipment for the Royal Navy's ASTUTE submarine at PMES and Magnetics.

**Q** During 1999 there was a higher level of restructuring within Ultra than in previous years – how do you view this?

**A** Technology, markets and competitors are changing at a fast rate and we have to change to maintain and improve our competitive edge. This means that we have to review our operations on a continuing basis. It is in the interest of Ultra as a whole that we take timely and appropriate action when necessary to ensure that our businesses are in good shape to compete successfully in the future.

**Q** The industry continues to consolidate. Is this having much of an impact on Ultra?

**A** In 1999, the Aerospace and Defence Industry saw further consolidation in the UK and Europe, in particular the formation of BAE Systems from the activities of British Aerospace and GEC's Marconi Electronic Systems division and the merger of Aerospatiale Matra, DASA and CASA to form EADS. Both these developments will give prime contractors greater influence with regard to the overall management of programmes. I believe that Ultra, through our strong partnering links and unique technology, is well positioned to take advantage of these changes.

**Q** Where do you see the opportunities for future growth for the Group?

**A** Ultra has sustained continuous growth over the past few years and I expect this growth to continue. We are a market led company focused on meeting the future needs of our customers. As in previous years, we invested over 23% of our 1999 revenues in new product development in areas where we are positioned to be a market or technical leader. These product developments are spread across the group and include anti-submarine warfare equipment, military vehicle electronics, landing gear control computers and power conditioning equipment for naval vessels, to name but some. It is also important for Ultra to have strong relationships with prime contractors and to perform successfully on our contracts.

**Q** What are the top priorities for Ultra in your view?

**A** Firstly, I would like to say that experience tells us that there are no short cuts to success and that past success does not guarantee future success. The given priorities for me are a strong commitment at all levels to satisfy our customers; to have a clear view about future opportunities and the right strategies to address these opportunities successfully; to continue to invest in our technology, our processes and to support future growth; and lastly, we must maintain a focus throughout our businesses on the continuing need to be more efficient.

**Q** Has your vision for the Group changed over the years?

**A** I have always seen Ultra as an expanding group of specialised businesses whose focus is meeting customers' requirements through niche technology products and providing an excellent service. Several years ago, I set what appeared at the time to be an ambitious target of £200 million sales by the year 2000. We shall comfortably exceed this target this year through a combination of continued growth and a selective acquisition policy. I expect our record of growth to continue into the future.

**Q** What message would you wish to convey to Ultra's employees?

**A** Firstly, I would like to thank our employees for their commitment and contribution to the business. Whatever our individual role in the organisation is, we can all make a difference by looking for that better way of doing what we do and by questioning what seems to be a pointless activity. We can all take pride in Ultra's success over the years and in the fact that we continue to be selected on so many major programmes due, in no small part, to the quality of our work on earlier contracts. Keep up the good work.



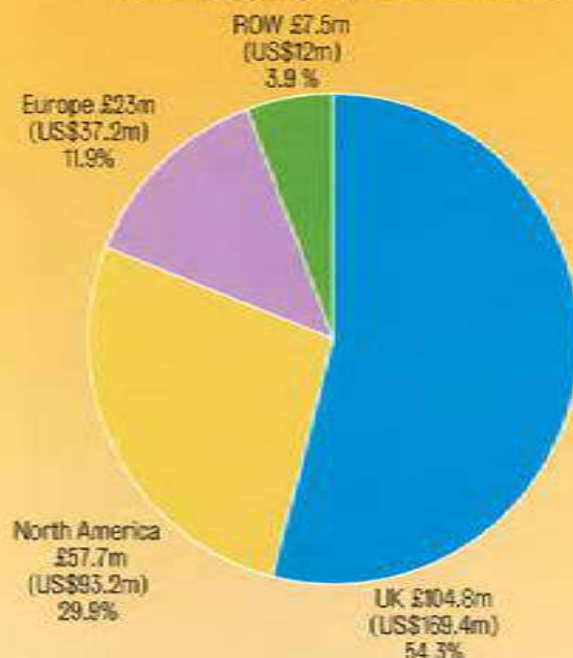
# Financial Results for 1999

Ultra Electronics Holdings plc announced its results for the twelve months to 30 December 1999 on

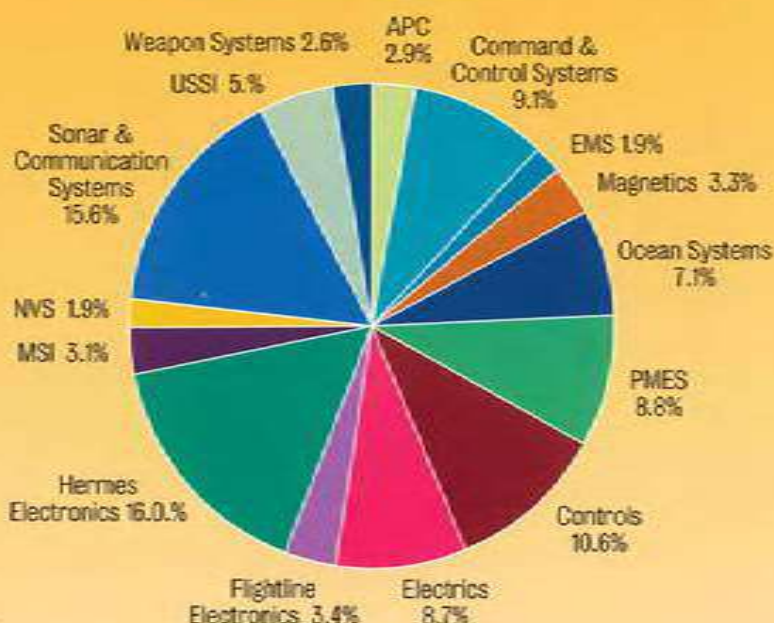
21 February, 2000. Sales for the period increased by 21.6% to £193 million. Operating profit after exceptional items

but before interest and tax increased by 17.7% to £24.6 million.

**Sales by geographic destination**

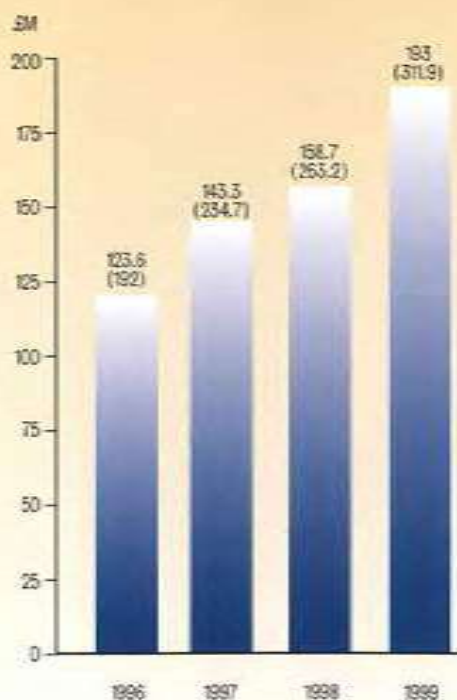


**Staff levels by division**

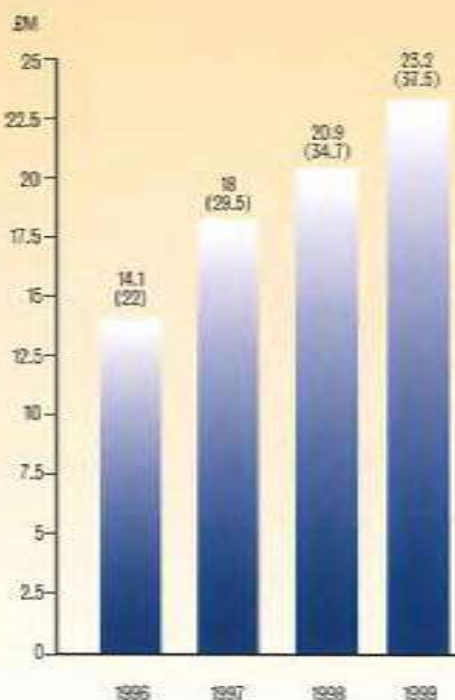


At the year end Ultra employed over 2000 people, 29% of whom were based in North America. This chart is based on numbers employed at the year end.

**Sales £MILLIONS (US\$millions)**

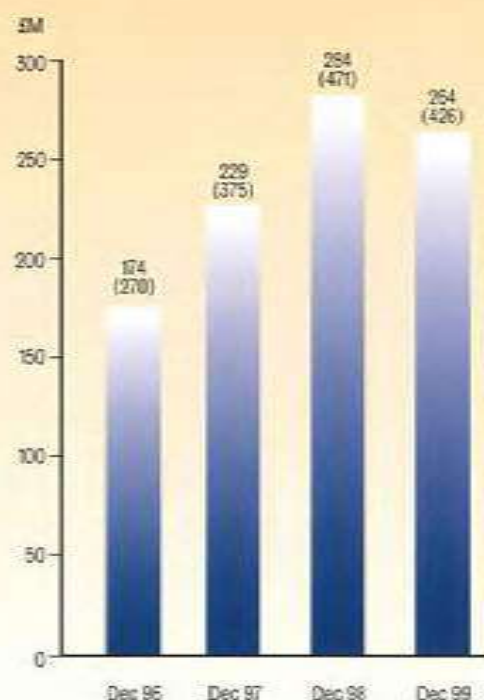


**Profit £MILLIONS (US\$millions)**



For each year the figures show operating profit after exceptional items but before interest and tax.

**Order Book £MILLIONS (US\$millions)**



The Group's order book was £290 million at the time of going to print.



# People in the News

## Recent appointments in the Company

*The Group recently announced the retirement later this year of Richard Lane, Group Marketing Director and Ian Yeoman, Group Finance Director. Both Richard and Ian have been members of the Ultra main board since Ultra's formation. The following appointments have been announced with the expectation that they will become effective in July.*



Richard Lane



Ian Yeoman



Andy Hamment, Managing Director of Controls division, will be appointed Group Marketing Director with a seat on the main board.



Dr. Colin Ross currently Managing Director of Noise & Vibration Systems, will move to Controls as Managing Director.



Keith Thomson, President of Measurement Systems, will move to Noise & Vibration Systems as Managing Director.

## People in the News



Douglas Caster has been appointed Managing Director, Information & Sea Systems with responsibility for overseeing all the Sea Systems businesses.



Paul Summers has been appointed Director & General Manager, Command & Control Systems where he previously held the position of Airport Information System Manager.



Richard Graham has joined Ultra as Director, Sonar Systems at Ocean Systems. Richard joins from Thomson Marconi Sonar.



Bryan Harwell has been promoted to Director of Navy Programs at APC. He was previously the Director of Test and Evaluation.

## 50 YEARS ON



Congratulations to Peter Stout of Controls division who celebrates 50 years with the company this month. Peter, who will retire shortly after his 50th anniversary, joined Ultra as a Trainee Wireman and has experience of test, assembly management and production engineering. Working on Concorde represented the highlight of his career. We wish Peter a long and happy retirement.





## 3D CAD

MEASUREMENT Systems Inc has made significant strides with modelling sophisticated assemblies and complex shapes. Over the last twelve months 5 new products have been designed entirely in 3D. The system allows complex mechanisms to be animated before a single piece of metal is cut and has led to a reduction in the time to produce the first units in production. The engineering team is currently working on developing complex 3D grips shapes using the IDEAS Artesan/Master Series system. The system is also used by the Electronics division and allows designs to be shared between the 2 sites.

## Integrated Modular Avionics

CONTROLS division have been working with European partners to develop and assess IMA – a concept as revolutionary as 'fly by wire' in the 70's. Currently it is normal for dedicated computers to perform single functions on an aircraft. IMA embodies the use of more powerful, networked computing resources which run multiple software programs in parallel. The approach should give significant cost and weight savings and enable quicker upgrades should components become obsolete. This year an IMA demonstrator will be completed under a partially EU-funded project called NEVADA.

## Stress screening for avionics

PROVIDING Customer Quality satisfaction and reduced repair costs is a key objective. To this end, Sonar & Communication Systems recognise the importance of stress screening and have recently introduced the Nimrod MRA4 stress screening area. The extreme conditions that avionics must endure

means that Thermal cycling – making it very hot (+50° centigrade) followed by reducing the temperature way past zero (-40° centigrade) and random vibration testing are the most effective methods by which to expose and eliminate latent defects. Bob Kerr and his team are pictured in the environmental test area.



From left to right: Clive Farrett, Bob Kerr, Ray Harrison and Jaya Suppleh

## 1999 Towed Array Trophy



Douglas Caster, (top row, second from left) Managing Director of Command and Control Systems, presented the Ultra Towed Array Trophy to the Commanding Officer of HMS Iron Duke, Commander Clive Johnstone. The ship was alongside in Portsmouth during September 1999, having just returned from a 6 month deployment in support of NATO operations in the Balkans. The Ultra Trophy is presented annually to the frigate which the Flag Officer Surface Flotilla considers to have used its 2031Z towed array sonar to best effect over the previous year. The 2031Z sonar is manufactured and supported by Ocean Systems in Weymouth.



# Benefits package launch

**UltraSelect**

providing employee benefits and I am delighted that, given the opportunity, so many of our employees decided to participate."

ULTRA has launched an innovative new employee benefits package, UltraSelect, in the UK. UltraSelect gives employees an opportunity to make changes for the first time, to the employee benefits that they receive. Following the launch, a third of employees decided to utilise the

flexibility offered by UltraSelect with Private Medical Insurance and amended holiday entitlement being the most selected benefit changes. Jack Telfer, Group Human Resources Director, commented, "UltraSelect represents a major change in our approach to



INVESTORS IN PEOPLE

## IIP for Weapon Systems

CONGRATULATIONS to Weapon Systems who have gained the prestigious 'Investors in People' award. The award recognises excellence in people management practices at Weapon Systems' sites at Staverton, Hednesford and Washington, DC.



*Pictured from left to right are Mike Baptist - Engineering Director and Colin Foss - Personnel Manager, Sonar and Communication Systems with Sibtal Patel - Mechanical Engineering Undergraduate, Daniel Hughes - Electrical Engineering Undergraduate, Damien Keigh - Electrical Engineering Undergraduate and Sean Billings - Graduate Engineer.*

## Graduate Training Scheme

SONAR & Communication Systems Graduate Training Scheme has received accreditation from the UK Institution of Electrical Engineers. The scheme, which operates for both newly recruited graduates and for students working with the company as part of their degree, is designed to help recruit and develop engineers to fulfil future staffing needs. Core to the effective working of the scheme is the appointment of mentors who will help to ensure that the trainees achieve their objectives - Gary Abrams, Andy Cambridge and Geoff Roberts are to receive training to carry out this role.

## USSI Moves to New Facility

UNDERSEA Sensor Systems literally moved 'down the road' to their new integrated design and manufacturing facility near Colombia City, Indiana, during December. Pete Le Strange was responsible for the move and also for ensuring the new building met requirements. The move, between 6 and 17 December, was completed successfully and on time. Additional staff are now being recruited to support the

production start-up and manufacture of the latest Difar and Dicass sonobuoys.



*Dr Julian Bligh on his first visit to the new site.*



# Face TO Face

## Ultra News talks to two employees



**Irma Simmonds,  
Hermes Electronics**

IRMA has been an Assembler at Hermes Electronics for the past 26 years, having joined them in September 1974. Irma's dedication and enthusiasm doesn't

just stop with her work. In addition to raising a family of three children and actively participating in the lives of her four grandchildren, Irma has also been a member of the *Hallelujah of Praise Choir* since well before she joined Hermes. The choir, which was founded by Irma's deceased aunt, has between 40 and 60 members.

In addition to participating in regular church services, the choir is also asked to perform at local events and has travelled as far as Toronto and Cleveland, Ohio. Locally they sing at hospitals, senior citizens' clubs and have made numerous visits to the sick and needy. They have even sung at a federal penitentiary!



It is her mission in life to look after and help both the young and old which she can fulfil through her work with the choir. Irma says, "The choir is my pride and joy. If you were in the choir, you wouldn't want to miss anything that is going on!"

*Irma pictured centre front with the Hallelujah of Praise Choir.*

### **Tony Totterdell Chief Engineer PMES**

REFLECTING on his 40 years at PMES, Tony Totterdell admits that he does not feel like he has just worked for one organisation. Following several changes of ownership and exposure to a wide range of technology, he has gained more experience than many whose careers have spanned several companies. Tony grew up in Devon and joined PMES as an apprentice at 16. With the help of the Youth Employment Service he decided on a move to the

Midlands – a big step for a 16 year old, particularly as he was then too far from home to return for weekends. At the time he joined, the company was regarded as having the widest range of electronic products in the world. This has certainly sustained Tony's interest, over the 40 years, as he has worked on a wide range of products and systems –

from degaussing systems for submarines to touch controls for domestic cookers. Tony particularly enjoys system design work, stressing the need to work closely with the customer and for an understanding of the application as the key to successful design. Tony's move to the Midlands became permanent after he married a local girl

and they have subsequently brought up two children. A particular interest outside of work is his Triumph Spitfire – lovingly restored following a complete stripdown. "It is a never-ending job," explains Tony who is currently rebuilding the engine. The car has even had its body replaced by one that spent its early life in California!



*Tony Totterdell PMES, enjoying the fruits of his labour.*





## Photo Prize

CONGRATULATIONS to Roger Gee of Electrics division who has won first prize in a national competition run by the British Photographic & Imaging Association. Roger's winning picture was entitled 'Hot dogging on Fistrall beach, Newquay'. Roger's prize was a holiday for two in the Maldives.

## Millennium dawn

WHERE were you at the dawn of the new Millennium? Paul Jenkins of Electrics division was pictured by his wife, just after dawn on Mount Kilimanjaro.



## Vintage Success

STAFF from Magnetics have for some years run a marshalling point on the gruelling Measham Night Navigation Rally for vintage cars. This year two of the regulars, Roger Twelvetrees and Fred Adams, resolved to compete in the event. Roger and Fred each entered

their vintage Riley sports cars in the novices class, with their respective sons acting as navigators – the photograph shows the Twelvetrees' Riley somewhere on the North York Moors on its way to winning its class. The Adams team finished fourth.

## 3 Hours 4 Minutes 13 Seconds and still running!

MARATHON MAN and Senior Engineer, Chris Geraghty conquered the New York Marathon, finishing 898th out of 31,807 runners, in his first attempt at the distance. Through sponsorship from friends and PMES colleagues, Chris raised a staggering £2,200 for the Cystic Fibrosis Trust in memory of his wife, who tragically died last year. Chris says, "The prospect of raising so much money, for a cause so close to my

heart, and the support of everyone back in the UK saw me through those testing, last few miles."



### [www.ultra-electronics.com](http://www.ultra-electronics.com)

Why not visit Ultra's own web site on [www.ultra-electronics.com](http://www.ultra-electronics.com). The site, which has been up and running for over 18 months, contains information on our Businesses, products and capabilities, latest press releases, financial information and career opportunities.

## Still playing after all these years



STEPHANE PORT from the software team at Command & Control Systems can look back on 25 years of success as a national and international hockey player. Since representing England at both under 16 and under 21 levels, Steph has played in the National league and in Europe for his club, St. Albans – at 42 he is the oldest player in the outdoor National league. On turning 40 he played in the England Veterans team which won the World Veterans Outdoor championship. Steph is pictured with his World Champion's medal and with a selection of his other medals.

**Ultra**  
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Carol Reilly  
Weapon Systems – Jackie Reece



# Ultra News

ISSUE 13

The Newsletter for Ultra Electronics Employees

AUTUMN 2000

## New generation fighting vehicle



### ELECTRICS

Division has been awarded a contract by Alvis Vehicles to design and develop Power Distribution Units and CAN nodes for a new Multi-role Armoured Vehicle (MRV), recently ordered by the German and United Kingdom Governments. CAN technology is an information databus originally developed for the automotive industry. Electrics Division are leading the application of this technology on military

vehicles. MRV will carry 8 troops plus a crew of two in the Armoured Personnel Carrier role.

During the development phase UEED will supply components for nine prototype vehicles with an option to supply components for the first 600 production vehicles. The total requirement is likely to be in excess of 2000 vehicles. Frank Hope, Managing Director of Electrics Division, said, "We look forward to developing our partnership with Alvis, the vehicle manufacturer. This platform represents the next generation of European fighting vehicle and the award will enable the business to be at the forefront of technology in this field."

## Queen's Award for Card Systems



OCEAN Systems has been awarded the Queen's Award for Enterprise 2000, for its innovative use of dye-sublimation thermal printing technology in the Magicard colour ID card printer family. Since its launch in 1994, seven thousand printers have been delivered along with enough consumables to badge over forty million people. Managing Director Ray Coles said, "We are very proud to receive this award in recognition of Ultra's world class design and innovation skills. This is the second time that our thermal printing technology has been recognised in this way as we also received the Queen's Award for Innovation for our sonar printers back in 1990."



## Acoustic Processor deliveries



Members of the Acoustic Processor team from left to right: Barry Turner, Jaya Soppeab, Nazir Chaudhry, Colin Rose, Alan Holley, Tanya Price, Ivor Panton, David Clow and Gez Muir.

THE first production deliveries of the Acoustic Processor, manufactured at Sonar & Communication Systems, have been delivered to Boeing for installation on the new Nimrod MRA4 as part of the Acoustics Suite. The team was assisted in achieving the timely delivery by a new piece of production testing equipment, the 'flying probe tester', which employs the latest technology for checking the quality and reliability of PCB components in extra fast time. The successful transition from the original design of Acoustic processor by Computing

Devices of Canada is testament to the close working between Ultra and CDC, from the development stage to delivery of the first units.

### Interim Results

INTERIM results for Ultra Electronics Holdings plc for the six months to 30 June 2000 were announced in July. Compared to the same period in 1999 sales were up 12.1% to £107.1m (\$165.3m). Profit before tax rose by 6.8% to £11.8m (\$18.2m). The Order Book for the Group stood at £301.6 (\$465.4m).



Welcome to Issue thirteen of our twice yearly newsletter – I do hope that you find this brief glimpse of life across Ultra's businesses interesting.

Since our last issue two more companies have been added to the Group. You can read more about them later in this issue and we extend a warm welcome to our new readers in Datel Defence and FASL. We now have material for Ultra News arriving from 18 sources across the Group. More than ever we have difficulty including everything that is submitted. Thanks again to all our local contacts and contributors – we do our best to include as much as possible so please do keep the material flowing.

Jack Telfer

## Tyne & Wear

PMES has won a major contract from the Fixed Installations Division of ADtranz for the provision of three DC Substations and two Track Paralleling Rooms for the Sunderland Direct Rail project. This is part of a multi-million pound project to extend the Tyne & Wear Metro system into the heart of Sunderland. The Substations will include all equipment required to accept power from the 11kV incoming mains supply, its conversion to 1500V dc and distribution to the overhead catenary system.

# Ultra Bytes

## World first at San Francisco

COMMAND & CONTROL Systems are supplying a Radio Frequency Identification (RFID) Baggage Tracking System for the new International Terminal at San

Francisco Airport. The system will be a world first and confirms Ultra as a world leader in the use of this exciting technology.

## Helicopter simulation

MEASUREMENT SYSTEMS Inc has been awarded a contract by Link Simulation and Training to produce high integrity simulated helicopter cyclic and collective flight controls, including electric control loaders. The initial

delivery requirements for Link's reconfigurable simulators call for flight controls for 6 different helicopter configurations with future options for 3 more. The programme is expected to last until 2007.

## SHOLIS for Type 23

PMES has been awarded the production contract to supply the Ship's Helicopter Operating Limits Instrumentation System (SHOLIS) for the UK Type 23 Frigates. A reference set and 7 vessel sets of equipment will be supplied for

this initial contract, with a further contract expected later for the remaining vessels. The system enables helicopters to cope with landing in confined space and difficult operating conditions.

## Retrofit launch

NOISE & VIBRATION Systems has secured Golden Air Flyg in Sweden as the first customer for the SAAB340 ANC Retrofit programme. The Active Noise Control systems will be supplied to Golden Air's fleet of nine SAAB340

regional turboprops. The order coincides with the signing of an agreement with Saab Aircraft AB to publish a Service Bulletin that certifies the system for installation on SAAB340A and SAAB340B aircraft.

*Pictured from left to right Laurence Earl, New Business Manager, Ultra Electronics, Anders Karlsson, Managing Director, Golden Air and Geoff Thompson, Director of Customer Services, Saab Aircraft AB.*







## HiPPAG growth continues

NAVAIR has awarded a fourth follow-on contract for HiPPAG 320's for cooling Sidewinder missiles on the US Marine Corps AV-8B and AH-1 aircraft. This contract is valued at \$6.9million. As part of this programme HiPPAG will, for the first time, also be integrated into the LAU 127 launchers on F/A-18 E/F Super Hornet aircraft.

Weapon Systems has also been awarded an engineering development and qualification contract, valued at £1m, from LFK GmbH for HiPPAG 320 series on-board compressors. The HiPPAG will be integrated into the launcher of the latest generation, helicopter launched Long Range Trigate Anti-Tank missile pictured above fitted to the Tiger helicopter.

## Data distribution

PMES has commenced work on a contract from Vosper Thornycroft for the supply of the Ship's Data Distribution System for the Fast Attack (Guided Missile) Craft Programme for the Hellenic Navy. Three vessel sets of equipment will be delivered with a contract value in

excess of £750k. The design features PMES' latest generation Data Processing Unit that is based on a ruggedised PCI architecture. It utilises 'Commercial Off The Shelf' (COTS) hardware and software to provide unprecedented processing power at reduced cost.



## Systems for Bombardier

NOISE & VIBRATION Systems have received a major order from Bombardier Aerospace to supply Active Noise & Vibration Control systems for a further thirty nine Dash-8 Q400 series aircraft.

This contract provides order coverage until the beginning of 2002 and will increase the total number of Q400 aircraft fitted with the NVS system to one hundred.

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# Farnborough

Farnborough International 2000 broke all previous records with the announcement of \$52 billion of orders during the five trade days of the show. 170,000 people visited over these five days with a further 133,000 attending the two public days. Ultra's stand at FI 2000 was our largest to date. Ten of the Ultra businesses were represented on the stand, including Datal Defence appearing for the first time. We include a selection of pictures from the stand.



## Airbus sales

AIRBUS announced thirty-seven new orders for the A330/A340 wide body aircraft and one hundred and seventy one of the Single Aisle A 320 family at Farnborough. Of special interest to

Ultra was the announcement of the increased rate of production for both the A320 family and A330/A340 aircraft. Importantly, airline commitments have subsequently grown to nearly fifty of the new Extra Extra Large A3XX aircraft. Controls Division have been working closely with Airbus on the A3XX to

define the concepts and top level design relating to the Remote Data Concentrators. These will provide very high integrity data interfaces between active elements of the aircraft (e.g. wheels, landing gear, brakes etc) and the main aircraft databus.





## Farnborough teamwork

TO ensure the success of the Ultra stand at a major show like Farnborough, many months of planning and preparation take place behind the scenes. In particular the exhibits and working demonstrations involve many people, from different disciplines, working together to ensure that the stand is ready for the opening day.

One such example is Bill Hellier from the

machine shop at Greenford who, in addition to his usual workload, was also responsible for creating models for both Sonar & Communication Systems and Controls Division.



Above: Dave Ward and Mahan Saba pack exhibits.  
Left: Bill Hellier.

# ugh 2000

## HIPSS update

HIPSS has successfully passed a series of gruelling qualification tests in its run up to Supplementary Type Certification on Raytheon's Beech 1900D aircraft. HIPSS was on display at Farnborough together

with a larger and more powerful version designed for the USN P3 Orion and C130 Hercules aircraft.

Controls Division are extending the HIPSS family of products by the

integration of active propeller balancing. Through use of a novel method of rotating mass with a minimum of moving parts, very high reliability will be achieved.

## dti grant for UltraQuiet seat

THE UK Department of Trade and Industry has awarded Noise & Vibration Systems a grant of £137k to continue development of an active noise control system for individual aircraft seats. The project is being developed in collaboration with the Institute of Sound & Vibration Research at the University of Southampton. The UltraQuiet Seat demonstrator generated a high level of interest on the Ultra stand at Farnborough this year.









# Good times award

ON June 12, 2000 Hermes Electronics was visited by the Halifax town crier who presented Ultra's retiring Group Marketing Director, Richard Lane, with a membership certificate of the oldest social society in North America. 'The Order of Good Time' was founded in 1605 when the first French settlers had to make their own 'good times' through a long Canadian winter.



*Richard is pictured with Wayne Trowse, President UnderSea Sensor Systems, North America.*

## People in the News

### Recent appointments in the Company



**David Jeffcoat** has joined Ultra Electronics as Group Finance Director. David joins from Smiths Industries where he was Group Financial Controller.



**Roland Fritts** has joined UnderSea Sensor Systems as President. Roland joins from the Raytheon Corporation where he was Director, Advanced Digital Communications based in Fort Wayne.



**Graham Bailey** has been appointed Marketing Director at Controls Division. Graham joins Ultra from BF Goodrich.



**Richard Buckley** has been promoted to the position of VP Engineering at Flightline Electronics. He was previously Director of Engineering.



**Joe Lodato** has joined Flightline Electronics as Chief Financial Officer from Graver Technologies.



**Mike Way** has been appointed Airport Information Systems CBU Manager at Command & Control Systems where he was previously AIS Operations Manager.



**Tim Stanley** has been appointed VP Engineering at APC where he previously held the position VP, Air Force Programs.



**Tommy Jones** has been promoted to the position of Director, Air Force Programs at APC. He was previously a Project Engineer.



**Graham Nicklin** has joined Magnetics Division as Financial Controller. He moves across from PMES where he held the position of Chief Management Accountant.



# Introducing Datel Defence



Above: members of  
Datel Defence Limited.  
Left: Datel Defence  
building in Preston  
Lancashire.  
Below: Keith Morris,  
Managing Director.



initiatives are underway to develop further markets in both the USA and South Africa. Commenting on the

acquisition by Ultra, Managing Director Keith Morris, said, "We are seeing new doors open as the result of being under the Ultra Electronics banner and have already begun working with Electronics Division on opportunities in Avionic Mission Systems and Cockpit Design and Military Vehicles." Datel Defence adds to Ultra's array of skills by bringing a high level of capability in systems and software design, information technology and secure data communications. The staff of one hundred and seventy, the majority of whom are systems and software engineers, work at their office facilities in Preston. These facilities include a state of the art software development environment with an integration and test area.

**Congratulations and best wishes to Bill Tanner of PMES and Adela Mendez of MSI who recently retired with a total of 70 years service between them.**



Bill (front row second right) pictured with some of his colleagues.

Bill retires after nearly 48 years service. In his first year at work, in 1952, King George VI had died and Queen Elizabeth II was crowned; National Service was still in force, Petrol was 4/- a gallon (20p/30c) and a pint of beer was 1/6d (7.5p/11c). Adela has worked in MSI's manufacturing department for over 20 years.



DATel Defence Limited based in Preston, Lancashire, joined the Ultra Group in April. As part of the DF Group the business was formed in 1997 with a specific focus on defence and aerospace systems and software engineering. The core skills of the Company are the design and development of high integrity systems and software for aerospace and defence applications, secure data communications and shared data environments. Major markets are currently in the United Kingdom and Europe although

## On the Map



COMMAND & Control Systems have delivered map library and map provision management software for the Defence Geographic Centre (DGC) at Tolworth and Feltham. The map library system stores and manages 750,000 maps, atlases and town plans which can provide immediate mapping information for a rapid UK military response worldwide. The map provision management system enables DGC to determine which of the 30,000 maps in regular use are relevant to individual military users' requirements.



# Introducing FASL

BASED in Manchester, Ferranti Air Systems Ltd (FASL) joined Ultra in April. FASL can trace its pedigree to the earliest days of computing for the civil aviation industry having provided the first computerised reservation system in the world for British Overseas Airways Corporation (BOAC). From these beginnings, nearly one hundred FASL staff now provide the latest in airport and airline information systems which help to make an airport or airline function. Their systems include some very visible aspects such as public information displays but also lots of information used by the staff and managers within the airport environment.

Twelve of the world's top fifty airports use FASL's solutions. Closer to home, UK airports include Manchester and



FASL staff outside their offices.

London Heathrow. FASL also supports some of the world's top airlines including British Airways, Swissair and Delta Airlines.

Alan McCartney, Managing Director of FASL said, "Working with the Airport Information Systems team at Loudwater, FASL is looking forward to taking Ultra's airport and airline business forward with

Managing Director:  
Alan McCartney.

a larger portfolio of offerings and a greater global market presence." Next time you go to catch a flight, take a new look at what is needed to get you on board your flight and perhaps think about what FASL, the latest member of Ultra Electronics, is doing to get you airborne.

## Learning by playing

IN July, Rick Wagar, Director of Advanced Technology for UnderSea Sensor Systems, Inc., participated in a week-long war game held at the Naval War College in Newport, Rhode Island. This game, sponsored by the National Defense Industrial Association and the US Navy, was designed to familiarise participants with a wide variety of issues faced by the military during both the pre-hostilities and the combat phases of international conflict. The war game involved air, sea, and land engagements between opposing forces. Rick, who was primarily involved in the deployment of sea-control forces and in evaluating their battle engagements, commented, "The experience provided valuable information to enable us to discuss with our US Navy customers how our products can best be used and upgraded to meet new requirements."

## Model on test

FLIGHTLINE Electronics have recently completed the building and testing of a one tenth scale model of the GP-140 Aurora aircraft. This is being used to help validate the Sonobuoy Positioning System (SPS) algorithms presently being developed for Flightline's Canadian customer. During a recent visit the customer was pleased to see both the model and the resulting data, viewing this effort as an excellent way to reduce programme risk.



The Scale Model Test Team: I. Maugh Vint, John Schlegel, Mark Swanson, Dan Nelson, Javier Gascudo, Travis Carmel and David Napp.



# Delta lady to fly again

FOLLOWING receipt of a letter from RAF Bruntingthorpe regarding the restoration of the AVRO Vulcan XH558 and the search for programme sponsors, Electronics Division accepted the invitation to attend an open day where the aircraft would be on display. Ron King, an Electronics' employee and a very keen aviation enthusiast was given the opportunity to attend and represent Ultra. During the visit Ron discovered that a number of the cockpit systems fitted to the Vulcan were produced by Electronics Division and on his return to site he obtained a commitment that the business would supply up to £5,000

*Ron King with the project display.*

worth of spares, free of charge. As a result, Ultra are now recognised as an official sponsor of the restoration project.

Ron has formed a team, mainly Roger Coleman and Terry Davies, to assist him with the engineering and commercial side of the project. The first flight of Vulcan XH558 is expected to be in Summer 2001.



# JAR21 approval for NVS production area



THE CAA has granted JAR21 approval to Noise & Vibration Systems new production facility within 6 months of it being set up. Managing Director Keith Thomson said, "We are delighted to be awarded the CAA approval particularly within such a short space of time. Ken Bence, the CAA Auditor, complimented the NVS team on their highly professional approach."

*Members of the NVS team involved with the new facility.*

# Extended approval

EARLIER this year Hermes Electronics Inc. underwent their annual ISO 9001 audit and received a very pleasant surprise. Because the results of this and previous audits had been so positive Hermes was granted a longer than expected extension to their current registration to ISO 9001 Quality Management System Standard,

without the need to have a re-registration audit performed for another 3 years. Auditors commented that they were very impressed with the degree of detail and completeness of the quality systems utilised at Hermes and with the degree of knowledge and use of the systems demonstrated by the Hermes employees.

# Third award for MSI

MSI's Safety programme has been selected to receive the Award of Commendation in CBIA's Annual Safety Success Awards. This award is the third consecutive win for MSI in this category.



# Face TO Face

## Ultra News talks to two employees



**Joe Yoder**  
**APC Inc**

Joe Yoder joined APC in the summer of 1997 as a field support representative. His first responsibilities were to plan and lead

installations at various field sites and also conduct on-site operator/maintenance training. Assignments have included two 6 month tours to Saudi Arabia from where he also travelled to support systems in Kuwait, Bahrain, Singapore and Australia. Of the time in Saudi, Joe admits, "it was hard work and long hours in very hot

conditions, both operationally and weather wise. Travel is not always as glamorous as it sounds."

Recently, Joe was promoted to Test Engineer working closely with

programmers and functional users to ensure proper implementation of system tests. Joe enjoys his job and looking to the future he says, "I believe that the acquisition by Ultra will mean better communication links with overseas businesses, and that we will be able to provide improved services to our customers."

Joe is very much a home and family man. When he is not travelling, Joe and his wife drive their two sons to either attend training sessions or play in American youth soccer tournaments. Joe's youngest son, Ryan, has recently been selected to play for the USA national team. During the summer months, Joe's favourite activity is off-shore fishing with his sons.

## Face to Face

**Ivan Scott**  
**Noise & Vibration Systems**

In March 1993 Ivan Scott joined Noise Cancellation Technologies (NCT) in Cambridge as a Software engineer and their thirteenth employee! He initially worked on the first production Active Noise Controller, which was fitted to the SAAB 340, and joined Ultra in 1996 when the activity was acquired from NCT and Noise & Vibration Systems was formed.

Since then Ivan has progressed to the position of Software Manager. He describes writing software code as the "fun bit" but admits that these days he prefers algorithm specification. Ivan sees the most enjoyable aspects of his job as 'getting something to work that has never worked before'. For example, having a control system cancel noise successfully on a new type of aircraft is especially satisfying.



Married, with two young daughters, Ivan still finds some time for his various interests which include playing five-a-side soccer with NVS colleagues, attending folk festivals and fulfilling his responsibilities as a school governor. Given the flatness of the area around Cambridge, it is a surprise to find that one of Ivan's main interests over the last few years has been rock climbing. He cites the balance of mental and physical challenge as the attraction.

Our picture shows him at the top of the "Inaccessible Pinnacle" on the Isle of Skye. Ivan said, "Reaching the top was a great feeling but the only way down was to abseil, something I had never done before. Given the size of the drop I found that the weight of the rope was such that I had to push myself down – an unexpected problem!"



## Virtual sub-mariners

4 Cub Scouts from the 7th Windsor (Old Windsor) Cub Scout Pack, visited Command and Control Systems in June as part of their Hobbies and Interests Badge. The visit, organised by their leader, Ultra employee Ian Payne, allowed them the rare opportunity to see what equipment really goes onto a Royal Navy submarine. Part of the visit included the Mobile Reference Site (MRS) where they were able to become virtual sub-mariners. They were divided into pairs, allowing two to be seated at the Control Desk and the other two, to be positioned at the Fore-Ends Equipment. After firing the imaginary weapons, one Cub said, "This was much better than boring computer games!" After the excitement of the MRS, they were shown the video footage of the first Royal Navy TOMAHAWK Land Attack Missile firing from HMS Splendid, which was fired just off the coast of California in November 1993. Pictured below, Left to right are Jonathan Stacey, Adam Sloan, Declan Elades and Matthew Hart.



## Rising to the Four Peaks Challenge

THE Wooden Spoon Society Vauxhall Four Peaks Challenge is a forty eight hour race to climb the 4 highest mountains in Scotland (Ben Nevis), England (Scafell Pike), Wales (Snowdon) and Ireland (Carantouhill). It involves thirty five miles of mountain running totalling 14,500 feet of ascent and driving some 1900 miles non stop.

A team from Electronics Division (pictured above from left to right) consisting of driver Duncan Smith, and runners Andrew Snell, Doug Cowper and Russell Goodwin, completed the mountain section in 11 hours 9 minutes, putting them in 9th position in a field of fifty teams. Their time for the



whole event was just over forty three hours and they raised £3,743 to help fund various projects to help children and young adults with disabling illnesses. The team would like to thank Ultra, its employees and suppliers who contributed towards this magnificent total, and also the main sponsors, Vauxhall, PHH and Irish Ferries for providing the vehicle, fuel and ferry tickets.

## London marathon

ROB SUTTON (pictured right) of Controls Division completed this years London Marathon in 4 hrs. 2 mins. 48 secs. He raised approximately £800 for the John Chilton School for disadvantaged children.



## Striding out

A TEAM of twelve from Magnetics Division recently participated in the forty mile Keswick to Barrow-in-Furness Charity walk. Although few of the team had walked this far before, almost half

completed the full distance. Between them the team walked a total of four hundred miles, putting them seventeenth out of fifty teams, and raised almost £1700 for their nominated charities.

## Chief pirate

BOB SMITH, Chief Scientist at Ultra Electronics Power Systems, recently appeared with the Colonial Players of Annapolis in a production entitled 'A Cabaret for Kids.' The ninety minute production is a mix of original songs, dances, poems and skits designed to entertain and delight children of all ages. The cast includes twenty children (as young as 5 years old), 8 teenagers, 6 adults and 3 musicians with an equal number backstage. In addition to setting up some of the special effects Bob cannot resist "treading the boards" as can be seen in the picture.



**Ultra**  
ELECTRONICS

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# Ultra News

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The Newsletter for Ultra Electronics Employees

Spring 2001

## Sonobuoy world champions



● Ultra's world leading position as a supplier of sonobuoys has been strengthened this year.

**Hermes** received contracts to supply more than \$7.5m worth of sonobuoys to France and Spain and USSI have received contracts worth in excess of \$16m to supply both active and passive sonobuoys to the US Navy.

Since the beginning of 2000, **Hermes Electronics and Sonar & Communication Systems** have received export orders from Australia, Chile, France, Greece, Holland, Italy, Korea, New Zealand, Norway and Spain.



P-3 and NR44 Nimrod, key ASW aircraft that deploy Sonobuoys

Looking to the future, the world's first all digital sonobuoy, HIDAR, is now in production. In addition, all three of Ultra's sonobuoy businesses are involved in feasibility studies for new advanced sensor systems that should ensure a flow of new sonobuoy products for the future.

**Ultra supplies more than 50% of the world's requirement for sonobuoys**

## CBE for Chief Executive



● Ultra's Chief Executive, Dr Julian Blogh, was awarded the CBE in the 2001 New Year Honours List in recognition of his contribution to the Defence and Aerospace Industry. The medal

was presented by Her Majesty the Queen at a ceremony held at Buckingham Palace in February. The Commander of the Order of the British Empire (CBE) is one of a number of awards created by King George V during World War 1 to reward services to the war effort. They are now awarded to recognise exceptional public service.

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Development phase completed – SPS programme

NVS pilot New Employee Survey





## Product Capability



## Submarines

**A new feature for Ultra News highlights the Ultra Group's current capability in particular product areas. We begin in this issue with Submarines.**



Douglas Caster  
Managing Director,  
Information & Sea  
Systems

“With the development of the Group over recent years, Ultra has built up an impressive array of specialised equipment for use on submarines. Within our chosen niche areas we offer excellent technology backed up by many years of experience in both the UK and North America. In particular, we have been successful across a broad range of product areas in securing £40m of orders for the Royal Navy's Astute class submarine. In North America we are involved on Virginia where a class of thirty boats is planned. This should ensure that the Ultra Group remains at the leading edge of submarine technology for years to come”.

Douglas Caster

## Submarines



#### ● ROD CONTROL GEAR

A safety critical control system that positions the nuclear Reactor Rods. This equipment forms part of the Reactor Control and Instrumentation system.

#### ● MAIN STATIC CONVERTOR (MSC)

A bi-directional power converter that takes ac power from the nuclear power generator and converts it to dc power to charge the submarine's batteries and to supply the boat's dc-fed equipment. Should the power generator system fail, or be shut down, the MSC reverses the flow converting dc power from the submarine's battery to supply essential ac loads.

#### ● COMMAND SYSTEMS EQUIPMENT

These provide facilities for the Commanding Officer and his team to navigate safely, understand the tactical battlespace and to operate the vessel accordingly. In Astute, this will consist of a suite of consoles for the Control Room and

considerable supporting processing power. In addition, Ultra will be supplying consoles and controls for the operators of the new optronic periscopes.

#### ● SONAR EQUIPMENT

Intercept Sonars are supplied by PMES and are used to intercept other sonar transmissions identifying potential threats and targets. Ocean Systems supply the DICARPS sonar data recording system which allows a large amount of digital data to be recorded. Sonar and Communication Systems supply equipment to measure the temperature and sound velocity in water to help achieve the optimum settings for the sonar systems.

#### ● WEAPONS INTERFACING EQUIPMENT

Effectively a weapon launch control system and 'telephone exchange' for data and information passing between the Command System and the weapons and the weapon discharge system (the torpedo

#### Current Major Platforms

- Seawolf    ● Trafalgar    ● Swiftsure
- Virginia    ● Vanguard    ● Victoria
- Astute

Note: Not all the product areas mentioned in this feature apply to every platform listed.





**Recent orders for Astute** (Model pictured left)

PMES has been awarded a contract to supply the Emergency Propulsion System for Astute. The contract is worth over £1m with the first system due for delivery in the final quarter 2001.

Command & Control Systems has been awarded a contract from Thales Optronics, Glasgow, for the supply of operator consoles for the Astute Class Submarine Visual System.

tubes). Weapons include torpedoes, missiles for countering surface ships and cruise missiles for attacking land targets.

● **MAGNETIC SYSTEMS**

Ultra is a leading supplier of equipment which helps the submarine to avoid detection by search vessels, aircraft or sea mines. Ultra also provides equipment to reduce the corroding effect of seawater on submarine hulls. Ultra's computer based mathematical modelling supports the implementation of systems design.

● **POWER CONVERSION SYSTEMS**

These include the Emergency Propulsion System, which acts as a

back up to the main propulsion system when only the dc electrical system is available and the Electrolyser Power Supply Unit which supplies the submarine oxygen generating plant.

● **COMMUNICATIONS**

Satellite expendable communication buoys rise to the surface and transmit data. Ultra also provides tactical datalink and crypto equipment to enable secure communication from and to the submarine.

● **TORPEDO DEFENCE SYSTEMS**

Ultra offers a range of torpedo defence solutions including expendable countermeasures used to decoy and jam acoustic homing torpedoes. Ultra also produces sonar countermeasures which jam the sonar of an attacking platform.



Shown here HMS Talent







Boeing F-15E aircraft

## First NVS Retrofit Installation

● **NVS** has successfully completed the first retrofit installation of the Active Noise and Vibration Control (ANVC) system with the Propeller Balance Monitoring System onto the first of four UNI Airways of Taiwan, Dash-8 Series 300 aircraft.

An order has also been received from Royal Wings of Amman, Jordan, to retrofit ANVC to their Dash-8 Series 300. ANVC retrofit systems have now been ordered, or are in-service, in Europe, USA, the Middle East and the Far East.

## Nuclear Response

**Datel Defence** is currently making changes to the network infrastructure of NARIMS (Nuclear Accident Response Information Management System) at various server sites. Following the establishment of a diagnostic and development site in Preston, Datel will provide a help desk service to users and administrators of the system. Datel is also finalising requirements for an extension of NARIMS to the naval base in Gibraltar.

## Ericsson Consoles

● **Command & Control Systems** has been awarded a £2m contract from Ericsson Microwave Systems, Gothenberg, Sweden. This involves the supply of a number of operator console types for 'land mobile' and 'land deployable' command and control systems. Ultra Electronics was selected following a successful pre-production programme phase providing an extremely compact operator console solution.

## New HiPPAG application

● **Weapon Systems** has secured a development contract under the USAF Commercial Operational and Support Saving Initiative (COSSI) to qualify the HiPPAG 500 on board compressor on the Boeing F-15E aircraft. The HiPPAG 500 replaces traditional pyrotechnic components and as a result Boeing have been able to design an ejector rack that provides higher performance and hundreds more firings between maintenance checks. This new technology enables Ultra to market its expertise in pneumatic bomb ejection.

Ultra • bytes







## FASL first in Russia

● FASL has recently won a contract to supply an Airport Operational Database (AOOB) and a Flight Information and Display System (FIDS) for Domodedovo Airport in Moscow. This expanding airport is owned and operated by the East Line company in Moscow and, following major investment, is now Russia's most modern airport. As FASL's first contract in Russia and, as the first AOOB to be installed in Russia, this award gives FASL the opportunity to market into this large and expanding sector.

## Magnetics win French upgrade

Magnetics Division has been awarded a contract by the French Government to supply new underwater signature measurement equipment, to upgrade existing facilities, located at Lanvéoc near Brest. The upgrade project will include the supply of modern underwater magnetic and acoustic sensors together with shore based data analysis systems.

## Sidewinder missile support

● WEAPON SYSTEMS has secured two new contracts for its repair and overhaul facility at Hednesford. In addition to a follow-on contract for the provision of Sidewinder Guidance and Repair System repair and overhaul for a further five years, a second contract covers the removal, refit and testing of Gas Grain Generators as part of a re-life programme.

## HIPSS progress

● Controls Division has won approval from the FAA to fit its propeller de-icing product, HIPSS, on Raytheon's Beech 1900 aircraft for passenger-carrying service. HIPSS replaces traditional slip-ring de-icing systems with novel contactless power generation and control across the rotating surface, dramatically reducing

maintenance costs.

Market interest in HIPSS is growing rapidly. An order has already been received from Commutair in the USA for HIPSS on all their Beech 1900 commuter aircraft. In addition, the US Navy has allocated funding to complete the development of a large HIPSS system for its P3 Orion and C130 Hercules aircraft.



John Howard, Chief Mechanical Design Engineer pictured at the trial.



## Interviews the Chief Executive – Dr Julian Blogh

**Q** How do you view Ultra's performance in 2000?

**A** We were able to report good growth in both sales and profits for the year. Group sales in the year grew by 18% and they have now grown an average of more than 15% per year over the past five years. The growth in profits also reflects improved efficiency. One area that could have been stronger in the year was cash flow.

The fact that we can report these results despite some operational difficulties during the year is particularly pleasing, although it took a big effort as the year end approached.

**Q** What do you regard as the major achievements of the year?

**A** It is always difficult to answer such questions and do justice to the many achievements that occur across the Group. At a strategic level, however, we have made important progress through success in new markets, investment in new products and the acquisition of businesses that enhance our capability in key areas. In addition to our strategy of supplying technically advanced

components and subsystems to the major prime contractors, Ultra is now better placed to supply sophisticated products and integrated systems directly to the end customer. The demonstration contract for MINDER, reported elsewhere in this issue, is an example of this.

**Q** The emphasis on Information Technology seems to be increasing. Is this deliberate?

**A** There is no doubt that the IT and software capabilities of

the Group have been deliberately enhanced following the acquisition of APC in 1999 and of Datel Defence and Ferranti Air Systems in 2000. As a Group we are well equipped to support the military need for fast reaction and mobility and to address the growing market for 'battlespace' information systems. Changes such as these mean that the Ultra Group looks different from just two years ago. This focus on IT should not, however, be interpreted as a lesser commitment to our other niche product areas.

**Q** Following the acquisition of the DF Group in 2000, Ultra has a much higher level of debt than has historically been the case. What are the implications of this?

**A** Firstly, let me say that it is not unusual for businesses like Ultra to borrow funds to invest in their development. I believe the acquisition to be important strategically and that the level of debt is manageable. The prime implication for Ultra is that we are unlikely to be embarking on further major acquisitions in the short term. We need to generate cash from our day to day activities to reduce the level of debt as quickly as possible. This emphasises how important it is that all our businesses meet or beat their targets.

**Q** Does Ultra have a strategy to diversify into more civil applications?

**A** Not particularly, although our portfolio of products outside of defence has grown. The acquisition of Ferranti Air Systems means that Ultra is a major supplier of IT systems for civil airports. Ocean Systems have been successful with their Magicard printers and have recently launched a new range. Interestingly, the proportion of total sales that are non-defence has remained almost the same since Ultra's formation in 1993.

**Q** Having broken the £200m sales barrier, what are your goals now?

**A** I would like to see Ultra achieve 'mid-cap' status as a public company on the UK Stock Market. This will require Ultra's share or stock price to be over £6 and for the Institutions that invest in Ultra to believe that the Group will continue to grow at least above 10% a year. Having said all of this, we must remember that my £200m target was only achieved because we continued to satisfy our customers and develop products to address real needs in the marketplace.

**Q** What would you say to Ultra employees?

**A** Well done and thank you. There have been many notable achievements during 2000 and, even where we have faced significant challenges, individuals and teams throughout the Group have demonstrated high levels of commitment and capability. With the Group now consisting of 17 businesses, I want to stress that each business continues to be important to the Group. Within each business all employees have important parts to play in performing their role to the very best of their ability.



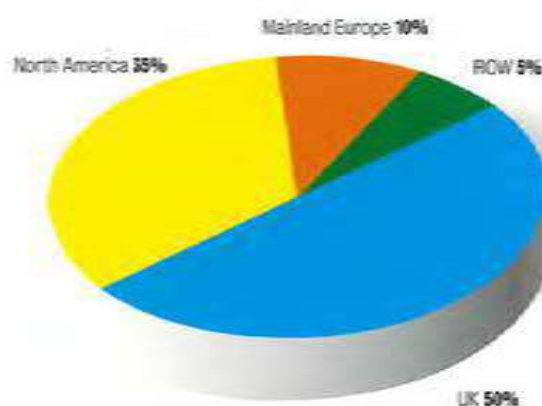
**Dr Julian Blogh**



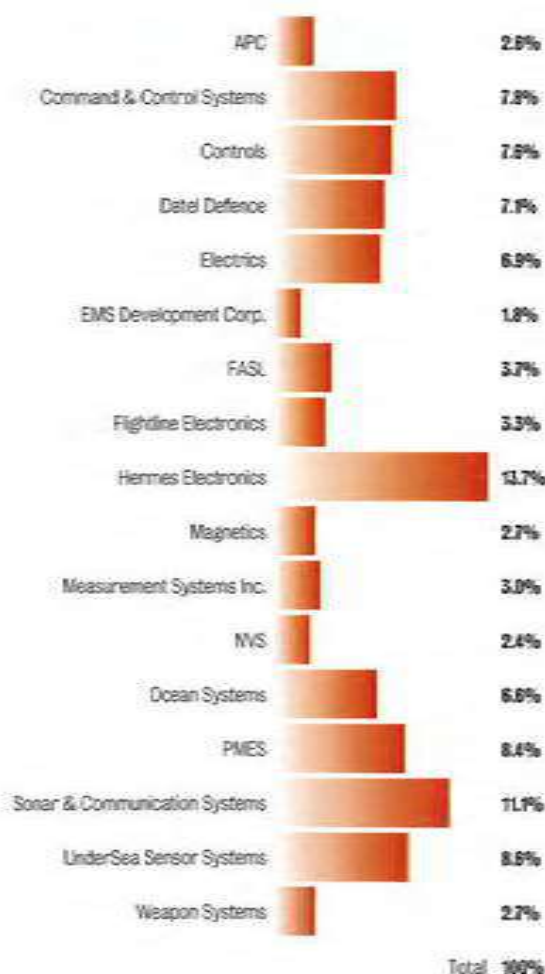
# Financial Results for 2000

Ultra Electronics Holdings plc announced its results for the twelve months to 30 December 2000 on 26 February 2001. Sales for the period increased by 18% to £226.9m. Profit before goodwill, amortisation and tax increased by 10% to £25.6m. Net debt had risen by approximately £44m at the year end due primarily to the acquisition of the DF Group.

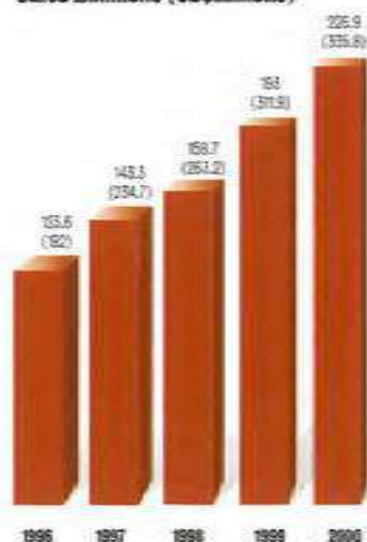
Sales by geographic destination



Staffing by business – % of total

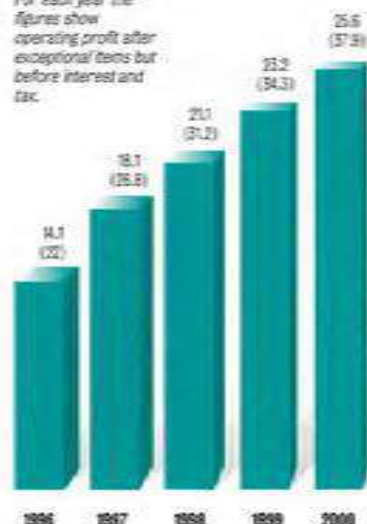


Sales £Millions (US\$Millions)

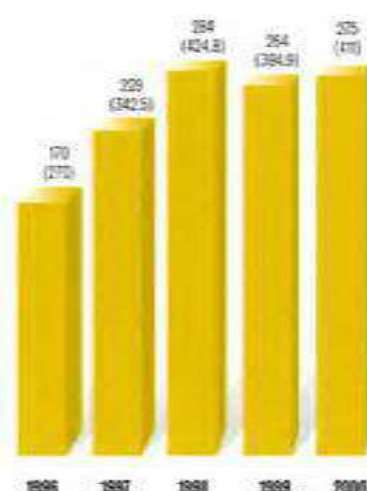


Profit £Millions (US\$Millions)

For each year the figures show operating profit after exceptional items but before interest and tax.



Order Book £Millions (US\$Millions)





# Eurofighter production

● As the first Eurofighter Typhoon production aircraft enters the final stages of build at BAE Systems Warton, **Electrics Division** is delivering products to support the first flight, scheduled for August 2001. Instrumented Production Aircraft 1, known as IPA1, is a twin seat variant destined to support the existing fleet of 7 development aircraft. Fitted to this will be the HOTAS (Hands on Throttle and Stick), Undercarriage Selector and Indicator, Master Armament switch and Indicator, Formation lighting system together with a multitude of toggle switches and Indicators.



Eurofighter undergoing flight trials



● Other Ultra products specified for Eurofighter include the HIPAG 320 from **Weapon Systems** and landing gear control electronics from **Controls Division**.

## 44th Merlin!

● Al Bingley of Lockheed Martin (pictured left) with Dr Brendan Pain, Managing Director of **Sonar & Communication Systems** at a celebration held to commemorate the successful completion of the production contract to supply Data Link Processors for the Merlin helicopter.





# Technology in focus

Ultra News

keeping you informed on  
the technology front

Research vessel RV Alliance,  
will deploy DUSS.



## NATO Sonar System

● **Ocean Systems** has been awarded a contract by NATO to develop and supply an advanced sonar system. NATO's SACLANT Undersea Research Centre in Italy will use the Deployable Undersea Sensing System (DUSS) to support a scientific programme as it seeks to expand the capability of existing sonar concepts and explore new ones. Ultra was awarded the contract, on a best value for money basis, following an international competition. Employees at both Ocean Systems and Hermes Electronics are combining their specialist expertise in the design, development and manufacture of the complete sonar system.

## Landmine detection development

● As part of the competitive assessment phase of the MOD's Mine Detection, Neutralisation and Route Marking System (MINDER) programme, **Command & Control Systems** will assess the technology required to find and destroy both anti-tank and anti-personnel landmines.

The programme will identify a mix of detection sensors, and innovative methods of analysis to examine novel ways of countering the threat of landmines to British armed forces. Command & Control Systems will be invited to bid, in competition, towards the end of 2002 for the follow-on main series of contracts worth approximately £100 million.



## Development phase completed

● **Flightline Electronics** recently completed the development phase of the Canada Sonobuoy Positioning System (SPS) programme. In so doing, Flightline has validated the SPS algorithm developed specifically for the Canadian CP-140 Aurora aircraft. The development team, led by Tom Cooper, completed the development on time, on schedule and within budget. Joe Shaver, Software Engineer, is pictured performing algorithm testing using the SPS simulation environment. The success of the development phase has prompted a follow-on contract award for development of a Flight Trial Test suite.



*New appointments, promotions and who's moving where!*

**Paul Summers** – following his appointment last year as Director & General Manager Paul has been promoted to the position of Managing Director of Command & Control Systems.



Paul Summers

**Ken Tasch** has joined Ultra as President of Measurement Systems Inc. He joins Ultra from Textron Turbine Engine Components.



Ken Tasch

**Malcolm Hall** has been appointed Operations Director of Controls Division where he previously held the position of Operations Manager.



Malcolm Hall

**Dana Mortensen** has been appointed VP of Programs at EMS Development Corporation having joined EMS in 1998 as Engineering Manager.



Dana Mortensen

**Nigel Roberts** has been appointed Operations Manager at PMES where he previously held the position of Engineering Manager, Rectifiers.



Nigel Roberts

**Mark Trout** has joined Ultra as Director of Operations at USSL. Mark joins from a local company, Phelps Dodge Magnet Wire.



Mark Trout

**Fiona Simpson** has transferred to Datel Defence as Commercial & Contracts Manager. She was previously Contracts Manager at Electrics Division.



Fiona Simpson

### Integration of Airport businesses

● The Airport Information Systems business based in Loudwater has been combined with **Ferranti Air Systems (FASL)** to create a single focus on airport and airline information systems, within Ultra.

Ultra's AIS business, offering the Tagtrak baggage reconciliation system and world's first Radio Frequency Identification baggage tracking system, fits well into the range of IT systems FASL have been providing to airports and airline operators, for over 30 years.

### Balancing priorities

● Bridging the gap between business strategy and the work we all do each day is a common problem within industry. A growing number of Ultra businesses are using a tool to help turn their business strategy into clear departmental, team and individual goals and measures that reach beyond financial targets to include customers, the learning and growth of employees and the effective operation of internal processes.

Commenting on the benefits of the process, Frank Hope, Managing Director of Aircraft & Defence Land Systems, said, "The Balanced Scorecard is used by approximately 70% of the S&P 500 companies and important customers such as the UK DPA. It clarifies and prioritises our objectives and how we should achieve them. Once agreed and set, it provides a clear direction and agenda that can be used as a powerful message throughout the business".

### NVS pilot new employee survey

● **Noise and Vibration Systems** participated in a new Ultra initiative called **YOURviews**.

Via a survey, all staff were asked to give their views on a variety of issues at work including communication, management style and development and training.

Keith Thomson, Managing Director, NVS: "Over 95% of people took part in the survey, and everyone has been issued with a copy of the results. An action plan has been prepared to improve the areas highlighted".

### — YOURviews —

**YOURviews** will be piloted at other businesses over the next year with the aim of developing a tool capable of providing excellent feedback to local management teams against several key indicators.



# on the spot



Selbert Johnson,  
MSI

*Selbert works at MSI as a Buyer having joined MSI as a Stock Clerk in 1991. He lives in Norwalk, Connecticut, USA and is married with eight children aged 12-30.*

**What do you enjoy most about doing your job?**

The daily challenges of meeting internal demands and interacting with customers and suppliers.

**What is the biggest challenge in doing your job?**

Communicating between teams to achieve required goals. I need to ensure that suppliers can meet often exacting time scales and specifications. Getting it right first time saves money.

**Most important lesson learned to date during your career?**

Following procedures is the only way to get the job done effectively. Taking short cuts can lead to problems longer term and can result in errors being repeated.

**Your favourite hobby/pastime?**

My hobby is playing soccer during the summer.

**Your perfect evening?**

My perfect evening would be spent with my family talking about our faith in God, being thankful that we have all that we need.

**Your favourite food?**

Fruits of all kinds.

**If you had more spare time what would you choose to do with it?**

It would use it to do more leisure activities with my family and to visit with relatives and friends.

**Where would you most like to visit in the world and why?**

I would like to visit Israel and to see Jerusalem.

*Steve works at Weapon Systems as a Design Engineer where he joined almost ten years ago. Steve lives in Worcester and is married with two daughters.*

**What do you enjoy most about doing your job?**

Working on HiPPAG which is a unique product in a niche market.

**What is the biggest challenge in doing your job?**

Keeping all internal and external customers happy particularly with shorter and shorter times to achieve goals.

**Most important lesson learned to date during your career?**

Having been made redundant earlier in my career, it is never to take your job for granted.

**Your favourite hobby/pastime?**

Football – following Leeds United.

**Your favourite food?**

No one favourite but I enjoy Italian, Indian and Chinese.

**Your perfect evening?**

Difficult to choose between a nice meal, good red wine with my wife and a good film or watching Leeds United win in the European Champions league.

**If you had more spare time what would you choose to do with it?**

Buy a Leeds United home and away season ticket.

**Where would you most like to visit in the world and why?**

Go on Safari in Africa to see wildlife in its natural habitat.



Steve Hinton,  
Weapon Systems



## Charity efforts

EMS employees joined together under the direction of Deby Goggin (Manufacturing Department) in organizing a successful toy drive for children in a Long Island Shelter. All toys donated were sent to the shelter in time for Christmas.

In the UK, PMES employees raised £676 last year benefiting many charities. Special mention must go to Phil Russell whose charity walk raised £200 for the Anthony Nolan Bone Marrow Trust.



FASL employees with Alan Sandover FASL Commercial Director (far left), presenting the cheque to Peter Emmett (Guide Dogs for the Blind Association). Special guests were Gypsy and Zina, both of whom are in training to be guide dogs.

## Intersec 2001



Ted Whelan, International Sales Manager for Ultra Electronics Card Systems discussing the benefits of Magicard, with Prince Michael of Kent, at the recent Intersec 2001 exhibition in Dubai.

## Guided by Jeans

Once a month, employees at FASL have come to work in jeans and casual wear to raise money for the "Guide Dogs for the Blind" charity. Over £1000 has been raised - enough to buy two puppies that hopefully will become fully trained guide dogs. FASL have been asked to name the dogs - sadly "Marcus Aurelius" and ... "Icarus" were not considered entirely suitable, and calling your dog "FASL" just doesn't seem fair!

## Curling representative

Sharon Low, of Hermes Electronics, recently represented Nova Scotia in the Canadian Senior Ladies' National Tournament held in Calgary, Alberta which is 3000 miles from her home. Sharon was thrilled to compete at such a high level and, of course, to meet other curlers from across Canada.



## Soccer dreams



Soccer Star Marc Richards, son of Linda and Tony Richards, has taken a step closer to his football dreams by signing a three year professional contract with Nationwide First

Division giants Blackburn Rovers. Proud father Tony, who is an Assembly Cell Leader at PMES, said, "Marc has worked very hard for this and thoroughly deserves his success". Marc (18) is already a regular in the England U18s national football side and has visited Italy, Luxembourg and Israel with the squad.

## Ultra Electronics

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Magnetics - Denis Gwilt

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Norman Westphal

Noise & Vibration Systems -  
Stephanie Lawrence

Ocean Systems - Richard Farwell

PMES - Julie Graddon

Sonar & Communication Systems -  
Carol Doyle

UnderSea Sensor Systems -  
Carol Reilly

Weapon Systems - Jackie Reece

## Feedback



I hope you enjoy the new Ultra News format for this issue. If you have any comments or ideas for future issues please give them to your local newsletter contact or e-mail me on [jack.talfer@ultra-scs.com](mailto:jack.talfer@ultra-scs.com)

Jack Talfer



# Ultra News

ISSUE 15

The Newsletter for Ultra Electronics Employees

Autumn 2001

## Growing position in 'battlespace IT'



Command & Control Systems has been supporting one of the largest military exercises to be carried out in recent years. The exercise, SAIF SAREEA 2 (Swift Sword) in Oman, was designed to prove the concept of Joint Rapid Reaction Force and involved some 24,000 troops plus a large number of ships and aircraft.

The importance of 'battlespace IT' is growing, and in support of this exercise Ultra supplied an Olympus display, commonly referred to as an electronic birdtable, and two UltraScribe display units. This equipment, regarded as the latest in digital technology, enables those controlling the military

exercise to be aware of what is happening in exercise play, and also to plan how the exercise should develop. Users of the Joint Exercise Management System are able to access the information via a web



**The importance of 'battlespace IT' is growing**

server built by Ultra Electronics. This equipment was also featured on the Ultra stand at the Defence Systems and Equipment International Exhibition in London in September along with APC's world leading capability for processing tactical, intelligence and radar data in a wide range of formats.

## Interim Results

Ultra Electronics Holdings plc interim results for the six months to June 2001 were announced in August. Record sales and profit figures were achieved with sales up

7.3% to £114.9m (US\$164.3) and operating profit up 10.4% to £14.9m (US\$21.3) compared to the same period last year. The Group continues to demonstrate its ability to win new business with the total order book up 15.2% since the year end to £316m (US\$451.9).

### In this Issue

Product Capability – Fighter aircraft

New technology for SMS

the ultra advantage  
our products and capabilities

Airbus SMILES rating

Prop-power 'COSSI' funding

Link 16 certification

Memory of Xi'an



## Product Capability

## Fighter Aircraft

**This is the second Ultra 'in depth' feature. In this issue we focus on military fighter aircraft.**

Dr. Frank Hope,  
Managing Director,  
Aircraft & Defence  
Land Systems



"Ultra has a long and distinguished heritage of supplying equipment for fighter aircraft. Investment in recent acquisitions and applied technology has broadened and deepened our capability, as illustrated by the Eurofighter Typhoon in this feature. Building on this success, and with the additional systems and software capabilities of Datel Defence, our business in this and related product areas will continue to grow."

Dr. Frank Hope



Harrier AV-8B



F/A 18 E/F Super Hornet



Jaguar

### HiPPAG

Since the first order was received in 1995 Weapon Systems has seen the selection of HiPPAG extend across several aircraft for cooling IR seekers on missiles. Recent contract awards include an £18m contract to supply HiPPAG for the Eurofighter aircraft and receipt of a fifth follow-on contract from the US Navy to supply HiPPAG 320 for the US Marine Corps AV-8B and AH-1 aircraft. HiPPAG 320 is also to be fitted to the Royal Air Force of Oman's Jaguar and Hawk fleet to support the Sidewinder missile. This contract represents an important landmark as the first HiPPAG production order for the Hawk and Jaguar aircraft and the first sales of HiPPAG in the Middle East.



# craft

## Ultra News fighter aircraft feature



### Eurofighter

The recent order for HiPPAG takes the total value of Ultra equipment per aircraft to over £200,000. The first production batch of 151 aircraft have been ordered with a larger second batch expected in 2003. This will hopefully be followed by export orders.

### Mission Systems and Software

Datel Defence supports BAE Systems on systems development for the various versions of the Tornado aircraft. These systems include the Missile Management System, the Successor Identification Friend or Foe, the Computer Symbol Generator and Missile Control Unit. Datel is also involved in the development, integration and test of the Eurofighter Typhoon ECR 90 Radar and with the integration of the Defensive Aids Sub-System.

### What of the Future?

There will always be only a limited number of new aircraft at any one time. However, established aircraft are increasingly being upgraded with new technology and this presents Ultra with real opportunities for expansion. For example, every time a new version of a missile or weapon system is used on Tornado, Datel Defence will undertake systems integration for the Missile Management Unit and Missile Control Unit. New aircraft such as the Joint Strike Fighter (JSF) should present new opportunities for the Group.



## ADSI for US Army TAIS

APC's ADSI (Air Defense Systems Integrator) is to be used on the US Army's Tactical Airspace Integration System (TAIS). TAIS is a mobile, airspace and air-ground battlespace management system. ADSI's role will be to deliver the complete tactical air picture directly to TAIS. The US Army has recognised the need for Army Airspace Command and Control to be integrated into the Army Battle Command Systems. The TAIS will provide the distribution, creation and overlay of Airspace Control Measures and Airspace Control Orders for the Common Tactical Picture.



## Ultra to make Type 45 destroyer stealthy

**Signature Management Systems** (SMS) has been awarded a contract by BAE Systems to design and manufacture On Board Degaussing equipment (OBDEG) for the UK's new generation Type 45 destroyer. The equipment will ensure the ship's magnetic signature is minimised during operations to avoid damage from magnetic mines. The contract, with a value of approximately £2m, is to manufacture, supply and integrate the first three ship sets of OBDEG equipment for this prestigious platform. A class of twelve Type 45 destroyers is planned.

# Ultra bytes

## Sonobuoy Orders

Since the beginning of 2001, Ultra has been awarded several important contracts for sonobuoys totalling in excess of £45m (US\$ 64.3).

These include:

### **Sonar & Communication Systems**

- The development and manufacture of an improved active sonobuoy, CAMBS VI due to enter service with the UK Royal Air Force and Royal Navy in 2004.
- Additional quantities of the high performance passive sonobuoy, HIDAR.

### **Hermes Electronics Inc.**

- Production of the next generation of passive DIFAR sonobuoys for the Canadian Department of National Defence.
- The provision of DIFAR sonobuoys to the military forces of Norway and Germany.



## International Receivers

**Flightline Electronics** has been awarded a contract by the Canadian Department of National Defence to provide advanced sonobuoy receivers to the Canadian Forces for their CP-140 Aurora Maritime Patrol Aircraft (pictured left). Flightline will also supply sonobuoy receivers for the Spanish Air Force P-3 B modernisation programme as well as to Poland, who are in the process of ensuring that their systems are NATO compliant.



## UltraTrak for Virgin USA

● **FASL** is to provide the UltraTrak baggage reconciliation system for Virgin Atlantic in the US. The nature of this agreement is on a 'cents per bag' basis and this is the first such offering of UltraTrak to the airline market. Virgin have effectively become the launch customer for FASL's baggage reconciliation service into the US and the system will be used by Virgin across six airports with a WAN link to New York JFK. A 24 hour helpdesk support will be provided from the UK.



## PropPower 'COSSI' funding

Controls Division has been awarded a COSSI (Commercial Operation and Support Savings Initiative) contract by the United States Navy to fund the adaptation of PropPower (hub integrated power switching system) for installation on their P-3C Orion and C-130 Hercules aircraft. This represents a strategic milestone in the acceptance of Ultra's propeller system electronics for military turboprop applications.

## PMES Consoles for ASTUTE

PMES is to supply the Centralised Control Console and Starting Platform Console for the Royal Navy's Astute class submarine. The contract was awarded by CAE Electronics Ltd who will build and integrate the controls and instrumentation, which is all subject to strict nuclear and submarine safety standards.

## Active Noise trial for US Air Force

● **Noise & Vibration Systems** has demonstrated their Active Noise Control system to the United States Air Force. The demonstration, which comprised 5 flights on a chartered Raytheon King Air 350, served to illustrate how effective Ultra's technology is at removing the propeller noise from the cabin of the aircraft. Reaction following the flights has been very positive and should help NVS fit a trial system to a USAF C130 early in 2002.

Pictured at the Trial - Jerry Lueck, pilot, Keith Thomson, MD of NVS, Brian McClintic, co-pilot and Rob McDonald of NVS.





## Chief Executive's Review

At the time of writing we are still coming to terms with the terrible events of 11 September 2001 in Manhattan, Washington and Pennsylvania. Our thoughts are with those who have been directly affected by the tragedy.

These events will undoubtedly have a far-reaching effect on the economy and the Defence and Aerospace Industry in particular. We will try to minimise any disruption by acting as normally as possible, as requested by both the British and US Governments.

Even before 11 September, we were seeing significant changes in emphasis and priorities within our marketplace. As a result, Ultra is developing to be able to address certain of these changes. For example, at the recent DSEI exhibition, the importance of 'battlespace IT' was reinforced by the significant interest shown in our Command Information Systems such as APC's Air Defense Systems Integrator, and Command & Control Systems' Olympus Interactive Planning System.

In what can be regarded as more traditional areas of business for Ultra, we are rising to meet the increasingly sophisticated requirements of our customers, whether it be for new technology for anti-submarine warfare, addressing the stealth requirements of the latest naval vessels, or the application of the latest databus technology to fighting vehicles. Our interim results were announced in August. We continue, with your help, to deliver business results in accordance with our forecasts to the City. Achieving this remains a major objective for the Group and I ask that we all contribute to ensure our success into the future.

The Group's order book has once again reached record levels. Whilst this is to be expected as we grow, it remains a vital indication of our ability to compete and of our credibility with our customers, and at present we are waiting for the outcome of several major bids. As always, to continue winning business at this level we must meet the commitments we have made to all our customers.

More than ever, I believe that Ultra is a business with a great future that can offer opportunities to many for advancement within the business.

Thank you for playing your part.



**Dr Julian Bligh**

## New technology acquired

**Magnetics Division** was renamed Signature Management Systems (SMS) earlier this year. The change reflects the broader portfolio of products and skills developed over recent years which had expanded to include signature prediction, modelling, management and measurement covering magnetic, electric and acoustic signatures. This capability has been further enhanced through the signing of a technology transfer agreement with Kernovel Ltd. This gives SMS the exclusive right to manufacture, develop and market the world leading Electric Field Measurement Technology created by Kernovel MD, Geoffrey Backhouse.

## Ultra in Singapore

Ultra's presence in South-East Asia was highlighted at the IMDEX Asia 2001 show held in Singapore. Ultra's stand was well attended with visits from VIPs and delegations from around the world. Ultra was represented by PMES, Signature Management Systems, Sonar & Communication Systems and Hermes Electronics. Support is provided to Ultra Group Companies in the Republic of Singapore via our in-country office PMES (Asia) Pte Limited.

Chief of Defence Procurement UK, Rear Admiral Sir Robert Walmsley, is pictured with John Greenhalgh, Marketing Director, PMES during his visit to the stand.



## Record sales for Card Systems

Year 2000 was a record sales year for **Ocean Systems'** Magicard ID card printers which has led to the expansion of their North American Sales and Support Centre. They have acquired new and larger offices to cope with this extra business and have appointed two new US regional sales managers. With strong continuing demand, 2001 is promising to be even better year for the Card Systems' team pictured above.



*Ultra's stand at the Defence Systems and Equipment International (DSEi) exhibition, held in London's Docklands during September, carried the theme 'the Ultra advantage'*



## the ultra advantage

The stand powerfully displayed Ultra's capability in the air, in the sea and on land with various sections of the stand highlighting different aspects of the Group's capability.

A few examples are shown below .....



Andy Hammett, Group Marketing Director said, "DSEi was an excellent show for Ultra

with many existing and potential customers visiting the stand. DSEi gave us the opportunity to demonstrate many of the ways in which our customers gain competitive advantage when they work with Ultra."



### ultra informed

Our wide range of digital battlespace IT systems

### ultra secure

Our high integrity systems and business solutions

### ultra sonics

Medium frequency bow sonar. Ultra has teamed with EDO to offer an advanced medium frequency bow sonar for the Royal Navy Type 45 Air Defence Destroyer

### ultra stealth

Our multi-influence signature management capability

### ultra enhanced

New developments offering improved anti-submarine warfare capability

### ultra responsive

Highlighted our work on advanced man machine interfaces



# RAPid Delivery

● **Sonar & Communication Systems** has successfully introduced, to operational service, the Replacement Acoustic Processor (RAP) for the RAF's Nimrod MR2 fleet, following a rigorous approval process by the UK Ministry of Defence. Achieving on-time delivery was a major focus for the RAP team. Pictured with Mick Blackburn, Head of Acoustic Processing Systems (centre), are representatives from production, contracts, quality assurance and engineering who all helped to make it possible.



Inside the Nimrod MR2.



## 120,000 Plus!

**Hermes Electronics** produced the last AN/SSQ-53E DIFAR Sonobuoy in support of the US Navy earlier this year. In total Hermes produced over 120,000 units and the US Navy were extremely pleased with the operational performance, quality and timelines of delivery of the buoys. The 53E is now being replaced by the 53F, a joint USSI / Hermes product, for which qualification approval was received in August. This enables USSI / Hermes to ramp up 53F production. Pictured above, Jeff Roberts cases the final 53E.

## EMS Plant expansion



● In July 2001, **EMS** expanded its factory space and made renovations to existing areas. The additional space provides necessary room for the planned expansion of workload. Members of the production team are pictured above.

## Carry that weight!

● **PMES** released the first of two shore side 6.6kV 220V DC submarine power supply units, ordered by Devonport Management Ltd (DML) which will be used to power submarines while their reactors are shut down. As each power unit weighs over 8 tonne, a mobile crane was needed to enable careful manoeuvring through the factory before the units squeezed through the loading bay, with very little room to spare.





# Technology in focus

Ultra News

keeping you informed on  
the technology front

## Bridging the Gap

**Datel Defence** is working with Swiss aircraft manufacturer Pilatus who intends to bridge the gap in military pilot training with its new 'top secret' turbo prop trainer. The PC-21 is being designed to take new pilots from basic flight skills into areas now served by jet trainers. The new avionics suite for the PC-21 incorporates a mission system developed by Datel Defence, which runs on an advanced mission computer supplied by Computing Devices. The software can be altered and installed quickly and this flexibility will enable the PC-21 to emulate various different fast-jet cockpit designs.



The Pilatus PC-7 aircraft – the proof of concept aircraft for the new PC-21 was built from PC-7 MkII modified to provide more jet-like handling.

## Link 16 certification for APC

**APC** achieved Link 16 certification for its Air Defense Systems Integrator (ADSI) at the first attempt, something no other company has ever accomplished. This success is an important part of APC's strategy to address an increasing market for command and control equipment with full interoperability. Joint and coalition interoperability using Link 16 is the most important change in co-ordinated military operations since data links were first introduced in the 1960s. The enhanced ADSI software underwent several weeks of strenuous testing by the US Government and involved the Army, Air Force, Navy and Marine Corps.

## Advanced Technology Projects for USSI and Hermes

**USSI** has been contracted to develop and manufacture Acoustic Sensor Node equipment in support of the US Navy's Deployable Autonomous Distributed System (DADS) demonstration. DADS is intended for use in support of shallow water Anti-Submarine Warfare operations.

The award, which expands both USSI's product line and customer base, resulted in USSI President, Roland Fritts, being interviewed live on local television station NBC33. He is pictured being filmed in USSI's lobby and live on screen.

**Hermes Electronics** is to develop the next generation Digital Directional Acoustic Sensor Module for the Canadian Department of Defence. This module which utilises a state-of-the-art digital telemetry system, will enable much faster decision making and will be especially valuable in applications such as ship-borne torpedo defence.





*New appointments, promotions and who's moving where!*

**Mike Clayton** has been appointed Business Director, Naval Systems at Command & Control Systems where he was previously Naval Systems CBU Manager.



Mike Clayton

**Bill Garnsey** has been appointed Finance Director at Command & Control Systems where he was previously Financial Controller.



Bill Garnsey

**Andrew Neal** joined Electrics Division as the Components Business Unit Manager. Andrew joined Ultra from the Royal Air Force.



Andrew Neal

**Melissa Carter** has been appointed Director, Army Programs at APC Inc having joined the business as a Program Manager from the US Army.



Melissa Carter

**Chris Schneider** has joined Measurement Systems Inc as Quality Manager. He joins from local company, MagneTek.



Chris Schneider

**Tom Cooper** has been appointed Director of Engineering at Flightline Electronics where he was previously Director of Software Engineering.



Tom Cooper

**Julie Brookes** has joined Ultra as Business Development Manager, SBS at Datel Defence. She joins from KSS Software.



Julie Brookes

## Airbus SMILES Rating

**Controls Division** was ranked as 'excellent' by Airbus Industrie under their Customer Support supplier ratings for the year 2000. The ratings, known within Airbus as the SMILES programme, review and measure supplier performance using feedback received from the aircraft operator community. Controls Division's achievement in coming sixth in the programme reflects the excellent support provided by the Ultra team to airlines across the world.

## Hermes ISO Upgrade

**Hermes Electronics** was one of the first companies in Atlantic Canada to receive the upgraded ISO9000 certification to 2000 standard in August.

## Happy Birthday!

**MSI** has introduced monthly birthday breakfast meetings hosted by Ken Tasch, President, and Sara Galullo, Human Resources Manager. In addition to being a good way to say 'Happy Birthday', the breakfasts provide a forum where



suggestions and ideas are solicited and discussed within a relaxed setting. This has also provided a great way of encouraging the exchange of ideas between departments.

## Still investing in people

**Electrics Division** is very pleased to have had its status as an Investor in People confirmed, following their 3rd re-assessment since first receiving the award in July 1992.

The standard now has an improved focus on results achieved and



INVESTOR IN PEOPLE

continuous improvement. External assessors are mainly interested in what the employees say and whether or not development processes are working for them.



# on the spot



Graham Salmon,  
Datal Defence

*Graham Salmon is a Senior Software Engineer at Datal Defence having joined the company in 1991. He is single and lives in Preston, Lancashire.*

**What do you enjoy about doing your job?**

The varied nature of the projects that I have been involved with.

**What is the biggest challenge in doing your job?**

Trying to progress my allocated tasks whilst supporting other activities.

**Most important lesson learned to date during your career?**

Never to expect two days to be the same and to always have an enjoyable time whilst at work.

*Kathleen Watts is Director of Programs at Flightline. She began her career as a software engineer and progressed into management. Kathleen, who lives in Honeoye, NY, admits to still thinking she is a software engineer!*

**What do you enjoy about doing your job?**

Interfacing with customers worldwide. Previously I travelled to US military bases, and now I've had the opportunity to visit both England and Spain.

**What is the biggest challenge in doing your job?**

Keeping all of the receiver variants straight. Every customer wants something just a little different.

**Most important lesson learned to date during your career?**

It's the people that are important. Projects come and go; some never make it to the production phase. It's the personal relationships you build that last a lifetime. Seeing a young graduate grow into a successful engineer and knowing that you were their mentor is priceless.

**Your favourite hobby/pastime?**

Spending time at the lake water-skiing or just reading a good book while catching some sunshine!

**If you had more spare time what would you choose to do with it?**

Probably more caving and climbing, though I should really use it to work on my house which is getting neglected.

**Where would you most like to visit in the world and why?**

To China again, this time to Leye Country, Guangxi Province, to progress our previous expedition with the China cave project.

**Your favourite food?**

Curry is usually up at the top of my list, though after being away on a trip, I would say fish and chips.

**Your perfect week-end?**

A weekend ski mountaineering in the French Alps.

**Stranded on a desert island, what three personal possessions would you most want to have with you?**

A clockwork radio, my toolkit (to build a deckchair) and a cocktail recipe book!



Kathleen Watts,  
Flightline Electronics

**If you had more spare time what would you choose to do with it?**

I'd volunteer more.

Currently I am a youth leader and have had the opportunity to go to Honduras on a missionary trip. I think children are the world's greatest resource.

**Where would you most like to visit in the world and why?**

Recently we took an order for a receiver from Poland so my hope is to go and sell more receivers or do a training programme. My grandparents emigrated from Poland and I think it is exciting that a once communist country has joined NATO.

**Your favourite food?**

American Pizza – no egg on top!

**Your perfect week-end?**

Sitting at the lakeside listening to the crickets while sipping a glass of red wine with a handsome man who is a good conversationalist.

**Stranded on a desert island, what three personal possessions would you most want to have with you?**

My Bible, my cell phone and my binoculars!





The Ultra Team - wet, shattered but happy!

## Raft Race

**Weapons Systems** sponsored a team in a raft race organised by Salt of the Earth, a charity which helps to transform the lives of the poorest communities in Southern India. The team was captained by Chris Jones and raised over £700.

## Dream Run

Ray Brown of **Command & Control Systems** completed the 2001 London Marathon, in his first attempt, sponsored by Ultra and many friends and colleagues. Ray, who is more used to 2 mile treadmill running, raised £1374 for **Dream Flight**, a charity that provides holidays of a lifetime for children whose illness causes them pain and



distress. Ray's efforts raised more than enough money for a child to go on a flight to Disney World, Florida.



## Taking the Plunge

Mac Collier an Engineer from **Electrics Division** decided to retire on reaching the age of 70! Mac ensured an exciting build up to his retirement by doing a tandem skydive at Queenstown, New Zealand. Mac is pictured mid-plummet.

## Feedback



I hope you enjoy this issue of Ultra News. If you have any comments or ideas for future issues please give them to your local newsletter contact or e-mail me on [jack.telfer@ultra-scs.com](mailto:jack.telfer@ultra-scs.com)

*Jack Telfer*

## Memory of Xi'an



Earlier this year, Alan Welsh of **Noise & Vibration Systems** visited Xi'an, China. His task was to provide training on the operation and maintenance of the Active Noise and Vibration Control System and the Propeller Balancing and Monitoring System on two Dash 8Q 400s operated by Chang'an Airlines. His lasting memory of the trip was the sight of the world famous Terracotta Army.

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**Noise & Vibration Systems** - Stephanie Lawrence

**Ocean Systems** - Richard Farwell

**PMES** - Julie Graddon

**Signature Management Systems** - Denis Gwillt

**Sonar & Communication Systems** - Carol Doyle

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**Weapon Systems** - Kerry Wildin



# Ultra News

ISSUE 16

The Newsletter for Ultra Electronics Employees

Spring 2002

## Sonar breakthrough



Ocean Systems has been selected by the BAE Systems Prime Contract Office to supply bow sonar systems for the Royal Navy's new Type 45 "Daring" class of Destroyers.

The initial contract will be for the first six ship sets of equipment and will be worth approximately £20m, excluding long term logistic support. The delivery of the equipment for the first ship is planned for 2004. The bow-mounted Medium Frequency Sonar will provide the ships with the ability to protect themselves against submarine and mine threats by providing target detection, classification and tracking, in real time. The sonar has been developed in conjunction with EDO Combat Systems in Chesapeake, USA. A close teaming relationship has been formed with EDO which involves the full

transfer of technology to Ultra. The Type 45 contract award follows Ultra's selection for the UK Surface Ship Torpedo Defence programme as featured on pages 2 and 3. This establishes Ultra as a strategic supplier of sonar systems to the UK's armed forces.



Members of the project team pictured with Ray Coles, MD Ocean Systems, Dr Julian Bligh, Chief Executive and Douglas Caster, MD Information and Sea Systems.



## Heathrow Terminal 5

FASL has been selected by BAA as the Systems Integrator for London Heathrow's new Terminal 5 project. Over the seven-year life of the project, FASL will be responsible for managing a budget of approximately £30 million.

In addition to the complete integration of the terminal building's and airfield's control and monitoring systems, FASL will also be responsible for implementing all the public information displays throughout the new terminal building.

### In this Issue

Product Capability –  
Torpedo Defence

Financial  
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for 2001

Armoured  
Vehicle  
Electronics

Prop-Balance  
successfully  
demonstrated

Environmental  
Policy

HiPPAG Contract  
for Trigat

Plus

Interview – Chief Executive • Ultra Bytes • People in the News • On the Spot



## Product Capability

## Torpedo Defence

Continuing our issue-by-issue review of key capability areas, we now focus on the Surface Ship Torpedo Defence (SSTD) System for the Royal Navy. The contract will be in stages with the first two, involving £3m of interim development funding, now awarded. The subsequent stages, to a total value of £53m, are expected to be released during 2002. The system is expected to enter service by 2004.

3 Tactical displays for situational awareness



"The Torpedo Defence Programme is set to be Ultra's largest contract award to date. It reflects Ultra's ability to win contracts for integrated systems of ever-increasing size and to combine the technologies and skills of five Ultra divisions to meet the MoD's requirements in a competitive manner. We have beaten international competition to win the programme, and the stand-alone nature of Ultra's solution gives the system strong export potential."

Dr Julian Blogh

1 Ultra's system and software integration

6 Advanced countermeasures defeat or decoy the torpedo

## A little history

Ultra has a long association with torpedo defence and is a market leader in the UK for underwater battlespace equipment. Ultra has been producing towed and expendable countermeasures for over 15 years. Since the early 1990s, the Royal Navy and the US Navy have together studied how to improve the protection given to their warships from torpedo attack. Ultra was a major player in the joint US/UK Surface Ship Torpedo Defence (SSTD) feasibility and demonstration programme. In the late 1990s, the Royal Navy

decided to proceed alone to equip its major ships with a new torpedo protection system.

**What is SSTD for?**

The system detects and locates incoming torpedoes and provides the means to decoy or jam the homing mechanism of the torpedo. The system also provides the Captain with tactical advice on ship manoeuvres. The UK's SSTD solution is designed to be easily integrated with other ship's systems, thereby enhancing the system's suitability for export.

Torpedo Defence



# fence

2 Intercept sonar picks up the torpedo homing system



4 The ship's countermeasure launch equipment



5 Ultra's towed array senses the torpedo threat



## The Combined Strength of Ultra

Ultra's winning SSTD solution demonstrates how the Group has developed a world-beating capability. Working together, the combination of Ultra businesses has produced a formidable capability to develop and produce the SSTD system:

- **Sonar & Communication Systems** leads the team and draws on its years of experience in underwater acoustic detection, acoustic countermeasure devices, advanced systems engineering and successful project management of multi-company projects.
- **PMES** is expert at sensing the hostile transmissions that may indicate a torpedo is about to be launched. PMES also specialises in the detection of a torpedo's active homing system.
- **Hermes Electronics** will supply the array of sensors that is towed behind the ship to detect acoustically the incoming torpedo once it is in the water.
- **Ocean Systems** brings great experience of providing the electronics that process the signals from the acoustic detection system.
- **Datel Defence** strengthened Ultra's systems and software capability and their expertise is a key element of the winning SSTD team.





A Japanese maritime self defense force P-3C alongside a US Navy P-3C as part of Exercise RIMPAC

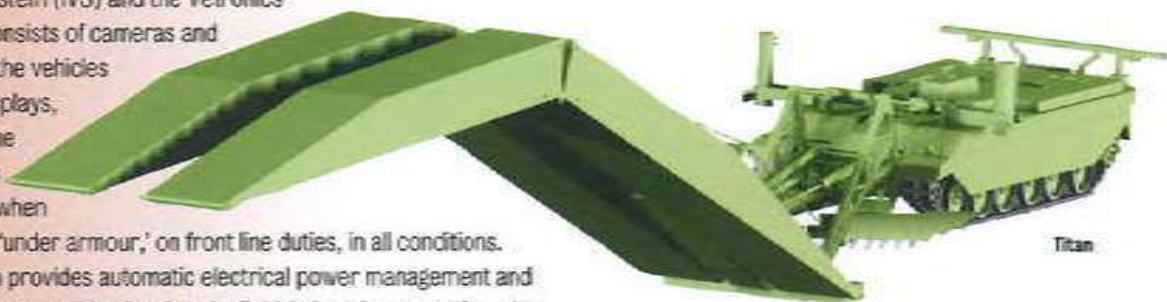
## US Sonobuoys Award

Undersea Sensor Systems Inc (USSI) has been awarded sonobuoy production and engineering contracts worth \$24.3 million by the US Navy. These awards will take USSI's cumulative sonobuoy production past the 5 million mark. Hermes Electronics and USSI recently combined product lines to provide the Japanese Maritime Self Defence Forces with their entire sonobuoy requirements for the RIMPAC exercise. This marks the first time that Ultra Electronics has provided production sonobuoys to Japan in support of their participation in this large scale, multi-national exercise which takes place annually in Hawaii.

# Armoured Vehicle Electronics

Ultra  
bytes

**Electrics Division** has been awarded a contract that will be worth in excess of £11m from Vickers Defence Systems to supply electronics for its Engineer Tank System (ETS). Ultra will supply two major sub-systems: the Indirect Vision System (IVS) and the Vetronics System. IVS, which consists of cameras and sensors mounted on the vehicles linked to flat-panel displays, will greatly improve the situational awareness of all crew members when operating the vehicle 'under armour,' on front line duties, in all conditions. The Vetronics System provides automatic electrical power management and conservation. The systems will be fitted to the British Army's new engineering vehicles – Titan and Trojan. The importance of this contract extends beyond ETS as similar systems will be offered for other platforms currently under consideration.



Titan



Trojan

## Enduring Freedom

APC's ADIS (Air Defense Systems Integrator) is used by US Joint and Allied Forces worldwide and has played a significant role in a number of conflicts, most recently in Operation Enduring Freedom in Afghanistan. ADIS fuses together data from many different military sensors and datalinks in order to display a real-time view of the tactical battlespace.





Aerial view of Kansas City International Airport

## Kansas City Award

FASL has recently commenced work as Systems Integrator and Multi User Flight Information Display Systems supplier for Kansas City International (KCI) Airport.

Under the contract, which is valued at almost \$9 million, FASL will provide a complete information management and display solution for KCI. The contract award has prompted FASL to set up a new company in Kansas City. FASL Inc. will provide greater visibility for the Company and a much improved base to support a growing client list in North America. Working with a local US based company, a comprehensive helpdesk and support environment will be established that is set to expand to include FASL's other operational sites in North America.

## Advanced Crypto Systems

**Sonar & Communication Systems** has been awarded contracts worth £12m for advanced encryption systems for use by the British Army, Royal Navy, and Royal Air Force.

BEDERAL comprises an encryption device and special messaging software hosted on highly specialised 'TEMPEST certified' equipment together with associated peripherals. EUGENIC is a stand alone general purpose cryptographic device for point-to-point communication.



Members of the team with the equipment

## Power for Channel Tunnel Link

PMES has commenced delivery of modular electrical substations for the £5.2bn Channel Tunnel Rail Link (CTRL). These new substations will provide increased capacity where Britain's first high-speed line joins the existing railway at Fawkham Junction, Kent. The trackside substations, which will be supplied as twelve modular buildings, as pictured, provide and control the direct current traction supply required by the Eurostar trains.

Andrew Freer, Managing Director of PMES, commented, "Ultra Electronics PMES pioneered the concept of modular DC substations for traction applications in the early 1990s, and in the last three years has seen a significant increase in their application. PMES is now established as a leading UK supplier of rail power systems."





## Interviews the Chief Executive – Dr Julian Blogh

**Q Was 2001 a good year for Ultra?**

**A** The Group once again produced record levels of sales and profits in 2001 although at a lower level of growth than we have historically enjoyed. The terrible events of September 11th had an impact on our performance although we were able to counterbalance this through some notable contract wins. Our operating cash flow was very strong and we ended the year with a good increase in the order book.

**Q What has pleased you most about the year?**

**A** If I had to pick one thing it would be the excellent cash flow that enabled us to reduce our debt at the year end. This was particularly pleasing following a couple of years of mediocre cash performance. I could point to many other achievements across the businesses. Winning a number of significant contracts, many of which are important to the Group's strategic development would rate very highly. Examples of these contracts are reviewed in this issue including our selection for the Royal Navy's Surface Ship Torpedo Defence programme and our participation in the Vickers Engineer Tank System.



**Dr Julian Blogh**

**Q Ultra seems to be winning larger contracts. Does this signal a marked change in strategy?**

**A** More than a change in strategy it reflects both Ultra's growing capability and, of course, the confidence of our customers. The Group strategy sees Ultra continuing to develop at a component, product and sub-system level and these are all important product areas of the Group. Our customers will often be the major prime contractors

and we will continue to support them whenever an opportunity requires. The growth of our involvement in sub-systems should not be regarded as a lessening of interest in supplying components or products.

**Q There were no significant acquisitions in 2001. Is Ultra no longer keen to expand in this way?**

**A** Since 1995 there has been a steady flow of acquisitions culminating in our largest, the DF Group, in April 2000. Acquisition will remain a core part of our strategy to maintain an acceptable level of growth. As always, acquisition candidates will be considered carefully but we will continue to look for healthy organic growth from our current businesses. In 2001 we consolidated those businesses acquired in recent years and we are now well placed to make an acquisition in 2002, should the right opportunity arise.

**Q Over the last few years Ultra's share price does not seem to have increased. What is your view of this?**

**A** Over the last few years our share price has ranged between about £3.60 and £4.60. Of course I find this a little disappointing as, I expect, do many employee shareholders. However, if you compare Ultra's share price with both the FTSE 100 or other companies in our particular sector, Ultra has performed well. I am sure that if the Group continues to grow its sales and profits, the share price will eventually react positively. I talk regularly to our shareholders in the City and they are happy with the good, consistent results that Ultra achieves.

**Q Have your goals for Ultra changed?**

**A** Not in overall terms. We continue to work towards achieving 'mid-cap' status as a public company on the UK Stock Exchange. Achievement of this goal is in part dependent on the market itself, but from Ultra's perspective it remains important that we continue to deliver results in line with the City's expectations.

**Q What would be your key message to Ultra employees?**

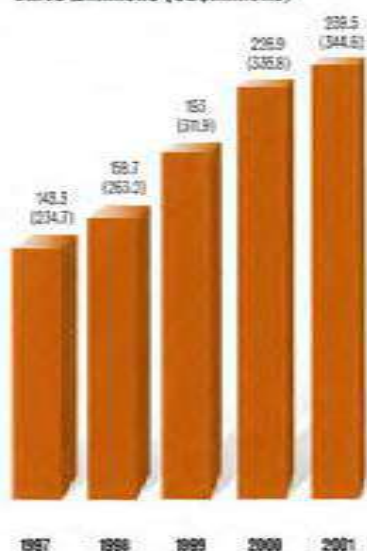
**A** Firstly, thank-you for your efforts over the last year. In practical terms, I would like us all to ensure that Ultra meets its commitments to its customers, suppliers and employees. So the key message is, when we commit to something, we must do everything required to meet that commitment.



# Financial Results 2001

On 25 February 2002 Ultra Electronics Holdings plc announced its results for the twelve months to 31 December 2001. Sales increased by 6% to £240m. Profit before tax and amortisation of goodwill grew by 6% to £27.1m. Following a strong cash performance net debt fell to £40.6m. At the year end the Group Order Book was up by 15% to £315m.

Sales £Millions (US\$Millions)



Profit £Millions (US\$Millions)



Order Book £Millions (US\$Millions)

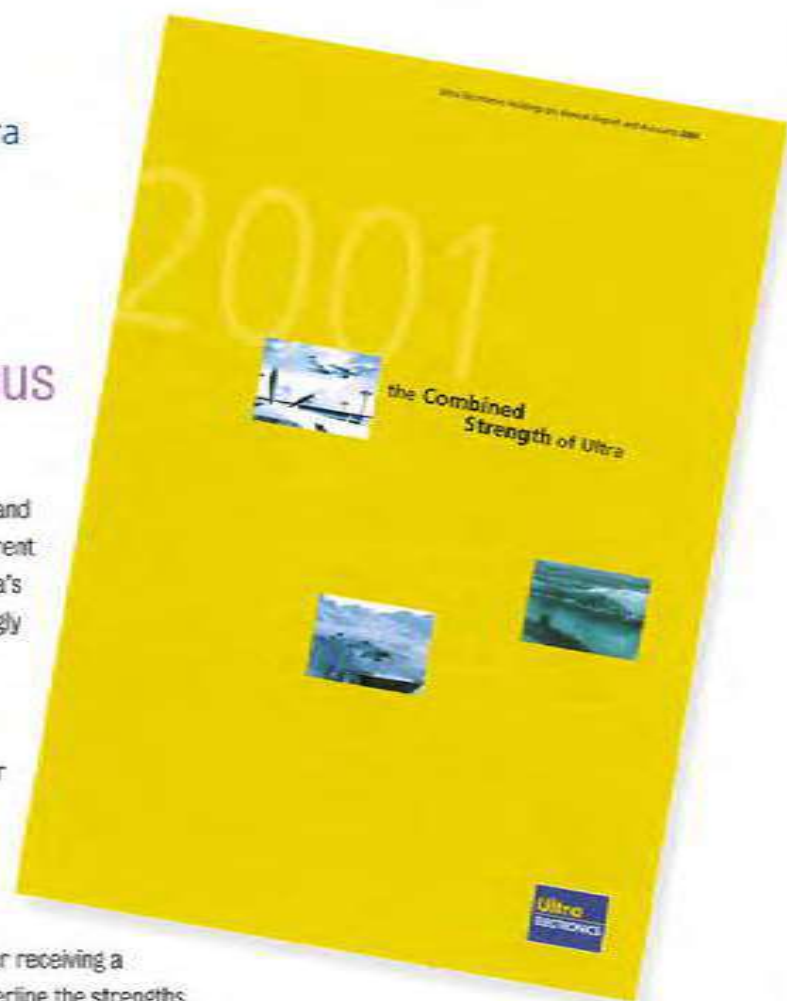


the **Combined Strength** of Ultra

## 'Combined Strength' focus for 2001 Annual Report

This year the underlying theme of the 2001 Annual Report and Accounts is the 'Combined Strength' of Ultra. Taking different product areas, the report demonstrates the range of Ultra's capability and highlights how our businesses are increasingly supporting each other in the marketplace.

Production of the report takes a great deal of planning. Andy Hammett, Group Marketing Director, said, "We typically start the process in the autumn and work with our advisors to select the theme and main items to be featured in the report. As a publicly quoted company, the contents are reviewed and verified by our auditors, lawyers, stockbrokers and merchant bankers. Once cleared, we print over 5,000 copies, with each shareholder receiving a copy. We also use the Report throughout the year to underline the strengths of Ultra to customers, partners and suppliers."





## The Lean Team

The Precision Wiring Systems (PWS) business unit of **Electrics Division**, is one of ten key suppliers participating in Messier-Dowty's Supplychain Group initiative which aims to drive process improvement and elimination of waste throughout the aerospace supply chain. Working with Messier-Dowty to analyse and improve the production of Landing Gear harness kits, the PWS team (pictured right) can now deliver kits of harnesses on a 'next day, as required for build' basis. Delivery of these kits has now been 100% on-time, defect-free for over 14 months, taking overall delivery performance on the full product range supplied to Messier-Dowty from an average of 82% in 2000 to 96% in 2001. At the same time PWS has achieved significant reductions in build cycle-times and stock-holding as the waste elimination techniques have been cascaded throughout their supplychain.



## HiPPAG Contract for TRIGAT

**Weapon Systems** has been awarded a £4m production investment and series production contract by EADS, Germany, to supply their High Pressure Pure Air Generator (HiPPAG) on-board compressor for integration into a launcher on the Eurocopter Tiger helicopter. Each HiPPAG will support four Long-Range TRIGAT missiles. Production deliveries will commence in 2004.

Weapon Systems has recently manufactured its 1000th HiPPAG 320 unit. This 'mark' of HiPPAG is in service with the US Marine Corps, US Navy, the Italian Navy and is due to enter service with the RAF. It is also in production for the Eurofighter. Employees of Weapon Systems are seen celebrating this achievement.



## Supplychain Excellence Programme

During 2001 Ultra was invited by BAE Systems to participate in their Supplychain Excellence Programme process after Ultra had been identified as one of their 17 strategic or 'enterprise' suppliers. BAE Systems recognises the large number of programmes for which we supply key equipment and services. The competitive business environment within which we all work means that BAE Systems will have to develop itself, and its supplychain, into a lean and agile enterprise. A dedicated team has been set up within BAE Systems to provide support and training in the implementation of the tools and techniques to facilitate 'cost-down' requirements.

**Electrics Division, PMES, Datel Defence and Command & Control Systems** are all involved in the process.

Recognition as a Gold, Silver or Bronze supplier is dependent upon meeting three criteria:

1. Performance against delivery, quality, cost-down and relationship key performance indicators.
2. Business assessment against the European Foundation for Quality Management standard and the submission of a continuous improvement plan to increase the score against the standard.
3. The adoption and deployment of Lean or Manufacturing Excellence tools and techniques, e.g. 5S, 7 Wastes, SPC, JIT, Kanban.

## 1 + 1 = 3!

**EMS** and **SMS** are working together on systems for the UK Type 45 Destroyer with a due date for the first shipset in early 2003. This is the third contract on which these two businesses have collaborated. The first started approximately two years ago on the UK Astute programme and the first of these systems is now in First Article Testing in the UK Environmental Labs. The second contract was for sensors for the US Navy and SMS is in early design development. Co-operative effort between EMS and SMS has proven to be beneficial to both teams.



# Technology in focus

Ultra News

keeping you informed on  
the technology front



## MSI for Crusader

United Defense LP (UDLP) has awarded **Measurement Systems Inc. (MSI)** a contract for the multifunctional hand control for the new Crusader self-propelled 155mm Howitzer crew station. Crusader will be a highly mobile and quickly deployable military vehicle for the US Army and this

is due in part to a reduction in weight from a 60-ton fighting vehicle, to a 40-ton lean machine. MSI's ergonomically versatile design, which will give the Driver, Gunner and Commander the ability to perform each operator's role, was a factor in the weight reduction of the vehicle.

## Prop-Balance Successfully Demonstrated



Vibration resulting from unbalanced propellers on turbo prop aircraft not only leads to discomfort for the passengers and crew but also to increased wear and tear on the bearings, gearbox and avionics. This results in high maintenance costs for aircraft operators. **Controls Division** has now developed Prop-Balance, a very compact, lightweight product that continuously compensates for any propeller imbalance in flight and will dramatically reduce maintenance costs. Prop-Balance was successfully demonstrated to the US Navy on Hamilton Sundstrand's new NP2000 propeller at Windsor Locks, Connecticut.

## Hermes Arrays for DUSS

In support of Ultra Electronics Ocean Systems' contract with NATO SACLANT Centre, **Hermes Electronics** is completing final

integration and test of a high power low frequency transmitter and its adjunct volumetric receive arrays as part of the Deployable Underwater Surveillance System (DUSS) test bed. Final delivery of the DUSS arrays to SACLANT Underwater Research Centre (SURC) in La Spezia, Italy is scheduled for the end of May 2002. The photographs show the surface buoy (below) and the transmit array (above), both under test in Hermes' acoustic tank facility.





*New appointments, promotions and who's moving where!*

**Rakesh Sharma** has been appointed Managing Director of Sonar & Communication Systems based in Greenford. He was previously Managing Director of PMES. In his new role Rakesh will also oversee the activities of Flightline Systems.

**Rakesh Sharma**



**Andrew Freer** has joined Ultra as Managing Director of PMES. In this role he will also oversee the activities of Signature Management Systems and EMS Development Corporation. Andrew joins Ultra from Alstom Power Conversion where he most recently held the position of Vice President, Naval Business.



**Andrew Freer**

### Investor in People



MD Keith Thomson is pictured with People Development Manager, Marion Bradley.

Congratulations to **NVS** for achieving accreditation as an Investor in People. Having completed a diagnostic review in October the successful final assessment followed in December. The business has learned a great deal from the feedback and has already made further improvements. The whole NVS team has been involved and was delighted to receive official recognition of the business as an Investor in People.

### Environmental Policy published

Recognising Ultra's environmental responsibility a Corporate Environmental Policy was developed during 2001 and published by the Board at the beginning of this year. The primary focus of the Policy is to ensure that Ultra complies with all applicable legislation with particular reference to standards for air, waste disposal and noise and to the economical use of materials. The Policy will be implemented during 2002 with a contact on each site responsible for the process locally. Guidelines will provide a framework within which each business can respond in ways appropriate to their activity. The implementation will include the setting of performance improvement objectives relevant to each business.

### Lean learning for MSI

**MSI** has been identified as a key supplier to Lockheed Martin Information Systems. As a result of this, Ken Tasch, President, Chris Rountos, VP of Operations and Gordon Zippi, Continuous Improvement Manager attended a week long Lean Leadership training session sponsored by Lockheed Martin at the University of Central Florida. World-class experts facilitated training in lean processes, six sigma, customer value and creative problem solving.

## New name for Flightline

**Flightline Electronics** has changed its name to **Flightline Systems** to more closely reflect the nature of its business. The change coincides with the move of the business to a nearby facility. Final details of the move are being finalised as Ultra News goes to print and will be featured in our next issue.

## CBT Training for NVS Customers

**NVS** has produced a sophisticated state-of-the-art multimedia CD-ROM for Dash8 Q-series operators. The team, led by Mick Birch, included Rob Nelson, Alan Welsh, Kay Perkins (whose voice can be heard in the spoken sections) and Bombardier Aerospace. The Computer Based Training (CBT) covers system operation, use of maintenance equipment and comprehensive hyperlinked troubleshooting. Containing animation, voiceovers and other modern features it will help operators manage their systems more effectively and reduce the



support they require.

The CBT is available free of charge and has been well received by customers. It was recently a finalist for a 2002 Flight International Aerospace Award in the modifications and maintenance category (along with Controls Division for the PropPower product).



# on the spot



Charles Coakley,  
EMS Development  
Corporation, with  
his wife Jeanne

*Charles Coakley, works as Manufacturing Manager at EMS Development Corporation, having joined in 1982 as an apprentice assembler. Charles is married to Jeanne and has one daughter – Jennifer. They live in Moriches, New York.*

**What do you enjoy most about doing your job?**

Participating in a particular project from concept to its final completion.

**What is the biggest challenge in doing your job?**

Meeting the tight scheduling of multiple tasks.

**Most important lesson learned to date during your career?**

Expect the unexpected.

**Your favourite hobby/pastime?**

Boating, golf and being with friends

**If you had more spare time what would you choose to do with it?**

I would spend more time boating – the season is short here.

**Where would you most like to visit in the world and why?**

Probably my own country – USA, it is so large with many different people and places. A coast-to-coast trip for an entire summer sounds great.

**Your favourite food?**

Nothing beats a good New York Pizza.

**Your perfect evening – or weekend?**

Taking my boat to a private nature reserve on Long Island with my wife, dropping the anchor and watching the sunset. A little wine with a good grilled swordfish would complete the evening.

**Stranded on a desert island, what three personal possessions would you most want to have with you?**

My surf casting fishing pole, a solar powered blender and a golf club – sand wedge of course!

*Sally Rustige is a Finance Assistant who joined FASL 18 months ago after having worked for Ferranti International and Marconi. She is single and lives in Stockport, Cheshire.*

**What do you enjoy about doing your job?**

The variety of work involved, the day to day dealings with internal and external customers and the pressure of working to tight deadlines which some months can be a challenge.

**What is the biggest challenge in doing your job?**

I find it a hassle trying to get timesheets in at the end of each month, especially from some of the engineers.

**Most important lesson learned to date during your career?**

Never come to work with a hangover!

**Your favourite hobby/pastime?**

Playing football – I play for Manchester City Ladies FC in the Premier League Northern Division (even though I support the red half of Manchester). I also enjoy 5-a-side football and badminton.

**If you had more spare time what would you choose to do with it?**

It would have to be to decorate my house which I bought six months ago. It has been a bit neglected lately.

**Where would you most like to visit in the world and why?**

I would like to go to Prague, not just for the cheap beer, but to see the sites as well.

**Your favourite food?**

Chinese or Pizza, but I do like the odd chocolate bar here and there!

**Your perfect evening – or weekend?**

If it couldn't be a date with David Beckham then it would have to be a night in with all my mates, a take-away, loads of alcohol and a good video!

**Stranded on a desert island, what three personal possessions would you most want to have with you?**

Mobile phone, Sky TV and a football!



Sally Rustige,  
FASL



## Tough Guys



Tony Overbury, Wireman/Fitter (pictured below), and Martin Williams (above), Quality Engineer at **PMES**, both completed the arduous Tough Guy 2002 Challenge on a



very cold wet day in January. The challenge was to run six miles over the toughest, wildest terrain and then immediately complete a two mile SAS type assault course – not for the faint hearted. Tony and Martin's training schedule was severely hampered when Tony broke his ankle early on,

and Martin pulled a calf muscle just two months before the event. But, undeterred, the lads undertook a gruelling schedule to be fit for the Challenge. Tony and Martin were amongst 6,000 competitors and finished in 592nd and 878th place respectively. With sponsorship from work colleagues and friends they raised £800 between them for a local charity.

## Sport – but not as we know it!

Dormant muscles came to life, placid individuals became competitive and bursts of speed came from unexpected sources. With a range of events to challenge even the Olympics, **Sonar & Communication Systems** took to a local sports field for an afternoon of fun (!) and relaxation (!!). Various teams

competed in events such as racing, soccer, frisbee and darts. One of the highlights was a relay race between the team captains and the business management team – sadly no pictures of this particular event were made available to Ultra News.



Throw that frisbee!

## It's a WRAP



NVS launched a cost-saving initiative at the end of 2001. The WRAP (Will Really Affect Profit) board in NVS' reception was covered with suggestions on Post-it notes after a matter of weeks. The savings totalled many thousands of pounds. The awards for the best suggestions were presented at the end of

the year to Daniel Clever, Larry Marchant (sharing first prize) and joint runners-up Emma Missing (now on maternity leave) and Treasa Coutts.

## Feedback



I hope you enjoy this issue of Ultra News. If you have any comments or ideas for future issues please give them to your local newsletter contact or e-mail me on [jack.telfer@ultra-scs.com](mailto:jack.telfer@ultra-scs.com)

## Top Dogs

Iain Lewis of **Command and Control Systems** is pictured with his five Border



Collies – Owen, Skye, Cloud, Bella and Stella. Last year was one of Iain's most successful with his collies winning several awards competing in flyball, agility, breed showing and heelwork to music. Skye and Cloud were part of the British flyball summer championships winning team. Cloud also qualified for the world famous Crufts Show and, although missing out on the final line up, enjoyed a great day out.

## Ultra ELECTRONICS

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- Flightline Systems – Judy Arnold
- Hermes Electronics – Dorothy Rice
- Measurement Systems Inc. – Sara Galukio
- Noise & Vibration Systems – Rob McDonald
- Ocean Systems – Richard Farwell
- PMES – Julie Graddon
- Signature Management Systems – Mick Kilgariff
- Sonar & Communication Systems – Carol Doyle
- Undersea Sensor Systems – Carol Reilly
- Weapon Systems – Jackie Reece



# Ultra News

ISSUE 17

The Newsletter for Ultra Electronics' Employees

Autumn 2002

## Going for growth



APC's new facility

Advanced Programming Concepts of Austin, Texas, has seen record growth in demand for its battlespace IT systems. APC's sales will increase by over 50% this year.

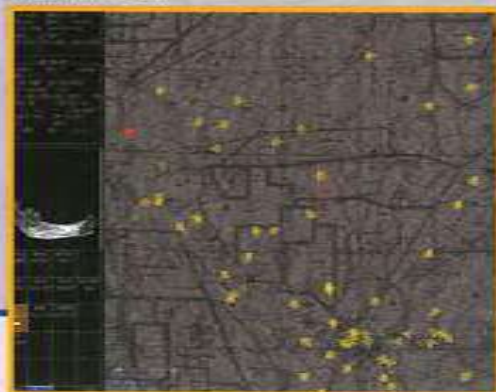
Growth has been driven by both the development of a new product and a requirement to accelerate the development of the existing Air Defense System Integrator (ADSI)<sup>™</sup>, which now has over 270 systems installed worldwide. The increased pace of development of ADSI reflects the emphasis in the USA on acquiring systems that improve the speed and flow of tactical data around the battlespace.

APC's new product is the Multi-TADIL Processor (MTP). MTP will provide real-time processing, forwarding, and management of the Tactical Digital Information Links replacing the US Navy's existing Command & Control Processor. MTP is

expected to be a key element of the command and control system of all major US Navy combatant surface ships and eventually tactical aircraft as well.

Over the last eighteen months employee numbers at APC have almost doubled and, on top of all this activity, the business relocated in July to a new 40,000 sq ft facility in North Austin.

ADSI displays a real-time view of the tactical battlespace (example screen below) which may include military aircraft such as those above.



## Interim Results

Ultra Electronics Holdings plc interim results for the six months to June 2002 were announced in August. The strong set of results has been well received and press commentary was positive.

Sales were up 9.3% to £125.6m (US\$194.7m) and operating profit up by 4.8% to £15.6m (US\$24.2m). The Group's order book stood at £319m (US\$495m) at the end of June.

### In this Issue

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Product Capability

# Battlespace IT

## Battlespace IT



Douglas Caster,  
Managing  
Director,  
Information &  
Sea Systems

In this issue we focus on Ultra's growing capability in the field of battlespace IT.

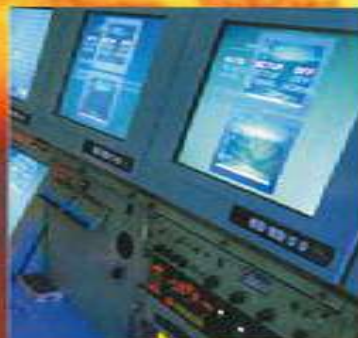
"Success in warfare is now closely aligned with possessing better intelligence than the opposition. Today the differentiator is not just the quality of information available but the speed at which it can be collated, interpreted and acted upon. Ultra offers a range of capabilities to enable the effective management of real-time information flows. The recent acquisition of Tactical Communication Systems (see page 7) further extends our range of offerings in this key area."

**Command & Control Systems** – each platform (e.g. ship, submarine, aircraft) uses a variety of sensors to gather information. These sensors include radar, sonar, optical systems and even the human eye! On each platform information is fed into a command system that collates and manages the data for use and onward transmission. (Command & Control Systems)

**Data fusion** – the Air Defence Systems Integrator (ADSI) has the capability to fuse together data from several radars and multiple datalinks in order to display a real-time view of the tactical battlespace. The key is

drawing on information from many sources and then presenting an up to the minute picture in a clear and usable format. (APC)

**Datalinks** are the means by which the various participants in a taskforce can share with each other information gathered from their sensors. Datalinks enable the various command systems to communicate. (APC, Command & Control Systems, Sonar & Communication Systems)







**Operational planning** – Ultra offers a range of high technology tools to support planning and communication in the battlespace:

- **Geographic Information System – TACISYS** (TACtical Information SYStem) enables the printing of up to date maps on a regular basis by drawing together the latest topographical and intelligence information. (Command & Control Systems)
- **Collaborative Planning** – the Olympus birdtable is a large flat screen table that enables electronic maps to be presented in the traditional way. The map can be annotated using a light pen and the system responds to voice commands. This allows those around the table to discuss and plan the campaign. (Command & Control Systems)

**Military Communications** – UHF military line-of-sight radios and systems serve as the backbone of modern tactical radio networks. These networks provide secure battlefield trunk telephone



and high capacity data telecommunication services to link battlefield theatre commanders and their combat forces. (Tactical Communication Systems)

**Cryptographic equipment** – for tactical datalinks and much speech communication, information is encrypted to prevent interception by unfriendly forces. (Sonar & Communication Systems)



**Armoured Vehicle Electronics** – modern armoured vehicles are increasingly being fitted with advanced digital management systems. Ultra is developing databus technology to pass this digital data, including video images, around these vehicles. On the MINDER mine detection and neutralisation project, systems fuse sensor information to find and classify mines. (Electrics, Command & Control Systems)



**Weapons Interfacing** – systems that interface to torpedoes and Tomahawk cruise missiles to provide targeting instructions. (Command & Control Systems)





Pilatus PC-21

## PC-21 Unveiled

Pilatus Aircraft has unveiled its new PC-21 trainer aircraft, which has been in development since 1999. The aircraft is designed to revolutionise the turbo-prop / jet training environment, through the use of a glass cockpit design and a flexible mission computer system. Dattel's ability to rapidly develop displays that emulate a customer's existing aircraft is a key selling feature of the PC-21.

The mission computer system developed by Dattel Defence is responsible for the processing and display of all the mission data. The flexibility built into this system enables the instructor to disable functionality on the student's display without affecting safety.

During the roll out there was a full demonstration of the avionics displays and a successful first flight followed soon after.

## Receiver Upgrade

The US Navy has awarded Flightline Systems a contract worth over US\$2.2m to perform a technology refresh of the ABR-84 sonobuoy receiver. This receiver has been in service with the US Navy's SH-60 Bravo and Focktrot ASW helicopters since the early 1980's and, with this upgrade, the service life of the receiver will be extended through to 2020.

Ultra  
bytes

## NVS Retrofits

NVS has helped Royal Wings of Jordan to install an Active Noise and Vibration Control system into one of its Dash-8 aircraft. Royal Wings is a regional subsidiary of Royal Jordanian Airlines. The new system includes Ultra's integrated on-board Propeller Balance Monitoring System, which has also recently been purchased by Air Niugini to upgrade one of its Dash-8 aircraft.

## New Generation Barra

Sonar and Communication Systems has been awarded a contract worth approximately £3m to develop and manufacture an improved sonobuoy, Barra, which is used for the detection, localisation and prosecution of submarines.

The sonobuoy is a third generation variant of the highly successful design, first manufactured by Ultra in 1991. The latest generation Barra uses digital signal processing to provide improved detection performance in challenging ocean environments. It will enter service with the RAF Nimrod and Royal Navy Merlin fleets in February 2004.

Members of the Barra project team at Sonar and Communication Systems







## Level Crossing Safety

**Electrics** has been awarded a number of contracts from railway maintenance contractors GTRM, Serco and Amey for level crossing microswitch circuit controllers.

In a bid to improve safety and reliability on the rail network, a new 'fit and forget' low maintenance switch was designed and trackside tested over a 12 month period, culminating in Railtrack Safety Case approval for use on level crossing barriers. In excess of 200 units have been supplied to date, with further variants now under development.

## HiPPAG Deployed on Super Hornet

**Precision Air Systems'** HiPPAG system has entered service on the Super Hornet (F/A-18 E/F). HiPPAG performed flawlessly in the harsh F/A-18 E/F wingtip environment. In July 2002 USS Lincoln, deployed with Super Hornets, left for a long tour of duty in the Pacific. Further squadrons are taking deliveries of HiPPAG-equipped launchers.

Super Hornet F/A-18



## EMS for T-AKE

**EMS** has been awarded the T-AKE Advanced Degaussing System (ADGS) Contract by NASSCO. The T-AKE vessel is the US Navy's latest Dry Cargo / Ammunition Ship. The contract will be for the development and delivery of two shipsets with options for ten more ADGS systems.

## Advanced Controller for FCS

**Measurement Systems Inc** has been awarded a contract from General Dynamics to supply a new advanced controller for evaluation for the Future Combat System (FCS). The Controller consists of MSI's patented Hall Effect technology in the hand control, along with a robust pedal assembly and interface box. This important programme will be a foundation of many Unmanned Ground Vehicles (UGV's) for years to come.

## BA choose UltraTrak

The security of hold baggage has been much in the news recently and **FASL's** UltraTrak provides Positive Passenger Baggage Matching (PPBM), a significant contribution to any hold baggage security infrastructure.

The system which is in operation at Boston, Miami and Orlando, will be extended to JFK, Philadelphia, Newark and Washington Dulles after British Airways has subscribed to FASL's North American PPBM Service at five airports.





## Chief Executive's Review

I am pleased to write this review following another successful period for the Group. We have again been able to report half year results that were well received by the London stock market. I do not take this achievement for granted and appreciate the contribution from all employees to these results.

Entering the FTSE 250, which includes companies ranked from 101st to 350th by market size on the London stock market, was an important top level objective for the Group and since our entry in June, our position in the FTSE 250 has been further consolidated. The impact of this may seem small but it helps in elevating the profile of the Group with the investor community and so is important for our future development. The Group's new objective is to be the 250th largest company on the London stock market by December 2005. You will hear more about this in the near future.

Since the half year we have made further progress. The confirmation of the SSTD contract, featured in our last issue, is a significant achievement. Recent contract awards will also help to underpin our growth. July saw our largest ever monthly order intake of £60.5m, taking the Group's order book to a new high of £357m.

The acquisition of Tactical Communication Systems adds to our range of capabilities in the field of battlespace IT and communications. I am impressed by the capability of this business and welcome all in TCS to Ultra. As part of our strategy, the Group continues to consider additional acquisitions, but we will be selective to ensure that acquired businesses can perform in their own right and also contribute to the strategic development of the Group.

With our customers and key suppliers, our objective is for a long term relationship which is essential for our continuing success. Meeting our commitments to them will help to ensure that this objective is achieved.



**Dr Julian Blogh**

## 1,000th HiPPAG for the US Naval Air Command

Precision Air Systems has just delivered the 1,000th HiPPAG 320 to the US Naval Air Command. The British Embassy hosted a celebratory reception to honour this occasion. The event was used to present the 1,000th 'gold plated' unit to Capt. Bob Wirt of NavAir.

HiPPAG first entered service with US Services in the mid 1990's and is used to cool the infrared seekers in air-to-air missiles on AV8-Bs, F-18 aircraft and AH-1 Cobra helicopters. Precision Air Systems has recently received a further order for 160 units valued at over US\$5m.



Pictured are Paul Benson (centre), Capt. Bob Wirt (left) and Major Fred Jones. Capt. Wirt formally accepted the 1000th unit on behalf of NavAir.

## What's in a name!

Several businesses within Ultra Electronics have changed their trading names. Weapon Systems has been renamed Precision Air Systems to better reflect the true nature of the HiPPAG product range.

Ocean Systems has been renamed Manufacturing & Card Systems following the decision to make the Sonar Systems business in Weymouth a business unit within Sonar & Communication Systems. The Naval Sonar Systems team will continue to be based at Weymouth.

Hermes Electronics will in future operate as Maritime Systems, a name that will better position the business for the long term.



# Introducing Tactical Communication Systems

## Tactical Communication Systems

(TCS) became part of the Ultra Group in September following Ultra's purchase of the Military Communications Division of CMC Electronics, Inc. Located in Montreal, Canada, the business is a leading global supplier of line-of-sight (LOS) radios and systems for mid-range tactical communications. These systems typically provide secure, battlefield trunk telephone, video and data telecommunications services to link battlefield theatre commanders and their combat forces. TCS has been a market leader for over 30 years and is well established

with a range of next-generation radios and systems developed over the last five years. The business has been selected for the world's two largest LOS radio programmes with the United States and South Korean armies. In addition, contracts are in place to supply

**"We are very pleased to be part of Ultra"**

tactical radios to the UK, Taiwan, Sweden and other allied nations. Many other countries have and are initiating communications modernisation programmes.



Alan Barker, President TCS

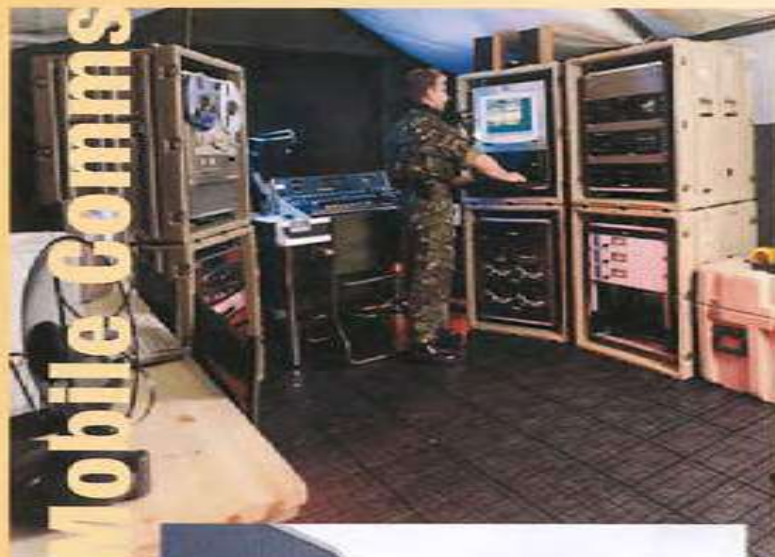
Employing just over 150 employees, TCS will continue to share the CMC

Electronics facility in Montreal. Alan Barker, President of TCS, said, "We are very pleased to be part of Ultra and look forward to both benefiting from and contributing to the success of the Group. Our technology is highly complementary with that of Ultra's existing businesses and we hope to explore mutually beneficial teaming arrangements within the Group to further enhance Ultra's offerings in battlespace communications."



Employees of TCS at their introduction to Ultra presentation





Above, the mobile unit ready for action. Right, the unit in its packed-up state.



## Mobile Comms

**Command and Control Systems** have recently completed a contract for the supply of a media and information system for operational theatres to the UK Information Support Group.

The system, which fits neatly into the back of 4 Pinzgauer all-terrain vehicles and their trailers, can print material, from pamphlets to colour posters, produce commercial quality radio broadcasts as well as capture and edit video footage. The unit can also communicate directly through a sophisticated mobile public-address system.

The fully mobile system plays an important role in peacekeeping operations and within a week of it being accepted into service, it was in operation overseas.



The Netherlands' Royal Wedding.

## Rio Rises to the Challenge

A South American distributor of Manufacturing and Card Systems that runs a bureau service, printing ID badges, loyalty cards, etc, recently received a large order from the Banco do Brazil for 150,000 cards to be completed in 15 days. This involved using 3 Magocard Rio printers and thanks to their heavy duty reliability and excellent print quality the order was completed in just 10 days.

Three Magocard printers also played an important role at the Netherlands' Royal Wedding between Prince Willem-Alexander and Princess Máxima. The printers were used in capturing the portraits and printing badges for the 5,000 guests attending the wedding and reception. Magocard printers were specified because the HoloKote anti-forgery system met the high security requirements of the Amsterdam police.

## Counterdrug Marker Sonobuoy

The US Navy has awarded a delivery order to **USSI** to evaluate and develop a new Counterdrug Marker Sonobuoy. The development and evaluation of this new buoy sensor device is in support of a new programme office formed within the Department of Defense (DoD). The DoD Counterdrug Technology Development Program Office is an important part of the new Homeland Security Agency formed by the Bush Administration in response to the terrorist attacks of 11 September, 2001.

## Closer links with Singapore

**PMES** has recently signed a Memorandum of Understanding (MOU) with Singapore Technologies Electronics Limited (STE) to jointly market PMES's Traction Power systems in Singapore and South East Asia. Reciprocally, PMES will jointly market STE products in the UK and Europe. The close links formed through this MOU serve to demonstrate the importance to both companies of this long-standing relationship.



Pictured left to right - Seah Moon Ming, President of Singapore Technologies Electronics, Yong Thiam Chang, President of Large-Scale Systems Group, Rakesh Sharma, Managing Director of Sonar & Communication Systems and Andrew Freer, Managing Director of PMES.



# Technology in focus

Ultra News

keeping you informed on  
the technology front

## Secure Collaboration

**UltraSBS**, part of Datal Defence, provides a secure collaborative working environment for the Future Offensive Air System (FOAS) Programme. Working with partner organisations, UltraSBS has established a secure environment for sharing protectively marked information (up to Restricted) between the Ministry of Defence (MOD) and its industry partners. The environment, hosted at Datal Defence, provides the Integrated Project Team (IPT) with web based document management and information sharing capabilities, team communications and collaborative tools (bulletin board, calendar, etc.) as well as business process support, including risk management.

Keith Smith of the FOAS IPT said, "The collaborative community is already starting to grow and will enable major productivity and operational efficiencies, resulting in improved project/business performance, reduced risk levels and enhanced quality of decision making."

Assisting the development of future air systems



## NVS Development Funding

**NVS** has teamed with QinetiQ to win funding from the DTI for a 2-year programme called **Active Isolated Research for Aircraft Trim (AIRAT)**. The third partner, **Bombardier**, has contributed a CRJ fuselage section. Now in its third phase the programme is establishing the viability of reducing structure-borne broadband noise in jet aircraft.

## Laplighs for Typhoon cockpit

**Electrics** will supply a cockpit floodlight for the Eurofighter Typhoon. There are 2 Laplights fitted per cockpit each having a swivel mount enabling all-round illumination.

The Night Vision Goggle compatible Laplight, providing additional lighting for the pilot, uses high brightness white LEDs as the light source and dims by the novel application of polarising filters. Environmentally sealed and gunfire vibration proof, these lights are rugged enough to withstand the loads imposed by canopy ejection tests.



*New appointments, promotions and who's moving where!*

**Alan McCartney** has been appointed Executive Chairman of FASL and will focus on winning new business and strategic business development.

Alan McCartney



**Graeme Stacey** has been appointed Director and General Manager of FASL with responsibility for operational performance. Graeme was previously Project Manager for the T5 project at Heathrow Airport.



Graeme Stacey

**Mark Doyle** has been appointed Director and General Manager of VES within Electronics Division. He was previously Business Director, Mechatronics.

Mark Doyle



**David Livesey** has been appointed SBU Director, BAE Systems at Datal Defence where he was Operations Manager. He is now responsible for Datal Defence's business with BAE Systems.

David Livesey



## New Name – New Home

On Friday, 16th August 2002, **Flightline Systems** hosted an open day to celebrate its move to a new 33,000 sq ft facility. This proved to be a wonderful opportunity for Flightline Systems to show off its new building and to publicise its new company name. Employees acted as enthusiastic tour guides and also answered questions about all aspects of the company's background and operations.

Among the distinguished guests was Bruce Lewis, Lt Col (Retired) and Project Manager

of the Canadian CP-140 Aurora Programme. Representatives from the American Legion took advantage of the occasion to present awards to company President, Carlos Santiago, to honour Flightline's ongoing commitment to the employment of American Veterans, and also in recognition of Flightline's efforts in supporting the employment of older workers.



Bruce Lewis (left) with Carlos Santiago (President Flightline Systems).

A good occasion for all on Flightline's open day.



## IIP for Datal

Datal Defence has achieved the UK Investors in People Standard. Having received excellent feedback from the assessment further improvements have already been made. Datal has a Development Focus Group, made up of 10 employees from across the business, which was involved with the HR team. All were delighted with the outcome, especially as it was the company's first assessment for the award.





# on the spot



Peter Jennings,  
Command &  
Control Systems

*Peter Jennings is the ILS Manager for Command & Control Systems involved on the Astute Project. He is married to Stevie and lives in Alresford, Hampshire, England.*

**What do you enjoy most about doing your job?**

The different facets to the job with a great boss (Creep!) and people to work with.

**Most important lesson learned to date during your career?**

Deal with work colleagues on a face to face basis. It's more personal and responsive that way and beats the phone (or the scourge of the modern era email) any day.

**Your favourite hobby/pastime?**

Morris Dancing and Rapper Sword Dancing with Ellington Morris from Maidenhead. It's great fun and good exercise too. Ellington Morris was formed in 1971 and named after the Domesday Book's name

for Maidenhead. We perform handkerchief and stick dances from the Cotswolds and also Rapper Sword Dancing from the North-East of England.

**If you had more spare time what would you choose to do with it?**

Travel to experience the way of life in different cultures. Water sports – I love water-skiing and windsurfing and would like to do some canoeing.

**If you could choose anyone, current or from the past, who would you most like to have a conversation with and why?**

Billy Connolly. The Big Yin doesn't have a serious bone in his body, so it would be a great night out!

**Your favourite food?**

The traditional British dish of curry! Such a variety of flavours in one meal.

**Your perfect evening (or weekend)?**

Sail a yacht across to the continent with a group of friends and have a great time.

**Stranded on a desert island what three personal possessions would you most want to have with you?**

Knife (very practical)

Yeast (good for bread and beer)

Girl Friday (ironing obviously)

*Sue Drohan works as a Senior Mechanical Engineer at USSl, where she has been employed for five years. Sue lives in Fort Wayne, Indiana with her husband Jim and their two children Hannah and Ryan.*

**What do you enjoy most about doing your job?**

Working with sonobuoys involves an incredible amount of variety due to the nature of the product. Also I'm currently working in both Design and Production Engineering, which means there's never a dull moment!

**Most important lesson learned to date during your career?**

Good communication skills (written and verbal) are invaluable. No matter how creative your ideas are, communication can make the difference between success and failure.

**What is the funniest situation that you have had to deal with at work?**

When I went on my first sea test for USSl (7 days at sea), I discovered I was prone to seasickness. It's funny now, but believe me, it wasn't funny then!

**Your favourite hobby/pastime?**

Playing with my children. We love games, walks, biking – anything we can all do together as a family.

**If you had more spare time what would you choose to do with it?**

I would go on more family outings, organise my

house, and complete all my unfinished craft projects.

**If you could choose anyone, current or from the past, who would you most like to have a conversation with and why?**

I would most like to meet my mother's parents who died before I was born. They emigrated from Austria to the United States and surely would have some interesting stories to tell.

**Your favourite food?**

I love pasta of any kind. Alternatively Chicago-style pizza with loads of cheese and mushrooms.

**Your perfect evening (or weekend)?**

A perfect weekend would be spent with my family and all of my siblings and their families (the weekend would be at one of their houses, of course!). We're a large group when we get together and we always have a great time.

**Stranded on a desert island what three personal possessions would you most want to have with you?**

I'd want a large supply of music and something to play it on, a library of books (all kinds, with MANY survival manuals – I'd need those), and an emergency stockpile of chocolate!



Sue Drohan, USSl





USSI

## Fun, fun, fun

Three businesses have enjoyed special events over the summer months pictured left. In May, **USSI** held an open day for its employees and their families. Everyone enjoyed facility tours, refreshments, balloon twisting for the children, and giveaways for all employees.



## Blow Your Horn!

Mark Richardson of **Command and Control Systems** (front middle of the picture) can be seen here performing with the Marlow Town Band for the Queen's Golden Jubilee visit to Marlow on the 10th May. Mark is currently the Band's solo horn player. When not playing in the band, Mark can be seen treading the boards with a local amateur theatre company. He recently appeared in the musical 'The Hunchback of Notre Dame.' Mark assures us that he wasn't playing Quasimodo!



EMS

**EMS** held a company picnic at the County Fair in Medford. Everyone enjoyed an afternoon of good food and activities, including go-karts, miniature golf and volleyball.



Controls

**Controls** hosted a summer fun day in August with a wide range of activities. Many managers were prepared to endure the stocks, getting soaked in the process.

Other activities included an inflatable assault course (well done to Martin Poltowicz's team), Punch and Judy and a magic show for the children. Hundreds of pounds were raised for charity.



Controls

## Swinging in the Rain

The 1st **PMES** Golf Challenge was won by Phil Bushnell with an impressive chip for a birdie at the last hole. Runners-up only 1 point behind were Keith Hall and Andy James (from SMS). During the match the Longest Drive was won by Andy James, Nearest the Pin - Stephen Terry-Short and Shortest Drive - Gary Foster. The wooden Spoon (and encouragement to take up a different game) went to Michael Sternbridge!



Andy Freer MD, **PMES** pictured right, presents golfing prizes.

## Feedback



I hope you enjoy this issue of **Ultra News**. If you have any comments or ideas for future issues please give them to your local newsletter contact or e-mail me on [jack.telfer@ultra-scs.com](mailto:jack.telfer@ultra-scs.com)

## Cape to Cape!



A team from RAF Wyton, sponsored by **Precision Air Systems**, has set a new record to be featured in the Guinness Book of Records. The team, pictured, cycled through 9 European countries, from Cape Tarifa on the Mediterranean to the Nordkapp in the Arctic. They cycled 5635kms in 9 days and 20 hours.

## Ultra ELECTRONICS

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- FASL** - Mark Kelly
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- Maritime Systems** - Dorothy Rice
- Measurement Systems Inc.** - Sara Gakule
- Noise & Vibration Systems** - Cathryn Snell
- PMES** - Julie Graddon
- Precision Air Systems** - Jackie Reece
- Signature Management Systems** - Mick Kilgariff
- Sonar & Communication Systems** - Carol Doyle
- Tactical Communication Systems** - Michel Fournier
- UnderSea Sensor Systems** - Carol Kelly



# Ultra News

ISSUE 18

The Newsletter for Ultra Electronics Employees

Spring 2003

## Mobile Comms for Middle East



A Tactical Area Communication Node in operation

Ultra Tactical Communication Systems (TCS) has won a significant contract to supply an advanced tactical mobile communication system to an undisclosed country in the Middle East. TCS's direct customer is Oerlikon Contraves, Rome, Italy. TCS's advanced radio products serve as the backbone of a modern army's tactical line-of-sight communication network. They provide secure battlefield trunk telephone and high capacity data telecommunication services to link battlefield theatre commanders and their combat forces.

The system now accommodates an ethernet network, e-mail and near-real-time video transmissions in addition to the usual voice communications. This high level of functional integration is facilitated by the incorporation, for this contract, of an innovative TCS product, the SuperHighway Appliqué.

This contract follows TCS winning the two largest programmes in the world for line-of-sight tactical radios for the US Army and the Republic of Korea.

## Queen's Award

Precision Air Systems (PAS) has been awarded the Queen's Award for Enterprise: International Trade 2003. This award recognises Ultra's success in expanding the export sales of its innovative HIPPAIR airborne compressor and over the last three years exports have almost trebled in value. Close to sixty per cent of PAS's sales is to the US DoD and a quarter of sales is to other export markets.



Members of the PAS team pictured last year

### In this Issue

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Navy Symposium

IIP for Command  
& Control Systems

Plus

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## Product Capability

## Airport Information Systems

## Airport Information Systems

In this issue we focus on Ultra's offerings in a field that may affect any of us who use airports – Airport Information Systems.

"With the continuing growth of air travel and increased pressure on many airports, the need to improve airport efficiency and security is high on the agenda. Ultra offers an impressive range of information systems to support airport management in addressing these challenges. With an increasing number of systems operational world-wide and a growing capability on offer, Ultra is well placed to play a leading role in this sector."



Douglas Caster,  
Managing Director  
Information and  
Power Systems

*Ultra's involvement in Airport Information Systems began with the development of the baggage reconciliation system, TagTrak, by Command and Control Systems. The range of offerings grew significantly following the acquisition of Ferranti Air Systems Limited (FASL) in April 2000. Since then the full range of systems has been renamed and marketed under the Ultra banner by FASL.*

#### Airline/Airport Operational Systems

##### UltraFIDS

System provides comprehensive flight information in configurable formats and in many languages for airport and airline users including management, staff and passengers.

##### UltraMIS

A fully scalable product that comprises a core flight database with a comprehensive integral suite of airport management and display functionalities.

##### UltraResource

System provides a range of resource allocation tools aimed at optimising the operation of a terminal through efficient stand, gate, check-in desk and baggage carousel allocation.

#### Airport/Airline Baggage Systems

##### UltraTrak

Designed to ensure that all hold baggage is 'accompanied' (reconciled) by its passenger by using either bar-coded tags or RF tagging. The

bag is reconciled to the passenger at every stage of its journey including hold loading and passenger embarkation.

#### Airport Systems Integration

More and more airports are now seeking operational efficiency through integrated solutions that share data between a wide variety of systems across the airport. Ultra has become the Systems Integrator for new airport developments such as London Heathrow Terminal 5 and terminal improvement programmes such as at Kansas City International Airport in the USA. Ultra's integration product range includes:

##### UltraControl

A Supervisory Control and Data Acquisition System (SCADA) that integrates operationally critical facilities and utility systems for the purpose of management control and monitoring.

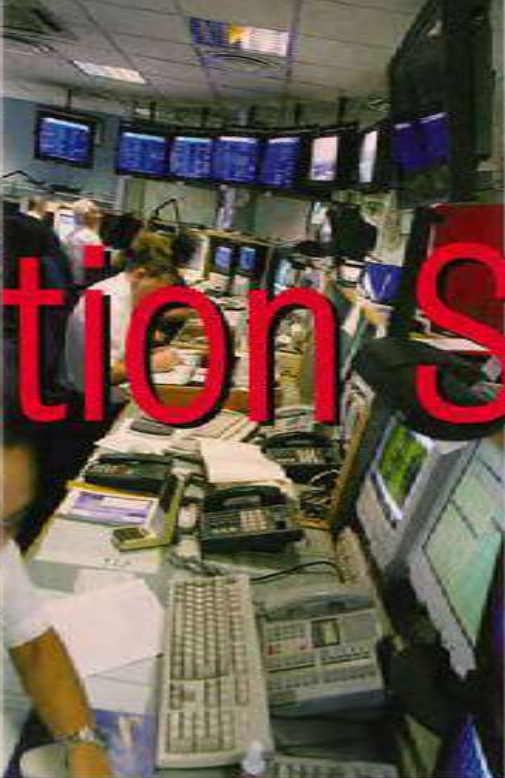
##### UltraDB

A central database of airport-related data, which acts as an information hub for the entire airport.





# tion Systems



## Where our systems are used:

Ultra is a global provider of airport and airline systems, spanning the globe from San Francisco in the West to Incheon in the Far East. Ultra provides its range of products at over fifty airports and to more than seventy airlines.

### Airports include

Manchester  
New York, JFK & Newark  
Incheon, South Korea  
Moscow, Domodedovo  
Budapest, Ferihegy  
Columbo  
Toronto, Lester B. Pearson  
Bahrain  
Stockholm, Arlanda

### Airlines include

British Airways  
Virgin  
British Midland  
United Airlines  
American Airlines  
Lufthansa  
Air France  
Cathay Pacific  
Uzbekistan Airways

## UltraTrak for Heathrow

Ultra has recently been awarded a £12m contract for the provision of a fully managed Baggage Reconciliation Service at London Heathrow Airport. Using the UltraTrak product, this will represent the largest and most sophisticated installation of its kind in the world with baggage throughputs in excess of twenty million bags per year.

Other recent UltraTrak successes include installations at airports in Vancouver and Bermuda and the recent contract award for nine international airports across Australia including Sydney, Melbourne and Brisbane.





## SHOLIS MK III Contract

The Ship's Helicopter Operating Limit Instrumentation System (SHOLIS) allows the Royal Navy to extend the range of conditions under which it can operate helicopters from Royal Navy vessels, whilst maintaining essential safety margins. PMES has received a contract valued at £2.2m for the supply of nine further vessel sets of SHOLIS equipment making a total of eighteen ordered to date.



# Ultra bytes

## Record Sales for Components Business

For the Components business unit of Electronics Division, 2002 was a record year for sales. A key area for growth was the supply of switches and

indicators for the Eurofighter Typhoon aircraft as it entered full production. In addition, Components' engineers have developed a

new range of LED indicators, as direct replacements for older magnetic indicators, initially for Super Lynx helicopters. The picture shows members of the

Components business unit and, inset, one of the new LED indicators for the Super Lynx.

Members of the Components team





## Sonobuoy agreement

**Sonar & Communication Systems** has signed a memorandum which is intended to lead to a 'Partnering Agreement' with the MoD covering the development and procurement of future sonobuoys and derivative systems. This will enable Ultra to be the sole source supplier to the Royal Air Force and Royal Navy. The memorandum was signed by Sir Robert Walmsley, Chief of Defence Procurement, and Dr Julian Blogh, Chief Executive of Ultra (pictured at the signing ceremony).

Ultra supplied over 170,000 sonobuoys in 2002 to a total of fifteen countries around the world. UnderSea



Sensor Systems Inc has since been awarded contracts worth US\$12m for the US Navy.

## Bowman Upgrade

The VES business within Electrics Division has received a contract to supply new crew station and vehicle electronics (vetronics) equipment as part of the UK Army's Bowman digital communication upgrade programme.

Electrics will be supplying equipment to help integrate Bowman with other advanced systems on vehicles such as Challenger 2, Warrior and Scimitar.



Challenger 2 battle tank

## Receiver Contracts

**Sonar and Communication Systems** and **Flightline Systems** have been awarded an initial production contract by Galileo Avionica to supply ARR-502(V)1 sonobuoy receivers for the NH-90 helicopter programme. These systems will include Ultra's innovative Sonobuoy Location System.

More recently, Thales, France, awarded Flightline Systems a contract for US\$4m to supply ARR-502(V)1 sonobuoy receivers for the Norwegian and Swedish Nordic Helicopter Programme. As part of this contract, Thales has included priced options to supply sixteen additional receivers for the Turkish Navy.

## Korean Destroyer

**Command and Control Systems** has been awarded a £7.7m contract by AMS to supply command and control system equipment for the Korean KDX-II destroyer programme. The system is totally integrated providing fully populated cabinets, consoles and maintainer facilities networked together through a distributed multi-processing system.



The KDX-II destroyer



## Interviews the Chief Executive – Dr Julian Blogh

**Q** 2002 looks like another successful year for Ultra. Do you agree?

**A** Together we have achieved an excellent set of results for 2002. Once again, we have reported record levels of sales and profits combined with an excellent operating cash flow. A record level of order book at the year end and key contracts won in the year provide a very solid platform for the future.

**Q** What stands out for you in 2002?

**A** Two areas, in particular, are vital for our future – our performance on current contracts and continuing to win new business. Ultra has performed in meeting our commitments on major programmes such as equipment for Nimrod, Eurofighter, Engineer Tank System; the UK Astute class submarine and the US Virginia class submarine. Major contracts won include the bow sonar for the Royal Navy's Type 45 destroyer, the main part of the Surface Ship Torpedo Defence contract, Battlespace IT systems for the US DoD and command systems equipment for the Korean KDX-II destroyer.

**Q** Has Ultra's entry into the FTSE 250 made much of a difference for the Group?

**A** Not in operational terms. Entry into the FTSE 250 was an important landmark in the continuing development of the Group. It certainly helps to raise the Group's profile among the investment community. This, in turn, should support the future development of the Group provided that we continue to perform in line with our long-term plans.

**Q** Do you see the strategy for the Group changing?

**A** We do keep both Ultra's strategy and objectives under review but, as our strategy continues to be successful, I do not see it changing at the present time. We will continue to focus on attaining strong market positions in selected aerospace and defence niches. We will achieve further growth by encouraging our current businesses to expand organically and also by making strategic acquisitions.

**Q** Ultra acquired Tactical Communication Systems in 2002. Do you expect further acquisitions in 2003?

**A** Thanks to the excellent cash performance of the business in 2002, we have entered 2003 with the capacity to acquire complementary businesses. To this end, we regularly review prospects but we will only pursue those that represent good value and that will prosper within the Ultra Group.

**Q** How does the City view Ultra's performance?

**A** Reflecting the increased level of interest in what we are achieving at Ultra, David Jeffcoat and I presented the performance of the Group at over forty meetings with potential and existing investors in Ultra. Feedback on our performance continues to be positive and our consistent delivery of results in line with our forecasts is appreciated. This is reflected in the fact that our share price, even though it has not risen

significantly in real terms, continues to outperform the FTSE 100, FTSE 250 and other companies in our sector.



**Dr Julian Blogh**

**Q** Can Ultra's strong track record of performance be continued?

**A** Achieving this is certainly something to which I am fully committed. In fact, the senior team has set a new target for the Group to become the 250th largest company in the UK by market capitalisation by the end of December 2005.

We have demonstrated over the years that we have the capability and commitment across the Group to rise to the challenges presented to us and to succeed. This has been a great team effort and I thank all of Ultra's employees for their contribution.

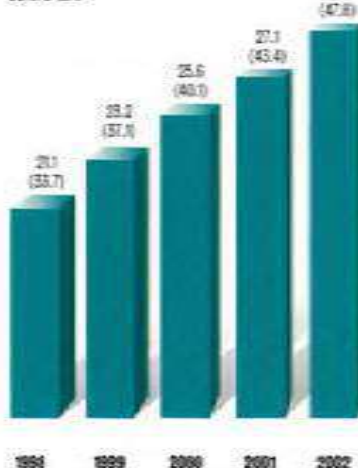


# Financial Results 2002

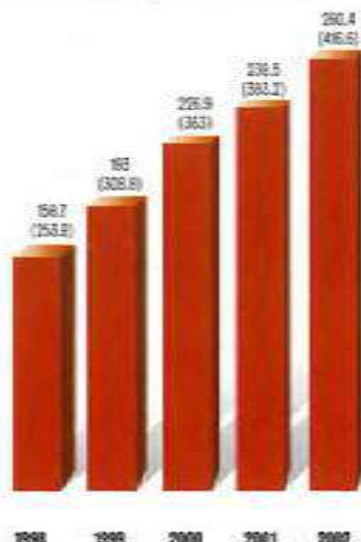
On 24 February 2003, Ultra Electronics Holdings plc announced its results for the twelve months to 31 December 2002. Sales increased by 8.7% to £260.4m. Profit before tax and amortisation of goodwill grew by 10.6% to £29.9m. A strong cash flow performance ensured that net debt fell to £39.3m at the year end. The Group order book closed the year up by 10% to £346m.

**Profit £Millions (US\$Millions)**

For each year the figures show operating profit before tax.

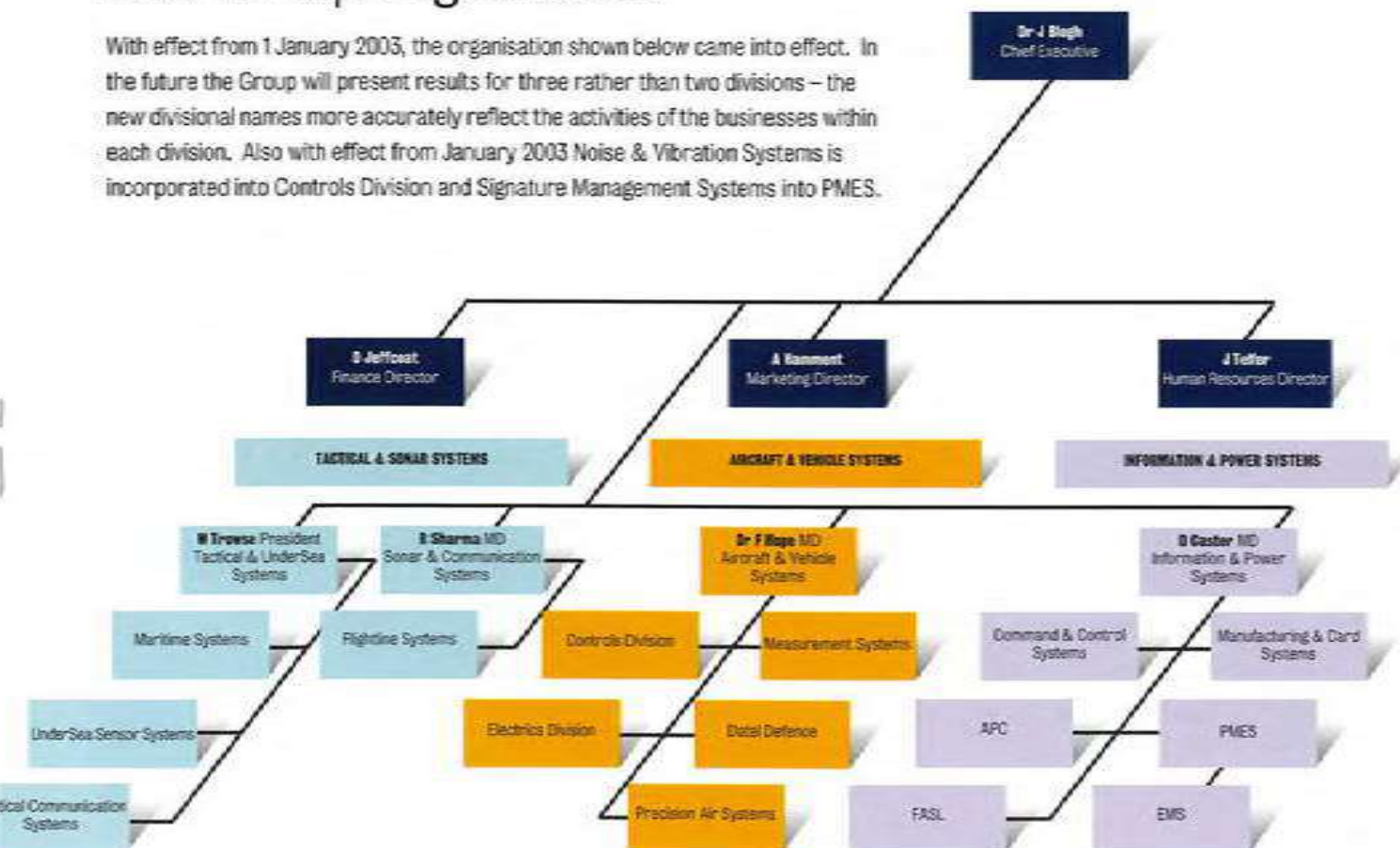


**Sales £Millions (US\$Millions)**



## New Group Organisation

With effect from 1 January 2003, the organisation shown below came into effect. In the future the Group will present results for three rather than two divisions – the new divisional names more accurately reflect the activities of the businesses within each division. Also with effect from January 2003 Noise & Vibration Systems is incorporated into Controls Division and Signature Management Systems into PMES.





## Type 45 Manufacture

On 28 March 2003 BAE Systems celebrated the start of the manufacturing stage of the Type 45 frigate programme at its Clydeside site. As part of the event Ultra Electronics was invited to participate in a small exhibition held in the hall where the Type 45 destroyer will eventually be assembled.



Pictured (left to right) Richard Bowcott, Marketing Manager, PMES, Kevin Butcher, Marketing Manager Naval Sonar, Sonar and Communication Systems, Douglas Caster, Managing Director, Information and Power Systems and Rakesh Sharma, Managing Director, Sonar and Communication Systems

## PMES helps HMS Ocean on her way

PMES engineers were called to HMS Ocean to investigate and fix a navigation system problem that had eluded its crew. Following a number of urgent telephone calls over the Christmas period, a trouble-shooting visit was made on 2nd January, only days before the ship was to sail for the Gulf. After 2 days on-board, the data distribution system was fixed and was declared fully operational, and ready for the mission.

Cdr. Green, head of the project team at the MoD, took the trouble to thank PMES personally for the rapid response to the emergency and for the professional skills shown in rectifying the problem so quickly.



## Korean Development Milestone

The SMS business within PMES has recently achieved a successful project milestone in obtaining customer acceptance of the first batch of production sensors for a Korean underwater surveillance project. Technical staff from Hanwha

(PMES's customer) and the Korean Agency for Defence Development attended the acceptance programme at our Hednesford facility and were delighted with the results achieved. Team members are pictured with visitors from Korea.

## Lean Manufacturing introduced at MSI

Internal objectives for 2002 within Measurement Systems included improving on-time delivery, increasing value to customers and reducing internal cost.

Lean Manufacturing was chosen as a tool to help achieve MSI's objectives. Management training took place at the University of Kentucky with Gordon Zippi, Continuous Improvement Manager, becoming the first manager at MSI to receive his certification in Lean Manufacturing.

Gordon then conducted company-wide internal training with all employees to introduce the programme and its principles. As a result of Lean Manufacturing efforts during 2002, the following improvements have been achieved:

- On Time delivery    Increased 8%
- Average lead time    Reduced 25%
- Warranty returns    Reduced 20%
- Rework hours    Reduced by 35%
- Labour cost    Decreased by 20.6%

From left to right are Harpal Dharwla, Gordon Zippi, Vanlack Luu, Mary Smalls and Singh Bui.





Technology  
in focus

Ultra News

keeping you informed on  
the technology frontPMES supports  
major rail upgrade

PMES's Transit Power Business Unit has recently been supporting the Strategic Rail Authority and Network Rail in a £900 million upgrade to the 750V DC (3rd Rail) Southern Region railway power supply system. The objective is to increase the capacity of the region's DC power supply system so it can cope with the increased power demands of the 'new generation' commuter trains. The Southern Region electrified railway comprises 2,500 miles of track with 686 substations and track paralleling huts.

PMES's capability in DC traction power supplies has put it into a good position to assist in this project. Very close co-operation between PMES and Network Rail has seen the design of the first two modular substation upgrades for Hove & Wrecclesham completed in record time. Furthermore, with the manufacturing phase nearing completion, these two substations will be delivered in an industry wide standard setting lead time. The 'normal' lead-time will have been cut in half. These achievements put PMES in a good position to increase its scope of supply on this large and prestigious project.



## De-icing for US Navy

Controls Division is currently developing a propeller de-icing system for the US Navy Orion P3C and Hercules C130 aircraft. The system basically comprises a cockpit interface unit, magnet ring assembly and a Hub Disc Assembly (HDA). The HDA, pictured, provides support for the generator windings, a control module, three power switch modules and a power distribution board. The HDA is mounted on the propeller hub and rotates at 1020rpm, generating 10kW of power that can be switched onto the propeller heater mats when de-icing is required.



Members of the Controls project team with the HDA

At 1020rpm the modules and components within the modules experience a constant 300g acceleration! The prototype system has been successfully spun at 1020rpm and is now demonstrating its reliability at delivering 10kW into a rotating load-bank.

State-of-the-art  
Wheelchair

MSI has been awarded a contract for its patented Hall Effect joystick for the iBOT™ Mobility System. This new state-of-the-art wheelchair is designed to give disabled people maximum mobility. The iBOT™ was invented by Dean Kamen of DEKA Research and Development Corporation and will be marketed by the giant US medical company Johnson & Johnson.

The iBOT™ is designed to rise vertically to eye-level and balance on two wheels. It also is designed to use its four wheels to cross rough terrain and go up and down stairs effortlessly. MSI's joystick

is a critical Human Machine Interface design feature as it electronically controls the movement of the iBOT™.





## People in the News

*New appointments, promotions and who's moving where!*

**Andy Barton** has joined Ultra as Technical Director at Controls Division. He joins Ultra from Goodrich.

**Alison Todd** has been appointed Commercial Director at Precision Air Systems, where she was previously Commercial & Marketing Manager.

**Dave Sulkowski** has been promoted to Vice-President Engineering at MSI where he was previously Engineering Manager.

**Gary Tyra** has joined MSI as Quality Manager. He previously held a similar position at Phototronics.

**Garry Earner** has been appointed Head of Marketing for FASL. He was previously Business Development Manager (Loudwater).



Andy Barton



Alison Todd

Dave Sulkowski



Garry Earner



Gary Tyra

## Investors in People

**Command & Control Systems** has achieved the Investor in People (IIP) accreditation. Mike Clayton, Business Director Naval Systems, and Geoff Hutton, HR Manager, are pictured receiving the award from

C4 television presenter Penny Mallory. Also IIP re-accreditation has been achieved at Precision Air Systems and Sonar & Communication Systems.



## Navy Symposium

**Ultra Electronics** participated in the 15th Annual Surface Navy Association Symposium held in Washington. EMS and SMS were the Ultra exhibitors with PMES and USSI also attending. Members of the Ultra team are pictured in the Ultra booth.



## Certified Supplier Status

**Measurement Systems Inc.**, an ISO 9001:2000 Registered Company, has announced that it has been granted Certified Supplier status by DRS Optronics, Inc. DRS Optronics use the certification process as a tool to identify and recognise high performing suppliers strategically important to its business.

base. Certified Supplier status allows MSI's products to go directly to DRS Optronics inventory with minimal receiving effort. In today's highly competitive environment, this process enables DRS to reduce cycle time and operating expense while maintaining confidence that the products will be defect free.



# on the spot



Alan Lake

*Alan Lake works as a Production Manager at Manufacturing & Card Systems, where he has worked for thirty seven years. Alan lives in Weymouth with his wife. He has two children and four grandchildren.*

**What do you enjoy most about doing your job?**

Problem solving and the unpredictability of each day.

**Most important lesson learned to date during your career?**

To listen, always rely on the facts and to be honest.

**Your favourite hobby/pastime?**

Pub skittles (member of team who last year won

the Weymouth & District Division 2 league), watching Weymouth FC, dancing and exhibiting rabbits & guinea pigs.

**If you had more spare time what would you choose to do with it?**

Spend more time with my grandchildren.

**Where would you most like to visit and why?**

Anywhere quiet and peaceful away from everyday life, in the country but near to the sea would be preferable.

**Your favourite food?**

Roast Sunday dinner.

**Your perfect weekend?**

A relaxing weekend away with a trip to the theatre and a nice evening meal.

**Stranded on a desert island what three personal possessions would you most want to have with you?**

A family photo album, a Swiss army knife and a pack of cards.

*Zoe Hawkins works as an Assistant Commercial Officer for Sonar & Communication Systems. She is married to Campbell and lives in Harrow, Middlesex.*

**What do you enjoy most about doing your job?**

Lots of interaction with colleagues from different departments, Ultra companies and contact with customers. Once a contract is awarded my job is to make sure we deliver everything we say we will over its lifetime.

**Most important lesson learned to date during your career?**

Never lean over an electronic paper shredder with a dangling tie – it really did happen to a colleague!

**What is the funniest situation that you have had to deal with at work?**

When I first joined the company I was doing some invoicing and came across the name, Ev Chambers, working eighty three hours every week on a particular project. A very hard working person I thought, looking across at someone I knew was called Ev. Only later I discovered it was the Environmental Test Chamber!

**Your favourite hobby/pastime?**

I am learning British sign language Stage 1 at college once a week. This has encouraged my interest in deaf issues and involvement with the

deaf community. I also like cinema, keep fit and I am learning the art of reflexology.

**If you had more spare time what would you choose to do with it?**

I really want to become more involved with charity work and it is my ambition to run a marathon. I have already completed several gruelling runs to the shops at the end of my road!

**Where would you most like to visit in the world and why?**

I really enjoyed my honeymoon last year in New Zealand and now I would like to go 'down under' again to visit Australia as my husband has family in Sydney. I love good weather, beaches, and good food and would also enjoy getting to know the people.

**Your favourite food?**

I am addicted to curry and have to have one at least every week.

**Your perfect evening (or week-end)?**

A good book and a foot massage.

**Stranded on a desert island what three personal possessions would you most want to have with you?**

A radio, a twelve month supply of curry and a crate of books.



Zoe Hawkins





## Generous Jeans!

Staff at FASL have been using their Friday 'Jeans Days' to collect donations for Francis House, a charity which cares for seriously ill children and also supports their families. Donations start at around £1 per person, although extra is often demanded from staff wearing football shirts of teams from south of Manchester! This latest donation, £2,107, was presented to Pam Daley of the Rainbow Family Trust (right) by Mair Cornforth (left), one of the Company's Project Managers and a keen participant in the fund raising.

## Professional Engineer

Graeme Siltoe of PMES is an active member of the Institute of Mechanical Engineers (IMechE) and helps run the Staffordshire Younger Members (YM) panel, based in Stafford.

The panel, which recently won an award for their efforts, sets out to encourage the development of young professional engineers and to raise

the profile of engineering within schools and industry. Through a range of events including a 'Get Chartered' evening, an Engineering Day at a local school, factory visits and lectures, the panel has seen membership increase in their area. Graeme admits that a major aim of the panel is to have fun,

"We have shown that you can do all this and still enjoy yourself - fun is an essential part of all our activities!"



Graeme Siltoe (second from right) with his colleagues from the panel



## Comic Relief

Staff at a number of sites joined in this year's Comic Relief Day, a nationwide initiative to raise money for a wide range of charities. The theme for this year's event was 'a mad hair day'. We include pictures from Electrics Division and Controls Division at Greenford and Cambridge.

## Feedback



I hope you enjoy this issue of Ultra News. If you have any comments or ideas for future issues please give them to your local newsletter contact or e-mail me on [jack.telfer@ultra-scs.com](mailto:jack.telfer@ultra-scs.com)



Jayne Marshall, Controls, Greenford

Top left, fund raisers at Electrics, left, Martin Pankhurst, Controls, Cambridge



## Ultra ELECTRONICS

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Command & Control Systems - Jessica Vincent

Controls - Julie Martin

Datal Defence - Cheri Wilkinson

Electrics - Pat Barratt

EMS Development Corporation - Lorraine Barr

FASL - Mark Kelly

Fightline Systems - Judy Arnold

Manufacturing and Card Systems - Richard Farwell

Maritime Systems - Dorothy Rice

Measurement Systems Inc. - Sara Galullo

PMES - Sarah Barker

Precision Air Systems - Jackie Reece

Sonar & Communication Systems - Carol Doyle

Tactical Communication Systems - Michel Fournier

UnderSea Sensor Systems - Carol Kelly



# Ultra News

ISSUE 19

The Newsletter for Ultra Electronics Employees

Autumn 2003



## JSF Contract Award

Paul Benson, MD of PAS with the Lord Lieutenant of Gloucestershire



After many years of development **Precision Air Systems** has secured a contract for the next generation F-35 Joint Strike Fighter aircraft. The contract, valued at around £2m for the development phase, has been awarded by the EDO Corporation of Long Island, New York. This is a significant milestone for PAS' pneumatic weapon ejection technology.

PAS has also secured further orders, valued at £4m, for its onboard pure air compressor system supplied to the US Marine Corps. This follows endorsement from the US Navy that the HIPAG system "... significantly enhanced combat

readiness and deployability' for its operations in Afghanistan and more recently in Iraq.

PAS recently celebrated its receipt of the Queen's Award for Enterprise. This was in recognition of the continued growth of its exports and reflects the efforts of everyone in the business. The Lord Lieutenant of Gloucestershire, pictured with Paul Benson, MD of PAS, joined PAS staff at a reception to celebrate the award. Three employees also represented the company at a formal reception at Buckingham Palace.

## US Acquisition • Stop Press • Stop Press •

Ultra has agreed to acquire the assets of BAE Systems Ocean Systems subject to the approval of US Regulatory Authorities. Ocean Systems employs approximately 80 people in Braintree, south of Boston, Massachusetts and is a world leading

provider of special purpose acoustic and radio frequency devices and systems for submarines, surface ships and acoustic test ranges world-wide. The business will report into Sonar & Communication Systems.

### In this Issue

Ultra Electronics – the first 10 years

Multi Static for Nimrod

Secure Collaboration

Substation Progress

Manufacturing Expansion

Latest on SSTD

Cockpit Mission Planning

Paris 2003

Plus

Chief Executive's Interview

• Ultra Bytes

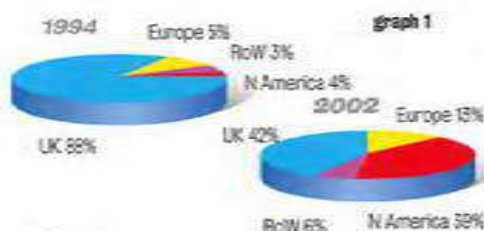
• People in the News

• On the Spot



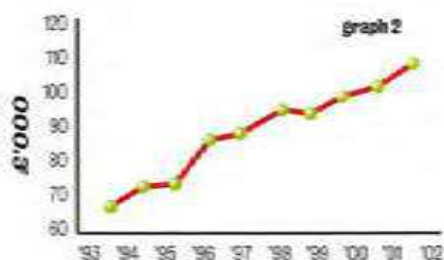
# Ultra Electronics –

Ultra Electronics celebrated ten years as an operating group with Monday, 13 October declared a day off for all Ultra employees. Ultra News reflects on changes over those ten years and remembers a few world events....



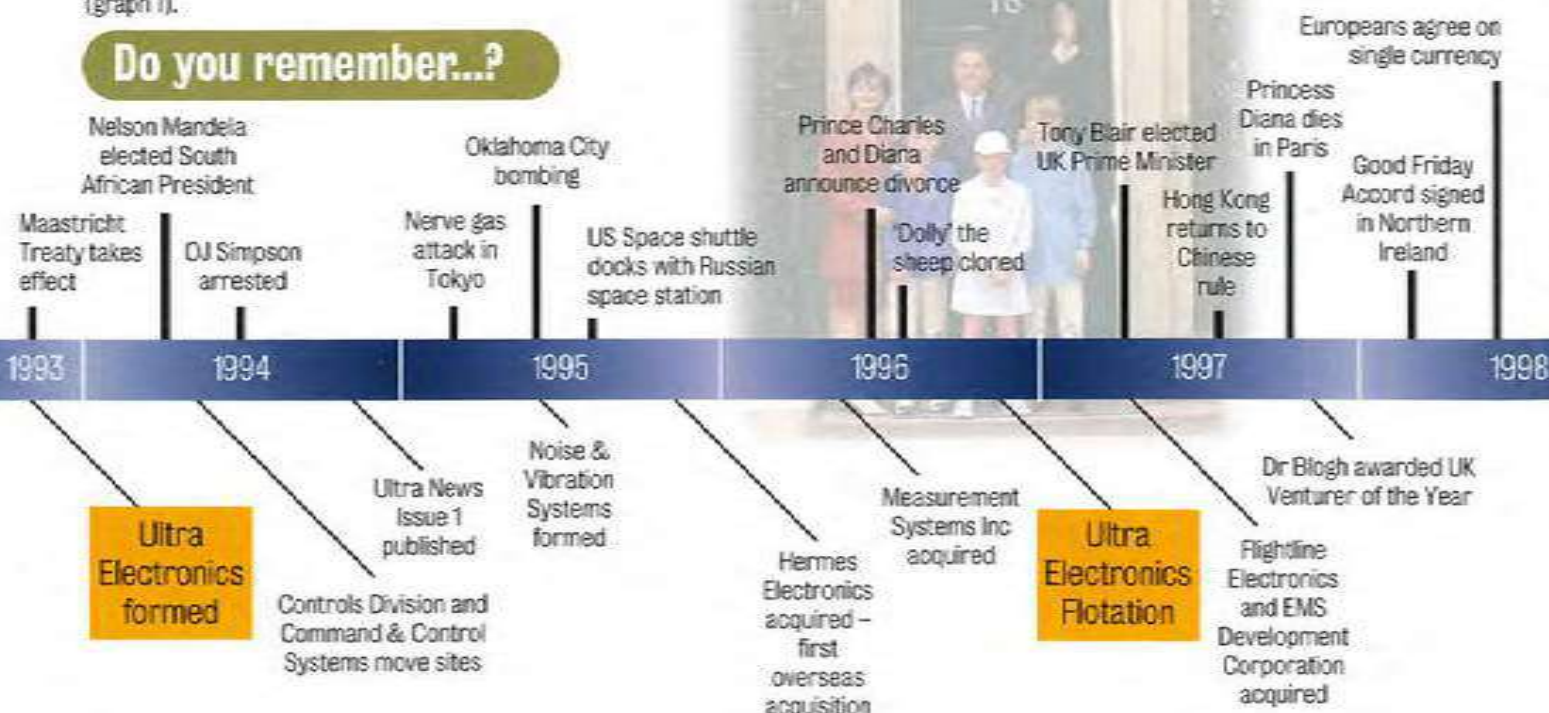
## Sales

Ultra has achieved an impressive sales growth since the buy-out in October 1993. Over this time the split of sales between defence and non-defence activities has not changed dramatically but the destination of



our sales has, with a significant increase in the proportion of sales to North America (graph 1).

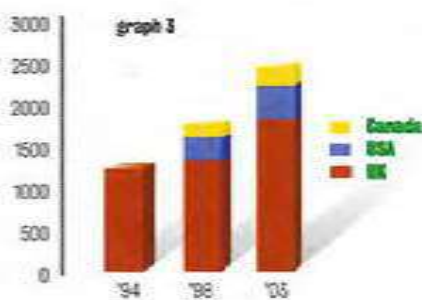
## Do you remember...?



The level of sales per employee has also risen steadily (graph 2) reflecting both Ultra's growing efficiency and an increasing emphasis on systems integration activities.

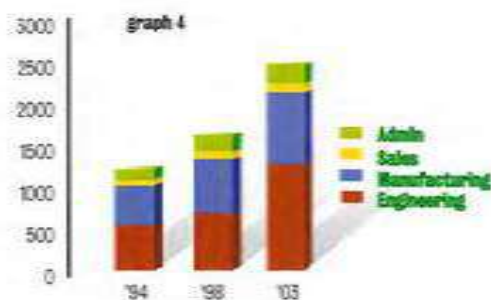
## Employees

The success achieved by Ultra reflects the capability and commitment of all its employees. In addition to the overall number employed, the location of employees has changed (graph 3),



Ultra News has changed over the years. Issue 1 was published in the autumn of 1994 so you are now reading issue 19! The design has been refreshed and the number of pages has increased from 8 to 12 as the Group has grown.

as has the split of our workforce by discipline (graph 4).





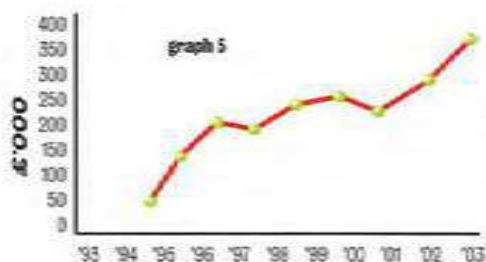
# the first 10 years!



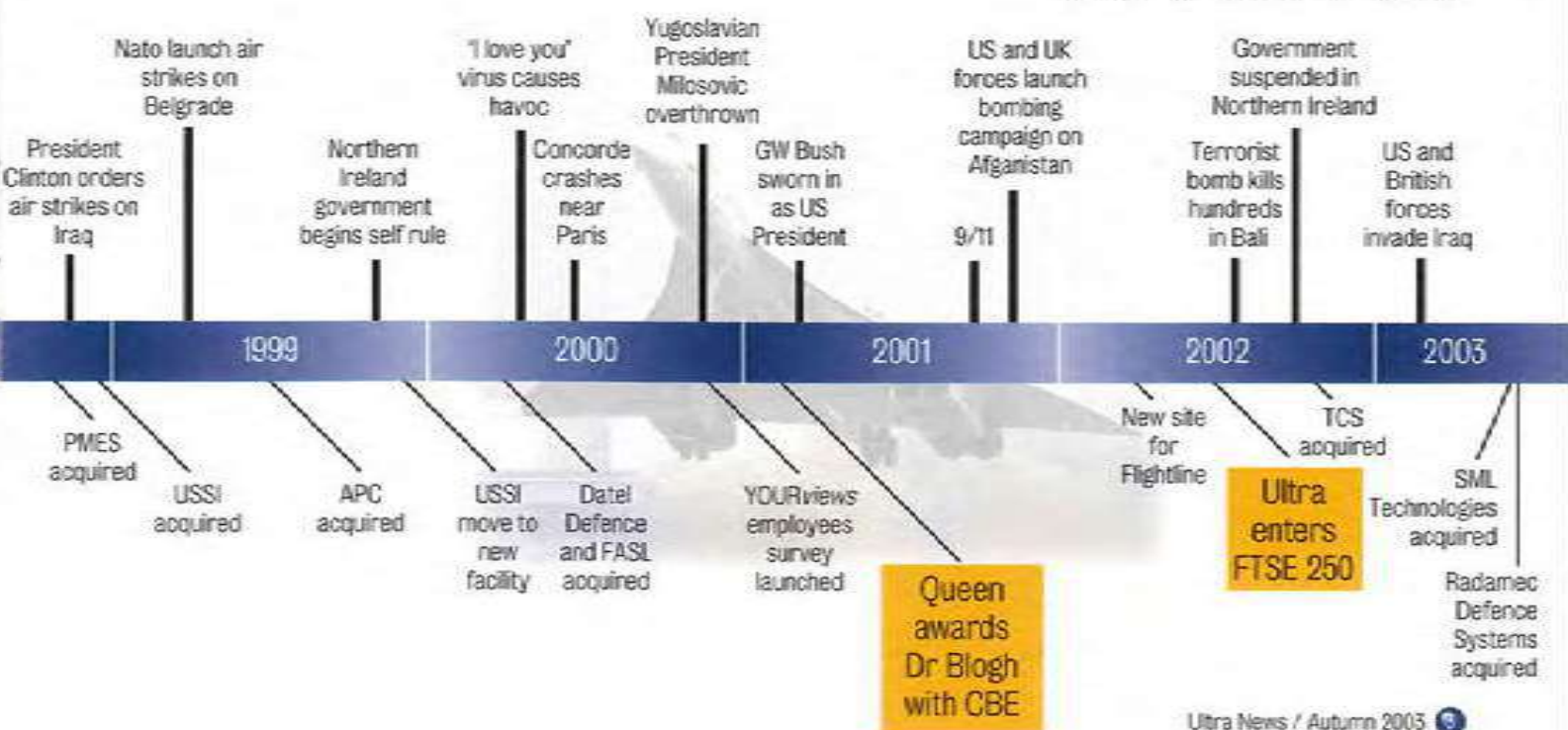
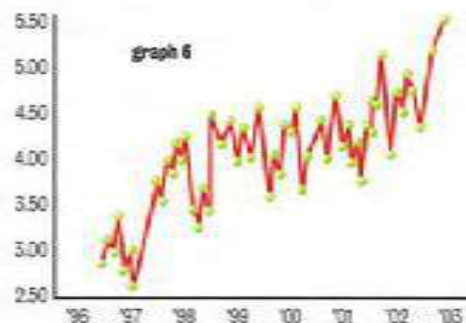
Announcing the flotation share price in 1996

## Shares

Ultra floated on the London Stock Exchange in October 1996 and became part of the FTSE 250 index in 2002. This index ranks companies by market capitalisation.



Ultra has grown significantly in value since 1993 (graph 5). Since flotation the share price has gone up and down (graph 6) but the trend has been upward with the highest price achieved to date reached in September 2003 following the announcement of the interim results in August and the acquisitions of Radamec and SML.







Members of the MSA team at Sonar & Communication Systems

## Multi Static for Nimrod

The UK MoD has placed a contract with **Sonar & Communication Systems** for the first stage of an Engineering Technology Demonstration to provide a Multi-Static Active acoustic detection system for the Nimrod MR2 Maritime Patrol Aircraft. The full programme should lead to fleet fit of the capability on the RAF's current Nimrod MR2 fleet from 2006 and is expected to be migrated to the Nimrod MRA4 aircraft as that enters service in 2007/8. Multi-Static Active will significantly enhance the Nimrod's ability to detect and localise submarines using new and improved sonobuoys, together with a new suite of onboard acoustic processing software.

## F-15E and F-15K Simulator Grips

**MSI** has won a contract from Boeing, St. Louis to manufacture the simulated high fidelity F-15E and F-15K Weapon Systems Officer (WSO) grips. The WSO sits in the rear seat of the F-15 and is responsible for all of the aircraft's weapon systems and the grip is the primary interface between the WSO and the aircraft. MSI has successfully reverse engineered the flight worthy grips and is providing Boeing with a turn-key solution that replicates the aircraft hardware, is more competitive in price and has much shorter lead times.

## Secure Collaboration

**Datel Defence** has been awarded a contract, valued at approximately £2m, by the Ministry of Defence (MoD) to deliver a secure collaborative working environment for the Ground Based Air Defence (GBAD) Integrated Project Team (IPT).

In pursuing the goals of Smart Acquisition, the GBAD IPT has recognised the benefits of a secure collaboration, which will enable the GBAD IPT and industry partners to work together securely in a controlled web-based environment.

**Ultra** bytes

## Frigate Modernisation for the Greek Navy

**PMES** has secured a contract to supply high availability ships data distribution system for six Hellenic Navy frigates. The frigates are being procured from the Dutch Navy and, as part of the deal, are undergoing an extensive modernisation programme. The initial contract value for PMES is £17m.



## Canadian SPS Flight Trials

**Flightline Systems** successfully completed flight trials, in June, for the Canadian Sonobuoy Positioning System (SPS). During the three days of testing, the flight trial control system, designed and operated by Flightline Systems personnel, recorded over 350 MBs of data. This data was subsequently used by Flightline to fine-tune the SPS algorithms using a software simulator. The overall system performance meets or exceeds all of the specified requirements.

The Canadian SPS was based upon algorithms developed by Sonar & Communication Systems for the UK Nimrod Sonobuoy Positioning System. The close working relationship between S&CS and Flightline Systems was key to the project's success.



## New Magicard Printers



Ultra's ID Card printer and supplies business continues its strong growth fuelled by innovative new products with added features and at reduced costs.

Ultra's latest products, the Alto™ and the Opera™, are fabricated almost entirely from complex polymer mouldings, are better value for money and have improved performance over competitor products. The printers employ several innovative features, which are the subject of four new patent and registered design applications. Ray Coles, Manufacturing & Card Systems' MD commented: "I am delighted with these new entry level products which complement our existing Rio and Tango range very well. I am also pleased that the project team met the tight time-to-market development timescales through the successful use of concurrent engineering principles."

## Substation Progress

As reported in Ultra News previously, **PMES** has secured a multi million pound contract for the supply of railway DC traction substations for the UK Network Rail Southern Region power supply upgrade project.

PMES is currently designing and supplying complete substations for several locations – Hove, Wrecclesham, Littlehampton and Brighton. The picture shows the housing being delivered for what will eventually become a 33 tonne combined AC/DC building for Littlehampton substation which is programmed to be energized in early November.

## Launch of Virginia

The Virginia submarine, the US Navy's newest and most advanced nuclear attack submarine, was launched on 16 August 2003. Thousands of spectators watched the ceremony. A representative of EMS Development Corporation was at the event. The Virginia will enter the fleet in 2004.





## interviews the Chief Executive – Dr Julian Blagh

**Q** Given Ultra's success what has given you greatest satisfaction over this period?

**A** I get the greatest satisfaction from the respect that investors, customers, colleagues and employees have for Ultra. I am proud of the achievements of the Group. Significant events must include the flotation of Ultra on the stock market in 1996, the doubling of its share price from the float price in 2002, and, on a personal level, being awarded Venturer of the Year by the Financial Times and the Venture Capital Association in 1997 and of course the award of the CBE in 2001.



**Dr Julian Blagh**

**Q** What do you think the major changes in the marketplace have been since 1993?

**A** There are two changes that stand out. Firstly, we have the growth in Battlespace IT, or

the use of information technology in the battlespace to enable network centric warfare, ensuring information is available in the shortest possible time to all elements of allied forces. Secondly, the move by governments to use Prime Contractors who have become the system integrators. This means our customer base is gradually changing to these primes rather than Ultra getting direct contracts from defence departments.

**Q** Do any achievements particularly stand out for you?

**A** There are too many to mention, but if I have to make a choice I would pick the success of the HIPAG product, the award of the SSTO contract, our excellent cash performance and the overall successes we have achieved through our acquisitions.

**Q** What has surprised you most?

**A** Being invited to a dinner at the Pentagon hosted by the US Secretary of Defense, where industry attendees included the CEOs of Lockheed Martin, Raytheon, Boeing, Thales, EADS, BAE Systems and me!

**Q** What has been the biggest challenge you have faced during the last 10 years?

**A** Going back just over ten years, the biggest challenge was undoubtedly leading the buyout of Ultra from the TI group. Since then, it has been making sure that we have the best people in the group that will enable it to continue its success.

**Q** Is there anything you would have done differently?

**A** I can't think of anything major that I would have done differently. I have always taken a conservative approach to the business and have not made promises that had a high risk of not being achievable. This culture has been important for the success of Ultra.

**Q** Setting up and running Ultra must have kept you very busy – how do you like to relax when not at work?

**A** I enjoy playing tennis and still do this when time allows. Also, once a year, my wife and I take a week off to go walking, usually in the UK. I do have a large garden in which I enjoy pottering around.

**Q** How do you maintain your enthusiasm and motivation?

**A** I don't find that difficult. I enjoy the challenge of the business and the satisfaction that comes from success. It also disappoints me to see the decline of the UK manufacturing industry and it is motivating to see Ultra bucking the trend. Of course, I feel a responsibility to our shareholders and employees and want to see the company grow for the benefit of all involved.

**Q** To what do you primarily attribute Ultra's success?

**A** Undoubtedly, it is due to the enthusiasm, commitment and professionalism of the Ultra employees. Without their achievements, the Group would not have enjoyed the success it has over the years.

**Q** What about Ultra's prospects in the next ten years?

**A** Our markets and technology are changing more quickly than ever. However, I believe we have invested both internally and through acquisitions, to be able to offer our customers cost effective, reliable and high performance solutions to meet their requirements. While ten years seems a long time to look ahead I believe that from its strong position, Ultra will continue to grow successfully over this period.



# Introducing SML Technologies

**SML** became part of the Ultra Group in July 2003. Based near Southampton the company has sales of £6m and some 40 employees. Dave Cheadle, SML's MD, provides a little background on the business.

Safe Marine was formed in 1995 and started in a shop on the outskirts of Bognor Regis, West Sussex with three employees!

My plan for success was to build a system using the PC to replace the traditional 'military type'

radar tracking and display systems and at dramatically reduced prices. The decision was made to sign up as official Windows NT C++ developers.

After the horrifying Piper Alpha incident in

Dave Cheadle pictured centre with Jack Telfer, Group HR Director and Paul Summers, MD Command & Control Systems and members of the SML team

1988 the safety of life offshore became the major focus for the industry. Developing systems that maintain safety standards whilst using fewer standby vessels (which each cost £1.5m per year) provided a major opportunity for SML.

**SML's first North Sea radar system was installed offshore mid 1996.**

The first North Sea radar system was installed offshore mid 1996 for Conoco UK Limited and they also asked us to design a man overboard system. The system that emerged subsequently reduced Conoco UK operating costs by approximately £10m per year, whilst significantly improving the company's

operational safety.

The SML system has now become the industry standard with 45 radar systems, over 275 transponders, 9,000 personal locator beacon watches, and more than 50 platform man overboard systems now operating in the North Sea and throughout the world. In 2001, the all weather fully automatic radar tracker was selected for the UK Type 45 destroyer and the SML transponder is now at the core of the Royal Navy's sea-boat tracking system. Half of SML's turnover is now defence related.



# Introducing Radamec Defence Systems



Andy Yates, Director and General Manager of RDS (front centre) with Douglas Gaster and Paul Summers and members of the RDS team

**Radamec Defence Systems** joined Ultra in July 2003; RDS has sales of £6m and 75 employees and is based in Chertsey, near London. The business was established in the early 1980s by the amalgamation of Radamec and

the defence division of Evershed Power Optics. The key product areas are: **Naval Systems** Now established as the UK centre of excellence for naval electro-optic systems and is the approved supplier for all

BAE Systems ship exports and for the Royal Navy. With regard to exports, over 125 systems have been sold to fifteen navies and coastguards worldwide.

## TV Cameras

These were originally developed in the 1980s for use in RDS supplied systems. There has been a large investment in the camera business since the late 1990s resulting in an increased product portfolio including designs to meet specific customer requirements.

## Servo Platforms

These platforms provide a stable base for sensitive radar

equipment. RDS offers a range of standard general-purpose platforms and also designs for specific customer product applications. Applications include land, naval and airborne operations. RDS are in the process of moving to Loudwater to co-locate with Command & Control Systems.

**Both SML Technologies and Radamec Defence Systems form part of the Information & Power Systems Division of Ultra. Both businesses report into Paul Summers, MD of Command & Control Systems.**



## Manufacturing Expansion

Supported by a bumper four year order book worth £15m for Bowman circuit boards and assemblies, Manufacturing & Card Systems in Weymouth has recently expanded its production floor and doubled its surface mount PCB capacity.

A wide range of new test and inspection systems has also been installed to maximise yields at the highest quality levels. Facilities now include automated optical inspection, an x-ray system for looking under components, and comprehensive vibration and temperature-cycling rigs. The expanded facilities will also benefit existing customers and support the winning of business in the future.



Neil Edwards and Steve Haydock preparing to stream the array

## Delivery of Astute Starting Platform Console

The Starting Platform Console (SPC), which forms part of PMES's console contract for the UK Astute submarine, was delivered to BAE Systems, Barrow at the end of July.

The SPC is located in the main machinery space of Astute. It is used for starting systems and to provide emergency control, and was urgently required at Barrow-in-Furness to perform machinery integration tests. Despite project delays, beyond the control of PMES, the delivery date was achieved and representatives from CAE and BAE Systems praised the hard work and effort put in by the PMES team.

## Latest on SSTD

Development of the Surface Ship Torpedo Defence

(SSTD) system by Sonar & Communication Systems continues apace across all aspects of the programme. Recently, initial integration activity commenced in the SSTD Test and Integration Facility. This brought together the system software, developed at Weymouth, with the system hardware developed at Greenford and interfaced it with the display consoles developed by Command & Control Systems at Loudwater. The testing and integration of the system is very comprehensive and is planned to continue for some time but early results have been excellent.





Technology  
in focus

Ultra News

keeping you informed on  
the technology frontNew Sonar for Korean  
Defence Research

Ultra Electronics **Maritime Systems** delivered a Low Frequency High Power Sound Source system (LFHUSS) to The Korean Agency for Defence Development, with final sea trials being completed in July of this year. The system was delivered to the customer's satisfaction, meeting the stringent performance requirements and was delivered on time.

LFHUSS combines three transducer technologies to achieve frequency coverage of 11 octaves. A moving coil device (a large underwater loudspeaker) provides the extreme low frequencies (5-100Hz); a ring shell projector provides the mid frequency coverage and an array of free flooded rings provides the remaining coverage up to 10kHz. The maximum acoustic power radiated at any single frequency is around 100kW.



Example of  
imaging from the  
Mission Planning  
System

Cockpit Mission  
Planning

During late 2002, Pilatus Aircraft in Switzerland decided to enhance the scope of offerings based on its PC-21 turboprop trainer aircraft to include a complete training solution. **Datel Defence** responded to a requirement to perform a study investigating current off-the-shelf products to be used for mission planning. Most importantly, data from the desktop system needed to be integrated seamlessly into the Datel software for the PC-21 mission computer.

The product chosen was the PC based QinetiQ GMP Mission Planner. This software incorporates the ability to map waypoint and target information and can handle several different map types, resolutions and scales. It can also overlay aerial photography onto the route to be flown. Such images can be obtained via satellite imaging services.

Datel has worked closely with QinetiQ and was able recently to demonstrate a solution taking planning data from the GMP product and uploading it onto the PC-21's mission computer. This demonstration, at the Royal International Air Tattoo at Fairford, UK, attracted much attention.

## Portable Acoustic Sonobuoy Simulator

**Flightline's** new Portable Acoustic Sonobuoy Simulator (PASS) is a latest generation test set for laboratory, system integration and ramp check-out of airborne and shipboard acoustic systems. PASS makes use of advanced direct digital synthesis technology to develop high quality precision test and checkout signals for the airborne/shipboard sonobuoy receiver system and acoustic processing systems. Flightline's customers include Lockheed Martin, GD Canada, DND Canada, the US Navy, Thales and EADS CASA.

The robust architecture of the PASS allows the unit to be fully reprogrammed and, with the addition of minor hardware, will support aircraft navigational testing such as TACAN, DME outer marker beacon and Link-4A.



Flightline's PASS  
test set



*New appointments, promotions and who's moving where!*

**Ian Griffiths** has been appointed to the Board of Ultra as a non-executive director. He replaces Sir Frank Holroyd who retired in July 2003 having joined the Board in 1995. Ian is a main board executive director of GKN plc, where he is Chief Executive of GKN's Automotive Driveline Division. He has been a member of the GKN senior driveline management team since 1990, has a degree (BSc) in Mechanical, Electrical and Production Engineering from Coventry University, and was previously a Director of GKN Holdings plc.



Ian Griffiths

**Ross Parsell** has been promoted to the position of Managing Director of Datel Defence. Ross, was previously Director of the Air, Land & Sea Systems business unit within Datel.



Ross Parsell

**Nigel Roberts** has been promoted to be Director of the Transit business unit at PMES where he was previously Operations Manager. Nigel will also oversee Programme Management across the whole of PMES.



Nigel Roberts

**Mark Ealing** has been appointed Head of Engineering for FASL. He was previously Project Manager for Baggage Reconciliation Systems based at Heathrow.



Mark Ealing

### TCS Certified ISO 9001-2000

"Congratulations, we are pleased to recommend registration." These words were the first pronounced by Marc Rougeot of BSI at the closing meeting of the two-day quality audit performed by BSI for ISO 9001:2000 at **TCS** in August 2003. Congratulations to all TCS employees and especially the QA Team (Sandra Lemieux, Tamer Habib and Layth Daoud).

### Paris 2003

Ultra exhibited at the Paris Air Show in June. The number of visitors, especially Americans, was lower than planned; we were therefore able to spend more time with our guests at the show. Pictured is Lord Willy Bach, Minister of Defence Procurement, UK Government, talking to Dr Elagh. With over 1,600 exhibitors from 44 countries, Paris is the largest air show in the world. Six Ultra businesses took part – Command & Control Systems, Controls Division, Datel Defence, Electronics Division, Precision Air Systems and Sonar & Communication Systems.



### Expanding business, expanding space!

**Precision Air Systems** has successfully completed an extension to its existing facility in Gloucester. The project took 6 months and was completed to plan and budget! The PAS team had to contend with living with the building work and the associated noise whilst still meeting production forecasts. Everyone coped admirably with little complaint. Floorspace has been increased by 30% facilitating the continued growth of the business. To complement this



Precision Air Systems US team

the US team, based in Alexandria, has relocated from its suite of offices to a new free standing 5,000 sq ft facility which will allow PAS to meet the increase in product support for in-service units.

### Quality Town Hall Meeting at MSI

The first Quality Town Hall Meeting was held on 13 August at **MSI** with Gary Tyra, the Quality Manager chairing the meeting. The meeting generated 90 minutes of lively discussion and positive suggestions. This forum was a wonderful way to solicit valuable feedback from employees of all departments. Suggestions are being reviewed, actions are being implemented and follow up town hall meetings will be convened to discuss progress.

**New name for FASL from 1 October 2003**

FASL has become Ultra Electronics Airport Systems.



# on the spot



**Kirk Cosman is Production Manager at APC joining in 1991. He is single and lives in Austin, Texas.**

**What do you enjoy most about doing your job?**

Participation in growth and development of the production team and meeting the challenges of finding simple, practical and economical solutions to

seemingly complicated problems.

**Most important lesson learned to date during your career?**

Focus on the BIG picture while doing the "right thing" in every small decision.

**What is the funniest situation that you have had to deal with at work?**

One evening a friend took me to see the performing arts troop called, "Stomp", which uses every-day mundane items in the making of fascinating rhythmic music with dance. In one of the performances, plungers were used to produce the sound, "slap, pop, slap, pop", on the stage floor. The very next morning, a colleague walked onto the assembly floor carrying an arm full of plungers...a brief demonstration of the musical characteristics of a plunger ensued.

**Maria Newcombe, Secretary to Frank Hope and David Garbett-Edwards at Electrics Division, started her working life in a fabric shop. She joined Ultra Electronics in 1990. She lives in a little village near Tewkesbury and is married.**

**What do you enjoy most about doing your job?**

The nature of our business... I think it's really exciting. Just call me Miss Moneypenny (does that mean that Frank is 007 and David is 006?)

**Most important lesson learned to date during your career?**

Write things down!

**What is the funniest situation that you have had to deal with at work?**

Being a First Aider I was once asked to check someone's belly button after they'd had it pierced. It was a bit of a mess, but at least there was no fluff in it!

**Your favourite hobby/pastime?**

Good food and wine and driving my car (but not at the same time!).

**If you had more spare time what would you choose to do with it?**

Read more, as I only tend to do this when on holiday (or I could just take more holidays).

**Your favourite hobby/pastime?**

I find computers fascinating and, though operating them is low on my list of favourite activities, building and upgrading PC computers for others to enjoy are at the top.

**If you had more spare time what would you choose to do with it?**

Computer gaming seems to me to be such a horrible waste of time, but if I had time to waste I would sure like to do it every once in a while.

**If you could choose anyone, current or from the past, who would you most like to have a conversation with and why?**

That is simple; Jesus of Nazareth. It would seem that the meaning of life hinges on the answer to one simple question, "Was he crazy or lying, or was he who he said He is?"

**Your favourite food?**

My mother's King Ranch Chicken (Tex-Mex food) or Texas Bar-B-Q ribs from Rudy's.

**Your perfect evening?**

Christmas Eve with family and friends.

**Stranded on a desert island what three personal possessions would you most want to have with you?**

Assuming my line of credit is intact, I would want a wind generator and a compatible PC computer and an Internet satellite transceiver.



**If you could choose anyone, current or from the past, who would you most like to have a conversation with and why?**

Both of my dad's parents, who I never got to meet. I'd love to hear about their lives and especially what it was like being in Malta during World War II.

**Where would you most like to visit in the world and why?**

Egypt. All that ancient history fascinates me.

**Your favourite food?**

Freshly cooked Cornish crab with chunks of crusty brown bread, home-made mayonnaise and a bottle of chilled champagne to wash it down.

**Your perfect evening (or weekend)?**

On a cold winter's evening, at home in front of a roaring log fire with a fine red wine and a good film.

**Stranded on a desert island what three personal possessions would you most want to have with you?**

My toothbrush, a soft pillow and my husband!





## 2,000th radio for South Korea

In March 2004, **Tactical Communication Systems (TCS)** delivered its 2,000th AN/GRC-512 (V) Radio kit to South Korea. In honour of this achievement, a brunch was served to all TCS employees who had also signed a card for Huneed Technologies, our South Korean partner. Following an authorisation to proceed from Huneed Technologies, TCS is presently designing a new generation of the radio. TCS employees are pictured at the celebration.

## USSI Celebration

**UnderSea Sensor Systems Inc (USSI)** celebrated its 5th year anniversary as part of Ultra Electronics in December 2003. Significant accomplishments and achievements during this period include the delivery of approximately 180,000 sonobuoys to the US Navy and international customers, construction and relocation to an integrated design and manufacturing center in Columbia City, Indiana, and the growth of the organisation from sixty to over two hundred employees. Following an audit in January 2004, USSI was delighted to receive ISO 9001:2000 certification.



