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# desider

**Issue 146**  
**October 2020**

*the magazine for  
defence equipment  
and support*

**Unparalleled radar technology  
developed for Typhoon**





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# Foreword

By Sir Simon Bollom, CEO



“  
**We must all upgrade technologically to be ahead of future adversaries and develop a robust, interoperable plan**  
”

COVID-19 has brought the health, safety and wellbeing of our people into sharp focus. Whether you've been part of a COVID-19 response team, seconded to another government department or have adapted your ways of working, we have all worked together to protect others and ourselves. We need to keep doing so.

With that backdrop, we are approaching an incredibly busy time with the much-anticipated Integrated Review (IR), associated Spending Review and the Defence and Security Industrial Strategy. The IR is the deepest and most radical review of Britain's foreign security, defence and development policy since the end of the Cold War. It will undoubtedly have a significant impact on the future direction of DE&S and the programmes we manage. We must be agile in our response to the review and carry on delivering to the high standards we pride ourselves on.

The current crisis has brought defence together in pursuit of our shared goals and DE&S continues to adapt and develop to meet the needs of whatever requests of us. I have the greatest confidence that we will keep delivering world-class equipment and support to our armed forces, alongside supporting the government where we can with the ever-present risk of COVID-19.

Speaking virtually at the US hosted Defence Conference at the end of September, the increasing need for stronger collaboration in sustaining our global supply chain was recognised and agreed by our international partners. Agile procurement was a central theme and how, as technology accelerates, we need a shift in thinking if we are to keep pace and stay relevant in the digital world. We must all upgrade technologically to be ahead of





future adversaries and develop a robust, interoperable plan. Strengthening relationships with our allies is key to advancing in line with the rapid evolution of warfare and we will continue to build the international alliances that have been at the centre of so many of our major acquisition programmes. In DE&S, we will continue to embrace innovation to successfully deliver urgent operational requirements and shape future concepts.

Elsewhere, we continue to achieve a huge amount of success in our day-to-day projects and programmes. Last month we finally secured approval for the world-leading ECERS radar to be integrated into Typhoon, reached initial operating capability for our ORCUS counter-drone research and development programme, and the world-leading Protector aircraft made its maiden flight.

Many of you attended DE&S' annual Safety Day. The theme for this year was 'Protecting Yourself, Protecting Others'. COVID-19 has highlighted more than ever the need for us to be aware of the impact of our actions. Embedding safety into every aspect of our work is important to every one of us – whether it's through the acquisition of safe products for front-line commands or managing our own safety. This virtual event reinforced that we all have a role to play in providing assurance and security for our organisation, and we must keep driving greater productivity without compromising security.

Finally, I would like to welcome the new members of our senior team, our new Heads of: Corporate Communications, Helen Tobias; International Relations, Laura Farhall; and Strategy, Robin Kelly; all of whom bring extensive knowledge and expertise to their respective roles.

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A Typhoon aircraft on the runway in the rain

(Picture courtesy of BAE Systems)



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## Krishna Dhanak, Director Strategy and Corporate Operations, talks to Desider about her role, the future strategy for DE&S and the responsibilities she feels as a leader



I'm now four months in post, after arriving in DE&S back in June. Joining the organisation during a pandemic was a somewhat unusual introduction – having to meet colleagues virtually and learn the organisation with little opportunity for face-to-face engagement to begin with – but part of the job is always about adapting, finding new ways to work and keeping the show on the road! I'm delighted to be here.

The Director Strategy and Corporate Operations role brings together all my past experiences – including international policy, strategy, risk, security and cyber capability development - into one role. That, coupled with the opportunity to influence such a large, complex and vital organisation, made it the ideal package for me and an opportunity I couldn't resist. And having started my civil service career in procurement (as it was called then), it feels like coming home.

My first – and biggest – priority over the coming months is to lead the development of a strategy for the next generation of DE&S. One that allows us to fully exploit our skills in delivery for our customers - all in a fiscally challenging environment and with an ever-evolving threat.

We need to adapt to our customers' changing needs, moving away from the individual platform-centric approach. In DE&S, we've always been in the business of buying platforms that drive, fly, or float. Now, we need to start changing that focus and thinking in terms of data and intelligence flowing seamlessly between platforms and across domains, to maximise our military capability in the battlespace, and also in the workplace. The ask of our customer is tough; we need to be ready to respond alongside our suppliers, all enabled by the right people and the right delivery focussed, culture.

Our culture and our values are part of what makes DE&S a great place to work and they are also what will enable any strategy to be delivered. A culture that can challenge the status quo, where people are empowered to take informed risk, where they can innovate, fail fast and recover quickly. As well as one that maximises a diversity of talent.

It is fair to say, like the rest of defence, we have some way to go on our D&I agenda.

Having lived some of those challenges on a personal level, I've experienced racism throughout my career, both in defence and the

wider Civil Service. I'm keen to help improve the lived experiences of our people. Talking openly and authentically about the issues is the first step to taking informed action that will make a change for the better.

