

## Faster Data Analysis, Enhanced ISR Capability Made Possible by Raytheon UK



Operation Ellamy saw the first deployment of the Portable Integrated Mission Planning & Data Replay Facility (PIMP & DRF) system with the ASTOR fleet, which was designed and integrated by Raytheon UK to provide a portable mission planning, data analysis and de-brief facility. ASTOR remains at the forefront of the RAF's Intelligence, Surveillance and Reconnaissance capability, and

the latest PIMP & DRF system enables operators and image analysts to more quickly process greater volume of data whilst providing detailed information to support ground operations.

During the recent operations in Libya, the Sentinel aircraft completed more than 2,000 hours over numerous sorties in the collection and analysis of ISR data.

The Raytheon UK Sentinel Support team achieved exceptional levels of aircraft availability, which was vital because the flying hours demanded by the RAF doubled when all available Sentinel aircraft were deployed on operations over Libya.

The PIMP & DRF was designed and developed by Raytheon UK's ASTOR software team working closely with the RAF, and by combining both the previous Portable Mission Planner and Forward Operating Base & Data Replay Facility system it is able to provide all of the processing, analysis, data storage and replay facilities needed by the ASTOR operators on the ground. Operated by the aircraft support team, the system is highly portable and obviates the need for Operational Level and Transportable Ground Stations.

In a letter to Raytheon UK Chief Executive Bob Delorge, Peter Luff, Minister for Defence, Equipment, Support & Technology, commended the work of the Raytheon UK Sentinel Support team during the NATO operations in Libya and thanked them all for the "tremendous support that Raytheon UK has provided the United Kingdom." Luff particularly highlighted the "outstanding achievement" by Raytheon that "enabled aircraft to remain at over 97% availability for operations providing protection to Libyan civilians."

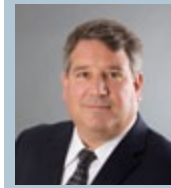
## Raytheon UK's High Density Power Node Selected for Scout SV

Raytheon UK has been selected by General Dynamics UK to supply the Chassis Power Switch Node for the Scout variant of the Specialist Vehicle programme demonstration phase.

Raytheon UK's High Density Power Switch Node is a key component in the platform's power management and distribution system.

### FROM THE CHIEF EXECUTIVE

## Bob Delorge on Innovation, Thought Leadership and Employee Commitment



When the dust from the economic turmoil marking the latter part of 2011 settles, companies that have shown innovation, thought leadership, and a commitment to developing their people will be standing strong. Raytheon UK is one of those companies.

With a 100-year history of innovation and 1,200 employees in the UK, we are aligning ourselves with the government's goals to increase exports. We utilise indigenous technical and manufacturing expertise and reach back to investments made by Raytheon Company to create innovative solutions for customers in the UK and Europe.

We provide thought leadership in cyber, hosting a panel at October's Conservative Party conference, and presenting our solutions during the Information Assurance Advisory Council's Annual Symposium.

No discussion of Raytheon UK's capabilities is complete without mentioning our employees. Without them, achievements such as a 97 percent availability for the Sentinel aircraft in NATO Libya operations would not be possible. That's why we are introducing a new section to UK news: 'Our People'. At Raytheon UK, we believe that investing in our people is critical for continuing to be a technology leader in Europe and beyond.

**Robert Delorge, Chief Executive  
Raytheon UK**

## Raytheon Innovation Flies Through 'Dragon-like' Questioning at Cybersecurity Symposium

Raytheon UK was represented at the Information Assurance Advisory Council's Annual Symposium held in September. This year's symposium focused on managing the challenges of consumerisation of the Internet, mobile Internet and cloud computing.

Vincent Blake, who leads Raytheon UK's cybersecurity team, delivered a 10-minute pitch on Raytheon's Sureview cybersecurity solution during a 'Dragons' Den'-type session to three CIOs acting as 'lizards' before an audience of senior policy makers from government and industry. (Dragons' Den is a BBC programme where business start-ups can pitch for investment from five well-known entrepreneurs.)

Blake walked the lizards through the traditional ineffective and time-consuming ways of identifying and investigating insider threats, fraud and user exposure to the advanced persistent threat. He compared this current situation with Sureview and its capabilities, scalability, deployment models and return on investment.

The questioning was predictably tough, with questions on privacy, price, liability and return on investment. Blake firmly responded to the questions by paraphrasing Raytheon Chairman and CEO Bill Swanson, covering corporate strategy, and closing with 'make no mistake – Raytheon are here to stay'.