Joe Grimes, Director of Quality Systems and Mark Trout, Director of Operations celebrate the ISO certification

## Christmas Cheer

In December 2003, the employees at **Maritime Systems** banded together and raised Canadian \$2,150. In addition, it took 3 cars and 1 pick-up truck to take the food, clothing, toys and other household goods that had been collected over to the Park Street Furniture Bank where they were distributed to individuals and families.

## Feedback

I hope you enjoy this issue of **Ultra News**. Issue 20 is my last issue before leaving Ultra to enable me to focus more fully on my church and music interests.

Ultra is a great company made up of great people and I just wanted to take this opportunity to convey my best wishes to all employees and their families.

My successor, Keith Thomson, will be pleased to receive your feedback and ideas for **Ultra News**.

His email address is [keith.thomson@ultra-electronics.com](mailto:keith.thomson@ultra-electronics.com)

Keep up the good work

Jack Telfer



## Electronic Town Hall

In an effort to provide an additional means of communication, **MSI** recently launched its Electronic Town Hall. Available via MSI's local area network and Outlook, employees can post suggestions, questions or comments for review and reply by fellow MSI colleagues. Many messages were posted during the first few weeks.

### Local Ultra News Contacts:

**Airport Systems** - Mark Ashall-Kelly

**APC** - Liz Searsey

**Command & Control Systems** - Jessica Vincent

**Controls** - Julie Martin

**Defence** - Cheri Wilkinson

**Electrics** - Karen Dee

**EMS Development Corporation** - TBA

**Flightline Systems** - Judy Arnold

**Manufacturing & Card Systems** - Richard Farwell

**Maritime Systems** - Dorothy Rice

**Measurement Systems Inc.** - Sara Galullo

**Ocean Systems Inc.** - Sue Tynan

**PINES** - Sarah Barker

**Precision Air Systems** - Jackie Preece

**SIML Technologies** - Roger Jones

**Sonar & Communication Systems** - Carol Doyle

**Tactical Communication Systems** - Michel Fournier

**UnderSea Sensor Systems Inc.** - Delvette Sade



# Ultra News

ISSUE 20

The Newsletter for Ultra Electronics Employees

Spring 2004

## Key role for ADSI



The ADSI display is front and centre in the Combined Air Operations Centre (CAOC)

APC's Air Defense Systems Integrator (ADSI) played an important role in Operation Iraqi Freedom by providing around the clock tactical situational awareness for the command and control system used by Allied Forces. There were more than seventy five ADSIs supporting the war effort. On several occasions, the quick reaction of APC employees to the customer's

**"The most important system in the CAOC"**

Colonel Steele, US Air Force, Chief of Command and Control, Al Udeid Air Base, CAOC 8 June, 2003.

needs resulted in the immediate fielding of many systems that were critical to the success of military actions in the theatre of operations.

## Heathrow UltraTrak on schedule

UltraTrak, Ultra's Baggage Reconciliation System (BRS), went live at London Heathrow Airport's Terminals 1, 2 and 3 on schedule on 1 October, 2003. UltraTrak improves security by ensuring no unaccompanied bags travel on a flight unless they have passed a heightened level of screening. It also provides benefits to airlines, allowing them to reduce flight delays caused by passenger 'no shows' by recording the precise location of each and every item of baggage on an aircraft.

Heathrow has the largest BRS in the world and UltraTrak is expected to handle a peak of 100,000 pieces of luggage a day.

To date over twelve million items of luggage have been scanned, helping to ensure passengers and their luggage arrive at their destination together.



### In this Issue

Warship equipment

Outstanding vendor award for MSI

SEAFOX teaming

Multi Media Area Communication System

Aircraft Ice Protection Systems

Multi-channel sonobuoy RF generator



# Product Capability Warship

**Continuing our issue-by-issue review of key capability areas, we now focus on Ultra's equipment for warships**



## Type 45

Several Ultra businesses are contracted to supply equipment for the Royal Navy's Type 45 class destroyer.

- Sonar & Communication Systems will supply the Type 45 with its bow sonar system, a key element of the ship's defences that can detect submarines and mines.
- PMES's Signature Management Systems business will supply degaussing equipment that will reduce the magnetic signature of the vessel.
- Command & Control Systems will provide radar consoles and the Radamec electro-optical tracking system.
- PMES will provide a range of specialised power systems including converter supplies, the helicopter start system and transformers.
- SML's navigation software will be supplied via Raytheon.



“Ultra businesses have supplied equipment for warships over many years. The Group's capability has developed over time to include an ever broader range of systems needed for the modern day vessel. In this feature we focus on Ultra's involvement in the Royal Navy's Type 45 destroyer and also present how Ultra's growing capabilities can be combined for the future to provide an integrated combat system.”

Dr Frank Hope,  
*MD, Information & Power Systems*

## Looking to the future – command

### Command system

The basic functionality of the command system is to provide the command with a clear, coherent tactical picture by combining data from radar, direction finding, electronic warfare and other sensors. This is known as providing 'situational awareness'. Situational awareness is often constrained by the range of the vessel's own sensors. The addition of a datalink product such as APC's ADSI or Command & Control Systems' DLPS enables vessels to share their tactical pictures and therefore view everything that friendly assets can see. Techniques such as these form the backbone of the future Co-operative Engagement Capability.



# equipment

Command Systems  
ADSI/datalinks/connectivity/  
intelligence capture/  
situational awareness



Radar tracking  
and surveillance



Sonar

Electro optical tracking  
and surveillance



Navigation and  
data distribution

## bat system elements

### Radar tracking and surveillance

Radar is a vessel's primary surveillance sensor. Radars vary in complexity from simple marine navigation to complex 3D air defence systems. SML Technologies provides specialist radar processing hardware and software for navigation radars allowing improved detection and tracking of small surface targets especially in areas of high clutter.

### Navigation and data distribution

PMES's navigation and data distribution systems take data from navigation sensors such as GPS, compasses, anemometers and logs, convert this data into a common format

and then distribute it throughout the vessel in real time.

The data is primarily used for safe navigation of the vessel and for stabilisation of weapon and sensor mounts.

### Electro optical tracking and surveillance

Radamec's electro optical (EO) tracking system gives the operator a 24 hour capability to view and track potential targets in all weathers prior to passing data to gun or missile systems for engagement.

This is achieved by integrating a range

of sensors including daylight TV cameras, thermal imaging cameras and laser rangefinders into sensor packs mounted within stabilised platforms.

### Sonar

The task of the sonar is to detect, classify and localise submarines, so that an effective fire control solution can be achieved. The secondary capability is to detect and avoid individual mines or mined areas.

Background picture of US Nimitz carrier courtesy of US DoD.  
EMS supplies systems for the vessel.



# Sonobuoy orders



Since the beginning of 2004 Ultra has won sonobuoy contracts valued at over \$40m. This includes orders worth over \$30m from the US Navy and a contract from the Canadian Department of National Defence. Over the last year Ultra has continued its dominance of the world-wide sonobuoy market with contracts from Australia, Canada, Chile, France, Poland, South Korea and the US. In the UK, Ultra has been awarded development contracts for a new type of ALFEA sonobuoy for use as part of an advanced Multi-Static Active submarine search system.

USNI Program Managers Chuck Logar and Pete LeStrange with Team Leaders Nancy Arnett and Annis Combs following the contract award

Ultra News Ultra News Ultra News Ultra News Ultra News Ultra News Ultra News Ultra News Ultra News Ultra News Ultra News Ultra News Ultra News Ultra News

## Ultra bytes

### Countermeasure awards

Ultra's recent acquisition, Ocean Systems, has been awarded contracts worth over \$7.5m for its latest generation torpedo countermeasures. Under these new contracts, Ultra will supply the Royal Australian Navy with the latest generation LESOUT torpedo countermeasures, designed to be launched from surface ships. The US Navy has bought the ADC MK2 countermeasure, which is submarine launched. In addition, the Navy has announced an intention to extend Ultra's current contract for ADC MK3 and ADC MK4 units for an additional 3 years, which is expected to be worth over \$20m.

### RIB Tracking

SML Technologies is supplying a tracking system to the Royal Navy which enables Rigid Inflatable Boats (RIBs) to be tracked and monitored while they are up to 10 nautical miles from the mother ship. The system, which utilises GPS technology and uses SML's 'Safe ID' transponder is fitted to both the RIB and the ship, considerably enhancing the ship's command and control capability. This system allows the RIBs to be tracked and guided by the mother ship's radar towards a target, normally a vessel that needs to be investigated or boarded.

RIBs being deployed from HMS Cardiff





## 'PRIME time' for Signature Management

The Royal Netherlands Navy has selected **PMES** to satisfy its PRIME naval requirement. PRIME stands for Portable Range for underwater Influence Measurement and Evaluation. The range system will provide measurement of the underwater signatures of warships including magnetic, electric, acoustic, pressure and seismic influences. The contract was awarded after an international competitive procurement programme.

## Receiver Support

**Flightline Systems** has been awarded a Performance Based Logistics (PBL) contract for multi-year maintenance and repair of its AN/ARR-84 sonobuoy receiver, which is mission critical on the US Navy's SH-60B/F helicopters. This contract marks the beginning of a new US Navy logistics initiative, whereby the Navy is transferring responsibility for aircraft and systems support to private sector industrial partners.



HiPPAG 500 Series

## Another milestone for HiPPAG

**Precision Air Systems (PAS)** has been awarded a contract by Sargent Fletcher Inc. to deliver HiPPAG units for the Boeing Small Diameter Bomb (SDB) Program. HiPPAG will provide the pneumatic energy required to eject the SDB munitions. The SDB is designed to be compatible with the majority of US Air Force fighters and bombers.

PAS has also been awarded a contract by Boeing to deliver HiPPAG units for the new Joint Unmanned Combat Air System (JUCAS) X-45 program. The JUCAS X-45 demonstrators are being developed by Boeing's Phantom Works to show the capabilities of unmanned combat air vehicle systems to the US Air Force and Navy.

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## Vehicle Controls

**Electrics Division** has been awarded a £2m contract by BAE Systems for the development and supply of Ancillary Crew Controls (ACC) for the Terrier armoured vehicle. The ACC equipment includes 3 new dual redundant CAN bus crew controls, a central control panel and a gear range selector switch. Design and development will take place over the next eighteen months with production from 2007 onwards. Electrics will also design and manufacture a range of control

handles for the Alvis Hägglunds' AMOS and CV90 fighting vehicles. Alvis Hägglunds, based in Sweden, has been selected to supply approximately sixty AMOS vehicles to Finland and Sweden. The initial contract covers only the Finnish AMOS requirement.



Alvis Hägglunds AMOS vehicle



# Chief Executive's Review

## Chief Executive's Review

Immediately after announcing Ultra's 2003 results, I spent a week presenting the Group's financial results to existing and potentially new investors. Douglas Caster, David Jeffcoat and I made around twenty eight presentations to fund managers that together own over 60% of Ultra. I must say that this task was made more enjoyable as we had another set of excellent figures to report.

A brief summary of the results can be seen on the next page. Ultra continues to progress well, and we were again able to report record levels of sales and profits. We also began 2004 with our highest order book to date. I appreciate the support and contribution of employees at all levels of the organisation; they are a vital element of our success. However, our record of achievement

over the years must not be taken for granted. We operate in a very competitive market place and we must continue to do our best to provide our customers with attractive products, prices and support.

For the future, Ultra is well placed to gain from developments in its defence and civil markets with a growing focus of spending on electronic systems. To help the Group gain from these markets, three businesses joined Ultra in 2003. Radamec Defence Systems, SML Technologies and Ocean Systems each strengthens our capability in key areas. I look forward to seeing these businesses continue to develop and I welcome their employees to the Group.

You will have read of the changes we have made at senior management level. These will provide a smooth transition of leadership of the Group and I am delighted that Douglas Caster has accepted the role of Chief Operating Officer. This is a transitional arrangement with the intention that Douglas will replace me in due course. With Frank Hope switching to run Information & Power Systems and Alan Jan-Janin taking over Frank's role as Managing Director of Aircraft & Vehicle Systems, I am sure that the Group has the capable management to continue its success.



**Dr Julian Blogh pictured with Douglas Caster, Chief Operating Officer**

## Outstanding vendor award for MSI

In February 2004, Raytheon Technical Services Company of Burlington, Massachusetts visited MSI to present Raytheon's STARS Outstanding Vendor Award. MSI supplies a key component for this advanced equipment. The award was given to MSI because Raytheon believes they 'have performed over and above the requirements expected of a quality supplier' in support of the STARS program. STARS stands for Standard Terminal Airport Replacement System.



**Ken Tasch, President MSI, and Chris Rountes, VP Operations, are presented with the award by Dick Constantin, Gary Tashjian and Mo Jaffee**



## Financial Results 2003

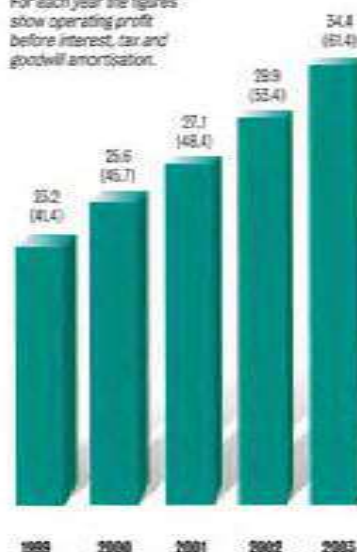
On 23 February, 2004, Ultra Electronics Holdings plc announced its results for the twelve months to 31 December, 2003. Sales increased by 9.2% to £284.4m. Profit before tax and amortisation of goodwill grew by 14.9% to £34.4m. Once again, a strong cash flow performance resulted in net debt reducing to £30.3m despite the Group making 3 acquisitions in the year. The Group's order book closed the year up by 8% at a record level of £375m.

**Group Chairman, Peter Macfarlane said:**

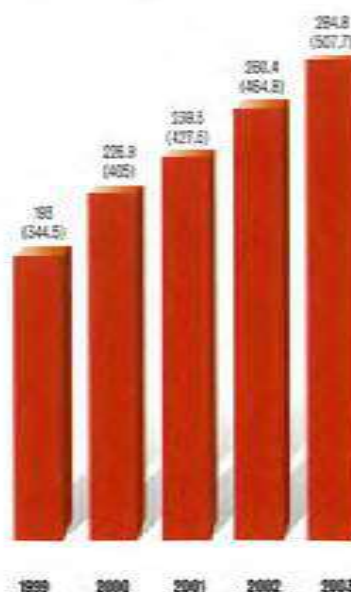
"I would like to thank all Ultra employees for their hard work and continuing commitment which have made such important contributions to the success of the Group."

**Profit £millions (US\$millions)**

For each year the figures show operating profit before interest, tax and goodwill amortisation.



**Sales £millions (US\$millions)**



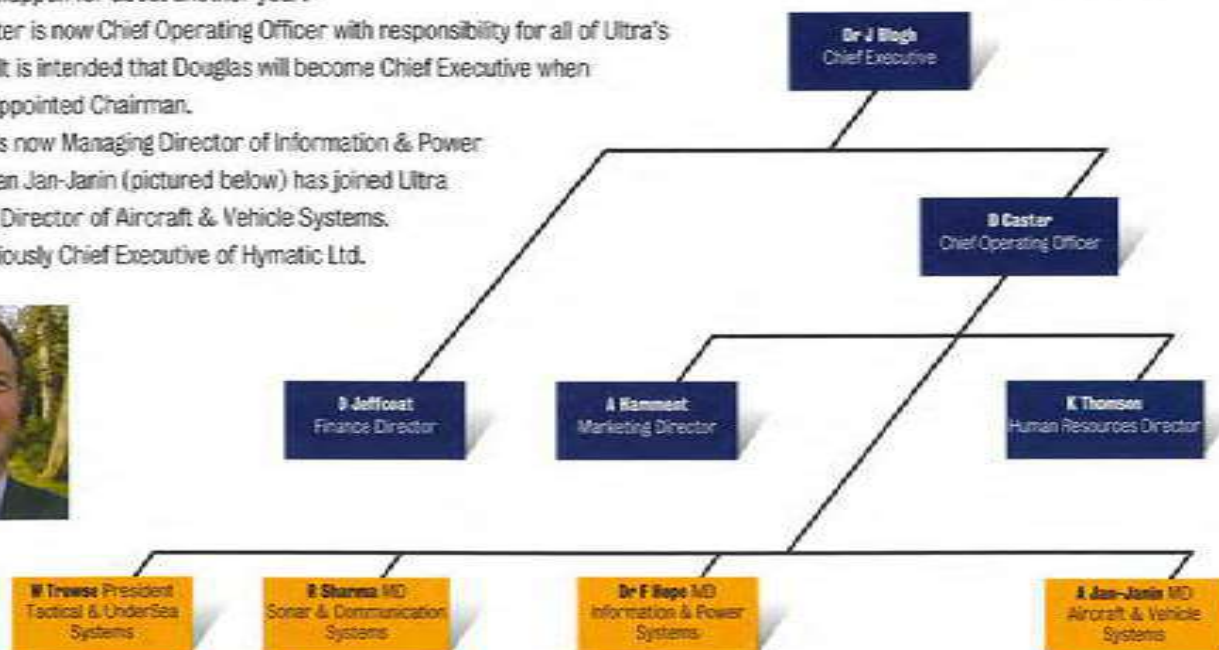
## Board Reorganisation

Ultra has made changes at Board level with Dr Julian Bloch taking on the role of Deputy Chairman whilst remaining Chief Executive. He is, however, reducing his time commitment to an average of three days per week. Dr Bloch will succeed Peter Macfarlane as Chairman of the Group, although his change is not expected to happen for about another year.

Douglas Caster is now Chief Operating Officer with responsibility for all of Ultra's operations. It is intended that Douglas will become Chief Executive when Dr Bloch is appointed Chairman.

Frank Hope is now Managing Director of Information & Power Systems. Alan Jan-Janin (pictured below) has joined Ultra as Managing Director of Aircraft & Vehicle Systems. He was previously Chief Executive of Hymatic Ltd.

The new senior management structure is shown below. The changes took effect following the Group's Annual General Meeting on 22 April, 2004.





## Introducing Ocean Systems Inc

**Ocean Systems** joined Ultra on 21 November, 2003. The company has sales of approximately \$16m (£9m) and about seventy employees. Ocean Systems was formed in 1962 as an acoustic laboratory for the Hazeltine Corporation. The company's initial focus was on high frequency sonar applications and underwater telephony. Ocean Systems also developed a series of sonobuoys for in water anti-submarine warfare applications but exited the sonobuoy business in the eighties and focused its capability on

acoustic countermeasures for ship self defence, and on communications systems. The company has produced hundreds of thousands of transducers for various applications during its history and continues to do so. Current products include expendable acoustic countermeasures, communication buoys, HF sonar array systems, acoustic data collection systems, transducers and fish deterrent systems for both nuclear and hydro-electric facilities. Ocean Systems is based in a 48,000 square foot facility in Braintree, Massachusetts.

One key asset is a state-of-the-art open water test facility located on a twelve acre site in nearby Quincy. It includes a moored test facility on a body of water that was originally a granite quarry. The site also includes a large indoor test pool, pressure testing vessels, and the only transducer self-noise measuring facility currently in use in the United States.

**Rick Kiehlmeier,**  
President,  
Ocean Systems Inc



## Radamec Defence Systems makes the move

**Radamec Defence Systems** joined Ultra in July 2003 and has been integrated into Command & Control Systems based at the Loudwater site where it now operates as a business unit with dedicated sales, engineering and production staff.

The twenty five mile move from Chertsey, Surrey began at the beginning of December and was completed before the end of the month with all departments operational before Christmas. Many of the key employees transferred with the business and have settled into the newly refurbished facilities.

During this time of change the business has continued to support existing customers and to win new business. The recent award of a Philippines contract (£2.6m) from QinetiQ to re-equip three Peacock Class vessels has further enhanced the order book.

The initial factory acceptance test of a type 2500 director for Romania has been

successfully completed and the system is scheduled to be installed on their Type 22 frigate by June 2004, with delivery of the ship in December 2004.

**Nick Stanard, Andrew  
Blenkinsopp and Ian  
Bogby with Romanian  
System 2500 ready for  
factory acceptance**





# Technology in focus

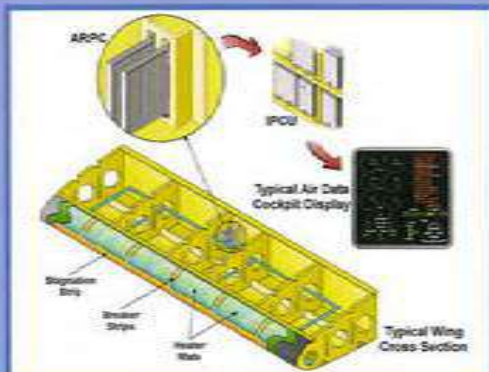
Ultra News

keeping you informed on  
the technology front

## Aircraft Ice Protection Systems

**Controls Division** has been awarded a £1.1m grant to undertake a research programme to develop and assess the feasibility of electro-thermal ice protection systems for large civil aircraft. This programme is being driven by initiatives which focus on improving the efficiency of aircraft operations, by migrating existing hydraulic and pneumatic systems to electrical systems. A major source of aircraft inefficiency is the use of ducted engine 'bleed-air' for the ice protection system. With aircraft and engine manufacturers already developing 'no bleed air' engines, alternative methods of ice protection need to be developed.

The programme will last three years and is being executed in partnership with Thermion Systems Europe and GKN Aerospace Transparency Systems.



## Multi-Media Area Communication System

**Tactical Communication Systems** (TCS) has recently launched its Multi-Media Area Communication System. Known as MMACS, this is a wide-area network based on Internet Protocol (IP) that provides voice, data and video communications on the battlefield, from division level to battalion level headquarters.

MMACS includes the vehicles,



shelters and terminal equipment to support the headquarters communications requirements. Radio links are established by TCS's AN/GRC-245 HCLOS radio, and the SUPERHIGHWAY provides the IP-to-serial data conversion for the radio. The key benefit of MMACS is its high transmission bandwidth that allows headquarters staff to use high quality video conferencing, and to exchange files and telephone voice communication over the same IP network. MMACS also features a unique capability to provide voice, data and video transmission to a mobile battalion headquarters, giving enhanced survivability and fighting effectiveness.

## Multi-channel sonobuoy RF generator

**Maritime Systems** has developed a new multi-channel sonobuoy RF generator for use with General Dynamics Canada's Acoustic Signal Generator System (ASGS). The ASGS simulates realistic sonobuoy anti-submarine warfare conditions and can emulate many different types of surface and sub-surface vessels as a field of active and passive sonobuoys would perceive them. The simulated sonobuoy signals are passed to the multi-channel sonobuoy RF generator to be formatted into standard sonobuoy RF channels. The RF signals are sent to the tactical station of an aircraft, allowing training for tactical situations difficult to simulate under any other circumstances.



## SEAFOX teaming

**Sonar & Communication Systems** has teamed with ATLAS ELEKTRONIK, Germany, and Babcock Design and Technology Ltd to bid the operationally proven SEAFOX Mine Disposal System into the Defence Logistics Organisation. If the bid is successful, the system will be fitted across the entire fleet of the Royal Navy's mine countermeasure vessels. The SEAFOX system, designed by ATLAS, provides a fast and reliable method of destroying mines at a safe distance from the ship. Through a manufacturing licence agreement there will be significant technology transfer to the UK and with approximately 85% of the overall programme value being expended in the UK.

SEAFOX MDS embarked from a SANDOWN class ship.





*New appointments, promotions and who's moving where!*

**Keith Thomson** has been appointed Group Human Resources Director with effect from 1 April, 2004. Keith has held several positions in the Group, including President of MSI and Managing Director positions at both Noise & Vibration Systems and Datel.

**Mark Doyle** has been appointed Managing Director of Electrics Division. He was previously Director & General Manager of the VES business at Electrics.

**Graeme Stacey** has been promoted to Managing Director of Airport Systems, where he was previously Director & General Manager.

**Jim Rowland** joined Ultra as President, EMS Development Corporation in October 2003. Jim joined from BAE Systems.

**John McAlonan** has been appointed acting President at APC, where he was previously VP Marketing.

**Mark Lamoureux** has joined Ultra as Vice President, Marketing & Sales at MSI. He joined from Timken/Ingersoll-Rand.

**Bob Henry** has been promoted to Strategy Director, Sonar & Communication Systems.

**Kim Wrighton** has been promoted to Countermeasures Director, Sonar & Communication Systems.

**Rob McDonald** has been promoted to Marketing Director, Controls Division.

**Mark Ashall-Kelly** has been appointed Head of Business Services for Airport Systems, where he was previously Operations Manager.

**Matt Bowman** joined Command & Control Systems as Finance Director. He joined from Alstom Electrical Machines.



Mark Doyle



Jim Rowland



Mark Lamoureux



Kim Wrighton



Mark Ashall-Kelly



Keith Thomson



Graeme Stacey



John McAlonan



Bob Henry



Rob McDonald



Matt Bowman



## 'Lean' award

Precision Air Systems has won a major industry accolade for the successful way in which it has implemented Lean tools and achieved further improvements to its international competitiveness. It was awarded by the West of England Aerospace Forum, the trade organisation that champions the cause of defence and aerospace organisations in the region.

Bill Bowrey, Chairman of WEAFA, presents the award to PAS MD Paul Benson pictured with members of the PAS team



# on the spot



**Paul Walker is Engineering Manager of the Defence Power Systems business at PMES. He lives near the site with his wife Sandra and their two children. Paul joined the Company in 1986 as an apprentice and has progressed through various engineering roles in the field of power electronics.**

**What do you enjoy most about your job?**

Having the opportunity to make a difference.

**Most important lesson learned to date during your career?**

The importance of being a good listener.

**Funniest situation that you have had to deal with at work?**

I can't think of a funny situation that I would feel comfortable committing to print!

**Your favourite hobby/pastime?**

I enjoy most sports, but my main pastime is running. After an illness in early 2003, I decided to fulfil an ambition and attempt a marathon. In October 2003, I completed the Amsterdam Marathon with a colleague from PMES and raised money for charity.

**If you had more spare time, what would you choose to do with it?**

Spare time comes at a premium with two young children. If I had

more spare time I would learn a foreign language.

**If you could choose anyone, current or from the past, who would you most like to have a conversation with and why?**

There are conversations that I wish I had had with my grandfather, who took part in and survived Dunkirk and the D-Day landings. He was a part of history.

**Where would you most like to visit in the world and why?**

North Shore, Oahu, Hawaii – I would love to visit some of the world's most famous surf spots such as 'Pipeline', 'Back Door', 'Off the Wall' and 'Waimea Bay'.

**Your favourite food?**

Flapjacks – these are a great fuel when training for a marathon, but can easily send you up a belt size if you aren't careful.

**Perfect evening or weekend?**

The perfect day would be spent on the beach in Cornwall at the height of summer with my family and friends. After a quick surf, the perfect end to the day would be a beach barbecue and a few cool beers.

**Stranded on a desert island, what three personal possessions would you most want to have with you?**

I would take my surfboard and tanga trunks. The third item would be my wife's 'NEXT directory' so she cannot spend our life savings while I am away.

**Renata Testa is Executive Assistant to Alan Barker, President of Tactical Communication Systems. She joined Canadian Marconi Company in 1963 in the Home Electronics Division on the radio assembly line. Renata has been married to Victor for forty four years and they live in Dollard des Ormeaux, Quebec.**

**What do you enjoy most about your job?**

The support and understanding of the people I work with which in turn makes my job easier and more interesting.

**Most important lesson learned to date during your career?**

Be honest and truthful to others and yourself and, most of all, make your work a fun place to be.

**Funniest situation that you have had to deal with at work?**

Many years ago I had a boss who enjoyed April Fools Day and he would always fool a lot of his employees but no-one would dare fool him back until I did. I stuck a big fish on his back without him being aware of it and as he walked around people would laugh but he had no idea that it had to do with him. When he found out, I thought that it was my last day at work until fortunately he exploded laughing.

**Your favourite hobby/pastime?**

Exercising, swimming and all types of dancing.

**If you had more spare time, what would you choose to do with it?**

Volunteer in a children's hospital or maybe even work there on a part-time basis.

**If you could choose anyone, current or from the past, who would you most like to have a conversation with and why?**

A colleague who worked with me passed away a few years ago. We had many conversations together and I learned a lot from her.

**Where would you most like to visit in the world and why?**

Italy. I have a sister there and many nieces and nephews whom I have never met.

**Your favourite food?**

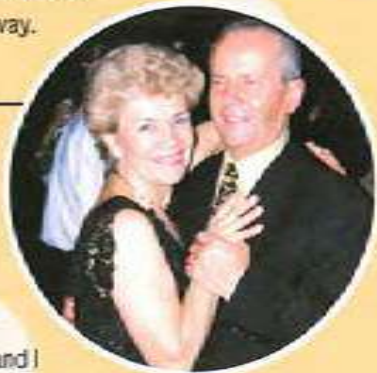
Italian.

**Perfect evening or weekend?**

I have had many perfect evenings with my husband and friends, especially our first Ultra TCS Christmas party at which I had a delightful time (see picture). The ones I enjoy the most, however, are when my granddaughter visits.

**Stranded on a desert island, what three personal possessions would you most want to have with you?**

Portable CD player to listen to some good music, cell phone in case I want to call home and my cosmetics to make myself beautiful just by chance a handsome young man happens to show up out of the blue.







## 2,000th radio for South Korea

In March 2004, **Tactical Communication Systems (TCS)** delivered its 2,000th AN/GRC-512 (V) Radio kit to South Korea. In honour of this achievement, a brunch was served to all TCS employees who had also signed a card for Huneed Technologies, our South Korean partner. Following an authorisation to proceed from Huneed Technologies, TCS is presently designing a new generation of the radio. TCS employees are pictured at the celebration.

## USSI Celebration

**UnderSea Sensor Systems Inc (USSI)** celebrated its 5th year anniversary as part of Ultra Electronics in December 2003. Significant accomplishments and achievements during this period include the delivery of approximately 180,000 sonobuoys to the US Navy and international customers, construction and relocation to an integrated design and manufacturing center in Columbia City, Indiana, and the growth of the organisation from sixty to over two hundred employees. Following an audit in January 2004, USSI was delighted to receive ISO 9001:2000 certification.



Joe Grimes, Director of Quality Systems and Mark Trout, Director of Operations celebrate the ISO certification

## Christmas Cheer

In December 2003, the employees at **Maritime Systems** banded together and raised Canadian \$2,150. In addition, it took 3 cars and 1 pick-up truck to take the food, clothing, toys and other household goods that had been collected over to the Park Street Furniture Bank where they were distributed to individuals and families.

## Feedback

I hope you enjoy this issue of Ultra News. Issue 20 is my last issue before leaving Ultra to enable me to focus more fully on my church and music interests.

Ultra is a great company made up of great people and I just wanted to take this opportunity to convey my best wishes to all employees and their families.

My successor, Keith Thomson, will be pleased to receive your feedback and ideas for Ultra News.

His email address is [keith.thomson@ultra-electronics.com](mailto:keith.thomson@ultra-electronics.com)

Keep up the good work

Jack Telfer



## Electronic Town Hall

In an effort to provide an additional means of communication, **MSI** recently launched its Electronic Town Hall. Available via MSI's local area network and Outlook, employees can post suggestions, questions or comments for review and reply by fellow MSI colleagues. Many messages were posted during the first few weeks.

### Local Ultra News Contacts:

**Airport Systems** - Mark Ashall-Kelly

**APC** - Liz Swasey

**Command & Control Systems** - Jessica Vincent

**Controls** - Julie Martin

**Defence** - Cheri Wilkinson

**Electrics** - Karen Dee

**ERS Development Corporation** - TBA

**Fightline Systems** - Judy Arnold

**Manufacturing & Card Systems** - Richard Farwell

**Maritime Systems** - Dorothy Rice

**Measurement Systems Inc.** - Sara Galullo

**Ocean Systems Inc.** - Sue Tynan

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**UnderSea Sensor Systems Inc.** - Dalnette Sade



the newsletter for  
**Ultra Electronics**  
employees

issue 21  
**Autumn/Fall**  
2004

# ULTRA

## Sonobuoy Partnering

# NEWS



### IN THIS ISSUE:

- **Product capability**  
– Anti-Submarine Warfare
- **Airbus Top 10 Supplier Award**
- **Electrics Division Delivery of First Terrier Controls**
- **TCS Tactical Radios Upgrade for Korea**
- **PAS Awarded Joint Common Missile Contract**
- **Interview with Douglas Caster**
- **Welcome to Videcom and DNE**
- **Manufacturing and Technology in focus**

**Sonar & Communication Systems** and the UK Ministry of Defence have entered into a long-term partnering contract for the supply and support of sonobuoys for the Nimrod MR2, Merlin and Nimrod MRA4 aircraft.

The partnering contract is a ten year, sole source contract under which Ultra will satisfy all of the MOD's sonobuoy requirements, including upgrades, manufacture,

supply and logistic support. The contract is founded on the principles of Smart Acquisition, with both the MOD and Ultra incentivised to deliver increasing value for money under a 'gainshare' arrangement.

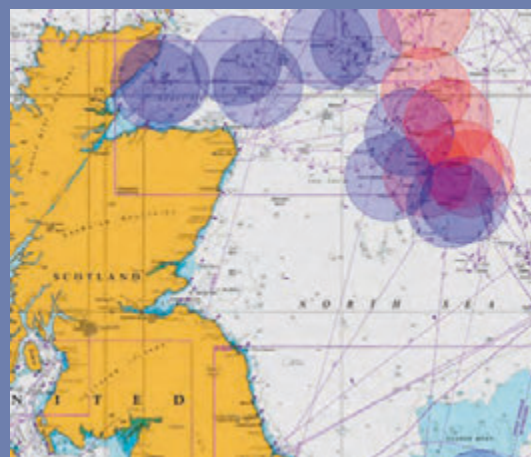
The contract will be worth a minimum of £60m (\$102m) over 10 years.

## Surveillance equipment contract

**SML Technologies** has been awarded a £6m (\$10.2m) contract by BP to supply radar surveillance systems and associated equipment for use in the North Sea.

SML will supply platform-based radar tracking, man overboard systems, personal locator beacons, and integrated vessel electronics. Implementation is scheduled to be complete by the end of 2005 and will take the total number of North Sea platforms protected by SML's systems to over 100. This contract is a major step towards complete coverage by SML of the United Kingdom offshore oil and gas sector.

This award to SML is part of BP's implementation of Project Jigsaw, a revolutionary approach to search and rescue within BP's North Sea oil and gas fields.



**PLUS:** ■ **Ultra Bytes** ■ **Chief Executive's Review** ■ **People in the news** ■ **On the spot**



# Ultra is responding



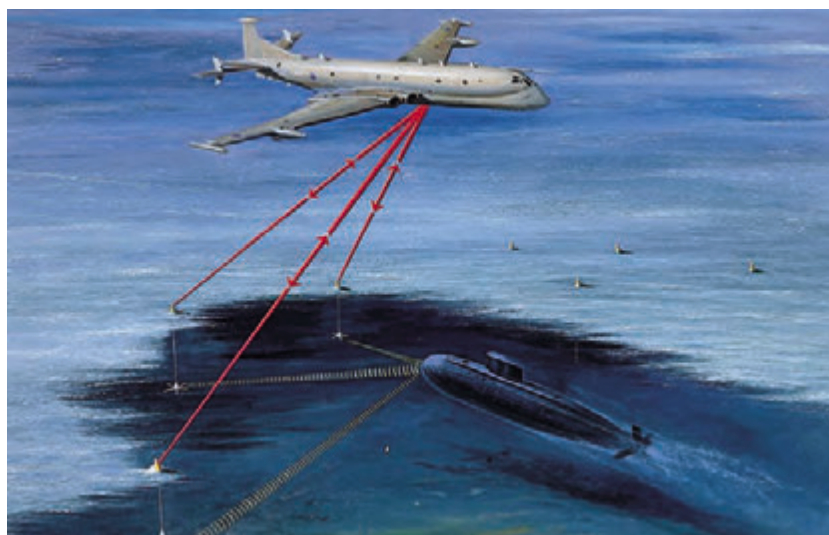
## In this issue we focus on Ultra's Anti-Submarine Warfare capabilities

"Anti-Submarine Warfare, or ASW, has always been a key component of Ultra's capability. As our ASW businesses pursue worldwide opportunities a growing feature of our continued success is the close co-operation between these businesses in order to meet customers' requirements. In this feature we focus on the joint approach that underpins our future offerings of multi-static active systems and digital wideband sonobuoy receivers."

**Rakesh Sharma**  
Managing Director  
Sonar & Communication  
Systems



Digital receiver card



Multi-static active systems contain multiple transmitters and receivers with better detection capability.

### Ultra is responding to a changing world

As a result of the end of the cold war and the associated reduction in the number of submarines operating in the North Atlantic, the emphasis on open ocean ASW has reduced. The threat is no longer seen as the large, nuclear submarines that used to operate in these deep waters but the much smaller submarines operating in shallow waters and close to shore. They are intrinsically more difficult to detect and track in the noisy waters around the coastline. There has also been an increased emphasis on Homeland Security. ASW assets are frequently now being used for drug interdiction, anti-terrorism and the prevention of smuggling. Alternative sensors, processing techniques and operational tactics are now needed to meet these new challenges while sustaining our customers' capabilities at a cost that they can afford.

### Ultra is responding with innovative solutions and developing a range of technologies that will meet these changing needs.

Through its ASW business Ultra has a range of world leading technologies. Ultra's ASW products, which may include sonobuoys, sonobuoy receivers and acoustic processors in conjunction with General Dynamics Canada (GDC) are used by all the major western ASW fleets.

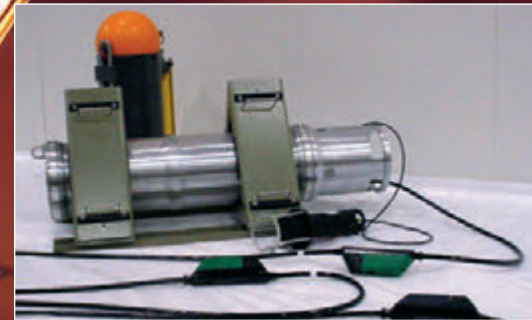
Two key concepts are emerging that fit well with Ultra's skills base. Multiple networked sensor technology, with software configurable architecture, provides cost-effectiveness and flexibility and facilitates the incorporation of new ideas. The use of digital technology, not only in sonobuoys but also in signal processing equipment, allows the functionality of a product to be changed in software rather than in hardware.

Sonar & Communication Systems (UK), Maritime Systems (Canada) and USSI (USA) are collaboratively developing Multi-Static Active systems which will operate at very low frequencies and which will enhance the detection capability against modern, quiet submarines. Ultra is also developing remotely deployable systems to protect or monitor coastal areas such as harbours, naval bases and important coastal installations for short periods. This adds a valuable dimension in the counter-terrorist threat.



# g to a changing world

**"Our challenge is to build on our existing skills to meet the new threat with new systems. Our focus will be to innovate and to evolve from today's technology to that for tomorrow"**



The Deployable Autonomous Distributed System (DADS) hardware and undersea sensors from USSI, using a variety of acoustic and non-acoustic technology as well as in-sensor processing.



Ultra's HIDAR, ALFEA and Barra sonobuoys, the multiple networked sensors used in the Multi-Static Active System

The range of sonobuoy receivers produced by Flightline Systems will be used on the latest ASW platforms in the USA, Canada and the UK as well as in a number of other countries worldwide.

Ultra, with GDC, has also established a position as a supplier of acoustic processors, with contracts for both the UK's Nimrod MR2 and MRA4 aircraft recently completed. The Canadian Maritime Helicopter Programme, recently awarded to Sikorsky will include the first of a new generation of integrated receiver/processors, using receiver cards from Flightline Systems. This integrated offering provides both space and weight savings, critical to helicopter operations. The MMA programme in the USA to replace the fleet of P-3 ASW aircraft will also use modern digital software-defined receivers that are smaller and lighter than their predecessors.

Ultra has continued to innovate in its system capability and is well positioned to meet emerging threats and requirements.



## Airbus top 10 supplier award

**Controls Division** received a prestigious award from Patrick Gavin, Airbus Executive Vice President Customer Services, in recognition of being rated by operators as one of the top ten suppliers. The Airbus rating system is the leading measure in civil aerospace for evaluating the support performance of its suppliers in terms of product performance, service and cost.



Colin Ross, Managing Director, (top row, second left) pictured receiving the award with other highly rated suppliers

# ULTRA bytes

## Little League World Series badged by **Magicard**



### Export Prowess

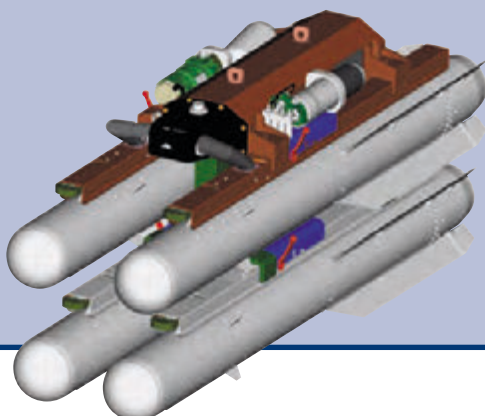
Maritime Systems received a Nova Scotia Export Achievement Award for recognition of its substantial export activities. The award was presented to Doug Burd, President of Maritime Systems, by Dr John Hamm, Premier of Nova Scotia.

The Little League World Series baseball event was recently held in Williamsport, USA. The event, for players up to 12 years of age, is between teams from all over the world.

Ultra Electronics Card Systems supported the event by providing two card printers and free printer supplies during the event. All players, coaches and staff received official ID badges, and the winning team was awarded special badges at the end.



## Joint common missile **contract**



**Precision Air Systems** has been awarded a phase 1 contract worth £118k (\$200k) by Marvin Engineering to integrate HIPAG on the Joint Common Missile M-299 Rotary Wing Launcher (JCM) for the System Design Development phase. The system will provide a high-pressure pure air supply to enable the cryogenic cooling of the JCM's infrared detector. JCM offers new capabilities in air-launched precision strike.





Terrier engineering vehicle

## Delivery of first Terrier crew controls

**Electrics Division** has recently delivered two sets of prototype Terrier crew ancillary controls to BAE Systems ROD, Leicester. The crew ancillary controls comprise all of the crew hand controllers, the gear range selector switch and the central control panel. All of the crew controllers and gear range selector switches utilise the latest hall effect technology and have dual redundant CAN data bus outputs.



Left-right: Paula Roughley, Phil Keen, Mark Baldwin, Ian Johnson, Stephan Sawczuk, Dave Lee, Alex Mattos and Danny Murphy

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...taking a brief look at some of the latest news from around the businesses

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### New Magicard Avalon available...

The Avalon is a new cost reduced entry-level version of the best selling Rio printer. The Avalon will allow Magicard Systems to broaden its markets, by signing up more dealers across the US, Europe and Latin America.



### Rio 2 and Tango 2 models showcase new upmarket design...

Now even better, with a re-engineered high throughput print-engine, stunning new styling, an LCD status display panel and an ethernet interface.

## MSI wins helicopter controls

**Measurement Systems Inc** was selected by the US Army's Technology Applications Contracting Office (TACO) to provide advanced Multifunction Control Units (MFCUs) for use in the MH-47 Chinook, MH-60 Black Hawk and AH-Little Bird helicopters. The \$1.27m (£0.74m) contract is for a total of 370 production units for use by the US Special Ops Command 160th Aviation Regiment to conduct worldwide special operations.

Each MFCU is a complex package of integrated controls mounted into a hand grip in a helicopter cockpit, providing pilots with remote control capabilities over forward looking infrared radar, sensors and digital mapping.

## Upgraded tactical radios to Korea

**Tactical Communication Systems** has been awarded contracts valued at over £7m (\$11.9m) for the enhancement of Ultra's tactical radios and the supply of further systems to the Republic of Korea Armed Forces.

Under a contract worth about £4m (\$6.8m), Ultra will upgrade its current high capacity, line of sight tactical radio design so that the system will be able to handle increased rates of information flow. Under a separate contract, worth over £3m (\$5.1m), Ultra will supply a quantity of radio kits to Huneed, its manufacturing licensee in the Republic of Korea, for completion in Korea.

## Battlespace IT support contract

**Advanced Programming Concepts** has been awarded a contract worth up to \$25m (£14.7m) over five years by the US Army. The order is for enhancements and support services relating to Ultra's Air Defense Systems Integrator® product (ADSI). The use of ADSI across the US armed forces and those of allied and coalition forces has increased with the heightened emphasis on battlespace IT systems or 'network centric warfare' in the United States.





# Chief Executive's ■ review



Once again I am pleased to be able to report excellent progress for Ultra through the first half of 2004 and this progress is reflected in the increase in our share price. While it remains challenging for Ultra to meet the Board's target of being the 250th largest company on the London Stock Exchange by the end of 2005, it is an achievable goal. By mid-October we had reached the 275th position, up from number 290 at this time last year.

A large part of Ultra's success is due to the increasing efficiency of the individual businesses, but, with the help of all employees, it is something that we must continue to improve. Another reason is our growing order book, and details of some of our recent major contract successes are

described in this issue. Satisfying customers and meeting our commitments to them will help our growth in the future.

Finally, I would like to welcome two new acquisitions to the Group. DNE Technologies based in Wallingford, Connecticut, in the US joined Ultra in July and has strong synergies with our existing Tactical Communication Systems and APC businesses. Videcom, based in Henley in the UK also joined the Group and is being integrated into Airport Systems at Loudwater. Videcom supplies a variety of IT products to airline and airport customers which complement our existing offerings. Both businesses strengthen our capability in key areas and are featured on the next page.

## Ultra News interviews the Chief Operating Officer DOUGLAS CASTER



### WHEN DID YOU JOIN ULTRA WHAT ROLES HAVE YOU HAD SINCE THEN?

I first joined Dowty as Engineering Director of Sonar & Communication Systems in 1988 and became Managing Director there, taking over from Dr Julian Blogh, in May 1992. I participated in the management buy-out that formed Ultra in October 1993 and joined the Board at that time. Since then I have been Managing Director of Command & Control Systems and subsequently Managing Director, Information & Power Systems. Most recently, I took up my current role as Chief Operating Officer in April 2004.

### WHAT CHANGES HAVE YOU SEEN IN THE LAST 11 YEARS SINCE ULTRA WAS FORMED?

Ultra has grown considerably over this time with the number of businesses increasing from 7 to 19. We have developed our technological capability and widened our geographical coverage, particularly in North America. We have achieved a good reputation in our markets for the quality of our offerings and our delivery performance. This growth and reputation has been made possible by the hard work and dedication of Ultra's employees, something that has not changed over the last 11 years.

### HOW DO YOU LIKE TO RELAX WHEN YOU ARE NOT AT WORK?

I like to spend time with my family and friends. I enjoy travelling as I am interested in landscape history and architecture. I have a garden that takes quite a bit of effort to maintain and in whatever time is left I enjoy listening to music, reading and occasionally going out for a drive in my Morgan sports car.

### WHAT ABOUT ULTRA'S PROSPECTS FOR THE FUTURE?

I see us continuing with the same strategies and Ultra culture that have driven our success up to now. Technology and markets are changing faster than ever but Ultra has the capability and commitment to provide cost effective, high performance solutions to meet our customers' requirements and deliver them on time. Provided we continue to do this Ultra has a very exciting future and I believe we can continue to grow successfully.



welcome...



## ...to DNE Technologies



Bill Gill, President, DNE Technologies

**DNE Technologies** joined Ultra in July 2004; DNE is located in Wallingford, Connecticut and employs approximately 125 people. The company focuses on the design and development of communication and switched network access products. Specifically, DNE manufactures devices designed to economise bandwidth or efficiently extend communication circuits, allowing a greater number of communiqués to arrive in remote areas. Often these areas only have one satellite link, microwave shot, or telephone line for access, and effective delivery of a variety of communications – such as video, imaging, data, voice, and email – can be life-saving.

DNE's products are used primarily by the US Department of Defense and prime contractors. By providing unique tactical interfaces used by various military organizations,

DNE has positioned itself as a company that understands military communications and offers products that simultaneously provide high-speed network access and preserve legacy connectivity. This combination of features allows DNE to assist its customers in a gradual, economical transition to a network-centric method of warfare.

DNE has been manufacturing products since 1951. In 1978, DNE manufactured its first Time Division Multiplexer (TDM) and today owns nearly 90% of the installed point-to-point multiplexer market within the US DoD. Over the years, DNE has sold over 15,000 TDMs for deployment throughout the world and today continues to manufacture its AN/FCC-100 multiplexer.

In addition to communications products, DNE also manufactures avionic devices for military aircraft.

## ...and to Videcom



The airport and airline business of **Videcom Limited** became part of Ultra Electronics in July 2004. The company, currently trading as Ultra Electronics Videcom, will be merged over the coming year into Airport Systems and will relocate to the Loudwater site.

The company was founded in 1972 and was privately owned up until its acquisition by Ultra Electronics. During this time, Videcom has come to be recognised as one of the key suppliers of airline, airport and travel information technology, and in recent years has performed particularly well in emerging markets such as China and Russia.

Its product portfolio is an excellent fit with the existing Airport Systems products and the newly merged company will be able to offer most of the key IT systems an airport might be seeking. For example, Videcom brings a capability to supply turnkey "Common Use" platforms. This allows airlines to run their preferred applications at any workstation in any airport, and airport authorities to optimise overall use of the airport's resources. Videcom also offers a suite of market leading Departure & Control System (DCS) applications, both passenger handling and aircraft load planning, as well as systems for the tracking of ULDs (aircraft pallets/containers), and for baggage security.







Lean manufacturing at USSl

## Going LEAN

In Autumn 2003 **UnderSea Sensor Systems Inc** started their efforts to establish Lean Manufacturing as a way of life. A Lean Champion was selected to lead the transition, training was completed and the transformation began. To date nine cells have implemented the Lean concepts with seven more cells planned for completion by the end of 2004. Significant improvements have been seen, particularly in reduction of Work In Process (WIP), reduced amount of floor space required, improved quality and an improved focus on workplace flow.

After completion of lean implementation the AN/SSQ-53F program experienced an 80% reduction in cycle time and the AN/SSQ-62E program was able to reduce required floor space by 50%.

**Electrics Division** has launched the start of a two year programme they are calling the 'Lean Enterprise Initiative'. The aim of the programme is to reduce costs by 20% over the 2 year period. The process, which focuses on workplace organization and the elimination of waste, will be implemented in all areas of the business.



## Manufacturing Expansion

Driven by large increases in contract manufacturing and Magicard printer orders, **Manufacturing & Card Systems** has initiated a major expansion of its shop floor facilities to meet demand. The main production floor has been expanded by 2,500 sq feet, and a new 3,500 sq foot high specification production floor is currently being built to house the Magicard production lines.

M&CS now has three automated surface-mount lines with the capacity to produce around 100,000 finished boards a year. The lines are backed up with automated optical and X-ray inspection systems and a variety of automated test equipment.



# focus

## High Energy HiPPAG



**Precision Air Systems'** successful HiPPAG 320 airborne compressor for cooling infrared missile seekers is now being developed to provide pneumatic energy for weapon ejection systems on a number of high profile US military projects including the F-35 Joint Strike Fighter and the Small Diameter Bomb programme.

A new HiPPAG range, the 500 series, is now in the final stages of development to satisfy the weapons ejection requirements. With flow rates of 10 to 18 l/min and design pressures of 350 Bar, the series has overcome a number of technical challenges by careful design work and extensive R&D of new materials, processes and heat removal techniques.

The HiPPAG 500 series puts PAS in an excellent position to lead this niche market for support of cold gas weapons ejection systems by offering the customer a reliable, clean and regenerative high-pressure energy source that greatly reduces life cycle costs.

## Technology collaboration

During the summer, **Measurement Systems Inc** determined there was an opportunity to develop a new product requiring a 1553 databus interface. MSI had not previously had requirements for this software and recognized that other Ultra companies could possibly help.

A call between the Presidents of Flightline Systems and MSI confirmed that Flightline had the expertise to assist MSI in developing 1553 test software code. Two Engineers from MSI, Louis Yan and Yin Ling, visited Flightline's Principal Engineers John Serenka and Joe Andrijenko. A collaboration was initiated between which saved MSI many weeks in development time and which was crucial to the success of the product.



## ALIX

ALIX 04 (Atlantic Littoral ISR Experiment) is an experiment in Intelligence, Surveillance and Reconnaissance (ISR) being conducted by DND in Canada.

A main headquarters was set up with radio communications to four remote sites and a fibre optic connection to a fifth site. **Tactical Communication Systems** supplied four fly away terminals to provide encrypted ethernet connections between the headquarters and two remote sensing sites at the Summer Hill and Short Range locations.

The main ISR headquarters was set up in a clearing with multiple shelters and Bison vehicles backed into a tent area. In this location all of the sensor data was collected, integrated and displayed to the headquarters staff. The communication data from the TCS Fly Away transit case system was taken into the headquarters tent by fibre optic cable using the Ultra's Superhighway group combiners. This was the first time that the intelligence data from so many systems had been integrated in a single system in Canada.

## Acoustic element location system

**Maritime Systems** is the hardware integrator in Canada's Rapidly Deployable System (RDS). This autonomous, networked underwater sensor grid is designed to be covertly deployed to monitor surface and subsurface traffic in the ocean. Maritime Systems has developed an Acoustic Element Location system that uses low power acoustic energy to determine the position of sensors accurately and continuously within the RDS network for improved system performance.



## people in the **NEWS**



1



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4



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7

**1. Jason Birtwistle** joined Ultra as Head of Sales and Marketing, Datel. He joined from Genaware International.

**2. Paul Fardellone** has been promoted to Vice President of Marketing, Flightline.

**3. Keith Franklin** has been promoted to Operations Director, Manufacturing & Card Systems Division.

**4. Dave Howard** has been promoted to Vice President, Business Development at Ocean Systems, Inc.

**5. Charles Johnson** has joined Measurement Systems Inc. as Vice President Finance. He joined from Inline Plastics.

**6. Andrew Neal** has been appointed Business Director – ISTAR & Battlespace Management at Command & Control Systems. Andrew was previously Business Manager – Components at Electrics Division.

**7. Ian Stothers** has been promoted to Technology Director, Controls Division.

## Prospective engineers visit S&CS for insight day



**Sonar & Communication Systems** recently hosted an "Insight" day with Brunel University, for young women who are considering a career in science and engineering – something S&CS does each year as part of its commitment to "Investors In People" and to promote the engineering profession.

### MSI hosts student interns

During 2004, **Measurement Systems Inc** sponsored two students, Adrienne Palange, from University of New Haven, and Enrique Iturralde, from Fairfield University.

## Farnborough

**Ultra** exhibited at the Farnborough International Air Show in July. With over 1,300 exhibitors from 32 countries and with more than 200 aircraft on display this year, Farnborough is always one of the world's largest air shows. Ultra's stand was one of the busiest at the show.

The products and capabilities of eleven Ultra businesses were represented on the stand: Precision Air Systems; Sonar & Communication Systems; Maritime Systems; USSi; Flightline Systems; APC; Controls; Electrics; MSI; Datel and Command & Control Systems.

Pictured below members of the flight crew of a UK Nimrod anti-submarine warfare aircraft with the Ultra stand team (left to right); Julie Craig, Elaine Earner and Karen Isenor.







## Shaun

**Shaun Holliday** is Business Systems Manager at Controls Division, Greenford. He lives near Heathrow with his wife Tracey. In May, Shaun graduated from Imperial College, London with a Masters in Business Administration.

### What do you most enjoy about your job?

A combination of the challenge of problem solving, the breadth of the role, and the opportunities that arise to work in cross functional teams.

### Most important lesson learned to date during your career?

It's better to find the right question than to provide the right answer to the wrong question.

### Your favourite hobby/pastime?

My hobby is genealogy. I am also undertaking a 5 day/100km challenge, deep in the Cuban countryside, to raise £25,000 for the National Endometriosis Society. It will be difficult, with many highlights but definitely a challenge.

### Funniest situation that you have had to deal with at work?

I once 'nobbled' a colleagues PC by creating a screen print of his desktop, removing all his desktop icons and replacing the desktop wall paper with the picture of his desktop. It looked just like his desktop but nothing worked and had him foxed for hours.



## Mark

**Mark Sidey** is a Test Engineer at Command & Control Systems. He is single and lives in Hampshire. Earlier this year he became British Land Yachting Champion.

Solving the problems that can occur in the production of specialised TV cameras that combine the use of electronics, mechanical and optical components.

Don't panic! When all around you are quoting deadlines. The answer is to stay calm and make sure the product works before going out the door.

Racing a land/sand yacht. A land yacht has the ability to travel faster than the speed of the wind. So for instance in a 20-30mph wind, it is possible to reach up to 60mph.



## Gordon

**Gordon MacKinnon** is a Production Control Coordinator at Maritime Systems. Gordon lives in Dartmouth, Nova Scotia with his wife, Theresa. He was recently ordained as a Permanent Deacon in the Roman Catholic Church.

The strong sense of camaraderie among co-workers and the fact that I have always felt so well supported by the company at large.

I have come to realize the importance of listening to and taking all peoples points of view in account when making any decision, that everyone's opinion matters.

Community Service with particular focus on the elderly and shut-in. This includes volunteering in the local community, such as serving both lunch and dinner to an elderly blind woman in her home every day for over ten years.

Assisting a co-worker to get inside a home made Christmas tree outfit where she was the "tree top".



AND **FINALLY**

# Fun DAYS....

## ...Controls

**Controls Division** held its third annual fun day during August. The most popular event was the dunk tank, where managers, led by Managing Director Colin Ross, raised hundreds of pounds for the Chiltern Centre for Disabled Children.



## ...S&CS

The rain held off again to ensure another successful **Sonar & Communication Systems** fun day. The activities included crazy golf, bungee running and laser dome combat. A particular highlight was the human table football league, with the opposing teams tied to giant poles.



## MSI American Cancer Society

More than 25 **Measurement Systems Inc** employees joined thousands of other walkers to raise money to fight breast cancer. The average distance of the walk was 5 miles. Together they raised \$1,200 for the American Cancer Society.



## Marathon Man

Paul Jenkins of **Electrics Division** completed the London Marathon in 4 hours and 5 minutes. However, his main disappointment was being beaten by a person running in a full Scooby Doo outfit. Paul raised £1,250 for the Acorn Trust, a children's hospice in Worcester. Although being quoted as saying "never again!" at the end of the race, there are signs that Paul may be gearing up for another marathon!



## USSI picnic

**UnderSea Sensor Systems Inc.** held its first annual company picnic. Employees and their guests were treated to a catered lunch, three miniature golf courses, a driving range, baseball batting cages, an arcade room and a go-cart track. Five employees volunteered for the dunk tank. Proceeds from the dunk tank were donated to United Way, a charity supporting community organisations.

## Electrics BBQ

**Electrics Division** held an open morning for family and friends to give an insight into what their partners or parents do and where they work. This was followed by a summer BBQ and party enjoyed by employees and family members.



ULTRA  
NEWS



### FEEDBACK

I hope you enjoy this issue of **Ultra News**. If you have any comments on the new look **Ultra News** or ideas for future issues please let your local contact or me know  
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the newsletter for  
**Ultra Electronics**  
employees

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**Spring**  
2005

# ULTRA

## Defending the **US fleet**

# NEWS



### IN THIS ISSUE:

- **Product capability**  
–armoured vehicle systems
- **Performance based logistics award**  
for Flightline
- **New production areas for M&CS**
- **London Heathrow chooses FIDS**
- **New Zealand selection for UltraTrak**
- **C&CS win £23m contract from Rolls-Royce**
- **PAS wins \$10m contract for HiPPAG**

**Ocean Systems** has been selected by the US Navy to demonstrate key performance parameters of an advanced torpedo defence system to protect its surface fleet. The full demonstrator programme is potentially worth \$18m over two years, with the first year's increment being worth \$10.9m.

The US Navy has an identified requirement for a surface ship torpedo defence system. The development programme

won by Ocean Systems focuses on the critically important element of the system that detects, classifies, and gives a precise location of an incoming torpedo. Under this programme, Ultra will demonstrate the latest techniques for ensuring that these tasks can be executed consistently and reliably.

## Ultra **WIPS** up **Boeing 787** contract

**Controls** has been selected to supply the key electrical and electronic elements of the Wing Ice Protection System (WIPS) for Boeing's new 787 "Dreamliner" aircraft. Ultra will also be undertaking overall integration and certification of the system with the other parts of the system being provided by GKN Aerospace and Thermion Systems Europe.

Existing aircraft ice protection systems use hot air from the engines that is piped inside the front of the wing to prevent the build up of ice. The 787 replaces this system with an electrically powered alternative.

The WIPS includes electrically heated mats embedded in to the slats on the front of the wings, controllers to switch the electrical power and innovative harnesses that take power to the mats while accommodating the extension and retraction of the slats. Overall system management is provided by a central controller.

The 787 is Boeing's newest commercial airliner and already has amassed orders for over 250 aircraft. It will enter service in 2008



**PLUS:** ■ **Ultra Bytes** ■ **Chief Executive's Review** ■ **People in the news** ■ **On the spot**



# vehicle system



## In this issue we highlight Ultra's expanding armoured vehicle and remotely-controlled vehicle capabilities

"Military vehicles have featured as a significant market for Ultra for many years, and the range of products and equipment developed and supplied continues to rise to keep pace with the changing demands. Increasingly, sophisticated and remotely-controlled air, land, surface and underwater vehicles are also being deployed for military purposes, notably in the US.

In this article, we highlight the breadth of Ultra's capabilities in these areas, and the increasing value of collaboration between Ultra's businesses in jointly addressing these market opportunities."

**Alan Jan-Janin**  
Managing Director  
Aircraft & Vehicle Systems



A British Army 'Trojan' Engineer Vehicle

### Armoured Vehicles

Most vehicles on our roads today make extensive use of electronics, data buses and complex software to create a 'feature rich' driving experience. A revolution is also taking place in the military vehicle market of which the British Army has about 20,000, which combines the vehicle electronics (vetronics) of today's modern cars with the latest in IT and communications technology to create an 'intelligent' modern fighting vehicle.

Recognising and responding to these dramatic changes in the market, Ultra has been developing key enabling technologies that will facilitate the implementation of complex vetronic systems. **Electrics** is able to offer customers a range of products that form the backbone of any vetronics system and is a co-author of the UK's vetronics databus specification (MilCAN).

At the heart of any modern fighting vehicle is a power management system that takes battery and generator power and distributes it to the various power consumers around the vehicle. The next generation of vehicle will use a vetronics databus to control and monitor the power through various 'smart' electronic switches. In addition to gaining greater control, the system will allow performance monitoring and even predictive analysis. For example, by monitoring the power required to start the vehicle's engine, taking into account variations in temperature, the system

will be able to predict the need for maintenance by detecting changes in power consumption that are not perceptible to the driver. Recognising the need for military vehicle Health and Usage Monitoring Systems (HUMS), **Electrics** and **Datel** have been working together, with **Electrics** providing the 'on vehicle' monitoring and data logging technology, and **Datel** the 'off vehicle' data analysis systems.

As vehicle control and monitoring systems become more complex, so the need for more sophisticated and innovative crew station controls also increases. **Electrics** and **MSI** have a heritage in supplying HMI (Human Machine Interface) equipment to armoured vehicles and so are well placed to offer tomorrow's control technology that will be used for systems such as 'Drive-by-Wire', electric armour (with studies undertaken by **PMES**), and defensive aid systems.

Recently, a proposal was made to BAES Land Systems to provide a safe remote-control capability for several of the British Army ETS vehicle variants (see photo above left). **Electrics** worked with **Command & Control Systems** on this proposal.

**'As vehicle control and monitoring systems become more complex, so the need for more sophisticated and innovative crew station controls also increases.'**

### Unmanned Vehicles

Ultra's supply of equipment for civil aircraft, conventional military aircraft, ships, submarines, and armoured vehicles is also applicable to unmanned vehicles. The number and type of unmanned vehicles is growing rapidly, since they offer a safe, versatile, and rapidly deployable means of gathering reconnaissance information, and in a few cases are capable of launching weapons. The US Army in particular is substantially increasing its commitment to the use of such vehicles. The Future Combat System (FCS) being developed in the US and the Future Rapid Effects System (FRES) being developed in the UK, are both expected to

Bradley M2A2





# s moving with the times



exploit remotely-operated vehicles. **MSI, Electrics, Command & Control Systems, Sonar & Communication Systems and Datel** are responding to these needs with tailored products and sub-systems.



Predator UAV

Ultra's offerings for these types of vehicles are wide-ranging, from miniature joysticks and hand controls, to hand-held remote-control systems and ground-based 'cockpits'. **MSI's** products are already supporting nine different Unmanned Air Vehicles (UAV) systems, ranging from small hand-launched fixed wing types such as Raven, to Predator, capable of firing laser-designated missiles.

Funding for remotely-operated ground (UGV) and undersea vehicle (USV) systems is also expected to grow.

**Sonar & Communication Systems** has been selected to supply a remotely-controlled expendable mine disposal system "SeaFox" for the Royal Navy (see page 9 for more details). **Sonar & Communication Systems** is also involved in the development of tactical and high integrity data links for the UK UAV programme "Watchkeeper 450".

It is anticipated that the potential for remotely-operated vehicles is large, and that by addressing their demanding technological requirements, growth in the sales of HMI equipment will follow. To accelerate this, **MSI** has recently secured a licence to extend Ultra's ability to develop products incorporating haptic technology. Haptic products allow users to interface with computer-controlled equipment by receiving physical, tactile feedback, and this feedback enhances the user's ability to control the system.

HiPPAG, developed by **Precision Air Systems**, has also been selected to supply demonstration weapons release equipment for the development of the US J-UCAS unmanned aircraft systems.





## C&CS wins £23m contract from Rolls-Royce

**Command & Control Systems** has been awarded a contract by Rolls-Royce worth in excess of £23 million. The order is for control and instrumentation equipment to be used as part of the nuclear propulsion system for Royal Navy submarines. The equipment will be developed and delivered over the period to 2008.



Vanguard submarine

# ULTRA bytes



### Tactical Communication Systems

has been awarded a contract by Canada's Department of National Defence valued at \$12.7 million Cdn, for the supply of its latest generation multiband, software programmable AN/GRC-245 radios.

The AN/GRC-245 radio has been in service with the US Army since 2000, and is the current baseline for wide band line-of-sight communications.

### PAS wins \$10m contract for HiPPAG compressors

**Precision Air Systems** has been awarded a contract worth over \$10m by the US Naval Air Systems Command for the continued procurement of HiPPAG compressors for missile cooling on F/A-18 aircraft. This contract is for approximately 300 units.

## Performance based logistics award for Flightline

**Flightline Systems'** President, Carlos Santiago, received a "Letter of Appreciation" from Mr. Peter Fleming the Program Manager for the Performance Based Logistics (PBL) Program at Lockheed Martin, Owego. Flightline was recognized for its outstanding support during the initial year of the PBL whereby Flightline significantly exceeded AN/ARR-84 sonobuoy receiver repair targets "enabling the readiness of the US Navy Seahawk fleet to remain high during this period of increased operational tempo".



### Sonar & Communication Systems

The WATCHKEEPER Data Links team at **Sonar & Communication Systems** successfully demonstrated the High Integrity Data Link (HIDL) that will be used for the UK's WATCHKEEPER tactical unmanned aerial vehicle (UAV) programme. The real time demonstration was attended by representatives from the UK Defence Procurement Agency and Thales, the UK's WATCHKEEPER tactical UAV Prime Contractor.





## down under selection for UltraTrak

**Airport Systems** has been selected to provide UltraTrak™, a fully managed passenger baggage reconciliation service, at seven international airports in New Zealand. The contract will be worth in excess of £9m over the first 5 years of service. The system will handle over five million passengers per year.



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...taking a brief look at some of the latest news from  
around the businesses

### Command & Control Systems...

has recently won an order to provide simulation of the SPEARFISH torpedo to facilitate more realistic training on board deployed submarines.

The simulation involves producing Spearfish model and scenario generator software that will be run on a personal computer, plus modifications to Ultra's on-board Weapon Interface Equipment (WIE) to connect to the simulator. The Spearfish model provides a mathematical simulation of Spearfish torpedo performance which, when coupled to the WIE, provides the submarine's control room operators realistic interaction with the weapon system.

### Name Change

Advanced Programming Concepts has changed its name to **Ultra Electronics Advanced Tactical Systems**. The new name more accurately reflects the company's current products and capabilities.

## A Littoral success story

**EMS**, in partnership with Angle Inc, has been selected by Marinette Marine to provide degaussing (DG) design services and equipment for the Lockheed Martin Flight 0 Littoral Combat Ship. This contract will provide the DG system design, including the ship degaussing coils and a fully mil-qualified DG system, which interfaces via ethernet to the ship mission computer. The system has multiple control modes for redundancy, including magnetometer control, GPS control, and a fully manual operation mode.



## NEW production areas

As a result of continuing growth in sales, **Manufacturing & Card Systems (M&CS)** has invested in a major new production facility for its Magicard ID card printers. The 4,000 square feet facility was opened by Peter Macfarlane, Ultra Chairman, in December 2004.

In addition to the new Magicard production facility, M&CS has invested in a third PCB production line.

## London Heathrow chooses FIDS

**Airport Systems** has been awarded a contract to provide software for a new Flight Information Display System (FIDS) at BAA's London Heathrow airport. The software will support the display of flight, gate and baggage reclaim information on the FIDS screens. It is anticipated that the new software will be rolled out across Heathrow Airport's terminals, starting in 2006.





# Chief Executive's review

## SENIOR MANAGEMENT CHANGES

The senior management changes that we announced last year took effect at the Company's AGM in April. Peter Macfarlane retired from his position as Chairman of the Board and is succeeded by Dr Julian Blogh who also retired as Chief Executive. As a consequence of these changes I have accepted the position of Chief Executive. I am sure that you will all join me in sending Peter our best wishes for a well earned retirement and thanking Peter and Julian for their dedication and leadership in building Ultra into the successful company it is today.

To strengthen the financial capability of the Board following Peter's retirement Chris Bailey has been appointed as a non-executive director. I should like to welcome Chris to Ultra and you can read more about him in the "People in the News" section on page 10.

Now that these changes have come into effect I am looking forward to the challenge of leading Ultra into the future. It should be no surprise that the future strategy for the group will be "more of the same". Having been involved in the Group's strategic development since the formation of Ultra I believe that our growth strategies have served us well up to now and are just as relevant

for the future. This too applies to Ultra's organisation of highly focused autonomous businesses where each management team takes full responsibility and ownership for the strategic development and performance of its business. Our culture will continue to be "market facing" with a passion for satisfying our customers with cost effective, reliable and high

performance solutions that meet their requirements. Underpinning all of this will be a strong desire to meet our commitments.



Dr Julian Blogh cutting the cake to celebrate his retirement as Chief Executive

**'Now that these changes have come into effect I am looking forward to the challenge of leading Ultra into the future.'**

## FINANCIAL RESULTS 2004

In February Dr. Julian Blogh, David Jeffcoat and I announced Ultra's 2004 results. In the following week or so we made 31 presentations to fund managers that together own more than 70% of Ultra. We were able to report a strong performance with record levels of sales and profits and the 2004 year end order book also achieved a record level. Sales increased by 12.4% to £319.7m. Profit before tax and amortisation of goodwill grew by 15.5% to £39.7m. Once again a strong cash flow performance resulted in net debt reducing by £7.1m to £23.2m despite spending £23m on acquisitions in the year. The Group's order book closed the year up 5.4% to £395.4m. The feedback from the fund managers was very positive with most saying what a good investment Ultra had been for them.

The whole Board appreciates the hard work, commitment and support from our employees that are vital to our





Sales £millions (US\$millions)

success. While thanking you for your endeavours I must stress that there is no room for complacency and we cannot "rest on our laurels". We operate in a competitive market and so we must continue to satisfy our customers through innovative solutions, supplied at attractive prices achieved through operational efficiency. Providing we do this I am confident that we can continue to provide profits growth for our shareholders while achieving stimulating, rewarding jobs for ourselves.

**'During 2004, Ultra invested a total of £44 million in acquisitions, research and development, capital expenditure and new business development.'**

Profit £millions (US\$millions)

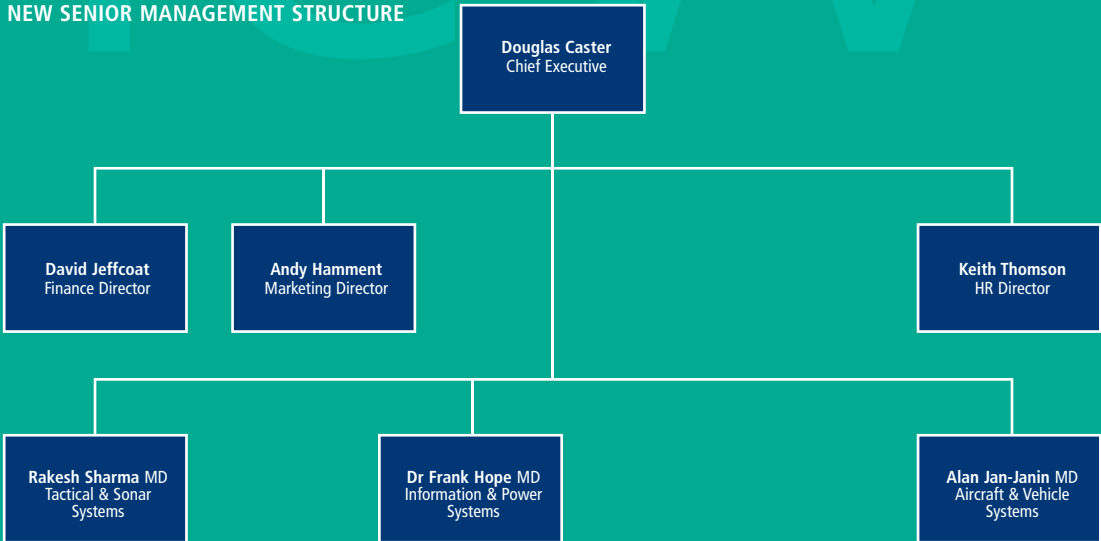


#### Senior Management Changes

Following the AGM on 22 April 2005 Peter Macfarlane retired from the Board, having been Chairman since 1994. Dr. Julian Blogh took over the role of Chairman. Douglas Caster, previously Chief Operating Officer, became Chief Executive. Chris Bailey was appointed to the Board as a Non-Executive Director in January 2005.

With the retirement of Wayne Trowse, President Tactical & Undersea Systems, at the end of June 2005, Rakesh Sharma, Managing Director Sonar & Communication Systems, is appointed Managing Director Tactical & Sonar Systems

#### NEW SENIOR MANAGEMENT STRUCTURE





in



## EMS/PMES chosen to supply Power Inverters to US Navy

### PMES partners with MLS IPT

PMES has signed a partnering agreement with the Marine Electrical Systems (MLS) Integrated Project Team (IPT), part of the UK Defence Logistics Organisation (DLO). PMES and the MLS IPT agreed to work together to establish a strategic, long-term relationship aiming to provide the highest quality electrical systems achievable to the Royal Navy. Key objectives of this agreement are to work together on future fleet support strategies, to enable cost reductions through continuous improvement and increased awareness of the customer's requirements and future work.

EMS, in collaboration with PMES, has secured its first power converter contract with the US Navy. The contract is for the supply of two 400Hz inverters and two 60Hz inverters for the USS Dolphin. This is a unique submarine used primarily for training and testing new technologies for future platforms.

## EMS degaussing system WINS

EMS has been selected by Spanish shipbuilder Navantia to provide degaussing system design and advanced degaussing equipment for the Spanish Navy Strategic Projection Ship, which is expected to be in service in 2007.



## US patent for MAGTRACK

Ultra Measurement Systems has recently received a US patent for its MAGTRACK™ state-of-the-art positioning device for harsh environments.

MAGTRACK can be used in military applications that encounter wet environments such as amphibious vehicles and naval vessels as well as commercial or industrial applications where fluid ingress prevents the correct operation of traditional controls.



# focus

## S&CS LEADS THE WAY

A team led by **Sonar & Communication Systems** has been selected as the preferred bidder for the Royal Navy's Mine Disposal System (MDS). Bidding with teaming partners Atlas Elektronik and Babcock Design & Technology, the SEAFOX one-shot MDS was offered. Down selection, which featured a comprehensive series of performance demonstration trials, was achieved against stiff competition which included the incumbent supplier.



## ALFEA



For the past four years **Sonar & Communication Systems** and **Maritime Systems** have worked together to co-develop an air deployable Active Low Frequency Electro Acoustic source for use in multi-static applications. Termed 'ALFEA', the first operational tests of this next generation sonobuoy were performed in February. The results to date have been excellent with detection ranges exceeding expectations. Further trials are planned during 2005.

## Lead free soldering introduced at Manufacturing & Card Systems

Neil Garbutt, Senior Engineer explains: "The new legislation covering the reduction of hazardous substances in electronic products (RoHS) and the subsequent recycling of those products (WEEE) has made it essential for us to develop a lead-free soldering process. Ultra Electronics **Manufacturing & Card Systems** has therefore invested in new production equipment and processes to meet this requirement. In addition, some of our customers' products need to operate in extreme working conditions, sometimes at temperatures in excess of 190°C where traditional solders would be inappropriate anyway. These applications helped us to develop our lead free process in advance of the legal requirement, which has been introduced to minimize the potential environmental impact of lead contaminated waste."

## March Atlantic sea trials for USSI

In February a team from **USSI** met with the Defence Research and Development Canada (DRDC) at their facility in Dartmouth, Nova Scotia to discuss collaboration on underwater gliders for ASW applications. This meeting resulted in an offer for USSI to participate in their March sea trials in which underwater glider technology was tested. In addition to the glider test USSI also tested Q53F sonobuoys in shallow water operations.





## people in the **NEWS**



**1. Chris Bailey** has been appointed to the Ultra Board as a Non-Executive Director. Until his recent retirement he was Group Finance Director at Aggregate Industries plc.

**2. Martin Carpenter** has been promoted to Engineering Director at Precision Air Systems.

**3. Ron Crain** has joined as Vice President, Ultra Electronics Airport Systems, Inc. He joined from Kansas City International Airport.

**4. Dick Speer** has been promoted to Vice President Finance and Contracts, Ocean Systems

**5. John McAlonan** has been promoted to President at Advanced Tactical Systems; he was previously Acting President.

**6. Greg Beedle** joined Ultra as Finance Director for Controls Division. He was previously employed at AEA Technology Rail.

**7. David Cliffe** has joined Ultra Electronics Airport Systems as Finance and Information Systems Director. He was previously Finance Director at Baxall Limited.

## A trip to **Buckingham Palace** for Paul Benson



**Paul Benson**, Managing Director of **Precision Air Systems**, was awarded the OBE in the 2005 New Year Honours List in recognition of his contribution to the aerospace and defence industry. He is pictured receiving his medal from Her Majesty the Queen at a ceremony held at Buckingham Palace in March.

## Communication is the **Key**

**Electrics** has embraced the new UK information and consultation legislation, piloting a consultative committee for this purpose within the business.

Delegates put themselves forward as a result of a team brief and notice; training was arranged for the whole committee. The first meeting was held in January. It was a positive experience all round involving communicating "with" people instead of "to" or "at" them.

## Simulating **success**

Over two months 15 **USSI** employees volunteered for Junior Achievement's Exchange City. Exchange City is an authentic, life-size town and interactive computer program that involves student management of a simulated economy. The simulation vividly illustrates the connection between hard work and tangible success while teaching responsibility, leadership, decision making and cooperation. By volunteering with 5th and 6th graders, **USSI** hopes to spur the students' interests to pursue a career in engineering.







**Tania**

**Tania O'Sullivan** is a programme manager at Command & Control Systems. Tania is married and lives on the edge of the Cotswolds. She has just returned from Sri Lanka helping with the Tsunami victims.

### What do you most enjoy about your job?

Taking on board a requirement or an issue and being given the freedom and support to resolve it through to the end.

### Most important lesson learned to date during your career?

Stressing over a situation will make the situation even more stressful and harder to resolve.

### Your favourite hobby/pastime?

Scuba diving is my favourite hobby, you feel like your floating in space, exploring a whole new world that most people will never experience

### Funniest situation that you have had to deal with at work?

Dressing up as a school girl for red nose day and not looking as sexy as Peter Curtis from the Contracts Department dressed as a woman!



**Sara**

**Sara McWilliams** is a Mechanical Design Engineer at UnderSea Sensor Systems. She is single and lives in Columbia City. Sara graduated last year with a bachelors degree in engineering when she was only 20!

I see/work on something new everyday. Every problem is always new, and requires a unique solution. Gives me the feeling that I'm working on the cutting edge.

No matter how tight the deadline, always find or make time to check your work! 5 minutes of checking is always better to spending hours doing it over again.

I try at least once a year to make it up to Michigan to go skiing for a weekend. I substitute ice skating at the local rink as a close second, since Indiana is so flat.

My best memories usually involve launching sneak attacks on the IT department with my nerf gun when trying to "persuade" them for help with something.



**Tony**

**Tony Overbury** is a Wireman Fitter at PMES Rugeley. Tony lives in Heath Hayes, Cannock with his wife Andrea. Earlier this year he was invited to instruct on a 17 day diving expedition in Belize with the British Army.

Camaraderie with fellow workers and a combination of the challenge of problem solving that can occur within the production environment.

I have come to realise that working as a team member promotes a better performance thus allowing early delivery to our customer.

Scuba diving in some of the spectacular locations around the world. Being a member of the Territorial Army.

Having to sign for equipment that was delivered to Barrow-in-Furness from Rugeley that morning and the customer was nowhere to be found.



## Relocations



**Maroun Mourani**, pictured with his family, from **Tactical Communication Systems** recently relocated with his family from Montreal, Canada to Dubai, U.A.E to win opportunities in the Middle East and some Asian countries.

**Rob Morris** has been seconded to New Zealand for 5 years to manage the installation and service of UltraTrak in 7 airports across New Zealand (see page 5).

## On the Piste

In January 20 **USSI** employees, their families and friends dusted off their snow skis and hit the slopes of Southern Michigan for an action packed day of skiing. A fun time was had by all.



## Duke and Duchess to separate

"Duke" the SeaSantor teddy-bear mascot was recently presented by Andy Woodland from **Sonar & Communication Systems** to the youngest crew member of HMS Westminster, who will be his custodian. Also pictured is Duke's girlfriend "Duchess" who will be based in Greenford on the SSTD production line.

## De-bearding...



## ...the boss

Mike Clayton (pictured) and Geoff Eyres of **Command & Control Systems** raised £770 for 'Multiple Sclerosis' by having their beards shaved off.

## Precision Air Systems visits Capitol Hill



A team from **Precision Air Systems** had the privilege of a personal tour of the US Capitol and its famous dome. The visit was arranged by Melanie Alvord, Director of Communications for Senator Ted Stevens of Alaska.



### FEEDBACK

I hope you enjoy this issue of **Ultra News**. If you have any comments on the new look **Ultra News** or ideas for future issues please let your local contact or me know  
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the newsletter for  
**Ultra Electronics**  
employees

issue 23  
**Autumn/Fall**  
2005

# ULTRA

## Shanghai success

# NEWS



### IN THIS ISSUE:

- **Product capability**  
– the world of communication
- **PAS**  
– HiPPAG hits the spot
- **DNE trains US response teams**
- **Flightline wins US\$10m contract**
- **Electrics wins £14m contract from BAE Systems**
- **Welcome to Audiopack, Horizon and Io**

**Airport Systems** has signed a major contract to provide IT integration services to Shanghai Pudong International Airport. The contract has a value of over US\$9 million and the work will be completed by March 2008.

Airport Systems will install its integration broker product, known as UltraIB. This provides airport specific application services and cost-effective integration of the many different systems that are used by operational staff throughout the airport. Airport Systems is currently supplying UltraIB services

for the Terminal 5 project at London Heathrow and has successfully completed a number of other major airport systems integration projects.

Ultra will also deliver and install other elements of its product range at Shanghai, including UltraDB, its airport operational database, and UltraResource, its resource management and planning system. These will facilitate the further expansion of the Shanghai facilities and will also service the nearby domestic airport at Hongqiao.

## Data link system for **USAF**

**Advanced Tactical Systems** has been awarded a data link system development contract by Northrop Grumman on behalf of the US Air Force Electronic Systems Center. This award, worth in excess of US\$2.6 million, represents the fiscal year 2005 increment of a multi-year contract with an anticipated total value to Ultra of about US\$25 million. The development efforts for this new contract will commence immediately with deliveries beginning in late 2006.

Ultra will provide the Common Link Management Processor component of the Joint Interface Control Officer ("JICO") Support Systems ("JSS") that enables tactical data link networks to be monitored and controlled to optimise the throughput of battlespace information. The transportable

nature of Ultra's ADSI® real-time command and control system makes it especially suitable for use as the kernel of the Full Expeditionary Capability system. This is the system that will first be used on deployment to theatre and is also part of Ultra's scope of supply.



**PLUS:** ■ Ultra Bytes ■ Chief Executive's Review ■ People in the news ■ On the spot



# getting smarter, f



## In this issue we focus on Ultra's ever expanding expert

Effective management of the flow of information in hostile or dangerous environments is vital. This is certainly true in the defence sector where superior information management can give a decisive edge in military operations. It is also true for 'first responders' – those men and women that are first on the scene at an emergency: police, firefighters and medical staff. Ultra specialises in the supply of high quality communication systems and equipment. This requires continuous innovation to match the ever-increasing demand for information by providing cost-effective, reliable communication equipment. An excellent demonstration of this can be found at Ultra's latest acquisition, **Audiopack**.

**Rakesh Shama**  
Managing Director  
Tactical & Sonar Systems

In a time of emergency, human instinct is to flee an incident: the emergency services run towards it. If emergency personnel are not able to communicate, not just with their own teams but also between teams, they may be unnecessarily put in harm's way. **Audiopack** supplies voice and data systems to the emergency services, as well as the military, that integrate into personal respirators or breathing apparatus. This provides full communication capability without the need to remove protective masks or clothing. The latest generation of equipment utilises Bluetooth technology to obviate the use of cables that could be a snagging hazard. **Audiopack's** new Head Up Display also provides information on the operational status of the breathing apparatus. Having designed a solution to the communication problem, **Audiopack** is now reviewing capability within Ultra to satisfy an emerging need for much improved coordination between the different branches of the emergency services. **DNE** and **Sonar & Communication Systems (S&CS)** are assisting to provide a solution to this emerging requirement.



In the military sector, new requirements and operational doctrine result in older technology being made obsolete. However, it is too expensive to throw away legacy systems and start anew. Often a design has to bridge a transition phase to enable systems to run in parallel – a capability developed by **DNE**. Not only does **DNE** supply switches that allow legacy voice, data and video formats to interface to new systems, it also satisfies the need to send more data through narrow bandwidth connections. This can be

conceptually thought of as trying to increase the flow of water through a 'skinny pipe'; you can only do it by increasing the pressure.

**DNE** also ensures that a high Quality of Service (QoS) is maintained across the system. To achieve this, **DNE** dynamically alters the speed of transmission for individual signals, achieving QoS by allocating more bandwidth to the high priority signals. **DNE's** largest customers are the US Marine Corps and US Army.

### Putting a radio solution into a vehicle allows the commanders of today's fast moving campaigns to stay constantly connected to the network while maintaining mobility.

As the front line of the battle moves, so the communication network must be mobile. This is achieved by the use of vehicle-mounted high capacity radio shelters. **Tactical Communication Systems (TCS)** supplies such network radios to many customers worldwide, including the United States and South Korean armies. The High Capacity Line of Sight (HCLoS) radio operates at 16 Mega bits per second (Mbps) over UHF frequencies. Even at 16 Mbps our customers require ever faster transmission and **TCS** is currently developing a 34Mbps equipment called the High Capacity Radio (HCR) to satisfy their need. In addition to this, **TCS** and **DNE** are working together to supply combined systems, in a manner that reduces integration risk for the customer.

Being able to communicate is not enough if the information can be intercepted by non-friendly forces and thus compromise the mission. Some versions of **TCS's** radios change frequency many times each second in order to minimise the risk of interception. Additionally, **S&CS** has been working with the UK government's Communication Electronic Security Group (CESG) to supply high grade cryptographic equipment for several communication systems.



# aster and more integrated

## ise in the world of communication

This capability has helped Ultra to win a contract to supply US forces with KG-40A cryptographic equipment. This provides security when sharing situational awareness information with allied forces using the Data Link 11 format. This is the first time, as far as records can tell, that the US DoD has sourced from overseas any cryptographic equipment for use by its forces.



S&CS's excellent reputation for supplying crypto and data link systems has helped win two further contracts: the Multi-Link Processor for the Canadian Maritime Helicopter Programme and the High Integrity Data Link for the UK unmanned airborne vehicle, Watchkeeper. **Advanced Tactical Systems (ATS)** has been extremely successful in recent years and has now supplied over 400 Air Defense Systems Integrators (ADSI) to US forces. This further strengthens Ultra's data link market position worldwide. ADSI is able to act as a data link convertor/translator which then forwards data to other participating nodes in the network. **ATS** has recently won contracts for the next generation of systems, including Common Link Management Processor (CLiP) and the Joint Interface Control Officer Support System (JSS).

What does the future hold for modern communication systems? In the short term, customers will demand faster, smarter and more integrated systems. New systems will require the adoption of the latest commercial protocols – such as the Internet Protocol (IP) – while maintaining the high Quality of Service of legacy systems. Ultra is developing solutions to this challenging requirement. Additionally the number of UAVs in service is set to increase which will ensure that battlespace IT systems will be fed yet more data. By exploiting the synergies between Ultra companies and by working together, the Group is well positioned to address these future challenges.

**Audiopack is now reviewing capability within Ultra to satisfy an emerging need for much improved coordination between the different branches of the emergency services.**





## HiPPAG hits the spot

**Precision Air Systems** has been awarded a US\$3 million contract by Sargent Fletcher to provide its HiPPAG airborne compressor for the US Small Diameter Bomb (SDB) programme. HiPPAG provides the pneumatic energy source which enables the controlled ejection of the bombs. Successful firing trials have recently demonstrated the exceptional precision of the SDB system; a bomb flew more than 55 miles from an altitude of 30,000 feet, landing within 34 inches of its planned impact point.



Loading the SDB carriage system onto an F-15E Strike Eagle aircraft

# ULTRA bytes



### Measurement Systems Inc

has been awarded a contract by Lockheed Martin to manufacture custom hand controls that will operate its Airborne Mine Neutralization System. This system will be used to clear the mine threat to naval vessels, especially those operating in shallow, coastal waters where the risk is highest. The ArcherFish unmanned underwater vehicle will be launched from the helicopter and controlled by an operator using **MSI's** extremely sophisticated, custom control equipment.

**Command & Control Systems (C&CS)** is a key member of the winning Lockheed Martin team undertaking a technology demonstration programme for the British Army's Future Rapid Effects System (FRES) project. FRES will comprise a family of new armoured vehicles and their associated electronic systems – it will be a major investment programme for the UK MoD. Ultra is providing the deputy project manager and is leading the local situational awareness, C4I, integrated image handling and vetronics work packages. **Electrics**, with its specialist knowledge of armoured vehicle electronics systems, is supporting **C&CS**.



## Combining forces for Future Rapid Effects System



### in the right proximity

**Controls**, teamed with Goodrich in the US, has won the contract to supply proximity sensors and the associated interface electronics fitted to the landing gear of the Airbus A400M military transport aircraft. 180 A400M aircraft have been ordered to date by seven European nations and export sales are anticipated. The customer is Messier-Bugatti which, with its sister company Messier-Dowty, supplies the complete landing gear system. This is a significant win for **Controls** as it is the first time the company has won a contract with Airbus to supply proximity sensors and follows the team's winning of the Boeing 787 Proximity Sensing System.



# Flightline receives \$10m contract

**Flightline Systems** has been awarded a contract worth in excess of US\$10 million by General Dynamics Canada to provide digital sonobuoy receivers for the Canadian Maritime Helicopter Program. Under the contract, Flightline Systems will provide narrow band digital receivers in a compact circuit card configuration to be integrated in the GD Canada acoustic processor. Sikorsky Aircraft is the prime contractor and will be providing twenty eight CH-148 Cyclone helicopters.



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...taking a brief look at some of the latest news from  
around the businesses

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## DNE trains US Response Teams

In 1998 the US formed regional teams to provide on-scene support for a Weapons of Mass Destruction (WMD) incident. These teams use a van to provide communications between Headquarters and various responders at the scene. One of the key pieces of equipment is **DNE's** AN/FCC-100 multiplexer. **DNE** has trained 44 operators in the use of this critical communications link and another 44 students are planning to attend similar classes throughout 2006. One recent student and his team has been deployed to New Orleans, Louisiana in support of Hurricane Katrina relief efforts.



### Tactical Communication Systems

has been awarded a development and production contract by the US Army to add a multiplexer to its AN/GRC-245 HCLOS radio. This multiplexer will allow the immediate doubling of capacity for the US Army Joint Network Node (JNN) radio links. The JNN system is supplying the main communications link for the Army deployed in Iraq and the radio links form an important part of the system.

## £14m Typhoon contract

**Electrics** has been awarded a contract to provide a range of cockpit equipment for the second tranche of 236 Eurofighter Typhoon aircraft. The contract is worth over £14 million and deliveries will be made over the next five years. Ultra will provide BAE Systems with the Hands-on Throttle and Stick (HOTAS) controls, the undercarriage selector switch and a range of cockpit switches and indicators that are suitable for use when wearing night vision goggles.



## BAE Systems award

For the last eight years **Datel** has been responsible for mid-life updates to the Computer Symbol Generator (CSG) on the Tornado GR4/4A aircraft. BAE Systems has awarded **Datel** a Chairman's Bronze Award in recognition of the smooth management, implementation and formal testing of the upgraded CSG software.





# Chief Executive's review

**"During October we were ranked at number 250 or above... at one point we achieved the 245th position."**

In August, Julian Blogh, David Jeffcoat and I announced the Group's half-year results for 2005. In the following week David and I went on to visit 28 fund managers, most of whom were already investors in Ultra, to present and explain Ultra's progress. I am pleased to report that the results, which are shown graphically below, were well received by the "City". These excellent results were achieved through the hard work, dedication and commitment of our employees; something that I do not take for granted. The progress that the Group has made and the quality of the results is reflected in our share price.

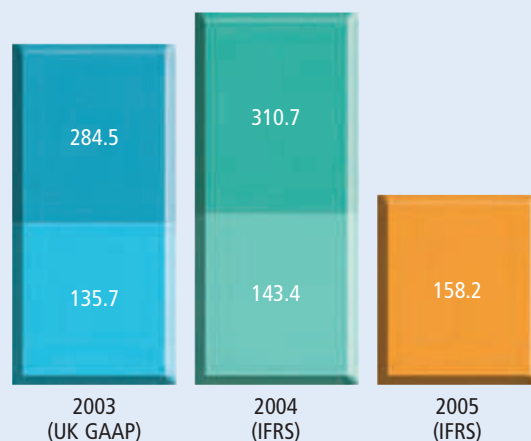
Whilst on the subject of the share price, you will no doubt recall that in 2002 we set the objective of becoming the 250th largest company on the London Stock Market by December 2005. Of course this measure compares Ultra's share price performance with other companies on the stock market. Our ranking at any one time therefore depends upon Ultra's share price relative to other share prices. During October we were ranked at number 250 or above for seven out of the 20 trading days in the month and at one point we achieved the 245th position. At the time of writing with our share price at 908p we were number 255.

The Executive Team has been working on a new Group objective which we will need from January 2006. In the next edition of "Ultra News" I will report on the final achievement against the current objective and reveal to you what I believe our next objective should be.

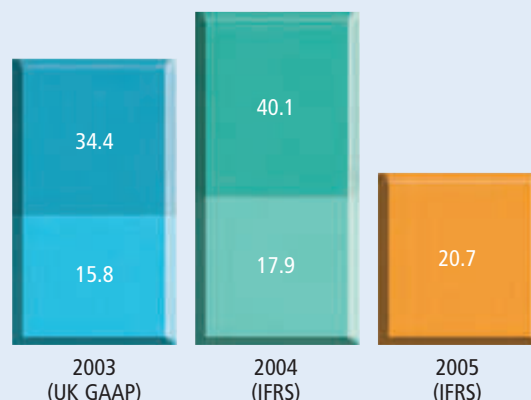
So far in 2005 we have completed the acquisitions of Horizon, Audiopack and Io. Horizon strengthens our aircraft instruments capability and this business has now been integrated into Flightline Electronics in Rochester, New York. Audiopack, based in Cleveland, Ohio, adds a new related niche to Ultra in the communications equipment market.

Audiopack's main activity is the supply of rugged voice communications equipment for personnel wearing protective clothing, gas masks and breathing apparatus in harsh and hazardous environments. Audiopack's customers include the armed forces and "first responders" such as the fire, medical and police services. Io is a small specialist business that has significantly strengthened the engineering team of our Controls business now that they have relocated to our premises in Cambridge. I am impressed by the capabilities of these three businesses and welcome all their people to Ultra. Our strategy is to consider additional acquisitions, on a very selective basis in the aerospace and defence sector, that will contribute to the strategic development of the Group.

## Sales £m



## Profit before tax\* £m



Graphs show Sales and Profit before tax at half year compared to previous year

\*before amortisation of intangibles arising on acquisition and loss on financial instruments



# welcome...

## ...to Audiopack Technologies



**Audiopack Technologies**, based in Garfield Heights, Ohio, became part of Ultra Electronics in July 2005. The company is a technology-based niche supplier of voice and data communications products for hazardous environments. **Audiopack's** customers include military, homeland security, fire service and industrial workers.

**Audiopack's** products are designed to interface with the full range of personal protective products worn in hazardous work environments including respirators, self-contained breathing apparatus, helmets, hearing protection and over garments. The business has grown from 7 employees in 1995 to over 120 employees today. **Audiopack's** growth has been fuelled by new product development and it currently offers over 300 products.

## ...to Horizon Aerospace

**Horizon Aerospace** became part of Ultra in April 2005 and has merged into **Flightline Systems**. 21 employees have transferred to Flightline's Rochester facility.

**Horizon** was previously part of Flightline Electronics and operated as Flightline Aircraft Instruments. Horizon was founded in 1997 when Ultra acquired Flightline Electronics and the instrument product line was spun off to form a privately held company. Products include a complete line of aircraft cockpit instrumentation for general aviation, commercial and military applications.

## ...and to Io

**Io Limited** joined Controls in May 2005. **Io** was founded in 1994 to apply modern network technologies to industrial and process control systems for use in harsh environments. **Io** has a range of products that have been successful on major platforms including the Nimrod MRA4 Programme and upgrades to C130 Aircraft.



## DSEi 05 exhibiting our combined strength

Ultra exhibited at the DSEi Exhibition in September. The products and capabilities of seven Ultra businesses were represented on the stand: **Audiopack**, **Command & Control Systems**, **Datel**, **Electrics**, **SML Technologies**, **Sonar & Communication Systems** and **Tactical Communication Systems**.







# in Poseidon adventure

**Flightline Systems** has been awarded a contract in excess of US\$3.7million by Boeing to provide wide band digital receivers for the US Navy's Multi-mission Maritime Aircraft Program. Under this initial contract, Flightline will provide integration systems and qualification. The MMA aircraft is based on the Boeing 737 airframe and is designated the P-8A Poseidon. Production is scheduled to commence in 2009-2010 and over 100 systems will be procured to support fleet introduction in 2014.

## All the right assets

**Datel** has won a contract to trial an advanced health and usage monitoring system on British Army vehicles. The Ultra solution gives the fleet managers visibility of the condition of each vehicle by measuring mileage travelled, fuel usage, engine hours, load state and terrain covered. Data is converted to information by an analytical toolset and shared among stakeholders. The trial is the first military application of this kind of analysis.

## A 'fly away' success

The Canadian Department of National Defence (DND) has ordered 20 "Fly Away" communications terminals from **Tactical Communication Systems** with a value of over US\$2million. The communications terminals provide an easily transportable communication for command and control systems in a tactical environment.



## MoD targets S&CS

**S&CS** has been selected by the UK MoD to supply and support airborne laser targeting pods for the RAF Eurofighter Typhoon aircraft. The MoD announced that it intends to make a single source, off the shelf procurement for the UK that follows a competitive assessment carried out in 2000 by Eurofighter GmbH/ NETMA. It is intended that Ultra will prime the contract with Rafael acting as the principal sub-contractor.



# f focus

## More than one million flying hours

**Precision Air Systems'** HiPPAG has achieved the impressive milestone of logging over 1 million flying hours on US Navy aircraft. HiPPAG's reliability has proved to be so high that there have been no aircraft mission failures caused by HiPPAG failures. US Navy Force Weapons Managers acknowledge that HiPPAG is one of the most reliable systems in the complete Naval Aviation Ordnance inventory.



Joining together to WIP up the right solution **Datel** has joined with **Controls** to design and develop the embedded system software for the controller at the heart of the proposed Wing Ice Protection System (WIPS) on the Boeing 787 aircraft. **Datel** has integrated quickly into the team and the first software design review is set for November.

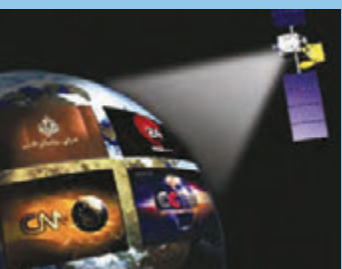
## Great depth of capability

It is increasingly important to have two-way communications with submarines while they are submerged, without compromising the vessel's stealthy characteristic. This is so that submarines can play a role in modern-day tactical operations. The team at **Maritime Systems** has delivered the 'Deep Siren' tactical paging system for use in forthcoming sea trials. Deep Siren provides the capability to communicate tactical information to a submarine operating at speed and depth. Transmission ranges in excess of 100 miles have been demonstrated at speeds over 20 KTS and depths up to 400 feet.



## Media savvy

Coalition Warrior Interoperability Demonstration, CWID, is an annual USA-led programme with Australia, Canada, NATO, NZ, UK and others which evaluates novel ways of information provision to improve war fighting. **Command & Control Systems** supplied a News Management System to provide a concise multi-source media picture to the theatre command so they could know what the local population was receiving in terms of TV, radio, internet and news messages. This is an increasingly important part of modern military operations, peace keeping, and humanitarian relief.



## helping to connect people

**PMES** has successfully energised two traction substations as part of a project to connect London City Airport to the existing Docklands Light Railway. This work is part of a 4.5km extension to the existing railway. **PMES** was responsible for the design, supply, installation and live commissioning of two substations at Lower Lea and at London City Airport. **PMES** for the first time performed all of the live commissioning which included testing and energisation of the 3rd rail.





## people in the **NEWS**



1



2



3



4



5



6

**1. Jenny Lawton** has joined Airport Systems as Region Manager, Asia Pacific. She was previously employed at FMC.

**2. Steve Portera** Steve Portera has joined Measurement Systems Inc. as Vice President – Finance.

**3. Dave Sulkowski** has been promoted to Senior Vice President/General Manager of Measurement Systems Inc.

**4. Mark Nelson** has joined Head Office as Group Finance Manager. He joined from BAE Systems.

**5. Matthew White** has also joined the Head Office team as Group Finance Manager. Matthew previously worked at Vislink plc and Solomon Hare.

**6. David Garbett-Edwards** has been appointed Director of Corporate Administration for the Group. He was previously Finance & IS Director at Electrics.

## a good degree learner for **'Green Belt' George**



**George Graham** participated in the Tuition Reimbursement program at **Ocean Systems**, earning both his Bachelors and Masters Degrees. George is also **Ocean Systems'** first Six Sigma Green Belt and a LEAN advocate.

## **'Great crack'** in Dublin for PAS

**Precision Air Systems** recently hosted a lunch for members of the US Congressional Defense Appropriations Committee. The lunch was held at the Brazen Head, the oldest pub in Dublin. Everyone enjoyed a great lunch with Committee Members Bill Young, Henry Bonilla, Kay Granger, their families and staff.

### Thanks and praise

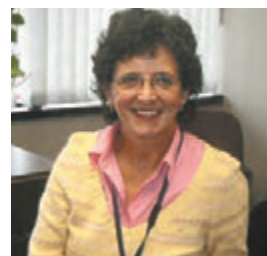
Well earned praise and thanks were given to Veronica Brain of **Electrics** by Messier-Dowty for her hard work in completing the flight test instrumentation for the new, enhanced landing gear for the Airbus A340 aircraft. The timescales were tight but the required deadline was met. Others closely involved included Peter Ball, who worked with Veronica in Gloucester and Toulouse; Ross Causon, Dave Larkin and Rex Hall.



## PMES **lose** despite hat-trick from Andrew **'Freddie'** Freer

July saw the inaugural cricket match between the MoD's Marine Electrical Systems IPT and **PMES**. Despite athletic antics in the out-field, **PMES** could not prevent the MoD securing the winning run in the last over. Highlight of the day was the hat-trick of wickets in one over by Andy Freer.

## for **she's** a jolly good **fellow**



Dorothy Rice, VP Finance and Administration at **Maritime Systems**, has become a Fellow of the Society of Management Accountants of Canada. The designation embodies distinction in the qualities

that CMA Canada values above all: strategic leadership, community involvement, professional accomplishments and an overall commitment to enriching the profession of management accounting.





## Cynthia

**Cynthia Kreider** is a Senior Financial Analyst at Ocean Systems. She has received joint masters degrees from Suffolk University in Boston Massachusetts, Masters of Business Administration (MBA) and a Graduate Degree in Professional Accounting (GDPA).

### What do you most enjoy about your job?

Developing financial reports that help program managers better understand our financial situation. I believe that financial reports should be clear and easy to read, particularly to the non-accounting user.

### Most important lesson learned to date during your career?

The most important lesson I've learned is that the work I produce is a reflection of who I am professionally. I must always make sure the numbers in the reports I produce tie up.

### Your favourite hobby/pastime?

I love the difficulty, discipline and physical fitness aspect of martial arts, but my favorite part is playing with the weapons. I also play tennis and play on the company's golf league.

### Funniest situation that you have had to deal with at work?

I have a little dancing hamster called the CEO Hamster. Somebody wanted me to process a capital request right away so he kidnapped my hamster and left me a ransom note. His plan worked, but I hope nobody gets any ideas from this.



## Bill

**Bill Organ** is the People and Progress Manager at Electrics. Bill is married with 3 children and lives near Cirencester. He has recently been elected a Trustee for the Ultra Electronics Pension Scheme.

Cliché, but it is the people and the variety. There are some tough bits that have to be handled professionally, but for the most part it is all about ensuring that there is a good match between Company and individuals' expectations.

There is no such thing as fair – fair is how individuals subjectively perceive things from their own view of the world.

Sailing, whether you are hanging on for dear life in a hoolie or trying to figure out what Mother Nature is doing to the wind to try and gain an advantage – it's total relaxation. I just had the best of times last year as the picture shows!

When I was quite young the lady I was interviewing was determined that she was going to have the job and me as well! Strange, but I've not had an experience like that for a long time now.



## Nick

**Nick Machoukas** is a Manufacturing Engineer at Audiopack. He is single and lives in Mayfield Heights, Ohio. Although Nick enjoys skydiving his other interest is bull riding.

The thing that I enjoy most about my job is the fast paced, ever-changing environment and the new challenges that I get to face on a daily basis. I never have to worry about being bored with what I do.

The most important lesson that I have learned is to listen to people, whether they have 20 years of experience, or 2 weeks. Everyone brings a fresh perspective to every situation that they encounter.

My favorite hobby is skydiving. The thrill of flying through the air at 135 miles an hour is unbelievable. There is this sensation of flying that is totally free and unlike anything else I have ever done.

Playing the part of the karaoke ambassador with a Japanese customer of ours. It was the first time anyone from work had heard me sing, and was definitely worth a few laughs.



AND **FINALLY**

# Fun DAYS...

## ...Controls

Staff and their families from **Controls** enjoyed their third Annual Fun Day with team events, a live band and a charity raffle. £1,100 was raised for Cancer Research. Colin Ross, Managing Director, is seen here in the stocks.



## ...S&CS

**Sonar & Communication Systems** enjoyed a fun packed afternoon at their Annual Fun Day. Highlights of the day included a full size Formula 1 racing car with a race track simulator, human table football and other giant games.

## Round the world

Martin Steventon left **Airport Systems** in July to become a crew member on the New York Clipper, competing in The Clipper 05/06 Round the World Yacht Race. Martin will be fundraising for The Philip Green Memorial Trust, which helps sick and disabled children in the UK and overseas.



## Born again bikers



**Precision Air Systems** has had a flush of 'born again bikers', although some will assure you that they never stopped. Bikes range from smart easy riders to well loved classics, each the owner's pride and joy.

## K2B or not K2B?

Eight hardy walkers from **PMES** took part in the annual K2B 40 mile walk from Keswick to Barrow in Furness. The team raised over £1,500 which, together with Gift Aid, enabled just over £2,000 to be distributed to three local charities.



## Well done Nick

Nick Walker from **Electrics** recently took part in the British Masters Decathlon Championship in Rotherham and is now the British Masters Decathlon Champion.



## Walking programme

In July, 60 **USSI** employees participated in a six week walking program to help promote a healthier work force. The Ultra Steppers kept a daily log of their steps and each week tried to increase the number of steps they took.

ULTRA  
NEWS



### FEEDBACK

I hope you enjoy this issue of **Ultra News**. If you have any comments on the new look **Ultra News** or ideas for future issues please let your local contact or me know  
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the newsletter for  
**Ultra Electronics**  
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issue 24  
**Autumn**  
2006

# ULTRA

# a cool \$12m

# NEWS

## IN THIS ISSUE:

- **Product capability**  
– Ultra's increasing systems capability
- **MSI wins US\$3.5m contract**
- **ATS responds to increasing demand**
- **S&CS**  
– Dziekuje from the Polish Navy
- **Welcome to Polyflex**

Following the Boeing 787 Dreamliner Wing Ice Protection System award, **Controls** has won another significant contract using similar technology. Pratt & Whitney awarded **Controls** a development contract for the controller and harnessing for the engine inlet ice protection system (EIPS) on its F135 engine which is the lead engine for the Lockheed Martin F-35 Joint Strike Fighter (JSF) aircraft.

The contract is initially worth US\$12 million with the

potential of additional contracts covering the test and production phases prior to entry into service in 2012. The electro-thermal EIPS is a new, high-efficiency approach to engine inlet ice protection that avoids the use of bleed air from the engine. Ultra will supply an electronic controller together with the interconnecting harnesses and connectors that run between the controller and the engine inlet heater mats supplied by Ultra's partner, GKN Aerospace.

## SEAFOX success

**Sonar & Communication Systems** has been awarded a £35 million contract to supply the Royal Navy with SEAFOX, an advanced, expendable remotely-operated underwater vehicle used to neutralise sea mines. SEAFOX is guided to the mine using a combination of parent ship and vehicle sensors.

Ultra teamed internationally with world-class companies ATLAS Elektronik of Germany, and Babcock Design & Technology to provide the MoD with a money saving, low risk solution.

The contract was won in tough competition following a stringent technical evaluation which included at-sea tests and live explosive trials against a variety of sea

mines. Ultra will deliver the first system in 2006 and has agreed a ten-year support contract guaranteeing system availability to the Royal Navy. The SEAFOX win follows the success of Ultra's Surface Ship Torpedo Defence contract and is a further demonstration of Ultra's ability to deliver fully integrated systems to the UK MoD.





# working towards the 'sys



**Dr Frank Hope**  
Managing Director,  
Information &  
Power Systems

## In this issue we highlight Ul

ULTRA SYSTEMS THAT PROVIDE TIMELY, ACCURATE INFORMATION HELP THE GROUP'S CUSTOMERS ACHIEVE THEIR GOALS IN AN INCREASINGLY EFFICIENT AND EFFECTIVE MANNER. IN THE MILITARY ARENA, THE UNITED STATES ARMED FORCES HAVE ADOPTED THE DOCTRINE OF NETWORK CENTRIC WARFARE (NCW) AND IN THE UK THE EQUIVALENT CONCEPT IS NETWORK ENABLED CAPABILITY (NEC). THESE APPROACHES USE BATTLESPACE IT TO TRANSFORM WAR FIGHTING BY ACHIEVING INFORMATION SUPERIORITY. IN THE COMMERCIAL WORLD, ULTRA IS PROVIDING BAA WITH ADVANCED INFORMATION TECHNOLOGY SYSTEMS THAT HELP ENSURE THE OPERATIONAL EFFECTIVENESS OF HEATHROW AIRPORT'S TERMINAL 5, WHICH MUST HANDLE ABOUT 35 MILLION PASSENGERS IN ITS FIRST YEAR OF OPERATION.

The recently published Defence Industrial Strategy highlighted the need for expertise at the 'systems' level and the requirement for a 'system of systems' to achieve the demands of NEC.

An important UK system of systems is the Future Rapid Effects System (FRES), a new family of highly mobile, lightly-armoured vehicles for the British Army. These vehicles must be fully integrated with the battlespace IT network so that they can share the latest intelligence and receive targeting information in real time. **Command & Control Systems (C&CS)** and **Electrics** are part of the Lockheed Martin team working on one of two competing FRES electronic architecture design studies.

**Shane Bennison, Chief Systems Engineer at C&CS, describes the approach:**

'C&CS is a key part of the Lockheed Martin "Team ISIS" and is providing the Systems Engineering (SE) and integration for the Electronic Architecture (EA) part of the FRES family of vehicles.

In the demonstration phase our SE teams are focused on designing and building both a laboratory and vehicle systems that successfully demonstrate and de-risk critical FRES mission requirements and technologies.

In the design study we are truly addressing "system of systems issues". This will lead to an EA design with the best balance of life cycle cost, availability, performance and risk. It, and the equivalent output of the competing design study, will be used by the MoD to justify proceeding to production.'

**MIKE CLAYTON, MANAGING DIRECTOR OF SML**, is exploring how the SML offering can be integrated

with other 'homeland security' offerings from within Ultra.

**Mike explains his vision for the system:**

"A coastal surveillance system monitors surface vessels in a country's Economic Exclusion Zone (EEZ) and provides protection against threats. They are based on radars as well as electro-optical cameras, radio direction finders and radio transponders. Sub-sea sensors are deployed by more sophisticated customers to protect an area from swimmers.

The **SML** system combines high-performance coastal surveillance radar with its own sophisticated signal processing and a powerful PC-based tracker.

**SML** radar, transponder and central command displays combined with **C&CS** cameras and **Sonar & Communication Systems** swimmer detection sonar offer a comprehensive coastal surveillance system.'

**THREE YEARS AGO C&CS** won a contract to redesign the reactor control and instrumentation system for the Royal Navy's nuclear submarine fleet.

**Rob Muirhead, Project Manager for the contract summarised the safety systems thinking:**

'The project involves 40 people and has presented us with the demanding and difficult engineering challenges that might be expected in the safety-critical design of instrumentation to control and protect a nuclear reactor.

The principle safety requirement is that no single component failure can result in an undetectable fail-dangerous fault. The designs are even more challenging when you understand that the performance requires accuracy to remain within 0.3% over the whole 24 year life-cycle.

Comprehensive test, integration, verification and validation is being undertaken at card, subsystem and system level over two years before the system is installed in a remote System Test Facility in Scotland.'

**AIRPORT SYSTEMS** has been working as the systems integrator for BAA at London's Heathrow airport

**Graeme Stacey, MD of the business, sums up the T5 experience:**

'The modern airport terminal is as much about moving information as it is about moving passengers, bags and aircraft. Since 2000 **Airport Systems** has been providing





# tem of systems'

## tra's increasing systems capability

remote telemetry and control of electricity substations, the fire main and water treatment systems. Ultra also secured the role of IT Systems Integrator for the new Terminal 5. This £30m programme integrates systems controlling heating, lighting, lifts, escalators, security and CCTV as well as systems for information display and baggage handling.

As BAA begins its plans for the redevelopment of Terminal 2 in time for the 2012 Olympics, Ultra is well positioned to introduce its technology even more widely across the airport.

**OVER THE LAST 24 MONTHS** ATS has experienced exceptional growth (see page 7) from increased sales of Air Defense Systems Integrator (ADSI) and from broadening the scope of the offering. This has been possible because of the detailed knowledge the team has about how the complete command and control system is used.

**John McAlonan, President of ATS, explains:**

'By leveraging our existing software that provides interoperability and real-time command and control of forces, we have expanded into new business areas.

Firstly, the capability of ADSI has been increased to allow secure communications through satellites and long-haul Internet Protocol networks. ADSI now provides data feeds to units of the US Armed Forces that are deployed throughout Iraq.

Secondly, **ATS** has adapted the same software for US Navy patrol aircraft and the new US Navy Littoral Combat Ship (LCS) program. A reduced-size ADSI has been developed for the Predator-B unmanned air vehicle program giving the pilots a real-time picture of the battlespace while also providing the location of the Predator-B relative to other aircraft to help reduce the chance of a mid-air collision.'

**A SYSTEM CAN BE EXPRESSED** in terms of a product or collection of products. Winning recurring sales of systems will be a major contributor to Ultra's growth.

**Andy Freer, Managing Director, explains the approach to systems at PMES:**

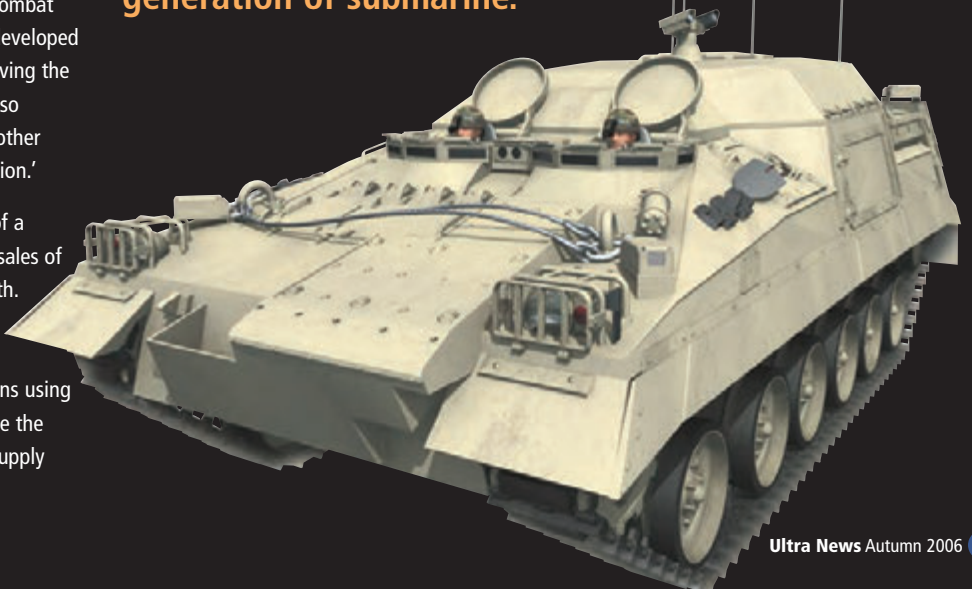
'There are many different electrical system designs using AC or DC to distribute power. However they all share the same basic principals, namely a centralised power supply

(gas turbine, diesel or nuclear), distribution switchboards, loads which can be AC or DC, fixed or variable and a control system to make sure it all keeps working.

**PMES** has supplied the majority of the power electronics on the Astute class submarine for the Royal Navy. The challenge for the future submarine architecture is to improve performance while reducing the cost of the overall system through the use of COTS based equipment. PMES is currently working with its customers and the MoD on an efficient and cost effective system of power sub-systems for a new generation of submarine.'

Positioning Ultra's offerings by demonstrating systems expertise will be vital to winning new business and delivering business growth. Most important of all, the strength and depth of systems knowledge possessed by Ultra's people will be critical to the growth of the Group in the future.

**The challenge for the future submarine architecture is to improve performance while reducing the cost of the overall system through the use of COTS based equipment. PMES is currently working with its customers and the MoD on an efficient and cost effective system of power sub-systems for a new generation of submarine.**





## Preferential treatment



MSI has instituted a new purchasing process by partnering with its preferred supply chain partners for mutual benefit. This program is titled "Supplier Economic Purchase Order Quantity" or SEPOQ. MSI selectively signs up the individual companies and targets them for increased business from the company. In return MSI gets preferred status in terms of deliveries as well as a quarterly rebate based on the amount of business done with that supplier. As the business grows, MSI's cash-back increases. To date eight top suppliers have signed up.

# ULTRA bytes

## Supplying air to JCM

Precision Air Systems has been awarded an initial design and development contract worth £118k (\$200k) by Marvin Engineering to integrate HiPPAG on the Joint Common Missile (JCM) launcher for

helicopters. The system will provide a high-pressure pure air for the the cryogenic cooling of the JCM's infrared detector. JCM offers new capabilities in air-launched precision strike.



## Korea move for Flightline

Korean Aerospace Industries has awarded Flightline Systems a contract in excess of US\$4.9 million to provide ARR-502 sonobuoy receivers for eight P-3 aircraft acquired from the US Navy. Flightline will be working with L3 in Greenville Texas and General Dynamics Canada for the integration of the receivers.

## Soldering on!

Manufacturing & Card Systems (M&CS) has recently purchased two programmable selective soldering machines. Mike Clements, Senior Process Engineer, commented, "This will give M&CS the facility to automate the soldering of leaded components, especially on the more complex, double-sided surface mount assemblies where the use of traditional wave or hand soldering is no longer a viable option.

The accuracy and repeatability of the equipment will also lead to cost savings for Ultra's customers, process improvements and enhanced quality of through-hole soldered joints. With the two machines and an additional quick change-over solder pot, we now have the capabilities to selective solder using a variety of solder alloys including lead free".





# Airport Systems secure BAA contract

**Airport Systems** has won the SIS (Staff Information System) contract for BAA, the world's leading airport company. The contract is worth almost £1m. The new system at Heathrow and Stansted airports will provide detailed operational information to both BAA staff and to external customers and will serve a user community eventually totalling over 600 people.



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...taking a brief look at some of the latest news from around the businesses

011011100100011111001010100101010001010101010010

## a positive ID



The Magicard Rio ID card printer from **Manufacturing & Card Systems (M&CS)** has been replaced with the enhanced Rio 2e. The new Rio 2e features built-in ethernet and a new graphical driver. In addition, the Rio 2e is fully Reduction of Hazardous Substances (RoHS) compliant. RoHS is the new EU directive for all electronic products and **M&CS** is the first company to prove compliance.

## Support on the water front



**Command & Control Systems** has won a contract to upgrade the weapon interfacing electronics for the Royal Navy's submarines. The order includes continuing support for the currently installed equipment, originally supplied by Ultra about 30 years ago, together with the development, installation and support of a modern, replacement system. Ultra will adopt a radical new approach to support which includes a 'water front service' at the dockyards to ensure the Royal Navy has systems available whenever they are needed.

The weapon interface equipment communicates targeting information to Spearfish heavyweight torpedoes and Tomahawk land attack cruise missiles whilst they are in the submarine launch tubes and initiates weapon launch.

## A400M Noise Control Contracts for Controls

**Controls** has won two contracts to supply Airbus with noise reduction systems for the Airbus A400M military transport aircraft. The first is a £35 million contract for the supply of the Tuned Vibration Absorber System which will reduce the propeller noise in the large cargo bay area of the aircraft. This system is similar to the noise and vibration system that Ultra has been supplying to Bombardier for many years. The second, £8 million contract, is for the supply of the LoadMaster Work-Station quieting system. This system utilises loudspeakers and microphones that reduce the propeller noise in the LoadMaster area which is a small area below the cockpit.





# Chief Executive's

# review



**"The feedback from the Ultra shareholders was overwhelmingly positive. They liked the business strategies that Ultra is pursuing and were impressed by the range of niches in which the Group operates..."**

It is now about 18 months since I took on the role of Chief Executive and accepted the challenge of leading Ultra into the future. It has been a period of overall success for the Group with some excellent financial results and a significant number of important new orders and programmes.

#### **INTERIM FINANCIAL RESULTS 2006**

On 31 July, Dr. Julian Blogh, David Jeffcoat and I announced Ultra's results for the first half on 2006. David and I subsequently made presentations to 28 financial institutions most of whom were Ultra shareholders. We were able to report a strong performance with record levels of sales and profits and the order book at the end of June was at a record level of £554m. Compared to the first half of 2005, sales increased by 14% to £180.7m and profit before tax grew by 15% to £23.8m. Once again cash flow was strong with the Group's net debt ending at £31.0m despite continuing investments in an acquisition and in new product development. The feedback from the Ultra shareholders was overwhelmingly positive. They liked the business strategies that Ultra is pursuing and were impressed by the range of niches in which the Group operates and the growth markets to which we have access.

The whole Board appreciates the hard work, commitment and support from our employees and we do not take this for granted.

#### **GROUP OBJECTIVE**

In the last **UltraNews** I reported on the progress we had made against the Group objective that we set in 2002 of becoming the 250th largest company on the London Stock Exchange by December 2005. As this measure compares Ultra's share price performance with other companies on the stock market our ranking depends upon Ultra's share price relative to other share prices. Therefore the ranking can be quite volatile. In October 2005 Ultra achieved the 245th position and in December 2005 the ranking ranged from 274 to 255.

Early in 2006 the Executive Team reset the objective and we now have the target to be the 200th largest company on the London Stock Exchange by the end of 2010. This is a big challenge for us all and means that we will need to continue to outperform the market in terms of growth over the next five years. I am confident that if we continue to satisfy our customers through innovative solutions supplied at attractive prices the new objective is achievable.

**"The whole Board appreciates the hard work, commitment and support from our employees and we do not take this for granted."**

#### **ORGANISATION CHANGES**

I would like to welcome the employees of Polyflex to Ultra who have joined the Precision Air Systems Team following their acquisition in January. More information on Polyflex can be found on the next page. I would also like to welcome employees from Winfrith Safety Systems who joined Command & Control Systems recently.

There have also been a number of new Managing Director appointments with Mike Clayton joining SML Technologies, Andy Yates joining Precision Air Systems and Jason Birtwistle being promoted at Datel. I was delighted that all three appointments were made internally from within the Group. In addition, Marc Lawrence joined Ultra as President of Audiopack. I would like to congratulate all four on their appointments. (See page 10 for more information).



# welcome...

# ...to Polyflex Aerospace

ULTRA  
NEWS



POLYFLEX AEROSPACE JOINED ULTRA IN JANUARY 2006 AS PART OF **PRECISION AIR SYSTEMS**; SINCE THEN THE MANUFACTURING OPERATIONS HAVE BEEN RELOCATED TO THE **ELECTRICS** SITE IN CHELTENHAM. THE BUSINESS DESIGNS, MANUFACTURES AND PROVIDES IN-SERVICE SUPPORT FOR HIGH PRESSURE PNEUMATIC PRODUCTS FOR A VARIETY OF AEROSPACE AND DEFENCE APPLICATIONS. THESE INCLUDE THE COOLING OF INFRA-RED DETECTORS, WEAPONS CARRIAGE AND RELEASE SYSTEMS AND OTHER PNEUMATIC ACTUATION AND DEPLOYMENT SYSTEMS.



## ATS responding to increased demand



**Advanced Tactical Systems (ATS)** experienced tremendous growth in 2005 as military commanders increased spending on Battlespace IT. The entire **ATS** workforce responded to the challenges posed by the growth by refining production methods, winning key contracts, increasing customer support, and expanding ATS's market share.

### PRODUCTION

The production team more than doubled the number of system deliveries without adding headcount. They accomplished this dramatic increase by finding more efficient production methods and outsourcing some of the more tedious steps in assembling and integrating the ruggedized computers, like the Forward Deployable Air Defense Systems Integrator (ADSI)<sup>®</sup> system (see picture).

### KEY CONTRACTS

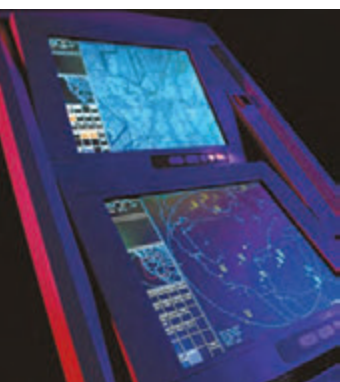
The business has positions on two major development programs: the Common Link Integration Processing (CLIP) and Joint Interface Control Officer (JICO) Support System (JSS) programs. As a result, the engineering and product assurance team increased staff at the business' primary location in Austin, Texas and in their office in San Diego, California. Across the business, headcount increased by 31 people during 2005 to a total of 175. In comparison, when Ultra acquired the business in 1999, there were only 65 employees.

### PRODUCT SUPPORT

The product support team, which installs new systems, upgrades legacy systems, provides 24/7 phone support, and conducts both on-site and off-site product training spent an average of 146 nights away from home during the year. **ATS** has three people deployed full-time in south west Asia directly supporting the warfighters.

### MARKET EXPANSION

Much of the growth resulted from the business's strategy to increase the number of offerings and increase the customers supported. For a special US Navy Maritime Patrol Aircraft, **ATS** is delivering the Advanced Tactical Airborne System or ATAS, a fully flight-qualified communication and situational awareness system. **ATS** is also providing the tactical data link communications for the General Dynamics Littoral Combat Ship. In addition, continuing its support of unmanned aerial vehicle (UAV) programs, **ATS** won a position on the Predator B program, leveraging Ultra's success supporting Global Hawk and Predator operations in Iraq and Afghanistan. The business has also made progress in the international markets by winning contracts in Italy, Belgium, Saudi Arabia, and a Pacific Rim country.





# in focus



## Battery monitoring paying dividends

Electrics has won an important MoD contract to supply Battery Monitoring Systems (BMS) for the British Army's Warrior family of armoured vehicles. BMS was developed to enhance mission capability by informing the vehicle crew of the condition of the vehicles' batteries.

The contract requires the immediate installation of 132 systems, with the potential to upgrade the remainder of the 700 Warrior fleet as they return from service in Iraq.

## Turkish delight

Thales Underwater Systems has awarded **Flightline Systems** a contract in excess of US\$3 million to provide ARR-502 Sonobuoy Receivers for the Turkish MELTEM Maritime Patrol Aircraft Program. This is actually the second award from Thales for the MELTEM program.

## Dziekuje (thank you) from the Polish Navy

The team of data link specialists from **Sonar & Communication Systems** successfully manufactured, tested and delivered five Multi Link Encryptors (MLEs) and training to the Polish Navy within four months of contract award. This tremendous effort ensured that the Polish Navy was able to take receipt of the MLE units in December 2005. The Polish Navy was delighted with this as the MLE units are key to introducing a Link-11 capability into the Polish Fleet.



## LAMP award signals bright future

USSI has been selected by the US Navy to develop and supply new sonobuoys for its LAMP state-of-the-art autonomous underwater surveillance system. The system uses sonar projector sonobuoys to highlight targets, the reflections from which are detected by receiver sonobuoys. This technique is a key part of a multi-static sonar detection system required to find very quiet diesel-electric submarines operating in noisy, coastal waters.



Pictured are Mark Turvey and Sandeep Desai from S&CS with the crew of the Polish Navy





a team to  
**'DIFAR'**

# powering the link

Pictured is the substation equipment which comprises a combined AC/DC switchgear housing, modular transformer rectifier unit and auxiliary transformers.





# people in the **NEWS**



**1. Marc Lawrence** has joined Audiopack at President. Marc previously worked at MedQuist Inc. and Philips Medical Systems.

**2. Paul Owen** has joined Airport Systems as Engineering Director. He was previously employed at SurfControl.

**3. Jason Birtwistle** has been promoted to Managing Director, Datal.

**4. Andy Yates** has been promoted to Managing Director, Precision Air Systems. Andy previously worked at Command & Control Systems.

**5. Ken Kern** has been promoted to Vice President Operations at Ocean Systems.

**6. Ian Sim** has been promoted to Finance Director at Manufacturing & Card Systems. Ian previously worked at SML Technologies.

**7. Mike Clayton** has been promoted to Managing Director, SML Technologies. Mike previously worked at Command & Control Systems.

**8. Colin Deuchars** has joined Command & Control Systems as Director, ISTAR.



## A rare achievement

Vic Shannon celebrated 45 year's service with **Electrics** in September 2005. This is a very rare and special achievement within Ultra. Electrics hosted a skittles evening with Vic's family and work colleagues to mark the occasion.

## The right MOVE

In March **MSI** completed its move from Fairfield to Wallingford, Connecticut, a distance of approximately 35 miles. The new location provides much needed additional space, better production floor layout, as well as close proximity to "sister" division **DNE Technologies**. Employees have been positive about the newly renovated location and the much more "pastoral" setting.



# HMS Monmouth leads the way



David Jeffcoat, Group Finance Director, is pictured presenting the trophy to Commander J P Kyd and members of the ship's warfare team.

The S2031 Towed Array Efficiency Trophy is awarded annually by Ultra Electronics to the Royal Navy ship that has demonstrated the highest level of operational performance and of making the greatest contribution to the improvement of passive Anti Submarine Warfare (ASW) tactics. HMS Monmouth is the current holder of the prestigious award for demonstrating the highest level of professionalism and operational capability throughout a year of naval exercises.

## a testing time for graduates

**Controls** held its first Graduate Assessment Centre in April, comprising of a number of competency based selection activities. Four graduates were successfully identified to progress to the second stage.

Recruitment at Cambridge has been extremely busy to keep up with the project "wins" with 29 permanent starters since January. In line with this, the much needed office expansion is well under way.

## Royal visit

The Duke of Kent visited **Precision Air Systems'** Gloucester facility in February. As Chairman of the Engineering Council, he was interested to hear about the **PAS** product range and took particular interest in the 3-D modelling capability and saw how that transferred to the hardware during a demonstration in the Development Lab.



## making life easier



**MSI** recently received this designation from the US Environmental Protection Agency and the Department of Transportation. This reward was granted in recognition of to **MSI's** efforts to provide alternative commuting options for their employees after their company move in March. **MSI** has 22 employees in a subsidized van pool. In addition over 30 employees are also taking advantage of alternative work schedules including "compressed" work weeks. Less than 1% of US companies are granted this distinctive honor.





**Paul**

**Paul Reeves** is the HR Manager at Maritime Systems and transferred from Controls in January 2006. He is married to Heather with a baby son, Jared, who was born in February.

### What do you most enjoy about your job?

Getting involved in solving real business issues and showing how HR can add value to an organisation. Ultra has great people who really care about the business – helping them is really rewarding.

### Most important lesson learned to date during your career?

The importance of standing up for what you believe in – even if you are the odd one out. Accept challenge and be innovative when creating solutions that meet the business need.

### Your favourite hobby/pastime?

I have retired from playing 'soccer' – due to being too slow to kick anyone anymore. Jared is great fun but demanding – I didn't realise how much time I was wasting by actually sleeping at night!

### Funniest situation that you have had to deal with at work?

At Controls I always used to start early but never used to pay much attention when getting dressed. This led me to frequently wear different colour socks and even different colour shoes on one famous occasion.



**Mike**

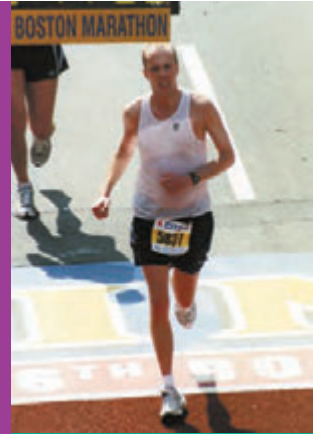
**Mike Wardall** is a member of the Sales and Marketing Team at Precision Air Systems, Gloucester. He lives near Cirencester with his wife, Jackie, and two teenage daughters.

Getting the order! Working closely with the team at Precision Air Systems, and the challenge of delivering customer requirements to a mutual, "win-win", conclusion.

Be a team player. Really listen to what the customer wants, form a strong "teaming" relationship and offer innovative solutions to stay ahead of the competition.

Countryside pursuits, supporting my daughters in Equestrian activities, and working my black labrador, Floyd.

Being invited to a Company dinner with a fancy dress 1960's theme. I arrived in my very best "flower-power/hippy" outfit to find everybody else in formal dinner jackets/ball gowns.



**Tim**

**Tim O'Donnell** a Project Manager with Audiopack recently ran in the 110th Boston Marathon in an impressive time of 3:10:08.

I enjoy the wide variety of activities that I handle as a project manager. One day is not like the next at Audiopack!

During tough situations, don't forget your sense of humor.

I do a lot of long distance running. It keeps me in shape, both mentally and physically. I've run 26 marathons since 1995 and just had my personal best time (3:10:08) at the Boston Marathon.

My first job as a teenager was as a short order cook. We had to learn to make triple decker club sandwiches and cut them into four neat pieces. I was constantly scolded because the sandwiches I made had my fingerprints in them.



AND **FINALLY**

# Safety first

PMES has been awarded the prestigious Royal Society for the Prevention of Accidents (RoSPA) Gold Award for Occupational Health and Safety. Continually improving on an established safety culture along with excellent health and safety management, demonstrates that good health and safety is good business.

## Back to school for PMES



Martin Rubrey, Alan Wyatt, Shailen Bhatia, Mike Costello and Roger Twelvetrees from PMES joined 15 other volunteers to assist the local Fair Oaks Business and Enterprise College where 400 pupils took part in the 'Our World' and 'Learn to Earn' courses organised by the schools liaison agency.

The courses gave pupils the opportunity to take part in trading games, business challenges and discussions designed to increase their knowledge of the global economy and how employment works.

## On your bike David!

David Jeffcoat, Group Finance Director, recently took part in the London to Brighton Bike Ride. He completed the 56 mile course in 4 hours, 30 minutes and is already planning his next ride. David raised over £900 for the British Heart Foundation.



Pictured with the award are Andy Freer, Fred Myerscough, Valerie McBride, Timothy Birkin and John Whitehouse.

## Running for charities

Phil Burns, Sally Rustige, Chris Seymour and Helen Woods from Airport Systems ran the Wilmslow half marathon raising money for a number of charities including Francis House (a children's hospice), SANDS, and the David Lewis Epilepsy Centre. The money collected, over £700, included four weeks of Manchester employees 'jeans day' collections.

## Tod's eye opener

In February Tod Kovara from USSI took an educational trip to Peru, with the Elderhostel group. Many ancient ruins, museums and splendid sites were visited.



## A very good cause

Electrics continues to support its chosen charity The National Star College during 2006. The college offers severely disabled young people the opportunity to gain further qualifications in a college environment. To date Electrics has raised a total of £5,735 in donations.

ULTRA  
NEWS



### FEEDBACK

I hope you enjoy this issue of Ultra News. If you have any comments on the new look Ultra News or ideas for future issues please let your local contact or me know  
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## Integrated solution for **Trinidad and Tobago**



### IN THIS ISSUE:

- **Ultra**  
– 10 years as a publicly traded company
- **7/8/07...**  
...a dream date
- **Orders worth U\$35m for USSI**
- **Welcome to Winfrith Safety Systems**
- **Queen's Award for M&CS**

VT Shipbuilding International has selected **Command & Control Systems** to supply the integrated combat and surveillance system to be fitted to the three offshore patrol vessels for the Trinidad and Tobago government. The contract is valued at over £8m.

**Command & Control Systems** will supply its OSIRIS® combat and surveillance system which integrates the surface and air surveillance radars together with an advanced

electro-optical sensor capability in order to enhance the crew's situational awareness. It also provides the vessel's command and control and gun fire control capability.

The system will be integrated and delivered in partnership with radar specialist Terma A/S of Denmark and **SML Technologies**. The first vessel is due to be handed over by VT to the customer in 2009 and the third vessel by the end of 2010.

## RADIO TECHNOLOGY

**Tactical Communication Systems (TCS)** and **DNE Technologies** were each awarded sections of the AN/MRC-142 Product Improvement Program by the US Marine Corps. The program will update over 400 radios, multiplexers, and protocol converters used in this mobile radio communications system. The businesses have begun to provide deliveries that will continue through 2008.

**TCS** was awarded a US\$38m contract for its high capacity tactical radio system, which improves radio throughput from the previously deployed 2Mbps up to 16Mbps. This radio provides increased interoperability with other deployed Marine Corps systems that are already operating at higher speeds.

**DNE** was awarded a contract for over US\$18m for its TAC concentrators and CV protocol converters. **DNE** is replacing

its 2001 products with latest generation equipment capable of terminating computer network circuits while maximising the bandwidth between communication points.





# 10 years as a public

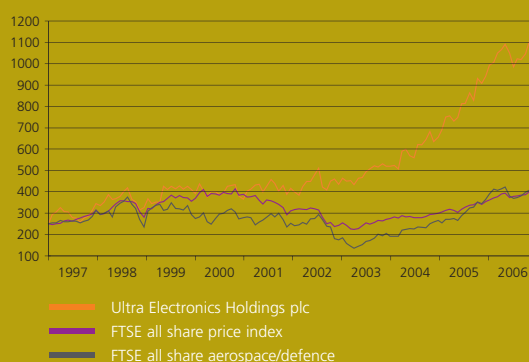
In this issue we reflect on Ultra's first 10 years since flotation and

## THE LAST 10 YEARS

In October 2006 Ultra celebrated the tenth anniversary of its flotation on the London Stock Exchange. The long-term strategies that Ultra has pursued and your hard work have enabled the Group to achieve an annual 18% compound total shareholder return over the ten-year period since flotation. The chart below shows how Ultra's share price has outperformed the overall market and the Group's aerospace and defence peers over the last ten years. This achievement is consistent with Ultra's objective of outperforming the market in terms of annual increases in shareholder value by delivering above average annual increases in earnings.

If you have participated in any of Ultra's employee share plans, whether in Canada, UK or US you will hopefully also have been able to share in this success.

Ultra share price – ten year performance



## STRATEGY

The 2006 Annual Report and Accounts summarised Ultra's strategies to achieve this objective. They were also discussed at the Business Leaders Conference in December 2006 which was attended by the Presidents and Managing Directors of Ultra's 20 businesses. The strategic tenets are:

### 1 TO CONCENTRATE ON AEROSPACE AND DEFENCE

Our core competencies, knowledge, and market positions give us particular credibility in the aerospace and defence sector worldwide. Our core competencies include market positioning to capture large contracts, the management of complex development programmes where risks need careful identification and control, manufacturing and aftermarket support over long timescales and of course the discipline to meet our commitments. We also operate in other markets where there is a good understanding of our customers and the technology.

### 2 TO BE A NICHE PLAYER WHERE THE GROUP HAS COMPETITIVE ADVANTAGE THROUGH TECHNOLOGY OR MARKET POSITION

Within the Group's twenty businesses, there are over eighty identifiable niches where the aim is to sustain competitive advantage and achieve a world-leading position. This wide spread gives us a low dependency on any single programme or platform.

### 3 TO OFFER A THROUGH-LIFE PRODUCT AND SERVICE PORTFOLIO THAT INCLUDES SYSTEMS, SUB-SYSTEMS, PRODUCTS AND COMPONENTS

The Group values any position within the supply chain. Frequently, more attractive margins can be generated by providing components than by supplying entire systems. Broadening the scope of the offering from components and products to sub-systems, systems and through-life management is appropriate as this allows Ultra to retain its ranking in the supply chain despite our prime contractor customers' desire to reduce the number of direct suppliers. Ultra prefers to retain a leading niche position rather than move into the supply of systems with the hope of higher added value.

### 4 TO GROW ORGANICALLY AND BY ACQUISITION

Each Ultra business has a contribution to make to the organic growth of the Group, as well as identifying well matched acquisition targets. To ensure that organic growth is achieved each business produces an annual five-year strategic plan. The focus on cash generation is very important as it provides the finance to make suitable acquisitions to increase the Group's growth rate.

### 5 TO HAVE AN EFFICIENT ORGANISATION WITH COMMITTED AND COMPETENT PEOPLE

We seek to maximise efficiency throughout the Group. The levels of commitment and competency of business management teams is continuously assessed through strategic, budget, organisation and succession, and regular business performance reviews. The Group places a high degree of trust in, and has high expectations of, its staff and supports their development and improvement activities. Ultra empowers management teams to run their respective businesses to deliver agreed strategies, meet budgets and continuously to develop their people. The Group's culture defines work as 'serious but fun'.

### 6 TO BE AN EXCELLENT AND STRATEGIC SUPPLIER TO OUR CUSTOMERS

Having established an initial relationship with customers by offering innovative solutions, businesses are expected to maximise these positions for the long term. This is achieved by nurturing relationships through sustained on-time delivery of high quality products and services. Businesses often create strategic relationships rather than arms-length customer-supplier relationships by offering long-term support or through-life solutions.

### 7 TO GAIN COMPETITIVE ADVANTAGE BY INTERNAL AND EXTERNAL TEAMING

Teaming, internally within the Group or externally with other companies, broadens offerings by combining niche products or linking domain knowledge. It attains competitive advantage by accessing off-the-shelf technology, allowing timely delivery while avoiding expensive development costs and high project risk. Teaming with other Ultra businesses retains the benefits within Ultra.

### 8 TO MEET OUR COMMITMENTS

Ultra has built a reputation of meeting its commitments. This reputation is not only based on businesses meeting their obligations, but also by establishing a culture which is based on this principle. The Group believes that this reputation is one of its defining and valuable characteristics. Behaving in this way fosters long-term relationships.

# STRATEGY



# ly traded company

and look at the strategy for further growth

# 10 years



## CULTURE

### CULTURE

The Business Leaders Conference also focussed on Ultra's culture as this is also very important to our future.

Ultra is different to many other companies in the following ways:

**Autonomous businesses** – Each of Ultra's 20 businesses runs almost as if it were independent and is responsible for managing its own performance. It is based on the premise that businesses know their customers, market and people better than anyone else. It also means that the Head Office will be kept as small as possible.

**Disciplines** – As well as "meeting our commitments" referred to earlier Ultra has a number of disciplines including producing an annual strategic plan, budget and organisation and succession plan.

**Innovation** – Ultra businesses are highly innovative and not just in engineering. All areas of businesses can innovate to do things better and there are some great examples around the Group.

**Considered risks** – Businesses and Ultra people are encouraged to take considered risks. This does not mean ignoring risks, but does mean that where the size and scale of a risk is known then there is encouragement to press ahead while managing the risk. This approach has enabled businesses to take on bigger and more complex projects in order to grow.

**Developing people** – Ultra's success is people driven so it is no surprise that Ultra believes in developing people to enable us all to perform our roles better and to grow personally. It is relevant to note that five of the last six appointments of Managing Directors/Presidents have been made internally.

**Fairness** – Ultra believes in being fair at all times to customers, employees, suppliers and the local community.

**Lean** – Most Ultra businesses have implemented lean projects and you will probably have seen these in your business. Embracing lean, across the business and not just in operations or production, helps us maintain a competitive edge and is therefore very important.

### LEADERSHIP AND MANAGEMENT

Finally, the Business Leaders Conference explored what it is to lead and manage within Ultra. Ultra believes that a manager enlists the willing support of his/her team in order to achieve the business objectives. This definition of management is very important as it describes how managers are expected to manage.

Leaders and managers are also actively encouraged to "think big" to grow their business, to make sure that they never underestimate the competition and to focus on profitable opportunities. This is supported with development, training, mentoring and coaching.

The performance of Ultra is fundamentally driven by the individual and team contributions made by employees. The Group's success in innovating to meet customer needs is based on the broad range of skills and capabilities of employees. All managers in Ultra, supported by HR professionals, work towards the aim of delivering an efficient organisation with competent and committed people to meet the Group's business commitments.

Whether you are reading this as an employee, a customer or a supplier you will hopefully have a deeper insight into what has driven the success of Ultra over the last 10 years and the plans for continued success in the future.

## LEADERSHIP





## 7/8/07... a dream date



At the end of the Paris Airshow Boeing announced that its backlog for the 787 Dreamliner had reached 634 confirmed orders from 45 different customers. This makes it the most successful new aircraft launch ever. **Controls** will supply the Wing Ice Protection System (for which **Datel** will have provided software) and Proximity Sensing Data Concentrators for the aircraft. The 'Roll-Out' of the 787 took place on July 8th 2007 being a special date...  
...(7/8/7) with flight testing planned to start later this year.

# ULTRA bytes

### TCS radio stars do it again

**Tactical Communication Systems** has been awarded a contract valued at more than C\$10m from Thales for the supply of its latest generation, software-defined AN/GRC-245 radios for use in the British Army's FALCON tactical formation-level secure communication system.

## USSI buoys show em' what they're made of

Since 1 January 2007 **USSI** has received orders totalling US\$35m from the United States Navy for production sonobuoys. **USSI** achieved "skip lot" status meaning that the demonstrated quality was such that the Navy elected not to "lot sample" on several occasions. In 2006 **USSI** manufactured and delivered over 55,000 sonobuoys to the US Navy.

## DNE's JUICEy demo

**DNE** demonstrated its new PacketAssure quality of service network access concentrator at the Joint User Interoperability Communications Exercise (JUICE) in September. The product successfully supported and prioritized multiple communication links using both Satellite IP and Wireless (WiMax) communication scenarios. PacketAssure also supports deployed bulk encryption technology for information assurance. This combination of features positions **DNE's** PacketAssure to be a key product for NetCentric Transformation.

## an instrumental role for **Flightline**

**Flightline** has won a five year production contract worth over US\$12m with Boeing Commercial Aircraft to provide cockpit instruments for the 737, 747, 767 and 777 aircraft. In addition, Boeing Integrated Defense Systems has selected **Flightline's** mechanical altimeters and air speed indicators for the V-22 tilt rotor aircraft. In excess of 360 MV-22's are planned for the US Marines. The US Air Force and Navy are also planning to procure fifty aircraft each to support special operations missions.





# UK MoD chooses C&CS for DCMC

**Command & Control Systems** has been awarded a £9 million contract to supply the UK Ministry of Defence with the Dismounted Countermine Capability. The programme will provide detection, marking and personal protection equipment to be used by dismounted troops when breaching minefields. In addition, a man portable rapid minefield breaching system will be provided together with associated training equipment.



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...taking a brief look at some of the latest news from  
around the businesses

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## ON TIME...ON TARGET



"This is the best undersea warfare demonstration effort I have ever witnessed, participated in, or even known about in my entire 35+ year career!" retired USN Capt Bruce Gallemore was heard to say on the USS Cleveland; and that was only after the first demo! The second on the USS Bonhomme Richard was even better. The USN demonstration was managed and made possible by Ultra companies on a team described by Kim Wrighton as "seven companies separated by

3000 miles successfully accomplishing something that has never been done before." Ocean Systems, as the prime, led the team from its inception to completion. The Ultra team achieved a perfect automated detection, classification and localization score against a variety of torpedoes and salvoes, far exceeding the expectation of the customer. The Ultra team with the mantra "ON TIME/ON TARGET" established an Ultra mark of excellence with NavSea.

## RN Merlin receives wide band



Thales Underwater Systems has awarded **Flightline** a contract in excess of US\$4.6m to provide software-defined, wide band sonobuoy receivers for the Royal Navy Merlin helicopter capability sustainment program. **Flightline's** wide band sonobuoy receivers use leading edge technology and are currently being fitted to a range of Maritime Patrol Aircraft and Anti-Submarine Warfare Helicopters.

## freedom to be in control

MSI's Freedom of Movement Control Unit (FMCU™) represents a breakthrough in rugged military and industrial handheld control technology. This tough and reliable unit blends user comfort with modular flexibility to allow operators to control multiple vehicle applications from a safe position. Applications are numerous, including unmanned systems control, weapons control, robotics, medical applications, mobile hydraulics and industrial process controls.





# Chief Executive's

# review



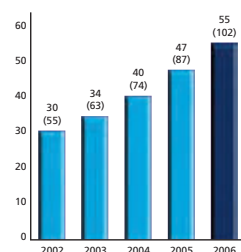
**"The future strategy for the group will be 'more of the same'. I believe that our growth strategies have served us well up to now and are just as relevant for the future."**

Revenue £millions  
(US\$millions)

## MORE OF THE SAME PLEASE

Ultra's results for 2006 were announced on 26 February and a summary of these results is shown (left). Ultra's performance in 2006 extends its long track record of continuous progress. Last October Ultra celebrated the tenth anniversary of its flotation in 1996 on the London Stock Exchange when the initial share price was £2.50.

Profit £millions\*  
(US\$millions)



\*Headline profit before tax

The Group entered 2007 with a record order book worth over £580m. It lets us plan 2007 with some confidence. This order book reflects the Group's strong positions on existing platforms as well as its success in winning positions on new programmes.

Ultra also has a strong balance sheet and has the funds to make further acquisitions that will complement the Group's activities in growing market sectors. The Group continues to pursue good quality businesses that can be acquired at sensible prices and to which Ultra's ownership will add value. We will not, however, let the money burn a hole in our pockets and be tempted into paying too much for acquisitions.

The future strategy for the group will be "more of the same". I believe that our growth strategies have served us well up to now and are just as relevant for the future. This too applies to Ultra's organisation of highly focused autonomous businesses where each management team takes full responsibility and ownership for the strategic development

and performance of its business. Our culture will continue to be "market facing" with a passion for satisfying our customers with cost effective, reliable and high performance solutions that meet their requirements. Underpinning all of this will be a strong desire to meet our commitments.

Ultra's shareholders are happy with the continued growth of the Group. After the results announcement at the end of February, David Jeffcoat and I made around thirty-six presentations to fund managers who together own over 70% of Ultra. Feedback from the fund managers was very positive with most saying what a good investment Ultra had been for them. They will be very happy if we deliver more of the same.

The whole Board appreciates the hard work, commitment and support from our employees that are vital to our success. While thanking you for your endeavours I must stress that there is no room for complacency. We operate in a very competitive market place and we must continue to do our best to provide our customers with attractive products, prices and support. Providing we do this I am confident that we can continue to provide profits growth for our shareholders while achieving stimulating, rewarding jobs for ourselves.

**"The whole Board appreciates the hard work, commitment and support from our employees that are vital to our success."**

Revenue at £377m grew by 10% with the Tactical & Sonar Systems division showing the strongest growth. Operating profit increased by 13% over the previous year's achievement to £57.5m. This was despite the £4.8m negative impact of weaker exchange rates. At constant currencies year-on-year operating profit growth would have been 22%. The high quality of these earnings was underscored by good cash generation, reflecting management's continuing focus on cash management. The operating cash inflow in the year was £56.5m. Consequently, net debt at the year-end for the Group was just £7.2m.



# welcome to... ...Winfrith Safety Systems



Winfrith Safety Systems joined Ultra in August 2006. It is the UK's leading supplier of reactor protection services and products to the nuclear power generation market.

The business employs 24 people at its facilities in Dorset and operates as part of the nuclear control systems business based within Command & Control Systems. It has helped create a unique team of over 60 specialist engineers dedicated to supporting strategic civil and military nuclear programmes.

Winfrith supplies neutron flux detectors and associated nucleonics instrumentation to UK nuclear facility operators including British Energy, AWE and Rolls-Royce. The products are used to measure neutron flux density which directly correlates with the level of nuclear fission activity within a nuclear reactor.



## and that's Magic – Queen's award for M&CS

Manufacturing & Card Systems has been awarded a Queen's Award for Enterprise: Innovation. The award is for the Magicard Alto range of card printers. Ultra was chosen to receive the award because of its innovation in developing a family of low cost printers which enable the creation of full colour ID cards without specialist training.

## Chris's right move

The benefits of sharing resources have been clearly illustrated in the case of Chris Geraghty. Chris, an engineer, was seconded to **EMS** from **PMES**, in 2005, to work on upgrades for the USS Dolphin submarine. His original six month assignment was extended and on 1 January 2007, he was offered a position at **EMS**. Meanwhile, Chris has married and put down roots in the USA. The experiment has proved very successful for both parties!



Chris Geraghty (far right)



## Pod enters service

The Gen III Litening Pod has successfully entered service with the RAF Tornado GR4 fleet. These pods provide the Tornado with an enhanced air-to-ground targeting capability including the ability to laser-designate a ground target for attack by other assets. Fitted with **Sonar & Communication Systems'** imagery datalink, the new targeting pods are already proving highly popular with RAF aircrew who have commented that the Litening Pod provides them with a step change in capability from their previous equipment. Dave Lyons (second from left), Jim Haywood (fourth from left) and Wajid Ali (far right) are pictured with a GR4 Tornado.



inf



## top notch demonstration

**Flightline's** software-defined wide band sonobuoy receiver has successfully passed its first round of flight tests on a US Navy P-3C Maritime Patrol Aircraft. Initial capabilities of advanced features such as "notch filtering" were demonstrated and additional flight tests are planned to demonstrate the quad antenna beamforming capability. Both these features help reduce unwanted interference.



## power to the people

**PMES** has completed the delivery of DC power supplies to Bombardier Transportation, the main contractor installing the Automated People Mover at the new Heathrow Terminal 5. This prestigious project provides the DC power supply for the new fully automated transport system between the three main Terminal 5 concourses. All equipment has now been successfully delivered and is undergoing the final installation and commissioning process.

## solutions to help out in a crisis



**Datel** is incorporating the market-leading crisis response applications (Atlas Ops and Atlas AIMS) into its web hosted secure working environment branded Syntaxis. This solution enables all emergency response agencies to collaborate in a 'virtual' environment to manage crisis situations effectively. **Datel's** accreditations ensure applications it hosts can be accessed via various government networks and the Internet. Additional applications hosted by **Datel** include eRooms, Doors and Livelink.



# OCUS

## another cool performance from Controls

**Controls** has received a United Technologies Corporation (UTC) Leadership award for its contribution to the JSF F-135 engine development programme. This accolade is awarded every year to the best performing teams within UTC (including, Pratt & Whitney, Hamilton Sundstrand and Sikorsky). **Controls** has been contracted to supply the engine ice protection system controller (utilising **Datel** software) and associated harnesses which will be provided by **Electrics**.



**Manufacturing & Card Systems** has entered the market for laminating ID card printers with the new Magicard Tango +L. Initial orders are ahead of budget, with significant orders received from Houston Airport and for the production of Mexican driving licenses.

## more products to **ADSI** to the collection

**Advanced Tactical Systems (ATS)** is growing its business by creating new products derived from its highly successful Air Defense Systems Integrator (ADSI) product.

The Advanced Tactical Airborne System (ATAS) made its first flight on a US Navy patrol aircraft late last year. For the Littoral Combat Ship, **ATS** delivered two Advanced Tactical Maritime Systems (ATMS). **ATS** recently received several contracts for reduced form factor systems, including an ADSI system for a submarine and Ultra16 systems for deployed forces. **ATS** also delivered Advanced Fusion & Tracking Systems (AFTS) to two US Air Force customers.

**ATS** is working closely with other Ultra businesses on programs for Denmark, delivering forward deployable ADSI systems to the Danish Air Force with **Command & Control Systems** and pursuing a Danish Navy opportunity with **Sonar & Communication Systems**.



## gassing on!

**Precision Air Systems** is currently developing a new product to replace pyrotechnic cartridges used in bomb racks with a pneumatic alternative. The cold gas cartridge can be inserted into the breach of the ejector release unit as a direct replacement for the pyrotechnic (hot gas) cartridge. Cold gas technology is cleaner and more efficient than hot gas and greatly reduces the logistics and maintenance requirements. Initial ground firing trials have already taken place and flight trials are planned for later this year.





## people in the **NEWS**



**1. Yee Louie** has joined EMS as Chief Financial Officer. She was previously employed at Ametek Inc.

**2. Adrian Butterworth** has been promoted to Technical Director, Electrics.

**3. Richard Carter** has joined Electrics as Business Development Director. Richard previously worked at INEX.

**4. Dougal Crisp** has joined Head Office as Group Tax & Treasury Manager. He was previously employed at London Merchant Securities plc.

**5. Adrian Nicol** has been promoted to Engineering Development Director at Controls.

**6. Tim Stanley** has joined Advanced Tactical Systems as Vice President Product Innovation. Tim is returning to the business after a 4 year absence.

**7. Amish Mehta** has joined Measurement Systems Inc as Vice President of Engineering. He was previously employed at Lockheed Martin Corporation.

**8. Stuart Convery** has been promoted to Operations Director at Datel.

**9. Paul Jenkins** has been promoted to Finance Director at Electrics.

**10. Mike Baptist** has been promoted to Director & General Manager, Communication Systems at Sonar & Communication Systems.

**11. Kim Wrighton** has been promoted to Managing Director, Controls. Kim previously worked at Sonar & Communication Systems.

**12. Pete Crawford** has been promoted to Acting President at EMS.

**13. Andrew Barton** has joined Sonar & Communication Systems as Engineering Director of Communication & Integrated Systems. Andrew previously worked at Controls.

**14. Liz Ball** has been promoted to Finance Director, Controls. Liz previously worked at Command & Control Systems in Loudwater.

## Driving towards a greener card



The M&CS team display their ISO14001 certificate. Left to right: Neil Garbett, Andrew Rome, Iain King, Ray Coles.

**Manufacturing & Card Systems** has become the first supplier in its markets to achieve accreditation to the prestigious ISO14001 environmental standard, which is aimed at driving reductions in the impact on the environment caused by energy usage and waste.

## Vic and Alan honoured at Palace

Vic Shannon, Senior Principal Engineer, at **Electrics** was awarded an MBE in the 2007 New Year's Honours List and Alan Wignall, Technology Director, at **Sonar & Communication Systems** an OBE in the 2006 Queen's Birthday Honours List. They are pictured here with their awards.



Vic Shannon (MBE)



Alan Wignall (OBE)





## Clark

**Clark Bain** is Director of Technical Development at Maritime Systems. He transferred from Dattel in August 2006. He is married to Kathy and they have three children.

### What do you most enjoy about your job?

The business is going through some major changes and that makes every day really interesting. We also have a very dedicated and enthusiastic team and that makes coming to work a pleasure.

### Most important lesson learned to date during your career?

Never be afraid to challenge how things are done. Just because it always been that way doesn't mean it can't be improved upon.

### Your favourite hobby/pastime?

Flying and gliding used to be things that took up most of my free time. Now my three kids ensure that I have no 'free' time however I do manage to fit in a game of ice hockey twice a week.

### Funniest situation that you have had to deal with at work?

When I worked in the shipyards one of my engineers was stuck in a bucket dangling 50ft in the air from a crane whilst the crane driver had his compulsory lunch. I managed to negotiate his release after a good steak pie was had by the driver in the canteen.



## Robert

**Robert Groombridge** is an Assistant Design Engineer/Technician with Winfrith Safety Systems located in Dorset.

I enjoy the diversity of my job. One day I can be designing electronics for custom test equipment, the next leading an installation of safety equipment at a nuclear power station.

Attention to detail is important. A little more time spent on the details early in a project can pick up many problems before they can cause a major impact on deadlines and costs later on.

I enjoy off-road trialling. Trying to get a vehicle through ditches, between trees and through thick mud without damaging it is an interesting challenge.

After a tired long day working at Dungeness power station, the easiest way to get back to our hotel was to use the satellite navigation. Well that's what we thought at the time – the route taken resulted in some bemused holiday makers wondering why we were driving across their beach.



## Jayne

**Jayne Marshall** is a Development Process Manager for Controls. She is single and lives in Lower Earley, Berkshire.

I enjoy the fast paced, ever-changing environment and the new challenges that I face on a daily basis. I never have to worry about being bored.

Working as a keen and flexible team player. Ensuring processes and procedures are followed, taking short cuts can lead to problems longer term and result in errors.

I enjoy music and travelling. My most memorable experience was flying to New York on Concorde. I've also been a British Legion poppy seller for more than 36 years.

I travelled to Sweden with some colleagues and our luggage got lost. The airline provided us with courtesy overnight bags, unfortunately they only contained male essentials!



# in the PINK



**Command & Control Systems** staff certainly proved that they have deep pockets when it comes to charity. In October they raised over £600 for "Wear it Pink" breast cancer awareness, and in March, together with **Winfrith Safety Systems**, they raised over £500 for Red Nose Day.

## a pint of the 'red stuff'

In February 2007 Mel Davis, a senior engineer at **PMES**, donated his 100th pint of blood. Mel started giving blood at the age of eighteen and his sole reason for giving blood is that "it just seems the right thing to do"



## Richly deserved award for Dave

Dave Riches from **Precision Air Systems (PAS)** was awarded second place in the recent First Year Apprentice of the Year Awards for the Gloucester area. Dave joined **PAS** as an apprentice in March 2005 and is studying for a National Certificate in Mechanical Engineering.



## Christmas Cheer!

The employees at **Maritime Systems** raised C\$5,014 for Christmas Daddies, a regional charity established to provide Christmas gifts and food for needy families. Fundraising activities included bake sales, hot dog sales and a weekly auction of the president's parking space



## Ges's tough challenge

Ges Muir from **Sonar & Communication Systems** recently climbed Ben Nevis in aid of the Hertfordshire Deaf Children's Society. He said afterwards "it was harder than I thought on the way down".



### FEEDBACK

I hope you enjoy this issue of **Ultra News**. If you have any comments on the new look **Ultra News** or ideas for future issues please let your local contact or me know  
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## New submarine hunter system

The UK MoD has awarded a contract worth around £4m to **Sonar & Communication Systems** to demonstrate a new submarine hunting system known as Multi Static Active (MSA). In MSA systems a number of active 'pinger' sonobuoys are dropped into the water together with an array of passive receiver sonobuoy sensors. This greatly improves the ability to detect very quiet but highly lethal diesel-electric submarines. Modern naval warfare is likely to be conducted in shallow, coastal waters, in which other noise sources such as coastal shipping and the sea itself make submarine hunting especially difficult.

The demonstration, planned for early 2009, will deploy a fully operational airborne MSA capability on a Nimrod maritime patrol aircraft. Data gathered from dedicated flight trials will be used to determine whether the system should be fitted to the RAF's new Nimrod MRA4 aircraft.

# NEWS

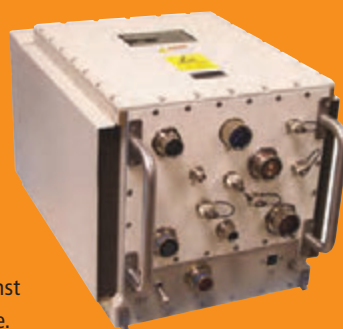
## Improved submarine hunting for US Navy

### IN THIS ISSUE:

- **Special feature on homeland security**  
– pages 2 and 3
- **DNE wins major contract** – page 5
- **Welcome to Telemus and Criticom**  
– page 7
- **Controls delivers the first systems for Boeing 787 wing ice protection system**  
– page 8

Lockheed Martin, located in Owego, New York, has awarded **Flightline Systems** a contract worth over US \$21m to supply its state-of-the-art software defined sonobuoy receivers for the US Navy's MH-60R Multi-Mission helicopter. Priced options, if exercised, would be worth an additional US \$38m over the life of the contract. In addition to the traditional Anti-Submarine Warfare (ASW) mission, the MH-60R helicopters will undertake naval gunfire support and surveillance and communication relay missions. **Flightline's** software defined sonobuoy receivers are currently being fitted to key maritime patrol aircraft, helicopters and surface ships worldwide and offer world-leading receiver technology to support ASW missions. Configurations include stand alone and integrated systems and incorporate sophisticated features

such as a sonobuoy positioning system, homing and detection systems and capabilities to protect against radio frequency interference.





# Homeland SECURITY

WITH TODAY'S CONSTANT THREAT OF TERRORISM AND SECURITY RISKS, IT IS MORE IMPORTANT THAN EVER TO HAVE EFFECTIVE HOMELAND SECURITY SOLUTIONS. THE THREATS COME IN MANY FORMS AND FROM DIFFERENT ANGLES. INCREASINGLY SOPHISTICATED SOLUTIONS ARE REQUIRED TO DETECT THE THREAT AND PREVENT ATTACK. ULTRA'S EXTENSIVE CAPABILITIES AND TECHNICAL EXPERTISE ARE BEING DEPLOYED TO DELIVER INNOVATIVE AND EFFECTIVE PRODUCTS THAT THE GROUP'S CUSTOMERS NEED TO MEET THESE EVOLVING CHALLENGES. FEATURED ON THIS AND THE FOLLOWING PAGE ARE SOME OF THE WAYS IN WHICH ULTRA IS HELPING PROVIDE THE PROTECTION DEMANDED.



## Enabling multi-agency communications

**Datel** is responsible for managing the MoD's Nuclear Accident Response Information Management System (NARIMS). This comprises a secure, resilient network and customised software application designed to disseminate information through the command chain in the unlikely event of a nuclear incident. **Datel** has also incorporated a highly user-friendly crisis management application into its secure 'virtual' hosting environment. This enables collaborative multi-agency working across disparate locations and networks. Thames Valley Police uses this networked solution in an operational capacity.

## Maritime Systems secures Canadian port

**Maritime Systems** has been awarded a contract valued at \$8m by the Port of Halifax in Nova Scotia, Canada, to provide a comprehensive command and control system for the port. The system includes the ability to detect and track small vessels and to initiate alarms on incursion into predetermined zones. It automatically cues cameras onto targets of interest using intelligent object recognition, tracking and scene analysis. The system incorporates access control, perimeter fence monitoring, chemical detection and an incident management solution. Users are able to access the system via the Internet through an intuitive web. The solution incorporates the integrated radar and electro-optic tracking system designed by **SML Technologies** in the UK.

## Intelligent sensors

**USSI** is adapting its underwater sensor and signal processing expertise to develop new products that will support homeland security. Two different sensors are currently in

development. The first is a sensor that reports on vessel traffic up to 100 miles offshore; the second is a sensor that detects speedboats used in illegal drug trafficking. These products will ultimately play an important role in assisting the United States Coast Guard with early identification of possible threats to security.

## We're talking security

Effective communication can be vital in a homeland security incident. First responders can trust **Audiopack's** proven mask-mounted communication products, including voice projection units and radio interface products that connect speedily to Air Purifying Respirators (APR) and Self-Contained Breathing Apparatus (SCBA). The voice projection units enable users to be heard clearly while wearing life saving protective respirators, while radio interface products extend communications even further, allowing critical information to be communicated to incident commanders over walkie-talkie radios.

Continuing change is inevitable in the homeland security market, with increasing expectations on product design, durability and functionality in the future. **Audiopack** is well prepared to meet the challenges of the future and is already investing in new designs of construction and digital signal processing technologies.

## Keeping a close watch

**SML Technologies** is at the forefront of high technology radar processing, tracking, sensor management and mapping display systems. With its own in-house engineering design, development and production capability, **SML** supplies systems integration and turnkey solutions, installation and support services to defence and civil customers worldwide.

**SML Technologies** provides command and control systems for the land and maritime environments: for situation awareness; tracking, locating and monitoring; blue force tracking; perimeter surveillance/protection; offshore platform protection; border and coastal surveillance; port vessel traffic and perimeter surveillance.

As leaders in the supply of maritime homeland security systems, **SML** has supplied a national coastal surveillance system with 26 radars to a major Gulf Cooperation Council state, protection systems to many major national oil





Continuing change is inevitable in the homeland security market, with increasing expectations on product design, durability and functionality...



companies within the economic exclusion zone, and the flagship system for BP's Jigsaw project, covering much of the North Sea. Integrated radar and electro-optic surveillance systems are now in demand for homeland security and SML is supplying this capability to Maritime

Systems for the Halifax Port programme mentioned on the opposite page, integrating command and control software with cameras and other sensor systems.

Offshore patrol vessels play an important role in maritime homeland security and SML is supplying key systems capability for the Trinidad and Tobago offshore patrol vessel programme. **Command & Control Systems**

is providing its Osiris integrated bridge solution for these vessels, of which three are being built.

**Criticom** plays a key role in delivering secure networks for the homeland defence market, with its ISEC line of products widely regarded as the best solution for secure/non-secure communications. When President Bush needed a video conferencing network built quickly, **Criticom** came up with the goods, supplying 117 ISEC dial isolators, providing key engineering and installation support of the final delivered solution. Today, **Criticom** supports new command/video conferencing centres for many of the US government agencies that together provide key elements of homeland defence.

During the 2006 Olympic Winter Games in Torino, Italy, the Italian Air Force employed an Air Defense Systems Integrator (ADSI) system from **Advanced Tactical Systems** to provide real-time surveillance of the skies around the Olympic venues. Impressed by the functionality and effectiveness of its ADSI system, the Italian Air Force has ordered a second system to be delivered this winter.

**Advanced Tactical Systems** also supported the 2002 Winter Olympics held in Salt Lake City, Utah.



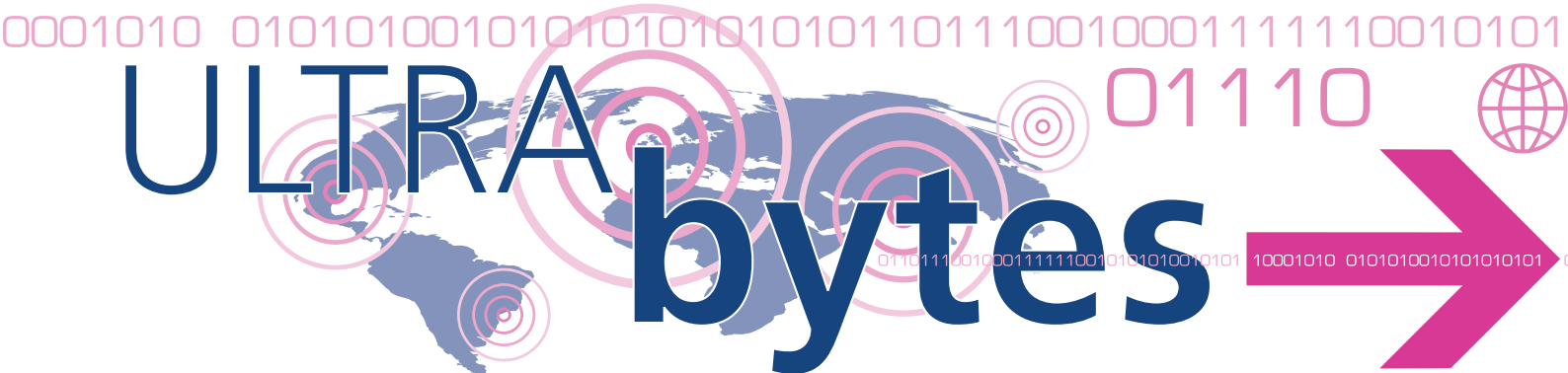
## A400M technology successes

**Electrics** is contributing to the undercarriage harnessing, undercarriage tow box and the cargo handling and deployment system on the A400M project. The cargo handling system is a new product offering, based on technologies developed for armoured fighting vehicles. The Network Interface Module (NIM) controls the 52 latches holding the cargo, controlling its movement during loading and parachute drops. NIMs are safety critical as failing to release a cargo palette on parachute deployment could endanger the aircraft.

**Controls** is also providing specialist systems for the A400M aircraft. **Controls** is the world's leading provider of systems to quieten the interiors of aircraft and will supply two separate systems for the A400M. In addition, **Controls** is providing the proximity sensors and electronics that monitor and control the landing gear extension and retraction process.



# ULTRA bytes



The Litening targeting pod under a Eurofighter Typhoon aircraft

## Litening delivery

Delivered by Ultra ahead of schedule earlier this year, the 'Litening' airborne targeting pod has now completed a highly successful deployment in-theatre with the RAF Tornado GR4 fleet in support of current operations in Iraq. Fitted with an imaging data link supplied and integrated by Ultra, the pods' extremely high quality video imagery has been described by RAF aircrew as the "best they have ever seen".

## All around success

**Electrics** has provided the answer to the limited visibility problem on the Mastiff armoured personnel protection vehicle in service in Iraq and Afghanistan by developing a 360 degree vision system. This provides a covert day and night vision capability and enables three operators to view single or multiple images on their individual displays.



## More power to them

**PMES** has secured a contract with VT Shipbuilding to provide slow speed propulsion systems for three Offshore Patrol Vessels (OPVs) for the Royal Navy of Oman. Once completed, the OPVs will be the most advanced ships of their type in the world, so it is appropriate that they include the most power-dense drives. The low weight and small size of the power-dense naval drive allows significant space gains on board the vessel. Adam Tunstall is pictured with the drive.



## Proof is in the pudding

**Command & Control Systems** has enhanced its capability in the development of neutron flux detectors for the nuclear industry, providing both operational and financial benefits to customers. Working with British Energy, the UK's largest producer of electricity, **Command & Control Systems** has commissioned a specialist 'pudding' oven. This facilitates the development and testing, at its site in Winfrith, Dorset, of a number of different mineral insulated cables specifically for use in high temperature neutron flux detectors.





# Contract worth a 'packet' for DNE

DNE has received a new 5-year IDIQ (Indefinite Delivery, Indefinite Quantity) contract worth \$70m from the US Army, covering new products such as the CV-MCU2 multiplexer/converter and the PacketAssure service delivery manager. It also provides continued support for the 2006 upgrade to the MRC-142 tactical radio system and other deployments. Bill Gill, President of DNE, sees the contract as a vote of confidence in DNE products continuing to be a critical part of US military communication systems.



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...taking a brief look at some of the latest news from around the businesses

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A firefighter preparing to respond at the scene of an incident in North America.

## Restoring pride

Electrics has recently donated a number of components as part of the 'Vulcan to the Sky' restoration project.



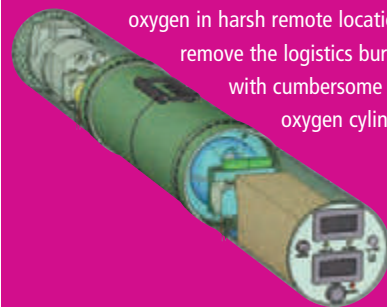
The AVRO delta-wing bomber has been restored at Bruntingthorpe Airfield, where a team of dedicated enthusiasts repaired and rebuilt this impressive aircraft, prior to its first flight in October this year.

## Firefighters trust their equipment with their lives

Firefighters in North America rely on National Fire Protection Association (NFPA) certified equipment to ensure the highest degree of reliability and performance. That is because, for equipment to receive the NFPA's seal of approval, it must pass stringent test requirements, and these got even tougher in 2007, when NFPA increased their certification requirements. Just to highlight how stringent the testing is, the equipment is baked at 350°F (177°C) for 15 minutes and immediately submerged in 1.5 metres (5ft) of water for 15 minutes, burned with a direct open flame for 10 seconds, tumbled in a rotating cage for 3 hours, and submerged in salt water for 2 days. The equipment must then turn on and function as intended with no water ingress. It takes special electronics to stand up to this level of abuse, and Ultra Electronics **Audiopack** meets these standards, manufacturing products rugged and reliable enough for firefighter use. Three of the top fire service original equipment manufacturers have chosen **Audiopack** as their partner of choice for breathing apparatus mounted voice amplifiers, heads-up displays, and radio interface products to NFPA certification. By the end of 2008, six new **Audiopack** designed fire service electronic accessories with NFPA certification will be actively trusted by firefighters in the field.

## Lightening the load

Precision Air Systems is working with a US supplier on the development of a new lightweight oxygen generation system for the US Army. The POGS-4 Portable Oxygen Generating System produces medical grade oxygen from atmospheric air. It will provide the capability to generate oxygen in harsh remote locations and remove the logistics burden associated with cumbersome conventional oxygen cylinders.



## Turkish Navy contract

Sonar & Communication Systems has been awarded a contract worth €3m to supply the Turkish Navy with a Sea Sensor Surface Ship Torpedo Defence (SSTD) system, which protects vessels from torpedo attacks, with a further eleven ships planned. The initial contract includes support for the Turkish Navy's MILGEM ship programme. The SSTD will be based on the systems supplied to and in-service with, the Royal Navy with adaptations to meet the Turkish requirements.



# Chief Executive's review



**"I am pleased to say that, across the board, we have robust plans to continue to provide our customers with solutions to their requirements which are different from and better than those of our competitors."**

## CONTINUING GROWTH

I would like to start by welcoming to Ultra our latest two acquisitions, Telemus and Criticom. Both are in North America – with Telemus in Ottawa, Canada, and Criticom in Lanham, Maryland, USA. Telemus has been subsumed into Tactical Communication Systems in Montreal which is managed by Alan Barker. Criticom is a standalone business reporting into Bill Gill, President of DNE Technologies. Both acquisitions are therefore part of the Tactical & Sonar Systems division, run by Rakesh Sharma. Ultra now comprises 21 businesses of which 11 are in North America and 10 in the UK. This combination helps the Group maintain its track record of growth by accessing two of the largest defence budgets in the world. **Telemus** takes Ultra further into the specialist world of electronic warfare where military advantage is obtained by analysing the electronic profile of a potential enemy. **Criticom** brings a world-leading capability in secure video-conferencing, a capability for which demand is growing rapidly. Both acquisitions enhance Ultra's broad capability in designing, supplying and supporting battlespace IT systems, the equipment that allows allied forces to manage its electronic military information.

Since the last edition of UltraNews, on 30 July, Ultra announced its financial results for the first half of 2007. Revenue was up 7% compared with the first half of 2006 while profit before tax was up 10%. This was despite the 'headwind' of a continuing weakness in the US dollar that reduces the Group's results when translated into pounds sterling. These results reflect the hard work of all of Ultra's employees and I thank you for your continuing contribution to the Group's success. Ultra's shareholders are pleased with the continued growth of the Group. After the results announcement David Jeffcoat and I made over thirty presentations to fund managers who together own over two-thirds of Ultra shares. Feedback from the fund managers was very positive and they remain loyal to the Group.

**"These results reflect the hard work of all of Ultra's employees and I thank you for your continuing contribution to the Group's success."**

We have now finished the process of reviewing the five-year strategic plans for all the Ultra businesses. We look at the individual market niches in which the Group operates of which there are over 100 across the 21 businesses. I am pleased to say that, across the board, we have robust plans to continue to provide our customers with solutions to their requirements which are different from and better than those of our competitors. We operate in very competitive market places and so we must continue to do our best to provide our customers with attractive products, services and support. Providing we do this I am confident that we can continue to provide profits growth for our shareholders and a rewarding and stimulating environment for all of the Group's employees. It is a great feeling being part of a winning team and we plan to keep it that way.



# welcome to... ...Criticom and Telemus

NEW BUSINESSES ENHANCE ULTRA'S SYSTEMS AND TECHNOLOGY PORTFOLIO



## Criticom

In July, Ultra completed the acquisition of **Criticom**, employing approximately 40 people in Lanham, Maryland, USA in the design, supply and support of custom, secure and non-secure video conferencing solutions for the defence, federal, state and local government market sectors. **Criticom** has strong synergies with Ultra's existing

**Tactical Communication Systems** and **DNE Technologies** businesses and is highly complementary to the Group's tactical communication and data link market positions. **Criticom** has made a great start as an Ultra business. September is traditionally the strongest month of the year for **Criticom's** order intake and 2007 smashed all previous records.

## Telemus

Also in July, Ultra's **Tactical Communications Systems** business, based in Montreal, Quebec, announced the acquisition of **Telemus Inc.**, which employs 11 people at its facility in Kanata, Ontario (near Ottawa). **Telemus** specialises in the supply of Intelligence, Surveillance and Reconnaissance (ISR) and Electronic Countermeasures (ECM)/ Electronic Warfare (EW) systems, selling its products and systems in Canada, Asia and Europe.



# Celebrating third Queen's award for Magicard

**Manufacturing & Cards Systems** hosted a double celebration after being chosen to receive a Queen's Award for Enterprise in the 'Innovation' category. The Queen's award, the third for **Manufacturing & Cards Systems**, was awarded for the Alto range of ID card printers. The award recognises the highly innovative Alto design that achieves low cost and simplicity of operation. It is difficult to earn one Queen's Award – to receive three is a truly outstanding



Left to right: Dr Julian Blogh, Andy Hamment, Ray Coles, Valerie Pitt-Rivers – Lord Lieutenant of Dorset and Douglas Caster

achievement. The formal presentation of the Queen's Award was made by the Lord Lieutenant of Dorset, Mrs Valerie Pitt-Rivers at a ceremony held at a local water gardens. Earlier in the day Mrs Pitt-Rivers had formally opened the new Magicard design, sales and support centre within the **Manufacturing & Cards Systems** facility in Weymouth. The double celebration carried on into the night with a garden party reception and evening disco for employees.



# in focus

## firsts for Controls

**CONTROLS** HAS DELIVERED THE FIRST SYSTEMS FOR ITS THREE LARGEST DEVELOPMENT PROGRAMMES; THE BOEING 787 WING ICE PROTECTION SYSTEM, THE PRATT & WHITNEY F-135 ENGINE ICE PROTECTION SYSTEM AND THE AIRBUS A400M CARGO BAY QUIETENING SYSTEM. THE FIRST FLIGHT OF THE BOEING 787 DREAMLINER IS SCHEDULED FOR LATER THIS YEAR, WITH THE FIRST DEVELOPMENT AIRCRAFT HAVING BEEN ASSEMBLED AND 'ROLLED OUT' TO THE PUBLIC IN JULY.

## Ultra knowledge database

Communicating the constantly increasing collective technical knowledge across our expanding Group is a major challenge. To meet this challenge, a new engineering knowledge database containing data about the technical expertise of each business will be available on the Group's intranet from November. Information, including tools used for software, hardware and mechanical design, simulation, modelling and product lifecycle management, can be referenced by individual business or across the Group through a search engine. There will also be details of processes and standards followed by each business, specific areas of expertise and platforms using their technology, and contact details to obtain more information.

### Investors at S&CS

In June, **Sonar & Communication Systems** was the latest Ultra business to host a presentation to City analysts and investors. Four display areas were set up, demonstrating **S&CS'** capabilities. Later in the day the display areas were put to good use when members of staff were given the opportunity to learn more about other parts of the business.



## Enhanced radar processing

**SML Technologies** trialled its enhanced radar processing, auto-tracking and integrated track management modules on the 1007 radar on board Royal Navy ship HMS Westminster. The **SML Technologies** system, provides improved small contact detection and tracking. The modules take inputs from the ship's radar, gyro, log and vessel identification systems.







## DSEi 2007

Defence Systems & Equipment International is Europe's largest international defence exhibition. Ten Ultra businesses exhibited on the stand, at 204m<sup>2</sup> the largest Ultra exhibition stand to date. The stand featured secure communications demonstrations, sonobuoys, countermeasures and sensors, and an impressive mock-up display of fighting vehicle systems. A record number of overseas delegations were welcomed, thanks to the efforts of Rohan Dearlove (C&CS) and Suzanne Birch (S&CS). The opportunity to meet new and existing customers, and the camaraderie between previously unknown Ultra colleagues made the months of preparation, and long exhibition days (and aching feet!) worthwhile.



### Database of valuable contacts

In August, Ocean Systems and EMS exhibited at the Surface Navy Association West Coast Symposium 2007 in San Diego, California. Before the event's formal banquet, the Ultra businesses ran a raffle to win a bottle of red wine complete with a presentation set of bottle opening and service implements. This produced a database of valuable contacts and the final winner was Rear Admiral Michael P. Nowakowski.

Picture above:  
Heather Lange from Ocean Systems presents the prize to Rear Admiral Nowakowski

## Controlling a \$multi-billion fleet of armoured vehicles

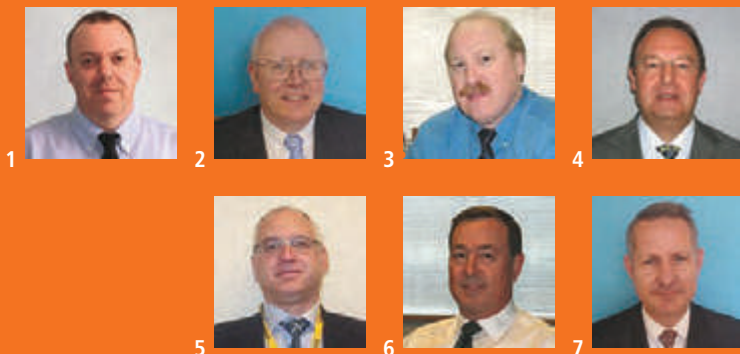
MSI's patented hall effect and Reconfigurable Control (RCCTM) technologies command the US Marine Corps' next generation, multi-billion dollar fleet of Expeditionary Fighting Vehicles (EFVs). These self-deploying, high-water speed, armoured amphibious vehicles are the Marine Corps' primary means of tactical mobility. The enhanced reliability and upgrade capability of hall effect and RCCTM based systems result in less down time and lower maintenance costs.



Right to left: Douglas Caster, His Excellency Rear Admiral Kevin Scarce AO CSC RANR – Governor of South Australia and Andrew Fletcher CEO of Defence South Australia.



# people in the **NEWS**



**1. Kevin Hurst** has joined **Precision Air Systems** as Sales & Marketing Director. Kevin previously worked at QinetiQ.

**2. Brian Gardner** has joined **Sonar & Communication Systems** as Technical Director, Communication & Integrated Systems. Brian previously worked at Aeroflex.

**3. Pete Crawford** has been promoted to President at **EMS**.

**4. David Sammons** has been promoted to Acting Managing Director at **PMES**. He was previously Finance Director.

**5. Denis Chabot** has joined **Tactical Communication Systems** as Finance Director.

**6. Bob Henry** has been appointed Mergers and Acquisitions Director. This new role is in addition to his current role as Strategy Director of **Sonar & Communication Systems**.

**7. Mark Merrifield** has joined **Sonar & Communication Systems** as Marketing Director of the Sonar Systems business unit.



## South Australian Premier visits

Earlier this year, the South Australian Premier the Hon. Mike Rann MP (centre) visited Greenford in support of opportunities for Ultra in Australia. His tour of **Sonar & Communication Systems**' site included a demonstration of the Surface Ship Torpedo System, Sea Sentor.



## Inspirational leader

Kim Wrighton, Managing Director of **Controls**, was awarded the Order of the British Empire in the Queen's Birthday Honours List for services to the defence industry. The nomination followed Kim's inspirational leadership of Sonar & Communication System's successful Surface Ship Torpedo Defence (SSTD) programme.

# Son and stars

"Congratulations, your son is going to be an astronaut" was the news that Jackie Anderson, who works at **PMES** in the sensors engineering team, received when her son, Ian, won first prize in a competition run by New Scientist. The prize, a ride on the Xerus rocket plane, an amazing new space vehicle being developed by **XCOR Aerospace** will take Ian on an exhilarating space flight up to 62 miles above the earth's surface, travelling at over 1,500 mph. Ian can't wait for this once-in-a-lifetime flight experience which is booked for 2009: "the views will just be amazing".



# Long service awards



**EMS** has rewarded three employees for their long service to the company: Charles Coakley (left), Operations Manager, 25 years; Ed Anwander (centre), Machine Shop Manager/Master Welder 26 years; Stu Bistany (right), Engineering Manager, 27 years.

# Big move for TCS

**TCS** successfully moved into its new facility over the summer. The building was officially opened by Douglas Caster at a ribbon-cutting ceremony on 17 September and was witnessed by over 50 invited guests. The move was a major project but was completed on time during the summer shutdown with impressive results. The new facility has been laid out specifically for **TCS's** needs and is in Montreal about 1.5 miles from the old site.







## June

**June Oldacre**, Receptionist at PMES, started there in January 1965, when the company was "Lancashire Dynamo". June lives in Hazel Slade in Staffordshire.

### What do you most enjoy about your job?

Meeting all types of people, and every day is different. There is never a dull moment.

### Most important lesson learned to date during your career?

Treat people as you would like to be treated yourself and don't toast your tea cakes under the fire alarm sensors!

### Your favourite hobby/pastime?

Travel, skiing and snorkelling. My most memorable experience was going to the Orangutan sanctuary in Borneo.

### Funniest situation that you have had to deal with at work?

Toasting tea cakes and setting the fire alarm off, resulting in two fire engines arriving on site and all personnel evacuated from the buildings. For many weeks following this, I received requests for toasted tea cakes from the boys on the shop floor!



## Morgan

**Morgan Ashley Booker**, Employee Relations Manager at USSI joined Ultra in August 2004. Married in July 2007 to Brian, they live in Fort Wayne, Indiana.

Getting to interact with interesting people on a daily basis and, of course, the flex time!

When dealing with upset employees, keep an open mind, listen, stay calm and don't overreact. This takes out the emotion when coming to a solution.

SCUBA diving, water skiing and making scrap books.

I accidentally sent an e-mail about how delicious the apples were from a tree in our backyard to a company distribution list instead of my husband. I brought in a bag of apples for everyone the following day!



## Edward

**Edward Anwander**, Master Welder and Machinist at EMS, joined EMS Development Corporation in 1981. Married to Patricia, with two sons, they live in Commack, Long Island, NY.

I find my skills a rarity in the age of computers, and I enjoy making fixtures and welding structured steel cabinets. Every day is a new challenge with each new production.

You need to compromise when necessary to survive with one company for so long! But the most important thing I've learned is measure twice and cut once.

Woodworking is my latest hobby, including converting our outdoor shed into an outdoor bar with heating, air conditioning, hot and cold running water. This was a family project, and we now have a backyard haven for the family.

Whilst welding, working from a huge blueprint hanging behind me, I stopped to lift my welding helmet and thought it looked unusually bright in the room. When I turned the print was completely ablaze! Fortunately, I was able to quickly put out the fire with the nearby fire extinguisher.



# nice TRI!



Dougall Crisp (centre), David Jeffcoat (right) and Mark Nelson (left) from Head Office recently completed a mini triathlon comprising a 400m swim, 20k bike ride and 5k run. They raised over £3,000 for the Christian Lewis Children's cancer charity.

## Ultra hockey challenge cup

At **Maritime Systems**, Walker's Warriors narrowly defeated Bain's Bombers 7-5 to capture the First Annual Ultra Challenge Cup on

April 8. To some surprise, Clark Bain was named the game's MVP.

Afterwards, great fun was had at a family skate.



## Biggest winner

The **USSI** Biggest Winner weight loss challenge involved 85 employees in teams of five. The company lost 394.5 pounds over nine weeks, with "Fat Fighter Five" winning with the greatest loss – 7.28%. The next Biggest Winner challenge will see them competing against other Ultra companies.

## Can't dampen our spirits!

When the west country based businesses **Precision Air Systems** (Gloucester) and **Electrics** (Cheltenham) had two months' rain in 24 hours, people were stranded, homes and businesses flooded, there was no power and the water supply cut off! But great spirit helped staff get through with Andy Yates, MD at **Precision Air Systems**, the self-appointed refreshments monitor.



## Scouting centenary

George Straubs from **Precision Air Systems, Inc., USA**, led Scout Troop 624 from Arlington, Virginia on a UK tour to commemorate the 100th anniversary of scouting, visiting Brownsea Island (site of the first camp), Charterhouse (Lord Baden-Powell's School) and Gloucestershire Scout Centre.



## Summer barbecue

The **Maritime Systems** team celebrated a summer with a Barbecue on August 24. Due to poor weather, the event was relocated to the canteen and the food was cooked and served by the management team.



### FEEDBACK

I hope you enjoy this issue of **Ultra News**. If you have any comments on **Ultra News** or ideas for future issues please let your local contact or me know [keith.thomson@ultra-electronics.com](mailto:keith.thomson@ultra-electronics.com)

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#### Datel

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#### Manufacturing & Card Systems

Valerie Douard

#### Maritime Systems

Dorothy Rice

#### Measurement Systems Inc.

Kimberley Burns

#### Ocean Systems Inc.

Heather Lang

#### PMES

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## open for business

### 'All systems go' for Ultra at Heathrow T5

On 27 March 2008 the new Terminal 5 (T5) opened for business at London Heathrow airport. This flagship £4.3 billion development is designed to handle 30 million passengers a year as the global hub for British Airways. The main building is big enough to accommodate ten football pitches on each of its 4 floors. At its peak, 8,000 workers each day were involved in its construction, which included extensions to the Piccadilly Underground Line and Heathrow Express rail link together with a new M25 motorway junction.

The involvement of Ultra's **Airport Systems** started in December 2000 with the award of the £30 million system integration contract. To enable BAA to operate efficiently in a terminal of this scale, **Airport Systems** designed and built a Terminal Service Centre and developed the technology platforms to integrate the building's control systems. Fire, access control and CCTV systems are integrated with passenger sensitive controls for heating, lighting, lifts and escalators. A co-ordinated view of terminal operation is presented through a single user interface onto a video wall. Building Systems Integration (UltraBSI) monitors over 48,000

different building assets and required the development of over 600 different graphical views.

To integrate T5 with existing Heathrow IT systems, **Airport Systems** developed an 'integration broker' and also extended Heathrow's existing 'SCADA' system which controls utilities such as power and water treatment systems. Ultra's flight information display software is being rolled-out across Heathrow and more than 1,000 public displays have been supplied.

The T5 project has required Ultra to overcome many unique technical and logistical challenges. Ultra's T5 team peaked at 100 people and is the largest project undertaken to date by the **Airport Systems** business. Since its opening by the Queen on 14 March, the challenges faced by British Airways baggage team have been well documented in the press. As BA resolves these travellers will come to appreciate the scale and the quality of the new facility and **Airport Systems** can be proud to have played a critical role in its delivery, on time and within budget.

## Maritime Systems secures Canadian Port

Following a high profile, international competition, **Maritime Systems** was awarded an US\$8 million contract to design and commission an integrated command and control platform for the Port of Halifax, Nova Scotia, fending off competition from a number of major international prime contractors.

Since the terrorist activities of recent years, ports and harbours have come under increasing pressure to upgrade and improve security and the Port of Halifax is no exception. Halifax Port has an inner and outer harbour with a large inland basin and incorporates a range of facilities including an oil refinery, an autoport and two large container terminals. The port covers an area of more than 70,000 square miles and handles 13 million tons of cargo and in excess of 500,000 containers per year, all of which present numerous challenges in terms of security. The Halifax Port Authority Command and Control System (HPACCS), which was formally accepted by the customer in January 2008, tracks all vessel movements in the harbour using radar and Automatic Identification System (AIS) transponders. It also monitors access control points using a combination of smart cards, biometrics and licence

plate recognition. The intelligent software also allows the operator to set virtual barriers that will notify them, via a text message, e-mail, phone call or visual cue, of any incursions into unauthorised zones.

"The whole system enables us to integrate all of our facilities" says Gord Helm, Manager of Port Security and Marine Operations with the Halifax Port Authority. "It's a layered system, so the operator is looking at the fused picture and can send messages and track events in a single interface without being confused by many different displays" The primary command and control platform for the Halifax system was provided by **SML Technologies** through its C2DB system. This software correlates the sensor inputs received from radar, AIS, intelligent video analytics, microwave perimeter fence monitoring, chemical detection portals and access control points. It displays this information on a virtual map of the harbour and then alerts the operator to any event.

A third Ultra business, **Datel**, provided the response capability for HPACCS via its AtlasOps emergency management software. Plans of all port facilities have been created in AtlasOps and will incorporate Halifax Port Authority emergency policy and procedures that can be shared with local law enforcement, first responders, etc. in the event of an incident in or around the port.



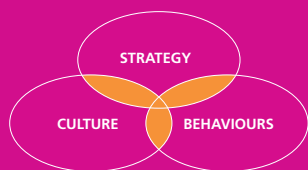
### IN THIS ISSUE:

- **Special feature on LEAP**  
– pages 2 and 3
- **DCMC team wins Minister's award**  
– page 4
- **Welcome to Atkins, BCF, MISL and Harris** – page 7
- **EMS and Electrics monitoring success in US** – page 8



# one giant LEAP

YOU MAY RECALL THAT ISSUE 25 OF ULTRA NEWS, IN SPRING 2007, CELEBRATED THE TEN YEARS OF ULTRA SINCE ITS FLOTATION IN 1996 AND REVIEWED ULTRA'S STRATEGIES AND CULTURE. IN THIS ISSUE WE CONTINUE THE REVIEW OF HOW THE GROUP HAS DEVELOPED SINCE IT WAS FORMED WITH A LOOK AT ULTRA'S BEHAVIOURS. ULTRA'S SECOND BUSINESS LEADERS' CONFERENCE TOOK PLACE IN DECEMBER 2007. IT INVOLVED ALL TWENTY ONE MANAGING DIRECTORS AND PRESIDENTS AS WELL AS MEMBERS OF THE GROUP'S EXECUTIVE TEAM. ONE OF THE MAIN THEMES OF THE CONFERENCE WAS THE STYLES OF BEHAVIOURS THAT THE GROUP WOULD LIKE TO ENCOURAGE. THESE ARE EXPLAINED BELOW.



## ULTRA BEHAVIOURS

The four cultural behaviours of its people that are highly valued and encouraged by Ultra are:

**Leadership**  
**Entrepreneurialism**  
**Audacity**  
**Paranoia**

Together they make **LEAP**

## LEADERSHIP

Good leadership is extremely important, whether for a sports team or a business. Ultra is no exception and a number of models of leadership are incorporated in the development and training that is delivered around the Group. One example is the MLI (Maximising Leadership Impact) programme that is run both in North America and the UK at least once every year. Leadership applies at all levels of management for team leaders, supervisors, managers ... in fact for anyone who is responsible for others.

A recent example of leadership has just taken place at **USSI** where the 2009-2014 strategic planning process kicked off with a workshop entitled "Leveraging our Capabilities". The twelve **USSI** senior management team members broke down long established, perceived barriers to business growth and formulated a robust set of business goals. By the end of the two day workshop, **USSI**'s strategic plan was outlined and specific actions were documented and assigned. The

team is now in a position to provide clear leadership to the whole business. Roland Fritts, President of **USSI** commented "The results of this workshop were awesome...LEAP behaviours are now part of **USSI**'s culture. I encourage all Ultra companies and their employees to 'take a LEAP' into the future".

## Leadership:

- communicating inspirationally the future direction of the business
- inspiring and energising your team, customers, suppliers and colleagues
- stimulating an innovative culture to release creativity
- enabling business change to provide a greater and faster return to the business

## ENTREPRENEURIALISM

Being entrepreneurial is all about looking for ways to help your team (and therefore Ultra) win. It is a behaviour that underpins the Group's strategy. It results in robust plans that provide our customers with solutions that are different from, and better than, those of the competitors. Everyone has a part to play in this.

A recent example is at **Electrics** where the business acquired a license for an innovative vehicle battery monitoring solution. The technology was developed very rapidly by Ultra in parallel with agreeing the final details of the license. Consequently the Ultra offering was first to be brought to market. This speed and entrepreneurial approach resulted in Ultra receiving an initial order in the same month as concluding the license deal. This first contract was sufficiently profitable to pay for the license.

## Entrepreneurialism:

- encouraging the whole business to be entrepreneurial
- seeking competitive advantage through the differentiation of offerings
- ensuring competitions entirely biased in Ultra's favour, while behaving ethically





Managing Directors, Presidents and the Executive Team at the 2007 Business Leaders Conference

- seeking to enhance the offering by teaming either internally or externally e.g. to obtain capability, technology or market position

### AUDACITY

Having the courage to be bold or daring can be difficult but is an important behaviour. It enables us to seize opportunities with customers while taking risks that are considered and balanced.