And whilst there has been a particular focus on race recently, it is also relevant now where different parts of the workforce are disproportionately affected by the restrictions put in place to

manage the pandemic. I'm hugely impressed by the contribution that DE&S has made to the national effort and our performance scores for our military customers are the best yet. Great people doing a great job in challenging circumstances. Developing a strategy that supports them and ensures we are ready for the future, in every respect, is something to get excited about!

“  
**My first – and biggest –  
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development of a strategy for  
the next generation of DE&S**  
”

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## World-leading radar to be developed for RAF Typhoons

The radar development programme, negotiated by DE&S' Typhoon delivery team, will see hundreds of highly skilled jobs sustained across the UK

**This continued development is the culmination of years of collaborative work with industry to deliver cutting-edge radar capability to the RAF. It will sustain hundreds of highly-skilled jobs across UK industry and is central to the UK's future combat air strategy**

Sir Simon Bollom, DE&S CEO

DE&S has helped negotiate the release of £317-million in funding to continue the development of a new world-leading radar for RAF Typhoons.

The continued development will see BAE Systems and Leonardo carry out the work, securing more than 600 highly-skilled jobs across the UK, including more than 300 at Leonardo's site in Edinburgh.

This maintains a highly-specialized, world-leading industry base that will ensure the UK remains at the forefront of radar technology development, which is essential for the Future Combat Air System (FCAS).

The Active Electronically

Scanned Array (AESA) radar, known as European Common Radar System (ECRS) Mk2, will have an electronic warfare and electronic attack capacity, in addition to 'traditional' radar capabilities, to locate, identify and then suppress enemy air defences using high-powered, wide-band jamming.

The advanced sensor technologies of the AESA equipped ECRS Mk2 will not only ensure UK Typhoon maintains a capability edge in the increasingly contested battlespace it will face in future years, but they are also central to the longer term and FCAS.

Air Vice Marshall Keith Bethell, Director Combat Air at DE&S, said: "I am delighted with the announcement of the contract for the development of the next generation radar capability for Typhoon.

"It is a product of persistent hard work from the Typhoon Enterprise in the UK, working with our colleagues in the European Partner Nations, to cement the agreements to progress the development of the ECRS Mk2

design through to a prototype radar.

"This project has strong ties to the Combat Air Strategy and promises to deliver a formidable leading-edge capability, whether it be for the continued evolution of Typhoon as a world-class combat air platform or in years to come as part of Future Combat Aircraft System.

"It comes at an important time for UK industry, retaining a sovereign workforce of hundreds,

building further expertise and technological innovation, with much promise for the future."

The radar development programme, negotiated by DE&S' Typhoon delivery team, will see hundreds of highly skilled jobs sustained across the UK.

In addition to the jobs at Leonardo's Edinburgh's site, there are a further 100 at Leonardo's Luton site, 120 at BAE Systems' site in Lancashire, 100 at BAE's site in Dunfermline, Fife and 50 at sub-

contractor Meggitt in Stevenage.

Leonardo is leading the development of the new radar, designed to meet the specific needs of the RAF, and BAE Systems will deliver its integration onto Typhoon aircraft.

DE&S CEO Sir Simon Bollom said: "This continued development is the culmination of years of collaborative work with industry to deliver cutting-edge radar capability to the RAF. It will sustain hundreds of highly-skilled

jobs across UK industry and is central to the UK's future combat air strategy."

Currently, Typhoon is fitted with a mechanically-scanning radar, but in future it is planned to upgrade Typhoons to the new ECRS Mk2 hardware.

The technology provides access to advanced modes, including the ability to simultaneously detect, identify and track multiple targets in the air and on the ground in the most challenging environments.

This, along with ECRS Mk2's electronic warfare capability, would ensure the RAF can protect UK land and maritime forces and deliver UK air power wherever it is

needed in the world.

In addition, the introduction of a ground-breaking Multi-Function Array would ensure Typhoon's continued viability and competitiveness in the export market.

The UK's programme is being developed in parallel to similar commitments from Germany and Spain to deliver their own national requirements for an E-Scan radar.

It is planned to equip the RAF Typhoon aircraft from the mid-2020s.



HMS Spey on the Clyde at her naming ceremony (Beth Squire)

## HMS Ledbury and HMS Blyth return home

HMS Ledbury and HMS Blyth have returned to their base ports of Portsmouth and Faslane after three-and-a-half years operating in the Arabian Gulf. HMS Ledbury, a Hunt-class MCMV, and HMS Blyth, a Sandown-class MCMV, have been forward deployed to maintain access to international shipping lanes and to support Operation Kipion – the UK maritime contribution to allied operations in the Middle East and Northern Indian Ocean. DE&S provided regular support from Bahrain to enable them to remain continually deployed and ready for tasking.

Speaking about HMS Blyth, the DE&S Naval Ship Support mine countermeasures vessel Sandown manager, Ewan Downie, said: "HMS Blyth has now returned from a successful three-year operational deployment in the Middle East. The diligent and collaborative efforts of the Navy's Forward Support Unit, Babcock Marine and DE&S teams have ensured she received timely and effective engineering assistance throughout the duration of her deployment. The focus now shifts to delivering key maintenance and capability upgrade packages before recommencing UK operations."

Both ships have now entered eight-week support periods with BAE and Babcock Marine respectively to regenerate and upgrade capabilities while their crews take leave before heading back to sea on UK tasking.

