As Britain seeks to redefine its place in the world post-Brexit, it is critical to our future security and prosperity that we continue to work closely with our allies. This means that we must work better together on development programmes which can add value to the UK economy, whilst also saving our UK and export customers money. It also means that we should seek opportunities for further integration on military operations with allies, particularly in the critical area of Intelligence, Surveillance and Reconnaissance where capabilities can be harmonised.

Britain’s long-term future also lies in securing the best possible trading relationships with the EU, the U.S. and countries around the world. Raytheon contributed £707 million to UK GDP in 2015*, we are investing regionally and can thus help Britain succeed by building a highly-skilled national workforce – demonstrated recently by our investments in our Airborne ISR capability in Wales, as well as our facilities in Scotland, Manchester and Harlow.

In addition to investing in our UK base, where appropriate we want to see the UK work even more collaboratively with the U.S. and utilise technologies which already benefit from considerable investment. Raytheon UK’s strong design and technical capabilities, when combined with the ability to reach back to our U.S. parent to further develop and export our advanced technologies from the UK, is a powerful business model. It means that we are uniquely positioned to meet the demanding needs of both global customers and UK prosperity. This ‘reach-back’ model is best illustrated by our successfully exported Paveway™ IV programme where we have taken a U.S. system, re-designed and upgraded it using UK engineering skills and technologies.

Raytheon UK’s investment in creating new British exports to safeguard Britain’s trading future will also assist our supply chain in gaining access to global trade. This year, we secured our first European customer for our next-generation air traffic control radar, Condor MSSR MK3. We are focusing on export opportunities globally for this product as well as our ISR systems and Special Mission Aircraft.

Thank you for your support to Raytheon UK.

Richard Daniel
Chief Executive, Raytheon UK

*Oxford Economics Report

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**NEWS IN BRIEF**

**Raytheon Glenrothes hosts Harriett Baldwin Minister for Defence Procurement**

Raytheon UK hosted the UK’s Minister for Defence Procurement, Harriett Baldwin on 22 June at its Glenrothes site in Scotland.

The Minister was given a tour of the company’s manufacturing facility and innovation suite. Discussions centered on Raytheon UK’s contribution to Scotland’s GDP, its STEM (Science, Technology, Engineering and Maths) programme and its commitment to investing in future skills and talent through graduate and apprentice schemes.

During the visit, Raytheon honoured six of its UK SME suppliers at a special ceremony with the awards presented by Stephen Doran and Harriett Baldwin.

Read the full story on page 10.

**Lord Prior Commends Raytheon’s “Niche” Capabilities**

Lord Prior, the Parliamentary Under Secretary of State at the Department for Business, Energy and Industrial Strategy and who is responsible for Defence, visited Raytheon Broughton’s new £1 million facility in March.

Commending Raytheon UK’s investment into military aerospace and its overall contribution to the wider industry, Lord Prior said: “Raytheon has established a highly niche capability in North Wales that represents the epitome of engineering and talent.”

“It is a unique UK provider of systems integration expertise on military air platforms that have become invaluable to the UK and global customers in both the military and civil domains.”

**Sir Nigel Sheinwald Joins Raytheon UK’s Board of Directors**

Sir Nigel Sheinwald has joined Raytheon UK’s Board of Directors as a Non-Executive Director.

“With impeccable credentials in foreign policy, Sir Nigel has built extensive knowledge of geopolitical issues and international defence markets, which will aid Raytheon UK’s growth aspirations. Sir Nigel also brings to the Raytheon UK board considerable expertise in matters concerning intelligence and security, at a time when the business is expanding its capabilities in the cyber domain,” said Richard Daniel, chief executive and managing director, Raytheon UK.
CONDOR MK3: GROUNDBREAKING MSSR RADAR

Raytheon UK secures first European customer for its next-gen surveillance radar

Raytheon has secured the first sale of its Condor Mk3 Monopulse Secondary Surveillance Radar (MSSR) system to a European customer.