A recent example comes from **ATS** when in November 2007 the business stepped up to a challenging opportunity presented by the United States Air Force to integrate an all-new Unmanned Aerial Vehicle (UAV) communications payload in less than 100 days. The system enables soldiers located beyond the range of conventional radios to request support when jeopardised by hostile fire. With aspirations of becoming a systems integrator, **ATS** took on the challenge. Despite the aggressive schedule, **ATS** integrated its Advanced Tactical Airborne System (ATAS) software with completely new hardware and prototype communications equipment from four sub-contractors. By stepping out of its normal comfort zone and by delivering a new capability on schedule and under budget, **ATS** positioned itself for a major new tactical communications gateway programme.

#### Audacity:

- being daring or bold
- thinking of the bigger picture or opportunity
- being prepared to take a leap forward
- thinking the unthinkable to grow the business

### PARANOIA

Paranoia in the business sense is a concern and fear about competitors and what they may do. It also relates to concerns and fears about things that can go wrong with projects, relationships and so on. This is a very healthy business behaviour and can help make sure that we consider risks and threats in full so that we can pre-empt them and either prevent them from occurring or mitigate their effects.

A recent example took place at **Precision Air Systems (PAS)** where competition emerged for its HiPPAG product. The loss of a contract reinforced a sense of paranoia. The business set out not just to prevent any more business being lost but also to win back the business that was "stolen". **PAS** was able to offer a radical new solution to the customer which has resulted in orders for over 400 systems.

#### Paranoia:

- considering risks and leaving no stone unturned to secure (market) opportunities
- recognising threats and making it difficult for competitors to steal our position
- constantly worrying about satisfying customers' real needs
- considering every possible angle when strategising bids to enhance our competitive position

#### Leadership

get it right and your business will leap ahead

#### Entrepreneurialism

take a measured risk, a leap of faith

#### Audacity

stretch and be bold; take a leap into the unknown

#### Paranoia

be aware at all times of competitors' moves

**"The results of this workshop were awesome... LEAP behaviours are now part of USSI's culture. I encourage all Ultra companies and their employees to 'take a LEAP' into the future".**



## DCMC team wins Minister's award

**Command & Control Systems** has delivered the first stage of its Dismounted Counter Mine Capability (DCMC) programme. This £9 million contract was won in October 2006 with first delivery of Stage 1, the mine detection, training and personnel protection equipment, achieved in July 2007 to meet Urgent Operational Requirements (UORs). In fact the in-service date was achieved six months ahead of schedule. Such was the quality of this performance that the DCMC team has been given the 'Minister's UOR Award' which was presented to team members on 8 May by Baroness Taylor, the UK Minister for Defence Procurement. The focus for Ultra now shifts onto Stage 2, the supply of a minefield breaching system to clear a route through the minefield using explosives.



**A strong signal from US Army**  
**Flightline Systems** supplies its vertical displacement gyros to support US Army operations in Iraq and Afghanistan. The US Army has awarded Flightline a contract worth over US\$5 million to provide vertical gyros for the UH-60 Blackhawk helicopter. These gyros provide a reference signal to aircraft instrumentation allowing the pilot to know "which end is up", particularly in steep banking manoeuvres. Flightline provides gyros to support the UH-60 Blackhawk, the CH-47 Chinook and the OH-58D Kiowa Warrior helicopters.

## another piece of the JIGSAW

**SML Technologies'** Identification System (SIDS) GPS tracker/data link is now deployed on BP's offshore search and rescue Super Puma helicopters operating in the oil exploration fields of the northern North Sea. The helicopters equipped by **SML** are a key element of BP's Jigsaw project which is designed to enhance the offshore rescue and recovery capability of its North Sea oil rigs. **SML** has already supplied the project with its C2DB command & control and incident management software together with integrated platform-based radar early warning systems with "man over board" alarms and personal locator beacons.



## Ocean Systems & ARL put heads together



**Ocean Systems** has been awarded a contract from the Applied Research Lab (ARL) at Pennsylvania State University to supply advanced sonar head arrays. The contract is to fabricate three torpedo sonar heads

as 'first article' units for qualification prior to potential future production orders from the US Navy. ARL is one of the leading research universities in the US and serves as a university centre of excellence in defence science and technologies, with a focus in naval missions and related areas.

## An EPIC voice



**Audiopack** has designed and manufactured a new Enhanced Performance Integrated Communication (EPIC) voice amplifier which enables robust person-to-person communications. Emergency workers often work in noisy environments where the user's voice may be unintelligible or drowned out. The EPIC voice amplifier has become a necessity for mission-critical communications. A small profile, simple-to-use voice projection device transmits strong, clear and crisp voice communications to other nearby first responders or emergency respirator users. Contained in a sleek, streamlined package, the standalone EPIC voice amplifier permits hands-free communications. The new EPIC voice amplifier provides a proven, dependable, easy-to-use means of voice communications that is approved by the US National Fire Protection Association.



## SEAFox SEES ACTIVE SERVICE

**Sonar & Communication Systems** is equipping the Royal Navy with the SeaFox mine disposal system. SeaFox enhances the Royal Navy's capability through its ability to deal with insensitive munitions and by significantly reducing the time taken to locate and neutralise sea mines. Working with two sub contractors, 50% of the Royal Navy's mine countermeasure vessels have already been fitted. The first SeaFox equipped ships deployed on operational duties in February 2008.



## Expert teamwork

**ATS** and **Sonar & Communication Systems** teamed up in December to win a contract with the Danish Navy. The joint award draws on the combined technical expertise of both companies, requiring the **ATS** real-time command and control Link 16 software to be integrated into the **Sonar & Communication Systems** Multi-Link Processor. Together, these businesses will improve the Danish Navy's operational effectiveness and its interoperability with US and NATO partners.



Royal Danish Navy command and support ships

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...taking a brief look at some of the latest news from  
around the businesses

## INCREASED situational awareness

**Electrics** has successfully developed and delivered an Indirect Vision System (IVS) for 108 Mastiff armoured protection vehicles currently deployed



in Iraq and Afghanistan. The contract was worth over £5 million. Given the high level of threat from roadside bombs, mines, and rocket-propelled grenades the crew and troops need to operate effectively under armour. The IVS provides the crew with near-360 degree visibility of its surroundings, day and night. This has proven critical in allowing the vehicle crew to maintain a high level of situational awareness whilst patrolling, deploying troops and operating in 'silent watch' situations.

## PacketAssure gains respect

**DNE Technologies** has launched PacketAssure, its new IP service delivery manager for secure digital communication networks. PacketAssure is uniquely positioned to provide support for deployed legacy communications devices by converting their traffic to IP protocol. As a result of a series of highly successful demonstrations for the US Air Force and the US Navy, it is gaining respect. PacketAssure supports the US Department of Defence's (DoD's) vision to have all-IP networks by 2010.

At the recent AFCEA West trade show, PacketAssure was used in the Navy's wireless network demonstration. A joint effort between **DNE**, Nortel, and Fortress, the demonstration delivered live video streams from the USS Midway, moored in San Diego Harbour, to the Ultra and the SPAWAR booths at the show. Live interactive text was also demonstrated via a Navy chat room. Other trials for the US Air Force have further demonstrated the unique capabilities of PacketAssure to bridge the gap between the DoD's existing secure, circuit-based networks and its network-centric vision for future communication networks.



## Orion network 'safe & ready'

**Datel** has won a £1.6 million contract as part of Project Orion at the Atomic Weapons Establishment. Project Orion will develop the world's most powerful laser facility, capable of mimicking the conditions found at the heart of a thermonuclear explosion. **Datel's** responsibility is for the design and installation of the classified and unclassified network for the Orion integrated control system which controls and manages all subsystems, ensuring they are in a 'safe and ready' state for the laser to be fired. **Datel** will also supply a target data acquisition system to facilitate analysis of scientific data captured during experiments using the Orion laser.



New Orion laser research facility

## New control for VIPER

**Command & Control Systems** has been awarded a contract to design a new reactor control and instrumentation suite for the Atomic Weapons Establishment's Versatile Intermediate Pulsed Energy Reactor (VIPER). Commissioned in 1967, VIPER is designed to operate by 'pulsating' for a very small fraction of a second. During this short period of time a transient super-prompt critical condition is achieved producing a power output of up to 20 gigawatts. The facility is used to provide functional testing of materials in intense transient radiation pulses. The Ultra team, which includes technical expertise from both the Loudwater and Winfrith sites, will be based at the customer's facility at Aldermaston.



# review



**The Ultra family continues to expand. Since the last issue of UltraNews the Group has made four further acquisitions, two in the UK, one in Canada and one in the US. We welcome the teams at Atkins, BCF Designs, MISL and Harris Acoustics into the Group. These businesses are described more fully elsewhere in this UltraNews. You can see that they all have the strong positions in growing niche markets that are typical of Ultra businesses and that they have enhanced the Group's portfolio of offerings. I am confident that these four acquisitions will continue to thrive as part of Ultra.**

We are maintaining our focus on making more of the right sort of acquisitions to top-up the organic growth of the Group businesses. I am pleased to welcome Bob Henry to the head office team as our full-time Mergers & Acquisitions Director, helping to coordinate and steer the targeting and pursuit of acquisitions in the three divisions.

Since the last edition of UltraNews, on 25 February, Ultra announced its financial results for 2007. Revenue was up 10% compared to 2006 while profit before tax was up 11%. This was despite the 'headwind' of a continuing weakness in the US dollar that reduces the Group's results when translated into pounds sterling. Without this adverse impact, the growth in revenue was over 13% and the increase in profit before tax\* was 18%. These results reflect the hard work of all of Ultra's employees. I, the Board and the

Executive Team thank you for your continuing contribution to the Group's success. Ultra's shareholders are very happy with the continued growth of the Group. After the results announcement David Jeffcoat and I made over thirty presentations to analysts and to fund managers who together own over two-thirds of Ultra shares. Feedback was very positive and they remain loyal to the Group. Specific comments included:

We have set a high standard over the years but it is imperative that we do not feel in any way that 'we have arrived'. We must strive to continue extending this track record and reward the loyalty that our shareholders have shown to us by delivering further growth of shareholder value. It is also a great feeling for all of us being part of a winning team – we want to keep it that way.

Since we announced the 2007 results, the financial markets have obviously experienced some very turbulent times with worries about house prices and other factors undermining confidence generally. At times like this, Ultra's strong track record of solid growth of revenue and profit make its shares relatively more attractive. Consequently, Ultra's ranking on the London Stock Exchange, as measured by the value or market capitalisation of the Group, has improved to about position 220. It obviously fluctuates on a daily basis but we have risen consistently through the rankings over the last few months. We are therefore making good progress towards our goal of being the 200th largest company by December 2010.

Elsewhere in this edition of UltraNews you will see an article about **LEAP**. I believe that these behaviours, Leadership, Entrepreneurialism, Audacity and Paranoia, are ones that drive the success of the Group. I would encourage you all to demonstrate these behaviours as you work within your teams in Ultra. We must maintain our focus on continuing to provide our customers with solutions to their requirements which are different from and better than those of our competitors. **LEAP** behaviours help in this aim and so contribute to the further development of Ultra.



# welcome to...

## ...Atkins, BCF, MISL and Harris



In November 2007, Ultra completed the acquisition of **Atkins & Partners Ltd.** Established in 1991, **Atkins** is based near Doncaster, UK. Its eight employees specialise in the supply of software solutions for emergency planning, command & control, crisis & incident management and computer-based training and briefing. The **Atkins** range of solutions includes AtlasOps, already used as part of the Halifax Port protection systems described on the front page. The **Atkins** customer base includes the UK MoD, central government, police and other emergency services. **Datel** has worked closely with **Atkins** since 2004. **Atkins** is now part of **Datel**, a business within Ultra's Aircraft & Vehicle Systems division.

In December 2007, Ultra announced the acquisition of **BCF Designs Ltd.** **BCF** employs forty people in Cirencester, UK and also has six people based at a marketing and support office in Virginia, USA. **BCF's** niche areas of activity include customised

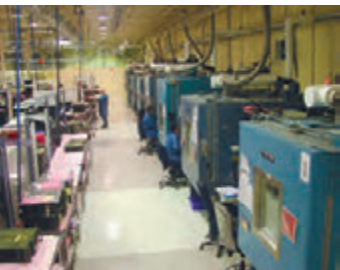


equipment to test aircraft fuel systems, avionic data bus networks and protective filters for electronic systems. The test equipment is able to test many aircraft types and **BCF** also supplies the interconnecting wiring harnesses which are tailored to suit specific variants of each aircraft. In addition, **BCF** provides a full range of customer training, equipment calibration and support services. Organisationally, **BCF** is now part of the **Electrics** business and is led by Andrew Neal who has transferred from **Command & Control Systems**.

The acquisitions of **Magneto Inductive Systems Ltd** ('**MISL**') and **Harris Acoustic Products** were announced in March and April and the businesses will join Maritime Systems and Ocean Systems respectively after regulatory approval has been received. **MISL** has 50 people in its Canadian and US operations and makes magneto inductive guidance, signalling and communications equipment. **Harris** employs about 40 staff in Walpole Massachusetts and specialises in the design, supply and support of submarine acoustic transducers and arrays. There will be more news on both businesses in the next issue.

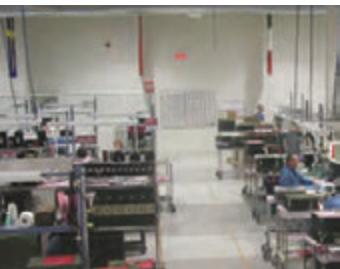


## a tactical lean move



In 2007 **Tactical Communication Systems (TCS)** moved into a new facility. The move – a major project – was completed on time during the summer shutdown without any impact on customer deliveries. Part of the plan involved a significant re-layout of the production floor using 'lean manufacturing' techniques aimed at reducing bottlenecks and increasing throughput. Many iterations of the layout were performed based on inputs received directly from **TCS's** production line employees.

The results have been impressive. **TCS** is now delivering 120 radios per month at the new facility (a 50% increase in throughput) with the same number of employees. Lean manufacturing initiatives (Kaizen) continue to take place that will produce further gains in throughput and efficiency. Alan Barker, President of **TCS** commented: "This achievement would not have been possible without the significant dedication and teamwork from many people involved in the project".



## a new location for PMES

It has long been planned that **PMES** should move to a new facility. The location has now been secured and, on Monday 14 January 2008, Frank Hope attended the earth cutting ceremony for the soon to be built **PMES** facility at Towers Business Park, Rugeley. The facility will be a 50,000 square feet structure with a curved roof, complete with state-of-the-art development and operations facilities. The construction will last for approximately 38 weeks with completion scheduled for October 2008.



## GRAND opening

**Datel** held an official Grand Opening event to mark the relocation of its operations to new premises at Taylor House, Preston, on the evening of 5 February 2008. The event was attended by the Ultra Board, employees, customers, suppliers and the local press. Dr. Julian Blogh, Ultra's Chairman, conducted the opening ceremony by unveiling a plaque to commemorate the event. This was followed by refreshments in **Datel's** purpose-built training suite and a tour of the premises where its latest developments were on show. A piece of artwork commissioned for the move was also revealed during the evening. Produced by **Datel** employee, John Livesey, it portrays **Datel's** portfolio and consists of a Eurofighter Typhoon aircraft annotated with binary code. In his introduction, **Datel's** Managing Director, Jason Birtwistle highlighted Ultra's commitment in supporting the local economy; the new office is ideally located to attract highly skilled engineers in the UK's North West aerospace sector and has room for expansion to aid **Datel's** future.



# in focus

## monitoring success in US

**EMS** and **Electrics** have had success in offering Ultra's battery monitoring system into the US armoured vehicle market. The **Electrics** design, originally developed for the UK Warrior armoured vehicle, has been well received by US customers. The businesses have together developed a strategy for winning significant US market share. Stage one has been successful, with **EMS** securing initial orders for test

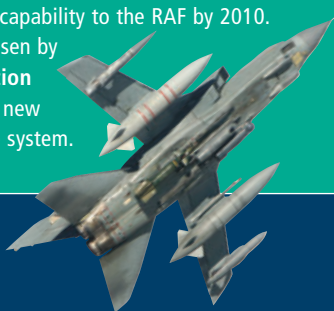
and evaluation systems for M1 Abrams Tank, Bradley fighting vehicle as well as the Joint Light Tactical Vehicle (JLTV) Humvee replacement. The battery monitoring system provides the vehicle crew with accurate real-time battery health data, measuring conductance, voltage, current, temperature and time to provide a highly reliable and accurate measurement of the state of health of a vehicle's batteries.



**MSI to hand over 1,650 units to US Army** Measurement Systems Inc (MSI) has received a contract worth over US\$5 million from Kongsberg Defense and Aerospace to provide high reliability, hand control systems as part of Kongsberg's Common Remotely Operated Weapon Stations (CROWS) which it supplies to the US Army. CROWS are being mounted on a variety of military vehicles for deployment in Iraq. The total contract award is for 1,650 hand control systems with options for up to 6,500 units.

## S&C secures £14m contract with BAE

**Sonar & Communication Systems** has been awarded a contract worth over £14 million by BAE Systems to provide a new radio communications system for the Tornado GR4/4A. The Secure Communications on Tornado (SCOT) project will provide a "high grade" accredited secure voice and data system capability to the RAF by 2010. **Electrics** has been chosen by **Sonar & Communication Systems** to supply the new cockpit displays for the system.



## a very Astute move by PMES

**PMES** has entered into an innovative new method of contracting with BAE Systems Submarine Solutions for the 4th to the 7th boats of the Astute programme, to help address the affordability challenges. The Performance Partnering Agreement (PPA) is aimed at securing sustainable long-term relationships with key suppliers, in which both parties are incentivised to improve performance. This PPA was signed on 4 September 2007 with Ultra being a 'top ten' supplier to not only the Astute programme but the whole of BAES. Malcolm Dare, Supply Chain Director of BAE Systems said "The PPA represents a significant positive change in the way Submarine Solutions and its supply base work together. It has also required a step change in Ministry of Defence thinking and it has recognised the need to adopt new techniques and to move away from existing practices in order to achieve significant benefits for the whole submarine enterprise." Ultra's Frank Hope highlighted "a real desire on the part of the collective team to deliver the objectives of the arrangement."



## flexible, smart and secure!

A new ID card printer has been designed by **Manufacturing & Card Systems**. The new Magicard Enduro card printer is flexible, smart and secure and can be upgraded instantly from single to dual-sided card printing with a simple drop-in upgrade kit. The Enduro incorporates all the latest encoding technologies and Ultra's patented HoloKote™ anti-counterfeiting watermark technology. The first hundred pre-ordered printers have been built and delivery is scheduled to start in mid-2008.





## a bright future for HiPPAG

Deliveries of **Precision Air Systems'** High Pressure Pure Air Generators (HiPPAG) to the US Navy and Eurofighter Typhoon Tranche 2 programmes will extend out to 2012. January 2008 saw the 1,000th unit delivered to the Typhoon programme and **Precision Air Systems** has recently been awarded a contract to supply HiPPAG for future export sales of Typhoon. Further contracts have been secured from the US Navy in support of F/A-18 C/D aircraft with over 2,000 systems in service.

## combining forces



**USSI** has joined with Sparton Electronics of Florida to form a joint venture which now trades as Sonobuoy TechSystems. This focuses on the international market for sonobuoys of the designs used by the US Navy. By pooling marketing, technical and manufacturing resources, **USSI** and Sparton are able to meet the requirements of international customers more effectively. Sonobuoy TechSystems is already developing the next generation of sonobuoys and sensors.

## a 'hands-on' approach to Future Lynx



At the end of 2007, **Electrics** won several contracts to supply cockpit equipment for the Future Lynx helicopter programme. These include the Hands-On Collective and Stick (HOCAS) pilot controls

and the aural warning generator which provides active voice messages to the pilots, notifying them of the status of critical systems. Both will increase the capability of the pilots to undertake a wider variety of tasks whilst retaining a high degree of tactical and situational awareness. The contracts are worth about £5 million. Future Lynx is the replacement helicopter for the highly successful Lynx manufactured by Agusta Westland.

## MULTI-YEAR CONTRACT

**Flightline Systems** has been awarded a multi-year contract by Lockheed Martin to provide state-of-the-art software-defined, wide band sonobuoy receivers for the US Navy's MH-60 Romeo helicopter programme. The contract for sonobuoy receivers is worth in excess of US\$54 million including all options. Production lots will be authorised incrementally as funding is allocated. Flightline's software-defined sonobuoy receivers are currently being implemented on key maritime patrol aircraft, Anti-Submarine Warfare (ASW) helicopters and surface combatants worldwide, and represent leading edge technology to support modern ASW missions.



## PMES on-track for 2012 Olympics

**PMES** has been awarded a contract worth in excess of £9 million for specialist rail trackside electrical power equipment in support of a £363 million upgrade of the East London Line. The overhaul and extension of the East London Line is part of an urban regeneration programme and infrastructure improvements to support the 2012 Olympics, providing London with a metro-style overground service. Joining together the North and East London Lines will create a new rail artery around the city serving twenty London boroughs. **PMES's** scope of work includes the design, supply, installation and pre-commissioning of three new traction power substations at Hoxton, Shadwell and Canal Junction and will be delivered over a two year period.



### Controls land business jet contract

**Controls** has won a contract to supply Gulfstream Aerospace in Savannah, Georgia with the landing gear position and control system for a new business jet. The Ultra system monitors the position of the landing gear and controls its movement. This new aircraft will be the largest aircraft in Gulfstream's wide range of business jets. The aircraft is expected to enter service in 2012.



# people in the **NEWS**



**1. Geoff Dore** has been appointed Divisional Finance Director, **Aircraft & Vehicle Systems**. Geoff previously worked at Claverham Group.

**2. Michelle Friesenhahn** has been promoted to Vice President, Human Resources at **Advanced Tactical Systems**.

**3. Stephen Lewis** has been promoted to Engineering Director, Sonar Systems at **Sonar & Communication Systems**. He was previously Business Manager, Sonar & Processing Systems.

**4. Paul Owen** has been appointed Business Development Director at **Airport Systems**.

**5. Alan Sandover** has been appointed Contracts Director at **Airport Systems**.

**6. Chris Binsley** has been promoted to Nuclear Control Systems Director at **Command & Control Systems**. He was previously Nuclear Control Systems CBU Manager.

**7. Andrew Neal** has been promoted to Director & General Manager at **BCF Designs**. Andrew was previously Marketing Director at **Command & Control Systems**.

**8. David Olchowski** has been appointed Vice President, Operations at **MSI**. David previously worked at UTC Fire & Security, United Technologies Corp.

**9. Mark Merrifield** has been promoted to Director & General Manager of the Sonar Systems business unit of **Sonar & Communication Systems**.

## Luigi Laera celebrates 30 years with Flightline

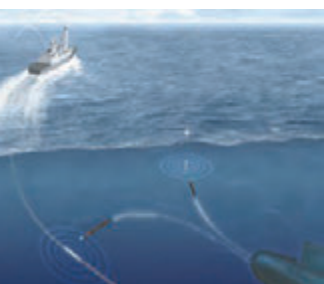


Luigi Laera joined Flightline in 1977 and is a key figure in the Test Department; troubleshooting sonobuoy receivers and simulators as well as tactical air navigation systems (TACAN). A decorated US Air Force war veteran, Luigi served in the Vietnam War and was also stationed at RAF Alconbury working on U2 reconnaissance aircraft. During Luigi's tenure at Flightline, he remained in the US Air Force Reserves and was called back numerous times to support the invasion of Grenada, the first Gulf War (Desert Storm), as well as operations in Iraq and Afghanistan in the second Gulf war.

## Long service awards at USSI and TCS

Tod Kovara and Joe Grimes have both reached significant milestones by celebrating 40 years' service at USSI. Tod is Senior Scientist and Joe is Quality Manager. Even more significant is Peter Perodeau's 45 years' service at TCS as System Engineering Specialist!

# SYSTEMS engineering



Ultra frequently wins competitions for new business by offering its customer a better solution to its operational requirement. This ability to innovate in the top level design of a system solution is one of Ultra's most valued characteristics. All Ultra businesses should constantly strive to be better at this than the competition. Ultra also needs to maintain its reputation for the effective execution of contracts and the delivery of systems that are fit for purpose and which deliver customer satisfaction. Both of these objectives require Ultra businesses to be excellent at Systems Engineering.

Ultra's customers both in the UK and the US recognise the importance of Systems Engineering expertise – for example, it is highlighted specifically by the UK Ministry of Defence (MoD) in its Defence Industrial Strategy document. Systems Engineering concepts, thinking and processes must meet the challenges of the 21st century and address the increasing complexity of systems that Ultra's customers require.

It was against this background that over 20 Ultra MDs and Technical Managers/Directors convened at **Command & Control Systems**, Loudwater in November 2007, under Douglas Caster's chairmanship, to attend a Group Systems Engineering symposium.

The purpose of the day was to establish a common appreciation of Systems Engineering, its role in the continuing growth of Ultra and to agree how the capability could be improved across the Group. The day was extremely successful with a number of Ultra businesses presenting examples of 'best practice' and 'lessons learned' where best practice had not been applied. A working group led by Frank Hope is now developing a series of 'Systems Engineering best practice' guidance documents. These documents were reviewed at a second symposium in May and they will now be shared and further developed with all businesses in the Group.





## Le Thi

**Le Thi Whittemore**, an Assembly Lead at Ocean Sytems, joined on 29 Sept 1986. Le lives in Plymouth County, MA. She is widowed with two grown up children and twin grandchildren.

### What do you most enjoy about your job?

I enjoy the people I work with. We have a wonderful MK2 team that works well together and makes my job more enjoyable.

### Most important lesson learned to date during your career?

I've learned that in the heat of the moment, some things are best left unsaid. I've learned to take a step backward to calm down, and go back and discuss things later in a more controlled manner.

### Your favourite hobby/pastime?

Playing with my grandchildren

### Funniest situation that you have had to deal with at work?

I was following behind someone and talking to them as they were walking away. Suddenly, I looked up and realised I was in the men's room.



## Jonathan

**Jonathan Hobbis**, Engineering Team Leader at Sonar & Communication Systems. He joined Ultra in Sept 2003. Jonathan lives in Acton, West London.

The interesting nature and variety of work I've been involved in is great, and being able to count trials aircraft and vessels as places of work sets it apart from the typical office job.

There are plenty of intelligent people around you; know who to talk to.

As a Royal Marines Reserve recruit, a good deal of my spare time is dedicated to training. My passion for music serves as a more relaxing pastime, and an excuse to buy equipment and gadgets!

Completing a Maritime Survival course prior to sea trials, our team found themselves in a swimming pool, connected, legs around waists, in a floating conga procession – a strange way to get to know your colleagues!



## Michael

**Michael Morris**, Electrical Engineer, with Maritime Systems, joined full time in May 1999. Born in Quebec, and raised in Windsor, Nova Scotia, now lives in Dartmouth. He is single.

The continual challenges that evolve, as UEMS grows as a business.

Organisation is the key to successful project execution.

I teach as well as play music in a local progressive rock band and have been drumming for over 18 years.

During the SSTD trials in Mississippi, we ran short of oil for the product and ended up using Mama Lou Anna's Peanut Cooking Oil, and it worked! (although it smelled really bad after a while).



# Lions, witches and wardrobes in Oxford

C.S Lewis had a house on the outskirts of Oxford, UK, which is now used as accommodation for US students. Community spirit has kicked in to develop some of the land around the house into a nature reserve. David Fordham (C&CS) has been part of the local team that has built fences, seats and bridges and improved pathways and steps around the reserve. Now local and overseas visitors can enjoy the environment where C.S Lewis penned his famous novels.



## Is that a smile or a grimace?



There are few perks to overseas travel, but there may be time to add some days' leave to the trip. Suzanne Birch at **Sonar & Communication Systems** did just that while in Australia on business recently. Did her R&R take her to Bondi Beach? No, an exhilarating skydive was more her style.

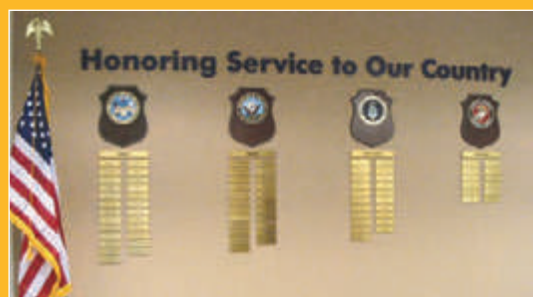


## Farewell to double act

**Electrics** said goodbye to Lynn Wiggett and Jackie Regan in December as they took retirement after serving over 47 years between them. Not only have they worked together for the last 22 years, but they also went to school together, married to become sisters-in-law and took family holidays together. Jackie and Lynn are to be congratulated for their positive approach, helpfulness to all, and smiley faces!.

## ATS honours veterans

On Veterans Day, 12 November 2007, **ATS** unveiled a tribute wall honouring employees who served in the armed forces. With over 40 percent of the **ATS** workforce comprised of veterans, the tribute honours them while at the same time reminding the entire team of their continued commitment to their customers.



## A bunch of losers... ...but healthy ones

Staff at **DNE** participated in the Ultra "Biggest Loser" weight loss challenge. 45 employees, nearly 60% of the company participated in three or four-person teams to see which team could be "The Biggest Loser". During the nine week contest they lost 390 pounds, representing 4.3% of the participating group's total body weight! The individual winning team lost over 70 pounds. Congratulations!



The "Biggest Loser" team (L-R): Kent Thomas, Peter Gladis, Carmelo Aresco, and Jerry Valente.

Meanwhile, **USSi** has concluded another Wellness Programme with the 'Maintain – Don't Gain' holiday challenge. The goal was to maintain and not increase weight during the two month holiday season. 79% of the workforce lost a total of 199.6 pounds.

## People's favourite

The staff at **MSI** has selected Faith Mott 2007 Employee of the Year. Faith recently celebrated her four year anniversary with **MSI** as HR Associate. Her dedication, support of fellow employees and assistance with everyday issues were amongst the attributes which earned her this distinction.



### FEEDBACK

I hope you enjoy this issue of **Ultra News**. If you have any comments on the new look **Ultra News** or ideas for future issues please let your local contact or me know  
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2008**

# ULTRA NEWS

a new defence  
partnership in Australia

Major sonar win is catalyst **for an  
Australian business**, see page 2

PLUS: ■ Ultra bytes ■ Chief Executive's review ■ People in the news ■ On the spot



# Major sonar win is cata for an Australian busi



ON 5<sup>TH</sup> NOVEMBER, PHIL EVANS, MANAGING DIRECTOR OF ULTRA'S **SONAR & UNDERSEA SYSTEMS DIVISION**, FORMALLY SIGNED THE CONTRACT COVERING THE SUPPLY OF THREE INTEGRATED SONAR SYSTEMS FOR THE ROYAL AUSTRALIAN NAVY'S NEW AIR WARFARE DESTROYERS (AWDs).

The contract is the culmination of a three-year campaign to win this important business. Ultra's customer is Raytheon Australia, one of the partners in the AWD Alliance which will design and build at least three, possibly up to six, destroyers. Pictured below is an artist's impression of the system to be delivered.

Each AWD will be fitted with an undersea warfare sonar system that comprises hull-mounted and towed array sonars utilising both passive and active elements. The system enables the detection and tracking of submarines and torpedoes beyond their lethal range.

There is the potential for Ultra to be awarded further contracts to enhance the system capability before the first ship enters service in 2014. These additions could include torpedo defence and the ability to process signals from multiple active and passive sources, including sonobuoys, to enhance overall system performance.

The initial contract is worth over £34m, and Ultra has

committed to place 50% of this with Australian companies. As noted by Douglas Caster in his article on page 8, this heralds the start of another phase in the development of the Group. Ultra will build a capability in Australia that can address not only the exciting domestic Australian defence and security market but also the fast growing markets in the Asia Pacific area.

The work on the AWD contract will be undertaken by the Group's **Sonar Systems** business, headed by Mark Merrifield. **Sonar Systems** is being formed as the old **Sonar & Communication Systems** business divides into two specialist halves, the other being **Communications & Integrated Systems**. **Sonar Systems** has already registered a company in Adelaide, South Australia and its offices are located in Mawson Lakes Technology Park, a business park located in Adelaide.

This business will act as the focal point for other Group businesses that wish to develop new business in the region. Ultra operates in over 100 market niches and many of the Group's specialist activities are applicable to the Australian market, not just in the defence sector. Having a real presence in Australia will facilitate the development of new business for many of the Group's twenty-three businesses. In addition,

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## stop press...



### 1,000 radios

On 18 July 2008, all employees of **Tactical Communication Systems** were invited to a barbeque lunch to celebrate the delivery of the 1,000th GRC-245 16 Mb/s Radio. These radios have provided increased capabilities compared with the previous 8 Mb/s version and were delivered to demanding schedules in order to achieve customer requirements in the field.

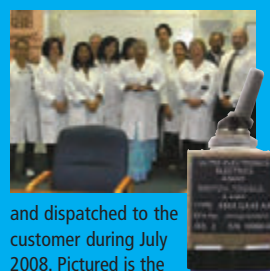
### Another new business

A "Welcome to Ultra" barbeque was held on 4 July 2008 for the employees of **Maritime Systems and Magneto Inductive Systems Ltd (MISL)**. Pictured are the cake cutters, Paul Wrathall, Business Development Director at **Maritime Systems** and former President of MISL, and Doug Burd, President of **Maritime Systems**.



### 10,000 toggle switches

The 10,000th Eurofighter Typhoon toggle switch was built and tested by **Electrics**



and dispatched to the customer during July 2008. Pictured is the team proudly displaying the switch. The occasion was marked with a small get together and a celebratory cake was shared and enjoyed by the team. Ultra's

range of toggle switches forms a major part of all Typhoon cockpits which are now seeing active service across all the European partner countries.

### Datel on the Fife County Council

Fife County Council became the first Scottish Local Authority to adopt **Datel's** Atlas Incident Management Solution (AIMS). The software will be based at Fife's Fire & Rescue headquarters and used for contingency planning for responses to future incidents, such as major flooding. The fact that over 80 other Local Authorities already use AIMS was a key factor to their decision.



# lyst ness

there are some highly innovative companies in Australia that have excellent products and capabilities. Ultra can act as a conduit for those businesses and, by teaming, can create solutions that exploit Australian innovation on a world stage.

Ultra received strong encouragement through the long campaign from the government of the state of South Australia. The AWD ships will be built in a purpose-built facility in Adelaide, South Australia, and many of the key system vendors will be located in the state. Mike Rann, the Premier of South Australia, visited Ultra at Greenford last year and described the company as "exactly the type of high added-value company which he wished to see succeed in the State's important technology-rich defence industry." In response, Douglas Caster said: "Ultra sees Australia as a very important defence market and this decision to locate in South Australia is an important step in the long term strategic overseas development of the Group. Ultra will be pleased to receive continuing support and encouragement from the South Australian Government."

This win in Australia builds on the Group's success in supplying advanced sonar systems not only to the Royal Navy but also around the world. Ultra has equipped the Royal Navy's fleet with its unique Sea Sentor torpedo defence system. This was delivered by Ultra ahead of schedule to the Navy. Since then **Sonar Systems** has won and is now developing a variant of that system for the Turkish Navy's new MILGEM ship programme. The initial contract, for one system plus support, is worth €3 million, with a further eleven ships planned to be built.

Ultra was the prime contractor for the delivery of the hull-mounted sonar in the Royal Navy's new Type 45 destroyers. The first vessel of this class, HMS Daring, is currently undergoing sea trials and it is reported that the hull-mounted sonar is already providing outstanding levels of performance, exceeding expectations. Other advanced sonar systems have been supplied by the Group to the US, Canadian and Netherlands navies.

## SML Technologies wins £3.2m battlespace IT system contract



SML Technologies has been awarded a contract by the UK MoD worth £3.2m for systems which provide surveillance and protection for deployed bases used by the British Army in Afghanistan. The ISTAR systems, for which Ultra is integrating and supplying a range of equipment, are being procured to support current operations. At the heart of these systems is Ultra's C2DB command, control and situational awareness software.

The firm, fixed price contract covers the provision of systems and associated technical services, including development. The contract is for phase one of what is planned to be a two phase programme. The first phase will be delivered by the end of this year. SML is positioning to undertake the second phase which requires the roll-out of significantly more equipment. This second phase is currently being considered by the MoD and, if approved, delivery will commence early 2009.



## From tiny acorns...

Since 2005, BCF part of the Electrics business, has been involved in the Technology Tree Programme which provides practical help and resources for teaching pupils at local schools about modern engineering and manufacturing. BCF is associated with Years 4, 5 and 6 at Powell's Church of England School in Cirencester. Activities this year have included: taking Year 4 pupils to RAF Brize Norton where they saw many sections of this busy RAF station. Later they were taught some basic aerodynamics, following which they made paper aeroplanes; Year 5 was taken to Kemble Airfield to see the aircraft flown and maintained by Delta Jets and Chevron. BCF also organises an engineering challenge for Year 11 pupils at Deer Park School, Cirencester.



### MSI's "Freedom Flag"

MSI was recently presented a "freedom flag" by William Farmer, LRAS R6 Sigma Lead, Program Engineering for Raytheon. Ultra's advanced control handles are an important element of Raytheon's Long Range Advanced Scout Surveillance System (LRAS3). This flag accompanied the first LRAS3 systems from Kuwait into Iraq and was present in numerous Marine and US Army surveillance missions. It was presented to MSI's production team in appreciation of its unsurpassed commitment to product excellence. It stands as a symbol of enduring freedom as well as a reminder of the importance of the work done.

### Safety at PMES

For the third consecutive year, PMES has been awarded the prestigious RoSPA Gold Award



for Occupational Health and Safety. PMES ensures that health and safety are key to its business management processes. This year Tony Overbury, Safety Representative at PMES (second from right), collected the award on behalf of Ultra.

### Ultra team receive Minister's award

The Dismounted Counter Mine Capability (DCMC) team at Command & Control Systems, together with its UK MoD customer, Manoeuvre Support IPT has been presented the Defence Equipment and Support Minister's Award by



Barones Taylor at the Ministry of Defence Main Building in Whitehall, London. The team received the award for the outstanding achievements in delivering the improved counter-mine capability into service with frontline troops in Afghanistan a year ahead of schedule.



THE FIRST OF FOUR ARTICLES THAT COVER THE BEHAVIOURS THAT ULTRA WANTS ALL EMPLOYEES TO EXHIBIT IN ALL THEY DO. THE RIGHT BEHAVIOURS, COMBINED WITH WINNING STRATEGIES AND A SUPPORTIVE CULTURE, DEFINE WHAT MAKES ULTRA A VERY SPECIAL GROUP



## Leadership, Entrepreneurship, Audacity, Paranoia



# LEAP

### ULTRA BEHAVIOURS

The four cultural behaviours of its people that are highly valued and encouraged by Ultra are:

**Leadership**

**Entrepreneurship**

**Audacity**

**Paranoia**

Together they make **LEAP**

### LEADERSHIP

Good leadership is extremely important, whether for a sports team or a business. Ultra is no exception. This article covers what leadership delivers to the Group and the mix of leadership styles that will get the most out of the Ultra team.

#### Leadership:

- determine the future direction and vision for the business
- communicate inspirationally that future
- inspire and energise your team, customers, suppliers and colleagues
- stimulate an innovative culture to release creativity
- enable business change to provide a greater and faster return on investment

### WHAT LEADERSHIP ACHIEVES

The box above summarises what Ultra's leaders achieve for the Group. In each business the management team strives to enlist the willing support of everyone in the company in order to achieve the agreed objectives for the business.

The future direction and vision for the business is determined through the strategic review process. In this a plan is agreed that targets growth over a five year period

for each of the market niches in which the company specialises. Growth is driven by thinking of innovative solutions to customer requirements that are different from and better than those offered by Ultra's competitors. This may include moving into adjacent market niches as well as deepening and broadening the Group's expertise and market penetration in existing niches.

The vision of where the business can get to in five years needs to be communicated throughout the team of people that will help achieve it – that is everyone in the company! This engenders a positive, 'can do' attitude so everyone believes that the growth and development of the business is challenging yet achievable.

A good manager enlists the willing support of his team in order to achieve the agreed objectives. To do this the leader must inspire team members to improve the way that work is done and to achieve more and more as time goes on. This is true not just at the business level but also at the level of each department or cell – each area of the company should have its own set of 'stretch objectives' that is logically derived from, and therefore support, the top level business objectives. As such, leadership is important at all levels of the company and is not solely the responsibility of senior management.

Innovation is fundamentally important to Ultra. The Group thrives by being 'best in class' at its broad range of specialist, niche activities. The finest leaders in Ultra are those that are best able to create the environment that encourages creativity and innovation. Every employee has great ideas about how to improve and innovate – real leadership turns these ideas into business reality.

We live in a competitive, ever changing world. Our competitors resent Ultra's success and constantly strive to undermine us. We must recognise these threats and make it difficult for competitors to steal our position. We must constantly worry about satisfying customers' real needs. Our businesses must change and adapt to these challenges and





Good leadership is extremely important, whether for a sports team or a business. Ultra is no exception.

one element of leadership is to drive the process of improving the way we do things in Ultra.

## LEADERSHIP STYLE

Leadership is always necessary in any endeavour, applying equally to politics, business and society. The Executive Team of Ultra seeks to encourage the most appropriate style of leadership for the businesses that we have in the Group.

The model used to be one of a heroic, authoritarian leader – picture the hardcharging, demanding CEO of old. Ultra prefers the more modern concept where leaders co-opt the support of their followers by inspiring them and appealing to their moral sense of duty and avoid acting like dictators. To be successful in appealing to followers' moral sense, leaders must ensure that their organisations have an appropriate supportive, learning culture. 'Soft power', based on persuasion and influence, should be used as a counterpoint to 'hard power', based on coercion and force, the 'stick and carrot' model. Some leaders fit the new model and rely on charisma and persuasion, while others typify the old authoritarian style. Ultra needs effective leaders that have the ability to utilise both approaches, depending on management circumstances.

Many years ago, Machiavelli famously concluded that a leader "ought to be both feared and loved, but as it is difficult for the two to go together, it is much safer to be feared than loved." In short, hard power was, in Machiavelli's time, thought to be preferable to soft power. Ultra adopts a much more modern view which comes to the opposite conclusion – soft power should predominate over hard power.

Modern leadership requires a judicious situational balance of hard power (getting people to do what you want, with carrots and sticks) and soft power (getting people to want what you want, with inspiration, charisma and persuasion). Managers must exercise judgement and the wisdom of experience in judging when to switch from soft persuasion to harder leadership methods. This is not easy – we often fail to combine hard and soft power very well so

### Entrepreneurship:

- encouraging the whole business to be entrepreneurial
- seeking competitive advantage through the differentiation of offerings
- ensuring competitions entirely biased in Ultra's favour, while behaving ethically
- seeking to enhance the offering by teaming either internally or externally e.g. to obtain capability, technology or market position

### Audacity:

- being daring or bold
- thinking of the bigger picture or opportunity
- being prepared to take a leap forward
- thinking the unthinkable to grow the business

### Paranoia:

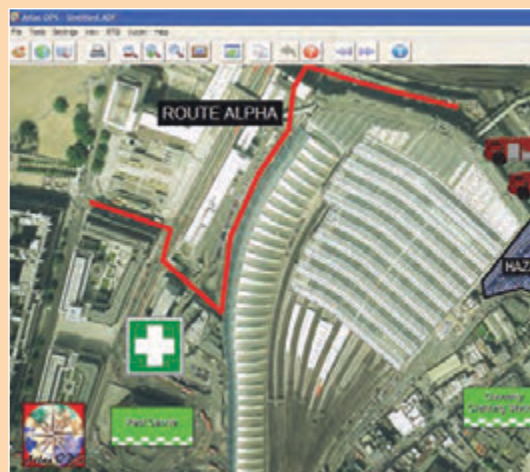
- considering risks and leaving no stone unturned to secure (market) opportunities
- recognising threats and making it difficult for competitors to steal our position
- constantly worrying about satisfying customers' real needs
- considering every possible angle when strategising bids to enhance our competitive position



## Atlas OPS at the Olympics

Ultra's Atlas OPS and AGP (Atlas Generic Planning) incident management software, designed by **Datel** and **Atkins**, has been purchased this year by two more special operations departments within London's Metropolitan Police force. They are SO1 (Specialist Protection) and SO14 (Royalty Protection).

The software was deployed to the Beijing Olympics for management of UK police protection duties. The software operates on a dedicated secure network and can quickly be deployed to facilitate the setting up of a mobile control room, ideal for this type of event.



# ULTRA bytes

### DATEL AIMS FOR NOTTINGHAM

Nottingham County Teaching Primary Care Trust (PCT) has become the first PCT to take **Datel's** Atlas Incident Management System (AIMS) as its management tool to plan for and manage major incidents, such as pandemic flu outbreaks. The intuitive style of the software was a key factor in deciding to procure Ultra's solution over others. The Trust will plan to use the solution to share information with other Nottinghamshire AIMS users, including the City and County Councils.

## A new type ammo and cannon fires up Electrics

Over the last few years a new type of ammunition and cannon has been developed by Cased Telescoped Ammunition International (CTAI), a joint venture between BAE Systems in the UK and Nexter in France. The ammunition is 40mm calibre, looks like a thin beer can and has greater fire power than similar calibre rounds. The



simple shape of the shells makes them far easier to transport and handle, and this has allowed the cannon to be smaller than its competitors. The cannon has a rapid, fully automatic ammunition selection and loading system.

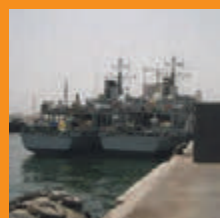
**Electrics** has been working with CTAI for four years to develop the electronic modules that load, control and fire the cannon. At the beginning of the program there were doubts whether the new ammunition technology would be accepted but it has recently been announced by the UK MoD that this cannon has been selected for the Warrior Turret upgrade and the Future Rapid Effects System.

## Next Generation Nuclear Propulsion Plant



**Command & Control Systems** has been awarded an initial contract as part of a strategic alliance with Rolls-Royce. This first award is to carry out research and provide advice on possible concepts for the protection and instrumentation systems used on

future naval nuclear reactor plant. Working in conjunction with Rolls-Royce, the current phase of activity will develop potential concept architectures for a new generation of control and instrumentation systems for use in Royal Navy submarines. This will range from the sensors and their interfaces to the collection and processing of data to protect and control the nuclear reactor plant.



## SUPPORT FOR ROYAL NAVY MINEHUNTERS IN THE GULF

**Sonar & Communication Systems** is supporting the Royal Navy minehunters on deployed operations in the Gulf. Ultra's frontline field engineers are now qualified to meet Contractor Deployed Operations (CONDO) criteria which include two days' training in preparation of what to expect in a hostile environment, extensive medical checks,

and visa approval for the Gulf region. The Royal Navy was very appreciative of the Ultra team's first five day operation where they refreshed the training of the crew of the minehunter to which they were attached.



# TCS showcases new radio



In August 2008, **Tactical Communication Systems** showcased its new high capacity band 4 (about 4.5 GHz) radio with an active link relaying 34 Mb/s of multi-media traffic. The locations were the **TCS** parking lot and a cottage driveway located 55km away. Invited guests included: Colonel Schaefer and his team from the US Army; Captain Alain Michaud from the Canadian Forces and his team from the Directorate of Land Control Systems, as well as a team from Thales representing the UK Falcon programme. All groups were very impressed with the performance of the new radio.



55 kilometres

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...taking a brief look at some of the latest news from  
around the businesses

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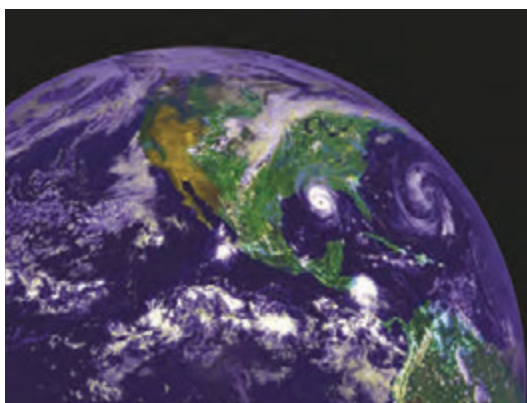


## PAS TURKISH WIN

**Precision Air Systems** recently won its first pneumatic systems contract with the Turkish research and development agency, Tubitak Sage. It is for the supply of pneumatic products that will be used for guidance detector cooling, fin deployment and fuel tank pressurization on a missile. The program was launched in July 2008 with first deliveries planned for January 2009. This award is expected to open significant additional opportunities for the supply of Ultra's pneumatic systems to customers in Turkey.

## GAPS in the market

The Global Awareness and Presentation Services (GAPS) is a web-based situational awareness system provided by **ProLogic**. It is receiving accolades from the United States Strategic Command in Omaha, Nebraska for providing an automatically generated view of the Strategic Command's operational environment to facilitate rapid decision making. GAPS brings a broad range of Command and Control, Intelligence, Surveillance, and Reconnaissance (C2ISR) information onto a common display. This is called the User Defined Operational Picture (UDOP) and allows enhanced collaboration between users. The underlying technology behind GAPS is commercial-off-the-shelf, which is configured by **ProLogic** to accommodate more than 20 different types of military data feed and is overlaid on a variety of commercial and government provided mapping software tools. Users have the option of visualising the operational picture through the more traditional Commercial Joint Mapping Toolkit (CJMTK) display provided by ESRI or displays based on AGI Component Technology and Google Earth. The UDOP capabilities are important to a range of US DoD operations. **ProLogic** is beginning to exploit its global UDOP developed for the US Strategic Command and is providing initial capabilities to customers in the cyber and space domains.



## electric arm reaches new opportunities



Earlier this year, **Electrics** was awarded a contract for a Translating Wire Linkage (TWL) on the new Boeing 747-8 series aircraft. The TWL is essentially an arm containing an electrical harness linking the fixed main wing structure to the moving leading-edge flaps. There are four TWLs per aeroplane. Boeing engineers were impressed by Ultra's innovative solution, which differed from their in-house design concept. The decision by Boeing to add **Electrics** to its list of suppliers is expected to open further opportunities to bid for work packages, and Ultra's specialist knowledge in this area is already proving interesting to other potential customers.

## Superior comms

In June 2008, **Audiopack's** customer, Sperian Respiratory Protection USA, was awarded a three-year contract by the Los Angeles City and County fire departments. Sperian will deliver 10,000 of its Warrior™ Self-Contained Breathing Apparatus (SCBA) over the period of the contract. Each Warrior™ SCBA will be equipped with an **Audiopack** CommCommand™ voice amplification unit. **Audiopack** will also provide via Sperian over 5,000 CommCommand™ radio communication interface systems. Jeff Shipley, Sperian's Warrior™ Product Manager, stated: "Superior communication products played a significant role in winning this Californian contract".



# Chief Executive's review



Since that start in 1993, Ultra has made a total of 30 acquisitions

This issue of UltraNews has been published just over fifteen years since Ultra was formed on Saturday 9 October 1993. The meeting at the lawyers' offices had started the previous day but the mountain of paperwork that had to be reviewed, initialled and signed was daunting and the meeting stretched through the night and into the following morning. Finally the deal was done and Ultra was ours – we had completed a management buy-out of the initial seven businesses from TI Dowty. The team had borrowed £19m and had sold shares to raise a further £19m from two Venture Capital (VC) companies. The debt was repaid in less than two years, well before the flotation of the Group on the London Stock Exchange in September 1996 that provided the VCs with their exit. That initial £19m of share value has grown significantly through the years as Ultra has prospered – the market value of the Group's shares is now around £800m.

Ultra has built a very solid track record of year-on-year success since its creation and is now seen as a dependable investment at a time when concerns about house prices and other factors are undermining confidence generally. The Group has achieved its target of being the 200<sup>th</sup> largest UK

company quoted on the London Stock Exchange. In fact, as I write, Ultra is ranked as the 171<sup>st</sup> company but undoubtedly the exceptional financial circumstances of recent times have aided this. We will have to wait to ascertain our true ranking as the financial markets return to more normal conditions.

Ultra's development over the years has been a mixture of organic growth topped up with acquisitions. A further three businesses, **Graytronics**, **ProLogic** and **AudioSoft**, have joined the Ultra family since the last edition of UltraNews. **Graytronics** has been absorbed into **SML Technologies** while **ProLogic**, a much larger business, is now part of **Information & Power Systems**, reporting to Rakesh Sharma. **AudioSoft** is part of Alan Barker's Tactical Systems division. I welcome these new joiners to the Group and am sure that they will continue to develop as part of Ultra.

Since that start in 1993, Ultra has made a total of thirty acquisitions and, after consolidation, has grown from the original seven to twenty-three businesses. Originally Ultra was solely based in the UK; now the Group has eleven businesses in the UK, ten in the US and two in Canada. This provides the Group with excellent access to two of the largest defence procurement budgets in the western world, in the US and the UK.

I am delighted that the Group's **Sonar & Communication Systems** business has been selected to supply the integrated sonar suites for the Royal Australian Navy's new Air Warfare Destroyers. The initial contract is worth over £34m and Ultra has committed to undertake the majority of the work in Australia. This heralds the start of another phase in the development of the Group as we build a capability in Australia that can address the fast growing markets in the Pacific Rim area – it is an exciting opportunity for many of Ultra's businesses.

Since the last edition of UltraNews, on 4 August Ultra announced its interim financial results for the six months to 30 June 2008. Revenue was up 20% compared to first half of 2007 of which an impressive 16% was organic growth with the balance being contributions from acquisitions. Profit before tax was up 16% and the Group's order book at the end of the period was valued at £645m. These results reflect the hard work of all of Ultra's employees. I, the Board and the Executive Team thank you for your continuing contribution to the Group's success.

We can not relax – we operate in a highly competitive world and must maintain the pace of Ultra's development. We must focus constantly on providing our customers with solutions to their requirements that are different from and better than those of our competitors. If we do this, we will continue to be a great team of which we will all be proud to be part.



# New divisional structure



**Alan Barker**  
**Managing Director, Tactical Systems**  
 Alan is based at **Tactical Communication Systems (TCS)**, Montreal, Canada. Alan joined the Ultra team when TCS was acquired in 2002.



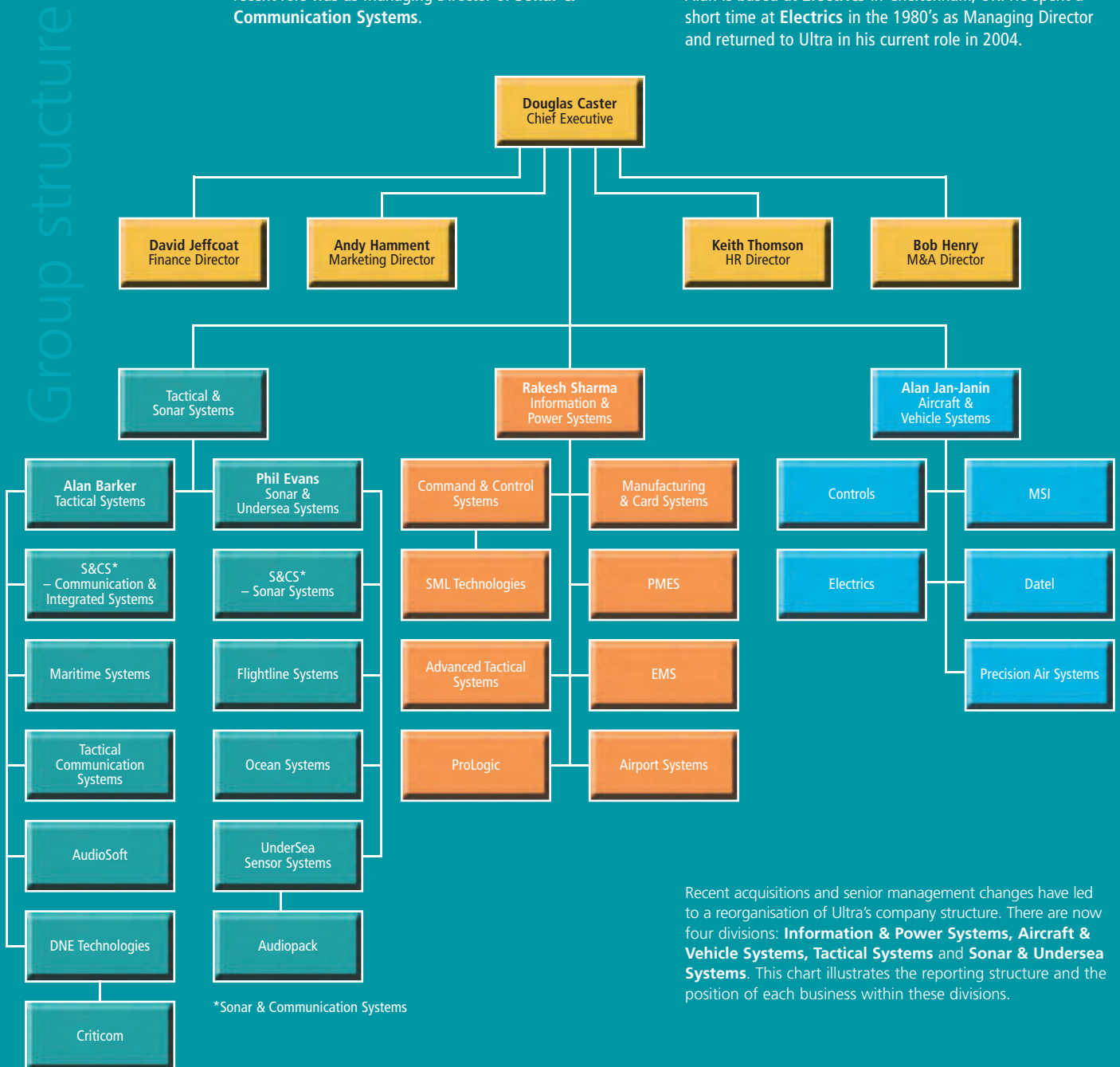
**Phil Evans**  
**Managing Director, Sonar & Undersea Systems**  
 Phil is based at **Sonar & Communication Systems**, Greenford, UK. Phil joined Ultra in 1988 as Materials Manger and has been promoted through the business, his most recent role was as Managing Director of **Sonar & Communication Systems**.



**Rakesh Sharma**  
**Managing Director, Information & Power Systems**  
 Rakesh is based at **Command & Control Systems** in Loudwater, UK. Rakesh began his career at **Sonar & Communication Systems**, Greenford and in recent years has worked at **Flightline**, PMES and again at **Sonar & Communication Systems** before running the Tactical & Sonar Systems division.



**Alan Jan-Janin**  
**Managing Director, Aircraft & Vehicle Systems**  
 Alan is based at **Electrics** in Cheltenham, UK. He spent a short time at **Electrics** in the 1980's as Managing Director and returned to Ultra in his current role in 2004.



Recent acquisitions and senior management changes have led to a reorganisation of Ultra's company structure. There are now four divisions: **Information & Power Systems**, **Aircraft & Vehicle Systems**, **Tactical Systems** and **Sonar & Undersea Systems**. This chart illustrates the reporting structure and the position of each business within these divisions.



# in focus

## PAS and Controls secure further F-35 contracts

**Precision Air Systems** has been selected by Lockheed Martin for the System Design and Development (SDD) phase for an advanced missile launcher to be fitted to the F-35 Joint Strike Fighter (JSF). The Advanced Rail Launcher (ARL) will incorporate a HiPPAG to cool the missile seeker on the ASRAAM missile. This project is being driven by the UK MoD for the 150 JSFs on order for use by UK forces. The contract gives Ultra the opportunity to demonstrate its capabilities and build relationships for future opportunities with Lockheed Martin. First deliverables are due in August 2010.

**Controls** has secured a contract from Pratt & Whitney to develop a common controller for the ice protection system on both the engine inlet and the lift fan of the F-35 Joint Strike Fighter. The lift fan is located just behind the cockpit and, together with the vectored thrust of the main engine, delivers vertical lift on the STOVL variant of the aircraft. The development contract is valued at \$21m and is expected to lead to production orders for the system.

### Pod exceeds customer expectations

**Sonar & Communication Systems** has successfully completed the first year of service of the Litening III Targeting Pods fitted to the RAF Tornado GR4/4A. The pod's high performance, combined with the Ultra video data link, exceeded customer expectations and has created continuing high demand for the pods from the RAF. Ultra, together with teaming partner Rafael, have consistently delivered a service which exceeded all contracted key performance indicators to the great satisfaction of the MoD and RAF.

## C&CS plays an instrumental part



As part of its continuing support to British Energy, **Command & Control Systems** has been awarded a contract to provide further safety protection instrumentation. The £0.7m contract is to design and manufacture replacement 11kV

undervoltage safety equipment for two of British Energy's nuclear power stations. The equipment provides a shutdown demand in the event of the loss of the 11kV supply to critical parts of the reactor plant. The Ultra team is based at Winfrith, Dorset, and this work represents the final phase of a multi million pound upgrade programme that has been underway for several years. Working in close collaboration with British Energy, the design is proceeding to plan with installation of the equipment scheduled for planned maintenance and upgrades at the stations in 2010.

## PacketAssure2 on the move

Following the successful launch of its PacketAssure, **DNE Technologies** has commenced development of the next generation of Internet Protocol secure tactical communication equipment, PacketAssure 2 (PA2). Like its predecessor, PA2 ensures the predictable and timely delivery of voice, data and video information. This next generation incorporates highly advanced technologies that will help Ultra's customers complete their transformation to an internet service oriented architecture over the next decade. Developing the PA2 is the largest new product investment programme ever undertaken at DNE. Momentum is gathering quickly as early engineering designs are prototyped and prospective customers are briefed. Development plans call for demonstrable PA2 systems late in 2009, with general availability early in 2010.



## More payloads delivered by PAS



In July 2008 **Precision Air Systems** completed deliveries of its weapons ejection systems for Lot 3 of Boeing's Small Diameter Bomb (SDB) programme. The SDB Program, currently in service on F-15 aircraft, was Boeing's fastest ever program from design to entry into service. Since then over 600 SDB systems have been delivered. **Precision Air Systems** has recently secured a further order (Lot 4) for 367 systems.



# MS



## NIM's the word

To meet new Airbus requirements for the A400M Cargo Handling System, **Electrics** has designed a new Network Interface Module (NIM) which incorporates a change of micro-processor and additional motor drive capability. The NIM controls the mechanical assemblies that hold or release the cargo and is a safety-critical item. Following extensive engineering discussions with the customer, AAR Cargo Systems Corporation, and the end customer, Airbus, to agree the new specification, a £16 million contract with AAR for NIM2 was signed in June 2008.



## Deep Siren Trials

In June, US submarine trials were conducted with the **Maritime Systems'** Deep Siren Tactical Paging (DSTP) system at the Atlantic Undersea Test and Evaluation Center (AUTEC) off Andros Island, Bahamas. The trial was a great success, demonstrating the unique ability to communicate reliably through the Iridium satellite network via buoys deployed from a submerged submarine. Underwater communication ranges exceeding 20 nautical miles from the buoy to the submarine were proven. Deep Siren forms a key component of the US Navy's Communications at Speed and Depth programme. Congratulations to the Deep Siren Team.



### MSI's Portable Ground Control System

In the heat of battle, having the right technology is critical. MSI's Portable Ground Control System is a low-cost, lightweight (<10 lbs), portable, rugged, reconfigurable system for the control of Unmanned Air Vehicles. MSI's patented, dual-handled, 'game style' control also provides an efficient mechanism for collaboration and sharing of data among troops. For a generation of soldiers who grew up on joysticks and game controls, MSI's control unit offers an easy and effective transition from video games to military applications.

## Ultra's Incident Management System (AIMS) goes regional

AIMS is the UK's leading incident management software currently in use with over 80 local authorities. Recently the software has been deployed in several regions and accessed via **Datel's** secure hosting environment. Earlier in 2008 eight local authority districts in Sussex were the first in the UK to use this method of accessing the AIMS software. This will allow all districts to work both in their own local environments, and also share in managing



events that may involve several districts. The AIMS software has since been deployed in Cornwall and Suffolk regions to connect not only local government, but other emergency services and local partners, allowing multi-agencies to work in a coordinated and integrated manner.



# upping our game

An overview from **Bob Henry**



*"...we now have an extensive 'watch list' of potential acquisitions and a steady stream of 'active' projects that will support our growth objectives."*

SINCE THE CREATION OF ULTRA ELECTRONICS IN 1993, THE COMPANY HAS DEMONSTRATED CONTINUOUS, STEADY GROWTH, BOTH ORGANICALLY AND THROUGH THE ACQUISITION OF SUITABLE NICHE COMPANIES. NEVERTHELESS, BY THE END OF 2006, IT WAS BECOMING APPARENT THAT ULTRA NEEDED TO INCREASE ITS FOCUS ON ACQUISITIONS TO MAINTAIN THAT PORTION OF THE OVERALL STRATEGY WHILE REFINING THE OVERALL ACQUISITION PROCESSES.

In response to these challenges, Ultra now actively encourages all its businesses to identify suitable companies to join the Group. To support this initiative, a two day acquisition workshop was held in Boston in April 2008. The workshop provided guidance to North American management team members who are likely to become involved in future deals. Over 30 people attended, including the Presidents of most of Ultra's North American businesses. A similar event is planned for the UK businesses in January 2009. To underpin the renewed focus, Bob Henry was appointed Mergers & Acquisitions Director to co-ordinate acquisition activity, refine the processes, support and guide acquisition teams and to streamline reporting to the Board.

As a result of these efforts, we now have an extensive 'watch list' of potential acquisitions and a steady stream of 'active' projects that will support our growth objectives. The pace of acquisition activity has indeed changed and, in the year to August 2008, Ultra was able to complete seven transactions, compared with just two in each of the preceding two years. From the original seven businesses in 1993, there are now 23 on the organisation chart. **AudioSoft**, the latest business to join the Group, was our 30th acquisition and that number can be expected to increase further as Ultra continues to supplement organic growth with strategic acquisitions.

*"Since the creation of Ultra Electronics in 1993, the company has demonstrated continuous, steady growth, both organically and through the acquisition of suitable, niche companies."*



In early October eight Ultra businesses exhibited at AUSA in Washington DC, with staff from a further three businesses visiting the exhibition. This is the largest representation of Ultra in North America to date, now equalling the exhibitions that Ultra attends in the UK and Europe. The stand location and much improved display enabled Ultra to advance the company profile in North America. AUSA is a significant annual exhibition and conference held by the US Army Association.

## INTER-BUSINESS COLLABORATION

As the expression goes: there's strength in numbers. With that in mind, materials and operations management staff from the North American Ultra businesses held a forum to discuss issues, market conditions, best practices, joint procurement programs and other topics that could benefit from the combined experiences of the various businesses and their senior operations and materials personnel. The Forum was held on 11 June at **DNE Technologies** in Wallingford, Connecticut. The enthusiastic group, representing eight US and two Canadian Ultra businesses, took part in an active and open discussion, sharing successes and concerns, and creating a platform from which to move forward. Action items include utilising the Ultra Group Intranet to share critical data and input; leveraging the combined buying power to create positive collaborative purchasing programs; review carrier usage to reduce transportation costs and other initiatives. As well as the obvious business benefits, the forum also provided an opportunity for Ultra staff to engage with colleagues they would not ordinarily meet.

## WHAT DO THEY DO?

**Criticom** is pleased to celebrate its first full year as a fully integrated Ultra family member. Located in Lanham, Maryland in the United States, **Criticom** supplies and supports video conferencing and network integration systems providing secure and non-secure video conferencing and collaboration solutions to government clients, primarily the US Department of Defense. **Criticom** is renowned for its ISEC™ secure/non-secure video conferencing switch system, which delivers video signals optically over ISDN and IP fibre-optic networks at the flip of a switch. **Criticom** is the only manufacturer of the ISEC, which is a US Department of Defense, TEMPEST-approved and DISA/JITC certified product.





# welcome to...

...MISL, Harris, Graytronic, ProLogic and AudioSoft



## MAGNETO INDUCTIVE SYSTEMS

In May 2008, Ultra announced the completion of the acquisition of **Magneto Inductive Systems Ltd (MISL)** of Canada and the USA. MISL makes magneto inductive guidance, signalling and communications equipment. These systems can operate not only through air, but also through water, sediment, rock and most man-made structures that radio and acoustic systems cannot penetrate. MISL's systems are also highly resistant to conventional radio countermeasures such as jamming and scanning.

MISL will be integrated into Ultra's existing **Maritime Systems** business in Halifax, Nova Scotia.



## HARRIS ACOUSTICS PRODUCTS

In the Spring issue of UltraNews, the acquisition of **Harris Acoustics Products** was a 'stop press' announcement. Harris specialises in the design, supply and support of submarine acoustic transducers and arrays. The transducers create the acoustic pulse or 'sonar ping' in the water and receive the resulting echo return from potential targets. Multiple transducers are assembled by **Harris** into arrays to allow higher power acoustic transmissions and an improved directional capability of the sonar system. Established in 1951 in Connecticut, Harris is now based in Massachusetts and will be integrated into Ultra's existing **Ocean Systems** business in Braintree, Massachusetts.



## PROLOGIC

In June 2008, Ultra completed the acquisition of **ProLogic Inc.** The company has a number of facilities across North America. **ProLogic** provides specialised products and solutions for mission-critical enterprise IT, tactical data communication systems and intelligence processing infrastructures, as well as independent IT consulting services to US government customers. The core competencies of **ProLogic** are systems engineering and integration, software development and enterprise engineering and operations.



## GRAYTRONICS

Ultra recently acquired **Graytronics Ltd**, a world leader in marine communication and intercom systems. The **Graytronics** communications systems are rugged audio intercom systems providing crystal-clear audio and high performance under extreme conditions. The systems are used by military, coast guard, search and rescue, law enforcement and commercial customers world-wide, including Royal Navy and Royal Marines, MoD Police, Metropolitan Police, RNLI, BP and US Coast Guard. The communication and intercom systems enable multiple radios (secure and unsecure) to be integrated with crew intercoms and marine safety and ballistic helmets. The **Graytronics** business has been merged into Ultra's existing **SML Technologies** site near Southampton, UK, which has further strengthened its position as a leader in the provision of marine situational awareness, asset tracking and force protection systems.

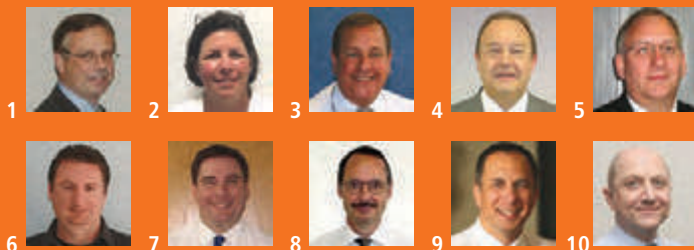


## AUDIOSOFT

In September 2008, the Group announced the acquisition of **AudioSoft**, a business that provides data recording and analysis solutions that allow organisations to record, preserve and rapidly to locate important information. **AudioSoft's** systems are used in a wide variety of markets including defence, air traffic control, law enforcement, emergency services, court rooms and national security. Its mission-critical solutions allow the capture, playback and analysis of various data types and the output of the systems is admissible as evidence in court.



# people in the NEWS



**1. Bill Sapp** has been appointed President of **Criticom**. Bill joins Ultra from AT&T where he held the position of DoD Sales Centre VP for Government Solutions.

**2. Anne Jennings** has been appointed Vice President, Finance at **MSI**. Anne previously worked at The Connecticut Spring & Stamping Corporation.

**3. Nigel Mackie** has been appointed Marketing Director of **Communication & Integrated Systems** within **Sonar & Communication Systems**. Nigel joins Ultra from Lockheed Martin UK INSYS.

**4. David Sammons** has been promoted to Managing Director at **PMES**. David was previously Finance Director at **PMES**.

**5. Norman Thompson** has been appointed Operations Director at **PMES**. Norman held the position of Manufacturing Director at General Dynamics UK and most recently Raytheon Systems before joining Ultra.

**6. Tony White** has been promoted to Director of Advanced Technology at **Electrics**. Tony was previously Chief Software & Systems Engineer.

**7. Mike Clayton** has been promoted to Managing Director at **Command & Control Systems**. Mike returns to Loudwater after two years as Managing Director at **SML Technologies**.

**8. Bill Organ** has been promoted to Human Resources Director at **Electrics**. Bill has held the position of Human Resources Manager since 1999.

**9. Iwan Jemczyk** has been appointed Acting President at **Tactical Communication Systems**. Iwan joined TCS in March 2007 and was most recently Vice President Engineering.

**10. Paul Leonard** has been promoted to Operations Director at **Sonar Systems** with **Sonar & Communication Systems**. Paul joined Ultra in 1997 and was most recently the Business Unit Manager, Countermeasure Systems.

## long careers... & new careers



### 30 + 20 = 50 years service at Electrics

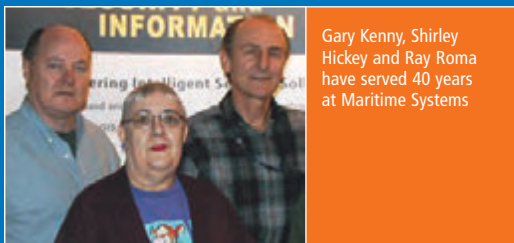
Husband and wife, Tony and Dawn Stone have clocked up 50 years service between them. Both began at different businesses: Dawn arrived at **Electrics** from Dowty Group Services Ltd and Tony came from Dowty Fuel Systems; both were based at Arle Court, Cheltenham. Dawn has held a number of personnel and secretarial roles and is currently secretary to the marketing team. Tony is known to all as Mr Fix It but is officially Maintenance Fitter. In 30 years, Tony has lost count of the number of times the office has been reorganised.

Tony and Dawn Stone seen here being congratulated by Mark Doyle, Managing Director, Electrics.

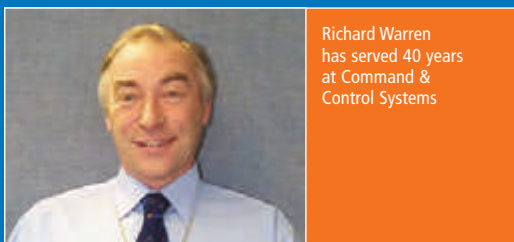
## long service

Three employees all celebrated 40 years of service at **Maritime Systems** this year: Gary Kenny, Machinist & Union President; Shirley Hickey, Assembler and Ray Roma, Technical Inspector.

Some other 40 year awards include Dick Washbourne, Operations Manager at **Precision Air Systems** and Richard Warren, Quality Assurance Engineer at **Command & Control Systems**.



Gary Kenny, Shirley Hickey and Ray Roma have served 40 years at Maritime Systems



Richard Warren has served 40 years at Command & Control Systems

## Student sponsorship – Arkwright scholarships



The days of large classes of engineering apprentices are long gone, so how does industry replenish its engineers? In the UK, Ultra has joined the Arkwright Scholarship Trust programme. Arkwright has a proven track record in encouraging and stimulating talented 15/16 year old students to take up engineering or technological careers by awarding Scholarships during 'A' Level/Scottish Highers which are funded by industry partners and charitable trusts. Scholars are actively encouraged to develop the partnership with their sponsor which can result in work experience, specialist support for their design and technology project and even sponsorship through university. With the support of Keith Thomson, Group Human Resources Director, Ultra has selected two students to sponsor through their sixth form studies over the next two years and their university studies thereafter. By chance, both scholars are based in Gloucestershire, so **Electrics** and **Precision Air Systems** are involved in providing guidance and work experience. Liam Newborough will be studying design technology, mathematics, physics and chemistry. Adam White will be studying design technology, mathematics, physics and geography. The two scholars will be attending Sir Thomas Rich's School, Gloucester.





**Fadia**

**Fadia Ullah**, Senior Commercial Specialist, Joined Ultra Electronics, **Airport Systems** in April 2001. She lives in Manchester, UK.



**Moira**

**Moira Young** joined **Flightline Systems** in August 2008 as Marketing Director. Moira has considerable prior experience with a background in RF communications, wireless technologies and a degree in Optics. Moira joins us from General Electric MDS where she was the Director of Marketing for eight years. Moira is a native of Rochester where she still lives.



**Steve**

**Steve Parsons**, Business Development Manager, **Maritime Systems**. Employed since 1998, Steve leads the marketing and sales for the Magneto Inductive business group. Born and raised in Corner Brook, Newfoundland, currently residing in Dartmouth, Nova Scotia, he is married to wife Jane and father to Clare, Sarah and Sam.

### What do you most enjoy about your job?

Liaising with customers from around the world. It's a challenge adapting to their culture and way of working and there is a sense of achievement when a contract is finalised.

The variety of opportunities uncovered as **Flightline** grows.

The challenge of delivering highly innovative MI system technology to new customers in new markets.

### Most important lesson learned to date during your career?

That working independently needs to be tempered with the ability to respect and use the talents of my colleagues. Each team member has their own job to do but our success depends on everyone performing together.

The importance of the commitment to and passion for growth as an individual and an organization. Ask for the bad news as well as the good news; listen and change. It is the only way to succeed over the long term.

'Talk less, listen more' and 'the customer is always right'.

### Your favourite hobby/pastime?

Well I would have said rollerblading but my first try this year ended rather abruptly when I fell damaging my coccyx! That led to three months of treatment so I've therefore decided it's safer to hold Tupperware-type parties for friends from now on!

I enjoy playing golf, dancing and listening to music.

I play a lot of sports including football, soccer, tennis and golf. I also play guitar and own a 1962 Fender Stratocaster (Olympic White à la Jimi Hendrix).

### Funniest situation that you have had to deal with at work?

Needing an iron in a Moscow hotel, I mimed ironing gestures to the bewildered receptionist. I found one in a storeroom but was caught and escorted to reception with the offending article. They let me use it but it later disappeared from my room. I secretly appropriated another one and hid it under my bed for the rest of my stay!

Teambuilding event that was a cooking contest. My team was made up of hyper competitive non-cooks. End result: our meal was excellent, the kitchen a disaster, we were covered in food and the contest deemed a draw.

While doing navigation trials in the coastal waters of Nova Scotia, I was attacked by a swarm of nasty green crabs who took a liking to our underwater beacon. I wasn't able to retrieve the equipment until the tide receded and the crabs reluctantly went away!



## Sand yachting in High Wycombe?



Mark Sidey, a Test Engineer at **Command & Controls Systems** has regained the title of British Sand Yachting Champion for 2007/2008. Training takes place on an airfield, with regular competitions around the UK beaches

outside of the summer season. Speeds of up to 70mph can be achieved. Mark has also achieved 3rd in the 1993 European Championships and 4th in the 1994 World Championships.

## Motivate to Move programme



**Measurement Systems Inc** recently concluded its Motivate to Move wellness program, an eight-week fitness programme designed to educate and assist employees achieve their health and fitness goals. The programme was created and implemented by Faith Mott, HR Associate, assisted by Tony Jacques, Senior Designer, whose sports expertise

ensured the success of the many team events. Program highlights included; athletic competitions & activities, health and wellness information and incentives for high achievers and competition winners.

## Race for life in Stafford...

In July, Helen Nash, a secretary at **PMES**, took part in the Cancer Research UK Race for Life at Shugborough Hall, Staffordshire. This is a charity that is very close to Helen's heart as last year she underwent intensive treatment for cancer. With the support of family, friends and work colleagues she raised over £500 for the charity.



Helen (left of the picture) is shown with her family at the end of the race.

Sam Elwell (son of Mike Elwell, Bid Manager at **Datel**) with Deepdale Duck.



## Inflatable slide for the children?

The rain held off for **Datel's** first Family Fun Day on the green at the back of **Datel's** new facility. The afternoon was officially opened by Preston's very own local hero, the Deepdale Duck, Preston North End's football mascot. Entertainment included a 20ft inflatable slide, bouncy castle, inflatable penalty shoot-out competition, tombola and coconut shy. Although the event served as a social gathering for staff, over £660 was raised for nearby St Catherine's Hospice.

## Controls and S&CS Fun Day!

Colleagues from **Controls** and **Sonar & Communication Systems** in Greenford got together with family and friends to enjoy their annual Fun Day in August. The event took place at a local sports ground with games and entertainment.



## Speed merchants at Criticom

Colleagues at **Criticom**, Bill Sapp, President, and Charlie Crawford, Vice President of Operations, are both keen motor sports enthusiasts.



Pictured here is Charlie Crawford in his Mazda Miata at a local Washington D.C. Sports Club of America (SCCA) event. Bill and Charlie are both long term SCCA competitors with numerous wins

and titles. Over the past 20 years and on more than one occasion, Bill and Charlie have crossed paths as competitors at various National Events. While they enjoy the head to head rivalry, both prefer competing for the same team at **Criticom** today.

## the Wild South West

In July, 126 employees and family from **Electrics** enjoyed a Summer Rodeo and Hog Roast at a local Sports and Social Club. This time, despite a barn dance and caller to excite the rain, the bad weather held off and a pleasant evening was had by all. A Gloucester RFC ball was raffled raising £200 for the Army Benevolent fund. The event was however a poignant reminder of last year's floods and those still affected in the aftermath.



### FEEDBACK

I hope you enjoy this issue of **Ultra News**. If you have any comments on the new look **Ultra News** or ideas for future issues please let your local contact or me know  
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# ULTRA NEWS

## Crisis management system contract for Ultra



**Douglas Caster** was presented with his CBE by Her Majesty Queen Elizabeth II at Windsor Castle on 7 April 2009. More details are given in the article on page 14



# Ultra to improve crisis response planning

THE DEVASTATING FLOODS OF 2007 IN THE UK HAVE BEEN DESCRIBED AS THE 'BIGGEST CIVIL EMERGENCY IN BRITISH HISTORY'. THE FLOODS INUNDATED HUGE SWATHES OF THE COUNTRY, HAVING A DRAMATIC EFFECT ON ELECTRICITY SUBSTATIONS, WATER AND SEWAGE TREATMENT WORKS, AS WELL AS THE ROAD AND RAIL NETWORKS; THREE HUNDRED AND FIFTY THOUSAND PEOPLE WERE WITHOUT DRINKING WATER, SOME FOR OVER TWO WEEKS, AND MANY THOUSANDS LOST ELECTRIC POWER.

While the emergency services responded admirably within their capabilities, their reaction was hampered or delayed by the lack of a comprehensive information communication system. The many aspects of the disaster revealed a requirement for a system which allows those who prepare for and respond to emergencies across the nation to share critical information.

Consultation between government departments and associated agencies established that an internet based information source and sharing facility would be needed to improve response to critical emergencies. Subsequently the Civil Contingencies Secretariat in the Cabinet Office of the UK Government has been developing a strategy for resilient telecommunications for an improved secure method of

communicating and sharing resilience (rescue and recovery) information in the aftermath of large scale incidents.

**Datel** has been working with BT (the largest UK telecommunications provider) to devise and establish a National Resilience Extranet (NRE) for information sharing by the emergency services and resilience community; those who do valuable work tackling disaster areas and restoring them to their original state. The £2m contract to develop and

## National Resilience Extranet benefits:

- Secure information sharing
- Secure web-based environment
- Collaborative working between all levels of resilience community
- Reduces administration burden of sharing information
- Establishes a level of standardisation and interoperability

The extranet will help the resilience community to plan for and manage emergencies in a more integrated and consistent manner

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stop press...



**ATS named in Best Companies to Work for in Texas 2009**  
In October 2008, **Advanced Tactical Systems (ATS)** was recognized as being in the top 100 Best Companies to Work for in Texas! This statewide

survey and awards program was created in 2006 as a project of TEXAS MONTHLY to identify, recognize and honour the best places of employment in Texas. Companies from across the state are judged by their workplace policies, practices and demographics, and an employee survey is taken to measure the employee experience. In January 2009, Michelle Friesenhahn, VP of Human Resources, and John McAlonan, President, attended the Texas Association of Business 2009 Annual Conference to receive the award.

## Forward Look Sonar Trials

In January and February 2009, **Sonar Systems** formerly part of **Sonar & Communication Systems**, undertook a series of qualification tests on its new Artemes forward look sonar system. This development program, under contract to a US client, has been executed in less than one year from contract



award to delivery. The sonar provides a three-dimensional look ahead at the sea floor and will be used for target identification and obstacle avoidance. Tests at a UK acoustic test facility were followed by at sea demonstrations to the client and sponsor.

## Export success

**Precision Air Systems** has made the first deliveries to BAE Systems of its innovative HiPPAG airborne compressor for Eurofighter Typhoon aircraft destined for the Kingdom of Saudi Arabia. This export contract for Typhoon is one the first export successes for the aircraft.





## M&CS gets faster!

**Manufacturing & Card Systems** based in Weymouth, Dorset, has established a new Contract Electronic Manufacturing (CEM) facility in the Cambridge area to be closer to its customers north of London. By offering a 'rapid-prototyping' service as well as small batch PCB manufacture, the new facility will specialise in helping customers bring their new products to market swiftly and with the minimum of risk. The new business unit at Sawston, south of Cambridge has a full Europlacer 0201 SMT line as well as hand assembly, rework and meeting facilities. The unit is linked to the Weymouth Enterprise Resource Planning (ERP) system and supply chain infrastructure and provides a smooth migration path to the Weymouth operation for higher volume assembly. Cambridge was chosen because it is a thriving centre of excellence for the development of new high technology products.

## 1,000 aircraft active noise control systems delivered

**Controls** has delivered the 1,000th aircraft Active Noise Cancellation (ANC) system. This system was delivered to Bombardier's Toronto facility as standard equipment for its Q400 regional turboprop aircraft. Developed fifteen years ago, the system uses a number of actuators attached to the airframe structure to introduce into the passenger cabin noise that is equal and opposite to that of the propeller. These two noises cancel each other creating a quieter and more relaxed passenger environment.

The first system entered service in 1994 on the Saab340 aircraft, following which it has been used in all Saab 2000s; Bombardier's Q-Series turboprops (the 'Q' is for Quiet!) and its Challenger business jet. Systems are also fitted to Hawker Beechcraft's King Air corporate turboprops and, most recently, in the cockpit of the USAF C-130 military transport aircraft. Ultra's largest system will be fitted in the cargo hold of the Airbus A400M military transport aircraft where over two hundred actuators will quieten the noise created by the four large propellers.

The 1,000th system entered service in April with Flybe, the UK regional airline based in Exeter which is the world's largest operator of the Q400. This latest aircraft takes the Flybe fleet to 50. An event celebrating the milestone was attended by Kim Wrigton, Rob McDonald and Julie Utton from **Controls** and Stefan Kontoravdis, Director of Engineering at Flybe.



Julie Utton, Stefan Kontoravdis and Rob McDonald with Q400



implement the NRE was awarded by the Cabinet Office to **Datel** and BT in September 2008. The development of the system began in January 2009 with an initial 'go live' date for partial capability in late 2009.

The NRE is a secure resilient internet browser based collaborative working tool. It enables efficient and secure exchange of information during routine operations, when planning the response to civil emergencies and during the emergencies themselves. It will also be capable of providing optional Emergency Information Management (EIM) and Geographic Information System (GIS) by utilising **Datel's** existing Atlas AIMS and Atlas OPS software products.

When launched, the service will be available to approved user organisations on a subscription basis. It is expected to be used by over 1,000 organisations, including first responders, government departments and agencies and local authorities. The service will run across Government Secure Intranet (GSI) accredited networks, but can also be accessed via a secure internet connection.



Rakesh Sharma greeting Dr Noel Guckian

### Ultra hosts reception in Oman

In January 2009 **Command & Control Systems** and **Airport Systems**, supported by **Dascam**, hosted a reception at the British Embassy in Muscat. It was attended by Her Majesty's Ambassador to Oman, Dr Noel Guckian, OBE, and other VIPs, dignitaries and business people. The principal host for Ultra was Rakesh Sharma, Managing Director of **Information & Power Systems**. The evening proved a huge success, launching Ultra's long-term business interests in the country. Supported by UK Trade and Industry staff, the

event enabled the team from **C&CS** and **Airport Systems** to meet with key Oman and UAE personalities and to demonstrate the breadth of the Group's innovative capabilities.

### Long term agreement for electrical starting system

**PMES** has been awarded a twenty-five year long-term agreement to supply the Electrical Start Systems (ESS) equipment for two models of Rolls-Royce industrial gas turbines. The initial order, worth in excess of £5m, requires deliveries to commence in late 2009. The ESS equipment will not only improve start-up

performance but also provide Rolls-Royce with a more cost-effective, through-life solution to the challenge of starting large gas turbines in difficult environmental conditions. The supply includes an Ultra-designed power-dense motor and controller.

### AudioSoft celebrates contract win in South America

After an extremely competitive tendering process, **AudioSoft's** digital recording solution AudioPC has been selected by the Brazilian Aeronautical Commission, CISCEA, to provide voice and

radar recording systems for a further twelve airports across Brazil. This contract win, worth in excess of £2m, follows on from earlier awards in 2002 and 2005 for **AudioSoft**. This brings to over thirty the number of CISCEA's airports in the region using Ultra's digital recording technologies.





THE SECOND OF FOUR ARTICLES THAT COVER THE BEHAVIOURS THAT ULTRA WOULD ENCOURAGE ALL EMPLOYEES TO EXHIBIT IN ALL THEY DO. THE RIGHT BEHAVIOURS, COMBINED WITH WINNING STRATEGIES AND A SUPPORTIVE CULTURE, DEFINE WHAT MAKES ULTRA A VERY SPECIAL GROUP

# Leadership, Entrepreneurship, Audacity, Paranoia

# LEAP

## ENTREPRENEURSHIP

As George W. Bush allegedly said, 'The French don't have a word for entrepreneur'. Of course it's not true; the term 'entrepreneur' was first coined by a French economist, Jean-Baptiste Say in the 19th century, but it was quickly embraced by American economist Adam Smith in his book, 'The Wealth of Nations' in 1776. In this article we will take a look at what Ultra means by the term 'entrepreneurship', the kinds of behaviours we want it to drive and how it relates to some of our other key values.

## ENTREPRENEURIAL QUALITIES

The idea of an entrepreneur as a gifted or far sighted individual is well known. Of late, it's been fostered through television programmes like Dragon's Den and The Apprentice in the UK and the US. In these programmes, aspiring entrepreneurs are tested and challenged in harsh interviews with inquisitors who delight in proving that the aspirants are not really entrepreneurs!

It is very different in Ultra, where entrepreneurial qualities (or behaviours) are identified as straightforward things that we can all do in our day to day jobs. Examples are:

- demonstrate high drive and energy
- take the initiative and accept personal responsibility
- take a longer-term perspective
- undertake continuous and pragmatic problem solving
- set clear goals

These reflect the original meaning of the word entrepreneur – someone who undertakes to do something in business. Entrepreneurship is not a gift – it is a set of skills that we can all acquire and use.

One of the other key attributes of entrepreneurship is the ability to identify opportunities. Again, it has been shown repeatedly that the successful entrepreneur:

- spots gaps in the market (seeks new opportunities)
- moves quickly (agility and responsiveness)
- offers novel solutions (innovation)

The alignment with Ultra's core values is clear. We want to be able to respond to opportunities with differentiated solutions that are innovative, whether technically or commercially and demonstrate the agility and responsiveness inherent in the business. We want to be different from and better than the competitor in the eyes of the customer.

## ENTREPRENEURIAL ACTIONS

What is the role of an 'entrepreneur' in Ultra? Adam Smith identified two as key;

- to introduce new ideas
- to energise the business processes

These concepts are simple and straightforward to understand. They require us constantly to innovate and not to sit back and risk becoming complacent about our success. This is succinctly summed up in a quote from Joseph Schumpeter in 1934 who wrote:

*"Entrepreneurs are competitive and always strive to gain an edge over their competitors. If they consolidate and slow down, they revert to being 'ordinary' managers".*

Each Ultra business must maintain continuous close contact with its customers so that it may understand clearly what the real issue is that the customer is trying to resolve. Ultra businesses should be perceived by customers as the organisation to turn to when an innovative solution is required to a difficult problem.

## ENTREPRENEURIAL ORGANISATIONS

So far, we have considered how people in the business behave as individuals. It is really important that each of us recognises that, whatever role we play in Ultra, we can work in an entrepreneurial way. But for entrepreneurship to be part of the Group's culture, there are things that we have to do as a business team. We must create an environment that nurtures and encourages entrepreneurial behaviours. To do this, we need businesses to:



## ULTRA BEHAVIOURS

The four cultural behaviours of its people that are highly valued and encouraged by Ultra are:

**Leadership**

**Entrepreneurship**

**Audacity**

**Paranoia**

Together they make **LEAP**

- be supportive, open and communicative
- harness lessons from experience
- be change oriented

In an entrepreneurial organisation, there must be significant emphasis on the successful management of change. Whilst other aspects of management focus are important (organisation, strategy, cost control, etc.), change management has been proven to be the most important factor in creating an environment that is both innovative in its outlook and entrepreneurial by nature.

Combined with this change-oriented outlook, one other factor separates the successful businesses from the failures. It was identified in research by Mark Casson, an economist, who summarised it as:

*"It is judgement that differentiates the successful entrepreneur from the failures; it is based on learning from experience".*

Again Ultra's values coincide. We believe in taking measured risks, and it's captured in the words that you see on many Ultra publications:

### INNOVATION THROUGH EXPERIENCE

The consistent demonstration of good judgement is the quality that differentiates the successful entrepreneur from the failure – entrepreneurship is based on learning lessons from experience.

No organisation gets it right every time but entrepreneurial businesses learn their lessons, constantly improve and go on to make better judgements next time. By this consistent focus on doing everything better next time, Ultra will demonstrate its entrepreneurship and maintain its track record of successful growth.





## Flightline Systems selected for India

The Boeing Company has selected **Flightline** to provide Anti Submarine Warfare (ASW) receivers to support its award from the Government of India. Flightline will provide eight software-defined, wideband receivers for the initial purchase by the Indian navy of the P-8I long-range maritime reconnaissance and ASW aircraft. It is planned that up to 30 aircraft could be purchased over the life of the program. **Flightline** was chosen as a result of its track record of innovation and experience in receiver development, its proven capabilities and its continued relationship with Boeing on Maritime Patrol Aircraft (MPA). Ultra's advanced receivers are currently installed on a wide variety of MPAs and ASW aircraft, both fixed and rotary wing.



# ULTRA bytes

## Reputation of Airport Systems grows in China



L-R Ultra staff Cheney Ji, Graeme Stacey, Jenny Lawton, Zhang Ming and Li Jian Wei with Ultra's system in the Airport Operations Centre at Shanghai Pudong.

In September 2005, **Airport Systems** won a contract for the flight information system integration at Shanghai Pudong International Airport Terminal 2. With this win, Ultra entered mainland China, a developing market with huge potential

opportunities. In March 2008, the same month that Heathrow Terminal 5 opened, Shanghai Terminal 2 opened successfully; its operations controlled by Ultra's powerful airport operational systems – the result of 27 months hard work by the Ultra team.

Since then, Ultra's excellent reputation for airport systems integration has been further enhanced in China. In June 2008, Shanghai Airport Authority also awarded **Airport Systems** the contract for the system integration for the new west terminal of Hongqiao airport, the domestic airport in Shanghai. The new Hongqiao west terminal will open in March 2010 in time to support the Shanghai Expo 2010. As a result of these two projects and the completed Air China baggage reconciliation system project (2007/08), Airport Systems has established an office in Beijing, China, employing 12 people. In turn, this will increase Ultra's chances of winning more business in China. As the Chinese would say 'Let's raise our heads to wait'.

## C&CS wins contract for aircraft carrier electro optical systems

**Command & Control Systems** has been awarded a contract worth £4.5m by the UK's Aircraft Carrier Alliance (ACA) for the design definition of the two electro optical systems for the Royal Navy's new Queen Elizabeth Class aircraft carriers. It is anticipated that this initial design phase contract will lead to a full production contract for two ship-sets of equipment.

Both systems contain long-range cameras that can provide clear images day and night and in conditions, such as fog and smoke, of restricted visibility. One system is linked to the carrier's radar and will provide visual identification and confirmation of possible incoming threats. The second system will be dedicated to the carrier's 'air traffic control' system and will be used to monitor the position, attitude and status of returning aircraft on their landing approach. Both systems are based on Ultra's proven Series 2500 electro optics which are in service with the navies of Australia, Brunei and Romania as well as having recently entered service with the Royal Navy on its Type 45 Daring class destroyers.





## Next generation military 'gaming controller'

The rugged, dual handled Freedom of Movement Control Unit (FMCU™) designed by **MSI** is currently being field tested and demonstrated in a number of mission-critical applications in the US. **MSI** identified a requirement for a lightweight, low power, sunlight-readable and shatterproof LCD display unit. This need has been met by Argon Corporation, leading to a teaming agreement between **MSI** and Argon, based in Long Island, New York. Argon's five inch LCD display provides a greater viewable area and improved ergonomics. Using **MSI**'s ReConfigurable Control (RCC™) technology, the LCD unit is an interchangeable 'plug-in' module for the FMCU, providing greatly enhanced design flexibility for future customer-driven applications. The control system addresses a market need for enhanced reliability, availability and maintainability of portable, hand-held controllers.



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...taking a brief look at some of the latest news from  
around the businesses

### DATTEL SECURES FURTHER PILATUS PC-21 AIRCRAFT SOFTWARE WORK



Following its recent successful work on systems for the Swiss and Singapore variants of the Pilatus PC-21 turbo-prop aircraft, **Dattel** has been awarded a further contract for software upgrades that are specific to the Singapore variant of the aircraft. These upgrades relate to the ability of the PC-21 to train pilots to attack ground targets, known as the 'air-to-ground' role. **Dattel**'s contract is to modify the software used in on-board computers, the ground-based flight training device and the mission planning system. Now in its tenth year as a software provider to Pilatus, **Dattel** continues to strengthen the relationship by providing innovative solutions.

### Further order for Astute submarine equipment

In February, **PMES** was awarded an order valued at over £4m for control console equipment for the fifth Astute class submarine. This order is for the supply of consoles for the manoeuvring room, submarine control and starting platform. It is planned that contracts for the balance of the equipment that Ultra will supply for the fifth Astute boat will follow later in 2009.



Ultra's contract is covered by an over-arching Performance Partnering Arrangement (PPA) that was put in place for the supply of equipment for the fourth Astute boat. This partnering arrangement benefits not only BAE Systems and Ultra, but also the larger submarine enterprise through joint management of any issues arising, thereby sustaining on-time delivery performance and increasing value for money.

### Teaming with leading Turkish defence company



Phil Evans and a team of representatives from KBS at the signing ceremony

**Sonar Systems** is building on its established footprint within the Turkish naval defence industry by cementing a relationship with Koç Bilgi ve Savunma Teknolojileri (KBS) as Ultra's preferred partner for delivery of underwater acoustics and undersea warfare systems. Two initial contracts have now been signed and the businesses will work together to provide innovative solutions to the international sonar community. The first contract is for KBS to develop algorithms to be used in Ultra's synthetic aperture sonar programme. The second contract is for aspects of the sonar processing system for the Australian Air Warfare Destroyer programme, a programme worth £34m to Ultra.

A strategic teaming agreement between Ultra and KBS was also signed, covering the transfer of torpedo defence technology from Ultra to KBS. Ultra's Sea Sentor torpedo defence system is being fitted to the Turkish Navy's new MILGEM frigates. This agreement will result in KBS gaining a full in-country capability to customise, adapt, build and support the system.



# Chief Executive's review



**Success in Ultra can be defined most simply as 'developing and delivering the agreed strategy, meeting or beating the agreed budget and developing the people within the Group'. I am pleased to report that Ultra is succeeding on all three fronts.**

In addition to announcing excellent results for 2008, more details of which are given below, I have been able to give assurance to Ultra's shareholders that the success of the Group's strategy means that Ultra is in a relatively strong position looking into 2009 and beyond.

The Group has maintained its focus on broadening its range of niche market positions and now has about 130 of these specialist capability areas. These are then mapped onto a very broad range of international platforms and programmes, each of which relies to some extent on Ultra's specific expertise. There are at least 300 of these long-term platforms and programmes, each of which gives a 'flywheel effect', driving future order intake and sales. Across the Group, there is just a handful of programmes that generate more than 3% of Ultra's revenue in a year and then there are hundreds of programmes each contributing less than 1% of sales.

This breadth of activity means that Ultra's list of customers is impressively long. While the US DoD is the largest single customer, followed by the UK MoD and then by BAE Systems, the Group has many more customers, each contributing a few percent to Group sales. Even within these three largest customers, Ultra effectively has multiple clients in the many different project teams to which the Group sells its systems, equipment and services. This complex position is shown on the graphic below, taken from the presentation I gave to analysts and shareholders when presenting the 2008 Group results.

While this matrix of activities is complex, it also gives enormous resilience to Ultra's financial results. No single niche dominates and the breadth of Ultra's long-term programmes ensures that none is so important that it would damage the Group were it to be cancelled. In these uncertain times, this resilience is very reassuring.

**"this complex matrix of activities gives enormous resilience to the Group's financial performance"**

The acquisitions that Ultra made in 2008 broaden the range of specialist capability areas, increase the number of programmes and widen the geographic reach of the Group. Dascam opens up a portal into the Middle East market and NSPI has an established and growing position in China. More details of each of Ultra's recent acquisitions are elsewhere in this issue. I welcome the employees at these new businesses into the Group and I look forward to meeting you as I visit all of Ultra's companies.

The above summarises the Group's success in delivering the agreed strategy. Financial success, or 'beating the budget', is demonstrated in Ultra's 2008 results. On 2 March we announced an excellent set of results. Revenue was 25% higher at £515.3m. Organic growth at constant exchange rates was 11% and favourable currency effects contributed 5%. The remaining 9% growth came from acquisitions. Operating profit increased 23% to £77.1m with the operating margin being maintained at 15% and headline profit before tax was £72.2m, an increase of 18%.

The order book at the end of 2008 was £783.5m, an increase of 26% in the year. Of this increase, 7% was due to the consolidation of the order books of acquired businesses but there was also 12% organic growth and a 7% increase due to the movement in exchange rates in the year. This order book gave opening firm order cover for projected 2009 sales of above 60%, again a very reassuring figure.

When presenting these results to analysts and shareholders, I was accompanied not just by David Jeffcoat but also by Paul Dean who took over from David as Group Finance Director in April. David was a great colleague to work with over the last nine years and we will all miss his professionalism and quirky sense of humour as he heads off into retirement. Paul joined us in January and I am absolutely confident he will prove to be a worthy successor to David.

In addition to presenting the excellent 2008 results we also expressed our confidence about the outlook for 2009. The long-term nature of most of Ultra's contracts and the strong order book give us confidence about 2009. There will be pressures on budgets in 2010 but Ultra specialises in activities that are attracting an increasing proportion of budgets – security, surveillance, smart electronics to upgrade the capabilities of platforms and battlespace IT generally. Recent acquisitions have broadened the Group's capabilities in control systems for civil and military nuclear reactors, in which there is sustained investment.

Excellent results and strong market positions are not achieved easily. They are the result of a lot of hard work by all members of the Ultra team. I thank you for your innovation and personal contribution to the continuing development of the Group.





# Top-level reorganisation Board changes

David Jeffcoat retired and Andrew Walker stepped down at the Annual General Meeting in April 2009.

David was Group Finance Director from 2000 and was outstanding in that role. He consistently demonstrated an independence of thought, thorough professionalism and a real focus on supporting the development of the Group. I am sure that you will all join me in wishing him a long, happy and healthy retirement.

David has been succeeded by Paul Dean who has a broad range of experience in the quoted and private sectors and an excellent track record of achievement. Paul joined Ultra at the start of the year and succeeded David on the Board as Group Finance Director at the AGM. I welcome Paul to Ultra and am confident that he will prove to be an excellent successor to David.

Andrew Walker had been a non-executive director of Ultra since 1996 and became the senior independent non-executive director in 1998. We will miss Andrew's incisive and challenging review of the Group's strategies and tactics and we wish him well for the future.

I am delighted to welcome Sir Robert Walmsley to the board as a non-executive director. Biographical details of Sir Robert are shown in the box below his photograph. I am certain that Sir Robert's wealth of experience will be a great asset to the Group.

With these changes, Chris Bailey becomes the Board's senior independent non-executive director. David Garbett-Edwards, who has many years experience with the Group, has been appointed Company Secretary.

## EXECUTIVE TEAM CHANGES

Alan Jan-Janin retired from his role of Managing Director of **Aircraft & Vehicle Systems** at the end of May 2009. Phil Evans became Managing Director (designate) of **Aircraft & Vehicle Systems** with effect from 9 March and



**CARLOS SANTIAGO**

Managing Director, **Sonar & Undersea Systems**  
Carlos has been President of **Flightline Systems** since Ultra acquired the business in 1997. Carlos joins the Group's Executive Team in his new role. Carlos will bring an additional North American perspective to the Executive Team, augmenting that provided by Alan Barker.

## SIR ROBERT WALMSLEY KCB, FREng



Sir Robert Walmsley was most recently Chief of Defence Procurement at the UK Ministry of Defence (MoD), a post which he held from 1996 until his retirement from public service in 2003. Prior to his MoD appointment, Sir Robert had a distinguished career in the Royal Navy, where he rose to the rank of Vice Admiral in 1994 and served for two years as Controller of the Navy.

Sir Robert served longer in the Defence Procurement post than any of his predecessors. During Sir Robert's period in post he led the transformation of the procurement organisation into the Defence Procurement Agency (DPA, now Defence Equipment & Support) and made numerous appearances as a witness to Parliamentary Select Committees.

succeeded Alan when he retired. Phil's previous role has been filled by Carlos Santiago, who became President of **Sonar & Undersea Systems. Information & Power Systems**, managed by Rakesh Sharma, and Tactical Systems, managed by Alan Barker, are unaffected by these changes.

Phil Evans has been with Ultra since 1988 and was the Managing Director of **Sonar & Communication Systems** before being appointed as a divisional Managing Director.

## PROLOGIC PROXY BOARD

**ProLogic** was acquired by Ultra in June 2008. **ProLogic** provides specialised products and solutions for mission-critical enterprise IT, tactical data communication systems and intelligence processing infrastructures, as well as independent IT consulting services to US government customers. The highly secure nature of some of **ProLogic's** work means that Ultra has created a 'proxy board' comprising three members to provide an effective security firewall and thereby to meet US government requirements. The members of the proxy board are Jim Baur, Frank White and John Robusto.

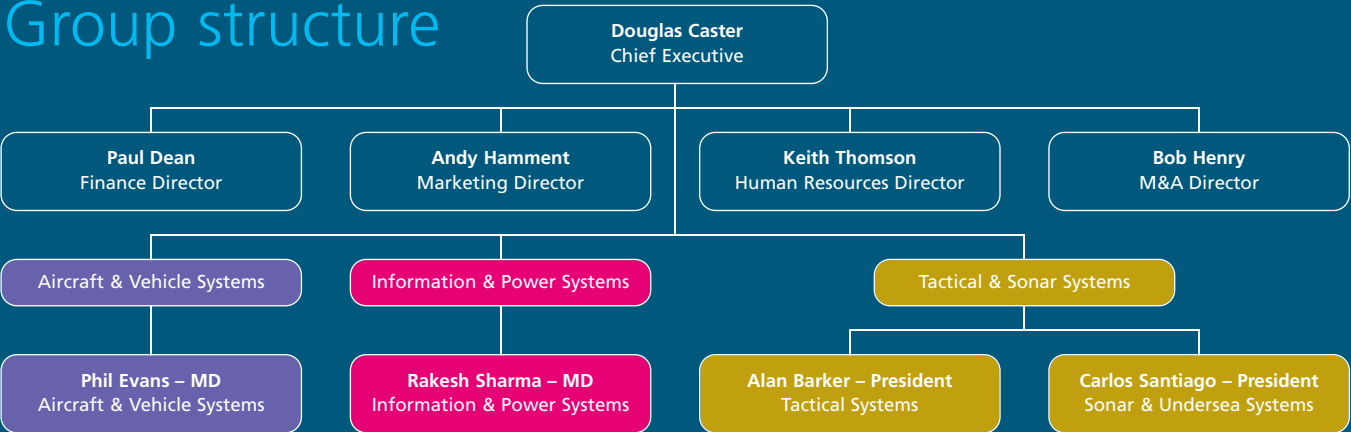
## PAUL DEAN MA FCMA



Paul Dean joined Ultra in January 2009 as Group Finance Director, having been Finance Director of Foseco from 2001 until its acquisition by Cookson plc in April 2008. He was a key part of the team that led the 2001 management buy-out from

Burmah Castrol of five specialty chemicals businesses to form Foseco (Jersey) Ltd which was floated as Foseco plc in May 2005. From 1989 to 2001, Paul held a number of senior finance roles in Burmah Castrol plc, including Finance Director of Castrol UK Limited, Chief Financial Officer of the Fosroc Division, Group Financial Controller and then Corporate Treasurer for Burmah Castrol plc. He was appointed to the Ultra board in April 2009.

# Group structure





# in focus

## World-leading



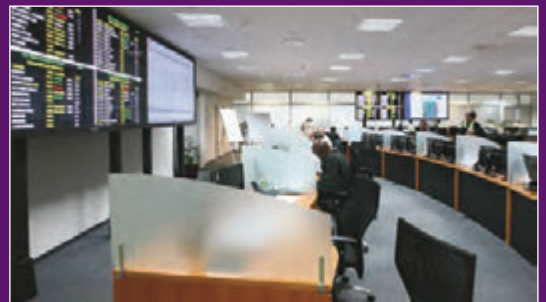
### Datel wins Dublin Airport contract

Dublin Airport Authority (DAA) has awarded **Datel** a contract to provide its Atlas AIMS incident management system and Atlas OPS tactical graphical operations solutions. These will be used by the airport to support normal, disrupted and emergency operations. Dublin airport, like many other international airports of its size and complexity, experiences events that can cause significant disruption. Any incident may start in one area as a fairly small event but can ripple through the operation and cause significant disruption. In order to develop responses that are effective and which involve all the necessary departments, DAA is introducing an Operations Control Centre (OCC). The OCC will use Ultra's software to plan and provide an integrated response for all key operational users including air-side operations, terminal operations, police and security services, IT and engineering. The initial phase of the OCC opened in May 2009.

**Tactical Communication Systems (TCS)** has continued its tremendous track record of winning new orders with a total in 2008 of over C\$170m. In early 2009 this was augmented by a contract award of US\$50m for high capacity, line-of-sight tactical radios, spares and associated equipment. These are to be used on TRC190 communication shelters for the US Army's WIN-T program. Ultra's latest radio is a state-of-the art Software Defined Radio (SDR) using the Software Communication Architecture (SCA) open framework. The radio is currently being delivered with 16Mb/s capacity but it is software upgradeable to 34Mb/s full-duplex capacity. As reported in the last UltraNews, **TCS** has already delivered over one thousand radios to North American and international customers, many of which are operating in the most demanding battlefield conditions.



### Ultra shoots for goal in South Africa!



As the 2010 soccer World Cup approaches, South Africa is investing heavily in its national infrastructure, including its airports. During 2008 and 2009 **Airport Systems** installed its world's leading baggage reconciliation system, UltraTrak, for airlines operating at Johannesburg, Cape Town, Durban and Port Elizabeth airports. Ultra now has a business in South Africa and has recruited a local team to support a five year managed service contract. Through a great team effort led by Project Manager Ian Cooper, the service commenced on time and within budget.

The focused game plan followed by **Airport Systems** for South Africa also delivered the contract to provide Airports Company South Africa (ACSA) with an innovative Airport Management Centre (AMC). Determined to improve the customers' experience of its airports, ACSA has turned to the industry-leading 'collaborative decision making' approach. Ultra has helped ACSA to develop a clear understanding of the operational processes at its airports and will deliver customised expert software applications to allow the airport managers to share a real-time representation of key aspects of airport operations. The Johannesburg AMC went live in May 2009, with Cape Town and Durban due to follow in late 2009 and 2010 respectively.



# IS

## data links for UAVs

**Communication & Information Systems (CIS)**, formerly part of **Sonar & Communication Systems**, continues to play a key role in enhancing the functionality of systems for Unmanned Air Vehicles (UAVs). This allows UK and NATO forces to maximise the military contribution of these assets. The latest example of this leading edge technology is its High Integrity Data Link (HIDL) which ensures secure transmission of mission-critical data and

imagery to UK and partner forces. HIDL has now been installed and proven on the latest leading platforms including Watchkeeper and Fires Shadow UAVs, its versatility providing command and control of the asset, electro optic and infra red sensor control and Network Enabled Capability (NEC) for multiple assets. Ultra's innovative HIDL data link waveform is now the basis of the NATO standard for such capabilities.

HIDL provides a truly modular solution for the secure and simultaneous command and control of multiple UAVs operating in a wide range of frequency configurations. Its versatile Internet Protocol (IP) architecture provides a networking solution for multiple ground, sea or air assets, as well as beyond line of sight (BLOS) capability for 'over the horizon' operations. Its unique waveform ensures a Low Probability of Intercept (LPI) & Low Probability of Detection (LPD) overcomes radio frequency interference and deliberate jamming and ensures that the operators' command and control functionality is not compromised. Ultra has over 40 years of delivering secure data link communications in Link-11, Link-16 & Link-22 as well as video and imagery data, command and control and integrated secure communication systems. This domain knowledge, coupled with a track record of successful innovation, positions **CIS** to continue its contribution to enhancing the capabilities of UK and partner forces.

### PacketAssure2 makes speedy progress

Interest in PacketAssure2 (PA2), the next generation of Internet Protocol secure tactical communication equipment from **DNE Technologies**, remains high as the product is introduced to key programs within the US Department of Defense. The first few months of 2009 have been busy for the PA2 development team at **DNE**. Initial chassis and circuit card assemblies have been received, the first prototype systems have been built and have successfully completed their initial testing. Key software modules have been integrated and the team has verified the operation of the core functionality. All is on target to meet the 2010 launch.



## Temperature sensors for solar energy production



### Nuclear Sensors & Process Instrumentation (NSPI)

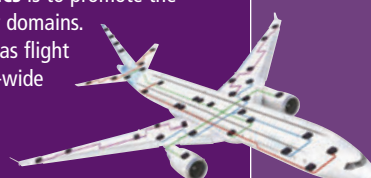
temperature sensors have been selected by Infinia Corporation for integration into its new Infinia Solar System (ISS) for critical

temperature measurements. The commitment of the current US administration to renewable energy provides Ultra's nuclear energy businesses with an important opportunity in the Concentrated Solar Power (CSP) segment of the solar power market. CSP differs significantly from photovoltaic technology which generates electrical power directly from sunlight. CSP thermal energy uses lenses and reflectors to concentrate solar heat to drive AC (alternating current) or DC (direct current) generators. The electrical power can then be stored or released directly on to the grid. CSP energy collection technologies include solar dishes, solar troughs, solar towers and concentrated linear Fresnel reflectors.



## Electrics adopts a new technology, Time Triggered Ethernet

In modern electronic systems there are many different formats that can be used for transmitting data around a digital network or databus. Many of these systems were originally designed specifically for military and, as such, the components for these formats tend to be expensive. The automotive sector makes extensive use of digital databuses and has developed much lower cost solutions. The **Electrics** business recognised early on that these automotive databus formats could be applied to certain military applications and has become a leading UK authority in this. CANbus was initially used as the data format and this is still a valid solution for many applications. For highly time-critical applications such as brake-by-wire, a new format called Time Triggered Protocol (TTP) is increasingly being used. TTP was developed by TTTECH in Vienna with whom **Electrics** is now partnered. The technology simplifies the information communication wiring systems for applications such as drive-by-wire and fire control by using a common processor and data bus capability. To complement TTP technology, Time Triggered Ethernet has been developed for use in high integrity, high bandwidth systems to enhance the gathering of information from TTP subsystems. In its partnership with TTTech, the role of **Electrics** is to promote the integration of Time Triggered Ethernet in the military land and air domains. The technology is generating interest in distributed control, such as flight control, and multi-media applications. Electrics will host a Group-wide information day later in the year to demonstrate the technology.





# Nuclear capability conference

*"With the future of the UK's strategic nuclear deterrent now more certain and the renaissance of civil nuclear build programmes, there has been a renewed focus in nuclear markets. This is a highly regulated, safety-conscious sector in which Ultra is gaining credibility and a sound reputation in both civil and military applications."*



Ultra's first nuclear capability conference took place at the Loudwater office in February 2009, with twenty-eight delegates from nine Ultra businesses in attendance. The theme was 'combined strength' and the focus was on leveraging Ultra's capabilities through a shared understanding of Ultra's current programmes, market positions and future opportunities in the nuclear energy sector.

The conference was led by **Command & Control Systems (C&CS)** where its Nuclear Systems business unit has been building a sustainable civil and military nuclear capability for Ultra over the past three years. The scope of work now ranges from the new reactor control and instrumentation (RC&I) systems being developed for the Rolls-Royce submarine nuclear reactors, through safety-critical plant protection systems to specialist nucleonic instrumentation and sensors for worldwide civil reactors.

During the conference, Ultra's 'nuclear facing' businesses presented their market position and offerings. The acquisition of the specialist sensor capability at Winfrith, Dorset, UK, enhanced Ultra's specialist nuclear skills and created a platform for growth in the civil sector. The more recent acquisition from Siemens of the sensor activity at Poole, Dorset and of **Nuclear Sensors & Process Instrumentation (NSPI)**, formerly Weed Instruments) have further enhanced Ultra's capability across both civil power generation and military applications and even provided access to a number of adjacent nuclear sectors. Last year Ultra's standing in the nuclear community was reinforced through its appointment to the main board of the UK's nuclear industry trade body, the Nuclear Industry Association (NIA). This has provided access to new UK and export opportunities in addition to networking through its 200 members.

With the future of the UK's strategic nuclear deterrent now more certain and the renaissance of civil nuclear build programmes, there has been a renewed focus in nuclear markets. This is a highly regulated, safety-conscious sector in which Ultra is gaining credibility and a sound reputation in both civil and military applications. Ultra's intention is to influence this position to gain access to wider opportunities within the global nuclear market. The conference created an awareness of the capability that sits within the wider Ultra Group: **PMES** and **Datel** already have a longstanding presence in this market, and **C&CS** has engaged directly with several other Ultra businesses as specific opportunities have developed.

An example how Ultra businesses can work together in practice in this sector was demonstrated by Ultra's recent contract award for the provision of high integrity control systems within British Energy's nuclear power stations: The contract from British Energy is to design, manufacture and install facilities for the controlled injection of carbonyl sulphide (COS) gas into the coolant systems of both the reactors at Torness Power Station. Ultra's systems are scheduled to be in service in 2010.

**C&CS** at Winfrith is leading the programme with significant technical input from **Precision Air Systems**.

Malcolm Twist, Head of Supply Chain and Outage at British Energy said: "We have been working with Ultra for a number of years now and recognise the company as a strategic supplier in the control and instrumentation sector of our business. We are very pleased with the way Ultra has approached the COS gas injection programme – taking a pro-active, fleet-wide stance in its tender. The COS gas injection system contract will permit British Energy and Ultra to continue to build closer business relationships."

This contract underlines Ultra's position as a niche supplier to the nuclear industry. The Group already supplies high integrity plant protection equipment and in-core monitoring systems. This contract extends Ultra's reach into high pressure gas systems in the nuclear industry by building on existing skills within the business.

To ensure Ultra continues to identify the relevant expertise and coordinate the approach to the market, further workshops and industry briefs on Ultra's nuclear business will be organised and will be open to any Ultra businesses wishing to participate.



## CONTINUED SUCCESS AND FUTURE DIVERSIFICATION

**Precision Air Systems (PAS)** is celebrating twenty years in business and having over 5,000 High Pressure Pure Air Generators (HiPPAGs) in operational use throughout Europe and the US. HiPPAG has been the core business for **PAS**, a business that specialises in the design and manufacture of compact on-platform gas solutions. The initial airborne application was in cryogenic systems for cooling the infra-red seeker of a heat-seeking missile up to the point of launch. HiPPAG has subsequently been used as the source of stored energy for the ejection and release of missiles and bombs from aircraft weapons carriages where it replaces pyrotechnic cartridges. **PAS** also supplies complex sub-assemblies for high pressure pneumatic systems. **PAS** continues its success with HiPPAG, having recently won contracts for the supply of the weapon ejection system for



HiPPAGs are used in this vertical launch system to cool the seekers of heat-seeking missiles

the F-35 (Joint Strike Fighter) programme. **PAS** is also developing a 'proof of principle' system for the Javelin Anti Tank Missile test rig displacing the current technology. It is also being funded to develop HiPPAG as the cooling gas compressor unit for the IRIS-T missile programme. Use of the HiPPAG system in a launch vehicle will enable up to eight IRIS-T SL missiles to be kept ready for launch by providing an uninterrupted supply of high purity compressed air for the missile seeker cooling system.





# welcome to...

## ...Radmon, Dascam Consulting and Nuclear Systems & Process Instrumentation

### RADMON

In December 2008, Ultra announced the acquisition of Siemens **Radmon** ('**Radmon**') of Poole, Dorset, England. **Radmon** employs fifty seven staff and provides neutron and radioactive detection sensors and systems to military and civil customers in the UK.



The major part of **Radmon**'s activity is the design, manufacture and support of specialist neutron and radioactivity sensors. These are highly synergistic with Ultra's existing range of neutron flux detectors which are used to measure the level of nuclear activity within a reactor. The Winfrith activity within **Command & Control Systems**, acquired in 2006 and based at Winfrith in Dorset, supplies these sensors along with the associated super-screened cables and reactor protection systems to British Energy and Rolls-Royce.

**Radmon** will also operate within the business activities of **Command & Control Systems** where the new, replacement Reactor Control & Instrumentation (RC&I) system is being developed for the Rolls-Royce nuclear reactors that power UK submarines. **Radmon** has been contracted by Rolls-Royce to support the existing RC&I equipment that is fitted to the Royal Navy's current submarine fleet and which will eventually be superseded by the new Ultra system.



### DASCAM

In late November 2008, Ultra completed the acquisition of Blue Sky Group (International) Ltd, of which the principal trading entity is **Dascam Consulting (Dascam)**. **Dascam** is a leading defence consultancy employing 140 people in Abu Dhabi, United Arab Emirates. **Dascam** provides specialist resources which deliver customised consultancy and training services for the defence, security and Government infrastructure markets in the region. These services are often the subject of multi-year contracts. It also operates as a gateway for the provision of turnkey solutions for its broad range of customers in UAE, Saudi Arabia, Qatar and Bahrain.

**Dascam** has already been successful in winning new business for Ultra and is currently working on a number of joint bids in the region. Examples of contract awards to date are: with the UAE Armed Forces the supply of crisis response planning systems; in Qatar, for the provision of a turn-key training solution for emergency planners, incident commanders and security controllers; for the Abu Dhabi Police, providing training for incident management. **Dascam** will operate as a stand alone business within Ultra's Aircraft & Vehicle Systems division.

### NUCLEAR SYSTEMS & PROCESS INSTRUMENTATION



Ultra announced in November 2008 the acquisition of **Nuclear Sensors & Process Instrumentation (NSPI)**, acquired as Weed Instrument Co., Inc.).

Based in Round Rock near Austin, Texas, USA, **NSPI** employs around 100 staff. **NSPI** was a privately owned company that designs and manufactures high integrity instrumentation for the civil nuclear and other industries, mostly for the North American market. It specialises in temperature and pressure sensors and fibre-optic converters and switches for use in nuclear, aerospace and military applications. Ultra has concentrated its nuclear systems activities, both military and civil, in its Information & Power Systems division. **NSPI** reports through **Advanced Tactical Systems**, also located in Austin, Texas.

### GROUP COOPERATION AT IDEX EXHIBITION

A number of Ultra businesses had registered to exhibit and visit IDEX 09, a major defence exhibition to be held in Abu Dhabi in February 2009. With the acquisition of **Dascam** in December 2008, this exhibition immediately became more significant to the Group. The two Ultra display areas presented capabilities from **Command & Control Systems**, **Dascam**, **Datel**, **Electrics** and **Tactical Communication Systems**. There was further visitor representation from other Ultra businesses. The Middle East is a market with enormous potential for Ultra and, with the **Dascam** office having an established reputation in the region, Ultra businesses are encouraged to exploit **Dascam**'s knowledge and experience to expand the Group's profile in the region.



Tom Knowles-Jackson of Ultra Dascam demonstrating Ultra Datel's Atlas OPS emergency response planning system to Emirati visitors on the joint Dascam-Datel stand at IDEX 2009.



# people in the NEWS



**1. Jonathan Murday** has joined **Electrics** as Business Development Director. He was previously employed as Director of Business Development at Blazepoint.

**2. Yee Louie** has been promoted to Vice President of Finance at EMS. Yee joined Ultra in December 2006 as Chief Financial Officer.

**3. Andy Matko** has been promoted to Director of the Card Systems business unit at **Manufacturing & Card Systems** in Weymouth, UK. Andy joined Ultra in November 2003 as Marketing Manager and was most recently the Business Unit Manager.

**4. Heather Rolls** has been appointed as Programmes Director at **Controls**. Heather joined Ultra in 2007 and has been managing the ice protection system for the main engine and lift fan applications on the JSF programme.

**5. Dixie Harvey** has been promoted to Vice President of Contracts at **ProLogic**. Dixie joined **ProLogic** in 2005, having provided Government contracting support for more than twenty years at various organisations. Dixie was instrumental during the acquisition due diligence and her experience has facilitated a smooth transition to Ultra.

**6. Harish Lad** has been promoted to Engineering Director at **Datel** from his previous role of Engineering Manager. Harish has 25 years experience in the aerospace industry, starting as an apprentice for BAE Systems at the tender age of 16. Harish joined

**Datel** in 1998 as a process improvement engineer and has progressed through various project management and operations management roles to achieve to his current position.

**7. David Smith** has been appointed Engineering Director at **PMES**. David has considerable experience in the power electronics industry having previously held positions of Technical Director with FKI Industrial Drives and Divisional Engineering Manager with Parker SSD Drives.

**8. Nabil Youssef** has joined **Tactical Communication Systems** as Vice President of Engineering. Nabil has 30 years of related experience developing products for commercial markets, most recently with Trellia Networks as Vice President of Engineering. He has held senior management positions with Marconi Communications, Nortel Networks and Teleglobex.

**9. Jim Hanlon** has been appointed Acting President at **Maritime Systems**. Jim joined **Maritime Systems** from **MISL** following its acquisition in 2008, where he was Chief Operating Officer. Jim originally worked for **Maritime Systems** between 1979 and 1982 as a design engineer.

**10. David Etherington** has been appointed Group Tax & Treasury Manager at **Head Office**. David is a chartered accountant and was previously Head of Tax at TNS plc. He has also held tax and accounting roles at Unilever plc, Hamlet Group plc and BDO Stoy Hayward.

**11. David Garbett-Edwards** has been appointed as Company Secretary at **Head Office**, reporting to the Chairman. David joined Dowty Group as a Graduate Apprentice in 1976. David has held a number of finance roles with Dowty and Ultra throughout the company changes, including Finance Director at **Controls**, Finance & Information Systems Director at **Electrics** and most recently Director of Corporate Administration at **Head Office**.

**12. Gary Hawkins** has been promoted to Technology Director at **Airport Systems**. Gary has previously held roles of Project Manager and Head of Projects; he a Prince2 Practitioner.

## Burd flies South! Ultra opens office in Adelaide



Doug Burd was appointed President of Ultra Electronics Australia Pty Limited with effect from 9 March 2009, reporting to Carlos Santiago, President of **Sonar & Undersea Systems** division. This new business, based in Adelaide, has been formed to deliver the integrated sonar systems for the Royal Australian Navy's new Air Warfare Destroyers (AWDs). In addition, Doug will lead Ultra's marketing and growth in the Asia-Pacific market. He and his wife Lisa will be relocating to Adelaide from Halifax, Nova Scotia, Canada in order to take up his new role.

## CBE for Douglas Caster

On Tuesday 7 April Douglas Caster was invited to appear before Her Majesty, Queen Elizabeth II at Windsor Castle. Douglas was to be awarded his insignia commemorating his appointment as Commander of the Order of the British Empire, abbreviated as CBE.

King George V in 1917 created these honours during World War I to reward services to the war effort by civilians at home and servicemen in support positions. The orders are now awarded mainly to civilians and service personnel for public service or other distinctions.

Her Majesty holds investiture ceremonies at each of her royal palaces and she has recently indicated that she will be

spending more of her time at Windsor Castle in preference to Buckingham Palace. Since the serious fire in 1992 the state rooms at Windsor Castle have been beautifully restored and are now a wonderful sight.

Douglas was accompanied to the investiture ceremony by his wife Lizzie and sons Ben and Tom. Afterwards other members of his family joined him for a celebration lunch at nearby Cliveden House.

## Best years of his life!

Dave Best commemorates 45 years of service



Dave Best being congratulated by Chris Binsley, Director, Nuclear Control Systems at **Command & Control Systems**

Dave Best, Electronic Design Engineer at **Command & Control Systems** Winfrith Site, recently commemorated 45 years of service. Dave joined the Instrumentation Team at Winfrith almost at their formation in 1963 and has remained a loyal employee ever since. During his long career, Dave has played a significant role in the development of instrumentation around a nuclear reactor core from early prototypes to the systems currently in service.



## Ray



**Ray Nupp**, Chief Scientist, **Flightline Systems** joined 7th February 1971. He is married with two children of 25 and 28. Ray lives in Fairport, New York, USA.

## Stephane



**Stephane Port**, Software Engineer, **Command & Control Systems** has been with Ultra since March 1988. Stephane is married with three children and lives in St Albans, Hertfordshire.

## Joselet



**Joselet Mathew**, Office Manager **Dascam Abu Dhabi** has been with us since April 2008. She lives in Abu Dhabi and has two children under 5.

## Denis



**Denis Couillard**, Product Manager and Systems Engineering Manager **Tactical Communication Systems** in September 2004. He is married with four children, three boys and one girl ranging from 3 to 11 years old and lives in Montréal, Québec.

### What do you most enjoy about your job?

**RN:** I enjoy the exposure to new technology and the ability to use it to make products more capable and more efficient.

**SP:** The people and variety of work.

**JM:** Dealing with a wide range of multi-national people and trying to deliver professionally to the best of my ability.

**DC:** The uncertainty and therefore the constant opportunities for innovation that exist in high technology environments.

### Most important lesson learned to date during your career?

**RN:** I have learned to be audacious in developing new designs, but not to under estimate the design effort and testing required to bring them to market.

**SP:** Tell the truth to your bosses and be a good listener.

**JM:** To honour and respect the cultural sentiments of all my colleagues and superiors along with their sound business acumen and knowledge. Never give up in a difficult situation and always aim to deliver the best.

**DC:** Everything is a learning opportunity.

### Your favourite hobby/pastime?

**RN:** Television and radio broadcasting

**SP:** Sport especially field hockey and riding motorbikes. In field hockey I represent England at my age level (that's O45s). I'm also fairly new at growing vegetables on an allotment, the resulting products tend to be nothing like the shape and size of the organic ones that you buy in the supermarket.

**JS:** Listening to music, singing and reading.

**DC:** Reading and writing on military history and on strategic high technology management; studying, exploring and at times restoring ancient military fortifications.

### Funniest situation that you have had to deal with at work?

**RN:** I was using a telescopic pointer during a product presentation to an international group of about 50 people. The pointer became entangled in a near window curtain. Several people from the group ran up, one with a knife, to help remove it while I continued with the presentation.

**SP:** There are no funny things that happen to software engineers! In another company I was staying at a hotel with some work colleagues and we decided to take it in turns to drive to the customer site, the condition being that a dice would be thrown to see what gear the hire car would be driven in all the way to the customer site, (not including reverse). At the end of the week the hire car was not working too well!

**JM:** We were having a few electrical problems in the office when finally, the circuit breaker tripped. In order to get the electricity back, I attempted to rectify the situation. Obviously, I am not the right person for the job and ended up switching off the entire power for the office building. We were out of electricity for quite a while. Inevitably, this caused computer problems, notably one staff member was working on a very important document that he thought he had lost – not very happy. The electricity was eventually restored and the documents retrieved so relief all round. Best I don't meddle with power again!

**DC:** The team had been working on the development of the new software defined radio and had won a significant order. One morning I arrived at my office to find my desk and table occupied by a life-size model of the future HCR radio system, complete with antenna, mast, radio frequency unit, base-of-mast unit, base unit and cabling, mostly constructed from a significant number of recently emptied doughnut boxes. As it was near Christmas, the radio frequency unit was adorned with a furry reindeer. Am I too intense??



## Command & Controls supports **Children in Need**



Each year Dave Goodchild, Goods Inwards Controller at **Command & Control Systems**, raises funds for Children in Need by dressing up as the original Pudsey Bear. This year Dave's Pudsey was at the fundraising event at Royal Windsor Shopping Centre and raised an estimated £2,500. Dave is supported

by his wife Sharon and has raised over £40,000 over the years from various fundraising events in various ways, ranging from dressing up as a daffodil to parachuting from 12,000ft.

## Fitness fanatics

Triathlon competitors Mark Gardner and Vicky Bussell from **Precision Air Systems** entered their first triathlon in 2008.

The adrenalin buzz and success after that initiation has already led to them entering three competitions in 2009. After getting the cycling bug, Mark bought a bike and commutes 20 miles to work. Mark is also a member of the Stroud Masters

swimming club and recently completed a 1500m swim in 27 minutes. After exercising regularly Vicky increased her fitness and trained 6 nights a week! Vicky's target time is 95 minutes for the three elements, but her main aim is to always to finish the event.



## Ships of the desert



When you live in the Middle East, the one commodity you are not short of is sand. Sand is everywhere. It's in your house, your car, your shoes

and your throat. The trick is to turn what is often a nuisance into a pleasure. **Dascam** staff achieve that pleasure by 'dune-bashing': the art of driving 4x4 vehicles over sand dunes, big and small, without getting bogged down. It's a great pastime, rather like riding a yacht over big waves. When it is accompanied by a night's camp in the desert – where the air is so clean and the sky is so clear that you think you can see every star from here to the edge of the universe – it is a vitalising experience.



## Ultra girls take up driving challenge

A team of eight employees from **Manufacturing & Card Systems** was in the driving seat of a variety of military vehicles at the Bovington Royal Armoured Corps Centre to raise money for charity. The eight women drivers put a range of vehicles through their paces including a steam engine, a police car, a tank and off-road vehicles dating from World War II. Together they raised £1,120 for Marie Curie Cancer Care to help local patients.

## Reaching a goal

In October 2008, Tyra Jones-Mott of **ProLogic** completed the Marine Corps Marathon. This was her first marathon but she is planning that it will not be her last. Tyra combined two challenges when she began training in January 2008 at the start of the **ProLogic** Biggest Loser weight-loss competition; the motivation she received from that competition helped throughout her training. She states that "although running the marathon was one of the hardest things I have ever done it was one of the most rewarding". Tyra is looking forward to the three marathons in 2009 for which she has already signed up.



## Samaritans Purse Appeal



There are many children who do not experience the excitement of Christmas. At **Electrics**, the operations and commercial teams collected Christmas gift boxes in

support of the annual Samaritans Purse Christmas Appeal. The shoe boxes contained new gifts for children who at Christmas time would not normally receive any presents. The boxes were distributed by the Samaritans over the Christmas 2008 period.

## National **Wear Red** Day



In February, **Nuclear Sensors & Process Instrumentation** (NSPI) participated in National Wear Red Day supporting the American Heart Association and hundreds of thousands of people in the fight against heart disease in women. The staff celebrated by wearing favourite red clothes and accessories. This event raised awareness that heart disease is the number one killer in women and the actions they can take to reduce their risk. In the last six years increased awareness has helped raise a national total of \$153m towards much needed research of cardiovascular disease. The **NSPI** team was proud to participate with other companies and volunteers in fighting this worthy cause.



### FEEDBACK

I hope you enjoy this issue of **Ultra News**. If you have any comments on the new look **Ultra News** or ideas for future issues please let your local contact or me know  
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# ULTRA

# NEWS

## Ultra wins system for **Bahrain**



**Advanced Tactical Systems** recently won a \$21m contract, its largest ever, to deliver a complete command and control system to the Bahrain Defence Force, **see page 2**

**PLUS:** ■ Ultra bytes ■ Chief Executive's review ■ People in the news ■ On the spot



# Ultra wins system for Bahrain

**ADVANCED TACTICAL SYSTEMS** recently won a \$21m contract, its largest ever, to deliver a complete command and control system to the Bahrain Defence Force. This new system is more user-friendly and has greatly enhanced capability compared with the original system that **ATS** delivered 13 years ago that is still in daily operation. The new system integrates data from ballistic missile tracking and other surveillance radars, Hawk surface-to-air missile units and fighter aircraft. The equipment will be installed in five locations and will provide a transportable command and control capability. Along with the command and control system, **Advanced Tactical Systems** is installing an upgraded microwave communication system that provides robust, secure communications between multiple sites.

This example of **ATS** providing an enhanced user interface combined with upgraded functionality is but one of

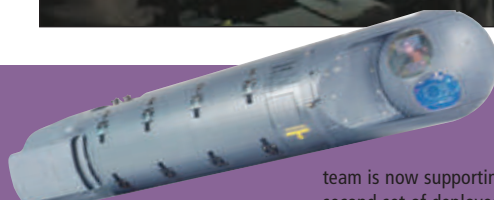
many. In its strategic planning process some years ago, **ATS** was set challenge of making a number of different products out of its core Air Defense Systems Integrator (**ADSI**) offering. The team realised that **ADSI** was so rich in functionality that it could be split into various different offerings, each of which would be attractive to customers.

The point was made that **ADSI** had so much functionality that its user-interface had become very complex. In a world where we expect easy-to-use, 'drop-down' menus, **ADSI** needed a refresh. An analogy was made with the largest Swiss Army knife in the world – the commemorative version is about a foot wide. It has every type of blade and tool you could imagine but is too cumbersome to use. **ATS** has successfully created a modern family of offerings each of which meets the focused requirements of the modern warfighter. The success of the strategy is evident with airborne **ADSI**, or **ATAS**, **Ultra16** and a host of other offerings now being sold, including the new system for Bahrain.

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stop press...



**30,000 flying hours**  
The 'Litening III' reconnaissance and targeting pods supplied by **Communication & Integrated Systems** and fitted to Royal Air Force Tornado aircraft are being used intensively in current operations. They have accumulated about 30,000 flying hours in service with most of these hours being flown from Al Udeid air base in support of the UK MoD's Operation Telic in Iraq. The **CIS**

team is now supporting a second set of deployed operations in support of the MoD's Operation Herrick in Afghanistan, flown from Kandahar air base. The Litening III advanced targeting pod, designed by Rafael but upgraded, delivered and supported by **Ultra**, has provided a quantum leap in Intelligence, Surveillance, Targeting and Reconnaissance (ISTAR) capability. It is constantly achieving over 98% mission-availability, making it the most reliable pod of its type in service with the RAF.



## International Quality Accreditation:

As part of its continuous improvement program, **Nuclear Sensors & Process Instrumentation (NSPI)** has pursued and received accreditation from the American Association for Laboratory Accreditation (A2LA). This commitment to excellence makes **NSPI** a world class

leader in temperature calibrations. The A2LA accreditation is especially beneficial for customers that operate or market in other countries. As the A2LA has mutual recognition arrangements with other global laboratory accreditation systems, test and calibration data from the **NSPI** metrology laboratory will now be accepted in most countries around the world.





# ACES for aircraft carriers



PMES has won a contract from the Aircraft Carrier Alliance to supply the 'aircraft ground services systems' needed by the Royal Navy's two new aircraft carriers, Queen Elizabeth and HMS Prince of Wales. The contract, worth in excess of £5m, covers the supply of power converters and motorised cable reels that will provide the electrical power required by the aircraft that will operate from the carriers.

The system, called 'ACES' converts the standard power available throughout the vessel to the power required to support the helicopters and fixed-wing aircraft when operated from the flight deck or in the maintenance hanger below. Each ship-set comprises 400Hz three phase and 270V DC power supplies that will feed the aircraft via motorised cable reels and associated feeder cables. The scope of work, which includes the design, supply, delivery, installation and commissioning of the equipment, will be programme managed by PMES with the power converters being provided by Ultra's EMS business in Yaphank, New York. The equipment will be delivered to Rosyth Dockyard in Scotland over a three-year period commencing 2010.



## Silver Medal at World Robotics Championship

Last April **Measurement Systems Inc (MSI)** sponsored a group of local students from Staples High School in Westport, Connecticut to design and manufacture a battling robot. 'The Wreckers' robotics team won regional titles in Massachusetts, Connecticut and New York City before advancing to the FTC World Robotics Championship held in Atlanta, Georgia. The team was led by Adnan Durrani and consisted of Haris Durrani, Jehangir Hafiz, Todd Lubin, Eric Lubin, and Timothy Yang. Despite facing fierce competition in the Georgia Dome from more than 100,000 kids from 50 countries comprising 1,200 teams including some sponsored by the likes of NASA, JPL and MIT, the Wreckers won the Silver Medal, coming second in the world following two days of rigorous events.

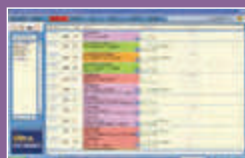
## Ultra's student sponsorship schemes

**Maritime Systems** continues to expand its technical ties with local academic institutions. It has sponsored the Dalhousie University 'Privateers' team entry into the internationally renowned Marine Advanced Technology Education Center (MATE) competition. The 'Privateers' is a multi-discipline group of energetic Dalhousie University engineering students who spend much of their free time each year designing, building and testing a submersible robot. The team name was chosen in honour of Lord Dalhousie, who held a Letter of Marque from King George III of England and who, as a Royal Navy captain, 'relieved' pirates or privateers of their spoils of war. He granted a significant amount of his share of the prize purse to found the university. **Maritime Systems** provides funding and technical support to the team to allow it to enter a more sophisticated robot than would otherwise be possible.



**Ultra support group in the Middle East**  
**Dascam**, based in Abu Dhabi, is bringing together a team, known as the Ultra Support Group (USG), to support sales in the Gulf region by any Ultra business. It is a small team that will take advantage of **Dascam's** wealth of local knowledge and contacts to act as the portal for Ultra products into the Middle East region. The USG's first employee is due to start work in November and will be based in **Dascam's** Abu Dhabi office. The initial primary focus of the USG will be for the UAE and Qatar market places, but it will be capable of

supporting sales activity within the region on a priority basis. More details of the USG are available from David Parry: david.parry@ultra-dascam.com.



**Another client for hosted Atlas AIMS solution**  
Impressed with the intuitive nature of the software, Brighton City Council has joined the existing Sussex County community already using the

hosted version of Ultra's Atlas AIMS incident management software. The solution allows access to county-wide cooperation during large incidents. Ultra's secure connection method using the Internet is a vital way of connecting numerous locations during an incident. Brighton also intends to use Atlas AIMS to manage its mobile units in responding to call-outs to vulnerable elderly residents on a day-to-day basis.

**G650 roll-out**  
In September, Gulfstream rolled out its new G650 business jet. **Controls** provides

the Landing Gear Control Unit (LGCU) for the aircraft which senses the position of the landing gear and its doors and then raises or lowers the gear at the pilot's command.

The G650, is Gulfstream's largest and longest range business jet and it will fly faster than any other civil aircraft in service today. The G650 is expected to fly for the first time in the next few months and then enter service during 2012.





THE THIRD OF FOUR ARTICLES THAT COVER THE BEHAVIOURS THAT ULTRA WOULD ENCOURAGE ALL EMPLOYEES TO EXHIBIT IN ALL THEY DO. THE RIGHT BEHAVIOURS, COMBINED WITH WINNING STRATEGIES AND A SUPPORTIVE CULTURE, DEFINE WHAT MAKES ULTRA A VERY SPECIAL GROUP

## Leadership, Entrepreneurship, Audacity, Paranoia

# LEAP

### AUDACITY

Here's a quiz question to start off. **'How many sports can you win by moving backwards?'** Good examples are rowing, swimming (backstroke) and tug-of-war; but there's one other that will really help to get us thinking about audacity – the high jump. Back in 1968 Dick Fosbury won an Olympic gold medal by totally changing the way in which high jumping was performed; he turned his back on the bar and leapt 2.24m (7'4½").

Fosbury had been an average high jumper who trained hard, but was never going to win Olympic gold – to do so, he had to find a technique that was revolutionary; an approach that was radically different from all of his competitors.

### AUDACIOUS THINKING

Audacious thinking is the difference between incremental improvement and business transformation. It takes the idea of innovation, one of Ultra's core values, and invites us to think about issues in ways that are unconstrained by existing norms – in other words, make use of creative approaches to every aspect of our business.

Audacity is also at the heart of our five-year strategic planning process where we talk about **'right-to-left'** thinking. What this means is that we start the process by imagining where we could be in five years' time and then working out how to get there, not allowing ourselves to be limited by where we are today. If we allow 'left-to-right' thinking to dominate we find ourselves in a similar position to the person asking for directions and being told, "Well, I wouldn't start from here". The business as a whole and each part of the business should be creating that vision for where it could be in the future, and then deciding what steps to take in order to get there.

There's a Zulu saying that runs, **'when faced with two dangers, one in front and one behind, it is always better to go forward'**. At first this sounds either brave or foolish, but the message is that what's behind will inevitably catch you if you don't continue to move ahead – just like

business, where any lead we have over our competitors will soon be eroded if we don't keep pressing on.

### AUDACIOUS BEHAVIOUR

The dictionary tells us that the word audacity comes from the Latin **'audare'** which means **'to dare'**. In Ultra terms, **'dare to be different'** and create a solution to a customer need that is different from, and better than, the competition in a way that the customer values.

Another definition of audacity reads, **'the quality of having enough courage to take a risk'**. We often find ourselves limited by fear of failure or criticism; in an innovative business we must remove that fear, supporting innovative approaches to problem solving. But audacity is not reckless. Jim Flowers (a US business academic) described successful entrepreneurs as using **'intelligent audacity'**. This is exactly the same as Ultra's approach. For example, by using some reinvestment of Ultra's funds to de-risk a bid or a new design concept before we go too far, we ensure that we can realise the vision and beat the competition without exposing the business to uncontrolled or unquantified risk.

### AUDACIOUS ORGANISATIONS

What characterises an audacious organisation, and differentiates it from the others, are raised expectations about what can be achieved. It's not satisfied with making slow, steady progress – it sets BHAGs. These are 'Big, Hairy, Audacious Goals' identified by Jim Collins in his book 'Good to Great' as one of the key features of successful businesses. They are the kind of objectives that look unachievable, and they are unless we throw away the rule book and think differently about how to get there. Going to the moon, or climbing Everest must have looked impossible before Neil Armstrong and Edmund Hillary actually did it. But the vision and imagination had been there, driving them and their teams to find new ways to meet the challenge.

In our own industry, audacity has been identified by US Defense Secretary Robert Gates as the key to solving the



## ULTRA BEHAVIOURS

The four cultural behaviours of its people that are highly valued and encouraged by Ultra are:

**Leadership**

**Entrepreneurship**

**Audacity**

**Paranoia**

Together they make **LEAP**

challenges in defence procurement. In March this year he chaired a conference entitled 'Defense Business Transformation – Audacity for Change'. The objective of the conference was to, 'engage with the wider defense community to examine the obstacles to organisation change within the DoD (Department of Defense), finding solutions that chart a way ahead in this very difficult climate'. The message is that without audacious thinking we will not solve the problem; incremental improvement has not worked and will not work in the face of these financial and operational challenges.

There can be no clearer indication of the importance of audacity than Ultra's largest single customer stating explicitly that audacity is the key to resolving its biggest problems.

**So, back to Dick Fosbury.**

What he did was audacious; it was game-changing and secured him a place among the sporting greats. But if we look at the high jump today, every competitor uses the 'Fosbury Flop'. The advantage he took into the Olympic Games in 1968 was soon eclipsed by his competitors – like the Zulus, we can never stop going forward; our competitors are right behind us!

responsible for the design, development and delivery of the Certified Training Consultants course which is accredited by the Institute of Leadership and Management.

So what makes Derek an entrepreneur? Derek has created and cultivated a positive and open ethos that has resulted in an interesting, interactive and diverse training

curriculum for Emirati Consultants. His delivery methods provide training that enthuses and energizes individuals, encourages them continually to improve and to question their thinking and decision-making. He has developed a learning environment where it is OK to ask awkward questions, have a differing opinion and make mistakes; in fact, these are positively encouraged. In doing so, he has not only created the opportunity for a valuable qualification that reflects their heightened knowledge, skills and attitude, but has also added

value to the project as a whole.

By ensuring the course is relevant not only in the military environment but also to a far wider range of employment areas, Derek has sown the seeds for business opportunities that reach far beyond the boundaries of the project.



### Entrepreneurship in action

**'Men Behaving Well'**  
As the leader of Dascam's Learning and Development Team, Derek Boyter is

in *action*



# AuRACLE's glimpse into future markets

The successful AuRACLE aircraft engine management system is a recently acquired addition to the **Flightline Systems** aircraft instruments product portfolio. The AuRACLE line of 'glass panel' piston-engine monitoring systems is a proven leader in the general aviation retrofit markets. The Flightline team has a product roadmap that includes growth into the twin-engine piston and turbine markets with focused efforts to penetrate the global UAV market using AuRACLE's unique engine interface unit solution.



## NUCLEAR SENSORS CONTRACT WIN IN CHINA



**Nuclear Sensors & Process Instrumentation** has been awarded a major contract by China Nuclear Power Engineering Co. and China National Technical Import & Export Corp. for the CPR 1000 project. The scope of supply encompasses nuclear qualified temperature sensors and switches for the next ten reactors to be constructed at the Liaoning Hongyanhe, Fujian Ningde and Guangdong Yangjiang nuclear power stations. Delivery of the equipment spans from April 2010 through March 2013. China represents a very important and rapidly growing market, with 44 new commercial nuclear power plants scheduled to be completed by 2020.

## Protecting those in harm's way



Since **MSI** began integrating its 'operator weapons control' into the US Army's Common Remotely Operated Weapons Station (CROWS) manufactured by Kongsberg, the system has been deployed on over 700 vehicles in both Iraq and Afghanistan. The Mine Resistant Ambush Protected Vehicle (MRAP), HUMVEE and Abrams tank are all currently fielded with CROWS and several thousand more vehicles are being outfitted with the system.

CROWS was recently selected as one of the 'Top Ten Greatest Inventions of 2008' by the US Army Materiel Command with all votes provided by soldiers in theatre. By protecting soldiers within the vehicle, CROWS saves lives and has earned the confidence of both soldiers and the US Army. This has been demonstrated by increases in the rate of production so that the system may be added to the MATV, M1A2 Abrams Tank and the M93Fox armoured vehicles in 2010.

Over 6,400 CROWS systems have been ordered and most will be fielded by 2011. The team at **MSI** feels privileged to participate on this program and to supply a critical component that contributes to the success of the CROWS system in the hands of US soldiers.

## Electro Optical Systems for Australia



**Command & Control Systems** has been awarded a contract by Raytheon Australia for the supply of electro optical systems (EOS) for the Royal Australian Navy's (RAN's) new Air Warfare

Destroyers. The initial contract value is £3.7m with options for reference systems and additional engineering services likely to increase the overall value to more than £4.5m.

The systems comprise two electro optical directors, each containing television and infra-red cameras capable of detecting surface and air targets at long range and providing clear images, day and night and in restricted visibility. The systems will be fully integrated into the ship's combat system and will be used for general purpose surveillance to enhance the ship's situational awareness and defence capabilities.

The EOS is based on Ultra's highly successful and proven SERIES 2500 which is already in service with the RAN on its FFG frigates as well as the Royal Navy and the navies of Brunei and Romania. SERIES 2500 is fitted to the Royal Navy's Type 45 Daring class destroyers and has been selected for the new Queen Elizabeth class aircraft carriers.



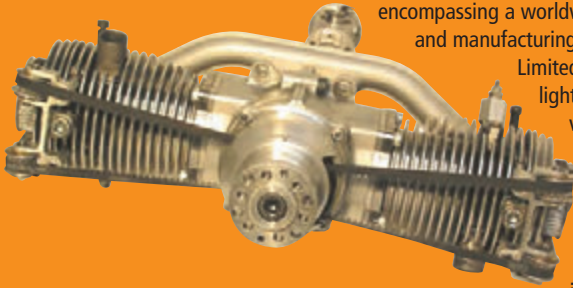


## PAS signs UAV engine agreement

**Precision Air Systems** has signed an agreement encompassing a worldwide marketing, development and manufacturing licence with RCV Engines Limited for the DF 70, a 4-stroke, lightweight, dual fuel unmanned vehicle engine. **PAS** is currently working with RCV to develop an electronic engine management system for the engine with production units targeted to be available early in 2010.

With inherently low emissions, impressive fuel efficiency and extremely high power to weight ratio, the patented rotary valve engine technology offers unique

benefits for small UAV applications. Its ability to operate both on kerosene (JP8) as well as on gasoline is particularly attractive for defence applications. Interest in such micro-UAVs is booming worldwide, based on a growing number of potential defence and civil applications. These vehicles are ideally suited for combat and peacekeeping roles, including the clearance of mines and other munitions, general surveillance and reconnaissance work, as well as civil applications such as border monitoring, fire-fighting, geological surveying and even filming major sporting events.



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...taking a brief look at some of the latest news from around the businesses

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### TRAINING SYSTEM EXTENDED

The uplift to **Dascam's** primary programme, the Systems Approach to Training (SAT) project, was signed off by the client in August 2009. The uplift sees an additional 82 project staff joining the existing 92 staff in the coming months. The new joiners include a blend of UK and local consultants, translators and administrators whose role will be to maintain the momentum of the project in delivering a training management system into the UAE Armed Forces. Recruitment is already in full swing as **Dascam** seeks to bring on the staff as soon as possible. **Dascam** welcomes the new staff into the business to maintain the successful delivery of a cornerstone project.

### CIS and Saab partnership



**Communication & Integrated Systems (CIS)** has recently signed a partnership agreement with Saab to integrate, supply and develop Vertical Take Off and Landing (VTOL) Unmanned Air Systems (UAS). The agreement enables **CIS** and Saab to offer into worldwide markets a family of three heavy-fuel VTOL Unmanned Air Vehicles (UAVs) for both military and civil operations. All three UAVs offer fully autonomous flight, operate from a common ground station, are certified to NATO STANAG 4586 and operate using **CIS's** highly secure datalinks.

In August 2009, **CIS** and Saab successfully demonstrated the Neo and Skeldar UAS in the counter-improvised explosive device (counter-IED) role to a potential customer. All objectives of the demonstration were exceeded and the team is moving towards in-service trials. Fitted with a variety of specialist payloads, the ability for a UAS to hover has proved particularly effective when searching, detecting and neutralising IEDs.

### Secure worldwide communications



The Nuclear Accident Response Information Management System (NARIMS) sponsored by the MoD and maintained by **Command & Control Systems** is deployed throughout the UK and overseas. It runs on restricted local and wide area networks. NARIMS provides fast and accurate information exchange across service and civilian organisations in the event of a military nuclear incident.

NARIMS has to date operated behind a closed network. More recently however a new requirement emerged demanding use of NARIMS in remote locations throughout the world. After investigation, the NARIMS system has been successfully enhanced and has now been installed at a joint US and UK military remote facility in the Asian Pacific. This implementation involved the design and build of a DSSA/DSAL accredited Internet gateway, allowing secure communication between the NARIMS assets at the target site and the NARIMS servers located within the UK and abroad. The gateway has enabled the secure use of public circuits as well as Broadband General Area Network (BGAN) technology. The solution has been a complete success being both delivered on time and within budget providing an enhanced NARIMS capability to users worldwide.

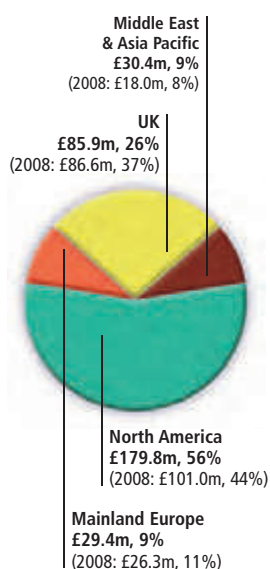
### World beating contract

The contract manufacturing unit of **Manufacturing & Card Systems** has been chosen from 52 other international candidates to manufacture all the electronic circuit boards used by Meggitt Avionics in its high technology Solid State Instrumentation (SSI) products, together with boards for use in a variety of other aircraft computers. This contract was a great win because it was truly an international competition and Ultra beat competitors from the USA, Asia Pacific, Europe and the best of the rest from the UK. Meggitt is a world leader in supplying the cockpit instruments which make up the 'dashboard' of modern aircraft from jet fighters and airliners to business jets. Ultra has all the aerospace quality approvals which make **M&CS** an ideal supplier for the circuit boards which go into them.



# Chief Executive's review

Ultra has been very successful over the years in broadening its portfolio of specialist capability areas where it has highly differentiated solutions. These are then positioned on an ever-increasing number of international, long term platforms and programmes. In the spring edition of UltraNews I explained how the 'flywheel' effect from the myriad of contract positions drives future order intake and sales.



This matrix of capability areas and market positions is complex but it gives enormous resilience to Ultra's financial results. No single market niche dominates and the breadth of Ultra's long-term programmes means that the delay or cancellation of any one would not damage the Group badly.

In the last few months, Ultra has added new niches, both by invention and by acquisition. For example, **Airport Systems** has launched an innovative airport IT messaging service while **Avalon Systems** considerably broadens the Group's capabilities in the specialist electronic warfare area.

The range of platforms and programmes is also growing. ATS has won a significant package of work on the US Global Observer unmanned air vehicle while **Controls** has been selected to supply high integrity systems on the new Mitsubishi regional jet aircraft.

Another aspect of the continuing development of the Group is its expansion into new geographic markets. When Ultra was formed through the management buy-out in 1993 more than 90% of the Group's revenues came from the UK.

Ultra specialises in defence electronics and had therefore to expand into North America and the US in particular. It was true then, and remains true today, that the US spends more on defence than the rest of the free world nations added together. Since 1993 Ultra has made some 36 acquisitions and this, as well organic growth, has driven the geographic mix of Group sales so that more than 55% comes from North America with over 50% from the US.

The next stage in the development of the Group in this regard is to increase the proportion of sales derived from the Middle East and Asia Pacific regions. This requires initial investment but the Group is now of a size where this can be afforded. In the last 12 months **Dascam** and **Avalon Systems** have been added to the Group through acquisition and each business will act as a springboard for additional sales in their regions. Doing business in the Middle East is different in many ways to trading in the west and specialist knowledge is vital. **Dascam** has a proven ability to win profitable business in the region and will act as a portal for other Group offerings. There is an article on page 3 in this issue of UltraNews giving contact details in this regard.

**Avalon Systems** is also described in another article on page 13 and is already becoming the core around which the Group is building its in-country sonar capability to deliver the Air Warfare Destroyer sonar solution. **Avalon**, I am pleased to say, is continuing to win new business in its specialist area of electronic warfare.

This expansion of the Group highlights the increasing scale of the challenge of coordinating Ultra's business development activities across its 24 businesses. This continues to be a main focus of all members of the Group's Executive Team. I am pleased to say that the four Divisional MDs/Presidents are demonstrating a great ability to work together to make this happen.

The increasing scale of the Group brings into sharp focus the need for Ultra to maintain its rate of progress in its various markets. If any roadblock becomes apparent then

we must address it and remove it if necessary. We will take quick action to address such issues and get the Group firmly back on its growth path.

Since the last issue of UltraNews we have announced the Group's interim results for the first 6 months of 2009. These results extended the long track record of strong financial performance.

Revenue was 40% higher at £325.5m. Organic growth at constant exchange rates was 10% and favourable currency effects contributed 14%. The remaining 16% growth came from the eight acquisitions that were completed in the second half of 2008.

Operating profit increased 36% to £44.3m (2008: £32.5m). Organic growth at constant exchange rates was 11% while favourable currency effects contributed 15%. Acquisitions contributed the remaining 10%.

The order book at the end of the period was £767.4m, an increase of 19% over the value at the same time last year and an increase of 12% at constant currencies. Within this total, firm order cover for the next twelve months of trading has been maintained at its customary level of above 60%, a very reassuring figure.

Excellent results and strong market positions are not achieved easily. They are the result of hard work by many members of the Ultra team. Thank you for your personal contribution to the continuing development and success of the Group.

## Management of high integrity and security solutions

The **Datel** business in Preston has developed over the years into having two distinct ranges of offerings. The first is the creation and validation of high integrity software for use in aircraft and similar systems. The second product range is the crisis and incident management systems that are winning business around the world.

In order to bring better focus to the market-facing activities of each business area, responsibility for managing the team at Preston is being split from 1 January 2010.

The high integrity software activity will become part of the **Controls** business which has been so successful over the last few years in winning business to supply innovative systems to civil and military aircraft. This change broadens and enhances the systems and software capability of **Controls**. I am sure that, in the fullness of time, this will lead to accelerated growth of the combined business.

The security and incident management solutions activity will become part of **Command & Control Systems**. There are potentially significant benefits to be gained by coordinating marketing and business development with complementary security and tracking solutions already provided by **Command & Control Systems**.



# Ultra on show

Over the past six months, many Ultra businesses have combined forces and exhibited at a number of exhibitions. Here we report on a selection of events where businesses have collaborated to present a combined Ultra message.



## DSEI

In September, Ultra's largest showcase of the exhibition calendar was at DSEI in London. It is the world's largest fully integrated defence and security exhibition. The Ultra stand was 200 square metres, displaying the products and capabilities of twelve businesses. A comprehensive delegation schedule was coordinated, with more than 40 overseas military and government delegations visiting the stand. Meanwhile, the ever-challenging lunch schedule was managed smoothly, providing outstanding hospitality to a broad range of Ultra's international customers and partners. In addition, Ultra hosted analysts and investors from its shareholder community.

This year, Ultra took part in the twice daily waterborne demonstrations with its new Hyperspike product (left). This is the innovative directional acoustic hailing device and mass notification system from USSI that delivers a very loud (up to 160dB at 1 metre) narrow band directional message to warn potential trespassers that they are straying into patrolled areas.

Also attracting media attention was the Rifle Mounted Gunfire Locator (RMGL) from Sonar Systems. RMGL is a golf ball-sized sensor that attaches to a standard infantry weapon. The sensor uses advanced sonar technology to indicate the direction of incoming fire, such as that from a sniper.

DSEI was also the platform to launch a new product from Precision Air Systems. The mGO ruggedised military lightweight portable oxygen system provides a continuous supply of supplemental medical-grade oxygen at the point-of-need, eliminating the requirement to transport, carry and refill cumbersome compressed oxygen cylinders.

## Sea-Air-Space

After over 40 years at the Marriott Wardman Park hotel, the 2009 Navy League (as it is affectionately known) moved to the new Gaylord Convention Center, on the banks of the

Potomac River near Washington DC. The new venue offers the show and exhibitors the scope to grow in stature and importance within the naval/maritime industry. Ocean Systems, Maritime Systems, Flightline, USSI and EMS represented Ultra on the new look corporate stand.



## LandWarNet

Criticom, DNE and Tactical Communication Systems combined forces to exhibit at LandWarNet in August. Criticom experienced extensive media exposure for its secure video conferencing expertise and for Ultra with interviews with Digital Battlespace, Defense Systems and C4ISR Journal, Government Computer News and Military Information Technology.

## AUVSI

August also saw the largest exhibition in North America dedicated to unmanned vehicle technology. MSI, Precision Air Systems and Advanced Tactical Systems represented Ultra's broad range of unmanned vehicle products and capabilities. Of particular interest at this event was the new DF 70 dual fuel engine (see page 7). This is a lightweight dual fuel engine and engine management system which offers increased mission durations and fuel flexibility in operation.



## AUSA



AUSA is held every October in Washington DC and is the largest land power exposition in North America. It is also the largest gathering of Ultra businesses at a North American trade show. This year ten Ultra businesses were represented on the stand, with visitors from a further three. The unusual long narrow shape of the stand gave the impression that the visitor was constantly walking past Ultra, learning about new products and capabilities for 80 feet. With the uncertainty of the global economy, it was feared that AUSA might suffer this year. To the contrary, the three day show experienced increased visitor numbers and Ultra staff were kept busy with a constant stream of visitors interested in the products and capabilities on show.



## DEFSEC

Maritime Systems and USSI participated at Defence and Security (DEFSEC) in Halifax, Nova Scotia. Canada's second largest defence trade show attracted exhibitors from around the world and was hosted by Canada's Minister of National Defence. Demonstrations of some of Ultra's newest technologies, in the form of magneto inductive and Hyperspike communication devices, ensured that the Ultra stand was always a beehive of activity. DEFSEC 2009 was a resounding success as the defence and first responder communities once again reiterated how impressed they are by Ultra's innovation and entrepreneurial spirit.



# in focus



## Market breakthrough for Rock Phone



The National Institute for Occupational Safety and Health (NIOSH) has awarded **Maritime Systems** a contract for three system sets of 'Rock Phone' transceivers and transmit loop antennae. They will be used for technology demonstrations of magneto inductive through-the-earth communications in mining operations. The Rock Phone system is being used to enable surface-to-underground emergency audio communication with trapped miners involved in a potential mining accident. The contract duration is nine months and culminates in a demonstration of the Rock Phone communication system in a US coal mining facility outside Pittsburgh. As part of this contract, **Maritime Systems** also plans to demonstrate prototype portable magneto inductive direction finding technology as a potential rescue tool for surface localisation of miners trapped underground.

## DNE accelerates PacketAssure iQ launch

Interest in PacketAssure2, now formally named PacketAssure iQ (intelligent Quality of Service) continues to climb. Following a display of a prototype unit at the DSEi exhibition in London, the product was formally launched at the MILCOM military communications conference in October. This is more than three months ahead of schedule. The MILCOM conference theme of 'The Challenge of Convergence,' was a perfect complement to the capabilities of the PacketAssure iQ. **DNE** staff conducted live product demonstrations for potential customers with test equipment partner Spirent Communications. **DNE** is now busy following up the launch by working hard to complete the product design, launch a new marketing campaign and develop the training and support materials for general availability of the product in 2010.



## Update to radioactive incident monitoring network

**Command & Control Systems (C&CS)** has been awarded a £2.8m contract for the replacement of the UK Government's



Radioactive Incident Monitoring Network (RIMNET). This forms part of the civil nuclear emergency response plan for the UK with the system monitoring radioactive fallout across 90

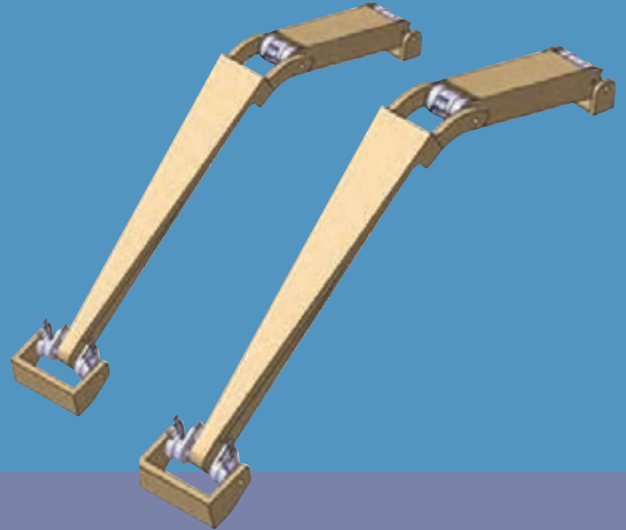
networked locations. The contract was awarded via the prime contractor for the RIMNET system, Logica. C&CS supplies the detectors, communications network and maintenance of the remote gamma monitoring stations.

The communications network managed by Ultra connects the remote monitoring stations to the RIMNET computer facilities in London and at a back up facility at separate location should the London centre be compromised. **C&CS** is required to maintain the system at a high level of availability throughout its long term contract. Development and installation of replacement monitors using Ultra's ANV S2 technology was concluded last year. Ultra has established a strong position in this sector, having also recently won a separate contract from MoD to replace the Dockyard Reactor Accident Monitoring System (DIRAMS) which monitors berthed submarines at Faslane.



# S Innovative solution for Airbus A350 aircraft

Airbus has selected **Electrics** to design, qualify and manufacture a Translating Cable Device (TCD) for its new A350 airliner. The TCD is a safety-critical device used within the monitoring system of the Wing Ice Protection System, with two products installed per aircraft. The project is potentially worth over \$12m and is significant as it is the first business to be procured by Airbus directly from **Electrics**. The A350 aircraft is a 270-350 seat twinjet and is a key aircraft for Airbus as the direct competitor to the Boeing 787. Orders for the aircraft currently stand at over 450, with first flight of the aircraft planned for 2011 and entry into service following in 2013. The engineering capability and experience offered by **Electrics** was pivotal in the Airbus selection decision.



## HIGH PRESSURE CONTRACT

A follow-on order has been received by



**Precision Air Systems** from ITT (EDO Marine & Aircraft) valued at approximately \$7m for the supply of HiPPAG equipment for the F-35 Lightning II (Joint Strike Fighter) program. The HiPPAG system is used to generate the high pressure energy by charging and re-charging accumulators as part of the pneumatic weapon ejection system. The use of Ultra's on-board compressor, HiPPAG, offers operational and logistics benefits when compared with traditional one-shot devices. This latest order for the HiPPAG system covers both the Main Weapons Bay (MWB) and pylon installations as part of the F-35 Low Rate Initial Production (LRIP) Lot 3 programme.

## Ultra system protects Romanian coastline

**Command & Control Systems** has successfully delivered a Coastal Surveillance System solution to Raytheon Anschuetz GmbH and passed site acceptance test with the end-user in Romania. Ultra is providing the main component of Raytheon's system which will provide Romania with the capability to detect, track and initiate alarms on small vessel incursion in sensitive areas. It will also provide long-range surveillance, display radar and AIS tracks on an electronic chart and provide vectoring information for intercept vessels. Ultra's Coastal



Members of the project team:  
L-R Ben Dixon, Wayne Burgess  
and Paul Champion

Surveillance System will give the Romanian authorities round-the-clock maritime domain awareness through the creation of a common operational picture.

Ultra's supply consists of radar processing trackers and local situational awareness displays connected to customer-supplied radar at a number of remote sites, correlation of multiple radar and AIS sensors and a fully redundant command and control (C2) system with a large number of client displays. This C2 system uses Ultra's renowned C2DB software application which can handle a large number of live system tracks, raw radar overlays from multiple sources and integrated EO sensors. All track information is stored in a searchable database for analysis and running queries on this data to search for specific track details.

Romania's coastline stretches along 130 nautical miles of Black Sea from Sulina to the resort of 2 Mai (2nd May) and its Exclusive Economic Zone (EEZ) extends to 200 nautical miles. This installation is significant as it will be able to monitor the EEZ, illegal fishing, provide command and control of maritime forces and assist in the prevention of smuggling and illegal immigration.

## AudioSoft wins in Australia



Airservices Australia, a government-owned corporation providing air navigation and aviation services, is replacing legacy voice logging recorders at 26 airport locations across Australia. After a competitive tendering process, **AudioSoft** was selected as the supplier for the voice recorder upgrade project and will supply over 1,600 individual recording channels across the 26 sites. Digitally recording both audio and radar, this prestigious contract award further underlines **AudioSoft's** successful air traffic control recording product which is now used in over 40 countries around the globe.

## MRJ award

**Controls** has signed a contract with Sumitomo Precision Products (SPP) in Japan to provide systems to the new Mitsubishi Regional Jet (MRJ). SPP is providing the complete landing gear system for the aircraft and **Controls** will develop and supply the Landing Gear Control Unit and the Steering Control Unit.

The MRJ is Mitsubishi Corporation's first ever regional jet and it will be fitted with the new Pratt & Whitney 'geared turbo-fan' engine. The aircraft is planned to enter service with All Nippon Airways in 2014 and recently secured a large order from Trans States Airlines of the US for up to 100 planes.





# Ultra on the road



## National Resilience Extranet on tour

The UK's National Resilience Extranet (NRE), Ultra's headline feature in the spring issue of *UltraNews*, is planned to go live in January 2010. The NRE is a secure web-based browser tool that will enable responders to have access to key information up to and including RESTRICTED level, for multi-agency working and communication.

To inform and familiarise the resilience community with the functionality, features and collaborative working benefits of the NRE, Ultra presented a national programme of 22 briefings during July. The tour took in 11 locations around the UK including Bristol, Cardiff, Nottingham, Birmingham, Fleet, Gateshead, Leeds, Perth, Cambridge and Preston, finally finishing in Belfast. In terms of UK coverage that's travelling over 3,100 miles. Over 700 people registered an interest in attending the briefings and despite the increasing threat of swine flu and the need for the emergency planning teams to prepare for this potential pandemic, the briefings were well attended with over 500 delegates representing resilience agencies required to provide a primary and secondary response and private sector organisations.

## With Lord Mandelson in China



**Airport Systems** has been involved in some high profile Chinese System Integration (SI) projects at Shanghai's Pudong and Hongqiao airports and shared resources with **Manufacturing & Card Systems** to set up its office in Shanghai. Earlier this summer Ultra was again selected for the new Hangzhou airport SI

project. **Controls** and **Electrics** also began actively positioning for business on China's C919 commercial airliner programme. As a leading UK corporation doing business in China, Ultra was invited to accompany Lord Mandelson on a high level Trade Mission in September. Rakesh Sharma represented Ultra Group. During the three day visit to China they met Premier Wen Jiabao, Minister of Commerce Chen Deming and Shanghai Mayor Han Zheng.

## Internal technology roadshows

**AudioSoft** recently ran a series of successful technology roadshows at several Ultra UK sites. All events were very well attended and positively received. The objective was to demonstrate **AudioSoft's** range of recording solutions, giving attendees the opportunity to have hands-on experience and develop a deeper insight into recording solutions.



L-R Alpeh Kavia and Laurence Dixon (Sonar Systems), David Hindon (AudioSoft) and Stephanie Hughes (Sonar Systems)

## Joined up thinking

Ultra was recently invited to exhibit at Thales Optronics, Glasgow, and MBDA, Stevenage. A team comprising **Precision Air Systems**, **Electrics** and **PMES** joined forces to demonstrate the breadth of Ultra's expertise. Using the 'combined strength' motto, the team presented capabilities and products. Both events were seen as a success by all parties and many new contacts were made which are likely to lead to new opportunities.



## Marketing Leaders' Conference

The heads of marketing or business development from each of Ultra's businesses met at Oxford in July for the inaugural Marketing Leaders' Conference, known as MLC '09. Such is the broad spread of the Group and its rapid rate of expansion that this was the first time that many of the marketing leaders had met each other. The focus of the two-day event was how best to exploit together that which makes Ultra different from and better than other companies.



As might be expected when Ultra people get together there was lively debate on a range of topics. Case studies of successes around the Group were used to stimulate debate about how to share best practice. Feedback at the end of the event indicated that it was an invaluable networking opportunity and that smaller groups of individuals would be in contact in the future to agree how to address issues of common concern.



# welcome to...

## ...Tisys and Avalon



### AVALON SYSTEMS

In July 2009, Ultra announced the Group's first acquisition in Australia, **Avalon Systems Pty Ltd ('Avalon')**, based in Adelaide, South Australia. **Avalon** is based at Mawson Lakes Technology Park in Adelaide and was founded in 1995. The business employs 22 people, of which 19 have tertiary qualifications in systems, electronics and computer engineering. **Avalon** specialises in the field of Electronic Warfare (EW), undertaking the design and manufacture of EW sub-systems and providing engineering consultancy services and through-life support. The business supplies the Australian Defence Force ('ADF'), either directly through contracts with the Commonwealth of Australia or indirectly as a subcontractor to prime contractors to the ADF. **Avalon** currently has contracts to supply equipment to all three services, Army, Navy and Air Force, as well as to the Defence Science & Technology Organisation (DSTO).

In November 2008 Ultra received a contract worth over £34m for the supply of three integrated sonar systems for the Air Warfare Destroyers (AWDs), which will be built in Adelaide. Ultra has committed to execute 50% of its contract value in

Australia and the Group's team in Australia working on the design, build and support of the sonar systems will be based at the **Avalon** site. **Avalon** will also serve as a base from which Ultra will address not only the domestic Australian defence and security market but also other fast growing markets in the Asia Pacific area.

**Avalon** will be the main trading entity of Ultra Electronics Australia Pty and Doug Burd has been appointed as Managing Director. Doug has twenty years of experience with Ultra, is a sonar specialist and, before relocating to Adelaide, was President of Ultra's **Maritime Systems** business in Canada.

**Ultra Electronics Australia Pty** is part of the Group's Tactical & Sonar Systems division.

### TISYS

In May 2009, Ultra announced the acquisition of **Tisys SA ('Tisys')**, a specialist airport IT systems business based in Annecy, France. The business employs ten staff and has focused on supplying systems to smaller airports throughout Francophone countries. **Tisys** will be absorbed into Ultra's existing **Airport Systems** business in the Information & Power Systems division. Synergies will be derived from exploiting the **Tisys** range of IT solutions in Ultra's existing markets around the world and Ultra's range of solutions within Francophone countries. The **Airport Systems** business has operations in the UK, the USA, China, South Africa, Australia, New Zealand and Ireland. The **Tisys** product range includes software suites for airport revenue management and invoicing, flight information management and display, resource management and departure control which complement Ultra's existing **Airport Systems** operation and will broaden the Group's range of specialist capabilities in the airport IT systems market.



### ATS ORGANISING FOR MORE GROWTH

Since joining Ultra, **Advanced Tactical Systems (ATS)** has grown to nearly seven times its original size. To align the company with its expanding markets more effectively, **ATS** has reorganised into two business units: Airborne/Maritime led by Ray Munoz and Land/Enterprise led by Jill Daiber. Both Jill and Ray report to Tim Stanley who has become the Senior Vice President of Operations. With this new organizational structure **ATS** expects to continue its rapid growth.



L-R Tim Stanley and Ray Munoz, inset Jill Daiber



### Opening ceremony

In February **PMES** relocated to a purpose built facility on the Towers Business Park, Rugeley. On Friday 3 July the new premises were officially opened by Admiral Paul Lambert CB, Deputy Chief of Defence Staff (Capability). Douglas Caster and David Sammons, Managing Director of **PMES**, hosted the event and were joined by the Ultra Electronics Board and a number of official guests to mark the occasion. After the official ceremony a tour of the premises took place which included demonstrations of new product developments at **PMES**.

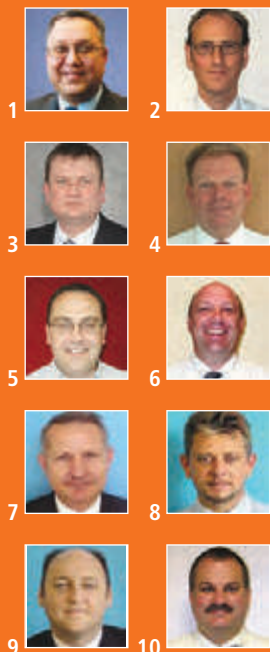
### Future plans for Greenford

In addition to being the location of Head Office, the Greenford site is home for three of Ultra's businesses: **Sonar Systems, Controls and Communication & Integrated Systems**. The lease of the buildings at Greenford expires in 2012, so attention is being directed to the future facility requirements. Nigel Roberts was recently the **PMES** director responsible for the relocation project at **PMES**, Rugeley and, following the successful completion of that move earlier this year, he has now been seconded to Greenford to take up the new position of Project Director (Greenford Facility).

The initial phase of the project will focus on the optimum, cost effective solution considering options that include refurbishment, individual business relocation or collective relocation to new or refurbished sites. Once a solution has been identified, the project will focus on the detailed building configuration(s) and logistics issues.



# people in the NEWS



1. **Rakesh Sharma** has been promoted to Chief Operating Officer from 1 January 2010 with responsibility for all the company's business.

2. **Graeme Stacey** has been promoted to Managing Director, **Information & Power Systems Division** from 1 January 2010. Graeme joined Ultra in 1994 and was project manager for the Heathrow Terminal 5 project immediately prior to his appointment as Director & General Manager in September 2002. He became Managing Director of **Airport Systems** in January 2004 and has successfully led the growth of the business. Graeme has a degree in Electrical and Electronic Engineering from City University.

3. **Aaron McAuliffe** joined **Communication & Integrated Systems** as Director of Programmes. Aaron joins from QinetiQ, Flight Engineering Services Group, where he was Programme Director & Head of Projects. He previously worked at Dunlop Aerospace (Meggitt) as Head of Programmes & Programme Management. Aaron has a MEng degree in Mechanical Engineering and an MBA from Nottingham Business School.

4. **Aidan Douglas** has been promoted to Managing Director, **Airport Systems** from 1 January 2010. He joined Ultra as Strategy & Marketing Director of **Command & Control Systems** in July 2009 from from Plastics Capital plc where he was a Divisional Director. He previously worked at Diageo, McKinsey and GEC Alstom. Aidan has a MEng degree from Imperial College London in Electrical and Electronic Engineering and an MBA from London Business School.

5. **Clark Bain** has been promoted to VP, Engineering and Programs at **Maritime Systems**. Clark was previously Director of Technical Development having joined from **Datel** in 2006 where he was UltraSBS Projects Manager. As well as other roles at **Datel**, Clark also held programme management and systems positions at BAE Systems and GEC Marconi.

6. **Joe Hickey** joined **Tactical Communication Systems** in August 2009 as Vice President of Business Development and Marketing. Joe has 18 years of experience in sales, marketing, business development and new product introduction. His most recent position was with ACME Tele Power as Executive Vice President of Sales and Marketing and he has held senior executive positions in TenXc Wireless, TeraBlaze and Nortel Networks. He holds a Bachelor of Science degree in Mechanical Engineering and an Executive MBA.

7. **Mark Merrifield** has been promoted to Managing Director of **Sonar Systems**. Mark was previously Director & General Manager and Marketing Director. He joined Ultra in 2007 from ATLAS ELEKTRONIK and before that served with the Royal Australian Navy. He has an MBA from Deakin University, Australia.

8. **Matt Cox** has been promoted to the position of Marketing Director, **Sonar Systems**. Matt joined **Sonar & Communication Systems** as a Project Manager in 2002. He was appointed Head of Marketing for **Sonar Systems** in October 2008.

9. **Mike Baptist** has been promoted to Managing Director of **Communication & Integrated Systems (CIS)**. Mike was previously Director & General Manager of **CIS** since its formation. He has held a number of roles within **Sonar & Communication Systems** having joined Ultra in 1989. Mike has a degree in Electrical & Electronic Engineering.

10. **Rob Esposito** joined **Measurement Systems Inc** in September 2009 as Vice President of Finance. Rob is a Certified Public Accountant and holds a Bachelors Degree in Accounting and a Masters of Science in Information Systems. Rob joins Ultra from Data Capture Solutions where he was Chief Financial Officer; he was previously Controller and Chief Information Officer at OFS Fitel. Rob has previous financial experience in manufacturing, as well as aerospace/defence businesses.

## To be perfectly Frank...



**Command & Control Systems** has introduced a Managing Director's Award to recognise outstanding personal commitment to the business. The first award has been presented to Dr Frank Charlesworth, Chief Engineer for the Nuclear Control Systems business unit. Frank delivered a series of twelve lunchtime briefings, four on safety critical systems design to IEC61508 and eight on electronic design. These lunchtime briefings are of direct relevance to the work being undertaken in the **Command & Control Systems** business as it migrates its proven ability to design control systems for military nuclear reactors into the fast-growing civil sector.

## 40 years service

Two members of staff at **Command & Control Systems** have recently celebrated 40 years of service with Ultra and its precursor businesses. Both joined in 1969 the Plessey business that was acquired by Ultra as Radmon late in 2008.

**Dave Merrifield** started in the Model Shop as a toolmaker until 1988 when the Model Shop closed. He then assumed a new position as a Material Planner, moving to Purchasing as a buyer within two years. Dave's mechanical engineering background has proved invaluable in sourcing new components and suppliers for a wide range of products including the ANVS2 detector, feedwater control valves, valve position detectors, and more recently Astute Cubicles for the Boat Set 4 programme.

**Pete Osborne** began work as a Progress Chaser within the Nucleonics and Traffic divisions of Plessey. He was later involved in the development and introduction of cellular manufacturing for the Traffic Production Line and subsequently a major project to supply the Highways Agency with Motorway variable message signs. More recently Pete has managed the materials handling functions and manufacturing IT systems.



Dave Merrifield (right) and Pete Osborne (left)

## Apprentice scheme candidates



In 2008, **Command & Control Systems** initiated its programme of Advanced Modern Apprenticeships in Engineering. The scheme offers students the opportunity to be trained in fundamental engineering principles and to gain practical work experience

whilst learning. The training takes four years to complete and requires the apprentices to undertake vocational and key skills training working towards a Technical Education Certificate at a local college, with an option to complete a further qualification to HNC/HND level. After completing the apprenticeship the candidates will become highly skilled and invaluable members of the Ultra team.

Two apprentices, Grace Munday (top left) and Jack Braisher (top right) were successfully recruited in 2008. This year, Ed Povey (bottom left) and James Holcombe (bottom right) have been selected from over thirty applicants. All apprentices are now undertaking a comprehensive engineering and on-the-job programme training programme in line with National Vocational Qualification standard.

## MBE for Geoff Paine

On Tuesday 2 June 2009 Geoff Paine, Editor in Chief of the Publications Department at **Dascam** was invited to appear before Her Majesty, Queen Elizabeth II at Buckingham Palace. Geoff was to be awarded his insignia commemorating his appointment as a Member of the British Empire (Military Division). This was awarded for his contributions to military operations over the past 20 years and particularly recently in Iraq and Afghanistan.





## Nick



**Nick Young**, UK & European Business Development Manager, **ATS**, Nick joined **Command & Control Systems** in October 2004 then transferred to **ATS** in 2006.

Nick has been married to Jane for 18 years and has a 16 year old son, George. The family lives on the banks of the creek in Fareham, Hampshire UK.

## Debra



**Debra James**, HR Advisor, **Command & Control Systems**, Poole. Debra has 16 years of service with the company which was previously Radmon before being acquired by Ultra in 2008.

Debra lives with her partner and terrier dog just four miles from work.

### What do you most enjoy about your job?

**NY:** I love the engagement and interaction with the customer community. I'm a firm believer that exceptional customer relationships are the basis for a company's success. As I cover Europe and parts of the Middle East, my customer base is wide and varied and, over the past few years, I have made some firm friends in places as diverse as Denmark, Poland and the United Arab Emirates.

**DJ:** Being part of the HR team; building for the future and focusing on HR strategic goals; developing the skills and capability of staff; winning the war on talent and being an ambassador for the business.

### Most important lesson learned to date during your career?

**NY:** Never take anything for granted! This applies particularly those really valuable opportunities that look as though they are 'in the bag'. Every opportunity needs the closest scrutiny right up to contract award; anything can go wrong at any time. Ultra uses the word 'paranoia' to describe this tendency to assume that the worst might still happen.

**DJ:** I have learned several lessons in my working career: Integrity – do the right thing whatever the circumstance; Valuing people – respect everyone and appreciate their diversity; Excellence – always strive for continuous improvement.

### Your favourite hobby/pastime?

**NY:** Most of my spare time is taken up with supporting my son who, at 16, is doing particularly well as the drummer with The Rivers of Sound. I play guitar, read and like to tinker with computers.

**DJ:** Predictably, like many women, shoes, shoes and shoes, in all colours! Apart from that, embracing the area in which I live; Dorset has a natural beauty throughout the seasons. In my spare time I am a community school governor and mentor two students. This enables me to raise the profile of the school and to give something back to the community.

### Funniest situation that you have had to deal with at work?

**NY:** Too many to mention! As I travel a lot with the job, I have to make sure I'm pretty organised. However, on one occasion in Abu Dhabi, I arrived at the airport after a 35 minute taxi ride to discover I had left my passport in the safe at the hotel! I luckily still made my flight with seconds to spare.

**DJ:** Spending a complete day looking like the pantomime character Long John Silver when the heel came off my shoe. Despite my extensive shoe collection I had no spares in the car so I hobbled around the office all day, red faced and very embarrassed.

## MSI employees celebrate wellness program success

'COMMIT TO BE FIT' was the theme of the wellness program led by **MSI** this year. The goal was to increase physical activity amongst employees using a creative approach that encouraged participation through friendly competitions, cooperation and excellent team spirit.

The eight week program was simple in structure, offered flexibility and provided motivation through incentives. The senior team supported the effort and its commitment and role-modelling were key to the program's success. New wellness initiatives this year included a 'cereal breakfast', the 'Save your Sole' sneaker donation program, 'Baggo' (the challenging and competitive 'bean bag toss' game that elicited the highest employee participation), a weight loss program and an obstacle course incorporating different levels of tasks ranging from simple to vigorous.

The leading ambassadors for this year's program were Faith Mott, Human Resources Manager and Tony Jacques, Senior Designer. With 50% employee participation, 1,508 miles were logged for the walking program and a total of 66 pounds were lost in the weight loss competition. Whether a runner, a walker or a competitor, everyone who participated was A WINNER! Pictured are the winners of each event.



## Ultra Learning Academy

Developing Capability  
for Business Success



Due to launch very soon, the Ultra Learning Academy has been developed to provide a framework for the training and development programmes that are available across the Ultra Group, for example Maximising Leadership Impact (MLI) and Strategic Selling. The Learning Academy will be accessible through the Group Intranet and will provide information such as courses available, dates for the next planned sessions, additional reading and registered attendees. Further details regarding the Ultra Learning Academy will be available from your HR department in the near future.

## ShareSave as popular as ever

The Canadian and US ShareSave plans were offered again this year and proved extremely popular. ShareSave was also launched in the UAE for the first time. A total of 52.3% employees in US, 64.2% in Canada and 36.9% in UAE have enrolled. ShareSave will be offered annually in the Canada, UAE, UK and US.





## Referee!!!



After winning a new contract potentially worth £15m to manufacture all electronic circuit boards for Meggitt Avionics' aircraft instruments (see page 7), **Manufacturing & Card Systems** challenged the

Meggitt team to a soccer match to cement the new relationship. Beating the new customer by 7 goals to 2 might be considered a bit risky but shows **M&CS** are always ready to go the extra mile!

In mid-July, **Precision Air Systems** challenged the Test Solutions part of the **Electrics** business, based in Cirencester, to a soccer match. It was an excellent contest with **Electrics** coming out on top with a convincing win of 20 - 3.

Undeterred, the **PAS** team played **Electrics**, Cheltenham in mid-September and although enjoyed the game immensely, lost once again 12 - 4. Does any other business want to take on the successful **Electrics** team?

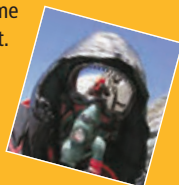
## Twin Peaks



Nada Ebeid, Systems Engineer at **TCS**, is always on the lookout for challenging adventures. A simple photograph set Nada on a vigorous training regime which included endurance walks and altitude climbs. The result was an exhilarating expedition to climb Mount

Kilimanjaro, Tanzania earlier this year. Nada's joy at the summit is clear in the photograph. Congratulations!

Another high altitude challenge was completed by Neil Thompson, Programme Manager at **Controls**. Neil was hoping to fulfil the dream of a lifetime by climbing to the summit of Everest. While being sponsored by **Controls** for the climb, Neil also raised about £2,000 for the CJD Support Network charity.



## Space Hopper soccer



In August **Command & Control Systems**, Southampton enjoyed a rather energetic summer BBQ. Employees and their families

became fiercely competitive with the 'Space Hopper Soccer' challenge. Four teams battled it out, even during the rain showers, but it was Team 2 (comprising of John McNamara, Ben Dixon, Moi Macias, Keith Greenwell, Mike Hall, Paul Richards, Jackie Stickler, Peter Roelofs and John Drummond) that was victorious and won the coveted cup!



## Car CHASE

CHASE Care is a children's charity supporting families with children and teenagers not expected to live to reach their 19th birthday. To raise funds, a 3,000km charity drive across Europe was organised with just two handicaps: the car cannot be worth more than £500 and the drivers have to wear costumes. Nick Hulbert, a graduate at **AudioSoft**, and his brother joined forces in the 4-day drive in a 1983 Volkswagen Santana dressed in the gorilla outfits. The successful event raised over £65,000 for CHASE.



## 2009 triathlons for Ultra staff



It's been a busy season for the **Precision Air Systems** triathlon team with two 'super sprint' events in July and another in September. Distances completed are 500m swim, 20km cycle and 2.7km run. Efforts are paying off as the team is moving up the results table. At the September event, the team time of 6:42:16 achieved a respectable 19th out of 29 teams, thanks to great times from Kevin Gilchrist and Mark Gardner together with Vicky Bussell, Catherine Johnston and Alison Dunn. The July event was held in aid of the UK Royal National Lifeboat Institution charity, for which they raised a sponsorship total of £301.

Meanwhile, Simon Germain, RF Engineer at **TCS** in Montreal participated in the 2009 Lake Placid Ironman triathlon, a long distance triathlon involving 3.8 km swim, 180 km cycle and 42.2 km run. Simon achieved a very commendable 266th out of 2258 finishers.

## Marie Curie Cancer Care Ladies Driving Challenge



In September, Beverley Lambert and Michelle Spysers from **C&CS**, Poole entered the ladies driving challenge at the British Army's Bovington Camp. Beverley and Michelle drove various

methods of transport over six stages, including a doubledecker bus and a WWII French Jeep. A thoroughly enjoyable day was had and a total of £214 was raised for this worthy cause.

## Take me to the ballgame!

Colleagues at **Criticom** in Lanham, Maryland, participate in a semi-annual Spring/Fall baseball game. The players take their baseball seriously – they only allow wooden bats, hire an umpire (not that they don't trust each other) and they play a full 9 innings. Battling for 4 hours, playing America's favourite pastime and reliving their youthful, glory days. **Criticom** employees Luis Figueroa, Lawrence Trapuzzano and Brian Garcia (and his 13 year old son, Marcus) play in this event. Marcus pitched two full innings, striking out one and nearly striking out Luis (an accomplished baseball player).



### FEEDBACK

I hope you enjoy this issue of **Ultra News**. If you have any comments on the new look **Ultra News** or ideas for future issues please let your local contact or me know  
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**Measurement Systems Inc.**  
Kim Burns  
**NSPI**  
Rachael Kerlin  
**Ocean Systems**  
Heather Lange  
**PMES**  
Sarah Barker  
**ProLogic**  
Casey Arnett  
**Precision Air Systems**  
Jackie Reece  
**Sonar Systems**  
India Kalsi  
**Tactical Communication Systems**  
Michel Fournier  
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# UltraNews

## systems engineering

why it's in Ultra's DNA

Alan Barker explains **page 12**

- 
- Lifecycle management
  - Requirements management
  - Architecture/system design
  - Modelling and simulation

- Integration and verification
- Setting-to-work and validation
- Deployment, support and disposal
- Change/configuration management

Ultra Systems Engineering

Ultra culture: disciplined, professional...



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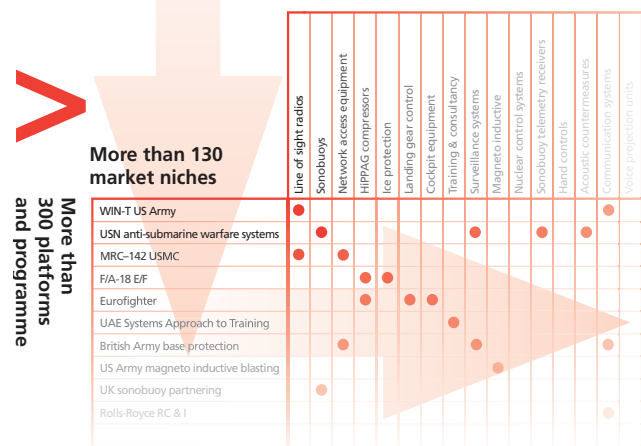
## strategies for growth... ...driving

### The challenge

A common question for Ultra and its peers at the moment is how our Group can continue its growth trajectory in market conditions that are predicted to be more difficult in the near future. Since the formation of Ultra in 1993, we have grown revenue at a compound annual rate of 14%. This has been a combination of both organic and acquisition growth. In the last five years the organic growth has risen to 10% compared to 7% for the whole period since 1993. This successful track record has been established through periods of expansion as well as contraction in the defence and civil sectors. This article considers how the Group has achieved that and why Ultra is different from other businesses in this regard. It discusses the reasons why we feel that continuing high single digit organic growth is possible into the future.

### Positioning Ultra's specialist capabilities

Ultra has a track record of using its market knowledge to identify high growth sectors of the defence, security, transport and energy markets and taking steps to position the Group where customers will preferentially spend their available funds. Within these market sectors Ultra focuses on developing specialist capabilities that provide differentiated solutions to customers' requirements. Across Ultra's businesses there are more than 130 of these specialist capability areas. These are shown as the columns in the matrix shown in the graphic below.



Ultra positions these specialist capabilities on a long list of international platforms and programmes. These are shown as the rows in the matrix on the graphic. Ultra is positioned on more than 300 such platforms and programmes and none contributes more than 5% of Ultra's revenue in any year.

Design: HaT Associates  
Print: Alpha Colour Printers



"The increasing scale of the Group brings into sharp focus the need for Ultra to maintain its rate of progress in its various markets."

**Rakesh Sharma** Chief Operating Officer

# resilience

Ultra provides a broad portfolio of solutions to customer requirements. These range from one-shot disposable products to long-term capability-management programmes. Ultra is expert at the supply of systems, sub-systems, products and components. Ultra can augment these with training programmes as well as undertake through-life management, address aging and obsolescence issues or undertake to create and maintain a capability within the customer community.

## Creating resilience

The broad spread of specialist capability areas mapped onto so many platforms and programmes provides great resilience to Ultra's financial performance. No market area is key – even if demand were to disappear overnight it would not damage Ultra badly. In fact, in Ultra's markets, demand for such capabilities does not disappear quickly. It may decay slowly over time but Ultra will have enough time to exploit our skills and domain knowledge to position the Group in an adjacent growing market area. No single platform or programme is key to Ultra. Delays and cutbacks in customer expenditure plans have always occurred and will almost certainly be seen in the future. Being specified on more than 300 platforms and programmes with none contributing more than 5% of annual sales, means that such programme changes do not have a significant negative impact on the Group's performance.

*continued on page 4 ►*

## Rakesh Sharma

BSc MBA CPhys MInstP  
Chief Operating Officer,  
age 48, started his career  
as an electronic design  
engineer at Marconi in 1983  
before moving to Dowty as  
Chief Engineer of Sonar &  
Communication Systems in  
1989. He was appointed  
Marketing Director of that  
business in 1993 when Ultra  
Electronics was formed.  
From 1997 to 1999 he  
worked in the US as Ultra's  
Operations Director, North  
America. After returning to  
the UK he was Managing  
Director of PMES and then  
of Sonar & Communication  
Systems before taking his  
first divisional role in 2005  
as Managing Director,  
Tactical & Sonar Systems.  
In 2008 he moved to run  
the Group's Information &  
Power Systems Division  
before being appointed  
Chief operating Officer in  
January 2010.



"Ultra's independence allows it to sell its wide portfolio of specialist capabilities to a broad range of customers around the world."

## Driving resilience (continued)

### Driving growth

Ultra constantly strives to increase its share of the high growth sectors of the markets in which it has positioned itself. The four main strategies for growth are:

1. Increase the Group's portfolio of specialist capability areas
2. Augment the number of long-term platforms and programmes on which Ultra's specialist capabilities are specified
3. Broaden the Group's customer base
4. Widen Ultra's geographic footprint

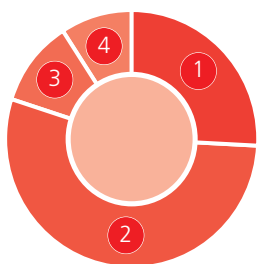
Successful pursuit of these growth strategies requires the successful execution of both competitive and corporate strategies. The first element, the competitive strategies, are implemented by each of Ultra's businesses and focus on winning new business in the niche market sectors in which the Group has positioned itself. The corporate strategy adds value by focusing on Ultra's investments in acquisitions and in significant internally-funded development programmes.

### Competitive strategies

Ultra's competitive strategy process is conducted in the first half of each year. The management team of each of Ultra's 24 businesses must produce a detailed, rolling five-year plan for their various specialist capability areas. This competitive strategy follows an 'offerings-based' approach in which prime consideration is given not to what Ultra sells but to what the customer buys. This 'market pull' approach therefore considers not just the technical attributes of products or systems but also the commercial package, the training and the support in which the customer is interested. Ultra's focus is on constant innovation of the offering so that it is different from and better than the competitors' offerings. This differentiation must be really valued by the customer, not just perceived by Ultra. The intention is that customers should want to obtain Ultra offerings in preference to those of competitors.

### Corporate strategy

Ultra's success is underpinned by its investment strategy. The Group has invested to position itself in growing sectors in its various main markets. Ultra has demonstrated its expertise in identifying investment opportunities that deliver growth, either within existing businesses or by acquiring businesses which complement and broaden the Group's portfolio of products and services. This includes broadening the geographic reach of the Group.



Historically, the majority of Ultra's acquisitions have been in North America and the point has now been reached where the Group has a transatlantic capability and derives more of its revenue from the US and Canada than it does from the UK.

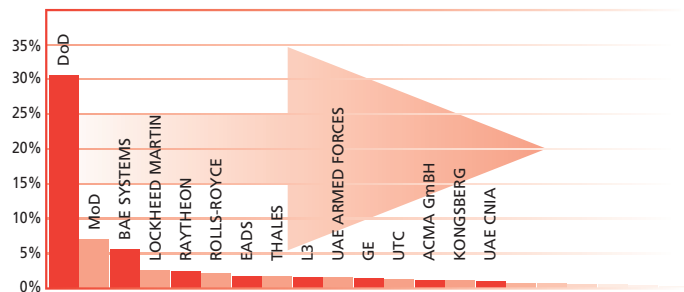
As depicted on the pie-chart, revenue from the Middle East and Asia Pacific regions are capable of expansion as a proportion of Ultra's portfolio. The acquisitions of Dascam in Abu Dhabi and Avalon Systems in Australia indicate Ultra's intent in this regard.

### Independence

Ultra's independence allows it to work with all the world's major defence security, transport and energy prime contractors. Within the definition of the supply chain shown in the box opposite, Ultra's specialist capabilities are mainly at tiers 3 and 4. Ultra does undertake tier 2 sub-system integration but does this mainly when integrating its own tier 3 offerings. Ultra therefore understands and controls the detailed interfaces between the tier 3 equipments and so is better positioned to manage the risk inherent in tier 2 sub-system integration activities.

Ultra has no intention of being a tier 1, top level platform provider. The Group is therefore non-threatening to the tier 1 prime contractors. They can rely on Ultra to provide the specialist capabilities at which Ultra is expert.

Ultra's independence allows it to sell its wide portfolio of specialist capabilities to a broad range of customers around the world. The graphic shows the major customer for the Groups 2009 revenue.



Within the top three customers, DoD, MoD and BAES, Ultra actually supplies to a wide range of difference project offices, integrated project teams and platform teams. Ultra therefore deals with a larger number of different customers than the graphic might first suggest.

### Ultra behaviours and values

In this edition of UltraNews, Douglas Caster comments on another successful year for the Group and Phil Evans finishes the series of articles on LEAP behaviours by describing what we mean by Paranoia and why it is so important in a business context. These behaviours, values and method of conducting business are core to how we want Group businesses to behave. We want Ultra teams to maintain the agility and sharp focus externally on customer requirements that are typical of owner-managed businesses. A senior official in the UK MoD once described Ultra as being "24 small and medium sized enterprises (SMEs) flying in very close formation." Our business model has proven to be successful over a long period of time and there is no reason why it shouldn't continue long into the future.

