

DESIDER

AN INSIDE LOOK AT DEFENCE EQUIPMENT & SUPPORT



**PROTECTING OUR NATION, OUR TERRITORIES AND OUR ALLIES
TODAY, TOMORROW, TOGETHER**



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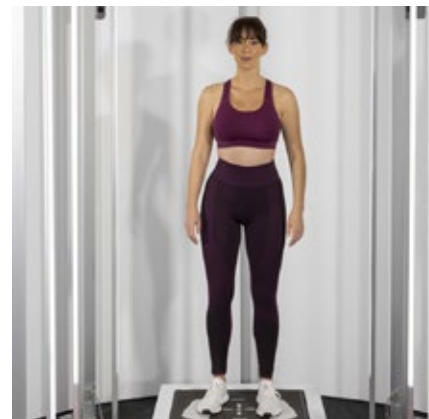
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START

Talking

Welcome to the April issue of Desider. Our theme this month is 'safety'. For all of us in the extended defence enterprise, our driving mindset is to protect the nation and help it prosper. It's our job to ensure the kit that ends up below the feet, above the heads or in the hands of our service personnel is safe to use. And it's all our responsibility to have the processes, systems and support structures in place that ensure our people are safe, healthy and productive. So safety is fundamental to everything we do.

We've got some exciting articles exploring the different facets of safety in this issue. Andy Lord, commissioner at Transport for London and DE&S non-executive Board member, shares some of the lessons he's learned during his time working amid one of the most complex mass transit networks on the planet. And writing our senior leader piece this month on the importance of providing safe equipment to the UK's armed forces is Stephen Wilcock, our Director of Engineering and Safety.

Later on Ian Slade tells us about DE&S' strategic 'whole person' approach to psychological care, which treats mental health first aid just like its physical counterpart. And we hear from the Defence Ordnance Safety Group who are about to begin a huge anthropometric survey across the British Army, Royal Navy and Royal Marines, and RAF. The results of the survey will help MOD equipment designers base their work on data that accurately and safely reflects current body shapes and sizes.

The top story from inside DE&S, and one that's timed perfectly with our safety issue, is that, from 1 April, the Defence

Electronics and Components Agency, or DECA, will become part of our organisation. DECA is, and will continue to be, an integral part of Team UK Defence, offering skilled repair, maintenance and upgrade services to our armed forces. This is the start of a great partnership that will make both organisations more resilient and better prepared for the fast-changing future we face.

DECA will super-charge our work and means we can offer a more complete, end-to-end service, covering every moment in the equipment lifecycle. There's still a lot of work to be done, and the mammoth effort of integrating two large, complex businesses will continue over the next year. You should expect to hear a lot more from DECA in these pages, but for now, there's a full run-down on who they are and what they do on page 16.

We are currently working on a refresh of DE&S' 2025 Strategy to reflect evolving threats and the direction of the Government's Integrated Review. This work will ensure that we can continue to provide safe, swift, cost-effective defence procurement that scales up and innovates faster than ever, and never loses sight of our safety imperative. There will be more to come on the strategy refresh later this year.

This is a good moment to look back too at the DE&S Safety Strategy 2025. In it, my predecessor Sir Simon Bollom rightly stated: "We will always put safety at the forefront of our considerations. Safety must be ingrained in our mindset, be at the core of our decision-making, and evident in DE&S' behaviours and attitudes." I hope in reading the features in this issue, it's clear that this is as true today as it was when he wrote that.

PEOPLE

Safety: Our first line of defence

Stephen Wilcock, DE&S Director of Engineering and Safety, speaks with Desider about the imperative of providing safe equipment to the UK Armed Forces, and how DE&S works to achieve that.

Safety must underpin every aspect of our organisation, so we can make sure the equipment used by our armed forces is safe to operate, protects them and improves availability, which together help the UK to maintain the military advantage. This responsibility begins with our own people. All of our DE&S sites should provide a safe environment to work in. This includes physical health and safety alongside psychological safety, so that everyone feels they can be their best selves at work. For that, we need to be an organisation where everybody talks openly, and feels able to raise issues to improve our safety, our working environment and the effectiveness of our equipment.