## HMS Spey debuts at sea on contractor sea trials

The fifth and final new Offshore Patrol Vessel (OPV), HMS Spey, has sailed from BAE Systems' yard at Scotstoun on the Clyde to begin contractor sea trials.

The ship will now be put through her paces ahead of her delivery voyage to Portsmouth and formal acceptance by the Royal Navy.

DE&S Director General Ships, Vice Admiral Chris Gardner, said: "Getting HMS Spey to sea on contractor sea trials in the midst of a national pandemic has required drive, focus and strong

teamworking. The team should be immensely proud."

Three members of the OPV delivery team will be on board alongside BAE Systems staff to monitor progress.

Head of the DE&S Ship Acquisition OPV and Type 26 delivery teams, Mark Beverstock, said: "Sailing a ship on contractor sea trials is the culmination of years of hard work and teamwork. This is an immense achievement given the additional challenges of COVID-19 this year, and reflects the focus the team has brought to

bear on continuous improvement and quality over the whole programme."

The sea trials are designed to thoroughly test the capability and integrity of the vessel. Testing will include live firing of weaponry, pushing the ship's engines to full power and testing top speeds.

OPV Team project manager, Gareth Morris added: "This is the last time we, as a team, will get an OPV to sea for trials. I want to thank my colleagues for the many hours put in to get us to this point."

## Chinooks support operations in West Africa

RAF Chinooks currently deployed in Mali have continued to conduct key supporting missions for the French and Malian ground forces during the extreme weather conditions of the Malian wet season.

Arriving from RAF Odiham, the aircrew have supported the operations to assist the French military with a programme of re-establishing Malian Army Forward Operating Bases that will also enable future French combat operations.

The Chinooks and aircrew allow French troops to cover a much larger field of operations by moving personnel to the front-line of activity, eliminating the need for dangerous road moves, and help move vital support

equipment to strategic locations.

Rainy season in the Sahel makes ground movement difficult so the unique heavy lift capability of the Chinook has allowed a replacement vehicle to be delivered over a long distance where ground movement is difficult.

DE&S Chinook team leader, Mark Geoghegan said: "The capabilities of the Chinook are well suited to the varied requirements of Op Newcombe, from a large internal and external payload to move troops and equipment through to 'fat tanks' for long range missions, the iconic aircraft is once again demonstrating why it is the go to platform for such an operation."



An RAF Chinook Mk6A delivering a 4x4 all-terrain vehicle (UK MoD Crown Copyright 2020)



F-35's at RAF Marham (Ben Mayfield)

## F-35's arrive at RAF Marham ahead of Exercise Joint Warrior

The DE&S Lightning delivery team is supporting Aircraft from V Marine Fighter Attack (VMFA) -211 squadron which recently arrived at RAF Marham to start its UK detachment. The US Marine Corps (USMC) squadron will be working alongside 617 Squadron ahead of a group exercise where they will embark on HMS Queen Elizabeth to take part in Exercise Joint Warrior.

Air Commodore Phil Brooker OBE, DE&S Lightning team

leader, said: "The deployment of the USMC to RAF Marham is a significant milestone and provides a true test of the interoperability of aircraft, personnel and global and national support solution, while allowing both nations to learn from each other."

Both Squadrons will conduct carrier qualification training on-board HMS Queen Elizabeth to ensure all pilots are proficient to operate from the carrier during both day and night.

The aircraft will then conduct exercise Joint Warrior from HMS Queen Elizabeth, and exercise Crimson Warrior, from RAF Marham, to prepare the squadrons for UK Carrier Strike Group 21 next year, which will see the carrier deploy operationally for the first time.

Peter Davidson, Lightning operations manager at RAF Marham, added: "The Lightning delivery team at Abbey Wood and RAF Marham have worked closely

with the customer, industry and the F-35 Joint Programme Office to enable this deployment to happen. We will continue to play a key role by providing logistic and engineering support to the UK Force."

## New Director Combat Air appointed

Air Vice-Marshal (AVM) Simon Ellard will take up the role of Director Combat Air (DCA) for DE&S in the new year. He succeeds AVM Keith Bethell CBE, whose next appointment is yet to be announced.

Simon re-joins DE&S from 38 Group HQ at RAF High Wycombe, where he is the Air Officer Commanding. He previously worked for DE&S as Group Captain Type Airworthiness Authority for Eurofighter Typhoon and Battle of Britain Memorial Flight (BBMF), and was the Air Commodore leading the Unmanned Air Systems team.

Keith has held the role of DCA since 2016, when he was promoted to AVM. He joined DE&S in 2012 as Air Commodore, selected as Head

Fast Air Support Team with responsibility for Tornado, Typhoon, BBMF and Defence Crew Escape Systems projects.

Sir Simon Bollom, DE&S CEO, said: "I am delighted that AVM Ellard will be re-joining DE&S to take up the position of Director Combat Air. Simon will bring a wealth of experience to the role, having held a number of senior positions with the RAF. I know that Simon will guide our Combat Air teams with real enthusiasm and determination, and I look forward to welcoming him back to DE&S in the new year."