**Rakesh Sharma**

### Supply chain tiers 1 to 4

#### Tier 1:

platform provider

#### Tier 2:

sub-systems integrator

#### Tier 3:

equipment supplier

#### Tier 4:

component supplier



## Andy Hamment Group Marketing Director



# one voice, one look... one Ultra

Ultra is a successful, growing Group and we should all be proud to be part of a winning team. I am sure that we all value the Ultra brand and seek to maximise the benefit we get from being part of a cohesive Group of businesses. The guidelines for branding Ultra have been updated and are available at [www.ultra-electronics.com/branding](http://www.ultra-electronics.com/branding). I would ask for your support in ensuring that the guidelines are adhered to.

**Our overall brand strategy** is to go to market as 'one Ultra'. Our audiences should see a consistent look and feel from Ultra, no matter which business they are working with, communicating the strength we gain from being a coordinated organisation.

**The guidelines have been** updated and the scope broadened to include, for example, PowerPoint presentations and website design. They now cater more for in-house design activity as well as professionally-printed output in order to better to reflect the way we now do business. Overall we have adopted a pragmatic approach and have responded to feedback on the previous version.

**As well as the basic items** such as logo use, colours and stationery, updated instructions include:

- **Company brochures/literature**

- layout
- font
- logo position
- guidelines for the (interim) use of 'preacquisition' names of businesses
- title
- company/corporate details
- approval/sign off procedure

- **Websites**

- consistent look
- font

- **Exhibition graphics**

- consistent backgrounds for
- Foamex boards
- pull-up banner
- pop-up systems
- modular systems
- custom builds
- approval/sign off procedure

- **Advertising**

- consistent/clean look
- position of logo
- company/corporate details



**There are examples** around the Group where the previous version of the guidelines has not been followed. We must all work to ensure that the new version is enforced rigorously and help will readily be given to assist in this.

The email address [corporate.ID@ultra-electronics.com](mailto:corporate.ID@ultra-electronics.com) is available for approval of any use of the branding guidelines and to answer any queries there may be as to their application.



"Our overall brand strategy is to go to market as 'one Ultra'."





"By working together the team members must be able to achieve something that would not be possible without teaming."

## Teaming internally and externally

# Sharing technology to serve the customer

Ultra maintains a consistent focus on finding innovative ways to meet emerging customer requirements. Increasingly, this is achieved through teaming, both internally and externally. Teaming can reduce the cost, risk and time taken to develop new solutions. From a customer's perspective, teaming and cross-border technology transfer can meet requirements for in-country content, security compliance, local service provision and can assuage any concerns about longterm security of supply and support.

**Teaming arrangements** must be of benefit to all parties. By working together the team members must be able to achieve something that would not be possible without teaming. Ultra also teams to transfer technology across international borders in order to deliver to the customer nation the sovereign operational capability it needs. That Ultra is technology-agnostic makes it an ideal teaming partner for such technology transfer.

**Ultra shares the benefits** of such teaming arrangements with its partners in an equitable fashion. The overall intent is that all teaming partners should want to work together on the next opportunity and the one after that. Long-term relationships are then forged that benefit all parties.

**Recent examples** of teaming within Ultra have centred on the transfer of technology from the UK to the USA.

**Electrics** has partnered with **EMS** on Long Island, New York to exploit its Battery Monitoring System (BMS) in the US armoured vehicle market. **EMS** is an established power conversion and system provider to the US defence market with a strong reputation and good market knowledge. BMS will provide a natural progression for **EMS** into vehicle power management; allowing customisation of the offering to meet US requirements and giving the assurance of on-shore manufacture and support. Target platforms include the Bradley and Stryker fighting vehicles, the Abrams tank and the Paladin howitzer.

**Electrics** has also partnered with **Flightline Systems** in Rochester, New York for production and support for its aircraft test systems offerings. These fuel quantity and data-bus test systems were initially developed by BCF Designs Ltd prior to its acquisition by Ultra in December 2007 and recent transfer to **Electrics** at Cheltenham. Under this arrangement responsibility for the US test set market will transfer to **Flightline Systems** who will accelerate the growth of the US test set market for Ultra. By the end of 2010, the current **Electrics** US office, calibration and repair facility will have moved to **Flightline Systems** and will be integrated within its own test systems business. Thereafter, **Flightline Systems** will undertake all marketing, integration, production and support activities for these products.

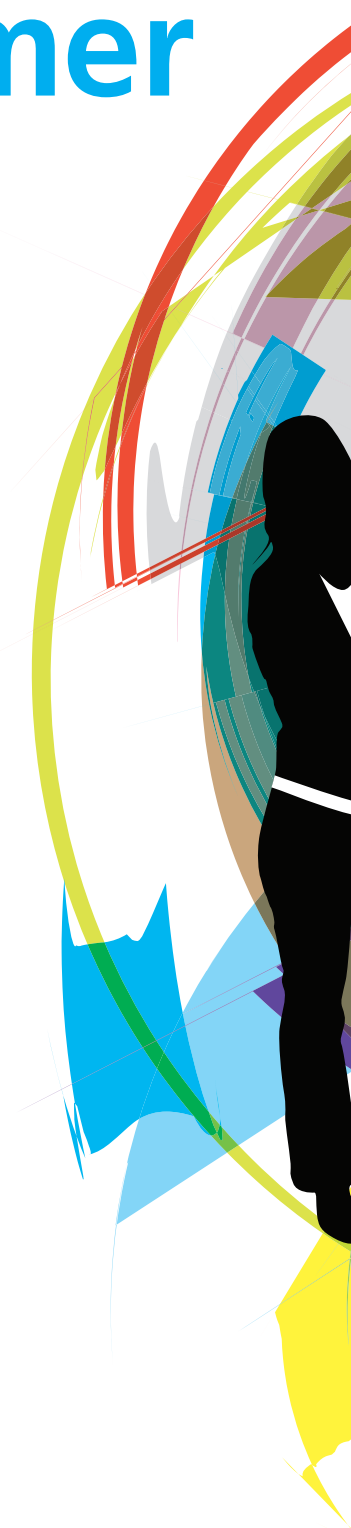
**Precision Air Systems** has selected **USSI** in Colombia City, Indiana as its partner to provide US manufacturing and support for its HiPPAG range of airborne compressors. These products are fitted to many US fighter aircraft for missile-seeker cooling including: AV-8B Harrier, AH-1W Super Cobra, F/A-18C Hornet, and F/A-18E/F Super Hornet. They are also being fitted to the F-15E and all variants of the F-35 Joint Strike Fighter aircraft for pneumatic weapon ejection and are being supplied to Boeing for the Small Diameter Bomb programme. The technology transfer will provide an essential national capability for the US and help to combat potential on-shore competition.

**Sonar Systems** has partnered with **Flightline Systems** in Rochester, New York to pursue the US opportunities for the Rifle Mounted Gunfire Locator (RMGL) and related offerings. Under this arrangement **Flightline Systems** is responsible for the US market and will capture a share of the growing US gunfire detection market for Ultra.

**AudioSoft** has chosen **Criticom** to host a Director of Business Development to drive its activity in the US.

**AudioSoft** solutions provide data recording and analysis products in support of customers' missions and have achieved significant success in defence, emergency services, law enforcement, and homeland security. With its debut in the Washington, D.C. area, **AudioSoft's** strength in these particular markets aligns well with **Criticom's** expertise and focus, making **Criticom** an excellent launch pad for **AudioSoft** products in the US.

These programmes highlight the benefits that can be achieved through internal teaming in Ultra. Similar relationships are being developed to enable **Dascam** to lever Ultra offerings into the United Arab Emirates and Middle East region and for **Avalon Systems** to serve markets in Australia and the Asia-Pacific region.







**Bob Henry** Mergers & Acquisitions Director



## Teaming at the Winter Olympics

To meet the challenges of supporting the 2010 Winter Olympics security, a team of government, military, and contractor personnel completed the installation of the Advanced Joint Interface Control Officer (JICO) Management System (AJMS). The AJMS, developed by **Advanced Tactical Systems (ATS)**, teamed with Thales Air Operations (TAO), is a state-of-the-art network management, situational awareness, and command and control (C2) system. It provides the JICO with a modern and efficient tool to manage, monitor and plan real-world, complex, joint tactical data link communications. During the Olympics there was increased activity in air, on land and at sea by governments and agencies. AJMS was crucial to maintaining a coordinated and responsive security environment.



The four cultural behaviours of its people that are highly valued and encouraged by Ultra are:  
 • Leadership • Entrepreneurship • Audacity • Paranoia  
 Together they make **LEAP**

## Ultra behaviours

# Leadership, Entrepreneurship, Audacity, Paranoia

# LEAP Paranoia

This is the fourth and final article looking at the four behaviours that Ultra believes are central to its ability to continue delivering its excellent business performance. We have already considered Leadership, Entrepreneurship and Audacity and in this article we'll look at the role played by Paranoia.

When using the term 'paranoia' in Ultra, we're not referring to the serious and debilitating medical condition, but rather to the positive and energising force that drives us to make sure no stone is left unturned in our efforts to win and retain business.

Before we look in more detail, let's recap the key elements of the other three behaviours:

### Leadership:

- Achieving an appropriate balance between the use of hard and soft power by recognising what the situation demands.
- Understanding that leadership is all about enlisting the willing support of our teams.
- Understanding the roles a leader must fulfil ('PL-OR-DI-CO-CO' is a helpful mnemonic to remind us).

### Entrepreneurship:

- Creating organisations that have the capability to generate excellent ideas and the business skills to bring them to market.
- Encouraging businesses and people to try new things, but always learning from the mistakes that are inevitably made along the way. (This is what our strap line; 'Innovation through Experience' is all about)
- Business leaders behaving as owner-managers – investing in innovative solutions, but investing wisely based on sound business judgement.

### Audacity:

- Daring to believe that we can make transformational, not just incremental changes in our businesses – remember Dick Fosbury and the Fosbury Flop!
- Recognising that our competitors are right behind us and will go past us if we don't continue to transform our capabilities, offerings and people.
- Thinking outside the box – not being constrained
- Applying audacious thinking to internal problems as well as external opportunities

### Paranoia

There's a working definition of paranoia that lies at the heart of what we mean when we talk about it as being one of Ultra's key behaviours. It runs, 'a paranoid is someone who knows they only know a little of what's going on'. They therefore worry about what they know they don't know. In every walk of life those, who succeed do so because they know more than the next person – that knowledge is the key to getting ahead and staying there.

So, with a long list of attributes and qualities that has been quoted over the years as being 'business critical', just how important is paranoia in the context of Ultra's business? We can answer that in part, by listening to Andy Grove, the former CEO (and latterly Chairman) of Intel, the most successful computer chip maker on the planet. He wrote a book identifying the key factor in Intel's success and called it, 'Only the Paranoid survive'. It's as clear a statement as one could find on the subject; he regards paranoia as vital to the long-term survival of any business. Even though he was running a company that looked almost unassailable, he recognised that if he didn't watch out, some other business would come along with a 'better mousetrap' and beat him into second place. Intel has sustained that position as the number one computer chip manufacturer and continues to be a 'paranoid' organisation.

As Ultra continues to grow, we need to ensure that we don't lose sight of the fact that other businesses are envious of the positions that we have established and will do everything possible to 'steal our lunch'. It's been said that only those businesses that constantly try to anticipate change will be able to survive when it happens. So what can we do to secure and build on the foundations that have been established? The key things that we can do include;

- Maximising our knowledge of the competitive landscape by constantly asking questions of our customers, teaming partners and suppliers
- Refusing to accept the status quo – just because we always did it that way, doesn't mean it will still be good enough in future
- Maximising the quality of our proposals, engineering solutions and processes by undertaking robust, challenging peer reviews of them
- Being relentless in the pursuit of our goals



## Phil Evans MD Aircraft & Vehicle Systems

### A painful lesson

In 2008 when Toyota overtook General Motors to become the biggest car manufacturer in the world, the President, Katsuaki Watanabe, stated that his biggest concern for the business was that it would 'fail to stay paranoid'. Paranoia was the quality that had enabled Toyota to get to the number one spot in the world and Mr. Watanabe knew that it was only by staying paranoid that they could remain there.

Recent experience has confirmed just how real that threat to the business can be. Problems with braking systems on many of its models have severely dented consumer confidence in Toyota, damaged its order book and plunged it into crisis. First reports suggest that insufficient care was taken over out-sourcing to Portugal to support increased rates of production. Toyota lost the quality of paranoia in its decision making process. Toyota was certainly regarded as a world-class benchmark for quality and reliability in manufacturing. Even the best companies such as Toyota can fail if they don't stay paranoid.

### 'Positive Paranoia'

Paranoia can be a positive quality, motivating the right behaviours; we can even see it as an emerging theme in the defence sector. In the United States, Professor Roderick Kramer at the Harvard Business School is advocating 'positive paranoia' as the counter to today's emerging political threats to our security. He says that we can't afford to rely on positions of strength to protect us – identifying terrorist attacks on our homelands in the last few years as prime examples. Instead he advocates an approach based on finding out what you don't know, anticipating the radically different strategies our enemies (or competitors in Ultra's case) might employ to defeat us. It's by finding out everything we can about our customers' needs, our competitors' strategies and every other piece of relevant information we can find, that we arm ourselves for the fight and have the best chance of winning. It is what we don't know that will harm us, because we can't take any steps to overcome it. The fact that we have had a robust position, even market leadership in the past, is no guarantee that we can stay there. The competition will seek to transform the field of battle, thereby neutralising our capabilities and making us fight on their terms. We need to be alert to (or paranoid about) such changes and be ready to respond. Ideally, we're the ones who keep moving the goalposts making it more and more difficult for our competitors to keep up with us.

### Paranoia – the opposite of complacency

Howard Hughes' quote on the subject of paranoia is probably the most appropriate to close with. When it was suggested to him that he was a 'paranoid, deranged millionaire', his reply was swift and cutting, 'I'm not a paranoid deranged millionaire. Goddamit, I'm a billionaire.'

In the first quarter of 2010 Ultra became a £1 billion business (as measured by market capitalisation) with sales exceeding \$1 billion. This is a fantastic achievement, powered by excellent Leadership, Entrepreneurship and Audacity across the business. Staying there and continuing to grow will be fuelled by healthy Paranoia. We know we can't afford to 'rest on our laurels'; we have to continue to focus on these key behaviours if we are to continue to succeed.

read about 'PAS's  
paranoia in action' on  
page 22 ►





## Chief Executive's review

# another year of success

I have previously defined success in Ultra most simply as 'delivering the agreed strategy, meeting or beating the agreed budget and developing the people within the Group'. I am pleased to report that Ultra is succeeding on all three fronts. Let me take these three elements of success in reverse order, starting with the development and training of staff.



If any business does not maintain a constant focus on growing the capabilities of the team, and the individuals in the team, it will become a constraint on the continuing growth and development of the business itself. By developing and retaining its high potential individuals, the Group is creating its next generation of business leaders who will be able to take up the challenge, when required, of continuing the growth and expansion of Ultra. In 2009 Ultra achieved a retention rate of 98% of those individuals. Ultra has, as a result, been able to appoint a high proportion of its leaders at board, divisional and business levels through internal promotion. In 2009 seven of the eight appointments at this level were filled internally. This proportion has been broadly consistent over the last three years.

**"the fundamental drivers of demand in Ultra's main market sectors remain strong and I am sure that we can continue to win new business, execute contracts effectively and maintain the strong growth record"**

In 2009 over 30 in-house training courses were run in the UK and in North America. Many of these are courses that are tailored to the specific requirements of Ultra and a focus is maintained on bringing together people from different businesses. There is always value from such networking across different businesses. The cross fertilisation of ideas often spawns ideas for innovative solutions to real customer requirements through internal teaming.

With regard to succession, the intended succession plan has been announced in which I become Chairman in April next year and Rakesh Sharma succeeds me as Chief Executive at that time. Rakesh writes in this issue of UltraNews about the

imperative to maintain the Group's track record of success.

The middle element in the definition of success in 'meeting or beating the budget' The Group's achievement in this regard was demonstrated in Ultra's 2009 results. On 1 March we announced an excellent set of results.

Revenue was 26% higher at £651.0m. At constant currencies growth was 17% of which acquisitions contributed 11% Operating profit increased 26% to £97.3m within which

growth at constant currencies was 18%. 9% of this increase came from acquisitions. The Group increased by £2m to £35.1m the amount it reinvests in development of new business and products. Despite this, the headline operating margin was maintained at 15%.

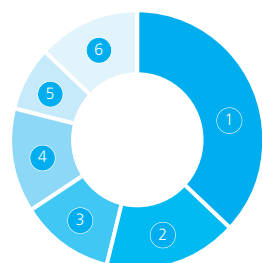
Operating cash flow was an impressive £111.6m in the year so we ended 2009 with net debt of just £28.7m.

The order book at the end of 2009 was flat at £761.8m compared to £761.1m (at constant currencies) at the end of 2008. There has been evidence of delays in the award of contracts in the US and UK as defence priorities are being re-examined and this inevitably impacted the closing order book value. However, Ultra has firm positions on programmes that should drive strong order intake in coming months. Within the order book total, opening firm order cover for projected 2010 sales has been maintained at its customary level of above 60%, a very reassuring figure.



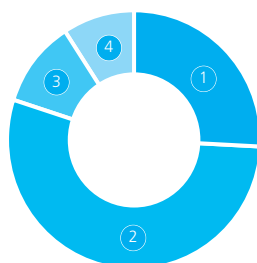
## Douglas Caster Chief Executive

Revenue by sector



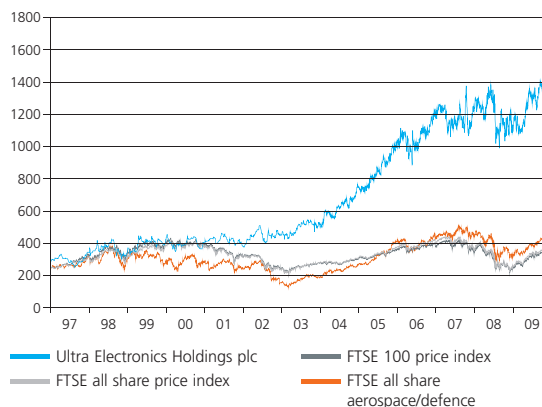
1 Battlespace IT	37%
2 Sonar	17%
3 Civil equipment	12%
4 Defence equipment & consultancy	13%
5 Civil aircraft equipment	8%
6 Military aircraft equipment	13%

Revenue by region



1 United Kingdom	26%
2 North America	54%
3 Middle East & Asia Pacific	11%
4 Mainland Europe	9%

Ultra share price (pence)



Tisys



Avalon



Xerion



Scytale



During 2009 the Group negotiated with its banking syndicate the renewal of the major (£120m) part of its revolving £200m credit facility. I am pleased to say that this was completed in early 2010 and provides the Group with a secure funding position. It is therefore intended that the rate of acquisitions in 2010 will be higher than that seen in 2009 when only four businesses were acquired.

The last element of success is 'delivering the agreed strategy'. In addition to announcing the excellent results for 2009, I have been able to give assurance to Ultra's shareholders that the Group's strategies for growth mean that Ultra is in a relatively strong position looking into 2010 and beyond. This is despite the projected near-term pressures on public finances that are so much in the news.

We now describe Ultra as focusing on high growth sectors in the defence, security, transport and energy markets. This definition adds emphasis to the contributions made by the airport IT and nuclear energy activities in the Group. Looking across our markets, I am pleased to confirm that, overall, budgets addressable by Ultra will remain sufficiently large to give the Group considerable headroom for further growth.

I look first at the defence and security part of Ultra's portfolio. As confirmed in the recent Quadrennial Defense Review (QDR) the core US defence budget is projected to grow over the next two years at 3.4% per annum. The QDR did cut some programmes but none that were important to Ultra. In the UK there will be a Strategic Defence Review (SDR) soon after the general election and it will be based on a Green Paper that was published earlier in the year. In both

the QDR and the SDR, the priorities are stated as being:

- maintain an advantage in conventional war-fighting;
- develop the capability for asymmetric warfare;
- gain information and intelligence superiority;
- gain protection against cyber warfare;
- maintain a credible nuclear deterrent.

Ultra has a broad range of specialist capabilities for which demand is boosted, not diminished, by the pursuit of these priorities.

In the transport market, population growth, which continues unabated, drives demand for civil aircraft, infrastructure investment in airports and in mass passenger transit systems – all areas where Ultra has a strong capability.

With regard to energy, around the world the strategic need to have secure access to an increasing amount of energy from independent sources is driving a higher level of investment in civil nuclear power generation, a market sector in which the Group has highly differentiated specialist capabilities.

In summary, the fundamental drivers of demand in Ultra's main market sectors remain strong and I am sure that we can continue to win new business, execute contracts effectively and maintain the strong growth record that the Group has built up over so many years.

Excellent results and strong positions in growing markets are not achieved easily. They are the result of a lot of hard work by all members of the Ultra team. I thank you for your innovation and personal contribution to the continuing development of the Group.

## Welcome to Scytale

**Scytale**, acquired in October 2009, is a provider of Communication Security (ComSec) software and services and has a leading-edge ComSec Management Software (CMS) solution. All cryptographic systems require strict control and handling of the 'crypto key' from generation to destruction. **Scytale's** innovative CARDS CMS software, approved by the US National Security Agency (NSA), provides positive control of key material and cryptographic devices across multiple users at different tiers in the organisational hierarchy. **Scytale's** products are principally sold to government customers worldwide in the defence and cyber-security market sectors.

**Scytale** is based at two facilities in Maryland, Ellicott City and Westminster, and also provides onsite support at two government locations. The business employs 20 people, of which 18 are professionals with tertiary qualifications in systems, electronics and computer engineering.

**Scytale's** software, systems and capabilities are highly synergistic to Ultra's **ProLogic** business into which **Scytale** has been subsumed organisationally while continuing to operate at its current locations.



## Systems engineering

In recent years, Ultra has reached up the food chain, gradually taking on larger projects with increased technical and organisational complexity. An example is the Australian Air Warfare Destroyer (AWD) for which work is being performed on three continents. In order to execute these projects successfully, we must rely on excellent **systems engineering**.

# ALL





**Alan Barker** President Tactical Systems

# SYSTEMS GO!



**"Systems engineering** is a robust approach to the design, creation and operation of systems. The approach consists of the identification and quantification of user needs, system goals, creation of alternative system design concepts, performance of studies & modelling, selection and implementation of the best design, verification that the design is properly built and integrated and post implementation assessment of how well the system meets the requirements."

**The above definition**, taken from the Ultra policy on systems engineering and illustrated in the graphic, involves a multi-disciplinary approach to considering the whole problem and the whole solution over the whole life cycle. An integral part of the process is communication and coordination across the business in order to deliver the solution to the customer.

**The challenge is to** embed a systems engineering discipline into the 'DNA' of Ultra so that excellent systems engineering is 'just the way we do things' in the Group. A training program has been developed in conjunction with University College London (UCL), which is also supplying the instructors for the course. For those who desire to go beyond the level of the Ultra course, UCL offers a Masters degree in Systems Engineering.

**For managers and others** with a need to understand but not to do actual engineering, there is a one-day overview course. In 2009, two of these overview courses were presented to a total of about 20 people, in addition to an initial one-day session held with Ultra's entire Executive Team.

**For technical staff**, the five-day version was presented in 2009 to about 50 engineers in the UK and to about 30 in North America. In 2010, there are plans to present courses to about 60 more people in the spring of 2010; ultimately it is planned that all technical staff and program managers will receive the course in some form. For information on course location and timing, see your local HR department.

**Inculcating the values** and practices of systems engineering into the organic processes of Ultra will ensure that project and engineering teams have the same goals on their projects; address problems early in the life cycle and avoid expensive fixes later on; perform to budget and schedule and reduce the risks on the projects undertaken internally and with our various partner companies.

**If you want to know any more on this subject, email:**  
[alan.barker@ultra-electronics.com](mailto:alan.barker@ultra-electronics.com)

**"An integral part of the process is communication and coordination across the business in order to deliver the solution to the customer."**

## Systems engineering in action at USSI

**USSI** has 20 engineers who have gone through formal System Engineering certification from the International Council on Systems Engineering (INCOSE). Six engineers received formal System Engineering certification from the International Council on Systems Engineering (INCOSE) and three achieved the Certified System Engineering Professional (CSEP) ranking which requires significant and verified experience, plus a written examination. The other three, based on their current experience level, achieved the Associate System Engineering Professional (ASEP) ranking, which only requires a written examination. Thirteen additional USSI engineers have completed an on-site System Engineering certification training course. All are in process of scheduling the final examination for certification. This training was provided in-house through the local university Indiana Purdue University in Fort Wayne (IPFW) – System Engineering Center of Excellence.



Seated are six INCOSE certified engineers (left to right): David Parkinson (ASEP), Bob Frye (ASEP), Josh Jarrard (ASEP), Paul De Mond (CSEP), Brian Rehmer (CSEP), Ray Deno (CSEP).

Standing and in process of certification (left to right):

2nd row: Greg Bonahoom (CSEP), Kevin Jacobs (ASEP), Dennis Mull (CSEP), Chris Ziel (ASEP), Scott Larson (ASEP), Steve Kessner (CSEP).

3rd row: Bart Byerly (ASEP), Jamie Daugherty (ASEP), Aaron Winteregg (ASEP), Kyle Pattison (ASEP), Tom Minning (ASEP), Peter Sabol (ASEP).

Larry Lahr was not available for the photo.



## Across the board...news and stories from across the divisions



### Do you know?

Business name:

**Dascam**

Location:

**Abu Dhabi, UAE**

Established:

**2001**

Acquired by Ultra:

**December 2008**

Number of staff:

**233**

# Dascam

## extending Ultra's range of offerings

**Ultra bought Dascam Consulting Ltd** in December 2008.

**Dascam** is different from the majority of Ultra businesses in a number of ways. How, therefore, does **Dascam** fit into the Ultra family?

**Dascam is the first** consultancy business that Ultra has acquired. Consultancy is a purely peoplebased function; **Dascam** has no manufacturing capability, it owns no assets, except for its people, and these people tend to have business or teaching degrees, or equivalent qualifications, rather than engineering degrees. In this consultancy role, **Dascam** can advise its customers as to the best solution for forthcoming requirements, such as how to maintain contingency plans regarding the security of critical national assets. Since Ultra has such a broad range of specialist capabilities, it is not surprising that **Dascam** should be able to work with other Ultra businesses to meet customer needs.

**Unusually for most Ultra businesses**, a high proportion (212 out of 233) of **Dascam's** employees works on client sites. Also unusual is the make-up of **Dascam's** staff. Over 80% of its employees have had a military career, the majority for 20+ years. These careers have been with the Armed Forces of 14 different nations, with the majority being British. **Dascam** is unusual in the region, however, in having 42 retired officers from the Emirati Armed Forces on its staff. This helps ensure that **Dascam** delivers consultancy and training that is truly optimised for the client needs.

**Dascam is the first** Ultra business to be permanently based in the Middle East. With its head office in Abu Dhabi, the

capital of the United Arab Emirates (UAE), and subsidiary offices in Dubai and Doha, the capital of the neighbouring Gulf state of Qatar, **Dascam** provides a useful portal for all Ultra business to expand their operations into this region. The creation within **Dascam** of the Ultra Support Group, specifically to act as a bridge to Ultra businesses, has already begun to reap benefit.

## MSI runs internal Making a Difference (MAD) programme

**MSI** is the latest Ultra business to roll out the Making a Difference (MAD) leadership development programme led by Dr. David Kearney of OPDC and his team. The MAD programme is modular and has been expanded so that it can be run successfully in individual businesses. Leadership development is critical to **MSI** achieving its aggressive growth goals, especially as the business reaches up the supply chain and pursues growth through the engineering of larger systems. At **MSI** seventeen directors, managers and supervisors were selected to participate in this programme. The first module was completed in February and the second module in April. The programme includes personal and professional learning objectives while also incorporating practical work on current projects that are relevant to the company's success.

## MRP to ERP

In January 2009, **Electrics** embarked on the mammoth task of migrating its Material Requirements Planning (MRP) system to a new IFS Enterprise Resource Planning (ERP) system. An implementation team of five staff was seconded on a full-time basis for the duration of the project. The team was co-located in a dedicated project room, working alongside consultants from IFS. The new system went live in October 2009; the project was on-time, on cost and on scope. IFS has enabled **Electrics** to remove from use almost 50 customised or third-party applications, thereby providing a fully integrated system across all areas of the business for the first time.



The ERP team in their project room where they worked alongside consultants from IFS



# Aircraft & Vehicle systems

## First flights for Controls

The Boeing 787 Dreamliner, Gulfstream G650 and Airbus A400M all took to the skies for the first time at the end of 2009. **Controls** has been developing new systems for all these aircraft and for the B787 and G650 these flights could not have taken place without the successful delivery of these systems.

For the B787 **Controls**, partnered with GKN, provides the Wing Ice Protection System (WIPS). The Dreamliners' first flight took place in Seattle in very cold and rainy weather and it proved essential that WIPS operated successfully throughout the flight, which it did. **Controls** is supporting Boeing's flight test programme which now has four aircraft in it.

For the G650 **Controls** provides the Landing Gear Control Unit (LGCU) and, again, the LGCU worked perfectly. A second aircraft has now joined Gulfstream's flight test programme.

For the A400M aircraft, **Controls** is providing its innovative Tuned Vibration Attenuator System (TVAS) that will substantially reduce the noise in the cargo bay area of the A400M and will protect troops carried in the aircraft from the noise of the powerful propellers. **Controls** is also providing a system to reduce the noise in the Load Master's work station area of the aircraft. The Load Master, who is responsible for loading and unloading the aircraft, is a full-time crew member whose working area in the noisy hold of the aircraft must be therefore be especially well quietened. These systems are still in development and will be available for flight testing in 2011.



Boeing 787 Dreamliner



Gulfstream G650



Airbus A400M.

## 50 years in business

This year, **Measurement Systems Inc (MSI)** celebrates 50 years. Many business and social events are planned throughout the year. Be sure to read all about the history and activities in this feature in the Autumn/Fall 2010 issue of **UltraNews**.



## M&CS – a unique UK quality accreditation

**Manufacturing & Card Systems (M&CS)** has become the only business in the UK to gain full NADCAP AC7120 Electronics Process Management accreditation, covering 32 electronic and mechanical assembly processes. **M&CS** joins a mere four companies in Europe to have earned this prestigious accolade to date. All of **M&CS's** customers will now benefit from enhanced controls and process monitoring throughout the business. In a separate move, **M&CS's** new Cambridge-based contract electronics manufacturing business, which opened for business in March 2009, has now gained AS9100 Aerospace accreditation.

## On the move>>>

In January, the Test Solutions business unit of **Electrics** moved from Cirencester to Cheltenham. Staff worked hard to pack, transport and unpack to establish their new home at the facility in Cheltenham.

## Warrior and FRES gun control electronics contract

**Electrics** has been awarded a contract by CTA International (CTAI) relating to electronic controls for the next-generation cannon for the upgraded Warrior and the new FRES SV armoured vehicles. The initial contract is valued at £1.5m with the value rising to £14m if all production options are taken up.

CTAI, based in Bourges, France, is a joint venture between BAE Systems, UK and Nexter, France. It has developed a unique Cased Telescope Ammunition System (CTAS) which, through innovative packaging design, allows more ammunition and therefore firepower to be carried by each armoured vehicle. The CTAS cannon, with its CTAS Controller (CTAS-C) has been selected by the UK MoD for the upgrade of existing Warrior armoured vehicles and for fitting to the planned new Future Rapid Effects System, Scout Vehicle (FRES SV) vehicles. Ultra's production options for CTAS-Cs include 449 for Warrior and 250 for FRES SV.

The CTAS cannon can fire a mixed sequence of armoured piercing, high explosive and air burst munitions and is capable of a fire rate of 180 rounds per minute which will significantly enhance the fighting capability of British Army forces.





# Across the board...news and stories from across the divisions

# ATS

## a track record of success and continual growth

As a young computer scientist back in 1987, the last thing Brett Liljestrand expected was to spend 23 years at his next company, "In software development I expected to change jobs every 2-3 years." Brett became employee #3 at **Advanced Tactical Systems (ATS)** after he, along with company founder Paul Strand, got fed up with the bureaucratic delays at the large defence business at which he then worked. This summer, **ATS** moves offices for the fifth time to a purpose designed facility near to Austin-Bergstrom International Airport.

As one of the first in, Brett fulfilled many roles. "I was the company's first Security Officer and had to take classes to learn how to pass Government audits. I've been IT Manager and worked in Business Development, Programme Management and Field Service. I used to make it an objective to get fired from one of these roles each year and hand them off to someone else."

Brett identifies Paul Strand as his mentor. "We hit it off professionally and personally. I was newly married and I don't think we'd even made the first payment on our house when I told my wife I planned to leave a steady job to join Paul and his wife Kay developing software out of our spare bedrooms."

The founders of Advanced Programming Concepts (APC), as the business was named when it was acquired by Ultra, believed that they could develop a real-time tactical command and control system using the new, low cost, PC technology that was just starting to gain market acceptance. Existing products were based on expensive mini-computers and importantly, the founders used a completely unconventional business model: selling directly to the end user. At that time Commercial-Off-The-Shelf (COTS) was practically unheard of and defence companies waited for government contracts before developing a system. APC's approach was to self-fund product development, offer at an attractive price that 'sneaked in' under headquarters' approval limits, and then deliver 90 days after order receipt. This business model continues to be highly successful today.

After a few months working from bedrooms, the business moved to a suite of executive offices which it quickly outgrew. In 1989, APC took space at its first real facility on 102 Westlake Drive in Austin with just eight employees. By late 1993 the business had doubled headcount and, prompted by wins with the U.S. Marine Corps to develop the forerunner of today's Air Defense Systems Integrator (ADSI), the business moved to its next location at 7004 Bee Caves Road.

Paul Strand stepped down as President to focus on technology and to spend more time battling Leukaemia. The



management team concluded that the best way to grow was to find a new owner and, having worked on marketing efforts with Ultra, decided it liked the way Ultra did business. In August 1998, APC approached Ultra to join the Group. Shortly after reaching agreement, Paul Strand passed away, but APC joined Ultra in July of 1999 with 67 employees.

The tragic events of 9/11 fuelled tremendous growth in the demand for affordable command and control solutions. With the success of the ADSI product, by the end of 2002 headcount had grown to 122, driving the move to the current Duval Road location and doubling office space to 41,000 square feet.

Under the leadership of John McAlonan since early 2004, sales have nearly tripled and headcount grown to 226 including 24 based in San Diego, California. The business changed its name to **Ultra Electronics Advanced Tactical Systems** in early 2005. Changing the name was more than just a superficial modification; it also solidified the business' integration into the Ultra corporate culture and reaffirmed its commitment to growth and its maturity as a business.

ATS continues to expand and will move into 76,800 square feet at Burleson Business Park later this summer. The customised layout includes break-out areas for informal meetings and open-plan seating to support the SCRUM software development method so successfully employed by the business. The provision of a canteen and an employee fitness centre demonstrate how far the business has come from operating out of the spare room of Senior Fellow, Brett Liljestrand.

### Do you know?

Business name:  
**Advanced Tactical Systems (ATS)**  
Location:  
**Austin, Texas, USA**  
Established:  
**1987**  
Acquired by Ultra:  
**July 1999**  
Number of staff:  
**226**



ATS named as one of the **best companies to work for in Texas AGAIN!**

**ATS** was recognized for the second year in a row for being in the Best Companies to Work for in Texas. Only 85 companies throughout Texas were selected for this honour in 2010. ATS ranked 31st in the medium-sized business category, moving up two spots from last year's ranking. The selection committee looked at **ATS'** workplace policies, practices, demographics and the results of an employee survey.



# Information & Power systems

## NRE goes live!

In January, **Command & Control Systems** launched the UK's National Resilience Extranet (NRE). As part of a pilot scheme for the NRE, ten emergency response organisations joined representatives from the Cabinet Office Civil Contingencies Secretariat to take part in an exercise at the Carlisle Emergency Control Centre. The objective of the exercise was to identify 'best practice' when using the NRE to distribute situation reports between multiple agencies during a simulated incident at the Sellafield Nuclear facility.

Since its official launch, interest in the NRE has grown substantially. Dedicated 'resilience groups' in England, Wales, Scotland and Northern Ireland are discussing how they will be implementing the NRE. Early adopters of the system include multi-agency organisations within the UK counties of Cumbria, Dumfries and Galloway, Nottinghamshire, Sussex and London, as well as national agencies such as Environment Agency and the Cabinet Office.

At a recent National Policing Improvement Agency (NPIA) closed event for high ranking emergency services personnel, Ultra's NRE was given wide and prominent publicity. NPIA representatives gave a 'government department to government department' overview of the system throughout the day to help support its objectives and vision of NRE as part of a UK-wide multi-agency interoperability programme.

## Supporting NETL



**ProLogic** is to provide IT and engineering support services to the US National Energy Technology Laboratory (NETL).

**ProLogic** is a 50-50 partner in Platinum Solutions, Inc. which has been awarded a \$48 million, five-year contract by the US Department of Energy. The scope of the contract includes a wide range of IT services necessary to operate the multi-location, multi-function NETL facilities in Morgantown, West Virginia; Pittsburgh, Pennsylvania and Albany, Oregon. These services include enterprise architecture, enterprise application development, cyber security, network engineering, systems design and integration and help desk support.

NETL is the only government-owned, government-operated national laboratory dedicated to research and development for domestic energy resources. NETL conducts research in energy technologies and analyses energy systems for efficiency and optimisation. It also provides government policymakers with information and technology guidance to advance national, economic and energy security of the USA.

## Refreshing £2m+ contract for MoD

**Command & Control Systems** has received a 'technology refresh' contract worth over £2m from the MoD to upgrade the MoD's Deployable Geospatial Intelligence Systems, through the replacement of hardware and provision of a common software build. The multiple systems will be deployed worldwide including UK operations centres and in-theatre forward operations bases. The system replaces six current systems with 110 modular deployable workstations with a range of ancillary devices ranging from network-attached storage to 3-D mice to A0 printers. The common software build will simplify use of the system and reduce system build time from six hours to around 30 minutes. A follow-on contract is expected to provide continuing support and spares for the system.



## On the move>>>

are the Winfrith and Poole offices of **Command & Control Systems**. Both facilities specialise in specialist nuclear sensors, so the amalgamation makes commercial as well as economic sense.

## Introducing the G408M

**Nuclear Sensors & Process Instrumentation (NSPI)** has introduced a new, fully managed, 8-port (fibre/copper) industrial gigabit Ethernet switch. Designated the G408M, the unit features many advanced capabilities such as an operating temperature range of -40°C to 75°C, transmission distances up to 49 miles (80 km), 30ms recovery time in the event of a cable break and hazardous area certifications suitable for most global markets. The G408M addresses a niche segment of a rapidly expanding market. Sales of hardened industrial Ethernet switches and other elements of industrial Ethernet network infrastructure will grow to nearly a \$1 billion over the next five years, according to the ARC Advisory Group (a leading research and advisory firm). An interactive product tour for the G408M can be viewed on the homepage of the **NSPI** website [www.ultra-nspi.com](http://www.ultra-nspi.com).



## British Energy contract for nuclear sensors

**Command & Control Systems** has received an initial contract worth over £20m from British Energy (BE), part of EDF Energy, for the long-term supply and management of neutron flux detectors to a number of reactors in the British Energy fleet. The high integrity sensors are a key element of the instrumentation and safety systems that monitor the safe operation of nuclear plant. The detectors are installed within the reactor core and measure neutron flux which is one of the primary protection parameters within a nuclear fission reactor.

The contract is for Ultra to validate the existing designs to modern standards, build, and support all four variants of high temperature, neutron flux detectors for British Energy. The contract is expected to be completed in 2014. Ultra will also provide long-term detector storage and on-site field service support.





Across the board...news and stories from across the divisions

# Avalon

new capabilities, new customers, new country

In 1995 **Avalon Systems** was created as a privately owned company, providing the Australian Defence Force (ADF) with niche technologies, services and systems associated with Electronic Warfare (EW). The business has grown steadily to 30 employees, mostly engineers. Ultra acquired **Avalon Systems** in July 2009 as a strategic entry point into the Australian defence market. The business is expected to continue to grow as it becomes the in-country base for the support of Ultra's Air Warfare Destroyer (AWD) sonar contract and the base for the Group's Australian activities in the region.

**Avalon's primary capability** is associated with electronic intelligence collection and analysis systems and related operational requirements. These include detection and warning of stealthy radars, fingerprinting individual radars, precision parameter measurement and directed high sensitivity receivers. These digital receiver systems are typically integrated into traditional Electronic Support Systems (ESS), although they can operate on a stand-alone basis. **Avalon** has achieved a high level of customer satisfaction by providing a processing platform that can accommodate the optimum mix of customer-furnished and **Avalon**-generated algorithms.

**Avalon has delivered** an EW mission support system that is now operational for pre- and postmission support for the ADF Armed Reconnaissance, Tiger and multi-role helicopters. Avalon has recently signed a 10 year through-life support contract for these systems. Although primarily an engineering organisation, **Avalon** has also undertaken volume production of counter Improvised Explosive Device (IED) systems for the ADF.

**Located just outside Adelaide**, South Australia, **Avalon** has a purpose-built facility. Completed only in April last year, plans are

already underway to more than double the floor space. This will enable **Avalon** to support Ultra's Sonar Systems business on the Australian AWD sonar contract. Avalon will undertake system integration, installation, set-to work and systems trials as well as managing suppliers in Australia and overseas.



Staff at Avalon Systems based just outside Adelaide, Australia

**Ultra Electronics Australia**, based in the **Avalon** facility, will also provide a focal point for all Ultra businesses targeting the Australian market and dedicated marketing staff are being recruited to support this activity.



## Do you know?

Business name:

**Avalon Systems**

Location:

**Adelaide,  
South Australia**

Established:

**1995**

Acquired by Ultra:

**July 2009**

Number of staff:

**30**



# Tactical & Sonar systems



## Gunfire locator trials

The revolutionary Rifle Mounted Gunfire Locator (RMGL) developed by **Sonar Systems** has successfully passed a first round of shoot-off trials in the UK, led by the UK MoD. RMGL was tested alongside three of the proven market-leading products created by BBN, Metrovib and QinetiQ. RMGL performed very well, with almost every shot detected and correctly localised. These tests included varying the orientation of the sensor to prove there is all round coverage. Users were impressed by the excellent 'human factors' features of the system design.

The trials took place with representatives from the UK MoD, its specialist scientific advisers and the US DoD in attendance. All were extremely satisfied with the repeatability and accuracy of the detections. As a result, Ultra has been down-selected alongside QinetiQ to the final evaluation, which will be another live-firing shoot-off trial to take place in May.

## Modernising the UK crypto inventory

In February **Communication & Integrated Systems (CIS)** was awarded 'preferred supplier' status for the ECU Replacement Programme (ECU RP) which is intended to replace approximately 10% of the UK's 'high-grade' End Cryptographic Units (ECUs).

The ECU RP will replace 28 different types of legacy equipments using modern programmable technologies. The contract, for which Ultra will be the prime contractor, will see cryptographic products be installed upon over 60 platform types at over 150 locations. This contract has been awarded by

the Networks Team which is part of the UK MoD Defence Equipment & Support (DE&S) organisation. This project is the first of a number of related crypto modernisation projects and Ultra's win on ECU RP positions the Group well for future business in this important information assurance and national security market.

Ultra is highly experienced in the unique requirements of high grade cryptography including all aspects of crypto and key management systems and have been the supporting the secure communications requirements of customers in both the UK and abroad for over 50 years.



## Sea Sentor contract

**Sonar Systems** supplies the Turkish Milgem ship programme with Ultra's Sea Sentor torpedo defence system. The delivery of the first system took place in April 2010. This program continues Ultra's growing presence in the region.

In total there are eight Milgem vessels planned to be built for Turkey, each of which has a torpedo defence system requirement. It is planned to deliver the torpedo defence system for all Milgem vessels in conjunction with Ultra's in-country partner, Koç Information and Defence Systems (known as 'KBS'), as well as systems for the forthcoming Landing Ship Tank and Landing Platform Dock vessels.

**Sonar Systems** is also working with KBS to secure an equivalent system for the three classes of Turkish submarine, and is working closely with **Ocean Systems** who will provide the acoustic torpedo countermeasures for them. Ultra's teaming arrangement with KBS involves an ever-increasing work share culminating in the ability for KBS to maintain, support and eventually enhance the systems in-country.



### Do you know?

Business name:

**AudioSoft**

Location:

**Cirencester, UK**

Established:

**1993**

Acquired by Ultra:

**September 2008**

Number of staff:

**42**

## Communications at speed and depth

Ultra is a key member of a team that will deliver to the US Navy secure, two-way communications between submarines, operating below periscope depth and at tactical speeds, and surface ships, aircraft and land-based assets. A team of **Ocean Systems**, Lockheed Martin and ERAPSCO (a joint venture between **USSI** and Sparton Electronics Florida Inc.) will deliver three types of two-way communications devices and associated submarine and shore equipment. Two of the devices – the Tethered Expendable Communications Buoy (TECB) Iridium system and the TECB-UHF system – are launched from submarines.

The third is an acoustic-to-RF Gateway (A2RF) system that can be launched from both submarines and aircraft. All classes of US submarines will be equipped with this transformational capability.

Since the January contract award, the team has successfully completed the integrated baseline review, system requirements review and preliminary design review milestones on schedule. The critical design review and system testing are planned in 2010.





# Exhibition & Event news

## Ultra on show

The past six months has seen Ultra businesses combining forces and exhibiting at many events. Here we report on a selection of events where businesses have collaborated to present a combined Ultra message.

### PACIFIC 2010

In January, **Ultra Electronics Australia** exhibited at the Pacific 2010 exhibition in Sydney and showcased the Group's capabilities to position for forthcoming maritime projects including Collins Class upgrades and Future Submarine (Project SEA 1000) opportunities. The Australian Defence White Paper underscores the nation's commitment to a strong naval capability. This presents significant opportunities for Ultra to cement the position developed through winning the Air Warfare Destroyer (AWD) Integrated Sonar Suite.

Pacific 2010 is the major international maritime and naval defence industry event in the Asia Pacific region and one of three shows endorsed by the national government. There were over 400 exhibitors at the show, all positioning for their place on the future defence opportunities. The Ultra stand received visits from various international VIPs, including Baroness Valerie Amos (British High Commissioner in Australia), Governor Kevin Scarce (Her Majesty's representative in South Australia) and Commodore Steve Brunton (DG Submarines, UK MoD). In addition to the international and domestic visitors the industry visits made

Above top: Mark Merrifield, Managing Director Sonar Systems, explains Ultra's integrated sonar to Baroness Amos, British High Commissioner to Australia.

Above bottom: Commodore Steve Brunton with Ultra staff, Left to right John Greenhalgh (PMES), Mark Merrifield (Sonar Systems), Carlos Santiago (Divisional Director) and Dan O'Connor (UKTI DSO Desk Officer Australia).

the show a success as key customers and partners used the opportunity to meet more of the Ultra team and reinforce existing working relationships.

**Ultra Electronics Australia** was joined by representatives from **USSI, Ocean Systems, Sonar Systems, PMES, Command & Control Systems** and **ATS**. The representatives from various businesses promoted Ultra Electronics Australia as the initial point of call for marketing initiatives within the Pacific Rim, delivering a strong message of unity behind the Ultra Electronics Australia banner, which will serve to emphasise Ultra's growing credibility and footprint in the country.

### AFCEA/USNI West 2010

**DNE Technologies, Criticom** and **TCS** joined forces at the recent AFCEA/USNI WEST 2010 exhibition in San Diego. A live demonstration was conducted combining capabilities from all three businesses. Visitors witnessed **Criticom's** ISEC product switching from non-secure to secure video conferencing in a single unit while **DNE's** PacketAssure iQ provided guaranteed bandwidth to the IP video traffic. The PacketAssure iQ then fed the communications traffic to **TCS's** AN/GRC-245's Ethernet interface for transmission. Attendees received an overall introduction to the solution and the Ultra businesses, as well as specific information on the products involved. The team is planning to showcase the same capabilities at the Tactical C4 conference in Atlanta in April.



### Protecting CNI

In December, **Command & Control Systems (C&CS)** hosted a series of open days at its Loudwater facility to highlight Ultra's collective command, control and surveillance capabilities for the protection of Critical National Infrastructure (CNI).

**AudioSoft, Maritime Systems, USSI** and **C&CS** all worked together to demonstrate a range of capabilities such as networked systems including live video, radar and AIS feeds from Portsmouth. Also demonstrated were niche technologies such as the HyperSpike long-range acoustic hailing device, specialist nuclear radiation monitoring systems, Ultra's unique magneto inductive 'Rock Phone' and the Group's crisis management and planning tools. The event was both well attended and received by several target customers along with key industry partners.

### Successful demonstrations at BELCOAST 09

At BELCOAST 09, Belgium, industry was invited to demonstrate its products and technologies that contribute to the improvement of the commanders' situational awareness around military installations by a better sensor data integration/fusion. **Command & Control Systems (C&CS)** pitched Ultra's base protection system against fifteen other systems at the technology demonstration event. Key to the effective protection of forward operating bases is the efficient monitoring of the surrounding area. **C&CS** provides either off-the-shelf or custom system solutions which meet the clients' requirements. Processing of all sensor data from the forward operating base defensive systems is carried out by Ultra's Situational Awareness Management System (SAMS) which includes sensor management and situational awareness area monitoring solutions.

The demonstration was a resounding success as the Ultra systems was voted as the 'most effective system for critical infrastructure/force protection applications'. Canadian Defence Force representative Col Richard Garber, one of the senior subject matter experts and capability assessors at the BELCOAST demonstration enthused. '... the Ultra offering, which integrated multiple independent sensors with state-of-the-art software, was clearly the most effective system for critical infrastructure/force protection applications. I would not hesitate to recommend the Ultra solution as the standard, against which all other systems be compared.'

Right: Base protection system as demonstrated at BELCOAST 09





## People on the move

## appointments



**1. Andy Russell** has been promoted to Business Unit Director, **Command & Control Systems** responsible for the Southampton business unit. Andy re-joined Ultra from Meggitt Avionics in June 2009 as Head of Commercial. Andy had previously held the post of Commercial Manager within **Command & Control Systems** at Loudwater.

**2. Bill King** has been promoted to VP, Undersea Products at **USSI**. Bill was previously the Director of Undersea Products and has been responsible for significant increases in the organic growth of this business area. Bill has worked at **USSI** since its acquisition by Ultra in 1998 and has over thirty years' experience in the design, development and production of a wide variety of sensor system products for anti-submarine warfare and other military applications.

**3. Dean Taylor** has joined **Manufacturing & Card Systems (M&CS)** in Weymouth as CEMS Business Director. Dean was previously Operations Director at Axiom Manufacturing Services Ltd in Newport, South Wales, where he was also responsible for sales and marketing. In his new role at **M&CS**, Dean will be responsible for sales, marketing, estimating, new product introduction, quality and the customer account teams.

**4. Gary Sterling** has been appointed Finance Director at **PMES**. Gary joined the business in an interim capacity in August 2009. Gary is an experienced Finance Director who has previously worked in the heavy electrical engineering, electronics manufacture and civil engineering design sectors.

**5. John Lightfoot** has been appointed Finance Director at **Sonar Systems**. John's appointment recognises his expertise and experience in Ultra, having joined the company in 1980 as Materials Controller. Since then John has held positions of Cost Accountant, Management Accountant, Chief Accountant and Financial Controller in **Sonar & Communication Systems**.

**6. Jonathan Smith** has joined **Criticom** as Vice President of Sales and Marketing. Jonathan has over 20 years of experience in sales, marketing, business development and new product introduction. During his career, Jonathan has worked for Sun Microsystems, Northrop Grumman, as well as Cisco and 3Com/US Robotics.

**7. Ken Walker** has been appointed VP, Government Relations for **Ultra Electronics Canada**. In this position, Ken will be responsible for creating and sustaining relationships with senior officials of the Canadian government, for the promotion of Ultra through shows and other events, for identifying Canadian programs and for assisting all Ultra businesses with strategies to grow their business in Canada. Ken will also continue in his existing role as VP Marketing at **Maritime Systems**.

**8. Mark Hughes** has been promoted to Finance Director, **Command & Control Systems**. Mark rejoined Ultra in August 2006 as Finance Controller for **SML Technologies**. In July 2009 Mark was promoted to Head of Finance for **Command & Control Systems**.

**9. Mark Nelson** has been appointed Group Financial Controller at **Head Office**. The new title recognises the role Mark plays within the Group finance team and reflects the responsibilities of the position. Mark was previously Group Finance Manager having joined Ultra in 2005 from BAE Systems.

**10. Mike Williams** has been promoted to Business Unit Director, **Command & Control Systems**. Mike joined Ultra in November 1996 within the business development team for display products. Since then Mike has held a number of business management positions, leading to the most recent role of Business Unit Manager, C3 Systems.

**11. Tom Link** has been promoted to VP, Audio Products at **USSI**. Tom has been the Director of Audio Products since the **Audiopack** business was consolidated into **USSI** in late 2008. In addition to leading the successful transition of this business, he has expanded the offerings to include an impressive line of acoustic hailing and mass notification products based on **HyperSpike** technology.

**12. Kevin Hurst** has been appointed Director & General Manager of **AudioSoft** with effect from 1 June 2010. This is a new role that reports to Chris Brill, Managing Director. Kevin is currently the Sales & Marketing Director at **Precision Air Systems** having joined Ultra in 2007. He previously held a number of senior positions within QinetiQ in general management, business development and engineering.

appointments



## People in the news

### Qualifications and celebrations

## Dascam party doubles as awards ceremony

**Dascam's** annual company party doubled as an awards ceremony for five of **Dascam's** Emirati consultants who recently qualified for their Institute of Leadership and Management certificates as certified consultants. This was the culmination of a three year course run by **Dascam** as part of the Systems Approach to Training contract with the UAE Armed Forces.

**Dascam** has forty eight ex-UAE military officers on its staff. Nineteen consultants have now qualified and the course is being extended to include other retired officers formerly employed by the Armed Forces. This could lead to a further 100 Emiratis being trained. The new Defence Attaché at the UK Embassy, Colonel Rupert Robson presented the awards during a very enjoyable evening at the new Yas Island Rotana Hotel alongside the Abu Dhabi Formula 1 racetrack.



Top: Mohammed Abdullah Al Baloushi receives his Institute of Leadership and Management certificate from Colonel Rupert Robson the UK Defence Attaché to the UAE.

Above: Left to right, Colonel Robson, Derek Boyter, John Whiteley, Piers Gorman (Managing Director, Dascam).

## Jenny Lawton, an enterprising lady in Ultra



Jenny Lawton is the head of Business Development in Asia for **Airport Systems**. She joined the company after gaining over 20 years experience in the United States and Asia-Pacific markets in, amongst others, infrastructure and airport-related businesses and in the pharmaceutical industry. In her career to date she has worked on major projects in several Asian countries, including China,

Korea, Japan, Indonesia, Malaysia, Burma and Hong Kong. Since joining **Airport Systems** almost four years ago, she has built an impressive track record in competing against major global rivals in her region and has helped to develop a local Asian team almost from scratch. This team has been extremely successful, winning several projects in the Asian region including Hong Kong, Bangkok and China. Success in China includes the Hangzhou and Kunming projects.

Jenny enjoys the challenges of competing with major global players in the cut and thrust world of the Asian markets and is totally committed to her work. She often jokes about the Asian approach encapsulated in the phrase 'business is a pleasure and pleasure is business'. Jenny attributes her success to her ability to combine and reflect the best of both 'Anglo-Saxon' and Asian cultures in a very competitive market context. As part of this approach she has taken important steps to develop the awareness of Ultra's staff of the need to adapt to Asian ways of

doing business and Asian approaches to strategic thinking and interpersonal business relationships. Underlying all of this is her philosophical approach to life and work influenced by her 'Confucian' background combined with her ability to bridge the cultural divide with the Anglo-American way of doing things. Ultra has provided Jenny with many challenging opportunities to demonstrate her ability to succeed against daunting odds.

### Long service en masse



During 2009, an extraordinary nine employees at **Electrics** achieved 25 years long service milestones. Moreover, Vic Shannon (MBE) finally retired just 18 months short of 50 years service. To celebrate these achievements and to wish Vic a fond farewell, **Electrics** held a dinner-dance at a local hotel, at which the staff were presented with their awards.

## LEAP

### Paranoia in action...

**Precision Air Systems (PAS)** had been working on a contract to supply HiPPAG to the Canadian Air Force for many years. Briefings to them over the years eventually finally resulted in a Canadian request to the US Navy to procure HiPPAG under a Foreign Military Sales (FMS) contract. Apparent bureaucratic delays resulted in 'we'll let you know next month, next week' promises, that contributed to a long delay in awarding the contract. The **PAS** paranoid perception – correct as it happens – was that its competitor had been given the opportunity to bid for the programme at the last minute. **PAS** was not about to let this important contract slip through the net after so much effort, and so it responded by immediately arranging a meeting with the customer.

This meeting in late December 2009 required that Andy Yates, George Straubs and Bill Swain battle through the snow with a HiPPAG system in tow, to jump on the first plane from Washington DC to Ottawa. They gave an early morning presentation to the customer persuading them that Ultra's HiPPAG system is a cost-effective product that would enhance the operation of the CF-18 Hornet aircraft and the Sidewinder missiles it carries. The hard-hitting 'win-themes' in the PAS presentation included a detailed explanation and viewing of HiPPAG system's design features, detailed data on HiPPAG's proven reliability, and documentation of excellent HiPPAG performance by the US Navy.

**PAS's** paranoia paid off. In January 2010 PAS received an order to the value of over US \$8 million for the supply of HiPPAG systems for the Canadian Air Force CF-18 aircraft.





## against the clock

In this issue, **Paul, Doug** and **Dave** spend 60 seconds with **UltraNews**, sharing random facts about their careers and personal lives...



### Paul Dean

Head Office – Group Finance Director.

Paul joined Ultra in January 2009.

"My job has three aspects: helping in the development and implementation of the Group strategy; managing the central finance function and interacting with the City of London."

**1. What did you want to be when you grew up?**

A professional footballer with Everton FC – a short lived dream!

**2. What do you think is the single best decision you've made in your life so far?**

Asking my wife, Elaine, to marry me.

**3. If you could open your own business what would it be?**

A restaurant with a market garden at the side.

**4. What keeps you awake at night?**

Normally my kids coming home from a night out.

**5. Where were you ten years ago?**

I was Group Treasurer of Burmah Castrol plc just as it was being taken over by BP.

**6. What is your most decadent treat to yourself?**

An occasional trip to the opera.

**7. Where were you when you heard that Princess Diana had died?**

I was sitting in the lounge at Heathrow waiting to fly to Mumbai.

**8. What was the best vacation you ever had?**

Visiting South Africa for the first time – Cape Town is a wonderful city.



### Doug Burd

Ultra Electronics Australia – Managing Director.

Doug joined **Sonar & Communication Systems** (Dowty Maritime Systems) as a Design Engineer in June 1987. He Moved to **Maritime Systems** as Technical Director in March 1997 and appointed President in 2001. He was then appointed Managing Director Australia in March 2009.

"My job involves providing leadership to Ultra's Australian organisation and creating the environment for it to achieve its growth and financial goals."

**1. What changes have you seen during your time with Ultra?**

Since I joined Ultra it has changed from being a division of a larger corporation to a private company and now a publically traded company. It has succeeded in growing from a UK-focused to an international organisation of 4,000 people.

**2. What was your very first job?**

My first job was a transducer design engineer designing torpedo homing heads. This is always a good one to end conversations at parties!

**3. What is your happiest childhood memory?**

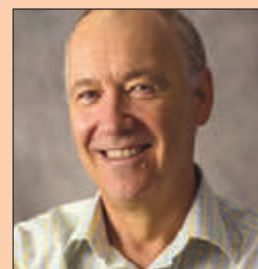
I was a horrible child, what used to make me happy was making my sister cry over dinner.

**4. What is your greatest achievement?**

Other than scoring a goal against Clark Bain in five-a-side soccer at Maritime Systems, I hope my greatest achievements are still to come: successfully growing Ultra in Australia and helping with the delivery of the AWD Integrated Sonar contract would be pretty good.

**5. What was the last sporting activity you took part in?**

In South Australia there is an event called the Corporate Cup, where teams from local businesses run a course every two weeks to encourage exercise and fitness. I was the biggest disappointment in one of Ultra's teams.



### Dave Grantham

Manufacturing & Card Systems – Magicard Technical Support Engineer

Joined Ultra in May 1995 in the contract electronics and sonar repair department.

"I have taken on more responsibility over the years, now including customer support and training together with Magicard repairs. My job comprises: customer support for Magicard via phone and email; technical training of Ultra's Magicard dealers."

**1. What did you want to be when you grew up?**

A sculptor or a stone carver.

**2. What certificate/award are you most proud of?**

My UK salsa dance teacher's award.

**3. If you could change one thing about yourself, what would it be?**

I would like to go back 10 years and redo a few decisions.

**4. If you had one day in your life to live over, which would you choose and why?**

Doing the Pipeline 310 foot bungee jump in New Zealand. It was totally amazing.

**5. What scares you the most and why?**

Disappointing people that rely on me because I lose too much sleep..

**6. Which sport team do you support, and how are they doing this season?**

I have always played sports rather than been a spectator but I follow England football and rugby and they are doing just the same as ever; average.

**7. Where is the worst place you have ever been to?**

Djibouti on the horn of Africa with locusts flying round the street lamps like moths and huge pigeons overfed on the spilt food aid.

**8. What were you doing the last time you really had a good laugh?**

Attending a salsa dance weekend and sharing life's funnier moments with friends and strangers at the après-dance parties.

60 seconds



and **finally...**

## Fortune favours the **bald**

Brian Schwartz, Program Manager at **USSI**, put his reputation on the line when he challenged his AN/SSQ-62E production team to produce a batch of Q-62E sonobuoys with zero defects when tested. Funds raised would be donated to Muscular Dystrophy Association and he would have his head shaved as a celebration of the event. The Q-62E production team won the wager when the 31 samples selected from the first lot of the US Navy production contract were tested at the Navy test range and no defects were detected. Brian honoured his wager on in January, when two members of his production team, as selected by lottery, shaved

Brian's head in full view of the rest of the team.



## Charity yacht race



Doug Hassell from **TCS** (who is based in Dubai) recently took part in the 400 mile offshore yacht race from Dubai to Muscat to raise money for prostate cancer research. The race took the yachts through the Straights of Hormuz and

near to the Iranian coastal border. Doug raced on a local 32' race yacht with his wife Clare and a crew of four. The race took four days to complete due to high winds. The crew finished second in class and raised £500 for the charity.

## Nigel's **brave** swim

On New Years Day 2010, Nigel Lee, Business Development Manager at **Command & Control Systems**, Loudwater, joined 250 brave souls for a fund raising swim. The severe weather at this time of year provided a breath-taking 6.6°C

dip in the sea at Gosport. Do not be fooled by the sunshine in the photo, even the fetching fancy dress outfit of pink dress and blonde wig did little to protect Nigel from the elements. A creditable £275 was raised for GAFIRS, an independent inshore rescue service that provides free marine rescue in the Solent area of the UK south coast.



## Dascam's Annual Golf Championship

UDOGS is the rather insalubrious 'moniker' of the Ultra Dascam Overseas Golf Society. Its unofficial motto is "Latratus dementuis in meridianus sol solis" which, loosely translated from the Arabic into Latin and thence even more loosely into English means "The barking mad go out in the midday sun". Not bad for somewhere where the temperature on the golf course can reach 50°C in the summer. Despite the heat, the number of **Dascam** stalwarts willing to brave these sort of conditions is steadily growing and 17 tee'd off at midday in a mild 40°C for the Ultra Dascam Annual Golf Championship at Jebel Ali (Mountain of Ali) Golf Course near Dubai. A 'stableford' format competition over 18 holes on a par 72 course of 6,375 yards was won by Darren McClements. All but two managed to complete the round in the heat – stalwarts indeed.



## HyperSpike goes commercial

In January, **USSI** supplied a HyperSpike MA-1 to the Whitley County Fire & Ice Festival for the public announcements. The MA-1 reached most of the downtown area of Columbia City, Indiana, and when not used for announcements, was used to provide background music during the festival. Joe Peters, Tom Link and Tim Barnes supported this effort for **USSI**.



## K2B sponsored walk

Five **PMES** staff joined the BAE Systems organised 40 mile sponsored walk from Keswick to Barrow in Furness through some of the country's finest landscapes in the Lake District. Despite the poor weather forecast a record number of 2,295 entrants started with 1,905 making it to the finish. The **PMES** team (shown below) of Graham Birch, Alan Green, Phil Himsworth, Gavin Share and Steve Watson completed the route in less than 12 hours and raised £1,700 for The Stroke Association.



## feedback



I hope you enjoy this issue of **UltraNews**. If you have any comments on the new look **UltraNews** or ideas for future issues please let your local contact or me know  
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# Ultra**News**

## strategies for growth

How Ultra's Organisation &  
Succession Plan is key to the  
Group's success

Keith Thomson explains **page 4**







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# Innovation

two distinctive Ultra attributes



In the last four editions of UltraNews there has been a series of articles describing the 'LEAP' behaviours that we encourage Ultra people to adopt – Leadership, Entrepreneurship, Audacity and Paranoia. These characteristics are clearly valued by Ultra but we must not forget the two fundamental aspects that have been the driving force behind Ultra's success since the Group's formation in 1993. These are **innovation and agility**.

### Innovation

When did you last do something innovative at work? More importantly perhaps, when will you next make something better by doing something different: a fresh approach to a familiar problem, the application of a new technology or of an old technology but in a new way? Through Innovation we strive to differentiate Ultra from its competitors and, in the process, solve more of both the customers' and our own problems.



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**Andy Hamment** Group Marketing Director  
and **Graeme Stacey** Managing Director Information & Power Systems

# & Agility...

Innovation that is game-changing and disruptive in the market can drive aggressive top and bottom line growth. Whilst we can be proud of Ultra's products today, if we sit back and rely on them we will find that we soon begin to lose our competitive edge. Without continued innovation Ultra will find its attractiveness to customers eroding. Our competitors will replicate our products or services and catch us up and our customers would be delighted to see our offerings reduced to commodities, enabling cut-throat competitions based only on price.

Through continuous innovation we ensure that Ultra competes with differentiated offerings with unique capabilities and selling points. To achieve this constant innovation what we do at Ultra is listen to our customers and focus on their problems until we comprehend their need. Then we take our deep knowledge of technology, engineering, manufacturing and our domain expertise and apply intellectual horsepower to solving their problems. The outputs are innovative products and services that can be produced efficiently. Ultra drives innovation in all aspects of its business including the way we run our own organisation and there is no more powerful a source of innovation in any company, than its workforce. Ultra is a knowledge-based company and it is innovation that defines what we do.

## Agility

Another differentiator for Ultra is the agility that businesses in the Group exhibit in their dealings with customers. This agility is underpinned by Ultra's structure and its management processes.

With over 4,000 employees in its 24 businesses, the number of staff at Ultra's head office is less than 20. This gives a clear signal about how the Group operates. As much authority and responsibility as possible is devolved to the Managing Directors and Presidents and their management teams. Ultra wants these empowered teams to maintain the agility and sharp focus externally on customer requirements that are typical of owner-managed businesses. Many Ultra businesses were successful owner-managed companies before becoming part of the Group so this agility has always been present.

A senior official in the UK Ministry of Defence once described Ultra as being "24 small and medium sized enterprises, flying in close formation." That comment was taken as the compliment it was intended to be – Ultra's customers value the rapid way in which Group businesses can respond to emerging requirements, outwitting competitors through speed of response because of its devolved and empowered organisation.

Too many layers of management will inhibit agility. Ultra minimises the number of layers of management above any business Managing Director or President. This is normally two but is temporarily three while Rakesh Sharma is Chief Operating Officer as part of his planned transition to Chief Executive in succession to Douglas Caster in April 2011. Ultra believes that permanent additional layers of management above the businesses are detrimental in many ways. The quality of decision making is eroded since inevitably the level of understanding of the details of any particular business issue will be poorer as the number of levels and therefore the distance from the "front line" increases. With multiple management levels the chain of command is confused since it is not clear who is in charge and who is responsible and therefore accountable for decisions. Lines of communication are obviously extended with the likelihood of information being lost or corrupted as it passes both up and down the chain causing even more management confusion. Moreover the added length of the lines of communication slows the decision making process. Over and above all these disadvantages multiple management layers dramatically drives the level of bureaucracy since this is how such a management structure works, passing reports up and down the chain of command. In turn this increases the overhead of the organisation since staff are needed to manage the volume of paperwork generated.

Another disadvantage of complex, centralised management structures is that they also encourage internal politicking – Ultra does not tolerate politics: anyone trying it is told to desist or move on.

Agile behaviour within Ultra businesses is vital. Flat management structures are therefore encouraged within the 24 businesses to facilitate this. As a result, across the Group, there are never more than eight levels of seniority from shop-floor operator or newly qualified engineer up to Chief Executive. This number will reduce again to seven when Rakesh Sharma takes over as Chief Executive.

Ultra takes pride that it empowers its business management teams to develop the strategic direction of their businesses and formulate their annual budgets. Once these are agreed with the head office team the businesses have the freedom they need to get on to achieve their five year strategic plans, their budgets, and to develop their organisations.

I hope that in this edition of UltraNews you will be able to spot many examples of innovative and agile behaviour.

"24 small and medium sized enterprises, flying in close formation."

A senior official in the UK Ministry of Defence



"The OSP is essentially a people plan but it covers a wide range of aspects from business organisation structure to succession."

## Organisation & Succession Plan...

# strategies for growth

Ensuring that the Group has great people in the right positions within the teams that make up Ultra is at the heart of the Group's success. The Organisation & Succession Plan (OSP) is key to this, reflecting the Ultra's belief that the 'right' people are its most important asset. Along with the Strategic Plan and Budget the OSP is one of the three core documents that each Ultra business produces annually.

The OSP was introduced when Ultra was formed in 1993 (it was originally called the Organisation & Succession Review) and has been developed significantly since then. The start point for the OSP is the annual Strategic Plan - the business strategy needs to drive the people plan. The OSP is owned by each business Managing Director or President but the whole Senior Management Team as well as the HR team is involved in putting it together each year. Put simply, the OSP should describe how each business will have the right structure and the right people in the right seats over the next five year period.

The OSP has enabled the Group and its people to grow successfully over the years and will definitely remain at the heart of Ultra.

### What is the OSP?

The OSP is essentially a people plan but it covers a wide range of aspects from business organisation structure to succession.



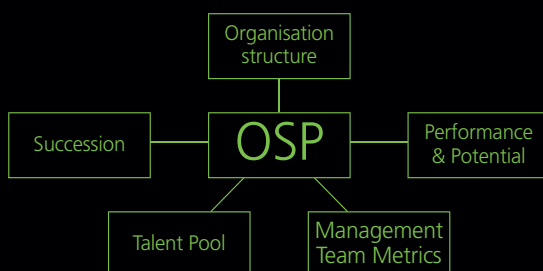
### Organisation Structure

In developing the Strategic Plans the senior management team for each business works 'right to left' projecting forward where it thinks the business could be in its markets in five years time. They then work back through time to determine the first steps that must be taken on the journey. In the same way, the OSP starts off by projecting what each business will look like in five years time and then works back to the present. If a business were to grow at 15% each year then it would double in five years and the organisation structure might well need to look different. If the business is clear how it needs to be organised in the future it can work out how to get there and define what changes are needed.

### Succession

It is essential to make sure that there are successors to the senior teams in each business, not just in case they are run over by the proverbial bus, but also in case of retirement or promotion. It also makes it easier for someone to move into another role if there is a ready successor. Each business considers successors to the Managing Director or President and the members of the senior management team and how ready they are to take over. The timeframes used are IR (immediate replacement), WE2 (within 2 years) and WE5 (within 5 years). You should know if you are a named successor.

Ultra feels it is really important to be able to promote people from within the company not only to provide an excellent career path but also to retain skills and knowledge and to maintain the Group's culture. Ultra has been successful in managing succession: over the past three years 22 out of 25, or 88% of appointments at senior level have been internal.







## Keith Thomson Group Human Resources Director

It remains a challenge, however, to ensure there are successors to all the senior roles. At the end of 2009 95% of Managing Directors/Presidents had at least one named successor. The succession at senior management team level was not as high at 67%, though this has improved by around 10% over the previous three years. One of the succession challenges we face relates to business growth. It provides great new job opportunities but it also means that individual jobs become bigger, more complex or both. Senior people in growing businesses have to grow personally at the same rate as the business just to keep up with their current role; if they are to be promoted then they will need to be able to develop at a faster rate than the business growth. This is one of the reasons that when we recruit we look for people who can both fill the vacant role (at level 'n') and also have the potential to grow further and fill the role above (level 'n+1') in due course.

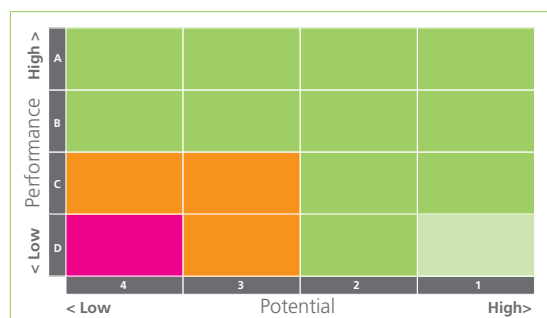
### Talent Pool

As well as the people listed as successors each business also identifies people with high potential. Like the succession list you should know if you have been identified as someone with high potential. The combined list represents Ultra's "high flyer" talent pool and is used regularly to find people to fill internal vacancies. In 2009 there were about 260 people identified as high flyers.

### Performance/Potential

One of the main OSP tools is the Performance/Potential chart. The chart is used to record both the performance and potential ratings derived from the Personal Development Plans that employees discuss with their managers. A person's potential rating ranges from '4' if someone is likely to be outgrown as the business grows through to '1' where someone has the potential to be promoted at least twice.

#### Performance-Potential Chart 2010



Businesses are expected to retain people in the green area; Ultra as a whole typically retains 97%-99% in of those in senior roles. The next generation of business leaders will come from this zone. Businesses should actively manage people in the amber zone either by improving their performance or by recognising that they may be in the 'wrong' seat and changing their role. Those in the red area with low performance and low potential are clearly struggling and are likely to need to move to another role or ultimately they may have to leave the business.

Anyone listed in the OSP is assessed using a single sheet similar to a performance & development plan. This includes assessments based on the behaviours that Ultra values as well as other business competencies and leadership differentiators.

### Management Team Metrics

This data is added together so each business can look at the overall balance of the senior management team. An example, based on certain business competencies, is shown here:

#### Senior Management Team: Business Competencies



The chart helps each business identify strengths and weaknesses within its senior management team which, in turn, helps identify where training and development may be needed. It also helps identify the competencies and behaviours any new team members should have.

#### The 'right' people are Ultra's most important asset

The plans of each business are reviewed annually with the Divisional Managing Director/President and the Group Human Resources Director. Following that the Group Executive Team reviews the overall plan over a whole day to consider succession in each business and around the Group as well as a thorough review of the high flyer talent pool.

For 2011 onwards its name will change to Organisation, Succession and Development Plan (OSDP), to more accurately reflect the enhanced scope of the process. The OSP has served Ultra very well over the past 17 years during which it has been developed. If you are reading this as a business leader, manager, supervisor or team leader you need to make sure you have the 'right' people with the appropriate behaviours and skills on your own team. You also need to make sure you develop and retain these 'right' people. Support is available to do this as well as every encouragement. Only if we make sure the 'right' people are at the heart of Ultra can we continue to beat our competitors in offering innovative solutions to our customers and continue the Group's growth.



ProLogic is one of fewer than 50 companies in the United States that is overseen by a 'Proxy Board' created under a Proxy Agreement

# Ultra's Proxy Board a strategic asset

Ultra is growing and broadening its portfolio of specialist capabilities. Part of this expansion takes the Group into the security and intelligence areas where access to highly classified information is required. Such information must be guarded and appropriate steps taken so that the national sovereignty of highly classified information is protected. As a UK company that owns US subsidiaries, Ultra has had to put in place arrangements to protect US classified information. This takes the form of a Proxy Board, staffed by trusted American nationals who look after the national interests of the USA in this regard. Ultra's acquisition of ProLogic in June 2008 triggered the creation of the Proxy Board.

**ProLogic** is one of fewer than 50 companies in the United States that is overseen by a 'Proxy Board' created under a Proxy Agreement. This little used arrangement has become a strategic asset for Ultra and **ProLogic**.

A Proxy Agreement is used when a US subsidiary company cleared to handle highly classified information (in this case **ProLogic**) is owned or controlled by a foreign entity (Ultra Electronics). Control of the subsidiary is vested in US citizens that are approved by the Defence Security Service of the US Federal Government. Under this arrangement, there are no restrictions on the company's eligibility to have access to classified information and they can compete for contracts in areas classified at the highest security levels without having to apply for so called National Interest Determinations or NIDs. The Proxy Agreement has allowed **ProLogic** to continue its existing work and has infused it with the additional talents and experience of the Board members –

Jim Baur, Frank White, and John Robusto. The value of any board is determined by the duties and powers of the board and the personalities and abilities of the board members and Ultra is fortunate to have these people on its Proxy Board.

**Jim Baur**, the Board Chairman currently lives in Suffolk, Virginia. He has had previous board experience and has a distinguished background in business development and execution. In his previous assignments, Jim has dealt with the issues of Foreign Ownership, Control or Influence (FOCI) for US entities that were owned by companies in Netherlands, Finland and the UK. He brings relevant experience to ProLogic and the Ultra Board. Jim has also helped create and lead a grass roots community organization (the Military Ambassadors) to support and maintain the US Navy presence in the Norfolk-Tidewater, Virginia area.

**John Robusto**, the Government Security Chairman (GSC) and a resident of California, Maryland, was the youngest Senior Executive Service (SES) leader in the history of the US Marine Corps. He had additional tours of duty in the Intelligence Community and spent four years as a Special Executive to the Chief of Naval Operations (CNO). The current Chairman of the Joint Chiefs of Staff (C-JCS), Admiral Mullins, presided over John's retirement ceremony when he retired from government service. John has trained extensively and is currently a volunteer Emergency Medical Technician (EMT) in southern Maryland.

**Frank White**, the Compensation Committee Chairman and a resident of San Diego, California, spent more than 35 years as a Navy officer and civilian. His expertise in oceanography and sensors led to the development of new ways of fusing sensor data to support surveillance and reconnaissance. He is a sought after advisor to senior policy and decision makers.

The Proxy Board's combined wealth of knowledge from years of US Department of Defense and intelligence community service have allowed them to mentor and give advice and counsel to **ProLogic** executives and other personnel within the Ultra family. This strategic asset for Ultra and ProLogic has shown immediate benefits in **ProLogic's** improved business performance since the Board was formed.



Jim Baur



John Robusto



Frank White





**Graeme Stacey** Managing Director Information & Power Systems

# a valuable insight into

## Defence Policy & Strategic Programming

In January, Graeme Stacey, Managing Director Information & Power Systems, joined the prestigious Advanced Command and Staff Course at the Joint Services Command and Staff College (JSCSC) at Shrivenham, Wiltshire, UK. Graeme and 17 other managers from industry joined the course for four weeks to promote greater interaction, collaboration and trust between service personnel and their industry counterparts.

The JSCSC trains the future commanders and staff officers of all three UK Armed Services; this year 280 Lieutenant Commanders, Majors and Squadron Leaders, including 80 from NATO and other countries attended the 42 week course. Concentrating on operational command, the planning and conduct of campaigns and major operations in theatre, the course is accredited by King's College London for the award of a Master of Arts in Defence Studies.

This is the first time that industry participation has been sought for the four week Defence Policy & Strategic Programming module, which covers defence capability acquisition from all angles. Beginning with the nation's aspiration for its place in the world – the UK's foreign policy and national security strategy – speakers from Government and academia discussed how both the domestic political and economic environments and changing international threats and alliances impact the requirements for UK defence strategy.

As the course progressed, senior figures from the Armed Services explained the processes of defence planning and how military tasks and the capabilities necessary to counter perceived threats and deliver the goals of defence are identified. Using the specific example of the Future Surface Combatant - ships intended to replace the Royal Navy's Type 23 frigates - lessons learned from past acquisitions were used to explain the MoD's approach to Through Life Capability

Management in which every aspect of new and existing military capability is planned and managed coherently from "the cradle to grave."

High-ranking figures, including the UK's Vice Chief of Defence Staff General Sir Nicholas Houghton, Chief of Defence Materiel General Sir Kevin O'Donoghue and Permanent Under-Secretary for Defence Sir Bill Jeffrey, gave candid, personal perspectives on the challenges facing UK Defence. From Parliament the Chair of the House of Commons Defence Select Committee, the Rt Hon James Arbuthnot MP and the then Minister for Defence Equipment & Support Quentin Davies MP both delivered political perspectives.

Throughout the four week programme, as each stage of defence planning was covered by lectures, Graeme joined a syndicate of ten individuals with officers from UK, Oman, Australia and Singapore on an exercise based in the fictional country of Visimal. Working from highly detailed briefs, the syndicate reached decisions on the nation's strategic alignment with other countries, the military tasks and planning assumptions for current and future capability requirements and finally made some tough choices around affordability between competing cases for the nation's carrier programme, fast air upgrade, mechanised infantry, ISTAR and strategic lift requirements.

The course provided an outstanding opportunity to better understand Ultra's customer environment as well as an opportunity to share with the course an industrial perspective on engaging with the UK Ministry of Defence.

"This is the first time that industry participation has been sought for the four week Defence Policy & Strategic Programming module..."





## Cross-business initiatives 2010

### Marketing Leaders' Conference

Ultra's second annual Marketing Leaders' Conference took place in Boston in June. The objectives of the conference were to share best practice and exploit synergies so that we may accelerate Ultra's organic growth rate through greater success in our markets. The conference was also a catalyst for future networking and discussion – it is the only time in the year when sales, marketing and business development staff from all Ultra businesses can interact with each other.

Someone from each business described the markets, offerings and competitive landscape for that company. Potential new market opportunities that were 'just out of reach' were discussed and the possibilities for internal teaming that might make the win achievable were explored.

Central discussion sessions covered topics such as how to improve the competitive strategy review process; how to be better at teaming and how to improve the new business capture process.

In order to facilitate internal teaming and coordination, a number of 'interest groups' were initiated, each with a nominated leader. These are intended to enhance the sharing of information and influence while, in a typical Ultra fashion, avoiding unnecessary bureaucracy.

The event was a great success and the 2011 conference is being planned for late June in Montreal, by when we hope the snow will have melted.

### Finance Leaders' Conference

Every (ash) cloud has a silver lining!

Each year the senior finance personnel in North America and the UK hold separate meetings to discuss topics of common interest and to be briefed on key issues by the Head Office team.

This year the 'volcanic ash cloud' disturbed the arrangements and it was decided to hold one meeting for all participants including Shahid Mahmood from **Dascam** in the UAE and Donna Dockerill from **Avalon**, Australia.

The meeting was held in the UK, close to Heathrow. The first day was run by David Garbett-Edwards, Ultra Group's Company Secretary, and was devoted to 'business continuity planning'. David welcomed guests from Ultra's insurance broker, Aon, and from Office Shadow, a provider of business continuity software.

The second day was chaired by Paul Dean Ultra's Group Finance Director and was a combination of presentation and break-out sessions where participants opted to attend short working groups on particular topics. Rakesh Sharma opened the meeting with an overview of the strategy for the business and the role of finance in delivering it. The meeting also provided the opportunity to launch the finance section of the Operating Manual, which replaces the old Finance Manual and is now available on the Group intranet.

The meeting was a great success with huge indirect benefits from the exchange of experiences with colleagues in similar businesses or with similar issues in different parts of the world. The next meeting has already been arranged for next May at the **Flightline** facility where there will be a greater focus on operational matters.

The meeting was hastily re-arranged because of the disruption caused by the volcano ash-cloud and its smooth running owed much to Cyd Trumper's organisational and logistical skills.

### Engineering Leaders' Conference

In July, the first Engineering Leader's conference was held in Oxford, attended by 32 delegates from most Ultra businesses. The conference was chaired by Alan Barker, with the very able assistance of Helen O'Neill, Keith Thomson and Dr. David Kearney of OPDC.

At the opening dinner, Douglas Caster spoke eloquently about the importance of high quality engineering to Ultra's success, saying that it needs to be embedded in the "DNA of the company". Rakesh Sharma also gave a short speech reinforcing that idea during the dinner on the second evening.

During the conference, about 12 technical presentations were given on a variety of topics, and the representative of each business presented key aspects of their business from an engineering point of view to the attendees by means of posters. As a result of the conference a number of informal working groups have been formed to address common topics of interest, which will help to break down the barriers between businesses and foster cooperative efforts to share technologies and best practices.

The posters and all technical presentations have been placed on the group intranet, under the Engineering heading.

It is planned to make the Engineering Leader's Conference an annual event, with venue for 2011 likely to be in North America.



# Ultra on show

## Exhibition & Event news

Since the last issue of Ultra News, Ultra businesses have joined forces and exhibited at many events. Here we report on a selection of those events where businesses have collaborated to present a combined Ultra message.

### Farnborough International Airshow

In July, seven Ultra businesses combined to make an imposing presence at the Farnborough International Airshow. The Farnborough air show is one of the world's iconic global aviation events which holds a prominent position within the aerospace calendar every two years.

This year's show was a huge success for business with US\$47 billion worth of orders announced during the trade week. The event also featured 152 aircraft in static displays and spectacular flying displays and the public weekend attracted more than 108,000 visitors. Ultra welcomed a very busy schedule of VIPs and overseas delegations; updated several groups of City investors and analysts on Ultra's specialist capabilities and hosted some 200 guests for lunch.



First Sea Lord Admiral Stanhope in conversation with Douglas Caster

Several Ultra businesses had new technology on display:

**Controls** launched "asis", an entirely new innovation that it hopes will revolutionise how ageing military aircraft structures are monitored and maintained (read more on page 15).

**Precision Air Systems** also attracted much attention with the new DF-70 dual fuel engine developed for unmanned vehicles.

### Passenger Terminal Expo

As often reported in UltraNews, **Airport Systems** has been very successful with winning installations of the baggage information system in airports around the world. One of the events used to underpin this success is attendance at Passenger Terminal Expo. This year's event in March was held in Brussels, Belgium. Potential customers from all around the world created a busy stand for Ultra as the curious visitors were keen to learn more about Ultra's capabilities.



Simon Wilkins, Liz Kolbeck, Tina Bentley and Tim Griggs

Led by Adrian Wheatley (CIS) and Patricia Robinson (C&CS), a group of Ultra summer placements, apprentices and graduates from **Command & Control Systems** and **Communication & Integrated Systems** supported the Futures Day event. The event's goal was to 'inspire young minds' to take up careers in the aviation, defence and security sectors and was attended by a few hundred young people ranging from 7 to 21 years old. The team exhibited a number of Ultra products and explained the technology to many enquiring minds as well as explaining their careers/placements so far with Ultra.

Ultra will be attending more events of this kind in the future to attract the right people to lead and support Ultra's growth plans. The market for new talent is extremely competitive and the Group need to be well placed to give the message that we can offer exciting, rewarding careers if we are to succeed.

### CANSEC



In June, CANSEC was held in Ottawa, Canada. CANSEC is a highly focused national defence exhibition featuring product presentations and capability displays by Canada's leading edge defence and security companies. Ultra's Canadian businesses, **TCS** and **Maritime Systems** were represented as well as exhibiting Ultra's capabilities from **USSI** and **Command & Control Systems**. Ken Walker, as Ultra's Government Relations officer in Canada, arranged an impressive visitor list, including Capt(N) Casper Donovan – Director Maritime Requirements; Commodore Pat Finn, Program Manager Common Surface Combatant; Rear Admiral Richard Greenwood, Director General Maritime Equipment Program Management; Rear Admiral Nigel Greenwood, Assistant Chief of the Maritime Staff.



Above picture.

Left to right: Charlie Winckler (CIS), Patricia Robinson (C&CS), Tom Caster (C&CS), Lisa Traynor (C&CS), Grace Munday (C&CS), Faith Bateman (CIS) and Alex Tarter (CIS).

Left picture.

Rakesh Sharma demonstrates Ultras' RMLG to students



### UDT Hamburg

June also saw **Sonar Systems**, **ATS** and **PMES** exhibited at the annual Underwater Defence Technology exhibition which took place in Hamburg. On display were Ultra's Common Sonar Solutions and Integrated Sonar System demonstrations. VIP delegations included Admiral Mark Andersson (Chief Operations UK MOD), Captain Tim Davies (UKTI DSO) and Al Stangroom (UKTI DSO).





## Chief Executive's review

# from strength to strength

I have consistently defined success in Ultra most simply as 'delivering the agreed strategy, meeting or beating the agreed budget and developing the people within the Group'. I am pleased to report that Ultra continues to succeed on all three fronts.



Let me start with the development and training of staff. Elsewhere in this edition of UltraNews Keith Thomson writes about the Organisation and Succession Planning process which contributes so much to the task of continually developing the great people we have in the Group. The success that we have in developing successors for senior positions around Ultra means that a high proportion of such vacancies are filled internally. This reinforces the Ultra culture which makes us different from and better than other companies. On the topic of succession, Rakesh Sharma is taking over the day-to-day running of the Group in preparation for his appointment as Chief Executive in April next year, at which point I will become Ultra's Chairman. The current round of budget review meetings are being led by Rakesh as he will be responsible for delivering the operational results in 2011. In the meantime I am trying to manage my workload into the three day week for which I am now paid – it seems as though I still have five days of work each week but only get paid for three of them!

The Group continues to expand and this adds to the challenge of coordinating Ultra's business activities across more than twenty businesses. This continues to be a main focus of all members of the Group's Executive Team and there are reports in this edition of UltraNews of conferences at which the Group's marketing, engineering and finance leaders met to share best practice and extract synergies through closer internal teaming.

Since the last issue of UltraNews we have announced the Group's interim results for the first six months of 2010. These results extended the long track record of strong financial performance, thereby meeting the goal of 'meet or beat the budget'.

Revenue for the first half of 2010 was 8% higher at £350.9m. Organic growth at constant exchange rates was a robust 5% and there was a slight favourable currency effect. The remaining 3% growth came from acquisitions.

Operating profit increased 16% to £51.4m (2008: £44.3m). Organic growth at constant exchange rates was 10% while acquisitions contributed 5% and currency effects 1%.

The order book at the end of the period was £832.1m, an increase of 8% over the value at the same time last year and an increase of 4% at constant currencies. Within this total, firm order cover for the next twelve months trading has been maintained at its customary level of above 60%, a very reassuring figure.

When we announced the interim results we highlighted that **Dascam** would, from 1 August, cease to be a business within Aircraft & Vehicle Systems but would become an 'associated undertaking' as it has become part of a joint-venture (JV) in which Ultra has a share.

When **Dascam** was acquired it came with an embryonic JV with a UAE company called Emirates Advanced Investments, or EAI. The JV is called Al Shaheen and Ultra has a 49% share with 51% being with EAI, as is usual in the UAE. It is the wish of our various UAE customers that Al Shaheen should be expanded through the consolidation of **Dascam** and that all future training and performance consultancy activity in the UAE will be pursued via the JV.

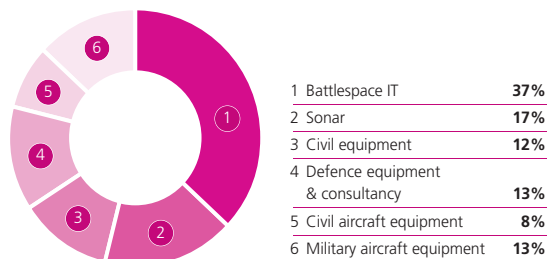
We see significant opportunities to expand **Dascam's** activities and to supply many of the Group's other offerings to the UAE market through our relationship with EAI. This relationship and the market access it brings was part of the attraction of **Dascam** and this is the right time to make this change.

"Rakesh Sharma is taking over the day-to-day running of the Group in preparation for his appointment as CEO in April next year..."

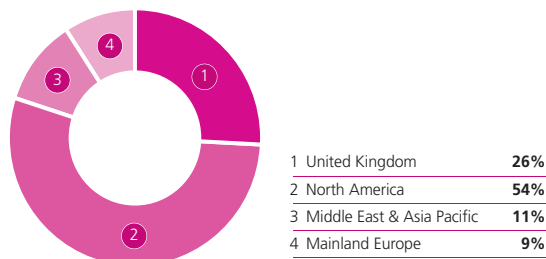


## Douglas Caster Chief Executive

Revenue by sector



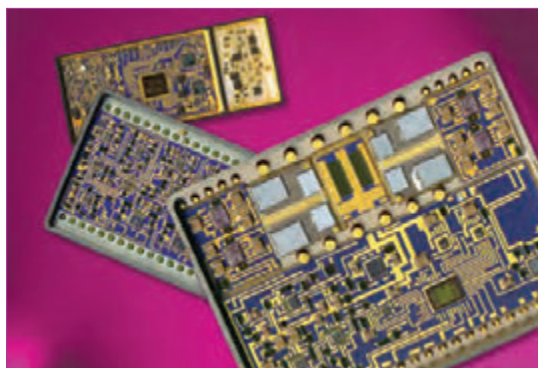
Revenue by region



### Transmag



### Extec



Included in the order book value was the exciting new contract won by **Communication & Integrated Systems** to produce new cryptographic equipment for the UK. This high value order demonstrates success in the strategic development of Ultra in the high-growth area of cyber security and information assurance.

The strategic processes at work within the Group have a track record of positioning and repositioning us in growing sectors of our markets so that the Group's portfolio is continuously refreshed while increasing the addressable market. Over the years Ultra has demonstrated the resilience of this 'portfolio effect'. At different times various parts of the Group have been flat or even going backwards as they adapt themselves to new customer requirements while the majority of our businesses power ahead. The Group also has a great track record of increasing market share.

We are mindful of the current market environment. Overall while there are some budget issues, particularly for the UK defence market, the budgets applicable to Ultra are still strong and the Group's addressable markets give substantial headroom for growth. In the United States the base defence budgets, including the procurement and R&D budgets that are accessible to Ultra, are predicted by the US DoD to grow at about 3% annually. At somewhere between \$180bn and \$190bn these budgets are enormous compared to the size of Ultra and therefore provide significant headroom for growth.

Ultra specialises in electronic solutions and the electronic segments of these markets are a 'sweet spot' since all platforms and programmes have an increasing electronics and software content. Consequently defence electronics budgets are growing at a greater rate than the base budgets. In the UK and elsewhere budgetary pressures will probably mean that

fewer new platforms will be procured but this will drive the need to upgrade existing platforms with new more advanced electronic systems to bridge capability gaps; an area where Ultra strategies excel.

In the transport markets the Boeing 787, Gulfstream 650 and Mitsubishi regional aircraft will drive growth as they transition to full rate production. Airport IT demand is also increasing as the world emerges from recession and there is continuing demand from railway transit operators for trackside power systems.

Ultra has positioned itself in the civil nuclear market which is being driven by concerns about security of supply of low-carbon energy and so is expected to be a fast growing sector world-wide. In the UK there is the potential for life extensions to existing nuclear power stations as well as new builds to mitigate the approaching energy gap that will be caused by the current nuclear power stations coming to the end of life.

Overall we believe that the Group is better placed than most other companies in the current uncertain markets. Nevertheless we can never be complacent and we must remain sensitive to market changes. The trick is to position where the money will be spent and to this end the Group's activities in new aircraft programmes, battlespace IT, cyber security, anti-submarine warfare, and nuclear controls will continue to drive growth. Additionally Ultra's moves into new geographic regions, such as the Middle East and Australia where defence budgets are still growing, will also support growth.

Excellent results and strong market positions are not achieved easily. They are the result of hard work by many members of the Ultra team. Thank you for your personal contribution to the continuing development and success of the Group.

## Welcome to Transmag and Extec

In July, Ultra acquired two businesses in the UK which will enhance the capabilities offered by **PMES** and **Manufacturing & Card Systems**.

**Transmag** Power Transformers Ltd. ('Transmag') supplies large, specialist electrical transformers for various applications in the rail, mining and renewable energy markets. **Transmag** augments the transit power system offering of **PMES** business in the **Information & Power Systems** division. **Transmag** is based in Birmingham with about forty employees and will operate as part of **PMES**.

**Extec** Integrated Systems Ltd. ('Extec') based in Portchester, near Fareham, Hampshire, designs and manufactures thick-film hybrid electronic microcircuits. This specialist method of packaging electronic circuits has some inherent advantages when used in high reliability space, defence, aerospace and civil applications such as Ultra's new electronic control systems for nuclear reactors. **Extec** will operate as part of **Manufacturing & Card Systems** business in the **Aircraft & Vehicle Systems** division and will be known as the Microelectronics business unit.



## Across the board...news and stories from across the divisions

# controlling influence

**Controls** is one of the original seven businesses of Ultra Electronics when the group was formed in 1993.

**Controls** supplies high integrity electronic control systems to aircraft and engine manufacturers in the US, Canada, Europe and Japan. The business is based over three sites in the UK; Greenford, Cambridge and Preston and employs over 220 people.

Over the last five years **Controls** has been successful in securing a wide array of contracts from customers that are new to the business. These customers include Boeing Commercial Aircraft, Gulfstream Aircraft, Pratt & Whitney Military Engines, Airbus Military Aircraft and Mitsubishi Aircraft Corporation. These successes are for systems as diverse as wing ice protection, landing gear and steering control and cabin noise & vibration reduction.

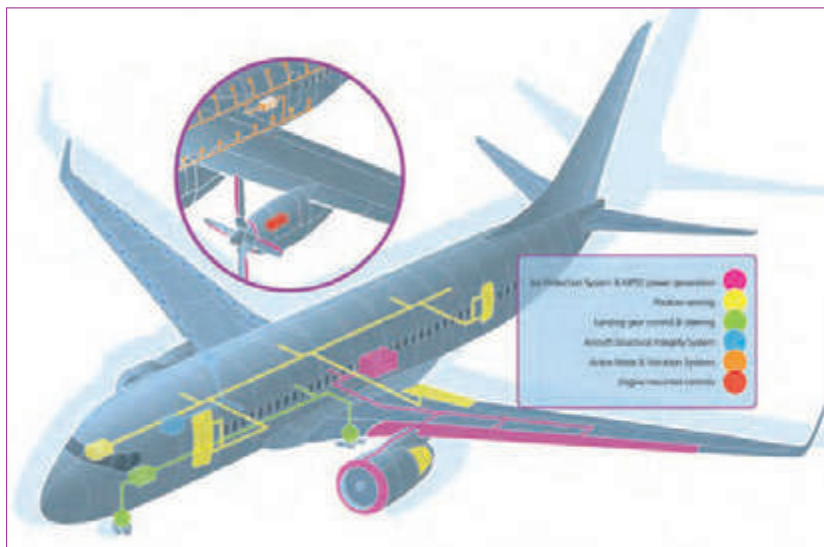
These new contracts are to supply systems for aircraft that will be built and operated for many decades to come and will ensure **Controls** will grow significantly over the coming years. These aircraft include Boeing's 787 Dreamliner®, Pratt and Whitney's F-135 engine for the F-35 Joint Strike Fighter, the Airbus A400M military transport, Gulfstream's new G650 business jet and Mitsubishi's new regional jet.

**Controls'** success has primarily been achieved in one of two ways; the technical innovation of its staff and through teaming with other companies. These strategies have enabled the business to win work by offering solutions that are better than the competition or which cover the wider systems capability that many aircraft manufacturers are demanding. These new systems also provide the business with an array of new technologies on which it aims to build in order to secure further new work.

Like many Ultra businesses, a large proportion of the 220 staff at **Controls** is engineers involved in the design and development of these new systems. Primarily located at the Cambridge and Preston sites, approximately 100 engineering staff cover all aspects of the design cycle, including agreeing the detailed requirements with the customer through to managing the final product through certification and finally into production.

Once in production the Greenford site looks after the process of purchasing, assembling, testing and despatching the systems, supported by all the administrative staff necessary in a manufacturing operation. The business also provides the in-service support that aircraft manufacturers and operators expect; 24 hours a day, every day of the year.

The recent addition of the Preston site to **Controls**, formerly Datel, has brought additional new customers into **Controls**, including well known businesses such as BAE Systems, Warton and Pilatus Aircraft in Switzerland.



**Controls'** success has also benefitted other businesses within the Group such as Electrics and M&CS, both of which are now supplying parts for these new systems.

## New product launch



**Controls** launched a completely new product at this year's Farnborough Airshow. "**asis**" is an entirely new innovation that will revolutionise how ageing military aircraft

structures are monitored and maintained. **asis** is a passive acoustic detection system that identifies cracks in metal aircraft through an array of sensors attached to the structure. These sensors detect the acoustic emissions that are created when a crack first develops, or when an existing crack grows larger. The system registers the precise moment in time that each sensor detects each emission and the frequency of the emissions, and then compares this with its knowledge of the acoustic signature of the structure. The **asis** user is then given a 3D illustration of the structure, the crack's location and its potential severity.

**asis** is launched against a background where an increasing number of aircraft fleets need to be kept operational well beyond their expected service life. This is due to high utilisations, replacement aircraft not being available, decision delays on new aircraft and increasing budget restrictions. There are tens of thousands of ageing military aircraft flying with the world's air forces that are over 25 years old. Many of these fleets are set to be still flying in 20 years or more with some aircraft, such as the USAF KC-35 tankers, expected to be over 80 years old before the last aircraft are withdrawn from service.

## Being prepared for Scout programme

**Electrics** is working closely with General Dynamics UK and Lockheed Martin teams on the recently awarded Scout armoured vehicle programme for the British Army. Scout has entered the initial demonstration phase with a £500m contract awarded to General Dynamics UK. Lockheed Martin is providing the turret, with associated turret sub-systems, for the vehicle. Current UK MoD plans include the procurement of 400 vehicles in the Scout family with options that could take the total to 1,289.

**asis** provides a user friendly display of where cracks are located





# Aircraft & Vehicle systems

## MSI books \$5.5m Kongsberg order



In current operations in Afghanistan, the US Army uses Mine Resistant Ambush Protected (MRAP) vehicles to move around. Many thousands of MRAP vehicles have been delivered to date. The threat of roadside bombs is not diminishing and the protective features of MRAP are vital. In addition to the double V-hull design, MRAP enhances force protection through the addition of CROWS II, the Common Remotely Operated

Weapon Station provided by Kongsberg. This is a machine gun that can be operated from within the vehicle, 'under armour'. As the sole source provider of the hand control for CROWS II, MSI received its largest single order to date from Kongsberg worth \$5.5m. MSI has responded well to ramp-ups and changes in production



requirements throughout the contract. As a result of careful planning and working closely with Kongsberg, MSI has successfully shipped about 7,000 controls for CROWS II and, through the completion of the current contract, will have shipped a total of 8,107.



## 1,300 HiPPAGs delivered on Small Diameter Bomb programme

### Precision Air Systems

continues to see increasing demand for its market-leading HiPPAG airborne compressors. PAS recently achieved yet another milestone in the HiPPAG range of products with the delivery of the 1,300th production system on the Boeing Small Diameter Bomb (SDB) program to its customer Carleton (part of the Cobham group). With two further procurement lots scheduled on the program, orders for an additional 800 HiPPAG 500 series systems are likely.

As production of the Joint Strike Fighter ramps up, so does the level of activity at PAS. Delivery of 164 HiPPAG systems for the third Low Rate Initial Production (LRIP 3) phase has begun, with an order for 130 systems for LRIP 4 recently received. With a further order for LRIP 5 is expected next year, JSF remains an important, long-term programme for PAS.

## MSI's 50th anniversary celebration

MSI was 50 years old in October and an on-site celebration to honour the company's history, accomplishments and practices took place on 12 October. It was a day worthy of the people who have made MSI the success that it is today. Guest speakers will include Douglas Caster and Bill Farmer of Raytheon who leads the LRAS3 programme which uses MSI's hand controls. Bill presented MSI with an American flag flown in Afghanistan and signed by an LRAS3 battalion in recognition of MSI's contribution to the success of the platform. A full report of the day will appear in the next issue of UltraNews.



## Heavy fuel engine makes successful first test flight in USA



Teamed with AESIR, a specialist small lightweight Unmanned Aerial Vehicle (UAV) manufacturer, the Precision Air Systems DF70 heavy fuel engine made its inaugural flight this summer in Atlanta, Georgia, USA.

Powering AESIR's EMBLA platform, the DF70 is a 5hp engine which will run on both gasoline and JP8. The engine is designed to power the emerging requirement for mini UAVs for ISTAR (Intelligence, Surveillance, Target Acquisition and Reconnaissance) and other surveillance applications. A successful trials programme followed the initial flight; AESIR's Lee Whitcher said "The DF 70 engine has continued to work well, starting reliably and producing the required power."

## MSI publishes and presents at GVSETS

The second annual Ground Vehicle Systems Engineering and Technology Symposia (GVSETS) sponsored by the US National Defense Industrial Association grew by over 30% since its first year in 2009. New in 2010 was a series of mini symposia focused on robotics systems; modelling & simulation; testing & validation, vehicle electronics & architecture; systems engineering; and power & energy. The call for papers was released in the spring and MSI submitted four abstracts, three of which were accepted for publication. "Mobile, secured communications enable net-centric operations" featuring the High Integrity Data Link or HIDL system from Communication & Integrated Systems was selected for

presentation; "Portable displays and controls for vehicles & dismounted operations" was selected as an alternate presentation, and "Human-centred design crucial to unmanned systems operator & mission success" was selected to be presented in a poster session. Dr. Amish Mehta, VP of Engineering for MSI, spoke on mobile and secured communications featuring HIDL. Special thanks go out to the team at CIS for supporting MSI's publication and presentation.





Across the board...news and stories from across the divisions

# PMES... good times return!



success in providing its innovative power-dense electrical conversion systems and more latterly it successfully launched its unique gas-turbine electric start system with Rolls-Royce as its first customer (see the article below for more on this). Sales have increased by more than 200% in the last two years. To cope with this success the business moved to a new custom-built factory in February 2009 just a short distance from the Raven Hill House site that was established in 1948.

## Do you know?

Business name:

**PMES**

Location:

**Rugeley, Staffordshire, UK**

Established:

**1946**

Acquired by Ultra:

**1998**

Number of staff:

**186**

**PMES** origins can be traced back to 1946 when three employees of what was then known as English Electric Stafford left to form BEP (British Electronic Products) in Bilston, West Midlands. Initially the product range included electronic motor-speed control equipment and process timers but quickly developed into electronic control equipment for larger industrial process applications.

In 1970 David Sammons started as a commercial apprentice by which time the company at Rugeley was part of the Thorn Electrical Industries Group and had grown to a business employing 1,000 staff, supplying advanced control equipment for both commercial and defence applications around the world. The merger of Thorn Electrical Industries and EMI in 1979 meant that the business became part of Thorn EMI Electronics as the Naval Systems Division which also had sites at Nottingham and Woking in the UK and Utrecht in Holland and Knefeld in Germany. By this time the business had established itself as a supplier to UK Ministry of Defence and in 1985 supplied data distribution equipment to the Royal Navy's Upholder class submarine.

In the early 1990's Thorn EMI decided to divest itself of its non core defence business to focus on Music and Consumer Electronics. The then management team at Rugeley which included David Sammons completed a management buyout of the business in 1994 backed by 3i and the Royal Bank of Scotland. However during the period 1994-1998 the business suffered from the deferment of defence spending (sounds familiar!), in particular on the Astute class submarine programme, and it was decided that the business would be better served being part of a larger entity. As a result Ultra acquired **PMES** in November 1998.

After an initial contraction of the business owing to the deferment of some large defence programmes, over the past few years the business has performed well. It has successfully delivered track-side electrical power systems for railway customers such as the UK's Network Rail and London Underground. In the Naval market the business has had great

The future prospects continue to look good across all business streams with continued growth expected over the next five years. Little did David realise that 40 years on, he would be Managing Director overseeing a renaissance of the business he joined as a 17 year old!

## PMES delivers first Gas Turbine Electric Start systems to Rolls-Royce

**PMES** has commenced delivery of its advanced, compact Gas Turbine Electric Start (GTES) system to Rolls-Royce (Canada). The system has been developed in partnership with Rolls-Royce for use on its industrial gas turbines. Rolls-Royce now considers this to be their system of choice for its 50MW Trent 60 Industrial gas turbines, replacing large, complex pneumatic and hydraulic start systems. Rolls-Royce has placed an initial order for 64 GTES systems to be delivered by the end of 2011. In parallel, Rolls-Royce and **PMES** are negotiating a 25-year long-term partnering agreement to cement a strategic alliance. The first production units have been delivered and installed at SPE Angleur in Belgium as part of a power station upgrade programme.

The **PMES** GTES system comprises a power-dense motor and drive, is inherently smaller, lighter and more cost-effective than the traditional systems and has much reduced maintenance and through life costs. As the motor remains engaged throughout the gas turbine's speed range it can operate as a generator once the gas turbine is running. In the regenerative mode it generates power from the rotation of the gas turbine and can be used to make the gas turbine independent of external electrical supplies, thus providing resilience of operation. The GTES system is a significant development for **PMES** and promises increased sales well into the future both with Rolls-Royce and for other applications.



## Card Systems wins with Polaroid ID

**Manufacturing & Card Systems**, which manufactures the Magicard ID card printers, has agreed a five year supply deal with Polaroid ID, Fort Wayne, Indiana, USA. Ultra will be producing Polaroid-branded printers from September 2010, which the Polaroid team will be selling, mainly in the USA but also through their sales hubs in Latin America, Europe and the Middle-East. Ultra's win is at the expense of competitor Datacard, who have been supplying Polaroid for the past six years. Polaroid will run Magicard and Datacard printers side-by-side during 2011. The future goal is to secure all of Polaroid's business. Superior support and delivery through Ultra's regional sales hubs in Seattle, Dubai and Weymouth UK were key to securing the contract.



# Information & Power systems



## Degaussing system win for the DDG-51 destroyer

In March, **EMS** was selected by General Dynamics, Bath Iron Works to supply the demagnetising or degaussing system for the next phase of the US Navy DDG-51 destroyer programme. This win is particularly pleasing as, having lost the bid for the original DDG-51 Arleigh Burke class destroyer commissioning in 1991, **EMS** has been positioning to regain the business for nearly 20 years.

In 2003, **EMS** leveraged the use of its FEMAP modelling tools to win the new US Coast Guard Deepwater National Security Cutter (NSC) program. This Coast Guard ship has a very similar specification as the DDG-51 class destroyers. When the US Navy launched the build of a new 'flight' of 12 DDG-51 ships, **EMS** had a proven degaussing system design that could be modified to suit. When Bath Iron Works issued the Request for Proposal for the DDG-51 systems they made it clear that there would be one proposal request with no 'Best-and-Final-Offer'. It was going to be a 'one and done'. You would have to know the people from Maine to fully appreciate that they really mean what they say.

To add to the sweetness of a solid win, **EMS** is now very well positioned for the DDG-51X programme. Scheduled to begin in 2016, the evolutionary DDG-51X is planned to be the next generation ballistic missile cruiser, with up to two dozen ships in the class.

## New portable battlefield communication system from **ATS**

Warfighters need to communicate over an extended battlefield but they can't carry every type of radio with them. With the Tactical Communications System (TCS, not to be confused with the Ultra business with the same name!) in the sky, soldiers in the most desolate locations can use handheld radios to request support from command centres hundreds, even thousands, of miles away. Carried on manned or unmanned aircraft, the TCS is like a smart telephone switchboard in the sky. Using software developed by **Advanced Tactical Systems**, TCS connects a wide variety of programmable radios. The TCS also provides secure data network access to send voice, video, pictures and real-time information on friendly and enemy locations. Flight trials begin in early 2011 on an unmanned aircraft that will fly above 60,000 feet for up to 7 days at a time. At that altitude the TCS can cover a large area of Afghanistan which means that help is always "on-call."



## NRE selected for information management system for 2012 Olympics

London 2012 has selected the National Resilience Extranet (NRE), developed and run by Ultra, as the planning tool for forthcoming Olympic Games to share, transfer and update key documents. The Olympic planners will share this across a number of agencies including, central and national government departments, local government organisations, government bodies and blue light (police, ambulance and fire service) organisations.

The Olympic Delivery Authority, the project coordinating body, has initialised a pilot phase to establish best practices with guidance from **Command & Control Systems**. Following this phase, roll out will commence to 57 different organisations, further increasing the NRE user base.

## Independent Nuclear Safety Assessor (INSA) contract awarded by AREVA

The UK needs secure access to new energy sources over the next decade to prevent demand outstripping supply. One potential source would be the building of new nuclear power stations. **Command & Control Systems** has been positioning itself to use the expertise it has gained in designing control and instrumentation systems for submarine nuclear reactors in the civil market. **Command & Control Systems** has been awarded a contract by AREVA NP and EDF to fulfil the role of Independent Nuclear Safety Assessor (INSA). This contract is to help gain design approval from the UK Health and Safety Executive for the reactors in AREVA and EDF's proposed nuclear power stations. This is an important role for Ultra in developing relations with AREVA and EDF, utilising local expertise and skills to benefit the UK's nuclear new build programme.

The AREVA Evolutionary Power Reactor (EPR) is the world's most powerful, generating 1600 MW of electricity. There are two EPRs under construction globally, one in Finland and another in France, with a further two scheduled to be built in China and another four in the United States. The reactor is currently undergoing the Generic Design Assessment in the UK, a pre-certification process scheduled for completion in the summer of 2011. This assessment is a crucial phase of the new build project, involving a reactor design being licensed and approved before the start of construction. Ultra's role is to support the final stage which is the Detailed Design Assessment.





Across the board...news and stories from across the divisions

focus on

# Flightline



In 2010 **Flightline Systems** celebrates its 40th anniversary since the founder, Ed Macdonald, created a new business entity called EDMAC Associates to market and develop sophisticated high-technology capabilities for the United States military. A few name changes and many years later, the business became Flightline Systems, Inc. **Flightline** was acquired by Ultra Electronics in 1997. In over four decades of operation, **Flightline** has amassed an impressive history of growth and success, with 120 employees and a product base in excess of a half million units deployed in over 40 countries around the world.

To support its growth plan, **Flightline** has recently added 8,000 square feet of engineering and manufacturing space and has evolved the business into four Strategic Business Units.

**Flightline's** Receiver business unit is the heart of the business, with offerings in manned and unmanned airborne and shipboard anti-submarine warfare. Throughout its history, **Flightline** has been characterised by innovative, class-leading solutions, and has many firsts to its credit. **Flightline** was the first company to develop and introduce a digital software-defined sonobuoy receiver, which set new standards in range, flexibility and reliability for an entire generation of Anti-Submarine Warfare (ASW) solutions. **Flightline** receivers are extensible, offering industry-leading operational performance. In addition **Flightline** also serves its customers as a subject matter expert in ASW advanced radio telemetry waveforms.

The Aircraft Instruments business unit offers digital, mechanical and electro-mechanical instrumentation solutions for both fixed and rotary wing aircraft. These offerings were augmented in 2009 with the acquisition of AuRACLE product line. The

AuRACLE acquisition extended **Flightline's** capabilities, market reach and advanced the product roadmap with digital engine management solutions for both piston and turbine aircraft.

The Test Solutions business unit specializes in the supply of portable, ruggedised aerospace safety-critical testing and solutions. In addition to **Flightline's** own ASW test and simulation solutions, **Flightline** is working in partnership with **Electrics** to address the US market for fuel gauging system test sets.

The Advanced Projects business unit is transitioning legacy products and capabilities into new markets by evolving current offerings to meet new requirements. The sonobuoy receiver offering is evolving to provide multipurpose solutions for customers with multi-mission platforms. In addition to ASW functionality the receivers incorporate the capability to intercept certain RF signals for communications intelligence gathering. **Flightline** is also teaming with other Ultra companies to bring technology to the US Market. Examples include; working with **Sonar Systems** to offer gunfire detection and **Communication & Integrated Systems** for cryptographic systems. **Flightline** also continues to provide specialized build-to-print solutions for a diverse set of clients and platforms.

Today, **Flightline Systems** stands as a premier military and aerospace technology solutions provider for specialist radio receivers, sensors, aircraft instruments, and simulation and test systems and looks forward to the next 40 years under the Ultra banner.

## Do you know?

Business name:

**Flightline Systems Inc**

Location:

**Rochester, New York, USA**

Established:

**1970**

Acquired by Ultra:

**1997**

Number of staff:

**120**





# Sonar & Undersea systems



## SeaFox reaches Final Operating Capability with Royal Navy

SeaFox is a system for the disposal of sea mines that can hamper the progress of a naval fleet on operations. **Sonar Systems** has supplied SeaFox to the Royal Navy and on July 29, the system achieved Final Operating Capability. The programme has successfully met the requirements of the Royal Navy and overcome some initial difficulties in service. The solution to these issues was great teamwork between personnel from the Navy, the UK MoD, Ultra and other contractors.

In July 2009, onboard HMS Atherstone and in front of a Royal Navy assessment team, three SeaFox combat vehicles failed to fire. Alarm bells sounded and the news of failure soon reached Ultra. A multi-disciplinary team was formed to address the issues.

Engineers were despatched to the Arabian Gulf, Spain and all parts of the UK to carry out immediate equipment checks on every ship operating SeaFox. Firing trials were hastily arranged in the UK and, with Ultra on board, proved successful. Two upgrades to the SeaFox vehicles were identified and programmes were put in place to modify all combat and inspection vehicles in the Royal Navy fleet.

These programmes have now been completed with all priority operational units having been modified earlier in the year. In addition the opportunity was taken to improve the training of the Royal Navy crews operating the system. **Sonar Systems** staff went on board a ship and filmed the crew launching a SeaFox to produce a training aid and additional written documentation showing optimum launch characteristics. Additional system trials were completed in the UK to endorse the performance of the equipment and to demonstrate the improvements to MoD staff. Following these programmes, two further firing trials attended by Ultra engineers were undertaken in-theatre. Both proved successful, each ship firing four live SeaFox rounds without any failures. The following week two ships, without Ultra support, conducting operational sea training in Scotland, fired two combat rounds each, again without failure. The unprecedented level of logistic support provided by Ultra staff and the determined approach that was shown in completing work obligations were rewarded with the Navy signing-off the Final Operating Capability for the SeaFox system.



## AuRACLE Turbine Engine Management system chosen for Cessna 340 programme

O&N Aircraft of Factoryville, Pennsylvania, has awarded **Flightline Systems** a US\$1.1m multi-year production contract to supply the AuRACLE turbine engine management system for the 'Silver 340' Cessna 340 turbine engine aircraft. Ultra's AuRACLE system is fitted as part of an upgrade to the aircraft when the original piston engines are replaced with turbines. O&N Aircraft is a leading aircraft modification and retrofit business and has received over 25 FAA approvals for similar modifications.



## Across the board...news and stories from across the divisions

# TCS

### Tactical Communications

**Systems (TCS)** can trace its roots to the Marconi Wireless Telegraph Company of Canada Inc.

established by Guglielmo Marconi in 1903. In 1925, the company name was changed to Canadian Marconi Company (CMC) and was based in Montreal. In the 1960's, the company entered the tactical radio equipment market by supplying the AN/GRC-103 and AN/TRC-145 to the US Army.

In 2002, Ultra Electronics acquired the Military Communications Division of CMC and **TCS** became part of the growing Ultra Electronics family. In 2007, the company added Electronic Warfare as a core capability through the acquisition of Telemus in Ottawa. In 2009, **TCS** launched an adaptive antenna centre of excellence in Ottawa.

**TCS** is the leader in high-capacity line-of-sight (HCLOS) radios and multimedia area communications systems. These systems provide a broadband information highway in a modern army's communication network. Ultra's secure radio communication systems provide enhanced capacity to better accommodate the increasing need for Internet Protocol based real-time communications, and are available in both spectrally efficient (AN/GRC-245) and anti-jamming versions (AN/GRC-512). **TCS's** flagship product is the AN/GRC-245 HCLOS radio. This radio is versatile as it can be deployed on the ground, in a tent or mounted in a vehicle; making it easy for military personnel to exchange data, voice and video communications. **TCS** is extremely proud of the success of its HCLOS radio communications systems, and has the US Army, US Marine Corps, Patriot Missile System, the Canadian Armed Forces, as well as the UK Military, and various forces in the Middle East and Korea as customers. In fact, over 40,000 of **TCS's** tactical radios are in use with military units around the world.

**TCS** has over 260 employees, is still headquartered in Montreal, Canada, and has facilities in Ottawa, Canada. Furthermore, **TCS** has representative employees in the United States, the Middle East, and India. An interesting statistic is that 87% of the **TCS** business development team has had military careers. These careers have been with the Canadian, US, Indian and British armed forces. This unique quality enables the team to bring relevant and first-hand experience to their sales roles.

**TCS** has close ties to the community, partnering with educational institutions and government researchers, to ensure that we continue to develop and deliver innovative products. The École de Technologie Supérieure, the Communications Research Centre Canada, the Canada National Research Council, the University of Montreal and Institut National de la Recherche Scientifique are all close teaming partners of **TCS**.

#### What's next for TCS? A lot!

**TCS** has expanded its portfolio of solutions to include electronic warfare and is investing in the development of adaptive antennas. The company is also developing a next generation radio product, the High Capacity Radio (HCR), which combines the capabilities of the AN/GRC-245 and AN/GRC-512 with higher capacity throughput of 100 Mbps. This will enable our customers to accelerate the deployment of high bandwidth video applications to the warfighter in the front line. Based on its past success, an insatiable desire to innovate and the ongoing commitment of the team, **TCS** is poised for continued success.



## IDIQ contract award for battlespace IT systems

**TCS** has been awarded an Indefinite Delivery, Indefinite Quantity (IDIQ) contract for the US Department of Defense for its AN/GRC-245A High Capacity Line-of-Sight (HCLOS) radio communications systems. The award has been made by the Canadian Commercial Corporation acting on behalf of the US Department of Defense. The initial contract authorisation under the IDIQ contract is valued at over US \$31m for the purchase of HCLOS radios, spares and support. Delivery is scheduled to start in the first half of 2011. The AN/GRC-245 HCLOS radio communications system is a state-of-the-art software defined radio which uses a software communications architecture open network.

This seven year engagement is a testament to the performance that the Ultra HCLOS radios achieve for the US Army. HCLOS systems will be used in combat zones around the world to provide the backbone communications between command posts. This award also acknowledges Ultra's innovation and continuing commitment of the **TCS** team in providing US Army soldiers the tactical radio communications systems they require to complete their missions safely.



### AudioSoft install in Swaziland

In 2003 the Kingdom of Swaziland embarked on construction of the \$150m Sikhuphe Airport project as part of King Mswati III's \$1bn millennium project investment initiative to enhance Swaziland's position as a leading tourist destination in the region.

In July, Will Fisher, an engineer with **AudioSoft**, spent ten days in Swaziland installing and commissioning an AudioPC dual-redundant 64 channel digital recording system. The system will record all Air Traffic Control (ATC) radio and tower communications, together with telephone calls. The system is also synchronized to the Thales radar system which will be used when the airport opens in 2011.

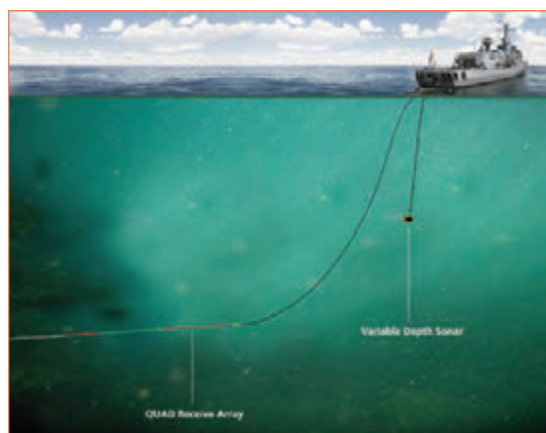




# Tactical systems

## Maritime Systems selection MAPS out nicely

**Maritime Systems** has been selected by the Netherlands' Defence Material Organisation (DMO) to supply two state-of-the-art towed active-passive sonar systems for the Royal Netherlands Navy's Multi-static Active Passive Sonar (MAPS) project. Valued at \$25m, the MAPS systems will be fitted to Dutch M-Class frigates over the next two years and offer a step function improvement over the existing sonar system.



Although Canada and the Netherlands have a special relationship that dates back to World War Two, the success of **Maritime Systems** is largely due to years of collaborative research and development work with DMO and the Dutch defence research organization (TNO) under the Interim Removable Low Frequency Active Sonar (IRLFAS) project. Using the IRLFAS work as its foundation, the MAPS system is a digital, low-frequency variable depth sonar system whose key components include a QUAD directional towed receive array, high performance free-flooded ring active transducers housed in a hydrodynamic tow body, fibre optic tow cables and a highly automated deployment and recovery handling system. MAPS utilises a dual tow configuration thereby permitting a separate towed source that generates very high source levels across a wide bandwidth for greater detection performance in most environmental and operational environments. The DMO will oversee the integration of **Maritime Systems** sonar with TNO's world class signal processing and display software.

Jim Hanlon, President of **Maritime Systems**, commented that the MAPS award underscores Ultra's growing legacy of sonar-related achievements. A key factor in Maritime Systems selection was the ability to offer a modular and open architecture solution whose processor agnostic hardware configuration can take full advantage of TNO's software developments. In addition, Ultra's breadth of capability in the underwater battlespace was viewed positively by the DMO who now have the potential of downstream upgrade paths through accessing Ultra's torpedo detection/localisation, underwater communications and torpedo countermeasure technologies.

The DMO MAPS Program Manager, Ernest Van der Spek, was pleased with the selection of Ultra Electronics stating that "the experience of **Maritime Systems** over six decades as a world leading supplier of underwater surveillance technologies in combination with Dutch sonar expertise will achieve what is arguably the most capable sonar system in the world."

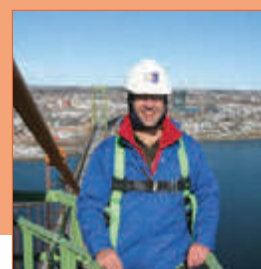
## Burro-Schmidt Mine demonstration for MI-RAMS

The magneto inductive systems business at **Maritime Systems** has conducted a successful demonstration of its Magneto Inductive Remote Activation Munition System (MI-RAMS) at the Burro Schmidt Mine in Red Rock Canyon, California. Attendees included representatives from the US Army Special Operations Command, the Army Research Laboratory, the Naval Surface Warfare Center, Picatinny Arsenal, Indian Head EOD, and the Bomb Disposal units of Riverside and San Bernardino counties.

**Maritime Systems** makes magneto inductive guidance, signalling and communications equipment. These systems can operate not only through air but also through water, sediment, rock and most man-made structures that radio and acoustic systems can not penetrate. These unique systems are also highly resistant to conventional countermeasures, such as jamming and scanning

The demonstration consisted of standard and extended range MI-RAMS operations where MI-RAMS detonators placed underground in the mine tunnel were initiated wirelessly at standoff ranges of 150m and 500m respectively. In hybrid mode, using a combination of RF and MI signalling, the MI-RAMS detonators inside the mine were initiated from a covert site located approximately 3 km from the mine's entrance.

The test also demonstrated the utility of Ultra's 'Rock Phone', which was used to coordinate activities between test personnel inside the mine and those on the surface.



## Call the police

**AudioSoft** has recently secured two competitive contracts in the Republic of Ireland (ROI). First, Garda Siochana, the national police service of the ROI, has placed a contract for a number of digital recorders to support long-term covert surveillance operations. Second, the Irish Aviation Authority (IAA), which provides air navigation services in Irish controlled airspace, selected **AudioSoft** to provide its North Atlantic Communications Service (known as Shannon Aeradio) with commercial-off-the-shelf based AudioPC-1000 recorder servers. The recording system will be a fully redundant configuration with 160+160 channel capability and an online range of in excess of 50 days. Shannon Aeradio provides a long-range voice communications service for Oceanic Air Traffic Control in the eastern half of the North Atlantic. Approximately 70 personnel are employed at the North Atlantic Communications centre, including over 55 Radio Officers, whose voice communications with aircraft will be recorded on the **AudioSoft** equipment. This new equipment is part of the significant investment the IAA has made to provide the North Atlantic Communications operation with state-of-the-art facilities and upgrade the service to the most modern standards.



## I can see for miles!

**Maritime Systems** has been awarded a contract valued at \$3m to deploy an Integrated Surveillance System (ISS) for the MacDonald and MacKay harbour bridges that connect the cities of Halifax and Dartmouth in Nova Scotia, Canada. This project will serve to expand the port security expertise of **Maritime Systems** into other critical infrastructure protection applications.

Under the contract, **Maritime Systems** will design, deploy and support a system that integrates CCTV video cameras, video analytic software and access control functionality into a single graphical user interface. The system will incorporate two command and control centres and will reside on a dedicated, secure fibre-optic network. The Halifax Harbour ISS project is scheduled to be fully operational in 2012.



## People in the news

### Defections to Australia New Magicard office opens in Adelaide



The Magicard ID card printer business, part of **Manufacturing & Card Systems**, has opened an office in Adelaide, Australia. The new office will provide sales and marketing support to Magicard resellers in Australia, New Zealand, Japan, Korea, Taiwan, and other South Pacific nations.

The new office will be headed by Mandy Kerr, who is appointed to the role of Sales Manager, Australasia. Mandy is moving from the UK, where she has been sales office supervisor for Magicard, as well as operating in the field selling to Australasia and Eastern Europe. With more than

four years experience with Magicard, Mandy also has extensive international business experience; Australia will be the fifth country in which she has lived.

Mandy said "When I began at Magicard I would never have thought that I would have the opportunity to open an office in Australia. I can now concentrate on building strong routes to markets in countries which, up until recently, Ultra had been unable to develop to their full potential. It's great to work for a Group such as Ultra that offers not only advancement but opportunities to relocate within the Group. My new colleagues have been very welcoming and I hope to fit in to the Australian way of life soon."

The new office is located in an existing Ultra facility in Adelaide. The Adelaide office is the headquarters of Ultra's Avalon Systems defence electronics business, and also a centre for the new Magicard Australia office complements existing Magicard offices in Seattle USA, Dubai UAE, Shanghai China, and of course the headquarters in Weymouth UK.

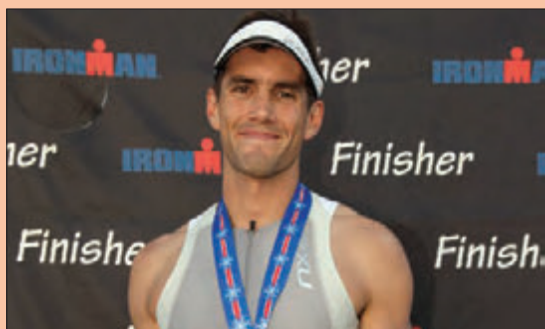


Sandy Taylor, Business Development Manager

### In country expansion

The expansion of Ultra Electronics in Australia continues with the recruitment of two new additions to the Business Development team. Joining the highly experienced Electronic Warfare specialist Dr. John Bartlett is Sandy Taylor, a former Australian and British Army officer. Sandy has taken on the role of Business Development Manager, Ultra Group, representing the company across both the civil and military domains. The latest addition to the Australia team is Suzanne Birch, who after spending four years with the UK based **Sonar Systems** business, transferred to Adelaide in August to take the lead on all maritime opportunities in the region. Under the guidance of Ultra Electronics Australia Managing Director, Doug Burd, the recently expanded team is dedicated to driving the expansion of Ultra Electronics in the Asia Pacific region forward.

### Aiming Higher programme



**TCS** has launched the Aiming Higher programme to encourage employees to bring a unique personal project to reality. The first beneficiary of the scheme is Simon Germain. Simon has been part of the **TCS** engineering team since 2006. A few years ago, he chose to follow a challenging athletic path. An avid cyclist, Simon decided to develop his skills as a runner and swimmer in order to participate in long

distance triathlons. His aspirations are high and he is hoping to reach the senior level of competition for this challenging discipline. **TCS** is proud to support Simon in his athletic endeavours and will cheer him on until he reaches his goals. In July, Simon took part in the Lake Placid 'Iron Man' competition where his time of 10 hours 45 minutes was 28 minutes quicker than last year. Congratulations Simon for your determination, perseverance and overall success!

### Pounds Away team losses and wins for Maritime Systems

**Maritime Systems** Pounds Away team won the Ultra annual weight-loss challenge. The Pounds Away team lost a total combined weight loss of 224lbs (4.31%). The team achieved its success during 'Health and Wellness Month' where activities included boot camps, tug-of-wars, company walks, massage therapy and nutrition and stress relaxation seminars. To celebrate the win, the team donated the equivalent weight in food to Feed Others of Dartmouth, a local community group that feeds the homeless.





## People on the move

## appointments & promotions



**1. Alistair Barker.** In July, Alistair Barker has joined **Precision Air Systems** as Business Unit Director for Pneumatic Systems. Alistair is a Chartered Engineer with an MSc in Aerosystems Engineering and a BSc in Pure Mathematics and Computer Science. He started his career with the Royal Air Force and has held a number of senior positions with Honeywell Defence and Space. Alistair's most recent role was as Divisional Sales & Marketing Director for Chemring Europe.

**2. Jonathan Harvey.** In May, Jonathan Harvey joined **Electrics** as Finance Director. Jonathan has a BSc in Accounting and Law and is ACA qualified. He started his professional career with Price Waterhouse before moving to Coopers & Lybrand. This was followed by finance roles at GE Aircraft Engine Services and Draka Wire. Jonathan's most recent role was Finance Director for Morgan Carbon Europe.

**3. Leland (Rusty) Kollmorgen.** In June, Leland (Rusty) Kollmorgen joined **Ocean Systems** as President, following the retirement of Rick Kiellmeyer. Rusty served 25 years as a Navy helicopter pilot conducting anti-submarine and anti-surface missions ending with the command of a SH-60B LAMPS squadron. After retiring from the US Navy, Rusty joined Whitney, Bradley & Brown before moving to BAE Systems as Director, Maritime Information Warfare. His most recent role was as Director, Maritime Initiatives. Rusty was awarded a Bachelors Degree in Analytical Management from the US Naval Academy and a Masters in Operations Research/Systems Analysis from the US Naval Postgraduate School.

**4. Dan Upp.** Dan Upp has been appointed President of **Nuclear Sensors & Process Instrumentation**, reporting to Graeme Stacey, Managing Director of the Information & Power Systems Division. Dan joins Ultra from AMETEK, Inc. in Oak Ridge, Tennessee, where he was Vice President for the Ortec business. Ortec designs and manufactures nuclear measurement and radiation detection instrumentation for global customers in the nuclear industry. He started his career as an engineer at the Department of Energy's National Laboratory in Los Alamos, New Mexico and has both Bachelor's and Master's degrees in Nuclear Engineering.

**5. Nicholas Knorr.** In June, Nicholas Knorr joined **CIS** as Engineering Director. Nick joins us from Lockheed Martin where he was Head of Research & Technology having previously been Business Area Manager for the Systems & Technology organisation. After graduating from York University with a Physics degree he went on to gain both MSc and PhD qualifications. Nick also worked for GKN Aerospace for five years in a number of engineering roles.

**6. Paul Maguire.** In June, Paul Maguire was promoted to President of **ProLogic**, following the retirement of Dan Gordon. Paul was previously Vice President of Business Development and Marketing, having joined **ProLogic** in 2001. He has experience as Director of Special Projects at Autometric and also served in the US Navy as an intelligence officer. Paul has a BS degree from Long Island University – Southampton College.

**7. Tim Walshaw.** Tim Walshaw has been promoted to Operations Director at **Airport Systems**. Tim will be responsible for project management as well as global service delivery. Tim joined Ultra in June 2002 to lead the Terminal 5 System Integration project and remained responsible for the project until its conclusion before being promoted to Head of Product Development. Tim has an Electrical and Electronic Engineering degree and started his career in Siemens where he worked for 14 years designing complex baggage handling systems for airports worldwide.

**8. Dr Kevin Hurst.** Dr Kevin Hurst has been appointed Managing Director of **AudioSoft**, reporting to Alan Barker, Divisional President of Tactical Systems. Kevin succeeds Chris Brill who founded **AudioSoft**. Chris planned to stay with the business for two years following the acquisition by Ultra and intends to leave at the end of February 2011. In the meantime he will support Kevin and the business in a number of areas as Director of Business Development. Kevin joined **AudioSoft** as Director & General Manager in June 2010 and was previously the Sales & Marketing Director at **Precision Air Systems**.

appointments



all in a good cause

## Race for Life

Unfortunately, cancer touches many people's lives in many different ways. Race for Life is a high profile event in the UK to raise funds for research into the causes and treatments of breast cancer. Over the years, employees of Ultra have taken part in the various walking and running events held around the country during the summer. This year, it was proposed to co-ordinate Ultra's efforts to include group entries, branded shirts and centralised sponsorship. Various weekends in May, June and July saw teams of Ultra ladies don pink shirts and running shoes to join the thousands of other participants at venues near the Ultra offices. Teams from **Sonar Systems, Command & Control Systems, Manufacturing & Card Systems, PMES, Electrics, Precision Air Systems** and **Airport Systems** all stepped out.



The event has particularly touched staff at **PMES** where employee Lorraine Hammersley recently lost her battle with cancer. Lorraine held many and varied positions at **PMES** during her 27 years' service, so was well known within the business. The total amount raised by Ultra participants was a superb £8013.97. The team from **PMES** deserve a particular mention for raising £3176.00. Congratulations to all those who took part and contributed to raising such a phenomenal amount for such a worthy cause.



## The Big Battlefield Bike Ride 2010



On 31st May 2010, Group Captain Mark Baker of the UK Royal Air Force, along with 300 other fundraisers from across the UK, returned home from his cycling challenge, a 350 mile route across Northern France to raise funds for Help for Heroes. Alongside Mark were

people from all walks of life including several service personnel wounded in recent conflicts. They set out from HMS Victory in Portsmouth to cycle across France and Belgium from Le Havre to Dunkirk. The challenging cycle route traced some of the region's most significant First World War and Second World War battle sites including Thiepval on the Somme, Vimy Ridge and Ypres.

Mark had started to prepare for the challenge after returning from serving in Afghanistan during the summer and autumn of 2009. Mark said "...it was a very difficult summer and so many of our young men and women suffered, and so many still do - not just those with the physical injuries but those who gave so much to recover the wounded: the firemen who carried them from the helicopters, the medics who greeted them at Camp Bastion and the emergency medical teams who flew on the Chinook helicopters, saving many lives".

Mark, who was sponsored by Ultra, managed to raise over £6,500 for Help for Heroes.

## The Naval Review Centenary Fellowship

Ultra Electronics has undertaken a five-year sponsorship to support The Naval Review Centenary Fellowship. This is a new award for outstanding junior officers of Lieutenant rank or below in the UK Royal Navy. In this important new initiative, The Naval Review is partnered with the Royal Navy, the Royal Australian Navy and is sponsored by Ultra Electronics. The new award enables a secondment to the Royal Australian Navy, in Australia, for a six-week study period and is likely to be highly sought after in the continuing professional development of officers in the Royal Naval.

Captain Leon Marshall, Royal Marines, is the first Centenary Fellow; he was presented with his award by Douglas Caster, Chief Executive, Ultra Electronics, at a reception on 14 April 2010 on board HQS Wellington.

Captain Marshall travelled to Australia on 15 April 2010. The Royal Australian Navy arranged his schedule in Australia to support his research paper: "In light of emerging maritime security issues how well balanced are the planned Royal Australian Navy's amphibious ships to conduct future operations compared with the Royal Navy's amphibious force structure and focus?"







## against the clock

In this issue, **Andy, Peter** and **Joe** spend 60 seconds with UltraNews, sharing random facts about their careers and personal lives...



### Andy Hamment

**Head Office** – Group Marketing Director

I joined Dowty in May 1988 as Managing Director of **Controls**. In 2000 I was appointed as Group Marketing Director and joined the Board at that time.

"The main part of my job is ensuring that a robust competitive strategy review process takes place every year in each business to generate the rolling five-year strategic plan. I get involved in making sure that the Group coordinates its efforts and maximises its chance of winning the new business. I also work with Douglas, Rakesh and Paul in 'selling' the Ultra story to the City community, Ultra's owners."

**1. What changes have you seen during your time with Ultra?**

Too many to list: the hostile acquisition of Dowty by the TI Group, the process of being put up for sale by TI, the successful buy-out led by Dr Blogh and the subsequent phenomenal track record of growth that Ultra has built up, led by Dr Blogh and then by Douglas.

**2. If you could open your own business what would it be?**

A small restaurant where I could be in the kitchen and Gill, my wife, would do front of house.

**3. What do you think is the single best decision you've made in your life so far?**

Apart from marrying Gill, investing in the buy-out of seven Dowty businesses to form Ultra.

**4. What talent do you wish you had?**

The ability to sing! I can make a loud noise but can't hold a note. At school we all had to audition for the choir – my audition lasted about seven seconds.

**5. Is there anything you miss from your childhood?**

Summer breaks from school that seemed to go on for ever!

**6. Do you like chocolate?**

I never have been a chocolate lover. Good quality sausages – they're a definite favourite.



### Peter Crawford

**EMS** – President

I joined **EMS** Development Corporation in February 1993 as a Magnetics Engineer/Department Manager. I was promoted to Director of Operations in 1998, VP of Operations in 2000, VP of Operations and Engineering in 2002 and President in October 2006.

"My job is to champion **EMS's** strategic growth goals, while meeting our customer and management commitments. The people part is always the most challenging bit..."

**1. What did you want to be when you grew up?**

Race car driver, guitarist or Marine sniper – I can't remember which.

**2. What do you think is the single best decision you've made in your life so far?**

Marrying my wife, Helen: a Mayflower descendant that produced two wonderful children and inherited waterfront acreage on Cape Cod, MA – not bad.

**3. If you could open your own business what would it be?**

Maybe a country Bed and Breakfast, or perhaps a manufacturing/service business.

**4. What keeps you awake at night?**

Meeting commitments, technical challenges, impassionate people and liberals.

**5. Where were you 10 years ago?**

Here at Ultra EMS, but in a different office, with less body mass and with more hair.

**6. What's your most decadent treat?**

Probably an extra long, full-body massage, followed by an excellent Cabernet.

**7. Do you collect anything?**

An occasional firearm or two, or three...

**8. What do you want to know about the future?**

That my children will have an opportunity to prosper in a country that still resembles the USA



### Joe Cheatham

**NSPI** – VP Sales & Marketing

I joined Ultra in 2000.

"My job is to keep a balance between nurturing existing customers and positioning our value to new and emerging customers and markets. I guide a seasoned Sales Team that is attempting to cover a broad basket of solutions to a large geographic base. I have a lot of independence to set schedules as opportunities are developed and I'm on the road for 75% of my time. We have had enormous growth outside the US in the past several years, and see this trend continuing. It only works when we take the time to learn what the customer really needs."

**1. What did you want to be when you grew up?**

Independently wealthy, but it didn't work out that way.

**2. What certificate/award are you most proud of?**

A long time ago, being inducted into the Order of the Arrow, a special outdoor skills group of the Boy Scouts. More recently, being appointed to the Board and Vice President of the local chapter of ISPE (International Society of Pharmaceutical Engineers).

**3. If you could change one thing about yourself, what would it be?**

With my work, I never have the opportunity to do so in a professional situation, but I would like to be less reserved when exposed to new social situations. You never know where new connections will lead.

**4. Who is the funniest person you know?**

My son, who can make anything exciting, new, funny, and a portal to a make believe world. I never knew that a joyful imagination could be so interesting.

**5. What scares you the most and why?**

Not making the time to think about what scares me the most. One day I'll wake up and it will be too late.

# 60 seconds



and **finally...**

## Football heroes

In a bid to build community relations Ultra Electronics took on Regional Cup Champions Larkspur Rovers FC in a charity football match, which took place in June. Whilst the average age on the Larkspur team was 18, Ultra fielded a mature team of several over 40's. The Ultra 'boys' were not fazed and went on to play a valiant match. However, the uneven ages of the teams was reflected in the final score: Larkspur Rovers 10 – 1 Ultra Electronics. A creditable total of £169 was raised for the Help for Heroes charity.

The Ultra team was comprised of members from **Sonar Systems**, **CIS** and **Controls**: Wajid Ali; James Endall; Dave LePage; Dave Shannon; Aladdin Abdel; Alan Grogan; Matt Hill; Andy Chance; Ian Hyde; Barry Mirza-Ghaderi; Julian Owens; Ray Grant; Kevin Gurdial; Terry Moth. The team was managed by Ray Grant. Lawrence Major was Referee.

## TCS hosts Golf Tournament in Saudi Arabia



In June, Doug Hassell, who works for **Tactical Communication Systems**, is based in the UAE and who covers Europe, Middle East and Africa, organised a golf tournament in Saudi Arabia. **TCS** was the lead sponsor of this event which hosted 30 golfers from SANGCOM (Saudi Arabian National Guard Communications) Project and GPT, the UK government-to-government prime contractor. Overall, 20 people participated in the tournament and a great time was had by all.

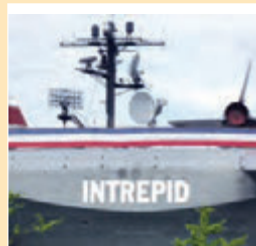
## Rick's Red Poppy Ride

On Saturday 24 April, Rick Andersen, Technical Advisor, Nuclear Pressure at **NSPI** joined 725 bike riders in the Red Poppy Ride for college scholarships. For the past six years Rick has been one of the main event planners for this ride. It takes over 100 volunteers and sponsors such as **NSPI** to make this ride a success. The riding routes range from 14 to 100 miles through the rolling farmland hills of Northern Williamson County, Texas. A total of \$15,000 was raised; \$10,000 went to college scholarships for local graduation high school students and \$5,000 went to the Georgetown Child Advocacy Center.



## An Intrepid trip for EMS

In August, the **EMS** team visited the Intrepid Sea, Air & Space Museum in New York City as part of the annual company picnic. For many, this was a first time opportunity to be on board an aircraft carrier and a 'top secret, cold-war era' submarine. Built in 1943, the aircraft carrier USS Intrepid and her crew served tours of duty spanning World War II through Vietnam, making seven trips around the globe and surviving five Japanese Kamikaze attacks, several bomb attacks and one torpedo strike. **EMS** staff also had the opportunity to step on board the British Airways Concorde which has 'retired' to the deck of USS Intrepid. When in service, this was a luxury reserved for the lucky few, the average transatlantic ticket fare cost \$6,000! The most exciting part of the trip was to experience being on a real submarine. The USS Growler was commissioned on August 30, 1958. At that time, it was considered state-of-the-art with guided cruise missiles and two torpedo rooms. It could remain submerged for two days and patrol for 72 days. This is the only diesel-powered nuclear missile submarine open to the public. It was a great day learning about historic naval technology and realizing how important Ultra's products are for today's military vessels.



## Let's try a tri

As part of the wellness programme implemented by **USSI**, Dorin Cindea, who works in the IT department, decided he would test his stamina by entering a triathlon. Dorin works out regularly and signed on for the 500m swim, 13.5 mile bike and 3.5 mile run to see if his body could take switching gears for the three different sports in one session. The bike-to-run transition was the hardest for him as he cramped up and had to slow down. He also learned not to drink too much water on the bike as it sloshed around in his stomach while running. Dorin has not admitted to being hooked by triathlon, but he is looking to purchase a better bike.



## Biker boys at Criticom



Hidden in the garages of many Ultra employees are shiny metallic specimens that only see the light of day when the sun shines. It has been reported previously that **Criticom** staff have a number of petrol-heads of the sports car variety. Now we discover that 'The Road Warriors' of **Criticom** have an impressive collection of motorbikes. In August, the Road Warriors took time out to enjoy a company ride which they hope to make an annual event.

## feedback



I hope you enjoy this issue of **UltraNews**. If you have any comments on the new look **UltraNews** or ideas for future issues please let your local contact or me know  
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# Ultra**News**

A photograph of George Osborne, Chancellor of the Exchequer, visiting the Ultra Electronics facility. He is wearing a dark suit and a blue tie, and is looking down at a woman in a white lab coat. The woman is looking up at him. In the background, other people in lab coats are working in a factory setting.

"Ultra Electronics  
is a success story  
for Cheltenham  
and for the whole  
of the UK"

**George Osborne,**  
Chancellor of the Exchequer  
visits Ultra.

**page 6**

**Ultra**  
ELECTRONICS



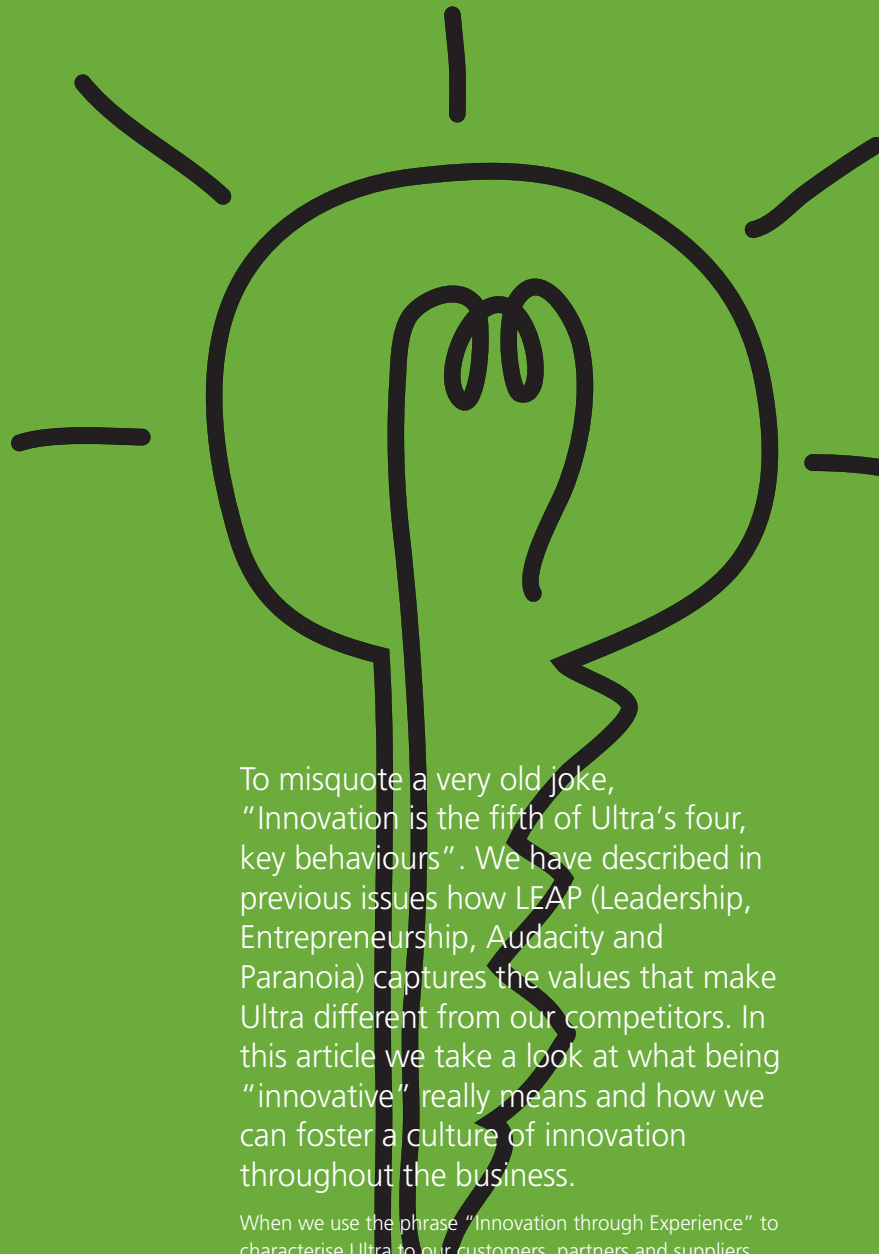
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Cover image:  
George Osborne talks to  
Nayna Patel during his visit  
to Cheltenham

Design: HaT Associates  
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# Innovation



To misquote a very old joke, "Innovation is the fifth of Ultra's four, key behaviours". We have described in previous issues how LEAP (Leadership, Entrepreneurship, Audacity and Paranoia) captures the values that make Ultra different from our competitors. In this article we take a look at what being "innovative" really means and how we can foster a culture of innovation throughout the business.

When we use the phrase "Innovation through Experience" to characterise Ultra to our customers, partners and suppliers, we are seeking to convey the picture of an organisation that brings new ideas and better ways of doing things, and can do so on time, to specification and to budget. The "blue sky" thinking that lies behind our innovative ideas is no pipe dream; it is successfully managed by using the lessons learned from experience to turn it into reality. However, we recognise that not every good idea will be a runaway success; but if we want Innovation at the heart of our business, how do we ensure that we encourage risk-taking without mortgaging the farm to do so? How do we "manage" innovation?



## Phil Evans Managing Director Aircraft & Vehicle Systems

# Innovation: the key to success

### Product innovation at Precision Air & Land Systems\*

At **Precision Air & Land Systems (PALS)** the Senior Management Team has introduced an approach that has delivered some excellent results. Good ideas have been nurtured and supported to the point where they have become new products. In other cases what started out as a good idea, but proved not to be feasible or cost effective was stopped; it does not mean it was a bad idea just that as it developed things changed. Perhaps the technology wasn't up to it, maybe a competitor got there before us or the market just went away. The key is to stop spending as soon as it becomes clear that there would be no return on the investment. This approach is referred to as the 'Business Development Funnel'.

So how does this process work? It's simple, both in concept and implementation; just a series of reviews (or stage gates) at which the management team asks some tough questions about cost, progress and the market. Here's an example:

On the battlefield, casualties frequently require oxygen to keep them alive until they can be transported to a field hospital. This is currently provided in cylinders, which bring with them many handling and logistic challenges. **PALS** teamed up with DeVilbiss to offer a highly innovative solution to this problem that offers the user many valuable improvements. Using portable oxygen concentrator technology already deployed in the US for civilian applications, **PALS** brought their understanding of the core technology and of the requirements of the military market to develop a product that can be qualified to meet the US Army's needs

and offer significant advantages over gas bottles (in much the same way that HiPPAG does when replacing gas bottles in missile seeker cooling applications). The Army medics have oxygen on tap with no gas bottles to carry or replace.

As you can see, there are two fundamental aspects to the process:

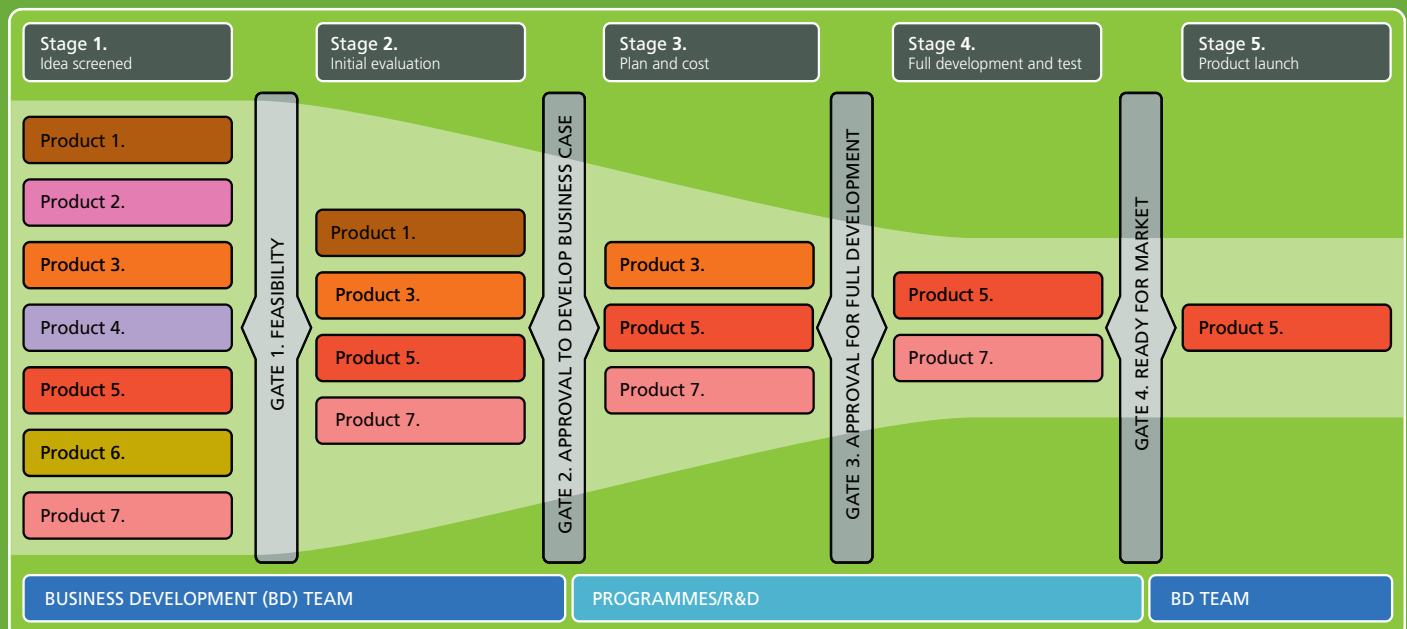
1. Asking the right questions at each stage – often repeating those asked before
2. Acting promptly on the answers
  - a. If it all looks good, press on to the next gate
  - b. If not, stop and re-direct the spend and resources to the ideas that still look good

Looking at the other side of the coin, **PALS** closed down a programme in which they had invested substantially, developing the 'balance of plant' system for proton exchange membrane fuel cells. This programme had looked attractive, was backed by matching government funding and drew upon the core engineering competencies in the business – it was an ideal investment candidate for the business. However, the market has not developed as expected. Therefore, with a low probability of significant sales, **PALS** could no longer see any return on their investment – having spent a significant amount of money (well into six figures) they stopped! There was no individual blame associated with closing the programme down; it had been a collective decision to proceed at each previous gate, in the same way that it was a collective decision to stop. The team should be applauded for acknowledging these changes and not 'throwing good money after bad'.

"Good ideas have been nurtured and supported to the point where they have become new products."

continued on next page...

### Business Development Funnel





### Innovation: the key to success (continued from page 3)

The need to continue to invest in Private Venture/Internal Research & Development programmes is clear. There is a sales funnel that we need to fill in every business to sustain growth; we need lots of good ideas going in, because inevitably, not all of them will succeed. This process helps us to focus our investment in the right places and limit spending by reacting promptly and appropriately when circumstances change.

#### Using lessons from experience

When we looked at Entrepreneurship in an earlier issue of UltraNews, we saw that it had been proven that successful entrepreneurs were those who were best at learning from mistakes and not repeating them. James Dyson (a British entrepreneur in the consumer electronics industry) has built a highly successful business on innovation, finding novel solutions to improve the performance of products such as vacuum cleaners, hand dryers and domestic fans. Widely admired as an entrepreneur, he speaks about the value of learning from experience, describing Edison, The Wright brothers and Brunel as his 'engineering heroes'. He concludes that there is something common to all of them, "Far from fearing mistakes, they sought them out and embraced them – seeing each one, not as an obstacle, but a lesson and a step nearer the answer." His company's successes are matched (or perhaps fuelled) by some spectacular failures that he openly describes on the Dyson company's website – a clear sign that his business wants to learn from these mistakes, not hide them away.

"Far from fearing mistakes, they sought them out and embraced them – seeing each one, not as an obstacle, but a lesson and a step nearer the answer."

James Dyson on the value of learning from mistakes

#### An innovative culture

The focus in this article has been on innovation in the context of product development. This is vital to sustain growth but is by no means the only area for innovation in our businesses. Each part of the organisation should look at itself and question whether the processes, activities and approach are the best that they could be. We can see from PALS' experience, what looked good a few months ago, now appears to be a waste of time and money. They only established that by regularly reviewing progress, understanding what had changed and how it impacted the programme. We cannot sit back and assume that what worked yesterday will still be the best solution today or tomorrow. That is not advocating change for change's sake, but building a culture in which we challenge ourselves and our thinking, identifying and learning from our mistakes to take the business forward in every area.

\* Precision Air Systems and Electrics have merged to become **Precision Air & Land Systems**. See page 11 for details.

## Behaviour

# LEAP in

The four cultural behaviours of its people that are highly valued and encouraged by Ultra are: **Leadership, Entrepreneurship, Audacity and Paranoia**.

Below are some examples of **LEAP** in action...

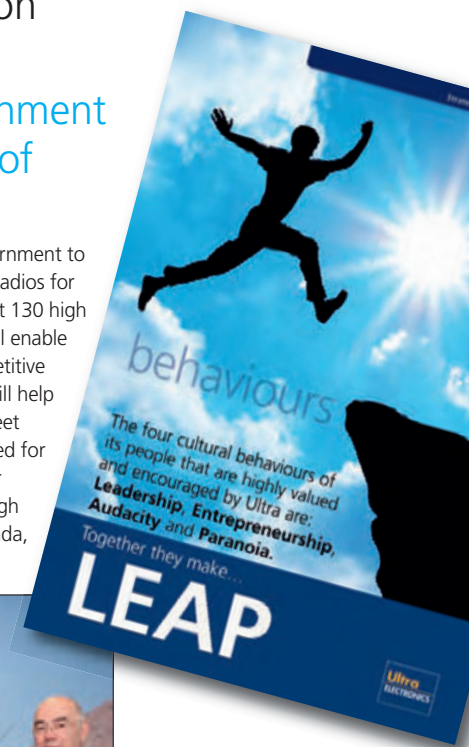
### Entrepreneurship in action at TCS...

### Ultra and Quebec Government invest to lead the future of military communications

Ultra's **TCS** has teamed up with the Quebec Government to develop the next generation of software-defined radios for military use. The \$92m venture will underpin about 130 high technology jobs at Ultra's Montreal facility and will enable Ultra to remain a world leader in the highly competitive military communications sector. The investment will help to ensure new Ultra products are developed to meet evolving customer requirements, including the need for smaller form factors, higher bandwidth and better security. Ultra provides its current generation of high capacity, line-of-sight radios to the armies of Canada, US, South Korea and other coalition partners.



**From left to right:** Mr. Pierre Arcand, Province of Québec Minister of Sustainable Development, Environment and Parks, Mr. Iwan Jemczyk, President, Ultra Electronics TCS, Mr. Clément Gignac, Minister of Economic Development, Innovation and Export Trade, Mr. Jacques Daoust, Chairman of the Board and Chief Executive Officer of Investissement Québec





## LEAP into action...

## to action...

Audacity in action at **PMES...**

"Anyone can have a good idea. If you have one which you believe could improve our products or services or which could result in a new business opportunity for the company, we would like to hear about it."

These are the words of encouragement to employees of **PMES** to persuade them to have the audacity to present new ideas to the Senior Management Team for consideration. A simple procedure has been structured to ensure that ideas are quickly developed or discounted. To test the feasibility of the idea, colleagues and industry contacts are approached for their feedback. If the responses are positive, the idea is formalised through the **PMES** Audacity Proposals Register. The owner has to think how the idea might be launched with a five minute presentation and thus create a short PowerPoint presentation. Audacious ideas believed to be worth closer scrutiny are allocated funds from the 'audacity pot'. If the project is judged to be viable, it will become a PV project.



Two contenders for funding from the PMES 'audacity pot'.

In 2010, the Audacity programme at **PMES** revealed a number of feasible ideas which were approved and internally funded. Two significant audacious ideas in particular uncovered very real defence requirements:

1. A device to detect improvised explosive devices (IED) using electric and magnetic field detection and analysis. The device can be airborne or land based and used to sweep areas where the presence of IEDs is suspected.
2. Using existing e-field technology (see page 16) to identify submerged mines using a towed source and autonomous underwater vehicles to gather data to identify the mines position.



Both of these ideas have progressed to the feasibility stage and presentations made to MoD and other potential customers to confirm customer interest and technical viability.

**Congratulations to Paul Austin and Andy Thompson for being audacious!**

LEAP awards at **Command & Control**Every year is a LEAP year within **Command & Control Systems**

As part of its efforts to roll the LEAP behaviours out to all employees, **Command & Control Systems** has introduced quarterly LEAP awards. The awards are open to all **Command & Control Systems** staff, both employees and contractors. Anyone can make a nomination, describing the benefit to the business that is derived from the LEAP behaviour being demonstrated.

Following the launch of the award scheme, **Command & Control Systems** employees started to see new LEAP posters being displayed. This provided opportunities for HR managers to explain the benefits of LEAP and reassure staff that it isn't just another activity to add to their day jobs but rather how to perform day-to-day activities for everyone's benefit. These behaviours, which are encouraged in all employees, are a large part of what makes Ultra so special and help to drive the Group forward.

Nominations are evaluated and selected and then awards are presented by the Senior Management Team. At the award launch in 2010 there were five winners across a number of **Command & Control Systems** locations. Awards were given for the demonstration of Leadership, Audacity and Entrepreneurship, so improvements in the demonstration or recognition of Paranoia are being targeted for the future.

LEAP is also a key component of **Command & Control Systems'** new Performance & Development Review process launched earlier this year. Since 2010 LEAP has been an integral part of the development training which is provided, through coaching modules, to all managers. Without question, Ultra's LEAP values are recognised as being fundamental to the continuing success of the business.

The inaugural **Command & Control Systems** LEAP awards winners were: Andrea Shearer, John Langworthy, Ian Russ, Julie Jones and Grace Monday. Congratulations!





"Ultra Electronics is an example of the sort of company that would drive the county's economy and the UK back to prosperity... Ultra Electronics is a success story for Cheltenham and for the whole of the UK." **George Osborne**

## VIP visits

# George Osborne's visit to Cheltenham



Above left: Left to right Jonathan Murday, Mark Doyle, Douglas Caster, George Osborne, Rakesh Sharma and Roy Claxton

In early February, George Osborne, the Chancellor of the Exchequer, together with several members of his team from the Treasury department, visited **Electrics\*** in Cheltenham. Mr Osborne was met by Douglas Caster and Rakesh Sharma and given a tour of the site including a new area demonstrating Ultra's capabilities as well as design and assembly areas.

Mr Osborne was able to meet and chat with a number of employees during his tour which attracted considerable attention from local newspapers as well as national television. He also spent time with Douglas and Rakesh to understand the needs of those involved with the defence industry before expressing his confidence in manufacturing companies like Ultra to create jobs and help lead the nation out of its current precarious financial position.



John Sinclair with Douglas Caster and George Osborne



George Osborne inspects Jackie Radburn's work

\* Electrics has since merged with Precision Air Systems. The new business has been named Precision Air & Land Systems. See page 11 for more details.



## When Douglas met David

Increasing the UK's exports in order to stimulate growth in the economy has been targeted as a top priority by the new UK government. As such, the new Prime Minister, David Cameron, has led a number of overseas delegations over the course of the last year in a bid to sell "UK plc" to foreign buyers.

For two of these trips, to China in November and Oman in February, Douglas Caster was invited to attend on Ultra's behalf. This provided Douglas with the chance to meet with extremely influential government and business officials in both countries, which have been targeted by Ultra as high growth opportunities.

In China, Douglas met with Mr Ye Xiangxun, a Senior Supervisor at the State-owned Assets Supervision and Administration Commission (SASAC) and Shen Yuankang, the former Vice Minister of the Civil Aviation Administration of China and a consultant for China Aerospace Science and Technology Corporation and an advisor on the Zhuhai Airport and Tianjin Binhai New Area projects. He also met with Dr Brian Lin of Top Scientific. Douglas had discussions regarding the supply of civil aerospace equipment into China, for example systems to the Commercial Aircraft Corporation of China (Comac), who hope to challenge Boeing's and Airbus' share of the large passenger aircraft market.

China's economy is still powering ahead at an impressive rate and the investment the Chinese are making in civil infrastructure provides Ultra with a fantastic opportunity in its civil markets of transport and energy. For example, China is planning to build over 90 new airports in the next few years and is currently in the process of constructing 27 nuclear power reactors, with a further 50 planned.

Ultra is also hoping to expand its sales in the Middle East. Over the last year the Group has expanded its joint venture with Emirates Advanced Investments in the UAE and set up an office in Qatar. In February, Douglas joined the Prime Minister's tour of the Middle East in Oman where **Airport Systems** is currently bidding to be the electronic systems integrator at Oman's two new airports in Muscat and Salalah. Douglas attended a working lunch organised by the Omani Minister of Commerce and was seated at the top table. The topic of debate was how to grow small and medium enterprises (SMEs) in Oman, as these companies typically drive a large portion of a country's economic growth.

Ultra's invitations to attend these overseas delegations are proof of the Group's growing stature. They also lend a huge amount of credibility to Ultra as potential customers see that the Group has the backing of the UK government which will hopefully aid the Group's expansion in these territories.



# Chairman's corner



**I am delighted to have become Ultra's new Chairman** and look forward to the challenge of living up to the expectations set by my two predecessors. The role of the Chairman in a publicly listed company is to ensure the smooth running of the Board, whilst the Chief

Executive takes care of managing the Group on a day-to-day basis. It is the Chairman's job to ensure that key issues are actively debated with an appropriate challenge from the non-executive Directors at the monthly Board meetings.

As the Group has grown so has the recognition of Ultra as a quality company in the wider industrial and political worlds. This has resulted in an expansion of the role of Chairman to take on a number of significant ambassadorial engagements on Ultra's behalf. This wider recognition has taken a number of forms over the past year. As reported elsewhere, Rakesh Sharma and I welcomed the Chancellor of the Exchequer to **Precision Air & Land Systems** at the beginning of the year and I also visited China and Oman as part of a Prime Ministerial delegation to both countries. Both of these overseas trips and George Osborne's visit garnered significant press coverage for Ultra.

I have also been invited to represent Ultra on two advisory boards by the University College London (UCL), one of the

world's top five universities. An advisory board is made up of international practitioners, thinkers and policy-makers in fields relating to the subject concerned and helps guide the school's or institute's progress. UCL's new Institute for Security & Resilience Studies (ISRS), of which Ultra is a founding partner and is chaired by Lord Reid of Cardowan, has been set up to bring the issue of security in the 21st century to the centre of academic thinking. Its intention is to find solutions that can be implemented both in developing democracies and established nation-states. I sit on the ISRS advisory board along with other members of the security industry, including Michael Chertoff, the former Secretary of the Department of Homeland Security in the United States and Baroness Manningham-Buller, the former head of MI5.

UCL has also asked me to chair the advisory board for its new School of Energy and Resources (SERAus), based in Adelaide, Australia, close to Ultra's Avalon business. The mission of SERAus is to train the next generation of energy and resource leaders by providing highly focused graduate courses.

By having a place on both of these Boards, Ultra is showing that it is at the forefront of thinking in security and energy issues – two of the Group's key markets.

I hope this has given you a better understanding of what the role of the Group's Chairman involves. I look forward to sharing further developments with you in future editions of **UltraNews**. Many people have told me that I will be just as busy in my retirement as I was when I worked full time; given what I have described above, I am starting to believe them!

**"I am delighted to have become Ultra's new Chairman and look forward to the challenge of living up to the expectations set by my two predecessors."**



# Ultra on show

## your partner in defence - IDEX2011



The International Defence Exhibition (IDEX), held every two years in Abu Dhabi, United Arab Emirates, is the largest international defence exhibition in the Middle East. Since the launch of the exhibition in 1991, various combinations of Ultra businesses have exhibited at IDEX. However, the acquisition of a business in the UAE in 2008 and latterly Ultra's enlarged joint venture with Emirates Advanced Investments (EAI) has led to a consolidation of Ultra's business development focus and this year's presence at IDEX was upgraded to corporate.

In February, seven Ultra businesses collaborated to produce a striking capability display to convince the region that Ultra's intent to expand its profile in the region is serious. This

included an indoor stand in the main IDEX exhibition situated in the UAE area close to EAI and also a presence with the UKTI group at NAVDEX, the naval annexe to the show. Moored alongside NAVDEX was HMS Pembroke which has several Ultra products on board including SeaFox and the radiation monitoring system.

The exhibiting team worked hard prior to the show to invite new and existing contacts across the region. Jon Everett (Managing Director, Middle East) and Paul Drury (Head of Market Development, Middle East) also ensured that the wider community of EAI and significant Emirati royalty were aware of Ultra's presence at the show. This was borne out by the quality and quantity of visitors to the Ultra stand.



**Above left:** Left to right Paul Drury (Ultra Electronics, Middle East), Jon Everett (Ultra Electronics, Middle East), Phil Evans (Managing Director, Aircraft & Vehicle Systems), HRH Prince Mohamed Bin Bandar Bin Abdul Aziz Al Saud, Mohamed N Nasr (Special Advisor to the Prince), Doug Hassell (TCS, Middle East)

**Above right:** Tom Link (USSI) demonstrating the HyperShield (at low volume) to interested visitors.



**Bottom left:** Mark Craster (Sonar Systems) discussing the virtues of gunfire locator with Lieutenant General Hamad Thani Al Rumaithi Chief of Staff, UAE Armed Forces.

**Bottom right:** Left to right Phil Evans and Jon Everett talking to Mahmoud Hassanain, the Saudi Chairman of Systems Networks Company Ltd.

### HOSDB

In March, several Ultra businesses exhibited at the Home Office Scientific & Development Branch (HOSDB) annual security exhibition. A large stand showcased the following capabilities: radiation monitoring sensors; gunfire locator system; Forward Operating Base capability; situational awareness; National Resilience Extranet (NRE); HyperSpike mass acoustic hailing devices; the new police interview recording system.

The show lasted three days and all of Ultra's major security market customers attended. Of the 45 international delegations at the show, 40 visited the Ultra stand.





## Exhibition & Event news



### Airport Systems takes the chequered flag at first annual EMEA & Asia Customer Summit

In the Abu Dhabi desert sits the magnificent Yas Marina F1 Circuit and the prestigious Yas Hotel which is where **Airport Systems** held its inaugural EMEA & Asia Customer Summit.

With delegates from airlines, airport authorities and partner organisations travelling from countries all over the world, this event turned into a truly global gathering with a lively exchange of information, ideas and open debate.

Presentations were given by industry experts James Burke, former Chief Information Officer of Toronto Airport and Paul Behan of the International Air Transport Association (IATA). With customers from Aeroports de Paris, Shangdong Airport and Vienna Airport also presenting, there was a wealth of valuable content on offer to the delegates.

Topics covered included how the airport of the future might look and how self-service for customers, especially using mobile devices, is going to be key to future success. The challenge will be handling the increased passenger volumes that are predicted whilst maintaining high levels of customer satisfaction.

Valerie Herzog of ADP France commented, "The event was an excellent mix of industry information and technical product roadmaps, helping us to plan our ongoing strategies with **Airport Systems**"

### MSI sponsors Soldier Technology 2011

**MSI's** work on the Tactical Robotic Controller, the handheld Portable Battle Management System and the Soldier Control Unit directly addresses the challenges of reducing size, weight and power for soldier-portable systems. With the focus on lightening the soldier's load while enhancing warfighter capability, it was the perfect time for **MSI** to sponsor the 2011 Soldier Technology Conference in January which draws high calibre speakers and attendees. This year's theme was "empower, unburden and protect" to enable a decisive dismounted soldier. Dr. Amish Mehta, General Manager of **MSI's** Human Systems Integration Business Unit, spoke on "The dismounted soldier and his common controller" to emphasize the industry challenges, needs and lessons learned while working to meet the requirements of our warfighters today. Over 50 representatives from industry, academia and the military attended the brief, which was well received.

### North American collaborations

Late summer is a busy time for exhibitions in the US. In August, AUVSI, the unmanned vehicle show, was held in Denver, Colorado. Ultra has a growing range of UAV capabilities and the market is a particular target for the company. The FMCU from **MSI** was being used to control an unmanned ground vehicle and Keith Scivier (**Precision Air & Land Systems**) achieved a write-up about the DF-70 dual fuel engine in the show daily. Other businesses represented were **Advanced Tactical Systems, Communication & Integrated Systems, PMES** and **ProLogic**.

In September, there was an increased Ultra presence at Modern Day Marine held at the Marine base in Quantico, Virginia. This is the only event exclusively targeted to the US Marine Corps market and is included on the Marine training schedule. The show has been a feature for several Ultra businesses over the years. 2010 was perfect for consolidating the Ultra presence to include new participants. Despite the dismal persistent rain, the show was well attended and Ultra was further established in the market. Ultra businesses represented were: **Advanced Tactical Systems, Command & Control Systems, DNE, EMS, Flightline, Maritime Systems, Precision Air Systems, TCS, and USSi**.



The largest North American exhibition for Ultra is the AUSA Annual Meeting and Exposition, both in size of stand and size of exhibition. Ten Ultra businesses gathered at AUSA 2010 which is the US Army showcase that takes place in Washington DC in October each year. Each year over 38,000 attendees, including senior leaders from the Army, US Department of Defense and Congress, as well as foreign dignitaries, participate in the Annual Meeting. Defence products and services and new defence technology are presented. Among Ultra's offerings were: HyperSpike acoustic hailing, gunfire locator, Air Defense System Integrator (ADSI), tactical radios, battery monitoring, base protection and pneumatic systems.

### Surface Navy



In January, the naval contingent of Ultra gathered at Surface Navy in Crystal City, just outside Washington D.C. This event is now the main North American naval event in the calendar for Ultra and benefits from visits by serving and government US naval personnel. Representatives from **USSi, Ocean Systems, EMS** and **Flightline** enjoyed a very successful event.



### Ultra in India

In February, **Precision Air & Land Systems** and **PMES** exhibited at the AeroIndia airshow in Bangalore, India, the largest aerospace trade show in Asia. India represents several potential sources of new business for Ultra. In addition to aerospace, it also



provided the opportunity to meet with existing and potential customers from the Indian military.

As supplier of cockpit equipment, **Precision Air & Land Systems** benefitted from the recent order for 57 Hawk aircraft by the Indian Air Force and will gain further business if the Eurofighter Typhoon is successful in the current competition for 126 advanced combat aircraft. The competing aircraft were assessed during 2010 and decisions are targeted to be made this year.

The real progress made in India, however, is through the indigenous aircraft programmes manufactured by Hindustan Aeronautics Limited (HAL). HAL has awarded **Precision Air & Land Systems** positions on the IJT-36 jet trainer, Tejas light combat aircraft, Dhruv helicopter and light combat helicopter (LCH) for a variety of handles, selectors and switches and a productive relationship is growing between the two businesses. Feedback from HAL is that the reliability and performance of Ultra product has proven instrumental to success in this key marketplace.



## Chief Executive's review

# maintaining Ultra's growth momentum

The changes to the Group's senior management that were announced last year took effect at the Company's AGM in April. Dr. Julian Blogh retired from his position as Chairman of the Board and is succeeded by Douglas Caster, who has retired as Chief Executive.



I would like to take this opportunity to thank Julian and Douglas for their dedication and leadership in building Ultra into the successful company it is today. Following TI Group's acquisition of Dowty in 1992, Julian took the audacious decision to lead the management buy-out of Dowty's seven defence and aerospace electronics businesses to form Ultra Electronics in 1993. He successfully led the Group through its stock market flotation in 1996 and became Chairman in 2005. At that time, Douglas took over as Chief Executive. The last five years has seen Ultra double in size, successfully branch out into new market areas such as energy and security and maintain growth momentum during the biggest worldwide financial downturn in decades. The strategies for growth that first Julian and then Douglas put in place have protected Ultra during this difficult time for the world's economies. The original buy-out valued Ultra at £38 million; today, 42 acquisitions later, Ultra's market capitalisation is £1.21 billion. This is in no small part down to the strength of Julian's and Douglas's leadership over the last 18 years. I, on behalf of all of Ultra's employees, would like to wish Julian a long and happy retirement and Douglas congratulations and best wishes in his new role as Chairman.

Now that these management changes have taken effect I am looking forward to the challenge of leading Ultra into the future. It should be no surprise that the future strategy will be 'more of the same' and we will continue to pursue our four strategies for growth.

These are:

- **increase the Group's portfolio of specialist capabilities**
- **augment the number of platforms and programmes on which these capabilities are specified**
- **broaden the Group's customer base**
- **widen Ultra's geographic footprint**

Achieving these four growth strategies will require everyone to employ the Group's LEAP behaviours. In particular, given the current uncertain economic environment, we must not be afraid to 'think the unthinkable' to grow the business; to take a leap forward. At the same time, our culture must continue to be 'market facing' with a passion for satisfying our customers with cost effective, reliable and high performance solutions that meet their requirements. Underpinning all of this will be a strong desire to meet our commitments.

Away from the organisational changes, I would like to share the Group's financial results that we announced earlier in the year with you.

On 28 February we announced a strong set of results that showed the Group has maintained its growth momentum. Revenue was 9% higher at £710m. Organic growth at constant exchange rates was about 6%. Favourable currency effects contributed 2% and the remaining 2% of growth came from acquisitions. Operating profit increased 13% to £110.3m with the operating margin increasing from 15% to 15.5%. Headline profit before tax was £102.7m, an increase of 15%.

"The strong set of results that Ultra has achieved over the past year has not come easily. They are the result of a lot of hard work and dedication by all members of the Ultra team."



## Rakesh Sharma Chief Executive

### Acquisitions

Adaptive Materials Inc. (AMI) joined Ultra Electronics in late December 2010. AMI is a stand-alone business in the **Aircraft & Vehicle Systems** division. AMI designs and manufactures portable power solutions in the 50W – 300W range. It has developed solid oxide fuel cells that run on propane and provide more power in less space than competing technologies. Propane is an inexpensive fuel source and propane fuel cells deliver nine times the energy density of conventional batteries. AMI's products are suitable for niche applications where the power requirements are too small for conventional generators and too large for batteries. Defence applications include:

- individual soldiers; to power the increasing range of soldier-borne electronic equipment
- Uninhabited Air Vehicles and Uninhabited Ground Vehicles; to increase endurance compared to batteries and provide near silent operation compared to internal combustion engines
- remote sensors; to enhance the life of unattended sensor systems

AMI has around 50 employees and will continue to operate from its facilities in Ann Arbor, Michigan, USA.

In January, Ultra acquired 3e Technologies International Inc. (3eTI) from EF Johnson Technologies Inc. 3eTI now operates as a bolt-on acquisition within the Tactical Systems division. 3eTI designs, develops, markets and supports military grade wireless local area network access points, mesh networks, security software and encryption technologies for military, government and commercial markets. 3eTI's specialist

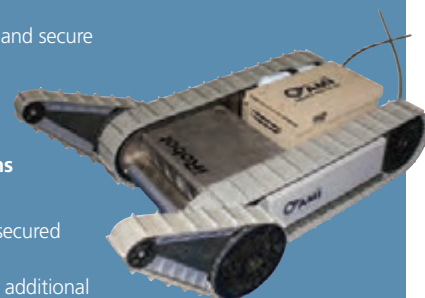
capabilities are critical to the growing market for secure wireless networking and communications 'on the move'. Mesh networking is an adaptive type of networking that 'self configures and self heals'. 3eTI also has an innovative network node that uses encryption to prevent access to a protected network, thereby addressing the need for enhanced cyber security.

3eTI has developed and offers mesh networking and secure communication solutions for:

- critical infrastructure protection
- video surveillance
- shipboard and ship-to-ship communications
- wireless monitoring and process control

3eTI has protected intellectual property and has secured 17 patents and 13 trademarks. Specialist product certifications and other security classifications are additional differentiators for the business. 3eTI is based in Rockville, Maryland, USA and has 65 employees including a small number of employees working at other locations.

In April, it was announced that the **Electrics and Precision Air Systems** businesses have been merged to form a single business led by Andy Yates as Managing Director, to be called **Precision Air & Land Systems (PALS)**. The new combined business has an enhanced strategic capability, a broader portfolio of systems, products and services and a wider geographic footprint. The merger has created a business with around £55m in annual sales. The combined business will continue to operate from two sites approximately four miles apart in Cheltenham and Staverton in the short to medium term.



AMI supplies innovative fuel cells that are more energy-efficient than batteries



3eTI supplies secure, 'on-the-move' communication equipment

The order book at the end of 2010 was £817.9m, an increase of 7% in the year. This order book gave opening firm order cover for projected 2011 sales of about 60%, a very reassuring figure.

In addition to presenting the 2010 results we also expressed our confidence about the outlook for 2011. The long-term nature of most of Ultra's contracts and the strong order book give us confidence for the year ahead. There will continue to be pressure on budgets in 2011 but Ultra specialises in capabilities that are attracting an increasing proportion of budgets – security; surveillance; smart electronics and software to upgrade the capabilities of existing platforms; and battlespace IT. The Group's success in its civil markets continues. Budgets for new civil infrastructure projects such as airports, nuclear power stations and mass transit systems remain, especially in the world's growth economies. Ultra is well placed to make a large contribution to these programmes, which are a fantastic way of putting our strategies for growth into action.

The two acquisitions that Ultra made, one at the end of 2010 and the other at the beginning of 2011, broaden the range of specialist capability areas and increase the number of programmes that Ultra is present on. AMI is a great fit given Ultra's traditional defence capability but also increases our growing energy offering. 3eTI shows Ultra's desire to win business in the fields of secure communications and battlespace IT. More details of each of Ultra's recent acquisitions are

provided above. I welcome the employees at these new businesses into the Group and I look forward to meeting you as I visit all of Ultra's companies.

The Group has maintained its focus on broadening its range of niche market positions and now has about 150 of these specialist capability areas. These are then mapped onto a very broad range of international platforms and programmes, each of which relies to some extent on Ultra's specific expertise. There are at least 300 of these long-term platforms and programmes, each of which gives a 'flywheel effect', driving future order intake and sales. Across the Group, there is just a handful of programmes that generate more than 2% of Ultra's revenue in a year and then there are hundreds of programmes each contributing less than 1% of sales.

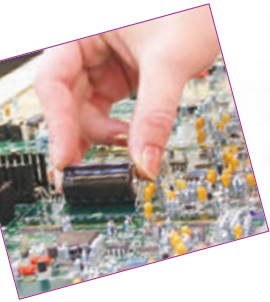
While this matrix of activities is complex, it also gives enormous resilience to Ultra's financial results. No single niche dominates and the breadth of Ultra's long-term programmes ensures that none is so important that it would damage the Group were it to be cancelled. In these uncertain times, this resilience is very reassuring.

The strong set of results that Ultra has achieved over the past year has not come easily. They are the result of a lot of hard work and dedication by all members of the Ultra team. I thank you for your innovation and personal contribution and look forward to the continuing development of the Group.



**Across** the board...news and stories from across the divisions

# Manufacturing & Card Systems



## Do you know?

Business name:

**Manufacturing & Card Systems**

Location:

**Weymouth, Dorset, UK**

Established:

**1962**

One of the original Ultra businesses, then known as Ocean Systems

Number of staff:

**357**

**Manufacturing & Card Systems** enjoyed its best ever year in 2010 with sales of about £40m, illustrating just how far the business has come since its humble beginnings as Waverley Electronics in 1962.

The business was founded by the Brown brothers as a prototype manufacturing facility operating out of a shed-like building that was previously a 19th century Snowflake laundry and a WWII American motor pool. Remarkably one of Waverley's first non-family employees, Bill Ford (now aged 87), is still with the modern day company as a part-time test technician!

The company's build-to-print operation provided equipment to the nearby Admiralty Research Establishment and Atomic Energy Authority. It added value by providing support to design teams by building prototypes and pre-production sonar and instrumentation systems. During the 1980s Waverley built a reputation for customer service and became adept at designing and manufacturing side-scan and towed-array sonar equipment. Ray Coles, the current Managing Director explains: 'I joined the business in 1984 when the owners were looking for an exit strategy prior to retirement. This was a very exciting time, as our success in winning major MoD sonar contracts meant that nearly every large electronics company in the UK was courting us, including Ferranti, Plessey, Marconi, BAE and, of course, Dowty.' Rapid expansion followed the Dowty acquisition in 1987 and by 1989 all operations were consolidated into a former BAE site, refurbished and named Waverley House.

The 'Options for Change' defence review at end of the cold war era required the business to re-invent itself. As Ray describes, 'We knew that our technology used in printing for sonar was a major asset, so we decided to find new applications for it. John Baxendale, Chief Engineer, returned from a digital printing conference with the answer: ID card printing. The business immediately set about the challenge of translating the existing expertise in printing on 20" wide paper to printing on tiny PVC cards and within less than a year we had our first Magicard product!'

In 1993, the Electronics businesses of Dowty became Ultra Electronics as a result of the management buy out. Further investment enabled rapid expansion in both the printer

business and the newly formed commercial contract manufacturing facility. Three Queen's Awards for technology and innovation followed as the company's reputation for excellence grew.

Magicard, Ultra's brand for the ID card printers, now produces more than 12,500 printers per year and the Contract Electronics Manufacturing Services (CEMS) facility today has 20 major customers, some of whom are other members of the Ultra Group. In 2010 the business acquired Extec Microsystems, Portchester, which added the capability of designing and manufacturing hybrid micro-circuits.

Ray concludes: "With offices on four continents and additional manufacturing facilities in Cambridge and Portchester, growth continues at a fast pace – ensuring a constant need for skilled people. The business is as exciting as ever with lots of new opportunities and products on the horizon. I am certain it has a bright future."

## Success in Japan for Magicard from Australian office



It's just over six months since Ultra set up an Australasia hub in Adelaide for Magicard printer sales and already Sales Manager Mandy Kerr is making good headway in the region. In addition to strong progress in the Australian market, Mandy has been

concentrating on opening completely new routes into countries such as South Korea and Japan, which up until recently have been difficult to develop.

In Japan, Mandy has recently signed up a new distributor, Ai & Di. Mandy explains, 'Japan is the world's third largest economy by GDP and the potential for ID card printers is excellent. It is vital to have local support and Ai & Di have committed to being our service and support centre for the region – giving us a crucial edge over some of our competition. Working in the same time zone has made communications easier and our new models and quick response to local challenges such as specific encoding for the Japanese market have made a big difference. Ai & Di has, in turn, done a great job in supporting us technically.'

## Magicard launches Rio Pro secure ID card printer

It is now 10 years since **Manufacturing & Card Systems (M&CS)** introduced the Rio ID card printer to the Magicard product line. The latest version, the Rio Pro, launched in January this year, is quickly dominating the market as the professional's choice for secure ID card printing. The Rio Pro includes innovative features such as field upgradability and a new, more secure method of delivering Ultra's unique HoloKote® watermark feature. Over the past decade Magicard has sold 38,000 Rio units, together with about 1 million rolls of dye film. This amounts to a total sales value of more than £60m – not bad for a total R&D investment of £2m in its lifetime.

Magicard Business Unit Director Andy Matko commented: 'Feedback so far has been excellent, particularly with regards to the enhanced print quality. The Rio was a great printer for Ultra, but expect the Rio Pro to be even better!'





# Aircraft & Vehicle systems

## JSF Controller Certification

**Controls** successfully completed certification of its controller for the Joint Strike Fighter (JSF) Engine Ice Protection System (EIPS) for Pratt & Whitney. The Pratt & Whitney F-135 is the lead engine for the JSF F-35 programme and it uses an electric ice protection system on its engine inlet.

Development of the EIPS controller has been a five-year undertaking and has presented the **Controls** team with numerous technical challenges all of which have now been successfully overcome. Pratt & Whitney has been impressed with the quality of the design of the controller which, being mounted on the engine itself, has to operate in a very hostile environment.

An example of one of the many challenges the team has met has been developing a single design of controller that accommodates both the ice protection requirements of the aircraft main engine and also the additional lift fan that is fitted to the STOVL variant of the F-35 family.



## MSI presented Raytheon supplier award



During the 50th anniversary celebrations last year, William Farmer, Raytheon Network Centric Engineer, presented **MSI** with one of Raytheon's Valued Supplier Awards for 2010. With over 3000 suppliers on the Long Range Advanced Scout Surveillance System for which **MSI** provides rugged, precision hand controls, Mr. Farmer indicated that this kind of recognition doesn't happen very often 'MSI has been one of our top and most important suppliers because of the interface between the human and the actual use of the system.'

## Foxhound 'switches' to PALS

In March 2010 the UK MoD confirmed it would conduct an Urgent Operational Requirement (UOR) competition for a Lightweight Protected Patrol Vehicle (LPPV) to replace the much maligned Northern Ireland standard 'Snatch' armoured Land Rover. The competition centred on the Force Protection Europe team (FPE) with the Ocelot vehicle, the Supacat team and SPV 400. Key to the competition was blast protection for the troops travelling in the vehicle as well as the capability of the vehicle to support a Generic Vehicle Architecture (GVA). Tony White, Director of Advanced Technology at **Precision Air & Land Systems**, has been key to the establishment of Ultra's capability in this area and initiated discussions with the competitors.

After the award of the contract to FPE & Thales for the delivery of 200 vehicles to the MoD late last year, codenamed Foxhound, **Precision Air & Land Systems** has been awarded the contract for the supply of Ethernet switches to move data around the vehicle. In addition,

**Precision Air & Land Systems** has recently been informed that it is also to supply infra red illumination lamps to enhance the vehicles capability to 'see in the dark.'



The total value of the contracts to **Precision**

**Air & Land Systems** comes to over about £800k for the first 200 vehicles. With the strategic importance and likely growth plan both domestically and internationally for the Foxhound, this value is very likely to increase.

## US Navy takes delivery of first *asis* system

**Controls** has delivered the first *asis* system to the US Navy at its primary air base at Patuxent River in Maryland. The system is being fitted to a Lockheed Martin P-3 Orion and will be flight tested over the coming eighteen months. Following that, the aircraft is due for heavy maintenance which will allow a detailed analysis of the aircraft's wings and an assessment of how well *asis* has identified any cracks that may have been present on the targeted areas.

*asis* is designed to detect and locate cracks in aircraft structure by monitoring the noise that all cracks emit when they first start or when they grow. Following the launch of *asis* at the Farnborough International Air Show last year, interest in the system has come from the USA, Japan, Canada and China. This interest has been for aircraft as diverse as helicopters through to large passenger aircraft being converted for cargo use, as well as suggestions that the system could also be of use as a ballistic damage detection system.

## Success with Lockheed Martin

Since July 2009 **Precision Air & Land Systems** has been working closely with Lockheed Martin UK (LM UK) to develop avionics (vehicle electronics) solutions for the Warrior Infantry Fighting vehicle upgrade (W-CSP project) and the LM turret for the new Scout Vehicle (SV) both for the British Army. Both programmes have seen several iterations and revisions of the bids, with many long nights spent in **Precision Air & Land Systems** offices in Cheltenham.

Recent announcements by LM have made the last 20 months work worth it as **Precision Air & Land Systems** has been down-selected by LM UK to preferred bidder status for the

supply of Cannon Control Units (CCU) and Fire Control Computers (FCC) for both vehicles. In addition, LM UK has indicated that **Precision Air & Land Systems** is the partner of choice for the supply of power distribution systems for both vehicles. But it's not over yet: Revise & Confirm activity in support of the final submission to the UK MoD for Warrior is due very soon.

In the words of Peter Williamson; Electrics Business Development Manager and lead for LM activity "The work goes on!"





## Across the board...news and stories from across the divisions



### Do you know?

Business name:

**Airport Systems**

Location:

**Manchester, UK,  
France and  
Beijing, China**

Established:

Acquired by Ultra in  
**April 2000**

Number of staff:  
**240**

## From the ground upwards: the evolution of Airport Systems

**Airport Systems** started life in Ferranti International whose association within the aviation industry can be traced back to the late 1960s when it produced a seat reservation, check-in and departure control system for BOAC (now part of British Airways).

In 1990 Ferranti set up a division specifically to sell Flight Information Display Systems (FIDS). However, sometime after setting up this new division, Ferranti International got into financial difficulties, reorganised and divided the company up into smaller sections that could be sold. The Airport Systems division was subsequently purchased by Datel Defence, based in Preston.

In April of 2000, Ultra Electronics purchased both Datel Defence and Ferranti, as part of a strategy to expand Ultra's presence in the airport systems market. Ultra had recently

developed the UltraTrak baggage tracking and reconciliation product, driven by security concerns arising after the Lockerbie aircraft bomb. The Ferranti business was renamed Ultra Electronics, **Airport Systems**.

The original FIDS product was expanded to provide the world's first airport information database installed at Hong Kong and Ultra continued to invest and grow the product portfolio of Airport Systems.

In 2004 Ultra bought the airports business of Videcom which was already selling airport common use solutions. These allow airlines to share check-in desks, giving airports much greater control over their check-in resources. With existing customer installations in China, the purchase of Videcom provided a new opportunity for Ultra and opened up a whole new market.





# Information & Power systems

In 2009 the acquisition of Tisys in France created the French branch of **Airport Systems**, providing synergies in terms of products as well as regional coverage.

Today the **Airport Systems** suite of products offers a range of solutions for both airports and airlines including airport operational systems, passenger processing systems, ground handling systems and crisis & incident management as well as solutions for regional airports.

So, next time you arrive at the airport to go on your holiday and look up at the boards to find where to check-in, that information might just be being brought to you by **Airport Systems**; and if you then use the self-service check-in kiosks, Ultra could be providing the software for that too; and once you've checked in your luggage you can be reassured that chances are it's in the safe hands of Ultra's Baggage Reconciliation System where it will be barcoded, checked and tracked to its final destination.

And it doesn't end there, at the boarding gate it's Ultra's application that processes you swiftly through and on to the plane, whilst at the same time Ultra's LoadPlan balances the aircraft, working out the weight of all the baggage, fuel and the passengers to achieve optimal 'trim'.

Finally, when you reach your destination, Ultra's Resource Management System ensures your aircraft arrives at the right stand and also schedules all the relevant services required to prepare it for its next departure including catering, fuel and even a pilot.

What you can gather from all of this is that Ultra, with its Passenger Processing System, is managing your entire journey, from when you first check-in at the kiosk or check-in desk right through to boarding the aircraft and including all of the touch points in-between, from boarding pass verification at security, interactive wayfinding through the terminal to automated border control at immigration and automated boarding at the gates.

There are a significant number of steps in place to ensure that you, the passenger, enjoy a seamless and stress-free journey without even being aware of the many functions that are taking place behind the scenes and that are powered by **Airport Systems**.

With more than 100 airports and more than 100 airlines using Ultra products around the world and with a regional presence in North America, Europe and Asia Pacific, **Airport Systems** is positioned to meet the ever demanding systems requirements of airports, airlines and ground handlers worldwide.

"So, next time you arrive at the airport to go on your holiday and look up at the boards to find where to check-in that information might just be being brought to you by **Airport Systems**..."

## New office opens in China

**Airport Systems** Asia operation has moved into their prestigious new offices in Beijing, China. This follows the increased business and operational needs of **Airport Systems** whilst also providing a base for Ultra Group China. The new office not only provides increased work space but is also located in a premier location which is often highly regarded in the Beijing business world. The 23rd floor location and layout reflects the mix of west meeting east. There is an exhibition hall and test lab providing an excellent area to host visiting customers and government officials in China and to display and demonstrate Ultra solutions.



The new office will not only function as **Airport Systems'** Asia Operations Centre, but also as the Group's representative office in China for Ultra employees visiting Beijing. The new office will facilitate easier liaison and communication with various government bodies. Beijing is the centre of Chinese politics and is the location of all the related government ministries with which Ultra needs to have contact.

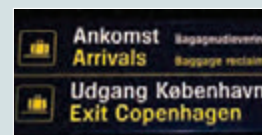
## Atlas OPS secures the Pope's state visit to the UK

Pope Benedict XVI toured the UK last summer visiting major cities throughout the UK. This was the first papal visit to Britain since 1982. Planning for the visit was coordinated nationally by the Metropolitan Police Service which used Ultra's Atlas AGP to manage the movements, schedules and security for the entire event. The Atlas AGP software allows them to manage information in a secure environment, view movement schedules, plan venue security and coordinate actions between key departments.

The Atlas software produced by **Command & Controls Systems** in Epworth was also used by Birmingham City Council to coordinate and manage their own preparations for Pope's visit to the city, which was the last day of his UK tour. Using Atlas AIMS which is installed in the main city control room, they were able to manage all of their planning leading up to the visit and control the event during its live phase.



## Copenhagen contract for Airport Systems



In February, **Airport Systems** announced the contract award for delivery of its UltraDB platform for Copenhagen Airports (CPH). The new operational platform will replace the existing core operational traffic systems at CPH including the Airport Operational Database (AODB) and graphical user interface (GUI) clients. The implementation of UltraDB requires the transition of data and services from existing systems and integration with CPH's wider operational environment and airport community.

As part of its detailed evaluation, CPH was looking for a solution provider with a proven implementation and support approach, a highly reliable commercial off the shelf platform requiring a minimal level of customisation and capable of working as part of CPH's service orientated architecture (SOA) environment using the latest open standards.

Ultra's record in the delivery and implementation of UltraDB in the world's largest and busiest airports, its extensive systems integration experience combined with UltraDB's flexible data structure aligned to CPH's operational requirements for end-to-end turnaround visibility were key factors in the selection of Ultra.



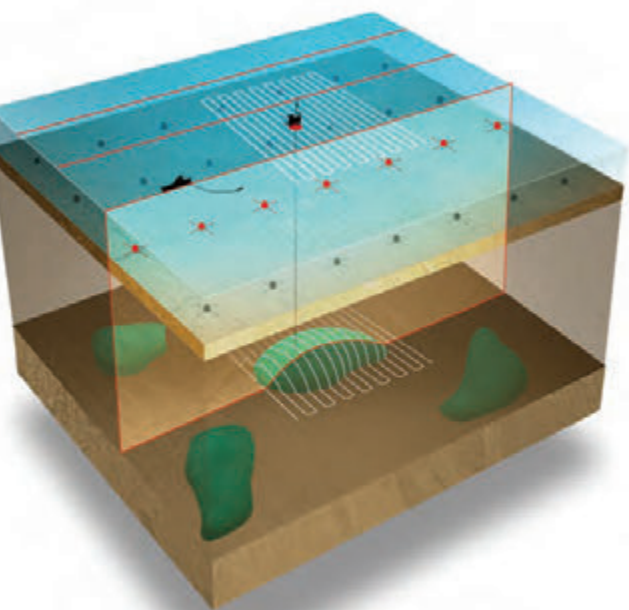
## Across the board...news and stories from across the divisions

### First production order for Ultra's electric e-field sensors for offshore oil and gas exploration

**PMES** started 2011 with its first production order for e-field sensors from Norwegian customer EMGS. The order, worth over £200,000, marks the first stage of EMGS's implementation of these sensors across their fleet of survey vessels. The initial order is for 250 sensors and the potential exists for up to 2,000 sensors to be ordered and delivered over the next three years.

**PMES** has been working closely with EMGS for several years to develop a differentiated sensor offering which enables EMGS's seabed receivers to capture valuable hydrocarbon data as part of the Controlled Source Electromagnetic (CSEM) survey technique. Four sensors are mounted on to each receiver. A typical survey vessel will deploy up to 140 receivers to depths reaching 4000 metres.