As a result of growing threats to the UK and NATO's security, there is a pressing need to procure equipment at pace. This imperative challenges how we operate across Defence and provides an opportunity for DE&S to be more efficient and agile. We want to deliver and support equipment faster, without compromising safety or equipment capability. To do that we are adapting the way we work to ensure safety is not compromised, and any risks are understood, owned and actively managed. This challenge is being met head-on through our strategy refresh and organisational design work, which will reconfigure DE&S to prepare us for the challenges of the next five years.

Sometimes, when equipment must be supplied quickly to meet an operational requirement, we might not have all the safety evidence we would normally expect. But by drawing on the immense experience we have in our organisation, we can operate as an intelligent customer, working closely with industry colleagues and the Armed Forces to balance and communicate these



competing demands, so that informed decisions can be taken. This requires transparency and real ownership of our outputs to build trust and understanding with our suppliers and clients. We are encouraging our people to challenge the status quo and embrace a culture where we learn from both our mistakes and best practice, and to recognise opportunities to improve by implementing new and innovative ways of working.

Operating in a digital context offers us some great opportunities to respond to these real-world challenges. If we can realise the full potential of digital modelling in synthetic environments it will give us the ability to test equipment against multiple scenarios far faster than we do now. For example, in the past if we want to live trial a helicopter landing on

a ship, we were dependent on the state of the sea and wind that day. However, we can now run trials in a digital model and use data from real world legacy trials to assess how it will handle in many different conditions. This means we can mature the design during development, avoid problems in-service and speed up the acquisition process. Developing the digital model in parallel with the physical equipment will also give us access to the evidence we need to support certification far earlier and to greater fidelity.

Exploiting these digital opportunities, which industry is already using to accelerate and advance capability, means we can assess and assure in parallel. This offers huge potential for improvements in cost, time, performance and safety.

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FEATURE

"Safety, health, wellbeing and the environment at the centre of everything we do"

London has the largest, most complex integrated transport network on the planet. Andy Lord, Transport for London (TfL) commissioner and DE&S Board Member, talks with Desider.

We move millions of people around the city every day. Safety, health, wellbeing and the environment (SHE) have to be at the centre of everything we do. We know all too well the consequences if they are not. The tragedies of the 1975 Moorgate tube crash and the 1987 Kings Cross fire cannot be forgotten; they must inform our actions every day.

I'd like to share some insights from TfL's safety journey, which may hold lessons for Defence on the close interaction we increasingly recognise between safety, health, wellbeing and the environment.

In 2020, we reorganised our SHE function to ensure we have the capacity and skills in place to advise, support and, where necessary, hold to account all of TfL's business areas. Through Vision Zero we have committed to preventing all deaths and serious injuries on London's transport networks by 2041, and our Net Zero commitment aims to decarbonise our operations by 2030. Underpinning these is the principle that 'there are no accidents'. We operate the transport system, and have to take responsibility for the safety of those who work for and use it.

Both TfL and DE&S seek out cutting-edge, first-in-class equipment, and take responsibility for its technical design and safe use. We must ensure our procedures and our case for safe operations is thorough and assured, while meeting our customers' and clients' needs.

We are both people-centric organisations at heart. We must maximise their potential and expertise, motivating our people to do the right thing and embrace their power

to make change happen, whatever their position in the organisation.

TfL has developed a cultural maturity model to measure and drive excellence in SHE culture. Foremost in the model is committed, consistent, visible and open SHE leadership at every level. Second is building a safe environment in which people feel able to raise concerns, knowing they will be heard and action will be taken. Third is being an organisation where we face up to challenges and failures, acknowledge lessons learned and pinpoint where we need to improve.

We take a systematic approach to controlling risk. No single element will control every risk. We need all elements to work in concert, from how we design infrastructure and operate our services, to how we train, manage and lead our people, contractors and supply chain partners. Both of our organisations have many decades of experience and knowledge, but we must keep challenging norms and maximising the value and experience of our world-class commercial partners.

As TfL Commissioner I'm conscious that, as well as identifying risks and issues, we should also celebrate the good progress we have made. For example, in London, deaths and serious injuries from road collisions have fallen by 40 percent in the last 15 years and we are making positive progress on our Net Zero objectives.