## Raytheon Hosts Cyber Panel at Conservative Party Conference



Mark Pritchard MP (left) speaks during the Raytheon-hosted panel on cyber. Vincent Blake, Raytheon UK's head of cyber, is seated at the right.

Raytheon UK hosted a debate at the Conservative Party conference in October with the thought-provoking title, 'Protect your Cyber Wellbeing; National Security when there are no boundaries? How do we influence online culture in Britain?'

The Parliamentary sponsor of the Fringe event, Mark Pritchard MP, spoke of the progress made to date and called for greater Internet awareness and computer literacy to be introduced in the school curriculum. Pritchard played a key role in setting up the All Party Parliamentary Group on cybercrime and

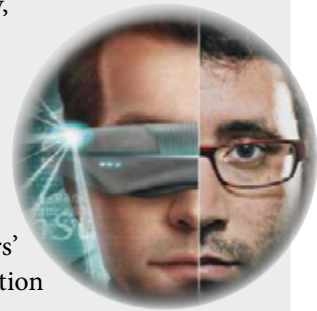
stressed that the government could not singularly tackle the issue of cyber crime by itself, and called for a partnership with industry to deliver progress in this area.

Vincent Blake from Raytheon UK cited the need for much better education on cyber in schools. Blake broadened the debate to specifically address businessmen at CEO level and the cost-benefit rationale for investing in defences. He highlighted industry's expertise in providing the government with the support needed to combat emerging threats. He discussed Raytheon's

## Raytheon UK's Cyber Capabilities

With more than 30 years of experience in cybersecurity, information operations and information assurance (IO/IA), Raytheon protects its global customers' critical information and infrastructure from the most complex threats. Extending beyond conventional 'layered defence', solutions focus on disrupting command and control of an adversary within the IT perimeter.

Raytheon has developed and acquired a range of cutting-edge cybersecurity mitigation tools and methodologies. From vulnerability assessments to information assurance, monitoring and traffic analysis to information operations, Raytheon's end-to-end solutions constantly monitor—and protect against—breach, fraud, theft and sabotage.



## Raytheon Sponsors Defence Academy Electronic Warfare Symposium

Raytheon UK was the main sponsor at the recent Electronic Warfare Symposium, held at the UK Defence Academy over 7 – 8 December 2011. The symposium considered the current operational and future challenges of all aspects of electronic warfare and its ubiquity in protecting the lives of NATO service men and women.

initiatives to recruit and train talented computer specialists and what needs to be done in the industry to harness talent and create role models. He also called for greater collaboration between companies in sharing their approaches to tackling threats to their networks.

## Raytheon UK at Modern Infantry/FIND

Raytheon was lead sponsor of the Modern Infantry/FIND conference and exhibition at the National Shooting Centre, Bisley. Peter Luff, the Minister for Defence Equipment, Support and Technology, was the keynote speaker.

During a panel, Raytheon Business Development Director Luke van Beek presented Raytheon's camp protection concepts which focused on the capabilities of the Long-Range Reconnaissance Advanced Scout Surveillance System, Boomerang, Clearview and PSDS2.



Raytheon UK Business Development Director Luke van Beek explains the capabilities of Boomerang to Peter Luff, the Minister for Defence Equipment, Support and Technology. Boomerang is extensively deployed with UK forces in Afghanistan.

## DSEi 2011

Raytheon programmes and capabilities were highlighted during the Defence & Security Equipment International (DSEi) 2011 exhibition in September. Products and capabilities highlighted included air traffic management, ISTAR, ClearView, Landshield, PSDS2, and Boomerang.

Vincent Blake, head of Cyber, shared Raytheon UK's approach to mitigating cyber threats at a panel session.



Lead Engineer Phil Nettleship describes Raytheon UK's ISTAR capabilities at DSEi 2011.



## Raytheon UK Celebrates RAF 14 Squadron Reformation

At a ceremony held at RAF Waddington, Raytheon UK Chief Executive Bob Delorge presented a painting of the Shadow aircraft, on behalf of the company.

The painting, by artist Ronald Wong, marks the reformation of RAF 14

Squadron, which operates the Shadow R Mk1 aircraft. Also attending were Raytheon UK Defence Director Richard Daniel and Head of Airborne Solutions Paul Francis, who once served with 14 Squadron as a Tornado navigator.

## Raytheon UK Facility Accredited Under AS9100C Requirements

Raytheon UK's facility in Glenrothes, Scotland, was recently accredited under the AS9100 Rev C standard. The Rev C standard brings in tighter controls as well as new requirements in areas including supply chain management, change and data management, critical process control, and risk management.