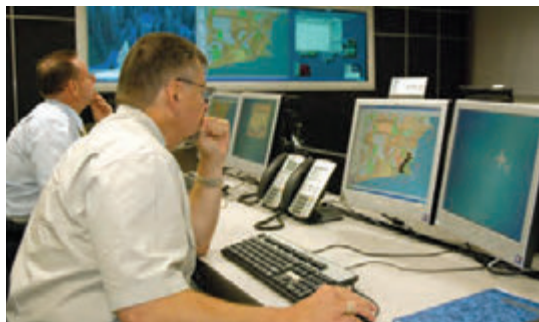
Marine Electromagnetic (EM) or CSEM works by measuring how strongly sediments beneath the seabed resist the flow of an electric current. A high resistivity may indicate the presence of oil or gas as sediments that contain hydrocarbons have higher resistivity than water-filled sediments. This observation has been used since the 1920's by the borehole logging community to confirm oil in place. 3-dimensional EM data acquisition is starting to become a standard survey technique for oil and gas exploration due to the benefits that can be achieved over single 2-dimensional techniques, such as increased data coverage and quality, improved resolution and ultimately the ability to calculate the volume of oil or gas contained within the seabed.



### NRE survives cyber attack

**Command & Control Systems** is responsible for delivering the National Resilience Extranet (NRE) service, which plays a critical role in supporting the day-to-day planning for and response to emergencies for over 500 UK agencies and organisations, with these numbers growing daily.

Recently, the live operational NRE service was subjected to a 'denial of service attack' which resulted in 50,000 'security events' in less than 60 minutes. The technical team responsible for maintaining the service was immediately made aware of the attack by the overarching monitoring system. Graham Salmon, Ultra's lead technical architect said 'We are used to around 5,000 daily security events and denial of service attacks probing for weaknesses in our system, allegedly from China and Russia, but the 50,000 attempts in less than 60 minutes was unprecedented. We are all really pleased that there was no impact to our customers or the service as a result of the attack'.



The NRE has a high probability of cyber attack compared to other services due to its strategic importance and the number of networks to which it connects. As a result, supported by Ultra's Government accreditator, the design team has implemented a broad set of security tools to detect and prevent access from attack. The team is extremely aware that attacks are gaining in sophistication and the key to cyber security is understanding and reacting to what goes on across any network and by providing defence by design. Additionally, **Command & Control Systems** undertakes a large amount of end user training and education to ensure users protect their personal log in details and understand the important role they are playing in UK civil resilience when using the NRE.

### £24m UK submarine reactor control equipment contract for the supply of reactor control and instrumentation systems for Royal Navy submarines.

This contract covers the procurement of long lead time materials. A further contract covering the production of the equipment sets is anticipated in the next twelve months.

Ultra was awarded a contract in December 2004 for the development of this equipment. Ultra's role has been that of equipment integrator for the control and instrumentation suite and therefore included the full spectrum of system engineering skills, embracing requirements capture, architecture design, development, verification and qualification.





# Information & Power systems



## ATS provides communications payload on Global Observer liquid hydrogen powered unmanned aircraft system

An **ATS**-developed communications payload, the Joint Aerial Layered Network Tactical Communications System (JALN TCS), has successfully flown on the first-of-its-kind, liquid hydrogen powered high-altitude, long endurance (HALE) Global Observer™ unmanned aircraft system (UAS).

The JALN TCS offers significant advantages to military, government and commercial markets:

- Provides line-of-sight (LOS) communications coverage for an area over 600 miles in diameter when carried by the Global Observer to 65,000 feet
- Bridges communications between different types of radios, even Voice over Internet Protocol (VoIP) telephones
- Allows forward deployed troops with handheld radios to communicate with command centres thousands of miles away
- Provides secure, anti-jam tactical data link network communications
- Manages and relays surveillance video

**ATS** is currently at work on a newly awarded contract for the newest generation of the tactical communication system payload called the Tactical Airborne Command, Control, Communications and Intelligence (C3I) Pod (TACPOD). TACPOD provides the tactical communications payload in a standard aircraft pod that can be flown on manned and unmanned aircraft.



## face-to-face communication

**Advanced Tactical Systems (ATS)** in Austin, Texas, has moved into an impressive new facility. The facility itself is attractive but more importantly **ATS** developed and executed an overarching change management plan. The new facility design supported the evolving organization and the way the teams work. **ATS** has reorganised into business units to increase customer focus. At the same time, **ATS** changed the way software is developed, adopting the agile 'scrum' process which puts development teams in large rooms without walls or cubicles. The new facility was designed specifically to support scrum and create many opportunities for face-to-face communication, the most effective way to innovate. Another important consideration was to create enough space for all-hands meetings and large customer meetings. Shortly after move-in, **ATS** hosted a highly successful user's conference for more than 90 customers.



## Met Police use Atlas OPS for VIP protection during the Commonwealth Games

The Atlas OPS software suite produced by **Command & Control Systems**, Epworth, was deployed to the 19th Commonwealth Games in Delhi for the important role of coordination and protection of all UK VIP's and dignitaries. This is the largest multi-sport event held in India and the first time the event has been held in the country.

The Atlas OPS software operates from a deployable Local Area Network (LAN) comprising six tough book computers. It is used by the Metropolitan Police SO1 Specialist Protection unit. This department is responsible for the personal protection of the Prime Minister, former prime ministers, key government ministers and other high profile persons considered to be under threat from terrorist attack in the UK and overseas. In its normal operational role, the software is used in the SO1 planning centre in New Scotland Yard, London, where it is used to coordinate and plan for the UK's key events. The Metropolitan Police Service has used the Atlas OPS system

for many years on major public operations including the UK general elections, where it coordinated the movements and security of key UK Politicians, the G20 London Summit 2009, and most recently the Pope's visit to the UK.

## Advanced Tactical Systems (ATS) ships its 1000th system

**ATS** has achieved the major milestone of selling its 1000th system. The business recently celebrated the event at the Austin facility with US Congressman Michael T. McCaul.

Mr McCaul serves as a ranking member of the Homeland Security Intelligence Subcommittee and represents the 10th District of Texas. He thanked Ultra employees for their contribution to the war on terrorism and congratulated them for producing a great product; one that continues to provide new jobs in Austin.

'We are proud that the military community has embraced our product and relies on it,' said John McAlonan, President, **ATS**. 'Our success is attributable to the great people that we have working for our company, our ability to rapidly deliver affordable products and the fact that no other company can do exactly what we do.'





## Across the board...news and stories from across the divisions

# USSI Organic growth through partnering and diversification

Ultra Electronics acquired Raytheon's sonobuoy business unit in 1998. This business unit had been involved with the development and manufacture of sonobuoys since the 1950's. Sixty-seven Raytheon employees, including technical, purchasing and accounting, were part of the acquisition. The initial staff went from being an integral part of a big company to a stand alone small business as it transitioned from the Raytheon facilities in December 1999. This new business was named **Undersea Sensor Systems, Inc. (USSI)**. As **USSI's** product range has expanded, the full name has been dropped from common usage.

At the time of the acquisition, a significant change in the electrical design to transition sonobuoys from analogue to digital was underway and the production lines were not operating. **USSI** was focused on completing the design updates and re-establishing a production capability. During this period, Ultra's **Maritime Systems** business supported **USSI** in meeting its contract obligations.

In August 2001, **USSI** was awarded its first significant contract which was not sonobuoy related, the Deployable Autonomous Distributed System (DADS) contract. This program showcased **USSI's** extensive embedded signal processing and long-life sensor capabilities.

In 2006 lengthy discussions with the US Navy, the Justice Department and the Competition Advocate about rationalizing the sonobuoy industrial base culminated with the signing of an expanded ERAPSCO joint venture (teaming) agreement between **USSI** and Sparton Electronics. The stabilizing impact of this event positioned **USSI** to pursue diversification more aggressively. The expansion of ERAPSCO was consistent with **USSI's** tradition of teaming. Through the Small Business Innovative Research (SBIR) program, **USSI** has teamed with over 30 small businesses to develop future technology. Many of these SBIR efforts leverage Ultra's extensive transducer modelling and rapid prototyping capabilities.

In early 2008 **USSI** teamed with a small company that invented the world record holding technology for acoustic speakers. This technology, referred to as HyperSpike®, has been integrated into a family of products with an ever-increasing number of applications worldwide from acoustic hailing and mass notification to bird eradication and avalanche initiation.

Later in 2008, Ultra's **AudioPack** business, formerly based in Cleveland, Ohio, was integrated into **USSI**. This business provides personal protective gear and communications systems accessories such as voice amplifiers and heads up displays for Self Contained Breathing Apparatus (SCBA) equipment. **USSI** will be fielding the next generation voice amplifiers later this year.

In 2010, **USSI** formed a teaming agreement with what was **Precision Air Systems** for the manufacture and maintenance of certain HIPPAAG products for US customers. This strategy will position **Precision Air & Land Systems** to effectively compete with in-country US competitors.

The growth of the company since 2006 necessitated an expansion to the facility. Currently **USSI** is in the process of moving to a larger facility that will include accommodation for the **PAS** on-site personnel.

**USSI** is also pursuing several other teaming opportunities for future diversification.

What is the key to successful teaming? 'Never lose sight of what is in the best interests of your teammate.' Dave Hockenbrocht, retired CEO, Sparton Corporation.



### Do you know?

Business name:

**USSI**

Location:

**Columbia City, Indiana, USA**

Established:

**December 1998**

Acquired by Ultra:

**1998**

Number of staff:

**368**

## Building for the Future

In 2010 **USSI** was planning to expand their leased facility to accommodate current and future business needs.

Given the economic and local business climate at the time the renovations were scheduled to start, moving to a different location was very financially attractive. The building immediately to the east of the current facility was available, although the owner was still occupying a portion of the facility. This building is two and a half times larger than the current **USSI** facility. Ultra purchased this building in October 2010. This purchase included an agreement for the previous owner to lease back a portion of the building from Ultra. Another area of the building will also be isolated for occupation by **Precision Air & Land Systems** personnel in support of the teaming agreement between **USSI** and **Precision Air & Land Systems**.



**USSI** has been honoured with the Whitley County Chamber of Commerce "2010 Business of the Year" award. Tom Link, VP Audio Products, accepted the award on behalf of **USSI** in October 2010 at the Whitley County Chamber of Commerce Annual Gala Celebration. This honour was presented in recognition of **USSI's** commitment to the community through sourcing of local parts and services, investment, employment growth and charitable service. **USSI** is the third largest employer in Whitley County.



# Sonar & Undersea systems



## \$5.1m Checkpoint

**Flightline Systems** has secured a \$5.1m multi-year contract for its Checkpoint aircraft engine instruments from Blackhawk Modifications, Inc. of Waco, Texas. Ultra's instruments have been certified via a Supplemental Type Certificate (STC) in conjunction with Blackhawk's engine conversions for the Cessna Caravan and Conquest series and the Beechcraft King Air 90 and 200 series and Piper's Cheyenne series aircraft. **Flightline's** engine instruments modernise the cockpit by replacing the original analogue instruments thus improving reliability and resale value. Blackhawk chose to use **Flightline's** instruments instead of updating the existing instruments in order to provide a more complete aircraft upgrade programme. Blackhawk has certified Ultra's instruments on eight STC programmes to date and has plans to add additional platforms in the future.

## Stakes raised in R&D at Maritime Systems

The summer of 2010 wrapped up with an exciting development at **Maritime Systems** – the creation of new Internal Research and Development (IR&D) department. With the motto think big, test small, fail fast, learn always, the work is fast-paced and exciting. High-risk projects in underwater acoustics and in magneto-inductive communications are undertaken. The approach is to quickly kill concepts that are found not to be feasible and to forward those that have promise to the engineering team.

This fledgling group counts two PhDs among its inaugural staff of four. Efforts are leveraged by hiring university students during their co-op work terms and by hiring outside technical experts. Ultra is negotiating an adjunct faculty position with a local university so that it can directly supervise graduate students.

A recent R&D initiative at **Maritime Systems** is the funding of an Industrial Research Chair at the Department of Electrical and Computer Engineering at Dalhousie University.



## £9m UK SeaFox contract from UK MoD

In December 2010, **Sonar Systems** was awarded a contract by the UK MoD to manufacture 300 SeaFox combat vehicles. SeaFox is a system for the disposal of sea mines that pose a lethal threat to the naval fleet on operations. The first vehicles will be produced in June 2011 with final deliveries completed September 2012.

Ultra successfully converted all sixteen Royal Navy Hunt and Sandown Class Mine Countermeasures Vessels to the SeaFox system between January 2007 and August 2009 and now provides global Contractor Logistic Support (CLS) to all Royal Navy Mine Countermeasure Vehicles. Following the successful achievement of Initial Operating Capability in the summer of 2007, **Sonar Systems** has continued to support the MoD through deliveries of SeaFox equipment; this recently included the introduction of a training variant of the SeaFox vehicle.

## Advances in the AuRACLE product roadmap

**Flightline Systems** and Soloy Aviation Solutions have signed a three-year contract to supply a turbine helicopter version of the AuRACLE engine management system. Including options, the total contract value is \$1.5m. Soloy Aviation Solutions offers an American made powerplant alternative to the French manufactured Turbomeca engine installed in the Eurocopter's AS350B2 helicopter. Many of these aircraft operate within the air tour industry in places like Alaska, Hawaii and Las Vegas.

This win is the initial entry into the highly lucrative turbine helicopter market. This contract advances the AuRACLE product roadmap and provides **Flightline** with increased recognition as a leader in glass panel engine management.



## Ultra announces award of second Torpedo Defence System contract from Turkey

**Sonar Systems** has been awarded a contract by HAVELSAN, a Turkish Milgem Corvette combat system integrator, to provide a further Sea Sensor Surface Ship Torpedo Defence (SSTD) system to be installed onto the second Turkish Milgem Corvette. Ultra's sophisticated Sea Sensor system is the world's only in-service sensor-to-countermeasure torpedo Detection, Classification and Localisation (DCL) torpedo defence system providing unparalleled protection against all types of modern torpedoes. The system consists of expendable and towed countermeasures able to defeat both acoustic and wake-homing torpedoes and provides tactical advice specific to the weapon-type in order to maximise survivability in an attack. This award follows the successful installation of Ultra's Sea Sensor system on the first Milgem Corvette in October 2010 and selection of Ultra's Sea Crypsis torpedo defence system for Turkey's New Type Air-Independent Propulsion Submarine with which it shares common torpedo DCL capabilities and sub-systems.

The award for the second Sea Sensor system further develops the close working relationship established between **Sonar Systems** and HAVELSAN over the last three years and will further increase local involvement in delivery of torpedo countermeasure systems onboard various naval platforms.



## Across the board...news and stories from across the divisions

# CIS

## a growth story

When the Group was formed in 1993, **Sonar & Communication Systems** was one of the original seven businesses of Ultra Electronics. In 2008, the business was divided into two and the communications element was established as **Communication & Integrated Systems (CIS)** to facilitate a clear focus on innovative integration of the network-enabled battle space capabilities.



As an independent business **CIS** has thrived, with sales growing by 36% between 2009 and 2010. Contract wins in 2010, including ECU RP (see article on page 21), are underpinning continuing

strong growth. **CIS** employs 135 staff with significant recruitment in progress to meet the needs of the new contracts.

**CIS** has three business areas: cryptographic equipment and associated Information Assurance (IA) solutions; secure communication systems including tactical, Full Motion Video (FMV) and High Integrity Data Links (HIDL); and ISTAR systems including targeting and recce pods.

**CIS** has supplied cryptographic equipment to many nations including being the only non US business to develop a Type 1 (Top Secret) crypto for use by US government agencies. Crypto scrambles voice and data communications and through complex algorithms and keys, unlocks and deciphers the information in the receiving equipment, thereby fully securing and protecting the information transmission. Did you know that Ultra was the designation for WWII signals intelligence obtained by breaking the encrypted enemy radio and teleprinter communications at Bletchley Park and later became the designation among the Western Allies for all such intelligence? Whilst not related to today's Ultra crypto it's great branding. The recent ECU RP contract win in the UK is enabling **CIS** to maintain its lead in UK high grade crypto technology and positions **CIS** to address future crypto upgrade opportunities in the UK and overseas. The business has teamed with **Flightline** for the manufacture of cryptographic equipment in the US for the US Navy, with design taking place in UK and design approval being granted by the National Security Agency, the US security authority.

In 2012 Ultra will be celebrating the 10th anniversary of its Multi Link Processor (MLP) family of tactical data link systems. These tactical data links are networked between friendly NATO air and maritime platforms to generate an overall Recognised Air (Link 16) and/or Maritime (Link 11 now and Link 22 in the future) Picture showing all friendly (blue), enemy (red) and neutral (white) platforms. With strong support from **Advanced Tactical Systems**, the first L-11/16 MLP was delivered to the Danish Navy in 2010, demonstrating the flexibility of the MLP platform not only for Link-11 or Link-16 but as a truly combined multi link solution. This year **CIS**

will be demonstrating Link 22 interoperability with UK MOD and will be delivering MLP systems for the Canadian Navy incorporating a growth path from Link-11 to Link-22 as well as SATCOM interfaces.

The networking functionality and low latency of High Integrity Data Links (HIDL™) greatly aids in increasing connectivity and wider interoperability across the battlespace, as well as delivering increased shared situational awareness and Full Motion Video (FMV) to the user. It is ideal for unmanned vehicle; missile and remote weapons

control applications. This is all achieved with the highest level of transmission security so that it is very difficult for an adversary to detect, jam or intercept the HIDL™ transmissions. **CIS** is building upon the HIDL™ system successfully used in the UK Watchkeeper UAV programme and the UK Fire Shadow Loitering Munition programme, to develop a family of data links that connect the battlespace, thus meeting the demands of increasingly networked operations.



Litening targeting and reconnaissance pods provided by **CIS** have now achieved over 40,000 flying hours in Royal Air Force service on both Typhoon and Tornado

aircraft. Litening III Pod has provided the RAF with a quantum leap in targeting and reconnaissance capabilities, achieving over 99.9% mission availability. On operations, the Litening pod has proved itself to be exceptionally accurate in the delivery of aircraft weapons, whilst transmitting excellent image fidelity for surveillance and 'overwatch' tasks. In parallel to the UK Litening programme, **CIS** is engaged in a number of Eurofighter Typhoon export campaigns. These may lead to **CIS** delivering Litening pod systems to new customers as part of the export Typhoon capability packages.

The main Greenford facility that **CIS** shares with **Sonar Systems** is being refurbished and restructured so that all **CIS** functions will be co-located at 419 Bridport Road by the end of 2011. **CIS** is also expanding by opening a new Cheltenham office in Gloucester Business Park in close proximity to its cryptographic customers – GCHQ, CESG and Networks PT at Corsham, Wiltshire. This is intended to help with the recruitment of cryptographic personnel and in the development of the crypto business generally.



Above: Litening pod installed on a Tornado; Below: Multi Link Processor (MLP); Bottom: High Integrity Data Link (HIDL)



### Do you know?

Business name:

**Communication & Integrated Systems**

Location:

**Greenford, Middlesex, UK**

Established:

**One of the original Ultra businesses as part of Sonar & Communication Systems**

Number of staff:

**135**



# Tactical systems

## End Cryptographic Unit Replacement Programme (ECU RP)



Much of the UK's cryptographic inventory consists of ageing equipment which is approaching the end of its useful service life due to a wide range of obsolescence issues. To help solve these problems, in the middle of 2010 **CIS** was awarded an £86m contract for the End Cryptographic Unit Replacement Programme (ECU RP) which is the first phase of the UK's crypto modernisation activities. ECU RP replaces in excess of 5,000 ECU's across some 30 platform types and at over 80 sites in the UK and overseas

At the heart of the ECU RP solution is **CIS**'s Common Core Crypto (C3), a small form factor ECU which meets the most rigorous environmental, TEMPEST, EMC and security requirements. The C3 is a fully programmable cryptographic module which is configured to operate with both legacy, current and future algorithms, protocols and key management standards.

For the purpose of ECU RP, the C3 is housed in a range of form and fit Application Specific Enclosures (ASEs) that provide the legacy interfaces required to enable the replacement of existing ECUs without the need for modifications to platform installations.

## AudioSoft selected to supply the next generation of police interview recorders

In February, **AudioSoft** was selected as one of three shortlisted suppliers under the National Police Improvement Agency's (NPIA) Digital Interview Framework Agreement. The opportunity presented by this agreement is to provide the replacement system to capture, store, manage and utilise over two million interviews that are carried out by the police service each year. With audio cassettes becoming obsolete and expectations for quality and value becoming prevalent, a new capability, worth up to £12m, presented itself.

**AudioSoft** submitted a fully compliant and single source bid comprising the AudioPC-IR recorder and the Medirva® repository software. The selection of **AudioSoft** is testament to the innovative approach combined with a fastidiously close empathy with the user's environment with 15 years of recording expertise. The solution has provided the NPIA with the toolset to equip the UK police forces with not only a digital evidence recording technology but also the ability to create a networked national evidence repository. With the framework agreement in place, attention is now on winning the individual force and regional competitions.



### STOP PRESS!

In May **CIS** was awarded a £18m contract to build the next generation of special purpose cryptographic units that protect information at the highest levels of classification and that are used in very secure facilities and platforms. It was during the long pursuit for this contract that **CIS** decided that it needed to develop its own cryptographic products to ensure that the UK had a fully sovereign capability in this market.

Following on from that great news, after protracted discussions with the UK MoD and the Treasury, **CIS** was finally given approval to proceed with a £6m contract for an urgent requirement to provide additional targeting pods for current operations.

**CIS** staff thought they were busy – they will be now!



## Criticom wins the largest contact in its history!

In September 2010, **Criticom** received its largest contract since its inception, a \$7.3m award from the National Guard Bureau (NGB) made through an Alaska Native Corporation called CaZador. This opportunity was a result of the Base Realignment and Closure (BRAC) movement. The National Guard Bureau Joint Command, currently located in leased office space in Crystal City, Virginia, will relocate to a newly constructed facility at the Air National Guard Readiness Center (ANGRC), Maryland. The estimated \$98m expansion project will allow the NGB to consolidate personnel from multiple locations in northern Virginia. According to planning documents, the new building will add about 243,000 square feet and provide workspace for more than 1,200 additional people.

**Criticom** was awarded the contract for programme management, professional services, engineering and integration of 27 state-of-the-art multi-media rooms spanning from the Joint Operation Command Center (JOC) to the exercise room. Ten of the rooms have a DISA J1TC certified switch, manufactured by **Criticom**, allowing Secure/Non-Secure capability for ISDN and IP video conferencing calls.

The win of the NGB Program is not only a significant win but an opportunity to expand **Criticom**'s products and services throughout the NGB offices around the United States. This NGB project is slated to be completed by May 2011.





# People in the news

## Ultra joins the 'Social Network'

We are pleased to announce that Ultra now has its own page on Facebook representing the Group as a whole. The page integrates seamlessly with the job board that is posted in the careers tab of the Group website providing a great way for potential recruits to find out about jobs and apply. It also allows current Ultra employees who use Facebook to easily let their friends know about potential job opportunities, meaning if their friend is successful they could qualify for the referral bonus scheme.

The page also has a 'wall' onto which the latest Ultra headlines will be posted, making it a great way to stay informed about what's going on around the Group, as



well as photos, videos and information about Ultra. Our hope is that the page will replicate the UltraNews experience but in a way that enables and encourages two-way communication, as well as providing you with the latest news from around the Group as it happens.

The Ultra Facebook page provides a fantastic tool for keeping in touch

with and getting to know people from around the Group in an informal environment, and we are keen for all of Ultra's stakeholders to interact with the page and, through it, each other. **Go to [facebook.com/UltraElectronics](http://facebook.com/UltraElectronics) and 'like' the page today!**



## We have an App for that!

**ProLogic** is now developing apps (applications) for Apple and Android mobile devices. Last summer, **ProLogic's** newly appointed President, Paul Maguire, sponsored an internal 'App Challenge' designed to inspire creative thinking around mobile delivery solutions for Ultra's customers and to fast-track the company on the path to mobile development leadership.



goDriveGreen took first place in the App Challenge and it is available for free on Apple's App Store. goDriveGreen is an app that lets you see and track your driving style and learn just how much it is costing you and the environment. The objective is to improve driving efficiency or Green Score; the higher the Green Score, the more mileage and cost savings you will get from your vehicle. While goDriveGreen is a commercial app, it is rich with algorithms, mapping, databases and other features that gives ProLogic the experience to build the more complex apps that its customers require.

Today, iUltra is **ProLogic's** latest app invention. It is designed to showcase the Ultra Electronics brand and the family of Ultra companies that deliver on it every day. With features such as up-to-date share price, news and videos, iUltra keeps employees and stakeholders connected to the company anywhere, anytime. Coupled with products, news, locations and more from Ultra's businesses, iUltra is also a robust back-pocket marketing tool that business developers can use to promote their company capabilities and offerings. While **ProLogic** is the first Ultra business featured in the app, it is readily scalable to add content from all the businesses in the Ultra family. Over the next few months, input will be collected from each business and uploaded to the iUltra app. iUltra is available for both Apple and Android mobile devices. You can download the app for free by searching for Ultra Electronics in the app store.

## Arkwright students

Mark Merrifield, Managing Director, **Sonar Systems**, attended the Presentation of Awards to Arkwright Scholarship students at the UK Institute of Engineering and Technology in October 2010. Sonar Systems sponsors two students each year. Stephen Wright and Rishi Mirpuri were awarded the prestigious Arkwright Scholarship for their outstanding work in design, engineering and technology.

The Arkwright Trust was founded in 1990 and this year celebrates its 20th year of Scholarship awards; the first five Scholarships were awarded in 1991. Arkwright supports young people during their 'A' Level/Scottish Higher years by awarding £250 a year to assist with the purchase of materials and books. Students then carry the status of 'Arkwright Scholar' into university. The school's design & technology department receives £200 per year for the next two years.



## Nuclear Institute Annual Conference & Dinner

Ultra part-sponsored the 2010 'Energy Choices' conference and dinner. This event is regarded as one of the key energy conferences of the year, where industry, politicians and opinion-formers come together to debate world energy issues. The Conference is attended by leading energy industry players including CEOs and strategists from all the major utilities. It is also an important date in the diary for academics and politicians wanting to make their contribution to the energy debate. Whether the issue is climate change, skills gap, innovation or our continued security of energy supply, Energy Choices is now recognised as the main platform for discussion and new ideas. Energy Choices is organised by the Nuclear Industry Association and endorsed by the nuclear industries own learned society, the Nuclear Institute. It is an all-energy event with representatives from the renewables, oil and gas industries who are also represented on the panels and in the audience.



Chris Binsley, **C&CS**, Business Unit Director – Nuclear (centre) with David Curtis (Rolls-Royce) and Franz Hilbert (Areva NP GmbH). Chris also represents Ultra as an executive Director on the NI Main Board.



## Ultra Electronics wins with the 'Desert Arrows'

In autumn 2010, Ultra Electronics Middle East, based in Abu Dhabi, accepted an invitation to sponsor a junior team from the local British School Al Khubairat (BSAK) which was entering the UAE F1 in Schools competition. This global competition currently involves over 12 million students across 34 countries. F1 in Schools challenges a team of 4-6 students to collaborate, design, analyse, manufacture, test and then race miniature gas powered balsa wood F1 cars. The teams are judged on car speed, as well as supporting evidence of their design, verbal presentation and marketing display stand in 'the pits'. Teams compete regionally, nationally and internationally for the Bernie Ecclestone F1 in Schools World Championship trophy.

To put the 'race' in context, the cars typically take about 1 second to travel the length of the track. Therefore, improving the performance becomes a study in aerodynamics and the analysis of drag coefficient in a virtual reality wind tunnel using Computational Fluid Dynamics (CFD) software.

The British School 'Desert Arrows' team consists of Oliver Hill, Henry Drury, Tom Corbett and Dana El Ramahi (pictured) – all in Year Six. They attracted sponsorship from Ultra Electronics, Babcock International and Etihad Airways and went on to dominate the junior competition, winning the Fastest Car, Best

Team Identity and Best Verbal Presentation awards, as well as being voted overall champions.

Richard Noble OBE, who set a World Land Speed Record in 1983, came to meet the team at school to congratulate them on their achievement and sign their trophies.

Unfortunately the junior age class winners are not eligible to compete in the world finals in Malaysia later in the year, where the senior class winners have the chance to meet and test their reactions against an F1 driver. But Henry Drury is already working on his next version of the car, as he will move up to the senior competition next term and will no doubt be enthusiastic to test his theories on drag and rolling resistance with Ultra's engineers.

The car and some members of the Desert Arrows team will also be at the Goodwood Festival of Speed, where they have been invited to demonstrate their car at the F1 in Schools stand.

Desert Arrows website

<http://teamdesertarrows.webs.com/>

F1 in Schools UK link –

<http://www.f1inschools.co.uk/>

Goodwood Festival of Speed runs from June 30th to July 3rd 2011



## Maritime Systems sponsors Canada Games

From February 11th-27th **Maritime Systems** was a proud sponsor of the 2011 Canada Games. The Canada Games is the largest national multi-sport event for young athletes and is held every two years alternating between summer and winter. In addition to reaching Halifax and the thousands who gather for the games, as a sponsor, **Maritime Systems** was able to connect with more than five million television viewers during 140 hours of national coverage and have access to over 400 media.

As part of the sponsorship, Ultra employees had the use of six games passes for duration of the event. The 2011 Games will leave behind an extensive legacy for the region's sport community. They will be anchored by the new \$40 million Canada Games Centre and extend to more than 13 sport venues and numerous non-competition venues. CDN\$15m in capital upgrades have been made to the region's existing sporting facilities. These investments will ensure the Games' legacy of promoting sport will resonate for generations to come.

Roxanne Matthews, Production Supervisor at **Maritime Systems**, was one of 5,000 volunteers during the games. Roxanne was based at a local ice rink supporting the Female Ringette (a game much like ice hockey, but played with a ring instead of a puck) tournament.

## 'Nuclear professionalism' at Command & Control Systems

EDF Energy, operators of the UK's fleet of nuclear reactors, has provided Ultra with a series of courses in Nuclear Professionalism in recognition of the close working relationship that has developed between the two companies. The training was tailored specifically to Ultra's business and was designed to equip members of the Nuclear Business Unit within **Command & Controls Systems** and its supply chain with the necessary skills required for professionals working within the nuclear industry. The training covered a wide range of operational issues including a working knowledge of the legal and regulatory framework within which the nuclear industry operates.

Ultra is now EDF UK's largest single supplier of reactor control and instrumentation. In addition to supporting EDF's existing power stations in the UK, Ultra has been appointed as EDF/Areva's independent nuclear safety advisor to support future new build. Over the past five years the Nuclear Business Unit has grown from a single project with £4m sales to £32m in 2010 with a team of 150 nuclear professionals.





# People on the move



# on the move

**1. Amish Mehta** has been promoted to Vice President/ General Manager at **Measurement Systems Inc.** In his new role Amish will lead the new Human Systems Integration (HSI) Business Unit which will specialise in integrated systems and human factors. Amish joined **MSI** in January 2007 as Vice President of Engineering.

**2. Dave Olchowski** has been promoted to Vice President/ General Manager at **Measurement Systems Inc** where he will be responsible for the Human Machine Interface (HMI) Business Unit comprising most of **MSI's** traditional HMI business. Dave joined **MSI** in November 2007 as Vice President of Operations.

**3. Tom Knowles-Jackson** has moved to **AudioSoft** as Sales & Marketing Director. Tom joined Ultra in the Middle East where he held a number of roles with the Dascam business including Project Manager, Senior Consultant, Business Area Leader and most recently as Sales and Marketing Director. Prior to Dascam, Tom served for ten years in the British Army where he was commissioned into The Light Infantry. Tom completed his military career as Divisional Lieutenant Colonel following service in Cyprus, Germany, Bahrain, Northern Ireland and Iraq.

**4. Claire Ostrum** has been appointed as Vice President of Finance at **ProLogic**. The role is based at the Manassas, Virginia office. Prior to joining **ProLogic** Claire was the Financial Controller at **Flightline Systems** where she worked since 2005. Claire is a Certified Public Accountant (CPA) and has a Bachelor of Science degree in Accounting from the State University of New York.

**5. Dr Aaron Crumm** is appointed President of **AMI**. Aaron co-founded **AMI** together with his wife, Michelle Crumm, in 1999 and has played a significant part in its growth since then. Aaron received his Bachelor of Science degree in nuclear engineering from Purdue University and has a PhD in material science from the University of Michigan.

**6. Jonathan McGill** has been appointed as Strategy & Marketing Director at **Command & Control Systems**. Prior to joining Ultra Jonathan was Sales & Marketing Director of VT Shipbuilding International and has also held a number of other senior roles including two as Managing Director. Jonathan started his career in the Royal Navy as a Marine Engineering Officer. Jonathan has a BSc in Mechanical Engineering from Southampton University and an MBA from Cranfield School of Management.

**7. Tom Reedy** has been appointed Vice President of Engineering at **AMI**. Tom joins from IAV Automotive Engineering where he served for five years as Manager of Military and Vehicle Systems Development. Prior to IAV, Tom was Chief Program Engineer at Ricardo Vehicle Systems Engineering. Tom began his engineering career with the British Army, where he served with in the Royal Electrical and Mechanical Engineers. Tom holds a Master of Science in Engineering Design from Loughborough University of Technology and a Bachelor of Engineering in Mechanical and Production Engineering from Sir John Moore's University of Liverpool.



## appointments & promotions

**8. Gavin Armstrong** has joined **Precision Air & Land Systems**, Cheltenham, in a new role of Engineering Director taking responsibility for some 80+ engineers and programme management at a time of significant opportunity and new bids for the company. Previously Gavin has followed a very successful 11 year career at Rolls Royce in a number of management roles, most recently as Head of Operations (Submarines). Gavin is a Chartered Engineer and holds a PhD in Engineering (Electrical & Electronic) together with a First-Class Honours degree in Electrical & Electronic Engineering.

**9. Mark Doyle** has been appointed as Chief Executive Officer of Al Shaheen based in Abu Dhabi, UAE. Mark was previously Managing Director of **Electrics** (now **Precision Air & Land Systems**) in Cheltenham. Al Shaheen is a joint venture business between Emirates Advanced Investments and Ultra Electronics that provides a range of training and development services within the region. Al Shaheen employs approximately 700 people and has grown significantly in recent years. As well as providing leadership for the business, Mark will also be responsible for developing opportunities for Al Shaheen to bring other Ultra offerings to the region.

**10. Andy Yates**, formerly Managing Director of Precision Air Systems, has been appointed Managing Director of the newly formed business of **Precision Air & Land Systems** (see page 11). Andy joined Ultra with the acquisition of Radamec in July 2003. He was appointed Managing Director at Precision Air Systems in September 2006. Andy will divide his time between the Cheltenham and Gloucester facilities.

**11. Mark Anderson** has been appointed as Strategy Director, Sonar & Undersea Systems Division. Mark will be based in Greenford and will be responsible for development and coordination of the strategies of the S&US businesses and supporting the Divisional President and Finance Director. Mark recently retired from the Royal Navy in the rank of Rear Admiral, having served for 37 years in a variety of roles, beginning his career in engineering and moving on to sea command.

**12. Asa Rhodes** has been appointed as Vice President of Finance at **TCS**. Asa was previously Director of Finance at **TCS** having joined the business in November 2008. He previously worked with Deloitte and Triton Electronique in Montreal. Asa is a Chartered Accountant (CA) and has a Bachelor of Commerce degree from Queen's University.

**13. Nigel Roberts** has been appointed as Operations Director of the Transmag business unit of **PMES**. Transmag was acquired in 2010 and is based in Kitts Green, Birmingham. It is planned Nigel will start in this new role in June. Nigel is currently seconded from **PMES** as Project Director – Greenford Facility, where he has led the project to refurbish the Greenford site. He was previously responsible for the successful relocation of the **PMES** business into a new purpose-built facility in Rugeley. Nigel has had a number of other roles at **PMES** including Programmes Director and Director of the Transit Business Unit.

**14. Brian Garcia** has taken responsibility as President at **Criticom** on an interim basis. Brian joined **Criticom** in 2008 as Vice President of Contracts and General Counsel. Prior to joining **Criticom**, Brian practiced law at Piliero, Mazza in Washington, D.C. where he represented over 100 small business and minority-owned firms specializing in Government Contracts law and commercial litigation. He is also a frequent lecturer for George Mason University's Procurement Technology Assistance Program (PTAP).

**15. Bill Terry** has joined **Ocean Systems** as Vice President of Engineering. Bill joins from BAE Systems, Nashua NH where he was Technical Director, Navy Systems and led multi-company industry engineering teams in providing solutions for anti-submarine, anti-surface ship, Electronic Warfare, communication intelligence and Homeland Security applications. Bill has previously worked for Lockheed Martin, Loral Federal Systems and IBM Federal Systems in a number of engineering roles including as Chief Engineer for the MH-60R program during its initial development phase. Bill has a degree in Electrical Engineering/Computer Science from Clarkson University as well as MS and MBA degrees.

**16. Joe Peters** has been appointed as Acting President, **USSI**, following the retirement of Roland Fritts. Joe joined **USSI** from Raytheon in 2001 and has held a number of leadership roles at **USSI**, most recently as Vice President of Programs where he was responsible for **USSI's** operations. Before this Joe was Vice President of Business Development. Joe has a Bachelor of Science degree in Electrical Engineering and a Masters in Business Administration.

**17. Jon Everett** has been appointed Managing Director at **PMES** with effect from 1 July 2011, following the retirement of David Sammons at the end of June. Jon was most recently Managing Director of Dascam in Abu Dhabi UAE having joined the business in 2006 prior to its acquisition by Ultra. Jon has a BA degree in International Studies and an MA in International Relations.

appointments

## Retirements



**1. In 2010 Roland Fritts** announced his intention to retire in April 2011. Roland has been President of **USSI** since 2000 and has driven considerable growth in the business. He also led the integration of the former AudioPack product lines and grown a new Audio Products business stream through teaming and strategic alliances. The rapid business growth has meant that **USSI** has outgrown its current facility and is in the process of moving into a larger adjacent building in Columbia City, Indiana. Upon his retirement Roland will continue to work, in a consultancy role, with Ultra and **USSI** on a small number of projects.

**2. In 2010 David Sammons** announced his intention to retire at the end of June 2011. David joined **PMES** in 1970 and has held a number of roles including Finance Director before being appointed Managing Director in 2007. Since then he has driven considerable growth for **PMES** as well as managing its move to a new purpose-built facility in Rugeley. He also led the acquisition of Transmag in 2010.



all in a good cause

# Children In Need fund raising event

Children In Need is one of the highest profile fund raising events in the UK. It began as a Christmas Day radio broadcast appeal in 1927 and progressed to television in 1955 as Children's Hour Christmas Appeal.

In 1980 the appeal was broadcast on BBC One in a new telethon format which continues today, but has moved to November each year and has grown to a whole evening on television. 2010 was the 30th BBC Children in Need Appeal and a record breaking £39 million was raised. Funds raised support fantastic projects which aim to help make positive changes to the lives of disadvantaged children and young people in the UK. Several Ultra businesses held events to raise funds to help:



**Airport Systems** enthusiastic employees and generous suppliers worked hard to raise £3,087 for the 2010 BBC Children in Need Appeal. Leading up to Children In Need day, staff members donated time and effort to cooking buns, cakes, biscuits and many other items, which were sold in the kitchen to hungry colleagues. There was also a 'Smarties tube challenge' where staff members were given a tube of Smarties and encouraged to eat the Smarties and then fill the tube up with change over a period of a few weeks.

On Children in Need Day itself, a fancy dress competition and raffle were held. Prizes for both were generously donated by suppliers including: K-Com, ATPi, Epson, Motorola, IBM, IER, Intermec, NCR, Pioneer, The Book People, Strong and Herd and even the office car valet service and sandwich service joined in.

**Airport Systems** is proud to continue to donate to BBC Children in Need, and are already busy planning the 2011 campaign.

A number of suspect staff, mostly engineers, took advantage of the management offer at **Electrics** of an extra dress down day to support Children in Need. An extra twist was added by specifying a loud/bad taste shirt contest. The contest seemed to attract a fishy/floral theme but the clear winner, by mutual aversion of eyes, was Terry Cox who won a bottle of wine to share in sympathy with his friends. A collection by the staff at **Electrics** raised £335 which was then added to by the management for a total donation of £700.

**PMES** held a bake sale in aid of Children In Need. Employees donated home baked goods which were then sold. This raised a creditable total of £554.17 for Children in Need.



## Flightline staff swim for charity

Last summer, two brave engineers from **Flightline** took part in a lake swim in aid of the Ontario-Yates Hospice. Rob Mahar and Gerard Quinta made the swim across Canandaigua Lake, supported by Joe Andrijenko paddling a kayak as escort. Conditions were pretty tough with a steady wind from the South, but everyone made it across. Thanks to all that contributed, this year a total of \$253 was collected.



## Manufacturing & Card Systems team grows facial fuzz for charity

A group of fundraisers from **Manufacturing & Card Systems** went furry-lipped for the month of November in support of the 'Movember' charity event for the Prostate Cancer Charity.

Organiser Nathan Boissé (sporting the wonderful moustache, or 'mo', third from right) said 'I didn't know much about moustaches and I also didn't know much about prostate cancer. Movember helped me to learn about both whilst raising money for an excellent cause and cultivating the most gentlemanly mo.' The team raised a total of £922 for the charity, which was matched by Ultra for a total donation of nearly £2,000.







## against the clock

In this issue, **Bob, Mike** and **Kristina** spend 60 seconds with UltraNews, sharing random facts about their careers and personal lives...



### Bob Henry

**Head Office** – Mergers & Acquisitions Director

I have been with Ultra for 12 years, previously serving 26 years with the Royal Air Force. I started as General Sales Manager with the **Sonar & Communication Systems** business and held various marketing and strategy roles before moving to full time acquisitions work.

**1. What talent do you wish you had?**

Playing a musical instrument – I did concerts as a child on four types of recorder but played by numbers and never moved on.

**2. What is your greatest achievement?**

No single event, but I am proud to have had a successful and diverse 26 year career in the RAF followed by the opportunity to address new challenges in a commercial sector in a Company that I believe in. Somewhere along the way I also acquired a wife, two children and an adorable dog.

**3. What scares you the most and why?**

Mrs Henry - a fearsome lady!

**4. What was the last sporting activity you took part in?**

Golf, golf and more golf. The last significant event was the Stag weekend of my future son-in-law. It was good to meet his friends and I enjoyed the weekend. However, what I saw on a Saturday night in Bristol seemed to come straight out of a TV documentary. I was truly shocked!

**5. Did you pass your driving test first time?**

No – 'not making sufficient progress' caused a re-sit. I was less cautious and successful next time out. Looking back, I only really learned to drive after I passed but I am now enjoying a clear late-life crisis in a sports car before it's too late.

**6. What was the best vacation you ever had?**

Two weeks boating on the Canal du Midi in France. The cheese and wine were divine.

**7. What was the last film to saw at the movies? Did you enjoy it?**

The King's Speech. I went to see it in New York following a recommendation from Ultra's lawyers, Kaye Scholer. Excellent movie, although I thought Helena Bonham Carter should have had a bigger role.



### Mike Clayton

**Command & Control Systems** – MD

I have been with Ultra for 12 years. I joined as CBU Manager at **Command & Control Systems**, Loudwater, then CBU Director. I was promoted to Managing Director in 2006.

**1. What was your very first job?**

I used to work weekends in a car spares shop with a friend of mine. As 13 year olds, we used to fit wheels and tyres to peoples cars. That's where I learned that you can put a lit match out in a bowl of petrol!

**2. When at school, what did you want to be when you grew up?**

My two first choices were to join the Army or to follow my father into the Police. I was rejected for both for being colour blind.

**3. How many times have you moved house?**

Seven times, I was born in central London and been on a steady march West ever since.

**4. What's the most decadent treat to yourself?**

Apart from my extensive gun collection, which I add to quite regularly, I recently bought an England rugby shirt signed by all of the 2003 World Cup winning team.

**5. Which sport team do you support? How are they doing this season?**

When I was young, I followed Leeds United. Now I have pretty much dropped football in favour of rugby. Although not a club fan, I'm a passionate England supporter.

**6. What CD are you listening to in the car?**

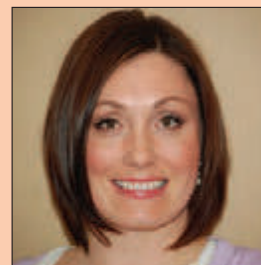
'A hangover you don't deserve' by Bowling for Soup! They are an American band that I first saw on MTV during a trip to the States. I like songs that tell a story and Bowling for Soup always make me laugh.

**7. Where in the world is your best friend? How long have you known him/her?**

My friend Stuart lives in Kings Langley, we have known each other for 26 years. In the 1980s we started a software company together which he still runs.

**8. 10. Name three things you would take with you to a desert island**

A boat would seem like a good option but as I get terribly seasick I guess; my wife, my ipod, a rifle.



### Kristina Milner

**Maritime Systems** – Contracts Manager

I have been working at Ultra since July 2008. Prior to moving to Nova Scotia, I worked for a division of Raytheon in Midland, Ontario for eight years. I worked as a product manager for my first four years with Raytheon and then moved to the contracts & export compliance department for my last four years there.

**1. What do you think is the single best decision you've made in your life so far?**

Every great thing about my life can be traced back to my decision to study engineering at university. During my engineering work term, I met the man I would later marry and we now have two great children. My husband's work brought us out to Nova Scotia and shortly after moving here I found a job at Ultra. Halifax is one of the best places to live and I'm delighted that I've ended up here, which wouldn't have happened if I hadn't studied engineering.

**2. What is your happiest childhood memory?**

A long time ago, being inducted into the Order of the Arrow, a special outdoor skills group of the Boy Scouts. More recently, being appointed to the Board and Vice President of the local chapter of ISPE (International Society of Pharmaceutical Engineers).

**3. If you could open your own business what would it be?**

I would like to open a music school for children. I was fortunate to always have wonderful piano teachers who fostered a life-long love of music and I would like to have the opportunity to do the same for young children.

**4. Name three things in nature you find most beautiful?**

Maple trees in the fall. Early morning fog over the ocean and the night sky in the winter.

**5. What is the weirdest food you have ever tried? Did you like it?**

During university I went on a backpacking trip through Australia for a couple of weeks and had barbecued kangaroo while on a ranch in the middle of nowhere. It was burned to a crisp on the outside and raw on the inside. Although it was edible, it was not tasty so my vote would be not to eat kangaroo again!

seconds



# and finally...



## Tri, tri, tri again!

Paul Van Gangelen, Technical Officer at **Avalon Systems**, has continued his amazing run of success in competitive triathlons since winning gold in the South Australian State Masters in 2004. Competing in the 55-59 age classification, Paul took line honours in the Australia Day Triathlon held in Adelaide in January. Paul took just over an hour to complete the 400m swim, 18km cycle, 4km run event and has since followed up his success with a strong second in the EFM Triathlon challenge. An avid runner by preference, Paul has won his age group in the local corporate cup a remarkable eight times.

## SUPERFANS



In October 2010, Jeni Snoddy, the Inventory & Materials Controller at **Command & Control Systems**, Loudwater, and her husband Paul were crowned "Superfans" at the glittering Northwest Football Awards ceremony. Up against 21 other supporters of all the professional League Clubs in the North West of England,

Jeni and Paul took the award in recognition of their dedicated support of Oldham Athletic Football Club. Attending a home game is no mean feat as Jeni and Paul live 200 miles from the Oldham Athletic ground, Boundary Park. They travel 15,000 miles every year following the team around the country attending every home and away game. Even their annual holiday is carefully booked so as not to clash with a match. The family dog, Thomas, also makes the journey up to Oldham where he spends the day at his favourite kennels whilst his owners support their club. After winning, Jeni and Paul were elevated to celebrity status, being interviewed on local radio station Key 103 & BBC Radio Manchester. They were presented with a trophy and had next years season tickets paid for.

## Recreating an UK/US collaboration



In January, David Astle, a Mechanical Engineer at **Controls** in Cambridge, took delivery of a kit of parts to build a replica of the classic AC Cobra muscle car of the 1960's. The kit uses parts from a Jaguar but the original car was a collaboration of UK company AC Cars and US

racing driver Carol Shelby, who had sourced a larger Ford V8 engine. David hopes to complete the car over the next 18 months although thinks the challenge will be harder than he expected!



## National Champion



Late last summer Martin Pankhurst, Engineering Specialist at **Controls**, Cambridge, won the team-of-four English Bowling Championship. Martin, who has played competitive bowls for over 23 years, first needed to win the Cambridgeshire County title to qualify for the National competition. Martin's team (Martin is pictured here holding the trophy with his three teammates) is now eligible to represent England at this year's British Isle Championships in Edinburgh this summer.

## Manufacturing & Card Systems FC



Since forming a football team in 2009 in response to a challenge from one of its biggest customers, Meggitt Avionics, **Manufacturing & Card Systems (M&CS)** football team has yet to be beaten. In the latest match in November 2010, Graphic PLC travelled to Weymouth for a return fixture following a narrow 2-1 win for **M&CS** in the spring. After receiving a 'fighting-talk' email from Graphic, **M&CS** was hyped up for this game. Graphic were made to eat their words, as the match finished 6-2 in **M&CS** favour. So, **Manufacturing & Card Systems FC** remains an unbeaten side. Who dares play them?

## Time out!

Time out during a business trip is rare, but two Ultra travellers were able to indulge in sporting events while overseas. During IDEX in Abu Dhabi (reported on page 8), Mark Craster, **Sonar Systems**, took advantage of the Yas Marina Grand Prix track being open to the public for running and cycling. A former national runner in his home country of South Africa, Mark added running the Yas Marina circuit to his list of 'things you don't expect to do'. Meanwhile, Suzanne Birch, **Ultra Electronics Australia**, has taken to the skies again. Following a sky diving experience in Sydney reported back in 2008, Suzanne took advantage of the opportunity earlier this year to take flight in a DHC-1 Chipmunk 22 training aircraft; the standard post-war primary trainer for both Canadian and Royal Air Forces. Whilst the full acrobatic capability of the 'Chippie' tandem, two seat, single engine aircraft was demonstrated during the flight, fortunately on this occasion no parachutes were required.



## feedback

As Ultra's new Communications Manager, I have been given the responsibility of editing **UltraNews**. This magazine is a fantastic way to communicate the breadth, diversity and good work that exists in all of the Ultra businesses. As the Group continues to grow, clear internal and external communication is vital. I hope you enjoy this edition of **UltraNews**. I'd be delighted to hear your feedback about how we can continue to improve **UltraNews** in the future.

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# UltraNews

## Oman takes off!

**Airport Systems** wins contract for Oman's Muscat and Salah International Airports  
read more on **page 6**



## Cyber security

An **opportunity** and a **threat**

## Hurrah!

Ultra acquires AEP Networks  
Bob Henry tells us how

## Making a difference

- Phil Evans on the Ultra **culture**
- Keith Thomson on Ultra's **talent**
- **Audacity Fund**



**Ultra**  
ELECTRONICS



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Cover image:  
An artist's impression of  
Salalah International Airport

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"Essentially, we seek like-minded, entrepreneurial businesses that add to, or complement, Ultra's existing niches."

# To buy not to

The **why, what, how, d'oh** and **hurr**

Ever since Ultra was created in its current form in 1993, acquisitions have played a key role in the Group's development. In fact, it was an acquisition that triggered the chain of events that led to the formation of Ultra in the first place.

In 1992, the Dowty Group was acquired by Tube Investments (TI). Owing to its lack of interest in electronics, TI agreed to the seven UK businesses that made up Dowty Electronics breaking away via a management buy-out. These businesses became Ultra Electronics and the rest is history.

Since then, and even more so following the Group's floatation on the London Stock Exchange in 1996, an underlying goal has been to achieve double-digit growth in order to provide an excellent return to Ultra's shareholders. This determination to grow remains undiminished. However, it would be unrealistic to expect to achieve this growth every year entirely through organic means. Therefore we try to top up our organic growth by acquiring other businesses in selected market areas.

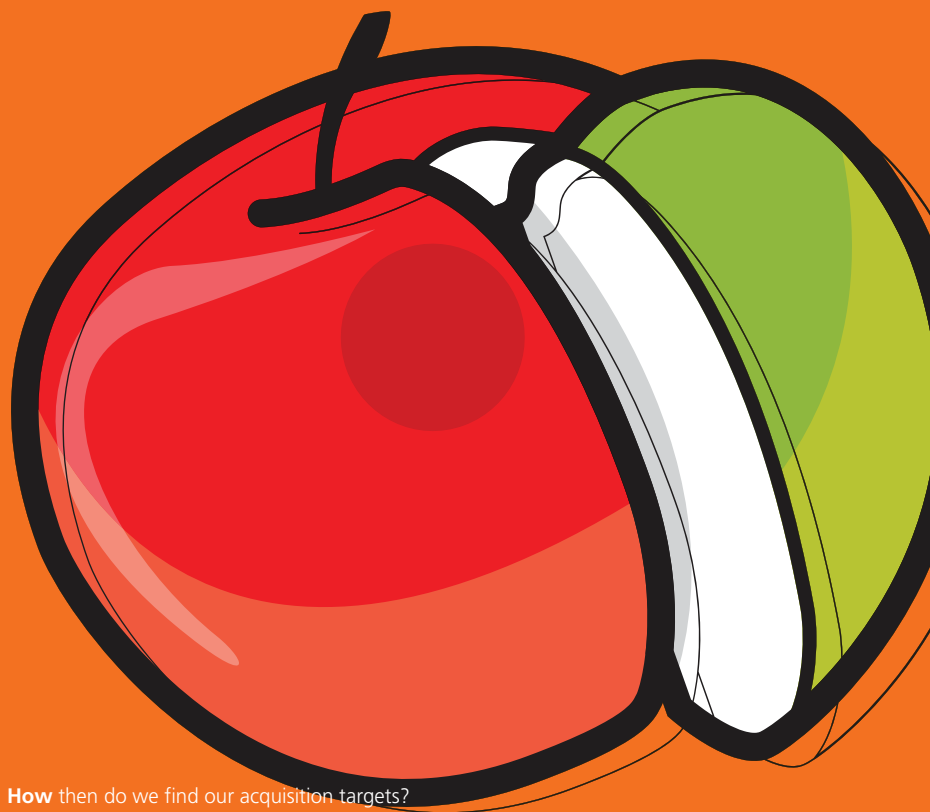
To date, we have added 43 companies to the Ultra family which, after consolidations, gives us our current 26 distinct operating businesses, with an increasing international presence. Thus, the answer to the question of **why** we acquire is embedded in our vision and our ambition to grow and to deliver double-digit growth in earnings per share to our shareholders.



## Bob Henry Mergers & Acquisitions Director

# or buy?

## ah of buying companies



So **what** are we looking for in acquisitions? Essentially, we seek like-minded, entrepreneurial businesses that add to, or complement, Ultra's existing niches. Usually, they should have a sustainable competitive advantage in their market areas and have a track record of growth and profitability. There are, of course, exceptions. **AMI** for example is a very 'young' business; however we saw the potential of its innovative fuel cell technology and decided to make a move earlier in the business cycle than we usually would for fear of others getting there first. The **AMI** deal was a testament to Ultra's agile nature and its speed of response in a fast moving environment.

Normally, potential acquisitions will be in market segments that we have identified as growth areas. These currently include: battlespace IT; cyber security; sub-systems for manned and unmanned platforms; civil aerospace and transport; energy; and homeland security. Geographically, they will be located in our existing markets of North America, the UK and Australia, but we will also consider opportunities in continental Europe as well as emerging markets (Brazil for example) on a case by case basis. For countries new to Ultra, an acquisition would normally follow a major programme win; helping to support the execution of the programme, supporting efforts to secure additional wins and to enhance our regional profile.

Smaller acquisitions that 'bolt-in' to existing Ultra businesses would normally cost up to £15m. For larger 'bolt-on' acquisitions we would be prepared to pay up to about £100m. An individual acquisition above £100m is unlikely as the risks to Ultra are considered too high above that level and the size of such a business is likely to bring unwelcome cultural challenges during integration. However, we would 'never say never' and judge every potential opportunity on its own merits.

**How** then do we find our acquisition targets?

The first source is from the people within our existing businesses. They know our markets, the key technologies, players, future trends and needs and so are able to bring forward candidates for acquisition, not only in their domain but also other areas relevant to Ultra. These can include: existing suppliers (e.g. Extec and Transmag); teaming partners (e.g. Flightline Systems, Maritime Systems and Dascam); competitors (e.g. USSI) and quality businesses we already knew of in existing markets (e.g. Scytale).

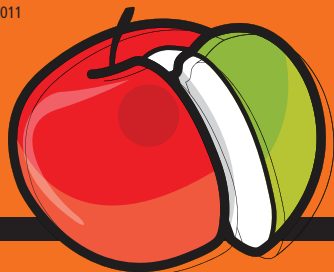
The next source is from the bankers and brokers that sell companies, usually through an auction process. We maintain regular contact with over 30 such organisations to brief them on our ideal acquisition criteria. They, in turn, look for and introduce us to suitable companies that meet these criteria. Normally, we will then compete with other trade and institutional buyers in an effort to secure a period of exclusivity to negotiate a final deal. Sellers do not simply focus on the highest price during these auctions and we rely on our reputation and management style to give us additional differentiation during the process of becoming the preferred buyer. Many acquisitions have been secured in this way including some of the recent acquisitions such as **3eTi**, **AMI** and **AEP Networks**.

Finally, there are those that come from open prospecting. Here we use trade shows, the internet, industry knowledge, general media and directed searches by a consultant to help us identify potential targets. After basic research, we will then approach the company directly, or via a third party, to see if we can get a meeting to start a dialogue. Examples here include **NSPI** and **Avalon**.

"Currently we're interested in: battlespace IT, cyber security, sub-systems for manned and unmanned platforms, civil aerospace, energy and homeland security."

continued on next page...





### To buy or not to buy? (continued from page 3)

We do not decide what to buy in isolation at the Group level and so a key requirement for any acquisition is to have an Ultra sponsor with a vision for the future and the determination to be successful with the purchase and its integration. For a bolt-in acquisition this will normally be the business that will 'own' the target company after the purchase. For larger bolt-on acquisitions, it will normally be the Divisional Managing Director or President, often supported by personnel from within the division. These sponsors prepare the business case for the acquisition, lead the commercial due diligence, plan the integration and, ultimately, are responsible for the business post acquisition.

Do we always get it right? Frankly, no – we've had a few **D'oh** moments over the years. While our reputation for acquisition work is very good and our track record is widely regarded as strong and successful, inevitably, some acquisitions have been more successful than others. Over the years, we have had some difficult experiences and learnt some lessons the hard way. Here I would include: Audiopack, where we lost key management players early on; Dascam, where we had to re-balance our operations with our joint venture partner; and **ProLogic** where we misjudged their ability to operate without a Proxy Board. These setbacks caused some pain but we have never sold a business that we have previously acquired. As a long-term investor, we are prepared to stay the course to help new businesses establish themselves under the Ultra banner. The Audiopack products are now successfully integrated at **USSI**, our Al Shaheen JV in the United Arab Emirates is growing quickly and **ProLogic** has been re-invigorated under our US Proxy Board. Lessons are learned from past experiences, and we continue to develop our processes and controls to mitigate risk and improve the speed and effectiveness of our integration activities.

And so we come to the final **hurrah**. Ultra continues to augment organic growth with successful, long-term acquisition based growth. Every year we review over 200 opportunities and we maintain a watching brief on about 50 companies of interest. Inevitably, our spend profile is not linear but, on average, we expect to be able to spend about £100m each year on new businesses – a figure that even the world's richest sports teams would love to have to spend on new players every season! 2011 is proving to be a much stronger year for our acquisition activities and, having completed the **AMI** and **3eTI** deals at the turn of the year, we have now completed a deal for **AEP Networks** for up to \$75million based on its performance at the end of 2011.

"To date, we have added 43 companies to the Ultra family which, after consolidations, gives us our current 26 distinct operating businesses, with an increasing international presence."

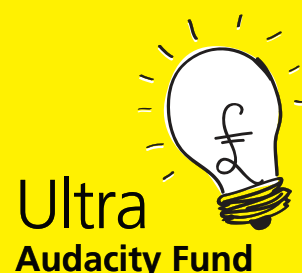
## Behaviour

# think





# BIG!



## audacious ideas wanted.

Imagine coming in to the office and working on your own idea with the financial backing to turn it into reality! That's where Ultra's **Audacity Fund** comes in.

If you have a truly innovative idea which will improve our products or services, solve a customer's problem or could result in a new business opportunity for the Group, then there's a pot of money available to back **you**. £500,000 (or \$750,000) has been set aside to award to innovators from within the Group to help them get their ideas off the ground.

The window for proposals is open until the end of November and proposals should be sent to Tom Caster, Group Communications Manager, at: [tom.caster@ultra-electronics.com](mailto:tom.caster@ultra-electronics.com)

The proposal does not need to be a major thesis and, whilst we want you to explain your idea as best you can, we won't be judging the artistic merit of the proposal documents. There isn't a set format to use, however you should provide and answer the following:

1. A brief synopsis of your idea
2. How much funding would you like to apply for?
3. How will you spend the money?
4. What stage gates will you use to measure the project's progression?

Once the window for applications closes, Tom will send all of the proposals to:

**Alan Barker** – President, Ultra Electronics, Tactical Systems;

**Phil Evans** – Managing Director, Ultra Electronics, Aircraft & Vehicle Systems;

**Carlos Santiago** – President, Ultra Electronics, Sonar & Undersea Systems; and

**Graeme Stacey** – Managing Director, Ultra Electronics, Information & Power Systems.

The four Divisional Managing Directors/Presidents will be the evaluation group that will decide which ideas will be awarded what funding.

Of the £500,000 (\$750,000) in the fund, we plan to give one award of up to £100,000 (\$150,000) to fund what is considered to be the best idea with the greatest chance of developing successfully. The remaining £400,000 (\$600,000) will be given out in awards of up to £50,000 (\$75,000). However, we don't wish to discourage applications that require less funding. It's the idea that counts not the amount being sought.

So get your thinking cap on. We want brand new ideas that aren't already being funded. **It's an opportunity for you really to make a difference!**



## Culture

Phil Evans Managing Director Aircraft &amp; Vehicle Systems

# What makes Ultra different?

Whenever we talk to customers, partners, investors or analysts, one message comes through in every conversation. There's something **different** about Ultra.

Not many are able to describe what it is that's different about us, but they value it. For our customers it's not just great products or solutions; for our partners it's more than the fun they have working with us; for the investor community it's more than just financial returns. So what is it?

Partly it relates to Ultra's values and culture. We have talked about Ultra businesses making a difference and individuals within Ultra making a difference. We've talked at length about LEAP (Leadership, Entrepreneurship, Audacity and Paranoia) as being at the heart of the way we want our people and businesses to think and act. Our values are captured in Ultra's eighth strategic tenet, 'meeting our commitments', doing what we say we're going to do and delivering to our internal and external customers. But even these are not enough.

What really makes Ultra different is you – and your contribution to the business. So how do we make sure that our business structure and management approach enable you to do just that? The answer lies in recognising what makes working at Ultra different, and better, than elsewhere. We've identified three important factors;

## Mastery

This is all about being good at what we do. Training and development are clearly important, but there is a responsibility on each of us to drive that forward. Most of us do it all the time in our day to day lives; playing a musical instrument or participating in sports for example. We train and practice to perform better, run faster, set a new personal best – we all devote significant amounts of our free time to getting better at something. Each of us naturally wants to improve our performance and/or capability; we need to harness that and align it with the business's goals.

## Self-direction

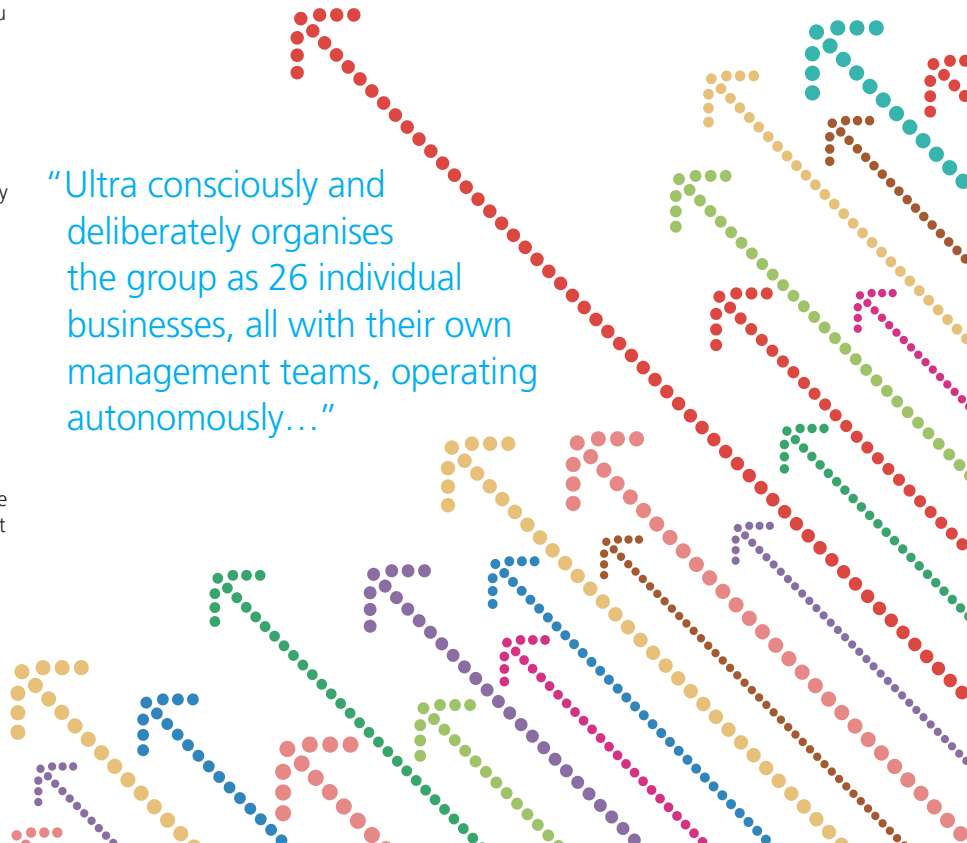
Most of us know what needs doing to get the job done – a combination of training and experience sees to that. What we don't enjoy is being micro-managed. The key is to ensure that everyone knows what needs to be achieved, and by when – then get out of the way and let the team get on with it. Each of us wants to manage the way we work and how we schedule our activities to ensure timescales and quality standards are met; at the business level, we need to ensure that the right resources (people, tools, facilities etc.) are in place to support that. Progress needs to be monitored, but being able to define the way that we work is important to us and to our sense of job satisfaction.

## Sense of purpose

The first two only work if what we're doing fits into a bigger plan, and we can clearly see how our contribution supports the broader objective. Ultra consciously and deliberately organises the group as 26 individual businesses, all with their own management teams, operating autonomously; by doing so, everyone in the business can see and understand the vision for where the business is going, and how each of us contributes to that goal. The management teams in every business must ensure that its vision is communicated to everyone and that everyone can see their part in delivering it.

Ultra will only continue to be 'different' if we make sure that you can make it different. The challenge is for management teams in every business to enable each employee to maximise their contribution to sustaining those differences that are critical to our success.

"Ultra consciously and deliberately organises the group as 26 individual businesses, all with their own management teams, operating autonomously..."







**Keith Thomson** Group Human Resources Director

# Talented people make a difference

It might sound obvious but our ability to be agile and deliver the solutions customers want relies on having great people. Ultra has been committed to developing people ever since it was formed in 1993.

This article describes some of the varied external programmes that are helping us to attract people as well as encouraging students in general to develop careers in engineering or business.

It all starts with schools and a number of businesses have formed special relationships with schools in their surrounding communities. **CIS** has worked with Greenford High School, hosting company visits, helping with the school science fair and, along with **PALS** and AudioSoft, providing work experience. **CIS** this year provided a real-life work project for Mohammed Hafez, who had won a Nuffield science bursary. Mohammed worked under the guidance of Andy Cambridge and was able to stack and align individual video image frames to produce a composite image with increased sharpness and quality which has real applications within the business for reconnaissance. **MSI** teamed up with a technical school teacher under a formal 'externship' programme; the teacher spent time at **MSI** understanding real world needs and projects so he could integrate them into the school curriculum.



Ultra has sponsored six students through their last two years at school as part of the Arkwright Scholarship programme in the UK. This provides students with support and mentoring during their studies and one student, Nicholas Roberts from **PALS**, has now been sponsored on an engineering degree course at the University of Nottingham.

Following school, many students start an apprenticeship and Ultra businesses such as **PALS** and **Command & Control Systems** have well established, successful programmes. In 2010, **PMES** took on four apprentices in partnership with a local college and will take on two more in 2011. You can read about what some of the apprentices at **Command & Control Systems** have been getting up to on page 31.

Forming relationships with universities and students is really important for finding talent for the future and most Ultra businesses operate one or more programmes, including **ATS** and **ProLogic**. Most common are opportunities for students to work on real projects in the business and these come under a number of titles including work placement, co-op programmes and internships. In Canada, **TCS** has had 18 co-op students since 2010 and **Maritime Systems** takes 4-6 co-op students every four months. These are not just engineering or science students either but include a far broader range including finance (**MSI**), marketing (**TCS**) and HR (**PMES**).

Government-funded Knowledge Transfer Partnerships in the UK have been a real success at a number of businesses. The programme helps exploit university networks and resources. A KTP student from the University of the West of England at **PALS** worked on a two-year project to design a smaller, lighter and cheaper compressor resulting in prototype hardware.

**ProLogic** and **Ocean Systems** have worked together on an innovative programme to sponsor an extern at the Massachusetts Institute of Technology (MIT).

Ultra businesses also work at the post-graduate level. For example, Alex Tarter (the Group's Cyber Security technical lead) gained his PhD while working at **CIS** and has now transferred to **TCS** while **Maritime Systems** has a two-year Natural Sciences and Engineering Research Council of Canada (NSERC) post-doctoral engineer specialising in underground communications working in the product R&D team.

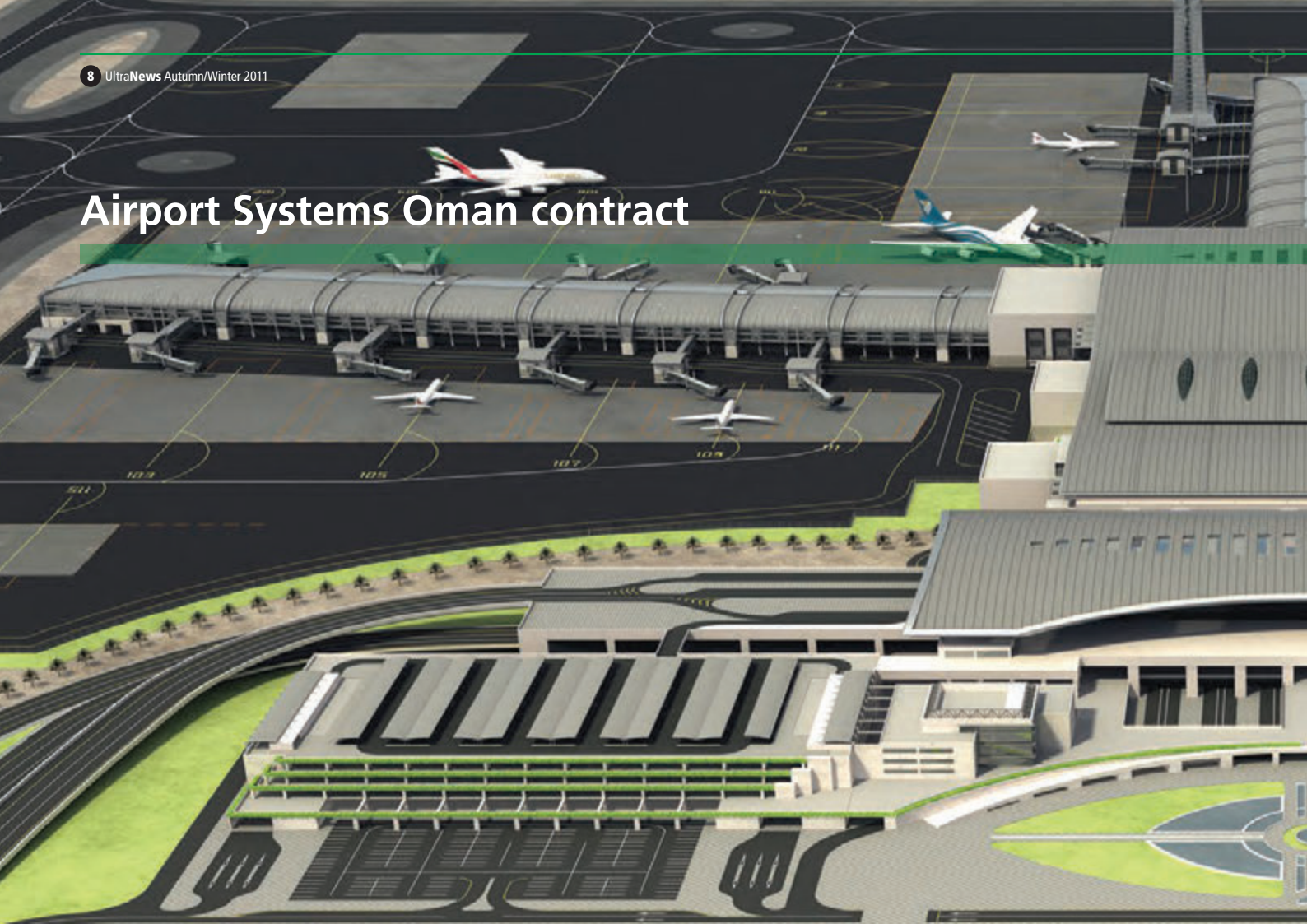
Links with universities are seen as really important. There are many reasons for this, such as getting access to leading research, developing relationships with students who may ultimately join Ultra and also as a good employer providing universities with a link to business. For example, **USSI** has worked with the University of Indiana to develop systems engineering training. **TCS** has sponsored a professorial chair in high performance wireless emergency tactical communications with Professor Gagnon in a relationship dating back to 2001. This has now moved from a private chair to a NSERC chair. **Maritime Systems** will also have a NSERC post-doctoral chair at Dalhousie University later this year in the field of signal processing and communications with specific research interests in low frequency electromagnetic communication and in underwater acoustics.

Talented people will continue to make a difference at Ultra. This wide variety of activities will help ensure Ultra continues to build a pool of talented people who can make a difference to our businesses and our customers. Ultra also remains committed to fulfilling its corporate responsibility in the areas of development and learning.



This article describes some of the varied external programmes that are helping us to attract people as well as encouraging students in general to develop careers in engineering or business.

## Airport Systems Oman contract



Main image: Artist impression of Muscat International Airport from the air

# Oman takes off!

In early July, following a pursuit of more than three years, **Airport Systems** finally won the Master Systems Integrator (MSI) contract for Muscat and Salalah International Airports in the Sultanate of Oman. At over £207m (US\$ 321m) this is, by some distance, the largest contract Ultra has ever won.

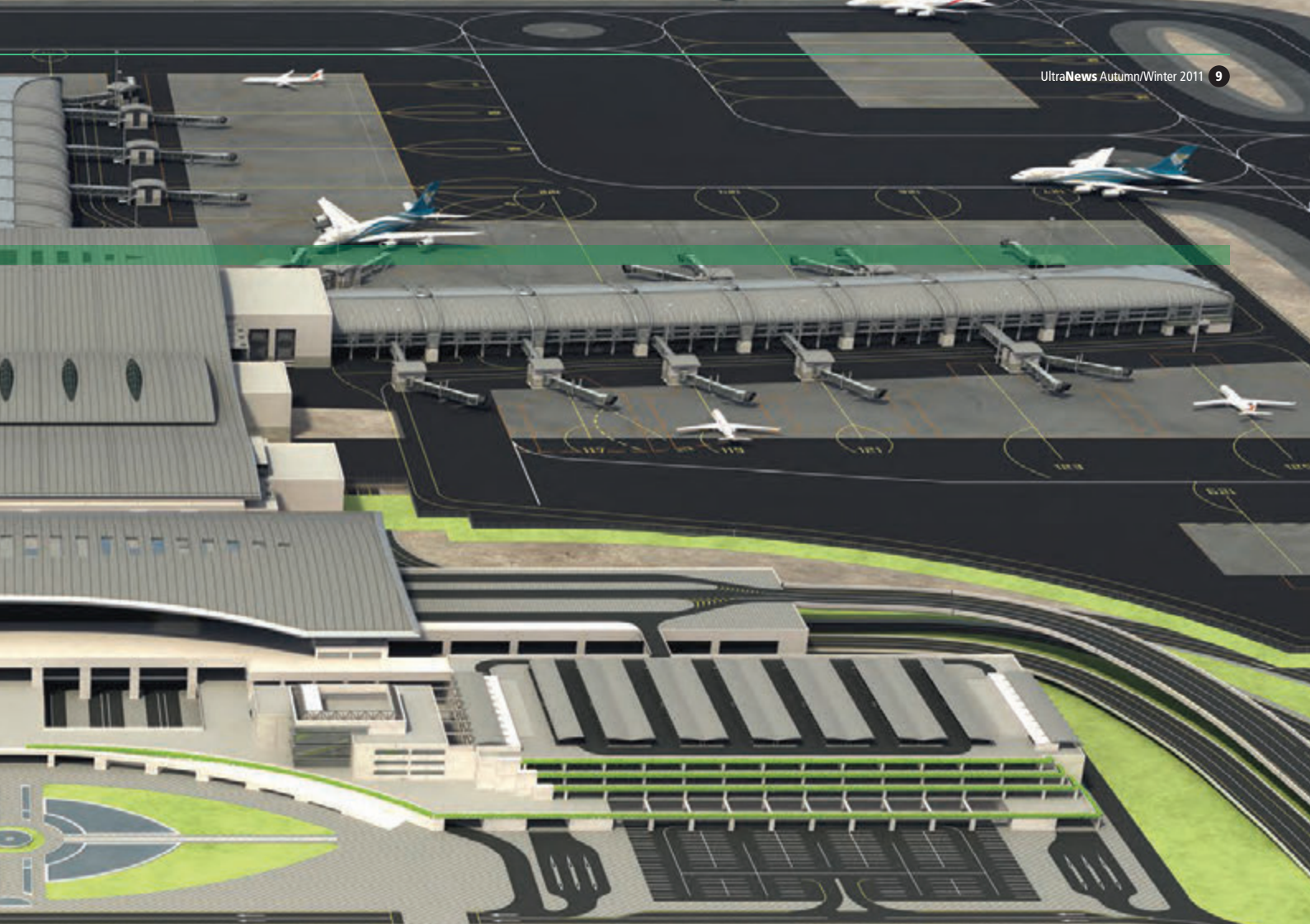
The bid competition was fierce with Thales of France and Siemens of Germany being the main competitors at the final stages and each making very strong bids. It took many long hours from the dedicated bid team and many others from Airport Systems to get our bid across the winning line.

Since receiving the 'Letter of Award' from the Omani Government Ministry of Transport and Communication, there has been no time for celebration or relaxation. On the contrary the good news of the successful award was tinged with a real challenge as it specified a 'Notice to Commence' within 7 days. A tight schedule (many would say impossible) under any normal circumstances, but add the complications of daytime temperatures between 40 and 50 degrees Centigrade (110-120 degrees Fahrenheit) plus accommodating the religious observances associated with the month of Ramadan, then the Eid holidays, the challenge to get up-and-running was very real!



Artist impressions of the emigration hall (top) and immigration hall (bottom) at Muscat International Airport





#### So just where are we today?

Well, we have known for some time what we need to deliver – in a nutshell it's supplying and installing all the electronic infrastructure, IT, communication and security systems for the terminals at Muscat and Salalah international airports to facilitate their growth to 48m and 10m passengers per annum respectively. The programme has numerous critical milestones along the way but delivery is projected to be completed by 2014 followed by a year's operational maintenance and warranty.

Through **Airport Systems**, Ultra will be supplying and delivering much of its own in-house IT systems and software; product that has been proven in many of the world's other airports. In addition, a world-class supply chain has been assembled beneath Ultra including NCR and Cisco for networks, Tyco for security systems and the Spanish group Indra for control room and training facilities; Cap Gemini, Ernst & Young, Smiths Detection and iD1 are also adding their weight to the Ultra solution.

The delivery team is strongly supported by a Project Management Office headed by Turner & Townsend and the design interface and stakeholder management is led by FirstCo. **Airport Systems** has worked with personnel from both organisations in the past, particularly on the projects at London Heathrow T5 and also Dublin, and has already developed a close working relationship which will be used on other projects in the future.

The experience of Ultra's world-class team was fully recognised by the Omani Government, their Ministry and their consultancy advisers. Ultra also placed an emphasis of 'Omanisation' and the creation of job opportunities for Omanis at the heart of its bid. This has already taken root with the employment of its first Omanis, including the Head of HR & Admin, and the beginning of a graduate training programme.

#### How are we going to deliver the programme?

We have established a local company in Muscat, Ultra Electronics, **Airport Systems (Middle East) LLC**, with our in-country partner, Oman Investment Corporation. The company has been registered, offices have been leased and personnel from Ultra and its supply chain partners are now firmly established in Oman. The first key deliverable of having the offices established and key design leads based in Muscat from 3rd September was achieved. In fact, over 30 employees were onsite in Oman within 12 weeks of winning the contract.

We are now focusing on achieving the next key milestones that include construction of our site offices and achieving preliminary design approvals. To achieve this, we are recruiting both Omanis and expats for many different roles in Oman, including design, delivery and project management roles. In the meantime, many of the **Airport Systems** team continue to support the mobilisation of the dedicated team in Oman. If you are interested in a role based in Oman, please do not hesitate to contact Julian Snell, the HR Manager for the mobilisation period based in Muscat at [julian.snell@ultra-as.com](mailto:julian.snell@ultra-as.com).

**Watch out for more news from Muscat as we complete the mobilisation programme and enter into detailed design and delivery.**



Artist impressions of the baggage hall at Muscat International Airport (top) and the Check-In Counters at Salalah International Airport (bottom)

**"...in a nutshell, it's supplying and installing all the electronic infrastructure, IT, communication and security systems for the terminals at Muscat and Salalah international airports..."**



"In the UK, the government estimates that £27bn is being lost in government, industry and civilian assets each year to cyber crime."

## Security

# Cyber security

An **opportunity** and a **threat**



In the decade since 9/11 we have heard about many types of security; homeland security; border security; airport security. Recently, however, we have begun to hear about another kind; cyber security.

In the UK, the government estimates that £27bn is being lost in government, industry and civilian assets each year to cyber crime. GCHQ, the UK government agency responsible for cyber security, has reported that the UK government gets 20,000 attacks each month. 1,000 are targeted to specific individuals who can be openly researched on the web. To show how seriously the UK government is taking this, the Prime Minister has committed an extra £650M on top of an already significant spend in this market, despite cuts of up to 25% across other government departments. Under his 'prosperity agenda', the PM wants to make the UK one of the safest nations for the world to invest in.

To try and capture revenues from this growth market, Ultra has introduced a Group 'cyber security strategy.' This is an initiative to grow substantially the business in the cyber security market as a proportion of total turnover.

**So what is cyber?** Traditionally, cyber is seen as anything internet-related and cyber security is simply securing the internet – or hardening the networks that it runs on. In effect the cyber market extends to anything that has a computer that in some way connects to the interconnected worldwide networks. This includes programmable logic controllers (PLCs) and USB memory sticks at one end of the market to the World Wide Web at the other end. When the US Defense labs in DARPA first looked to create a network that would be

able to survive a nuclear first strike and Tim Berners-Lee first connected computers for academics to share knowledge at CERN, they could not have envisaged what we use the World Wide Web for today. The problems associated with this incredible revolution, that touches every part of our modern lives, is that the internet is driven by utility not security and that leaves it open to attack.



The internet we use today is huge and still growing, with an estimated 10 billion or more indexed webpages. Devices that use the internet to help us communicate across the globe or entertain us whilst travelling the globe are fast becoming indispensable in our lives. Just look at the growth of 'apps' over the last three years – there are over half a million apps available today, a number that is growing by 200,000 in 2011. The threat may be a 'hactivist' in his bedroom breaking in to networks for fun; cyber criminals looking to raid a bank with nothing more than a keyboard and mouse; terrorists that want to shock the world into seeing things their way or, even more scary, a nation state that wants to do harm on a massive scale to another nation. All of these people want to exploit the inherent weaknesses of what is a massive technological web comprising millions of individual components.



Now all this may all sound a little dramatic but some facts are in the public domain. It was widely reported in 2010 that as far back as 1982 a 'logic bomb' (malicious computer code) was placed in programmable logic controllers that were used in the pumps of a gas pipeline so that on issuing a command, the system, that should have been closed loop, in fact went open loop resulting in the largest non-nuclear explosion in the history of mankind. It is also widely reported that over twenty nations have an active capability in cyber warfare and that creates a significant market for cyber defence. After all, one of the first measures in war is to remove the ability of the adversary to communicate. The ability to do this over the internet without actually launching a physical attack is extremely attractive. The big issue now is how does the victim of such an 'attack' respond? Through conventional means? If so, what would happen if they retaliated against the wrong people? Industrial espionage in the form of cyber attacks has also become a real life, daily occurrence for some. Search Google for 'Shady RAT' to see how much cyber activity goes on today to steal intellectual property.

**So how does a cyber attack happen?** There are many techniques that exploit weaknesses in computer networks. One is a denial of service attack in which many computers become infected by malicious code called 'botnets'. On triggering they systematically bombard target computer systems with so much traffic that the system falls over and cannot be used as intended. Attacks on Amazon, Visa and MasterCard by the 'Anonymous' group of hackers have all worked in this way. More dangerously, the Georgian government and military networks suffered similar attacks during its war with Russia in the summer of 2008, with the Russian security forces suspected of launching this action. So how does the

malware get there in the first place? I send you an email and make its title so appealing that you can't help but open the attachment. As it opens it places code on your machine that exploits vulnerabilities and now I have system manager access. Alternatively, I send you something on Facebook or LinkedIn that you open and now every time you transact with the internet by emailing or browsing you also send to my IP address the contents of your hard drive, a few unnoticed bits at a time. Or, I place a malicious piece of software on a USB stick, smuggle it into an office and wait for someone to pick it up and use it. The bug can now access the company network and infect the files I want to target.

You may think that the deep technical skill needed to expose vulnerabilities in our networks is just in the domain of 'geeks'. You may also believe that the virus checkers we use to protect our networks mean it cannot happen to us. The facts are that our adversaries work above the level of firewalls. They use these tools to ensure their particular vulnerability can get through them and they keep the techniques secret until the day they want to launch them.

Furthermore, there is significant evidence that these techniques are being commoditised. You now don't even need to know how to exploit the vulnerabilities; you just pull down a menu, choose a target and hit them.

All of these issues have created a significant market worldwide for information assurance and cyber security. GCHQ and the US National Security Agency (NSA) are the envy of the world in these areas, and Ultra has developed very close relationships with both. Ultra's deep technical capabilities combined with the Ultra culture of innovation and the Group's agile organisational model makes this market very attractive. The Group's cyber security strategy is predominately about adding to Ultra's existing capability through acquisition. The acquisition of **AEP Networks** is part of this initiative and a number of others are in the pipeline.

Ultra already has a successful track record in cyber security and information assurance ranging from **CIS's** and **AEP's** cryptographic systems with **ProLogic's** key management systems and Audiosoft's deep packet inspection products to **Command & Control Systems's** National Resilience Extranet and specialist network products from **3eTI, TCS** and **ATS**. Ultra is the only company outside the USA to provide high

grade crypto equipment, to secure information at the highest classification levels, to the US government. In the past year, **CIS** has been successful in winning significant contracts for the UK's cryptographic modernisation programme. The Group overall is providing integrated specialist security solutions across air, land, sea and cyber space.

If you want to know more you can go to the Group Intranet and download a cyber security brief that details many examples of cyber attacks and shows Ultra's capability in cyber security today and the

markets we are targeting. Furthermore we are looking for clever ideas in this space so if you have ideas or just an interest please contact [nigel.mackie@ultra-cis.com](mailto:nigel.mackie@ultra-cis.com) who is leading the Group cyber security strategy with support and advice from Colonel (Retired) John Doody and [alex.tarter@ultra-dne.com](mailto:alex.tarter@ultra-dne.com) who is the technical lead. This team was established at the beginning of 2011 to develop the Group cyber security strategy in this growing market.

So, is cyber security an opportunity or a threat? Well it is clearly a business opportunity and we are determined to grow our business in this sector. Please debate with your business leaders and contact the cyber security strategy team with any ideas you have for expanding the Group's cyber capability. However, cyber is also a threat. So be vigilant; if you receive a suspect email **do not** open it. Tell your IT team and please keep your work and your social use of the internet separate. We don't want to lose all of the great ideas our business is based on. If you want to read more on this subject, Richard Clarke's *Cyber Warfare* is a great place to start.

## Cyber

Cyber is the interdependent global network of information systems: including the internet, telecommunications networks, critical infrastructure computer systems and embedded processors and controllers.

## Cyber security

Cyber security is the body of technologies, processes and practices designed to protect the global network of information systems. Ensuring cyber security requires coordinated efforts for the implementation of effective security measures, both proactive and reactive throughout information systems.

"Traditionally, cyber is seen as anything internet-related and cyber security is simply securing the internet – or hardening the networks that it runs on. In effect the cyber market extends to anything that has a computer that in some way connects to the interconnected worldwide networks."

Ultra's businesses will be divided into **five** divisions: **Aircraft & Vehicle Systems, Airport & Power Systems, Information & Intelligence Systems, Tactical Systems** and **Sonar & Undersea Systems**.

## Company structure

# Organisational changes within the Group

Recent acquisitions and changes at a number of the Group's businesses have led to a reorganisation of Ultra's company structure.

Effective immediately, the **DNE** business has been merged into the **TCS** business. Iwan Jemczyk will remain as President, and the combined business will keep the **TCS** name. The combined business will continue to focus on Communications and Electronic Warfare Systems with an enhanced strategic capability, a broader portfolio of customer solutions and a wider geographic footprint. Similarly, **AudioSoft** has been merged into **Communication & Integrated Systems**. **CIS** will keep its name also.

The recently acquired **AEP Networks** has become part of the Tactical Systems division, reporting into Alan Barker.

Taking effect on the 1st January 2012, the **Nuclear Control Systems** business unit of **Command & Control Systems** will be established as a standalone business as a result of its substantial growth over the last few years.

Also taking effect from the beginning of next year, **Manufacturing & Card Systems** will be split to form two individual businesses, **CEMS (Contract Electronics Manufacturing Services)** and **Card Systems**. Both businesses have enjoyed rapid growth in recent years and both have now reached a size and maturity which enables them to better achieve further success as independent businesses. **Card Systems**, manufacturer of the Magicard ID card printer, will continue to operate from Weymouth, supported by sales hubs in the USA, Australia, Dubai and China. **CEMS**, a contract electronics manufacturer, operates from sites in Weymouth, Portchester and a newly acquired facility in Papworth, near Cambridge.

## Chairman's corner

Looking at the articles that have been prepared for this edition of UltraNews, I am struck by just how many examples of growth exist within Ultra; from individuals stepping up to new and bigger roles, to the expansion of Ultra's capabilities and place in the supply chain and ultimately to the continued growth of the Group itself.

There is a saying that success breeds success. To a certain degree this helps to explain how Ultra has grown the way it has since its formation in the early nineties. Achieving growth every year gives us the resources to develop the business and lay the foundations for further growth. It allows us to invest in research and development projects to allow our businesses to produce solutions for our customers that are better than those of our competitors. It means we can invest in our people to allow them to fulfil their potential and give them the freedom to think audaciously. I am looking forward to seeing the results of the projects set up by the new Audacity Fund. It also gives us the cash we need to acquire other businesses, which allows us to augment our current offerings with new capabilities, as described by Rakesh in his piece later in the magazine. Bob Henry has given a vivid description of the trials and tribulations of buying businesses. To give you an idea of how just how difficult it is to get acquisitions right I would say that, looking across the whole market, mergers and acquisitions are usually value destroying, conducted to satisfy boardroom egos as much as to benefit from any synergies derived as a result of common ownership. That is why Ultra is so careful with the companies it acquires, making acquisition targeting

a key part of the strategic planning process that each business in the Group has to conduct every year.

A growing business also provides opportunities for individuals to advance up the career ladder. As the Information & Power Systems division has grown, the span of control had become very stretching for one Divisional Managing Director and so we have taken the decision to have two divisional heads in the same manner as Tactical & Sonar Systems. As such, Mike Clayton will now take responsibility for the new Information & Intelligence Systems. Full details of this can be found above. Mike successfully rose through the ranks at **Command & Control Systems** to become Managing Director and I am very pleased that we have been able to fill this new position internally by promoting Mike further. In a similar vein, Mark Doyle has written about his experiences of working in a new environment in the Middle East, in his new role as CEO of Al Shaheen (see page 35). These appointments show our preference for promoting from within as we grow and as new roles become available, thus giving new opportunities throughout the Group to people who are looking for the challenge of growing with the business.

The success **Airport Systems** has had in Oman shows the effect growth can have on what a business is capable of achieving. **Airport Systems** used to be a small tier three/four player in the supply chain, providing baggage reconciliation systems to the airport industry. By becoming the Master Systems Integrator responsible for the entire electronic



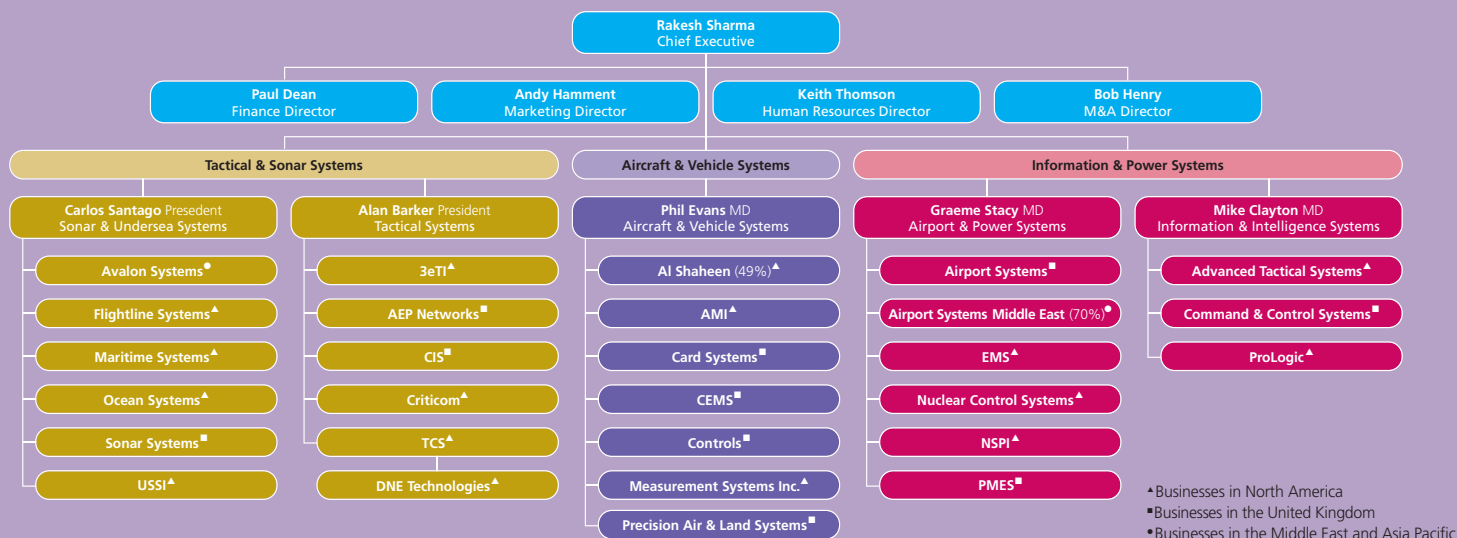
"Achieving growth every year gives us the resources to develop the business and lay the foundations for further growth."



As a result of these changes, plus the creation of **Airport Systems (Middle East)** in Oman (see page six for details), Ultra's businesses will be divided into five divisions: Aircraft & Vehicle Systems, Airport & Power Systems, Information & Intelligence Systems, Tactical Systems and Sonar & Undersea Systems. The four current Divisional Managing Directors/Presidents will remain in their positions and will be joined by Mike Clayton, who will become the Divisional

Managing Director of the new Information & Intelligence Systems division (comprising **ATS, Command & Control Systems** and **ProLogic**) as well as remaining as Managing Director of **Command & Control Systems**.

The chart below illustrates the reporting structure and the position of each business within the divisions.



systems infrastructure at Muscat and Salalah airports the business has become a tier one prime contractor. I am also pleased that in our own small way we have helped the UK government in its quest to drive economic growth by increasing exports and am thankful for the support that we had from the very highest levels of the UK government for our bid in Oman. The British Prime Minister David Cameron was criticised for touring the Middle East with a group of 'arms dealers' earlier in the year. Our win in Oman shows that the trips the PM is making are justified and are helping British companies win business abroad.

The Oman contract win is also a clear demonstration that the "many eggs in many baskets" business model that Ultra has developed over the years is working and providing resilience to the Group's financial performance. The current difficulties in the US and UK defence markets have caused problems for many businesses in Ultra's peer group. Ultra however has been able to respond to the situation by winning the biggest contract in its history. This is down to the fact that over the years the Group has diversified and grown into new markets, like transport, energy and security.

Growth however is not without its pitfalls. Phil Evans has written about the qualities that set Ultra apart from its competitors and as the Group gets larger we must be sure to maintain the Ultra culture and ethos of agile and nimble SMEs whose combined whole is greater than the sum of its individual parts. More than anything we must not be complacent. Whenever I discuss our LEAP values with people,

they always seem to raise an eyebrow when I mention paranoia. Paranoia however is the best defence against complacency. We must never think that we can push our technology on to the customer. Instead we must continue to listen to our customers' requirements and develop the solutions that they want whilst all the time remaining watchful that our competitors aren't able to outflank us. Ultra's growth story so far has been an extremely positive one. Since the Group's flotation in 1996 our share price has always commanded a premium against that of our peer group of other defence companies on the London Stock Exchange. This has kept us safe from larger predators that might like to acquire us, meaning we have been able to stay independent and run the company as we would like to. Any slip in our performance could mean we lose our share price premium and put us into play for a takeover. This is especially true during the current market cycle, where the large defence companies may look to acquire businesses like Ultra to compensate for slow organic growth.

So far, Ultra has successfully maintained its growth momentum in the tough economic conditions since the banking crisis of 2008. Despite these conditions, the Group continues to provide challenging, stimulating and rewarding jobs for nearly 4,500 employees worldwide. This will be maintained so long as we continue our growth trajectory.

I hope you enjoy reading about these themes in more detail throughout this edition of UltraNews.

"Looking at the articles that have been prepared for this edition of UltraNews, I am struck by just how many examples of growth exist within Ultra..."

# Ultra on show

## DSEi 2011

Defence and Security Equipment International (DSEi) is the world's largest fully integrated defence and security exhibition.

Held at ExCeL in the Docklands area of London in September every two years, DSEi (known colloquially as DESI) is also Ultra's largest exhibition participation. A stand of over 200m<sup>2</sup> was home for representatives of fourteen exhibiting Ultra businesses and several visiting businesses. For the first time the display combined all capabilities into systems stories, offering a complete and immediate overview of the breadth and depth of Ultra's capabilities.

Ultra received over 40 significant overseas delegations and VIPs during DSEi. Of particular significance was a requested visit by Baroness Neville Jones, Special Representative to Business on Cyber Security, pictured below with Rakesh Sharma and Douglas Caster.



An award presentation recognised the achievement of 50,000 flying hours on UK Tornado aircraft of the Litening Pod, the airborne infra-red targeting and navigation pod. Rakesh

Sharma presented a commemorative gift to Air Vice Marshall Stu Atha, OC 1 Group RAF.



Over 300 lunches were served to invited guests and hosting Ultra staff; meeting rooms on the stand and offsite were in high demand throughout the exhibition and the stand was inundated with potential customers and several groups of City analysts and bankers.



## iUltra on iPad

Those attending DSEi this year could be forgiven for thinking that the Ultra stand was doubling up as a new Apple store! 12 iPad 2's were available on the stand, each loaded with a trial version of the new iUltra iPad app, currently being developed by **ProLogic**. The app contained the marketing material of all the Ultra businesses exhibiting at the show, as well as information about the Group, interactive maps showing the locations of Ultra's businesses around the world, videos, news and more. This allowed Ultra's marketing professionals on the stand to email literature to prospective customers while they were talking to them, eradicating the problems of running out of brochures or losing the business cards of customers that had been promised literature after the show. Despite some issues with the exhibition centre's Wi-Fi connectivity

causing a few to lose sleep on the night before the exhibition started, the app worked well throughout the week with customers grateful to have electronic versions of the literature sent to them instantly. **ProLogic** hope to get to the rest of the Ultra businesses onto the app by the end of the year. Those using the app at DSEi saw the possible benefits of using it in when travelling or visiting customers, in addition to exhibitions, as it allows one person to carry all of their marketing collateral as well as that for the products and capabilities from all the other Ultra businesses in one easy to use app.



## Exhibition & Event news

### AUSA



Ultra's largest defence exhibition participation in North America is AUSA, the Association of the US Army. Located at the Convention Center, Washington DC, over 500 exhibitors including many US Army bases and 32,000 attendees make the journey to this annual event. This year, eleven Ultra businesses combined forces to demonstrate a range of capabilities for the defence industry. As well as seeking opportunities to install equipment into defence platforms such as armoured vehicles and remote operating bases, it is also a chance to demonstrate equipment directly to the user – the soldier.

### UDT

Ultra participated in the annual Undersea Defence Technology (UDT) exhibition in June, which took place in London. As the show was on our 'home' turf this year a full range of Ultra's naval capabilities was presented. The stand was divided into sections to display surface ship, submarine, coastal surveillance and autonomous sensor solutions, demonstrating Ultra's end-to-end ASW expertise connected through common sonar architecture. The stand received a large number of foreign delegations and key UK MoD visits; many of which were surprised at the breadth of Ultra's capability in the underwater domain. Exhibiting at the show were: **Sonar Systems, PMES, USSI, Ocean Systems, Maritime Systems** and **CIS**.

### CANSEC

Once again, the Canadian Security exhibition, CANSEC, was held in Ottawa in June. Ultra's Canadian businesses of **Maritime Systems** and **TCS** were joined by **ProLogic, ATS** and **Command & Control Systems** to further enhance Ultra's profile in the Canadian defence market. Ultra enjoyed the patronage of some very significant military visitors.



Left to right: Rear Admiral Paul Maddison, Asst Chief of Maritime Staff, Dan Simard and Ken Walker (Maritime Systems), Captain (Navy) Casper Donovan, Director Maritime Requirements

### LAAD

LAAD was held in Rio during April 2011. **Sonar Systems** led a team from **Sonar Systems, PMES, Command & Control Systems, Precision Air & Land Systems** and **ATS**. The stand reflected the wider Ultra Electronics defence and security offering.

With a firm focus on the South American, Pacific Rim and Southern Africa markets the exhibition drew significant support from the UK with The Rt Hon Gerald Howarth and Rear Admiral Tom Cunningham (UK Fleet) visiting in support of UK companies. They were assisted by a high level team from the Department of UK Trade and Industry.

Highlights of the event were stand visits by delegations from the Brazilian and Chilean Navies and the Brazilian, Chilean, Peruvian and Mexican Armies and Air Forces.

Brazil is currently seeking industry assistance in order to develop networks to support weather reporting, health, education, air traffic services and social security and population tracking.

The Brazilian government is also focused on the security and infrastructure requirements of the World Cup in 2014 and Olympics in 2016 in addition to developing the deep water oil and gas reserves in the Atlantic Ocean.



Left: Mike Williams from **Command & Control Systems** with Admiral Fragelli of the Brazilian Navy at LAAD 2011, held in Rio.

### AUVSI

In August, AUVSI, the North American unmanned systems exhibition, returned to Washington DC. Ultra has a good range of unmanned vehicle capabilities including the dual fuel engine from **PALS**, TACPOD from **ATS**, ground station remote controllers from **MSI**, heading reference sensors from **PMES** and fuel cell technology from one of the new Ultra businesses, **AMI**.

### Modern Day Marine



Modern Day Marine is held each September at the Marine base in Quantico, Virginia. The location on the Marine base provides a captive audience for exhibitors to display equipment directly to the user. Once again, the weather was challenging but visitors were determined and Ultra staff met with a range of good quality military and government personnel.



Oliver Miller demonstrates the Gunfire Locator at this year's Modern Day Marine exhibition

### TCS's UltraMove™ solution in action at Empire Challenge 2011



Every year, Empire Challenge sets the stage for an annual demonstration of intelligence, surveillance and reconnaissance (ISR) interoperability, executed by the US Joint Forces

Command (JFCOM) under the sponsorship of the Under Secretary of Defense for Intelligence. This year's multinational demonstration was conducted at Fort Huachuca, Arizona from May 23 to June 3, with a focus on near-term capabilities that can be delivered rapidly to the warfighter.

For 2011, **TCS** and the Signal Squadron of the 5th Brigade of Canada demonstrated the ability to communicate broadband ISR products on-the-move between a Forward Operating Base (FOB) and moving vehicles. Using **TCS's** UltraMove system, a mix of WiMAX MIMO and WiFi Mesh technologies, a live feed from an unmanned drone was relayed between vehicles on the move and both up and down the command chain. This means that those in the FOB can assess the local situation ahead of the convoy and those in the convoy can see the same images, enhancing situational awareness and communication. The demonstration was carried out on a 37km test run extending up to 11.2km away from the FOB.

**TCS** also demonstrated the ability to set up in 90 seconds point-to-point links that can achieve 200Mb/s. This is necessary for vehicles requiring very high capacity connections at critical times. These tests demonstrated the possibility of establishing a reliable, seamless broadband IP overlay from Brigade to Platoon using best in class ruggedized commercial technologies and small High Capacity Line-Of-Sight class military radios.

## Chief Executive's review

# maintaining Ultra's growth momentum

In August, Paul Dean and I announced the Group's half-year results for 2011. In the following week we had 21 meetings with fund managers, most of whom were already investors in Ultra, to present and explain Ultra's progress.



As I am sure you will all be aware, the current economic environment is a challenging one for all businesses. This is especially true of the defence market, which accounts for a large amount of the Group's sales. Despite this, I am pleased to report that the results, which are shown graphically opposite, were well received by the 'City', with many in the financial community commenting that they believe Ultra is better placed than most to ride out the current economic turmoil. As ever, these results were achieved through the hard work, dedication and commitment of our employees; something that I do not take for granted.

I would like to take this opportunity to share with you what we told the City about the current state of Ultra's markets and how the Group can continue to grow in the future.

In Ultra's main defence markets of the UK and US, the procurement process has been dislocated. In the UK, this is as a result of the government enacting fiscal austerity to reduce the national debt. In the States, the budget for 2011 was delayed due to political wrangling in the US Congress. This has resulted in 2011 being an unusual year. In the UK even though the procurement process has slowed, as the MoD grapples with balancing its budget and organisational change, Ultra continues to secure funding with innovative offerings using smart electronics and software. The focus of the military is to achieve information superiority and obtain force multiplication not through numbers but better planning. Electronics and software solutions continue to take an increasing proportion of budgets, for applications as diverse as advanced mapping systems and upgraded control electronics in armoured vehicles such as Warrior. Unfortunately, the continuing economic uncertainty, caused by the troubles in the Eurozone, has led to lower than anticipated growth in the UK economy this year, meaning budgetary pressures will continue for some time.

In the US the proposed reduction in the defence budget has focussed on drawing force levels down from Afghanistan with a view to exiting by 2013. However, the part of the budget that is important for Ultra is still greater than \$160 billion. This provides plenty of headroom for Ultra to grow further. It is looking increasingly likely that there will be cuts to US defence budgets in the period to 2023 as the budget

deficit is addressed in some way but our thesis that there will be headroom in the budgets for smart electronic solutions holds true.

Overall, we anticipate fewer new platforms being procured in the UK and US. This will mean more upgrades and generally these involve more advanced electronics and software playing into Ultra's sweet spot.

With regard to the security sector, the world is not becoming a safer place. With political instability, rogue states, terrorism and military expansion to protect resources needed for economic growth, the broader security and intelligence markets continue to develop as areas of preferential customer spend. Our business model is to position in the higher margin space of selling smart electronics and software solutions as opposed to the lower margin business of consultancy. In addition, the edges between military, civilian and commercial cyber security is becoming blurred - this opens up the possibilities of greater growth for the right offering.

Looking at transport, population and economic growth and the spread of low cost airlines worldwide is driving investment in civil aircraft and infrastructure for mass transit systems. Investment in airport IT, as airlines try to minimise costs per passenger and airport operators try to increase the number of slots from existing capacity, is following the growth in passenger numbers. Airbus and Boeing, the two leading commercial aeroplane manufacturers, have both declared an increase in their production rates to keep up with demand, especially in the Asia-Pacific region. All of these facts support sustainable growth for Ultra's specialist capability areas in transit power systems, safety critical aerospace systems and airport IT systems.

With regard to energy, around the world governments are having to come to terms with an ever increasing energy demand while minimising carbon emissions. Other than in Germany, and possibly Italy, nuclear power continues its renaissance. Although the Fukushima accident caused a temporary hiatus while lessons were learnt, we have not detected any slowdown of new build reactors in China or life extensions in the US. The UK has announced a two year slip to the new build programmes. This is the public news catching up with what was common knowledge in the industry and already accounted for in Ultra's plans.

"...many in the financial community commented that they believe Ultra is better placed than most to ride out the current economic turmoil."



## Rakesh Sharma Chief Executive

### 2011 interim overview



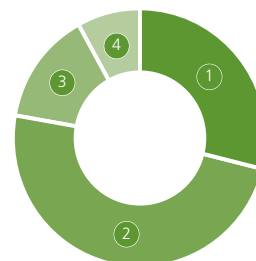
\* before cost of acquisitions, amortisation of intangibles arising on acquisition and fair value movements on derivatives

### Revenue by sector



1 Cyber Security	£ 47.3m	14%
2 C4ISR	£ 76.9m	22%
3 Sonar	£ 67.9m	20%
4 Civil equipment	£ 51.6m	15%
5 Defence equipment & consultancy	£ 40.4m	12%
6 Civil aircraft equipment	£ 23.0m	6%
7 Military aircraft equipment	£ 37.0m	11%

### Revenue by region



1 United Kingdom	£ 98.7m	29%
2 North America	£170.0m	49%
3 Middle East & Asia Pacific	£ 48.1m	14%
4 Mainland Europe	£ 26.7m	8%

As you can see, despite the doom and gloom that you may hear on the news about the world economy, there are plenty of opportunities for Ultra to continue growing. However, to be able to do this we must continue to reinvest in our product portfolio and people to make sure we have the correct offerings to turn these opportunities into sales.

We can do this in three ways:

- 1 broadening the functionality of what Ultra offers to earn a higher sales value
- 2 reaching into new but adjacent markets, and
- 3 taking on bigger contracts through teaming to reach up the supply chain

We continue to be a market-led company. We focus on customers that have both real operational needs and money to spend – we don't try to push our solution onto the customer if it isn't what they want. Given the understanding of real customer needs, it is then our job to use the intellectual capability that we have to come up with solutions. We always seek to differentiate ourselves from our competitors so that we are able to maximise the probability of winning a competition.

There are many examples around the Group of where we have developed our offerings to respond to operational requirements. One such example is giving broadband radio links to dismounted soldiers, so they may receive a real-time video image from an Unmanned Aerial Vehicle overhead. These networks must self-configure and self-heal as soldiers move into and out of buildings and caves. By combining the offering of Ultra's existing **TCS** business, with the technology that **3eTI** brings to Ultra, we have provided a solution that the customer values. We can effectively make two plus two equal five.

We also search for new markets for our existing technologies – market development. An example of this would be using key elements of a military solution in an industrial or commercial application. **Command & Control Systems** supplies the surveillance and protection systems for the British Army's forward operating bases in current operations. With the advent of global terrorism the desire to be protected and be aware of the surrounding environment is driving the demand for these sophisticated surveillance systems in the

commercial sphere, from ports to nuclear power stations to financial centres. We see real interest in such systems. For future applications you can see that Ultra has many parts of the overall solution ranging from threat analysis to **USSi's** ridiculously loud HyperSpike audible warning system!

The third dimension of growth is reaching up the supply chain, especially through teaming. An important attribute in Ultra is that we have a 'not invented here' attitude. If we find an opportunity that we cannot fully satisfy we will scour the market to find 'best in class' teaming partners who can fill the gaps in our own capability, allowing us to reach up the supply chain and fulfil a larger customer requirement while controlling risk.

That is how we approached the Oman Airport IT contract. As you can see for yourself on page eight of this edition of UltraNews, teaming was a core element of **Airport Systems'** successful bid. For Oman, Ultra will be responsible for a broader scope than it was at Heathrow Terminal 5, for example. Terminal 5 was just over £30m while the two airports in Oman are worth over £200m. Ultra is reducing the risk of executing such a contract by teaming with other specialist businesses. Successful teaming is a special capability in its own right and we've been doing it since the creation of Ultra. The Oman contract win is the largest in Ultra's history, and I want to congratulate everyone who played a part in the successful bid and thank them for their effort.

**"As ever, these results were achieved through the hard work, dedication and commitment of our employees; something that I do not take for granted."**

## Welcome to AEP Networks

**AEP Networks** was acquired on the 29th September 2011. The company provides accredited, secure, end-to-end network communication solutions, primarily to the government, enterprise and service provider markets. Solutions include:

- network gateways that provide secure access to business applications via web browsers
- a 'security as a service' offering known as 'Cloud Protect'. This is a secure, subscriber-based thin client virtualisation service; essentially a 'secure PC over the internet'
- remote access hardware encryption products
- hardware security modules for the protection and distribution of cryptographic keys
- secure, modular communication systems for voice and data aggregation over multiple bearers, including GSM, ISDN and satellite

**AEP** has more than 5,000 blue chip and government customers in over 60 countries and has a sales and engineering operation in New Jersey, USA together with sales and support hubs in Australia and Malaysia. The majority of **AEP's** 80 employees are based in Ascot, Berkshire and Hemel Hempstead, Hertfordshire. The company is a bolt-on to the Tactical Systems Division and the new Managing Director is Peter van de Geest.

## Across the board...news and stories from across the divisions

# Precision Air & Land Systems ...stronger together

**Precision Air & Land Systems (PALS)**, the recently merged Electrics and Precision Air Systems businesses, will create a combined business of around £60m in annual sales this year. Each business was part of the original seven businesses bought in 1993 from Dowty to form Ultra Electronics.

Electrics has a long pedigree stretching back to the early 1950's in George Dowty's days when Gloucestershire was a hub of aerospace manufacturing. Early product offerings included cockpit switches and indicators, control handles and harness conduit systems for both commercial and military aircraft and fighting vehicles and is the bedrock of the business' capability today. Electrics' success on aircraft platforms quickly translated to the same sort of solutions for land vehicles.

In recently years, Electrics has developed a number specialist electronic control assemblies for both air and land platforms. In supporting the military vehicle platform market the business has developed a suite of electronic assemblies based upon a generic architecture enabling a 'Plug & Play' approach.

A key aircraft platform is the A400M military air cargo transportation aircraft where Electrics is responsible for the design of the electronic control assemblies enabling cargo pallets to be deployed in a safe manner.

In the late 1980s, Dowty Fuel Systems needed to identify new products as its production of the fuel controls for the Rolls-Royce Pegasus engine was in decline. The engineers were given the task to identify and create new product streams; one of which was the High Pressure Pure Air Generator (HiPPAG). Dowty Weapon Systems (renamed as Precision Air Systems (PAS)) was formed to develop and grow this compressor technology.

PAS successfully qualified its high pressure pure air compressor to provide infra-red cooling on Sidewinder missiles thus displacing the nitrogen bottle solutions with an electronic controlled compressor system, providing cost savings, eliminating logistical support constraints. While talking to a senior research engineer at Boeing, engineers at PAS quickly realised they had the capability to offer a stores ejection system, again providing logistic support benefits and a system which was operated consistently, eliminating the need for pyrotechnics.

HiPPAG systems have been installed on a wide range of key military aircraft namely, JSF, F-15E, Typhoon, F/A-18 (various variants), Hawk and a number of fighting vehicle platforms.

**PALS** has a presence on many key air and land platforms ranging from the F-35 Joint Strike Fighter, Typhoon, Warrior, FRES as well as commercial aircraft platforms. Today the joint business will have an enhanced strategic capability, a broader portfolio of systems, products and services and a wider geographically footprint. The new business will maintain Ultra's focus on satisfying customers through the design and execution of innovative, differentiated solutions.

Combining the businesses has already provided the opportunity to exploit internal capability and offer joint solutions on a number of projects. Engineers at the Cheltenham and the Staverton sites are already working closely together on providing an Engine Control Unit (ECU) for the DF70 dual fuel UAV engine and the ECU for Typhoon HiPPAG system. The two businesses are also working together on an electro-mechanical/pneumatic solution for a fire suppression system for the Future Rapid Effect Systems (FRES) programme and other potential UK Fighting Vehicle platforms. This is a further example where the merged business has benefited from the capability of high pressure systems (Staverton site) and the Cheltenham site supplying specialist electronic equipment for fighting vehicles both in the UK and overseas markets.

The merger of the two businesses is enabling us to take good practice from both businesses; building on the work we have undertaken teaming with Universities, particularly through Knowledge Transfer Partnerships (KTP) initiatives.

Our stage-gate process has been further developed and manages investment decisions and route to market and together with internal initiatives for 'design for manufacture' will ensure we are in a better position to meet the demands of our existing and new customers.

Looking to the future; **PALS**'s Business Development business unit is developing a number of niche products including the mGO portable oxygen generation, a heavy fuel engine for UAV propulsion and air filtration technology for fuel inerting low pressure airborne systems. **PALS** has also identified solutions for land open architecture systems, power line communications, battery management systems and portable generating sets. **PALS** is also leveraging its current success to provide tailored test equipment for both air and land based systems.

**PALS** continues to team with other Ultra businesses particularly in the US to maximise and protect its position on key US programmes by transitioning some manufacture, repair and overhaul capability to the US which include **USSI**, **Flightline** and **EMS**.

The two businesses that became **PALS** are planning to join together on one site in the later part of 2012 or early 2013.

### Do you know?

Business name:  
**Precision Air & Land Systems**

Location:  
**Cheltenham and Gloucester, UK**

Established:

**2011**

The result of the merger of Precision Air Systems and Electrics, two of the original seven Ultra businesses.

Number of staff:

**320**

**PALS** teams with a small UK business to develop a light weight heavy fuel engine



**PALS** is teamed with a small UK firm to develop a light weight (5lbs) five horsepower heavy fuel engine targeted at the UAV market. Two prototype engines have been supplied to Brock for a fixed wing UAV and Flint Hill Solutions for a UAV Helicopter. Both platforms have performed Initial flight trials successfully.

These platforms have both military and growing civil applications such as fire fighting, where human observers would be at risk, police observation of civil disturbances, crime scenes, and reconnaissance support in natural disasters.





# Aircraft & Vehicle systems



## Boeing delivers the first B787

On September 26th Boeing delivered the first B787 Dreamliner to its launch customer All Nippon Airways (ANA) and on the 1st November the aircraft entered service in Japan, with daily services between Tokyo's Haneda airport and the cities of Okayama and Hiroshima.

For **Controls** these milestones brought to an end development programmes that started back in 2004.

**Controls** supplies both the B787 Wing Ice Protection System (WIPS), partnered with GKN, and separately supplies the Proximity Sensing System (PSS), partnered with Goodrich.

ANA has a further 54 B787s on order, forming part of Boeing's total backlog of 820 aircraft which is the basis of Boeing's plan to be producing ten aircraft per month within two years.

Over the production life of the B787 programme these two systems are estimated to generate over £200m of revenue, with follow on spares and repairs revenues continuing for many years after that.

These successful developments for the B787 have enabled **Controls** to secure other contracts with Pratt and Whitney, Gulfstream, Mitsubishi and Embraer for similar technologies.

## Small diameter bomb carriage systems



**PALS** has been awarded a £3.6m contract by Carleton to supply its HiPPAG system for the BRU-61/A Small Diameter Bomb Carriage System Lot 7 production programme. This latest contract will take the requirements for the SDB system to around 2,000 systems which are used on the F-15E aircraft. Additional effort is now underway to incorporate capability for use on other platforms such as the F-22 and F-35 (JSF) aircraft.

## asis installed on US Navy P-3



**Controls** has successfully installed the first **asis** system on a US Navy P-3 aircraft at the Patuxent River Naval Air Station in Maryland. The system, that detects and locates cracks in aircraft structures, was publicly launched at Farnborough last year since when final development has been completed and the first system delivered earlier this year.

The aircraft (pictured) is used specifically to evaluate new technologies that the US Navy believes will improve its operations and it will be closely monitoring the information that **asis** provides over the coming months. This installation is also being monitored by operators of other US military aircraft as it offers the potential of detecting cracks much earlier than would otherwise happen. This can allow the earlier repair of cracks before they become both dangerous to the aircraft and more expensive to repair.



## PALS secures positions on the Scout vehicle

**PALS** has been continuing to work closely with both General Dynamics UK (GDUK) and Lockheed Martin UK (LMUK) to develop solutions for the Scout Vehicle. In the last issue it was reported that **PALS** had been down selected by LMUK for the Cannon Control Units and Fire Control Computers and it has since grown that position by being selected to provide elements of the power control system for the turret. This will now take the form of the Secondary System Power Distribution Unit (SPDU) built around the original power node. Deliveries in common with the fire control elements will be taking place in 2012 with an anticipated value of the 3 programmes in excess of £7M including the production.

For General Dynamics Ultra has been working closely with the Spanish GD subsidiary of the Land System group and a new partner Spectronix of Israel to offer Fire Detection and Suppression (FD&SS) for the engine, crew and external hatches to the vehicle. Following a tight competition the joint offering was successful and **PALS** was selected to deliver systems for the first six vehicles by December 2011 in line with a customer milestone objective. Follow on systems and support to trials along with production numbers lift the core programme value to approximately £5M with high potential for follow on work for other variants of FRES and UK armoured vehicles. **PALS** will also be investing in support capability for the FD&SS to deliver at least 25 years of in country support providing a long term programme presence and revenue stream.

## Across the board...news and stories from across the divisions

### AMI's fuel cells power ahead

AMI recently collaborated with Lockheed Martin to extend the flight time of the company's Stalker Unmanned Air System (UAS). Lockheed Martin announced the new, ruggedised version of the Stalker will be called the Stalker eXtreme Endurance (XE) UAS.

The Stalker XE system is powered by AMI's industry-leading fuel cell. The portable power unit integrates with the Stalker's existing conventional lithium polymer battery to handle power peaks. The Stalker XE system quadruples Stalker's flight endurance to eight-plus hours without impacting the mobility or capabilities of the unmanned system. The fuel cell was developed by AMI under a Defense Advanced Research Projects Agency (DARPA) funded contract.

AMI also recently shipped 15 of its 300-watt solid oxide fuel cells to the U.S. Army for field testing. The fuel cell's development and delivery are part of a contract AMI has with the Communications-Electronics Research, Development and Engineering Center (CERDEC), valued at \$4.7 million. Several of the fuel cells in this delivery are headed to Afghanistan for use by soldiers in the field.

"AMI's 300-watt fuel cells are ideal for providing direct power to communications and other devices," said Aaron Crumm, President of AMI. "The fuel cell provides unique advantages: It delivers reliable portable power for operations in the most remote, austere environments and it's fuelled by propane, a fuel source that reduces the logistical challenge of supplying forward deployed units in the most disadvantaged locations."

The 300-watt fuel cell is ideal for applications requiring more power or longer durations than batteries can support. Compared to a generator or the number of batteries that would be required for a multiday mission, the fuel cell, weighing just 32 lbs., is lightweight and portable.



### Manufacturing & Card Systems expands and relocates Cambridge facility to meet increased demand

Due to increasing sales demand, the CEMS part of **M&CS** has expanded and relocated its Cambridge manufacturing facility.

The new 38K ft<sup>2</sup> building, located on the Papworth Business Park, will accommodate two surfacemount lines and has the scope for a further 30K ft<sup>2</sup> of office or engineering space with the installation of a mezzanine level.



CEMS's Director & General Manager, Andy Wycherley, commented: "The area north of the M25 is a major geographical target market for us and the Cambridge area offers many advantages. Situating our second manufacturing facility in the Cambridge area has enabled us to attract new business from both new and existing customers including Camcon, Oxford RF, Karl Zeiss and even fellow Ultra businesses **Controls** and **CIS**. Expanding our overall capacity by moving from our small Sawston facility to our much larger Papworth site was a logical choice – it is close enough for a smooth transition and has the scale to ease our capacity issues whilst providing scope for future growth."

The new Cambridge facility will be operational from October 2011 with a second surface-mount line being added in early 2012.

### Power line communications for Forward Operating Bases

Building on the success of the Generic Vehicle Architecture work, **PALS** has become a member of the Generic Base Architecture Technical Working Group, supporting the UK MOD in improving the construction of future tactical bases. **PALS** has been given a study contract to investigate the use of power line communications as a means of providing a "base wide" computer network.

By teaming with **CIS**, Ultra will be able to provide an encrypted communication systems using conventional power distribution lines to transmit secure data.

### Warrior receives support from the UK Government

The Warrior programme received confirmation from the UK government that it would be going ahead with the Warrior Capability Sustainment Programme (WCSP) in a parliamentary announcement on the 19th July and on the 25th October David Cameron announced that the contract for the £1bn programme would be awarded to Lockheed Martin UK. **PALS** is positioned to deliver a wide range of equipment for the programme including avionics computing, fire control, power-management and the driver's crew station. There are also a number of other items that we are discussion with LMUK over potential supply as they down-select other equipment. The overall value to **PALS** will be in excess of £40m dependant on the number of vehicles the government choose to upgrade.

A key spin off of Warrior is the potential export value if the architecture is adopted for other programmes. The Lockheed Martin UK team is taking responsibility for non-US programmes and conversely looking to re-use much of its Warrior work back into other company applications. This is already getting exposure with the Lockheed Martin team in the US and has the potential to double the value of the original WCSP programme.





# Aircraft & Vehicle systems

## MSI receives \$5m order for FMCU and moves forward with tablet controller

The Ground Based Operational Surveillance System, G-BOSS, is a naval sea systems command program providing integrated "beyond the fence" surveillance capability for the Marines. **MSI** became involved with the program in late 2010 as the Freedom of Movement Control Unit (FMCU™), **MSI's** 'Xbox' style controller, matched the Marine requirement for the remote ground station operation of the system.

The FMCU was successfully qualified for use on the program and addressed usability and/or environmental issues the Marines encountered with hand controls from two other manufacturers. The FMCU will be used to control the sensor suite which includes cameras and a man-portable surveillance and target acquisition radar.

Elsewhere, **MSI** is working with Qinetiq North America to develop a tablet called the Tactical Robotic Controller (TRC) as part of a programme sponsored by NAVSEA. Intended to prove the capability to both alternately and simultaneously control multiple unmanned systems including a UAV, UGV and unattended sensors, the TRC has been tested in theatre with the Marines. The feedback has been very positive on the hand controls and the brightness of the screen. The controller was easy to navigate and required virtually no additional training for effective operation. All of the communications links worked well and the system successfully linked up to a Shadow UAV on the ground followed by in flight testing.



## M&CS enjoys strong growth in the Americas

The Card Systems part of **M&CS** has operated a sales hub in the Americas since the early days of the Magicard brand in 1995. Now, with offices in Redmond, WA and Miami, the Americas operation is responsible for nearly half of Card Systems' turnover. Luis De La Cruz, Americas Sales Manager, explains: "Our recent strong growth is thanks to a combination of some excellent project wins and focused vertical market penetration."

Key projects include a healthcare ID card for Petrobras, the largest oil company in Latin America. This project, involving more than 300,000 employees, is worth \$1M in printers and consumables. Another \$1m+ project is a state driver's license in Mexico; this is one of the largest secure driver document programs in the region and generates more than 250,000 secure IDs each year.

Magicard's success is down to innovation and differentiation, as Luis explains: "The unparalleled level of service and warranty support provided by our team at the Redmond office has been instrumental in winning market share. Innovations such as our patented HoloKote watermark and our flexibility to offer rebranded products to open up new vertical routes to market have also played a key part."



## Al Shaheen's expansion



Due to the success of **Al Shaheen's** Al Bayariq (The Beacon) student citizenship programme in Abu Dhabi, the programme is being expanded into the northern emirate of Ras Al Khaimah. **Al Shaheen** is Ultra's joint venture company in the United Arab Emirates which, in addition to delivering a range of consultancy, training and education services to government bodies in the region, is the nominated agent for Ultra businesses looking to export offerings to the Middle East. The Al Bayariq programme is the company's largest, employing approximately 450 staff who deliver military, police and leadership training to 79 schools in the emirate of Abu Dhabi. Initiated by the Crown Prince of Abu Dhabi, the programme aims to give students a sense of national citizenship and develop an interest in the UAE military and police forces as a potential career path. **Al Shaheen** has grown rapidly since its formation three years ago and now employs approximately 750 people across four major programmes. With the addition of Ultra's technology to the portfolio, the business is well positioned for further growth.

### HiPPAGs for Typhoon

**PALS** has been awarded a contract for £9.9m to supply its HiPPAG system for the Eurofighter Typhoon Tranche 3A production programme.

The HiPPAG system is incorporated into both the Multi-Function Rail Launcher (MFRL) and the Integrated Tip Stub Pylon Launcher (ITSPL) where the HiPPAG system is used to supply high pressure pure air to cool the infrared detector in the short range air-to-air missiles carried by the Eurofighter Typhoon aircraft.



**Across** the board...news and stories from across the divisions

# ProLogic...

...delivers **agile solutions** to **plan, collect, protect** and **share** information enabling our partners to **innovate!**

**ProLogic** began in 1995 as a small disadvantaged business providing software verification and validation services to the U.S. National Aeronautics & Space Administration local office in Fairmont, West Virginia. The company grew from \$500k to \$58.5m turnover in 2008.

During that period **ProLogic** grew into the areas of systems engineering, software development and IT services. **ProLogic** produced a number of important products and services including the world's largest tactical datalink system; special operations sensors; global awareness visualization toolkits, remote cryptographic rekeying, and airborne web services.

In 2008, **ProLogic** was purchased by Ultra Electronics to expand Ultra's presence in the U.S. cryptographic market and at the same time expand Ultra's U.S. Department of Defense offerings. **ProLogic** developed the ability to remotely re-key tactical datalink systems and provide remote management of ground gateways throughout the United States. Following the purchase and two years under the Special Security Arrangement, Ultra Electronics made an important decision to reorganize **ProLogic** under a Proxy Board Agreement. The Proxy Agreement allows **ProLogic** to continue to conduct business as a U.S. Company. As introduced in issue 32 of UltraNews, the Proxy Board has three distinguished members including Jim Baur, Frank White and John Robusto. Ultra's decision to move **ProLogic** to a proxy management was paramount for continued growth in the U.S. market.

## Do you know?

Business name:

**ProLogic**

Location:

**Manassas, Virginia, USA**

Established:

**1995**

Acquired by Ultra:

**2008**

Number of staff:

**290**



# Information & Power systems

In the past year, **ProLogic** has undertaken a significant transformation called "ProLogic Version 4.0." In addition to the Secure Communications and Planning & Simulation Systems strategic business units, **ProLogic** has formed two new strategic business units: Intelligence, Surveillance & Reconnaissance Solutions (ISRS) and Cyber Security Solutions (CSS). ISRS was created to more efficiently address the increasing demand for our capabilities in adjacent markets like narco-terrorism. Increased budgetary focus on narco-terrorism has created large, multi-million dollar acquisition programs scheduled over the next 5 years, offering a continued growth path as **ProLogic** transitions existing capabilities into these adjacent markets.

With increased threats, the U.S. Government has allotted over \$13 billion annually to cyber security over the next five years. CSS was created by combining the Scytale business, which was acquired by Ultra in 2009, with the Cryptographic unit to help meet the need for increased data and network security worldwide. The Secure Communications SBU enhances situational awareness to the war fighter by protecting tactical communication systems and reducing the manpower necessary to maintain those systems through fully remote and unattended operations. The Planning and Simulation Systems (PSS) SBU provides geo-spatially enhanced collection, planning and sharing solutions through a combination of subject matter expertise, cloud computing, business intelligence, mobile user experiences, and social network based collaboration. The convergence between consumer and the non-consumer markets will be accelerated in the PSS niche because of the world-wide move to add a locational element to every piece of data.

In the past year **ProLogic** conducted the "ProLogic Apps Challenge" and in a few short months developed and deployed applications on both Apple and Droid mobile devices, with more to follow! The "ProLogic Version 4.0" transformation positioned and focused the business to achieve the **ProLogic** vision to "Deliver agile solutions to plan, collect, protect, and share information enabling our partners to innovate."

**ProLogic** has begun to adapt and enhance consumer Cloud, Social Networking, and mobile technology for its existing niches ultimately bringing those 'enhanced' solutions back to the consumer markets. **ProLogic** predicts a convergence in these critical technologies between the consumer and non-consumer markets. The focus will be on how these technologies support planning, collecting, protecting and sharing information.

The 'Cloud' in Cloud computing can be defined as the set of hardware, networks, storage, services, and interfaces that combine to deliver aspects of computing as a service. Cloud services include the delivery of software, infrastructure, and storage over the Internet (either as separate components or a complete platform) based on what the user needs.

**ProLogic** also predicts that over time, the barriers that separate the current consumer information markets and the markets in which **ProLogic** operates will continue to diminish. **ProLogic** will leverage the Internet's evolution to Cloud computing through which everything – from computing power to computing infrastructure, applications, business processes to personal collaboration – can be securely planned, collected and shared as a service wherever and whenever needed.

## ProLogic Version 4.0



**ProLogic** has begun to adapt and enhance consumer Cloud, Social Networking, and mobile technology for its existing niches ultimately bringing those 'enhanced' solutions back to the consumer markets.

## Across the board...news and stories from across the divisions



### £54m UK submarine nuclear reactor control equipment contracts

**Command & Control Systems** and **PMES** have been awarded contracts by Rolls-Royce with a combined value of £54m for the supply of reactor control and instrumentation systems for Royal Navy submarines.

The scope of the contracts includes the manufacture of multiple systems and associated spares. Work under these contracts starts immediately and will continue until the end of 2014.

Ultra has been working since December 2004 on the development of this equipment. Ultra's role is that of equipment designer and manufacturer for the control and instrumentation suite and includes the full spectrum of system engineering disciplines, including requirements capture, architecture design, development, verification and qualification.

The contracts follow a previous £24m awarded to **Command & Control Systems** in October 2010 by Rolls-Royce covering the procurement of long lead time materials required for the build.

Rolls-Royce and Ultra have continuously worked together on submarine nuclear power plant since the 1960s – over 40 years of partnership. Through this relationship, Ultra's reactor control and protection equipment has featured on every Royal Navy submarine variant from Dreadnought (via refurbishment), Valiant, Resolution, Churchill, Swiftsure, Trafalgar, Vanguard, and now Astute Class.



Top: Vanguard Class submarine  
Above: Trafalgar Class submarine

### PMES continues to power the Manchester metrolink



Greater Manchester's Metrolink network is one of the most successful light rail systems in the UK, currently carrying nearly 20 million passengers every year, and soon to increase to 34 million per year.

By 2012 four new lines will nearly double the size of the tram network with 20 miles of new track and 27 new Metrolink

stops. The new lines will go to Oldham and Rochdale, Chorlton and Droylsden. The first of the new extensions opened to Media City UK in September 2010.

**PMES** announced that it had won a substantial multi-million pound contract for its specialist transit DC electrical power system substations in 2009. This contract was awarded by MPact-Thales which is responsible for the design, build and maintenance of the Metrolink lines. **PMES** has now been awarded the next phase for further DC power substations for the project, again by MPact-Thales.

**PMES's** involvement for both contracts is as a turnkey supplier, which will see over 25 modular substations supplied in total. Responsibilities include full system design, integration, equipment supply, installation and commissioning, and the scope of supply includes modular buildings complete with transformer rectifiers, AC, DC and LV switchboards, and all associated equipment.



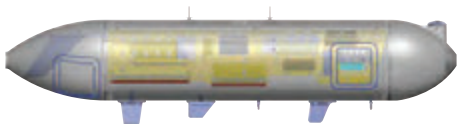
# Information & Power systems

## TACPOD meets joint Urgent Operational Need for Afghanistan



Recently, **Advanced Tactical Systems** uncovered a gap in the market for a lightweight airborne communications system that could be flown on manned and unmanned aircraft that would connect high level commanders to warfighters at the farthest reaches of the battlefield. The resulting system, the Tactical Airborne Command, Control, Communications and Intelligence (C3I) Pod (TACPOD)™, provides large volumes of high speed data and allows different types of radios to communicate with each other.

"It's remarkable that we have gone from concept to air worthiness in less than a year," said **ATS** President John McAlonan, a success attributed to a great team and to **ATS'** niche in the defence market, translating a myriad of data formats between different military and commercial radios. "We are now positioned for growth in the Unmanned Aircraft Systems (UAS) market with a totally new product line for military, homeland security and commercial customers."



## Command & Control Systems's Aberdeen operation moves



As part of its continued support to an established offshore customer base, the Surveillance Systems business unit of **Command & Control Systems** have moved into new premises at Westhill, Aberdeen. Craig Revie,

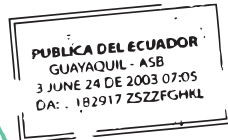
Operations Manager, said "As the leading supplier of collision risk management and man overboard solutions to the offshore industry, this move is necessary to ensure that the needs of our customers are met and we continue to expand our capabilities and offerings". For efforts relating to this relocation, Craig was awarded a **Command & Control Systems** Managing Directors Award, and is looking forward to the challenges ahead.

## International arrivals

**Airport Systems'** win in Oman is covered elsewhere in this Issue of UltraNews. However this is not the only recent international success for **Airport Systems**. In North America, Ultra was successful in winning the contract to deliver the Common Use Terminal Equipment (CUTE) for John Wayne Airport, Santa Anna, California. This £6m contract involves supplying the equipment that each check-in desk and departure gate as well as the operating system that allows all the airlines to use the same equipment. Further south in the Americas, Ultra has recently confirmed the award to provide all the Airport Information Management Systems (AIMS) for Aeropuerto Internacional Mariscal Sucre, Quito, Ecuador.

In Asia, Ultra continues to build on the strong base of operations in China with award of the contract to provide the AIMS for Changi Airport, Singapore. In Europe, **Airport Systems** has successfully provided CUTE for all of the Finnish airports, hosted in Vantaa Airport, Helsinki, and is also providing CUTE through thin client virtual machines across a WLAN to 12 regional airports including Rovaniemi Airport, Lapland, Finland! We have built on the success in Finland by winning the AIMS for Kastrup Airport, Copenhagen, Denmark.

Overall, **Airport Systems** has airport and airline customers in more than 50 countries with new arrivals to this international network expected in the near future!



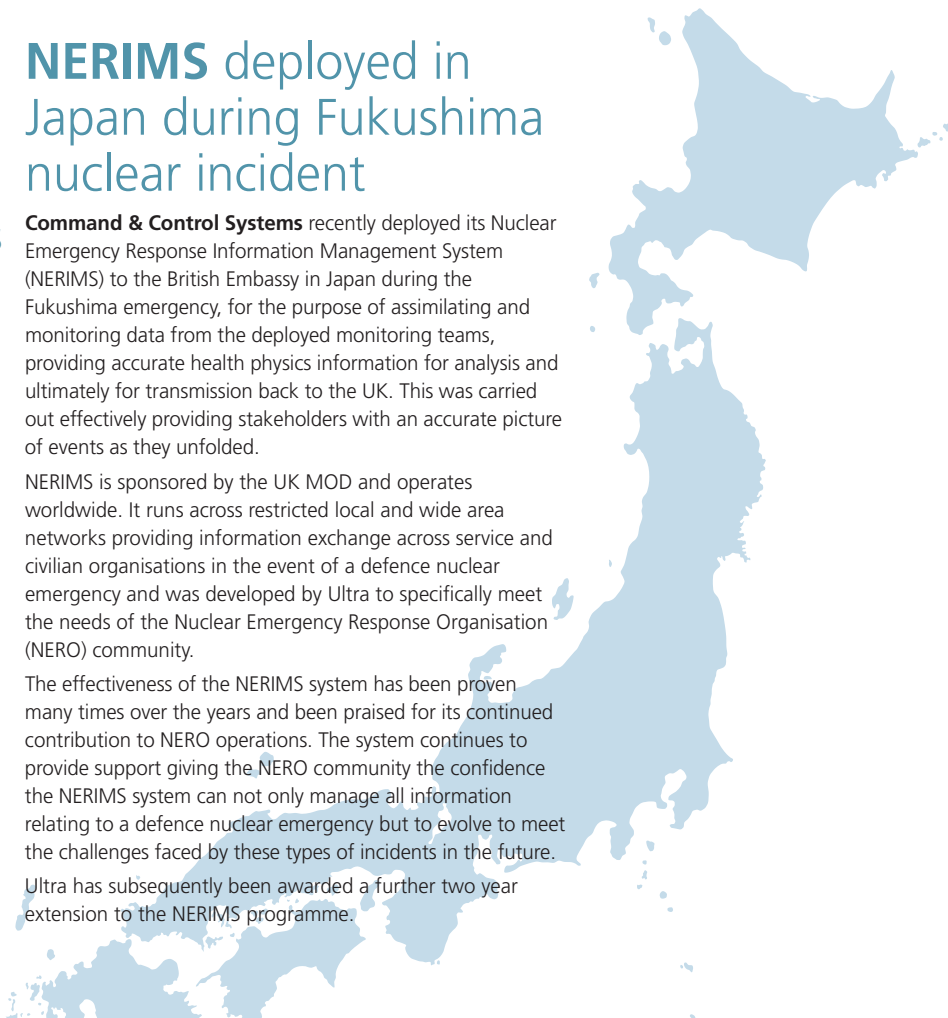
## NERIMS deployed in Japan during Fukushima nuclear incident

**Command & Control Systems** recently deployed its Nuclear Emergency Response Information Management System (NERIMS) to the British Embassy in Japan during the Fukushima emergency, for the purpose of assimilating and monitoring data from the deployed monitoring teams, providing accurate health physics information for analysis and ultimately for transmission back to the UK. This was carried out effectively providing stakeholders with an accurate picture of events as they unfolded.

NERIMS is sponsored by the UK MOD and operates worldwide. It runs across restricted local and wide area networks providing information exchange across service and civilian organisations in the event of a defence nuclear emergency and was developed by Ultra to specifically meet the needs of the Nuclear Emergency Response Organisation (NERO) community.

The effectiveness of the NERIMS system has been proven many times over the years and been praised for its continued contribution to NERO operations. The system continues to provide support giving the NERO community the confidence the NERIMS system can not only manage all information relating to a defence nuclear emergency but to evolve to meet the challenges faced by these types of incidents in the future.

Ultra has subsequently been awarded a further two year extension to the NERIMS programme.



Across the board...news and stories from across the divisions

# Maritime Systems

Transformation through innovation, entrepreneurship, and strategic partnering



Ultra's first acquisition outside the United Kingdom was Hermes Electronics. Located in Nova Scotia, Canada, Hermes was formed in 1947 as part of EMI Cossar and went through a variety of ownership changes before being acquired by Ultra Electronics in 1995.

At the time of its purchase, Hermes derived 100% of its revenues from sonobuoys and was a strategic supplier of underwater transducer technology to what was then Sonar & Communication Systems (now **Sonar Systems**). By 2000, Hermes had established itself as one of the world's largest sonobuoy manufacturers, employing almost 500 people and churning out 100,000 sonobuoys annually. However, the end of the Cold War eventually led to a decline in airborne antisubmarine warfare and when **USSI** joined Ultra an over capacity in sonobuoy production was created. Ultimately this proved to be the catalyst for change at Hermes. The business was renamed as **Maritime Systems** and immediately adopted a singular strategy to move the business away from a total dependence on traditional sonobuoys to other areas where the organization could utilize its core technical competence and existing market knowledge. Initially, this manifested itself on two fronts based upon the Company's expertise in expendables and underwater acoustics. **Maritime Systems** used its formidable experience honed through decades of designing and manufacturing legacy air-launched ASW sonobuoys to develop a series of 'boutique' expendables. Deep Siren™ was developed under a strategic partnership with Raytheon Net Centric Systems and RKK Technologies. This long

life (three day) expendable is launched from a submerged submarine and permits shore-based command authorities to communicate in a semi-covert manner with a dived submarine operating at speed and depth. In a like fashion, **Maritime Systems** teamed with Raytheon Missile Systems to develop the Submarine Over-the-Horizon Organic Capability (SOTHOC). SOTHOC is a containerized expendable UAV that can be launched from a submerged submarine in order to conduct surveillance and extended range targeting. These products are disruptive in nature and are expected to revolutionize how military commanders stay in touch with submarines and conduct surface surveillance and targeting without requiring them to surface to periscope level where they could be detected by potential enemies.

In a similar vein, **Maritime Systems** has been able to bring its acoustic expertise derived from the expendable sonobuoy business to bear in the arena of large maintainable sonar systems. **Maritime Systems** demonstrated its entrepreneurial spirit when it sought to position its technology with the world's navies by first working with their national defence laboratories to de-risk new technologies and systems. Consequently, a series of small sonar projects with defence laboratories located in Canada, US, UK, Australia, Korea, Italy and the Netherlands has enabled **Maritime Systems** to both improve its technology and influence military customer requirements. Today, **Maritime Systems'** towed sonar can be found in naval fleets around the world and its latest generation active-passive towed sonar system is a key component of Ultra's AWD Integrated Sonar System and serves as the backbone to the Dutch Multistatic Active-Passive Sonar. **Maritime Systems'** transformation continues to gain momentum and the business has pushed beyond acoustic surveillance into projects that required the fusion of non-acoustic sensors (AIS, radar, CCTV, chemical detection, biometric scanners, and microwave fences). Utilizing **Command & Control Systems'** C2DB as the

## Do you know?

Business name:

**Maritime Systems**

Locations:

**Dartmouth, Nova Scotia, Canada**

**& San Bernardino, California, USA**

Established:

**1947**

Acquired by Ultra:

**1995 (Ultra's first North American Acquisition)**

Number of staff:

**175**



Top: RockPhone®

Above: MI-RAMS

Below: HIDAR and directional passive sonobuoys





# Sonar & Undersea systems

data fusion and tracking engine and Atlas Ops as the incident management system, **Maritime Systems** commissioned Canada's first fully integrated port security system combining the requirements of surveillance, communication, command and control, and emergency response. This award was followed with a contract by the Halifax Harbour Bridge Commission to provide a similar system to protect the two bridges that connect Halifax with Dartmouth. **Maritime Systems** continues to build on its success in the field of infrastructure optimization and protection. To this end **Maritime Systems** has engaged with the Canadian Department of National Defence to offer a solution that will also include 3eTI's wireless technology to address military base surveillance and security concerns.

In 2008, **Maritime Systems** completed a major step in its transformation away from the traditional sonobuoy business when it acquired Magneto Inductive Systems limited (MISL). Magneto Inductive (MI) technology traces its roots back to Nikola Tesla and his theories on the wireless transmission of energy and information through the earth. By applying today's digital technology to Tesla's theories, **Maritime Systems** is able to offer a range of products that can transmit information through a multitude of mediums that would be impenetrable by traditional communication and signaling means. Termed Through-The-Earth (TTE) communication, MI technology is virtually unstoppable when it comes to transmitting signals through rock, earth, concrete, water, ice, and even metal. MISL's major product is the Magneto Inductive Remote Activated Munitions System (MI-RAMS), which is manufactured in the MISL factory located in San Bernardino, California. The MI-RAMS device is in operational use by the US Army Special Forces and EOD teams and employs a modulated magnetic field to transmit fire codes to hand-placed ordnance underground (caves and tunnels) where traditional RF communications do not work and the use of detonation cord or a mechanical timer is impractical. **Maritime Systems'** RockPhone® also employs MI technology and this product can be used to transmit data or voice through almost any medium. Marked interest is being shown by both the mining and first responder communities. Exploitation of MI technology continues with the ability to covertly communicate under water or whilst being jammed in army convoy operations garnering significant interest by several different militaries. Prototype work has commenced in both areas. Finally, **Maritime Systems** is working to perfect the transmission of video images over the MI link. This will enable MI technology to be more readily employed in the command and control of unmanned vehicles.

In the intervening years since its acquisition by Ultra Electronics, **Maritime Systems** has doubled its size in terms of revenues. Although this in itself is commendable, it has been the organization's innovative and entrepreneurial spirit in combination with teaming with like-minded partners that has really made the difference in **Maritime Systems'** transformation. Today almost 80 percent of the business's revenue is derived from business developed over the last five years. **Maritime Systems** also acts as a portal to Canada for other Ultra businesses, as demonstrated by the \$7mCDN degaussing contract award partnered with **EMS**.

## USSI wins prestigious award



In June, **USSI** attended a gala event in Indianapolis at the Indiana Committee Employer Awards Banquet for the Employer Support of the Guard and Reserve (ESGR). ESGR is a national organisation that promotes support for those that serve in a

Reserve or National Guard capacity. These individuals are unique in that they balance the demands of serving their country with those of civilian employment.

At the event **USSI** received the 'Above and Beyond' award, presented in limited numbers annually by each state committee. Recognition is given to employers who have gone above and beyond the legal requirements of the Uniformed Services Employment and Reemployment Rights Act, or USERRA. Special thanks to Patrick Alison for nominating **USSI** for this award.

**USSI** has received a total of \$35.5m U.S. Navy production sonobuoy awards during the US 2011 Fiscal Year and \$5.8m in international production sonobuoy awards. In addition, a \$7.3m engineering award was made to **USSI** for the technical development phase of the High Altitude Anti Submarine Warfare (HAASW) programme. This is an update of all sonobuoy capabilities to support the higher operating altitudes of the P-8 (the new U.S. Navy multi-mission aircraft). **Flightline** is also a key part of the HAASW program as future funding is targeted to continue upgrades on the Software Defined Sonobuoy Radio to meet the new NATO uplink performance requirements.

## Sonar Systems wins Turkish contract



**Sonar Systems** has been awarded a €12.1m contract by Koç Information and Defense Technologies to provide Ultra's 'Sea Crypsis' torpedo defence system for the Turkish New Type AIP submarine programme. Six submarines are to be built by Howaldtswerke-Deutsche Werft GmbH (HDW) under contract to the Turkish Under-Secretariat for Defence Industries who has in turn placed a contract on Koç. Ultra is the sole supplier to Koç for this programme.

Sea Crypsis incorporates Ultra's proven torpedo detection, classification and localisation system. Utilising sophisticated signal processing techniques, Sea Crypsis is able to determine the specific threats engaging a submarine and counter them through a combination of recommended manoeuvres and the deployment of expendable countermeasures. This award further develops the close relationship that Ultra is building with Turkish industry as it continues to increase the involvement of local companies in underwater systems.

Mark Merrifield, Managing Director of **Sonar Systems**, said: "We are delighted to have been awarded this contract, which further underlines Ultra's position as the world leader in Torpedo Defence systems, and look forward to working together with Koç."

## Maritime Systems and EMS win degaussing contract

**Maritime Systems** has been awarded a \$7m contract to supply the Royal Canadian Navy (RCN) with twelve degaussing systems for its Halifax-Class patrol frigates. Teaming with **EMS**, the systems and associated engineering support will be delivered as part of the Halifax-Class Modernisation programme.

Degaussing systems neutralize a ship's magnetic signature to counter the risk posed by explosive ordnance. The Halifax-Class systems will operate automatically to control the magnetic signature, which varies according to the geographical location of the ship, but can also be controlled manually.



## Ocean Systems SCAD re-lifing contract

A kickoff meeting for **Ocean Systems'** SCAD 101 re-lifing contract was held in June at Exchem Defense Systems Ltd, Harwich. SCAD is an expendable acoustic countermeasure developed by **Ocean Systems** for the UK's submarine fleet. The re-lifing of SCADs after 10 years in the UK inventory will provide continuous self-defence capability for an additional five years. Team members include a vast array of experience in acoustic countermeasure development and explosives handling. Members from **Ocean Systems** conducted initial training to **Sonar Systems** and EDSL, which was attended by representatives from the UK MOD.

## Across the board...news and stories from across the divisions

# 3eTI

## More than just secure wireless networks

All of the employees of **3eTI** are extremely excited to join the Ultra Electronics family as a member of the Tactical Systems division. Founded in 1995, **3eTI** is headquartered in Rockville, MD and currently employs 84 of the most talented individuals in the secure wireless technology industry. **3eTI** has proudly developed over 16 patents and spearheaded a strong track record across its loyal customer base.

### What does 3eTI do?

**3eTI** delivers highly secure wireless networks and connectivity solutions designed to meet information assurance, security and safety requirements for the military, government, industrial and utility markets. **3eTI**'s product portfolio includes proven and robust secure wireless mesh networks, sensor networks, cyber security and perimeter security solutions offering a wide range of applications including base security, onboard ship communications, rapidly deployable communications and advanced metering infrastructure for SmartGrid programs.

**3eTI** offerings are divided into four streams of products and solutions: Wireless mesh networks, wireless sensor networks, VirtualFence™ and CyberFence™.

### Wireless mesh networks



Robust and scalable networks that assure delivery and security of integrated video, data, and voice information via open architecture network applications in virtually any environment.

### Wireless sensor networks



scalable, robust, self-healing networks that monitor and control critical industrial systems such as energy management, plus condition based maintenance that immediately saves energy and reduces operational costs.

### VirtualFence



A 24-hour fixed and portable wireless video surveillance and auto detection system that identifies threats in real-time, automating perimeter protection and alleviating costly manpower.

### CyberFence



Military-grade protection that enables information transport across commercial networks and cannot be pinged, hacked or compromised by outside attacks.

### How is 3eTI different?

**3eTI**'s technology provides peace of mind. Our high-level information assurance and absolute data integrity allow our customers to focus on achieving their primary objectives by leveraging networks they can trust.

Features that differentiate **3eTI**'s platforms include:

- Self-healing, self-configuring design that ensures always-on availability
- High level of information assurance for data protection
- Durability that protects systems from harsh environmental conditions
- Quick and inexpensive adaptable systems designed to meet customised requirements
- Intelligence features to help customers identify and understand specific data trends
- Network-centric solutions that help reduce workload and generate efficiencies
- Consistent investment in cutting-edge research and development

As a result, **3eTI**'s platforms form the backbone for reliable wireless network security and communications, plus critical infrastructure protection and management that allow our customers to operate with confidence: "Network secured. Information secured."

### 3eTI's strategic direction

Led by Benga Erinle, one of **3eTI**'s original co-founders, **3eTI** will be the leading provider of secure wireless nodal and peripheral devices to the government, industrial and utility markets. **3eTI** also expects to be a major original equipment manufacturer (OEM) of cyber-security and secure wireless nodes and a leading provider of mesh-enabled, multisensor nodes for energy and critical infrastructure protection (CIP) applications.

Our vision is that cyber security and sensor networking communities everywhere will endorse the broad adoption of **3eTI**'s CryptoEverywhere™ and SensorEverywhere™ solutions. CryptoEverywhere is an ecosystem of secure encrypted enclaves which use a common framework for the management and security of the network and connected devices. SensorEverywhere is an ecosystem of networked sensors enabled by **3eTI**'s multi-sensor nodes to affordably deploy and monitor systems and sensors across the global network securely. The widespread adoption of these two integrated solutions will provide secure wireless communications assurance across a wide spectrum of applications and industry segments, facilitating both government and commercial communications.

This vision reflects our innovative approach and commitment to providing the highest quality solutions across our customer base and beyond. In fact, **3eTI**'s proof of performance and the evolution of the global marketplace provide the backdrop for a scenario extending our applications far beyond our existing customer base. We look forward to providing more than just secure wireless networks.

### Do you know?

Business name:

**3eTI**

Location:

**Rockville, Maryland, USA**

Established:

**1995**

Acquired by Ultra:

**January 2011**

Number of staff:

**84**



**3eTI** supplies secure, 'on-the-move' communication equipment





# Tactical systems

## 3eTI helps US Navy implement shore energy strategy



U.S. Navy installations play a critical role in the USA's national defence, so its energy systems must have the resilience to survive natural disasters, accidents, and attacks. The Navy "SmartGrid" is a system of interconnected technologies

which intelligently monitor, predict, respond to and control its building and utility management systems, linking multiple facets of the Navy's shore energy strategy.

**3eTI** recently helped the US Navy implement the SmartGrid Pilot Program at Naval District Washington (NDW) as the forerunner of a Navy-wide, and ultimately national, SmartGrid implementation. The NDW was seeking a cost-effective and accredited network capability to monitor legacy Supervisory Control and Data Acquisition (SCADA) and Direct Digital Controls (DDC) associated with their facilities' critical infrastructure equipment and systems. **3eTI** presented its EnergyGuard solution to the Navy and won the contract.

The EnergyGuard solution leverages an array of industrial control and communication technologies to provide real-time monitoring and control of designated infrastructure equipment such as HVAC systems, generators and water treatment pumps. EnergyGuard integrates SCADA/DDC systems into a securely integrated local reporting architecture which provides energy managers increased visibility of every facet of energy consumption. EnergyGuard is currently deployed at Dahlgren, NSF Indian Head, and the Washington Navy Yard, enabling these facilities to more efficiently and effectively manage their current systems.

In another nod to the advantages of **3eTI**'s secure wireless solutions in a defense environment, NDW has also integrated **3eTI**'s VirtualFence™ VPMS™ perimeter and CyberFence security solutions, which uses intelligent video and sensor analytics to protect the Navy SmartGrid pilot from intruders and potential attacks.

**3eTI**'s SmartGrid solution will provide the data and analytics to help Navy leaders make informed decisions on minimizing energy consumption and cost, while supporting the Navy's critical role in our National Defense.

## TCS awarded contract by DARE

**TCS** was recently selected to provide a Mobile Multiband EW Simulator system by the Defence Avionics Research Establishment (DARE) in Bangalore India.

DARE plan to use the system to test and evaluate the self-protection systems on board their fighter aircraft fleet.

The system will be capable of generating multiple simultaneous radar signals over the frequency range of 0.7-35.5 GHz, at power levels that will stimulate receivers on board the aircraft under test at ranges up to 30 km. On board the simulator system is a sophisticated receiver system TCS's EAGLE line of ELINT receivers. The receiver is capable of collecting emissions from the target aircraft and from the simulator system and performing detailed analysis of the emissions collected, including jamming effectiveness. The contract is expected to be finalised this September and the period of performance is 18 months.



## CIS wins Urgent Operational Requirement (UoR) contract for additional Litening Pods

The UK Ministry of Defence has awarded a contract to **CIS** to procure an additional two Litening III targeting and reconnaissance pods to support UK operations over Libya and Afghanistan.

The contract, valued at £2.2m, was placed in July 2011, with the first pod being delivered 10 days later for immediate deployment to theatre.

Ultra's Litening pod and support structure has done all that the RAF have asked of it and more during deployments to Iraq, Afghanistan and Libya. Most of the television footage from Libya, showing vehicles being effectively targeted, came from the Litening Pod.

Ultra's Litening pods are deployed operationally on both RAF Tornado and Typhoon aircraft in both Afghanistan and Libya. **CIS** are also supporting Litening pod operations on Swedish Air Force Gripen's over Libya.

The involvement of the Litening Pod in the Libyan and Afghan campaigns has seen it reach the significant milestone of 50,000 flying hours on RAF aircraft, achieving a 99.9% mission availability during this time. To mark the occasion, Rakesh Sharma presented Air Vice Marshall Stu Atha OC 1 Group of the RAF with a commemorative award during the DSEi exhibition.

## TCS unveils UltraMove™

In June 2011, **TCS** announced a new system solution at the CANSEC tradeshow, called UltraMove. UltraMove is a revolutionary system solution that delivers 'on-the-move' IP services, including voice, data and video, in a portable transit case. The system is designed to be deployed virtually anywhere, and is particularly useful at the outskirts of military networks, or in disaster areas by providing wireless access with 400 mbps shared aggregate bandwidth to support multiple simultaneous users and applications. What's interesting and unique about UltraMove is that it provides military personnel with dual benefit by offering Wi-Fi and WiMAX hotspots for units in the field, while maintaining the ability to tie back into the core network through an integrated High-Capacity Line-of-Site (HCLOS) wireless point-to-point radio.

UltraMove was developed to meet U.S. demands to put more information in the hands of the warfighters to improve their situational awareness, as well as to provide interoperability with coalition forces. Mounted or dismounted soldiers face the same challenges in hostile territory as their forebears on horseback or on foot – knowing if enemies are hidden behind buildings, hills, or vegetation. There is a plethora of surveillance platforms in theatre, from unmanned aerial vehicles, helicopters, low flying aircraft, and satellites with a large amount of data which could be very useful to ground troops. With UltraMove, military personnel gain access to 400 megabits per second shared aggregate bandwidth to be able to receive, and act on, this critical data.



# People in the news

## Our man in Afghanistan



2011 arrived with a new challenge for David John, Project Planner, at **PALS** Staverton site. He was about to embark on intensive training in readiness for his deployment to Camp Bastion, Afghanistan with the Royal Logistic Corps. As a Captain in the Territorial Army, David completed a two week mobilisation course in Nottinghamshire and then went straight to his unit for a fast paced field exercise with 230 other officers and soldiers from across the UK and Germany. "It was definitely a hectic start to 2011 and has not let up much since January".

Roll forward six months and David has completed theatre specific training, weapon handling and patrolling and taken charge of his 25 soldiers, both TA and Regular Army.

He has had to ensure wills were completed, inoculations were up to date and all the correct clothing and equipment had been issued to his soldiers and is also responsible for tracking and receiving everything that the British Forces use or consume in Afghanistan. David says his supply chain experience at Ultra 'has helped considerably in the day-to-day work.'

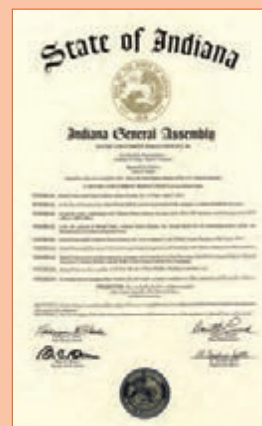
Day to day activities, in blistering temperatures, mean David and his troop have been kept exceptionally busy; with both air and road freight arriving every day as well as ensuring that equipment is tracked back to the UK for return or repair. "Keeping the troop motivated, with the relentless amount of stores moving through the troop in temperatures in excess of 40°C is tough, but seeing the lads coming back in from the forward locations helps to keep things in perspective."

One element of David's tasks is ensuring that the correct stores get into Camp Bastion. The complex nature of the ISO container's route to Camp Bastion makes this 'the most complex component to manage'.

David is looking forward to returning home and back to his 'normal' job in November, just in time for year end. We wish him well and a safe return.

### Roland Fritts recognised for service in the State of Indiana

Former President of **USSI**, Roland Fritts, was recently honoured for his service and commitment to **USSI** and to Whitley County, Indiana with a Special Resolution from the Indiana General Assembly. The Resolution was sponsored by State Representatives Kathy Heuer (R-83) and Dan Leonard (R-50), and State Senator Jim Banks (R-17).



Under Roland's guidance, **USSI** grew from 200 to 380 employees, increased revenue by over \$70m, and performed the highest level for product quality, while pursuing the diversification of product lines. In addition to his leadership at **USSI**, Roland has also served on several community boards and committees in Whitley and Wells Counties. "On behalf of Whitley County's representatives in the General Assembly, we are very proud of **USSI**'s achievements under Roland's leadership," said Heuer. "It is companies with leadership like yours that have established Northeast Indiana, and specifically Whitley County as an economic area on the cutting edge of growth and success. We thank you for your dedication and vision to make **USSI** one of our most successful endeavors." continued Heuer.

### Mike Baptist, Paul Selfe and Mark Anderson recognised by the Queen



Mike Baptist, Managing Director of **Communication & Integrated Systems**, was awarded the OBE, and Paul Selfe, a Production Engineering Team Leader at **Sonar Systems**, the MBE in the Queen's Birthday Honours List.

Mike's nomination spoke of his outstanding skill as a systems engineer and constant innovation to find better solutions to customer requirements. It referenced his work to bring the Israeli 'Litening Pod' technology to the UK and his design of the top level system solution for Ultra's ECU-RP cryptographic replacement programme, the contract for which was awarded to Ultra last year for £86 million.



Paul's award was based on his work to bring the SeaFox sea mine disposal systems from Atlas Elektronik in Germany to the UK. He optimised the necessary processes and lead a programme of value engineering and product

enhancement for SeaFox. As a result, the Royal Navy has been able to replace an obsolescent mine disposal system with high operating costs with an improved, modern capability with reduced through-life costs.

Mark Anderson who recently joined Ultra as Strategy Director, Sonar & Undersea Systems Division, was appointed to the Military Division of The Most Honourable Order Of The Bath as Companion. Mark retired from the Royal Navy in the rank of Rear Admiral, after serving for 37 years in a variety of roles.

### 3eTI recognises service

On Friday, July 22nd during an all employee meeting **3eTI** held their first Recognition and Award Program (RAP) ceremony. The RAP is designed to recognize and reward outstanding individual and/or team achievements and contributions. **3eTI** employees were recognized for their outstanding contributions in the following categories:

#### Bravo Award

For a team or employee who made a significant contribution to the benefit of **3eTI**

Award winners: **VPMS – NNMC Team**

#### Ovation Award

Awarded to an employee who demonstrated performance excellence in alignment with the LEAP criteria

Award winner: **Lex Tran**

#### 2010 President's Award

Annual award given to one employee and hand selected by the **3eTI** President

Award winner: **Denise Climenson**



The VPMS – NNMC Team, winners of the 'Bravo Award'



## Nuclear apprenticeships at Wimborne



**Command & Control Systems** at Wimborne recently provided a very successful summer internship for two physics undergraduates as part of the South Eastern Physics Network (SEPNet) Programme. It provides the host company with an opportunity to meet talented undergraduates and develop links with local universities for potential collaborations. The students, Charlotte Massey from Southampton University and Jack Towler from Royal Holloway, University of London, had both just completed the penultimate year of their courses and joined the Nuclear Control Systems business unit at its Wimborne Office. This part of the business has a well-established physics team working in support of the nuclear power plant operators, specifically dealing with the sensors used to measure the amount of energy within the reactor core.

The internship was for an eight week period and Charlotte and Jack chose individual projects from a shortlist suggested by Ultra's physics team. Throughout both tasks, support and encouragement was provided by Paul Kent, Ultra's Senior Nucleonics Specialist, who drew on his own not too distant experiences of making the transfer from academic to industrial life to create the appropriate environment. Both students will present their work to their peers and other professionals at a SEPNet Student's Expo held at the Royal Society in London later this year.

## Ultra joins the UK's National Skills Academy for Nuclear (NSAN) with a seat on the regional board

The National Skills Academy for Nuclear is an employer led organisation established to ensure that the UK nuclear industry and its supply chain has the skilled, competent and safe workforce it needs to deal with the current and future UK nuclear programme.

Ultra staff will benefit from the NSAN programmes of nuclear professional development and standardised approaches to skills development and recognition, ensuring the strictest security and highest training standards possible. Ultra will also participate in the National Nuclear Passport Programme recognising the skills that have been build up whilst working within the Group.



## Ultra attends Merlin Helicopter Force 10 year celebration at RNAS Cudrose

Alan Wignall, Technical Director, **Sonar Systems** and Mark Anderson, Strategy Director, Sonar & Undersea Systems represented **Sonar Systems** and **CIS** recently at the 'Merlin Helicopter Force 10 year celebration' open day and cocktail party at RNAS Cudrose.

The Merlin Force Commander (Cdr Kevin Dodd) introduced the day with a recording of a real anti-piracy operation, which featured Ultra's Link 11 and full-motion video downlink systems in operation, as marines from a T23 frigate boarded a suspect vessel, under the surveillance and control of a Merlin. A hangar display area included the existing in-service version of the Merlin aircraft (Merlin Mk1) and the upgraded version due to enter service in about a year (Merlin Mk2). An evening cocktail party, assisted by sponsorship from industry, included a flying display and fireworks display, and an address from the Merlin Force Commander. Mark Anderson presented the 'Millionth Sonobuoy' trophy (a chrome plated HIDAR buoy), which is awarded by Ultra every two years for 'Significant Contribution to Merlin Anti-Submarine Operations', to acoustic operator CPOACMN Lee Elliot.



# People on the move



# on the move

**1. Mark Long** has been promoted to Finance Director at **AudioSoft**. Mark joined **AudioSoft** in 2010 as Financial Controller and prior to this has previously held a number of senior management positions within a variety of manufacturing businesses.

**2. Karen Parnell** has joined the Group as Head of Marketing for **Communication & Integrated Systems**. Karen started her career at British Aerospace Defence Dynamics (now MBDA) as an engineer before moving into business development. More recently Karen has held positions of increasing responsibility within commercial silicon and wireless communications technology companies including Phillips, Xilinx, CSR and joins Ultra from Frontier Silicon where she was Product Marketing Director.

**3. Andy Matko** has been promoted to Director and General Manager of the newly-formed **Card Systems** business. Andy was previously **Card Systems** Director within the combined **Manufacturing & Card Systems** business. Andy joined Ultra in 2003 and has been instrumental in growing Card Systems sales from £7.5m in 2003 to £18m in 2011. In addition to running the Magicard business, Andy was the project manager for Ultra's Enduro product which helped the business earn the Queen's Award for Enterprise (Innovation) in 2007. Before joining Ultra, Andy held a number of engineering and marketing posts with companies including Schlumberger, Mars Electronics, Racal and Tiscali.

**4. Andy Wycherley** has been appointed Director & General Manager at the newly-formed **CEMS** business. Andy joins from Salford Royal NHS Foundation Trust and has previous senior experience as Operations Director, General Manager and Business Unit Director at businesses including SRT PMR Technology and Celestica. He has a BEng degree in Electrical & Electronic Engineering.

**5. Michael Bunney** joined Ultra as Director, Business Development at **Advanced Tactical Systems (ATS)**. Prior to joining **ATS** Michael was the Vice President of aviation products and services for SRA International. Previous assignments included Executive Vice President at Worthington Aviation involved in program management, business development and international operations; Vice President of program management and business development at QinetiQ North America and Vice President for program management and business development operations across domestic and international markets at L-3 Communications. Michael served as a Captain in the United States Navy and as a faculty member at several universities teaching business courses in the graduate and under graduate divisions. Michael holds an MBA in Finance from National University and a Bachelor's Degree in Marketing from San Diego State University.

**6. Toni Crowe** has joined **Nuclear Sensors & Process Instrumentation** as Vice President of Operations. Toni joins from a successful career path bringing 22 years of director-level experience to **NSPI**. This experience includes most recently manufacturing, assembly and test, manufacturing engineering, manufacturing program management, and purchasing operations of an engineering services and manufacturing business specializing in power supplies and sensors, particularly for military customers. Toni has a bachelor's degree in Electrical Engineering from the University of Illinois, Chicago as well as a master's degree in Organizational Management from Maryville University, Saint Louis, Missouri. She is also an expert in Lean Manufacturing techniques having completed training in Japan and is a Six Sigma Black Belt.



## appointments & promotions

**7. Phil Tabb** has been appointed as Finance Director at **Airport Systems**. Phil joins from Vertex where he had responsibility for the day to day financial management of a £200m turnover product line. Prior to Vertex Phil also held senior roles at GE, TLS Vehicle Rental and IBM having started his career with Unilever and United Utilities.

**8. Norman Thompson** has been appointed Programmes Director at **PMES**. His previous role of Operations Director included responsibility for manufacturing operations as well as programmes. With the successful growth of the business a new dedicated Programmes Director role has been established. Norman joined **PMES** in 2008 and was previously Manufacturing Director at Raytheon Systems and General Dynamics UK.

**9. Michael Hawkins** has been appointed Operations Director of **PMES**. Michael has held a number of senior roles most recently as Group Operations Director at Icon Polymer Group. He has also been a Managing Director at both the Trelleborg Group and BI Group. Michael has a BEng degree in mechanical engineering.

**10. Phil Shore** has been appointed as Interim Finance Director at **Sonar Systems**. Phil joins us from Thales UK where he has held a number of Finance Director appointments since joining them from EMI Defence in 1995. Phil has a degree in Business Studies from Nottingham University and is a member of the Chartered Institute of Management Accountants.

**11. Peter van de Geest** has been appointed as Managing Director of **AEP Networks**. Prior to its acquisition by Ultra, Peter held the position of Chief Operating Officer at **AEP**. Peter has held a number of senior positions in the ICT industry over the past 20 years. In 2005 as CEO of Vados Systems he was part of the team that led the management buyout from Datatec Ltd. At Datatec he was Director of E-business solutions in the UK and prior to that was Managing Director of Logical Network Solutions in South Africa as well as being a director of Destiny Electronic Commerce, Datatec Open Information Technologies and PWNnet (the security practice joint venture between PWC and UUNet). Before that Peter was co-founder and later managing director of VVV Interactive, a pioneer in internet integration in the early 90's. Peter holds a post graduate degree in the arts.

**12. Mike Clayton** has been appointed Managing Director of the new Information & Intelligence Systems division, effective from January 1st 2012. Mike will also keep his role as MD of **Command & Control Systems**, which he has been doing since 2008.

**13. Peter Weir** has joined the Group as Marketing Director for Ultra Electronics, Australia. Peter, who joins from BAE Systems, will have responsibility for the marketing and business development activities for Ultra Electronics, Australia providing strategic direction, coordination and support to Ultra's growth in the region.

**14. Andy Leather** has been appointed Marketing Director at **PMES**. Andy has wide experience within the UK defence electronics industry and has held a number of senior management positions, which include Vice President of Programmes and Business Development, Goodrich Control Systems; Director Skills, Technology & Operational Improvement, AIDIS; and Operations and Programmes Director, Thales UK.

**15. Gary Hawkins** has been appointed as the Technology and Engineering Director for the Oman Airport IT project. Gary joined **Airport Systems** in 2005 and has had a number of roles including Project Manager, Engineering Director and most recently Technology Director.

**16. Tim Walshaw**, Operations Director at **Airport Systems**, now has a wider role and is responsible for development, service delivery and project management. Tim joined **Airport Systems** in 2002 as a Project Manager and was promoted to Operations Director in August 2010.

**17. Virginia Crocker Timmins** has joined Ultra as Vice President, Business Development at **Ocean Systems**. Virginia brings nearly 25 years of defence industry experience that includes 18 years in strategic, business winning roles. Her career includes positions at GE Aerospace, Martin Marietta and Lockheed Martin in program management, business development and engineering. Her most recent role was as Business Development Director at BAE Systems, working across a wide range of capability domains including acoustic communications, complex surface combatant systems integration, maritime radar and lightweight precision targeting systems.

## Retirement



In 2010, **Ray Coles**, Managing Director of **Manufacturing & Card Systems**, announced his intention to retire at the end of 2011. Ray has guided **M&CS** since its days as Waverley Electronics more than 25 years ago. Under his leadership, **M&CS** has expanded rapidly and its reputation for excellence has been recognised by three Queen's awards for technology and innovation. Ray's entrepreneurial spirit and vision were instrumental in establishing and driving the Magicard ID card printer business, which now produces more than 15,000 printers per year and has sales operations on four continents.

appointments

all in a good cause

## Maritime Systems garden project gives back to the community

Rene Landry is leading a team of employees at Maritime Systems who have constructed, planted and tended to raised bed gardens on the front lawn at Maritime Systems.

Their hard work has been rewarded with a successful and bountiful crop of organic produce including tomatoes, cucumbers, beans, peas, beets, carrots, peppers, broccoli, lettuce, spinach, and radish.

By mid-August they had sold over \$200 of produce to employees, with the proceeds donated to Feeding Others Of Dartmouth, a local group that feeds the homeless. Final revenues are expected to top \$500. Plans are already underway to increase the size of the garden and variety of vegetables that are grown next spring.



From left to right: Lyn McNairn, Charlotte Gidley, James Crawford, Nancy Keeler, Gary Kenny, Rene Landry

## Al Shaheen

### Mark Doyle, new CEO at Al Shaheen

Mark Doyle was appointed CEO of **Al Shaheen**, the joint venture between Ultra and Emirates Advanced Investments in the UAE, back in April. Here, Mark describes his experiences of managing a new company, in a new country.

Moving from the leafy Gloucestershire countryside to a fast growing city in the desert was a significant change but, in many ways, the change from leading a mature engineering company in the UK to leading a newly created service-oriented company in the Middle East has been a greater challenge. Add to this the fact that **Al Shaheen** has two shareholders, Ultra (49%) and Emirates Advanced Investments (51%), each with their own culture, ways of working and demands and the challenge is significantly increased. These dynamics are then further compounded by **Al Shaheen's** rich and diverse community of employees covering more than 50 nationalities each with their own experiences, language and corporate mind-sets. The result is a fascinating and dynamic environment in which one must be flexible and agile but also stoical if you are not to be knocked off course. As a federation of seven Emirates, the UAE is organised in a similar way to Ultra in that each Emirate has its own ruler (Sheikh) who has his own plans and ambitions for his Emirate but also has a loyalty to his country. From my experience so far, it appears that loyalty to the Emirate and the ruling Sheikh is dominant but that tribal and family loyalties play a large part in the social fabric of the nation. The notion of loyalty is further complicated by the fact that tribal ties transcend borders whether they be

Emirate or indeed country. Business decisions are made by a core group of trusted senior individuals who consult appropriately with chosen advisers. The judgement of the decision maker is trusted and respected. Family and other relationships also play a part in the dynamics of the business and can sometimes be of more importance than an individual's position in the organisation. In leading **Al Shaheen** it is important to accept that ideas for change and improvement to the business can originate in a variety of sources. Expatriate members of the team have a valuable role to play in implementing the changes and driving the business performance.

To date, becoming CEO of **Al Shaheen** has been a challenging, stimulating and rewarding experience in which my assumptions about the way business is conducted are put to the test regularly and where, at times, my own values and beliefs are questioned. The overall experience certainly catalyses self development but for those with the right blend of self-belief, stoicism, flexibility and cultural empathy then it is an exciting and challenging environment to work in.



"Moving from the leafy Gloucestershire countryside to a fast growing city in the desert was a significant change but, in many ways, the change from leading a mature engineering company in the UK to leading a newly created service-oriented company in the Middle East has been a greater challenge."

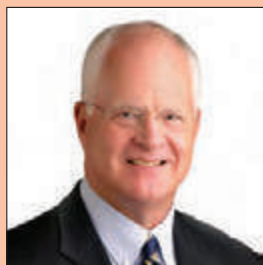
Mark Doyle attending a school graduation ceremony in the UAE. The students successfully completed the Al Bayarik citizenship programme delivered by **Al Shaheen**.





## against the clock

In this issue the two **Jims** and **Stephanie** spend 60 seconds with UltraNews, sharing random facts about their careers and personal lives...



### Jim Baur

**US Proxy Board** – Chairman

I joined Ultra with stand-up of the Proxy Board in late 2009. Prior to this I managed Lips BV's North American operations from 1989 to 2004 under a Special Security Agreement. Following that I struck out on my own and managed projects for two more Dutch businesses and I also serve on the Senior Management Team of a privately owned electrical distribution company.

#### 1. What was your very first job?

Joining the family business at a very tender age. My father owned a wholesale greenhouse, which was essentially a 24/7/365 enterprise. My first real job was taking an equity position and managing a marine machine shop in Miami, Florida.

#### 2. If you could open your own business, what would it be?

Well I have opened my own business, which is the Limited Liability Corporation (LLC) I set up in 2004 to pursue opportunities to serve on Special Security Agreement boards. This ultimately led to my second interview with Rakesh (he can explain the first) and appointment to Ultra's Proxy Board.

#### 3. If you could choose any day of your life so far to be Ground Hog day, which would it be?

Several candidates here and would have to narrow the field down to children (3) related events, such as birthdays, weddings and graduation from University.

#### 4. What scares you the most?

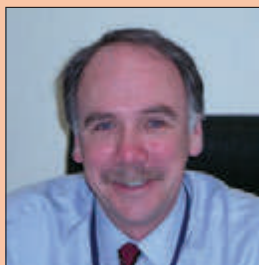
No Defense Appropriations Bill for 2011, six Continuing Resolutions, no Defense Appropriations Bill for 2012 and the all the swirl surrounding the debt ceiling and lack of sensible debate. Logic has left the building.

#### 5. What do you do during your free time?

Not allowed under the Proxy Agreement! However I do sneak off and play golf or kayak in local rivers and the Chesapeake Bay.

#### 6. What makes you bored?

Government Security Committee meetings – please do not tell John Robusto!



### Jim Hanlon

**Maritime Systems** – President

I joined Ultra in May 2008 as part of the acquisition of MISL, and was appointed President of **Maritime Systems** in 2009. Joining Ultra was a bit of a return home for me as I worked as a design engineer at Hermes Electronics, the predecessor to **Maritime Systems**, in the late 1970s and early 1980s.

#### 1. What did you want to be when you grew up?

An astronaut – I was a 'space junkie' growing up! My bedroom walls were plastered with pictures of rockets.

#### 2. What talent do you wish you had?

Music – I wish that I had paid more attention during music classes. I love music, but can't really play a note.

#### 3. If you could change one thing about yourself, what would it be?

I'd like to be more comfortable with "Il dolce far niente" – the joy of doing nothing. I may be doomed; my Dad worked until he was 82!

#### 4. What were you doing the last time you really had a good laugh?

Probably listening to one of my kids. They are now adults, but all three have amazing senses of humour.

#### 5. Which celebrity would you most like to have dinner with?

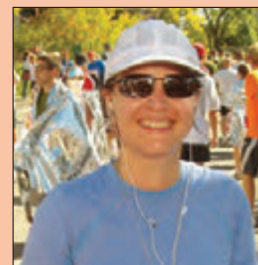
If I'm allowed to pick a dead one, I'd go for Sir Alexander Graham Bell; the telephone guy. I'm a big fan of his. His family home and his final resting place are here in Nova Scotia. The Bell museum is a wonderful place to visit; full of examples of his many inventions. He was a true innovator.

#### 6. What has been the most decadent treat to yourself?

Buying a 35' sailboat; this was my gift to myself when my partners and I sold our first company to Cobham.

#### 7. What was the first important historical event that you remember living through and have remembered ever since?

The Cuban Missile Crisis – My dad was in the Canadian Navy and I remember the concern in my house that he would end up getting deployed to enforce the embargo. He wasn't!



### Stephanie Tremblay

**TCS** – Engineering Director

I joined **TCS** Ottawa as Engineering Manager in March of 2010 and was appointed Engineering Director for the Electronic Warfare and Adaptive Antenna group in June of this year. Since graduating 20 years ago (Electrical Engineering, RF & Communications), I've worked in large and small companies, designing and managing various wireless and optical telecommunication product developments.

#### 1. What are you working on at the moment? How is it going?

The TCS Engineering team in Ottawa is going through a period of growth and transition, supporting new business opportunities in COMINT, ELINT and Active Systems. In addition to Electronic Warfare, we are also developing adaptive antennas as well as supporting innovative research projects aimed at reducing Size, Weight and Power (SWaP) and cost. Although growth also calls for process and culture changes which are sometimes more challenging than the technical problems, it is a very motivating and exciting time.

#### 2. Is there anything you miss from your childhood?

The youth orchestra on the south shore of Montreal. I'm thankful I was given the chance to learn the violin and the orchestral experience made it extra fun and rewarding.

#### 3. What is the worst punishment you had when you were a child?

Although tedious at the time, what seemed to be constant chores (scrubbing, waxing, raking), did teach me to appreciate the value of hard work and a job well done. I believe my father's favorite movie was "The Karate kid" (Wax on, wax off).

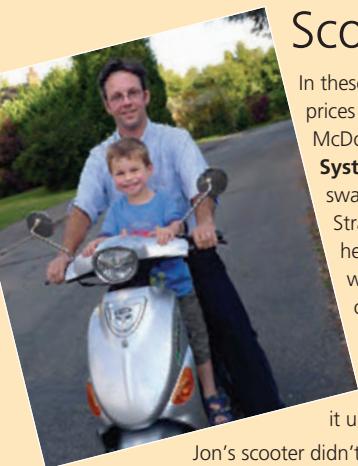
#### 4. If you could change on thing about yourself, what would it be?

I need to work on my poker face.

#### 5. What CD are you listening to in the car?

Classical music, unless my kids are in the car (not so cool).

## and finally...



### Scooter power

In these hard times and with fuel prices going through the roof, Jon McDonald of **Command & Control Systems** had the bright idea of swapping his car for a scooter. Straight on to eBay that evening, he thought he'd hit the jackpot when he scooped a scooter for only £180. The problem was, it was electric, and a non-runner! But with the help of some bright sparks at work, he had it up and running in no time.

Jon's scooter didn't quite have the range for the 16-mile round trip, so **Command & Control Systems** installed an outside plug for Jon to charge his scooter at work. He's now part of Loudwater's ISO14001 Environmental Management Policy so everyone's happy!

Jon estimates it costs him 30p/day to run (Road Tax is free!) compared to his car which cost him £5.40 in fuel alone!

### Barry bowls us over



Barry Patterson, Goods-in Inspector at **CEMS**, will be representing England over 50s at the British Isles Indoor Bowling Championships in North Wales this autumn. Barry (pictured centre), who has worked at Ultra for 16 years and admits to devoting his entire leave allowance travelling up and down the country playing bowls, qualified for the event by winning the National Indoor Triples event with his club Moonfleet 2000 last year.

### Sandy plays on...

Sandy Taylor, part of the Ultra Electronics, Australia, Marketing Team, has had an exciting end to his season in the South Australian Rugby Union competition. Unfortunately, his team, Old Collegians, narrowly went down in both Premier and Reserve Grade, capping off a disappointing season for the club, although a relatively injury free season for the Ultra back-rower. On the back of a 2011 Club best player award, rather than retiring, Sandy has vowed to play on and hopes to win back the allusive trophies – much to his family's (and Managing Director's) dismay!



### Mark's London triathlon success

Mark Gardner, engineer from **Precision Air & Land Systems** (pictured first from the right) and three other members of Stroud swimming club recently took part in the Virgin Active London Triathlon on the 30th July. Mark completed the 1500m swim 40km bike ride and 10km run in 2 hours and 31 minutes coming 324th out of 1400 participants in the male open age group. This is now the largest Triathlon event in the world, with 14000 competitors taking part.



### Out and about for DofE

There is no better way to enjoy the great outdoors than leading a group of Gold Duke of Edinburgh participants on a 4 day expedition to Snowdonia.

Pete Lunnon, recently appointed Nuclear Project Engineering Manager within **Command & Control Systems** has been involved with a local Duke of Edinburgh group for the last few years. This involves mentoring them throughout the year in all manner of outdoor and wild country skills.

This includes several practise expeditions, usually involving a hike over the Brecon Beacons. The culmination of the year is the expedition to Snowdonia. The terrain is a true test of the participant's skills and requires sheer determination. Snowdonia has the tendency to catch out the unwary. The years preparation involves the leaders spending a fair amount of their own time in the area, familiarising themselves with the terrain as well as enjoying themselves.

### 1,000m free sky dive!!!



Staff colonel Saeed Al Ghaithi, Deputy Director for the Al Bayriq Project at Al Shaheen, is a fan of the outdoors, listing scuba diving, motor biking, sky diving and body building as his hobbies.

Recently Saeed completed a 1,000m free dive starting at 2,500m. Saeed served for 31 years in the UAE Special Operation Command, and has also won four local body building championships and has participated at international level as well.

## feedback

I hope you've enjoyed this edition of UltraNews. The magazine has certainly grown in size quite substantially, which itself is a good indication of just how much exciting news there is to report from around the Group. As ever, please send any feedback or suggestions for the future to me.

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# UltraNews

**the results are in!  
audacity winners  
announced**

see pages **4** and **5** for the full list

**also in this issue:**



from UK submarine propulsion  
to global new build –

**Ultra's nuclear ambitions  
continue to grow**  
pages **10** and **11**



Agility – to respond to a  
changing market environment

**Mike Clayton** talks about  
Ultra's culture of agility  
pages **2** and **3**



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"If a business is to be agile, the people within that business need to be agile."

# Agility.

## to respond to a changing market environment

If I have learned one thing during my 13 years with Ultra, it is that changing market conditions are the norm. Just when you think you fully understand the market, the world changes under you. When I joined **Command & Control Systems**, we had one customer and two related main products. Within two years, that customer had decided to take our work in-house and **Command & Control Systems** embarked on a transition that it is still going through today.

One of the challenges facing Ultra's businesses is the dichotomy that exists today between the availability of an ever increasing amount of data about markets, competitors and customers that needs to be understood and the agility needed to be in a position to satisfy customer requirements as they rapidly change at the point that they wish to procure. At some point you need to commit based upon incomplete information and be prepared to refine your position/product/approach as the situation firms up around you.

Ultra's culture is highly supportive of the need for this agility. The autonomy given to the Group's individual businesses to create and pursue their own business strategies, the encouragement of entrepreneurial behaviours and the belief in customer-centricity will all help to differentiate us in an increasingly competitive environment. Within Ultra, no position in the company enjoys more



## Mike Clayton Managing Director, Information & Intelligence Systems

“Within the businesses, I see people thinking on their feet and reacting to change every day.”

autonomy than a Managing Director or President and they, along with their management teams, have the ability to improve and refine almost everything within their business.

So how do we prepare for the ever changing world? To use the Information & Intelligence Systems division as an example, the first thing to remember is that the world is not getting any safer. The need for Ultra's products and services in the security sector remains strong. In difficult market conditions, however, we must stay paranoid as our competitors will also look to manoeuvre themselves into this area of high customer preferential spend to make up for a lack of growth elsewhere. Therefore, we must continue to find new ways to differentiate our offerings from our competitors in a way that our customers value. Furthermore, we must make sure that we have the offerings that our customers need ready at the time that they are able to secure the funds to procure. In my experience, customer relationships are the key to selling. I have never yet won a significant bid with a new customer without spending time getting to know that customer, their buying process and their operational needs.

The key to being agile is the ability to react quickly to the changes around you. Change is almost always difficult, but again, in my experience, the only real regrets that I have are when I suspected what needed to be done, but did not act quickly enough.

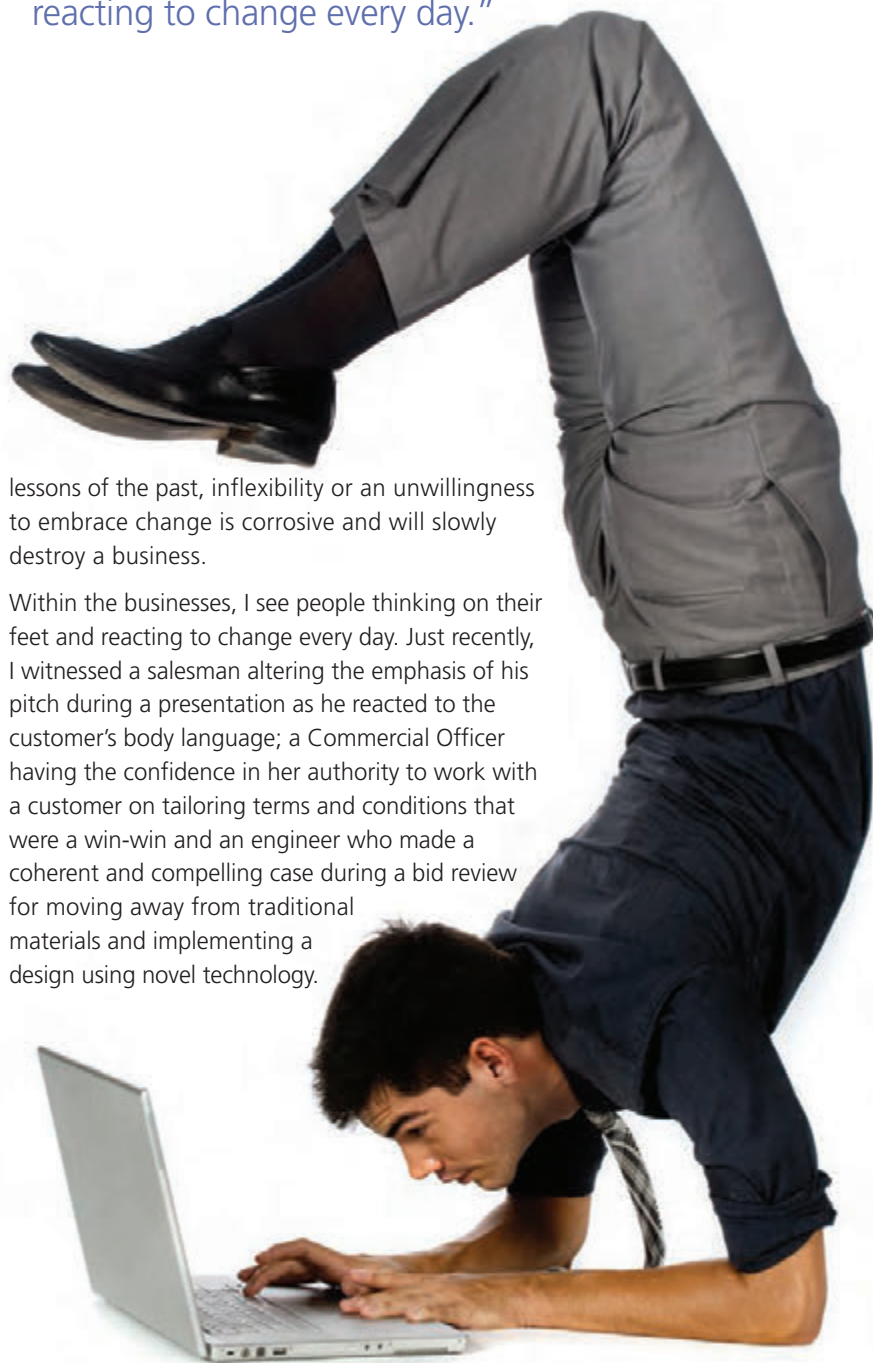
Agility comes from all levels and all disciplines within the business. I'm sure we have all worked with people who love to tell you that 'we have always done it this way'. This attitude should always be challenged. Whilst we need to learn from the

lessons of the past, inflexibility or an unwillingness to embrace change is corrosive and will slowly destroy a business.

Within the businesses, I see people thinking on their feet and reacting to change every day. Just recently, I witnessed a salesman altering the emphasis of his pitch during a presentation as he reacted to the customer's body language; a Commercial Officer having the confidence in her authority to work with a customer on tailoring terms and conditions that were a win-win and an engineer who made a coherent and compelling case during a bid review for moving away from traditional materials and implementing a design using novel technology.

If a business is to be agile, the people within that business need to be agile. We need to take the authority that we have been given, enjoy the responsibility that comes with autonomy and ceaselessly strive to keep Ultra one step ahead of the competition.

In the 21st century marketplace, **only the agile will survive.**



## Behaviour

# audacity fund winners!

Ultra  
Audacity Fund



### 2012 Ultra Audacity Fund

Total number of proposals: 50

The following 8 were selected:

**Who:** Martin Carpenter, Ray Challis, Andy Chilton, Jenny Lawton, Rob McDonald, Kim Wrighton and Andy Yates

**Project:** Fuel Tank Inerting System (FTIS)

**Business:** combined submission from Precision Air & Land Systems and Controls

**Funding awarded:** £100,000

**Idea:** To develop a system to inert the air above the fuel in the fuel tank on an aircraft to meet new aviation safety standards designed to limit the risk of explosion.

The demonstrator is being produced in support of the Chinese MA700 civil turbo prop aircraft opportunity but it is planned to use it to demonstrate Ultra's capability to other potential customers.

The design is being produced with the support of specialist consultant Phil Jones who has considerable experience with such equipment, having produced similar demonstrators for Federal Aviation Authority (FAA) trials.

**Who:** Keith Scivier

**Project:** Portable generator

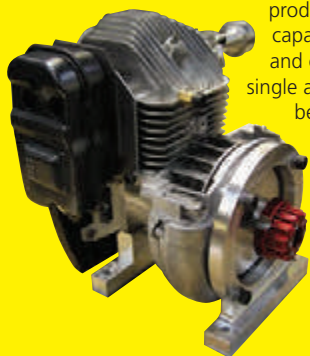
**Business:** Precision Air & Land Systems

**Funding awarded:** £50,000

**Idea:** To develop the system architecture and a prototype for a lightweight 1Kw portable generator.

Ultra has been tracking a number of opportunities for small generator sets. An opportunity has arisen with the United States Marine Corp for a portable generator with a request for quote expected late 2012. The Project Office intends to request a demonstrator unit, with the submission, to show capability.

PALS intends to use its audacity funding to produce hardware showing capability for this opportunity and other customers. Ultra's single and twin cylinder engines are being combined with an electrical generator. Electronics from PALS are being integrated with the existing engine fuel injection electronics to develop an overall control system.



**Who:** Adam Gaither

**Project:** Situational Awareness Information Distribution (SAID)

**Business:** ProLogic

**Funding awarded:** \$75,000

**Idea:** To implement a prototype of a system that provides situational awareness information when network connectivity is degraded.

The SAID vision is a set of software services that combine operational Tactical Data Link (TDL) and modern Massively Multiplayer Online Gaming (MMOG) communication techniques to provide a scalable real-time Common Operational Picture (COP) to thousands of warfighters over a Mobile Ad-hoc Network (MANET). SAID services provide blue and red force locations down to the individual warfighter in order to reduce fratricide and facilitate target identification/interdiction. SAID services are intended to be integrated with operational TDL networks, Global Information Grid (GIG) networks and evolving MANET networks. Once a prototype has been implemented, SAID will be marketed to the US and coalition research and development agencies for additional funding.



**Who:** Jeremy Loomis, Craig Molina and Michael Reichle

**Project:** Virtual Access to the Ultra Library of Talents (VAULT)

**Business:** ProLogic

**Funding awarded:** \$150,000

**Idea:** The VAULT project looks to automate and improve the internal process within Ultra for sharing key information (past performance, customers, capabilities, competencies, components, products) across the Group's businesses by implementing an online portal that is hosted in a secure cloud infrastructure to allow all stakeholders to efficiently approve, publish, discover, and access content.







Scoping and engineering the VAULT system will address several challenging areas:

- Consulting with relevant stakeholders to understand requirements
- Considering options for authentication, authorization, storage, and workflows
- Analysing different cloud computing infrastructures and web platforms
- Ensuring compliance with IT security, ITAR, and Proxy restrictions

Based on early feedback from Ultra leadership, VAULT will be considered as a possible solution for interacting with Ultra's Group intranet, providing a cloud-based portal for information sharing by all affiliates. The team is excited to demonstrate how improved collaboration technology can augment the Group's performance.

**Who:** Keith Scivier

**Project:** Data over power initial prototype

**Business:** Precision Air & Land Systems

**Funding awarded:** £50,000

**Idea:** To manufacture a prototype of a data over power system, which uses pre-existing power cabling to carry data, significantly reducing vehicle infrastructure and refit costs.

The full potential of this market is under evaluation, however time to market will prove critical.

Following the production of the demonstrators, 'voice of customer' meetings are due to take place in the US. Additionally, assessments are being made to quantify the work needed to convert the Power Ethernet product into a fully ruggedised military product. For more information, go to: [www.youtube.com/ultrapals](http://www.youtube.com/ultrapals)

**Who:** Nigel Roberts

**Project:** DC controlled variable AC reactor

**Business:** PMES

**Funding awarded:** £50,000

**Idea:** A useful device in any power transmission and distribution scheme is a simple, inductor (called a reactor). Reactors are important as they perform a variety of beneficial functions such as stabilising and controlling current in the power circuit. Following the award of Audacity Funding, PMES is developing a variable reactor which uses a DC current saturation method to vary the reactor.

The mode of operation of this variable reactor has significant advantages over conventional reactors. The new device is comparatively compact, with no moving parts and it will have a faster reacting, stepless tuning range. The potential applications for such a device are numerous; but being able to tune out unwanted harmonics and protect equipment used to transmit renewable energy is key amongst them.



Work to date has focussed on the design and manufacture of a single phase prototype. Following favourable test results, the team will progress to a full scale three-phase demonstrator for final testing.

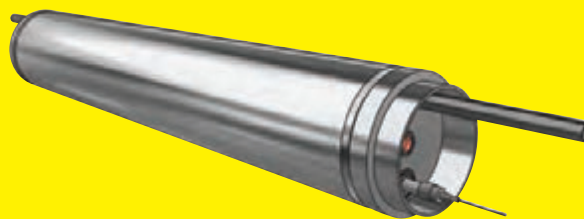
**Who:** Paul Kent and Jonathan Hughes

**Project:** MISCA Generation IV Neutron Flux Detector (NFD)

**Business:** Nuclear Control Systems

**Funding awarded:** £50,000

**Idea:** In a nuclear power station, sensors, called neutron flux detectors, are placed inside the nuclear reactor to monitor the 'speed' of the reaction, allowing the reactor to be managed safely. These sensors are designed to withstand the extremely high temperatures that exist inside the reactor.



The MISCA project provides Ultra with a unique opportunity to gain an early niche position on the Generation IV platform of nuclear power station. Loaded into the core of a nuclear reactor, the innovative system is designed to detect neutron flux at operating temperatures up to 850°C.

The project scope is to produce a 'proof of concept' demonstrator, for marketing to consortia developing the Generation IV reactors, with the goal of qualifying Ultra's MISCA design into the architecture. The simplicity and robustness of the design enables flexible scaling and configuration options which may be of benefit to operators of current day Gen II+ and III reactors, along with applications in other industries such as oil and gas exploration and space.

**Who:** Denis Couillard

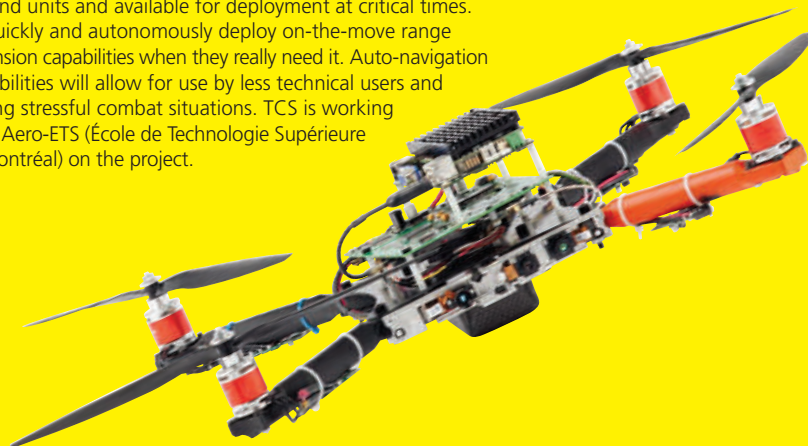
**Project:** 'Launch and forget' aerial relay node

**Business:** TCS

**Funding awarded:** \$75,000

**Idea:** High data rate on-the-move communication systems used by militaries suffer from range limitations. Once a unit is detached from the main body, ground obstruction and frequency bands characteristics prevent broadband connectivity with the detached unit beyond a kilometre. As UAVs or helicopters are expensive assets dedicated to higher priority missions, they cannot be relied upon as aerial relays to solve this critical problem.