Our safety, health, wellbeing and environmental journey will never be 'done'. We need to be ever-vigilant, creative and responsive to continue making



progress. TfL and I continue to learn from our relationships with DE&S and other partners, as we all strive to minimise our environmental footprint, keep our customers, people and communities safe, and show effective leadership.

The challenge for each of us is to ask: "What more can I do to ensure my colleagues and customers come home safely every day?"

Preparing soldiers for battle – virtual training celebrates 20 years

A suite of simulators used to provide critical mission-readiness training to British Army forces is celebrating 20 years of service and 125,000 troops trained.

As armoured warfare becomes more intense and more lethal, it is increasingly important for soldiers to be able to train and rehearse for a wide variety of scenarios.

The Combined Arms Tactical Trainer (CATT), based at the Land Warfare Centre in Wiltshire, and in Sennelager in Germany, immerses soldiers in simulated battlefield environments with combined arms training for ground, air and logistics missions. These can be run at company, battle group and brigade levels.

CATT can provide more than 15,000 training days a year and since it opened more than 125,000 troops have been trained. The system, which is critical to preparing the British Army for operations, was commissioned by DE&S in 2002 and delivered by Lockheed Martin. Twenty years on, it continues to adapt to meet the changing demands of battlefield training.

Nick Taylor, Head of Soldier Training and Specialist Projects at DE&S, said: “It’s hard to believe that CATT has been in service for 20 years and yet it is just as important and relevant to army training today as it was on day one. When it went into service CATT was designed to provide battle group training in line with the cold war set-up of forces in Europe. As the nature of conflict changed to operations in Iraq and Afghanistan so CATT changed, growing to become a key part of the mission-specific training for operations Telic and Herrick.”

Each CATT location covers an area the size of three football pitches and consists of over 200 networked simulators linked

to create a combat area of over 10,000 square kilometres. It can accommodate over 400 users with all arms support, including artillery, air and aviation, training together as a coherent unit.

Recent CATT user Warrant Officer Molavi described it as “an essential part of the training pipeline.” For Molavi, CATT “has really helped to build confidence in a safe environment where it is OK if things don’t go entirely right

the first time. The opportunity to learn from this and develop more effective procedures has been invaluable.”

Colonel Simon Ridgway, Commander for the Command, Staff and Tactical Training Group, said: “The Combined Arms Tactical Trainer... continues to be a fantastic facility that prepares our people for operations, readiness and whatever His Majesty’s Governments asks of us.”



NEWS

Final Vahana dive support boat delivered to the Royal Navy

The sixth and final Sea-class dive support boat has been delivered to the Royal Navy.

Dorset-based company Atlas Elektronik (AEUK) has now delivered all six dive support vessels to the Royal Navy, completing an important milestone in the Vahana Workboat programme, a five-year, £51 million contract awarded by DE&S.

The new 15-metre-long support boats provide improved speed, operational range and navigation equipment – all vital to diving operations. They replace outdated vessels, which were originally introduced into service in the early 1990s and are reaching the end of their service lives, despite through-life upgrades.

James Melia, DE&S Boats team project manager, explains the impact these new boats will have: “It is great news to see all six dive support boats delivered to the Royal Navy and to reach full operating capability. The vessels offer a significantly updated and upgraded maritime platform from which Royal Navy personnel can conduct their duties. They enable movement from analogue to digital capability with a major update to the command, control and navigation system. They provide an improvement in speed, operational range, navigation equipment, whole body vibration compliance, mission range and on-board facilities.”

Two of the vessels will be based at the Defence Diving School in Portsmouth, with three others operated by Fleet Diving Units in

Portsmouth, Plymouth and Scotland. The sixth boat will be based in Gibraltar. The contract has sustained 15 jobs at AEUK and a further 45 across the supply chain.

Commander Sean Heaton, commanding officer of the Navy Diving Unit, said: “These boats will be used by the Diving and Threat Exploitation Group across the UK. It’s a welcome sight to see the sixth and final one handed over to us as part of this multi-million pound project.”