This latest generation MSSR system, launched at World ATM Congress last year, delivers state-of-the-art features to air traffic operators, such as:

- Automatic adaptive power control
- Fully configurable software
- Higher duty cycle transmitter
- Built-in Automatic Dependent Surveillance-Broadcast, or ADS-B

“The Condor Mk3’s design provides optimal affordability across the full range of customer requirements and extends the life of in-service infrastructure and antennas,” said Jock Gordon, director, Air Traffic Management Systems at Raytheon UK.

Condor Mk3 has been designed to optimise performance and reliability, maximise false target suppression as well as maximise operational availability. Through utilising advanced processing technologies, Raytheon has been able to house the two channel system in a single 19” rack with fewer Line Replaceable Units.

Condor Mk3 delivers the highest performance, without compromise, at a very competitive and affordable price. The system’s 25 percent reduction in energy consumption and enhanced maintenance system will deliver reduced lifecycle costs.

Raytheon UK frequently participates, as a key player, in major programmes run by Raytheon Company providing complete solutions for terminal and en route ATM systems. Such programmes often involve a complete upgrade of customers’ surveillance infrastructure with latest generation Mode S radar systems.

An F-35B test flight WDA-329 (Weapon Delivery Accuracy) has been successfully completed at Edwards Air Force Base in California against a tank at the Precision Impact Range Area (PIRA). This was the second guided release of a Raytheon Paveway™ IV inert test vehicle from an F-35B to support the UK weapons integration programme.

Paveway™ IV was released from an external weapon station and scored a direct hit on the target.

Raytheon UK’s Paveway™ is a highly accurate, precision guided weapon capable of significantly minimising collateral damage. It is a highly flexible, low-cost weapon which provides pilots with an all-weather dual mode (laser and GPS), day and night precision capability.
ADVANCED CYBER SOLUTIONS

Cybersecurity has evolved from protecting networks to protecting our way of life. Through optimising customer’s security operations and improving consistency and analysis, Raytheon UK’s Advanced Cyber Solutions business is transforming the way companies approach threat detection, analytics and incident response.

If businesses should learn anything from the recent ransomeware cyber attacks – e.g. WannaCry, that attacked the UK’s National Health Service and many other organisations globally, followed swiftly by Petya that used phishing emails to compromise company networks and data – it’s that the scope of national security is rapidly evolving and there remains an elevated chance of future attacks.

We live in a world where both our personal and professional lives are completely immersed online, but astonishingly many organisation’s critical infrastructure systems and basic IT estate are not secure and thereby vulnerable to such compromises.

In the rapidly evolving cyber domain, Raytheon is an industry leader in combatting threats and is helping customers (government and commercial industry) to more effectively invest in cyber defence by switching from prevention to resilience.

“With the [WannaCry] attack you saw more than 300,000 machines (Symantec) affected globally across 150 countries. There is a growing trend in the online criminal community towards sharing tools to use against organisations. It’s a very real threat that we face on a daily basis and we have the expertise to support our clients against this very type of attack,” says Jonathan Bathurst, Raytheon UK’s head of Business Development and Strategy, Cyber and Intelligence.
In February, Raytheon UK opened its second cyber facility, the Raytheon Cyber Centre (RCC). The £4 million world-class facility located in Manchester is home to Raytheon UK's Advanced Cyber Solutions (ACS) business, the international arm of Raytheon Foreground Security in the U.S. Its focus is providing Managed Detection and Response (MDR) services and Proactive Threat Hunting to commercial and government customers.

**Strategic Investment**

The commercial cyber business has been a strategic objective for Raytheon UK which opened its first Cyber Innovation Centre (CIC) in Gloucester, England in 2015 and is home to 100 systems and software experts. Rob Crook, managing director of Cyber and Intelligence at Raytheon UK, says: "We've now moved to the second phase of investment with the RCC. This will be the epicentre of our cyber venture, bringing together the expertise we've gained globally and transferring that first-class model into our cyber offering."

The RCC builds upon the investments Raytheon UK has made over the past few years in developing cyber capabilities and offers a number of competitive advantages to clients. "Our new Virtual Security Operations Centre (VSOC) for instance offers our growing portfolio of customers an actively managed threat hunting service," says Fergus Crossley, senior sales manager for the ACS business.

The traditional model, he explains, is for companies to hire staff and locate them in their buildings, which increases cost. Raytheon’s VSOC model provides skilled staff that work securely and remotely on a client site.