TCS will develop a system that will be deployed by selected ground units and available for deployment at critical times. To quickly and autonomously deploy on-the-move range extension capabilities when they really need it. Auto-navigation capabilities will allow for use by less technical users and during stressful combat situations. TCS is working with Aero-ETS (École de Technologie Supérieure in Montréal) on the project.



"This visit was recognition of the contribution by all of the employees here."

# VIP visits

## Oliver Letwin MP visits Ultra's site in Weymouth

The Rt Hon Oliver Letwin, Minister in the Cabinet Office responsible for co-ordinating government policy, visited Ultra's Weymouth site in January on the invitation of Rakesh Sharma. Mr Letwin is the Member of Parliament for West Dorset and his constituency borders the location of the Weymouth site.

Mr Letwin toured the factory, showing great interest in the achievements of the three Ultra businesses represented in Weymouth; **Sonar Systems**, **Card Systems** and **CEMS**. With around 400 Ultra employees now located in Weymouth, all three businesses have grown rapidly in recent years. A significant proportion of the business is export-led, with sonar successes in Australia and Turkey, Magicard card printers sold all over the world, and **CEMS**'s manufactured printed circuit assemblies used in many high-tech applications. The visit was used to emphasize the importance of Ultra to the UK economy as a major exporter.



value technology products for defence, energy, and national infrastructure projects for over 50 years. As we expand our product range and broaden our global footprint, we will continue to provide cutting edge technical solutions and so contribute significantly to the local economy. This visit was recognition of this contribution by all of the employees here".

Whilst at **PMES**, The Duke and Sir James met June Oldacre, who is retiring from Ultra in the summer having started working for the business in January 1965. So taken were they with this achievement that Sir James invited June and her husband to attend a garden party hosted by Her Majesty The Queen in May. June has promised to share all the gossip from this event in the next edition of **UltraNews**.



## Chancellor of the Exchequer attends Oman contract signing ceremony

On the 4th April, Ultra Electronics and the Omani Ministry of Transport and Communication signed the contract for the major airport systems integration project in Oman. The signing ceremony, held in Muscat, was attended by HE Dr Ahmed Bin Mohammed Al Futaisi, Transport and Communications Minister; George Osborne, the UK Chancellor of the Exchequer and Mark Anderson, Group Marketing Director.

## PMES hosts HRH The Duke of Kent KG

In November, **PMES** was honoured to host a visit by HRH The Duke of Kent KG. His Royal Highness was accompanied by the Lord Lieutenant of Staffordshire Sir James Hawley KVCO and was hosted by Douglas Caster and Jon Everett, Managing Director of **PMES**.

His Royal Highness was given a full tour of the state-of-the-art facility, opened in July 2009, where he met a number of employees, witnessed demonstrations of some of the company's products and saw at first-hand the complex manufacturing processes. HRH also ceremonially dug the first piece of earth signifying the commencement of construction of a new, company-funded motor test and development facility.

"We are honoured to welcome HRH The Duke of Kent on his visit to Staffordshire" Jon told UltraNews afterwards. "**PMES** has been engaged in the design and manufacture of high-





## Investment

# Investing in facilities

Not only does Ultra's investment into new and re-furbished premises give Ultra's employees better environments in which to work, but it also allows the business to access new technologies, processes and resources.

Many of Ultra's businesses have relocated or refurbished their offices recently, such as **ATS** and **Ocean Systems**. Since its acquisition in September last year, **AEP Networks** has relocated to join **Command & Control Systems** on its site near High Wycombe in the UK. On the Greenford, West London, site (home to three Ultra businesses as well as Head Office)

**Communication & Integrated Systems** and **Sonar Systems** are currently undergoing a total renovation project. During this process, **Sonar Systems** was relocated to another unit on the business park. However, at the beginning of April they moved back into their newly renovated building. **CIS** is next up, with improvements to its building having to take into account the need for a secure working environment owing to the nature of the crypto work that takes place on the site.

Here's just a small selection of other such examples of investment that have taken place recently.

## Nuclear Control Systems celebrates the opening of its Wimborne site

In January 2012, **Nuclear Control Systems** became a separate Ultra business and the official launch took place on 23rd February at its Wimborne site in Dorset.

**Nuclear Control Systems's** staff from the Wimborne site, together with representatives from the Loudwater and Preston sites, were present to hear speeches from Douglas Caster, Ultra's Chairman and Lord Hutton of Furness, Chairman of the Nuclear Industry Association. A plaque was unveiled by Lord Hutton to commemorate the occasion.

Following the ceremony, guests were given a tour of the facility to view demonstrations covering the wide area of expertise offered by **NCS**.



## PALS makes a great move

**Precision Air & Land Systems** closed the door and turned the key for the last time at its Alexandria facility in Virginia, USA on the last working day of 2011. This facility provided the base for the strategic 'in-country' extension to the UK based **PALS** engineering, marketing and repair and overhaul capabilities.

Whilst a sad occasion for many of the team at Alexandria the great news is that the existing capabilities continue to develop in line with strategic objectives in two new facilities at Lanham, Maryland and Columbia City, Indiana.

The Lanham office is the focus for **PALS's** US engineering and marketing while the repair and overhaul engineering facility at Columbia City, co-located with **USSI**, which conducts equipment repairs at aircraft integration and early production phases of a programme. This completes **PALS's** total US engineering capability.

Closing Alexandria and conducting the huge task of moving to Lanham and Columbia City whilst maintaining 2011 year-end sales was a great achievement by all staff involved.



A new office in Lanham for **PALS US**

## PMES opens new production facility to meet customer demand



On 19th January, Hans Roger Jensen of EMGS officially opened the new E-Field sensor production facility at **PMES**.

Since receiving the first E-Field sensor production order from EMGS last year, demand from EMGS has increased rapidly for this new sensor technology. To meet this exciting demand **PMES** has invested in a state of the art production facility that is capable of producing up to 200 sensors per month.

EMGS has so far placed orders for over 2000 sensors to support their hydrocarbon surveying activities. In December 2011 a production rate of 100 sensors per month was achieved and this rate will be maintained well into 2013. Further production orders are anticipated to be placed by EMGS and production ramped up to 200 sensors per month as **PMES's** sensors are fitted across their growing fleet of receivers.

## CEMS continues to grow

Coming hot on the heels of **CEMS's** new facility near Cambridge, UK, the business's Microelectronics unit, based in Portchester, UK, has now completed phase one of an expansion into an adjacent 12,000sq ft. unit and commissioned a new clean room. Currently housing 14 long-term storage cabinets, the clean room will be further expanded to provide additional microelectronics fabrication capacity. Design services will also be extended.



Increased space for **CEMS** in Portchester



Increased space for **CEMS** in Portchester

## China & Qatar Joint Ventures

# Venturing into the unknown

Ultra has recently established a presence in both China and Qatar, two countries with significant growth potential for the Group. Teaming with local partners who have local expertise and contacts is a good way of de-risking the process of selling in new or unfamiliar regions. As such, Ultra has formed new joint ventures in these two countries: **Ultra Electronics, Top Scientific Aerospace** and **Ultra Electronics, Qatar**.

**Ultra Electronics, Top Scientific Aerospace Limited**, a joint venture between Ultra and Chinese engineering firm Top Scientific Systems Inc. was established in summer 2011 in Hong Kong with operations throughout mainland China to pursue civil aerospace and airport IT opportunities. Top Scientific Systems Inc. is a part of the China Merchants Technology Group, owned by the China Merchants Conglomerate ([www.cmhk.com](http://www.cmhk.com)). China Merchants is one of top four state-owned enterprises in Hong Kong symbolising the Chinese sovereign government internationally. Its business scope ranges from manufacturing and engineering, transport, banking and financing and insurance to property development. China Merchants was established in 1872, and is the oldest commercial firm and corporation brand in China. China Merchants reports directly to the State Council and is one of the ten largest and most profitable enterprises in China. It is seen as a great privilege to work and associate with China Merchants both for individuals as its employees and local companies and government as suppliers and customers.



Through this new joint venture, Ultra and Top Scientific have been actively marketing and pursuing their capabilities for several aircraft platforms, include a turboprop transporter and regional and business jets. Through the efforts of the JV, Ultra and Top Scientific are confident of becoming a respected supplier of high-integrity systems for the selected platforms for which the JV has competitive offerings.

In addition to the aerospace sector, the JV is also promoting and assisting Ultra's businesses and activities where clients are local government authorities. For example, **Airport Systems and Card Systems** are currently deploying products with Hangzhou and Kunming airport authorities and the Fujian and Xijiang Public Security Bureau. Other identified areas and opportunities in the short term include engineering and manufacturing components and parts for high speed trains and improving China's civilian nuclear security and safety standards. The wide business spectrum covered by China Merchants and its long history and strong establishments across China have provided Ultra's businesses working in China with unique market access and a formidable winning formula.

### Ultra Electronics (Qatar) LLC,

headquartered in Doha, is a joint venture between Ultra and Oryx Energy Projects and Services. The company was officially incorporated on the 8th November 2010.

In October 2011, at the point of reaching initial operating capability, an official company launch event was held (a short video of which is available on YouTube; search for Ultra Electronics Qatar). The event was supported by the British Embassy and was attended by His Excellency, the British Ambassador Mr John Hawkins. Ultra had a strong presence at the event including Rakesh Sharma and Phil Evans, Managing Director of the Aircraft & Vehicle Systems division and a number of business development managers from the Ultra businesses. A number of potential clients attended the launch and several strong leads have been generated as a direct result. Ultra's local partner is Abdulla Ahmed Al Mannai, a well-respected and successful businessman. He brings added value to the joint venture through his local knowledge of the Qatar business system and also possesses a wide network of local business contacts. Oryx's activities focus on the oil and gas, petrochemical and utility sectors.

The two main objectives of the company are to:

- develop opportunities and support the sales of Ultra's technical capability
- deliver consultancy in the areas of: infrastructure security, organisational development, training management and business continuity

Qatar has the world's highest GDP, it is the safest place to live and work in the Middle East and North Africa (MENA) region as well as being the most transparent country with which to do business in MENA; ranking higher than UK. The impending Soccer World Cup in 2022 and the possibility of the 2020 Olympics are the biggest drivers of a multibillion dollar spend on facilities, infrastructure and security over the next 12 years.

In the Middle East one of the most important elements of successfully doing business is to have close relationships with prospective clients and this has been the main focus over the past year. Having a local presence in Qatar will assist in the prosecution of business where, on many projects, a local presence is mandated. Potential opportunities are emerging in a number of sectors including maritime (navy and coast guard), power systems (navy and the railways) and security (oil and gas, ports). Thus far the company has enjoyed good engagement from a number of Ultra businesses and it is expected this support will grow even further as further opportunities emerge.

For more information on Ultra's presence in China or Qatar contact: [Jenny.Lawton@ultra-electronics.com](mailto:Jenny.Lawton@ultra-electronics.com) or [John.Anderson@ultra-qatar.com](mailto:John.Anderson@ultra-qatar.com)



Pictured clockwise from top: Rakesh Sharma with Abdulla Ahmed Al Mannai; John Anderson introduces His Excellency, the British Ambassador to Qatar Mr John Hawkins; Douglas Caster talks with Brian Lin, President of Top Scientific Systems Inc.



## Systems Engineering & Project Management

# Develop your skills

In conjunction with UCL, Ultra is running three-day workshops in **systems engineering** and **project management** bi-annually

### Systems engineering

Designed to address the principles and concepts behind systems engineering and systems engineering management. Using best practice from industry, the course relates the processes and practises of systems engineering to Ultra's business. The course is aimed at line managers, senior engineers and design authorities who are new to the subject and those systems engineers who would like a refresher. The courses run twice a year, so ask your line manager or HR team for more details on how to book your place or visit the systems engineering site on the Group Intranet.

For more information visit:

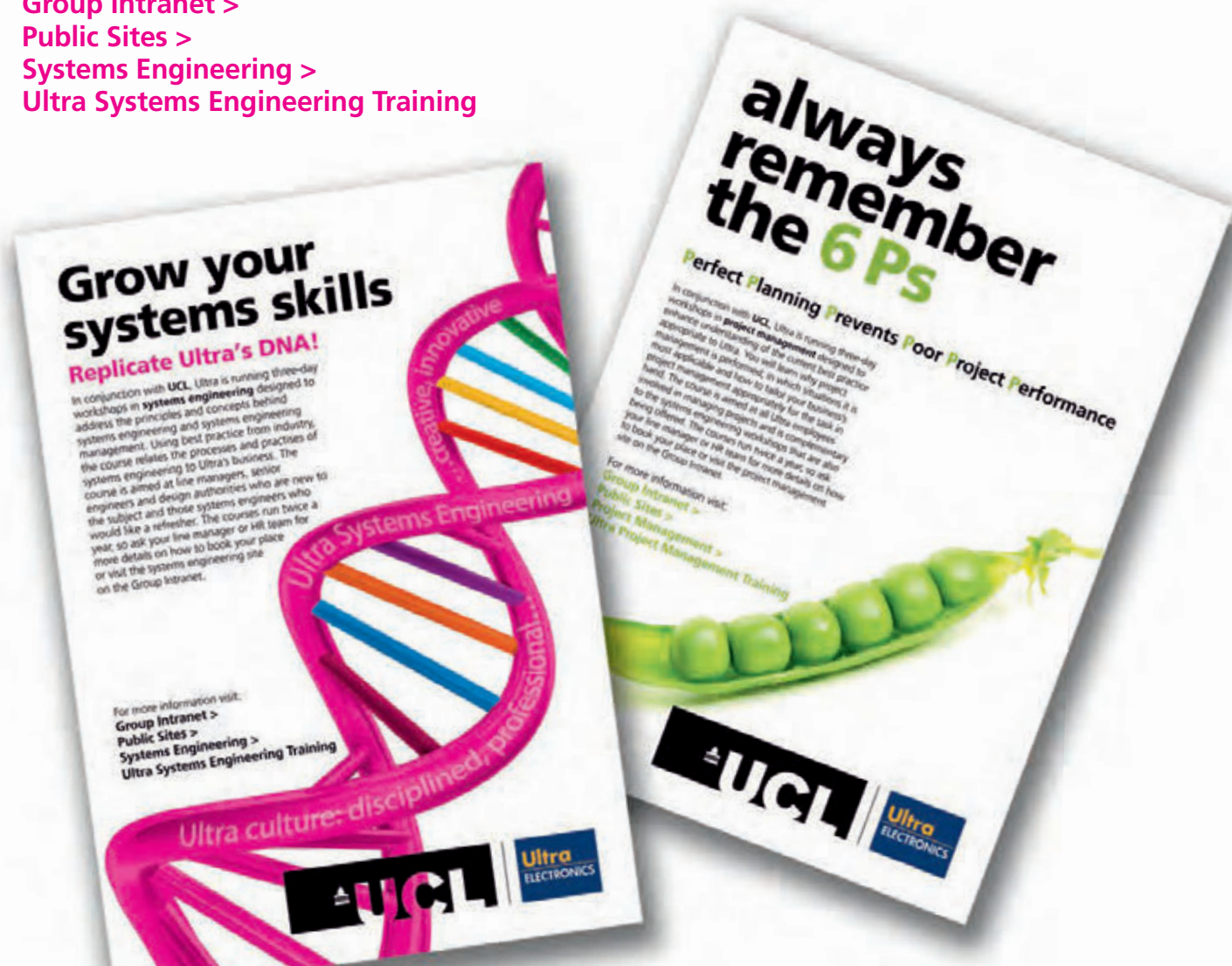
**Group Intranet >**  
**Public Sites >**  
**Systems Engineering >**  
**Ultra Systems Engineering Training**

### Project management

Designed designed to enhance understanding of the current best practice appropriate to Ultra. You will learn why project management is performed; in which situations it is most applicable and how to tailor your business's project management appropriately for the task in hand. The course is aimed at all Ultra employees involved in managing projects and is complementary to the systems engineering workshops that are also being offered. The courses run twice a year, so ask your line manager or HR team for more details on how to book your place or visit the project management site on the Group Intranet.

For more information visit:

**Group Intranet >**  
**Public Sites >**  
**Project Management >**  
**Ultra Project Management Training**



"Ultra's first non-UK nuclear acquisition, Nuclear Sensors & Process Instrumentation (NSPI), in 2008 added a further 120 qualified engineers within the US..."

## Ultra nuclear

# from UK submarine propulsion to global new build

In January 2012 the first production submarine Reactor Control and Instrumentation (RC&I) update, designed and built by **Nuclear Control Systems** (NCS), was successfully installed and commissioned at the Royal Navy's land based nuclear reactor (Vulcan Shore Test Facility) in Dounreay, Scotland. This was the culmination of a demanding seven year programme to ensure the Royal Navy could continue to deploy a 'deterrent-at-sea' capability with its Vanguard Class submarines and also provide a mid-life upgrade to the Astute class.

RC&I Update is the first full reactor control, protection and monitoring system designed in the UK for over 20 years and described by Rolls-Royce as a 'substantial technological achievement'. Winning the original contract in 2004 gave Ultra its first taste of operating within the highly regulated nuclear sector and the platform from which to grow its wider nuclear ambitions. Across the Group, Ultra now has approximately 300 staff engaged on worldwide nuclear programmes with combined revenue of over £70m.

### The evolution of Ultra's nuclear business

The RC&I Update programme required that Ultra develop a small team of specialist nuclear engineers and a secure (and separate) infrastructure to meet Naval Nuclear Power Plant Information (NNPPI) and regulatory requirements. **NCS** was subsequently created as a new business unit within **Command & Control Systems** to build upon these skills and spearhead Ultra's drive into the wider nuclear sector.

Ultra's evolving position within the nuclear regulatory framework has been successfully employed to identify new opportunities with Ultra businesses including **PALS** on COS gas injection systems for EDF's AGR reactors and **CEMS** on instrumentation build for both civil and military nuclear programmes.

Complementary offerings through **PMES** on submarine power systems have given Ultra niche positions within this market and a place on successor submarine platforms.

Most recently Ultra was awarded the role of Independent Nuclear Safety Assessor (INSA) to support the French nuclear reactor builder Areva on their route through the Generic Design Assessment (GDA) with the UK regulator for the build of new UK reactors. The GDA allows reactor builders to prove the safety of their design before construction starts, meaning that problems don't arise during the construction process, leading to the kinds of costly over-runs that have dogged the industry in the past. This work has extended to the provision of safety qualification work by **NCS** for the new Areva reactor being built at Olkiluoto, Finland.

Ultra's first non-UK nuclear acquisition, **Nuclear Sensors & Process Instrumentation (NSPI)**, in 2008 added a further 120 qualified engineers within the US and provided a route into US and Chinese markets. Over 80% of all North American reactors now rely exclusively on Ultra's temperature sensors for critical reactor coolant monitoring. In addition, Ultra is now firmly embedded within the Chinese new build programme with equipment installed on 28 Chinese reactors.

"Over 80% of all North American reactors now rely exclusively on Ultra's temperature sensors for critical reactor coolant monitoring."

### RC&I update – The vital statistics

- **11,614** requirements against which the delivered equipment was proven to be compliant
- **42 types** of safety critical card design to Safety Integrity Level 4 (SIL4)
- Over **50,000** lines of SIL4 VHDL code for 24 FPGA applications
- No undetected 'fail dangerous' modes in the system, proven by over **200,000** lines of FMEA analysis
- Extremely demanding accuracy targets were achieved and proven by test and **502** pages of analysis
- Majority of circuitry realised in microelectronic hybrid circuitry for reliability and obsolescence reasons
- **15** hybrid types & very high densities of circuitry (up to **240** components) to successfully implement designs
- **406,055** lines of SIL2 software code for the Test and Monitoring System (TAMS)



## Ultra nuclear

"Ultra is a full member of the National Skills Academy, Nuclear in the UK, where it has a seat on the Regional Steering Group."



### People

Global growth across the nuclear sector increasingly puts pressure upon Suitably Qualified and Experienced Personnel (SQEP) resources and this will be one of the biggest challenges for the industry over the next 10 years. Ultra is committed to developing the skills required to support both legacy plant and new build.

Ultra is a full member of the National Skills Academy, Nuclear in the UK, where it has a seat on the Regional Steering Group. The Academy is focused on creating, developing and promoting world-class skills and career pathways to ensure a sustainable future for the UK Nuclear Industry. A strong relationship with EDF has provided Ultra staff with recognised training in Nuclear Professionalism and Ultra is also committed to a nuclear apprenticeship programme to develop SQEP, working very closely with the South Eastern Physics Network (SEPN) programme.

Ultra's presence within the nuclear community is further enhanced through its membership of the industry's trade and information body, where it is represented on the main board of the Nuclear Industry Association (NIA). This gives Ultra access to government policy decisions and industry strategy, key in helping to position Ultra in the global market.

### The future

Looking to the future, Ultra continues to develop products and IP to support reactor life extensions and global new build. The Fukushima incident in 2011 opened up opportunities for diverse safety systems and led to a global reassessment of safety infrastructure for both normal operational monitoring and post-accident response and support – areas in which Ultra already has an established capability.

There are significant investment trends in next generation reactor designs ranging from Small Modular Reactors (SMR's) for 'contained' facilities and commercial shipping through mid-range reactors such as the ATMEA reactor for developing countries to Generation IV and Thorium reactors under development by 2030.

Finally, opportunities are not just restricted to Ultras 'nuclear' businesses. New build requires a range of disciplines including IT infrastructure and integration, knowledge management, simulation trainers and consolidated emergency planning. If you would like to know more or wish to participate in the Nuclear Interest Group, contact:

[chris.binsley@ultra-ncs.com](mailto:chris.binsley@ultra-ncs.com)





## Douglas Caster Chairman



### Chairman's corner

"Ultra is bucking this trend by continuing to invest in its people, premises and intellectual property."

It is unfortunate that as I write this column, the difficult economic conditions that we have been operating in for the past few years remain. Given the perilous state of the Eurozone area and question marks over the fate of the Euro, these difficulties look set to continue for some time yet. As Rakesh Sharma mentions in his report later on, uncertainty in Ultra's major US and UK defence markets also continues. However, I would like to congratulate everyone throughout the Group for ensuring that despite the negative economic conditions, Rakesh and Paul Dean have been able to report good results for 2011 and the first half of 2012 to the financial community.

In reviewing this edition of UltraNews, the striking impression that I am left with is one of investment and renewal within the Group. It has often been reported in the news recently that companies are currently too nervous to invest their money and so are hindering growth. It is clear to see from the articles in this magazine that Ultra is bucking this trend by continuing to invest in its people, premises and intellectual property.

We have always said that it is vital for Ultra to have a well-trained and committed workforce and so the Group's commitment to developing its people remains one of our core strategic tenets. The 'people on the move' section later on in the magazine again shows a large number of employees moving around the Group, taking on more responsibility. The focus on this page is on those who are most visible in the organisation and so is nowhere near exhaustive but gives an indication of our commitment to bringing the best out of our people. Similarly, the systems engineering and project management training courses that we put on, in conjunction with UCL (one of the world's top five universities), demonstrate our desire to provide excellent training resources to help our employees grow their skills and enhance their careers. I encourage as many people as possible to attend these courses.

Moving on to premises, it is interesting to note just how many projects have either just been completed or are under way around the Group to ensure that Ultra's people not only have a good environment to work in but also that the Group has the resources it needs to compete with others. It was with great pleasure that I attended the openings of **PMES's** new E-Field sensor production facility and **Nuclear Control Systems's** new premises, both of which promise to be fantastic centres of excellence.

Apart from the usual investment in research and development, the Group continues to focus on ways to expand into adjacent specialist capabilities by acquiring new businesses and I would like to extend a warm welcome to **SOTECH**, **Zu**, **GigaSat** and **BeMac**, who will augment our cyber security and communication offerings. I would also like to congratulate **Nuclear Control Systems**, **Card Systems** and **CEMS** for growing to the point where by they are now established as stand-alone Ultra businesses.

This edition of UltraNews also showcases the winners of Ultra's first Audacity Fund competition. I think this is a fantastic initiative to enable Ultra to invest in ideas which would usually be considered outside the mainstream but may give enhanced earnings potential for the business. I am pleased that in the first running of the competition so many people took the time to submit proposals of real quality.

As well as developing new intellectual property, Ultra is also focused on how we can further exploit our existing capabilities. One way of doing this is to engage new customers in new regions. The article on page 8 gives a good overview of how we have done this in China and Qatar by setting up joint ventures with local businesses.

Personally, I continue to carry the flag for Ultra in any way I can. I had an extremely productive trip to the Middle East, with Lord Marland of the Foreign and Commonwealth Office, for a trade delegation related to cyber security. We visited Qatar, Saudi Arabia and Kuwait, with Rakesh taking over from me for the final leg in Abu Dhabi.

More recently, I had the pleasure of taking part in a trade delegation to Indonesia and Malaysia that was led by the UK Prime Minister, David Cameron. Territories like the Middle East and Asia Pacific are important growth markets where Ultra is seeking to gain footholds. This is the third such trip I have taken part in since becoming Chairman; the previous two, one to China and the second to the Middle East, helped Ultra make significant progress. For example, we won the £200m Oman airport IT contract soon after joining the Prime Ministerial delegation to Oman last year and I have already mentioned signing up the joint venture in China that followed the delegation there. I am hopeful therefore that we shall have similar successes following this visit.

To sum up, it is clear that there is much activity going on around the Group and life for all is increasingly busy (including those of us who are supposed to be retired!). However, given the difficulties that many companies have been having in recent times, I am convinced that this is no bad thing. I hope you enjoy reading this edition of UltraNews.

## The Naval Review Centenary Fellowship



The Naval Review Centenary Fellowship is sponsored by Ultra and the 2012 award was made to Lieutenant Gareth Plunkett at a ceremony held on HQS Wellington, alongside the Embankment in London on 28th March. The Fellowship, which is in its third year, funds outstanding junior officers of Lieutenant rank or below in the Royal Navy to spend a secondment to the Royal Australian Navy, in Australia, for a six-week study period. As part of the six week placement in Australia, Gareth will be reporting on "Applicability of a Commando Helicopter Force to the Royal Australian Navy."

The ceremony was attended by Senior Royal Naval representatives, supporters of the Naval Review and Australia House. The Award was announced by Mark Anderson,

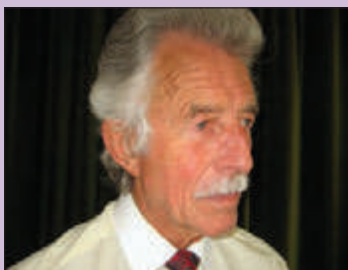
Ultra's Group Marketing Director and a Rear Admiral in his previous life in the Royal Navy, who also presented Lieutenant Gareth Plunkett with a Dory Compass 'to find his way home' from Australia once he had finished his studies. Rear Admiral David George Steel added his words of support for both the Naval Review and for Ultra's support of the Centenary Fellowship which has provided valuable experience for the benefit of the UK Royal Navy, the Royal Australian Navy and the Award Winners.

Ultra wishes Lieutenant Gareth Plunkett every success during his time in Australia and his future naval career.

Above picture L to R: Vice Admiral Sir Jeremy Blackham KCB (Editor Naval Review); Mrs Charlotte Plunkett; Lieutenant Gareth Plunkett; Rear Admiral David Steel CBE (Naval Secretary); Admiral Sir Ian And rew Forbes KCB CBE (Chairman of the Naval Review); Vice Admiral Sir Timothy Laurence, KCVO, CB, ADC(P); Mark Anderson CB.



## Ultra's Ethics Overview Committee



**David Shattock** is a retired Chief Constable and has served on the Committee since its inception.



**Major General (Retired) Tim Cross** is widely acknowledged as an expert commentator on moral and ethical behaviour.



**Martin Bell** is a journalist and former MP with a long track-record of campaigning against corruption.

# Ultra's moral compass

According to a recent survey reported in The Wall Street Journal, Board members and CEOs rank a business's reputation as their number one or two priority, along with 'people'. As you will have read in previous editions of **UltraNews**, Ultra has many policies and procedures in place to ensure that it has the right people in the right roles and that their skills and careers are developed in the right way.

It is certainly right that business leaders pay so much attention to their company's reputation. There are many tales of businesses failing due to severe reputational damage and with government legislation such as the UK's Bribery Act in place, doing the wrong thing has severe legal implications as well. But how does Ultra try to ensure that its people act in the right way and maintain the Group's reputation as a great company to do business with?

As with many things of this nature, Ultra's culture is key to ensuring that the Group acts ethically. Given Ultra's decentralised and agile nature, it is crucial that an ethos of acting ethically is embedded in the Ultra culture as it would be impossible to drive the business forward with the constant filling in of forms and other checks and procedures. Ultra has always understood the importance of giving its people the freedom to get on with their jobs. As such, the character of the business is of utmost importance. It has often been said that the character of a person, business or other entity is measured by how they will act when no-one else is looking. Ultra's business model depends on everyone doing the right thing as a habit.

This is a lot to ask and there is a realisation that everybody makes mistakes. Fortunately, Ultra has help on hand on ethical matters in the form of the Group's Ethics Overview Committee. Originally part of the Dascam business that Ultra acquired in 2008, the committee has been established at the Group level to provide independent advice and scrutiny of Ultra's business activity, providing assurance that the Group's current and planned undertakings are conducted in a manner consistent with the legislative environment and, just as importantly, are transparent and open to scrutiny.

The Committee comprises six permanent members, three of whom, including the Chairman, are independent. The independent members are David Shattock (Chairman), Martin Bell and Major General (Retired) Tim Cross.

The independent members of the Committee are self-selecting. This means that they are fully independent of the company and as such, are able to scrutinise its activities free from undue influence. The appointment of the Chairman is also exclusively within the remit of the independent members.

The three Ultra members of the committee are Rakesh Sharma (Chief Executive), Sharon Harris (Company Secretary & General Counsel) and Phil Evans (Divisional MD, Aircraft & Vehicle Systems).

The Committee meets approximately six times per year and undertakes a formal review of business activities. During these reviews, the independent members provide advice and guidance on the appropriateness of target markets and customers; on potential teaming partners, and on risks associated with operating in potentially corrupt environments.

The committee also takes note of the reports that come through the EthicsPoint hotline (although the responsibility for handling these reports rests with Chris Bailey, Ultra's senior independent Non-Executive Director, other than US security-related issues that will be routed through the outside directors of the Special Security Arrangement board or Proxy board). The Committee sees the hotline as an extremely positive, proactive approach to dealing with ethical matters and encourages its use if anyone ever has doubts about an ethical issue.

## Exhibition & Event news

# Ultra on show

Since the last issue of UltraNews, Ultra businesses have joined forces and exhibited at many events. Here we report on a selection of those events where businesses have collaborated to present a combined Ultra message.

### DefExpo 2012

DefExpo, the leading defence and security exhibition in India, has been established for several years. While several Ultra businesses have been conducting business in India for many years, DefExpo 2012 in March this year was the first time a formal presence was displayed. Representatives from **PALS**, **PMES**, **Maritime Systems** and **TCS** made the journey to Delhi. **TCS** had four systems installed on military vehicles for demonstration while **PALS** had a battery monitoring system demonstration on a vehicle with Hi-Tech Robotic Systemz. As well as galvanising existing business associations, many new contacts were made as well as learning much more about future opportunities in the region.



### Surface Navy

The annual Surface Navy Association exhibition takes place in Crystal City, on the outskirts of Washington D.C. in January. Ultra was represented by **Ocean Systems**, **EMS** and **USSI**, displaying capabilities in countermeasures, acoustics, sonar, signature management, power management and acoustic hailing. On the banquet evening, Ultra's profile was raised by serving champagne from the booth which was conveniently located at the entrance to the banquet room.



Ultra's champagne reception in full flow

# Australian tradeshow

Ultra has had a busy quarter supporting two of the major Australian defence tradeshow. In November, Ultra exhibited at MilCIS 2011 in Canberra, with **TCS**, **Advanced Tactical Systems**, **Communication & Integrated Systems**, **ProLogic**, and **AEP Networks** all participating. MilCIS is the annual military communications and information systems conference and exhibition and draws a highly knowledgeable and engaged customer and industry combination. The businesses enjoyed the opportunity to meet key stakeholders from the Commonwealth as well as potential in-country partners and suppliers. In particular, **Communication & Integrated Systems's** high grade crypto capability generated significant interest and has since been consolidated by a visit by the CIS leadership team.

In January 2012, Ultra exhibited at the Pacific 2012 Maritime Exposition, showcasing the wide range of undersea and surface warfare capability across the Group. Ultra Electronics, Australia hosted representatives from



**Command & Control Systems**, **Ocean Systems**, **PMES**, **Sonar Systems** and **USSI**. The presence was bolstered by the attendance of Mark Anderson, the Group's new Marketing Director who is well respected within the Australian Navy Hierarchy from his days as a Rear Admiral in the Royal Navy. Indicative of Ultra's growing influence in the region, Dr Samantha Davidson (**PMES**) and Sean Bell (**Sonar Systems**), presented papers to the Sea Power Conference.



## Exhibition & Event news

### CIS displays 'global' intentions in Amsterdam

The ATC Global exhibition this year was the best yet for **Communication & Integrated Systems**, who have previously exhibited as the AudioSoft business. A great deal of interest was generated in where the products are going. The new look stand and approach to the exhibition were very noticeable and received lots of positive comment.



Having negotiated a prime location for a bigger and better stand, the team from Cirencester had its most successful show ever. Not only did **CIS** attract significantly greater interest from potential customers across the entire spectrum of their market, but it also recorded all of the seminar sessions, making the recordings available to interested parties that were unable to attend the event. In addition to exhibiting, Technical Director Dr Paul Rocca delivered a well-received seminar on the potential role for audio analytics in identifying stress and fatigue in air traffic controllers. This certainly grabbed the attention of the audience who were obviously interested in the potential to reduce human factors induced incidents.

### AEP hosts its Asia Pacific Partner Conference 2012

In March 2012 **AEP Networks** held an Asia Pacific Partner conference in Kuala Lumpur Malaysia. The conference was attended by 30 partners and end users. The conference focused on providing the audience with the compelling view on how their investment in **AEP** will be further optimised while taking steps to prepare businesses for the future challenges within the world of cyber security.

The agenda topics included trends in cyber security, an overview of the current **AEP** product family and a series of product demonstrations and the rationale behind Ultra's acquisition of **AEP**.



### MSI participates in Pathways to Manufacturing Careers Expo

In January 2012, **Measurement Systems Inc.** participated in the Pathways to Manufacturing Careers Expo coordinated by the Connecticut Business and Industry Association and sponsored by Connecticut Community Colleges' College of Technology's Regional Center for Next Generation Manufacturing. Attended by more than 200 students from local technical high schools with 17 exhibiting companies, the two day event featured an evening reception for students and their parents.

**MSI** was represented by Sara Galullo, HR Director; Amish Mehta, GM & VP Human Systems Integration Business Unit; and Michael Chen, Lead Mechanical Engineer for Human Systems Integration. On display at the event were **MSI's** Hall Effect Gunner's and Commander's controls as well as the ever popular FMCU™ (Freedom of Movement Control Unit) game-style controller which always attracts people, especially students, given the familiar form factor. Engaging students and expanding their horizons for what is available to them for their future careers is a favourite activity for **MSI** that we view as a duty to our local community and as privilege.



### Controls joins the Boeing 'Dream Tour'

On the 30th April, **Controls** were invited by Boeing to visit a 787 Dreamliner aircraft that was in London as part of the 'Dream Tour', a global event organised by Boeing to celebrate the 787 entering service. **Controls** supplies the innovative electro-thermal Wing Ice Protection System, the only one of its kind certified for use on a commercial aeroplane in the world.



In all, 55 **Controls** employees attended the event enjoying the chance to see the end result of all the hard work that had been put into the design, testing and now manufacture of the WIPS product.

A number of senior Ultra representatives attended a VIP event in the evening, including Douglas Caster who is pictured turning the WIPS system on.

### Al Shaheen represents Ultra at ISNR

**Al Shaheen** represented Ultra at the International Security and National Resilience Exhibition (ISNR) in Abu Dhabi on 31 March to 2 April 2012. In addition to a series of posters describing Ultra's capabilities, the stand showcased **USSI's** HyperSpike 18 and Micro and **Sonar Systems's** Gunfire Locator.

Two important meetings occurred during ISNR. Lord Reid visited the stand to gain further insights into the business opportunities in the UAE. H.E. Hussain Al Hammadi, Chairman of Emirates Advanced Investments Group, met Ultra's cyber security leads, Nigel Mackie and Dr Alex Tarter. They agreed to explore together opportunities in this growing field.



Lord Reid visiting the Al Shaheen stand at ISNR

## Chief Executive's review

# robust performance... challenging markets

Since the last edition of UltraNews, we have announced the acquisition of **SOTECH, Zu, GigaSat** and **BeMac**, and released the Group's financial results for 2011 and the first half of 2012. There have also been some developments in the markets that Ultra plays in and so I would like to give you the inside track on all of these events here.



I shall start with an overview of Ultra's financial performance, where I am pleased to say that Ultra has continued its robust performance in challenging markets, with underlying growth in the key headline figures. In 2011, the Group achieved revenue growth at constant exchange rates of 3%, with a total figure of **£731.7m**. In the first half of 2012, revenue growth was up **8%**. Underlying operating profit at the end of 2011 rose to **£122.1m**, representing constant currency growth of 11%, of which 9% was organic. In the first half of 2012, profits were up again by **3%**.

In difficult conditions in the Group's defence markets, we continue to focus on the core elements that underpin Ultra's resilience and future progress. In the first half of 2012, we invested over **6%** of our revenue in our portfolio of specialist capabilities. This reinvestment is the seed corn for future new products and markets and provides the growth momentum that is a feature of our resilient business model.

Our constant focus on cash generation produced a pleasing cash conversion of **110%** at the end of 2011. At the 2012 interims, the 12 month rolling average was an impressive **106%**, reflecting the high quality of Ultra's earnings. This focus helps to ensure we have a strong balance sheet providing headroom for further acquisitions to complement our organic growth. We ended the first half of 2012 with net debt of **£67.6m** following the recent acquisitions that the Group has made. Finally, the order book at the half year was sustained at just under **£950m**.

These results for 2011 and the first half of 2012 reflect the success of Ultra's strategies to underpin sustainable, long term growth even in challenging markets. To give you an idea of how well Ultra is regarded by the finance community and the success that we have achieved over the years, I'm proud to tell you that in a recent study of all the companies on the London Stock Exchange, Ultra was in the top ten of the most consistent performing stocks of the last 20 years. Over the course of my first year and a half in the post of Chief Executive, I have met many of you during visits to Ultra's businesses. Your hard-work, dedication and innovative spirit continue to impress me and the

results that we have achieved are a direct result of what you do every day and for that you have my thanks.

I would now like to cover in turn each of our four broad segments; defence, security and cyber, transport and energy. A number of trends, especially in Ultra's defence markets, have become clear recently. In defence, global political instability continues in key economic and strategic areas in turn leading to ever greater tensions. Increasingly these tensions are maritime based such as the Protection of trade routes in the Indian Ocean and South China Sea, the shift of focus to inter-state tension in the Pacific, piracy, drug running using mini-sub, opening up of the North West Passage, territorial disputes such as the Spratly Islands and mineral discoveries off the Arctic Shelf.

The Navy is the largest segment of Ultra's defence business and therefore we should benefit from this change in focus.

Ultra's specialist capability areas are better positioned for times of tension than war. In a shooting match expenditure rises rapidly in the procurement of bombs, bullets and beans. The failure of the 'shock and awe' campaign in Iraq reminded military strategists that to occupy territory you must have boots on the ground. So this is where the majority of the money goes. In high tensions, technology does well. The military looks for; intelligence, information superiority, communication systems and 'persistent stare' using both attended and unattended surveillance. All of these requirements match closely to Ultra's specialist capability areas. We also see a continuing need for upgrades to the 'smart electronics and software' on existing platforms as well as the requirements on new platforms.

In Ultra's main defence markets of the UK and US we anticipate the conditions in the first-half to continue into the second-half of 2012 and the first quarter of 2013, albeit for different reasons.

In the UK the MoD has redesigned the procurement process and it will take time to bed down. Phillip Hammond announced a balanced 10 year budget, in May 2012. This announcement revealed a core set of programmes that have been fully funded, which included those of particular interest to Ultra; Scout SV,

"In difficult conditions in the Group's defence markets, we continue to focus on the core elements that underpin Ultra's resilience and future progress."



## Rakesh Sharma Chief Executive

# Welcome to SOTECH, Zu, GigaSat and BeMac.

**SOTECH** and **Zu** were acquired by Ultra on the 5th December 2011. **SOTECH** offers turnkey communications surveillance systems, integrating proprietary and commercial-off-the-shelf data analytic tools to manage large volumes of data from mobile, fixed line and broadband networks. **Zu** specialises in the provision of equipment for cyber surveillance systems. Systems from **Zu** are built primarily from two proprietary software products that operate on commercial-off-the-shelf hardware:

**SOTECH** is part of Ultra's Information & Intelligence Systems division and has been placed under Ultra's proxy board. Michael Phipps has joined **SOTECH** from **ProLogic** as President of the business, while **Zu** has been incorporated into **ProLogic**.

**GigaSat** was acquired at the end of May. The business develops, manufactures, sells and supports fixed, mobile and transportable satellite earth stations, or satcom terminals, offered in several forms that operate in the most commonly used frequency bands for satellite communications.

**GigaSat** has become part of Ultra's Tactical Systems division as a stand-alone business.

**BeMac**, made up of Barron McCann Technology Ltd and Barron McCann Payments Ltd, was acquired in June. **BeMac** provides baseline grade crypto and key management services to the UK government, military, law enforcement agencies and the finance sector. **BeMac** will broaden Ultra's crypto portfolio beyond the high-grade domain and also provide access to the lucrative financial services market. The business has been incorporated into Ultra's existing **AEP Networks** business in the Tactical Systems division.

Warrior and the CIPHER programme. However, those not included in the announcement, even though they may have had previous approval, are now back in the review cycle. Expect to hear more in the near future about the 'whiteboard review'.

In the US, the procurement process has continued to be slow due to the forthcoming presidential election and budget sequestration uncertainties. The election effect is a known cycle that always happens. Agencies slow down contract commitment in case there is a change in president with a consequent change in spending priorities. As a result we are expecting a continuing resolution that will extend initially to the end of 2012 but probably till April 2013. The sequestration effect is new. Frankly, there are as many different opinions about sequestration as there are commentators. Our view is that things will become clearer after DoD submit their report in August to the Senate, on the effects of sequestration on military capability, military jobs, industrial jobs as well as the current effect to the economy owing to the uncertainty.

For brevity, my belief is that some form of sequestration or a further budget cut will happen but not on January 2nd as currently enacted or as a percentage across the board. I believe Secretary Panetta will be given latitude as to where the cuts should be applied.

The security market now represents over 20% of the Group's revenue, as a result of organic and acquisition growth. Cyber attacks are becoming common place, from unsophisticated denial-of-service attempts to the more sophisticated Stuxnet worm and its variants Duqu and Flame. No longer is cyber warfare a state sponsored domain or the determined teenage hacker. Cyber has transformed organised crime reaching all areas of our lives and is now referred to as 'Trans National Organised Crime'. As a result, many more governments recognise how vulnerable their national critical infrastructure is. Cyber is also now creeping into the awareness of the financial sector as well as industry. Increased demand and prioritised funding is evident in Ultra's core markets of the UK, North America, Middle East as well as Australia. Ultra's cyber specialist capability areas now span the highest security levels down to commercial grade.

The transport market continues to grow. Population increase and economic migration and development drive investment in transport infrastructure. As passenger kilometres increase the business case for replacing ageing civil aircraft with newer fuel efficient types becomes even stronger. This has led to bumper order books at all of the major airframe manufacturers. The upgrading of airports with the consequent renewal of airport IT has been subject to a worldwide resurgence. Sporting events continue to be a good leading indicator of infrastructure investment, so our teams are able to plan their marketing campaigns with good visibility. The railway industry continues to progress in the UK, despite fiscal austerity. In the Far East, renewal of railways mirrors economic growth. This is a region where Ultra is yet to secure entry with its transit power technology and represents good growth opportunities.

In energy, other than in Germany and possibly Italy, governments around the world continue to view nuclear as one of the low carbon means of generating electricity. The recently published report concluded that the problems leading to the Fukushima nuclear incident were due to poor safety culture and older systems not being updated. Ultra's position as a supplier of high integrity pressure and temperature sensors as well as safety critical reactor control and instrumentation systems plays to this concern. China is the world's largest new build civil nuclear market. Recently the Group achieved certification of its sensors to the French RCCE standard. Ultra is therefore now a supplier of sensors to both the Areva and Westinghouse designs being built in China. In the Middle East, scarcity of water is forcing countries to consider nuclear energy for electricity generation to power desalination plants, despite their oil reserves. Ultra's increasing corporate profile in this region should help to secure initial opportunities.

In drawing to a close, Ultra has continued its resilient performance. Going forward, our strategy will be more of the same. We will continue to derive strength from our portfolio, increase our product and market exposure and reinvest in the business in order to continue our resilience throughout 2012 and beyond.

"Ultra's cyber specialist capability areas now span the highest security levels down to commercial grade."

**Across** the board...news and stories from across the divisions

# AMI

## Do you know?

Business name:

**AMI**

Location:

**Ann Arbor, Michigan,  
USA**

Established:

**1999**

Acquired by Ultra:

**2010**

Number of staff:

**55**

## Creating portable power through fuel cell technology

Headquartered in Ann Arbor, Michigan, where leading edge innovation meets a dynamic manufacturing heritage, **AMI** designs, tests and manufactures the future of portable power: solid oxide fuel cell technology. **AMI's** fuel cells provide lightweight, clean and reliable power to the defence, leisure and remote industrial markets.



The company was founded on the idea that the real challenge to fuel cell technology becoming mainstream was fuel.

While many competitor companies use hydrogen or other unstable, unavailable fuels to power

their units, **AMI** designed a fuel cell to run on propane, LPG or butane. These fuel types are globally available, lightweight and inexpensive. Propane is equally accessible by a forward deployed unit, a camper in an RV or a forestry professional.

The accessibility of propane has helped **AMI** penetrate key markets, including defence, leisure and remote industrial. Its partners, like Lockheed Martin,

are integrating **AMI's** fuel cells into their products because they know that doing so will create value for their customers who want to turn their equipment into a strategic asset.





# Aircraft & Vehicle systems

AMI's fuel cells, branded as Roamio, deliver 100 to 300-watts of power across three main product lines: Defender, Explorer and Performer.

## ROAMIO™ DEFENDER SERIES

Roamio Defender provides soldiers power when they need it and where they need it most. Two products are included in this series: The UAS Power Pod and Auxiliary Power Unit. These fuel cells deliver lightweight, portable power in the most austere, remote and dangerous locations. The Roamio Defender series power unmanned systems provide portable power to soldiers and are creating a new reality in how soldiers power mission-critical systems.

## ROAMIO™ EXPLORER SERIES

Roamio Explorer is silent, clean, portable power that makes the creature comforts of home available in the great outdoors. Created for the leisure market, Explorer is ideal for yachts and RVs; Explorer generates power for creature comforts like a GPS, radio, refrigerator, laptop, coffee maker, TV and gaming system.

## ROAMIO™ PERFORMER SERIES

Roamio Performer for remote industrial use extends the functionality and reliability of remote applications. Remote industrial applications are those that are traditionally powered by batteries or solar power, including cameras, sensors and surveillance equipment, communications systems and traffic systems – signs, cameras and lights.

As the world's demand for portability and technology continues to grow, so will the market for AMI's fuel cells. With a solid product line, reliable technology and a pipeline of customers across its target markets, AMI is well positioned to continue on its growth curve.

Over the coming year, the company will continue to focus its efforts on expanding its market share in key areas of opportunity, especially around its Explorer and Performer products. AMI will also continue to develop its relationships with key strategic partners in the defence market who view fuel cells as imperative technology in the evolution of their own products.

AMI is building successful manufacturing operations to meet increasing product demand. AMI's commitment to manufacturing excellence is positioning the company for growth in the commercial market. By investing in its people and processes, AMI has established a strong foundation for ramping up its operations and the ability to deliver fuel cells to remote industrial, RV and boating customers.

"Manufacturing is the foundation of operations; lean manufacturing enables AMI to scale its processes so that it's ready to ramp up quickly based on product demand," explained Karen Tadd, AMI's Vice President of Operations. "AMI's current manufacturing operation is set up to react quickly to customer demand and design changes."



At the core of AMI's success is its strong team of technicians who bring expertise, talent and attentiveness to their work. The technicians are fastidious in their approach to manufacturing, from supply chain management to quality. They are a cohesive unit that works collaboratively to build AMI's fuel cells in a way that is both sustainable and scalable; technicians are the heart of AMI's quality process.

AMI's technicians work closely with product design and engineering, too, to ensure that the products in development are able to be built cost effectively and to AMI's high standards. It's this attention to manufacturing excellence that's given AMI a competitive advantage in the alternative energy market.

Karen offers the following manufacturing best practices, based on AMI's operations:

- Hire and retain the best people, and trust them to do the job they were hired to do.
- Give everyone on your team every possible tool to get their job done right, including materials, training and support.
- Have transparency at all levels of the decision-making process, especially as it relates to product development.

"The biggest mistake a business can make is to think it's all about the process," says Karen. "Business is about people. It's about wanting and having an open, transparent workplace. Most importantly, it's about cultivating leadership and empowerment at all levels of the business."



Manufacturing is the foundation of operations; lean manufacturing enables AMI to scale its processes so that it's ready to ramp up quickly based on product demand.



## Across the board...news and stories from across the divisions

# MSI advances value of HMI

Through a development program with DRS for its innovative i2i mini gimbal sensor, **MSI** partnered with DRS Product Management and Engineering to design and deliver a unique Human Machine Interface (HMI) solution. The original challenge was to come up with a hand control that could be mounted on a Coast Guard boat that would provide the gimbal control while also giving the operator the ability to hold on in rough seas. This unique set of requirements prompted **MSI** to offer a variation on a throttle style grip that would provide a low profile shape while also supporting the HMI and safety requirements.

After initial prototyping, **MSI** made the audacious decision to integrate the CPU for the i2i gimbal directly into the hand control. Upon successfully completing the effort, **MSI**'s innovative approach allowed DRS to eliminate a laptop computer from the system freeing up space on the vehicle, vastly simplifying the system and reducing the installed cost as well.



**MSI**'s human factors engineering success with i2i led to DRS securing the Coast Guard Marine application. The original opportunity for approximately 25 units has grown into almost 1,000 units at a total value of over \$3 million. The land vehicle application for i2i is next!



## MSI's Tactical Robotic Controller gains momentum

Successful trials of **MSI**'s Tactical Robotic Controller (TRC) in Afghanistan by the US Marine Corps led to additional evaluations by the Army. The TRC enables simultaneous control of unmanned ground vehicles, unmanned aerial vehicles and unattended sensors. Platforms on which the TRC has been successfully demonstrated are MAARS, Dragon Runner and TALON Unmanned Ground Vehicles (UGVs) and Wasp and Raven Unmanned Aerial Vehicles (UAVs).

Subsequent integration with the US Marines's Ground Unmanned Support Surrogate, GUSS, at a limited technical assessment was successful as was fielding of the Minotaur and Armadillo unmanned systems by the US Army. The repeated success of the TRC across multiple Army and Marine platforms is leading to the consideration of the TRC as the Army's 'common controller'. **MSI** is partnered with Qinetiq and supplies the tablet style touch screen operator interface for the TRC program.

### Ultra's proposals accepted for AEWE Spiral H

The Army Expeditionary Warrior Experiment, AEWE, is the U.S. Army's Training and Doctrine Command (TRADOC) prototype experimentation campaign and Ultra has proposed three separate technical solutions in support of warfighter requirements. The three solutions are:

- Dismounted Perimeter Protection System supported by **MSI**, **3eTI**, **AMI** and **Command & Control Systems**
- Dismounted Lighter than Air ISR System supported by **MSI** and an external partner
- Non-lethal Messaging and Advanced Escalation of Force supported by **MSI** and **USSI**

Ultra's solutions each increase mission persistence, force protection and situational awareness. Each proposal originated with a quad chart submission to TRADOC followed by a white paper and presentation resulting in an invitation to Ultra to participate in the AEWE live demonstrations at Ft. Benning, Georgia taking place first quarter of 2013.

## Controls wins position on Embraer's KC-390

Embraer is a world class aircraft manufacturer and many of us will have travelled on one of its regional jet aircraft; although possibly never realising it was a Brazilian aircraft made just a few hours' drive from Rio de Janeiro!

Embraer is currently developing the KC-390 aircraft, a twin turbofan 23 tonne capacity transport aircraft. It is primarily for military use and will enter service in 2017 when it will compete with the Lockheed Martin C-130 Hercules; a very successful transport aircraft that first entered service over 50 years ago and which is now used by most of the world's air forces in a variety of roles including cargo transport, search and rescue, gunship and in-flight re-fuelling.

**Controls** has secured three work packages on this new aircraft – which are also the first contracts for Ultra with Embraer. These contracts are for the design, development, supply and support of all the electronic controllers and sensors for the aircraft's landing gear and cargo door systems and were won against strong competitors which were already suppliers to Embraer.

The landing gear system will manage the extension and retraction of the landing gear and landing gear doors, the steering of the nose-wheel and the associated hydraulic system. The cargo door system will manage the opening and closing of the cargo door, door lip, paratroop air deflectors and the struts that stabilise the aircraft during loading and unloading.





# Aircraft & Vehicle systems



## Exciting developments at CEMS

Reacting to increased requirements for Parylene coating of PCB assemblies, **CEMS** has invested in two vacuum deposition coating systems at its Weymouth UK facility. This is a major investment which brings a high integrity coating process inside the group and provides cost improvements over current third party coating services. Parylene is the default for protection of assemblies in harsh environments and **CEMS** can now offer it as a NADCAP audited process.



In Portchester & Weymouth, **CEMS** has recently commissioned new long-term Nitrogen storage facilities, 14 cabinets in Portchester and 25 in Weymouth. **CEMS** now have a world class storage facility that can preserve components so that in 25+ years they are in pristine condition, with no degradation. All three **CEMS** operations are now approved to AS9100 Revision C. The Rev C upgrade is a major step-up in the scope of this aerospace standard and the auditors confided there had been a high failure amongst manufacturers seeking the upgrade. Significant effort was made in reaching the levels required by the Rev C standard, however, now holding AS9100 Rev C and also NADCAP AC7120 Electronics process management in Weymouth, **CEMS** can arguably claim to have one of the highest levels of accreditation in the UK and to offer the widest range of NADCAP audited processes and services.

## PALS moves one step closer to Warrior contract award

**Precision Air & Land Systems** has been working closely with Lockheed Martin UK (LMUK) for the last six months to optimise the power management system for the upgraded Warrior fleet. This is being undertaken as part of the Warrior Capability Sustainment Programme (WCSP) which was awarded to LMUK in October last year, with a contract value of £649M (\$1Bn).

**PALS** has been selected as the preferred supplier for the complete power management system which will encompass managing and distributing power from the main engine generator around the hull and turret to the various consumers in the vehicle. The award of this contract will form a major step forwards in **PALS** moving up the food chain to become a systems provider.

**PALS** has recently been awarded an authority to proceed contract to start the initial systems engineering phase for the power management contract, and forms an important milestone for the team.



## PALS achieves ISO 14001 accreditation

In 2010 **Precision Air & Land Systems** in Cheltenham made the decision to embark upon the path of ISO 14001 accreditation. This was partly driven by an increasing requirement from our customer base, but also from the belief that having an environmental management system that addressed the balance between maintaining profitability and reducing environmental impact could only benefit the business in the long term.

An Environmental Committee was formed, with representation from throughout the company and the committee undertook the process of identifying activity in the business that impacted on the environment. They also consolidated **PALS**'s understanding of environmental laws

and regulations that affected the company. The next step was to agree an improvement plan and to put in place an environment management system to achieve them, including setting targets and holding regular reviews of progress to ensure continuous improvement.

Through company-wide involvement and support from the senior management team **PALS** completed a successful stage 2 ISO 14001:2004 audit in December 2011 and was awarded the ISO 14001 accreditation.

Real cost and business benefits have been achieved in lower waste disposal costs, decreases in energy costs and of course the company's environmental impact has decreased, which benefits current and future generations of Ultra employees.

Across the board...news and stories from across the divisions

# Nuclear Control Systems

## Where safety is critical



Getty Images

### What is Nuclear Control Systems?

**Nuclear Control Systems (NCS)** was originally formed as a business unit within **Command & Control Systems** in 2006 to spearhead Ultra's drive into the nuclear sector and execute the Reactor Control & Instrumentation (RC&I) Update programme, awarded to Ultra by Rolls-Royce in 2004 (more details of which can be found on page 10).

The RC&I Update programme required that Ultra develop specialist nuclear engineers and a secure infrastructure to meet nuclear regulatory requirements. This created a platform to build additional skills and position for future growth. The customer base diversified and order intake within the civil nuclear sector exceeded that in military for the first time in 2009.

On 1st January 2012, **NCS** separated from **Command & Control Systems** to become a stand-alone Ultra business. Thus, in six years, through a combination of organic and acquisitive growth, **NCS** has grown from a team of just 25 engineers and sales of £4m to a stand-alone Ultra business with over 160 dedicated engineering and support staff and sales of £37m. Nick Gaines has joined as the new Managing Director and Chris Binsley who lead the business to this point has taken on a new role as Nuclear Strategy Director to further develop Ultra's aspirations in the wider nuclear sector.

**NCS's** purpose-built Wimborne site, in the south of England, is now a centre of excellence for high integrity reactor instrumentation and control with a focus on nuclear equipment requiring formal safety justification or qualification. This facility brought together the specialist safety engineering and nuclear physics resources that sat across the former sites to a single dedicated location.

**NCS** is positioned within the nuclear regulatory framework, typically operating within the highest safety integrity levels Class 1E or SIL 4. Expertise on the new site extends through design, manufacture and through-life support across **NCS's** three main business streams. The site contains the critical mass, core skills, infrastructure and standards required to support **NCS's** stand-alone status.

### What does Nuclear Control Systems do?

**NCS** has three main business streams of offerings and products:

#### 1 – Civil reactor safety systems



**NCS** designs and supports high integrity plant protection systems and operates as the design authority on reactor safety systems in the UK. **NCS** is also the design authority for reactor in-core monitoring and provides regulatory and engineering support for both legacy and new build reactors.

The acquisition of Winfrith Safety Systems (originally part of the United Kingdom Atomic Energy Association) in 2006 gave **NCS** over 45 years' worth of experience in diverse safety systems. **NCS** has safety systems installed on all UK reactors and is involved in the qualification of equipment on new build power stations, including Olkiluoto in Finland.

#### 2 – Radiation detection and monitoring



**NCS** operates the UK's civil and military nuclear emergency response networks; **NERIMS** (Nuclear Emergency Response Information Management System), **RIMNET** (Radioactive Incident Monitoring Network), **DIRAMS** (Dockyard Incident Radiation Monitoring System) and **TREMS** (Transportable

**RIMNET** (Radioactive Incident Monitoring Network). **NCS** also provides its **RADIAC** (Radiation Detection, Indication & Computation) systems including its **SIRS** (Ship Installed Radiac Systems) to 22 Navies around the globe.

#### 3 – Nuclear propulsion



**NCS** designs and supplies the latest reactor control and instrumentation to the current fleet of Royal Navy nuclear powered submarines. In addition, **NCS** has undertaken study contracts for Successor (Next Generation) nuclear submarines. The acquisition of Siemens Radmon (Poole) in

2008 meant that Ultra's reactor control & protection equipment has featured on every Royal Navy submarine variant from Dreadnought (via refurbishment), Valiant, Resolution, Churchill, Swiftsure, Trafalgar, Vanguard, and now Astute Class. Obsolescence management remains an important part of **NCS's** support role to Rolls-Royce.

### Do you know?

Business name:

**Nuclear Control Systems (NCS)**

Location:

**Wimborne, Dorset, UK**

Established:

**2012** – was previously a business unit within **Command & Control Systems**

Number of staff:

**180**

### NCS's vision for the next five years

**NCS** will build upon the skills and experience gained within the UK markets and look to expand its geographic footprint through its relationships with international operators. Particular emphasis will be placed upon leveraging the specific technologies and IP within diverse safety systems to support both existing reactor designs and the new Generation IV reactors. In addition the development of new emergency planning platforms and mobile networks is likely to become a key driver for growth.



# Airport & Power systems

## NSPI introduces new fibre networking solution

**NSPI** recently introduced the MX Series Multiplexer, capable of sending up-to sixteen channels of bi-directional electrical information over a pair of fibre optic cables. Applications for the MX Series Multiplexer include remote data acquisition and signal transmission in lightning prone locations and hazardous areas, as the MX Series Multiplexer carries the relevant certifications for use in hazardous environments. Markets served include oil & gas, mining, security, emissions monitoring systems and automation control. Input/output module selections include 4-20mA, 0-10Vdc, contact closure and RS-232/485. The MX base unit connects directly to the fibre optic cable and provides a visual indication of the fibre link status. Power is supplied to the base unit through an external 24Vdc power supply. Each base unit has a duplex optical port configured for use with 1300nm wavelength, multi-mode or single

mode optical fibre and is capable of supporting distances up-to 80km between points. An integrated backplane allows for communications from the base unit to the input/output modules with no external wiring. Best of all, no programming is required.



**NCS and PMES** awarded full production contracts for UK submarine reactor control equipment

**Nuclear Control Systems** and **PMES** have been awarded further contracts by Rolls-Royce for the full production and supply of reactor control & instrumentation systems for Royal Navy Vanguard and Astute Class Submarines. This brings the total value of the production contract to £118.6m.

The additional scope of the contract includes the manufacture of multiple systems and spares. Work under this contract extends the current contract into 2017 securing a further three years of production work and is significant in maintaining a position for the long term support of the UK's strategic defence assets.

## PMES continues to grow its submarine business

BAE Submarine Solutions has selected **PMES** to be the supplier for the Non-Acoustic Signature Management system and the Main Static Converter (MSC) for the Successor programme.

The Non-Acoustic Signature Management system recognises **PMES**'s unique skills and capabilities in this area and builds upon its position as the Design Authority for the Astute class submarines and the MoD funded design of the Advanced Degaussing system.

The MSC selection cements **PMES**'s leading role for the design and manufacture of high reliability, compact, power dense power electronics for use in demanding applications and hostile environments. The Successor MSC will build on unique design elements of the Vanguard MSC and will provide BAE Submarines Solutions and the MoD with a state of the art modular design.

The selection of **PMES** for the provision of the Non-Acoustic Signature Management and the MSC, together with the continuing Electric Cruise Propulsion (ECP) development programme highlights the key role being played by **PMES** in the future submarine enterprise, and builds on the current important positions on both the Vanguard & Astute programmes.

Moreover, **PMES** recently responded as lead for a consortium of Ultra companies to a Pre-Qualification Questionnaire for the design and development of the next generation Platform Management System (PMS), also for the Successor programme – a further example of the potential growth for the Group.



The PMES MSC team

## NCS wins first order for 142 mobile Gamma radiation monitors



Police and other emergency services may be required to respond to an incident where hazardous radiological material has been dispersed across an area and they will be required to establish a safety cordon to prevent members of the public or emergency response personnel being exposed to the hazard.

**Nuclear Control Systems** has developed a low profile, deployable radiation monitoring system for covert surveillance and for perimeter monitoring in collaboration with the Radioactive Incident Monitoring Network (RIMNET) customer. The system comprises autonomous, battery-powered detectors which report real-time gamma dose rate together with GPS position and system integrity data via the mobile phone GSM network.

The unit is available in a more conventional version with a permanent or semi-permanent mounting arrangement and has option for continuous operation with options for solar, wind or conventional power supplies.

Any number can be deployed rapidly around an area of concern, providing an immediate overview of a radiological threat following an incident. Typically, the data is captured and reported using a Government funded network, RIMNET, for which **NCS** provides the detectors. Alternatively, the data can be relayed directly to individual e-mail addresses/mobile phones to provide authorised individuals with specific data.



**Across** the board...news and stories from across the divisions

# Welcome to SOTECH!

## Do you know?

Business name:

**SOTECH**

Locations:

**Annapolis Junction,  
Maryland, USA**

Established:

**2000**

Acquired by Ultra:

**2011**

Number of staff:

**134**

**SOTECH** was established in March of 2000 as an 8a certified, minority-owned company specialising in tactical communications operations support.

Since its founding, **SOTECH** has been a leading provider of end-to-end communications analysis solutions for government agencies and telecommunication service providers worldwide. **SOTECH** is the one of the first of a new class of solution providers – the mission integrator. As a mission integrator we work as a strategic partner with our customers sharing expertise, technologies, and development approaches from a broad base of successful programs, many of them mission-critical, large-scale and complex.

**SOTECH**'s staff is comprised of exceptionally qualified system engineers, computer scientists, instructors, and operations specialists. Staffed by a dynamic team, many with significant military and law enforcement experience, backed by solid academic credentials and continuing specialised training, **SOTECH** provides state-of-the-art integrated communications analysis solutions tailored to specific customer needs. Most of our technical team hold Secret or higher level government clearances, and are uniquely qualified to address the current and evolving requirements for legal intercept of a variety of communication systems, including circuit-switched and packet data networks.

As the initial designer, and currently the exclusive reseller of the proprietary Integrated Surveillance & Information System (ISIS), **SOTECH** is the sole technical support contractor for the investigative equipment currently installed in several countries located in the Middle East, Caribbean and Latin America.

**SOTECH**'s I<sup>3</sup> suite of solutions is a unique combination of information gathering, intelligent analytics and investigative processing tools. It includes configurable real-time filtering mechanisms that extract required information from large volumes of collected data. The turn-key solution does not require switch intercept software and can be deployed in either a localised configuration to intercept a specific area or region, or it can provide a nation-wide interception and analysis solution. Pioneering state-of-the-art analytics, I<sup>3</sup> solution incorporates and is combined with advanced audio biometrics technology.

## ISIS

**SOTECH**'s end-to-end state-of-the-art Integrated Surveillance Information System (ISIS) delivers sophisticated technology for data collection and analysis in a revolutionary way. ISIS is designed for collecting maximum communication content and metadata. It includes configurable real-time filtering mechanisms that extract vital information from large volumes of intercepted data. The ISIS turn-key solution does not require switch intercept software and can be deployed in either localized configuration to cover specific area or region or provide a nation-wide solution.

The ISIS system is compatible with both target-centric and mass types of interception in one system and can be easily configured to serve the needs of any law enforcement or government agency in the world. ISIS provides a ground-breaking integration of real-time mass audio collection and advanced voice biometrics technology that allows target identification based on voice print criteria. Focused on analytics, ISIS has integrated GIS mapping of targeted call activity and various search capabilities to effectively and efficiently support investigative processes for government agencies worldwide.

## VPA

**SOTECH**'s integrated analytic VPA™ (Voice Print Analysis) system allows for highly accurate speaker identification scalable to any size audio collection system. VPA utilises voice biometric algorithms to narrow target ID searches. VPA has consistently shown the capability of narrowing collections of two to three million calls in a relatively short period of time to a list of 10 to 20 calls that are numerically ranked to provide best probability for a match. Based on the voice print criteria, VPA has the ability to identify speaker's gender and spoken language. Once this target is identified, the power of ISIS can be used to continue tracking your target through their telephone signalling metadata. VPA, along with a robust collection intercept system like ISIS, will exponentially increase the efficiency of an agency's analysts while increasing the amount of data your analysts can evaluate.



Integrated Surveillance Information System (ISIS)



VPA™ (Voice Print Analysis)



# Information & Intelligence systems

## SPS

Cell phones in prison are a growing threat to the U.S. and international corrections system. Contraband cell phones have been linked to gang operations, drug trafficking, murder of witnesses, and coordinating prison escapes. While some vendor solutions encourage devices to halt cell phone communications, the **SOTECH** Prison Solution (SPS) proposes recording and storing contraband cell phone communications to facilitate investigations and gathering actionable intelligence. With SPS, Voice Print Analysis (VPA) is utilised to assist in identifying callers within and outside prison facilities.

The SPS turn-key solution provides full coverage for any type of cellular networks and can be deployed in portable, distributed, or centralised configuration. SPS combines ground breaking real-time mass voice collection and advanced biometrics technology that allows target identification.

All **SOTECH** solutions incorporate professional services that span the entire application life cycle. The services list includes, but is not limited to, investigative operations, system engineering, software development, program management support, tactical and security operations, logical and physical security, and training.

**SOTECH's** capabilities are truly a niche of their own. The expertise of its people is the backbone of the company's foundation. This has made us trusted allies of the US government and clients abroad. **SOTECH** has been located under the Proxy Board, along with **ProLogic**, **ATS** and **Criticom**. This agreement allows **SOTECH** to continue to conduct business as a US Company. Alongside Ultra, the Proxy Board Agreement helps facilitate the continuation of operations, leaving vast opportunity for growth, both at home and abroad.

### International markets as a growth engine

**SOTECH** could not feel more proud at becoming the newest member of the Ultra family. The past six months of concentrated efforts have started to show promising results during the first half of 2012. The continuing expansion of marketing opportunities and sales forecasts all combine to indicate a bright future of growing sales and market share with a strong focus on Latin America and Middle East.

## CARDS goes from strength to strength for ProLogic

The CARDS product line continues to grow both in the US domestically and internationally. The CARDS suite of products, used to manage secure 'keys', which verify digital transactions, now includes the CARDS Solitaire hand-held terminal; the CARDS secure desktop client application, and the CARDS Server enterprise COMSEC management system. CARDS is used to support and secure critical infrastructures and assets worldwide and offers the widest feature set of any Communications Security (COMSEC) management system available today.

The version 2 CARDS Solitaires are now shipping to customers. These new hand-held terminals have several improvements over the previous versions. They are faster, have an integrated keyboard, flexible communications, are sealed, and are considerably more ruggedized. They are available in both standard, hand-held versions and rack-mount form factors. With the rack mount version, 4 units can be installed in a single 1U rack space.

The newest product in the CARDS line, a secure desktop client application allows for the secure storage and retrieval of black keys from a CARDS Server. This application is fully PKI enabled and uses a high assurance data-at-rest database to protect all of its data. The application auto-installs and updates from the CARDS Server and is exceedingly easy to support as a result. This application is in pilot testing worldwide by several major government agencies.

With the latest CARDS release, a full featured dashboard module has been added that supports KML integration with visualization tools like Google Earth. This allows COMSEC managers to view their assets geographically and apply additional overlays like force disposition and regional communications networks. More and more government organisations are selecting CARDS as their COMSEC management and key distribution tool of choice.

**ProLogic's** remote Single Point Keying (SPK) systems are fielded and operational in 30+ locations across the US. These remote SPK systems have also been delivered to Switzerland, Australia, and Finland, with the Finland installation just recently having passed its acceptance test for operation in that country. Follow-on capabilities for **ProLogic's** remote SPK technology are being developed currently and will be available later this year.



## ATS TACPOD receives air worthiness certification and production contract

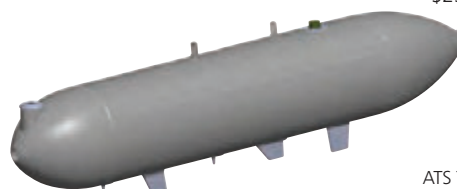
**Advanced Tactical Systems's** Tactical Airborne Command, Communications and Intelligence (C3I) Pod (TACPOD™) has successfully flown onboard the MQ-9 Predator B aircraft.

The TACPOD is an excellent example of identifying a customer need and building a product to meet that need in a short period of time.

**ATS** designed TACPOD using R&D funds. The US Air Force paid to build and fly two pods on the MQ-9 Predator B aircraft. The TACPOD flew in November, less than a year after **ATS** began development. **ATS** achieved an air worthiness certification in only four flights.

The idea behind TACPOD is simple: provide a self-contained and configurable external communications payload for manned and unmanned aircraft that does not require modifications to the aircraft or its flight control software. Those changes take years. The TACPOD helps warfighters at the distant edge of the battlefield stay connected with voice, video and data communications.

Following air worthiness certification **ATS** has received contracts worth \$25m to deliver a number of pods in response to an urgent warfighter requirement.



ATS TACPOD

Across the board...news and stories from across the divisions

# Sonar Systems

Delivering innovative, affordable, real-world solutions to customers operating in the underwater environment.

**Sonar Systems** is a systems integrator, integrating in-house capability and offerings with those of other Ultra businesses and specialist suppliers to deliver high technology, innovative underwater solutions, equipment and support to customers worldwide.



The **Sonar Systems** business majors on providing low cost modular solutions that give the customer a variety of flexible benefits. Innovating solutions, and working with Ultra businesses and partners to do this, drives out ownerships costs, delivers improvements in operational capability and positions the business well against less agile competitors. Better never stops – especially in the highly competitive underwater systems market vertical where the last ten years has seen sweeping changes in how these systems are designed and procured.

Continual innovation and agility is at the heart of **Sonar Systems**'s approach to business and is pivotal in the successes to date with major contracts such as the Type 45 Destroyer's Hull Mounted Sonar (HMS), the Royal Navy's Surface Ship Torpedo Defence (SSTD) System and the Royal Navy mine warfare fleet's Mine Disposal System (MDS).



Intra-divisional cooperation within Ultra is a significant feature of most major system successes. When **Sonar Systems** won the Integrated Sonar Suite (ISS) contract for the Australian Warfare Destroyer (AWD)

– considered by many in the sector to be the underwater systems 'game changer' – **Ocean Systems, Maritime Systems, PMES** and **Command & Control Systems** provided technology and offerings into the **Sonar Systems** ISS solution.

Each of the contracts listed above has a significant support element. **Sonar Systems** now has four highly successful major UK CLS contracts, including the long standing Sonobuoy Partnering contract held with the UK MoD, which continue to be the mainstay of the business.

Furthermore, continued innovation remains a feature of all the support contracts. Through its support of products, sustaining and developing its current business, **Sonar Systems** delivers to customers high Technology Readiness Levels, low cost, reduced manpower and training, simplicity of operation, reliability of support, technology transfer and in-country content.

## Where next for Sonar Systems?

The Common Sonar Concept: Countermeasure Systems and Integrated Sonar Systems form the basis of **Sonar Systems**'s future.

**Sonar Systems** continues to offer surface ship and submarine torpedo defence systems, components and variants through the development of existing mature products and by thinking differently to create innovative solutions.

The development of modular sub-systems and multi-mission modules are an example of this, offering affordable components and variants of SSTD and ISS to international customers. This means that the modular format can grow in capability – and align with the customers' evolving operational requirements. The variants and components can be procured separately or via prime contractors integrating the capability into their next generation of systems and major sea-going platforms.

ISS and ISS derivatives are also proving attractive to nations who cannot accommodate heavier systems and who do not wish to be constrained by ITAR and FMS strictures. Opportunities remain strong for **Sonar Systems**'s torpedo defence systems because high maturity solutions and domain expertise are recognised and the business is able to provide technical advice, services and products to customers in emerging markets.

## Mine warfare opportunities are emerging

**Sonar Systems**'s mine countermeasures capability has built upon in-depth understanding of the sensor domain and experience gained through managing, delivering and supporting the UK Royal Navy's Mine Disposal System (MDS) programme.

The Royal Navy's mine clearance activities in Middle Eastern waters are expected to continue, if not accelerate, and **Sonar Systems**'s MDS expertise has been honed by supporting the Royal Navy in operational service, with Ultra working alongside ensuring the system's operational readiness.

## Distributed Anti-Submarine Warfare (ASW) opportunity remains strong outside of the UK

Ultra's distributed, lightweight ASW takes a holistic view of the distributed mission systems which includes both hardware/software. Along with **Sonar Systems**'s Multistatic Active (MSA) processing modules for Maritime Patrol Aircraft (MPA) platforms, bolt-in MSA acoustic processing is offered, designed to enhance performance over existing systems, yet provide ease of use for nations new to airborne ASW.

## Do you know?

Business name:

**Sonar Systems**

Location:

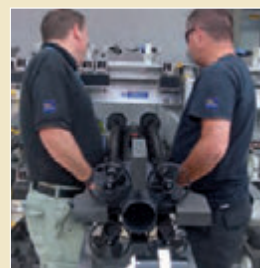
**Greenford, Middlesex, UK**

Established:

**2008** – as a result of the split between Sonar & Communication Systems

Number of staff:

**230**



SeaFox Mine Disposal System





# Sonar & Undersea systems

MSA is easy to use and has a high probability of threat detection, unlike traditional acoustic processing. **Sonar Systems** can supply G-size sonobuoys that are more practical for the smaller fixed wing and rotary wing MPA that are currently now being acquired across many nations.

## Sonar Systems's Advanced Systems Group focusses development

The Advanced Systems Group is set up to consolidate and improve **Sonar Systems** capabilities and is focussed on driving the business forward in new, aligned, areas. The Advanced Systems Group is looking at the needs for newer, smaller submarines and is identifying the limitations they bring to traditional submarine sonar. Offerings include submarine communications buoys; interferometer-based imaging sonar such as Synthetic Aperture Sonar and Forward Look Sonar; Gunfire Location; Structural integrity; Submarine-based MOAS Mine warfare, Hydrographic and Patrol (MHPC) Capability Mission Systems and Acoustic Ranging.

In this field **Sonar Systems** is currently developing modular technologies and a sub-systems framework that can be adapted to provide capability that will be taken forward as Modular Maritime Combat Support.

**Sonar Systems** has a long-standing programme with the US, providing high resolution, interferometer-based bathymetry for survey, through the Ocean Data Acquisition Programme. This technology can provide high quality imaging from a relatively low footprint and with low power draw.

## Closer collaboration within Ultra is key to future success

With increasing focus on non-core markets and the need to carefully tailor the common system offerings to a wider variety of overseas customers, the Sonar and Undersea Systems companies, of which **Sonar Systems** forms a part, are working in close formation for specific ventures, combining strength and capability to meet the coming challenges of existing, new and emerging requirements.

**Sonar Systems's** competitors are not standing idly by waiting to be overtaken. They too are innovating. So to win Ultra must perform better still. Harnessing the energy and capability within the Ultra Group has worked well for **Sonar Systems** in the past in generating competition winning solutions. This approach will continue to work because the more good innovators involved the better. In **Sonar Systems's** quest for winning, better never stops.

## Maritime Systems is officially a great place to work



**Maritime Systems** has recently won two awards recognizing the company as one of Atlantic Canada's and Nova Scotia's best employers for 2012. These special

designations recognize the employees in Canada's four Atlantic Provinces and within Nova Scotia that lead their industries in offering exceptional places to work.

Employers are independently evaluated by a national team of editors using eight criteria:

- (1) Physical Workplace; (2) Work Atmosphere & Social;
- (3) Health, Financial & Family Benefits;
- (4) Vacation & Time Off; (5) Employee Communications;
- (6) Performance Management; (7) Training & Skills Development; and (8) Community Involvement.

Employers are compared to other organizations in their field to determine which offers the most progressive and forward-thinking programs. The editors highlighted **Maritime Systems's** maternity and paternity top-ups, academic scholarship program for children of employees and profit-sharing as evidence of a great place to work.

**Maritime Systems** was also included in the 200 company shortlist for the Canada's Top 100 National Employers competition.

## Flightline has UAVs in its sights

**Flightline Systems** has offered three new technologies to the Autonomous Aerial Cargo Utility System Innovative Naval Prototype program. The AACUS INP program will demonstrate air vehicle generic sensors and a supervisory control system for Vertical Take-Off and Landing (VTOL) unmanned aircraft tasked with re-supply and CASEVEC to combat outposts in hostile areas of operation. The three technologies, comprehensive air vehicle health management, high fidelity hostile fire indication and threat assessment, and mission optimized autonomous trajectory planning and synchronization, are the result of new product and technology programs recently initiated at the Rochester facility. The U.S. Navy Office of Naval Research has established a budget of \$73m over a four year period of performance for the program.

## Flightline and GippsAERO integrate instruments into GA10 project

**Flightline Systems** has signed a multi-year agreement with GippsAERO, an Australian based Mahindra Aerospace company, to integrate the AuRACLE digital engine management system to the GippsAERO family of aircraft.

The agreement provides for an initial joint design, development, integration and certification project over the next 12 months for the GA10 program. The GA10, a turbine engine powered 10 seat aircraft, is under development and builds on the success of the GA8 Airvan, and offers an alternative fuel solution for operators where Avgas supply is problematic.

Besides providing basic engine data, the AuRACLE system will feature dual screen displays with full revisionary capabilities providing a high reliability solution for remote area operations. In addition, the AuRACLE will also provide a full ETM (Engine Trend Monitoring) capability. This will optimize engine maintenance management and thereby increase operational reliability, engine life and profits for the aircraft owners.

## Maritime Systems wins product innovation award

**Maritime Systems' RockPhone®** won the 2011 Regional Award for New Technology. The awards, co-sponsored by Canadian Manufacturers & Exporters (CME) and the National Research Council of Canada's Industrial Research Assistance Program (NRC-IRAP), are given to organizations that have turned innovative ideas into action.

RockPhone® provides users with the ability to communicate remotely in areas where the intervening media is not penetrable by radio waves. The magneto inductive (MI) communications signal goes through rock, earth, vegetation, and most urban structures and does not require Line-of-Sight (LOS) positions to establish communication links.



Across the board...news and stories from across the divisions

# AEP Networks

## Trusted security everywhere

**AEP Networks** provides solutions that aim to provide trusted security everywhere by securing data and voice communication regardless of device, environment or location.

**AEP's** solutions cover areas including enhanced grade network encryption, key and security management, secure application access and secure and versatile advanced communications using low bandwidth. **AEP's** solutions deliver proven security architectures to more than 5,000 organisations all over the world including governments, enterprises and carriers, including the UK MOD, UK Government, the European Union Commission, Symantec, Apple and MasterCard.

The key market drivers for **AEP's** solutions are:

- Cyber threats
- Government standards (e.g. DPA, PCI-DSS, HIPPA, CoCo)
- Cloud computing
- Mobile communications

**AEP** is based in Loudwater, UK (co-located with **Command & Control Systems**) and has offices in Somerset, UK, New Jersey, USA, Kuala Lumpur, Malaysia and Sydney, Australia, employing 120 people in total.

**AEP's** products and solutions fall into four main categories:

1. Ultra Communicate, 2. Ultra Encrypt, 3. Ultra Safe and 4. Ultra Protect

### 1. Ultra Communicate

**AEP's** Communicate range of products and solutions provide secure personal, in-vehicle and rapid deployment communications systems. Approved for use up to EU and UK Confidential security level, the solutions are deployed to meet wide ranging requirements, including, battlefield deployments, emergency response environments and secure connections from hotels and other out-of-office venues, where flexible, secure communications are required to replace or augment existing fixed and mobile telecom infrastructures. The technology supports satellite, broadband, Wi-Fi and 3G connectivity, enabling remotely located teams to exploit public mobile and wireless networks or to create an instant local communications infrastructure, to send and receive secure IP traffic.

**AEP** also provides the UK's Met Office with the SATellite DISTRIBUTION system (SADIS). This high-quality, cost-effective and error-free satellite data distribution system brings vital flight information to aviation users around the world.

Ultra Communicate products are also used by satellite service providers and shipping companies that require a comprehensive end-to-end VSAT/IP/Legacy communications management solution, currently installed in around 1200 vessels. **AEP's** unique Auto Sky Roaming (ASR) Global Satellite Roaming communications solution provides blended mobility, network roaming management and automatic network configuration.

### 2. Ultra Encrypt

Organisations are relying more and more on the Internet to conduct their business and therefore need to ensure that steps are in place to protect the confidentiality and integrity of their data. **AEP's** enhanced grade network encryption offering allows the deployment of government grade, IPsec-based security that protects sensitive communications over public and private networks. It also includes advanced central management that significantly reduces the time required for initial setup and on-going tasks such as key management. Ultra Encrypt is the only GCHQ approved secure over the air keying solution.

**AEP's** Encrypt business provides encryption and key management products, securing national and international public sector and commercial enterprises. The products are designed to enable managed encryption service provision of complex, distributed secure networks. **AEP's** equipment is deployed to protect criminal justice and criminal intelligence, diplomatic, border control, nuclear industry, military and defence industry systems among others.

### 3. Ultra Safe

**AEP's** capabilities in the cyber defence and cyber security markets are based on a breadth and depth of experience protecting military, public sector and enterprise systems. **AEP's** products underpin cyber security systems such as PKI, application and code signing, key generation and management, application access control and identity management. **AEP's** Hardware Security Modules (HSMs) perform the cryptographic signing operations for the DNSSEC root and are deploying on top level extensions (e.g. .eu, .us). **AEP** has the only HSM evaluated to FIPS 140-2 Level 4 in the market. The HSM is tamper reactive and will destroy key material if compromised.

### 4. Ultra Protect

The Ultra Protect product line delivers security solutions for cloud services. LanProtect and CloudProtect delivers identity and access control to corporate users from any device and across any network. Ultra Protect products are deployed across the globe and with the next wave of cloud services on the rise, LanProtect and CloudProtect can be deployed within the Corporate LAN to deliver Infrastructure-as-a-Service and Applications-as-a-Service as well as Security-as-a-Service.



4. Ultra Protect

### Do you know?

Business name:

**AEP Networks**

Location:

**Loudwater, UK  
Somerset, NJ & CA USA  
Kuala Lumpur, Malaysia  
Sydney, Australia**

Established:

**2002** (The result of the merger between Baltimore Technologies and Netilla Networks Vados Systems)

Acquired by Ultra:

**September 2011**

Number of staff:

**120**



1. Ultra Communicate



2. Ultra Encrypt



3. Ultra Safe



# Tactical systems

## CIS supports front line policing in the UK and overseas

With a major deployment of over 120 mercuryIR digital interview recorders, supported by their Medirva repository software, currently underway for West Yorkshire Police, **CIS** is one of the UK's key policing suppliers. The West Yorkshire programme is a force wide implementation of Ultra's digital interviewing solution under the National Policing Improvement Agency's Digital Interviewing Framework Arrangement and will deliver all of the force's interview recording requirements.

As well as supplying the recorders for the 'typical' suspect interviews we've seen on TV, Ultra's recorders are also used in vulnerable witness and child protection suites by both the Derbyshire Constabulary and the Metropolitan Police Service.

The Bermuda Police Service closely follows developments in UK policing and when they needed to replace their cassette tape based interview recorders mercuryIR was selected.

## TCS manages evolving market requirements with adapted and adaptive radio technologies

**TCS** has historically provided EW and tactical radio products and solutions to US and international defence markets.

However, as **TCS**'s core radio communication markets have started to change **TCS** has had to investigate ways of creating a military radio that offers the right balance of essential military features and COTS prices, performance and SWAP benefits to keep pace with this change. This has led **TCS** to question whether the highly centralised and urbanized COTS radio technologies military forces have today be of any use in a highly distributed, always on-the-move (OTM) battlefield.

To meet this challenge, **TCS** has started development on the Multi-Mission Radio (MMR) system. Leveraging over 20 years of software defined radio designs for the military, the MMR will provide OTM broadband access from Brigade and Headquarters, down to the battlefield edge in a low cost, low SWAP form factor. The MMR will deliver high-performance COTS waveforms into military frequency bands with military grade security and automated relay or meshing capability; decentralize COTS mobility and security architecture; provide true mobility by supporting 100km range extensions through the use of fully mobile, quickly deployable aerial repeaters; make a fully automated, opportunistic use of limited, dispersed and often contested spectrum and provide backward over-the-air compatibility with thousands of fielded **TCS** military radios.

By providing military grade flexibility, agility and security at COTS price and SWAP, the MMR opens new markets including tactical operations, C4ISR solutions, military training, medical and logistics, Unmanned Ground Systems (UGVs) and Surveillance.



## 3eTI receives \$20m award to support U.S. Navy SmartGrid program

**3eTI** recently received a \$20m award from the U.S. Navy to implement an Enterprise Industrial Controls System (EICS) built on **3eTI**'s EnergyGuard™ and VirtualGuard™ solutions. This win is a direct result of the energy efficiency achievements made by the Navy SmartGrid Pilot Program, powered by **3eTI** solutions, which are implementing resilient energy efficiency and critical infrastructure protection solutions to protect Navy bases from disasters, accidents and attacks.

**3eTI** has been selected to design, develop and securely integrate the Navy's disparate industrial controls systems across several Naval District Washington (NDW) regions' central facility operations while preserving legacy investments in building automation systems. The same **3eTI** solutions will allow facility managers to perform real-time operations at the building level, providing the Navy with the ability to monitor, control and optimize energy usage in real-time.

Given **3eTI**'s extensive experience in working with the DoD to provide highly secure FIPS 140-2 validated wireless sensor networking technology, they are confident that EnergyGuard and VirtualGuard will not only provide the Navy with a secure energy management solution, but will enable a defense-in-depth framework for ensuring the Navy's energy security.



## TCS receives \$23million in orders from the U.S. Army

**TCS** has been awarded orders for tactical communications equipment totalling \$23m for the supply of shelter upgrade kits and additional AN/GRC-245 radios for the U.S. Army's Warfighter Information Network – Tactical (WIN-T) program. The kits will be used to upgrade the AN/TRC-190 sheltered line-of-sight (LOS) radio communications system to be compatible with Internet Protocol (IP) -based networks and will enable the use of 34 Mbps full duplex links with the AN/GRC-245 radio. The U.S. Army is transitioning to an Everything-over-IP (EOIP) network model and this latest equipment from **TCS** will greatly extend the deployed radios' product lifecycle by enabling them to interface with the more modern network.

## CIS wins Croatian national ATC recording system

The former AudioSoft business, now part of **Communication & Integrated Systems**, has recently secured a contract with Croatia Control Ltd, the Croatian Air Navigation Service Provider (ANSP) for the provision of a national Air Traffic Control (ATC) recording solution. The contract was secured as a result of a competitive tender process and comprises five networked recording systems to be deployed within the Zagreb Area Control Centre (ACC) and the Tower (TWR) and Approach (APP) facilities at the airports of Pula, Split, Dubrovnik and Zadar.

This win further reinforces **CIS**'s position as a national recording solutions provider to ANSP's and with recent technological advances and legislative changes supporting the use of Voice over Internet Protocol (VoIP) communication systems strengthens our presence in a dynamic market.

The project will be delivered during the first half of 2012. Unsurprisingly **CIS**'s engineers have been queuing up to offer their services during the installation phase which is currently scheduled to take place during the summer of 2012.



# People in the news



**3eTI's** President, Benga Erinle, awards Chris Doan with the 2011 **3eTI** President's award.

## Chris Doan Receives 2011 President's Award

Chris Doan received **3eTI's** 2011 President's Award as a result of performance excellence in leading the achievement of an Information Assurance (IA) Accreditation for **3eTI's** VPMS solution. This achievement also solidifies VPMS as the baseline network architecture for two other major Navy initiatives – the Advanced Metering Infrastructure and the Enterprise Industrial Controls System. Chris led both **3eTI** and Navy personnel through a very rigorous process to ensure success within the aggressive schedule established by the customer, the Naval District of Washington. Chris demonstrated the following LEAP behaviors: Leadership, Entrepreneurship, and Audacity.

## NATO and EAPC tap 3eTI leadership for SME expertise

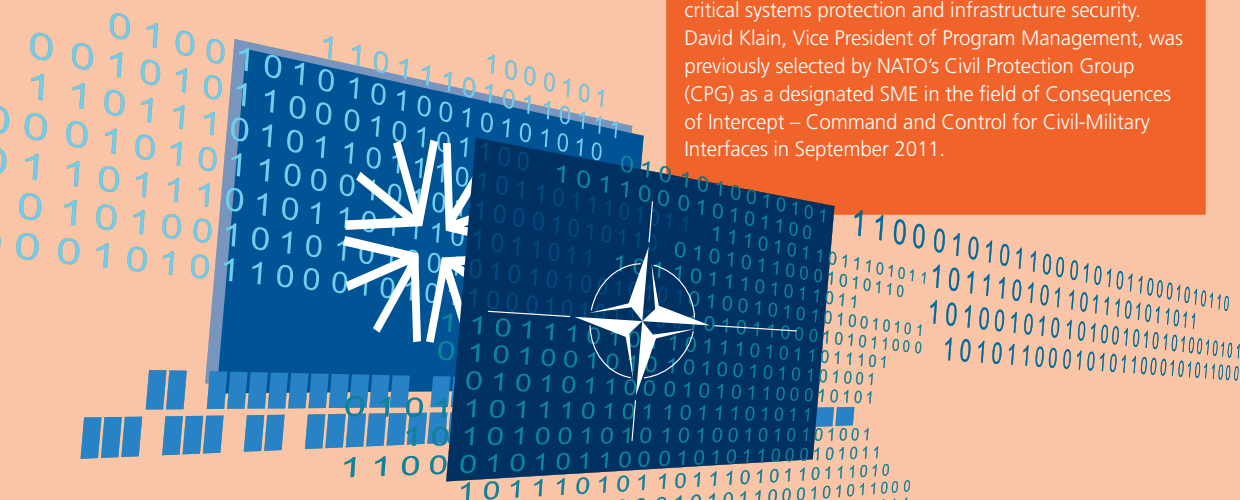
In February 2012, **3eTI** President Benga Erinle was appointed by NATO and the Euro-Atlantic Partnership Council (EAPC) as an Electronics Communications Expert in Critical Information Infrastructure Protection (CIIP). Benga will leverage his 25 years of cyber security expertise to provide technical advice and guidance on protecting Information and Communication Technology (ICT) and Critical Information Infrastructures (CII) systems and services. These entities are relied upon by millions of people around the globe and are crucial to successful threat deterrence. Benga is grateful for the opportunity to offer his knowledge to help protect our national critical resources in a time of need against a threat or attack.

This is **3eTI's** second NATO SME appointment, reflecting the company's exceptional expertise in the arena of critical systems protection and infrastructure security. David Klain, Vice President of Program Management, was previously selected by NATO's Civil Protection Group (CPG) as a designated SME in the field of Consequences of Intercept – Command and Control for Civil-Military Interfaces in September 2011.



### Safety champion

Karla Hamilton, an Assembler with **Maritime Systems**, recently won a province-wide safety champion award from the Workers Compensation Board of Nova Scotia. The Mainstay Awards recognize Nova Scotian's – organisations, companies and individuals – as leaders in promoting a culture of safety. Karla is a key member of **Maritime Systems's** safety committee and her commitment to safety is also recognised outside the company. Karla also sits on the Canadian Manufacturers and Exporters (CME) organisation Safety and Health Advisory Board.





## Nigel Howard is the new market development lead for Ultra in the Middle East



Nigel Howard joined Ultra last June, initially joining **TCS** before transferring into a corporate role late summer to coordinate regional business development activities for the Group. Here, Nigel describes his experiences so far of working within Ultra in the Middle East.

"I first encountered Ultra when I was working as the Counter-IED and Middle East lead for Thales UK, as there was a consortium working on a mobile surveillance platform for the UK MoD. Everyone involved at Thales always commented on the professional and 'can do' attitude of the Ultra team so it is kind of ironic that less than a year after that experience, I now find myself at Ultra and can second the opinions of my former colleagues as I continue my work in the Middle East.

Working as the Group market development lead in the Middle East is challenging but hugely rewarding. I am constantly surprised at the fantastic diversity in the product portfolio as well as being continually educated on our systems integration capabilities. There are a plethora of opportunities in the Middle East for the Group, as our customers look to secure their critical national assets, protect their borders and invest their wealth in the development of their infrastructure. The recession has not impacted the Middle East as hard as the rest of the world, although they have used the experience to become more astute in planning for the future. Therefore, as an industry we need to ensure we are agile, adaptive and quick to respond to their ever-changing requirements.

I have spent many years working in the Middle East, from serving operational tours with the military, working as a contractor in Iraq clearing landmines and unexploded ordnance to the roles I've had more recently within the Defence Industry.

I am continually looking at how I can create opportunities for the Group and enjoy interacting with the various business units across the globe, including our Joint Ventures in the UAE, Qatar and Oman. It certainly ensures that no day is ever the same! "Shukran wa ma'salaama!" (Thank you and goodbye).

### The Apprentice



Ed Povey, Apprentice Engineer from **Command & Control Systems**, was recently nominated for an award in this year's Engineering Trust (Isis Training) Annual Apprentice Awards 2011. Ed received the nomination award for the Second Year Apprentice of the Year. Ed is currently in his third year of his apprenticeship, throughout his apprenticeship Ed has demonstrated a commendable level of both effort and determination in making sure he always achieves a high standard in his work. Apprenticeships can transform the lives of young people, enabling them to develop skills and gain confidence, we are very proud of Ed's achievement and wish him continued success with Ultra.

## PALS's skillfest



**PALS** attended a local Skillsfest at Gloucester Rugby Club on 9 February as a result of which they will be recruiting two apprentices for the first time for a number of years in addition to securing undergraduates, graduates, and supporting knowledge transfer projects to attract key skills.

Pictured are Rob Moon, Chris Davies and Sarah Jane Rowlands, with the stand supported by a number of other ex-apprentices, Les Davis, Bob Mills, David Riches, Gary Coleman-Wood, and Alan Needham, throughout the day. The day was high profile with the local MP and the minister for employment attending to raise the profile of careers in engineering for young people.

The combination of the Staverton helicopter UAV, chocolate and former apprentices meant a busy and informative stand.

### Chris Mandalov wins the Ross Treharne Shield at the Australian Professional Electronic Warfare Association awards

The shield, in memory of Ross Treharne, is presented to the establishment, organisation, company or individual which in the opinion of the Association of Old Crow Australian Chapter deserves recognition for outstanding achievement in the field of Electronic Warfare (EW) and its associated disciplines in Australia.

Chris Mandalov, **Avalon's** Engineering Director and one of its founders, joined what was then EMI Electronics in 1977, and has worked on a number of projects that have grown Australian industry's capability in critical EW technology, including a stint in Israel at the time of the first Gulf War.

As is often the case with classified programmes, Chris' contributions may never be known outside of the programmes. However, what is known is that Chris is a tireless ambassador for the development and support of Australian indigenous EW capability and leads from the front at Ultra with continuing development and support of ELINT and self-protection systems.



# Welcome to Ultra :)



**1. Sharon Harris** has joined Ultra as General Counsel & Company Secretary. Sharon was previously Group Legal Director at EMAP Ltd and Head of Legal & Estates/Deputy Company Secretary at Britvic plc. She has a law degree from Kings College, London and completed her Law Society exams at Chester College of Law.

**2. Nick Gaines** has joined **Nuclear Control Systems** as the new stand-alone business's Managing Director. Nick joined Ultra from the Volkswagen Group where he was UK Information Systems Director. Nick has a degree in Nuclear Engineering from the University of London and an MSc in Nuclear Reactor Physics from the University of Birmingham. He began his career in the nuclear industry at the Central Electricity Generating Board and in 11 years held roles in reactor physics, systems, planning and business strategy.

**3. Grant Levy** has joined **Ithra** as the Project Director with responsibility for the Oman airport systems contract and growing the new **Ithra** business, reporting to Graeme Stacey. Grant joins from Honeywell Building Solutions where he was Solutions Director, Global Major Projects and has a degree in Building Surveying from Anglia Ruskin University.

**4. Nigel Bowers** has been appointed Marketing Director at **Controls**. Nigel returns to Ultra, where he worked previously for 15 years, from Ametek having reinvigorated the sales and marketing functions, growing year on year sales while securing further long term contracts with Airbus and Lockheed Martin. Nigel is an electronics and software engineer with an MBA from the University of Warwick.

**5. Ketan Sedani** has joined Ultra as Group Financial Controller. Ketan was previously Head of Reporting at Signet Jewellers and has previous experience in senior roles at both Anglo American plc and Pearson plc. He has a degree in accountancy from Birmingham University and is ACA qualified having trained with PWC.

**6. Marc Brodeur** has been appointed Vice President of Sales & Marketing at **Flightline Systems**. Marc joins from Goodrich Corporation where he was Group Business Director, Information Systems. He is a retired U.S. Army Lieutenant Colonel and served as Director of Aviation Maintenance, Counter-Narcotics Operations Officer, Battalion Commander 8th Battalion, 101st Airborne Division and Rotorcraft Test Pilot with the United States Army. Marc has a Bachelor of Science in Psychology from St. Anselm's College in New Hampshire.

**7. Scott Innes** has been appointed as **AMI's** Vice President of Business Development. Scott joins from Intelligent Energy, where he served as Vice President of Sales and Business Development for their U.S. operations, based in Long Beach, California. Scott earned his Bachelor's Degree in Manufacturing Engineering from Lawrence Technological University in Southfield, Michigan.

**8. Mark Hope** has been appointed as Vice President of Engineering at **AMI**. Mark was most recently the Senior Engineering Manager at Intelligent Energy's U.S. operations in Long Beach, California. Mark holds a Bachelor's degree in Mechanical Engineering from Clarkson University in Potsdam, NY, and a Bachelor's degree in Physics from the State University of New York at Geneseo in Geneseo, NY.

**9. David Barry** has joined **PMES** as the new Human Resources Director. David was most recently HR Director at Briggs Equipment and has held a number of other roles including HR Director UK Operations at GSI Group and Divisional HR Director with Gunnebo AB. David holds a BA (Hons) in French, Economics and Politics from Kingston University and is a Fellow of the Chartered Institute of Personnel & Development.

**10. Todd Emerick** has been appointed Operations Director at **Precision Air & Land Systems**. Todd was previously Operations Director of Babcock Integrated Technology Ltd (formerly Weir Strachan & Henshaw). He has a degree in Manufacturing Systems & Management from Cardiff University, an MSc in Engineering Business Management from the University of Warwick and an MBA from Ashridge Business School.



## appointments & promotions

**11. Andy Sullivan** joined **Communication & Integrated Systems** as Business Unit Director – Network Analytics. Andy joins from Grontmij Ltd where he was Expertise Area Director, Systems & Energy within the energy and transport sectors. Andy has a BEng Honours Degree in Electrical and Electronic Engineering. Andy will be responsible for **CIS's** Network Analytics business unit, based in Cirencester. The Network Analytics business unit comprises the former Audiosoft business with **CIS's** cyber activity.

**12. Leo Gaessler** has been appointed Vice President, Sales and Marketing at **Maritime Systems**. Leo joins from Impath Networks where he was VP Sales and Marketing. He previously worked at DRS Pivotal Power, Amphenol Ltd and Atlantis Aerospace. He holds an MBA from York University, a Diploma in Business Administration and is a certified Telecommunications Technologist.

**13. Bill Bambarger** has joined **SOTECH** as Chief Financial Officer. Bill has over 27 years of financial management experience and has previously served as Director of Finance at DRS C3&Aviation Company, Chief Financial Officer at Integral Systems, Executive Vice President, Corporate Controller and Chief Accounting Officer at Energy Solutions, LLC (formerly Duratek Inc.). Bill holds an MBA in International Finance from the University of Maryland and Bachelor of Science degree in Accounting from the University of Baltimore. Bill is a Certified Public Accountant and serves on the Dean's Executive Advisory Board at the University of Baltimore.

**14. Tom Cross** has been appointed Strategy Director of **Tactical Systems**. Tom joins Ultra after nearly 30 years in the Royal Air Force. The majority of his flying career was spent on frontline squadrons operating the Nimrod MR2 in ASW and ISTAR roles. More recently he has held a number of senior appointments in the Ministry of Defence, primarily in the Policy Planning, Strategy Development and Capability Planning areas. His most recent appointment was as the Head of ISTAR Capability in the UK MOD.

**15. Iain Bell** has joined **AEP Networks** as Sales and Marketing Director. Iain brings a wealth of experience in sales management, and has spent a large part of his professional career setting up the international operations for a number of successful organisations. Notably, Iain headed up Savi's (a Lockheed Martin company) international defence practice. He significantly extended the company's international defence client base during his tenure and embedded Savi into the heart of NATO's logistics infrastructure. He also extended Savi's reach to commercial markets including automotive, commercial logistics, rail, health, oil and gas and utilities.

## People on the move

**Mark Anderson**, formerly Strategy Director in the Sonar & Undersea Systems division, has been appointed Group Marketing Director and has joined Ultra's main board as an Executive Director.

**Ken Walker** has been promoted to the role of President at **Maritime Systems**.

**Michael Phipps** has moved from **ProLogic** to become the new President of **SOTECH**.

**Rob McDonald** has been appointed Interim Managing Director of the **Controls** business, taking over from Kim Wrighton. Rob had been doing a Strategy Director role for the Aircraft & Vehicle Systems division.

**Kim Wrighton** has moved to **Sonar Systems** where he has taken over the role of Managing Director.

**Emma Rolfe** has moved to Head Office as Group HR Manager, reporting to Keith Thomson.

**Mark Nelson** has replaced Graham French, who has retired, as Financial Director of the Sonar & Undersea Systems division.

**Rusty Kollmorgen** has been appointed as Strategy Director in the Sonar & Undersea Systems division.

**Bill Terry** has been promoted to the role of President at **Ocean Systems**, replacing Rusty Kollmorgen.

**Bill Organ** has moved from **PALS** to become the Human Resources Director for both **CEMS** and **Card Systems**.

## Retirement



**1.** In March 2012, **Andy Hamment**, Group Marketing Director, retired from Ultra. Andy joined Dowty in 1988 as Managing Director of the **Controls** business and participated in the management buy-out that created Ultra Electronics. He was appointed Group Marketing Director in July 2000 and joined the board at that time. Andy has been an outstanding Group Marketing Director and focussed on ensuring that there is a robust, on-going strategic review process in each of the Group's businesses.

**2.** **David Garbett-Edwards** retired from his position as Company Secretary at the end of April, 2012. David originally joined Dowty (before the formation of Ultra) in 1976 and has held a number of roles including Financial Controller at **Controls**, Finance Director at **Electrics** and Group Director of Corporate Administration before being appointed as Company Secretary in 2009. He has also served as a pension trustee and has taken up the position of trustee chairman.

appointments

all in a good cause

## C&CS charity bike ride



Could you think of any better way of enjoying the great outdoors than jumping on your push bike and heading out for a small bike ride?

Dave Smith and Dave Fraser from the Aberdeen Service team within **Command & Control Systems** have planned to do just that to raise money for the charity Help for Heroes. They plan to ride from their office in Aberdeen to London via a number of Ultra sites raising money on the way. The event is planned to take place on the 26th April 2013 and will cover a distance of around 780 miles over eight days.

The year's preparation will involve spending a fair amount of their own time in the saddle and lunch time runs to get them up to the required level of fitness to be able to complete such a gruelling event. During the event they will be able to be followed on Twitter and Facebook and if anyone would like to donate they can either do this online or by completing a sponsorship form which will be getting emailed out to Ultra sites later on in the year.

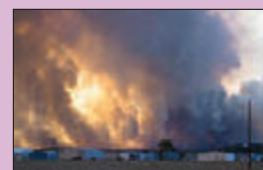
After the roaring success of last year's Children in Need event where all the Service team stepped up to get their legs waxed for charity and raised £400, the two Dave's are hopeful of hitting their target of £5,000. Any help and support would be greatly received and all moneys will be going directly to the Help For Hero's charity. The online site for any donations can be found at: <http://www.bmycharity.com/thebigbikeride>



FUNDRAISING  
IN SUPPORT OF  
**HELP for  
HEROES**

### NSPI joins forces with the American Red Cross to aid Texas fire victims

**NSPI** joined forces with the Central Texas American Red Cross in assisting Central Texas fire victims in time of need. Over 31,000 devastating wildfires have scorched 3,990,442 acres throughout Texas, leaving thousands of homes in ashes and thousands of people wondering what to do next. In Central Texas alone 35,000 acres were lost to fire and at least 1400 homes. **NSPI** collected \$2,930 in monetary donations last fall, which was sent to the CTARC to help local fire victims.



## ATS assists children in the local community

**ATS** adopted the elementary school literally down the road from their Austin, Texas facility. Last fall **ATS** employees donated over 35 Thanksgiving turkeys for families in need, supplied items for the school's Fall Festival and for classroom education, and contributed to their Christmas gift drive. Fifteen **ATS** employees volunteered in the school's mentoring program, meeting weekly during lunch to build relationships, read together, and simply spend time with the children.

Last Christmas **ATS** also participated in the Salvation Army Angel Tree Program, a program for low income families in the Austin area. **ATS** employees adopted 50 angels, each representing a child.



## 3eTI Gives Back

This past holiday season, **3eTI** employees were posed a challenge to donate food items or new toys to needy families in our community. We were proud to report that **3eTI** employees jointly contributed over \$4,000 and more than 100 toys toward last year's **3eTI** Food Drive and Toys for Tots Challenge.

## ProLogic sponsors high school robotics team

**ProLogic** is one of the sponsors for the New Oxford High School Robotics team. In cooperation with FIRST (For Inspiration and Recognition of Science and Technology) New Oxford's robotics team is preparing for this season's competition theme, Rebound Rumble.

Rebound Rumble is 'robot basketball'; two teams of three robots will compete to score as many baskets as possible. There are four baskets at each end of the court situated at three heights with the higher baskets worth more points. The centre of the court has a short wall across with three bridges that the robots need to navigate. Points can also be earned by cooperating with other teams by balancing the robots on the bridges at the conclusion of the match. The teams with the most points move on to the next round.

More importantly, the students are gaining real-life experience that is sparking their passion or confirming their interest in science, technology, engineering and math fields. The skills they are learning – teamwork, communication, organization, and mechanical techniques – are preparing them to be the future engineers and scientists of America.







## against the clock

In this issue **Mark, Michael** and **Paul** spend 60 seconds with UltraNews, sharing random facts about their careers and personal lives...



### Mark Anderson CB

**Head Office** – Group Marketing Director

I joined Ultra in June 2011 in a divisional strategy role before being selected to succeed Andy Hammett as the Group's Marketing Director, a role I started in April of this year. Before Ultra, I served for 37 years in the Royal Navy first as a weapon system engineer before switching career path to achieve both nuclear submarine and ship command. I ended my Navy career as a Rear Admiral, having worked on two strategic defence reviews, commanded all Fleet Operations and having headed the UK submarine service.

**1. What was the most memorable event during your career in the Royal Navy?**

If I told you I would have to kill you, so I suppose it would have to be surfacing a submarine at the North Pole and standing alone on the top of the world shortly before we dived again. Brilliant!

**2. If you could open your own business what would it be?**

A yacht delivery company.

**3. What law would you pass if you were in charge of a country for a day?**

Transit lanes on the pavements of Oxford Street and Regent Street for UK tax payers who are not shopping.

**4. What did you want to be when you grew up?**

A doctor in a coastal location so that I could also be a lifeboatman!

**5. Do you collect anything?**

When I was about 15 I collected an almost complete set of pre-decimal coins, which I kept in a box in my room. My Mother used them to pay the milkman and I have never collected anything since (other than children – I have four).

**6. If you could live anywhere, where would it be and why?**

Bermuda – sun, sand, civilisation, history and an ocean to play in.

**7. What music album, film and book would you want on your iPad if you were stuck on a desert island?**

Music – Adele (today – at school it was Glen Miller, so very fickle tastes). Film – In Which We Serve (black and white WW2 naval warfare). Book – Patrick O'Brian's Jack Aubrey series (e.g. Master & Commander).



### Michael Phipps

**SOTECH** – President

I joined **ProLogic** in 2009 as Vice President of the Intelligence, Surveillance and Reconnaissance Solutions business unit. I then moved over to **SOTECH** as President with the acquisition by Ultra in December 2011. Prior to Ultra, I originally graduated from Duke University with a BSE in Biomedical Engineering but switched to the defence industry soon after, focusing on signal processing for intelligence, surveillance and reconnaissance applications. I've held several senior management positions with several companies in the intelligence sector.

**1. If you could open your own business what would it be?**

A combination golf and snorkel shop near the Plantation on Maui, opening from 9:00 to noon three days a week, only during peak tourism season. Not sure it's the best business model. I'm pretty sure that my wife would need to keep working...

**2. What did you want to be when you grew up?**

Very early on I wanted to be an astronaut. All of my science fair projects in elementary school had something to do with space. That led me to science and engineering.

**3. What's the first important historical event that you can remember living through?**

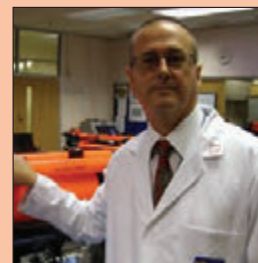
The assassination of President John Kennedy – I was seven. We had weekly drills in school where students climbed under their desks in an orderly fashion to protect us in the event of nuclear attack – desks must have been built better back then. I remember being sent home early from school, my father was already home from work and all the neighbours were outside speculating on what would happen next.

**4. What scares you the most?**

Obsolescence. I'm a life-long learner, always going to school. I must be scared of waking up one day and wondering where I fit.

**5. What makes you bored?**

Dwelling on the past. Experience and past success are very important, but tell me how you can build on that, where you are going, and what you want to do next.



### Paul Selfe MBE

**Sonar Systems** – Production Engineer

I started at Ultra 28 years ago as a Production Engineering Technician. I now manage and work in a small team of Production Engineers (or 'Design for Manufacturing' engineers, as we are to be known as in future), developing products in the early stages of design for larger volume manufacturing.

**1. What are you working on at the moment? How is it going?**

I'm working on the Seafox mine countermeasure at the moment, taking the opportunity to improve assembly processes before we move the section to its new location. It's a great product that has presented very few production problems; it's been a pleasure to work on for the past five years.

**2. What was it like to meet Her Majesty The Queen at your MBE ceremony?**

I left home that morning feeling tremendously proud; of Ultra, of being British. When I came face to face with Her Majesty, I was simply awestruck and a bit emotional to be honest – it was the Queen!

**3. What do you do during your free time?**

In my free time I'm a dad who supplies lifts and money and I am also a Scout leader.

**4. What's the best decision you've ever made?**

We decided to start a family – two fantastic boys of 16 and 14.

**5. What sports team do you support? How are they doing this season?**

I used to support QPR in my youth; I did my apprenticeship in a company close to Shepherds Bush. I lost track after Rodney Marsh transferred!

**6. What scares you the most and why?**

Nothing really, I always try to make the best of things and get on with it.

**7. What did you want to be when you grew up?**

A cowboy – no comments please!

**8. What were you doing the last time you had a really good laugh?**

Eating tandoori and drinking Cobra with the boys from work.

# and finally...

## Tough Mudder

At 0900Hrs on Sunday 13th May 2012, a small team from **CIS** took part in what has been described as probably the 'toughest event on the planet'. 'Tough Mudder' is a 12 mile obstacle course which has been designed by Special Forces to test all around strength, stamina, mental grit and camaraderie. Forget finish times, simply completing Tough Mudder is a badge of honour – the additional £10 mandatory fee for life insurance should set the alarm bells ringing...



Thankfully for all involved, it was only a couple of hour's torture and the pain did go away – eventually. The team also raised over £3,000 for Great Ormond Street Children's Hospital in London, who look after thousands of suffering children (including the daughter of Dave Shannon, one of the team members) whose pains do not go away after a few days. A great achievement, for a fantastic cause.

## London Marathon triumph



Ultra sponsored Jennifer Ramsey of Sarasin & Partners, a fund management firm that holds shares in Ultra, for running the London Marathon in April. Jennifer was running in support of Whizz Kidz, a charity that supplies mobility equipment to disabled children. Despite being

hampered by an injury, Jennifer still managed to achieve a personal best time for the London course of 4 hours and 18 minutes. Congratulations Jennifer!

## 10K run for CIS

In late May, a team of intrepid runners from **CIS** took part in the BUPA London 10K to raise money for the ABF Soldiers Charity. Everyone who started the race finished the course – even those with injuries and despite it being a very hot and sunny day (not ideal for running!). There were about 10,000 runners (including Mo Farah who won the race) who ran the most scenic parts of the London Marathon course – this will also be the Olympic Marathon course.

It was a wonderful day and **CIS** are hoping to raise over £2500 for this very worthwhile charity.

The runners were: Lee Gough, David Irvine, Thomas Cook, Alan Wright, Malcolm Stenning, John Thorn, Leon Van Zyl, Sandeep Desai, Karen Parnell, David Mead, Ges Muir, Alpesh Kavia and Colin Rowe.



## Run Chris run...

From computational mathematics, to acting, to designing and implementing telecommunications solutions, and running triathlons, Chris Conlon is one of **SOTECH**'s true Renaissance men.

As a Telecommunication Systems Engineer IV, one of his many roles at **SOTECH** is to conduct technical international evaluations of new business opportunities. He also helps design and implement solutions which get deployed, installed, and are maintained by a team of **SOTECH** experts serving overseas.

Chris enjoys a full range of extracurricular activities. He is a member of the Screen Actors Guild and most recently played the role of a Secret Service agent in the HBO movie Game Change, and can also be found in the upcoming HBO series Veep. In addition to acting, he volunteers his time as Community Association President and runs alongside members of a group shelter for the non-profit, Back on My Feet. Chris has completed seven marathons and three triathlons and plans to complete his first Half Iron Man triathlon (70.3k) in June.

## Kelly's Olympic surprise



Kelly Beamish, from **PALS**, has carried the Olympic torch through Cheltenham, where **PALS** is based, in May. The honour is in recognition of Kelly's fantastic charity work, where she has sent shoe boxes full of goodies to soldiers serving in theatre. Kelly isn't sure who nominated her, but can't wait for her moment in the spotlight. "It was fantastic to be part of history and it is something I will always look back on for the rest of my life. Most people have been chosen to carry the torch for sporting reasons, but I think it is nice that I have carried it for the military, which is a huge privilege."

## feedback

I hope you've enjoyed this edition of UltraNews. The magazine has certainly grown in size quite substantially, which itself is a good indication of just how much exciting news there is to report from around the Group. As ever, please send any feedback or suggestions for the future to me.

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# Ultra**News**

## LAUNCH

**growth  
through  
engagement**

pages 2 to 5

making a difference

**Ultra**  
ELECTRONICS

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"Essentially, we seek like-minded, entrepreneurial businesses that add to, or complement, Ultra's existing niches."

# LAUN

The right behaviours, combined with winning strategies and a supportive culture, define what makes Ultra a very special company.

In 2008 Ultra rolled out **LEAP**, four cultural behaviours that we want to encourage everyone within the Group to use as part of their daily working life to keep Ultra one step ahead of the competition. We've had great success with **LEAP**, with all of the businesses taking up the challenge of incorporating it into our cultural fabric. I am convinced that it has been a key factor behind the Group's resilient business performance over the last few years.

For any business, winning new customers and maintaining good relationships with current customers is critical to success. This is not just the job of the Group's sales and marketing teams. Everybody in the company that has contact with our partners and customers has a responsibility to seek out further opportunities where our solutions can solve their problems.

To enable this growth through engagement, we have developed an approach to customer relationship building that is known as **LAUNCH**. This was developed and trialled at **MSI**. Ultra has always been a customer-centric organisation. This approach, which is summarised on the facing page and explained in more detail on the following pages, is a way of building relationships by putting the customer and their problems first, as opposed to pushing Ultra and our solutions.

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Ken Tasch President, MSI



## Listen

- who is the customer?
- what are their core capabilities – strengths/weaknesses?
- what products or programmes have driven their success?
- what is the vision of their future direction?

### Tips for the **listen** phase:

- let the customer know you want to hear about their challenge – let them speak freely
- pay attention to the speaker, not your phone
- don't interrupt the speaker; allow them to finish before responding

## Need

- what does the customer need to ease their pain and when?
- what are the technical requirements?
- try and find out the pricing requirements as well as the estimated overall cost of the platform

### Tips for the **need** phase:

- restate the goal again
- explore what is being asked for further – what is the real need?
- consider if meeting the perceived needs will actually meet the goal
- again, do not challenge or suggest solutions yet

## Ask

- general programme information – begin to get some detail
- why are they talking to Ultra?
- what does the customer think Ultra can do?
- does the customer have any prior expertise in Ultra's area?

### Tips for the **ask** phase:

- clarify what you have heard
- explore the issues further
- don't challenge what you've heard or suggest solutions yet

## Create

- suggest some possible solutions
- find out what the competitive solution is and then start to show Ultra's positive differentiation
- add value to the proposed solutions

### Tips for the **create** phase:

- take a few moments to think independently about the issue – what are your initial thoughts, hunches or hypotheses?
- share these thoughts with each other, one person at a time
- confirm or deny the relevance of these ideas

## Understand

- what is the customer's pain?
- what is the end product/platform?
- what is the application – what will Ultra's offering do?
- who is the end customer?
- who are they competing with?
- who is Ultra's competition?
- if you can, draw out more details of the programme – timeframes, quantities etc.

### Tips for the **understand** phase:

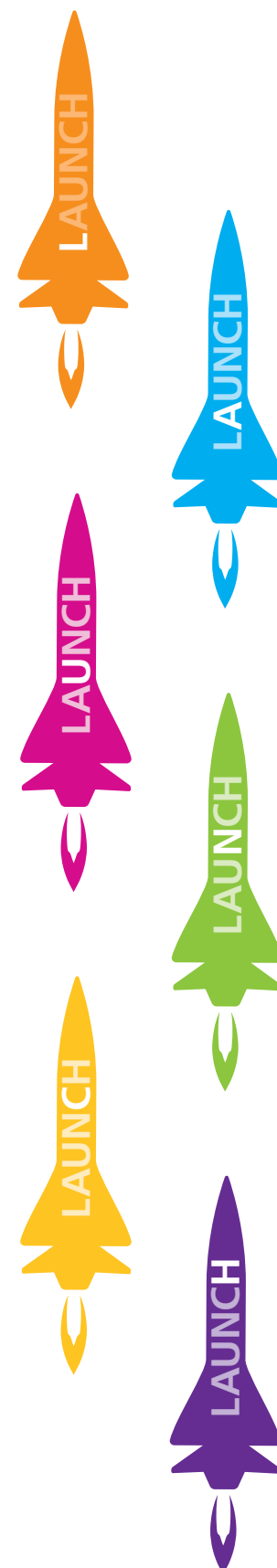
- agree with each other that you understand what was said (recognising that understanding is not necessarily the same as agreeing)
- restate the topic and the desired goal

## Holistic

- find out whether there are other opportunities related to the programme or a larger opportunity if other Ultra businesses or teaming partners were to be brought in
- who might these partners be?
- are there other opportunities?

### Tips for the **holistic** view:

- take a few moments to think independently about the issue and potential solutions, opportunities for resolutions or growth and improvements
- share these thoughts and ideas with each other, one person at a time
- consider all the options and rank them from best to worst
- discuss the advantages and disadvantages and potential impacts
- discuss how the options could be improved upon
- select the best options and commit to implementing them
- note your action plan



## Behaviour

# LAUNCH

**LAUNCH** is a way for Ultra's businesses to generate better pipelines of opportunities, which lead to sales and, ultimately, enables the Group to continue growing. It in no way replaces **LEAP**, which remains an integral part of Ultra's culture. **LAUNCH** is more aligned with the guidelines we have for the Group's approach to systems engineering and project management – **LAUNCH** is our approach to customer engagement and relationship building.

### Tools and enablers:

Whilst the individual letters of **LAUNCH** are not a rigid procedure, there is a broader process within the business to get the best out of **LAUNCH**.

#### LAUNCH sheet:

- The **LAUNCH** sheet is an IT tool that aims to be of value to the salesperson and is also extremely valuable to the rest of the business to provide briefs on the opportunity. This helps people understand what they already know, check their understanding, ask about things they don't yet know and develop strategies for the opportunities. Most importantly, it helps to decide whether you are speaking to the right people, about the right things.
- The sheet has drop-down sections which amplify a particular line, and give suggestions for areas of enquiry.
- The sheet can be adapted by other businesses to meet their particular needs (new customers, developing existing accounts etc).
- Add **LAUNCH** to other elements of your customer interaction procedures. If you complete call reports after a first conversation with the customer, use **LAUNCH** to identify, ahead of time, the elements of **LAUNCH** that are desired to be talked about at the next pre-meeting. Use **LAUNCH** in meeting reports to measure success post-meeting.

#### Internal coaching:

- The **LAUNCH** sheet can be an aid to coaching: peer reviewing the questions used with the customer can be developmental for people.
- At joint visits, peers can help signal to each other if the level of talking needs to be reduced, and the level of listening increased.

#### Internal LAUNCH meetings:

- Lasting about 1½ hours, these are held every 2-4 weeks (or a period chosen to suit the business or the opportunity), attended by the Senior Management Team, selected others from several disciplines and the sales team.
- Choose a private space away from distractions.
- The **LAUNCH** sheet is circulated beforehand, so that it is NOT presented AT the meeting. Instead, participants of the meeting prepare their questions and hypotheses in advance.
- The only ground rule for the meeting is to be constructive. Float questions and ideas to build on creativity and get the best from the next meeting: what else might be done crossfunctionally to develop the opportunity? How might doors be opened in other parts of the customer's business, including their business development function?
- **LAUNCH** meetings are also the hot bed of generating potential solutions to the customer's broader business needs.





#### LAUNCH dissemination:

- **LAUNCH** is not just for sales teams, but for all functions who interact with the customer: everyone has a role to play in understanding broader customer needs and in generating solutions.
- Organise in-house sessions on **LAUNCH** to understand the importance of this deep engagement with the customer in order to understand their situations, their pains and contribute ideas to generating broader solutions.

### Initiating and sustaining LAUNCH in your business

Ultra runs a two-day programme, run in your own business, to help you and your teams build their **LAUNCH** skills in understanding broader customer needs in order to grow revenue opportunities.

The programme also helps you plan the **LAUNCH** project and drive it successfully for the first critical months.

Details of this programme are available from the Ultra Learning Academy site, or from Keith Thomson, Group HR Director.

### Case studies

Early in 2012, **MSI** began the process to encourage an existing customer, Contract Fabrication and Design (CFD), to replace the competitor for the hand controllers for a helicopter weapon system. **MSI** succeeded in winning the business by solving several problems experienced by the existing supplier. Using **LAUNCH** to move into supplying high-end electronic components and develop products has allowed MSI to supply the entire fire control system AND the helicopter flight control handles. A \$3k per helicopter opportunity is now a \$50k per helicopter opportunity and we are viewed as a valued teammate and partner.

Using **LAUNCH**, **MSI** qualified as a supplier to Merrill Technologies for the Remote Weapon Station upgrade to BAE Systems' Paladin self-propelled howitzer. Unfamiliar with each other, **MSI** and Merrill found common ground in our existing relationships with BAE Systems. We offered support and expertise to help them with the HMI portion of their offering. After listening to the customer and understanding their needs based on application requirements, it was noticed that the application could possibly benefit from a creative solution: the exciting new TEC tablet technology developed by **MSI's** HSI business unit. Subsequently, **MSI** and Merrill found a new opportunity re-using the exact same fire control technology that was developed for CFD as described above!

"...many nations are significantly increasing their budgets for anti-submarine warfare (ASW) capability"



# Anti-Submarine Warfare: Playing to Ultra's Strength

## Maritime Commons and the global economy

**The Maritime Commons is made up of all the "unowned" waters of the world combined with the right of innocent passage through territorial waters. At the heart of the world's global economy is the ability for trade to have free access to the sea.**

Nearly 75% of the world's trade by volume, 58% by value, traversed between countries by sea in 2011. Within that trade were vital energy resources, specifically petroleum and natural gas. By necessity, 61% of those energy resources pass through five narrow navigation areas of the world often referred to as choke points. These choke points (Straits of Hormuz, Maldives, Malacca, Luzon and the South China Sea) are in waters that are contested, based on tensions that have hundreds of years of history behind them.

With the growing interdependence of the world's economies, one can view the Maritime Commons as a giant conveyor belt circling the globe and providing just-in-time deliveries of goods and services. The global economy is vulnerable to disruptions in that "conveyor belt" even if just for brief periods of time. Any of the choke points provide rogue nations and non-state actors, such as terrorists and pirates, the opportunity to disrupt the free flow of trade in order to achieve their own narrow goals. It is easy to imagine just how the threat of a menacing force would have on normal trade routes. This is particularly so if that threat comes from a submarine which is very difficult to find.

Nations recognise their dependency on uninterrupted sea lanes. Additionally, those with significant ocean coastlines are expending more effort in drawing from their territorial and exclusive economic zone waters the benefits of fishing and energy resources. They get nervous when larger neighbours ramp up their naval capabilities, particularly when it includes submarine force growth. This is most evident in the Asia-Pacific where Indonesia is significantly increasing the size of its submarine fleet (from 2 to 12) and Vietnam intends to have a force of six submarines in the next 12 years where they had none previously.



## ASW funding a high priority worldwide: Ultra well positioned

To deal with the increased submarine capability in their regions, many nations are significantly increasing their budgets for anti-submarine warfare (ASW) capability. In the Asia-Pacific region (India to Japan) a 75% increase in ASW spend through to 2018 is forecast. Asia-Pacific is not alone in increased ASW spend. The US, with its announced "Pivot to the Pacific", is projected to grow sonar spend over the next six years.

Ultra is well positioned to capture a portion of these ASW budgets. Ultra is a market leader in the provision of sonobuoys, ASW aircraft sonobuoy receivers and acoustic torpedo countermeasures. Ultra has significant presence on air, ship and submarine platforms from which to lever strong customer recognition and technical discriminators to capture future ASW requirements.



## Rusty Kollmorgen

### Sonar & Undersea Systems, Strategy Director

#### ISS leaves no hiding place for the submarine

The Ultra Electronics ISS 800 sonar system is pioneering the transformational concept of an Integrated Sonar System (ISS). It uses an open systems architecture that enables 'best of breed' sonar components to be used in a modular, integrated undersea warfare suite. The design brings Force ASW into a network-enabled, multi-static domain while eliminating the weight and volume penalties of existing sonars.

ISS 800 provides a comprehensive ASW capability, fusing data from both own-ship and off-board sensors to build a complete underwater tactical picture. The UE-ISS 800 sonar incorporates a novel single integrated in-line towed system with an active Dual Frequency Towed Array (DFTA), a Passive Receive Array and a torpedo defence system. This simplifies the ship handling system with all arrays operated using one lightweight single-drum winch. It allows greater ship manoeuvrability in confined and shallow waters and provides for safe launch and recovery in higher sea states and at higher speeds.

#### Airborne MSA: changing the ASW dynamic

In response to customer needs for affordable ASW capability that fits on existing airframes, Ultra Electronics has developed a new airborne ASW solution. With world leadership in multi-static active (MSA) acoustic processing techniques, GPS-enabled digital sonobuoys and software-defined sonobuoy receiver technology, Ultra offers an unrivalled capability to detect, track and localise potential threat submarines. This robust capability is achieved without substantial operating and support overheads associated with high-end purpose built airframe solutions.

Ultra's solution uses multiple sources and receivers (sonobuoys) positioned in different locations in the sea relative to submarine threats. Echoes from active sources are picked up by a pattern of receivers which take advantage of returns from multiple submarine aspects. These multiple bi-static combinations of sonobuoys are collectively exploited to produce an accurate target track.

Ultra's MSA pedigree was established through a capability demonstration programme delivered to the Royal Air Force's Nimrod MR2 maritime patrol aircraft. The functionality is now included in Ultra's compact and lightweight airborne acoustics offerings which meet the needs of any ASW air platform.

A standout feature of the airborne processing system is the operator display format. Ultra's simple and intuitive user interface based on animated geographic and other displays, is supported by a range of operator aids.

#### Torpedo defence: pacing the future threat

Regional navies are increasingly threatened by the capabilities of ultra-quiet submarines armed with potent heavyweight torpedoes. This is driving many to invest in reactive surface ship torpedo defence (SSTD) systems that provide protection for host ships.

Ultra has supplied a variant of its Sea Sentor system, known as Sonar 2170, to meet the Royal Navy's fleetwide SSTD requirement; a variant has been selected for the Turkish Naval Forces' MILGEM corvette programme. Sea Sentor is a compact, modular and self-contained point defence system that integrates advanced torpedo detection, classification and localisation (TDCL) techniques with a suite of soft-kill countermeasures (comprising both off board expendable devices and a towed decoy).

In operation, Sea Sentor detects torpedoes at sufficient range to enable the deployment of acoustic countermeasures that maximise the probability of vessel survivability. It uses a dedicated high frequency passive digital array and intercept towed sensor to achieve detection.

Expendable acoustic countermeasures, designed to seduce incoming torpedoes away from the host ship, are fired from launchers mounted port and starboard. An in-line flexible towed acoustic body, streamed behind the vessel, incorporates a torpedo decoy device.

#### Anti-Submarine Warfare in Australasia

The introduction of new Anti-Submarine Warfare (ASW) platforms into the Australian Defence Force (ADF) such as the Air Warfare Destroyer, P-8 Poseidon aircraft and Future Submarine, has emphasised the strategic importance of the Australian ASW capability. Ultra's continuing development work with the Defence Science and Technology Organisation in this field, and specifically in multi-statics, has led most recently to a contract for SSQ 125 acoustic source buoys for test and evaluation to be supplied by Sonobuoy TechSystems (joint-venture between USSI and Sparton). The New Zealand Defence Force is also seeking to enhance its capability in this area and Ultra Electronics, **Australia** is working closely with **Sonar Systems** on the development of a multi-static active processing capability for their upgraded P3-K aircraft.



Expendable acoustic device being launched and monitored

## Ultra around the world

As Ultra extends its reach around the world we take a closer look at our regional marketing leads around the world.

### India



**Colonel (Ret'd)  
Navdeep Bawa (Deep)**

During my military career, I held several staff and field appointments and commanded a Tank Regiment in the Northern sector. As an Armoured Corps officer, I was involved in the procurement and the induction of major equipment and technical

platforms into the Indian Army. I am an alumnus of the National Defence Academy and Defence Services Staff College and hold a Postgraduate degree in Defence Studies, Tank and Armament Design.

I have been assisting several Ultra Electronics businesses since 2004 and joined Ultra Electronics as its India Head in 2008 and lead the sales effort in India.

As a Group Regional Marketing lead, I assist in identifying and creating opportunities. I also try and fit in other Ultra businesses in the same opportunity where their products or expertise matches up to the opportunity. Identification of local companies for partnerships or JVs, local liaison and facilitating meetings with industry, Service HQs and partners are some of the other roles that I have to play. The major expenditure by India is directed towards defence, Homeland Security and improvement of infrastructure to include railways, aviation and roadways. I have been integral in the launch of several Ultra Electronics products for tracked vehicles, fighter aircraft, as well as naval and trainer applications and assisted in the Ultra businesses' marine pursuits.

India is jointly developing a state-of-the-art stealth fighter (EGFA) with Russia. Hindustan Aeronautics (HAL) Light Combat Aircraft (LCA) is expected to be introduced very soon. The Indian navy has planned for 11 new destroyers and 10 frigates, six Scorpene submarines and six nuclear-powered submarines. It also has 12 Boeing P-8I anti-submarine and reconnaissance aircraft on order. It also plans to introduce

about 60 Anti-Submarine Warfare helicopters and about 50 light helicopters, as well as 120 domestically-built light helicopters. The Indian Army plans to introduce about 2600 Futuristic Infantry Combat Vehicles and 250 locally built Arjun main battle tanks by 2020. It also plans to develop and introduce a large number of 155mm artillery guns. The Future Infantry-Soldier-As-a-System (F-INSAS) is supposed to commence by 2017. These planned programmes alone offer Ultra several opportunities in the region. They will certainly keep me busy over the next few years.

### Also...



In order to address the growing market in India for security and identity solutions, **Card Systems** has opened an office in Bangalore. The Indian government is driving forward a number of identity schemes. **Card Systems** is selling its Magicard card printers into RSBY medical identity

projects across India; the RSBY project puts a secure smart card into the hands of millions of people who use it to obtain access to medical facilities. The government is also planning new projects including a driving licence and national ID card. **Card Systems** has recruited two sales personnel based in Bangalore and has recruited a new distributor within the Indian company WeP. WeP also has the capability to do local manufacturing and is assembling one of the Magicard printers in their Mysore factory as part of Ultra's commitment to creating jobs in India.

### Middle East



**Nigel Howard**

The main focus of opportunities within the MENA region right now is primarily centred on National Security and Infrastructure. Within the National Security environment there is a strong desire to protect critical national

infrastructure, implement maritime and border surveillance solutions. Cyber security has also been high on the agenda specifically as a result of the recent cyber-attacks on Aramco (the Saudi National Oil Company).

A number of Ultra businesses: **AEP Networks, ATS, Airport Systems, AudioSoft, C&CS, CIS, Ithra, TCS and Sonar Systems** have all been very active recently in the MENA region; I have spent my time assisting them in meeting customers, validating new and current opportunities, conducting demonstrations and driving home the key messages to enable the businesses to secure an order intake.

Infrastructure is also a significant area of growth, with well over \$200bn being spent on rail, metro, road and ports across the region. This represents a number of substantial opportunities for the Group and I'll continue to liaise with the Ultra businesses to ensure they are best positioned to secure business.





# China



**Jenny Lawton**

The opening of Ultra Electronics Beijing office was introduced in a previous issue of UltraNews. In order to increase Ultra's credibility in Asia, a joint venture, Ultra Electronics TopScientific Aerospace Ltd has been established and registered in Hong Kong with operations

and businesses across China. It is a 50:50 Sino-British joint venture between Top Scientific Inc – A China Merchants Technologies Group Company – and Ultra Electronics. Through this vehicle, TopScientific Aerospace functions as a gateway and bridgehead for Ultra businesses to enter into the Chinese marketplace.

There is an established work relationship with the Aircraft and Vehicle Division businesses with corporations such as COMAC, AVIC and other major players in China's aerospace industry; meaningful and suitable platforms and long term projects have been identified through our joint efforts.

In addition to aerospace programs, TopScientific Aerospace has also begun working on other sectors functioning as a match-maker. A recent example is helping **Prologic** and other Ultra businesses launching into the public health IT arena and currently working on identifying and tendering the first project in China's health care sector. With the dedication and adaptation from these Ultra businesses, Ultra has begun to gain a foothold in these fast growing and challenging segments.



# Australia



**Peter Weir**

Ultra Electronics' Regional Marketing Initiative continues in earnest in Australasia with Ultra Electronics, **Australia** driving activity in the region. Ultra Electronics, **Australia** has provided in-country support for a range of Ultra businesses in recent months including most notably

SonobuoyTech Systems (joint-venture between **USSI** and **Sparton**). The business has a long-standing history of success in the Australian marketplace and with the support of Ultra Electronics, **Australia**, the business celebrated a record level of sales of sonobuoys to the Royal Australian Air Force (RAAF) customer over the past year. In addition, Ultra Electronics, **Australia** secured a contract for the supply of refurbished BARRA sonobuoys to the RAAF. Delivery of the BARRA

capability is a genuine Group-wide effort with both **Sonar Systems** and **Maritime Systems** playing key roles in the refurbishment activity. Within the wider ASW domain, Ultra Electronics, **Australia** has also secured a contract for the supply of Submarine Launched Countermeasures (SUBSCUT) to the Royal Australian Navy (RAN). SUBSCUT will be manufactured by **Ocean Systems** at the Braintree facility in Massachusetts and ultimately deployed from the current Australian Collins Class submarines.

In continuing efforts to raise the Ultra profile within the wider region, Ultra Electronics, **Australia** has led Group-wide representation at four key exhibitions in recent months including Land Warfare Conference (LWC) in Melbourne, Military Communication and Information Systems (MilCIS) in Canberra, Defence Industry Association (DIA) in New Zealand and IndoDefence in Jakarta, Indonesia. Ultra Electronics, **Australia** was extremely pleased to have received significant support from a wide range of companies within the Group for these events.

# Turkey



**Tayfun Akmete**

Turkey is amongst the top 15 military spenders globally, and the Turkish defence market continues to increase steadily. The growing Turkish defence industry is valued at over £9bn, and expects to earn revenue in excess of £5bn by 2016, with exports from Turkey accounting for £1.3bn.

The Turkish defence sector plans a strong presence in the market across a broad range of areas: from aerospace, naval shipbuilding and tracked and wheeled armoured vehicles, to specialised textile, armaments and munitions, missiles and rocketry and advanced electronics. Turkey has a wide range of continuing and planned projects on many platforms:

- **Land platforms** – armoured vehicle and tank modernisation programmes

- **Naval platforms** – MILGEM corvette, patrol boats, new types of submarines, landing ship tank
- **Air platforms** – unmanned air vehicles, aircraft design projects, simulators, rockets, missiles and military clothing.

The Turkish defence market's proposed modernisation strategy and new technology projects have become very attractive to the global supply chain, and present considerable opportunities to Ultra Electronics. I plan to create links between the Turkish defence industries and the appropriate Ultra businesses to form strategic relationships. **Sonar Systems**, as a result of a strategic alignment with the Turkish defence strategy, has won three important naval projects in Turkey. These include the First National Corvette (MILGEM) where **Sonar Systems** has succeeded to supply the Torpedo Countermeasure Systems (TCMS) against a very powerful group of international competitors.



## Douglas Caster Chairman



"...the **LAUNCH** initiative offers a valuable tool to help us all to better understand the customers real needs"

# Chairman's corner

As I write we have just concluded 2012 which has been the toughest year in Ultra's history. This is mainly because of the current economic climate which has its roots in the banking crisis of 2008, coupled with the funding uncertainties in the US defence market that result from the US government's struggle with its budget deficit reduction. In these straitened times the focus of continuing to win new business is even more important.

In reviewing this edition of UltraNews I am heartened therefore by the continued focus across the entire Group on meeting customers' real needs, through both our continuing technical innovation and in the way we behave.

In the challenging times that the markets are facing, it is clear that we will have to work harder to differentiate ourselves from the competition and it is not just our technical and commercial offering where this differentiation needs to occur. It is increasingly important that we form long term relationships with our key customer stakeholders that are mutually beneficial – where they see Ultra adding value to them above and beyond our potential technical offerings. I firmly believe that the **LAUNCH** initiative offers a valuable tool to help us all get closer to, and better understand, customers' real needs and hence to make a difference. Furthermore **LAUNCH** complements our **LEAP** behaviours extremely well.

It is not just in our existing markets where **LAUNCH** is applicable. As we continue to extend our presence in markets around the world, it is imperative that we better understand the customer needs in these new markets with different cultures. As described on pages 8 & 9, Ultra now has dedicated regional offices and resource in Australia, China, India, Middle East and Turkey. In some of these markets we already have a considerable presence and have secured number of significant programmes. In others, we are still pursuing opportunities and through the regional directors we are looking at raising our profile, gathering increased market intelligence, building links to local partners and achieving better coordination with the individual businesses.

One of the problems of having a devolved company structure is ensuring that we maximise the opportunities to bring the businesses together in collaboration to bid for contracts that would be beyond the capability of Ultra's individual businesses. To support this coordination, we are now creating the role of Divisional Strategy Directors. These new roles will help to drive growth and performance from each of the divisions and give more coherence to joint offerings. The page opposite explains the need for these positions and how they will operate.

From a personal perspective, I continue to promote and champion Ultra wherever I can. Over the last half of 2012 this has entailed me supporting the Farnborough Airshow (see page 12); taking the Board to Oman and Abu Dhabi (see below); attending both the Conservative and Labour party conferences to ensure that Ultra's views on various matters are raised with the Ministers and the Shadow Cabinet. In late December, I also had the privilege of hosting His Royal Highness the Duke of Kent KG on a formal visit to Ultra Electronics Greenford site, where he was able to witness the investment that we continue to make in our facilities, people and technologies.

And finally, I hope that you enjoy this edition of UltraNews and find it informative.

## Ultra's commitment to Oman

In September, I took the Board out to Oman to hold the Board meeting there. This is a hugely important market for Ultra following the successful Oman airport contract. The reason for taking the Board to Oman was twofold; firstly, to introduce the Board to Oman such that they get an understanding of the market, the drivers and the potential opportunities; secondly, it was an opportunity for the Board to meet with senior Omani customers including the Minister of Transport & Communication. Our Omani customers were impressed that we had taken the Board to Oman and see it as a statement of Ultra's long term commitment to Oman.



During the trip to the Middle East the Board also visited Abu Dhabi and took the opportunity to visit the Central Mosque.

Below left: HRH The Duke of Kent KG observing sonobuoy production; Below right: HRH The Duke of Kent KG being introduced to Harbinder Mathadu, **Sonar Systems**



## The Duke of Kent visits Greenford

In December, HRH The Duke of Kent KG visited Ultra's Greenford site. During the visit he was hosted by Head Office, **Controls**, **CIS** and **Sonar Systems**. He spent the time meeting our people and being briefed on our products and the technologies. HRH was fascinated by the technology and found it an extremely enjoyable visit.



## Rusty Kollmorgen

Sonar & Undersea Systems, Strategy Director

# Divisional strategy: Improvements for Growth

Some of the current Ultra Electronics operating divisions are bigger and more complex than the entire Group was back in 1996 when it floated on the London Stock Exchange. In many corporations, greater size and complexity in a business are typically met with increased management infrastructure and layers. However, in Ultra, where our LEAP culture is constantly evaluated against the eight strategic tenets, a more measured approach has been implemented.

The decision to place an additional person charged with Strategy on each of the Division management staff was not arrived at lightly. In a culture where entrepreneurship and autonomy are cherished, placing an additional head in the management chain was not a natural course of action. However, it is clear that Ultra is currently at a size and complexity where growth will be enhanced with more focus on acquisitions, cross division collaboration, external teaming and an improved strategic process at a division level.

The new Divisional Strategy Director (Vice President in North America) position was introduced in the summer of 2011. Sonar and Undersea Systems was the first division to fill this new position with the arrival of Mark Anderson. Candidates for this position have and will be drawn from a wide variety of backgrounds to create a pool of talent at a senior management level that support the Group Marketing Director as well as the other divisions. Candidates are reviewed by the Chief Executive who views this position as a major driver of growth for the Group. Current Strategy Director/VPs are:

**Tactical Systems: Tom Cross**

**Sonar & Undersea Systems: Rusty Kollmorgen**

**Aircraft & Vehicle Systems: Bob Henry**

The specific tasks and their prioritisation will vary with each division depending on the vision of the Divisional Managing Director/President and the challenges facing them. Typically the Strategy Director/VP will:

- Coordinate regional campaigns to ensure cross division coherence
  - Work with Regional Directors and business Managing Directors to decide which Ultra business should lead a bidding opportunity in cases where more than one business can make a bid
  - Advance the image and behaviors at industry trade shows, portraying the Ultra Group as a whole with a broad value proposition for our customers
  - Execute and continually improve the Strategic Plan process
  - Support the Group Marketing Director in development and execution of the Group's long term strategy
- There are many individuals with broad experiences, visions and capabilities that contribute to Ultra's advancement. However, those talents can be constrained by the day-to-day decisions and events that they have to address at the business level. Having the luxury to raise their heads up and look to a further, broader and more complex horizon that will yield growth for Ultra can sometimes be just that – a luxury. The Strategic Director is purposely removed from day-to-day tactical operational issues at a business level while not being insensitive to them. Divisional level operational issues are addressed by the respective Divisional MD/President and their Divisional Finance Director. This allows more freedom to develop senior level relationships to advance the divisional goals.
- The year will see continued robustness in the focus and definition of the Strategic Director's/VP's position. Using the broad guidelines discussed, each position will be fine-tuned to the specifics of each Division and the challenges they are facing. All of this with one specific overarching goal: enabling a vigorous collaborative strategic process that works in a complementary manner with Ultra Electronics' fundamental tenet of autonomous businesses.
- Develop the Division's strategy; not a mere consolidation of the strategies of the individual division's businesses, but rather a view of the strategic positioning of the division, taking into account the division's capabilities as a whole and how this can be enhanced through internal or external teaming
  - Focus on acquisitions; scouring the market to find suitable companies that can be acquired at affordable prices to enhance the overall capabilities of the division



## Exhibition &amp; Event news

# Ultra on show

## Farnborough International Air Show 2012

Once again, several Ultra businesses gathered at the bi-annual Farnborough International Air Show to showcase combined capabilities to the aerospace industry. Overseas delegations as well as groups of analysts and investors were welcomed and introduced to Ultra.



A highlight of the week was a visit by the UK Prime Minister, Rt Hon David Cameron, who spent time learning about Litening Pod with Rakesh Sharma and Douglas Caster. There were also several senior US visitors including Senator Inhofe, Major General Kostelnick and the Assistant Secretary for Defence, Katrina McFarland.



Rakesh Sharma with Rt Hon David Cameron, Prime Minister, Douglas Caster and Rt Hon Gerald Howarth MP



Rob McDonald, Managing Director, **Controls**, explaining **Controls** technology to Katrina McFarland, Assistant Secretary of Defense, USA



HRH Prince Faisal of Jordan chatting with Douglas Caster and Ray Munoz, VP Strategic Business Development, **ATS**



### AUSA 2012

The Association of the US Army (AUSA) exhibition is Ultra's largest showcase in North America. This year, Ultra displayed the combined capabilities of security and surveillance, communications and battlefield systems. Ultra staff were kept busy meeting potential customers and demonstrating Ultra's technologies.

## ProLogic doubles up and reaches the APEX

**ProLogic** has attended two of the airline industry's biggest trade shows. The APEX Expo, held at the Long Beach, CA convention center in September, focused exclusively on the airline passenger experience. Attendees range from airline executives and hardware manufacturers, to entertainment content providers like Disney and HBO. The **ProLogic** staff in attendance identified several potential partners in the in-flight entertainment industry.

While the APEX Expo focuses more broadly on the airline passenger experience, the NBAA convention concentrates on the private jet market. Aircraft and components manufacturers display their latest and greatest to potential buyers, operators, and industry leaders. **ProLogic** met with current and potential customers and partners, building a solid ground from which to build future business.



## Exhibition & Event news

### Precision Air & Land Systems provides capability for the MoD's Land Open Systems Architecture (LOSA) event

**Precision Air & Land Systems (PALS)** provided equipment and capability to the UK Ministry of Defence led Land Open System Architecture (LOSA) Research, Experimentation and Demonstration event held at Caerwent, South Wales in October 2012. LOSA is an open architecture initiative for systems integration and interoperability in the land environment and is supported from the highest level within the MoD. LOSA brings together the work on generic architectures for soldiers, vehicles and operating bases that **PALS** has been actively involved with, and demonstrates the commitment from MoD to apply the principles of open systems mentioned in the recently published technology white paper. The LOSA event itself was a practical demonstration of 'soldier to vehicle to base' integration which brought together the MoD and industry to experiment with current technologies and is expected to be an annual event over the coming years.

**PALS** provided key infrastructure technology in its militarised Data-Over-Power solution that was used to provide data networking in several locations around a mock operating base. Utilising existing mains power cabling, the data over power solution demonstrates the ability to reduce the amount of cabling required, which in turn can reduce costs and set up times.

Tony White, **PALS** Director of Advanced Technology, said of the event "This is a great example of industry working together to deliver real advantages to both the MoD and its Land Forces on the ground".

In participating in LOSA and the associated Generic Architecture Technical Working Groups, **PALS** continues to deliver its Land business strategy, whilst assisting the MoD in planning the future look of its Land forces.

### Warrior supplier conference



In October, **Precision Air & Land Systems (PALS)** was invited to attend an exclusive Lockheed Martin Supplier Conference for the Warrior Capability Sustainment Programme (WCSP) which is an upgrade programme for the existing Warrior Infantry Fighting Vehicle. **PALS** was one of a select number of suppliers which has already been downselected and placed on an initial contract for WCSP. This was a prestigious event for Lockheed Martin UK and marked an important milestone for the upgrade programme. A number of key MoD stakeholders attended the event including Sir General Peter Wall (Chief of General Staff, pictured above) who later remarked to Rakesh Sharma on **PALS'** impressive capabilities and notable contribution to the Warrior upgrade programme.

### NCS at the India Nuclear Energy Conference 2012

In September, **Nuclear Control Systems (NCS)** supported a UK Trade & Investment delegation to the home of India's civil nuclear power generation industry in Mumbai. As part of the visit, Chris Binsley, Nuclear Strategy Director, presented Ultra technology and capabilities at a UK-India Collaboration Seminar at the India Nuclear Energy Conference 2012. Over 80 officials, both government and key Indian and international companies attended this seminar. Briefing sessions were arranged where senior officials from UK Trade and Investment Department of the UK government advised Ultra on the current Indian political environment, UK-India research collaborations and export control issues. A number of high level meetings were also arranged including a visit to the Nuclear Power Corporation of India Ltd.



Chris Binsley addresses the audience



### Ultra Electronics, Australia

Ultra Electronics, **Australia** represented the Ultra Group at a number of ASW-focused events recently including the Submarine Institute of Australia Biennial Conference and the annual defence and industry-led Maritime Environment Working Group (MEWG). The focus on ASW is further highlighted by the creation of the first MEWG specialist sub-group; the ASW Caucus. This Australian Government sponsored initiative aims to ensure the Australian Defence Force (ADF) gains full benefit from the experience within Industry in this highly specialised area.

A select group of industry representatives and domain specialists, which include those from Ultra, meet biannually to discuss future ASW requirements and offer informed capability options to the ADF. Ultra Electronics, **Australia** is delighted to be taking a lead role in this group with Ultra's Suzanne Birch recently voted to be its Chairperson.

## Save the date...

### On show 2013

There are a number of events that have been selected for Ultra's attendance in 2013:

#### January

- 15-17 Surface Navy, Crystal City, VA, USA

#### February

- 17-21 IDEX, Abu Dhabi, UAE

#### May

- 7-10 IDEF, Istanbul, Turkey
- 29-30 CANSEC, Ottawa, Canada

#### August

- 13-16 AUVSI, Washington DC, USA

#### September

- 10-13 DSEi, London, UK
- 24-26 Modern Day Marine, Quantico, VA, USA

#### October

- 7-9 PACIFIC, Sydney, Australia
- 21-23 AUSA, Washington DC, USA

#### November

- 18-20 MilCom, San Diego, CA, USA

If there are any industry events that you believe Ultra would benefit from attending, please advise Mark Turvey: [mark.turvey@ultra-electronics.com](mailto:mark.turvey@ultra-electronics.com)

## Chief Executive's review

# happy new year and happy birthday

I'd like to wish everyone at Ultra and their families a Happy New Year and I hope that you enjoyed the holiday season. In 2013, the Group will celebrate a significant birthday as 20 years ago in October, Ultra was formed. As we move into this landmark year, I thought it would be an ideal time to give you a sense of where we are as a business.



In January 2013, on the verge of its 20th birthday, Ultra continues to be strong. When the Group was formed, it consisted of seven businesses in the UK; today we have 12 in the UK, 12 in the US, two in Canada and one each in Australia, Oman and the UAE, with further operations in China and Qatar. When the Group was formed, it had sales of **£84m**; in 2011 we reported sales of over **£730m**. When the Group was formed, it had **£19m** of equity and **£19m** of debt; today Ultra's market capitalisation is about **£1.2 billion** and debt remains low. For the last twenty years, Ultra has been widely regarded as a magnificent success story – as you will see in the review of last year's Farnborough Air Show, even UK Prime Minister David Cameron wanted to have his photograph taken on the Ultra stand!

As we begin our third decade, however, we face certain challenges. For most of the last 20 years, Ultra has been living in a world where government spending has risen year-over-year to the point when it became unsustainable. These rises in government spending certainly helped Ultra, as the civil conflicts of the nineties and the response to terrorism and rogue states in the noughties drove defence budgets, especially in the UK and US, higher and higher. Unfortunately, as a response to the government deficits and debt this unsustainable spending caused, the budgets that make up a large portion of Ultra's sales are being or have been cut. Procurement decisions for the money that is left is being scrutinised to a level that is unprecedented during my 30 years in the aerospace and defence industry.

Fortunately, Ultra does not rely just on defence spending for its income. As a result of strategic decisions taken by the Group, Ultra has diversified its portfolio into growth areas such as security, airport information technology, power for mass transport and nuclear power. and nuclear power. Additionally, other areas in which Ultra has always had world leading expertise, such as civil aerospace and cyber security, have continued to grow throughout the downturn.

Yet despite this, times are tougher at this point than at any other time during Ultra's two decades of existence. And so the true measure of Ultra's strength is how we rise to master these moments of difficulty. The conduct of Ultra's employees during this time has been exemplary. Every time I think that we have exhausted our capacity to meet the challenge, I look around at the tremendous hard work expended by all throughout the businesses and am reminded that that capacity may well be limitless. As ever, you have my heartfelt thanks for this.

So that we may move Ultra on to a footing where we are better able to cope with the new challenges we face now and in the future, we must answer three fundamental questions: First, how do we preserve our unique culture, values and behaviours that give the Group competitive advantage as we move into the future? Second, how do we meet these challenges together, as one Ultra? And, third, how do we reconfigure Ultra to meet the changes that are occurring in the marketplace?

At the Group Marketing Leaders Conference in September last year, I spoke of a fundamental shift in attitude that Ultra's sales and marketing staff must go through which I believe applies to the Group as a whole. During a time when your biggest customers were spending money like it is going out of fashion on the back of an abundance of government debt, there was plenty of 'low hanging fruit' to be picked. In these times, Ultra's approach was that of a 'gatherer'. As there was so much money being spent on so many different programmes, there was enough work to go round for many similar companies, meaning most could prosper. However, the marketplace has now fundamentally changed.

As a result, I now need you to be 'hunter-killers'. Not only is the 'fruit' harder to grasp than it was before, there is less of it, meaning we will have to fight other businesses harder to obtain it. We have to ensure that our solutions to problems continue to be different from and better than those of our

"Every time I think that we have exhausted our capacity to meet the challenge, I look around at the tremendous hard work expended by all throughout the businesses and am reminded that that capacity may well be limitless. As ever, you have my heartfelt thanks for this."



**Rakesh Sharma** Chief Executive

# Welcome to RFI

In August, the acquisition of RFI Corporation (**RFI**) was completed. **RFI** is an established manufacturer of proprietary, high-voltage, power conversion subsystems including electronic filters, high voltage capacitors, pulse modulators, transformers and reactors, and a variety of other products designed for industrial, medical, military and other commercial applications. The business is located on Long Island, New York, USA, close to Ultra's **EMS** business. **RFI** will be moving to the **EMS** facility in early 2013 and will be fully integrated into the **EMS** business.

Rakesh Sharma, Chief Executive of Ultra, commented:

"I am pleased that we have acquired **RFI**. It has strong market and technical synergies with **EMS** with which it will be combined to the benefit of both businesses."



A selection of RFI's key products: noise suppression filters, modulators and magnetic components

competitors. It is imperative that we continue to meet our commitments; from delivering projects on time and on budget at one end of the spectrum, to completing daily, routine actions in a timely manner at the other.

We also need to engage better with our customers. This is why we have rolled out our **LAUNCH** programme. You can read about this in detail elsewhere in this magazine and by visiting [www.ultra-electronics.com/launch](http://www.ultra-electronics.com/launch). I would like to thank Ken Tasch and all at **MSI** who have worked hard to put this programme together. In the new competitive marketplace we face, listening to the problems of customers and formulating cost effective solutions that solve those problems will be crucial. That is why I think **LAUNCH** can be as powerful to Ultra as **LEAP** has been.

As we move forward with this change in attitude and emphasis, we must retain the unique culture, values and behaviours which stand Ultra apart from our competition. **LEAP** is crucially important to this. Let me give you an example. A company that specialises in mechanical engineering buys another company, part of which is made up of businesses that specialise in electronics. The people running these electronics businesses start to fear for their jobs and the jobs of the people who work for them. They know the products they make and the capabilities they have are good and they are sure that they can successfully grow these businesses in the future. So they make an audacious decision to buy the businesses out. They raise all the money they can by re-mortgaging their houses, convince venture capitalists to fund the rest and lead a management buy-out. They succeed, jobs are saved and the new company is a success.

For those of you, like me, who have been at Ultra for the last 20 years, you will recognise that story because it is the story of how Ultra was founded. At every stage of the process, you can see the individual components of **LEAP** at play. Without that small group of people showing **Leadership**, **Entrepreneurship**, **Audacity** and appropriate **Paranoia** so that they did not over-reach, Ultra would not exist today. **LEAP**

was not just cobbled together during an Executive Meeting brainstorming session one day; it is the embodiment of the values and behaviours that have been at the centre of Ultra's culture since day one. I promise to continue to promote these aspects of Ultra's culture.

The same goes for Ultra's policies towards its people. Ultra's reputation as a global leader in electronics and software for defence, security, transport and energy applications is built on the exploits of its exceptional employees. There will be no compromise in retaining and recruiting those who have the talent, commitment and desire to reach for the stars, make a difference and ensure that Ultra's best days lie ahead.

So how do we meet the challenges that Ultra will face in its third decade and beyond, together as a Group? Over the last 20 years, we have allowed Ultra's businesses the freedom to act autonomously, with the business leaders responsible for developing their business in a way that is best for that particular business. However, at times this has led to something of a 'stove-pipe' approach, with each business focusing on what is ahead for them and not taking the time to approach issues in a holistic manner that would allow other parts of the Group to benefit also.

At a time where we need to use Ultra's ability to scale up by teaming with one another, to assemble the capabilities to be able to take on larger projects for example, we have to realise that self-reliance and teamwork are not opposing virtues; we must have both. Rather than autonomy at any cost, we have to see the bigger picture, take a holistic view across the Group for the good of Ultra as a whole. We have termed this cultural behaviour Collaborative Autonomy.

By embracing the realities of a competitive environment, maintaining our unique culture and working as one team, together we can overcome the challenges of the changing marketplace that Ultra faces. This will ensure that the Group continues to make a difference to all of its stakeholders in the next twenty years and beyond.

"Ultra's reputation as a global leader in electronics and software for defence, security, transport and energy applications is built on the exploits of its exceptional employees."

For more information on **LEAP**, please see previous editions of **UltraNews** (Issue 28, Autumn 2008; Issue 29, Spring 2009; Issue 30, Autumn/Winter 2009; Issue 31, Spring 2010).

## Across the board...news and stories from across the divisions

# CEMS

Established in 1963 as Waverley Electronics in Weymouth, Dorset, England, to provide contract electronics manufacturing services to the Royal Naval Research Establishment at nearby Portland (coincidentally also the recent 2012 Olympic sailing venue).



CEMS facility at Cambridge, UK

The business grew, adding more customers and employing more staff until in 1987 it was acquired by the Dowty Group, a business specialising in aircraft hydraulics and fuel systems but also incorporating a small number of electronic equipment companies, formerly trading as Ultra Electronics, which had previously been acquired by Dowty in 1977. The Weymouth business continued to grow and increase its range of assembly and test services, until in 1992 Dowty was acquired by the TI Group. In 1993 TI hived off seven of its former Dowty companies engaged in the manufacture of electronic equipment by way of a management buy-out that established the Ultra Electronics we are familiar with today; a brand that was first established in 1922 and which brought domestic wireless sets and high definition TV (405 lines) to market in the 1930's and hand held radio-transceivers in the 1950's. Contract electronics manufacturer Ultra Electronics CEMS was part of one of those seven MBO companies.

Today CEMS offers a rich variety of manufacturing services to the aerospace, defence, security, energy (nuclear/oil/gas) and mass transportation industry sectors, trading with other Ultra Electronics companies as well as non-Ultra businesses. Primary services include PCB assembly, thick film hybrid fabrication, system assembly, mechanical sub-assembly and mechatronics sub-assembly, with associated services of conformal coating, long term component storage under nitrogen, rapid prototype assembly and Mil-Spec component qualification. CEMS now employs some 300 staff and operates at three locations in the UK with PCB and system assembly in the Weymouth and Cambridge facilities and microelectronics design and fabrication in the Portsmouth facility.

CEMS holds accreditation to several of the highest international standards of quality, business system and process management. These include: AS9100 Rev C, NADCAP AC7120 Electronics (32 key processes), BS9450, CECC63000, ISO9001:2008 and ISO14001.

Right: A high density microelectronic hybrid assembly designed and manufactured at CEMS, Porchester

One of fewer than a hand-full of UK businesses to operate an in-house vacuum deposition Parylene coating process, CEMS provides the ultimate conformal coating service for assemblies of any technology where the prevention of moisture ingress or high voltage isolation are of critical importance. Typical environments requiring this robust coating process are: avionics, where rapid changes of altitude can generate condensation which could cause system failure; naval applications, both surface and submarine, where the risk of water ingress is significant; and sub-sea energy applications, where the high integrity protection of electronics provided by Parylene is an additional level of confidence in terms of long term operation.

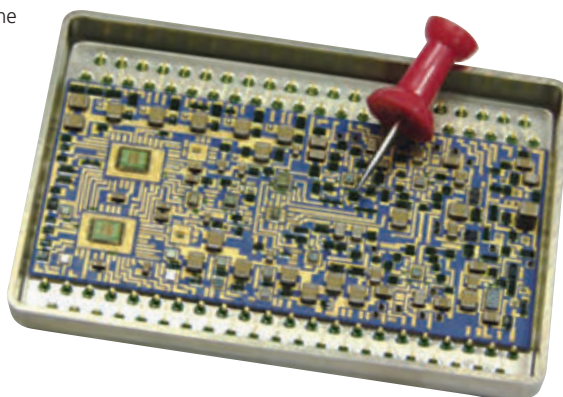
The CEMS product design facility has a proven competence in product miniaturisation using microelectronics. The ability to shrink electronics to as little as 10% of the size of an equivalent PCB implementation, whilst also increasing reliability, improving thermal tolerance and reducing weight makes this service highly attractive. A product substantially smaller and lighter than its competitor products is not only destined to gain market edge, but also to open new markets and stimulate new applications. In short, microelectronics is a game-changer with no significant down-sides but very many up-sides! The CEMS design team also offers PCB design, hi-temperature electronics design and fabrication and micro-miniature electro-optical design services.

The energy marketplace is looking for long duration high-temperature un-cooled electronics for down-hole and nuclear applications. The CEMS microelectronics design team has been working on hybrids capable of operating without artificial cooling at temperatures up to 200°C. The component industry is now driving toward 225°C and CEMS has a manufacturing process and materials capable of producing hybrids that can sustain these very high temperatures.

In March 2009, CEMS opened a facility at Sawston, Cambridge, England a unit of 3,500 sq ft to offer PCB and system assembly services. Within a year the operation was ISO9001:2008 accredited and within a further 6 months became AS9100 accredited. In 2012, having already outgrown the capacity of the Sawston building, CEMS Cambridge moved into 38,000 sq ft new premises to the west of Cambridge, investing in new equipment and recruiting additional staff to support its growing sales order book.

### Our goals

- The Cambridge operation to be established as a show-case new product realisation centre, as well as being seen as the compelling choice of our customers for prototypes through to full scale production by virtue of customer service excellence.
- To achieve a high proportion of the addressable electronics outsourcing of our customers, based on a track record of demonstrating high levels of customer satisfaction.



### Do you know?

Business name:  
**CEMS**  
Location:  
**Weymouth, Dorset, UK;  
Cambridge, UK;  
Portchester, Hampshire,  
UK**  
Established:  
**1963 as Waverley  
Electronics**  
Acquired by Ultra:  
**Included in one of the  
original seven businesses  
in the 1993 management  
buy-out**  
Number of staff:  
**300**

### Card Systems launch the Enduro+



Card Systems revamped its best-selling Magicard Enduro printer, first sold in 2008, by launching the Enduro+ in mid 2012. The revamped model includes an optional Ethernet upgrade and improved print quality. Over the four years since launch, Card Systems has sold 30,000 Enduro units, together with about 200,000 rolls of dye film. This amounts to a total sales value approaching £20m – not bad for a total R&D investment of less than £1m in its lifetime.

David Worsdell, Marketing Manager, commented: "It's important that we refresh our product range regularly; we are in a fast-moving market and product currency is vital. Feedback so far has been excellent, with a healthy spike in sales at launch. The Enduro was a great printer for Ultra, but we expect the Enduro+ to do even better!"



# Aircraft & Vehicle systems



## Holding all the cards for G20

In June 2012, **Card Systems'** secure card printer, the Magicard Rio Pro, was deployed for physical access control and attendee registration at the G20 summit in Los Cabos, Mexico. With the knowledge from 30 years of experience in providing high profile security, leading Mexican security integrator, T.C. Vilsa, turned to Ultra to provide the identity badging for the hundreds of delegates and thousands of support staff who would attend the three day event. Reliability, robust construction, card quality and integrated security features made Ultra's Magicard printers a standout choice for quickly issuing identification credentials during the event.

Managing Director of T.C. Vilsa, Luis Vidales, commented: "T.C. Vilsa secures events like the G20 with innovative technology and a highly trained staff known for their superior service and commitment to probity and efficiency. Events like the G20 summit require absolute coordination in security features on the ground, sea and air."

Easy integration allowed T.C. Vilsa to utilise Magicard printers alongside systems from 11 different technology partners and complete its mission in three days with no major downtime or security breaches. These systems included online identity verification, biometric facial recognition, and access control.

As a result of the success of this project, Luis Vidales and a project team subsequently visited the UK to explore wider opportunities for collaboration with Ultra. Initially this will involve both **Card Systems** and **AEP**, but has the potential for wider engagement and teaming with other Ultra businesses operating in the security arena.

## MSI captures turret control for LAV III upgrade

The US Army Light Armoured Vehicle (LAV III) modernisation program is focused on improving protection, mobility and lethality of the fleet while extending the life span of the program to 2035. The upgrade program is valued at \$1.4bn and was awarded to General Dynamics in Canada. **MSI** won the \$3.47m multi-year contract for the gunner's and commander's control which includes the technical challenge of designing two virtually identical 'grips' that are instantly interchangeable either as a gunner's or a commander's hand control.

The traditional gunner's control was designed out of the vehicle in order to accommodate the added armour protection. As is the case with most vehicle platforms today, interior space is at a premium and creative solutions for both design and mounting of weapon control are required. **MSI** is meeting the requirements with its next generation commander's control with a simplified transducer design exploiting commercial off-the-shelf (COTS) components that reduce both cost and footprint while also improving accuracy, reliability and manufacturability.



## G-BOSS program continues to mature

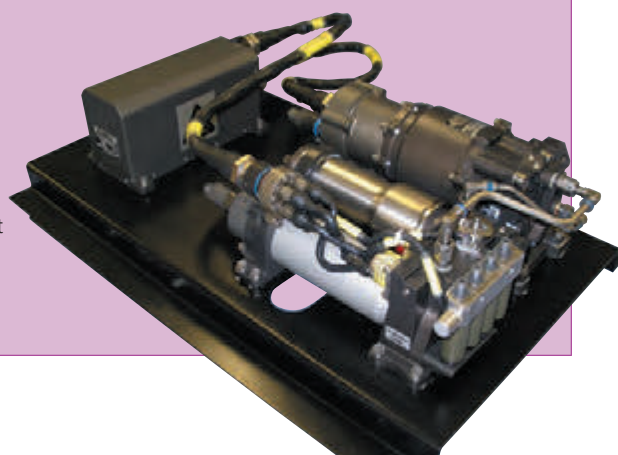
Having completed the initial engineering and Marine Corps test phases of the Ground Based Operational Surveillance System (G-BOSS), **MSI** has received the first production release for the program valued at \$2.5m. This represents the largest production requirement for **MSI's** Freedom of Movement Control Unit (FMCU™) to date. The FMCU™ computer game style hand controller was selected for the ground control because of its versatility, functionality, ruggedness and portability. The modular LCD controller was ideal for G-BOSS because an identical control could be used across all three platform variants. This provides the Marines with the ability to maintain commonality across variants and the opportunity for **MSI** to secure contracts for the full volume of the programme.

## F-35 first in-flight weapons release

In August 2012, Lockheed Martin hit a significant test milestone with the first in-flight weapon release from an F-35B Lightning II aircraft weapons bay. The release was the first time for any version of the F-35 to conduct an airborne weapon separation, as well as the first from an internal weapons bay from the short take-off and vertical landing variant of the Joint Strike Fighter. The weapons release system is powered by the HIPAG 500 series compressor designed and produced by **Precision Air & Land Systems**. The HIPAG program for F-35 has been in development since 2001 with potential delivery quantities of 15,000 over 25 years.

"While this weapons separation test is just one event in a series of hundreds of flights and thousands of test points that we are executing this year, it does represent a significant entry into a new phase of testing for the F-35 program,"

says Navy Captain Erik Etz, director of test for F-35 naval variants (quote courtesy of Flight International). Aircraft and land-based test monitoring systems collected data from the successful separation which is in review at the F-35 integrated test force at Naval Air Station Patuxent River.



## Across the board...news and stories from across the divisions

# EMS

In April 1997, **EMS** was one of the initial acquisitions made by Ultra in North America. Almost immediately following the completion of the acquisition, **EMS** was awarded the largest development programme in their history from General Dynamics Electric Boat, to supply the Circuit D computer controlled power supply system for the Virginia Class Submarine.

In the early days, **EMS** reported into Ultra's Magnetics business (now **PMES**) and immediately entered into collaborative technology development projects on the UK Astute submarine and Type 45 destroyer programmes. Tech transfer of the Finite Element Magnetic Analysis Program (FEMAP) modelling tools to **EMS** was achieved to exploit US market opportunities. In short order, we were able to secure a key position for **PMES** to replace the incumbent supplier for sensors on a US government project. **EMS** has established a considerable track record of positive cooperation with other Ultra businesses and in the process, maximised the impact of Ultra owned intellectual property. **EMS** has successfully partnered with **PMES**, **PALS** and **Maritime Systems** on various projects. Together, **EMS** and **PMES** have supplied power converters for use on the UK new aircraft carrier and positioned the power dense naval drive technology, developed by **PMES**, to replace legacy hydraulic drive systems on USN ships. In 2011, **EMS** teamed with **Maritime Systems** and won a contract to supply the design and hardware for the on-board degaussing system for the Canadian Halifax Class patrol frigates.

**PALS** and **EMS** have been working closely since 2005 to supply Battery Monitoring and Vehicle Power Management Systems (BMS/VPMS) for US armoured vehicles. We now have the BMS solution preferred by the US Army and have supplied over 600 units for MRAP/MATV variants that will be upgraded with a digital backbone. We have developed a Vehicle Power System Controller (VPSC) which followed a technology roadmap that will position this offering for the new Ground Combat Vehicle (GCV) and the Abrams and Bradley Main Battle Tanks beginning in 2013.



The core product offerings of **EMS** are: ship and submarine underwater signature management systems, power products, fighting vehicle power management systems and specialized magnetic components.

Underwater signature management systems control the electrical and magnetic emissions of ships. The ship's steel structure causes a magnetic signature (signal) in the water which makes the ship a vulnerable target for magnetic

**EMS** was founded in 1972 on Long Island, NY as a spinoff of Fairchild Hiller. From the outset, **EMS** was an industry leading supplier of shipboard degaussing systems for on the Perry Class Frigate and Nimitz Class carriers. In 1993 they developed a magnetics design and production capability to support their power component requirements. Magnetics quickly grew into a reliable order stream to outside customers needing high reliability custom magnetic components and helped diversify their business base.

influence mines. The degaussing (de-magnetising) systems developed by **EMS** are a countermeasure which reduces the ship's signature to the extent that it can safely conduct operations in mined waters.

**EMS** provides optimised system designs, production hardware, installation and through life support. FEMAP allows **EMS** to work closely with naval architects, designing and specifying advanced vessel signature management systems. This design capability enables shipbuilders to design flexibility in an area that would have been cost prohibitive in the past. Recent major wins include US Navy's Littoral Combat Ship Freedom Class, US Coast Guard Deepwater Cutters, Canadian Halifax class patrol frigates and the Republic of Korea Navy Future Frigate programme.



Power products evolved from design expertise used to develop amplifiers for degaussing systems. **EMS** exploited that capability and have developed a family of power converters, variable speed drives and motor controllers to secure wins on key projects. In 1997, **EMS** captured a position on the Virginia Class Submarine (VCS) Circuit D computer controlled power supply system, and subsequently, the supply of the VCS Capstan motor drive. Working with **PMES**, **EMS** designed, developed and qualified aircraft support power converters that will be used on the new UK aircraft carriers. Following this, **EMS** repackaged a **PMES** design to win a position on US Navy Wasp Class Landing Helicopter Docks.

Battery monitoring capability has been expanded to encompass complete battery and vehicle power management. A dedicated product engineer is working with US government agencies to develop this product which they are eager to evaluate early in 2013.

**EMS** designs and builds custom transformers and inductors for use on military, aerospace and industrial applications. A key product is a proprietary multiphase transformer topology that will help power supply designers to meet stringent input-power current harmonic specifications that are being enforced on supplies connecting to any power grid.

### Do you know?

Business name:

**EMS Development Corporation**

Location:

**Yaphank, New York, USA**

Established:

**1972**

Acquired by Ultra:

**1997**

Number of staff:

**140**

### EMS's vision for the next five years

In August 2012, **EMS** completed its first acquisition, RFI Corporation ("RFI") (see page 15). RFI will be integrated into the **EMS** business during the remainder of 2012 and early 2013.

**EMS** will continue to grow its position as a world leading undersea signature management provider, while continuing the expansion of its power conversion offerings to meet customers' growing demands for clean power. These increased capabilities will be exploited to gain market share and access new markets.

Collaborative efforts with other Ultra businesses are planned to build on previous successes. **EMS** will gain market access to its key platforms as part of the overarching strategy to move up in position in the supply chain.



# Airport & Power systems

## The pressure is off DTN2070 qualifications

### Nuclear Sensors & Process Instrumentation (NSPI)

successfully completed Design Basis Accident (DBA) engineering tests in July and initiated formal DBA qualification tests in October 2012 for a new line of pressure transmitters designed to provide precision pressure measurements in nuclear applications requiring reliable performance and functional safety. In September 2012, **NSPI** successfully demonstrated that the new pressure transmitters can operate within stringent accuracy requirements even during seismic events. The model DTN2070 pressure transmitters are designed to meet the most stringent environmental qualification requirements of nuclear reactors. Nuclear qualification testing

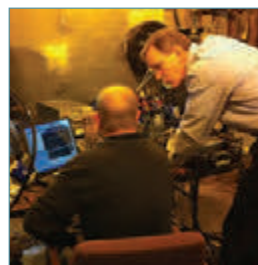
involves aging the products to the end of their design life through accelerated aging, then subjecting them to worst case nuclear accident scenarios to prove their capability to perform their safety related function for critical plant control monitoring, safe shutdown and post accident monitoring.

During the first attempt to pass this test early in 2012, the transmitters failed.

This led to a prime example of inter-business collaboration.

**NSPI** engineers Rick Andersen and Nick Verlenich collaborated with Frank Bellion (**CEMS**) and Dr. Frank Charlesworth (**NCS**), amongst others, to exploit their collective experience on the development of high-performance, harsh environment, analogue electronics to solve the causes of the failure. As a result, the pressure transmitter passed the same qualification tests on the second attempt.

The DTN2070 has undergone its own complete seismic and environmental qualification for the Westinghouse AP1000™ reactor. The AP1000 is the first Gen III+ reactor available to



Left: Open test chamber showing DTN2070 test specimens; above left: Rick Andersen and Greg Albrecht with the seismic shake table; above right: Westinghouse EQ Engineer John Barker consults with Rick Andersen, **NSPI**, on the test result; above: DBA/LOCA testing in progress

the nuclear industry with passive safety systems, making it the most advanced reactor in the world. Eight such reactors are currently under construction (four in China and four in the United States). **NSPI** has contracts to deliver the new transmitters beginning in 2013 for these projects. Other markets are also available to **NSPI** because of this new design's performance including the Hinkley Point, UK European Pressurised Reactor (EPR) project. **NSPI** is focused on delivering critical measurements; the latest nuclear qualified pressure transmitter is evidence of Ultra's commitment to support reactor life extension and global new build projects in the civil nuclear sector.

## Delivering the world's largest baggage reconciliation system

Following a competitive renewal process, **Airport Systems** has been awarded a five year extension to its flagship UltraTrak Baggage Management System at London's Heathrow airport. The renewal will extend Ultra's contract with the Heathrow airlines to 2018, meaning that Ultra will have provided baggage reconciliation, segregation, reporting and baggage management services to the Heathrow community continuously for 15 years.



## Nuclear fusion

In 2012, Chris Wallace, Quality Manager at **NCS**, conducted a benchmarking exercise at **NSPI** of their US Commercial Nuclear Utilities quality management system. This step is one of many that **NCS** has been undertaking in an effort to create its own system that is compliant with US nuclear regulatory standards. Chris worked with David Stephens, Quality Engineering at **NSPI**, to complete the exercise. This was followed up with a visit to the UK by **NSPI** staff later in the summer to help qualify **NCS** auditors for performing nuclear level audits. The genesis of the visit was based on previous collaboration between **NSPI** and **NCS** in other areas to lever **NSPI**'s Commercial Nuclear Utilities experience to expand **NCS**'s market opportunities. Conversely, **NSPI** was awarded a contract in Europe for nuclear sensors from a supplier that was originally engaged

by **NCS**. The two businesses are continuing to find ways to work together to increase Ultra's market presence in commercial nuclear power.



Above, from left to right: David Stephens, Quality Engineer, **NSPI**; Chris Wallace, Quality Manager, **NCS** and Alan Fogle, Director of Quality Systems, **NSPI**

Furthermore, the new contract will extend the system from Terminals 1-4 to include for the first time Terminal 5. By the end of 2013, UltraTrak will reconcile all of Heathrow's 35 million bags each year, making the system the largest single-site BRS installation in the world. The system will have over 8000 registered ground handler, airline and security staff using its 800+ wireless scanners and 200+ workstations.

**Across** the board...news and stories from across the divisions

# Command & Control Systems

**Command & Control Systems (C&CS)** is one of the original seven businesses that were part of the Management Buy-Out that formed Ultra Electronics in 1993.

Formerly of Gresham Lion and later Dowty Maritime, the business was located in Twickenham Road, Feltham, England. At the time of the Ultra Electronics management buy-out, the business relocated to its current primary site at Loudwater, High Wycombe, England, taking over the buildings from **Controls** which moved to Greenford. After several years of stability, in recent years, **Command & Control Systems** has reinvested probably more than any other business:

- In **2000**, with the acquisition of the DF Group, the airport IT business unit was located within **C&CS**. As that capability grew with the specialisation in baggage reconciliation, the unit spun off to become the 'new' **Airport Systems** business.
- In **2003**, Radamec Defence Systems was acquired and relocated to Loudwater. Also in 2003, SML Technologies was acquired and although left to run as a standalone business, reported into **C&CS**.
- In **2006**, as part of the strategy to develop a nuclear controls business, Winfrith Safety Systems was acquired; the business continued to operate from the Dorset facility.
- In **2008**, SML Technologies acquired Graytronics and in the same year, SML Technologies became a business unit of **C&CS**.
- In **2008** the Radiation Monitoring (RadMon) business of Siemens was acquired. Part of this deal was to move the team from their existing site within 12 months, so work began on outfitting a dedicated nuclear systems site nearby in Ferndown, Dorset, England.
- In **2009**, the security information and shared data systems business of Ultra Electronics, Datel which included their acquisition Atkins and Partners was rolled into **C&CS**.
- In **December 2011**, the **Nuclear Control Systems** business was spun out of **C&CS** to be a standalone business.

In its current incarnation, **C&CS** operates as three business units:

- 1. Surveillance Systems** concentrates on providing systems and sub-systems for the protection of critical infrastructure. A wide spectrum of solutions is provided that can be found across the globe from the 'smarts' behind the coastal surveillance system that covers the whole of the UAE coastline to anti-collision systems deployed on offshore oil and gas platforms and most recently in Afghanistan, where it provides the majority of the hardware and software deployed in the base protection systems. Surveillance Systems has a close working relationship with UK MOD and has recently won a significant order for specialist surveillance equipment.
- 2. The Secure Hosting** business unit provides fully accredited hosting of third party data and a suite of collaboration and emergency planning tools. Most recently these tools and services were used as the primary threat collection and dissemination tool for the London Olympics. With installations across the UK and high profile international customers such as the Yas Marina F1 circuit in Abu Dhabi, the Secure Hosting business unit punches above its weight in the planning and resilience sector.
- 3. C3 Systems (C3S)** is primarily a military hardware and software supplier concentrating on the maritime and land domains. C3S has a long history of supplying naval electronics and software and has supplied equipment to every class of UK warship and submarine as well as numerous export customers. C3S has recently supplied the combat system that is fitted to the three new Brazilian Offshore Patrol Vessels and the gun fire control and surveillance systems for the Royal Navy Type 45 Destroyer and is currently building the surveillance system for the new UK Aircraft Carriers.

## Do you know?

Business name:  
**Command & Control Systems**  
Locations:  
**Loudwater, Preston, Southampton and Aberdeen, UK**  
Established:  
**1958** (originally Gresham Lion)  
Acquired by Ultra:  
**One of the original seven businesses in the 1993 management buy-out**  
Number of staff:  
**222**





# Information & Intelligence systems

2012 has been a year of restructure and rebuild after the establishment of **NCS** as a separate Ultra business. Looking forward to 2013, the C3S business is actively pursuing a number of system integration opportunities. C3S is selling its domain expertise to help customers define their real requirements, rather than just trying to sell products, and it is these closer relationships that will help the business unit to grow. C3S is still supporting its existing client base where they have excellent relationships in countries such as India, South Korea and, of course, the UK MOD.

The Surveillance Systems business unit is looking forward to continuing its work with the UK MOD and to exporting surveillance technologies as well as working with the oil and gas customers that have been the mainstay of the business for many years. There is no doubt that the world is still a dangerous place and the requirement for security and surveillance products is increasing.

The Secure Hosting business is currently running demonstrations with the Welsh Assembly for a system that will greatly increase the speed and accuracy of data transfer within the 999 UK emergency services telephone system and that, coupled with the continuation of their UK wide collaborative planning systems, will keep the teams busy throughout 2013.

Overall the **Command & Control Systems** business is in good shape to grow in 2013 as it reaps the benefits of market positioning that has taken place throughout 2012.

## C&CS wins £14m MoD contract

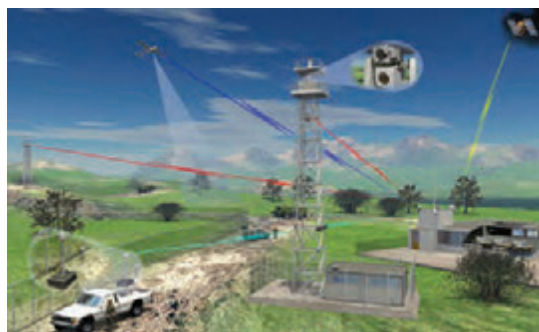
**Command & Control Systems (C&CS)** has been awarded a contract worth up to £14m by the UK Ministry of Defence. The contract will be executed by the Surveillance Systems business unit based in Burridge, Southampton, England. The programme is scheduled to be completed by the end of 2014. **C&CS** has a proven track record in developing and supporting total surveillance system solutions integrating a broad array of sensors including land and maritime radars, electro optical systems, unattended ground sensors, and communication solutions. Ultra's systems enable effective detection, recognition, identification and tracking of personnel and contacts to protect a range of assets, including critical national, military and civil installations, oil and gas platforms, facilities and pipelines, ports and harbours and high value utility installations.



The Surveillance Systems business unit team of **C&CS**

## Extending Ultra's reach in the border protection market

**ATS**, with the support of **C&CS**, has taken a major step forward in expanding Ultra's global presence in the border protection market. Combining the talents of both businesses, the team has deployed a long range border surveillance capability on the southern border of the United States for a demonstration to the US Department of Homeland Security.



Using an open architecture approach, the team integrated multiple sensor technologies providing 24/7 surveillance of more than 300 square miles along the US – Mexican border, showcasing Ultra's strengths in large scale integration of systems, sensors and software. The system includes a permanent 85 foot tower with radar and cameras, multiple mobile towers and a command and control facility connected through long range, high bandwidth, secure communications. As a testament to Ultra's strength as a system integrator of this type of system, this entire system was installed and operational in less than 90 days, including the design and construction of the tower.



Across the board...news and stories from across the divisions

# Ocean Systems



The acquisition of the Ocean Systems business of BAE Systems on 21 November 2003 precipitated a number of changes around the Ultra Group, not least the restructuring of the Weymouth site so that the **Ocean Systems** business name that existed there† could be allocated to the new business in Braintree, MA. This acquisition and name change was certainly not the first they had experienced, but unfazed by change, **Ocean Systems** is celebrating not only its 50th year in the business, but also their 9th year as part of the Ultra family of businesses.

The **Ocean Systems** story begins 50 years ago in July 1962 when an ambitious group of former Raytheon engineers conceived a plan to establish an electro-acoustic laboratory servicing the underwater needs of the US Navy. The group, led by Melvin Wilson, approached the Long Island, New York based Hazeltine Corporation, whose president was Web Wilson, Melvin's brother. The plan took hold and in 1962 the Electro Acoustic Systems Laboratory (EASL) was established. Shortly thereafter EASL acquired the former granite quarry, Echo Lake in Quincy, Massachusetts. The Quincy site, located just five miles from the engineering and production facility in Braintree, Massachusetts, is an ideal facility for underwater acoustic research and product quality assurance testing. An extensive test facility was developed both on the lake and on adjacent land including the erection of four buildings, one of which houses a 25 foot deep indoor test pool and a full array of hydrostatic pressure test facilities. Looking ahead, 2013 will see the erection of an additional building to support the growing transducer production and servicing business.



But the story doesn't stop there. In 1986, Hazeltine was acquired by the Emerson Electric Company which, in 1990, spun-off their defence businesses to ESCO. Then in 1996 GEC-Marconi purchased the former Hazeltine units from ESCO and renamed it GEC-Marconi Hazeltine. When GEC-Marconi and British Aerospace merged in 1999, the Braintree business became the Ocean Systems unit of BAE Systems until the acquisition by Ultra.

**Ocean Systems** is a world class provider of special purpose acoustic, electro acoustic and RF devices and systems for submarines and surface ships. These devices are used in ship and submarine sonar systems and torpedo countermeasures.

**Ocean Systems** is a leading supplier of expendable acoustic devices to the US Navy and allied navies around the world.

Core capabilities include: underwater acoustics, low-cost expendable product design, electronic and mechanical packaging, hydrodynamics and aerodynamics, signal processing, sonar, sensor and array design and beam forming. We are ISO-9001:2008 certified operating in a LEAN manufacturing environment that results in the delivery of high quality products at an affordable cost. Test facilities include a fully instrumented open water test site, a temperature controlled acoustic test pool and the only transducer self-noise test facility in the US.

**Ocean Systems** staff comprises exceptionally qualified engineers, technicians and innovators. It is the dedicated employees of **Ocean Systems** that make it unique and a special place to work.

## Acoustic countermeasures

**Ocean Systems** is a world leader in expendable acoustic countermeasures for submarines and surface ships. Since 1987, when they won their first acoustic countermeasure programme, they have designed, manufactured and delivered acoustic countermeasures to navies worldwide including the United States, the United Kingdom, Australia and Canada. In addition, **Ocean Systems** was recently selected to provide expendable acoustic countermeasures for two new major international submarine programmes: Spain's S-80 submarine programme and Turkey's new type submarine. The **Ocean Systems** countermeasure product line comprises submarine and surface ship launched expendable acoustic torpedo and sonar countermeasures which includes ADC, MK2, MK3 and MK4; and submarine launched electro-mechanical countermeasures. **Ocean Systems** also developed and produced the SCAD 101 and 102 torpedo countermeasures for the Royal Navy.

## Transducers

**Ocean Systems** is well known for its quality design and production of transducers for use in ships, submarines, and unmanned underwater vehicles. Since their founding they have delivered more than 100,000 transducers and arrays to their customers for utilisation in the harshest of ocean conditions.



Acoustic countermeasures



Transducer

## Do you know?

Business name:  
**Ocean Systems**  
Location:  
**Braintree, MA, USA**  
Established:  
**1962 as Electro Acoustic Systems Laboratory (EASL)**  
Acquired by Ultra:  
**2003**  
Number of staff:  
**102**

† The Weymouth site of **Ocean Systems** was one of the original 1993 Ultra businesses. In order to align the business name descriptions better, the **Ocean Systems** name was allocated to the newly acquired business in Braintree, MA, while the sonar part of Weymouth was partnered with the **Sonar Systems** business in Greenford and the manufacturing unit became a separate business of Manufacturing and Card Systems.



# Sonar & Undersea systems

## Knifefish low frequency broadband array sonar and transmit electronics



In November of 2011, **Ocean Systems** received a subcontract from General Dynamics Advanced Information Systems (GDAIS) for the engineering and manufacturing of the Knifefish low-frequency broadband sonar. Knifefish is the new Surface Mine Countermeasure (SMCM) Unmanned Undersea Vehicle (UUV), built by a GDAIS led industry team. Knifefish will be a critical part of the US Navy's Littoral Combat Ship's Mine Warfare mission package and will provide the fleet mine warfare commander and sailors with enhanced mine-hunting capability. It is designed to use its low-frequency broadband synthetic aperture side-scanning sonar to look for mines that are suspended in the water column, resting on or buried under the seafloor.

## TR-317/353 transducer contract win

In June 2012, **Ocean Systems** was awarded a \$49.2m contract to supply the US Navy with TR-317/353 submarine transducers for the next five years. The TR-317 tonpilz transducer element is the building block for the spherical bow sonar array for the Los Angeles and Virginia class submarines. The array functions as the high power active and passive sonar for search and attack. **Ocean Systems** is currently in production for the delivery of planned 5,000 TR-317s to the US Navy. This new element, redesigned by **Ocean Systems**, provides the US Navy with a substantially lower cost transducer with comparable performance to legacy configurations. **Ocean Systems** is applying proven design approaches and lessons learned from the previously successful TR-353 program to achieve the TR-317D cost and performance objective.



## USSI wins 'Economic Development' award

As part of the State of Indiana's Whitley County Economic Development Corporation's (EDC) 20th anniversary celebrations, the EDC recognised five local businesses for their contributions to Whitley County's economic development efforts. "Over the course of the year, we have celebrated the longstanding commitment of this community to our local economic development efforts," said EDC President Alan Tio, "With this recognition we are turning the spotlight on industry pillars that have made substantial contributions to our economic success."

The five inaugural Whitley County Architects were: 80/20 Inc., C&A Tool Engineering Inc., Micropulse Inc., Steel Dynamics Structural Steel & Rail Division and Ultra Electronics, **USSI**. Each of these companies has worked with the EDC to support numerous significant investments at their respective Whitley County facilities. These companies now collectively have more than 2,000 employees, which represents 15% of total employment in Whitley County. Joe Peters, President at **USSI** collected the award.



Left to right: Alan Tio of Whitley County EDC, Rob Marr of C&A Tool Inc., Brian Emerick of Micropulse, John Nolan of SDI, Joe Peters of Ultra Electronics, **USSI** and Don Wood of 80/20 Inc

## Ultra Electronics, Australia wins US Department of Defense export contract

Ultra Electronics, **Australia** has recently won a US\$2m export contract to manufacture personal Counter-Improvised Explosive Devices (C-IED) for the United States Department of Defense. Ultra Electronics, **Australia** is manufacturing the device under license from the Australian Government. The system has been developed with technology from the Defence Science and Technology Organisation. It is designed to provide a level of protection to individual soldiers from the constant threat of road side bombs and other unconventional explosive weapons that are one of the main causes of casualties among troops. The device is also currently in service with the Australian Army. Ultra Electronics, **Australia** is manufacturing the devices at the Adelaide facility with significant support from local SME component manufacturers, Hendon Semiconductors and Diemould.



Ultra's Counter-Improvised Explosive Device (C-IED)

Across the board...news and stories from across the divisions

# GigaSat

**GigaSat**, formerly a UK privately owned organisation was formed in 2001 by Chris Lay, following 30 years experience of the international broadcast, governmental and military markets.

Since its inception, **GigaSat** has sold to over 75 countries worldwide to all manner of customers. **GigaSat** is a leading manufacturer and systems integrator of high specification compact mobile video, audio, data and IP satellite terminals for broadcast and government applications with C, X, Ku, Ka band systems in operation globally. Innovative composite materials are utilised in its comprehensive portfolio of flight-case flyaway and vehicle-mounted antenna systems with all antenna sizes from 1.0m to 3.7m – the world's largest portfolio of one shop Digital Satellite News Gathering (DSNG) solutions.

Much more than a traditional manufacturer, **GigaSat** is able to provide end-to-end engineering, installation, commissioning and support, programme management, system engineering, product design engineering and maintenance service agreements. These capabilities have resulted in some unique systems for the satellite industry, including the world's largest, most compact flyaway system with an antenna dish 3.7m in diameter. Deployed globally where large transportable C-band systems are needed but where a trailer mounted solution is too cumbersome; or where the ability to deploy systems on rooftops for safety reasons or disaster recovery applications is important and rapid operational deployment is vital; the 3.7m can be on satellite in less than one hour.

Traditionally, with a bias towards premium broadcast customers, **GigaSat** has sold to the likes of the BBC, CNN, ABC and Al-Jazeera. However, our continued development and enhancement of technology has meant that our commercial-off-the-shelf (COTS) products have an indisputable military pedigree with Mil Spec approvals – MIL810F environmental approval and DSCS/WGS certified terminals within the portfolio.

The Defence Satellite Communications System (DSCS) is a network of satellites providing communications to support military operations of the USA and its allies. Certification takes a considerable amount of effort and is by invitation only, so is a useful barrier to entry to potential **GigaSat** competitors. The business was sponsored by its biggest military customer, the US DoD, for the approval of its 2.4m and 3.7m multi-band flyaway terminals which are now deployed globally. The constellation of Wideband Global Satellites (WGS) is a new network and increases the communications capabilities of the militaries of the United States, Canada and Australia by providing additional bandwidth and communications capabilities for tactical command and control. **GigaSat** was once again sponsored by the US DoD for certification so the business can now compete on an equal footing with traditional suppliers.

## Flyaway antennas



**GigaSat** is best known for its flyaway terminal solutions, extensively used by media and government organisations worldwide. Satellite News Gathering (SNG) systems are engineered to withstand the harsh environments associated with military operations and SNG. **GigaSat** flyaway systems are designed specifically from the ground-up for in-field operation, so none of the compromises associated with using fixed earth station sub-assemblies apply. They are manufactured from components specified for extended temperature ranges; they are ruggedised and they are weatherproof.

## Vehicle Mount



**GigaSat's** DA range of drive-away systems includes 1.0m, 1.5m, 1.8m and 2.4m antenna-based systems suitable for C band, X band, Ku-band, K or Ka-band transmissions. Size-for-size, the **GigaSat** carbon fibre antennas are lighter, more aerodynamic and rugged than any comparable product. All antennas comprise a carbon fibre monocoque construction, which improves system rigidity and provides an environmental shelter for outdoor equipment. Typically integrated on to broadcast industry standard trucks, the DA-series are used extensively by the media industry and the rugged design continues to win new business with government organisations.

## Do you know?

Business name:

**GigSat**

Location:

**Tring, Hertfordshire, UK**

Established:

**2001**

Acquired by Ultra:

**2012**

Number of staff:

**55**

The **GigaSat** flyaway antenna range includes:

- FA-100 – 1.0m flyaway: 3 bags <30kg; deployed in less than 10 mins
- FA-120 – 1.2m flyaway: 1 case <32kg; deployed in less than 10 mins
- FA-180 – 1.8m flyaway: 2 cases <90kg; deployed in less than 15 mins
- FA-240 – 2.4m flyaway: 2 cases <100kg; deployed in less than 20 mins
- FA-370 – 3.7m flyaway: 5 cases <400kg; deployed in less than 45 mins

The **GigaSat** drive-away range includes:

- DA-100 – 1.0m driveway: Less than 40kg
- DA-120 Lite 1.2m driveway: Less than 50kg
- DA-150 – 1.5m driveway: Less than 90kg
- DA-180 – 1.8m driveway: Less than 110kg
- DA-180 Lite 1.8m driveway: Less than 65kg
- DA-240 – 2.4m driveway: Less than 200kg



# Tactical systems

## New product launch by 3eTI

**3eTI** has launched its new AirGuard® iMesh™ suite of products. The iMesh Gateway device and the iMesh Sensor Node combine to enable wireless process automation with military-grade levels of data security – offering a robust solution for wireless networks in industrial environments. iMesh is the first independently validated, low-power, ISA100-compliant solution for industrial sensor networking whose security has been approved and deployed by the US military. The iMesh solution extends beyond the basic security capabilities of ISASecure, enabling comprehensive encryption and authentication technology to ensure confidentiality, integrity and availability of sensor and network data. Its devices form a cyber-secure bridge linking sensors with ISA100, Wi-Fi and Ethernet networks to provide the utmost in robustness and security.

“Wireless technology employs numerous benefits to mining, power, oil, gas, chemical and nuclear consumers that allow for reliable and affordable sensor monitoring where conventional technology has reached its limits,” explains Benga Erinle, President of **3eTI**. “The iMesh launch continues **3eTI**’s expansion into the industrial automation market by combining the benefits of a robust wireless solution with military-grade security to reduce costs of overhead and deployments, while maintaining overall fail-safe security at these facilities to combat the increasing sophistication of cyber threats.”

**3eTI** will also offer iMesh encryption software and modular components to other system suppliers, making it easy for manufacturers to embed certified security into their existing or new products. For government applications requiring certified wireless capabilities, vendors can now implement ISA100 wireless mesh technology on their sensor systems. This presents a tremendous opportunity for partners to integrate **3eTI**’s core technology. The AirGuard iMesh suite of products is scheduled to be in full production in February 2013; evaluation models are available now.



### 3eTI achieves US DoD's UCAPL Certification

In October 2012, **3eTI** received approval from the US DoD's Unified Capabilities Approved Products List (UCAPL) for the AirGuard wireless mesh device. The UCAPL maintains a list of products that have achieved open standards-based interoperability (IO) and information assurance (IA) certification in keeping with the DoD's information technology mandates, and ensures products meet the ever demanding security requirements of the DoD.

**3eTI**’s AirGuard UCAPL certification reflects a higher, more stringent degree of approval, achieved after extremely rigorous testing.

**3eTI**’s AirGuard secure wireless mesh devices provide wireless access and backhaul connectivity in fixed, mobile and portable applications. The AirGuard products are currently deployed widely across the military, including on US Navy vessels and bases around the world, providing secure wireless mesh connectivity designed to ensure always-on availability and built to withstand harsh environments required by critical applications. **3eTI** is the first Ultra Electronics business to achieve this certification. This is yet another example of **3eTI**’s mission to provide its customers with best-in-class information assurance and interoperability solutions.



## Winning new secure communications contracts

Throughout 2012 the mission and strategy of **CIS** focused strongly on the delivery to its key market sectors of Information Assurance, ISTAR and secure communication systems, as well as network analytics, police and air traffic control recording and monitoring systems.