The dive support boats are part of the wider Vahana Workboat programme, through which AEUK will deliver 35 Sea-class vessels to the Royal Navy. The Sea-class are based on a standardised, modular design that will allow boats to be quickly reconfigured for a wide range of tasks.

Head of the AEUK Surface Ship Systems Division Wesley Galliver said: “We are immensely proud to support the Royal Navy and to be part of the One Defence approach. The capability provided by the Dive Boat variant of our Sea-class vessel will significantly enhance the Royal Navy’s military diving capability. Furthermore, the flexible modular design of the Sea-class vessels, along with their common systems, will help rationalise training, spares and support across the flotilla.”



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SYSTEMATIC

NEWS

£161 million contract for F-35 jet maintenance supports 130 UK jobs

The UK's fleet of cutting-edge F-35 Lightning stealth jets will continue to be maintained and supported under a new £161 million contract negotiated by DE&S.

Under the Lightning Air System National Capability Enterprise (LANCE) contract, BAE Systems will continue to deliver pilot and ground crew training, and a range of other critical services. These include an ejection seat and canopy maintenance workshop, a facility to fit aircrew flying equipment and a component spray facility to transfer coatings on to aircraft parts.

The investment brought by the contract sustains 130 jobs, mostly at RAF Marham in Norfolk, home of the UK Lightning Force. This delivers on the Government's priority to grow the economy by creating better-paid jobs and opportunities across the UK. DE&S teams are overseeing UK deliveries, and developing the aircraft through-life, with more than 500 UK companies involved in the programme supply chain.

Providing support to the F-35 fleet until 2027, the arrangement offers the UK more freedom to operate. It increases the number of flying hours available and

delivers important mission planning, training and maintenance capabilities, ensuring the F-35s remain ready for combat operations around the world.

A successor to a previous agreement, which concludes this year, the contract was signed by the US Joint Program Office and Lockheed Martin as F-35 prime contractor, with BAE Systems to carry out the work as a sub-contractor.

Minister for Defence Procurement Alex Chalk KC said: "Our F-35 Lightning stealth jets are a formidable fighting force, putting us at the cutting-edge of air-borne military capability. Supporting more than 100 jobs in the east of England, this investment will ensure our jets remain equipped for combat operations around the world."

The F-35 Lightning is a multi-role, stealth aircraft containing cutting-edge technology, which is flown by both the Royal Navy and the RAF. In addition to its short take-off and vertical landing capability, the F-35's unique combination

of stealth, cutting-edge radar, sensor technology and electronic warfare systems make it a true fifth-generation combat aircraft. Although based at RAF Marham in Norfolk, it also operates from the UK's two new Queen Elizabeth Class aircraft carriers and other land bases.

Air Commodore Phil Brooker, Head of the DE&S Lightning II delivery team and Combat Air Principal Engineer, said: "The signing of the LANCE five-year contract is a significant milestone in the maturity of the UK's F-35 National Support Solution. It demonstrates confidence in Lockheed Martin and BAE Systems' ability to enable the nation's critical F-35 Freedom of Action capability and deliver the necessary support to the UK war fighter... LANCE offers value for money, whilst also increasing the overall scope from the previous contract and introducing significant capability enhancements critical to the generation of Air Vehicle Availability."



FEATURE

Taking a 'whole person' approach to psychological health

Ian Slade talks with Desider about the value of Mental Health First Aid and of supporting colleagues with their mental health challenges.

I joined the DE&S Occupational Health, Safety and Environment team in January 2020 with a vision to make DE&S a safer, more productive place by driving a strategic approach to psychological health in the workplace. Three years on, DE&S has learned to take a 'whole person' approach to psychological health.

Our approach takes a holistic view of our lives, inside and outside work, recognising that a person's mental health has just as much impact on their ability to work safely as their physical health. If a colleague breaks their arm outside of work we make reasonable in-work changes to accommodate that.

To be a safe workplace we must do the same with the mental health crises that develop outside of work, like relationship breakdown and bereavement. Because if someone hasn't slept properly for three weeks, are we sure they can make critical safety decisions? If someone is having personal challenges, we need to be able to support them by ensuring their day job remains a place of agency and control, with meaningful objectives that may help them stay grounded.