The benefits for Raytheon’s customers is reduced cost, flexibility, agility and round-the-clock service. "We provide the skilled expertise without them having to go through the pain of hiring, training and retaining staff. Unlike the traditional model of delivering outsourced capability, we do not require log data to be exported off the client’s sites," says Crossley.

**Raytheon Cyber’s Front Line**

With more than 30 years’ experience in cyber defence, Raytheon is uniquely positioned in the market having defended the most sophisticated threats. Reaching back to Raytheon U.S. enables Raytheon UK’s ACS business to use patented automated threat detection and analytics technology to deliver Managed Detection and Response services that focus on advanced threat identification, validation and proactive analyst-driven threat hunting to reduce disruption and minimise damage.

The key to Raytheon’s threat intelligence tool is its team of expert, highly-skilled, certified, cybersecurity analysts who can quickly and effectively identify, assess, manage and respond to advanced persistent threats.

Bathurst says that the RCC has a growing pool of analysts, but recruiting highly-skilled cybersecurity experts in a massively growing market remains a challenge for Raytheon UK and the industry as a whole: “The industry has a recognised shortfall and is many, many thousands of people short. There is a real need for bright engineers, analysts and software developers.

“At the RCC we offer software engineers and developers a great breadth of career opportunities to work across all industry verticals.”

**Supporting Government**

To support and nurture future talent, Raytheon UK is involved in two UK government-driven initiatives – CyberFirst, a student bursary scheme and Cyber Invest, which supports cyber research. Both initiatives are led by the recently established National Cyber Security Centre (NCSC).

Through CyberFirst, Raytheon has committed to support up to ten bursaries per year, whilst with Cyber Invest the company will provide £100K each year for cyber research funding over a four-year period (2016-20). Last year, Raytheon UK provided cyber bursaries at Lancaster University and the University of Gloucestershire. The company says it is funding four bursaries in September 2017 and a further six bursaries in 2018.

The mission of the government’s new NCSC is to make the UK the safest place to do business online and Raytheon UK is working as closely as it can to support this aim. Crook says: “Through offering high-end services to government and smart defence services for our commercial clients, we are delivering exactly what the NCSC is looking for; that really superb protection of cyber capability here in the UK.”

**Advancing Cyber Solutions**

At a time of instability in many places around the globe and such stark threats to UK national security, Raytheon is playing a key role in delivering some of the world’s most advanced cyber defence technologies.

In doing so, it faces two key challenges: recruiting talent and the evolving sophistication of threats.

Through optimising customer’s security operations and improving consistency and analysis Raytheon UK Advanced Cyber Solutions is transforming the way companies approach threat detection, analytics and incident response. And through its end-to-end, collaborative approach, it can optimise threat intelligence for clients unique industry and enterprise security requirements.

"We’ve developed a more effective way to engage and combat the challenges presented by the rapidly changing cybersecurity threat landscape," says Bathurst.
Raytheon’s new airborne Intelligence, Surveillance and Reconnaissance facility in Broughton, North Wales will develop next-generation ISR to combat worldwide threats and expand its leading special mission aircraft business globally.

A convoy of coalition ground forces drives along a road in an area where potentially hostile forces are known to operate. Despite being the best trained soldiers in the world, operating in hostile territory, with the threat of surprise attacks and ambush, brings a heightened state of alert amongst the troops.

Fortunately, these soldiers carrying out their vital mission have additional support; flying some eight miles above is one of the UK Royal Air Force’s Sentinel special mission aircrafts on over-watch. Sentinel’s array of highly sophisticated sensors and communications – designed, built and supported by Raytheon – equip the commanders and the convoy itself with information that can help them accomplish their mission as effectively and as safely as possible.

In today’s ever complex rules of engagement, more and more countries are seeking Sentinel’s game-changing capability. Anticipating an upsurge in airborne ISR demand, Raytheon has opened an airborne Intelligence, Surveillance and Reconnaissance facility in Broughton, North Wales focused on developing innovative, cutting-edge technologies to meet the global ISR challenge and expanding its leading special mission aircraft business internationally. This, says the company, will pave the way for 200 additional high-value jobs for Wales and future export sales for post-Brexit Britain.
Inward Investment

Launched in March by First Minister of Wales, Rt Hon Carwyn Jones, the world-class facility is part of a joint £1 million investment by Raytheon UK and the Welsh Government in Raytheon’s Broughton site where 145 skilled workers currently support the UK Ministry of Defence’s flagship tactical and strategic ISR programmes, including Sentinel Mk1.