"I would also like to place on record my thanks to AVM Bethell, who has done a tremendous job as DCA over the past four years. I wish Keith the very best for the future."



Air Vice-Marshal Simon Ellard (Crown Copyright)

## Upgraded Spearfish torpedoes put to test in Scotland

Spearfish was recently put to the test when it was 'fired' repeatedly at Type 23 frigate HMS Sutherland, as scientists, engineers and sailors studied its performance.

Considered one of the most powerful and advanced wire-guided torpedoes in the world, it enables Royal Navy submarines to engage in a variety of surface and underwater targets.

The upgraded Spearfish torpedoes are carried by the Royal Navy's Astute, Vanguard and Trafalgar-class submarines and, once fired, Spearfish homes in on its target using sonar.

Controlled by the submarine after launching via fibre optic link, Spearfish was put through its paces over four days on special ranges near the Kyle of Lochalsh, where both software and hardware enhancements were tested.

The latest testing took place at the British Underwater Test and Evaluation Centre stretch of water between Skye and the Scottish mainland, peppered with state-of-the-art sensors, 10km long, 6km wide and up to 200m deep.

The latest trials are the fourth involving HMS Sutherland – purpose built to hunt down hostile submarines – to help introduce the upgraded Spearfish into service.

“  
**The Spearfish Upgrade project delivers a real increase in both safety and performance over the current weapon capability**  
”

Simon Pearson, DE&S Torpedoes, Tomahawk and Harpoon team leader

Simon Pearson, DE&S Torpedoes, Tomahawk and Harpoon team leader, said: “The Spearfish Upgrade project delivers a real increase in both safety and performance over the current weapon capability and, like all projects that push technological boundaries, it has had its challenges over the last couple of years. The recent trials continue to build confidence as we push towards the equipment delivery date later in the year and initial operating capability next year.”

The Royal Navy is investing £270-million in upgrading

Spearfish, fitting a new warhead, new, safer fuel system, an enhanced electronic 'brain' and a new fibre-optic guidance link with its parent submarine to improve its accuracy and lethality.

Following the torpedo trials, HMS Sutherland moved on to join the Americans, Norwegians and Danes on exercise in the Arctic Sea. Further trials of the upgraded Spearfish will take place before the weapon is declared operational and then introduced to front-line submarines over the next four years. It will remain in service into the 2050s.



A computer-generated image of a Spearfish torpedo (Picture courtesy of BAE Systems)



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## UK's first world-leading Protector aircraft makes maiden flight

The UK's first Protector RG Mk1 aircraft, which is being procured by DE&S for the RAF, has successfully completed its first flight after coming off the production line.

The latest milestone in the UK Protector programme follows the announcement in July that the first three aircraft were being manufactured following the award by DE&S of a £65-million contract to General Atomics – Aeronautical Systems Inc (GA-ASI).

The aircraft recently took to the skies in the US under the watchful eye of GA-ASI staff. The air vehicle took off from El Mirage Airfield in California, flew over the local area for 34 minutes before landing back at El Mirage airfield.

Charlie Hazeldean, Head of Remotely Piloted Air Systems at DE&S said: "This milestone is another proud moment for the Unmanned Air Systems team who have worked tirelessly alongside their colleagues at General Atomics to ensure the RAF can look forward to having access to a world-class, ground-breaking capability."

Protector RG Mk1 will replace the current Reaper Force when it is introduced to the front-line and is considered a step change in capability for the RAF.

The cutting-edge platform will be capable of being flown anywhere in the world while being operated by personnel located at their home base at RAF Waddington, Lincolnshire where it will enter service by mid-2024.

This first Protector aircraft will remain in the US to support system testing as part of a combined UK MOD, U.S. Air Force and GA-ASI test team. Upon completion of this initial testing, it will be delivered to the MOD in the summer of 2021 but will remain in the USA to complete the RAF's test and evaluation program.

This is the first of the three Protector aircraft currently on order. The contract includes an option for the remaining 13 aircraft to complete the currently planned fleet of 16 aircraft that will more than double the capability currently provided by Reaper.

Protector will have to meet stringent NATO and UK safety certification standards meaning it

could operate in civilian airspace.

Protector will be deployed in wide-ranging Intelligence, Surveillance, Targeting and Reconnaissance (ISTAR) operations where its ability to fly consistently for up to 40 hours, offers the RAF vastly improved armed ISTAR capability.

It would also be available, if requested, to support civilian agencies in the UK, for example in search and rescue and disaster response missions

Sir Simon Bollom, CEO of DE&S, said: "The maiden flight of the UK's first Protector aircraft is yet another important step in this significant programme which will see a truly cutting-edge capability delivered to the RAF.

The committed DE&S team involved has worked collaboratively with industry to overcome considerable challenge and ensure this project remains on schedule."

The aircraft will use enhanced data links and carry next-generation, low collateral, precision strike weapons - the UK-made Brimstone missile (MBDA) and Paveway IV Laser Guided Bomb (Raytheon UK).

The fleet will also have advanced anti-icing and lightning protection, providing the RAF with unprecedented flexibility to operate in adverse weather conditions.