Back in early 2020, a few resources were already in place, including a small number of highly regarded Mental Health First Aid (MHFA) volunteers and the Time to Change network. My first action was to lead the transformation of the MHFA network into a formal business output, on par with physical first aid. I introduced an ethical code of practice, improved diversity among the network to better reflect the organisation, broadened coverage across all of DE&S' UK sites, and created a portal to make it easier for staff to access MHFA. Since then, the MHFA network has increased from 30 practitioners to almost

400 across DE&S and our sister agency, the Submarine Delivery Agency. It is considered an exemplar in MOD.

People often think of health and safety as being about forms, policies and process, but it is also about communication. Through campaigns, workshops and innovative initiatives like ecotherapy, we are normalising the language around psychological health to ensure it is recognised to be as much part of people's DE&S experience as all other areas of their working life.

We have seen the positive impact of an employer removing the stigma surrounding mental health challenges and empowering staff to engage with available support. Staff feel able to access resources of their own accord, which ultimately supports the building of

emotionally intelligent and resilient teams. Getting it right is not just about design, process or capability, it is about humans interacting with one another.

DE&S is committed to being a working environment where mental health challenges are responded to with the same approach that is applied physical health issues. My work over the last few years has also led to my appointment as the Civilian Co-Chair of the whole-force Defence Mental Health and Wellbeing Network.

Ultimately, we wish for a healthy working environment, where people are empowered to nurture their personal resilience and supported through the tough times. I am confident that, having embedded DE&S' approach to psychological health, we will continue to mature and become a 'whole person' organisation.



NEWS

News in Brief

New infrastructure will ready RAF Lossiemouth for the arrival of the UK E-7 Wedgetail aircraft

A new facility ready for the arrival of the E-7 Wedgetail fleet at RAF Lossiemouth will be built under an £83 million contract with Boeing Defence UK (BDUK).

Under the contract, placed by DE&S, BDUK has subcontracted McLaughlin & Harvey Construction in Glasgow to undertake the build. The contract will boost the local economy and supporting supply chain, including through the creation of 125 jobs in the local area, reaffirming the UK Government's commitment to investing in Scotland.

The surveillance fleet will be housed at the Scottish base, alongside the recently completed Atlantic Building, from which the UK's Poseidon fleet already operates.

The DE&S E-7 Wedgetail delivery team manage the contract through which the work will take place. Lyndon Jones, E-7 Wedgetail infrastructure lead, said: "We are proud to have facilitated this major milestone that will allow the co-location of the Wedgetail aircraft with the Poseidon fleet, drawing together the various supporting functions to drive

efficiencies across the enterprise."

The Wedgetail is capable of simultaneously tracking multiple airborne and maritime targets, using the information it gathers to improve situational awareness and direct assets

such as fighter jets and warships.

The facilities will be ready for the arrival of the first Wedgetail aircraft, marking a return to RAF Lossiemouth for 8 Squadron after an absence of 30 years.



DE&S and Royal Navy named UK Government's 2023 Best Project Delivery In Defence

The Maritime Multi-Link Programme, a joint DE&S and Royal Navy venture to rapidly modernise tactical data links for Navy vessels, has been named Best Project Delivery In Defence by the UK Government's Project Delivery Profession body.

The award recognises the exceptional achievements of the team who swiftly developed, integrated, tested and proved 'First of Class' installations, under considerable technical and operational pressures.

Dr Simon Dakin, DE&S Director Integrated Battlespace, said: "Winning at the UK Government's Project Delivery Profession award is a fabulous celebration of the programme's collaborative 'one team' culture, which has been the winning ingredient throughout early concept stages and more recent delivery. It has enabled 90 professionals spanning a range of specialisations across 15 sites to overcome significant challenges together."

BAE Systems is providing specialist management and technical support for the Maritime Multi-Link Programme. Steve Carter, BAE's Naval Ships Combat Systems Director, said: "At BAE Systems we're really proud to have such a long and trusted relationship with the Royal Navy and we're delighted to be at the heart of delivering the Maritime Multi-Link Programme's modernisation of tactical data links."

NEWS

New heavy artillery deal with Sweden helps replenish UK stocks

DE&S negotiates agreement for Sweden to supply the UK with 14 Archer heavy artillery systems.