“Raytheon’s expansion at Broughton will not only enable the company to diversify but will see new technologies and products developed in North Wales and exported worldwide. This investment is also important in supporting students and apprentices, who are the engineers of the future, to be ready to take advantage of the opportunities available,” said First Minister Carwyn Jones.

Raytheon is actively engaged around the world in developing and delivering multi-INT platforms and ground-based command/control and dissemination solutions based on both tactical and strategic platforms. Raytheon was the prime on the UK RAF’s No. 5 Squadron’s Sentinel aircraft, featuring a Raytheon dual-mode radar for SAR/GMTI, as well as other tactical ISR aircraft.

“The new facility gives our special mission aircraft business tremendous global growth potential, and will enhance our economic impact in the region, where the company has contributed since 1993,” said Richard Daniel, Raytheon UK’s chief executive. “We have created around 50 jobs in Broughton over the past 18 months, and anticipate the need for a further 200 over the next three years depending on special mission aircraft export opportunities”.

Co-location of the workforce is a principal design benefit of Raytheon Broughton’s refurbished deep servicing hub and a key element of its five-year growth strategy. The facility itself is located at the centre of the UK aerospace industry in the North-West and therefore in close proximity to its supply chain. Factors which Raytheon UK’s head of Airborne Solutions Roland Howell said will bring all the efficiencies of collaborative working.

“Raytheon Broughton’s systems integration lab, design, production and maintenance teams are now co-located under one roof in a purpose-built site.

“This will provide greater efficiencies and more collaborative working in terms of developing next-generation global airborne ISR technologies to counter today’s rapidly evolving global threats,” said Howell.
Raytheon’s airborne ISR technology development facility in Broughton, North Wales will be used for future international special mission aircraft programmes that the company is currently negotiating.

These next-generation surveillance planes will be multi-mission aircraft that combine intelligence from multiple, connected sensors to give decision-makers comprehensive, situational overviews.

Raytheon UK currently has 145 workers supporting the company’s flagship Special Mission Aircraft (SMA) platforms at its Broughton Centre of Excellence and deep servicing hub.

Innovation Drivers

Phil Nettleship, Raytheon UK’s chief technology officer for Airborne Solutions, said such threats are driving innovation in the new ISR systems that Raytheon is delivering, including the company’s Overseer™ Mission Management System.

Overseer utilises advances in smaller and lighter sensors and systems to provide enhanced capabilities on the platforms the business supports – such as the next-generation of payloads on Multi-Mission Aircraft – by offering greater operational flexibility for users to readily switch between sensors and selecting how they use them.

“This will give the end user the highest probability of detecting things that don’t fit within the established pattern of life,” said Nettleship. “There are wide areas of the world where that’s really significant.”

“Future enhancements to Overseer’s user interface will see even greater ease of operation, further increased speed at which the system can process data and give a timely response thereby further reducing workload.

“We intend to leverage our technological advancements to gain new ground in international markets including the Middle East, North Africa and the Far East,” said Nettleship.

All Eyes on Exports

Raytheon’s eye on export opportunities in these territories at a time when the UK government is heavily focused on overseas trade is fortuitous as much as strategic.
Raytheon UK’s airborne ISR platform for the British Royal Air Force is a sovereign capability unequalled on the world stage.

In November 2016, the UK Ministry of Defence signed a £130 million contract with Raytheon UK to extend support services for the Sentinel platform until 2021.

“Sentinel is a key UK ISR asset for NATO and coalition operations around the world so it’s important that we keep our franchise programme mission capable,” said Howell.

“This latest investment further increases our niche capability for the design, manufacture and support of British military aerospace solutions, presenting the opportunity to provide more efficient support to a range of platforms, but also to provide the basis from which to generate international business in the military aerospace industry which will benefit the UK economy at a time when the government’s focused heavily on overseas trade,” he added.