**CIS** secured new contracts both in the UK and overseas by:

- further strengthening and consolidation of its position as the UK prime contractor for the targeting pods for the Royal Air Force Typhoon and Tornado Aircraft
- providing link encryption and data link solutions into the UK, NATO, US, Canada, Australia and New Zealand
- providing networked radar emulation and training data link systems for the Hawk advanced jet trainer aircraft
- supporting strategic encryption and security programmes on key UK platforms
- further developing and promoting world class solutions for police and air traffic control data recording, winning a major ATC contract in Brazil and other parts of the world

These strategies were built upon **CIS**’s proven and successful record in the design, development and manufacture of key leading technologies including core programmable high grade encryption and multiple secure data link products, as well as integrated platform communication systems and support solutions.

This range of capabilities is providing secure transmission of video, voice, command and control and tactical communication data, ensuring real time situational awareness between airborne, naval and ground based military assets and infrastructure.

This flexibility has resulted in the extended capability of **CIS**’s world leading High Integrity Data Link (HIDL) providing our global customers with a uniquely secure software definable radio, data link and waveform

reconfigurable platform, all agnostic of data type, frequency band and range constraints. HIDL was successfully designed, manufactured and integrated into both the UK Watchkeeper and Fires Shadow unmanned aircraft, providing a combination of command and control and video transmission flexibility. **CIS** has also been working with partner nations across NATO, for which HIDL is now integral to the proposed NATO Standard STANAG 4660 for the future of UAV command and control interoperability.

HIDL has now been launched to provide combined low power full motion video and command and control data link capability in support of the activities being led by **MSI** for the US unmanned vehicle market. These systems are now in the US and are being integrated into **MSI** hand-held controller systems for testing and demonstration in 2013.

In mid 2012, **CIS** secured a significant milestone with a multi-million pound contract award from BAE Systems to provide the radar emulation data link solution to network the new Hawk Advanced Jet Trainer (AJT) aircraft, all thanks to the reconfigurable nature of the HIDL platform.



HIDL Radio Assembly

# People in the news

## Over 300 years of service

Designing sonobuoys has a long, rich history in the northeast Indiana area, first as Magnavox and most recently as Ultra Electronics, **USSI**. Each year **USSI** typically has two or three staff honoured with long-service awards of 30 years or more. 2012 was significantly different when **USSI** recognised EIGHT employees with a combined total of 303 years of sonobuoy experience.



In this age of frequent job changes, an achievement of 30+ years is an exception. We asked each employee to share moments they were most proud of and have shared them below:

**Jeff Hulboy** began his career with Magnavox on 4 January 1982 as a Mechanical Engineer and is now at a Staff Mechanical Engineer level. Jeff's vast knowledge of sonobuoys and his nurturing personality make him a great mentor to the newer engineers on staff.

**Tom Fiechter** started on 1 February 1982 as a Senior Mechanical Technician in the lab. Over the course of his career, he has obtained Master Technician status. During Tom's years of service, he has been most proud of his test fixture design for the lower unit of the Q53 sonobuoy. Tom was presented with a challenge and ultimately designed and developed this fixture in only 50 hours. It worked the first time and is still utilised today.

**Dick Moser** joined Magnavox as a Manufacturing Foreman. He now serves in the Quality organisation as an Analyst. In 1985, Dick was a supervisor overseeing the Q53B sonobuoy program. During this time, the Q53B line was producing around 600 sonobuoys per day. To date, the Q53B line holds the record for the most consecutive lot passes with 69 lots totalling over 167,875 sonobuoys.

**Steve Miller** started as a Laboratory Technician A on 1 September 1977 and is now the Supervisor of the Test Engineering Department. Steve is known around **USSI** as the office prankster. It follows that Steve takes satisfaction in amusing and playing good natured practical jokes on his colleagues. Steve is very proud of the troubleshooting he did on the SSQ-62E sonobuoy. Steve was brought in to consult on several test range failures and was able to identify the technical deficiencies in the design. Resolving these design problems led to success on the test range.

**Harry Shook** began his career as a Junior Mechanical Engineer on 1 May 1972 and is a Staff Mechanical Engineer II. Harry is very proud of his involvement in the collaboration of **USSI** and **Maritime Systems** have developed over the Q53 sonobuoy program. Reminiscing on past years, Harry is proud of so many things. According to Harry, improving the design and technology of the sonobuoys while maintaining large production schedules at a cost effective unit price is most satisfying.

**Joe Grimes** started out in the engineering lab on 24 June 1968 as an Electronics Technician and retired earlier this year as the Quality Systems Manager. He is still working on some special projects for the business in his retirement. Joe developed the quality system for **USSI**, but before that he was a project manager for the Q53. This was the first sonobuoy to have integrated circuits, which is commonplace in today's sonobuoys.

**Tod Kovara** came to the sonobuoy industry on 6 September 1967 as a Junior Electrical Engineer. Tod recently retired as one of two Engineering Scientists on the **USSI** staff. Tod has been a part of many different programs. Transitioning from all analog to mostly digital signal processing of the standard sonobuoys has been something on which Tod believes he had an impact and enjoyed doing.

**Steve Putman** joined Magnavox right out of high school on 11 June 1962 and went into the Magnavox apprentice program. Steve's 50 years service is featured on page 29.

All of these employees have contributed to the success of **USSI** and we are very grateful to have them on our team!



### Graduate Activity

For the second year running, **NCS** has worked in the UK with South East Physics Network (SEPnet) to provide physics graduates with fully funded bursaries that allow them to work for eight weeks in industry. The aim of SEPnet, a consortium of seven world class universities working together to deliver excellence in physics, is to lead the way with a fresh approach to collaboration, teaching and research. **NCS** is delighted to be associated with SEPnet and was thrilled when one of the 2011 placement students, Charlotte Massey (pictured above), returned to **NCS** in August 2012 to attend a Graduate Recruitment Open Day. As a result Charlotte was offered a permanent role as a Project Physicist to start in October. This is a big success story for **NCS** and proves the value of offering placement opportunities within the business. **NCS** is already looking to develop this important link with education, with plans for another two students in 2013.

## Olympic Sailing



**Card Systems** welcomed 25 of its most important customers to Weymouth to enjoy the Olympic sailing events in Weymouth and Portland harbour. Dealers were given a site tour, shown a preview of new product developments and then taken out on a chartered boat into the harbour to get a close up view of the Olympic sailing action. Andy Matko, Managing Director, commented "This was a once in a lifetime opportunity to bring our key customers to the UK to share in the success of our long standing business partnerships. Everybody had a fantastic day, with the possible exception of our German dealer who was somewhat frustrated by his home team's performance versus Team GB."

## Production employees hone computer skills

In partnership with the provincial government, production employees at **Maritime Systems** have completed certificated computer skills programs at beginner and intermediate levels. The program was such a success that many employees have purchased their first computers and iPads as a result!



### Kelley completes her CMA/MBA

Congratulations to Kelley Burgoyne, Senior Accountant at **Maritime Systems**, who successfully completed her CMA/MBA program with St Mary's University. The program develops both financial and business capabilities.



## Ultra's systems engineers join 1st Movers initiative

The UK Chapter of the International Council on Systems Engineering (INCOSE UK) and the Institution of Engineering and Technology (IET) has joined forces with seven of the UK's leading technology and engineering organisations to launch a joint initiative to provide new options for those wishing to develop their career pathways in Systems Engineering. The 1st Movers initiative builds upon the agreement signed last year between INCOSE UK and the IET which established a new collaborative partnership route to Professional Registration as a Chartered Engineer (CEng), Incorporated Engineer (IEng) or Engineering Technician (EngTech) for those people whose professional home is INCOSE.

As well as providing a valuable forum for sharing best practice in the development of Systems Engineers, 1st Movers will offer support to participating organisations when they nominate candidates for Professional Registration through The IET. The 1st Movers from Ultra were Richard Candlin (**PALS**), Richard Nicholas (**PALS**) and Alex Kenning (**C&CS**). Ultra maintains a seat on INCOSE UK Advisory Board (UKAB) and through this were able to participate in the 1st Movers scheme to trial the partnership between INCOSE and IET. A large proportion of the 1st Movers have now successfully completed their Professional Registration and certificates will be presented at the INCOSE Conference by the Engineering Council (the awarding body).



Alex Mattos (far left), Head of Engineering, **PALS**, at the 1st Movers' certificate presentation

## Arkwright scholarships

Ultra Electronics has a strong legacy of sponsoring students through the Arkwright scholarship scheme; 2012 continues this support. Three students were selected by **PALS**, **Controls** and **C&CS**. The Scholarships support students through their sixth form studies to encourage them into top universities and higher apprenticeship schemes. Scholars are selected following a rigorous process comprising: an assessed application form with teacher's reference; a two-hour aptitude exam; and an interview.

Arkwright Engineering Scholarships consist of an annual financial award to the Scholar and to his/her school, and a range of enrichment activities, such as mentoring and industry visits, that enhance a Scholar's experience of engineering in a real-world context. The Scholarships are highly regarded by universities and industry and help to create a pipeline of top talent into the engineering profession.



Above, left to right: Jaskiran Nagi of Merchant Taylor's School, Northwood, selected by **Controls**; Jack Fryer of Cirencester Deer Park (moving to Cirencester College), selected by **PALS**; Jackie Reece, HR Manager at **PALS**; Arjun Patel of Dr. Challengers Grammar School, selected by **C&CS**; Heather Rolls, Director of Programmes at **Controls** and Nick Charles, **C&CS**

## Stop Press!!!

Andy Cambridge, Chief Scientist at **CIS** has been made a Member of the Order of the British Empire (MBE) in the Queen's New Year Honours List. Look out for the photograph and editorial in the next issue of **UltraNews** following his presentation at Buckingham Palace.



## Growing skills for the nuclear industry

As part of Ultra's commitment to develop the skill base and build higher Suitably Qualified Experienced Personnel (SQEP) levels, **NCS** has started an Advanced Manufacturing Engineering Apprenticeship scheme. Candidates have been offered opportunities in fundamental manufacturing principles whilst gaining practical experience.

Competition was tough, with Daniel King, Zachary Beavan and Joseph Key (pictured above) all chosen based on their excellent academic records and their practical interest in engineering. They started their apprenticeship programme at Southampton Engineering Training Association (SETA) at the beginning of September 2012. Dan and Zach, both 16, are spending one day a week studying for a BTEC Level 3 Diploma in Electrical and Electronic Engineering. The rest of the week is spent learning practical engineering skills in the workshop for their Practising Engineering Operations (PEO) modules, which include a combination of electrical, electronic and mechanical manufacturing processes and techniques. Joe, 19, has already completed a BTEC and is spending five days a week at SETA on the PEO modules.

## GVA Technical Working Group Nominated for DEST Award



As part of a team representing the Generic Vehicle Architecture (GVA) Technical Working Group, Tony White (far right), Director of Advanced Technology at **PALS**, has received an Acquisition Award from the UK Ministry of Defence for the outstanding work on the development of the recently published GVA Defence Standard. The award was presented by Philip Dunne, Minister (DEST) at a ceremony held on Tuesday 27 November at MoD main building in Whitehall, London.



# People on the move



**1. Bill Terry** has been appointed President of **Ocean Systems**. Bill had been Acting President of **Ocean Systems** since March 2012. Before joining **Ocean Systems** in May 2011 as VP of Engineering, Bill held leadership roles in multiple disciplines including Engineering, Business Development and Program Management. Bill has a BS in Electrical Engineering from Clarkson University, a Masters in Computer Engineering from Syracuse University and a Masters in Business Administration from the Worcester Polytechnic Institute.

**2. Dr Frank Charlesworth** has been appointed as Technical Director at **Nuclear Control Systems**. Frank joined Ultra in 2003 following a distinguished career with Rolls Royce and has made an outstanding contribution to the growth and development of the **NCS** business in his role as Chief Engineer. He is the ultimate technical authority for all engineering and scientific matters concerning the **NCS** business. Frank has a BSc in Physics, an MSc in Cryogenics and a PhD in Fracture Mechanics. Additionally he holds Chartered Engineer status and is a member of the Institution of Engineering and Technology.

**3. Rod Laws** has been appointed Human Resources Director at **Communication & Integrated Systems**. Rod

joined Ultra early in 2011 and has successfully led and developed the HR agenda during a period of significant growth as well as contributing the integration of the AudioSoft business into **CIS**. Rod has played a key role in two recent UK acquisitions and is a Company Nominated Trustee for the Ultra Pension Scheme as well as being a company representative on the Pensions Management Committee. Before joining Ultra, Rod held a number of HR/Senior Management Team roles in the energy, construction, manufacturing and pharmaceutical sectors. Rod holds a BA in Business Studies and is a Chartered Fellow of the Institute of Personnel and Development.

**4. Alun Griffiths** has been promoted to Operations Director at **Controls**, taking responsibility for the Manufacturing Organisation, Supply Chain Management and Technical Customer Support functions. Alun joined Ultra in 1996 and has held several management positions in Commercial and Customer Services before joining the Leadership Team in 2003. In 2008 Alun was appointed Head of Operations and under Alun's leadership some of **Controls'** most complex new products, including the Boeing 787 Wing Ice Protection System and the Pratt & Whitney F135 Engine Ice Protection System, successfully

transitioned to production with high customer recognition for these major achievements. Before joining Ultra, Alun held a Contract Management role at Racal-Decca Marine after graduating with a BA in Business Studies.

**5. Jeff Cohen** has joined **AMI** as Vice President of Finance. Jeff brings 30 years of accounting and finance experience to **AMI**. Jeff was most recently the Vice President of Finance at Sheridan Books in Chelsea. Prior to Sheridan, Jeff was the Chief Financial Officer for Xymox Technologies in Milwaukee, which made membrane switches and graphic overlays. Jeff has also served in a number of Auditor, Accountant, and Controller roles with increasing responsibility in various organizations. Jeff holds a BS in Business Administration and Accounting from San Diego State University and holds a CPA certificate.

**6. Ajay Sharma** has joined **Ithra** as the Finance Director. Ajay is a Chartered Accountant who has joined from Hepworth Plastics Middle East where he was the Chief Financial Officer.

**7. Paul Owen** has been appointed Managing Director of **Airport Systems**. Paul returns to Ultra in January from Rolls-Royce where he is currently Managing Director of their

Distributed Generation Systems business. Paul began his career in SCADA control systems before joining Thales as Development Manager on the Astute submarine 2076 sonar software. He has held the positions of VP Global Engineering with internet security company Surfcontrol and both Engineering and Business Development Director roles in a previous spell in the **Airport Systems** business with Ultra. Paul has a degree in Computation from UMIST and is both a Chartered Engineer and Chartered IT Professional.

**8. Bill King** has been appointed President of **AMI** starting 1 January 2013. Bill has held the position of Vice President of the Undersea Products business unit at **USSi** and was one of the original employees that formed **USSi** when Ultra Electronics purchased the sonobuoy business from Raytheon in 1998. Bill is a graduate of the University of Michigan with a degree in electrical engineering.

**9. Aaron Crumm**, co-founder of **AMI**, has decided to change roles from 1 January 2013 having successfully led **AMI** as President since the business was acquired by Ultra in January 2011. Aaron will take up a new role as Chief Technology Officer and support the business with both current and new technologies.

**10. Martin Broadhurst** OBE, has been appointed to the Board of Ultra as a Non-Executive Director. He replaces Ian Griffiths who announced his decision to stand down from the Board at the Group's 2012 AGM. Martin was Chief Executive of Marshall Aerospace (MA) for 15 years until his retirement in 2011, having joined Marshall in 1975 as a Management Trainee. Under Martin's leadership, MA grew fourfold as well as expanding its international footprint and capability. During his time with MA, Martin was involved in many pioneering programmes and projects, including the development of the Hercules Integrated Operational Support and TriStar Integrated Operational Support contracts, which have been seen as role models for partnership between industry and the Ministry of Defence. Martin is Non-Executive Chairman of the Centre for Engineering and Manufacturing Excellence in the UK and is a Council Member of the Royal Aeronautical Society. He holds a Master's degree from the University of Cambridge.

**11. Mark Turvey** has been appointed Group Marketing Manager at Head Office, reporting to Mark Anderson, Group Marketing Director. Mark joins the Head Office team from a Marketing Manager role at **CIS**.



# appointments, promotions and retirements

## Retirement



**Alan Barker** has informed Ultra's Board of his intention to retire at the end of March 2013 after more than 10 years service with the Group.

Alan became a member of Ultra's Executive Team in 2008 when he was appointed

President of the Tactical Systems Division. Alan joined Ultra in 2002 when he was appointed President of the new **TCS** business which was formed following Ultra's acquisition of the Military Communications Division of Canadian Marconi Company Electronics Inc. Alan started his career at Canadian Marconi in 1974 at the radio division, based in Montreal. Following a succession of promotions, Alan was appointed Vice President Communications Systems Division 1996.

Following his retirement, Alan is planning to studiously avoid any travelling or flying. Alan has a farm in the Eastern Township and he plans to live there full time. To meet the demand of the farm, Alan will be procuring a four-wheel drive pick-up truck and a tractor, along with various trailers and accessories. To complete the image, the farm includes thousands of trees which give Alan the perfect excuse to be a lumberjack. In addition to wielding an axe, Alan has more subtle wood working skills and is a keen cabinet maker. A few weeks back he put the finishing coats of varnish onto a dining room cabinet – a project he started more than two years ago.

Alan has contributed enormously to Ultra's development since he joined the company in 2002. This has been through the growth of the **TCS** business and latterly in his role as President of Tactical Systems Division, in which Alan oversaw over £100m of successful acquisitions. Rakesh Sharma and the rest of the Executive Team, would like to thank Alan for his hard work, dedicated service and the significant contribution he has made to the success of Ultra.

## Moving on...



**Paul Dean** has informed Ultra's Board of his intention to move on from Ultra at the end of March 2013 after more than four years' service with the Group. Paul has been approached to take a role outside of the defence and aerospace sector, and has

agreed to become Chief Financial Officer of the Diamonds business of Rio Tinto plc. The Board would like to take the opportunity to thank Paul for his contribution as an outstanding Group Finance Director over the past four years.

Mary Waldner will succeed Paul as Group Finance Director and be appointed to the Board. This will be formally announced in the next issue of UltraNews.

## 50 years service!



**Steve Putman**, a 67-year-old resident of Fort Wayne, Indiana, recently celebrated a half century of working for Ultra Electronics **USSI**. Steve joined the apprentice program straight out of South Side High School in 1962 when the business was owned by Magnavox. Since then the business has been owned by

Phillips, Carlyle, Hughes and Raytheon before finally being acquired by Ultra Electronics in 1998.

Over the last 50 years, Steve has seen the workforce housed in six different buildings in two cities. Despite this, Steve has remained largely unchanged. 'You're just moving forward and moving forward, and it isn't until you hit a milestone that you stop and reflect' he said of his 50th anniversary.

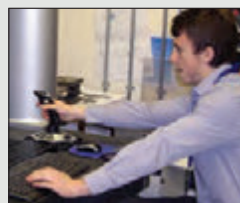
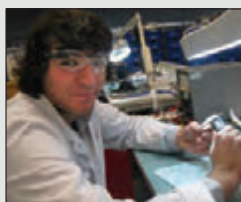
Joe Peters, President at **USSI**, praised Steve's excellent mechanical skills and productivity, but stated that a lot of what has made the product designer so valuable is his cooperative nature.

When asked about retirement, Steve said that he has no plans as yet.

## Apprenticeships

Four apprentices joined **PALS** in late August 2012 when they embarked on an apprenticeship lasting for 4 years. Two apprentices will focus on electronics engineering, one on mechanical engineering and one on quality engineering. On the job training and college attendance have been structured in the programme. The programme also comprises time within other departments in the business to gain an understanding of how the business works. **PALS** is being supported by Avon Vale Training and Gloucester College. Mentors have also been assigned to each apprentice to help them on their journey.

Below from top left, clockwise: Josh Bailey, Adam Priest, Simon Page and Josh O'Malley.



appointments

## all in a good cause

# Fundraising football tournament

For the second year running, **PALS** entered a football tournament arranged in support of the National Star College. The College provides specialist residential education, training and personal development opportunities for vulnerable young people aged 16-25 with severe and complex physical disabilities, acquired brain injuries and associated sensory, learning, medical, emotional and behavioural difficulties.

The tournament was played in a League format, with the top four teams going through to semi-finals with the winners of each semi-final then playing in the grand final for the Star Cup. The **PALS** team had mixed fortunes in the League winning two and losing two, scoring four goals in the process. One goal in particular was very good, scored by Jack Walker who beat just about every member of the opposing team before rounding their goalkeeper and scoring. These results left **PALS** third in the group and meant they were drawn against the group winning team. At the end of a very even first half, **PALS** conceded a soft goal and eventually went down 3-0 after much effort was spent trying to get back into the game.

The tournament was very competitive throughout and enjoyed by all. **PALS** raised a total of £250 in support of the event. Well done team!



Back row (left to right): Ian Miller, Hisham Awad, David Leniewski (formally Ultra!); front row (left to right): Paul Dibden, Francis Robertson, Jack Walker, Neil Bonnar



## Fundraising the hard way

At the BBQ in the summer, employees at **Maritime Systems** raised money for the Military Families Fund by dunking their favourite manager. Ken Walker, President, was particularly popular but happy to oblige as the Dunk Tank raised Cdn\$250 for the Military Families Fund.



## Team Ultra runs the Navy 10K

A team of **Maritime Systems** employees ran the Navy 10K race to raise funds for the Military Families Fund. Neil Leadbeater was particularly happy as he beat the Canadian Defence Minister, Peter Mackay, in a sprint finish. It was well worth the effort as Cdn\$700 was raised for the fund.

# The Ultra donor

Sandi Stordahl, Purchasing Manager at **ATS** and a 23 year employee, had a progressively worsening kidney disease that eventually required her to need a kidney transplant. Fortunately Bob, her husband, was a match. In March 2012, Bob and Sandi made the short trip from Austin to San Antonio to undergo the transplant procedure. Afterward, Sandi woke up in the hospital feeling surprisingly good, in fact, too good for just having had major surgery. As it was, the surgery had not happened. During the transplant procedure, the surgeons discovered that a growth on Bob's kidney that they originally thought was benign turned out to be malignant. As disappointed as she was to learn that she did not have the new, life-saving kidney that she expected from Bob, she was reassured to find out that her husband's bad kidney was removed and he had a good prognosis for a long and healthy life.

When he joined the business nearly 21 years ago, Kirk Cosman, Production Manager at **ATS**, did not expect that he'd be a kidney donor, especially to a coworker. When he first learned of Sandi's condition he immediately offered his own kidney. Kirk's offer did not surprise anybody. He is widely known as one of the most dedicated, caring and giving people in the business. Bob had been the preferred choice simply because he was Sandi's immediate family. After the first, failed transplant attempt, Sandi still needed a new kidney and Kirk was still willing. Sandi repeated the trip to San Antonio in May, this time with Kirk.

Fortunately, the second procedure was a great success. Both Kirk and Sandi took time off to recover but they are now both back at work. Kirk has been busy meeting increased demand for **ATS's** systems and Sandi has been busy buying him the parts he needs to build those systems. Kirk's generosity inspired the entire business and shows that sometimes it isn't just a job, it's a family.



Kirk and Sandi fully recovered and back at work!

## PMES' Help for Heroes

In September **PMES** held a Family Fun Day in aid of Help for Heroes. There were a number of activities for children including a bouncy castle, face painting and coconut shy. There was a competition on who could hold on the longest on a 'rodeo sheep', a martial arts demonstration, archery and a bungee run. Jon Everett also volunteered to be put in the stocks and ended up very wet! At the end of the day they raised over £1,500 for the very worthwhile charity and a great day was had by all.





## against the clock

In this issue **Chisom, Andy** and **Jill** spend 60 seconds with UltraNews, sharing random facts about their careers and personal lives...

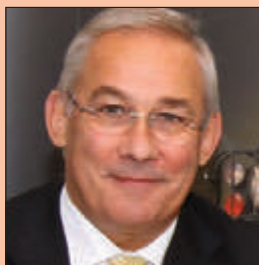


### Chisom Onita

**Head Office** – Assistant Company Secretary

I joined Ultra, fairly recently in September 2012. Prior to joining Ultra I had obtained a law degree and qualifications in Nigeria, and I worked as an in-house lawyer with a biotech group of companies in Cambridge. While in that position I decided to re-qualify as a chartered secretary. I then moved to easyJet where I worked briefly as an Interim Assistant Company Secretary.

- 1. What did you want to be when you grew up?**  
For some time I toyed with the idea of becoming a medic but eventually decided to go in a different direction and study law instead because I was better at the core subjects required to study for a degree in law.
- 2. Do you remember your favourite teacher?**  
My favourite teacher was my literature teacher in junior secondary school – Mrs Ikem. Literature was my favourite subject then because I have always loved reading novels. She was a very good teacher and I always enjoyed her classes.
- 3. What is the most decadent treat to yourself?**  
Strangely enough, it would be a lie-in at the weekends; alas I don't get to do this anymore with having a 22 month old son.
- 4. What do you want to know about the future?**  
The winning Euromillions lottery numbers (preferably when the jackpot has rolled over for a few weeks!).
- 5. Which celebrity would you most like to have dinner with?**  
Nelson Mandela – I remain impressed with him and people like him, who have achieved great success in their lives in spite of seemingly insurmountable obstacles.
- 6. If you could live anywhere, where would it be and why?**  
England, because generally my family and I have a good quality of life here and this is what matters most to me. I know the weather does get rather dreary but having grown up in a hot country I also know that having the sun beating down on you almost all year round is not all it is cracked up to be.

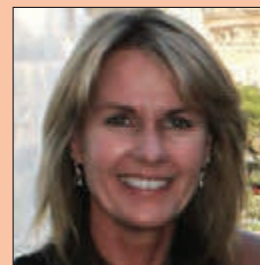


### Andy Yates

**PALS** – Managing Director

I joined Ultra when they acquired Radamec Defence in 2003. I have spent most of my career in the Defence and Aerospace Industry. I started as an Electronics Design Engineering Program Manager and gradually elevated to Managing Director. This is my third position as Managing Director.

- 1. What changes have you seen during your time with Ultra?**  
Seeing how Ultra has grown through acquisitions and organic growth and willing to enter into new markets.
- 2. What do you miss from your childhood?**  
Sherbert Fountains and aniseed balls; they were my favourite!
- 3. What did you want to be when you grew up?**  
Electronics Engineer. I have always been fascinated. In my early years I remember wiring my first mains plug at the age of 11.
- 4. Of all the places you have travelled for work, where would you like to spend more time to explore? (and have you returned to do so?)**  
Work has enabled me to travel to many different countries but realistically I haven't had the time to explore them or embrace their culture. Most of my time has been spent in airport lounges and in offices attending meetings.
- 5. Did you pass your driving test first time?**  
Yes, though I thought I had failed!
- 6. Which sport team to you support, and how are they doing this season?**  
I have supported Liverpool Football Club since they were knocked out of the FA Cup by Arsenal in 1971 and taken a keen interest in them ever since. They have suffered the worst start to the 2012/13 season and unlikely to qualify for Europe next season unfortunately.
- 7. What is the most important historical event that you can remember living through?**  
Neil Armstrong landing on the moon and taking the first steps and returning safely. Even today, I find this feat really quite incredible and a technological wonder!



### Jill Daiber

**ATS** – Vice President C4ISR Products

I joined **ATS** in July of 2001 as a senior software engineer. I rose through the technical ranks to my current position as vice president. My team works on the products in the business that aren't carried by a UAV or manned airplane. As the VP, I focus on strategy, key customer relationships and building great technical teams that support the customer and deliver good products.

- 1. What is your happiest childhood memory?**  
It can't be great that the first thing that comes to my mind is buying ice cream from the ice cream man. I did like fishing with my grandfather at our lake house.
- 2. What was your very first job?**  
I was a bookkeeper for an auto parts store when I was 15. I knew nothing about cars so it was interesting to say the least.
- 3. If you could open your own business what would it be?**  
I would be a winemaker making pinot noir wines. I not only love the wine, but the chemistry and the process of making wine interest me. I would love to own a vineyard.
- 4. What do you think is the single best decision you've made in your life so far?**  
My best decision was to have children (at least I think this most of the time). I have one son and two daughters who are all grown now. They still keep me entertained and busy. Another decision I have been happy with is moving to downtown Austin, Texas. I love it here and I am close to my good friends.
- 5. What do you do during your free time?**  
I love to jog each day as a form of meditation. I love it so much I moved to be close to some of the best running trails in Austin. I am also a big fan of Texas Hold'em poker. I play in tournaments in Las Vegas for fun. With my Maths degree I enjoy the statistics behind the game.
- 6. What certificate/award are you most proud of?**  
I am most proud of my accomplishment of completing a marathon about 5 years ago. I had to train 6 months and I completed the course without walking.

seconds

## and finally...

### Race the Sun

Trevor Vizard, Marketing Manager at **GigaSat**, completed the 10th annual Race the Sun to raise money for Action Medical Research. It was a 4-man team cycle, climb, canoe challenge, starting the challenge at sunrise and finishing just after sunset (hence Race the Sun). The challenge was to cycle 25 miles (40km) to the base of England's second highest mountain, Helvellyn at 3,116ft (950m), hike to the summit and back down to complete, canoe a 2.5 mile (4km) course on lake Thirlmere and finally back on the bikes for a further 25mile (40km) to the finish line. The team finally completed the challenge after 13 very long hours!

Action Medical Research is a great children's charity dedicated to improving the health of babies and children in the UK and relies entirely on donations to fund a range of research projects that address serious childhood conditions and improve quality of life for children with disabilities. It also supports research to reduce premature birth, prevent pregnancy complications that threaten babies' lives, and find the best ways to care for sick and vulnerable babies.



Trevor Vizard (far right) with the team at the top of Helvellyn

## June's summer party at Buck House



Last summer, June Oldacre, long time receptionist at **PMES**, and her husband had the very special honour of attending a Royal Garden Party at Buckingham Palace. Following a visit by HRH the Duke Of Kent to the **PMES** facility, June was nominated to receive the invitation for her dedication to the business and customer service of over 47 years. June is now enjoying a well-earned retirement.

## AMI holds Safety Carnival and dunks the president

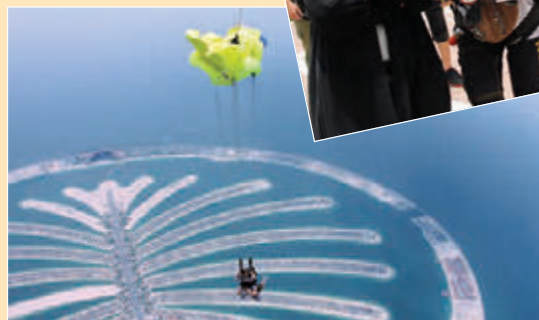
In August, **AMI** held an impromptu Safety Carnival after their annual fire drill to recognize the staff for passing 3,000 work hours since the last recordable injury. With Safety Committee members acting as carnival staff, team members played "unsafe" games such as ring toss onto an open straight blade, an eyeball-in-the-spoon relay race, caution tape limbo and, for the main attraction, a dunk tank starring **AMI** President, Aaron Crumm. Aaron got dunked many times by various **AMI** team members. Fortunately, it was a sunny day!



## NSPI tri'ers

Bob Beran and Lynn Harper, both Nuclear Project Design Engineers at **NSPI**, completed the Xterra Cameron Park Offroad Triathlon in Waco Texas. The race consisted of a 750m open water swim, 12km mountain bike and 5km trail run. The race took place after a night of heavy rain which made the course quite hazardous. Both Lynn and Bob involuntarily left the trail and sustained multiple bruises and equipment problems before ultimately finishing the course. In completing the event, Bob and Lynn join the ranks of several other **NSPI** triathletes – Bruce Koach, Janice Hampton, Alan Fogle and Angela Nugent.

## Skyfall



Fayeza Alameri, Operations Administration Assistant on the Al Bayariq project at **Al Shaheen**, is a daring woman who likes a challenge and not afraid to dare tradition and status quo. Recently Fayeza made her first skydive with her instructor near the Palm Jumeirah at Dubai. Fayeza describes the event: her instructor made final checks, attached her to her harness and signalled Fayeza to move toward the door, then the instructor leaned out and they simply dropped out of the airplane at the height of 10,000 feet.



## feedback

I hope you've enjoyed this edition of **UltraNews**. The magazine has certainly grown in size quite substantially, which itself is a good indication of just how much exciting news there is to report from around the Group. As ever, please send any feedback or suggestions for the future to me.

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# UltraNews

## 20 years of making a difference

Ultra staff share their memories, see **pages 8 and 9**



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If you have any interesting stories, – business, social or personal, that you would like to see included in future issues of UltraNews, please e-mail the material to:  
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The story so far...

# 20 years of Ultra

## 1993-2013...

As we enter October 2013, Ultra Electronics celebrates its 20th anniversary so I thought I would use my "Chairman's Corner" article to reflect on the progress the Group has made as we hit this significant milestone. We will have surprised many people who were around from the early days of Ultra since we were regularly told that we would not be able to survive as a small aerospace and defence company. Well I am pleased to say that we are still here, bigger and stronger than ever. When Ultra was formed in 1993, there were just seven businesses, based in the UK, employing about **1,200** employees with sales almost entirely to the UK market. Now the Group has over **4,500** employees, across **29** businesses that are spread over eight countries and operate in **40** countries worldwide.

The reason for this success is that Ultra has focused on specialist capabilities and products and finding ways to differentiate them so that our customers judged them to be better than those of our competitors. The key to this of course is Ultra's people: the business is nothing without the right people. I feel highly privileged to be a leader, as Chairman of the company, of the exceptional people in Ultra who have made the business the success it is. I thank you for the hard work and commitment to Ultra over the last two decades.

Acquisitions have also played an important part in Ultra's growth with 45 having been completed over the last 20 years. I am delighted to welcome Varisys, the latest member to join the Ultra family and you can read more about them on page 11.

Looking to the future I am convinced that we can continue to grow and be an even more important player in the defence & aerospace, security & cyber, transport and energy markets that we serve. This particularly so if we remain true to the core Ultra values and identity. This culture is defined by our eight basic strategic tennets that really have stood the test of time. The customer-focused behaviours encapsulated in **LEAP** and **LAUNCH** should also continue to guide us. I consider **LEAP** and **LAUNCH** not just pieces of our historical DNA, they are absolutely fundamental to the success of Ultra and our future growth. These behaviours, coupled to the energy and determination of our people, continue to give us a significant discriminator in the marketplace.

In these tough market conditions, an increasingly important factor in sustaining Ultra's growth is the ability for our businesses to work together in collaboration so that they can address larger and more complex opportunities. Internal and external teaming is one of our eight tennets and the Group's ability to do so has been a key success factor. Critically, however, we must be able to do this without compromising the agility or autonomy of any of our businesses. Achieving this difficult balance is described in our definition of **collaborative autonomy**, which is discussed further on pages 4 to 7.

I am convinced that by maintaining our unique culture, behaviours and values, and by working together, we can meet the challenges of the changing marketplace which Ultra faces and ensure that the Group continues to make a difference to all of its stakeholders for the next 20 years and beyond.

Finally, I would like to wish all of Ultra a "happy birthday" and I hope that you all enjoy this issue of UltraNews.



"As we enter October 2013, Ultra Electronics celebrates its 20th anniversary. I am exceptionally privileged to be the Chairman as we hit this important milestone"

**Douglas Caster** CBE. Chairman



**Pictured from left to right:**

Standing: Douglas Caster, MD Sonar & Communication Systems; Richard Lane, Marketing Director; John Taylor, MD Command & Control Systems, David Thomas, Montagu Private Equity; Ian Yeoman, Finance Director, Tim Hart, Phildrew Ventures. Sitting: Peter Macfarlane, Chairman and Dr Julian Blogh, Chief Executive.

**This picture was taken at the first Board meeting of the new company.**

### The Management buy-out

Following TI Group's hostile acquisition of Dowty in 1992, Dr Julian Blogh led the management buy-out of Dowty's seven defence and aerospace electronics businesses to form Ultra Electronics in 1993. This was the end of a long and difficult negotiation with TI, with bankers and with venture capitalists. Ultimately the management team's strength of purpose and attention to detail prevailed and the buy-out was complete. Ultra was formed with £19 million of debt and £19 million of equity.

The buy-out revived the Ultra name, which had disappeared when Dowty acquired the original Ultra in 1977. Ultra started off making wireless equipment in the 1920s and so it is fitting that today Ultra still provides specialist radios to military forces around the world.



## Collaborative autonomy

" Collaboration implies teamwork, cooperation and partnership and there is no doubt that by working together we often achieve more than working alone "

# Collaborative autonomy?

PRIMITIVE  
ROAD  
NO  
WARNING  
SIGNS

### Collaborative autonomy

was first introduced at the 2012 Business Leaders Conference, but it sounds like an oxymoron where the words are almost exact opposites. Phrases like *'pretty ugly'*, *'original copy'*, *'liquid gas'* and *'almost exact'* in the previous sentence spring to mind!

### So what is it all about, exactly?

#### Autonomy

Stand-alone, autonomous businesses are at the heart of Ultra. We believe that small businesses which are largely self-sufficient, self-directed and generally free from central control or interference are more agile; they are better at engaging with customers and employees. Indeed, Rakesh Sharma, our Chief Executive, has said that he would be prepared to turn away business rather than compromise our autonomy and agility. This is, of course, different from an independent business which is totally free, self-governing and has no attachment to a broader group. In autonomous businesses we can all make a difference and many of our colleagues have told me that they joined Ultra because they did not want to work for a large anonymous organisation where it is impossible to make a difference. Ultra is not for everyone, but the autonomous business structure really works for people who like a challenge, like being innovative and, above all, want to make a difference.

#### Collaboration

Collaboration implies teamwork, cooperation and partnership and there is no doubt that by working together we often achieve more than working alone. The same goes for business, where we have found that we can be even more successful when two or more Ultra businesses work together. There are some really good examples on page 6. Collaboration works in the eyes of our customers too, as they are used to seeing the Ultra brand for either a single business or a collection of businesses.

One of Ultra's 8 strategic tenets is teaming (see Ultra's Annual Report page 19): <http://www.ultra-electronics.com/investors/irhome.php>



## Keith Thomson Group HR Director

Teaming, internally within the Group or externally with other companies, broadens offerings by combining niche products and linking domain knowledge. Teaming increases business opportunities by allowing Ultra to offer capability from its wide portfolio to meet a customer need. It creates competitive advantage by accessing off-the-shelf technology at lower cost, allowing timely delivery while avoiding expensive development costs and high project risk.

### Potential obstacles

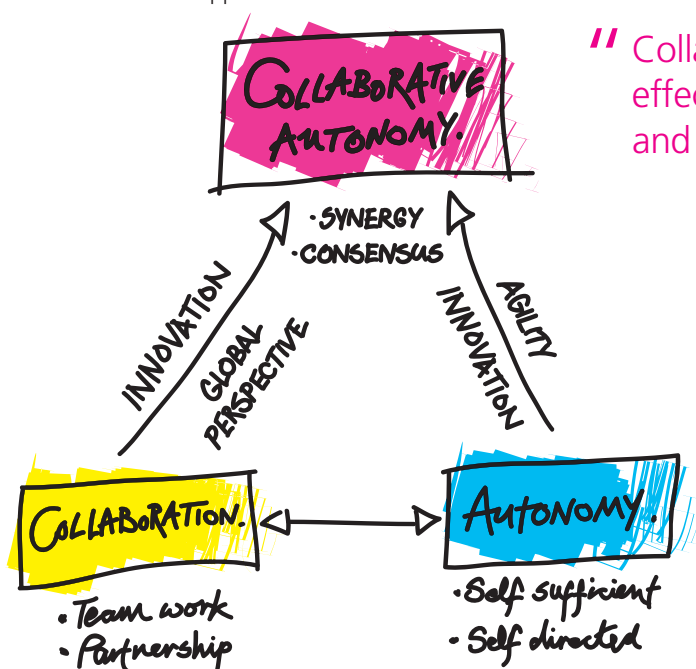
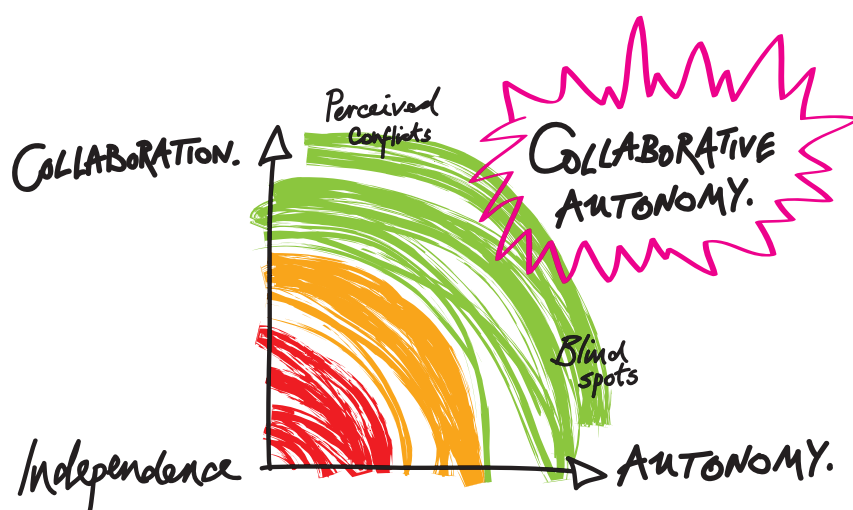
But doesn't working together imply a loss of self-direction and control? Maybe, but the point here is to consider the bigger Ultra picture (like Ultra's **LAUNCH** behaviour where the 'H' stands for holistic). If there is a benefit to Ultra overall it is 'almost always' (another oxymoron) worth working collaboratively.

There are two main obstacles to collaborative autonomy: 'blind spots' and 'perceived conflicts'. Blind spots exist where businesses don't see the opportunity to collaborate. One of the common questions people ask is 'how do I know what is going on in the other Ultra businesses?' This is being worked on through the VAULT project which is being developed by **ProLogic** under the Audacity Award it received in 2012. There will also be a new intranet system which will be far easier to use. Ultra has recently published a new capability brochure which describes the capabilities around the Group rather than the products – see your local marketing team for a copy.

Perceived conflicts can exist where a business feels it may sacrifice some of its own sales or profit in order to collaborate. It is an 'open secret' (yet another oxymoron) that businesses always get credit for doing the right thing for Ultra and there are many examples where this has happened.

### Collaborative Autonomy

Collaborative Autonomy works when there are effective communications, high levels of trust and no surprises. Although an apparent contradiction in terms, collaborative autonomy can also be viewed as the balance of opposed forces. So forget 'larger half', 'almost exactly' and 'definitely maybe' and embrace the oxymoron that is collaborative autonomy. The rewards are huge and we have already proven that it works in Ultra. Please read on to see some exciting examples of how it has actually worked in practice.



" Collaborative Autonomy works when there are effective communications, high levels of trust and no surprises. "

## Collaborative autonomy cont'd

# Collaborative autonomy in action

### NCS & PALS

## Supporting the long term operation of the UK's civil nuclear reactor fleet

Ultra Electronics has developed and now supplies specialist carbonyl sulphide (COS) gas injection systems as part of a package of measures to extend the operational life of EDF's UK advanced gas-cooled reactor (AGR) fleet.

Ultra has supported nuclear power generation for over 50 years with a dedicated business in safety critical reactor instrumentation and control. However, to support the unique nature of this requirement, Ultra was able to draw upon its wider portfolio of cross-divisional specialist capabilities. Collaborative supply between **NCS** (nuclear market experience, programme management, control systems and integration) and **PALS** (expertise in gas

control systems) enabled a highly differentiated solution to meet customer needs within a demanding environment.

Carbon deposition on fuel elements and boiler tubes leads to heat transfer impairment, which in turn impacts on generating capacity. The automated injection of COS into the reactors has proven to be effective in significantly slowing carbon deposition, supporting reactor life extension programmes.

The joint Ultra team has now successfully designed and supplied the first COS gas injection systems to two of the UK's seven AGR reactors, Torness and Heysham 2.



### PALS, MSI, & EMS

## A collaborative approach to the armoured fighting vehicle market

In early 2013 **PALS**, **MSI**, **AMI** and **EMS** formed a collaborative team to jointly address the armoured fighting vehicle (AFV) market. An initial review of the market identified a significant number of large programmes which might benefit from a joint approach, including the new US ground combat vehicle, upgrades to Warrior and Challenger in the UK and also new-buy programmes in India and Australia.

There have been several meetings since the group formed, at which senior management, marketing and technical leads have continued to develop a joint strategy and it was clear at an early stage that Ultra's combined AFV capability is wide-ranging and complementary.

Critical to our success will be exploiting our existing in-depth knowledge of the open systems architectures being adopted by the US and UK which are of increasing interest to other nations. For a number of years **PALS** has been a member of the UK MoD panel defining open architectures for vehicles, dismounted soldiers and forward operating bases.



**Pictured left:** Combined display of capability from **PALS**, **MSI** and **EMS** launched at the DVD event in June

To facilitate closer joint working, the AFV team is currently developing a set of marketing materials to support a coherent presentation to customers. Exhibition plans are being shared to maximise access to potential customers and encourage cross-selling of capabilities. Further, capture plans will be jointly developed to compete for and win these major opportunities.



## Engaging and inspiring employees

# Employee engagement what does it mean to me?

Ultra really cares about engaging and inspiring its employees. Ultra believes jobs are better when there is a clear vision and purpose, suitable levels of autonomy and an opportunity to learn, get better or solve difficult problems. The YOURviews surveys have measured **Employee Engagement** since 2005 and the good news is that it has improved:



However, the key question is 'what does this mean to you?' The picture opposite shows what you can expect when working at Ultra. If you don't see this in your job use your 'voice' to discuss it with your manager/ supervisor/team leader. You may recognise some of the questions from the YOURviews survey. If you supervise or manage people you can easily see the expectations Ultra places on you for how you work with everyone in your team.

So why is **Employee Engagement** important and why have so many companies started to talk about it? The main reason is that there is now much more empirical evidence that shows there are better business results in companies where engagement is high. This has been found to help business performance in many ways. Not that this should be any surprise – it is blindingly obvious our business is better when we all feel we can make a difference at work!

### What you can expect when working at Ultra

#### My manager/supervisor/team leader

- Treats me as an individual
- Provides me with honest feedback
- Gives me scope to do my job well
- Encourages and supports my development
- Appreciates my work

#### My voice

- I am encouraged to express my views, opinions and ideas
- There is good communication between teams in the business
- There is a forum for listening to my views and those of my colleagues

#### My job

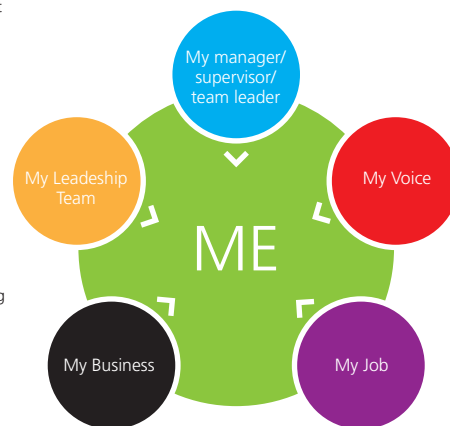
- I have the materials and equipment to do my job
- The business makes good use of my skills and knowledge
- I know what I am responsible for achieving
- I have the opportunity to influence the way I do my job
- There is good teamwork in my workgroup

#### My business

- My business demonstrates integrity and fairness
- I believe in the values of my business
- Day to day behaviours here generally reflect the values of my business

#### My leadership team

- Explains the business strategy
- Lets me know how the business is performing
- Is visible, accessible and hears 'my voice'



...it is blindingly obvious our business is better when we all feel we can make a difference at work!

## Twenty Years of Ultra Electronics

1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 20

# Happy birthday

Ultra's rich legacy is illustrated on the cover and in the introduction. Here we celebrate Ultra's 20 years with contributions from staff who have enjoyed and endured all of those 20 years and longer with Ultra and the various iterations of the businesses before that. Willing volunteers were asked to share their memories of careers and incidents during their time with Ultra. We hope you enjoy their stories.

**As an additional celebration of this milestone, Rakesh Sharma has announced that Monday 14 October 2013 will be a company-wide holiday. Please make the most of the long weekend and raise a glass to Ultra at 20!**



**Orville Brown**

Team Leader at **PALS**, started as a Labourer in October 1981.

I joined Dowty as a young out-of-work ex-service person who was feeling the pressure of being on the dole for nearly a year and married with a young daughter. I had many interviews, some stating I was too qualified, others that I was not qualified enough; Dowty took me on at a critical time.

Dowty/Ultra has continued to provide me with opportunities. The main one being the course in Supervisory Management at the local college here in Cheltenham, which resulted in my promotion to Team leader.

I do remember being invited to a workshop at a local hotel. I was in the team with our new boss, Frank Hope. We had to give feedback on each other publicly at the end. It was very interesting and scary standing up there on stage giving feedback on the new boss of the company!

It has been an enjoyable and challenging time with the company and it has provided me with a solid base. The people have been fantastic and have been the reason why I've been here so long. Working with people of different cultures and religions has helped to shape my view and given me a broader outlook on life •



**Pete Bellingham**

Principal Engineer with **Sonar Systems**, started as a Junior Engineer on 19 February 1981 with Waverley Electronics which was acquired by Dowty.

During my 32 years (man and boy) I have worked on mainly sonar, sonar and sonar, including sidescan for the oil exploration industry, research sonar for NATO and passive and active naval sonars for the RN, RNLN and the RAN and have met and worked alongside some very 'interesting' characters, both colleagues and customers!

Highlight of my career was a sea trial which involved an RAF VC10 flight to Washington, a four day cruise out of Nassau on an RFA, being winched down onto a Polaris submarine from a Lynx helicopter in the middle of the Gulf of Mexico followed by a barbecue on the casing in flat calm conditions, a very successful one week submarine towed array trial and docking in Port Canaveral Naval Base. Unfortunately we missed a Space Shuttle launch by four days, but I'm not complaining! The same trip was not quite as enjoyable for my boss as Eastern Airlines (who went bust in 1991) lost his luggage on the flight to Nassau and all he had to wear for over two weeks was the clothes he arrived in and some Royal Navy issue underwear. I tried my best not to laugh!

Something I've learned the hard way during my career is that the devil is in the detail. Ignore this at your peril! •



**Ian Bartley**

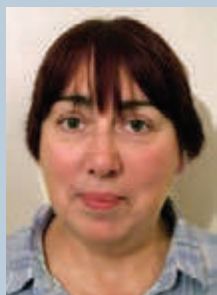
Supply Chain Manager & Chief Estimator with **CIS**, started as Chief Estimator on 17 October 1983.

Never let it be said that it's too late for career advancement. After 30 years with Dowty/Ultra, last year I was appointed Supply Chain Manager together with my long-standing Chief Estimator title. Patience is a virtue. I have been involved in many successful bids for both S&CS and CIS, enduring the late nights and early mornings that go with them. It was an honour to attend the dinner to celebrate the production of 1 million sonobuoys.

It is recommended not to travel with me. Over the years, while travelling on business in the USA, I have experienced extreme natural phenomena including, in San Diego, an earthquake at 3am (with the added benefit of being on the 13th floor); forest fires dumping ash on everything, making finding the car a challenge; and a 3ft snowstorm in upstate New York •



03 2004 2005 2006 2007 2012 2013



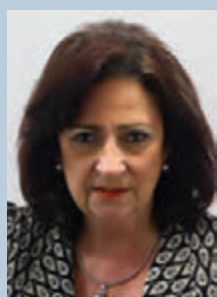
### Evelyn Hewson

PA to the Managing Director with **CIS**, started in June 1987 as Marketing Secretary at **Sonar & Communication Systems**.

My role has changed enormously in many areas since I joined Ultra (then Dowty). When I first arrived, the company had just taken delivery of its very first word processing machine. Everyone thought it was wonderful; no more Tip-ex or carbon paper! With the rapid technology changes of the last 25 years, we have moved from basic word processing machines to the PCs and Microsoft Office packages we have today. Training courses were available to me if I wished, but I found it easier to learn by trial and error. Several years ago, the Marketing department morphed into Strategic Business Units, incorporating their own Marketing activities. I was fortunate enough to be chosen by Mike Baptist to support the Communications business unit and from those humble beginnings, I have been lucky enough to follow Mike's rise up the promotional ladder, where he now sits as Managing Director of CIS. There have been many challenges along the way, but if I ever needed support, it was always there for me, whether it was work related or on a personal basis.

There have been many occasions which have made me laugh over the years – very hard to choose. I've taken telephone calls from wives ranging from "please tell my husband I'm pregnant, I don't want to tell him myself", to "please tell my husband that I've crashed the car twice in the last two hours, but the second crash doesn't really count because I wasn't driving it at the time. I forgot to put the hand brake on and it crashed into a tree."

Since we became Ultra, we have all enjoyed and benefitted from the company's success and I hope we will continue to do so. Here's to the next 20 years, although I hope to have retired before then! •



### Jayne Marshall

Development Process Manager with **Controls**, started as Project Manager in August 1990.

I had my first insight into the aerospace world when my dad took me to the Farnborough Air Show for the first time and I saw the Red Arrows air display. Dad went on to work for British Airways and I started at Ultra as a Project Manager for the Hawk amplifiers, one of which is used on the Red Arrows. I really enjoy working in the aerospace industry, especially working on the development team. It's great when we see the end results.

I was on the development team for the Boeing 787 Wing Ice Protection System (WIPS) programme from the early design days through to production. Last year, together with other Ultra colleagues, I was lucky enough to go to Heathrow and view the aircraft close up; a great opportunity to see the finished product. I've been fortunate to work on many other development programmes, some of the more recent ones being the A350 & A380 •



### Alan Elford

Engineering Manager – Mechanical Design at **Controls**, started as an Engineer in August 1984.

I have seen a lot of changes during my employment with Controls; changing sites four times perhaps has helped keeping the job refreshed! There has been considerable change over the years, both within the business itself and with technology leaps, both in infrastructure and products designed and built. The days of working on a drawing board with the pencil sharpeners and the geometry sets at the ready have long since disappeared with the latest designs produced on state of the art Computer Aided Software.

My career here at Controls has allowed me to work on some of the major aerospace platforms for customers such as Airbus, Boeing, Rolls Royce and Pratt & Whitney. I have been involved in product initiation at concept through to the final production standard, which can be seen flying daily throughout the world. The job is often challenging but extremely interesting. Credit too must be given to my working colleagues, many of whom have also been with Controls for considerable time, helping make the whole thing come together. It has been a pleasure to both work with and socialise with many of these. This all goes to making a good working environment which brings out the best in people •

## LEAP

"Sometimes we are just too close and too familiar with our own processes to recognise that non-value-added activities exist."

# Sharing expertise across Ultra



When Vice President of Operations, Toni Crowe, set the goal to take a LEAP forward with Lean Manufacturing at Ultra NSPI, she knew she faced a challenge. NSPI had already successfully conducted over 140 Kaizen events. How could she get her operations team to look at manufacturing in a new light, to see the additional Lean potential still to be had?

While Toni herself is a certified Lean expert, as well as a Six Sigma Black Belt, she felt that having someone external to NSPI facilitate the session might open up additional possibilities to her team.

Recalling that USSI had a large manufacturing operation, Toni made contact with Mike Duke, USSI's Deputy Director of Production Programs. Mike had extensive experience with Toyota's Lean manufacturing processes and was also Six Sigma Green Belt certified. In a matter of days Mike and Toni had talked about the working session and what Toni hoped to achieve. They agreed that both NSPI and USSI could benefit from exchanging their respective experiences across the two companies.

Mike arrived at the NSPI facility where he spent the day with Toni and her team. They discussed what had been successful and not-so-successful with previous Kaizen events. They explored new Lean opportunities based on Mike's fresh eyes on NSPI's manufacturing and his experience with Toyota.



**Pictured from left to right:** Miriam Gonzales, Penny Sebring, Johnny Lebaj, Toni Crowe, Kevin Herron, Teresa Salinas, Ricky Wentreck, Bobby Hernandez.

real world, common sense perspective drew everyone into thinking about the factory layout at another level."

Penny Sebring, Mechanical Assembly Team Lead, echoed Toni's comments. "I was impressed that Mike had each of us start thinking of how we would lay out the manufacturing area to be more efficient."

"Sometimes we are just too close and too familiar with our own processes to recognise that non-value-added activities exist. During the workshop I could see the 'light bulbs' coming on with the participants and I knew we were well on our way." Mike said. "It was just a matter of re-energising the team on the benefits of Lean."

John, who has participated in over 20 Kaizen events at NSPI, stated, "We were able to share views on what made implementation of some of the Kaizen events difficult once the low hanging fruit was gone." John also felt that knowing what processes other Ultra companies use when building their products, such as welding, machining and wire bonding, would help NSPI leverage other techniques.

"I was excited to have the opportunity to work with Ultra NSPI on their Lean workshop. I believe there is a real benefit to be gained from having someone outside your own organisation review your process." Mike said. "Cross-company sharing activities like this workshop emphasise how the LEAP behaviours can be used to capitalise on internally-owned skills to benefit Ultra's overall strategies. I look forward to seeing the same type of results when Toni comes to USSI later this year!"

Toni agreed. When asked if she would leverage other Ultra companies' knowledge and experience in the future, Toni responded, "The more the merrier!"

**Picture left:** Mike Duke and team during the workshop.



"The most helpful discussions centred on Mike's own experiences. He used both good and bad experiences to illustrate Lean Manufacturing points, and those examples were very helpful." Toni said. "Mike also laid out NSPI's floor plan and we talked through the issues we are facing with our layout updates. This

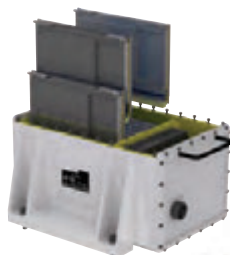


## Acquisitions

In June, Ultra announced the acquisition of Varisys Limited. Varisys designs and manufactures products for high-performance embedded computing applications. Its products and services portfolio include bespoke solutions for customers operating in the aerospace, defence, telecommunications and industrial sectors. The acquisition will give Ultra an organic capability in this specialist, niche area, allowing Ultra businesses to meet customer requirements more quickly and cost-effectively.

Varisys was a privately-held British company, based in High Wycombe, UK, and was acquired from its founders, Paul Gentle and Adam Barnes. Both will remain with the business under Ultra ownership. Varisys will continue to operate from its current location as part of Ultra's existing **Controls** business within the Aircraft & Vehicle Systems Division.

# Acquisitions Varisys



High-performance embedded computing applications

## LAUNCH **workshop...** what are you doing for LAUNCH?



**CIS is the first business to take advantage of the externally-facilitated LAUNCH workshops. In April, CIS spent a day analysing how LAUNCH could be better implemented and embedded across its business.**

Initially the workshop looked at how LAUNCH behaviours could be better embedded and become part of the everyday business. This included aligning the induction process with LAUNCH, identifying LAUNCH coaches to help educate the wider business and commitment to further training.

Analysis of the bids in which LAUNCH was used also revealed valuable data. It was concluded LAUNCH had helped **CIS** to address the entire problem space; not just the technical requirement, but also to identify and address the politics, personal motivations and the emotions involved. More importantly, **CIS** realised that it did not just apply LAUNCH to the customer, LAUNCH was brought into the team where it became the common team language.



### Embedding **LAUNCH** and **LEAP** into the fabric of the business

To help emphasise and promote these behaviours into the business, **CIS** has used the LEAP and LAUNCH imagery to brand the central hub zone of its newly refurbished facility.



## Exhibition &amp; Event news

# Ultra on show

## IDEX 2013 Abu Dhabi



In February, the International Defence Exhibition known as IDEX, took place in Abu Dhabi, United Arab Emirates. IDEX is the region's largest defence exhibition and certainly rivals Farnborough, AUSA and Eurosatory in terms of size and exposure.

Ultra was represented by a broad cross-section of the Group, highlighting the range of opportunities that the Middle East offers. The capabilities on display included: cyber security, intelligence and surveillance, power management systems for armoured fighting vehicles, HyperSpike acoustic hailer, maritime surveillance and port security, air defence command and control software, UAV energy cells, fuel test sets as well as ATS' latest offering: ForceWatch™.

During the week, Ultra had interest from a wide variety of prospective customers, both military and commercial, from a broad range of countries

including: the UAE, Kuwait, Iraq, Jordan, Oman, KSA, Bahrain and Qatar.

In summary, IDEX was a very successful show in terms of raising Ultra's market presence and demonstrating that the region is an area of strategic interest.



**Left to right:** Tom Cross, Tactical Systems Division; Philip Dunne, Minister for Defence Equipment, Support & Technology; Obaid Al Mansouri, CEO of EAI; Richard Panigauin, Head of UKTI Defence and Security; H.E. Dominic Jermey, British Ambassador to UAE



### Surface Navy

In January, **Ocean Systems, EMS** and **USSI** made the annual pilgrimage to Surface Navy, Crystal City. This very focused event is an important platform to maintain relationships with US Navy and government personnel, enhanced by the Wheel of Fortune prizes during the banquet reception.



### ATC GLOBAL

In March 2013, **Surveillance Systems**, Cirencester, represented Ultra's air traffic control support capabilities at ATC Global in Amsterdam. Martin Read (pictured above) greeted visitors to the stand.

## Ultra defies the Scottish weather

In May, **CEMS** and **PMES** flew the Ultra flag at All Energy, Aberdeen. It was a successful event for both businesses, despite the weather doing its best to spoil the party. Force 8 gales and marquees are not a good mix; the organiser gave all exhibitors warning of the likelihood of evacuating the halls and abandoning the show early on the final day.





## Exhibition &amp; Event news

# Strong presence at IDEF

Following recent business success in Turkey, Ultra had a strong presence at IDEF, Istanbul, in May. Led by **Sonar Systems**, the main Turkish defence exhibition was also attended by representatives from **ATS**, **CIS**, **PALS** and **GigaSat**. There are continued interests and opportunities for Ultra's maritime capabilities together with cyber security, pneumatic systems and satellite communications. As well as many scheduled meetings, Ultra co-sponsored a very well-attended reception at the British Consulate.



**Pictured above:** Ismet Yilmaz, Defence Minister, Turkey, is greeted by Matt Cox and Paul Leonard, Sonar Systems



## AeroIndia

**Precision Air & Land Systems and Command & Control Systems**

exhibited at the bi-annual AeroIndia show in February. The show continues to grow in importance and is the largest aerospace trade event in Asia. The stand attracted interest from existing and potential customers, with the Ultra brand well recognised in the region. **PALS** has a growing business with Hindustan Aeronautics, the largest aircraft manufacturer in the Indian subcontinent.

# Ultra at CANSEC

At the end of May, Ultra increased its presence at CANSEC, the main defence and security event in Canada. **Maritime Systems** is targeting the underwater warfare suite upgrade for the Halifax Class frigate, while **TCS** launched Ultra Orion, the new point-to-point and point-to-multipoint radio system. **ATS**, **EMS**, **GigaSat** and **ProLogic** also brought Forcewatch™, power and signature management, satellite communications and datalink communications respectively. **GigaSat** demonstrated the 3.8m antenna to the Canadian Government before setting up in the outdoor exhibit area.



**Left to right:** Leo Gaessler, Maritime Systems; Scott Campbell, DAEP(M) 2-5, Canadian National Defence; Cdr Frits Stam, Naval Attache, Royal Netherlands Navy; Lt Cdr Pascal Gagnon, DMEPM 3-5 Submarine Sonars; Dan Simard, Maritime Systems

## Ultra Electronics Australia at Avalon Air Show



The largest aerospace event of the Australian calendar, the Avalon Air Show took place in February and succeeded once again in attracting an impressive range of exhibitors and guests. Ultra Electronics Australia was promoting a range

of Ultra capabilities, including a popular demonstration of **AMI's** fuel cell technology. Distinguished guests included the federal Minister for Defence Stephen Smith and Chief of the Air Force, Air Marshal Geoff Brown AO, with local South Australian representation from Honourable Jack Snelling, Minister for Defence Industries. A highlight of the show was the British High Commission cocktail reception, sponsored by Ultra and hosted by British High Commissioner Paul Madden.





## Ithra Sultanate of Oman

# I declare **Ithra** open!

In March 2013 **Ithra's** Testing and Training Facility (TTF) was officially opened by His Excellency Dr Ahmed bin Salim Al Futaisi, the Minister of Transport and Communication for the Sultanate of Oman



**Above:** The official cutting of the ribbon by His Excellency Dr Ahmed bin Salim Al Futaisi.

In July 2011, **Ithra**, a joint venture with Oman Investment Corporation S.A.O.C., was appointed as Master Systems Integrator (MSI) for both Muscat International and Salalah Airports within the Sultanate of Oman. The MSI work package for both airports consists of the turnkey design, delivery and installation of the airport operational systems, building systems, communication, network and security infrastructure.



**Above:** TTF facility.

A significant milestone in the project was reached in March this year with the official opening of **Ithra's** Testing and Training Facility (TTF) in March this year. The over-arching purpose of the TTF and Data Centre is to mitigate risk and ensure certainty in the quality of delivery.

The TTF will provide a safe environment for the controlled testing of systems and their interfaces with other systems. Furthermore the TTF will also be used as a controlled testing environment and mandatory 'gateway' prior to commencing testing on-site. This facility also offers a controlled and disciplined pre-staging and staging

environment prior to installation on-site and will support the safe regression testing of new releases of software and configurations. The TTF also hosts a purpose built training facility for computer based software training.

In addition, the TTF provides opportunities for Omani technical staff to experience the systems which they will eventually operate. A Service and Support desk will also be established within the facility to provide the ongoing support of the systems and services within the airports.



**Above, left to right:** His Excellency Salim bin Nasser bin Said Al Afi, CEO Public Authority for Civil Aviation (PACA); Jamie Bowden, Her Majesty's Ambassador to the Sultanate of Oman; His Excellency Dr Ahmed bin Salim Al Futaisi, Minister of Transport and Communication; Dr. Juma bin Ali Al-Juma, Chairman of Oman Airport Management Company; Rakesh Sharma, CE Ultra Electronics; Kalat Ghuloom Hassan Al Bulooshi, CEO of Oman Investment Corporation.

The TTF was officially opened by His Excellency Dr Ahmed bin Salim Al Futaisi, the Minister of Transport and Communication. The ceremony was attended by over 100 people and distinguished guests.



**Above:** A gift from Ultra Electronics. Rakesh Sharma presents His Excellency Dr Ahmed bin Salim Al Futaisi with a Pooley Sword.

**Right:** His Excellency Dr Ahmed bin Salim Al Futaisi and Dr. Juma bin Ali Al-Juma discuss facility systems with Omani MC6 staff.





## VIP visits news

# VIP visits

## Ultra attends European Union Day

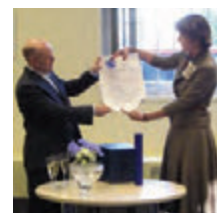
On European Union Day in April, **PALS** and **USSI** joined the party to showcase British culture and products to the general public at the British Embassy, Washington DC. This is a very popular annual event when the embassies of all EU nations open to the public. The Ambassador's residence and gardens were open to welcome about 10,000 visitors, with exhibitors, including those of British cars, music, schools, culture and products surrounding the residence.



Left to right: George Straubs, PALS; Tim Barnes & James Martzell, USSI and Will Jessett, Minister Defense Materiel at the British Embassy in Washington DC



A clever route around the residence meant that visitors passed all exhibits. Ultra's products on show included the mGO oxygen generator, the Hyperspike Police Shield and 300W propane-powered fuel cell. Of course, the police shield with acoustic hailing was particularly popular.

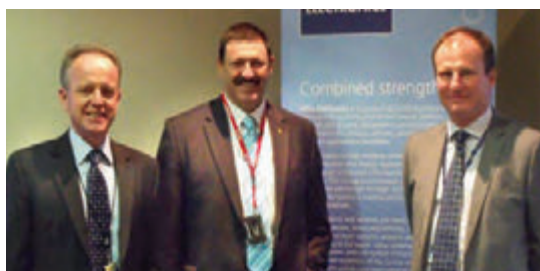


### Queen's Award presentation at GigaSat

**GigaSat** received the Queen's Award for Enterprise in a presentation by the Lord Lieutenant of Hertfordshire, The Countess of Verulam to Chris Lay, Managing Director, **GigaSat**. The ceremony was also attended by the Mayor of Tring, Councillor Nick Hollinghurst and the **GigaSat** staff. In her address to the staff, Countess Verulam said "The Queen's Award is not given easily so you have done very well."

### Australian Minister visits Avalon Systems

The Honourable Dr. Mike Kelly, Minister for Defence Materiel, visited the **Avalon Systems** facilities in Adelaide and was briefed on current and future projects by Doug Burd, Managing Director. The Minister was particularly interested in the development of local Australian technology and support capabilities which are enhancing the operational effectiveness of the Australian Defence Force. Doug gave the Minister an update on the status of the Royal Australian Navy air warfare destroyer integrated sonar suite and electronic warfare programmes including the export of counter improvised explosive devices to the US Army.



Left to right: Peter Weir, Regional Marketing Director, Australia; Dr. Mike Kelly, Australian Minister for Defence Materiel; Doug Burd, Managing Director, Avalon Systems

### New Test Facility at PMES

An important milestone was achieved at **PMES** in December 2012 with the official opening of the Motor Development and Test Facility. The 25,000 sq ft facility was completed on schedule and within budget. The facility is crucial to the success of a number of important defence and civil programmes and is fundamental to supporting the growth of **PMES**.



Left to right: Graeme Stacey, Airport & Power Systems; Mark Anderson, Group Marketing Director; Tony Johns, Project Director, Successor-BAE Systems (performed the opening ceremony); Jon Everett, Managing Director, PMES

## Divisional structure

# Ultra's NEW divisional structure

In March and April this year, a number of structural changes were implemented at both the business and divisional levels of the company. The new family tree below illustrates the changes, but to summarise:

The Information & Intelligence Division has been reformed and the title changed to **Secure Intelligence Systems (SIS)**. This division consists of **ATS, ProLogic** and **Sotech**. John Robusto, previously a Proxy Director, has been appointed Divisional President, SIS.

The Sonar & Undersea Systems Division has been renamed **Naval Systems** and will continue to be led by Carlos Santiago as Divisional President, with Rusty Kollmorgen as Divisional Strategy Director and Mark Nelson as Divisional Finance Director.

The **Tactical Systems** Division will be led by Mike Clayton. Mark Hughes (who was previously Finance Director of the Information and Intelligence Division) is now Divisional Finance Director and Brian Bates has recently been appointed Strategy Director (see p24).

There is no change to the Aircraft & Vehicle Systems Division, while Airport & Power Systems Division has

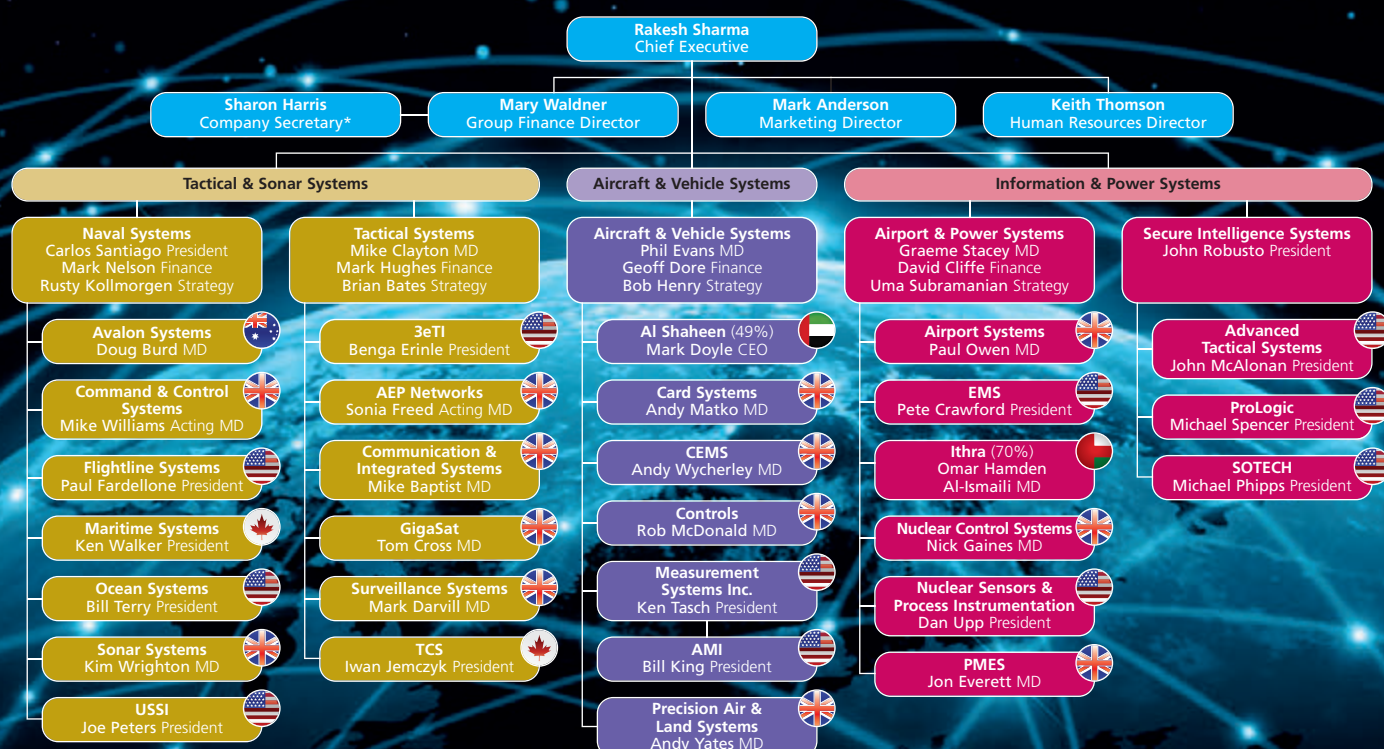
appointed Uma Subramanian as Divisional Strategy Director (see p24).

At a business level, **Command & Control Systems (C&CS)** has been split into two new businesses. Mike Williams has been appointed as Acting Managing Director of **C&CS**, reporting to Carlos Santiago in **Naval Systems**. The former C3 Systems business unit will remain with **C&CS**.

The remaining parts of **C&CS** form a new business called **Surveillance Systems**, reporting to Mike Clayton in Tactical Systems Division. This new business comprises the former Surveillance and I&I business units of **C&CS** as well as the Network Analytics business unit of **CIS**.

Mark Darvill has been appointed Managing Director of **Surveillance Systems**, with Sonia Freed being appointed Acting Managing Director of **AEP**.

In light of these changes and the new format of **UltraNews**, the following pages will focus on business news from each of the Divisional businesses.



\*Full title: Company Secretary & General Counsel



# Aircraft & Vehicle Systems

Across the board...news and stories from across the division

## Ultra in space



At the end of 2012, **MSI** partnered with AiTech to bid for the rotational and translational controls for Boeing's Commercial Crew Vehicle (CCV). This is NASA's current funded project to develop a commercial crew transport to the International Space Station. The CCV will carry up to seven astronauts into low earth orbit and can remain docked in space for up to six months. The proposed controllers will pilot the CCV. The rotational controller provides the pilot with control of pitch, roll and yaw with push-to-talk functionality through an RS-422 interface; the translational controller provides the pilot with control of the CCV along the X, Y and Z axes. The combination of **MSI's** experience with high-performance human machine interface and AiTech's experience with space avionics and qualification proved successful, and **MSI** was selected by Boeing for this multi-million dollar opportunity. Ultra Electronics will be controlling the first space crew capsule since the Apollo programme, starting in 2016.

## Al Shaheen launches new Outdoor Learning business unit

In March, **Al Shaheen** launched a new business unit – Al Shaheen Outdoor Learning – to focus on the education market in the Gulf region. The new business unit will deliver adventure activity programmes for 8-18 year olds. It will provide environmental education and challenging learning programmes which will enable personal and social development, as well as directly supporting the school curriculum.



The new unit was launched at the annual Health & Fitness Fun Day at the Abu Dhabi National Exhibition Centre which attracted 25,000 visitors over two days. The Al Shaheen Outdoor Learning stand was one of the most popular at the event. School children and adults were prepared to queue for up to two hours to have the opportunity to try the six metre climbing walls and the thrilling zip wire suspended high in the exhibition roof space.

## AMI installs fuel cell to increase railroad crossing safety

An **AMI** RoAMlo Performer fuel cell recently began operating as a back-up power source at one of the busiest train crossings in the US. Every day, an average of 70 trains cross the intersection in North Baltimore, Ohio, where the fuel cell is located. **AMI** has partnered with RedHawk Energy Systems and CSX Corporation on the project, which ensures power is maintained to the safety signals at the train crossing.



This field unit is the first RoAMlo fuel cell delivered as part of a long-term partnership between **AMI**, RedHawk Energy Systems and CSX Corporation. The companies plan to install four more fuel cells at train crossings in the US by the end of the year.

## PALS moves to new facility

In January 2011, Ultra's Electrics and Precision Air Systems businesses combined to become **Precision Air & Land Systems (PALS)**. The two facilities in Cheltenham and Gloucester are just five miles apart, but the aim has long been to relocate into one facility. This finally came to fruition in May this year with the 'big move'.

The new property at Arle Court was originally owned by the Dowty Group; there are even some staff from both facilities who are returning home. The building totals 80,000 ft sq on 3.55 acres, consists of an original building which has been refurbished and a subsequent extension.

"This is an exciting time for **PALS** in terms of moving into a facility which benefits our customer

base and marketplace we operate in. There was a great deal of planning and preparation required to ensure a smooth, seamless transition with no effect on our delivery performance," enthused Andy Yates, Managing Director.



# Airport & Power Systems

Across the board...news and stories from across the division

## Ultra signs MoU with AREVA

**NCS** has signed a memorandum of understanding with AREVA which will open the way for a future partnership in nuclear power generation and the build of new European pressurised reactors (EPR) in the UK.



The agreement was signed by Rakesh Sharma, Ultra's Chief Executive, and Philippe Knoche, AREVA Chief Operating Officer (pictured above). It covers potential collaboration on high-integrity instrumentation and control systems, including reactor protection and control. The agreement relates to the new generation of EPR's planned by EDF Energy at Hinkley Point, for which site licences and planning permission have now been granted. The collaboration could also extend to other EPR reactors including those planned at Sizewell.

The signing ceremony was attended by Rakesh Sharma and Chris Binsley of Ultra together with representatives from the UK Government and AREVA senior management. The agreement recognises Ultra's evolving relationship with AREVA, having acted as their independent nuclear safety assessor during the reactor instrumentation and control design qualification phase, as well as becoming one of just a handful of pre-qualified suppliers for UK new build.

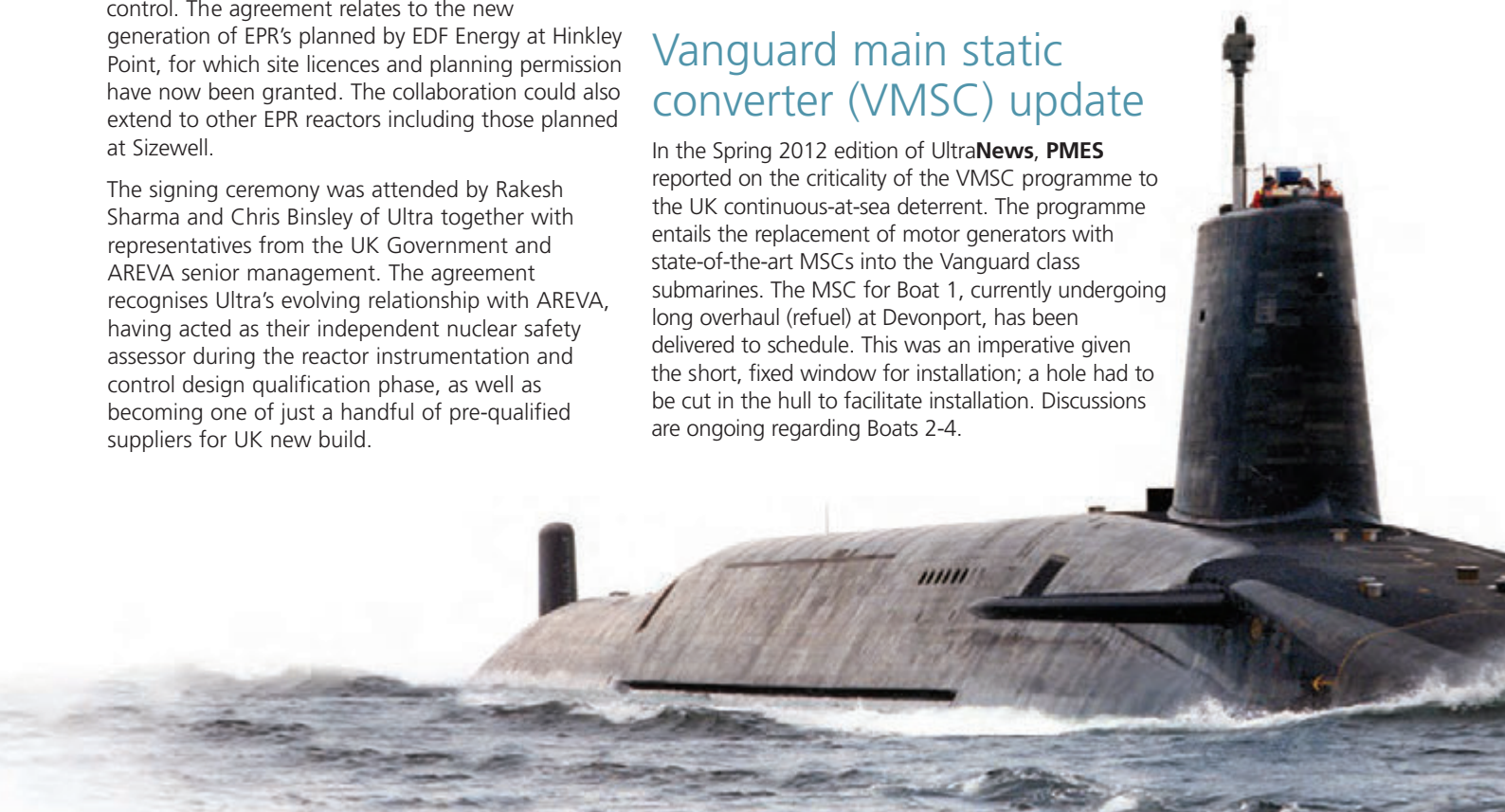
## Astute Boat #7 production order secured

The UK submarine programmes, whilst committed to by the Government, are characterised by the continued drive for affordability. Common to many programmes, the threat of obsolescence could have provided a major cost impact to the last of Astute Class submarines, Boat #7 (as yet unnamed). Working closely with BAE Systems and the UK MoD, **PMES** has developed an innovative commercial solution which addresses the affordability challenge and averts obsolescence issues. This has resulted in the full award of the production order for Boat 7.



## Vanguard main static converter (VMSC) update

In the Spring 2012 edition of **UltraNews**, **PMES** reported on the criticality of the VMSC programme to the UK continuous-at-sea deterrent. The programme entails the replacement of motor generators with state-of-the-art MSCs into the Vanguard class submarines. The MSC for Boat 1, currently undergoing long overhaul (refuel) at Devonport, has been delivered to schedule. This was an imperative given the short, fixed window for installation; a hole had to be cut in the hull to facilitate installation. Discussions are ongoing regarding Boats 2-4.





# Tactical Systems

**Across** the board...news and stories from across the division

## 3eTI launches UltraVision Spectrum Manager



Radio frequency (RF) spectrum management is complex and difficult, requiring specialised, hands-on expertise to ensure permanent access to radio frequencies. **3eTI** recently launched UltraVision Spectrum Manager, a real-time monitoring and analysis solution that saves time and money by sweeping a broad segment of the spectrum (10MHz to 6GHz) 24/7 to identify RF interference. Spectrum Manager uses strategically positioned sensors with innovative antenna arrays which relay data back to a central monitoring display with geographic overlays. With its network-centric topology, Spectrum Manager uses intelligent angle-of-arrival techniques to localise and display both in-band and out-of-band emissions which would interfere with communications within

an area of operations. This eases the burden on the allocation of frequencies by the customer. The tool then immediately alerts users of the position of the interference and provides intelligent analysis to determine whether the interference is spurious, such as an energy surge or simple noise, or a targeted attack with destructive intent.

Spectrum Manager is the newest addition to **3eTI**'s portfolio of UltraVision solutions – providing the ultimate level of operational wireless infrastructure availability for improved situational awareness, command, control and communications.



## TCS launches Ultra ORION

During CANSEC (see p12), **TCS** announced the launch of its 4th generation of high-capacity line-of-sight (HCLOS) radio, the Ultra ORION. The ORION is a multi-mission radio system which performs the role of high-capacity backhaul for tactical networks interconnecting C4ISR elements. It can also act as a backhaul repeater, a range extension node, an aggregation/ distribution and access point, a WLAN or a remote station at the network's edge. The ORION is a 'cloud-ready' solution which can aggregate inputs from multiple forward-deployed sensors on the battlefield and relay them efficiently to intelligence processing sites for improved situational awareness and immediate action. The ORION extends the IP network to lower echelons.

Iwan Jemczyk, President of **TCS**, explains: 'Listening to our customers, we have developed a high-capacity IP communication system that offers sustained performance, operational flexibility and scalability to adapt to different missions. Inter-operable with the thousands of AN/GRC-245 HCLOS and HCR software-defined radios we have delivered worldwide, the Ultra ORION provides military commanders faster access to critical mission data and enhanced situational awareness of the battlespace'.



 **Ultra ORION**

# Secure Intelligence Systems

**Across** the board...news and stories from across the division

## UltraSocial™

### Ultra's own secure communication app

Initiated by an internal engineering challenge, **ProLogic** has created an app which provides security and privacy for social media experiences. UltraSocial™ exploits not only **ProLogic's** but also Ultra's wider unique cryptographic and key management capabilities. Embracing the concept of collaborative autonomy, **ProLogic** used input for the development and design of this product from the talented people in Ultra's Cryptographic Working Group, as the commercial, fee-based versions of these systems rely heavily on technology and expertise from **3eTI** and **AEP**. Whilst other products only offer security en-route to the cloud, UltraSocial™ provides full end-to-end encryption using AES-256 digital keys. These keys are automatically distributed in a secure manner between you and only the people you decide should see your secure tweets. UltraSocial™ is a secure Twitter™ client that supports the full functionality of Twitter™ and can be used for both encrypted and public tweets. UltraSocial™ is available for Android, iOS Apple and Backberry 10.

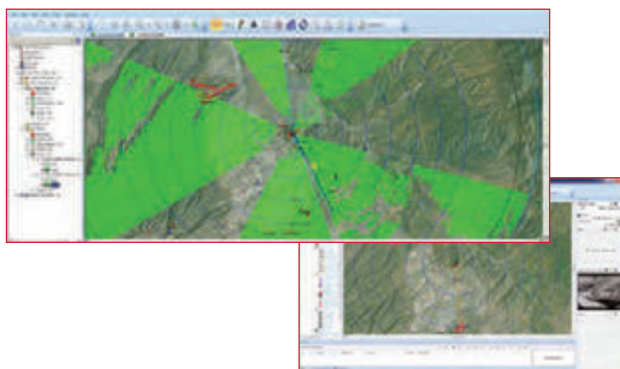
There is a freeware version for personal use from:

- Apple App Store  
<https://itunes.apple.com>
- Google MarketPlace  
<http://www.google.com/enterprise/marketplace/>



## UltraSentinel

0900hrs, 28 March 2013, Nogales, Arizona – A team of 'mock' illegal aliens is preparing for another round of hide and seek in the desert to test the **ATS** UltraSentinel border security system. UltraSentinel, based on the **C&CS** fielded land and maritime surveillance software, integrates a ground surveillance radar, long-range television and thermal cameras and a laser range-finder.



**Left:** The US/Mexican border at Nogales, AZ

**ATS** also links this with ForceWatch™, the new mobile command & control application based on smart phones and commercial mobile networks, to share information. On this day, before the trials began, the US Border Patrol was conducting an actual operation in search of illegal aliens and had just apprehended a suspect. However, the **ATS** team had spotted an additional potential suspect. Immediately, the team went into action. UltraSentinel radar operators established an alert zone and immediately located the second suspect. Using the long-range cameras and laser range-finder, the operators sent the information to the team on the ground using ForceWatch. The team then alerted the Border Patrol agents who quickly apprehended the second suspect.



**ForceWatch™**



# Naval Systems

Across the board...news and stories from across the division

## Long term agreement with Raytheon

In April, senior managers at **Ocean Systems** and Raytheon Integrated Defense Systems met to formally sign a long-term agreement which forms a strategic supplier relationship between the two companies for acoustic transducers and assemblies for the MK-48 torpedo. The agreement includes all torpedo procurements until at least 2019. The MK-48 is the standard heavyweight torpedo used by the US military, primarily by submarines. Raytheon is the legacy provider of torpedo hardware to the US Navy.



**Above:** Bill Terry, President, Ocean Systems (left) secures the long-term agreement with Kevin Peppe, Vice President, Raytheon Seapower Capability (right) watched by Ocean Systems and Raytheon staff

## USSI supporting air ASW transition

The P-8A Poseidon multi-mission maritime aircraft, currently in low-rate initial production, is replacing the United States Navy P-3C Orion. Six production aircraft are currently in the US Navy's inventory with another seven planned over the next year. Several US allies are in the process of procuring P-8As.

The ASW operations from the P-8A are expected to be conducted from higher altitudes than the P-3C. **USSI**, together with their JV partner Sparton Electronics, is supporting the US Navy in the development of the next generation of sonobuoys for the P-8A aircraft under a programme called High Altitude ASW or HAASW. Full-rate production is expected in 2016.



## Maritime Systems launches two new magneto-inductive communication products

In April, **Maritime Systems** launched two new magneto-inductive (MI) communication products to the security market at the Counter Terror Exhibition in London. TerraCOMM™ and DiverCOMM™ are personal voice communication systems designed for tactical underground and underwater operations respectively. Employing sophisticated digital signal processing technology, TerraCOMM™ and DiverCOMM™ deliver exceptional speech quality in the most challenging operational environments.

TerraCOMM™ provides personnel located in subterranean environments with the ability to speak with personnel located above ground. The MI signal can penetrate physical barriers, line-of-sight obstructions and conductive media, enabling secure and reliable communications in radio frequency denied environments. The system does not generate far-field emissions and has a low probability of detection.

DiverCOMM™ provides secure, short-range, two-way voice communications between divers. The system offers superior performance and reliability in noisy waters, confined spaces and in areas where physical barriers can interfere with communications. A key feature lies in the system's ability to communicate directly between divers in and out of the water. The system does not generate an acoustic signature.



One of Canada's top employers... again!

For the second consecutive year **Maritime Systems** has been recognised as one of Atlantic Canada and Nova Scotia's Top Employers. The business was also shortlisted for Canada's Top 100 Employers. The competitions determine which employers lead their industries in offering exceptional workplaces for their employees.



## Sonar Systems and Mahindra team in India



**Sonar Systems** has teamed with Mahindra Defence Naval Systems (MDNS) to bid for the New Torpedo Defence System (NTDS) programme in India. This will deliver 12 torpedo defence systems to the Indian Navy over the next few years. Following an at-sea demonstration of the competing systems, a decision will be made to down-select to the preferred bidder in 2014. MDNS is providing the countermeasure launchers for the system based on a proven design already trialled by the Indian Navy, whilst **Sonar Systems** will provide the towed arrays, sonar processing and expendable countermeasures.

**Pictured above:** Devendra Bhatnagar, CEO of MDNS and Kim Wrighton, MD of Sonar Systems, signing the teaming agreement in New Delhi in February 2013.

# People in the news

## Ithra and Oman Sail



Working closely with Oman Sail, staff at **Ithra** in Oman took part in two action-packed, fast-moving, three-day leadership and development courses. The purpose-designed courses were a successful collaboration between **Ithra** and Oman Sail and although based around sailing, the courses focused on the strategic, physical and mental activities critical to the development of leadership. The course linked leadership, communication, trust, taking responsibility

and teamwork as components necessary for building a winning team in a fast-paced and challenging environment. Participants were isolated as a group for the full period, sleeping in makeshift camps overnight. The course also benefited from highly inspirational speakers including the local hero Mohsin Al Busaidi, the first Omani and Arab to sail non-stop around the world.

**Ithra** staff in attendance concluded, "We see huge value in giving staff training that provides a better understanding of the group dynamics in a multi-skilled and multi-national organisation and the team role each individual person can take. The skills needed to work more effectively as a team and the skills to succeed in the workplace are completely aligned; drawing on the expertise of Oman Sail has proved extremely valuable. Taking part in a leadership and development course of this nature is a key part of Ultra's Omanisation commitment and contribution to the economy of the Sultanate by creating jobs for an Omani workforce."

### The first Ultra Coin!



A Group-wide recognition scheme has been created for people who make an exceptional contribution to the business through the application of LAUNCH and LEAP behaviours. This involves the award of specially minted Ultra coins, of which there are a very limited number.

We are extremely pleased to announce that **NCS** is the first business to award an Ultra coin.

Nick Gaines presented the award to Melvyn Haines, Chief Systems Engineer for Safety and Control Systems. Over many years Melvyn has consistently demonstrated an exceptional depth of professional understanding, drawing out customer needs and quickly identifying resolutions.

Congratulations to Melvyn!

## Naval Review Centenary Fellowship

The Naval Review Centenary Fellowship is an award for outstanding junior officers of Lieutenant rank or below in the Royal Navy. In this important initiative, The Naval Review is partnered with the Royal Navy, the Royal Australian Navy and is sponsored by Ultra Electronics. The award enables a secondment to the Royal Australian Navy for a six week study period; an award that is highly sought after in the continuing professional development of officers in the Royal Navy.

Lieutenant Matthew Winwood was presented with the 2013 Centenary Fellowship award at a ceremony on HQS Wellington. The award gift is a solid bronze-finished replica of a Dory compass used by sailors to find their way back to their mother ship.



**Left to right:** Mark Anderson, Group Marketing Director; Lieutenant Matthew Winwood; Brigadier Bill Sowry, Head of Australian Defence Staff, London.

## Apprentices, undergraduates and school presentations



2013 sees the next round of the Apprentice and Undergraduate schemes at **PALS** begin. The search for the next Ultra Apprentice commenced at the Gloucester Skillsfest in March at Gloucester Rugby Club. The event brought together businesses, schools, young people, parents and training providers to find out about apprenticeships and career opportunities. The level of participation was set to exceed that of Skillsfest 2012, which was attended by more than 1,300 individuals including 440 school children.

**PALS** also presented to the design technology class at Balcarras School, Cheltenham. The presentation to Year 11 students about what to expect from engineering, was delivered by Rob Tipples, Francis Stratford and Vicky Bussell. We are pleased to say that we were invited back to do the same presentation to their Year 10 class in April.

Finally, in March, **PALS** ran an assessment day for undergraduate placements at the Cheltenham and Gloucester facilities. Students from Bath University and University of the West of England were interviewed for three undergraduate year placements starting in July 2013 and running until September 2014. The successful applicants were Jonathan Woodfield, Chemical Undergraduate Engineer; Matt Huxford and Alexander Harvey as Electronic Undergraduate Engineers.



# The next generation



The careers and opportunities in STEM subjects (science, technology, engineering and maths) are often perceived as 'too hard' and 'unrewarding'. This negative image has led to careers in these areas being judged as uninteresting. **NCS** views its next generation skills base as one of the key factors of being able to deliver future projects and be successful in bids. Building community links is vital to breaking down these perceptions and informing students about engineering and manufacturing. **NCS** has now engaged with over 250 students, giving them first hand knowledge of the industry and the exciting potential careers within it.

One such event (pictured) was at Bournemouth School for Girls; the BIG Business Breakfast. Short interactive talks with small groups of students gave widespread coverage and an 'all-inclusive' approach to the morning. The activity, put together by Charlotte Massey (a recent graduate who has just joined **NCS** as a project physicist) helped generate interest by applying physics to the workplace. The informal nature of the session allowed for questions and debate about hobbies and general interests, all relating to what **NCS**, as an employer looks for when recruiting.

**NCS** is continuing to re-address the misconceptions about STEM and inform the emerging youth of the options open to them. This also allows Ultra the ability to spot talent at an early stage. Ultra recognises employers must take the lead to ensure its industry is given fair representation and encourage those within schools and universities that a career within its sector is a viable option for all. After all, how do you choose a career if you have no idea what it involves?

## USSI's wellness in the workplace

If your business is just getting started with the idea of wellness, here are some thoughts to consider: start with the end in mind; find employees to champion the scheme; have internal team competitions for weight loss; pull together support groups for those trying to stop smoking; mix it up and make it fun!

At **USSI**, they have an ever-growing cycling group that meets weekly during spring, summer and autumn to ride together. This is all led by employees. For the last few years, **USSI** has sponsored one or two teams for

the YMCA corporate challenge (including the UltimateFrisbee Team). Employees get active, competitive and enjoy building camaraderie outside of work. Wellness is a choice. It is also a win-win for all, as individuals and for the business.



**Pictured above:**  
The USSI UltimateFrisbee team

## Innovation & Technology Achievement at MSI

With a renewed focus on innovation, **MSI** has entered the second year of its Innovation Initiative and has named its first ever Technology Achievement winner. The golden trophy and bragging rights were presented to Raymond Paquette, Lead Systems Engineer of **MSI**'s Human Systems Integration business unit. The award is for the work he did developing the new weapon management systems for **MSI** in the form of a gun control unit and an armament control panel. Through collaboration with **MSI**'s customer, diligent collection of requirements and implementation of innovative design methods,

Ray not only significantly improved product functionality, assembly and reliability, but he also paved the way for **MSI** to enter the weapon systems management market. As a result of the capabilities which Ray developed, **MSI** can now extend its solutions from the human machine interface into the wider control systems. Congratulations to Ray for his win and for his inspiration to others within **MSI** to win the trophy next year.



# People on the move



Ultra welcomes new recruits and congratulates staff taking up new positions within the company.

**1 Mary Waldner** joined as Group Finance Director at Head Office on 1 July 2013. Before joining Ultra, Mary was Director, Group Finance of QinetiQ Group plc. She was previously Group Financial Controller at 3i Group plc, following ten years at British Airways plc where she held a number of senior roles. Mary graduated from Oxford University with an MA in Physics and is a member of the Chartered Institute of Management Accountants.

**2 Mike Williams** has been promoted to Acting Managing Director at **Command & Control Systems**, Loudwater. Mike joined Ultra in 1996 in the business development team and since then has held a number of roles, most recently as Business Unit Director, C3 Systems. He has a degree in Electronic Engineering from the University of Liverpool.

**3 John Robusto** has been appointed President, Secure Intelligence Systems Division. John joined the Proxy Board in 2009, following a distinguished career in the US Navy, National Reconnaissance Office, the US Marine Corps and the Department of Defense. He is a graduate of the Harvard Business School, holds a BBA and a MS in Software Engineering.

**4 Bob Henry** has been appointed as Divisional Strategy Director of the Aircraft & Vehicle Systems Division. Bob has transferred from his previous role as Mergers and Acquisitions Director at Head Office. Since joining Ultra in 1998, Bob has held various positions within Sonar & Communication Systems and Tactical & Sonar Systems Division.

**5 Dirk van Beek** has joined **Command & Control Systems** as Director – Major Programmes. Dirk brings with him a wealth of experience having had a distinguished career in the Royal Navy and MoD, achieving the rank of Captain. More recently he was Client Partner, Defence and Security Capability, working consultatively with clients across the UK Government, NATO and internationally to propose and deliver new technology-based solutions and services for BT Global Services. Dirk has a BSc in Electrical Engineering, is a Graduate of the Royal Navy Staff College (Strategic Studies), is a Chartered Engineer and a Fellow of the IET.

**6 Frankie Shroyer** has joined Ultra as VP, Strategy at **Sotech**. Frankie has an extensive background in leadership and strategy development. He was Director, Interagency Task Force at the US Special Operations Command and previously held the position as Assistant Chief of Operations for the Drug Enforcement Administration. Frankie has a Master's Degree in Public Administration and Bachelor Degree in Criminal Justice.

**7 Patricia Robinson** has been promoted to Human Resources Director at **Command & Control Systems**. Pat joined Ultra in May 2010 and has successfully led and developed the HR agenda throughout the business. Before joining Ultra, Pat worked for Trend Micro (UK) Ltd as VP Human Resources.

people on the move



## appointments and promotions

**8 Tim Stanley** has been promoted to Chief Operating Officer at **ATS**. Over a 20 year career with ATS, Tim has contributed to the success of the business in many different roles, most recently as Senior VP of Operations with direct leadership of Engineering, Product Innovations, Programme Management, Production and Product Assurance. Tim holds a BSc and MSc in Electrical Engineering.

**9 Uma Subramanian** has joined Ultra in the new role of Strategy Director, Airport & Power Systems Division. Uma holds a dual BSc in Aerospace Engineering and Spanish from the University of Michigan and began her career as a Systems Engineer with Northrop Grumman Space Systems. She left to undertake a MBA at Harvard Business School, which included a placement with McKinsey & Co in Madrid. Uma moved to the UK in 2008 to take up a consulting role with Bain & Co. and subsequently joined Rolls-Royce as Sector Development Director, Defence.



**10 Brian Bates** has joined Ultra as Strategy Director of Tactical Systems Division, replacing Tom Cross (see below). Brian served 30 years in the Royal Air Force. The majority of his RAF career was spent flying F-4 Phantom and Tornado F3. More recently he has held a number of senior appointments in the MoD, primarily in capability planning and strategy development roles, including a post as Senior Director at the Royal College of Defence Studies.

**11 Tom Cross** has been appointed Managing Director of **GigaSat**. Tom joined Ultra in early 2012 as Strategy Director of Tactical Systems Division after serving 30 years in the Royal Air Force. The majority of his flying career was spent on frontline squadrons. More recently he has held a number of senior appointments in the Ministry of Defence, primarily in the policy planning, strategy development and capability planning areas. His most recent appointment was as the Head of ISTAR Capability in the UK MoD.



**12 George Bartlett** has been appointed Director, Airborne IPT at **ATS**. George was previously a Programme Manager at BAE Systems, where he spent 13 years leading multiple projects through every stage of the product life cycle. At BAE he was recognised as Programme Manager of the Year for his performance in winning new business and leading multiple military ground vehicle situational awareness integration, design and development projects. George holds a BSc, College of Commerce and Business Administration with the University of Alabama and a MBA from Capella University.

## New Year's Honours recognition for Ultra

Andy Cambridge, Chief Scientist with **CIS**, tells UltraNews about his award ceremony.

"Just before last Christmas I received a letter in one of those 'On Her Majesty's Service' envelopes, normally associated with the Tax Office. Thinking that I might have evaded some taxes, my wife furiously tore open the envelope – and discovered to our delight that it was in fact a letter with the Royal crest telling me that I had been awarded an MBE\* for services to the defence industry. The ceremony took place at Windsor Castle, on a hot

summer's day in July. The Queen pinned the medal on me and asked "and what do you do?" I was so nervous I almost couldn't remember! I was able to take my family to the ceremony and later, whilst still wearing my morning suit, we had a cream tea in a local hotel, much to the amusement of the guests. All in all, a very English affair!"

\* Member of the Most Excellent Order of the British Empire (MBE) is an order of chivalry, established on 4 June 1917 by King George V, presented by The Queen or a Royal representative.



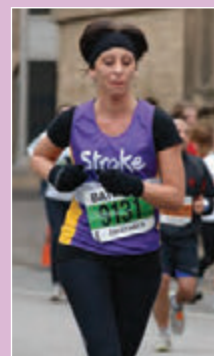
## all in a good cause

### C&CS donates \$5,000 to flood victims

In January, a team from **C&CS** was in Jakarta negotiating a contract with the Indonesian MoD when the city was hit by the worst flooding since 2005. Over one third of the city was affected and even the business district, where our team was staying, was under several feet of water. In association with its in-country partners, **C&CS** has donated \$5,000 for the purchase of 4,000 blankets and 300 boxes of baby milk powder for the residents of North Jakarta, which was one of the worst hit areas. On the day, **C&CS** was represented by Mr Wolfgang Heuer, who is supporting Ultra during negotiations. The severity of the flood is emphasised by the story of six people being trapped in the underground car park of an international bank for four days. The water came in so fast they could not get out in time. This car park is only 500 metres from the hotel used by Ultra.



Wolfgang Heuer presenting Ultra's donation to the local rescue team in Jakarta



### Bath PALS

Jessica Turner, Assembly Operative (above) and Jack Walker, Chemical Engineer Undergraduate (below), both at **PALS**, took part in the Bath Half Marathon to raise money for The Stroke Association and Coppafeel (the breast cancer awareness charity aimed at young people to promote early detection). The Bath Half Marathon is one of the largest charity fund-raising events in the south west region. Both employees finished the half marathon in style, with Jack Walker running in a bunny costume.

## Maritime Systems in the community



Cindi Stevens and Sarah-Jean Mannette at **Maritime Systems** are pictured above, presenting Feeding Others of Dartmouth (F.O.O.D) with a cheque for \$3,655. F.O.O.D is a local organisation which provides meals for the homeless and the under-privileged. It has been **Maritime Systems** employees' charity of choice for the past three years.

A variety of activities helped raise the funds including: charity dinner and auction (picture UltraParty employee band); ice hockey tickets raffle; company garden produce sales; bake and cookbook sales.



The UltraParty employee band at the charity dinner and auction, left to right: James Dean-Moore, Dan Simard, John Caldwell, Norm Thomas. (Craig Sooley and Danny Icton are also in the band but not visible in the photo).

## PMES fund-raisers

Many **PMES** employees contribute to a healthy lifestyle outside of work by participating in charity events, both nationally and locally.

Paul Walker successfully ran the London Marathon in aid of the disabled children's charity WhizzKidz, in the very creditable time of 4hr 7min.

John Johnson, Mike Roberts and Stephen Watson completed a 40 mile walk from Keswick to Barrow (Lake District) on a very wet day in May, in aid of St.Giles Hospice, Lichfield.



A team of 15 employees undertook the Prince's Trust bike ride – a 43 mile excursion from Kenilworth to Warwick.

A more extreme example was entering a team in the 'Notorious 10km Night Run' through Sherwood Forest.







## against the clock

In this issue, **John, Paul** and **Chantel** spend 60 seconds with UltraNews, sharing random facts about their careers and personal lives...



### John Robusto

Secure Intelligence Systems Division – President

I joined Ultra four years ago as a Proxy Board director. Prior to that, I served over 31 years in the US Government as an Intelligence Officer and Software/Computer Engineer. I designed signals intercept, cryptologic and special operations capabilities and space systems. I enjoyed solving challenges; designing complex systems for space was unique. There was nothing like watching something you built launch on a rocket and become operational. The most satisfying was in Special Operations, being a member of a small team, solving a problem, and have everyone come back home.

- 1. If you could open your own business what would it be?**  
Nascar Racetrack with a casino and bar in the in-field. How could that lose?
- 2. Do you remember your favourite teacher?**  
Yes!! Mr. Bartells, 4th Grade. He got me interested in science.
- 3. What is your greatest achievement?**  
Being a dad. I love spending time teaching my kids life skills and enjoy watching them grow.
- 4. What talent do you wish you had?**  
I wish I had the ability to be clairvoyant. That would be really useful, especially in marriage! ☺
- 5. Have you ever been on TV?**  
Yes, Discovery Channel, on the future of Naval Aviation.
- 6. Which celebrity would you most like to have dinner with?**  
Abraham Lincoln. He was quite a leader, a man with principle.
- 7. What is the most weird food you have ever tried? Did you like it?**  
Raw rattle snake. The meal was part of my desert survival training. No matter how I tried it, even with hot sauce, it never tasted like chicken. I don't like raw snake, I only pretended to like it so the instructor wouldn't give me any more.

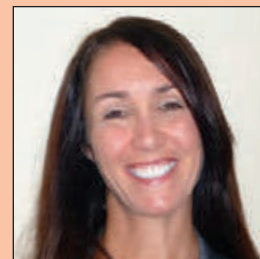


### Paul Fardellone

Flightline Systems – President

I have been with Ultra for over 21 years. I started as a Marketing Manager and worked up through the ranks to President. I have spent over 34 years in the defence industry, in a combination of military service and defence contracting. While in the US Navy I served in fighter squadrons, helicopter gunships and aboard aircraft carriers. After separating from the Navy I worked as a Senior Field Engineer and supported electronic warfare systems aboard ASW helicopters, maritime patrol aircraft worldwide and Navy hydrofoils based in Key West, Florida.

- 1. What changes have you seen during your time with Ultra?**  
Flightline was one of the earlier acquisitions by Ultra. Since that time I have seen the calibre of talent within the organisation grow with every new company that has joined the team. Ultra's breadth and capability have also increased significantly.
- 2. What did you want to be when you grew up?**  
I always wanted to work on fighter jets; I did.
- 3. If you had one day in your life to live over, which would you choose and why?**  
I would have to pick three days to live over, the days each of my children were born. How do you top that?
- 4. What favourite food puts you in a great mood?**  
Since I have been dieting for the past two years, a gooey cheeseburger works for me. This is only topped by a slice of cheese pizza.
- 5. What historical figure would you like to see in 21st century life?**  
I would love to see Sir Isaac Newton in modern times. Given the advances in technology, I would be intrigued to know what else he could discover or propose in mathematics and physics alike.



### Chantal Laflamme

TCS – Director Strategy & Product Management

I joined Ultra in November 2010.

- 1. What was your very first job?**  
I was selling local fruits and vegetables at a public market when I was 14 years old. Long hours and low salary (12 hours a day for \$25/day, 6 days a week... I know what you are thinking but no, it was not that long ago!)
- 2. Is there anything you miss from your childhood?**  
Yes. I miss our nice family weekends at my grand-parents' house in the country. Playing with cousins, cats, dogs, cows...
- 3. What certificate/award are you most proud of?**  
From an academic perspective, I am proud of having received the Medal from the General Governor of Canada for my school results. From a personal perspective, I completed a 5km run (in 23 minutes!) for the 'Fondation des Gouverneurs de L'Espoir' to support kids fighting against cancer.
- 4. What is the most decadent treat to yourself?**  
Black chocolate... mmm
- 5. What scares you the most and why?**  
Having a serious disease, because it would not only affect my life but also the life of the people around me.
- 6. What was the last sporting activity you took part in?**  
A bicycle ride with my husband, my son and my daughter!
- 7. What CD are you listening to in the car?**  
Most often I just listen to the radio and catch up with latest news while driving in the traffic. When my two teenagers are in the car, they take control of CD & radio!
- 8. What do you want to know about the future?**  
Nothing, because I do not believe someone can know about the future. We make our future with the actions we take every day.

and **finally...**

## The PMES Chase

Two teams from **PMES** completed the TrailPlus Adventure Challenge on Cannock Chase. Teams of three have to stay together to complete each element of the challenge which can last 2-5 hours. The course comprises of a 10km off-road trail run with assault course style obstacles, a 25km mountain bike and finally some precarious kayaking.



## The Queen takes an interest in **GigaSat**



Joyce Atkinson, Purchasing Manager and John Donnithorne, Technical Sales Manager at **GigaSat** have attended a reception at Buckingham Palace, hosted by the Queen and Prince Philip. From amongst 500 people, they were selected to be presented to the Queen, who enquired as to where the company was based and what it did.

## MSI's healthy equation 2013

**MSI** kicked off its annual Health and Wellness programme in May. Activities this year include old favourites like Baggo, darts and basketball and marks the return of Wii bowling as well as the addition of ladder ball. **MSI** has achieved a creditable 70% participation this year and anticipates a strong season of both fun and competition. They have already held their Wiffle Ball game and the competition for Baggo is already heating up!



## Blenheim triathlon

Three colleagues from **CIS** successfully completed the Blenheim Palace Triathlon as Team TriUltrathon. Brendan Lucey (750m swim), Mathew Lawrence (19km cycle) and Mark Aitken (5km run) competed in the team relay event. The team raised over £400 for the Army Benevolent Fund, now known as The Soldier's Charity.

## Rolling with the President

In April, John Robusto, President, SIS, and his family attended the annual White House Easter Egg Roll. This year, more than 30,000 people from all 50 states joined the President and his family on the South Lawn for games, stories and, of course, the traditional egg roll.



If you have any interesting stories, – business, social or personal, that you would like to see included in future issues of **UltraNews**, please e-mail the material to:  
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**mark.turvey@ultra-electronics.com**  
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# UltraNews

## Strategy for growth

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PORTFOLIO

**2**  
LONG-TERM  
PROGRAMMES

**3**  
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BASE

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# Strategy

In response to the changing market conditions, Ultra continues to adapt its behaviours to maintain its agility and focus. I am pleased to say that early recognition of the current changes in the marketplace, allied to Ultra's robust business model and inherent agility, has enabled the Group to position for growth in these challenging times.

A major factor in the ability of Ultra to successfully reposition is the Group's understanding and adherence to the corporate strategy and business model. It is important that everybody in the Group understands Ultra's culture and strategy, particularly as we have had a significant number of new businesses and people join over the last few years. Underpinning Ultra's robust business model are the four strategies for growth and constant adherence to our guiding principles, which support and reinforce our culture. These are explained further over the next few pages.

However, I firmly believe that the most important aspects in Ultra remaining successful is maintaining the individual businesses:

- **Autonomy**
- **Agility**
- **Authority, Responsibility and Accountability**

Whilst Ultra's business model will continue to evolve, the four strategies for growth and the eight guiding principles remain a constant part of Ultra's DNA. It is this that helps to ensure that Authority, Responsibility and Accountability are upheld without altering the autonomous nature or the agility of our business model.

Ultra's ability to be agile and to innovate to meet customer needs is based on the skills and capabilities of its people. They are at the core of making Ultra successful, thus it is essential that we all understand and adhere to these values.

I hope that you find the next few pages a useful summary of Ultra's strategies for growth and guiding principles.

**Rakesh Sharma**  
Chief Executive

If you have any interesting stories, – business, social or personal, that you would like to see included in future issues of UltraNews, please e-mail the material to:  
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"Ultra's ability to be agile and to innovate to meet customer needs is based on the skills and capabilities of its people. They are at the core of making Ultra successful..."

**Rakesh Sharma** Chief Executive

# for growth

## Ultra's portfolio of capability

Ultra's deep understanding of its specialist capability areas, combined with knowledge of the customer environment, is a key factor in delivering innovative solutions to meet the customers need.

Ultra presents the market with an increasingly wide portfolio of highly-differentiated specialist capabilities and innovative technologies, applicable across the **Defence & Aerospace, Security & Cyber, Transport** and **Energy** domains. In often challenging markets, Ultra works across the Group and with partners, to offer cost-effective, mature, proven and comprehensive solutions which can best match customer needs and budgets, rather than presenting a standard product. Through this approach, the Group is increasing market access and pursuing areas of customers' preferential spend.

Ultra businesses constantly innovate to create solutions to meet customer requirements that are different from and better than those of the Group's competitors. Where the Group has a number of complementary capabilities, it can also combine these to offer wider solutions. Furthermore, the products, capabilities and the associated domain expertise uniquely position Ultra to be able to provide system and sub-system solutions. These solutions are underpinned by through-life management support offerings that ensure the capabilities are delivered and sustained in-service.

Ultra's prime objective continues to be to outperform the market. The strategic framework is focused on ensuring that Ultra meets this prime objective. It is achieved through the strategies for growth which are described in the following pages. Underpinning these are Ultra's guiding principles (also described later) which help to shape and define the values and behaviours embedded within Ultra's culture.



**DEFENCE & AEROSPACE**



**SECURITY & CYBER**



**TRANSPORT**



**ENERGY**

### Ultra's broad range of specialist capabilities

Across the Group there is a broad portfolio of specialist capabilities, spread across the eight core areas:

- **Aerospace**
- **Maritime and land systems**
- **Security and surveillance**
- **Defence C2**
- **Communications**
- **Infrastructure**
- **Nuclear**
- **Underwater warfare**

“A major factor in the ability of Ultra to successfully reposition is the Group’s understanding and adherence to the corporate strategy and business model.”

## Strategy for growth

# Strategic objectives

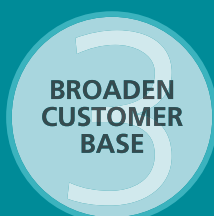
In order to outperform the market, Ultra constantly strives to increase its share of the high-growth sectors of the markets in which it has positioned itself.

The four main strategic objectives which support this target growth are:



### Increase the Group’s portfolio of specialist capability areas

Ultra concentrates on providing its customers with capabilities and systems using the Group’s electronic and software solutions for niche markets in defence & aerospace, security & cyber, transport and energy. Within these market sectors, Ultra focuses on developing specialist capabilities which provide differentiated solutions to customers’ requirements, often in demanding and critical environments.



### Broaden the Group’s customer base

Ultra’s independence allows it to sell its wide portfolio of specialist capabilities to a broad range of customers around the world. Ultra supplies to a wide range of different project offices, integrated project teams and platform teams within its customers, the largest of which include; US DoD, UK MoD, MOTC Oman, Rolls-Royce, BAE Systems, Lockheed Martin, Raytheon and Boeing.



### Increase the number of long-term platforms and programmes on which Ultra’s specialist capabilities are specified

Ultra positions these specialist capabilities on a long list of international platforms and programmes. This breadth of platform and programme coverage creates a flywheel effect which drives Ultra’s performance year after year, despite market fluctuations. Ultra is positioned on very many such platforms and programmes.



### Widen Ultra’s geographic footprint

Ultra has pursued a strategy of gaining access to the two largest addressable defence budgets in the world. Despite the recent budget reductions, the US still spends more on defence each year than the rest of the nations combined. The majority of Ultra’s acquisitions have been in North America and the point has now been reached where the Group has a transatlantic capability and derives more of its revenue from the US and Canada than it does from the UK. Ultra’s revenue from the Middle East and Asia Pacific regions is capable of expansion. The Group’s growing presence in Australia and the Middle East regions indicates Ultra’s intent in this regard.

### Strategic objectives achieved in 2013

- **Twelve** new specialist capabilities were added to the portfolio
- Specialist capabilities were specified on **nine** new platforms and programmes
- Significant business wins with **seven** new customers
- Success in **sixty two** countries outside the core markets





**Rakesh Sharma** Chief Executive

# Guiding principles

Ultra's growth momentum has been sustained by successfully pursuing its **strategies for growth** that you have just read on the opposite page. Underpinning these strategies are **eight core guiding principles**. They have been used consistently by the Group over many years. They help shape the culture, defined as values and behaviours which drive results, which is encouraged in Ultra.

## 1 Focus on defence, security, transport and energy

The Group's core competencies, domain knowledge and market positions give it particular credibility in these four sectors worldwide. Core competencies include: market positioning; managing complex development programmes; manufacturing and aftermarket support over long timescales and the discipline to meet the Group's commitments. The strategy is to enhance the capability of the Group such that adjacent market sectors can be served.

## 2 Through-life product and services portfolio

The Group values any position within the supply chain which is held by any particular niche. Frequently, more attractive margins can be generated by providing components than by supplying entire systems. Where the Group has a number of complementary niches, it does combine these to offer sub-systems, systems and through-life management solutions to satisfy customer requirements. Generally, however, Ultra prefers to retain a leading niche position, rather than pursue the supply of systems for its own end. The scope of Ultra's offering is determined after a rigorous strategic review.

## 3 Niche player

Within the Group's businesses, there is a broad portfolio of specialist capabilities (described earlier) where the aim is to sustain competitive advantage. These niche capabilities enable Ultra to achieve world-leading positions and result in the potential for superior financial performance. This broad spread gives the Group low dependency on any single contract and provides resilience in the face of technological changes or funding cut-backs.

## 4 Strategic supplier

Ultra businesses are expected to maximise their relationships with customers for the long term, through a close understanding of customer needs, leading to sustained on-time delivery of high-quality products and services. Many of the Group's niche offerings involve the design and supply of complex products and services, which are typically safety- or performance-critical in their application. This encourages a long-term strategic relationship where Ultra's businesses become part of the customers' extended enterprises.

## 5 Growth

Ultra businesses are expected to contribute to the organic growth of the Group, as well as identifying well-matched acquisition targets. To ensure that an appropriate rate of organic growth is maintained, businesses produce annual five-year strategic plans which target specific opportunities. The focus on cash generation is a key driver to the affordability of suitable acquisitions to augment the Group's growth rate. The Group's acquisition strategy is summarised as being the pursuit of 'bolt-on' and 'bolt-in' acquisitions which enable Ultra to successfully pursue its four main strategies for growth.

## 6 Efficiency and competence

Ultra seeks to maximise efficiency throughout the organisation. The levels of commitment and competency of business management teams are continuously assessed through strategic, budget, organisation, succession and regular business performance reviews. Ultra empowers management teams to run their respective businesses to deliver agreed strategies, meet budgets and continuously develop their people. The Group constantly develops its people and structure through a rigorous annual organisation, succession and development planning process.

## 7 Teaming

Teaming, internally within the Group or externally with other companies, broadens offerings by combining niche products or linking domain knowledge. Teaming attains competitive advantage by accessing off-the-shelf technology at lower cost, allowing timely delivery, while avoiding expensive development costs and high project risk. Increasingly, Ultra teams with international, world-class partners to access 'best of breed' technology and undertakes specialist system and sub-system design and integration.

## 8 Meeting commitments

Ultra has built a reputation for meeting its commitments. This reputation is not only based on businesses meeting their obligations, but also by establishing a culture within the Group, which is based on this principle. Ultra believes that this reputation is one of its defining and most valuable characteristics. Behaving in this way fosters long-term relationships.

"The Main Board has been reflecting on how we can best reinforce a corporate ethos that enables our people to make the right moral judgements..."

## Ethics



An interview with **Tim Cross**

# Ethics Q&A



UltraNews met with Tim Cross, Independent Member of the Ultra Electronics Ethics Committee to find out what responsibilities the Committee has and to ask him about ethics in modern business.

**UltraNews:** Tim, perhaps you could tell us about the Ultra Electronics Ethics Committee for those who are perhaps not aware of it.

**Tim Cross:** The committee was formed in 2008 at Group level with the remit to provide independent advice and scrutiny of Ultra's business activity. It provides assurance that the Group's current and planned undertakings are conducted in a manner consistent with the legislative environment and are transparent. It comprises three independent members who are David Shattock, ex-Chief Constable in command of Dyfed Powys and Avon & Somerset forces; Martin Bell, journalist and ex-independent MP for Tatton, and myself, Major General (Retired) Tim Cross, I commanded one of the three Divisions of the UK Field Army before I retired.

From Ultra Electronics, we have Rakesh Sharma, Group Chief Executive, Sharon Harris, Group Company Secretary & Legal Counsel and Chris Gane, Managing Director of the Aircraft & Vehicle Systems Division.

**UltraNews:** Over the past few years a number of companies around the world have been found to be unethical. Why do you think that is?

**Tim Cross:** Any company can fall from grace and over the years many have done so – in both legal compliance and in ethical behaviour. There is perhaps no single cause, but in many if not all of them there had been a flawed but embedded lack of character; a leadership culture of 'we didn't know – and we didn't think to ask' – and a workforce culture of no real sense of loyalty to the company – only to themselves.

**UltraNews:** Why do you think Ultra is different?

**Tim Cross:** The Main Board has been reflecting on how we can best reinforce a corporate ethos that enables our people to make the right moral judgements when they are faced with the realities of the corporate world. The conclusion is that it is our character that will differentiate us as a great company from an ordinary one – that will separate us from the 'pack' and which will ultimately determine our destination. It is the role of the Ethics Committee to reinforce this ethos throughout the Group.

**UltraNews:** How will you do this; can we expect more processes and procedures, forms to fill?

**Tim Cross:** No, we can't create an ethical company purely by issuing procedural documents. Our habits, actions and decisions are underpinned by our emotions and thinking. We therefore acknowledge that it is not enough to simply follow a set of rules, within or outside of any legal regulatory framework – policy papers/guidance alone cannot totally control our actions. They are more the 'handrails' which all of our employees are guided by and work to. Over and above these policies we therefore need to generate a culture which determines high ethical standards and within which all of our policies sit.

"Our habits, actions and decisions are underpinned by our emotions and thinking."



**UltraNews:** What real life experiences do you or your colleagues have that helped you in your role?

**Tim Cross:** Martin Bell's anti-sleaze campaign in the 1997 general election is well known. For me in the Army and for David Shattock in the Police, we saw how the "Rules of Engagement" (ROE) are applied on Operations. Whilst the rules define the conditions when force can or cannot be used, and what sort of force is permissible in certain conditions, these organisations recognise that those on the ground need to be given latitude because it is impossible to pin down every eventuality. The ROE necessarily have to operate within a moral 'space', and the 'system' therefore recognises that there is more to it than simply issuing a pile of 'Policies'. Every soldier and commander in the military has to be regularly educated and reminded about what is expected of them in their everyday lives, and how to follow these guidelines in the varied situations they face. This applies equally to the staff within Ultra.

**"Every soldier and commander in the military has to be regularly educated and reminded about what is expected of them in their everyday lives"**

**UltraNews:** How do you achieve and fulfil your remit as a committee?

**Tim Cross:** We hold quarterly meetings to review any ethical breaches and to see if lessons can be learnt and applied within the organisation. We conduct audits of companies and visit recent acquisitions to ensure the new staff are aware of the high standards of ethical behaviour expected of any Ultra Electronics employee. We are also custodians of the ethics policy for the Group.

**UltraNews:** Any final message to the global workforce?

**Tim Cross:** The foundations of an ethical company rest on words like trust and loyalty, duty and honour, integrity and courage – within both those who lead and those who are led. Ultra Electronics recognises that this culture must therefore be led from the top. It takes time, and requires determination. But our firm belief is that the vast majority of people want to work in a Company that is ethical in all it does – and we are sure that this applies in Ultra as strongly as anywhere else.

The Committee's intent is therefore to continue to develop a leadership culture of 'we did know – and we did think to ask' – and a workforce culture of a real sense of loyalty to the company – not to themselves. We look to all of you to join us.

## Ultra's Independent Ethics Committee

### Major General (Retired) Tim Cross CBE:

Was commissioned into the British Army in 1971. He commanded at every level, from leading a small Bomb Disposal Team in Northern Ireland in the 1970's to commanding a Division of 30,000 in 2004/07. He had operational deployments in Kuwait/Iraq in 1990/91, Bosnia in 1995/96 and 1997, and Kosovo in 1999. In 2002 he became involved in the planning for operations in Iraq – subsequently deploying to Washington, Kuwait and Baghdad, after which he commanded one of the three Divisions of the UK Field Army before retiring in January 2007. Tim was the Army Adviser to the UK House of Commons Defence Committee for five years and, in addition to working with Ultra, he is now a Defence Adviser to a number of UK/International Companies, a 'special' Professor at three UK Universities, a Tutor and Trustee of the Leadership Trust, a Local Lay Minister in the Church of England, and the Chairman of the Board of Theos – a public theology Think Tank.



Tim Cross, Major General (Retired), widely acknowledged as an expert commentator on moral and ethical behaviour.

### Martin Bell:

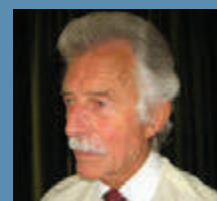
After two years as a soldier in the Suffolk Regiment, Martin Bell obtained a first class degree at King's College Cambridge. He worked for BBC News for 33 years, mainly as a war reporter in Vietnam, Africa, the Middle East, Central America and the Balkans. He was wounded in Bosnia in 1992. He was elected to the House of Commons in 1997, the first Independent MP since 1951. He has been a Goodwill Ambassador for UNICEF since 2001. He was twice the Royal Television Society's Reporter of the Year and was awarded the OBE in 1993. He has written six books, mainly on war and politics.



Martin Bell, journalist and former MP with a long track-record of campaigning against corruption.

### David SHATTOCK CBE., OSt.J., QPM.:

David Shattock joined the Police Service in 1956 after service in the Royal Navy. He served in all departments, his particular interest being the investigation of crime. He served in three forces, was in operational command of two of the three major Bristol riots and was appointed a Chief Officer in 1977. He retired in 1998 after 12 years as Chief Constable in command of the Dyfed Powys and Avon & Somerset forces. Upon retirement he spent two years as Special Adviser to the Prime Minister of Mauritius. He is an honorary graduate of the University of the West of England (Doctor of Laws) and Bristol University (Master of Arts).



David Shattock, retired Chief Constable. Committee member since its inception.

## Chief Executive's review

# Are you having fun?

Having written about "Ultra's Holy Trinity\*" I have been asked by several people if I had a vision or objective for the rest of Ultra. I have thought long and hard about this. It would be easy to write a fancy paper that in the end would have very little relevance to the majority of people. So I have decided to concentrate on the one thing that has been important to me, during my time at Ultra, beyond the "Making a Difference\*\*" and "Ultra's Holy Trinity".



One of my desires, no matter which company or position I have been assigned to, is to make work enjoyable. Discounting the time spent sleeping, generally we spend more time at work than anywhere else. If work is satisfying, and we feel engaged, then I believe our daily lives become opportunities rather than something to be endured. In my own working life, I strive for an environment where people look forward to walking through the door rather than looking forward to walking out at night.

### But we are always being challenged

I believe that work cannot be enjoyable if it is not challenging. I wish to foster a culture of constant challenge; we must all recognise areas that can be improved. Ultra's part is to empower people to make those improvements. There is no doubt that it requires self-discipline to give constructive feedback; it is so much easier to be a 'side-line critic', constantly complaining but never engaging to make improvements. It requires even more self-discipline and openness to accept constructive feedback. If we work together, where we all participate to address the issues in our business, I am positive that it will lead to better decision making and enable us to create an even stronger future and be better able to serve our customers.



Mike Duke of **USSi** worked with Toni Crowe and her team at **NSPI** to help to develop their Lean Manufacturing programme

\* A paper describing the nature of the relationships between the Managing Director, Marketing Director and Financial Director of each business and division.

\*\* Ultra Electronics – An Insight. A paper giving an overview of Ultra's culture.



## Rakesh Sharma Chief Executive

### Individual or team?

Challenging ourselves is not enough – what good is it if we improve our position if the whole has somehow been lessened? We have to accept that sometimes our individual ideas or wishes may need to be sacrificed for the collective good, for example, ‘take one for the team’, as it is said in sport. This perspective has implications not only with each company but also as a group. We exist to create shareholder value; this can best be achieved by working together, using the Collaborative Autonomy Framework.



Seemingly impossible feats and obstacles become manageable through working together. Problems can be broken down to simpler elements, analysed and then dealt with. The biggest thrill for me has always originated from being a member of a team. Successful teams not only initiate change they embrace it. As markets and requirements change we must adapt with them. We are not owed a living or a business. We must constantly strive to be the best, not just to exist but achieve the growth that we aspire to.



“Taking one for the team”, **MSI** staff enjoying their fun day of the Health and Wellness programme in May 2013



A team of Ultra ladies raise money for breast cancer awareness in the Race for Life

### A privilege

It is a privilege to be the Chief Executive of Ultra. One that I do not take lightly. It comes with responsibilities and obligations that cannot be fulfilled without all of you in the Ultra team. I hope that you will all engage in the business, having fun through challenge and hard work, make a difference and achieve the seemingly impossible – together.



A gift from Ultra Electronics. Myself presenting His Excellency Dr Ahmed bin Salim Al Futaisi with a Pooley Sword at the opening of **Ithra's** Testing and Training Facility in Oman

“One of my desires, no matter which company or position I have been assigned to, is to make work enjoyable. In my own working life, I strive for an environment where people look forward to walking through the door rather than looking forward to walking out at night.”

“ We must recognise the talented individuals who are already present within Ultra and build upon their abilities to drive improvements together ”

# nurturing a community and environment for learning and applied improvement

The Ultra Controls Academy is a joint inter-department Controls initiative to formalise and structure internal training courses, supporting our drives to achieve best in class performance and be continually recognised as a world-class design and manufacturing facility.



## ULTRA CONTROLS ACADEMY

**CONTROLS** have been developing both training material and methods to take account of industry best practice and external requirements, whilst being relevant to Ultra. The result of this has been the creation of the Ultra Controls Academy, which is being rolled out across the **CONTROLS** businesses.

This approach was adopted by **CONTROLS** because much of the training available for industry standard tools and techniques were aimed at high volume automotive manufacturing. **CONTROLS** accepted that training is most effective when those being trained can relate to the material and believe that it is relevant to them. Real problems were brought to the course and team work used to explore potential solutions.

**CONTROLS** intention is that best practice and training material will be made available to other Ultra businesses and follows on from previous initiatives with the Ultra Group Intranet Quality pages set up by **CONTROLS**.

By developing training material for the Ultra Controls Academy in this way, **CONTROLS** were able to provide a practical approach to establishing the LEAP and LAUNCH cultures as seen across the Ultra Group, making these philosophies accessible to the entire business; recognising that the people who touch the products and processes are the experts and they need to be involved in the creation of any solution.

Whilst training initiatives in **CONTROLS** are not a new concept, what makes the Ultra Controls Academy training stand out compared with past Lean/Quality/External training is its emphasis and build-up for the application of attained knowledge.

Matthew Lai, **CONTROLS** Business Improvement Co-ordinator, said “We have proven to ourselves that in order for any improvement to be successfully implemented and sustained, everybody needs to be involved and own it. This could only be possible if we are able to establish a consistent baseline for knowledge and expectation in all our members. Thus our desire to create an active continuous improvement community”.

### How the Ultra Controls Academy training courses are designed

In accordance with the **CONTROLS** Business Continuous Improvement Manual, the Ultra Controls Academy courses were designed and created using established and recognised best practices from the teaching and training industries, combining accelerated learning techniques with media and activities.

“We have proven to ourselves that in order for any improvement to be successfully implemented and sustained, everybody needed to be involved and own it.”





**Richard Holland** Head of Quality Assurance and Improvement, Controls

# Welcome to the Ultra Controls Academy

In 2010, CONTROLS started work to realise one vision; a united approach for capturing and utilising the knowledge and experiences already present within and across the business. From the initial stages of sharing best practice with PALS, the Ultra Group Intranet Quality Pages were created by CONTROLS, as a vehicle to expand this sharing to the rest of the Ultra businesses. From here CONTROLS established the next step, branching out from the traditional scope of Quality into the realm of complete Continuous Improvement. In 2011, the Ultra Controls Academy initiative was born.

Matthew Lai and Tony McCall, key architects of the Ultra Controls Academy describe the aim for building such a community as: "giving everybody the foundations to contribute to improvements."



**CONTROLS** have brought teaching practices in-house and through the use of 'Standard Work', a systematic and structured approach was developed purposely to allow the Ultra Controls Academy to expand for all future needs.

## 'Standard Work' Training Design Formula

Blending practices from the Teaching in the Lifelong Learning Sector with principles from continuous improvement and manufacturing, ensuring 'reproducibility' and 'repeatability', a standardised lesson plan template was designed for the Ultra Controls Academy to identify and complement the training with the needs of the business. With the templates designed, the teams within **CONTROLS** are now able to create a complete Ultra Controls Academy course and roll it out within a matter of hours.

To ensure ultimate emphasis on application, one of the Ultra Controls Academy's **core values**, each course follows the structure of:

1. Introduction with Health & Safety
2. Aims and objectives
3. Main content delivery
4. Practical activity, either simulation or hands-on initiatives
5. Written questionnaire to reinforce key points and review hand-outs
6. Summary, review of aims and objectives

Tony McCall, **CONTROLS** Manufacturing Engineering Manager, said: "When it came to creating all of the course syllabus, we saw the potential for the Ultra Controls Academy to grow and live beyond us. We therefore needed to adopt a standardised approach to generating and delivering training to enable any participants to become trainers. For us, standard work was more than just the creation of the training course topics. We branched out to create the core values, vision, mission, together with a distinct branding".

**"CONTROLS** have brought teaching practices in-house and through the use of 'Standard Work', a systematic and structured approach was developed."

For more information on the Ultra Controls Academy, including access to the current Ultra Controls Academy training materials, templates and policies, please contact Richard Holland:  
[richard.holland@ultra-controls.com](mailto:richard.holland@ultra-controls.com)

## Exhibition & Event news

# Ultra on show

## DSEI 2013



Everyone noticed the difference – customers, investors, competitors and the participating Ultra businesses. The success of the stand was down to hard work and careful preparation in every respect – brochure writing, video generation, stand design, delegation co-ordination, lunches, invitations etc. etc. As a result we won a huge footfall with 51 international delegations over the four days. MDs and Marketing Directors commented that they were able to concentrate on business to business and customer interaction, knowing their presentation was being exceptionally well executed.



In September 2013, Ultra presented its largest and most ambitious display of capability in its 20 year history. 20 of the 28 businesses had capability relevant to this event

which is described as the world's largest fully integrated defence and security exhibition. As well as a new look and a new stand with a much stronger brand image, the exhibits and demonstrations were incorporated into the structure to create a new and impressive display.



A selection of high level overseas military delegations learn about the broad range of Ultra capabilities from Rakesh Sharma (left), Mark Anderson (top) and Nathan Schueth (above)

## Surface Navy

In January, **Ocean Systems**, **USSI** and **EMS** flew the flag at Surface Navy, Crystal City, focusing on Ultra's maritime capabilities. As well as establishing new contacts and maintaining existing relationships, the champagne reception and wheel of fortune prizes were a star attraction before the show banquet.



## Ultra at DefExpo



In February, **PALS**, **TCS** and **Sonar Systems** represented Ultra at India's international defence exhibition, DefExpo. During the event, Ultra also co-sponsored a reception held at the residence of the British High Commissioner, Sir James Bevan, who also visited the Ultra stand.



**World ATM Congress 2014**  
**Surveillance & Security Systems**  
flew the Ultra flag at the Air Traffic Management show in Madrid.



## Exhibition &amp; Event news

## Farnborough Air Show 2014



The bold new look of the Ultra exhibition stand was extended to the Farnborough Air Show in July. Minimal reconfiguration for the smaller space maintained the striking look and combined capability displays. Once again, the stand team delivered the professional, knowledgeable, courteous and slick service; all guests were met and hosted appropriately, they all got fed. It was great to see such a team effort with everyone keeping their sense of humour, smiles on their faces and all being prepared to help and support each other.



The Ultra stand was certainly one of the busiest. In addition the numerous business to business activities and meetings that were on-going throughout the week, during the first four days of the show we also managed to successfully meet with:

- 26 senior overseas delegations (including the six most senior US delegations)
- 4 senior UK delegations (including two ministers)
- Around 80 investors (plus analysts from more than 10 different houses)



**Top left:** (Left to right) Greg Riels (ATS), Mrs & Senator Jim Inhofe (Oklahoma, Rep), Rakesh Sharma; **Above:** (Left to right) marking the award of the NIM contract – Hisham Awad (PALS), Philippe Mhun, Airbus, Andy Yates (PALS), Bob Henry (A&VS); **Far left:** Lucy Austin (Controls) explaining Ultra capabilities to a group of City analysts; **Left:** Signing of memorandum of understanding between Ultra and CAIC: Nigel Bowers, Rob McDonald (both Controls), Rakesh Sharma; Mr Tong Yanfu, Vice President, CAIC; Mrs Meng Xuefan, Deputy Director International Cooperation Department, CAIC; Mr Cai Shan, Deputy Chief Engineer, CAIC



## Ultra at CANSEC

**Maritime Systems, TCS, ATS, EMS and ProLogic** led the charge at the annual Canadian security exhibition, CANSEC.



## MSPO

**CIS** joined a business partner at MSPO, Poland's growing international defence exhibition

## Bahrain Air Show



In the Middle East, **Airport Systems, Ithra, 3eTI, ATS, CIS** supported the Airports, Security and Surveillance pavilion at the Bahrain Air Show. While primarily to position Ultra for the upcoming Bahrain Airport upgrade programme, there are also further opportunities in the region.

## Ultra Down Under

PACIFIC 2013 exhibition held in Sydney, Australia and the concurrent International Fleet Review offered several Ultra businesses the rare opportunity to showcase in-service systems to the Australian defence customer. The Royal Navy was proudly represented at the event by HMS Daring. A particular highlight of the visit by the T45 platform was a reception held on board the vessel, hosted by First Sea Lord Admiral Sir George Zambellas and proudly sponsored by Ultra Electronics.



## Middle East Energy Security Conference



The growing awareness of the dangers posed by the unstoppable connection of industrial controllers to the internet was underlined at the Middle East Energy Security Conference in Dubai, sponsored by Ultra. Joe Booth of **Al Shaheen** (centre) was accompanied by Najyb Al Maskari, Chief Information Security Officer (right) and Faisal Al Bousi, Information Security Manager (left) both of EAI Group.

## Acquisitions

# welcome to Ultra...

Since the last issue of UltraNews, several new businesses have joined the Ultra family.

In October 2013, Ultra acquired **Wood & Douglas Holdings Limited (W&D)** from its owner management team. W&D is based near Basingstoke, UK. The company has a 30 year track record of delivering wireless products and services, such as radio networks, video monitoring and wireless data platforms, to industry and governments. Its reputation has been built on creating innovative solutions that deliver the highest levels of reliability and functionality.

W&D customers are diverse but predominately active in the defence, homeland security, transportation, energy, emergency services, exploration, healthcare, and utilities sectors. Over 50% of its revenue comes from export markets with customers in more than 30 countries worldwide. In 2013, W&D received a Queen's Award for Enterprise in the International Trade category in recognition of their performance in the export market.

W&D is a bolt-in acquisition to Ultra's **Communication & Integrated Systems (CIS)** business.



Systems training day for the Poole hospital installation team, familiarisation with the new system to monitor water flow, turnover and temperature in response to new legislation relating to Legionnaires monitoring.

In February this year, Ultra announced the acquisition of **3 Phoenix Inc (3Pi)** headquartered in Chantilly, Virginia. Ultra has acquired **3Pi** from its management team which includes the five founders. All of the management team will stay with the business.

**3Pi** is a leading supplier of specialist sonar, radar, intelligence, surveillance and reconnaissance products and solutions. The company has a 10 year track record of delivering critical real-time sensor and processing systems, primarily to the US Navy, but also to commercial customers. **3Pi's** reputation has been built on creating innovative system engineering solutions and the company has established positions on a number of major naval programmes.

**3Pi** is a bolt-on acquisition to Ultra's existing Naval Systems Division, with which there are a significant number of internal and external synergies.



**Above:** 3Phoenix is the Prime contractor for the US Navy's Torpedo Warning System (TWS).

**Below:** Engineering Development Model (EDM) Low Profile Photonics Mast (LPPM) for evaluation on Virginia Class submarines.



3Phoenix provides an Engineering Development Model (EDM) technology insertion for the VIRGINIA Class Submarine AN/BVS-1 Photonics Mast system to achieve improved system reliability and cross-platform compatibility.





**In May**, Ultra announced the acquisition of **ICE Corporation Inc** (ICE) based in Manhattan, Kansas, from private investors including the original founder.

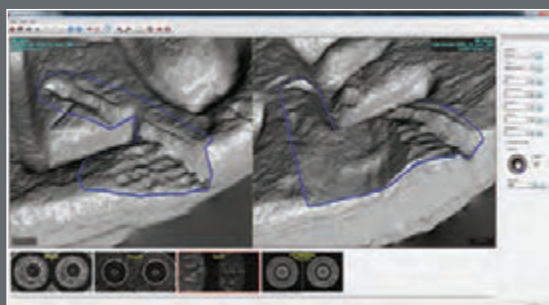
ICE designs, develops, manufactures and supports aerospace products including, motor control electronics, electrothermal ice protection controllers, pneumatic valve controls and engine control interface units. ICE customers include Parker Hannifin Corporation, Cessna Aircraft Company and Meggitt.

ICE will continue to operate from its existing facilities as a bolt-in acquisition to Ultra's Controls business.

**Also in May**, Ultra completed the acquisition of **Forensic Technology WAI Inc (Forensic Technology)** from private investors and its management team.

**Forensic Technology** is an international company, headquartered in Montreal, Canada. The company provides automated firearm ballistics identification and forensic analysis systems to law enforcement agencies in over 65 countries. **Forensic Technology** is currently developing a number of document security and analytic products based on its existing capabilities and areas of expertise. The company has a 20+ year track record of delivering market-leading forensic analysis solutions that help police worldwide combat gun crime at local and national levels, as well as internationally through its partnership with INTERPOL. **Forensic Technology's** customers include the US Bureau of Alcohol, Tobacco, Firearms and Explosives, Canada's RCMP, Israel Police, the UK's National Ballistics Intelligence Service and the South African Police Service.

Forensic Technology will continue to operate from its existing facilities as a bolt-on acquisition to Ultra's Tactical Systems Division.



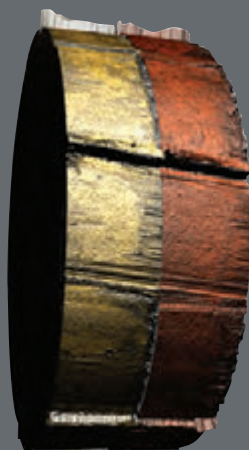
**Above and right:** Images from Forensic Technology's integrated ballistics identification system software.



ICE provides the high power motor controller and the auto transformer rectifier unit to the WheelTug® system. WheelTug® uses an electric motor located in each of the two wheels of the front landing gear of the aircraft to allow the pilot or ground crews to move an aircraft on the ground without the use of a tow tug or the main jet engines.

**In June**, the acquisition of **Lab Impex Systems Ltd** (LIS) was announced. LIS is a developer and supplier of radiation measurement solutions and services for use within the nuclear industry. LIS provides systems engineering, installation and support of full environmental radiation monitoring systems, including alpha, beta, gamma radiation and associated safety systems. The acquisition extends Ultra's radiation monitoring product capabilities, strengthens the Group's nuclear qualified engineering expertise and Ultra's position within the global nuclear sector.

The company is located in Poole, Dorset and Sellafield, Cumbria in the UK and in Tennessee, US. The business will be integrated into Ultra's Nuclear Control Systems business based in Wimborne, Dorset.



## VIP visits news

# 80th anniversary for 820 Squadron



Merlin 820 Squadron has a distinguished role in history, including sinking the Bismark during WWII, and was Prince Andrew's squadron during the Falklands war. The presentation of Ultra's bi-annual 'Millionth Sonobuoy' trophy took place in the dramatic setting of Pendennis Castle, Falmouth as part of 820 Squadron's 80th Anniversary Celebrations. Geraint 'Taffy' Morris POACMN (right) received the award from RNAS Culdrose Station Commanding Officer Captain Mark Garrett. The award, sponsored by Ultra, is for making a significant contribution to Merlin helicopter Anti-Submarine Warfare operations, with the winner being nominated by his Royal Navy peers from the ASW community. An exhibition in the 820 Squadron hangar at RNAS Culdrose earlier in the day generated great interest in Ultra's ALFEA buoy from Merlin crews, and in Ultra's multi-static active systems, a version of which is planned to be provided by Ultra for installation in the Merlin MkII aircraft.

## Flightline VIP visit



**Flightline** has been honoured to have a visit by its Congressional Representative, Congressman Chris Collins and his New York staff. Congressman Chris Collins represents New York's 27th

Congressional District in the House of Representatives as a member of the House Small Business, Agriculture and Science, Space and Technology committees. Congressman Collins has been instrumental supporting **Flightline** with enquiries into the Secretary of the Army for MI-RAMS funding and contracts. Most recently the Congressman supported language in the 2015 National Defense Authorization Act (NDAA) requiring the U.S Army to conduct a demonstration with **Flightline's** new rotorcraft Health and Usage Monitoring System (HUMS) on the UH-72 Lakota.

**Above:** Flightline's President, Paul Fardellone, greets Congressman Chris Collins

## Rakesh Sharma visits US Congress

In July, Rakesh Sharma met with 17 Members of Congress and Staff to discuss Ultra Electronics businesses and its priorities for the FY2015 Defense Authorization and Appropriations bills being developed by Congress. During the meetings with Members of Congress, Rakesh addressed a number of defence policy matters including the need for stabilised budgets, appropriations funding and defence priorities. As part of our efforts to educate, inform and work with Congress, it is very important to let them know about the role Ultra plays in the defence, security, energy and transportation markets and how their decisions impact our bottom lines and the security of warfighters around the world.



**Above:** John Robusto (SIS) and Rakesh Sharma meet Congressman Marlin Stutzman, Indiana 3rd District

## Ultra presented with SaBRE

Representatives from Ultra Electronics joined 16 other London based organisations for a tour and reception on board the Royal Navy's Type 23 Warship, HMS Argyll. The event was organised by the Greater London Reserve Forces' and Cadets' Association, and the Ministry of Defence campaign – SaBRE, (Supporting Britain's Reservists & Employers). During the visit Ultra was one of five companies presented with SaBRE Certificates in recognition of their support of the Reserve Forces, (Royal Naval Reserve, Royal Marines Reserve, Army Reserve and the Royal Auxiliary Air Force).



Mark Anderson, Group Marketing Director (centre) and Chris Holmes, CIS (left) receiving the award.

**Far left:** Rakesh Sharma with Senator Bob Casey, Pennsylvania;

**Left:** Rakesh Sharma with Congressman Frank Wolf, Virginia 10th district;



## Ultra in Turkey

Her Majesty's Ambassador to Turkey, Sir David Reddaway, hosted an official reception within the Embassy grounds in honour of Queen Elizabeth II's birthday and British Armed Forces Day. Over 1500 guests attended the celebrations including politicians, artists, key figures in business and trade, NGO and media representatives. The "GREAT" campaign, of which this event is a part, is being conducted by the UK Government with the target of increasing commercial and cultural cooperation between the two countries. It was sponsored by many British companies including Ultra Electronics, ensuring that the Ultra name and capabilities continue to be promoted within the Turkish defence community.



# Aircraft & Vehicle Systems

Across the board...news and stories from across the division

## \$500m EIPS agreement

**Controls** has been awarded a long term supply agreement for the electronic control unit that manages the F135 engine's Electrical Ice Protection System (EIPS). The agreement was awarded by United Technologies Corporation, acting through its Pratt & Whitney Division (P&W) based in Connecticut.

The agreement is effective for the life of the programme, or a minimum of 30 years. Based upon the potential production volumes, in-service spares, repairs and additional through-life support, the agreement is valued at approximately \$500m.



## PALS deliver Warrior power



**Precision Air & Land Systems (PALS)** has been awarded a £6.3m contract by Lockheed Martin UK – Amptill under the Warrior Capability Sustainment Programme (WCSP) for the development of a new power distribution system for the British Army's Warrior armoured fighting vehicle. The new power distribution system will deliver next-generation power management capability for each of the Warrior vehicle variants. Ultra will employ advanced design techniques to increase the power and efficiency within existing vehicle space constraints without the need for expensive and bulky cooling systems, traditionally seen in legacy armoured fighting vehicles.

The WCSP development phase is due to complete in 2015 with serial production, worth a further £21.5m to Ultra, commencing in 2016. All of the engineering development work and manufacturing will take place at **PALS** new Arle Court facility in Cheltenham.

## AMI's \$29,000 training grant

**AMI** has received a \$29,000 training grant from the Michigan Skilled Trades Training Fund. The \$10 million fund is designed to provide funding to companies who are looking to enhance the existing skillsets of their workforce that will help drive company growth.

**AMI** will use the funds to pay for Six Sigma Green Belt certification, soldering and wire harness certified instructor training, and programming and reporting training on their ERP system, Epicor.

## Flying 'the Flag'

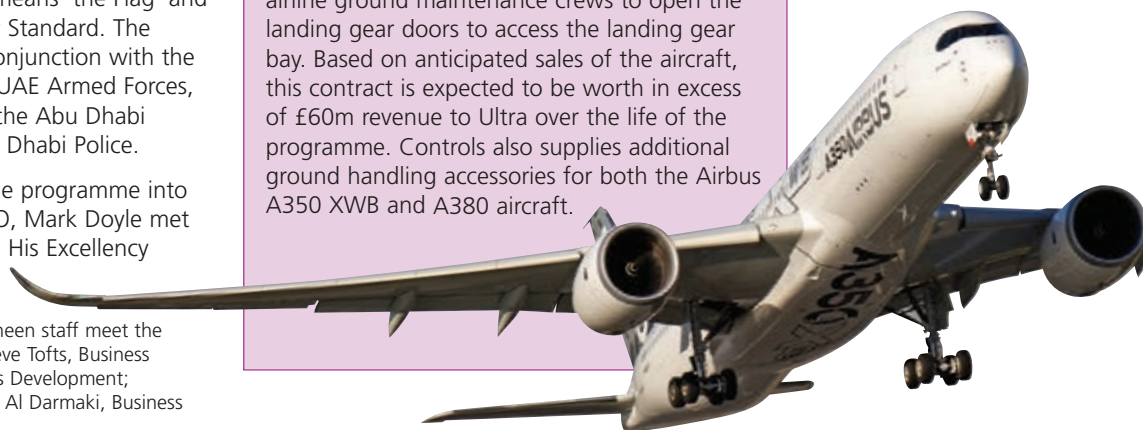


The Al Bayariq School Citizenship Programme is a dynamic, active learning training programme for Emirati students aged 15-18. During the academic year 2013/14, **Al Shaheen** increased the expansion of the programme and it has now delivered to more than 40,000 students. Through a curriculum which includes Defence & Security, Life Skills and First Aid, the programme aims to help young people to develop a set of core values and develop students' personal and interpersonal skills. It also aims to encourage them to consider a career in the Military and Police. 'Al Bayariq' literally means 'the Flag' and in this case refers to the Military Standard. The Programme was developed in conjunction with the programme's Stakeholders: the UAE Armed Forces, the UAE Ministry of Education, the Abu Dhabi Education Council, and the Abu Dhabi Police.

To celebrate the expansion of the programme into every Emirate **Al Shaheen's** CEO, Mark Doyle met the UAE's minister of Education, His Excellency Humaid Moh'd Al Qutami.

## Controls awarded A350 eGDO contract

**Controls** has been awarded a contract by Airbus to design, develop, supply and support an electrical Ground Door Opening system (eGDO) for its new A350 family of aircraft. The eGDO system comprises a set of electrical actuators, sensors and fuselage-mounted control and indication panels which allows airline ground maintenance crews to open the landing gear doors to access the landing gear bay. Based on anticipated sales of the aircraft, this contract is expected to be worth in excess of £60m revenue to Ultra over the life of the programme. Controls also supplies additional ground handling accessories for both the Airbus A350 XWB and A380 aircraft.



**Above:** Mark Doyle and other Al Shaheen staff meet the Minister of Education (left to right: Steve Tofts, Business Excellence; Abdullah Darwish, Business Development; Mark Doyle, CEO; Minister; Mohamed Al Darmaki, Business Development (Minister of Education)).

# Infrastructure & Power Systems

Across the board...news and stories from across the division

## Airport Systems wins Brazilian airport contract

**Airport Systems** has been awarded a contract to provide a comprehensive suite of Airport Operations and Information Systems at Viracopos International Airport (VCP), in Campinas, Brazil. This airport is about 99km north of São Paulo – Brazil's largest metropolitan area – and serves as the hub for Azul Brazilian Airlines. Viracopos is undergoing significant expansion and will soon become the largest airport in South America. In the current cycle of planned investments, the existing passenger terminal is being renovated and a new terminal is being built which will result in a doubling of capacity for cargo and passenger traffic for the 2016 summer Olympic Games. In addition, the basic project and preparatory work to add a second runway (out of a total of three new ones) has already started.



## £29.0m of EDF Energy contracts for NCS

**Nuclear Control Systems (NCS)** has been awarded two contracts totalling £29.0m for the supply of specialist instrumentation by EDF Energy. Under these contracts **NCS** will manufacture and support safety-critical nuclear reactor instrumentation for use in EDF Energy's current UK nuclear power stations. These contracts benefit from Ultra's recent investment in a state-of-the-art nuclear instrumentation manufacturing facility which further cements EDF Energy's and Ultra's relationship.



## Ultra receives US\$21m GD contract

**EMS** has been awarded a multi-year contract totalling over US\$21m from General Dynamics Electric Boat Corporation. The contract is for the production of naval computer controlled power supply systems (Circuit-D) with deliveries over the next five years. The Circuit-D system was first designed by **EMS** in 1997 for the new Virginia Class Submarine programme and is considered a critical electronic system for the platform.

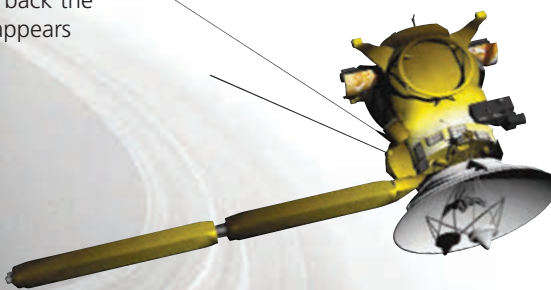
## Certified!



## PMES reaches out of this world!

**PMES** provides a wide range of products for the defence, power and rail markets. However, it is its sensor business that has the greatest geographic reach, with high performance sensors currently in position not just around the globe, but also as far out as the rings of Saturn. An extremely high performance 3-axis magnetic sensor developed and manufactured by **PMES** has been aboard the Cassini Spacecraft since its launch in October 1997. The 900 million mile journey to Saturn took seven years and the magnetic data is currently being used to describe Saturn's magnetic field, its interaction with Solar Wind and the rings of Saturn. Cassini was back in the news in July 2013 when it sent back the "pale blue dot" pictures of the Earth as it appears from Saturn.

**PMES** has now received a contract to build the magnetic sensor for the joint ESA – NASA Solar Orbiter Mission. This mission is dedicated to the study of the sun and its effects on the solar system. It is part of a programme to answer key scientific questions about the development of planets, the emergence of life, how the solar system works and the origins of the universe. Due for launch in 2017, Solar Orbiter will use a series of Venus encounters to travel closer to the Sun than Mercury, and move to latitudes over 30 degrees to give our first good view of the Sun's poles. Both missions are joint efforts with Imperial College and funded by the UK Space Agency.



**NSPI** has successfully completed the certification process from the American Society of Mechanical Engineers (ASME) for design and manufacture of pressure boundary items. This significantly expands the range of capabilities and products that **NSPI** can offer to its global nuclear customers.



# Tactical Systems

Across the board...news and stories from across the division

## WIN-T win situation for Ultra ORION

**TCS** has completed a successful capability demonstration of the ORION GRC-245C radio during the U.S. Army Network Integration Evaluation 14.2. The radios were issued to 86th Expeditionary Signal Battalion (ESB) as part of PM WIN-T's ESB proof-of-concept in the first quarter of this year. Soldiers in the 86th ESB employed the radio in challenging field conditions establishing point-to-point links with a capability of up to 200 Mbps throughput and point-to-multipoint links at distances up to 30km without difficulty; a first for a high capacity line-of-sight (LOS) radio like the GRC-245C. Soldiers from the unit lauded the new radio as simple to use and reliable. During the short period of training Maj. Rickie Meers, the battalion operations officer, stated "These new LOS radio systems are lighter and easier to set up, so it will make it easier to deploy; throw them in the back of a truck or on an airplane and you're gone."

The bandwidth is exponentially better. I started 10 years ago and you wouldn't even have thought about having 200 megabits going through a LOS system; it's just great." Once links were established there were zero outages despite extreme winds and dust storms on a daily basis, demonstrating the strength of the radio's design. Soldiers with very little training time on the system could establish required communications links within all objective time constraints.



For those of you who haven't noticed, Ultra's Card Systems business based in Weymouth has been relaunched as **Ultra Electronics iD**. iD is most widely known for the manufacture and supply of the Magicard line of secure ID card printers that issue secure personal identification credentials. The wider security portfolio includes network security appliances, such as hardware security modules and encryption devices, which are extensively deployed in high-level governmental and military environments to manage credentials and counter cyber-security threats.

## CIS' Litening Pod contract extension



**Communication & Integrated Systems (CIS)** has been awarded a contract extension for the in-service support of the UK MoD's Litening Pods. This support will enable the provision of advanced targeting and reconnaissance capability for the Royal Air Force's Eurofighter Typhoon and Tornado fleets. Together with the outstanding amount from the original contract, the Litening Pod support is worth £80.4m. **CIS** was initially awarded a contract in 2006 to supply and support the UK MoD's first fleet of Litening Pods. The UK's Litening Pod is extensively used on current operations where it has recently passed 80,000 flying hours, exceeding its required mission availability.

## Electronic Warfare contract for TCS

**TCS** has announced a contract award to refurbish an existing naval Electronic Warfare (EW) test and training range for a prominent Middle Eastern country. This is a key win in the region, where **TCS** was able to displace the incumbent system provider. **TCS**'s strong technical solution, vast knowledge of EW naval range test and training systems and ability to provide an ITAR-free solution were pivotal in the customer's buying decision. Jim Rose, Director and GM, EW Systems, commented: 'We are extremely happy to break into this market and I think it shows the depth of our EW capabilities. Our team will continue to work very closely with other Middle Eastern countries which have similar EW naval test and training needs.'

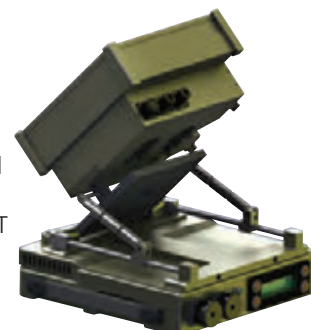


## Gigasat make the cut

**Gigasat** was recently selected (as one of nine companies) to participate in a US DoD Limited User Evaluation (LUE) of the Inmarsat-5 (I5) Global express SATCOM service. **Gigasat** demonstrated its newly developed MicroVSAT Terminal which utilises a custom flat panel array. The fully integrated, rugged MicroVSAT terminal offers the simplicity of current Broadband Global Area Network (BGAN) terminals with the increased throughput of current commercial and military satellite constellations. **Gigasat**'s system evaluation was 100% successful, with the MicroVSAT exceeding all expectations.

**Above:** UltraEAGLE ALR-510 airborne ELINT system

**Below:** Gigasat's MicroVSAT terminal



# Secure Intelligence Systems

**Across** the board...news and stories from across the division

## ProLogic launches Bluejay™

Bluejay™ is a family of next generation in-flight entertainment moving map products developed by **ProLogic**. Bluejay™ improves the passenger experience with more realism, detail and features. Bluejay™ 2D is an interactive web-based application that is controlled via a browser on the passenger's client device. Built solely on HTML5 technology, Bluejay™ 2D requires no additional software or plugins beyond a modern web browser. Bluejay™ 2D is highly customizable and extensible with innovative features and screen designs unique to the moving map market. Bluejay™ 3D is a premium product option that provides a fully interactive 3D moving map

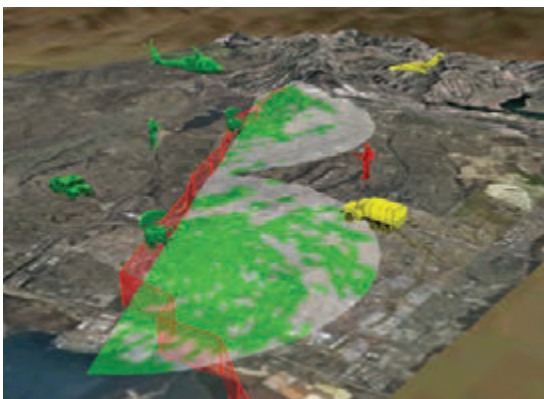
for the iPad. Passengers can enjoy this next generation 3D moving map by downloading the app, free of charge, from the Apple App Store. Passengers using Bluejay™ 3D have the ability to freely navigate around the globe, customise the display and get a 360° (augmented reality) view from their seat.



## ATS achieves CMMI Level 3

**Advanced Tactical Systems (ATS)** has achieved an organisation-wide CMMI (Capability Maturity Model for Integration) Level 3 rating. **ATS** is the first Ultra business to be successfully appraised at CMMI Level 3. An appraisal at maturity Level 3 indicates that the organisation is performing at a 'defined' level. At this level, processes are well characterised and understood, and are described in standards, procedures, tools and methods. **ATS's** set of standard processes, which is the basis for maturity Level 3, is established and improved over time. Many government customers, especially the US Department of Defense, expect their prime contractors to be appraised at CMMI Level 3. Most importantly, it also helps position **ATS** to win competitive systems integration contracts.

## ATS delivers virtual reality



**Advanced Tactical Systems (ATS)** has made the first delivery of its Virtual Air Defense Systems Integrator (ADSI)™ to the Canadian Department of National Defence, reflecting Ultra's successful migration of the proven ADSI application suite to a virtualised environment. This virtualisation follows industry and military trends towards decreasing IT hardware infrastructure, with a focus on decreasing server footprints and power consumption while increasing overall security.

"Our customers need smaller and more energy efficient solutions with increased security, reliability and supportability. With this move to a virtual environment, Ultra is meeting its customers' needs with the first working virtualised tactical data link C2 system," says Todd Madden, Program Manager at **ATS**.

The Virtual ADSI uses the proven version 15 ADSI certified software baseline. Building on the delivery to Canada, **ATS** is also contracted to supply enhanced Virtual ADSI systems for a critical US military programme. This new system includes a wide variety of communication interfaces hosted in a separate interface appliance.





# Naval Systems

Across the board...news and stories from across the division

## SSTD contract for New Zealand's FSU programme



**Sonar Systems** has been awarded a contract worth £9.9m for the provision of its Sea Sentor Surface Ship Torpedo Defence (SSTD) system to be used for New Zealand's ANZAC Frigate Systems Upgrade (FSU) programme. The contract signing ceremony took place in July at the New Zealand MoD Defence House in Wellington. Under this contract Ultra will deliver two Sea Sentor SSTD Systems. The SSTD system delivers a single in-line towed array solution utilising a passive tow for detection, classification and localisation of the threat posed to a ship's safety by incoming torpedoes fired from a hostile submarine. The system features a flexible towed body countermeasure able to decoy and jam all torpedo types, including wake-homing torpedoes, and optional launchers can further deploy expendable countermeasures. The ANZAC FSU project will upgrade the surveillance, combat and self-defence capabilities of the ANZAC frigates to match current and future threats and address the obsolescence of some of the existing systems.

## Mid-life modernisation



**Command & Control Systems (C&CS)** has been awarded a contract worth £32m by the Republic of Indonesia's Ministry of Defence for the mid-life modernisation of the first of the Fatahillah Class corvettes. The contract includes the development, installation and integration of a new combat management system. The marine engineering aspects of the work package will be undertaken by Ultra's partner, Nobiskrug with its local subcontractor in Indonesia. The programme start remains subject to funding provision and the contract will then be delivered over a 28 month period. Discussions regarding the mid-life modernisation of the second ship in the class are already in progress.

## Atlas Elektronik Canada contract

**Maritime Systems** has been awarded a multi-year contract from Atlas Elektronik Canada Ltd for the supply of critical sonar technology. Under the contract, **Maritime Systems** will deliver high power, low frequency acoustic projectors for integration into Atlas' advanced low frequency active sonars that are being sold to several navies around the world. Atlas Elektronik Canada has placed initial orders with Ultra valued at \$1M (CDN) against the contract.

## US Navy contract for acoustic countermeasures

**Ocean Systems** has been awarded a three-year contract totalling over US\$19m from the US Navy. The contract is for the production of the Naval Acoustic Electromechanical Beacon (NAE Beacon) expendable countermeasure and includes a base year and two additional options for 2015 and 2016. The NAE Beacon is designed to counter torpedo threats, performing pre-selected missions while suspended from a float and tether.

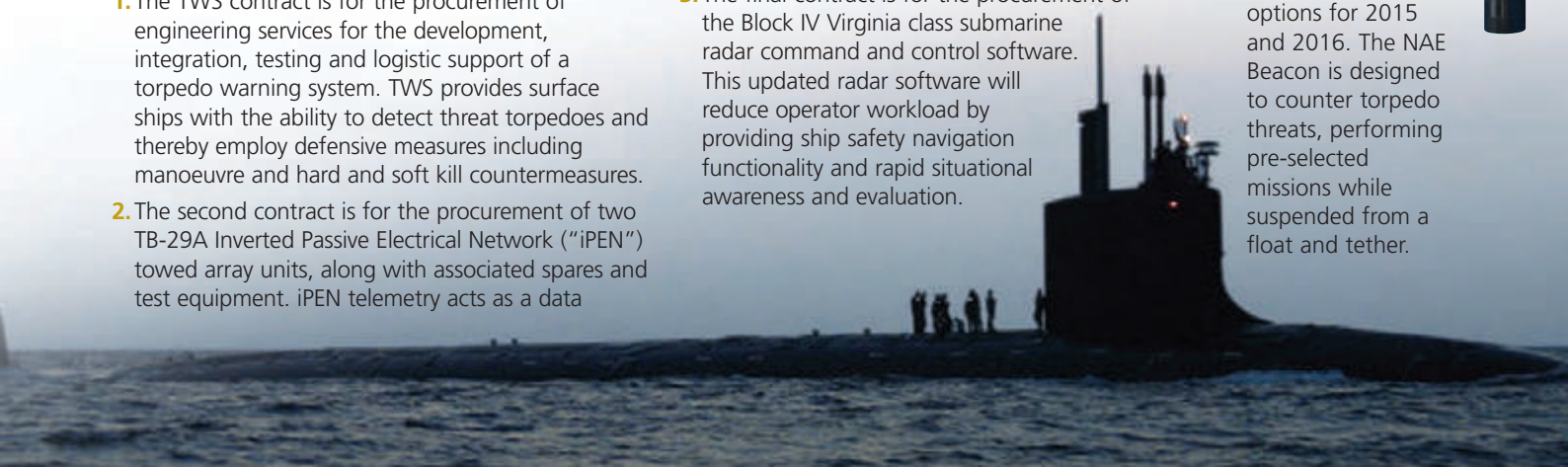
## \$21m US Navy contracts for 3Pi

**3 Phoenix Inc (3Pi)** has been awarded three contracts totalling over US\$21m from the US Navy. The scope of these contracts includes work packages for torpedo warning systems (TWS), submarine towed anti-submarine warfare arrays and radar command and control software.

1. The TWS contract is for the procurement of engineering services for the development, integration, testing and logistic support of a torpedo warning system. TWS provides surface ships with the ability to detect threat torpedoes and thereby employ defensive measures including manoeuvre and hard and soft kill countermeasures.
2. The second contract is for the procurement of two TB-29A Inverted Passive Electrical Network ("iPEN") towed array units, along with associated spares and test equipment. iPEN telemetry acts as a data

fusion point for the integration of towed array handling system sensor data. This technology is expected to provide significant improvement in reliability and operational availability of TB-29A towed arrays, which are used by submarines for target detection.

3. The final contract is for the procurement of the Block IV Virginia class submarine radar command and control software. This updated radar software will reduce operator workload by providing ship safety navigation functionality and rapid situational awareness and evaluation.



# People in the news

## Ultra sponsors The Naval Review Journal Fellowship Award



The Naval Review Journal (NRJ) Fellowship Award is partnered with the Royal Navy, the Royal Australian Navy and is sponsored by Ultra Electronics. The award is an important initiative that recognises an outstanding junior officer in the Royal Navy of Lieutenant rank or below. The award enables a secondment to the Royal Australian Navy, in Australia, for a six-week study period and is highly sought after in the continuing professional development of officers in the Royal Navy. This year's recipient is Lieutenant Lynsey Sewell. She will travel to Australia where the Royal Australian Navy has arranged a schedule to support her research paper. Lynsey will present this upon her return. Lieutenant Sewell is the fifth Fellow to be presented with the award. In addition to the secondment, the winner is also presented with the Dory Compass Award. It is a faithful replica of a Dory compass used by sailors to find their way back to their mother ship.



**Left:** Mark Anderson, Group Marketing Director, presenting the Fellowship Award to Lt Lynsey Sewell

**Above:** The Dory Compass Award

## And the winners are...



In September, the Ultra Electronics Apprenticeship Awards presentation and lunch took place at **Sonar Systems**, Greenford. This Award is part of Ultra's company-wide commitment to supporting and developing its Apprentices and is in recognition of its participant's achievements and commitment to their career development. The 2014 Award recipients were Lakjit Chand based at **Sonar Systems**, Greenford, who completed a Technical Apprenticeship and Connaire Skerritt based at **Sonar Systems**, Weymouth, completing his Electronics & Computer Technology Apprenticeship.

The Apprenticeship Award of certificate, desk trophy and specialised Cross pen was presented by Ross Parsell, Managing Director of **Sonar Systems**. He commented 'I am delighted to present this award, as it is the culmination of Lakjit's and Connaire's hard work and commitment to their future career development at Ultra. They are excellent examples

of apprenticeships in action and **Sonar Systems** is proud to undertake and continue to support Ultra's Apprenticeship Award programme.'

Lakjit and Connaire were mentored by Bill Hellier, Design for Manufacture Technician Supervisor at **Sonar Systems**. Bill joined Ultra as an apprentice in July 1967 and has worked in significant sections of the business over the years. Pictured here, Bill hands down his experience and guidance to Lakjit and Connaire.



Bill commented 'I wish for them the varied and interesting career I have had working at Ultra, having started as Craft Apprentice, Prototype Sheet Metal Worker and now working in Design for Manufacture. One of the best feelings is to see something you and the team have worked on go through from concept, to production and then into service for the customer. That's what I find so rewarding and satisfying'.

**Far left:** Ross Parsell presents Connaire Skerritt and Lakjit Chand with their awards;

**Near left:** Lakjit Chand and Connaire Skerritt with their mentor Bill Hellier



## People in the news



**Left:** (Left to right) Richard Smith, Sue Racster, Ed Povey (**C&CS** award winner), Dan King (**NCS** award winner), Zack Beavan (**NCS** award winner), Tim Moul, Paul Rose and Dave Pickering.

## Continued investment in Apprenticeships across Ultra

Investment in Apprenticeships is something that resonates across the Ultra Electronics group; a vast majority of our colleagues started out from such a platform and have gone on to form the backbone of our capability whether this be as a part of a Senior Management Team or specialist engineers and technicians. The reasons for any company to engage are plentiful; from the proven return on investment, the flexibility to mould and shape young minds to the new perspectives and innovations bought in.

Recognising the skills shortage in STEM subjects (science, technology engineering and maths) and the need to develop a sustainable competent workforce for the future, **Nuclear Control Systems (NCS)** is now in its second year of apprentice recruitment and already delighting in the benefits of bringing on young talent. With three second year students and three first years, heads have been turning company wide at the difference they are making with a newfound spirit and enthusiasm.

Six years ago **Command & Control Systems** recognised a need to look at the possibility of re-starting its apprenticeship scheme. **C&CS** contacted ISIS Training who have proved vital in the success of recruiting and then supporting the young apprentices through their four years at Loudwater. To date six young people have been recruited, of which Grace Munday and Ed Povey have completed their apprenticeships and are in full time employment at Loudwater. A third, Tristan Cadden, is just coming to the end of his last year.

At the Engineering Trust Apprentice Awards held in April this year, a plethora of Ultra Electronics apprentices came away with honours. The awards

are open to all the apprentices managed through ISIS Training, a subsidiary of The Engineering Trust who have over 30 years' experience in Apprenticeship training within the engineering and manufacturing industry.

The criteria with which the apprentices are scored against are comprehensive; scaled from 1-6 Satisfactory to Outstanding. Firstly, the training officers nominate the students and the nomination is approved by their employer. Then these are passed to The Engineering Trust Trustees, who work through the categories and marking criteria to choose a winner for each year.

**Command & Control Systems** Apprenticeship Award winners:

**Ed Povey, Grace Munday, Tristan Cadden**

**NCS** Apprenticeship Award winners:

**Dan King, Joe Key, Zack Beavan**

Congratulations to them all for their achievements. Thanks must also go to all the mentors who have generously given their time and expertise during the internal training placements. Working with apprentices has been, and continues to be, rewarding to all those involved.

Looking ahead there are challenges aplenty for our 'graduating' apprentices when they too will be asked to mentor the new talent coming through. They will continue to learn and develop themselves and forge ahead with career aspirations.

### Joe Key



4year Advanced Apprenticeship in Manufacturing at **NCS**  
**Highly Commended First Year Apprentice**

### Dan King



4year NVQ Level 3 Advanced Apprenticeship in Manufacturing at **NCS**  
**First Year Apprentice winner**

### Grace Munday



**Apprentice of the Year winner (Year 2) and nomination (Year 4) at C&CS**

### Ed Povey



**Two nominations for Apprentice of the Year (second and fourth year) at C&CS**

# People on the move



**1 Chris Gane** has joined Ultra as Managing Director, Aircraft & Vehicle Systems. Chris joins from Caparo Industries plc where he was Divisional Managing Director, Materials Engineering Division. He also brings a wealth of experience with him gained from previous executive roles held with Smiths Detection, Thales (Training & Simulation, Defence Optronics, Naval Business Group) and General Dynamics. Chris has a BSc in Physics & Computer Science from the University of Brighton, is a Fellow of the Royal Aeronautical Society and holds the role of Chairman of the Market Development Board at ADS (Aerospace, Defence, Security trade association).

**2 Dr Andy Slaney** returns to Ultra as Technical Director at **GigaSat**. Andy has 20 years' experience as a communications design engineer. He joins Ultra from BiTronix Ltd where he was Managing Director. Andy previously worked for Siraia Networks Ltd and was Engineering Director at **GigaSat** 2004-2008. He has a BEng in Communication System Design from the University of Luton and a PhD in Electronic Engineering from the University of Hertfordshire.

**3 Chris Binsley** succeeds Uma Subramanian in the role of Divisional Marketing Director, Infrastructure & Power. Previously Chris held the position of Nuclear Strategy Director and will retain these responsibilities in his new role. Chris joined Ultra in 2006 and led the Nuclear Business Unit within **Command & Control Systems** prior to its spin-out as a stand-alone business in 2012. Chris holds a BSc in Physics with Electronics from the University of Nottingham and an MBA from the Open University. He is a Chartered Physicist and Director of the UK Nuclear Industries Association.

**4 Mark Nelson** has been appointed Divisional Finance Director, Aircraft & Vehicle Systems. Having joined Ultra as Group Financial Controller in 2005, Mark was promoted to Divisional Finance Director, Naval Systems in 2012. In 2013, he also fulfilled the role of interim Group Finance Director.

**5 Doug Randol** has been promoted to Divisional Finance VP, Naval Systems. Previously, Doug was VP Finance at **USSI** where he has made a significant contribution to the business through his 35 years' service.

**6 Bernard Mills** has joined Ultra as Regional Marketing Director for Australia, based in Canberra. The creation of the new Canberra based position recognises the growth opportunities within the wider region. Bernard's role is to support all Ultra businesses in the identification of opportunities. Creation and execution of pursuit strategies and regular contact with the Government decision makers. Bernard joins Ultra from GHD where he was Business Leader, Defence and National Security and Federal Government Leader.

**7 Carlos Santiago** has been promoted to Chief Operating Officer, with responsibility for all five Divisions. Carlos joined Ultra with the Flightline acquisition in 1997 where he was President. More recently, Carlos held the position of Divisional Director, Naval Systems.

**8 Mike Clayton** has been appointed as Managing Director of the Naval Systems Division. Mike was previously Managing Director of the Tactical Systems Division having been appointed in April 2013. Mike joined **C&CS** in 1999 and has held positions of Marketing Manager, Marketing Director and Managing Director before moving to Divisional roles.

people on the move



Ultra welcomes new recruits and congratulates staff taking up new positions within the company.

## appointments and promotions



**9 Mike Baptist** has been promoted to Managing Director of the Tactical Systems Division. Mike was previously Managing Director of **CIS**, a role he has held since 2009. He will continue to act as Managing Director of **CIS** until the appointment of his successor.

**10 Ross Parsell** has returned to Ultra as Managing Director, **Sonar Systems**. Ross has previously worked for Ultra at the Datel business where he was Marketing Director and then Managing Director 2003-2006.

**11 Bill Bambarger** has been appointed Divisional Finance Director, Secure Intelligence Systems Division. Bill takes on the role with his current positions as VP Finance for **SOTECH** and **ProLogic**.

**12 Ian Stothers** has been promoted to the new role of Chief Technical Officer at **Controls**. Ian will be responsible for the overall management of technical risk, intellectual property and innovation across all the **Controls'** businesses.

**13 Andy Dargle** has been promoted to Engineering Director at **Controls**, taking over from Ian (see before). Andy was previously Engineering Manager, Systems.



**14 Jeff Stone** has been promoted to Commercial Director at **Controls**. Jeff was previously Head of Commercial at **Controls**.

**15 Debbie Massey** has been promoted to Commercial Director at **PALS**. Since joining Ultra in 2004, Debbie has worked her way up the ranks through Contracts Manager and Head of Commercial.

**16 Michael Spencer** has been promoted to President at **ProLogic**. Michael joined Ultra in 2011 in a business development role.

**17 Mark Darvill** has been appointed Managing Director at **Surveillance & Security Systems**. Mark joined Ultra in 2011 and was previously Managing Director at **AEP Networks**.

**18 Michael Phipps** has been promoted to Chief Technology Officer for Secure Intelligence Systems Division. Michael was previously President at **SOTECH**.

**19 Patrick Allison** has been promoted to VP Sales & Marketing at **USSI**. Patrick joined Ultra in 2010 as Marketing Manager for the HyperSpike technology range.

**20 Rochelle Borden** has been promoted to VP Program Performance at **Ocean Systems**. Rochelle joined Ultra in 2011 as a Senior Program Manager.

## Chairman's corner

I write this as we come to the end of 2014, which as a result of the continued economic climate with sustained pressures on government budgets, both home and abroad, has been another extremely tough year.

Despite these market challenges, reading through this edition of **UltraNews**, I am invigorated by the key wins, the technical innovation, and most of all the energy and the achievements of our people.

In these times, it is vital that the company focuses on winning new business. It is more important than ever that we adhere to what we do best – that is the development of technically innovative and commercially viable solutions to meet customers' real needs. In this respect, our strategies for growth and our guiding principles offer valuable guidance as to what our

core behaviours and focus should be. I am encouraged to see so many of you embracing these principles and willing Ultra to succeed.

The Board and I continue to promote and champion Ultra wherever we can. This has included engaging with senior political and industrial figures; raising issues at more senior political levels; and supporting exhibitions and shows, most recently Farnborough 2014.

And finally I hope that you enjoy this edition of **UltraNews** and find it informative.



## all in a good cause

### Mount Everest

Staff at **PMES** are renowned for consistently taking part in charity events. These have ranged from annual activities such as the Palace to Palace cycle race, the London Marathon, the Keswick to Barrow Walk, and the Birmingham Run, to various one off raffles, bake and book sales, and lotteries; that in 2013 raised a total of £18,388 for various local and national charities.

Keen to support the company's charitable work, Jon Everett, Managing Director at **PMES**, agreed to embark on a charity trek to reach Mount Everest Base Camp and the summit of Kala Patthar. He was accompanied on this challenge by his 78 year old father, who has for the past ten years conducted a number of mad adventures across the world.



Jon said 'I would like to thank all those who kindly sponsored my father and me. Your support resulted in over £10,000 being raised for Cancer Research and Marie Curie Care. In particular, I would like to highlight the extremely generous donations from the **PMES** staff in UK and the **Ithra** staff in Oman. My thanks also to **Head Office** and **NSPI** whose donations came with requests to fly the Ultra flag and Breast Cancer awareness pin during the trek, these were duly carried to both Everest Base Camp and Kala Patthar.'

### Beth raises cash, again!



In September, Beth Farner, Program Manager at **3Phoenix**, participated in her 5th BikeMS in New Bern, North Carolina, raising

money for the Greater Carolinas Chapter of the National Multiple Sclerosis Society. This two day event brings thousands of cyclists to the intercoastal area to raise money, have fun and make a difference in the lives of people living with MS.

Beth started cycling just over five years ago, and so far, Beth and her husband have raised over \$15,000!

### Let them eat cake!

A huge thank you to everyone at **Controls**, **Sonar Systems** and **CIS**, who took part in the MacMillan fundraising coffee and cake morning in September. The event has raised over £1000.00 and is still going. Musical accompaniment was provided by singer Feyi Falade, the key instigator and organiser of the event, with Dan Munzos and Matt Lia amongst others on strings. A very special thank you to the canteen team, the business contacts, everyone who helped with set up, baked or provided any other kind of support. Well done all!

Voted Cake Champions for the yummiest cakes were:

**1st:** Chetna Supeda: Project Accountant, **Sonar Systems**; **2nd:** Daniel Pritchard: Graduate Engineer, **Sonar Systems**; **3rd:** Ken Page: Principal Quality Engineer, **Controls** and Anum Zafar: Financial & Commercial Assistant, **Sonar Systems**.

The Just Giving page is still running for anyone who would like to donate online:

<https://www.justgiving.com/Feyisike-Falade1>



**Top:** Event organiser, Feyi Falade, with band members, Dan Munzos and Matt Lia;

**Above:** 1st placed cake baker, Chetna Supeda (left) and 2nd placed Daniel Pritchard (right)

### Not forgotten...

**Sonar Systems** has regularly sponsored a yacht in the Reginald Fessenden Challenge to raise money for the Not Forgotten Association. This is the charity that offers life-long support of injured service men and women. The Ultra team did itself proud this year by achieving joint 3rd position – not bad considering they had never sailed together, not sailed that class of yacht and were the last to turn in the night before, due to their fundraising it must be said! Therefore, they are also proud to win the prize for raising the most money for the charity on the day. Well done to all involved for digging deep. The crew comprised salty dogs Tina Haggett, Richard Lindsey, Stuart Riches, Sean Bell, Greg Clothier, Mark Wildman and Bill Frewing.



### Race for the Cure

87 employees and family members at **ATS** participated in the first company annual pie-throwing fundraiser for Breast Cancer Research (Race for the Cure). Employees got to throw pies in manager's faces for being the highest bidder on a silent auction. A total of \$1,415 was raised between the pie-throwing and other fundraising activities.

### New Beginnings

The 6th Annual Steps Against Domestic Violence-Seattle fundraiser walk was sponsored in part by **ID**. The event was a great success and raised \$3,325 for the New Beginnings project that provides shelter, advocacy and support for battered women and their children. **ID** customer support technician, Arthur Peach, whose life has been affected by domestic violence, planned this yearly event with his family.





## against the clock

In this issue, **Brian, Rene** and **Dave** spend 60 seconds with UltraNews, sharing random facts about their careers and personal lives...



### Brian Bates

Divisional Marketing Director within the Tactical Systems Division.

I have now been with Ultra for 18 months. Prior to joining, I served 30 years in the Royal Air Force.

**1. What was your very first job?**

Working in the Harrods warehouse in Barnes during the school holidays to finance an Interrail trip across Europe.

**2. Do you remember your favourite teacher? How did they inspire you?**

It's a long time ago now, but I do remember Mr Sartin, who passed away a few years ago. He made Maths fun, well bearable! He encouraged me in a number of sports.

**3. What did you want to be when you grew up?**

A professional sportsman then a lawyer. I failed miserably on both counts.

**4. If you had one day in your life to live over, which would you choose and why?**

Tricky one (and might take some explaining if my wife ever gets to read this) but it would probably be watching the British Lions beat the Springboks in Durban in 1997 and then joining the teams for the after match party. To any rugby enthusiast, I think the why is obvious!

**5. What is one of your favourite quotes?**

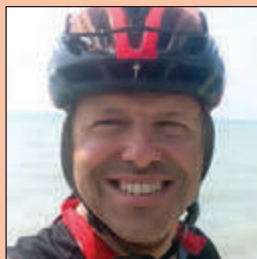
'A problem shared is still a problem'. No seriously, the first one to spring to mind is 'There is little difference in people but that little difference makes a big difference. The big difference is attitude and whether it is positive or negative.'

**6. Where was the best vacation you ever had?**

It's a toss-up between the Maldives and Disneyland in California! I honeymooned in the former and surprised my daughters with a trip to the latter – we had a ball.

**7. If you won the lottery, what is the first thing you would do?**

Party!



### Rene Belanger

President at **Forensic Technology**.

**Forensic Technology** was acquired by Ultra in May 2014. I have been with the company since February 1994. I was also an employee of Walsh Automation which is the company from which **Forensic Technology** was created.

**1. What was your favourite food when you were a child?**

French fries!

**2. What certificate/award are you most proud of?**

Forensic Technology won Canada's 50 Best Managed Companies award in 2009 and kept its status until purchased by Ultra. I am proud of this award because it is based on a very detailed study of the Company Business Plan and related achievements.

**3. If you could open your own business what would it be?**

I think I would open a travel agency specialised in organising sports related trips, like cycling, skiing and sport teams like hockey. I did a European hockey trip in 1989 and it still today brings back great memories.

**4. What's your favourite indoor/outdoor activity?**

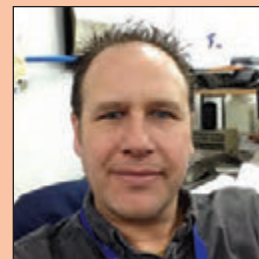
In the winter, I try to go skiing as many weekends as possible. I share my time between cross country and alpine skiing. In the summer, I turn into an avid cyclist; I even commute to the office three/four times a week.

**5. What CD are you listening to in the car?**

These days I am listening to Adam Cohen's latest CD, he is the son of the famous Leonard Cohen.

**6. What would you like to know about the future?**

I would like to know how the human race will cope with the upcoming climate changes. I feel we don't do enough now.



### Dave Lee

Senior support engineer at **PALS**.

Believe it or not, I've been with Ultra (and Dowty) for 31 years. What's more, as a result of **PALS** move to Arle Court, I am not only in the same building where I started my apprenticeship, I am even in the same room!

**1. What is your greatest achievement?**

Probably restoring eight classic motorcycles over a twenty year period. All were started with boxes of bits and lots of parts missing.

**2. What talent do you wish you had?**

Playing the electric guitar like Angus Young from AC/DC, although plastering would come in handy now and then.

**3. What did you do growing up that got you into trouble?**

Running over the roofs of semi detached bungalows, jumping the gaps and trying to get from one end of the road to the other. I guess we invented free running?

**4. What is the most decadent treat you've awarded to yourself?**

I recently bought a Vintage Kawasaki motorcycle that I'd wanted since I was 17, so I didn't wait that long!

**5. Which celebrity would you most like to have dinner with?**

I hate the word 'celebrity'! 'Well known people' they should be. It would have been Sid James, but I've missed the boat.

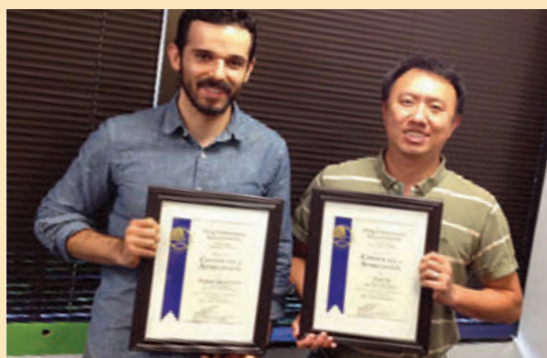
**6. What is the most weird food you have ever tried? Did you like it?**

I'm not very adventurous, so it would be rabbit. It was full of lead shot, so no, I didn't like it.

**7. If you had one day in your life to live over, which would you choose and why?**

I would say the birth of my daughters, but they were different days so not fair to pick one. Probably the day I was awarded my Dowty apprenticeship, all my work worries disappeared and school suddenly became a great place for the last few months.

and **finally...**



## SOTECH's wise SAGEs

Two **SOTECH** employees, Paul Su and Miguel Buenrostro, have been awarded Certificates of Appreciation by the Drug Enforcement Administration (DEA). This award is presented to individuals for outstanding contributions in the field of drug law enforcement. Paul and Miguel have worked diligently on an Ultra product called SAGE for the last four years. This product has had many successes in assisting the customer with their drug enforcement efforts, including at least one that prevented loss of life. Paul and Miguel were present when the idea was first presented to the customer; they then architected and developed the product, fielded the product, trained the operators, and have provided technical support 24-7 since the day the product became operational.

## A very **Royal** opening

The new galleries at the National Museum of the Royal Navy have now been officially opened by HRH The Princess Royal. Ultra, invited to be involved from the earliest days of the project, donated exhibits and demonstrators exemplifying some of Ultra's cutting edge systems in RN operations. These include an Anti-Submarine Warfare (ASW) operational scenario, featuring sonobuoys and Surface Ship Torpedo Defence (SSTD) countermeasures in action, and Ultra's In-Service Support for the RN's mine disposal system as an interactive demonstrator.



## Al Shaheen's Outdoor Learning

**Al Shaheen's** Outdoor Learning Centre welcomed a group of Grade 6 students from Safa School in Dubai who enjoyed three days of outdoor activities which included sailing, climbing and a range of activities on the High Ropes course. The new Outdoor Learning unit builds on **Al Shaheen's** experience in delivering the Al Bayariq Programme (see page 17) and in providing Adventure Training programmes for adults. The **Al Shaheen** Outdoor Learning offers school students aged 8-18 a range of exciting water, desert or mountain-based multi activity camps including trekking, mountain biking and kayaking expeditions. Operations Manager, Stuart Downie observes, 'For many students, an **Al Shaheen** Activity Camp will be their first real adventure away from home and they will remember it forever.' The residential activity camps and expeditions are available for boys and girls, from government and private schools in the UAE and other Middle Eastern countries.



## OARsome!



**AEP** employee Peter Clements, who is Chairman of Eton Excelsior rowing club in his spare time, was honoured to meet Her Majesty The Queen and Sir Steve Redgrave at the Coronation Anniversary Regatta on the Thames. Held in the grounds of Windsor Castle, the regatta celebrated the 60th anniversary of the Queen's coronation.

## The Dr Ben Rickman room



A special way of remembering a much respected and influential colleague came about as a result of a ballot to select a name for a new conference facility at Greenford. The late **Dr Ben Rickman**, was not only an exceptional mathematician and a member of the Engineering department at **Sonar Systems** for 25 years, he was also a founding and key member of the Systems Group, carrying out research and feasibility studies which ultimately led to Ultra becoming a world-leading sonar system designer and provider. Amongst the names on the ballot paper of famous Admirals and heroes, the choice of RICKMAN was by far the winner, a process that would have appealed to Ben's principles and an outcome that would have amused him. His wife Jane was invited to open the new conference room with Rickman proudly displayed on the door. This will mean that Ben's memory and contribution will be forever part of our future research and business activities whenever our engineers and customers are working in the Rickman room!

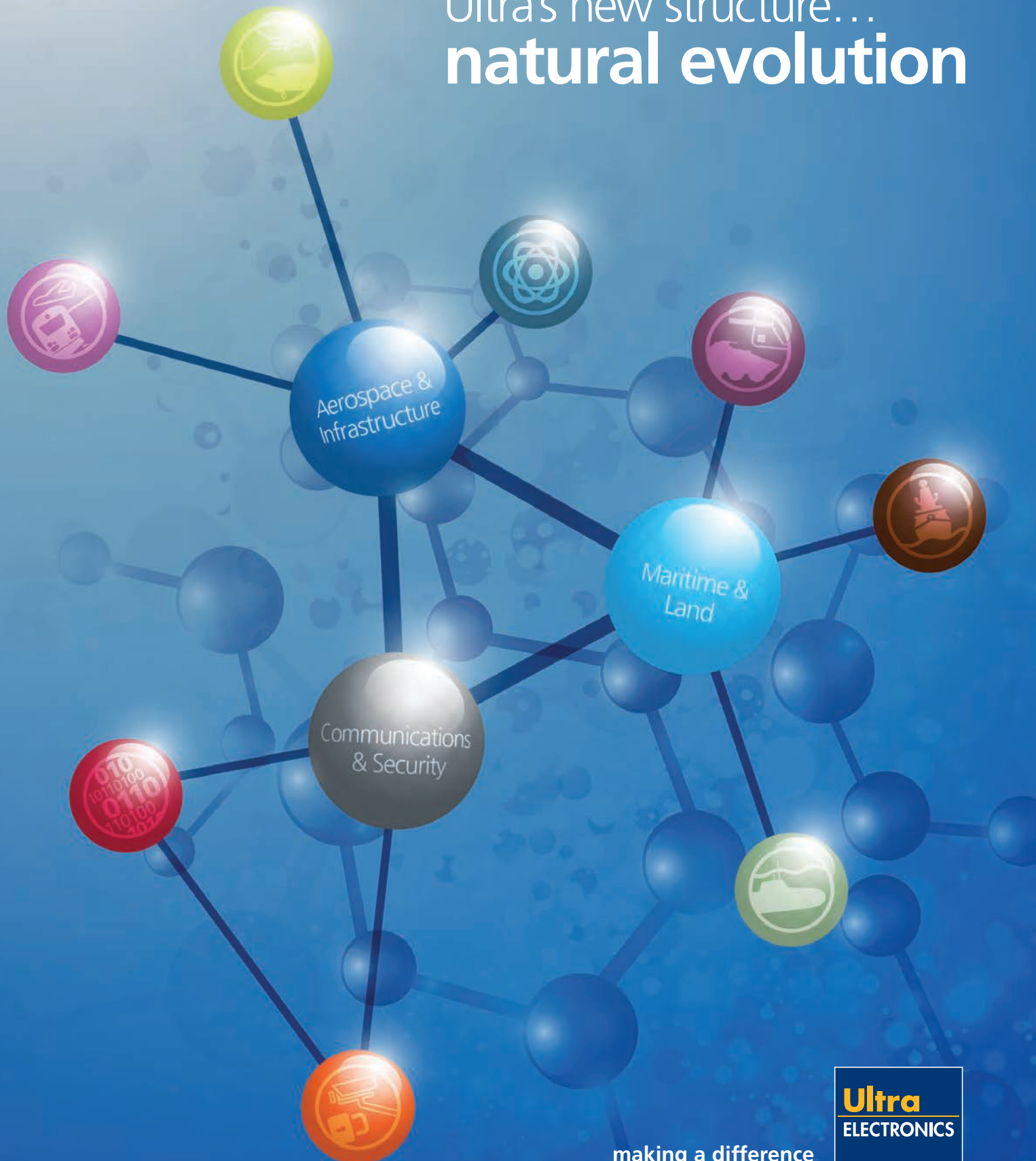
If you have any interesting stories, – business, social or personal, that you would like to see included in future issues of **UltraNews**, please e-mail the material to:  
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or Alison Dunn,  
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# UltraNews

Ultra's new structure...  
**natural evolution**



making a difference

**Ultra**  
ELECTRONICS

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If you have any interesting stories, – business, social or personal, that you would like to see included in future issues of UltraNews, please e-mail the material to: Samantha Potter, [samantha.potter@ultra-electronics.com](mailto:samantha.potter@ultra-electronics.com) or Alison Dunn, [alison.dunn@ultra-electronics.com](mailto:alison.dunn@ultra-electronics.com)

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# Introducing Ultra's new a natural

You will all have now heard about the new organisation structure and market segmentation. Ultra's broad portfolio of capabilities has been positioned into eight groups, each facing a specific end market segment. I would like to take this opportunity and use this edition of UltraNews to explain these market facing segments in greater detail to you all.

The eight market segments are as follows:

Underwater warfare	
Maritime	
Land	
Aerospace	
C2ISR*	
Communications	
Nuclear	
Infrastructure	

More detailed information on each market segment is found pages **4 and 5**



"Over the past year, we have seen order intake increase due to greater demand across our market segments for Ultra's specialist capabilities."

**Rakesh Sharma** Chief Executive

# capability segment structure evolution



The aligning of capabilities into market facing segments is a natural evolution of Ultra's business model. This is now possible as the Group's portfolio has reached a critical mass.

Ultra's eight market segments provide a framework to allow the Group to utilise its full range of capabilities and better exploit its domain expertise and specialist technologies in specific end markets whilst retaining the autonomy of each individual business.

The Group's core principles of LEAP, LAUNCH and Autonomy remain crucial to Ultra as they allow the Group's businesses to remain agile and to generate and deliver highly differentiated niche technological solutions to their customers. Over the past year, we have seen order intake increase due to greater demand across our market segments for these specialist capabilities. The majority of business activity in Ultra will continue to reflect this autonomy. The benefit of the new framework is that it will provide the Group with greater efficiency and coordination. It will also ensure that Ultra's skills and resources are better aligned to lever the collective strength of its portfolio to compete for larger opportunities, beyond the ability of a single business.

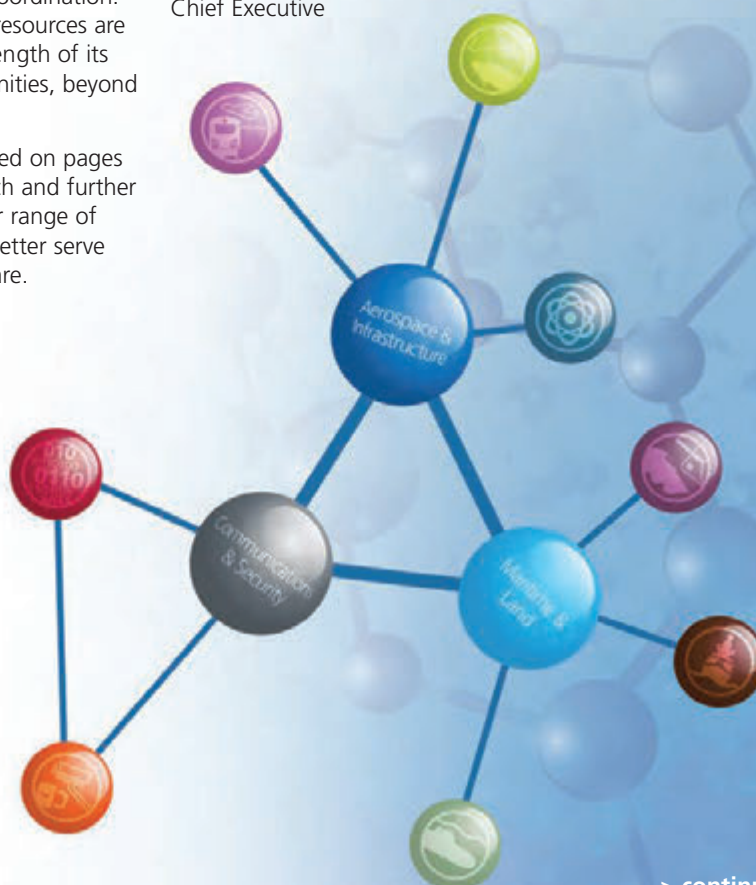
The new organisational structure (detailed on pages 6 and 7) supports this segment approach and further enhances our ability to promote a wider range of more complete solutions and, in turn, better serve the market and increase our market share.

This type of Collaborative Autonomy already takes place within the Group but the new segment framework and the new organisational structure makes this internal teaming easier by: removing cross divisional barriers, reducing the cost base and allowing more efficient application of resources and maintaining autonomy all under a much simpler span of control.

The Standardisation and Shared Services (S3) initiative will take advantage of the reorganisation and change to market facing segments to identify best practises and further opportunities to increase the efficiency of the Group. This is described in more detail on pages 8 and 9.

I would like to finish by thanking all of you for your continued hard work, dedication and enthusiasm. The ability to implement this strategy successfully is entirely reliant upon the engagement, commitment and passion of all of you.

**Rakesh Sharma**  
Chief Executive



> continued on next page

"The reorganisation will further enhance our ability to promote a broader range of capabilities..."

## Market segments

### Underwater warfare



delivering dominance in the underwater battlespace, providing a critical operational advantage to its customers.