The AS9100 Rev C standard is designed to meet stringent, complex and unique demands of the defence and aerospace industry. Being certified to an accredited AS9100 registrar provides organizations with a comprehensive quality management system focused on areas directly impacting product safety and reliability.

## Raytheon Manufacturing Expertise Showcased at BIS

Raytheon UK recently participated in the 'AEROSPACE IS GREAT Britain' exhibition at the Department of Business Innovation & Skills in London, where UK companies displayed products to highlight indigenous manufacturing.

Raytheon UK displayed a silicon wafer from its Glenrothes facility, and Minister of State for Business and Enterprise Mark Prisk MP was briefed on Raytheon UK's success in silicon carbide technology and the Glenrothes operation. Raytheon UK's strategy for growth is strongly aligned with the government's priorities to focus on building indigenous growth and on marketing UK products.

## Our People

### 35-Year Raytheon Career Sees Many 'Proud Moments'

Since 2008, Roger Shone has been general manager of Raytheon UK's Broughton facility. In the 32 years leading up to that, through steady promotions and hard work, he held a series of positions of increasing responsibility with Raytheon and its legacy companies.



Raytheon UK's Roger Shone

"As Raytheon UK has developed, it's given me a platform and the opportunity to develop personally working on major programmes and business functional initiatives," Shone said. That, in addition to the excellent people who work here, make Raytheon a great place to work."

Shone started his career in 1976, as a craft apprentice. Upon completing his apprenticeship, Shone joined the engineering department as a planning engineer. After subsequent promotions through the engineering grades, he became a section leader and then an engineering configuration manager.

One of the highlights of Shone's Raytheon career came in 1999 when he took the lead on transferring the ASTOR aircraft build programme from the U.S. and setting up the necessary support facility and organization.

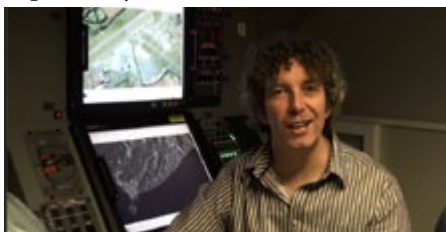
Shone enjoys his work managing in all areas of the business and across multiple functions, from business and facility development, to accountability and airworthiness responsibilities, to programme execution, which ultimately leads to the release of aircraft for flight. "That's always a proud moment for the team and me," he said.

### A Brief Interview with ASTOR Trainer Ady Collier

In a video interview, Raytheon UK's Ady Collier talks about his background, his work as an ASTOR trainer, and the team's relationship with their customers.

On customer relationships: "[They're] based on a deep understanding of what the requirements are..."

On ASTOR: "I don't think you would find the capability to do what ASTOR does as successfully and as ... expeditiously."



Visit Raytheon's YouTube channel to see Ady's interview: [www.youtube.com/raytheoncompany](http://www.youtube.com/raytheoncompany).

### Q&A with Programme Manager Justin Evans

**What's your history at Raytheon?**

I've been at Raytheon for just over ten years. I started on a university placement, and was sponsored to return as an engineer after my final year at university. I progressed in digital design engineering and into systems. Eventually I became an integrated product team lead, and then a programme manager, where I manage a variety of contracts.

**What is one of the main challenges in your work?**

We deal with a range of different customers and stakeholders, who are all equally important. In my role as a programme manager, there's a balance needed between customer focus and business bottom line. Ultimately we're there to support the customer and that's what we do.

### Silicon Carbide Team Wins Enterprise Excellence Award

Raytheon UK's High Temperature Silicon Carbide (HiTSiC) Team received a Raytheon 'Excellence in Operations and Quality' award for the team's advanced silicon carbide manufacturing technology. The EiOQ award is one of Raytheon's highest honors.



The team created the world's first 400°C compound metal oxide semiconductor (CMOS) transistors and 300°C CMOS integrated circuits.

This breakthrough process can be a game changer in energy, sustainability and green-related applications. At the 2010 European Conference on Silicon Carbide and Related Materials, the team showed logic complexity 10 times greater and processing performance significantly faster than other solutions.

**What do you tell people about Raytheon UK as a company?**

We're not just a weapons manufacturer; we're much broader than that. We also invest significantly in the UK economy, developing intellectual property in many areas. We can draw on the wealth of resources and expertise we have in the UK, and we can also reach back into Raytheon as a whole when required.



Justin Evans

On a personal level the leadership development and training you can get at Raytheon are second to none, including opportunities to work on and manage large contracts.