Group Captain Shaun Gee, the RAF's Director Air ISTAR Programmes, said: "Protector will be deployed in wide-ranging Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) operations where its ability to fly consistently for up to 40 hours will offer a vastly improved ISTAR capability.

Given that it is designed to fly in non-segregated, civil airspace, the Protector RPAS will be able to respond rapidly and offer flexibility, delivering many types of military or civil authority support missions, including search and rescue."

The first aircraft delivery to the RAF will be in 2023.



UK's first Protector aircraft takes to the skies in USA  
Picture courtesy of General Atomics – Aeronautical Systems Inc

“  
The committed DE&S team involved has worked collaboratively with industry to overcome considerable challenge and ensure this project remains on schedule

”  
Sir Simon Bollom, DE&S CEO



# On delivering battle-winning equipment, working at pace and his love of live music

**Steve Robinson is part of the Type 26 team in DE&S Ship Acquisition. Having held some fascinating and varied roles, Steve reflects on the rewards and challenges of defence procurement**

## **What does your role involve?**

I work in the Type 26 Combat System team. We act as the MOD's Approval and Integration Authority for the Type 26 Combat System, covering anything that contributes to the warfighting capability of the platform – everything from guns and missile systems to radar communications and a cutting-edge shared computing infrastructure. The construct of the joint team with BAE Systems means we are both customer and supplier, as DE&S must ensure the Government Furnished Equipment (legacy systems) are delivered in a timely fashion for BAE to integrate into the platform. I have specific responsibility for the Type 26 Land Based Integration Facility of the Type 26 'Ship 0' in Portsmouth, where we bring all the Combat System elements together to test and trial prior to installation on the ships.

## **What about your role is exciting, rewarding or interesting?**

The team is working with cutting-edge technology on a ship that will be in service for many years after we've all retired. We are delivering a digital warship for the 21st century, which as a Royal Navy engineer is an exciting project. Knowing you are contributing to a project of strategic significance while keeping the Navy at the vanguard of technology is extremely rewarding.

## **How important to you is teamwork?**

I work in Filton with a joint

MOD, BAE and QinetiQ team, so teamwork and understanding one another are extremely important. Being co-located with our main supplier is invaluable and means we can make decisions at pace and reach a common understanding far more quickly than if we worked in stove pipes and were geographically separated. This has been tested during the COVID-19 pandemic, but we've been able to overcome issues remotely and find new ways of working to maintain the trials programme.

## **How are you helping embed change in your area?**

A slight spin on the question: Part of our role in the Type 26 approval authority is to try and to minimise design change so we can keep the programme on track, while continuing to deliver against the customer's requirement as systems evolve from the contracted baseline. There is still much bureaucracy to try to navigate, which can slow our processes down and we endeavour to find ways to expediate this to deliver across all those good project management objectives of schedule, cost and requirement.

## **Why did you choose to pursue a career in DE&S?**

I'm on my fourth tour of DE&S, having held some fascinating and varied roles. Most recently as military assistant to Director Weapons, as a requirements manager for Maritime Intelligence Systems and as the marketing and sales manager for DESA (Defence Equipment Sales Authority). No two roles have been the same and have required different skills and

attributes. Defence procurement never gets dull as there are always challenges and issues to overcome.

## **What do you most enjoy about your job?**

I enjoy being part of a diverse team delivering to a common goal, jointly solving problems and ultimately delivering battle-winning equipment to our customer. I've had the privilege to work with some very talented civil servants over the years who have provided me with a broadened perspective to that gained from a purely military environment.

## **What do you enjoy doing in your spare time?**

I have three children ranging from 18 months to 15 years old, so spare time is a premium. I enjoy hiking and am in the process of taking the children to all the peaks in England and Wales – a challenge with a baby on your back. I also like to keep fit through Crossfit. I'm firmly on the bandwagon here. I have a passion for live music and Bristol is a great place to see bands, but not so much recently with the lockdown restrictions. I've been a lifelong supporter of Leeds United (a lifetime of pain) and I'm enjoying the recent return to top-flight football (albeit in slightly odd circumstances with no fans in stadiums).

## **What might surprise people about you?**

I originally walked into the armed forces careers office to join the RAF, but quickly came to my senses and joined the Senior Service.

## Counter-drone research and development programme reaches significant milestone

“  
**This project is supporting the development of world-leading understanding of counter-UAS technologies within UK defence**  
”

RAF Wing Commander Rob Wilson, DE&S Force Development Force Protection officer

The Royal Air Force's Synergia counter-drone research and development programme has reached a significant milestone, with the successful testing of the full range of integrated detect, track, ID, and defeat technologies.

Managed by the DE&S Future Capability Group and using technology delivered by Leonardo, the Counter-Unmanned Aerial System (C-UAS) study is considered of high importance to national security and a means of further protecting UK main operating bases.

Leonardo, in conjunction with sub-contractors Metis Aerospace and SRC Inc, have successfully delivered ORCUS – a modular and scalable R&D system – in support of the next stage of the multi-million-pound programme which allows RAF Force Protection operators to evaluate a range of capabilities including advanced sensors and effectors. In due course, further sub-systems will be integrated for testing and evaluation.