Embracing Opportunities

In the shadow of Brexit, bold and ambitious investments like Raytheon’s in high-tech, advanced manufacturing and sustainable, high-skilled jobs, are crucial to the future UK economy.

Raytheon UK contributed more than £700 million to the UK economy in 2015 through its footprint in the UK, reaching 9,500 jobs and tax contributions of £155 million.

Over the past 10 years, Raytheon UK has invested more than £180 million in research and development to support its UK technology base. Its airborne business in Broughton supports more than 500 UK jobs – direct and indirect – with an estimated £36 million of GDP contributions supported by Raytheon in Wales.

Raytheon UK’s Head of Government Relations Sen Sami said: “This latest investment, supported by Welsh government funding, will secure the military aerospace cluster that has organically grown through SMEs and primes in the region. It will also help to flourish the pipeline of future engineering talent and highly valued systems integrators in military aerospace.”

Secretary of State for Wales Alun Cairns commented: “Raytheon’s continued investment in North Wales is yet another strong endorsement of the confidence the company has in the skills-base and the business environment in Wales, and is further proof that this country is very much open for business.”

OVERSEER™ — MULTI-MISSION ISR CAPABILITY

The future of intelligence, surveillance and reconnaissance airborne solutions is in multi-mission platform capability — platforms that are not dedicated to single sensors or single capabilities, but which overlay intelligence from multiple sensors. This blends capabilities to give the decision maker a comprehensive view of the battlespace.

Airborne ISR provides a critical role in delivering timely, relevant and assured intelligence to decision makers. In order to address this need, Raytheon is developing, manufacturing, delivering and supporting Multi-Mission Aircraft (MMA) solutions. MMA encompass a range of sensors and communications systems which enable the operator to: Collect data and information; process it to generate intelligence with corroboration across multiple sources; and to disseminate this in a timely manner.

At the heart of any MMA is a highly capable, intuitive and flexible mission system and Raytheon has developed Overseer™ to address this requirement.

Overseer couples next generation, open-architecture software technologies and techniques with a comprehensive understanding of the operational need. This builds on engineering expertise in Airborne ISR developed through the design, manufacture and support of the RAF Sentinel R Mk1, RAF Shadow R Mk1 and other international customers.

The system enables operators to configure the workstation to their individual preferences, with an emphasis on delivering and filtering the data and information they need to perform their task. This data can be drawn from multiple sensors on a single platform and from across a multi-platform enterprise to maximise the situational awareness of the user.

Overseer has been developed to readily integrate sensors and other systems enabling Raytheon to deliver timely, cost-effective Airborne ISR capabilities to its customers, both in new programmes and in support of upgrade programmes. A comprehensive flexible solution, the system delivers significant capability to operators and the engineers who integrate them.
Raytheon’s SME supply chain has long served as a conduit for the company’s growth and on 22 June it honoured six of its UK SME (small- to medium-sized enterprise) suppliers at a special awards event attended by UK Minister for Defence Procurement Harriett Baldwin.

The ceremony (pictured above), held at Raytheon Glenrothes, Scotland saw Astute Electronics, Coldon Engineering, Deep Sky Blue Solutions, Supercraft, Link Cable Assemblies and MWR InfoSecurity receive accolades for contributions to collaboration, excellence in execution and enabling business growth.

The Raytheon UK SME Supplier Awards aim to recognise suppliers who have provided outstanding service and collaboration in exceeding customer requirements. “Award candidates were judged on certain criteria, including overall quality, on-time delivery and demonstrated commitment to process improvement initiatives. It was most pleasing to see suppliers recognised that support a wide spectrum of markets,” said Martin Mennie, head of Supply Chain Management, Raytheon UK.

Raytheon’s collaboration with SMEs is fundamentally aimed at having a mutually-beneficial effect for all parties in terms of export opportunities, jointly developed solutions, improved tools and techniques and reduced time to market.

In 2016, Raytheon UK spent 28 percent of its total expenditure on SME supply chain. The company believes that building a community of SMEs to work collaboratively is essential to delivering its continued growth. “UK SMEs are the very cornerstone of the Raytheon UK supply chain. By their very nature, SMEs champion short leadtimes which reduces time to market. As seedbeds for innovation, they generate new ideas which challenge the status quo and at lower cost. When combined together this creates a sweet spot to support Raytheon UK’s continuing growth,” said Mennie.