#### Sonar systems

- Hull-mounted sonar, a combined active/passive array
- Scalable series of forward- and side-looking sonar array solutions for submarines
- new generation of variable-depth sonar
- the comprehensive, fully-integrated sonar suite for surface ships, comprising both hull-mounted and towed arrays

#### Torpedo Defence

- passive and active sonar systems that detect and classify all known torpedoes

#### Acoustic torpedo countermeasures

- towed and expendable off-board acoustic countermeasure systems
- acoustic expendables, complemented by towed systems and the flexible towed body

#### Sonobuoys and sonobuoy receivers

- sonobuoys, spanning the entire spectrum of types and sizes
- sonobuoy receivers
- multi-static active capability enhancing the detection of quiet submarines

### Maritime



sensors, combat management systems, power solutions for surface, sub-surface and unmanned platforms.

#### Combat systems & sensors

- surface ship combat management and mission systems, integrating sensors and effectors/weapons
- advanced sensors and processors
- specialist capabilities for unmanned naval systems, both surface and subsurface

#### Platform signature management

- signature management and control for ships and submarines
- nuclear reactor control and instrumentation systems
- power-dense motor drives for naval vessels, supporting electric cruise propulsion and gas turbine electric start systems

#### Fire control & weapon systems

- weapon interface electronics for tube-launched torpedoes and missiles
- naval electro-optical (EO) and fire control systems

#### Mission support

- long-range acoustic hailing
- situational awareness systems
- HMI solutions
- effective formal logistic support for the warfighter

### Land



systems and equipment for modern military manned and unmanned vehicles to improve reliability and performance; innovative products optimised to support the unique challenges of the dismounted soldier.

#### Fire control & weapon systems

- electro-optical solutions for a broad range of applications including fire control
- magneto-inductive signalling products for remote detonation and fire control systems
- magnetic signals for communication directly through intervening media not penetrable by radio waves

#### Vehicle systems

- vehicle electronic architecture
- information and power management systems
- utilities management of the electrical power sub-system
- situational awareness
- battery monitoring and management
- advanced human machine interface (HMI) equipment
- integrated health and usage monitoring systems (HUMS), including radiation monitoring

#### Soldier systems

- hand-held command, control, communications and computer (C4) systems for the dismounted soldier
- propane-powered fuel cells, small enough to replace large amounts of batteries carried by the warfighter on operations
- mGO portable oxygen generator provides medical grade oxygen at the point of need

### Aerospace



electronic systems, control and instrumentation solutions for military and civil aerospace applications on both manned and unmanned aircraft.

#### Aircraft systems

- high integrity electronic systems
- airframe control systems
- landing gear control systems
- active noise cancellation and vibration control systems
- electro-thermal ice protection systems for the wing leading edge and engine intake
- systems for the detection and monitoring of structural anomalies, including cracks
- high reliability temperature sensors

#### Avionics

- aircraft instrumentation products, from engine power management systems to flight instrumentation
- hand control systems, grips and joysticks for use in aircraft cockpits
- advanced human machine interface (HMI) equipment for control suites and portable control systems for UAVs

#### Aircraft weapon systems

- HiPPAG – airborne high pressure pure air compressors
- controllable energy source for pneumatic ejection of aircraft

#### Logistics & mission support

- automatic portable test equipment and harnesses for integrity validation, safety testing and calibration of fixed and rotary wing aircraft fuel, data-bus and electronic filtering systems
- through-life support services such as obsolescence management, condition-based monitoring and maintenance, repair and overhaul services





## Mark Anderson Group Marketing Director



### C2ISR

specialist infrastructure protection, surveillance, communications intercept, situational awareness and electronic warfare capabilities supporting law enforcement, military, industrial and civil customers.

#### Protection of infrastructure

- wireless surveillance and protection systems
- situational awareness systems for perimeter surveillance
- protection from cyber threats to IT systems and networks
- secure ID solutions for local access control measures

#### Surveillance and security

- tactical and strategic situational awareness
- monitoring and policing of sites and perimeters
- security of national boundaries and critical installations
- coastal and maritime surveillance
- networking solutions to protect a nation's economic exclusion zone and territorial waters
- advanced airborne targeting and reconnaissance systems sharing full motion video and data with suitably equipped ground forces and forward air controllers
- forensic analysis solutions, including ballistics identification, document examination and crime scene investigation

#### Data intercept & analysis

- turnkey communications surveillance systems used for the lawful intercept of communication traffic
- ground, sea and airborne electronic warfare (EW) systems



### Nuclear

certification, delivery and safe operation of the nuclear reactor and associated systems with a focus on equipment that requires formal safety qualification and accreditation.

#### Nuclear safety systems

- development and integration of safety-critical solutions to the commercial and military nuclear markets
- nuclear plant protection systems, nucleonics, diverse safety system design & qualification and through-life support

#### Nuclear qualified sensors

- sensors for critical measurements within the nuclear power plant
- temperature and pressure sensors
- UK design authority for reactor neutron flux detectors

#### Plant life extensions & upgrades

- managing the threat of obsolescence and the long operational lifetimes within the nuclear industry

#### Radiation monitoring

- detection technologies providing continuous monitoring of reactor cores, plant and personnel, national and international boundaries

#### Emergency Monitoring & Management

- emergency monitoring and incident management
- training, infrastructure, secure software management



### Communications

communication equipment and systems that enable accurate and timely critical information exchange of voice, video and data to military, government, law enforcement, industry and commercial customers.

#### Encryption solutions

- encryption and information assurance solutions
- commercial payment solutions
- cryptographic products
- secure network management tools and key generation
- distribution and management systems,
- development and implementation of secure communications architectures

#### Data link systems

- tactical, C2 and video data link systems
- critical data exchange and situational awareness to naval, land and airborne users
- airborne tactical communications pod

#### Radio & wireless systems

- commercial information technology
- reliable high-capacity military radio technology
- integrated communication solutions: line-of-sight radio, encryption, Wi-Fi and WiMAX

#### Satellite systems

- fixed, vehicle-based and transportable satellite earth stations, or satcom terminals

#### Specialist systems

- personal protective gear communications
- Hyperspike acoustic hailing devices
- magneto inductive 'through the earth' communications



### Infrastructure

providing and integrating critical systems and software to operate, optimise and secure both today and tomorrow's transport and energy infrastructure.

#### Airport & airline information management systems

- secure airport operational systems
- passenger processing systems
- ground handling/baggage management systems

#### Smart infrastructure

- protection of critical energy and transport systems
- bespoke transformers, reactors and fault current limiting capability to the emergent Smart Grid sector
- high performance wireless video and telemetry transmission systems to support digital CCTV
- intelligent road traffic light monitoring and prioritisation systems

#### Rail transit power

- high-technology power conversion and control solutions to transit authorities
- sub-station equipment including Transformer Rectifier Units (TRU) and complete turnkey systems

#### Power management & energy storage

- compact, power-dense, low voltage sub-systems and controls for renewable energy applications
- fuel cells extend the functionality and reliability of remote applications

#### Energy management

- energy control wireless networking solutions

"This new organisation structure not only better aligns with the market facing segments, but it also reduces cross-divisional work."

## Structure

# Ultra's new divisional

There is no fundamental change from the previous structure, only a redistribution of businesses to the new Divisions

The businesses have been reorganised into three new operating divisions.

The three operating divisions are as follows:

- **Aerospace & Infrastructure Division**  
led by **Graeme Stacey**
- **Communications & Security Division**  
led by **Mike Baptist**
- **Maritime & Land Division**  
led by **Bill Terry**

Each of the three divisions will be led by a Divisional Managing Director or President who will be directly responsible to Carlos Santiago, Chief Operating Officer. Each division will have a Divisional Finance Director or Vice-President and a Divisional Marketing Director or Vice-President, both of whom will report to their respective Divisional Managing Director or President.

As before, the Managing Directors and Presidents of each business will be directly responsible to their Divisional Managing Director or President for the management, operation, and performance of their business. In this respect, there is no fundamental change from the previous structure, only a redistribution of businesses to the new Divisions.

In February, the **Surveillance & Security Systems** business was merged with the ISTAR Business Unit of **Communication & Integrated Systems (CIS)**. The combined team will be led by Craig Steger-Lewis, ISTAR Business Unit & Commercial Director. The capabilities of the combined Business Unit will enable Ultra to achieve greater market share and strengthen the technology offering to our customers.

In June the **Contract Electronics Manufacturing Services (CEMS)** business became an operating business unit of **Nuclear Control Systems (NCS)**. Reporting to Nick Gaines with a remit to create a centre of excellence for electronic manufacturing services across the Ultra Group. It is Ultra's long-term strategy to sustain and develop the manufacturing services capability, maintaining a focus on quality and enhancing customer service.

"As far as practical, this new divisional structure aligns with and supports the new market facing segment framework, enhancing collaboration and improving the Group's ability to win business in our addressable market segments."



# structure

The new family tree with the names of businesses and presidents, illustrates the new structure:



## Standardisation & Shared Services

# S3



## ...is about not re-inventing the wheel

Identifying business transformation and efficiencies







## Graeme Stacey Managing Director, Aerospace & Infrastructure Systems

“Many of you will become involved in this programme – it is in our culture to harness your knowledge and your expertise to shape the future of Ultra.”

Autonomy is one of Ultra’s defining characteristics. Autonomous businesses with responsibility for their own destiny; responsibility for setting the strategies that will shape their future and then delivering the plans which turn the vision into reality. This empowering culture continues to release the creativity of our people to make a difference every day.

As you have read in this issue, Ultra’s focus on customers and niches has created market facing segments of capability within the Group. The reformed divisions aligned around the segments will enable businesses to collaborate more easily in the market place and address customers’ needs more efficiently. But Ultra’s drive for efficiency doesn’t stop there. As we have grown as a Group, through acquisition and organic success, each autonomous business has a duplicate of the back-office functions that keep it performing day to day like finance, human resources and IT.

The larger Ultra becomes, the more inefficient it is for each individual business to have all the indirect functions necessary to operate smoothly. Reporting and good governance becomes increasingly burdensome and inefficiencies creep in across the business. We have identified opportunities to improve the efficiency of the Group and so have begun a programme to transform the way Ultra does business through Standardisation & Shared Services. The programme will be called S3.

S3 is not about centralisation. Nor is S3 about curtailing a business’ autonomy or its ability to respond with agility to customers’ needs. S3 is about not re-inventing the wheel. S3 is about businesses adopting common, best practice solutions to run efficiently. S3 is about realising opportunities to share resources within segments, divisions, regions

of the world or Group-wide. The diversity of Ultra means that one-size-fits-all will not always work. Issues of national security are one factor that may limit the sharing of resources; statutory requirements that require different approaches in different countries are another.

The initial scope of S3 includes finance, commercial, human resources, facilities and information & communications technologies. The first phase, which has already commenced, is to establish the current state of affairs: how businesses operate today and where the greatest opportunities exist. As well as delivering improved and more consistent levels of service across the Group, S3 will create new opportunities for individuals to make a difference in Ultra outside their business and we expect Centres of Excellence to emerge around the Group.

Expect to hear a lot more about S3 in the coming months. Many of you will become involved in this programme – it is in our culture to harness your knowledge and your expertise to shape the future of Ultra. If you have ideas for standardisation projects or wish to be involved in this programme, please drop me a line at [graeme.stacey@ultra-electronics.com](mailto:graeme.stacey@ultra-electronics.com)

“We have identified opportunities to improve the efficiency of the Group and so have begun a programme to transform the way Ultra does business...”

"Everyone likes to belong to an enterprise to be proud of. I believe that in Ultra we already have that..."

## Ethics



An interview with **Martin Bell**

# Ethics Committee

UltraNews met with Martin Bell, Independent Member of the Ultra Electronics Ethics Committee, to find out how the Committee was born and its on-going role.

The Ethics Committee did not come out of nowhere. It started life with a company acquired by the Group in 2008. At that time, the Bribery Act was about to come into force. Following the Enron scandal, among others, there was a growing awareness in the business world of the need to do things right or suffer the consequences. I remember once being asked to speak about ethics to an 'away day' of one of the Big Five accounting companies. By the time I got there, there were only four. The other had gone down with Enron. It can take twenty years to build a good reputation and a couple of days to destroy it.

Ultra Electronics decided that the time had come for a renewed emphasis on doing business openly and ethically. So the Committee was formed – or rather re-formed.

So who are we and what do we do? We are not adversarial, though we usually sit on opposite sides of the table at our quarterly meetings either in Greenford or at one of the business facilities. Ultra is represented by Rakesh Sharma the Chief Executive, Sharon Harris the Company Secretary and General Counsel, and Mike Baptist Managing Director of the Communications & Security Division.

On our side of the table the three Independent Members come from very varied backgrounds. Our Chairman David Shattock is a former Chief Constable of the Dyfed Powys and Avon and Somerset police forces. Major General Tim Cross formerly commanded one of the three divisions of the UK Field Army. In my own other life, I was a BBC war reporter and Independent MP, elected on an issue of public trust in public life. Having served on the House of Commons Standards and Privileges Committee, I do not recommend the parliamentary system of oversight as a model for good business practice!





What we are not is a sort of in-house Star Chamber or team of fault-finding Grand Inquisitors. We see our role as much more positive than that. The metaphor we sometimes use is that of a 'hand rail' to guide a good company in the direction of becoming a great one. Its two greatest assets are its people and its reputation.

The Independent Members visit the Ultra businesses regularly. We talk to the SMTs and other staff, especially those outward facing with clients and suppliers. I don't think any of them have found it a particularly burdensome experience. The remit goes much wider than compliance with the Bribery Act. We are not so much interested in ticks-in-boxes and sets of rules as in ethical awareness and training – especially in newly acquired companies – and in the character and mind-set of the Group. We monitor its heartbeat.

**"We Independent Members are proud of the Ethics Committee. We see it not as some kind of an optional add-on, but as making a real contribution to the future of Ultra Electronics."**

Everyone likes to belong to an enterprise to be proud of. I believe that in Ultra we already have that – but we have to keep working at it. Sooner or later, we in the Ethics Committee always get round to the 'Enron question': is there any circumstance or set of circumstances that could bring this business down? Failure, like success, can be a team effort – perhaps an untested piece of equipment plus a lack of supervision. It wants watching, and one of our jobs is to help with the watching.

We also keep a weather eye on the wider world and the impact of its instability on a Group so heavily involved in the defence industry. Sometimes, we discuss the increasing use by the USA, the UK and others of UAVs or drones. If Ultra provides components which make a weapons or surveillance system more accurate, then we don't see a problem. The end use of whatever Ultra manufactures lies squarely within our remit.

One thing that continues to puzzle us within the businesses is the under-use of the Ethics Point system for raising ethical and other concerns. Are there really so few concerns? We would like to think so. But it is central to the ethos of Ultra Electronics that whistle-blowers will not be penalised.

We Independent Members are proud of the Ethics Committee. We see it not as some kind of an optional add-on, but as making a real contribution to the future of Ultra Electronics.

## Ultra's Independent Ethics Committee

### **Major General (Retired) Tim Cross CBE:**

Was commissioned into the British Army in 1971. He commanded at every level, from leading a small Bomb Disposal Team in Northern Ireland in the 1970's to commanding a Division of 30,000 in 2004/07. He had operational deployments in Kuwait/Iraq in 1990/91, Bosnia in 1995/96 and 1997, and Kosovo in 1999. In 2002 he became involved in the planning for operations in Iraq – subsequently deploying to Washington, Kuwait and Baghdad, after which he commanded one of the three Divisions of the UK Field Army before retiring in January 2007. Tim was the Army Adviser to the UK House of Commons Defence Committee for five years and, in addition to working with Ultra, he is now a Defence Adviser to a number of UK/International Companies, a 'special' Professor at three UK Universities, a Tutor and Trustee of the Leadership Trust, a Local Lay Minister in the Church of England, and the Chairman of the Board of Theos – a public theology Think Tank.



Tim Cross, Major General (Retired), widely acknowledged as an expert commentator on moral and ethical behaviour.

### **Martin Bell:**

After two years as a soldier in the Suffolk Regiment, Martin Bell obtained a first class degree at King's College Cambridge. He worked for BBC News for 33 years, mainly as a war reporter in Vietnam, Africa, the Middle East, Central America and the Balkans. He was wounded in Bosnia in 1992. He was elected to the House of Commons in 1997, the first Independent MP since 1951. He has been a Goodwill Ambassador for UNICEF since 2001. He was twice the Royal Television Society's Reporter of the Year and was awarded the OBE in 1993. He has written six books, mainly on war and politics.



Martin Bell, journalist and former MP with a long track-record of campaigning against corruption.

### **David Shattock CBE., OSt.J., QPM.:**

David Shattock joined the Police Service in 1956 after service in the Royal Navy. He served in all departments, his particular interest being the investigation of crime. He served in three forces, was in operational command of two of the three major Bristol riots and was appointed a Chief Officer in 1977. He retired in 1998 after 12 years as Chief Constable in command of the Dyfed Powys and Avon & Somerset forces. Upon retirement he spent two years as Special Adviser to the Prime Minister of Mauritius. He is an honorary graduate of the University of the West of England (Doctor of Laws) and Bristol University (Master of Arts).



David Shattock, retired Chief Constable. Committee member since its inception.

## Group news

# Ultra matters

## The Dory Compass award goes to...



The Naval Review Centenary Fellowship, is a partnership between the Royal Navy and the Royal Australian Navy, and sponsored by Ultra Electronics. It is an award that recognises an outstanding Royal Naval junior officer, of Lieutenant rank or below, enabling a six week study secondment to the Royal Australian Navy. This year's award ceremony took place on board HQS Wellington in March. The Dory Compass was presented to Lieutenant Thomas Calder by The First Sea Lord, Admiral Sir George Zambellas.

**Left:** Back row (left to right) are Vice Admiral Sir Jeremy Blackham, the Naval Review, Admiral Sir Mark Stanhope, Vice Admiral Sir Timothy Lawrence and Mark Anderson, Ultra Electronics Group Marketing Director. Foreground (left to right), Admiral Sir George Zambellas and Lieutenant Thomas Calder.



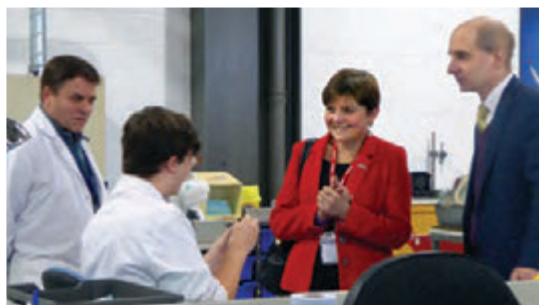
**Above:** The Dory Compass Award.

## Ultra in Downing Street

Chris Binsley, Divisional Marketing Director (Aerospace & Infrastructure Division), Susan McErlain, Corporate Affairs Director, attended a round table meeting at 10 Downing Street to discuss the future development of UK nuclear capability. Ultra offered an industry perspective on skill requirements as part of the Government's new Nuclear Degree Apprenticeship initiative and will continue to be involved in discussions as part of a small Government-backed working group to agree standards and assessment plans.



## Adonis and Gardner's time with PALS



In January, **Precision Air & Land Systems (PALS)** was honoured to welcome Lord Adonis and Sophie Gardner (both Labour Party politicians) to the refurbished facility at Arle Court. The visitors were greeted by Andy Yates, Managing Director. A brief presentation about **PALS** was followed by a tour of the offices, meeting staff, apprentice engineers and graduates. The capability room gave a more comprehensive demonstration of key programmes for **PALS**. In the assembly area, they stopped and engaged with apprentices and staff working on switches and HiPPAG. Lord Adonis was particularly impressed with the enthusiasm and energy exhibited by everyone, together with the wide range of technology and **PALS** impressive customer base both in the UK and worldwide.

## 3rd Most Admired

Ultra Electronics has been named in third place in Management Today's Britain's Most Admired Company rankings in the Engineering – Aero & Defence category.





## Exhibition &amp; Event news

# Ultra on show

## IDEX 2015 Abu Dhabi, UAE

IDEX, held in Abu Dhabi in February, is the flagship defence exhibition in the Middle East, demonstrating the latest technology across land, sea and air sectors. In February, **ATS**, **PALS**, **GigaSat**, **Sonar Systems**, **CIS** and **Sotech** created an impressive display of Ultra's capabilities. As well as a full diary of meetings, demonstrations and research, Ultra enjoyed visits by several VIP visitors including those pictured.



**Above left:** (Left to right) Prince Faisal of Jordan in deep discussion with Emad Kushha (ATS), Brian Bates (Communications & Security Division), Prince Faisal of Jordan, Ray Munoz (ATS) and Martin McDonald (CIS);

**Above right:** (Left to right) Philip Parham, British Ambassador to UAE with Mark Anderson, Group Marketing Director;

**Left:** (Left to right) Tim O'Neill, Carla Horton, Ross Parsell (Sonar Systems), Commodore Keith Blount, UK Maritime in Bahrain, Dep Cdr for US Forces in Gulf, Jonathan Cooke (Sonar Systems).

## Surface Navy 2015

In January, Ultra was represented at the annual Surface Navy exhibition in Crystal City, Virginia, by **Ocean Systems**, **3Phoenix**, **EMS** and **Maritime Systems**.



Bob Tims and Harry Contos (centre and right) in deep discussion with Captain Jose Martinez, Spanish Naval Attache in the US.

## Security & Policing



Security and Policing is a very focused exhibition aimed at police, law enforcement and security professionals who are tasked with security, civil protection and National Resilience. Ultra's significant display was led by the 2015 acquisition **Forensic Technology** with documentation examination, forensic and ballistic identification technologies. Also on display were capabilities from **CIS** and **C&CS**.

## LIMA 2015

In March, Ultra exhibited at LIMA 15 for the first time, represented by **Sonar Systems** and **AEP**.

This exhibition is one of the largest maritime and aerospace events in the Asia-Pacific region.

There was a strong attendance of senior officers and key decision makers at the Ultra stand including: Chief of Kuwait Navy; Chief of Kuwait Air Force; Chief of Armed Forces, Saudi Arabia; Director Logistics (J-4), MOD Japan; Defence Minister, UK; Head of Admin, Royal Bahrain Navy; Deputy Head of South African Navy; Chief of the Air Staff, UK; Chief of Malaysian Navy; Vice Chief of Naval Staff, India; Principle Director of Foreign Cooperation, India; Deputy Secretary Acquisition Division, New Zealand.



Mark Merrifield (right), Sonar Systems Strategy Director with Philip Dunne, UK Minister for Defence Equipment, Support and Technology.

## IDEF 2015

Representing Ultra's capability in air, land, underwater warfare and cyber security, **Sonar Systems**, **PALS** and **ATS** exhibited at the International Defence and Industry Fair (IDEF) in Istanbul in May. This event has become one of the largest and most important regional defence exhibitions with key decision makers in Turkey's Armed Forces present at the event.



*"You have built on a very strong tradition. Skills like these are hard to come by."*

*Her Royal Highness The Princess Royal*

## Precision Air & Land Systems



Hoping that their invitation letter was not lost in a deluge of other requests, **PALS** exhibited some audacious behaviour in bypassing the official route of sending a letter to Buckingham Palace, instead sending it directly to Princess Anne's home, which is local to the Arle Court facility.

Following the confirmation of the visit, there was a raft of pre-visits from Personal Protection Officers, local police and various other authorities. A plan was prepared for the tour of the building and all staff were briefed, many of whom played a part on the day.

In addition **PALS** invited some dignitaries from the local community as well as the current and previous chairmen of Ultra and their wives:

**Dr & Mrs Julian Blogh** – Founder and retired Chairman of Ultra Electronics

**Mr & Mrs Douglas Caster** – Current Chairman Ultra Electronics

**Mr Robert Bernays** – HM Vice Lord-Lieutenant for Gloucestershire

**Mr Tom Frost** – High Sheriff for Gloucestershire

**Cllr Graham Morgan** – Vice Chairman, Gloucestershire County Council

**Cllr Simon Wheeler** – Mayor of Cheltenham



Dr Julian Blogh, Douglas Caster and Andy Yates with The Princess Royal.



# I declare this facility open!

In October, **Precision Air & Land Systems (PALS)** was honoured to welcome HRH The Princess Royal to open the newly refurbished facility.

The visitors were greeted by Andy Yates, Managing Director. The Princess Royal was then escorted to the main conference room where she was introduced to senior executives of Ultra prior to a tour of the facility. During the tour, she met many employees ranging from engineers, programme managers, production operators and a selection of graduates and apprentices.



Her Royal Highness was then formally thanked for visiting and invited to open the refurbished facility by unveiling a commemorative plaque.

Before the unveiling, The Princess Royal commented that 'You have built on a very strong tradition. Skills like these are hard to come by'.



One of **PALS** long service employees, Violet Carless, presented a floral posy to Her Royal Highness.

The day was a huge success and honour for **PALS**; the benefit of rehearsals and preparation was evident in the smooth running of the day.

A letter was subsequently received from Buckingham Palace thanking **PALS** for the warm welcome, stating how interesting and informative the visit was and wishing continued success.



# Aerospace & Infrastructure

**Across** the board...news and stories from across the division

The **Aerospace & Infrastructure division** offers a diverse range of mission critical systems and sensors. We enable the transportation and energy sectors to perform with precision under some of the most demanding physical and operational conditions. Our people have a passion for their work and are brilliant at what they do. We work as a team to broaden our geographic reach and share the skills and resources of the division to enable growth. We go the extra mile and we look out for one another.

Our customers' business excites us. We count among them the majority of the world's aircraft and aero-engine manufacturers; its airlines and busiest airports; primes for the most advanced military land and air platforms; the world's major energy infrastructure operators and nuclear reactor OEMs. Our market reach is global and our end-users predominantly civilian. We listen to them, learn with them and love what we do for them.

**Graeme Stacey**



Managing Director:  
**Graeme Stacey**

Marketing Director:  
**Chris Binsley**

Finance Director:  
**David Cliff**

Businesses:  
**Airport Systems, Controls, Nuclear Control Systems, Nuclear Sensors & Process Instrumentation and Precision Air & Land Systems**

## Destination: Belo Horizonte

DEPARTURES			
Time	Flight	Destination	Gate
12:00	00 1961	RIO DE JANEIRO	06
12:15	PN 0034	SÃO PAULO	19
12:20	T3 0529	BRASILIA	32
12:30	PN 2415	BELO HORIZONTE	14
12:50	G1 1872	SALVADOR	09
12:55	T3 0944	PORTO ALEGRE	27
13:20	SF 2778	CAMPINAS	20
13:45	00 0061	CURITIBA	31
13:50	BK 1532	RECIFE	04
14:05	00 3497	FORTALEZA	12
14:30	PN 0194	VITORIA	03
14:35	SF 0028	SÃO PAULO	08

**Airport Systems** continues to expand its presence in Brazil, with the latest contract award to deliver its Airport Management Suite into Belo Horizonte International Airport. The contract award follows closely behind similar recent wins in Panama and Viracopos, and establishes Ultra as a serious presence in Central and South America. **Airport Systems** will implement its suite of Operational Performance and Resource Optimisation systems. This will support Belo Horizonte Airport's expansion plans and help maximise the performance of the new terminal which opens in 2016. Once open, Belo Horizonte envisages the Airport Management Suite will deliver immediate and measurable benefits in efficiency, communication and coordination.

'We chose Ultra's solution as it will enable us to better partner with our airlines and other stakeholders for operational excellence.' stated Andre Costa, IT Manager, BH Airport.

## Faultless trial for PALS

**PALS** has been working very closely with Lockheed Martin UK (LMUK) in support of the Warrior Capability Sustainment Programme (WCSP) live firing trials. The purpose of the trials was to de-risk and demonstrate performance of the primary weapon system, the Case Telescoped 40mm cannon, and the secondary weapon system, the L94A1 7.62mm chain gun. This also covered the wider turret architecture: sighting systems, stabilisation systems and human machine interfaces. The trials included un-manned, manned and manned on-the-move scenarios. In all cases the targets were engaged successfully.

**PALS** provides the turret Fire Control Computer (FCC), Cannon Control Unit (CCU) and Power Distribution System for WCSP. In-field support was provided by **PALS** for the trials to enable real-time debugging and user support if required. We are pleased to report that the **PALS** systems worked faultlessly and the trials were considered a great success by the Ministry of Defence, LMUK and **PALS**.



**Above:** The 40mm single shot cannon (top) and the 7.62mm burst firing chain gun (bottom) during the Live Firing Trials.





# 4x4xPALS

**PALS** has been awarded a contract by NIMR Automotive LLC\* to provide new scalable electronic architecture common to NIMR Automotive's fleet of 4x4 and 6x6 vehicles. NIMR's highly mobile strategic and tactical land platforms are equipped with a wide spectrum of subsystems to meet many user mission requirements. The new architecture, which is based on open standards, ensures commonality across various different platform types, saving weight, increasing reliability and reducing future integration risks. **PALS** and NIMR Automotive have worked together closely to ensure the first systems were ready for showcase at IDEX 2015 where the new architecture was fitted in a NIMR softskin 4x4. Ultra is committed to supporting UAE 'localisation' and intends to establish an in-country production facility located close to NIMR's state-of-the-art production facilities which are based in the Tawazun Industrial Park.

NIMR is also integrating battery and power management systems as standard to enhance the capability across all platforms. Chris Whitehead, Land Systems Business Unit Director at **PALS** says "Ultra is delighted to be a technology partner and systems supplier to NIMR Automotive and by association Abu Dhabi's national defence service. We hope this is the start of an enduring and successful relationship."



\*NIMR Automotive LLC, a light-medium weight military vehicle manufacturer based in Abu Dhabi, UAE, is part of the Emirates Defence Industries Company (EDIC), an integrated national defence and services manufacturing platform.

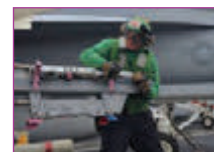
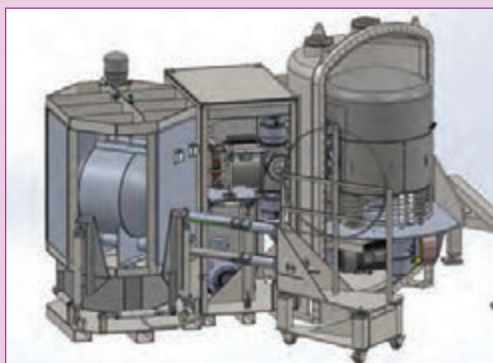
## Gulfstream £45m contract

**Controls** has been selected to supply electronic equipment on the newly announced Gulfstream G500 and G600 aircraft. **Controls** will supply the landing gear, steering and electric main entry door control computers. Based on forecast sales it is anticipated that these contracts will generate revenue in excess of £45 million over a multi-year contract. The landing gear control computer processes information from a number of proximity sensors that monitor the position of the landing gear and landing gear doors. It uses this information to control the extension and retraction of the landing gear. The steering control computer processes pilot demands from either the rudder control pedals or an integral tiller mounted on the unit. It then provides

## A state of flux

Two years ago, **Nuclear Control Systems** embarked on a project to build a modern manufacturing and test facility for supplying neutron flux detectors. These sensors are installed around the periphery of a nuclear core to provide critical condition information. The location exposes the sensors to temperatures in excess of 500°C and very high levels of radiation whilst generating readings of miniscule current, as low as  $10^{-9}$  A.

A key requirement for Ultra's new facility was a source of neutrons sufficient to prove the performance of the devices. After reviewing potential worldwide suppliers, **NCS** engaged a US company, Phoenix Nuclear Labs, to adapt one of their experimental devices. After an intense 14 months of development, the neutron generator has just successfully completed its factory acceptance tests and is being shipped to **NCS**. Once installed and commissioned it will provide controllable neutron flux levels comparable to those around the reactor core. This will make the manufacturing facility fully self-sufficient and allow **NCS** to offer this unique capability to other nuclear customers.



## Step change in technology

**PALS** has received a \$180k three month contract from Raytheon Technical Services LLC in Indianapolis to investigate integrating regenerative filter technology into the HiPPAG Stored Energy System (SES). The high pressure dry air system supports the Raytheon Joint Miniature Munitions (JMM) Bomb Rack Unit (BRU). The HiPPAG SES currently employs a disposable filter containing granular 13X molecular sieve desiccant adsorbent that removes water vapour from the high pressure air. This requires a maintenance action to take place every 6 hours of operation. The latest regenerative filter will require no servicing for the life of the compressor eliminating the associated logistics costs. This step change in technology offers a unique selling point and competitive advantage for HiPPAG and will help to secure further orders.



# Communication & Security

**Across** the board...news and stories from across the division

The **Communications & Security division** brings together eight exceptional businesses that provide mission critical, information dominance and security solutions to governments and law enforcement agencies worldwide.

From the unique requirements of high-grade cryptography to commercial grade secure network solutions and state-of-the-art communication, surveillance and situational awareness systems, we offer innovative and highly differentiated capabilities for both defence and civil applications. Our solutions result in the delivery of 'actionable intelligence' to support law enforcement, government, defence and commercial entities in achieving information dominance in a modern, high-risk global environment.

The division's technical capabilities and its business success are entirely reliant upon the engagement, commitment, skills and passion of our employees. I am excited by the potential our new division offers and confident we can work together to better meet the challenges of our customers.

**Mike Baptist** OBE



Managing Director:  
**Mike Baptist** OBE

Marketing Director:  
**Brian Bates**

Finance Director:  
**Mark Hughes**

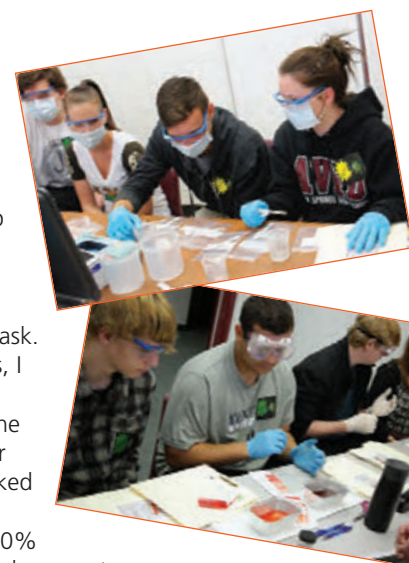
Businesses:  
**3eTI, Advanced Tactical Systems, Communication & Integrated Systems, Forensic Technology, GigaSat, iD, ProLogic and TCS**

## CSI Florida for a Day

Each year, **Forensic Technology** employees take forensic sciences into the high school communities in Montreal, Canada and Largo, Florida. The aim of this is to teach children, particularly those who are at risk of dropping out of school, the value of learning and to encourage them to continue their education through the exciting world of detecting crime. This year the chosen destination was Tarpon Spring High School, Pinellas County, Florida, US. This was made all the more special because the students are Emotional Behaviour Disorder students. While bright, they have difficulty staying on task, following through with assignments, being respectful, controlling impulsivity and remaining engaged. The science teacher, Lori Hoag, wondered how a day of having to concentrate on their very own CSI (crime scene investigation) would be achieved. Having witnessed a previous **FT** 'CSI for a Day', she took the idea back to her students; they couldn't wait!

In February a team from **FT** turned part of the school into a forensics lab for one day – the scene was set. There were two teams, each having an **FT** mentor to help them with the documentation of the information gained. The science teacher could not believe her eyes. The students were totally engrossed in their assigned task. 'As I walked through each of the stations, I saw these 'problem' students working together with other students as well as the adults. They were so engaged, they never noticed my comings and goings. They asked questions, paid attention to instructions, performed the tasks and took notes – 100% engaged. They worked on trace analysis, document analysis, fibre analysis, fingerprints and firearm/tool marks; they were intent on determining who the suspect was and their role in the apprehension of the killer. The final points were very close, but neither team chose the correct suspect. It didn't matter at all, the day was such a valuable experience for the children; the interaction has continued into classes long after the day was over; a particularly introverted student now speaks freely and contributes in class; the excitement remains.'

The ballistic identification and documentation examination equipment developed by **Forensic Technology** is used by police forces and border control authorities around the world and is endorsed by Interpol.



**Above:** The two rival teams battle it out to 'Get their man'!







## CIS and Stauder Technologies in Joint Coordination

**CIS** has entered into a partnership agreement with Stauder Technologies which will bring a range of innovative, reliable and interoperable targeting coordination and communications solutions to the UK defence market. **CIS** has a proud history of providing advanced secure communications, encryption, target acquisition and reconnaissance products to the UK Ministry of Defence. **CIS** is the prime contractor for the supply and support of the Litening Targeting and Surveillance pod, currently installed on RAF Typhoon and Tornado aircraft and used extensively in recent operations. Stauder Technologies has developed a suite of integrated digital communications products in relation to Joint Effects Targeting and Coordination.

This includes Strikelink®, Gusto®, Joint Effects Coordination Link (JECL®) and the Hyde™ communications hub, which have proved highly successful over a number of years in service with a variety of US military customers. This partnership offers the UK defence market access to innovative products to meet the demanding requirements of the modern and future armed forces.

‘The partnership with Stauder Technologies enables **CIS** to bring a suite of complementary products in the ISTAR area to the UK defence market. We are confident this offering, alongside Ultra’s excellent reputation for customer support, positions us well for future requirements.’



**CIS** (through its AEP business unit) has achieved FIPS 140-2 Level 4 validation of the new crypto module for its KeyperPlus Hardware Security Module (HSM) which provides increased performance and capability for the most demanding security applications. Ultra’s world-leading Keyper™ range of HSMs provides maximum-security key generation, key storage and key management to support a broad range of application and infrastructure security requirements. Typical applications include digital identity, PKI, DNSSEC, code signing, SSL/TLSVPN authentication, database encryption and digital rights management.

## Wood & Douglas enter new market



At a conference in May, Wood & Douglas, part of **CIS**, launched the Ultra Real-Time Monitoring Solution (U-RTMS) for legionella prevention. U-RTMS offers estate managers for NHS campuses the ability to remotely monitor, report upon and analyse data relating to safety systems. The modular and scalable U-RTMS offers a multitude of applications in addition to legionella monitoring such as active gas-flow, critical temperature and access security monitoring. The product was well received and attracted a great deal of attention with multiple leads generated.

## Orion on-the-move



TCS recently successfully demonstrated long range on-the-move video and multi-party conferencing at high speed during a ship-to-shore/ship-to-ship exercise with a military customer in Asia Pacific.

During the exercise, Ultra’s ORION high-capacity point-to-point and point-to-multipoint radios connected remote land-based headquarters to an on-the-move Rigid-Hulled Inflatable Boat (RHIB) at sea. The RHIB, travelling at up to 40 knots, provided long range on-the-move video from a high definition (HD) surveillance camera. Further video came from shore-based Electro-Optical/Infra-Red (EO/IR) camera video feeds of the area of operations. The Ultra ORION radio, combined with the Radio Bridge gateway, enabled Combat Net Radio integration, voice-over-IP, multiparty video conferencing and long range surveillance.

## 3eTI at the highest level

The US government’s stringent security standards require validated communication solutions. As a trusted supplier to the DoD since 1995, **3eTI** delivers highly secure network platforms that enable maximum operational productivity. **3eTI**’s patented platforms are certified to meet Information Assurance standards for military applications. Striving to refresh and certify all products, assuring that solutions meet military requirements, **3eTI** recently achieved FIPS 140-2 validation for the AirGuard iMesh wireless device and FIPS 140-2 validation and Common Criteria certification for the newly upgraded CyberFence devices. **3eTI** now offers the highest level of certified security available for wireless and wire line connectivity that improves system availability and efficiency while reducing endpoint cyber-risk.



# Maritime & Land

**Across** the board...news and stories from across the division

The **Maritime & Land division** provides vital solutions for land, sea and undersea needs. We consist of 10 individual operating businesses that are committed to meeting the needs of both our military and civilian customers around the world.

These businesses provide a broad range of high integrity technology and capability including: state of the art anti-submarine warfare (ASW); towed and hull mounted acoustics; torpedo defence; combat management systems and power solutions for surface, sub-surface and unmanned platforms; Electro-Optic (EO) tracking; innovative electronics solutions with reliable power, control, information, mission and soldier systems and operating base solutions.

Ultra's highly knowledgeable and experienced workforce continues to perform as leaders in today's technology. As a team, we strive to broaden our geographic reach, sharing skills and resources within the division, driving continued levels of growth.

**Bill Terry**



Managing Director:  
**Bill Terry**

Marketing Director:  
**Rusty Kollmorgen**

Finance Director:  
**Doug Randol**

Businesses:  
**3 Phoenix, Avalon Systems, Command & Control Systems, EMS, Flightline Systems, Maritime Systems, Ocean Systems, PMES, Sonar Systems and USSi**

## C&CS delivers in Indonesia



In June 2013, **Command & Control Systems (C&CS)** secured a contract for the Mid-Life Modernisation (MLM) of Korvette Republik Indonesia (KRI) Fatahillah of the Indonesian Navy after 5 years of hard work and negotiation. Named after a Javanese warrior of the middle ages who re-captured Jakarta from the Portuguese, KRI Fatahillah was built in Feyenoord, Rotterdam and commissioned into the Indonesian Navy in 1979. It is one of three ships in its class. The modernisation programme includes replacement of the combat management system, fire control system, fitting two electro-optical tracking systems, repair of the guns, fitting new engines and gearboxes and an overhaul of the hull and general machinery. **C&CS** did not set out to take on overhaul of a complete ship as prime contractor, but after they were down selected as one of four combat system suppliers, the Navy decided to combine combat system, re-powering and hull overhaul into one single RFP! Faced with this prospect, Ultra teamed with Nobiskrug, a naval repair shipyard in Germany, to cover the platform overhaul and re-powering aspects.

In September 2014, the ship was formally handed over to Ultra and moved to an Indonesian commercial shipyard. A ten man team, consisting of three from Ultra, three from our local partner and four from Nobiskrug, manages activities at the dockyard in Indonesia on a day-to-day basis. The ship is due to be handed back to the Indonesian Navy in Q2 2016 after a period of acceptance trials, including combat system trials and a speed trial to prove that the new propulsion system works effectively.

Despite significant challenges including removal of asbestos and some emergent work on board, the programme is running broadly to schedule. **C&CS** is currently positioning for the MLM of the second ship in the class, where it is hoped they can re-invest the experience gained from modernising KRI Fatahillah. There are other countries in the South East Asia who need their naval platforms overhauled or upgraded. It is hoped **C&CS** can strike a rich vein of work across the region including Malaysia and the Philippines, and build on another proven capability within the Ultra portfolio.



**Above left:** Command & Control Systems' Integration lab in action;  
**Above:** The KRI Fatahillah in the middle of its modernisation.



## 3 Phoenix passes US DoD's CPSR



**3 Phoenix** recently passed the Contractor Purchasing System Review (CPSR) on the first attempt. This significant milestone

means all of the business's purchasing and contracting processes and controls have been examined in detail by the US DoD and found to be compliant with government standards and controls. The result of passing the CPSR is that

**3 Phoenix** is now considered to have an approved purchasing system. This grants **3 Phoenix** the ability to issue subcontracts and other procurement actions for government contracts on its own authority without prior government approval. It enables **3 Phoenix** to remain agile and efficient in delivering best value to its customers and is testament to the attention to detail and commitment to meeting the highest standards of contractual compliance.

## Putting the Dee in DISA

Dee Hayward, Security Controller at **Sonar Systems**, was recently elected to the Management Board of the Defence Industry Security Association (DISA) with a particular role as Chair of the Eastern Region. DISA is a dynamic and forward thinking group with a key function to consider strategic security issues and campaign with the government security departments to improve the security processes affecting defence businesses. DISA provides advice and support to its members utilising the wealth of knowledge contained within the organisation, and also offers an extensive training programme prepared and delivered by experts who are members of the organisation. DISA also fosters good relationships between government departments and other agencies, similar organisations, and industry.



Dee Hayward,  
Security Controller at  
**Sonar Systems**.

## Thanks Sonar Systems



Members of Kartal Bombe Sanayi (KBS), a defence company from Turkey, have successfully completed the New Type Submarine Programme (NTSP) Knowledge Transfer Phase at **Sonar Systems**. This achievement marks the conclusion of a two year period where the onsite team have been seconded from KBS to work in Greenford as a part of the NTSP delivery team in the design, implementation and test of software. This will form part of the combat system to be installed on the six New Type Submarines being delivered to the Turkish Navy between 2017 and 2022. The successful recipients were presented with their certificates and awards by Ross Parsell, Managing Director. Hakan Öktem, KBS Engineering Manager (pictured far right), witnessed the presentation to the delegates recognising the conclusion of the knowledge transfer phase and commencement of equipment transfer to start in-country software maintenance at the KBS facility in Ankara.

## A Healthy partnership for Flightline Systems

**Flightline Systems** has been working with Airbus Helicopters Inc. to evaluate the first comprehensive and integrated Health Usage Monitoring System (HUMS) and Health Flight Data Monitoring (HFDM) system, with the aim of making these systems standard equipment on light helicopters of the Airbus Helicopter family. The evaluation commences with a technology demonstration phase to prove the full potential of the first digital distributed light helicopter HUMS. This effort is scheduled to be completed by Q3 2015.

This new generation of HUMS incorporates new technology in health data acquisition and analytics. It is expected to greatly reduce logistics costs by giving operators the tools and data they can use to significantly improve their operations, maintenance and safety programmes.



# People in the news

## Ultra and the Arkwright Scholarships Trust

The Arkwright Scholarships Trust has made its largest ever award of Scholarships to future leaders in the engineering profession. 410 sixth form scholarships have been awarded at ceremonies in London and Glasgow.

These Scholarships act as a beacon to the most talented school STEM (Science, Technology, Engineering and Maths) students and help to ensure that high-potential young people stay engaged in the STEM careers pipeline.

Ultra is committed to supporting the Arkwright Scholarship and has done so for many years now. The new Arkwright Engineering Scholars received their awards at prestigious ceremonies supported by the Institution of Engineering and Technology and the Lloyd's Register Foundation. This year's Scholars come from all educational backgrounds across England, Scotland, Wales, Northern Ireland and the Channel Islands.

Scholars are selected for their potential as future engineering leaders by assessing their academic, practical and leadership skills in STEM. These are assessed through a rigorous selection process comprising: an assessed application form including a teacher's supporting reference; a two-hour aptitude exam; and a university-based interview. The Scholarships support STEM students through their sixth form studies and encourage them into top universities or higher apprenticeships.

The Scholarships consist of an annual financial award to each Scholar and to his/her school, and a range of enrichment activities, such as mentoring and industry visits, that enhance a Scholar's experience of engineering and technical design in a real-world context. Arkwright Engineering Scholarships are highly regarded by universities and industry and are one of the most prestigious accolades that a talented sixth form student can achieve.

The Scholars that are joining Ultra are pictured right.

**Arkwright**  
Scholarships Trust

Inspiring Future Leaders in Engineering



Ross Parsell, Sonar Systems awarding Matthew Cotton and Hesham Hegazy their certificates.



Andy Darge, Controls awarding James Stinson and Sudhakar Sivanewaran their certificates.



Rob Moon, PALS awarding Elliot Purvis his certificate.



### 'Exceptional' Lakjit Chand gets Highly Commended

**Sonar Systems** is delighted to announce that Lakjit Chand has been Highly Commended at the West London Business Awards (WLBA) for Apprentice of the Year 2014, in recognition of his exceptional commitment to learning and eagerness to develop his career. Lakjit completed a Technical Apprenticeship at **Sonar Systems** while achieving his HNC in Electrical and Electronic Engineering. Nominated by Uxbridge College, where he is continuing his studies, the WLBA commented on Lakjit's achievements saying 'A star student who is super committed to learning and earned the trust and confidence of his employer and colleagues'.



## People in the news

# Continued success for NCS apprentices



Joe Key busy at work at NCS.

At the Engineering Trust Apprentice Awards held in April, two of **NCS** first intake of apprentices came away with honours for their second year. Dan King and Joe Key won awards for Achievement and were two of only five apprentices across the Trust to be recognised. Achievement award scoring criteria falls into the following areas of assessment – overall attitude, sets and achieves high standards, achieves agreed learner action plans, effort and determination to succeed, participation in extra activities. The awards are open to all the apprentices managed through a subsidiary of The Engineering Trust, that has over 30 years' experience in apprenticeship training within the engineering and manufacturing industry.



Dan King receiving his award for Apprentice Achievement.

## Engineering a way to success

As part of a programme to promote engineering to the next up-and-coming generation, **PALS** offers work experience programmes for GCSE and A-Level students studying in Cheltenham and the surrounding areas. This is an opportunity to ignite an interest and passion for the development of software intensive systems. It also shows them that **PALS** is a place they should have a career.

The **PALS** software team runs a one week programme during which the students run a project using many of the tools and techniques employed on real software projects. Throughout the week, the work experience team is supported by engineers from the **PALS** software team, along with a number of **PALS** undergraduate engineers. Working as mentors for the students, undergraduates from all engineering disciplines are able to see how software engineering is done. Importantly they also get to see how other engineering disciplines (such as systems, mechanical and electronic) interact with the software team when developing a software intensive system.



The students complete the project with a great sense of achievement, having delivered a real project, supported and encouraged by a department of professional software engineers. **PALS** is developing a Software Engineering Apprenticeship scheme to commence in Autumn 2015. It is aimed to attract high calibre, fast-track candidates with a passion for developing software intensive systems. The scheme will be a mix of college attendance and work experience at **PALS** Arle Court facility.



### Adam @ World Skills 2014

Adam Rust, apprentice at **PALS**, won a place at the World Skills event in November 2014 at the NEC. Adam, now studying for his HNC in Electronics, was one of eight selected to attend this national competition. Apprentices are invited to participate in a number of events including PCB design (using Altium), PCB build, C programming and fault finding. Adam's success, being placed 7th in the country, has generated interest from his fellow apprentices who will be entering the 2015 event.

## Cream of the co-op



**Maritime Systems'** student co-op (student internship) programme continues to produce the next generation of electrical and mechanical engineers and technicians. In the past 12 months, **Maritime Systems** has hired seven new graduates, all of whom had worked with the business during co-op, with an additional four students currently completing work placement. To support these placements, **Maritime Systems** takes advantage of federal and provincial government funding and works closely with the local universities to identify the cream of the crop.

# People on the move



**1 Frank Ignazzitto** has been appointed as Vice President of Sales & Marketing at **3eTI**. Frank was previously Director of Government Business at Leap Motion, Inc. His earlier roles include VP of Government Business at QD Vision, VP Government Sales at ReliOn and General Manager, Marine Business, Asia-Pacific for Mobil Oil Corporation. After earning his BS in Engineering at the United States Military Academy, West Point, Frank served as an officer in the Air Defense branch of the US Army, attaining the rank of Captain.

**2 Geraint Lloyd** has joined Ultra as Sales & Marketing Director at **PMES**. Geraint joins Ultra from Thales where he was Business Development Director, India. Prior to this he was Sales & Marketing Director, Defence and National Security at Fujitsu where he gained experience of the UK Defence IT infrastructure and cyber security. In his earlier career Geraint held Sales & Marketing Director roles in both the Avionics and Optronics Divisions of Thales and with both Roxel and Rolls-Royce Marine. Geraint began his career serving as a Marine Engineering Officer in the Royal Navy and is a Graduate of the Dartmouth and Royal Naval Engineering College, holding a BEng (Hons) in Mechanical Engineering.

**3 John Hirst** CBE has been appointed to the Board of Ultra as a Non-Executive Director. John succeeded Chris Bailey as the Chair of the Audit Committee following the Annual General Meeting (AGM) in April. John qualified as a Chartered Accountant and is an experienced leader of large global private and public sector organisations. Most recently he was Chief Executive of the UK Met Office for seven years until his retirement in September 2014. From 1998 to 2005, he was Chief Executive of Premier Farnell where he oversaw the financial and operational restructuring, re-branding and re-positioning of the company's major businesses. Prior to this, John spent 19 years with ICI plc, during which he held a number of senior appointments, including Group Treasurer and Chief Executive of two of ICI's Global businesses. John has been a non-executive director of a FTSE100 company and an AIM company; he served for ten years as a Non-Executive Director of Hammerson, where he was also Chairman of the Audit Committee.

**4 Mike Clayton** has been appointed Managing Director of **PALS**, following the retirement of Andy Yates. Mike joined Ultra in 1999 as Marketing Manager at **C&CS**. He then held the positions of Marketing Director and Managing Director before taking the positions of Managing Director of Tactical Systems Division and then most recently, Naval Systems Division.

## Retirements

**5 Andy Yates**, Managing Director at **PALS**, retired in April. Andy joined Ultra in 2003 following the acquisition of Radamec Defence Systems where he was Managing Director. He was appointed Managing Director of PAS in 2006 and then subsequently **PALS** when the PAS and Electrics businesses were combined under Andy's leadership. Our thanks to Andy for his contribution to **PALS** and the Group over the last 12 years and we wish him a long and very happy retirement.

**6 Bob Henry**, Divisional Marketing Director of the Aircraft & Vehicle Systems Division retired in April. Bob has held a number of positions in Sales and Marketing since joining Ultra from the Royal Air Force in November 1998. He was previously Strategy Director at Sonar & Communication Systems and later Strategy Director of the Tactical & Sonar Systems Division. Bob was appointed as Divisional Marketing Director in 2013. He was previously Mergers & Acquisitions Director for the Group, a post he held from March 2008. Our thanks to Bob for his service and contribution to Ultra over almost 17 years and we wish him a long and very happy retirement.

**7 Marian O'Sullivan**, PA to the Chief Executive from Ultra's formation in 1993, retired at the end of May. Marian served a total of almost 33 years with Ultra and Dowty. We wish her a long and very happy retirement.



people on the move



Ultra welcomes new recruits and congratulates staff taking up new positions within the company.

## appointments and promotions

Following the structural changes detailed on pages 6 and 7, we take this opportunity to refresh your knowledge of the divisional leaders, all of whom were 'confirmed to post' in March 2015:

### Aerospace & Infrastructure



**Graeme Stacey, Managing Director.** Graeme joined Ultra in 1994 and was project manager for the Heathrow Terminal 5 project prior to his appointment as

Director & General Manager of **Airport Systems** in September 2002. He was promoted to Managing Director in January 2004 and then to Managing Director, Information & Power Systems Division in January 2010.



**Chris Binsley, Marketing Director.** Before taking this role in February 2014, Chris was Nuclear Strategy Director. Chris joined Ultra in 2006 and led the Nuclear Business

within **Command & Control Systems** prior to its spin-out as a stand-alone business in 2012.



**David Cliff, Finance Director.** David has been at Ultra for 10 years starting at **Airport Systems** as Finance Director and has been a Divisional Finance Director for 6 years.

David assumes the role of Divisional Finance Director of Aerospace & Infrastructure after holding the post of Divisional Finance Director Infrastructure & Power.

### Communications & Security



**Mike Baptist OBE, Managing Director.** Mike joined Ultra (then Dowty) in 1989 and held a number of roles in the Sonar & Communication Systems business until the formation

of **Communication & Integrated Systems** business in 2008. Mike was appointed Managing Director of **CIS** at that time. Mike is now the Managing Director of Communications and Security Division.



**Brian Bates CBE, Marketing Director.** Brian joined Ultra in May 2013 as Strategy Director of the Tactical Systems Division. Brian served 30 years in the Royal Air Force. The

majority of his RAF career was spent flying F-4 Phantom and Tornado F3. More recently he has held a number of senior appointments in the MoD, including a post as Senior Director at the Royal College of Defence Studies.



**Mark Hughes, Finance Director.** Mark has worked at Ultra for over nine years. He has been Financial Controller at Surveillance Systems, Finance Director at **Command &**

**Control Systems** and Divisional Finance Director for Tactical Systems before assuming the role of Divisional Finance Director, Communications & Security earlier this year.

### Maritime & Land



**Bill Terry, President.** Bill joined **Ocean Systems** in May 2011 as VP of Engineering before his promotion to President in July 2012. He has held

several leadership roles in engineering, business development and programme management. Bill also continues as President of **Ocean Systems**.



**Rusty Kollmorgen, Marketing Director.** Rusty joined Ultra in June 2010 as President of **Ocean Systems** and was promoted to Strategy Director of Naval Systems in

July 2012. Prior to joining Ultra, Rusty held positions at Whitney, Bradley & Brown and BAE Systems and served 25 years as a Navy helicopter pilot conducting anti-submarine and anti-surface missions.



**Doug Randol, Finance Director.** Doug has been at **USSI** for over 35 years with his most recent post as VP Finance. Doug assumes the Finance Director of Maritime

& Land after holding the post of Finance VP of Naval Systems.

## Chairman's corner

Reading this edition of **UltraNews**, I continue to be impressed and excited by the energy of our people, the sustained technical innovation, the key wins and the outstanding achievements of the businesses. This is despite the suppressed global economic climate and continued government budget pressures which are resulting in Ultra facing tough market conditions.

Ultra is constantly evolving to better position itself in the market place and earlier this year we began some of the most significant changes to the Group: the change to market facing segments, the reorganisation of the businesses into three new divisions and the commencement of the Standardisation and Shared Services (S3) initiative.

The change to market segments is consistent with our being an outward facing organisation. Each of these market segments enables us to share a broader understanding of customer need and how we might

respond, drawing upon the full range of capabilities from across the Group. We have also taken the next logical step to reorganise and realign our Group into balanced divisions that better support business activity and collaboration in each of the segments, as well as reducing some of the complexity that had built up within the Group. Importantly, Ultra's defining core behaviours and cultural characteristics of agile and autonomous businesses, having clearly aligned accountability, authority and responsibility for their own performance, are preserved. Our S3 initiative is focused on identifying opportunities to improve the efficiency of the Group, whilst ensuring that those aspects of business autonomy which make Ultra agile and responsive in the market will be unaffected. However, all of these changes will only be successful with the full support and commitment of you.

Finally I hope that you enjoy this edition of **UltraNews** and find it informative.



## all in a good cause

# Wondimu's goal Thank you!



Over the Christmas break while many of us were relaxing and celebrating with our families and loved ones, Wondimu Negash, Integration Engineer at **Sonar Systems**, made a visit

home to Ethiopia. For some time now Wondimu's personal goal has been to increase the understanding of mental illness in his home country, triggered by the suffering of his brother. Wondimu and his wife, Sehenne, travelled to Ethiopia to continue his mission.

Wondimu has used his spare time to read and understand as much as he can about the neuro-sciences. He has authored five books and a mental health advice website in Amharic, Ethiopia's main language, in order that his message can be conveyed at a level the normal 'man-on-the-street' can relate to.

The books have proved popular and the proceeds from their sale is being put back into various mental health charities. Through his books, radio and TV interviews and charity work, he has enlightened the country about mental issues. As part of his recent visit Wondimu shared a platform with many respected psychiatrists to give a lecture at Ethiopia's renowned Jimma University and the Emmanuel Mental Hospital.

He has received widespread personal recognition for his dedication and efforts in bringing awareness and understanding of mental health issues to the nation.

Well done Wondimu you should be proud in your pursuits and keep up the good work.

Over the past five years, staff at **Airport Systems** have raised in excess of £24,500 for over 40 charities. Their regular local charity is Francis House Children's Hospice based in Manchester which provides care for children and young adults with life threatening conditions whilst also supporting the whole family. They also support other local charities including LifeShare – helping Manchester's homeless people, Society for Abandoned Animals, Children's Cancer Unit at Addenbrooke's Hospital, and national charities such as MacMillan Cancer Support, British Heart Foundation, Comic Relief, Help the Heroes, Stroke Association, Brain Tumour Charity, and Movember.

## Maritime Systems have got the GUTs



A team from **Maritime Systems** took part in the Get Up There (GUT) charity event in Nova Scotia, Canada to raise awareness and contribute to the prevention of Colorectal Cancer. 'The Sono Buoys' was a team comprising members from **Maritime Systems** and a local Canadian Military customer, RCAF 12 Wing Shearwater. Participants spent the day climbing Wentworth Mountain and skiing back down. The Ultra team raised over \$3,000.



**Above:** Employees of **Airport Systems** have faced personal challenges to raise funds for all the charities including cycling, rowing (pictured above), walking, running, cross country banger racing (pictured above), growing moustaches and even climbing mountains! They have also held fancy dress competitions, bake sales (pictured above), savoury dish sales and raffles to name but a few...



## Quiz night PALS

A **PALS** quiz night was held in March 2015 following a successful night in 2014. The previous winners managed to retain their trophy. Though the **PALS** apprentices made the valid comment that for most of the music questions they were not even born! £350 raised on the night was then doubled to £700 for Maggie's, a support centre that provides free practical, emotional and social support to people with cancer.

# Una Jameson at the top of the world



In October, Una Jameson, Admin Assistant at **Airport Systems**, travelled to Tanzania with a group of friends to climb Mount Kilimanjaro, the highest mountain in Africa at 5,896m. Una reached the summit, raising £1,100.00 for the charity Amani Children's home, based in Arusha, Tanzania. The centre provides homeless children with a safe place to stay, nutritious food, clothing, education and health services. 'I would like to thank everyone at **Airport Systems** for the all the support and encouragement I received, for the donations to my just giving page and also for the toys and clothes that I took for the children. The day after the climb I visited Amani and met the children and the wonderful people who are looking after them. It was lovely to see them so happy and well cared for'.





## against the clock

In this issue, **Benga, Samantha** and **Bernie** spend 60 seconds with **UltraNews**, sharing random facts about their careers and personal lives...



### Benga Erinle

President at **3eTI**.

I am a co-founder of **3eTI** and in my 18th year with the business including five years with Ultra. I was born in Nigeria to entrepreneurial parents who raised seven kids. We all studied in the US and, other than our deceased oldest sister, have made the US our home. I live in Howard County, Maryland with my wife, Cara, and our three kids: Dupsy 24, David 18 and Funmi 14.

**1. Do you remember your favourite teacher?**

Ms. Butler who taught me two years of calculus during my pursuit of a degree in mathematics. She had very high expectations of us. Anything less than an A on a test or quiz got the dreaded "No, not you!"

**2. What was the first thing you bought with your own money?**

I remember my first major purchase during my Freshman year in college. It was Spring, 1983, I purchased a Commodore 64 personal computer with a floppy drive, a dot matrix printer and a 300 baud modem. That cost me about \$3,000, needless to say, I was poor for the rest of the year.

**3. Name 3 things in nature you find most beautiful?**

Too many to list surely! However, three that come to mind are glaciers, blue whales and the Grand Canyon.

**4. What is one of your favourite quotes?**

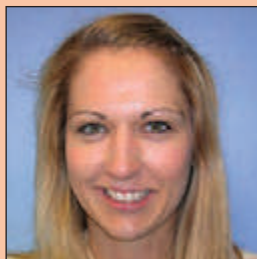
Doveryai no proveryai which means Trust, but verify. Enough said!

**5. If you could meet anyone, living or dead, who would you meet?**

As a person of faith, it would be great to have a chat with Jesus Christ in the flesh to experience a leader who, more than 2,000 years after death, still inspires millions.

**6. What favourite food puts you in a great mood?**

Italian is my favourite cuisine and I love just about all the options. Being American, a nice filet or ribeye steak also makes the top of the list.



### Samantha Potter

Group Communications Officer at Head Office.

I have been with Ultra one year this month. I joined from a start-up company, which was my first job out of university. I studied Law at Manchester University. I live with my partner.

**1. What was your favourite subject at school?**

History because it was the most interesting subject and I am really bad with numbers!

**2. What is your greatest achievement thus far?**

Buying a house. Stressful but worth it.

**3. If you could open your own business what would it be?**

Wedding planner, I love planning!

**4. What is the most decadent treat to yourself?**

Having my nails done, mainly I like the hand massage at the end.

**5. What scares you the most and why?**

Being kidnapped as I had a recurring dream when I was a child. I have never even come close to being kidnapped.

**6. Where is the worst place you have ever been to?**

In my opinion it's the Ritz in Manchester – if you have been there you will know what I mean. It is not the Ritz in London!

**7. What was the last film you saw at the movies? Did you enjoy it?**

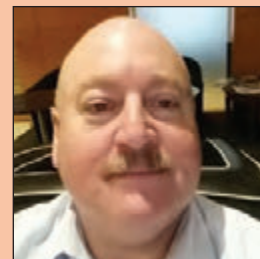
'Wild' and it was very good and I would definitely recommend it.

**8. What music are you listening to in the car?**

Radio 1. I am too indecisive to pick the music myself.

**9. What 'big ticket' is next on your bucket list?**

A road trip in an RV across the US ending in Vegas with my two best friends for our 30th birthdays.



### Bernard (Bernie) Gibbs

Director, International Sales, APAC at **TCS**.

I have been with **TCS** for just over two years. I have a background in aerospace and defence, having worked for such companies as CAE, L-3, DRS Technologies amongst others. I am married with three children. I am currently in the Philippines on assignment for **TCS**.

**1. What is your happiest childhood memory?**

I used to love visiting my grandparents and I can remember going fishing with my grandfather on the mighty Richelieu River upstream of the New York border and Lake Champlain. He was a WWII veteran, a great and gentle man.

**2. What did you want to be when you grow up?**

I wanted to be a soldier. I partially succeeded, having become a reserve infantry officer in the Black Watch (RHR) of Canada.

**3. What was your favourite food when you were a child?**

I used to love corn on the cob especially the sweet corn grown in the Chateaugay Valley area where I grew up.

**4. If you could learn a new skill, what would it be?**

I would like to be able to do woodworking or carpentry... something constructive.

**5. What do you think is the single best decision you've made in your life so far?**

Marrying my wife Zoila fifteen years ago would be the single best decision I guess. I believe I am a better person because of her.

**6. If you could witness any event past, present or future, what would it be?**

I would have liked to have seen the empty tomb two thousand years ago. To have been a witness to that most important event.

**7. Which sport team do you support?**

My loyalties have been divided and I root for alternating ice hockey teams in the Ottawa Senators and the Montreal Canadiens. For soccer I am a fan of Pompey (Portsmouth).

and **finally...**

## An **Ultra**-healthy place to work

The Business Council of Fairfield County, Connecticut recently hosted its 2015 Healthy Workplace employer recognition event honouring 44 businesses that make wellness a priority. Ultra Electronics USA was presented with a gold plaque, recognising Ultra as a leading company in promoting a healthy workplace for its employees.



**Above:** (Left to right) Matt Fair, Business Council, William Nossal (VP Finance & Administration, MSI), Ann Mizak, (Benefits Director), Anthony Aguanno, Business Council.

## Shaun's a Big Wig on stage

Shaun Penton, Portfolio Manager – Passenger and Baggage Processing Systems at **Airport Systems**, has been known to appear on the amateur stage, and has been doing so since appearing in his first school musical, 'Anne Of Green Gables,' at the tender age of 12. Since then Shaun has played a variety of roles, both in musicals, including Jesus Christ Superstar, Chess and Beauty and the Beast; and plays, such as Death And The Maiden and Alan Ayckbourn's Woman In Mind. However, his latest appearance was a little different. He was playing the part of Edna Turnblad in 'Hairspray' (the role played by Divine, John Travolta and Michael Ball, to name but three). After playing to over 3,500 people during the course of six performances, Shaun was glad to get back to work for a rest!



## Florence writes her way into rugby history

Gillian Florence, Technical Writer at **Maritime Systems**, was a member of the Canadian National Women's Rugby Team 1994-2011. Gillian played in five World Cups and earned 66 international caps for her country. She is the longest serving member of the women's national program. In April, Rugby Canada invited Gillian to the annual awards dinner to speak and present an award to the first recipient of the Women's Gillian Florence Award for Player's Player of the Year. The award winner was Andrea Burk who played for Canada in the 2014 Women's World Cup.

## A Grand night out

The Yas Marina Grand Prix track in Abu Dhabi is open to the public on Tuesday evenings for cycling and running. After a long day in the exhibition hall at IDEX, Ultra staff took the opportunity to enjoy the warm February evening while the track is particularly quiet.



**Above:** (Left to right) Trevor Vizard (GigaSat), Tim O'Neill (Sonar Systems), Alison Dunn and Ray Munoz (ATS).

## Reigniting old flames



Fire Wardens at **CEMS** Papworth facility have undergone refresher fire training to keep reactions sharp and confident in the event of a fire. Staff learned the theory of combustion, causes of fire and the correct way to tackle a fire using the fire extinguishers available.

If you have any interesting stories, – business, social or personal, that you would like to see included in future issues of **UltraNews**, please e-mail the material to: Samantha Potter, [samantha.potter@ultra-electronics.com](mailto:samantha.potter@ultra-electronics.com) or Alison Dunn, [alison.dunn@ultra-electronics.com](mailto:alison.dunn@ultra-electronics.com)

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# UltraNews



## Building engines for **growth**

read the full article on **pages 3-7**

### **Also featured inside:**

S3 update, Ultra's presence at the world's exhibitions, the lowdown on Ultra's new acquisitions and all the news and gossip from around the businesses.

making a difference

**Ultra**  
ELECTRONICS

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Ultra's new segments have developed strongly over the past year, allowing businesses to use their combined knowledge and expertise to build bigger and better opportunities for the Group. Teaming, partnering, developing new markets, sustaining existing relationships and building new ones are all part of 'building engines for growth'. Over the next few pages, each segment outlines some of the key opportunities they are addressing, how they are approaching them and how this work will help the Group grow in the future.

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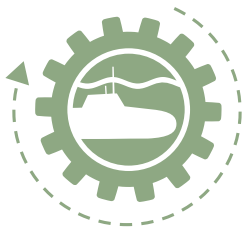






**Mark Anderson** Group Marketing Director

# engines WITH



## Underwater Warfare

Improved awareness of the wide range of capabilities across the Group is allowing Ultra to offer more comprehensive solutions that the customer is seeking and access a wider range of markets.

Development and production of the Integrated Sonar Suite (ISS) for Australia's new Air Warfare Destroyer is reaching a key milestone over the next year with sea trials in the early part of 2017. The potential of this world-class system in the wider market has long been recognised. It is now truly a team effort across the Segment to make potential a reality, in both our core home markets and through wider export. The hull mounted sonar for ISS has already provided the technical baseline used to win the upgrade for the UK's Sonar 2050 (S2050) upgrade programme for the current Type 23 Frigate force. This win gives us access to roll the capability forward into the new-build Type 26 escort.



Derivatives of ISS are being considered for the Indian Navy's forthcoming competitions to provide both a shallow water ASW solution for smaller craft (SWC) and a more comprehensive Integrated ASW Defence Suite (IADS) for their future ASW requirements. Both ASW programmes are suitable for substantial numbers of platforms. Indian defence competition increasingly requires Indian companies to lead as prime contractor and we are very well positioned to meet this need through our growing strategic partnership with Mahindra Defence Naval Systems. We expect to strengthen this partnership over the forthcoming months in order to team for a variety of opportunities, including Army radios and fighting vehicle and combat aircraft systems. Currently, the Ultra-Mahindra team is awaiting the final contract award for 12 New Torpedo Defence Systems (NTDS) which we were selected for last year. Mahindra will manufacture the countermeasure launcher in country. NTDS draws upon Ultra's experience of providing the Royal Navy's torpedo defence system (Sea Senter) for many years.

Looking further ahead, Ultra is teaming with a number of international Primes to explore the use of Unmanned Air Vehicles (UAV) for Anti-Submarine Warfare missions. Drawing upon our extensive portfolio of sonobuoy design, production and deployment, we have been working to develop solutions that would scale a normal sonobuoy down to a payload suitable for carrying in a large UAV. We have also worked with our partners to integrate sonobuoy dispensing, uplink transceivers and ASW processing into the airframe. Together, we are now in a position to demonstrate to customer navies how UAVs might make a significant contribution to the ASW mission, taking the pressure off the limited numbers of manned platforms.

## Engines for growth continued



### Maritime

Ultra offers a wide range of specialist advanced systems to deliver warfighting edge in the modern maritime battlespace. In the past we have offered these singularly to familiar customers. Now we have the opportunity to develop and present a much more comprehensive set of capabilities and solutions to customers, through whichever part of Ultra has the best relationship. These solutions, including sensors, combat management systems, power and signature solutions for surface, sub-surface and unmanned platforms, provide a critical operational advantage to navies around the world.

With successful execution of the Indonesian Navy's Fatahillah MLM-1 corvette (see page 20), Ultra has demonstrated its ability to take on a complex ship refit, encompassing hull, mechanical and combat system work, and deliver it to time and cost in a distant land. This has been a really impressive achievement and has not gone unnoticed by other regional customers or potential partners. Ultra's successful performance in Command and Control (C2) programmes like Fatahillah is part of a growth roadmap of opportunities that are bringing new international markets to bear including South Africa and the Middle East.



Ultra has long targeted long-term platform presence as a key component to sustainable performance and growth of the Group. Nuclear submarine programmes provide such a long-term opportunity, based upon established relationships built on deep technical expertise and surety of delivery. Achieving selection as preferred suppliers for these nationally sensitive platforms and following up with exceptional support opens up additional opportunities for equipment delivery when other suppliers stumble. In this Segment, Ultra has been successful in capturing additional platform share through reputation and execution on both sides of the Atlantic, in both the US and UK nuclear submarine programmes.



### Land

Contributing just under 3% of Group revenue in 2014, the Land Segment is nonetheless one of the best positioned for growth. The three major members of this Segment (PCS, CSS and EMS) are providing increased value offerings to customers by bringing together their existing, individual products into focused, integrated subsystem solutions. Here the Segment can use the US-facing presence of EMS for pursuit of that market sector for the full range of land capability, while PCS and CSS merge their resources for pursuits in non-US markets.

Although stiff competition exists, the market is exploitable using the Group's existing leadership in battery monitoring and smart charging systems, tactical and satellite communications, power distribution, Human Machine Interface (HMI) products and sensor and surveillance solutions.

In a great example of how we generate new markets, PCS is leading development of a soldier power solution (CombatConnect). Whilst initially for the UK Army, it has received strong interest from many customers, including the US Army. The system replaces the need to carry a multitude of expendable batteries for soldier equipment with an electrical harness and rechargeable power source, fully integrated into the soldier's body armour (see page 13). Our software also allows the data interface of a wide range of soldier carried devices. Interest extends beyond the Army to Blue-Light responders police and fire fighters. Expect to hear a lot more about this new market.







**Mark Anderson** Group Marketing Director



## Communications

The Communications Segment brings together a range of capabilities that include military and commercial encryption solutions, data link systems, high performance tactical radios and SATCOM terminals, as well as a variety of more specialist offerings.

Within this very broad portfolio, a key activity is the delivery of the next generation of high-grade programmable cryptographic devices to the UK and US. At the heart of the UK Government's solution is Ultra's software definable Common Core Crypto (C3) module, of which over 3,000 have now been manufactured. CIS continues to support the UK MOD in deploying and supporting C3 across a range of communication systems. They are now developing an export version of the device, as well as next generation products based on the C3 architecture, to maintain and strengthen its position in this niche market. The Segment is seeing early signs of similar success in the US, where ATS (ProLogic) has won the development contract for a new US encryption engine. Once approved and certified, this 'game changing' technology development, which is also an FPGA-based, single chip cryptographic engine, could be used as the crypto core for several new government programmes, as well as many technology refresh/crypto modification opportunities. ATS believes this key win will assist in positioning itself as the partner of choice for directly adjacent opportunities across the US Government.

Work is now underway to ensure the technical knowledge we have already developed is available to our US-based businesses.

Elsewhere in the Segment, partnering is being fully exploited, both as a way to improve market access and to bring disruptive technology to market more quickly. In the former, TCS has teamed with a US Prime to increase the likelihood of success on a number of significant tactical communications programmes in the US, particularly with the US Army and US Marine Corps. More broadly, the business is partnered with Mahindra in India and with Thales and Hanwha Thales for pursuits in the Middle East and North Africa (MENA) and Asia-Pacific (APAC) regions respectively, taking advantage of their better market access. Partnering is also a key element of the Segment's approach to the Tactical Datalink Link market, in which it aims to exploit CIS' dominant position in the Link 11 airborne market and to become the technology partner of choice for Link systems for the platform primes. Finally, GigaSat (now part of CIS) has embraced partnering both to access disruptive technology and as a route to market; teaming with MicroAnt to develop innovative small Satellite Communications (SATCOM) terminals; and establishing service provider commercial relationships with such large SATCOM service providers as Inmarsat and Boeing.



## C2ISR

Within the large, diverse and highly competitive C2ISR market Segment, the core businesses are focusing on the big opportunities in the border security and Critical National Infrastructure (CNI) protection sectors. There is also focus on upcoming defence command and control programmes where they are able to add value from ATS's Air Defence Systems Integrator (ADSI) to customers outside the US which other businesses have stronger relationships with, such as in the UK.

Migration, terrorism and regional tensions are driving growth in the border security market, which is seeing a move from more traditional approaches (fences and patrols) to more hi-tech, networked solutions. This plays to Ultra's strengths and, together, the businesses within the Segment have all the elements necessary to deliver an integrated border surveillance and security solution. ATS, one of Ultra's designated Tier 2 systems integration companies, is the lead business for such opportunities and is currently pursuing a substantial opportunity in a Middle Eastern state. The CNI protection market is also expected to see significant growth over the next few years and here 3eTI is well positioned to provide both a

comprehensive cyber and physical protection solution with its CyberFence and VirtualFence offerings. With a strong and growing track record in the protection of US naval bases, 3eTI is now pursuing multimillion pound CNI protection opportunities outside its core Department of Defense market and has also diversified its marketing channels through partnerships with a number of select OEMs such as Johnson Controls and Yokagawa. Recently, 3eTI, CIS and Corvid have teamed together to win our first significant overseas cyber protection opportunity.

Building on the acquisition of Herley (see page 15), the Group is also intent on strengthening and widening its Electronic Warfare (EW) offerings and increasing its share of the EW market. This too is a growing market in which the Segment is able to offer ground, sea and airborne systems covering Electronic Attack, Electronic Surveillance, Electronic Protect operations and EW simulators. TCS is pursuing a variety of high value opportunities, particularly in Turkey where it is working closely with indigenous companies on a number of EW pursuits, and EWST (part of CIS) is active in over 30 countries across the globe.

## Engines for growth continued



### Aerospace

In the Aerospace Segment, Ultra is well placed to benefit from the large order book in the civil aircraft market. Ultra has designed, developed and is now delivering the unique Wing Ice Protection System (WIPS) on the Boeing 787 Dreamliner. The in-service B787 fleet is now over 350 aircraft and Boeing's production rates will continue to increase over the next two years. On Airbus' new A350, Ultra has its new Electrical Ground Door Opening (EGDO) system, landing gear service panels, as well as unique electrical harnessing on the wings that allow the sensing of out-of-alignment slats. The A350 entered service with Qatar Airways in early 2015 and annual production rates are planned to increase from just 32 aircraft in 2015 to over 140 aircraft by 2019.

The Segment also has a suite of control electronics on Mitsubishi's new Regional Jet (MRJ). These include nose wheel steering, landing gear extension and retraction, passenger door sensing and specialised landing gear harnessing. Currently in development, the production rates for this new Japanese aircraft are planned to reach over 90 aircraft per year. In the Chinese market, Ultra is developing landing gear control and nose wheel steering for the new XAC MA700 regional turboprop aircraft. This aircraft is targeted at the large and growing domestic market in China, but will also be certified for international sales.

In the business jet sector Ultra's control electronics is fitted to all of Gulfstream's newest aircraft, including the G650, G600 and G500 with the combined production rate for all types forecast to exceed 100 aircraft per year. Additionally, the Group has equipment on Cessna's new business jets, including the Longitude, and is positioning to secure further equipment on its new and largest ever jet, the Hemisphere. The Segment has also secured the supply of the nose wheel steering control unit for the new HondaJet which is expected to sell more than 500 aircraft in the very small business jet market and is positioning to secure further business on this platform.



In the military sector, the Group has a high ship-set content on the huge F-35 Joint Strike Fighter programme; the largest military aircraft programme in the world. The combination of the Segment's precision pneumatic HIPAG weapons ejection system, the engine inlet ice protection electronic control system and the highly specialised engine harnessing, means this programme will be a significant growth engine, as Lockheed Martin is planning to triple production volumes for this aircraft over the next five years.



© Image courtesy of Embraer

Again in the military sector, Ultra has a suite of control electronics and specialised harnessing on Embraer's new KC-390 military transport aircraft. The Group provides electronic control for the aircraft's steering, landing gear and cargo doors as well as specialist wing harnessing to allow sensing of slat alignment.







**Mark Anderson** Group Marketing Director



## Nuclear

Ultra supports a full 'defence-in-depth' approach to the global nuclear industry, spanning the licensing, delivery and safe operation of the reactor and associated systems with a focus on equipment that requires formal safety justification or qualification. What we 'sell' in effect is our long-standing experience and deep knowledge of nuclear safety and control.



A major opportunity for this Segment has been gaining Ultra a position as NuScale's strategic partner in the development of the full reactor protection system and specialist sensor design for their industry-leading Small Modular Reactor (SMR). SMRs are of huge interest to energy-hungry nations, like the US and UK, as well as for rapidly developing nations. SMRs deliver carbon-free power with a significantly lower investment requirement and environmental footprint, compared with conventional nuclear power. NCS and NSPI worked together to gain a premier position in the development of the plant and

will generate substantial revenue from it in both design and deployment phases.

In a strong example of how Segment positioning can work in practice, NCS, NSPI and PMES are actively involved in 'joined-up' bidding on all four UK new build programmes: EDF (Hinkley Point C), Horizon (Wylfa), NuGen (Moorside) and CGN (Bradwell). Capabilities extend from: nuclear qualified sensors from NSPI; reactor Instrumentation & Control (I&C) and design plus regulatory support from NCS; and balance of plant emergency back-up power systems from PMES.

The UK new build has enabled Ultra to exploit its UK domain knowledge, legacy reactor support and positions on multiple reactor types and standards around the world as a route into global markets

The Nuclear Segment has gained significant benefit from focused political lobbying to gain intelligence and influence favourable to Ultra. From this, Ultra has become increasingly involved in Government led initiatives, including representing UK supply chain at the formulation of new industry training standards and presentations on Suitably Qualified Experienced Personnel (SQEP) to the MOD Nuclear Community.

As a result, the industry's key messages have been placed directly into Ministerial Briefs and this has helped secure increasing access to senior figures in the industry, including those attending recent state visit by China. In addition, Ultra now has a senior project manager seconded to the Office for Nuclear Development at the Department of Energy and Climate Change (DECC) with a focus on developing UK supply chain.



existing power networks that are currently running near the maximum of their capacity needs to be managed to prevent overloading. Ultra is supporting the development of the two major competing technologies, which if successful, will ultimately be rolled out across national grids.

PMES is under contract to supply the windings for a passive magnetic solution being driven by a UK company, whilst EMS has a contract for a super-cooled magnetic solution driven by a US organisation. Both are undergoing live trials with network operators.



## Infrastructure

Ultra is an international provider and integrator of critical systems and software to operate, optimise and secure both today and tomorrow's transport and energy infrastructure.

Smart infrastructure (energy and transportation) was identified as a key global growth opportunity which plays to Ultra's core strengths in both domain knowledge and secure networking solutions. Ultra has gained early positions on a number of long-term initiatives including cyber-secure transport & communication systems, resilient power and back-up, and localised smart energy networks

In addition, focused 'seed corn' funding has been utilised to target enabling programmes and demonstrate capability. This included Ultra and UK 'start-up', PowerOasis, combining expertise to integrate and launch a cyber-secure, intelligent remote management solution for critical national infrastructure.

Smart enabled grids are also creating opportunities. The addition of renewables and micro-grids to



## Standardisation & Shared Services

# S3 PROGRESS

From idea to reality: after a vision was identified at the 2014 Business Leaders Conference, all Ultra businesses are now involved in shaping and realising the **S3** plan and vision.

At launch, the primary focus of **S3** was to establish best practice solutions that could be adopted across the Ultra Group, to deliver improved and consistent levels of service in a more cost effective way.

This involved collaboration between the businesses and the **S3** programme team resulting in a level of insight and detail that has previously never been available but one which provides Ultra with a single picture of:

- Where and how we spend more than £300m annually with our suppliers around the world.
- The different HR processes in place across the Group; which ones can be standardised and which will need to remain within the individual businesses.
- The myriad of IT platforms currently in place across the Group (34 ERP systems in total), together with an understanding of the requirements to enable a move to a few or a single Group-wide ERP platform in the future.

This phase of the programme also provided vital input into decisions relating to which functions and services would, in the future, be managed on behalf of the businesses by **Global Business Services** – a new central function that will support all the businesses – providing the **S3** team with the roadmap to commence the transition.





# Ami Sharma

Group Finance Director

## The S3 Programme

The **S3** Programme is now fully operational and is structured around eight individual workstreams. Each workstream has a clear vision and objectives to work towards. The **S3** Steering Committee meets monthly to provide the necessary oversight and ensure progress remains in line with the **S3** Programme Plan.



## Tangible outcomes

The collaboration between the businesses and the **S3** Team has proved a valuable exercise in highlighting and reviewing examples of best practice that already exist and that would benefit the whole Group going forward. Furthermore, we are now seeing positive actions in the businesses as a result of **S3** and the businesses working together.

An **S3** Facilities Management pilot covering **CIS**, **Precision Control Systems** and **Command & Sonar Systems** business units in Greenford, has taken the best practice and requirements of each site and developed a Site Facilities Management Service Level Agreement. When fully tested, it will be rolled-out across all Ultra sites in the UK. Although Facilities Management personnel will still be available at all sites, overall responsibility for managing the service delivery will sit with **Global Business Services**.

We have now implemented a standardised approach to sourcing within the UK businesses that has already resulted in Ultra achieving better deals with suppliers. The approach is based around seven Sourcing Levers which include reducing and/or standardising materials and services; consolidating the number of suppliers; and securing better deals. A similar approach is now being developed for the US businesses.

We got off to a great start in January 2016 with the first **S3** saving of approximately 25% on a like-for-like basis for the provision of UK mobile telephone services. With a further 50 initiatives underway to take advantage of Ultra's combined buying power, savings have continued to rise.

Also in January, it was announced that **Global Business Services** for the UK would operate from the Wimborne site in Dorset. An announcement is expected in early 2017 as to the location for the second US-based centre.

Since going live in June 2016, the focus and achievements of **Global Business Services** include:

- **Global Property:** Lease management, with a 9% reduction in Ultra's footprint achieved to date.
- **UK Facilities Management Pilot:** Standardisation of site services and facilities to establish a model which will be adopted by all Ultra Businesses in the UK in 2017.
- **UK Direct Sourcing:** Identifying further savings to add to the confirmed savings of £195k already achieved in 2016 and a further £429k already negotiated for 2017.
- **UK Indirect Sourcing:** Standard sourcing arrangements for indirect commodities and services, establishment of a central sourcing and procurement system, processing of procurement transactions and accounts payable.

Services will be established in the UK first before considering a corresponding US location. In June 2017, the first Ultra businesses forming the foundation of this important function will be the NCS and CEMS Procurement Teams.

"We got off to a great start in January 2016 with the first **S3** saving of approximately 25% on a like-for-like service for the provision of UK mobile telephone services..."



## Standardisation & Shared Services continued

# A team in the making

The **S3** Team is now in place with a combination of internal and external people to ensure we have the right blend of experience, business knowledge and specialist skills deployed to the programme.

It is anticipated that as the transition to **Global Business Services** accelerates, more positions will become available in the coming months in both **S3** and **Global Business Services**. All vacancies are advertised internally via email across all businesses within the Ultra Group and can also be found on the Ultra Group website via the careers section.

Alternatively, if you'd like to work on **S3** but not on a full-time secondment basis, you might want to contribute by bringing expertise to working groups on particular aspects of the programme that require specialist skills. Anyone wishing to find out more can contact [recruitment@ultra-gbs.com](mailto:recruitment@ultra-gbs.com).

**"The **S3** Team is taking shape with a combination of internal and external recruitments to ensure we have the right blend of experience, business knowledge and specialist skills deployed on the programme."**

## Meet the team

Here **Michael Hyltoft**, MD of **S3** and **Global Business Services** introduces himself and the team.



I am an accomplished Business Transformation Director with over fifteen years' experience sourcing and delivering effective business solutions and strategies. I have extensive practical experience in Business Support functions (aka Shared Services), having implemented and advised on several programmes across the world.

I have delivered Shared Services processes from end-to-end; from initial strategy development to full implementation, and have a proven track record of delivering successful programmes. As a regular speaker at international conferences, I am recognised in the market as a top thought leader in my field.

Working with me on the **S3** Programme are:

### Jestina Anderson

#### Human Resources Workstream Lead



Jestina joins the team from **Sonar Systems**. She is MCIPD qualified and has spent her 20 year career in senior HR and operational roles within the retail and AV engineering sectors, planning and implementing business improvement programmes.





## Ami Sharma

Group Finance Director

### Angela Hawkins

#### Property Workstream Lead



Angie joins from **ProLogic** and brings with her over 30 years comprehensive industrial security experience in both the Federal Government and private sector. She has a deep understanding of Foreign Ownership Control and Influence (FOCI), Proxy Agreements (PA) and Special Security Agreement (SSA). During her 13 years at **ProLogic**, Angie's responsibilities included security – including security adviser to the Proxy Board – Health and Safety, purchasing and facilities. Angie has also worked at Boeing, Raytheon and Northrop Grumman.

### Pauline Collins

#### Head of Direct Procurement



Pauline joins us as a seasoned purchasing professional following 10 years working with **CEMS**. Pauline has an additional 15 years experience working with global blue-chip OEMs in a variety of industries including automotive, aerospace, electronics and food. Pauline has travelled broadly across Scandinavia, Europe and the USA to co-ordinate and implement Global Procurement Strategies. She has instigated vendor selection solutions and was influential in the implementation and adherence of a Sourcing Handbook, which was used through many business units in a variety of European locations within one company.

### Kathryn Andrew

#### Head of PMO



Kathryn provides governance and control to the programme as well as acting as a hub for all programme activity. Prior to working for the **S3** Programme, Kathryn worked for 12 years in the financial services industry in a number of change management roles and across a range of large-scale transformation programmes.

### Raj Banerji

#### Finance Lead



Raj joins with 25 years experience, of which 20 years were spent working for BP in a dual role as Finance Director and ERP Implementation. After leaving BP, he worked in India as Chief Finance Officer of an Oil Refinery. He is passionate about working closely with the business and delivering results that systems and processes are business owned.

### Graham Wayman

#### Financial Controller



Graham joins the **S3** team from **NCS**, following the acquisition of Lab Impex Systems where he was Finance Director. He is a highly experienced Finance Director/Controller having held positions in Middle/Senior Management in manufacturing and service environments. Graham's experience includes involvement in a successful Management Buy-Out process of a Venture Capital backed business; taking the lead financial role in preparing the business for acquisition; financial control of numerous prestigious projects; negotiation of Public and Private sector contracts both in the UK and Overseas and providing financial analysis and guidance to commercial teams in bid preparations.

### Jad McCormack

#### Facilities Lead



Jad joined Ultra during the acquisition of Datel in April 2000. When Datel was divided and merged into two Ultra businesses in 2010, he transferred to Controls. Jad is responsible for managing the **S3** Facilities Management Pilot. During his career with Ultra he has gained 16 years of Facilities Management experience covering all aspects of FM, Health and Safety, Environmental Management, Security and Business Continuity. He regards the most important thing about Facilities Management as the people we serve on a day-to-day basis.

## Exhibition &amp; Event news

# Ultra on show



## If you want the rainbow, you've got to **put up with the rain!**

This year, the Farnborough International Air Show bought a whole new set of challenges, largely the weather! The Ultra stand was certainly one of the busiest and our new position at the end of Hall 1 saw an increase in passers-by coming on to the stand. As well as the UK and overseas delegations, VIP guests and groups of investors, there were numerous business-to-business activities and meetings that were on-going throughout the week.



Flightline is collaborating with Tonic Analytics on HUMS.

**Left to right:**

Eric Hathaway, Marc Brodeur (both Flightline), Andy Dollin, Andy Heather (both Tonic Analytics) and Rhys Jones (Flightline).



Monday started with a bang only to be washed out, literally, by the rain. The reactions of the team when the hall began to flood were exemplary and we would like to thank all those involved. Despite this the rest of the show passed without a hitch. Throughout the week the stand team delivered the professional, knowledgeable, courteous and slick service; all guests were met and hosted appropriately, they all got fed. It was great to see such a team effort with everyone keeping their sense of humour, smiles on their faces and all being prepared to help and support each other.



## Exhibition &amp; Event news

## Marelec

Ultra was represented by **Command & Sonar Systems**, **EMS** and **PMES** at Marelec, the only international conference dedicated to marine electromagnetism. Marelec is unique in offering an opportunity for professionals from both the defence and the oil and gas survey industries to share their understanding of electromagnetic applications. The event is highly relevant to Ultra who have offerings in both markets. Ultra was a sponsor for the event and Samantha Davidson of **Command & Sonar Systems** is a member of the Organising Committee for the conference held in Philadelphia, USA.



Left to right: Bob Tims (EMS), Steve Goodwin and Samantha Davidson (Command & Sonar Systems) at the Liberty Bell museum, Philadelphia.

## AUSA



AUSA closes the year for corporate events. **TCS**, **PCS**, **EMS/MSI**, **NCS**, **USSI** and **Flightline** completed a multi-capability display. While there are opportunities for all, this year was particularly busy with interest in **PCS** dismounted soldier technology, CombatConnect; visitors were keen to try the interactive demonstration by wearing the communications vest. **Flightline's** rotorcraft and vehicle health monitoring system continued to attract interest after the Farnborough exposure.

## MSPO

**CIS** led an Ultra team that included **ATS** and **TCS** at MSPO, Poland in September. This event is the largest defence exhibition in the region and is supported by the UK Department for International Trade. Ultra had a busy and successful show. As Poland continues to invest in modernising its defence forces, Ultra is actively pursuing a number of opportunities within the C2ISR and communications segments.



## AUVSI

AUVSI (Unmanned Systems) took a new look this year by rebranding as Xponential in New Orleans; Ultra's look also changed to the scenario art to include all unmanned capability. **PCS**, **USSI**, **Herley**, **ATS**, **MSI** and **Command & Sonar Systems** were represented in a comprehensive display.



## U-RTMS



A Wood & Douglas team, part of **CIS**, attended Healthcare Estates at Manchester Central to promote Ultra Real-Time Monitoring Solution (U-RTMS). The system

offers estate managers for NHS Trusts and campuses the ability to remotely monitor, report upon and analyse data relating to safety systems. Developed initially to mitigate the risk of water contamination by legionella, the U-RTMS addresses key criteria such as: complying with National Safety Standards; improving patient and building safety; reducing costs associated with manual monitoring of systems; providing robust records for audit purposes. This was the ideal environment to promote U-RTMS given the recent changes in Health and Safety legislation around legionella. The prevention and control of the potentially fatal legionella bacteria is an ongoing challenge for facilities management professionals, especially when managing a large campus with an ageing infrastructure. The show was successful in generating many leads within NHS trusts, building consultants and potential distributors.

## Surface Navy

**Ocean Systems** and **EMS** represented Ultra's maritime capability at Surface Navy, Crystal City.



## CANSEC

**Maritime Systems** lead a team including **EMS**, **ATS** and **GigaSat** at CANSEC, Ottawa.



## VIP visits

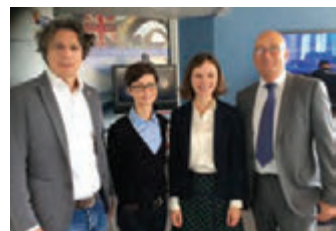


### AEP at Slovenian Ministry of Foreign Affairs

**AEP** (part of **CIS**) conducted demonstrations of the SecComm multibearer package with integrated Xiphra to the Slovenian Ministry of Foreign Affairs and an invited audience at the British Embassy in a launch hosted by Sophie Honey, the British Ambassador.

Steve Noble and Griff Griffiths travelled to Ljubljana, Slovenia to partake in two important demonstrations. Accompanied by our partners, Beyond Semiconductor, day one of the visit involved a demonstration to a select audience from the Ministry of Foreign Affairs. The highlight of the event was a video conference with Oliver Tonge and John Eades in London over a Xiphra-encrypted link, with Griff demonstrating the reliability of the unit by disconnecting the Ethernet cable and the immediate recovery of the conversation via a Slovenian 3G SIM.

The following day, British Ambassador, Sophie Honey, hosted a launch event at the Embassy to an audience comprising technology companies, industry figures and commercial businesses. With a focus on the partnership between Ultra and Beyond Semiconductor, and how this is an excellent example of the UK and Slovenia working together, the Ambassador introduced the demonstration, which again included the video conference to London, as the highlight of the event. The Embassy staff were exceptionally pleased with the event and the Ambassador later tweeted images from the launch to her official account @HMASophieHoney. Follow up conversations with the attendees are already in progress and this format has proved an excellent way to demonstrate the capabilities of the SecComm and Xiphra to international audiences.



**Right:** Steve Noble (AEP Sales Manager, Europe); **Second right:** Sophie Honey, British Ambassador, Slovenia

### New York Congressman, at EMS



In January, **EMS** hosted a visit by Congressman Lee Zeldin, Republican Representative for Central and Eastern Suffolk County, New York. Congressman Zeldin enjoyed a comprehensive tour of the **EMS** facility and spoke enthusiastically to the staff.

### 3 Phoenix get a visit from the Senator

In September, Senator Thom Tillis visited the **3 Phoenix** facility in Wake Forest, North Carolina. Upcoming procurements of Torpedo Warning System, TB-29 & TB-34, were the main focus. The Senator offered his continued support on both the Senate Armed Services Committee and with the Senate Subcommittee on Defense Appropriations for SSTF funding for FY2016 and beyond. In addition, the Senator is interested in supporting the amphibious platforms because roughly 40% of the Marine Corps is stationed in the State of North Carolina. Bob Judd, Acting General Manager at **3 Phoenix**, and his team did a great job of communicating the message and working the future relationship with the Senator and his staff.



**Left to right:** Bob Judd, Sen. Tillis, Greg Thom

### Four-star admiral drops in on Ocean Systems

**Ocean Systems** hosted Admiral Michelle Howard, the Vice Chief of Naval Operations (VCNO) at the facility in Braintree, Massachusetts. Admiral Howard was most interested in cybersecurity and underwater warfare solutions provided by the Ultra Electronics team, including **Command & Sonar Systems**, **CPG**, **3eTI** and **Ocean Systems**.

"The VCNO is the type of leadership engagement that Ultra Electronics can only benefit from having dialogue with," notes Mark Anderson, Group Marketing Director. He adds "She is a thought leader in the US Navy and an important advocate for future capabilities that meet today's and future operational requirements for the US Navy."

Michelle Howard became the first woman to become a four-star admiral on 1 July 2014. As Vice Chief of Naval Operations, which she began that same day, she is the first African-American and the first woman to hold that post.



Rochelle Borden (left) with Admiral Michelle Howard



## Acquisitions

# welcome to Ultra...

Since the last issue of **UltraNews**, several new businesses have joined the Ultra family.

In August 2015, Ultra completed the acquisition of the Electronic Products Division ("EPD") of Kratos Defense & Security Solutions (NASDAQ: KTOS). This strategic acquisition establishes a major presence in the growing market of electronic warfare (EW) and provides market and customer synergies with Ultra's C2ISR market segment. EPD is a well established supplier to the attractive US EW market, which is growing at over 3% per annum. The combined technologies under Ultra's ownership will provide opportunity to gain market share. EPD has been renamed **Ultra Electronics Herley**.

EPD (formerly Herley Industries Inc.) is a leading designer and producer of RF and microwave integrated systems and subsystems for use in EW, radar, communication, missile, flight test and simulation applications. The company, based in Massachusetts, US, employs 433 people across four offices in the US and UK.

Ultra has identified electronic warfare as a targeted growth area within its core markets in which it is currently under-represented. EPD has a well-established position in the US EW market and the acquisition will augment Ultra's existing specialist EW capabilities in Australia and Canada and give access to new customers and markets. Equally, access to Ultra's secure networks and military datalink capabilities will allow the EPD business to increase the scope of future offerings into their existing customer base.



In October 2015, **Furnace Parts LLC** joined Ultra from Takoda Group LLC. Furnace Parts is a developer and supplier of thermocouple-based temperature sensors for high performance and demanding applications in the nuclear and process control sectors. The acquisition will extend Ultra's specialist temperature sensing capabilities in both US and international markets.

There are 28 employees based in Cleveland, Ohio. The business has been integrated into the **Nuclear Sensors & Process Instrumentation (NSPI)** business based in Round Rock, Texas.

In September 2016, Ultra officially launched **CORVID PayGate Limited**, the new brand for Ultra Payments, the specialist in the development and supply of global strategic payment processing software, data validation and services to support automated banking and e-commerce. CORVID PayGate will meet the growing aspirations and needs of its customers for a highly secure agnostic global platform, allowing almost any payment type to be processed through a single gateway.

"This is a truly exciting time for the payments industry with regulation changes and the digital payments revolution continuing to drive innovation. CORVID PayGate will continue to accelerate development and growth to provide the excellent payment processing software and services that we are known for." Nick Newman, the head of CORVID PayGate comments.



## Restructure

**Command & Control Systems (CCS)** and **Sonar Systems (SS)** have been merged into **Command and Sonar Systems (CSS)**. The new Management Team will be led by Mike Williams as Managing Director.

**Precision Air & Land Systems (PALS)** and **Controls** have merged, becoming **Precision Control Systems (PCS)** under Mike Clayton.

**GigaSat** has been incorporated into **CIS** to provide support and investment for growth. Gavin Newport is the Managing Director of **CIS**; Tom Cross is Business Unit Director for the Secure Communications unit of **CIS**, which now includes the **GigaSat** capabilities.

**ProLogic** has been integrated into **ATS** under Tim Stanley. The move was instigated to develop and grow the crypto systems, advanced solutions and Tactical Data Links business areas and to broaden **ATS's** capability and market access.



# Aerospace & Infrastructure

Across the board...news and stories from across the division

## A 'One Team' approach

Stuart Crooks, Managing Director Generation at EDF Energy, visited the **NCS** facility in Wimborne as part of his routine visits to touch base with Nick Gaines (Managing Director, **NCS**) and the team, and witness the progress being made.

Following the visit Stuart said: "The visit really was a pleasure to experience and I would just like to take this opportunity to share with you some views of the journey we have been on together and how the vision and leadership of both Rakesh and Nick have made it all possible.

"In early 2012 we had only five usable spare detectors to support our stations; since then we have recovered an additional 33 detectors, 10 of which have successfully been used to replace failed units in our reactors. Work commenced on your Winfrith House Manufacturing facility in early 2013; the transformation from what was at that time an empty

building to a state of the art manufacturing facility has been astonishing. Ultimately success relies on people – the rapid expansion of your flux detector team, who now number more than 50, is impressive; all the more so for the calibre of individuals that you have recruited, trained and motivated. During my visit I saw a quality production facility which will support EDF Energy's fleet through its lifetime and, most importantly, a 'One Team' approach across Ultra and EDF exemplified in all the people I spoke to.

"Please pass my thanks on to the team, it is a great demonstration of determination, capability and what can be achieved when working in true partnership."



Managing Director:  
**Graeme Stacey**

Marketing Director:  
**Chris Binsley**

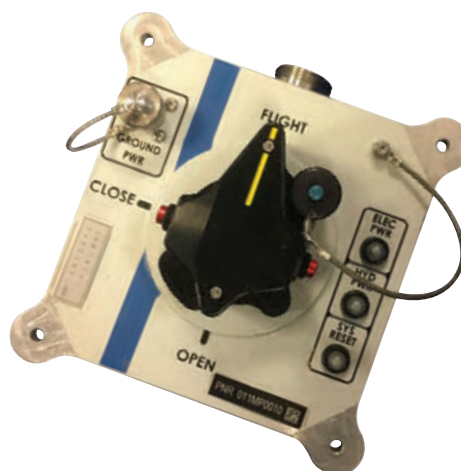
Finance Director:  
**David Cliffe**

Businesses:  
**Airport Systems, Nuclear Control Systems, Nuclear Sensors & Process Instrumentation and Precision Control Systems**

## Airport Systems' 20 year partnership with IATA



**Airport Systems** is pleased to announce that the business has been presented with an award marking a 20 year strategic partnership with the International Air Transport Association (IATA). IATA is a trade association supporting airline activity and helping formulate industry standards and policies. Over the years many **Airport Systems** staff have been involved with the association in a variety of activities. **Airport Systems** staff are closely engaged with various IATA functions: Dave Ogden is the Technical Co-Lead on the IATA AIDX (Aviation Information Data eXchange) Working Group and is editor of the AIDX Implementation Guide; Phil Broughton has been responsible for defining Ultra's Service Oriented Architecture for exchanging AIDX messages and assisting with its deployment worldwide; Shaun Penton and Grahame Bird are key members of the Baggage Working Group, which reviews and develops recommendations for baggage messaging.



## First A350 fitted with PCS' EGDO

On 24 November 2016, Airbus completed the first flight of the A350-1000 variant of its A350XWB family. This aircraft is the first A350 to be fitted with the **PCS** Electric Ground Door Opening system (EGDO), used by the ground crew and pilots to open the aircraft's undercarriage bay doors on the ground for inspection purposes. The equipment will be adopted on the A350-900 version once certification of the system is completed. This adds to the existing shipset of equipment already in place on the A350, including ground service panels and translating harness mechanisms. Airbus currently has 810 orders for the aircraft, 49 of which have already been delivered. This order book has a value to Ultra of greater than £35m.

## Kuwaiti Typhoon's

In April 2016, the Kuwaiti government signed a contract for 28 Eurofighter Typhoon aircraft. This contract comprised 22 single seat and six two-seat versions of the aircraft. **PCS** has a significant shipset of equipment on every Typhoon. This includes our state-of-the-art stores management system HiPPAG, cockpit equipment (including the joystick and throttle controls) and landing gear control modules. The value of the Kuwaiti order to Ultra is greater than £7m.





# Communication & Security

Litening Pod anniversary feature

## LITENING the way!

Ultra's Litening pod marks ten year anniversary of first flight.



During this ten year period, Ultra has also recognised other significant milestones:

At DSEI 2011, Rakesh Sharma presented a memento to Air Vice Marshall Stu Atha, OC 1 Group RAF to recognise 50,000 hours service.



At DSEI 2015, to honour the milestone of 100,000 hours flying time, Rakesh Sharma presented a memento to Air Marshall Sir Stephen Hillier, Deputy Chief of Staff, Capability.



Litening, an advanced targeting and reconnaissance pod, has been in continuous active service with the UK RAF for ten years, operating on both Typhoon and Tornado aircraft. Most frequently used in reconnaissance missions, the pod provides the UK RAF with a ground reconnaissance and scanning capability, even when the fighter jets are flying at maximum speed, low altitude and undertaking combat manoeuvres. Litening also enables a vital air-to-ground targeting capability including the ability to laser-designate a ground target for attack by other assets.

Utilised in operations in Iraq, Afghanistan, Libya and more recently Syria, Litening has exceeded 125,000 flying hours with 99.9% mission availability. Ultra has successfully contracted against two Urgent Operational Requirements (UOR) providing an additional ten pods for operations in Iraq and Libya, the latter of which earned a letter of thanks from the UK Defence Minister.

Litening is an excellent example of Ultra's proactive approach to teaming with the right technology partners in order to achieve competitive advantage. In this case, Rafael Advanced Defence Systems acts as Litening's design authority and Ultra's main subcontractor. Supported by the expert team and dedicated facility within CIS in Greenford, Litening also benefits from an Ultra data link which provides the UK RAF with a sovereign capability and the ability to fully protect its own data. The Litening Support Centre provides first and second line support to technicians on the ground in countries of active service, reducing the need for equipment to be returned to the UK and therefore increasing mission availability. The Ultra data link utilised in Litening is also in operation with the Swedish and Hungarian air forces and with the Royal Navy's Merlin helicopter.

Litening's total contract value, which includes supply and support over the ten year period exceeds £120m, demonstrating the long-term value of sustained partnerships. Ultra has recently conducted successful demonstrations of a fifth generation pod with the UK RAF and is also pursuing associated export opportunities.

# Communication & Security

Across the board...news and stories from across the division

## The Cogswell Award 2016



**Advanced Tactical Systems (ATS), ProLogic and Secure Intelligence Systems** (Ultra's Proxy Board) were all winners of the 2016 James S. Cogswell Outstanding Industrial Security Achievement Awards. The Cogswell Award is given for outstanding achievement in matters related exclusively to a facility's security programme.

The awards were presented in June at the annual NCMS training seminar in Nashville, Tennessee. Collecting them on behalf of Ultra were John McAlonan, former President of **ATS**, Angie Hawkins (previously **SIS** and **ProLogic**, now **S3**) and Shona Nietsche, Facility Security Officer for **ATS**. This is a significant achievement and one that recognises the hard work and commitment that goes into protecting national security at our facilities.

The Cogswell Award selection process is rigorous and only facilities that have a minimum of two consecutive superior industrial security review ratings and which show a sustained degree of excellence and innovation in their overall security programme management, implementation and oversight can be nominated for the award. The Defense Security Service (DSS) makes the final selection and out of a potential 13,500 cleared facilities only 42 facilities were chosen to receive an award.

This award highlights the importance of inter-business and international communication security requirements. The CR system that Ultra has in place, to enable communications between the businesses, is central to this award criteria and is an essential procedure to maintain the required levels of communications security.

Managing Director:  
**Mike Baptist** OBE

Marketing Director:  
**Brian Bates**

Finance Director:  
**Chris Pritchard**

Businesses:  
**3eTI, Advanced Tactical Systems, Communication & Integrated Systems, Forensic Technology, Herley and TCS**



**Above left:** The Team collecting the Cogswell Award. From second left, John McAlonan, Shona Nietsche and Angie Hawkins holding the certificate.

## Taking care of the fleet

**CIS** has secured a £3.29M contract for the technology scope of a new integrated marine vessel tracking and alarm system for all BP UK North Sea installations. Having been a supplier to BP for almost two decades, this contract win cements the businesses position in the upstream oil and gas market.





## 3eTI provides critical cyber security to the US Navy

**3eTI** has been awarded a cost-plus-fixed-fee contract of \$34.6m by the Department of the Navy to continue providing cyber-secure critical infrastructure solutions. Initial tasks of US \$13.9m should be completed by September 2017. The contract includes options which, if exercised, will bring the cumulative value to more than US \$82m and extend the contract through to September 2020. Under the contract, **3eTI** will continue to work with the Navy to design, develop, integrate and install a variety of cyber-secure systems for critical infrastructure control and monitoring. These solutions include intrusion detection, industrial control systems, and endpoint security. Work will be performed in California, Hawaii and in the Washington DC areas.



## Herley's \$14.25m hardware contract

## 'The EAGLE has landed' an \$18.4m contract

**TCS** has been awarded a contract valued at \$18.4m for a customer in a NATO country with options for after-sales support. Ultra will provide Electronic Warfare equipment and engineering support for the delivery of UAV platforms that will be used in surveillance missions. Under this contract, **TCS** will provide a variant of its ALR-510 ELINT (ELectronic INtelligence) system, systems engineering, installation and test support. The ELINT system will be used aboard the UAV and controlled from a ground support centre using **TCS'** TALON software.

**TCS** will also provide products produced by **Herley EWST**: a radar threat simulator for use in the ground support centre and a flight-line go/no go tester.



UltraEAGLE ALR-510  
airborne ELINT system

**Herley** has received a contract valued at \$14.25m from a major US Prime contractor for the continuing production of electronic hardware for a US ballistic missile programme. The contract will be executed over the next two years. The award includes hardware used for tracking, flight safety and multi-stage flight test instrumentation. **Herley** designed and developed this hardware and has supported this programme in production for over ten years.



# Maritime & Land

Across the board...news and stories from across the division

## Ultra 'nose' best

In October, **Ocean Systems** was awarded a contract valued at just over \$6.6m from Lockheed Martin for the non-recurring engineering and production of the MK 48 Torpedo Array Nose Assembly as well as engineering services and spares. Options to extend the contract for a further four years could increase this initial value to \$27m. Under this new contract, **Ocean Systems** will provide fully integrated Array Nose Assemblies. This is the very front of the torpedo and is the section that produces the acoustic 'pings' and receives the information back for the electronics to process. The MK 48 is used by all classes of US Navy submarines as their primary anti-submarine warfare (ASW) and anti-surface warfare (ASuW) weapon. There is potential for production orders from the US Navy of more than 250 MK 48 torpedoes over the next five years.



Managing Director:  
**Bill Terry**

Marketing Director:  
**Ken Walker**

Finance Director:  
**David Cliffe**

Businesses:  
**3 Phoenix, Command & Sonar Systems, EMS, Flightline Systems, Maritime Systems, Ocean Systems, PMES, USSI, Ultra Electronics Australia and Avalon Systems**

## Jacinto Class gets an upgrade



**Command & Control Systems**, now **Command & Sonar Systems**, has been awarded a contract valued at £7.5m from the Philippine Department of National Defence for Phase 3B of the Jacinto Class Patrol Vessel Restoration and Sustainment Programme. Phase 3B includes the replacement of the electro-optic fire control system and navigation sensors and an overhaul of the 25mm and 76mm guns on two ships of the Jacinto Class. The contract also includes the overhaul of the 25mm gun on a third ship of the same class. This will be completed over a period of 25 months, with overhaul and fitting work conducted in the Philippines.

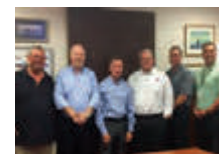
## KRI Fatahillah successful handover

On 2 December 2016, **Command & Sonar Systems** successfully handed back KRI Fatahillah to the Indonesian Navy in a formal dockside ceremony. The previous day saw a Navy Inspection demonstration following a three day Sea Acceptance Trial, which took place in early November. The gun firing trials were a particular success, with accurate firing of the 40mm and 120mm guns demonstrated by remote control from the ship's operations centre. The ship also exceeded its contractual speed target.



General Dynamics selects **EMS**

**EMS** has been selected by General Dynamics NASSCO as the degaussing system supplier for the T-AO 205 programme. This opens up an important new customer for Ultra. GD has been commissioned to build the first six of 17 planned John Lewis-Class fleet oilers. The **EMS** degaussing system will reduce or eliminate the underwater magnetic signature created by the ship's structure moving through the sea.



Kevin Mooney, NASSCO VP of Supply Chain Management (centre) with the EMS team.





## DNE make the switch

**DNE Technologies**, part of **EMS**, has been awarded a contract by Raytheon Integrated Defense Systems for the supply of its RiQ Ruggedized Networking Switch (RIQ) for integration into the Patriot air and missile defence system. The contract, which includes the supply of spares, is valued at \$9.3m. The Patriot system is part of a multiyear system upgrade consisting of Radar and Communications enhancements with the RiQ in the Communications portion of the upgrade. The RiQ will form the basis for the transition to an IP based system, greatly extending the effective life span of the Patriot system.

## New ADC MK2 contract



**Ocean Systems** has been awarded a firm one year contract valued at just over \$4m from the US Navy for the continuing production of the ADC MK2 Countermeasure. Options to extend the contract for a further four years could increase this initial value to just under \$34m. This five-year contract includes effort for design enhancements, development, production, and support services.

The ADC MK2 is an expendable acoustic countermeasure launched from both ships and submarines to protect those platforms from torpedo threats. **Ocean Systems** has been producing the ADC MK2 since 1988 and has delivered over 20,000 devices to date.

## Sonobuoy contract extension from the MoD

**Sonar Systems**, now **Command & Sonar Systems**, has been awarded a £9.5m extension to contract for the supply of sonobuoys for the Royal Navy's Merlin Maritime Patrol Helicopter which will be executed throughout 2017. This contract between Ultra and the MoD for sonobuoy engineering, manufacture, logistics and support, ensures the Royal Navy maintains a persistent Anti-Submarine Warfare (ASW) surveillance capability against hostile submarines. It also allows Ultra to support future technology capability insertion and international collaboration.



## PMES helps the Royal Navy stay cool

**PMES** has been awarded a contract relating to the design and development of reactor control and cooling systems for Royal Navy submarines. The £18m contract, awarded by Rolls-Royce, is the result of a successful, collaborative partnership between the two companies and it will provide an important contribution to Rolls-Royce in its delivery of the next generation propulsion power system for the future submarine fleet.



# People in the news

Apprenticeships, scholarships, learning schemes and awards around the Group.

## Four examples!

**Nuclear Control Systems (NCS)** has a reason to celebrate as its first group of apprentices graduated after four years of hard work. Zack Beavan, Haydn Birkett, Joe Key and Dan King completed their Advanced Apprenticeship in Engineering Manufacture and successfully continue on to the next stage of their Ultra careers. As **NCS'** very own trailblazers they have had the challenging task of setting the standard for those to follow. The success of the 2012 intake has demonstrated the value of apprenticeships to both the learners and to the business.

Presentations were conducted by Nick Gaines, Managing Director in Wimborne. Nick commented that: "When we started our apprentice and graduate schemes nearly five years ago, we did not realise how much the energy and enthusiasm of these young people would change our business. They are our future."

Supporting the **NCS** scheme throughout has been their training partner, The Engineering Trust Training Ltd.

An Apprenticeship takes a huge amount of skill, determination, application and patience. It requires vision and ambition. This is a celebration of all of these qualities in the apprentices who have completed the programme and all of those who have supported them along the way.



Left to right: Dan King, Zack Beavan and Joe Key



## PALS make big strides

**Precision Air & Land Systems (PALS)**, now **Precision Control Systems**, is one of two Gloucestershire manufacturers to have been presented with a prestigious regional award at the EEF/Aldermore Future Manufacturing Awards. **PALS** won the Partnerships in Education Award that is presented to the manufacturer that has made the biggest strides or found exciting new ways to work with education providers to promote engineering and manufacturing careers. Pictured above is Jacqueline Reece, Head of HR at **PALS**, receiving the award from Jim Davison, EEF Regional Director.

## Searching for future engineering leaders



Top left (left to right): Charlie Manning, James Ward and Trinity Hales with Andy Dargle, **Controls**; Top right (left to right): Samuel Reynolds with Andy Dargle, **Controls**; Bottom (left to right): Miles Bailey-Braendgaard and Adele Payman with Andy Cambridge and Ian Chuter, **PALS**.

Ultra continues its support of the Arkwright Scholarships Trust by sponsoring students in engineering scholarships. Scholars are selected for their potential as future engineering leaders by assessing their academic, practical and leadership skills in STEM. These are gauged through a rigorous selection process comprising: an assessed application form including a teacher's reference; a two-hour, problem-solving aptitude exam; and a university-based interview. The Scholarships support students through their sixth form studies and encourage them into top universities or higher apprenticeships.

Students sponsored by **Precision Control Systems** were recognised at the awards ceremonies.

# Arkwright

Scholarships Trust

Inspiring Future Leaders in Engineering



## People in the news

### Lakjit Chand – Ultra's very own Apprentice Ambassador



Lakjit Chand receiving his Apprenticeship Ambassador Award from The Worshipful the Mayor of Hillingdon, Councillor George Cooper.

The first official graduation ceremony presented by Uxbridge College and held at Brunel University London recognised the achievements of its Apprentices, who learn on the job and complete further training and assessment either at College or in their own time. Employers and partners were also involved in the event including Hillingdon Council, Hillingdon Chamber of Commerce and the National Apprenticeship Service.

Lakjit Chand, **Command & Sonar Systems**, was presented with one of two special certificates awarded to Apprentice Ambassadors. Lakjit progressed from a Level 3 Apprenticeship to Higher Education, supported by Ultra, and has been recognised with West London Business Apprenticeship Award.

Laraine Smith OBE, Principal of Uxbridge College, said: "Apprenticeships are now being recognised as a real alternative to full time education, and you can study all the way to degree level while still being employed."

## Save your energy!

EDT delivers over 40,000 STEM (science, technology, engineering and mathematics) experiences each year, for young people age 9-21 across the UK. The range of work-related learning schemes provide opportunities for young people to enhance their technical, personal and employability skills through industry-led projects, industrial placements and specialised taster courses. The Engineering Education Scheme (EES) in England & Scotland is an EDT Programme which links teams of four Year 12 or S5/S6 students and their teacher with local companies to work on real, scientific, engineering and technological problems. The scheme provides students with an in-depth experience in science, engineering and technology that will enable them to make an informed decision about their future studies and career. Over a nine month period of the EES scheme, the students work to develop three working prototypes which are displayed at the EES Celebration and Assessment Day at Rolls-Royce, Bristol.

**PCS** has been working with a team of six students from Cheltenham Bournside School that were tasked with a project brief of researching and building a prototype model for recovering electrical energy on military vehicles (e.g. Foxhound) that can be fed into the vehicle's batteries to extend operation time. The team researched several methods of recovering energy and chose three in which to investigate further; thermal electric



generation from temperature differentials between the engine and coolant system; kinetic energy from engine vibrations; and kinetic energy from suspension movement.

At the assessment day, the team gave a 15-minute presentation on the project, alongside a 15-minute Q&A session with a panel of assessors from other supporting companies. A total of 18 teams participated for the South West region and Bournside School were declared the overall winners for consistently good performance across all assessed areas.

**Above:** The winning Bournside School team with the EES Trophy.

# People on the move



**1 Nick Khoubbieh** has been appointed Vice President and General Manager, Integrated Cyber and Security Solutions at **3eTI**. Prior to joining **3eTI**, Nick was a Senior Vice President and General Manager with Digital Signal Corporation. Nick holds a Master's Degree in Computer Science from Southern Illinois University at Carbondale and a Bachelor's degree with high distinction in Computer Science from Beirut University College. He also has a Bachelor's degree in Mathematics and a Bachelor of Business Administration from the American University of Beirut.

**2 Sébastien Jodeau** has been promoted to Managing Director at **Airport Systems**. Sébastien joined Ultra in 2009 as Business Development Manager then General Manager of **Airport Systems'** French operation in Annecy. He joined Ultra from Printronix where he led sales for the Middle East and Southern Europe. He was promoted to Strategy & Marketing Director of **Airport Systems** in 2013, relocating to Manchester. Sébastien holds a BA in International Marketing from the Ecole Supérieure de Commerce de Rennes.

**3 Gavin Newport** has been promoted to Managing Director at **Communication & Integrated Systems (CIS)**. Gavin joined Ultra in 2013 as Business Unit Director, **Communication Systems** at **CIS**.

**4 India Kalsi** has been promoted to Mergers & Acquisitions Director for Ultra at **Head Office**. India joined the Sonar & Communications business in 2007 and was appointed Mergers & Acquisitions Manager in 2011, working on and leading acquisitions procedures. India graduated from Kings College London with a BA in Classics with English, has a Diploma in Public Relations and Bachelor of Laws (LLB) from the University of Law.

**5 Gary Hawkins** has been appointed Engineering Director at **Nuclear Control Systems**. Gary will lead the engineering relationship with Ultra's strategic customer NuScale Power and build the **NCS** engineering team to deliver their Small Modular Reactor programme. Gary was previously Engineering Director at Ithra, delivering the Master Systems Integrator contract in Oman and Engineering Director at **Airport Systems** in Manchester. He joined Ultra in 2005 after an early career in large scale technology programmes for the financial sector. Gary holds a BA in Chemistry from the University of Oxford.

**6 Andrew Shaw** has been appointed as Finance Director at **Nuclear Control Systems**. Andrew joined Ultra from BAE Systems (Maritime Services) where he was Head of Finance. Andrew has held senior finance roles in businesses including Radamec Group, Philips Semiconductors and Toshiba Information Systems. Andrew holds a BA (Hons) in Humanities from Nottingham Trent University and was appointed as fellow of the FCCA in 2001.

**7 Rikki Douglas** has been promoted to Director of Sales & Marketing at **Nuclear Control Systems**. Rikki was previously Head of Sales & Marketing at **NCS** and joined Ultra in 2012 from Lab Impex Systems. Rikki has extensive experience across the nuclear industry and holds an MPhys in Physics from the University of Lancaster, an MSc in Radiation & Environmental Protection from the University of Surrey and an MBA from the Open University.

**8 Mike Hawkins** has been promoted to Managing Director at **PMES**. Mike has been Operations Director since 2011. He has also held Managing Director roles outside Ultra.

people on the move



Ultra welcomes new recruits and congratulates staff taking up new positions within the company.

## appointments and promotions

# Long Service awards

**PMES** has been celebrating 25 and 40 years Long Service awards. Alan Felthouse, Stephen Nicholls, Noel Bowen and David Langdown have all been recognised.

## 25 years service

**1. Alan Felthouse:** Alan initially joined Thorn Automation Ltd, as it was then, in 1983 but left in 1988. He re-joined the Company on 2nd January 1990 as a Mechanical Design Engineer within the Rectifier Division. Alan was promoted to Principal Engineer in August 1994 and also worked within Power Systems, before returning to Rail Systems, where he still works today.

**2. David Langdown:** David joined Thorn Automation Ltd in August 1990 as a Technician Apprentice. David was sponsored as an undergraduate engineer and attended Leeds University. Following graduation he started in the Power Department in 1995. He was promoted to Power Engineer in 1997 and to Senior Engineer in 2006. David completed a Masters degree in 2006, also sponsored by the company. He continues to work in the Power Department today.

## 40 years service

**3. Noel Bowen:** Noel joined Thorn Automation Ltd in August 1966 as a Craft Apprentice. He left the Company for a short time and rejoined in September 1975 as a Wirer Fitter. Noel moved to become a Safety and Training Officer in 1981 and became Site Services Manager in 1990. Noel continues in the role today and also has responsibility for site security.

**4. Stephen Nicholls:** Stephen joined Thorn Automation Ltd in September 1975 as a Craft Apprentice. Stephen moved to work in the Test Department and then into Drives and Development from 1987. Stephen transferred to Rectifier Engineering in 1994 and was promoted to Lead Engineer in Rail Systems in January 2013 where he continues to work today.

Both Stephen Nicholls and David Langdown both followed their fathers into the Company who also completed 60 years of service between them.

Further long servers at **PMES**, receiving badges this year are **Stephen Mason** for 30 years service and **Leslie Thompson** and **Nicholas Whitby** for 35 years service.



## Chairman's corner

### Douglas Caster reviews 2016 and this issue of UltraNews

As I reflect on the past 12 months, 2016 has been yet another challenging year in Ultra's defence markets. The main reason for this is budgetary uncertainty brought about by continuing fiscal austerity policies coupled with the political upheaval caused by the surprising results of the "Brexit" referendum and United States Presidential election. To meet the challenges, Ultra has embarked on a change agenda. Change is essential if we are to be fit to respond to the ever changing world around us and to win in the demanding and highly competitive markets we face. Yet I recognise change can also be unsettling. So let me consider some of those changes with you here.

S3 will affect us all in bringing together some of the shared support functions and services that every Ultra business previously had to organise for itself. By providing those services from a consolidated organisation we get the benefits of Ultra's scale in the marketplace and eliminate duplication. Importantly though, business autonomy and our ability to respond to the market with agility will be retained because none of the S3 services directly impact the capabilities we offer. S3 is well advanced and the savings we will make will be rolled back into investing in the business.

I hope you will be able to see from the opening article in this edition of UltraNews how the segment restructuring we undertook last year is bringing a new vitality to our market approach. We now work more closely together to offer our customers more comprehensive solutions to their needs, drawing across the Group and partners. We take whatever is the best route to market, be that another Ultra company or an in-country teaming partner, or even a competitor with better market access. It's all about working harder to build those "engines for growth" that will drive us forward.

Finally, we have seen a lot of consolidation in the Ultra business structure, as we protect smaller businesses from challenges in the market and reduce their costs. We now have some larger businesses in the Group to raise our profile in the market and deliver those more complex solutions customers increasingly seek. We also have businesses of a scale that can attract, reward and retain the best people to take Ultra forward. There will still be a place in Ultra for the smaller, specialist business but the new mix is, in my view, a necessary improvement.

So let me end by thanking you all for your considerable endeavours through another busy and challenging year. Best wishes for 2017!



## Ultra's Armed Forces **Reservists**

# Plenty in Reserve

## Ultra supports our Armed Forces

The Reserves have always played an essential role in the Armed Forces. Their dedication and professionalism make a vital contribution to protecting our security at home and overseas. Reservists give up their spare time to serve in the Reserve Forces, balancing their civilian life with a military career. Ultra supports our armed forces in all the countries in which we are based. This includes reserve forces of all types which are an important part of the military. In 2014 Ultra signed the Corporate Covenant and later in the year was awarded the Silver Award in recognition of our 'outstanding support to the UK's Armed Forces, Regular and Reserve'.

In the UK, Ultra employs at least 12 reserves which is five times the national average. In the US there are at least a further seven reserves. In addition, there are a number of recent service leavers in the UK, US and Canada who could be called up when required.

Recent examples of support include financial support for a young officer who attended a Reserve Commissioning Course at Sandhurst in 2016 and who has now embarked on a one-year sabbatical. Another employee has recently joined a Royal Navy ship that has deployed to the Middle East. Ultra is very proud of its reserves. Our reserves also help Ultra in a number of ways including greater skills and experience applicable to the workplace and feedback on how our systems and products are used in service.

Please continue to support and encourage your colleagues who are in the reserve forces – they do some amazing work both in the military and at Ultra.



## An interview with...

**Patrick Allison** – VP Marketing, USSSI  
and **Lieutenant Colonel, US Marine Corps**



I served eight years of Active Duty in the US Marine Corps and have 13 years as a Reserve Officer. I am due to retire January 2017, at which time I will have served a total of 21 years. Over this period, I contributed in two major wars with participation in four separate combat tours.

As a Reserve Officer, my tasks have included active duty augmentation for Operation Iraqi Freedom campaign as the 1st Marine Division G6 Operations Officer and I have commanded different Marine Corps Reserve units on four occasions. I am finishing my career as Deputy Director of Readiness Support Program 2 which covers 16 of the US states, handling matters concerning the Inactive Ready Reserves (IRR). The IRR forms a national asset pool of personnel reserved for strategic deployment of forces in case of the 'big one'. Since 9/11 (2001) and up to 2011, the Reserves were drawn upon heavily to participate in Iraq and Afghanistan.

In the Marine Corps there are roughly 180,000 Active duty staff, 45,000 Reservists and 66,000 Inactive Ready Reserves. The obligation for Reserve staff duty is to attend two weeks annual training based on your unit and military occupational specialty. We are also required to attend 48 drills per year which equates to one weekend per month. When enlisting for Marine Corps duty, the obligatory service time is eight years which can be a combination of active, reserve and IRR duty. As an Officer in the US Marines, in most cases you are not obligated to serve in the Reserves. It is a personal decision to sign up for Reserve assignment after your active duty time is complete. The benefits of serving as a Reservist are: I work in the defense industry, while training, so I keep up with the latest tactics, techniques and procedures. This gives me a unique perspective on what new technologies are required in the field. By serving in the Reserves, I stay engaged with the military and focus on preparation for war if required. It's kind of the best of both worlds; one trains for the fight without the day to day minutiae associated with active duty participation.







## against the clock

In this issue, **Chris, Gavin** and **Lisa** spend 60 seconds with UltraNews, sharing random facts about their careers and personal lives...



### Chris Binsley

Divisional Marketing Director of Aerospace & Infrastructure Division.

I have been with Ultra for 10 years. I initially joined Command & Control Systems in 2006 to establish new nuclear business. This finally became NCS in 2011 and I became Divisional Marketing Director in 2014. I live in Berkshire with my wife and two children.

**1. Do you remember your favourite teacher?**

Miss Law, who was my physics teacher between the ages of 14 and 16. She was just out of university with very high expectations and full of enthusiasm. I was keen to impress.

**2. What did you want to be when you grow up?**

Either a rocket scientist or a guitar legend. I finally got to work on the Ariane V launcher in 2004 but guitar legend has proven more elusive.

**3. What was your favourite food when you were a child?**

Sherbet Fountain (although not technically a food).

**4. If you could open your own business what would it be?**

A classic car restoration company.

**5. What talent do you wish you had?**

The ability to play a musical instrument well. I can make plenty of noise but no matter how hard I try it never sounds like Eric Clapton.

**6. What do you think is the single best decision you've made in your life so far?**

Marrying my wife Linda. She can do all the things I can't – which is quite a list (apparently).

**7. What is the most decadent treat to yourself?**

Several years ago I bought a supercharged Jaguar XKR. It spent most of its time in the garage and I lost a fortune when I came to sell it. I now settle for a good wine.



### Gavin Newport

Managing Director at CIS.

I have been with CIS for nearly four years, originally as a Business Unit Director for Secure Communications. I have been married to Alison for 21 years and have three sons Tom (17), Ben (14) and Oliver (9).

**1. What do you miss most from your childhood?**

My hair.

**2. What was the first thing you bought with your own money?**

Probably a packet of Monster Munch. The first proper thing I bought was an electric guitar, a second hand Gibson Les Paul copy.

**3. If you had one day in your life to live over, which would you choose and why?**

The family road trip to the Grand Canyon. We drove an RV off-road to the site where the sky-walk is and then camped under the stars – BBQ, drinks and good conversation.

**4. If you could choose to stay a certain age forever, what age would it be?**

Twenty eight, you have some maturity but sports wise it's as good as it gets. Also my career was beginning to take flight so it was a time to really focus and make an impact.

**5. What would your dream car be?**

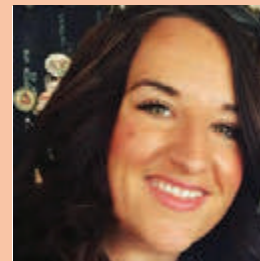
Jaguar E-type – the shape and lines are almost from another world. It is also a British Classic.

**6. If you could meet anyone, living or dead, who would you meet?**

Winston Churchill – I had the privilege of hearing a historian speak at the Cabinet War Rooms at an after dinner event and was left even more fascinated by this multi-faceted man.

**7. Which song always makes you happy when you hear it?**

Waterfall by The Stone Roses – it was a period of my life that was just really fun, going out with friends to gigs and trying to remember to study.



### Lisa Swales

Financial Controller at Precision Control Systems.

I have worked at Ultra for 9 years – including positions with Sonar Systems (now CSS) and Head Office prior to Controls (now PCS). Starting as a graduate, I have progressed through a number of finance specific roles within the company leading to my current role as Financial Controller. 2016 has been a busy year where I have moved house and got married in the same week so when I finally got to our honeymoon to Sri Lanka it was a well needed break.

**1. What was your favourite subject at school?**

I loved business studies. I had a great teacher who made everything relatable so was easy to learn from her.

**2. What is your greatest achievement thus far?**

Buying our house. It was a struggle to save the deposit but so rewarding to be independent.

**3. What is the most decadent treat to yourself?**

When I qualified as a Chartered Accountant I brought myself a Mulberry handbag. I still love it and now have added a couple of other nice handbags to my collection.

**4. Where is the worst place you have ever been to?**

Bondi Beach just outside of Sydney, Australia. I was travelling with friends and we stayed in the worst hostel, sharing a room with 16 people. Never again!

**5. Which celebrity would you most like to have dinner with?**

I would love to have dinner with Prince Harry. He seems really down to earth and would love to hear about the rest of the Royal family.

**6. Would you ever sky dive or bungee jump?**

I have actually done a sky dive in 2008 when I was in New Zealand. I loved it and would definitely do another one.

and **finally...**

# A partnership made in heaven

During 2016, Ultra Electronics and Macmillan Cancer Support have been working together to raise enough money to fund a Macmillan Nurse for a whole year (£52,000), as well as promoting health and wellbeing and awareness about cancer to all employees across the UK. The partnership launched on 30 September, to coincide with this year's World's Biggest Coffee Morning, and is currently due to continue until 30 April 2018.

In each UK business, we have identified Charity Champions who will help to deliver and support the partnership locally. The Charity Champions will be responsible for leading on fundraising events, promoting cancer awareness and providing updates on progress towards our target. If you have fundraising ideas or questions about how you can get more involved please speak to the Charity Champion for your business as follows:

**Command & Sonar Systems** – Rachna Trehan

**CEMS** – Carrie Barnett

**CIS** – Nikki Barnett

**PCS (Greenford) and HO** – Sue Dowsett

**GigaSat** – Shirley Alexander

**NCS** – Vanessa Mortimore

**PCS (Cheltenham)** – Louisa Yarworth

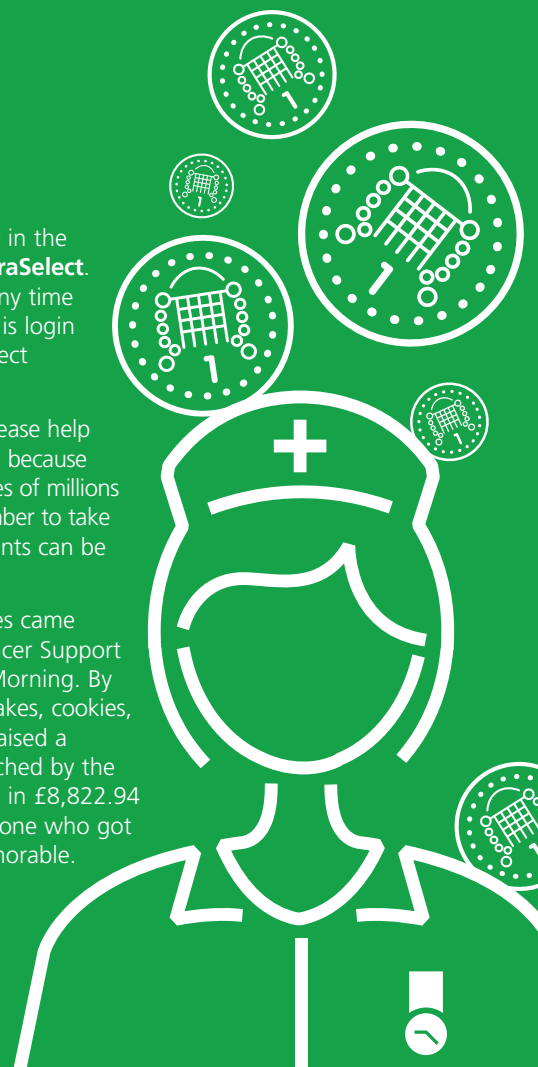
**PMES** – Lisa Lawrence

Macmillan is our nominated charity in the UK for Pennies from Heaven via **UltraSelect**. You can self-select this benefit at any time during the year, all you need to do is login to your UltraSelect account and select 'Amend My Selections'.

When there is a publicised event, please help us by bringing in cakes and donating because together we can help change the lives of millions of people affected by cancer. Remember to take photographs so that your achievements can be shared around the Group.

On 30 September the UK businesses came together to support Macmillan Cancer Support with their World's Biggest Coffee Morning. By clubbing together and buying the cakes, cookies, biscuits and bakes on the day we raised a massive £4,411.47 which was matched by the Group Charity Committee resulting in £8,822.94 being donated. Thank you to everyone who got involved and made the day so memorable.

**WE ARE  
MACMILLAN.  
CANCER SUPPORT**



## A big thank you!

To continue the fun fundraising theme, the Christmas Jumper Day in December was also in aid of the Macmillan fundraising. A big thank you to everyone who contributed. Over the three sites at Greenford, Cambridge and Preston, a grand total of was £289, plus a generous £100 from Mansukh Mistry (**PCS**) on his retirement day.

## Completely Pointless

Simon Benham, Sales & Marketing Manager at **CSS**, appeared on Pointless, the popular BBC tea time quiz show together with his friend, Dave. The quiz challenges contestants to try to score as few points as possible by coming up with answers no-one else can think of. Answering an eclectic range of questions including international tennis, history, Shakespeare, movie cats and Spanish sport, they succeeded in both winning the quiz show and the jackpot prize.



If you have any interesting stories, – business, social or personal, that you would like to see included in future issues of UltraNews, please e-mail the material to:  
Samantha Potter,  
**samantha.potter@ultra-electronics.com**

Printed in the UK.



# UltraNews

## Our vision

### WHY?

We enjoy solving tough problems, beating our competitors and making a difference for our customers, shareholders and employees.

### HOW?

We innovate to disrupt market dynamics.

### WHAT?

We offer superior solutions in regulated markets.

## Delivering excellence

A look at all the exceptional work from across the Group as well as a renewed focus on our Guiding Principles and LEAP and LAUNCH initiatives.

Read the full article on [pages 3-7](#)

## Contents

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# Delivering

With the successful delivery of our end of year results for 2016 and the positive response we had from the markets, now is the time for Ultra to push ahead into this new age of development and growth. With this in mind the senior management team and myself have put a lot of thought into why we do what we do and how this enables us to strive for excellence every day. In this issue you'll find recognition for the successes that you have all worked hard to achieve and a reminder of Ultra's Guiding Principles and cultural values which are at the heart of everything we do.



**Douglas Caster** Executive Chairman

# ing excellence

Ultra has always maintained a strong focus on our core culture and in upholding a set of values that we consider to be integral to good business conduct and the fair treatment of all employees, customers and shareholders. We have a profound commitment to our guiding principles which gives us a strong foundation from which to provide customers with innovative, world class solutions. You can read more about **LEAP** and **LAUNCH** and our guiding principles in the next few pages.

Recently, we have moved beyond thinking about **WHAT** we do and **HOW** we do it and begun to consider **WHY** we do it. This led us to develop the diagram you can see on the front cover of this issue and to answer those three very important questions:

## WHAT?

What we do is easy to understand; we provide customers with technology and solutions that no one else can. We provide Ultra solutions; solutions that disrupt the market. So how do we do this?

## HOW?

This is not just the day-to-day actions we all go through to get our jobs done such as attending meetings, sending emails, and interacting with customers. How we do our jobs also refers to how we think and act upon our guiding principles and values such as **LEAP** and **LAUNCH**. These are our unique, innovative strengths and processes that set us apart from our competition and allow us to disrupt market dynamics and succeed in providing superior solutions.

## WHY?

The answer to this question doesn't lie in basic motivations of bonuses, profit or salaries; the answer is at the heart of Ultra. Very few companies can truly answer this question but by doing so we are able to not only create and innovate, we are able to inspire. The answer is so integral to Ultra that we gave it pride of place on the front cover of our annual report this year. The answer, put simply, is that **we enjoy solving tough problems, beating our competitors and making a difference for our customers, shareholders and employees**. This is Ultra's vision and is integral to the identity of the Group.

But why is it important to know this? If we understand and are sure of Ultra's vision, we can show others why Ultra is different, better, more innovative and unique in what we offer. Companies are defined by the quality of their products and services, but brands are defined by their personality as much as by their offering. If we understand what drives us, we can inspire customers and shareholders to believe in the Ultra name and appreciate our individualism and recognise our passion.

## Delivering excellence continued

# Delivering excellence through... Ultra's GUIDING PRINCIPLES

While Ultra's Guiding Principles are not a new concept, they remain as integral to our success today as they did when they were set. A steady and firm base upon which to build enables us to develop our customer relationships and is the foundation of our long-term growth. Ultra's eight guiding principles shape our work, our vision and ensure that we remain true to our identity and roots as we push forward into the future.

## Ultra's Guiding Principles



With these principles in mind we are able to identify a foundation on which to develop and build Ultra's success and encourage innovation, autonomy and collaboration across the Group. These eight principles help to differentiate us from our competitors and underpin our work culture and environment and the personality of each individual business. By having a strong set of core values, each Ultra business is able to develop its own individual identity while maintaining strong links to the entire Group.



## Douglas Caster Executive Chairman

As you are all no doubt aware, supporting our eight guiding principles and providing continued focus on customer relationships is our set of behaviours **LAUNCH** and **LEAP**.

The clear strategy set out by **LAUNCH** is not solely applicable to the marketing teams within Ultra, but defines and encourages success in every part of the Group. Building long-term relationships with customers and putting customers' needs as our priority supports our reputation as a customer-centric organisation.

# ...LAUNCH

### Listen

Who is the customer and what do they do?  
What is their vision for success?

### Ask

Ask general information about the programme?  
Why are they interested in Ultra? What do they expect from us?

### Understand

What is their pain? What are they trying to achieve?  
Who is their customer? Who is Ultra's competition?  
Are there any time constraints for the programme?

### Need

What does the customer need to ease their pain?  
When do they need it? What are the technical requirements of their need? What is the overall cost of solving their need?

### Create

Suggest some possible solutions. Find out what competitors solutions are and show how Ultra is different. Add long-term value to solutions.

### Holistic

Examine the opportunity as a whole. Consider if there is the potential for more Ultra solutions on the platforms, perhaps from other Ultra businesses or through partnerships.



> continued on next page

## Delivering excellence continued

# ...LEAP

### Leadership

Good leadership is essential to Ultra and a number of models of leadership are incorporated in the development and training programmes that are delivered around the Group.

### Entrepreneurship

Being entrepreneurial is a behaviour which underpins the Group's strategy. All Ultra businesses seek to provide customers with solutions which are different from, and better than, those of our competitors. Ultra's entrepreneurial culture seeks to maximise the capability to generate exceptional ideas and the business skills needed to bring them successfully to market.

### Audacity

Audacious thinking is the difference between incremental improvement and business transformation. It takes the idea of innovation, one of Ultra's core values, and invites employees to think about issues in ways which are unconstrained by existing norms, making use of creative approaches in every aspect of the Groups business.

### Paranoia

Paranoia, in the business sense, is a concern and fear about competitors and what they may do. It also relates to concerns and fears about things which can go wrong internally. For Ultra, paranoia is important in focusing its people on maximising their knowledge of the competitive landscape by constantly asking questions of the Group's individual businesses, customers, teaming partners and suppliers.

**LEAP, LAUNCH** and our guiding principles are all designed to facilitate one key action: **Listening**.

Active engagement with the customer at all levels of business is key to Ultra's success. To solve tough problems we need to understand the customers' perspective as well as the technical, regulatory and operational aspects. A full understanding of the customer's current pain, appetite for change, preferred approach and solution space are all essential elements when creating a solution.

The **LEAP** and **LAUNCH** approach not only helps retain our focus on listening to the customer, but it also helps the customer to understand that we want to listen. This is particularly important for non-sales and marketing staff, such as engineering staff, who often enjoy a closer relationship with the customer during project delivery and support work and can use their position to develop an improved customer relationships. Creating solutions to answer a specific customer's needs, rather than the general need of the market, is what sets us apart and gives us an advantage over the generic solutions offered by our competitors. To gain an edge over others we must be agile and respond to customers' needs before they place a formal requirement. By understanding the customer's culture and needs and developing a long-term relationship, we are able to respond to ever-changing, highly-demanding markets to secure deals and enjoy established and often long-term positions on extended platforms.

**LEAP, LAUNCH** and our eight guiding principles facilitate and support our main aim of achieving long-term shareholder value and outperforming the market. They also ensure that as we grow and change, we remain true to our core values and ethical standards.

"**LEAP, LAUNCH** and our guiding principles are all designed to facilitate one key action: **Listening**. Active engagement with the customer at all levels of business is key to Ultra's success."





**Douglas Caster** Executive Chairman

# ...Our Strategies for GROWTH

1.

## **Increase the Group's portfolio of specialist capability areas**

- a. Concentrate on providing customers with capabilities and systems
- b. Offer electronic and software solutions in niche markets
- c. Focus on developing specialist capabilities with demanding and critical requirement
- d. Provide specialist solutions, often for demanding environments

### **Example**

- **NSPI** recently received its AS9100 registration. This international quality management standard ensures Ultra has the necessary processes in place for the aerospace industry's need for safe, reliable products that meet or exceed the requirements of customers and regulatory authorities.
- **USSI** has embarked on a development process improvement initiative consistent with the Capability Maturity Model Integration (CMMI) Level 3 requirements. This initiative will improve **USSI**'s product development discipline.

2.

## **Increase the number of long-term platforms and programmes on which Ultra's specialist capabilities are specified**

- a. Identify new platforms and programmes to apply Ultra capabilities
- b. Platform lives are typically 30 to 50 years which provides a long-term "flywheel" effect
- c. Enables resilient financial performance despite market fluctuation

### **Example**

- **CIS** is working closely with an international government to support its sovereign security requirements and has positioned to provide five years of support to the programme. The integration and supporting command and control for a secure infrastructure includes maritime (above and below water), air and land sensors.
- **USSI**, through its Joint Venture-ERAPSCO, secured a \$36m USD task order award for the delivery of 103,423 SSQ-53G sonobuoys to the US Navy throughout FY18-19.

3.

## **Broaden customer base**

- a. Independence allows our portfolio to be sold to a broad range of customers globally
- b. Supply to different project offices, teams and platform teams within wider customer relationships
- c. Build on largest customers, including: US DoD, UK MoD, Lockheed Martin, BAE Systems, Boeing and Australian DoD

### **Example**

- **Ultra** signed a Memorandum of Understanding with CGN of China that will see both companies co-operate more closely in the field of high integrity instrumentation and control (I&C) systems and sensors for civil nuclear power. The agreement covers collaboration on next generation I&C systems including reactor protection and control and will explore possible collaboration in areas such as engineering support, localised manufacture and testing, through-life support, safety systems and sensors, and lifetime plant performance monitoring.
- **ATS** was recently awarded a contract in partnership with Hanwha Systems Co. LTD. to deliver Multi Data Link Management Systems (MDLMS) to three destroyers for the Republic of Korea Navy.

4.

## **Widen geographic footprint**

- a. Increased access to two of the largest addressable defence budgets in the world (UK MoD, US DoD)
- b. The US still spends more on defence each year than other nations combined
- c. Undertaken the majority of acquisitions in North America to achieve transatlantic capability
- d. Focus now is to gain competitive advantage through measured expansion into Australia, the Middle East, India and Asia-Pacific

### **Example**

- **Forensic Technology** now provide equipment and services in over 120 countries. Most recently they have entered partnerships with forensic lab's in Anguilla, Bermuda, British Virgin Islands, Cayman Islands, and Turks & Caicos.
- **EMS** secured its first de-magnetisation system win in Turkey. The contract from SEDEF is worth \$1.34m for the supply of hardware, logistics, training and ship acceptance. The contract was signed in SEDEF's offices in Hamburg, Germany and SEDEF now considered **EMS** to be an important partner for the Turkish Navy's defence programme.

## S3 and Global Business Services

# PROGRESS

The Group-wide initiative is reducing complexities within Ultra, enabling future growth and supporting our businesses to focus on our customers by unlocking the talents of our people.

What's the difference between **S3** and **GBS**?



**S3** refers to the programme that is looking at streamlining the back office functions, for example finance, IT, HR, sourcing and property. **GBS** refers to the newly formed shared services home that will enable the day-to-day operational running of the changes introduced by **S3**.

### Driving cost saving

Over the first half of the year, the **S3** programme has gone from strength to strength. **S3** ended 2016 in a cost neutral position, and had, over the year, realised £6.9m in total savings. It's expected that by 2019, recurring annual savings will total in excess of £20m. Ultra's continued commitment to realising savings is matched by its commitment to preserve and encourage each businesses' autonomy, allowing them to strive for excellence without being hampered by out-of-date or inefficient processes.

This year we forecast total savings of £13.8m and are on track to achieve this with savings to date this year of £8.2m (August 2017).

### Value through collaboration

#### Direct Sourcing

**03**  
HR  
The first business-led cost saving project, coordinated by **PCS** and **GBS**, is focused on an outsourced Printed Circuit Board Assembly (PCBA) to increase manufacturing efficiencies, supplier renegotiations and alternative supplier sourcing. The success of this business-led approach will be used as a template for the next phase of similar projects with other Ultra businesses.

Collaboration between **Forensic Technology** and the **S3** Metalwork team has resulted in more than \$40k (60%) of savings on some systems with more savings still to be realised.

**"S3 Metalwork anticipates savings to be of the same magnitude for the next phase. It's been easy to work with Forensic Technology and help them and the Group show significant savings."**

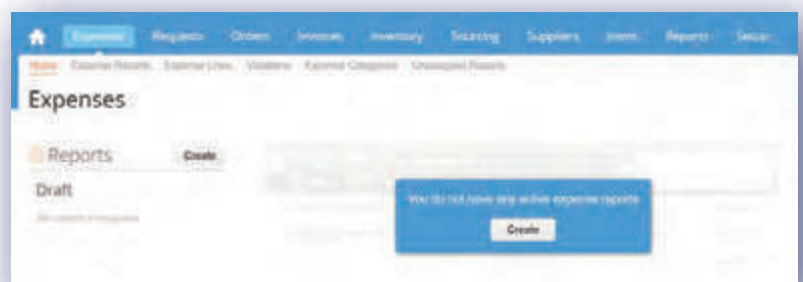
Sean Coakley, **S3** Procurement Lead

#### Indirect Sourcing

**02**  
Sourcing  
Working with HR in **NCS**, we've been able to reduce agency fees by 25%. UK HR and **GBS** indirect procurement teams have commenced the process of standardising the rates and terms agreed with UK recruitment agencies. We've already seen three of our top five temporary contractor providers reduce their rates.

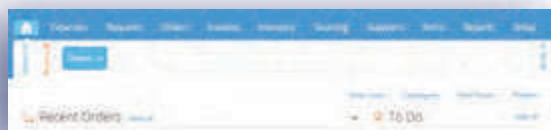
#### Expenses (part of Indirect Sourcing workstream)

**02**  
Sourcing  
Another key focus has been the standardising of expense claims. To facilitate this, the move to a new cloud-based expense and indirect procurement system has been put in place. Coupa is currently live in the UK, managed by **GBS**, and will be rolled out across the rest of Ultra.





## Ami Sharma Group Finance Director



**"I've found the system very easy and straightforward. There's no paperwork involved, it's available at any time, easy to use and with real-time updates. A very useful improvement."**

Krzysztof Falkiewicz, Project Test Engineer



### US payroll centralisation

The consolidation of the US payroll is continuing, with November 2017 as the target date to complete the US consolidation. The Operating Values of the **GBS** payroll team is to "integrate people, processes and technology in a collaborative environment where trusted relationships and teamwork are built to provide the highest quality levels of service to its stakeholders to further the Global Groups Goals". To this end the team has forged relationships with the businesses creating processes and procedures fitted to their individual needs. In line with the US, the UK **GBS** payroll went live at the end of 2016.

### The next phase...

The eight workstreams that were the main focus are now migrating into individual projects which will be managed by **GBS**. One of these is the ERP programme, which focuses on reducing and standardising the number of ERP systems across Ultra. We originally had a total of 34 ERP systems across the Group and we're working together to reduce this to three. The programme is running in the UK, and will shortly follow in the US. Similar to ERP, there are several IT platforms being used and an IT strategy is being developed.

### GBS in UK and US goes from strength to strength

08  
Global  
Business  
Services

The US location of **GBS** was announced in February as being co-located with **Flightline Systems** in Victor, just outside Rochester, New York. A partnership agreement is in place between Ultra, New York State and Ontario County offering over \$1m of tax incentives in connection with the **GBS** investment.

**"Ultra is delighted to partner with New York and Ontario County to locate its North American Global Business Services at our Flightline Systems facility in Victor, NY."**

### Property & Facilities Management

01  
Property

Facilities management (FM) was one of the first functions to form centrally within **GBS**. Work is underway to produce a standard support model for FM, including Health and Safety, for all UK businesses.

06  
Facilities  
Management

By the end of 2016, the property footprint had reduced by 6%. A further 15% has been identified for 2017.

Following the creation of a central database, managed by **GBS**, work is taking place to assess future property requirements with a target of a 21% reduction by the end of this year.

Questions about S3 or GBS?

Get in touch: [S3@ultra-electronics.com](mailto:S3@ultra-electronics.com)



## Exhibition & event news

# Ultra on show

## The movers and shakers

The Ultra Asia Pacific Partner Conference, organised by **CIS** was held in March. Whilst an overall success, the event started with a very early wakeup call; an earthquake, weighing in at 6.4 on the Richter scale and lasting a lifetime of twenty seconds roused guests in record time.

The conference was aimed at building stronger client relationships, discovering capabilities and refining our offering to clients. Over two days, Ultra Information Assurance (IA) partners and **CIS** met with 37 representatives from 16 partner companies from Asia Pacific. Hugely advantageous for all, partners were brought up to speed on product updates whilst Ultra gained a thorough understanding of their partner's current and future requirements unearthing a number of opportunities for other **CIS** business units.

As an added bonus, global technology partners Speakerbus and Thuraya presented, offering valuable insight into their product roadmaps along with their previous and future work with Ultra.

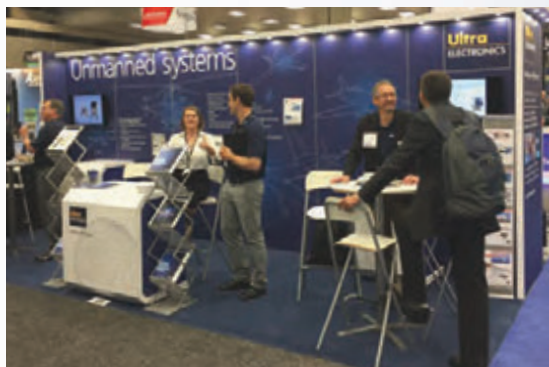
The event included a specialised feedback workshop designed to aid our working relationships with partners and contribute to **CIS**'s Partner Engagement Plan.



Aiden Whiteman, VP of Sales for Asia Pacific commented: "We believe this event will result in more opportunities for **CIS** and demonstrates to our partners the commitment we have to being successful in an increasingly fruitful region."

As for the earthquake, Aiden concludes: "We always said that this event was for the movers and the shakers."

## All things unmanned



**Herley, EMS, ATS** and **CIS** joined up to show Ultra's unmanned capability at the AUVSI XPONENTIAL show. The three day conference and exhibition which celebrates 'all things unmanned' is held every May in different locations and 2017 saw the show head to Dallas, TX. In between demonstrating our broad range of capabilities across the Land and C2ISR segments, the team even found time to participate in a little line dancing at the annual AUVSI networking event!





## Exhibition &amp; event news

## Navy League Sea-Air-Space 2017

**EMS, Ocean Systems** and **Avalon** all attended this three day event in Washington DC as part of the UK Innovation Zone. The show, which is the largest maritime exposition in the US, saw many important figures attend, including the Second Sea Lord Vice Admiral Jonathan Woodcock OBE who opened the UK Zone.



## LIMA



**Command & Sonar Systems** exhibited at the 14th Langkawi International Maritime and Aerospace Exhibition (LIMA) in March 2017. This is the largest show of its kind within the Asia Pacific region and is supported by the UK Department for International Trade. LIMA'17 delivered key senior delegates to the **CSS** stand including the Fleet Commander for the Royal Malaysian Navy and the Japanese Navy, Vice Chief of Naval Staff for the Indian Navy and Director of Navy Ships Refits and Repairs for the Chilean Navy.

## Southern Manufacturing & Electronics show



March saw **CEMS**, part of **NCS**, exhibiting in Farnborough at the Southern Manufacturing & Electronics show. The three day event was the perfect opportunity to re-launch the new look **CEMS** business to the local UK Market and also showcase some **PCS** and **NCS** products on stand. The show was a great success with solid enquiries for both the Weymouth and Portchester sites to pursue, and, suppliers/customers of Ultra Group stopping by to say hello. The current vacancy list of over 20 positions between Weymouth and **NCS** drew great interest and a huge footfall of over 100 students keen to learn more about a potential career with Ultra.

## Ultra at Security & Policing 2017



This year **CIS** and **PCS** both exhibited at Security and Policing. As always, the team were on hand to provide a detailed overview of Ultra's portfolio and this year, a number of delegations were able to make use of the touchscreen app, which provides an interactive insight into a range of capabilities. Over the course of the show, we were also joined by delegations from Panama, Poland, Czech Republic, Vietnam and Canada.



Home Office

**SECURITY & POLICING  
HOME OFFICE EVENT 2016**

## VIP visits



# Rakesh goes to Washington...



On a recent trip to Washington, DC, Rakesh met with UEDI Board Members the Honourable Ken Oscar and the Honourable John Young.

Mr. Young was nominated by President George W. Bush to serve as the Assistant Secretary of the Navy for Research, Development and Acquisition. As the Navy's Senior Acquisition Executive, Mr. Young has implemented a wide range of innovative organisational and business practices to increase the effectiveness and efficiency of Navy and Marine Corps procurement and research programmes. He has sought to stabilise programmes and control cost through emphasis on milestone-based incentive fees, control of change orders and requirements, multi-year procurement contracts, and creation of competitive and joint programmes.

## ...and meets with Congress

The recent visit also saw Rakesh meet with members of Congress including Congressman Frelinghuysen (Chairman of the House Appropriations Committee); US Senator Donnelly (Member of the Senate Armed Services Committee); and US Senator Moran (Member of the Senate Subcommittee on Defense Appropriations). Rakesh engaged key Members of Congress on policy and funding issues of importance to Ultra Electronics businesses.



Rakesh with Congressman Chris Collins and Greg Thom. Congressman Collins represents the New York 27th Congressional District and is a senior member of the House of Representatives Commerce Committee.



**Above:** Admiral Whoungmaitree, Thai Navy with Mike Williams, Managing Director of CSS

## Commander in Chief of Thai Navy visits CSS

Admiral Whoungmaitree, Ultra Commander in Chief of Thai Navy Fleet, requested an informal and unclassified visit to **CSS** as part of his recent UK Conference itinerary. Accompanied by the Thai Naval Attache and other members of his staff, he received a brief on all our Naval capabilities but was particularly interested the company's Underwater Warfare capabilities to support their Anti Submarine Warfare (ASW) challenges in the waters around Thailand.





# Congressman Carter takes Q&As at **NSPI**



Congressman Judge Carter visited **NSPI** to learn about the commercial nuclear and aerospace offerings located in Round Rock, TX. Congressman Carter is a Member of the House of Representatives and the Subcommittee Chairman of the Appropriations Subcommittee on Homeland Security, and **NSPI** resides in his district (TX-31). Congressman Carter is one of 12 Appropriations Subcommittee Chairmen and is a key member of the Subcommittee on Defense Appropriations.

Congressman Carter had a brief overview of Ultra and the **NSPI** business before visiting the manufacturing floor where he viewed the building of sensors used in the safety and surety of commercial nuclear plants operation. In addition, the group stopped at the Furnace Parts production area where **NSPI** discussed the importance of the new thermocouple capabilities recently integrated into the Round Rock facility. The Congressman later addressed **NSPI** employees and discussed the issues facing Congress including building a wall on the southern US border, and the budget before taking several questions from the **NSPI** employees.



**Above:** Congressman Carter during his visit to **NSPI**

## Ocean Systems sponsors Taste of the South 2017

**Ocean Systems** and a congressional team sponsored this year's Taste of the South; a charitable event which has, to date, donated over \$6m to charities across the south and in Washington, DC. This year the chosen charity was the Patriot Foundation, an all-volunteer non-profit organisation committed to providing college scholarships to children of servicemen and women who have been killed, wounded, or injured since 9/11.

The Patriot Foundation has been praised by former Commanding Generals of the 82nd Airborne Division, the XVIII Airborne Corps, and US Army Forces Command who characterised their support as "invaluable." Ultra Electronics was proud to support both the Taste of the South and the Patriot Foundation and their commitment to honouring those who have given so much in service to the United States of America.



**Above:** Ultra **EMS'** Bob Judd and Pat Jordan attended the event with their wives.



# Aerospace & Infrastructure

Across the board...news and stories from across the Division

## The FAT of the matter

**NCS** successfully conducted the Factory Acceptance Test (FAT) of the innovative reactor and plant protection systems it has developed for leading US technology developer NuScale Power. The UK-developed system will be critical to the operation of NuScale's innovative technology, which will generate clean, reliable, affordable power in both the US and the UK. The FAT, witnessed by representatives from the US Nuclear Regulatory Commission (NRC), effectively demonstrated the platform's capabilities in handling the safety critical scenarios associated with the operation of NuScale's technology. This innovative platform has been designed to reduce unnecessary complexity, reduce capital and operational cost, improve safety and reduce risk. The results of the

FAT will now feed into the NRC's upcoming review of NuScale's design certification application (DCA). Development of an important safety component of NuScale's SMR design represents a significant step in the realisation of the company's innovative, one-of-a-kind technology, which will be ready for manufacture and deployment in the US and the UK by the mid-2020s.



Managing Director:  
**Graeme Stacey**

Marketing Director:  
**Dan Upp**

Finance Director:  
**David Cliffe**

Businesses:  
**Airport Systems, Nuclear Control Systems, Nuclear Sensors & Process Instrumentation and Precision Control Systems**

## PCS' training suite is up and running



**PCS** now has its Training and Development Suite fully operational and running. The centre allows up to 21 people, at all levels of the business, to increase their knowledge and take part in a variety of inclusive, practical workshops. This is a ground-breaking opportunity within Ultra to encourage everyone to grow and develop a variety of skills including International Traffic in Arms Regulation (ITAR) Awareness, Human Factors in the Work Place, Foreign Object Damage (FOD) and external Northern Advisory Council for Further Education (NCFE) Level 2 training. As well as these professional skills the training centre also encourages people to drop in and learn more practical skills such as using computers and tablets, and sending emails.

## Paris Air Show proves PCS success

**PCS** recently secured over \$21m of orders from The Paris Air Show held at Le Bourget. During the show there were orders and commitments for aircraft platforms on which **PCS** has significant input. Boeing received commitments for 50 of its 787 aircraft, including orders of 30 aircraft from AerCap the world's largest independent aircraft leasing company. **PCS** provides the electro-thermal wing ice protection system (WIPS) to the 787, as well as proximity sensor interface hardware, and some smaller control units.

**PCS** also holds a position on the Airbus A350 aircraft which secured orders for ten aircraft. **PCS** provides ground service panels, the electric ground door opening system (EGDO) and translating harness mechanisms to this aircraft. There were also orders for ten of its A330 aircraft to which **PCS** provides landing gear control units and landing gear dressings and harnesses.

Bombardier secured commitments for 64 of its Q400 aircraft, the majority from the Indian airline SpiceJet. **PCS** is responsible for the "Q" in the aircraft's name, which was added when Bombardier specified Ultra's Active Noise and Vibration Control System.







## NSPI receives its AS9100 registration

**NSPI** recently received its AS9100 registration. This international quality management standard ensures **NSPI** has the necessary processes in place for the aerospace industry's need for safe, reliable products that meet or exceed the requirements of customers and regulatory authorities. Attainment of the AS9100 registration demonstrates **NSPI's** commitment to increase customer satisfaction, lower costs and improve risk management across a growing number of aerospace subsystems and platforms.

## Ultra and CGN sign a Memorandum of Understanding

Ultra signed a Memorandum of Understanding with CGN of China that will see both companies co-operate more closely in the field of high integrity instrumentation and control (I&C) systems and sensors for civil nuclear power within China, the UK and other international markets. The agreement covers collaboration on next generation I&C systems including reactor protection and control. The signing ceremony was attended by representatives from the UK Government and senior management from both companies.



### Airport Systems 'lands' a contract in Peru

**Airport Systems** has been awarded a contract to deliver and integrate an Airport Information System (AIS) at Lima's Jorge Chavez International Airport. As a software platform for real-time information management, the AIS will optimise decision-making processes, facilitate operational excellence and underpin a significant expansion of Peru's primary airport.

## UltraLYNX gets put through its paces

**PCS** has rebranded its CombatConnect technology to Ultra**LYNX** in answer to in depth feedback from the front line. The new Ultra**LYNX** technology was recently put through its paces by the British Military.

Tests on Salisbury Plain, known as the Army Warfighting Experiment (AWE) 17, involved more than 200 personnel and over 100 companies. **PCS** provided eight pre-production versions of its Ultra**LYNX** wearable electronic architecture to be evaluated. Ultra**LYNX** is designed to allow easy integration of electronic equipment, reducing the weight carried by soldiers, and increasing their situational awareness. The system allows third party peripherals, such as radios, GPS equipment, tablet computers, health monitoring equipment, torches and others to be attached using a common power supply and data network. Equipment can be charged using inductive charging whilst the soldier is seated in a vehicle, negating the need for many separate batteries and chargers.

The results of the trials were very encouraging and stand **PCS** in good stead for the Dismounted Situational Awareness (DSA) and Virtus3 programmes due to tender in the coming months.

**PCS** seeks to provide its Ultra**LYNX** equipment to the UK, US, New Zealand and Australian armed forces (amongst others), as well as non-military organisations such as the Fire Brigade and Police services.





# Communication & Security

**Across** the board...news and stories from across the Division

## Under the microscope

**Forensic Technology** has recently provisioned several United Kingdom Overseas Territories (UKOT) with a network of Integrated Ballistics Identification Systems (IBIS). Forensic science laboratories in Anguilla, Bermuda, British Virgin Islands, Cayman Islands, and Turks & Caicos are now equipped with state-of-the-art IBIS technology that will allow firearm examiners to uncover links between crimes committed with the same firearm. IBIS uses advanced 2D and 3D imaging technology and highly-tuned comparison algorithms to find matches between fired casings, bullets or fragments, each of which bears the unique markings of the weapon that fired it. Thanks to **Forensic Technology**, the Police Forces of the UKOT will be able to obtain critical gun intelligence within hours, instead of weeks and therefore solve more gun-related crimes. IBIS will allow the Police Forces to conduct local and regional ballistic searches, as well as share their database with other Commonwealth islands in the Caribbean via Interpol's Ballistic Information Network (IBIN); this regional-sharing of information will help target suspects faster and hasten arrests.



Managing Director:  
**Mike Baptist** OBE

Marketing Director:  
**Max Baldwin**

Finance Director:  
**Bridget Rothwell**

Businesses:  
**3eTI, Advanced Tactical Systems, Communication & Integrated Systems, Forensic Technology, Herley and TCS**

## ATS deliver MDLMS for the Republic of Korea Navy

**ATS** was recently awarded a contract to deliver Ultra's Multi Data Link Management System (MDLMS) to three destroyers for the Republic of Korea Navy. The MDLMS provide the ability to communicate tactical information over a secure, jam-resistant data link using the latest Multifunctional Information Distribution System Joint Tactical Radio System (MIDS JTRS) terminals. **ATS** will partner with Hanwha Systems Co. in support the Republic of Korea Defence Acquisition Program Administration (DAPA). The modernisation of these destroyers will go through full standards

conformance testing of its new Link 16 suite. MDLMS will provide the Republic of Korea Navy with enhanced interoperability with US Navy maritime and airborne platforms via its certified gateway using the same router installed in Ultra's flagship product; the Air Defence Systems Integrator (ADSI)®.





# 3eTI strengthening portfolio

**3eTI** received over \$2m for new and existing work from the US Navy and US Marine Corp across its portfolios. Our key project is the expansion of the advanced metering infrastructure (AMI) program at Navy Region Hawaii with deployment of **3eTI**'s AirGuard secure wireless devices. **3eTI** also received a renewal of regional repair and addition equipment for key physical surveillance and Antiterrorism Force Protection gate control systems and well as network engineering services. **3eTI**'s increased marketing efforts have led to an expansion of our building automation practice beyond Naval District Washington with discussions now taking place to provide enhanced services to another Navy Region. As a result of this and other activities, **3eTI** has \$4m in funding that is currently pending contract award. These projects include a new client as well, as we expand our offerings to other parts of the Marine Corps.



## CIS' long-term support



**CIS** was recently awarded a major surveillance and security system contract valued at \$18m.

**CIS** will provide maritime, underwater, air and land sensors on a large sovereign security requirement programme. The system provided by **CIS** combines long-range monitoring and short-range security and offers a multi-layered security system. The Situational Awareness Management System (SAMS) software suite will integrate and manage all sensors to deliver a surveillance picture that fuses data from above and below the water. The range of sensors will include radar and electro-optic systems, AIS, sonar, UAVs and underwater ROVs. **CIS** will also provide five years of specialist support over the course of the system's use.

## TCS Anka's contract

**TCS'** Electronic Warfare (EW) division was awarded a \$18m USD contract to provide two ALR-510/540 Electronic Intelligence (ELINT) and Electronics Surveillance Measures (ESM) systems to be installed into the Turkish Aerospace Industries (TAI) Anka UAV platform. The contract also included a Radar Signal Simulator and Flight Test Simulator to be provided in partnership with Ultra-EWST. Mock-ups of the ELINT/ESM system have already been delivered to TAI as well as all the simulators from EWST. Factory Acceptance Testing of two EW simulation systems was successfully completed in March 2017. Delivery of the systems is expected H2 2017.



# Maritime & Land

**Across** the board...news and stories from across the Division

## The bells, the bells!

In March, **USSI** received a significant order for multiple HS-10 portable loud speakers from The University of Notre Dame. The HS-10 systems were chosen because of their capability to broadcast intelligible voice commands at great distances with exceptional clarity. The HS-10 far surpasses the performance of traditional megaphones, bullhorns, and commercial speakers in both communication distance and voice clarity. The new HyperSpike® smartphone app allows users to have full control of the HS-10 via wired or Bluetooth connectivity. The HS-10 can also be mounted on a vehicle and be operated using the HyperSpike® mobile app.



Managing Director:  
**Bill Terry**

Marketing Director:  
**Ken Walker**

Finance Director:  
**David Cliffe**

Businesses:  
**Command & Sonar Systems, EMS, Flightline Systems, Maritime Systems, Ocean Systems, PMES, USSI and Avalon Systems**

## Maritime Systems to supply Indian MoD

**Maritime Systems** signed a contract with the Indian Ministry of Defence (MoD) to supply the Indian Navy with Naval defence systems.

**Maritime Systems** will be working alongside **CSS** as well as with Indian Partners Mahindra Defence Systems to deliver systems based on the UK Royal Navy Sea Sentor. Mahindra has signed a Memorandum of Understanding with Ultra to pursue this, and a number of other significant programmes, for the India defence programme. This is Ultra's first major defence contract in India.



## Combined forces



**USSI's** ERAPSCO joint venture with Sparton Corporation gained subcontracts valued at \$11m. Production of the sonobuoys will take place at both **USSI's** Columbia City facility and Sparton's DeLeon Springs, facility. ERAPSCO/SonobuoyTech Systems were awarded multiple foreign contracts for the manufacture of Passive and Active sonobuoys in support of multiple underwater missions for detection, classification, and localisation of adversary submarines during peacetime and combat operations.





## Working with the state

**Ultra Australia** has, in recent years, been developing an innovative technology which enables early detection of maritime missile threats. **Ultra Australia** were recently awarded an AUS \$1.7m grant for additional development of this Scrammel technology, allowing the technology to develop and mature for a number of significant maritime programs. This opportunity recognises Government-Industry collaboration on innovation and allows **Ultra Australia** to continue to grow and provide the country with more skilled jobs as well as allowing deployment across a variety of vessel types so that the investment can be recouped through operational benefit across the fleet.



## SEA5000

**Ultra Australia** has been busy working on their SEA5000 Future Frigate project which has the potential to involve seven of the Group's businesses working under the guidance of **Ultra Australia** and a shared strategy. While the most significant area of opportunity is in Anti-Submarine Warfare (ASW), other Ultra capabilities involved include signature management, countermeasures, electronic warfare and communications capabilities. The programme has potential to be worth in excess of \$250m to businesses across the Group.



## ULTRA ONBOARD

In addition to **Ultra Australia**'s internal work and direct marketing to the key government and prime stakeholders, **Ultra Australia** has started a campaign branded "ULTRA ONBOARD". This has been a powerful and cost-effective way to convey our most important win themes through use in defence media and at various industry events in recent months, including DSEI, and has been very well received.

## P-8 Increment III upgrade

**Flightline Systems** was awarded a contract by Boeing to upgrade the P-8 ASW receiver as part of the overall P-8 Increment III upgrade. The engineering upgrade will begin immediately and will address the obsolescence issues on the receiver while at the same time provide the US Navy with additional capabilities. This portion of the

programme will take approximately 12 to 18 months and will be followed by a production/retrofit phase. The retrofit phase will begin in 2019 and run for approximately three consecutive years or until the fleet is outfitted. The programme value for this effort will be in excess of \$23m.



# Awards and achievements

## More success for NCS



**Above:** The NCS team showing off their success in the photo booth

**NCS** is once again celebrating the success of members of its team. In March they succeeded in securing not one – but two – awards at the Nuclear Skills Academy for Nuclear (NSAN) and Cogent Skills 2017 UK Nuclear Skills Awards. Established in 2009 to recognise and reward excellence in skills within the nuclear industry, this year, the lead singer of Iron Maiden, pilot and entrepreneur, Bruce Dickinson, hosted the event.

**NCS'** first group of pioneering apprentices graduated successfully in 2016 with Joseph Key and Daniel King both shortlisted to the top three within their respective categories. Joe and Dan were up against strong competition including finalists in their categories from BAE Systems Submarines, AWE PLC and Forth Engineering Ltd. Following a full day of interviews, filming and intense scrutiny by a judging panel of distinguished nuclear industry leads, Joe and Dan outshone their competitors and were named winners in their respective categories.

Joe won The Manufacturing Apprentice of the Year and Dan took the title of Small to Medium Enterprise Apprentice of the Year.

Congratulations to Joe, Dan and the rest of the team involved at **NCS**. The recognition of your hard work, determination, skill, talent and enthusiasm is well deserved.



**Left to right:** Rikki Douglas and Joseph Key, **NCS**; Phil Halpin, Mocha and Bruce Dickinson. Photo: Courtesy of NSAN



**Left to right:** Tom Greatrex, NIA; Rikki Douglas and Daniel King, **NCS** and Bruce Dickinson. Photo: Courtesy of NSAN



**NCS** won a Silver award in the prestigious Health and Safety Awards 2017 run by the Royal Society for the Prevention of Accidents (RoSPA). This is the first time that **NCS** have entered the scheme.

The RoSPA Awards are considered the most prestigious in the world of occupational health and safety, and are held in high regard around the world, winning one demonstrates an organisation's commitment to maintaining an excellent health and safety record.



## Achievements

### The future is **now**



Out of 90 nominations, **Maritime Systems** won first place for the Best Co-op Employer Award, Medium Business, at the inaugural year of the Game Changers Awards. This award recognises exceptional Halifax-based businesses, individuals and organisations that demonstrate leadership in hiring youth, helping them grow professionally and inspiring others to take action on keeping youth in our city and province.

The award goes to companies that have a demonstrated record of providing co-op, internships, or other experiential learning opportunities for post-secondary students; make contributions to other post-secondary initiatives; provide a positive and enjoyable work environment that encourages learning and challenges students to succeed; display leadership, and act in a mentorship role, which contributes to personal and professional growth for the student; and offer professional development opportunities for the student.

### Ultra earns silver for **Armed Forces support**

**Ultra Electronics** has been awarded the Silver Award in recognition of our outstanding support to the UK's Armed Forces, Regular and Reserve. The award ceremony was hosted by the General Officer Commanding London District, Major General Edward Smyth-Osborne with Air Vice-Marshal Ed Stringer and Commodore Andrew Jameson presenting the awards.

As well as receiving the award in recognition of our full support to the Armed Forces, Ultra voluntarily signed the Armed Forces Corporate Covenant, through which employers show their support for members of the Reserve Forces by ensuring fair treatment for all Reserve employees and providing care for employees and their families in exceptional circumstances. Ultra is very proud to receive the Silver Award and even more proud of the work done by all Armed Forces personnel.



**Left:** Keith Thompson accepting the Silver Award on behalf of Ultra

## Ultra enjoys **Raspberry Pi!**

April saw the Annual Raspberry Pi Awards held at the IET in London. The Raspberry Pi is one of the most exciting innovations of recent years. This affordable, credit-card-sized computer aims to inspire the next generation of software and hardware engineers to develop their programming skills and take an active interest in innovating across many industries. Recognising its potential, PA Consulting launched the PA Raspberry Pi Competition – an annual contest that challenges school children and college students to put their programming skills to the test and use the Raspberry Pi to make the world a better place. There were three categories this year: Category One (Years 4-6), Two (Years 7-11) and Three (Years 12-13) This year's brief was "innovation for All" and was a challenge to produce innovations that will improve the lives of people who have conditions that limit their ability to do things the rest of us take for granted.

Ultra Electronics were invited to participate on the day and were represented by Keith Thompson (Former Group HR Director) and Nick Gaines (MD of **NCS**). Keith and Nick took part in the Speed Networking session which gave them the opportunity to meet the students, answer questions and offer guidance and advice to the next generation of budding engineers. Both were impressed with the level of technical ability, knowledge and presentation skills shown by each student. Host Maggie Philbin brought proceedings to a close with the eagerly anticipated awards ceremony. The judging panel included representation from the BBC, Land Rover BAR, Raspberry Pi Foundation, Bank of England, Financial Times, John Lewis and the Home office.

More information about the event can be found at: <http://www.paconsulting.com/events/raspberry-pi-competition/>



Congratulations go to St Mary's School in Horsham, Haileybury College in Hertfordshire and Kind Edward VI Grammar School in Essex for winning their respective categories.

# People on the move



**1 Josie Breen** has been promoted to the role of Group Marketing and Communications Manager within **Head Office**. Josie joined Ultra in 2016 as Group Marketing Officer and has expanded her role to include exhibitions and events.



**2 Thomas Link** has been appointed Acting President of **USSI**. Tom joined Magnavox (subsequently Raytheon) in 1993 and was one of the original 67 employees to transition to Ultra Electronics in 1998. Tom has held a variety of positions at **USSI**, including leading the consolidation of the Ultra Electronics AudioPack and AMI businesses. Tom was appointed as **USSI**'s Vice President of Programs in 2013 and to Executive Vice President of **USSI** earlier this year. He has a BSEE degree from Purdue University and an MSEE degree from the University of Washington.



**5 Max Baldwin** has recently joined Ultra as the Divisional Marketing Director for the Communications and Security division. Before joining Ultra Max worked at airbus for ten years in several roles before joining L3-TRL as VP Business Development & Sale for L3-TRL. Max holds a degree in Psychology and Art from Roehampton University.



**6 Craig Steger-Lewis** has recently been appointed as Managing Director of **Corvid**. Craig Joined Ultra in 2013 as Commercial Director for **CIS**, and combined this role with leading the Surveillance & Security Systems Business Unit in **CIS**. Most recently Craig worked as Marketing Director of **CIS**. Prior to Joining Ultra, Craig held senior roles in Thales, Goodrich (UTC) and Rolls-Royce. He has a BA (Hons) in Industrial Economics from Nottingham University and a Masters in Management of Complex Programmes from Manchester University.



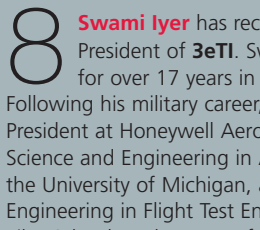
**3 Rochelle Borden** has been promoted to President of the newly merged **Ocean Systems** and **3 Phoenix**. Rochelle joined Ultra in 2011 as a Senior Program Manager and became the Executive Vice President of **Ocean Systems** in 2015. Prior to joining Ultra, Rochelle was responsible for the execution of major programmes at General Dynamics and Raytheon. Rochelle has a bachelor's degree in Mathematics and Computer Science from Binghamton University and has completed Master's coursework in Computer Science at Boston University. She is PMP and EVMS certified and is a six-sigma project specialist.



**7 Andrew Nanson** has been promoted to the role of Chief Information Officer. Andrew joined Ultra in 2013 as Chief Technology Officer and has extensive experience in the provision of secure and sensitive systems having previously worked for the UK MOD, the Metropolitan Police and several other Government agencies.



**4 Joe Peters** has stepped down from his role as President of **USSI** in order to spend more time with his family. He continues at **USSI** in a part-time role leading the CMMI Level II project, a critical requirement for the next five years of sonobuoy production. Joe joined Ultra 16 years ago and spent six years as President of **USSI**. We would like to thank Joe for his many years as President as **USSI** and wish him luck with his new role.



**8 Swami Iyer** has recently been appointed as President of **3eTI**. Swami served in the US Air Force for over 17 years in a number of senior positions. Following his military career, Swami served as Vice President at Honeywell Aerospace. He holds a Bachelor of Science and Engineering in Aerospace Engineering from the University of Michigan, a Master of Science and Engineering in Flight Test Engineering from the USAF Test Pilot School, and Master of Science and Engineering in Aerospace Engineering from the University of Michigan.

people on the move



Ultra welcomes new recruits and congratulates staff taking up new positions within the company.

## Appointments and promotions

# Best wishes and good luck!



**Keith Thompson**

Keith Thomson, Group HR Director, retired in June after 26 years with the Group. He originally joined Ultra when it was named Dowty in 1991 and was part of Electrics (now **PCS**) at the time of Ultra's formation. Following appointments there as Operations Director and Sales & Marketing Director he was appointed as President of MSI, Ultra's first US acquisition, in 1996. He returned to the UK in 2000 as Managing Director of Noise & Vibration Systems and then Datel Defence before he took over as Group HR Director in 2004. We would like to thank Keith for his many years of outstanding contributions to Ultra and wish him all the best for a long and happy retirement.



**Margaret Duval**

Margaret Duval, Receptionist at Head Office in Greenford, retired in March. Margaret joined Ultra in 1987 when it was Dowty as a Telephonist/Receptionist. Over the years, Margaret worked for each of the Greenford Ultra companies, and lastly for **PCS** since 2013. Margaret was well known by customers, suppliers and all visitors to Greenford and was the first face many saw when visiting Ultra. She received many gifts and cards from the visitors, as well as staff, which shows how well she was thought of. We wish her a long and happy retirement.

## Chairman's corner

**Douglas Caster looks back on the first half of 2017 and looks forward to the second.**

So far, this year has been a huge success for Ultra and arguably our best yet with our annual presentation in March resulting in a record share price achieving our overall aim of outperforming the market in terms of Shareholder return. This momentum has put us on the path to another great year for Ultra as we begin to realise the savings from the **S3** programme and prepare ourselves for long-term growth.

The recent UK election result has come as yet another political shockwave and, as with Brexit and the Election of President Trump, has created more uncertainty in the international markets. In spite of this, and the lengthening of the US Continuing Resolution, Ultra has navigated some difficult waters to reach the other side with plenty of drive for the second half of the year and beyond. Looking over this Issue of UltraNews and reading about all the contract wins, technological innovation and important achievements, I am both impressed and excited for what is to come. With governments worldwide beginning to announce greater budgetary spends over the coming years, now is the time for Ultra to capitalise on the emerging requirements of this new

political landscape. It is vital that we adhere to our culture and values and remember what makes Ultra the unique, vibrant company it is today.

Revisiting our guiding principles and our **LEAP** and **LAUNCH** initiatives reminds me of how far we have come since introducing these strategies to the Group. I am encouraged to see so many of you still embracing these principles and willing Ultra to succeed. Our ability to innovate so successfully to meet customers' needs relies upon the solid foundation provided by our core values and culture. These strategies and values form the basis from which we grow and develop into an agile portfolio of individual businesses.

I'd like to end by saying that I am immensely proud of how strongly we have all managed to maintain our core culture and values in every aspect of our work. The Board and I continue to promote Ultra's vision and culture whenever we can and I hope that reading some of the success stories in this issue will make you all as proud of your work as I am – here's to an even more successful year than the last!



## All in a good cause

### NCS' Dinner Dance delights charities

The £800 raised at the **NCS** Dinner Dance raffle was presented to Mary Randell on 22 March from the Winton branch of the Salvation Army to help feed and buy essentials for the homeless in Bournemouth.

Continuing to raise money at their Dinner Dance, **NCS** donated money raised from the purchase of photos at the dance to Wessex Heartbeat, Southampton Hospital.

The Rebekah fund presented Cardiomyopathy UK with a cheque for £5775.60. This amount was raised by Zena Brown of **NCS**' Inspection Team by attending many car boot sales, charity events and organising additional events. Zena also took part in her second 5k run. With the sale of merchandise and the Gift Aid claimed from the sponsorship of Zena's 5k run, the total raised was £5,825.85. Well done Zena and Rebekah!



**Top:** **NCS** Sports and Social Committee with Mary Randell of the Salvation Army;

**Bottom left:** **NCS** hand over the cheque to Wessex Heartbeat;

**Bottom right:** Zena and Rebekah Brown presenting to Cardiomyopathy UK.

**Vanessa goes the extra (30) miles**



In each of the two years since joining Ultra, Vanessa Mortimore at **NCS**, has done something amazing for charity. This year she thought it would be a great idea to run 100 miles during the month of April in support of Macmillan Cancer Care. Vanessa's friend of 20 years, Karen, died of cancer this year. Macmillan's fantastic support for Karen and her family inspired Vanessa to action and by the end of April Vanessa clocked up an impressive 130 miles! Vanessa would like to thank everyone who donated to the cause. She raised an amazing £1283 which can support a Macmillan nurse for two weeks of much needed support and care.

### GUT over Glory – Get Up There (GUT) for colorectal cancer



Winter in Canada is cold at best and, on the East Coast, can be so freezing that snow days shut the city down for two days.

But on February 24th, ten **Maritime Systems** employees laced up their ski boots and walked 1000 vertical feet, to ski down it, not just once, but several times, for colorectal research. As part of "Team Sono Buoys", they raised over \$2500 for the Canadian Cancer Society to aid in the research of colorectal research that can be preventable by early screening. As well as raising money through fundraising at work through raffle basket sales and bake sales (those heart-shaped homemade brown sugar fudge look delicious don't they?), each team member took it upon themselves to raise at least \$200 for the cause, succeeding and even breaking their personal goals. The end result? Recognising that the view really is better at the top!

### Scientist Serge cycles for schools



On 2 July Serge Lévesque, Senior Scientist at **Forensic Technology**, participated (for the third time!) in the annual "La Boucle" event, part of the Grand Défi Pierre-Lavoie. This 130km bike ride is held to raise funds for three main objectives: provide funding for medical research into "orphan" diseases affecting young children; the promotion of a healthy lifestyle and regular physical activity for all children and the purchasing of equipment to support physical activity in schools. Serge cycled as part of a team representing his son's school. The money he raised will go to the events charity projects and to the projects at his son's school.



# Marathon Mark helps heroes



In April this year Mark Craster (Regional Marketing Manager, Middle East and North Africa) swapped the sand dunes of the Middle East for those of the Saharan desert and headed off to Morocco to participate in the infamous Marathon des Sables (MDS) raising money for Help for Heroes. The MDS is the 'toughest footrace on earth' with competitors covering approximately 250km over six stages through sand dunes, rocky Jebels (mountains) and white hot salt flats. While the route varies slightly every year each stage is designed to test competitors with the longest stage lasting a gruelling 87km. Temperatures range from single digits

at night to 50°C+ during the day. Race organisers only provide 15L of water a day and an eight man Bedouin style tent for the night. Mark finished with an outstanding position of 387 out of 1200 runners and succeeded in raising plenty of money for the Help for Heroes charity. We are very proud of you Mark!

Of his time in the Sahara Mark said:

"It is a surreal experience as you line up each morning and set off to the sound of 'Highway to Hell' whilst a helicopter buzzes a couple of metres above your head. A few kilometres into each stage and the chaos of the start is replaced by serenity as the line of competitors stretches out and you focus on your strategy for the day. On a couple of occasions I experienced the full solitude of the Sahara being unable to see another person in any direction.

"Racers have to self-manage food and water intake, equipment, route selection, the length and timing of your breaks etc. Getting any of these wrong can put you in a lot of trouble very quickly.

"However, when all is said and done it is an incredible bucket list event that I am grateful to have experienced. The joy of crossing the line on the final day makes all of the blood, sweat and tears totally worthwhile.

"I would like to thank Ultra for being so supportive and for sponsoring me for the Help For Heroes charity that supports service personnel and veterans with injuries and illnesses sustained while serving in the British Armed Forces."



## CSI students search for the solution

For the ninth year in a row, **Forensic Technology** held its very popular CSI for a Day event! Managed entirely by **FT** volunteers in Montreal, Quebec and Largo, Florida, each year, CSI for a Day partners with local schools from less privileged neighbourhoods for this one-day event designed to help high school science students learn more about how forensic investigators solve crimes and to promote the benefits of staying in school.



The activity takes the form of a fictional homicide investigation in which students become Crime Scene Investigators tasked with analysing evidence, following up on clues and solving a murder.

Over 20 **FT** team members worked diligently to be ready for the students who had been prepped for some serious learning and even more serious detective work! CSI for a Day used a team-based approach to promote collaboration and spirited competition. Points were assigned to the successful completion of each activity and teams vied with each other for the highest overall score and the chance to win free school supplies for the coming year.

For their part, the **FT** team are proud to give back to their communities and are looking forward to celebrating the 10th anniversary of this very special event next year.



**Above:** Students from Montreal collaborate to solve the fictional murder tasked to them by **Forensic Technology** team members.

## TCS' pedigree

# The spark of innovation

A customer request inspires **TCS** employees to uncover a remarkable heritage of excellence

Back in late 2014, an East Coast Signal Corps unit of the Canadian Armed Forces reached out to **TCS**. The unit's new armoury was going to be named after Guglielmo Marconi, the Italian inventor and electrical engineer known for his pioneering work on long-distance radio transmission, and they wanted a historically significant radio to serve as the armoury museum's centrepiece. Did **TCS**, once known as the Canadian Marconi Company, have one to spare?

After moving twice in 20 years and restructuring itself many times more, **TCS** had one old radio remaining and little memory of its more than 100 years of history. Digging around Army surplus suppliers and the Army Communications & Electronics Museum in Kingston, Ontario, employees began uncovering forgotten stories of innovation and started piecing together a long legacy of providing support to Armed Forces around the world and pushing the boundaries of excellence to become world-leaders in radio development. By the end of 2015, many current and retired employees had joined together to restore memory of **TCS'** history and provide employees and customers with a window into a unique history of innovation and delivering excellence.

**TCS** alumni, radio museums, radio enthusiasts and **TCS'** Research Chair at prestigious engineering University in Montreal, L'École de technologie supérieure, reconnected with old friends and helped spread the word while current and former employees enthusiastically contributed money, time and artefacts. One production employee donated their time to restore a 1939 push-to-talk handset, a company purchaser negotiated a paint job with a supplier, and a mechanical engineer researched 1930s era screws.

By June 2016, over 100 artefacts had been collected and a corporate museum deployed in the lobby of **TCS'** Montreal office using reclaimed IT racks and a display cabinet donated by "L'École de technologie supérieure". The collection includes a 10,000 volt spark transmitter used in 1915 by then employee Eric Farmer, a rare 1923 Marconiphone Mark I radio broadcast receiver, a working 1944 CSR-5A Navy receiver used to intercept German U-Boat radio traffic, and a 1975 transistor-based HF man-pack radio complete with handset, antenna and Morse code keyer. More importantly, current employees were able to see first-hand how technology and innovation are part of the company's DNA.

Established by inventor and entrepreneur Guglielmo Marconi, both the Canadian and British branches of his company deployed the first wireless systems on ships (including the one on the Titanic) and coastal stations and in December 1919 the Montreal-based company introduced the first radio broadcast programme in the world. In 1925, the Marconi Wireless and Telegraphy Company filed a patent for a revolutionary straight line frequency condenser which allowed the rotating movement of the radio adjustment knob to be proportional with the signal frequencies that the operator selected for reception, making the Marconi radios easier to use than competing products. In 1930, the company pioneered the first radios used in police cars in Canada with a range of 50 to 60 miles, and in 1934 a rapid deployment, transit case radio system that was ideally adapted for "canoe, motor-boat, pack-horse or dog-sled". Between 1939 and 1945, Canadian Marconi supplied a dozen different types of tube-based radios to allied armies, navies and air forces.



The radio donated to the new Marconi armoury in July 2015 was an AN/GRC-103, developed in 1965 under a joint defence sharing agreement between Canada and the United States, it was the first tactical digital radio-relay system and was sold in 23 countries.

For more information on **TCS'** radio museum a detailed history of early radio technologies, please visit our web site at: <https://www.ultra-tcs.com/news-events/blog/canadian-marconi-history>.

**Above:** David Gough, Honorary Colonel of the 36 Signal, and Denis Couillard, Director of Product Innovation, Ultra **TCS**, unveil the Cold War era AN/GRC-103 radio at the Marconi Armoury, Glace Bay Nova-Scotia on July 3, 2015.



Guglielmo Marconi with one of his early transmitter and receiver.



Radio broadcast receiver Marconiphone Mark 1 Marconi Wireless Telegraphy Company of Canada, circa 1923.



Internal view of a Marconi Canada CD-12 (circa 1940), the Army version of the FR-12 used on Royal Canadian Navy vessels for inter-ship communications. With a carrying case, 12 Vdc power supply, and ability to be powered by a dynamo, the CD-12 was well suited to tactical military applications.





## Against the clock

In this issue, **Bernard**, **Sabrina** and **Ami** spend 60 seconds with UltraNews, sharing random facts about their careers and personal lives...



### Bernard Mills

Regional Director Australia and New Zealand

I've been with Ultra coming up to three years, working as Regional Director for Australia and New Zealand. This means I work within the **Ultra Australia** business, but collaborate with many other businesses on major pursuits which makes it a very interesting role. I live in Canberra with my wife.

- 1. What do you think is the single best decision you've made in your life so far?**  
Spending a year working in the Australian bush between high school and university, so that I got to know the real world before going on to my studies.
- 2. What talent do you wish you had?**  
I wish I could sing. I've played guitar all my life, so it's frustrating to have such a bad voice!
- 3. What was the best vacation you ever had?**  
A holiday in northern Thailand which involved doing an elephant training (mahout) certification at a conservation camp. Working with those wonderful animals for a number of hours each day was a memorable and moving experience.
- 4. What do you want to know about the future?**  
Ultra's share price in five years!
- 5. If you could take a one month trip anywhere and money was not a consideration, where would you go?**  
Paris. I'm half-French and it's a place very much in my heart, and where I always feel happy.
- 6. What is your all-time favourite movie?**  
The Piano, directed by Jane Campion. Every single image in that film is beautiful.
- 7. Is there anything you miss from your childhood?**  
The amount of time I had to go surfing – I basically lived at the beach!
- 8. Which celebrity would you most like to have dinner with?**  
Henry Kissinger, or Kate Beckinsale. For very different reasons!



### Sabrina Benzid

Marketing Manager at **Forensic Technology**

I joined **Forensic Technology** about a year ago as a Marketing Manager and love what I do because it's always challenging and we make a difference. I was born and raised in Versailles, France but I decided to move to Canada, where below 0°C is normal!

- 1. What was the best vacation you ever had?**  
In 2009, I took a 10-day safari in South Africa. It was awesome to be in a natural environment, enjoying breath-taking landscapes, and observing wild animals in their natural habitat.
- 2. If you could take a one month trip anywhere and money was not a consideration, where would you go?**  
I love travelling! But I guess I would go to Australia first: wide open spaces, so much to see and discover, with all the geographic contrasts it has to offer. But one month might not be enough to see it all.
- 3. Which celebrity would you most like to have dinner with?**  
I would have loved to meet Nelson Mandela. His truth-and-reconciliation policy revealed a man of enormous spirit, and contributed to healing a broken country.
- 4. What do you think is the single best decision you've made in your life so far?**  
After I'd completed my Master's degree in France, I decided to move to Canada. I love the country, have met great people, and continue to enjoy challenging work.
- 5. What song always makes you happy when you hear it?**  
Feeling Good, by Muse. It's so hopeful: "It's a new dawn, it's a new day, it's a new life..."
- 6. Do you remember your favourite teacher?**  
Madame Girard, my pre-school teacher, was my favourite, because she encouraged me to be myself, but always to do my best.
- 7. What is your all-time favourite movie?**  
I have a few – Dead Poets Society, The Blind Side, Invictus.



### Ami Sharma

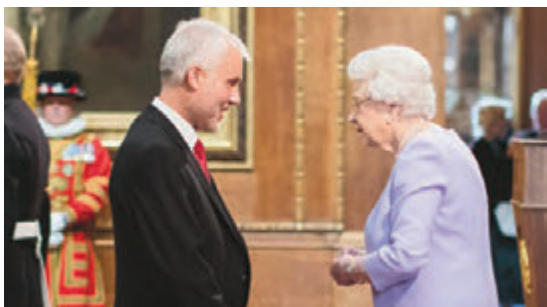
Group Finance Director at **Head Office**

Ami joined Ultra in 1999 for six years before going onto work for several other companies. He re-joined Ultra in 2016 and became Group Finance Director.

- 1. What do you think is the single best decision you've made in your life so far?**  
Definitely getting married to my dear wife (she will read this, so I don't have a choice but to say this!). But seriously, this is the best decision I've ever made.
- 2. What is your greatest achievement?**  
Staying married! From a professional standpoint, reaching the role of Group Finance Director at a FTSE 250 company is clearly my greatest achievement.
- 3. What talent do you wish you had?**  
I wish I had the talent to be a professional sportsman. Footballer, cricketer, whatever. That would have been exciting – to be on TV perhaps competing in tournaments (I'm daydreaming as I write this).
- 4. What do you want to know about the future?**  
When the New York Jets (my NFL team) will win the Superbowl (probably never). And if I could have another: will England ever win an international soccer tournament (again probably never)?
- 5. What was the best vacation you ever had?**  
Before children; visiting Mexico – seeing the Yucatan peninsula, climbing Chichen Itza. Mexico City was quite a sight to behold, with all those VW Beetle taxis. After children; we were lucky enough to go on a month long road trip driving up the coast of the US. We drove from Atlanta to Savannah, stopping at Charleston, Myrtle Beach, Richmond, Baltimore, Philadelphia, New York, ending up in Boston and Cape Cod. Unforgettable.

And **finally...**

## Richard's royal recognition



Richard Holland, Head of Business Systems at **PCS**, was last year awarded with an MBE by the Queen for his outstanding charitable work. Richard is chairman of The Barbara Bus Fund and has devoted nearly 20 years to growing and supporting the charity. The charity provides specially adapted vehicles to people with disabilities allowing them to go on day trips and holidays that would be impossible without. On receiving recognition for his efforts Richard said: "It is an honour and surprise to have received this award. I am touched by the efforts of others who must have helped to make this happen. This is a great opportunity to raise the profile of the charity which means so much to me and helps a large number of people with disabilities."

## Champagne success for Ultra!



**Head Office** staff received a welcome interruption to work when it was announced that after the rise in share price, consequence of our annual results presentation to the city, Ultra's value had reached a record high! A quick glass of celebratory champagne and round of applause was of course necessary to mark the occasion before everyone returned to work—maybe next year we can reach another record and have two glasses! Congratulations and thanks go out to every single employee who has worked hard and contributed to the success of the business over the past year. The amazing results we were able to present this year would not have been possible without you all and, as you have seen in this issue, delivering excellence seems to suit Ultra well. Cheers to many more amazing results to come!

## Fame for Florence

On March 9, seven athletes took to the stage in Vancouver as inductees for the Rugby Canada Hall of Fame. Among those seven, was Gillian Florence, Technical Writer at **Maritime Systems** in Nova Scotia.

A native of Hudson, Quebec, Gillian is the most decorated Canadian female player of all-time after playing with the national team for almost 20 years. She represented Canada a record 66 times and is one of only five women to play in five World Cups. During Gillian's tenure with the Canadian National Rugby team, Canada never finished below sixth, reached the World Cup semi-finals on three occasions and was consistently ranked as one of the top five teams in the world. In 2003, she was named to the All-World squad. Gillian retired from international competition in 2011.



Every year a Canadian senior women's player is awarded the Gillian Florence Trophy, which is awarded to the player who best represents the qualities of Canadian Rugby as voted by her teammates.



## Holding in reserve

Dan Salter, Senior Engineer at **PMES**, attended a Military Exercise in Cyprus as part of his duties as a reserve in the Territorial Army. Employers were also invited to attend and Matt Hill, Head of Engineering, agreed to attend to represent **PMES**. Supporting our reserves remains important to Ultra and the exercise gave non-military personnel great insight into the life of a soldier.



If you have any interesting stories, — business, social or personal, that you would like to see included in future issues of **UltraNews**, please email the material to:  
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