The RAF will maintain ORCUS as an upgraded national standby capability which, in the event of a drone-based crisis, can be rapidly deployed anywhere in the country for the provision of Military Aid to Civil Authorities.

RAF Wing Commander Rob Wilson, DE&S Force Development Force Protection officer said: “Project Synergia is delivering the Orcus R&D system hardware through the Future Capabilities Group (FCG) within DE&S and involves a close partnership between the prime contractor, Leonardo UK, the FCG, Air Capability and the RAF Force Protection Force.

This project is facilitating the rapid development of the knowledge necessary to define future capability to protect RAF sites and assets and, as a result, is supporting the development of world-leading understanding of counter-UAS technologies within UK defence.”

Elements of the ORCUS system, in conjunction with Leonardo

support, were operated by the RAF Force Protection Force in 2018 and 2019 following drone sightings at Gatwick and Heathrow airports. This rapid intervention allowed airport operations to be resumed safely.

Rakesh Takooree, pre-concept delivery project manager, said: “The unique approach taken by our highly knowledgeable commercial and engineering teams has enabled rapid procurement to demonstrate new technologies in this area to satisfy Air Command's requirements. Exploiting technologies in the pre-concept space is what FCG do well, whilst considering its utility to the wider Defence.”

The current phase of the programme, which started in 2019, supports 20 highly-skilled jobs at Leonardo with the primary integration work being undertaken at its Basildon and Southampton sites and real-time testing taking place at several MOD locations within the UK.

## DE&S award £5.5-million small diesel engines contract to support critical mine hunters

A £5.5-million contract to provide support for small diesel engines onboard critical Royal Navy vessels, including amphibious assault ships and mine hunters, has been placed by DE&S.

Under the terms of the contract, Royston Diesel Power in Newcastle will be responsible for providing diesel engine spares and technical support as well as repairing and refurbishing the engines where required.

The five-year contract negotiated by the DE&S Marine Diesel Group will sustain highly-skilled jobs within the marine industry in the north-east of England as well as providing work to those enrolled in the company's sponsored engineering apprenticeship scheme.

Marine Diesel Group Team leader, Commander Richard McHugh, said: "This was an excellent example of DE&S and industry working together to provide a value-for-money support contract for small diesel engines within the Royal Navy fleet."

Small diesel engines are fitted alongside larger engines to vessels throughout the Royal Navy and Royal Fleet Auxiliary (RFA)

including Type 23 frigates, single role mine hunters, Albion-class amphibious assault ships and Bay-class RFA, and are the main engines to vessels like the Hunt-class minesweepers.

Diesel engines are key to providing either electrical or propulsion power to the ships in which they are fitted. An effective support contract is essential to

“  
**This £5.5-million contract will maintain and support the vital small diesel engines of our Royal Navy fleet. The five-year agreement will also secure highly-skilled work in the north-east's marine industry, highlighting the region's contribution to UK defence**  
”

Defence Minister Jeremy Quin

maintain engine availability to the Royal Navy and RFA.

Defence Minister Jeremy Quin said: "This £5.5-million contract will maintain and support the vital small diesel engines of our Royal Navy fleet. The five-year agreement will also secure highly-skilled work in the north-east's marine industry, highlighting the region's contribution to UK defence."



📷 HMS Brocklesby, a Hunt-class mine countermeasures vessel (Crown copyright)

## New engines for Mexeflote landing raft



📷 The Mexeflote landing raft on Southampton water (top and middle) and at the Sea Mounting Centre, Marchwood (below) (Michael Walker)

The DE&S Boats team recently conducted a two-day acceptance programme of the new Hydromaster engines for the Mexeflote landing raft.

DE&S procured the new engines, supplied by Hydromaster, which have completed the trials and demonstrated the increased speed, thrust and manoeuvrability of the Mexeflote raft.

It is used by the British Royal Logistic Corps to move goods and vehicles between ship and shore, and the units are now cleared for entry to service.

First used by British military in the 1960s, the Mexeflote has since been deployed during the Falklands conflict and in humanitarian aid missions such as the 2010 Haiti earthquake, where the Mexeflote helped transport supplies to remote Haitian villages to name just a few examples.

The Mexeflote pontoons can be connected to form powered or dumb rafts, tugs, causeways and floating platforms for use in harbours and inland waterways. In addition, the pontoons can be used as pump-carrying rafts for pumping bulk petroleum and lubricants from dracons through a hose to shore. The Mexeflote is commonly carried aboard the landing ships docking auxiliary ships, secured to the sides of the hull and can be further broken down into smaller modules at approximately 6m x 2.5m for transportation.

“  
**The successful trials demonstrate that the Mexeflote can provide the Army with enhanced capability in terms of speed and manoeuvrability, and will offer significantly improved availability**  
”

Michael Walker, DE&S Boats Platform Chief Engineer

# 60 second spotlight

## Rebecca Green

### Job:

Defence General Munitions assistant team leader - Army Heavy  
Your route into DE&S?  
I was a sponsored student and joined as a graduate into the engineering scheme where I got some great opportunities, including working at NATO and getting my MSc, and have pretty much been here ever since. I worked in several teams as an engineer and got my charter ship back in 2016 before changing to the project management function in the last year.