The company also created and invests in a programme called SpaRk (SME partnerships advancing Raytheon knowledge) that it uses as a channel to source technology into Raytheon UK from UK SMEs and academia. To date, Raytheon UK has spent just under £1 million on the SpaRk programme in investing in SME research projects.

During the Minister for Defence Procurement’s visit, Stephen Doran, director of Operations and Transformation briefed her on Raytheon UK’s investments in Scotland as a leading prime contractor and major supplier to the UK Ministry of Defence.

Minister Harriett Baldwin said of Raytheon Glenrothes: “Scotland makes a vital contribution to UK defence and national security. In addition to helping to protect our nation, the team at Raytheon’s Glenrothes site is a significant supplier to our Armed Forces and investor in innovative advanced electronic systems. “As a successful exporter of aerospace and defence electronics, Raytheon supports many technology businesses across Fife and the rest of the UK.”

Raytheon UK SME Supplier Award Winners:

- Astute Electronics Ltd (Collaboration)
- Coldon Engineering Ltd (Collaboration)
- Deep Sky Blue Solutions Ltd (Collaboration)
- Supercraft Ltd (Excellence in Execution)
- Link Cable Assemblies Ltd (Enabling Business Growth)
- MWR InfoSecurity Ltd (Excellence in Execution)
Raytheon UK Showcases Cyber & Intelligence Expertise at Cheltenham Science Festival

Raytheon UK took part in this year’s annual Cheltenham Science Festival 2017 (6-11 June) for the fourth year running. In addition to exhibiting on the main stage in Cheltenham Town Hall, the company sponsored and took part in three LIVE events tackling subjects such as cyber security, active cyber defence, and smart phone technology personal privacy.

Raytheon UK’s STEM (Science, Technology, Engineering and Maths) ambassadors also supported the event by demonstrating the company’s technological innovations to visitors. Raytheon UK’s STEM engagement programme includes the The Times Cheltenham Science Festival, the Raytheon UK annual Quadcopter National Challenge for schools, the Fife Science Festival, plus more.

Annual Ballantyne Lecture Helps Pave the Path for Future Talent

The Royal Aeronautical Society’s Ballantyne Lecture, sponsored by Raytheon, took place on 28 April. The annual event, aimed at 14 to 18 year olds, provides a valuable insight into STEM career pathways to the aerospace and aviation sectors.

Roy Donelson, a member of Raytheon UK’s leadership team, delivered an inspiring keynote speech. The audience also heard presentations from Raytheon UK graduates and apprentices. Serena Martin (pictured above), a graduate quality assurance engineer, shared her journey and gave advice about becoming a Raytheon UK graduate, and the opportunities available for this route.

UPCOMING EVENTS

July 14-16
Royal International Air Tattoo, RAF Fairford

Sept 12-15
DSEi, London

Oct 9-11
AUSA 2017

Nov 23
Raytheon UK Technology Conference, London

STEM Careers Take Flight at RAF Cosford’s Annual Airshow

The annual Cosford Airshow (11 June) held at RAF Cosford, Shropshire always attracts a big crowd and with more than 55,000 visitors flocking to this event, this year was no exception.

Raytheon UK’s demonstration vehicle took centre stage in the Airshow’s dedicated STEM (Science, Technology, Engineering and Maths) hangar, alongside BAE Systems, Rolls Royce, QinetiQ and the Royal Aeronautical Society. Several hundred visitors passed through the demonstration vehicle throughout the day, taking the opportunity to learn about Raytheon UK’s airborne business and participate in a number of STEM-based games and activities.

RAF Cosford is home to Royal Air Force Engineering and training schools. Raytheon proudly supports events like the Cosford Airshow as part of the company’s ongoing STEM programme to inspire the next generation into STEM careers and grow the talent pipeline at a regional and national level.
A WORLD OF INNOVATION

Raytheon innovations help customers in more than 80 countries protect people, secure information, defend infrastructures — and make the world a safer place.

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