### Your claim to fame?

I was part of the winning boat race team at the national junior indoor rowing championship when I was 17.

### Your advice to anyone?

I take a lot of things to heart and it has taken me some time to understand that criticism and failure are constructive. So, I would say try to refrain from being defensive and ask how you can do better next time instead.

### What do you do when you're away from work?

I volunteer as a divisional secretary for SSAFA (Soldiers, Sailors, Airmen and Families Association), the armed forces charity, running a small team of volunteer caseworkers in Chepstow and the wider areas. When a serving/ex-service member or their families require help, the team is the first contact to assess the case and hopefully report back to wider charities for help. SSAFA is a great organisation. I have been involved for a few years now and I would implore anyone who has some spare time to volunteer, if interested. I also love playing netball but I'm sadly still recovering from an ACL knee reconstruction. I'm looking forward to going back to playing

for my local team, and at Abbey Wood.

### What are you most proud of?

I have a one-year-old daughter and she's happy and healthy, so I am impressed with myself for that in all honesty.

### If you were sent to a desert island, what three things would you take with you?

Probably War and Peace. I've started the book a few times but never made it to the end, so this would be a good opportunity. Also, a netball to see if I could hone/create my skills as a shooter and, practically, a sharp knife. What irritates you the most? When people are unwilling to admit mistakes. I can sometimes be quite a blunt person and I have no issues with making mistakes - I have made quite a few - it's just worth owning them.

### What is your favourite place in the world?

I absolutely loved Vietnam. The people were so nice and the country was beautiful, especially Halong Bay. However, I moved to Wales a few years ago and I love nothing more than visiting the national parks and beachlines that are so accessible to us in this country.

### What would surprise people about you?

I am a very undomesticated person. I don't enjoy cooking, cleaning or even ironing. However, I really enjoy making clothes and my daughter often showcases a 'Green Original' pair of trousers or romper.



SSAFA is a great organisation. I have been involved for a few years now and I would implore anyone who has some spare time to volunteer, if interested

Do you or someone you know deserve their 60 seconds in the spotlight?

Email  
Louisa.Keefe101@mod.gov.uk



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## Local heroes of rural village

A DE&S employee living in an isolated village has shared his experience of how he set up a COVID "operations cell" in his dining room, ensuring the most vulnerable members of his community were cared for during lockdown.

Martin Casey and his wife Nikki, lived in a rural village with no bank, shop, post office or even a pub and where a third of residents were advised to completely shield.

Realising that so many neighbours would be finding lockdown challenging, Martin and his wife set up an operations cell in their dining room and, with the help of Wiltshire Council, quickly set up a data base which listed those who needed help, or were self-isolating, and matched them with neighbours who could support them.

With a team of around 60 volunteers, they distributed flyers containing essential information to more than 300 homes and established an official telephone service with funds from the local Parish Council and the village scarecrow charity, so that residents could call and ask for help at any time.

Martin, who is a senior project manager for the DE&S Dismounted Close Combat

Team, said: "Over the three months that we offered the service we received around 100 calls. Our team of volunteers helped distribute food parcels and the village magazine and we provided cakes for elderly resident to enjoy VE Day. We also coordinated gardening services, shopping trips and picked up prescriptions to those in need and my wife visited those who were feeling lonely".

Now that restrictions have been lifted Martin and Nikki have moved out of the village and have closed up their operations cell but still look back fondly on their time helping the residents of Kington Langley.



## MOD Menopause network

Mo Bingham, from the DE&S Land Equipment operating centre, has founded a community that supports anyone directly or indirectly affected by the menopause transition. Starting as a small group of around 20 people, Mo now co-leads the MOD Menopause Network and represents pan-civil service to raise awareness. Mo's work has been welcomed by the Diversity & Inclusivity Executive Committee in MOD main building and is supported by DE&S senior leaders.

When Mo started her menopause transition, there was little support available so began speaking about her lived experience at MOD Women's Network (South West) wellbeing events, International Men's Day

events, and Safety Day. There was immediate interest and people were keen to share their experiences. Mo was invited to speak at the MOD Gender event in support of World Menopause Day. Reaching both military and civilian colleagues, Mo's talk received a phenomenal response, resulting in the MOD Menopause Network being formed.

The community offers a safe place for support and resources, and the network is now influencing MOD policy. Menopause is included in the DE&S wellbeing strategy and there is realisation that this is more than a 50+ women's issue. Peri-menopause, early and medical menopause also affect people.

Mo said: "I want to

normalise the conversation and encourage people to be braver about saying the 'M' word. I want to leave a legacy that can continue in support of all colleagues for their future working lives, with Menopause

recognised as a stage of life - a new beginning rather than a stigma and embarrassment."

To find out more, please contact DESLELCA-Menopause-COI@mod.gov.uk



## Tuck shop supports Great Western Air Ambulance charity

Over the last few years, staff from the Weapons Operating Centre in Abbey Wood have pulled together to raise more than £2,300 for the Great Western Air Ambulance charity (GWAAC). Sheila Smart, Agnieszka Zwiersz, and Fiona Foster have raised the money by running a tuck shop on their floorplate, selling a variety of chocolate, sweets and crisps and attracting staff from all over the neighbourhood.

The GWAAC team work 365 days of the year to attend emergencies across Bristol, Bath and North East Somerset, Gloucestershire, North Somerset, South Gloucestershire and surrounding areas. It is

one of the busiest air ambulance services in the UK and is entirely funded on vital donations from the local community to remain operational.

A spokesperson for the charity said: "Thank you so much to the staff from MOD in Abbey Wood for continuing to support our cause and our service during this hard time. We wouldn't be able to continue to be right here and ready to save lives without people and organisations like you, and for that we remain incredibly grateful."

Sheila, Dr Andy Lockyer – a critical care doctor with GWAAC - and Agnieszka are pictured.



## Shackleton Trophy winners

DE&S Project Control scheduler Edward Smart, from the Weapons Operating Centre, is part of the winning team of RAF Air Cadets to have recently been awarded the prestigious Shackleton Trophy.

The trophy is named after celebrated explorer Sir Ernest Shackleton and is awarded annually to the team that completes the most successful, imaginative and adventurous expedition of the year.

Edward and his team - Exercise Mountain Storm - completed a six-day unsupported mountain expedition to the wilderness of the northern Rockies, where they climbed through waterfalls, encountered impassable boulders and trekked through gorges. Each scenario put the strength of the team to the test.

After returning home, the team were invited to the Royal Geographical Society in London to present their experience and



highlight the challenges they faced, whether it was route planning through tricky terrains or finding the next source of water for the camp. Edward's team was up against trekking in the Pyrenees, trekking in the Alps, canoeing in the Ardeche

and community projects in Ghana. To Exercise Mountain Storm's delight, they came out on top. After explaining how they safely and effectively worked together as a team, they impressed the judges and were presented with the trophy,

## MOTTO the MOD Lottery May winners

- £10,000 Julie Cole, RAF Marham
- £2,500 Jackie Walker, Larkhill
- £1,000 Scott McGarvey, Faslane
- £500 Michael Peel, Rosyth
- £250 Wendy Little, Bristol
- £100 Stephen Kettlewell, Arrochar
- David McCartney
- Sandra King, Arrochar
- Peter Robinson, Wittering
- Theresa Ellis, Salisbury
- Richard Hope, Bristol
- Trish Roberts, Bristol
- Helen Thomas, Bristol
- Julie Quinn, Liverpool
- Timothy Willson, Nottingham
- Nigel Hector, Bristol
- Sharon Prowting, Corsham
- Alison Williams, Marham
- Cathy-Ann Wride, Bristol
- Jason Hindley, Manchester
- James Cotterill, Leconfield
- Rosemary Tully
- Joanna Leach-Williams, Warmister
- Nicola Whiffin, Bristol
- Sean Clarke, Bristol

# Case Study

Kevin Marlow, operations manager, performance measurement & business intelligence, gives his insight into some of the benefits of working for the organisation

**Name:**  
Kevin Marlow

**Job title:**  
Operations manager, performance measurement & business intelligence

**How long have you worked for DE&S?**  
Approximately two years.

**Why did you choose to pursue a career in DE&S?**  
After university, I spent 21 years enjoying life in the oil and gas industry without it really having been part of a plan. An opportunity came up for me to make a change and I'd always had an interest in defence. My interviewer had a passion for DE&S and the role signalled the sort of culture that appeals to me.

**What does your role entail?**  
I'm leading a team in the Support Directorate that works across DE&S to provide information from data. We've listened to people's needs and produced a suite of interactive Power Business Intelligence reports that give them the information to make quicker and better-informed support decisions. Our products play a part in corporate reporting and are constantly evolving through user feedback.

**What are the opportunities to develop and progress within your function?**  
I've been really impressed by the training available and being able to work with senior members of the organisation. If you take responsibility for your development, DE&S gives you the opportunities you need.

**What do you most enjoy about your job?**  
I enjoy collaborating with people across the organisation and getting to appreciate the challenges they face. Our first product has been focused on inventory and the supply chain, and it's introduced me to some great people with a real drive to improve.

**What's your ambition?**  
I have challenges and opportunities I'm enjoying right now, so I'm in no hurry to move anywhere. As far as the project's concerned I want us to maintain our record for delivering a high return on investment and to finish this year with a wider span of support topics than inventory and the supply chain.

**What's your greatest achievement to date?**  
Each time I'm sat in performance committees and I hear a supply chain manager being recognised in front of the CEO for a cost-saving or avoidance that I know we helped them achieve it, makes me feel really proud. My team get a real buzz from creating these kinds of opportunities for others.

**Why would you recommend DE&S to others as a great place to work?**  
I like the respect DE&S shows to its employees' work-life balance and that it's willing to commit to change programmes beyond the quick wins that the private sector tends to focus on. DE&S people share a common purpose and responsibility that goes beyond just delivering a product out the door.

**What are the social benefits of working for DE&S?**  
In normal circumstances, having so many people co-located makes it easy to connect with people and the facilities support making really strong working relationships. When on site, it's a pleasant working environment and I get the opportunity to get an on-site haircut or gym session at the end of a day, which is really handy.



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