An agreement between the British and Swedish Governments will see the Archer modern artillery platforms fill an important gap in UK stocks, replacing the AS90 artillery systems gifted by the UK Armed Forces to Ukraine.

The agreement was reached in just two months, demonstrating DE&S' ability to procure at pace and deliver the British Army's requirements. It also emphasises the UK's strong ties with its Swedish allies, who have stepped up to support the challenging timeframe. Ownership of the Archer systems was transferred to the Army in March and they will be operational by April next year.

Designed and built by BAE Systems Bofors in Sweden, Archer has double the maximum range of the AS90, as well as a longer firing range, greater operational mobility and availability, and reduced

time into action. It also requires fewer personnel to operate than the AS90 and benefits from a higher top speed of 70kph compared to the current 53kph. The Archer system can be deployed into action in just 20 seconds and is ready to move after firing in the same amount of time.

Defence Secretary Ben Wallace said: "While continuing to double-down on our unwavering support for Ukraine, it's imperative we simultaneously replenish our capabilities at home. Archer artillery systems are powerful, protective and can be rapidly deployed."

The purchase of the Archer systems from Sweden enables the UK to quickly replace the AS90, until the long-term Mobile Fires Platform is delivered later this decade as part of the Future Soldier modernisation programme.

Lieutenant General Sharon Nesmith,

Deputy Chief of the General Staff, said: "Archer is a potent, modern artillery system procured at a speed previously unseen in Defence. Today's agreement took only eight weeks to secure and the guns will be in service with the British Army by next Spring. Archer fires further and faster than any artillery system previously in service with the British Army – it is a step change in capability and fills a gap left by UK support to Ukraine. It will provide a bridge to the next generation of artillery systems, the procurement of which is being accelerated to speed up modernisation."

Recognising the need to sustain Ukraine's fighting and support capabilities, the UK and Sweden have also agreed to collaborate on efforts to repair and maintain vehicles granted in kind to Ukraine.



NEWS

Surveillance crews to benefit from enhanced UK-based training

RAF crews preparing to operate the updated Shadow Mk2 surveillance aircraft fleet will benefit from a bespoke UK-based training system.

The Shadow Mk1 fleet provides the UK with battle-winning intelligence gathering. Under a £110 million contract with Raytheon UK, the fleet is being expanded and upgraded, with Shadow Mk2 due to enter service in 2024.

RAF personnel currently travel overseas for simulator training on the Mk1, but under a new £11.5 million contract with Raytheon UK, secured by DE&S, crews will be able to train on a full Shadow Mk2 flight simulator on home soil. This will increase access to quality training and save the taxpayer up to £200,000 a year.

Richard Murray, Director Air Support at DE&S, said: "We are delighted to be providing the RAF with a UK-based solution, which will be the first King Air 350 simulator in Europe. This capability provides essential synthetic training for our military and offers financial, environmental and social value benefits to Defence and the UK."

Having access to a domestic King Air 350 will also ensure the RAF's intelligence, surveillance, target acquisition and reconnaissance (ISTAR) Force is able to better support its UK and overseas commitments.

Minister for Defence Procurement Alex Chalk KC said: "Our investment in this programme means RAF crews will now be able to train on a UK-based simulator for Shadow Mk2, not only reducing our travel expenditure and carbon footprint, but ensuring better support for operational and overseas commitments from right here in the UK."

The news comes as Raytheon UK announced that it has passed a Critical Design Review milestone on its work to increase the current fleet of Shadow aircraft from six to eight and to integrate the latest UK Sovereign Defensive Aids Systems.

Based at RAF Waddington and flown by 14 Squadron, the Shadow fleet is a key part of the RAF's ISTAR Force. They can gather intelligence through high-definition electro-optical and electronic sensors. Once that data is gathered, satellite communication links enable the information to be assessed while the

aircraft is still airborne.

Air Commodore Alex Hicks, the RAF's Senior Responsible Owner for Shadow, said: "The contract award for a UK-based full-flight simulator follows the successful and on-time delivery of two strategic programme milestones in the preceding months. The provision of a new synthetic training facility represents a further enhancement that will deliver an exceptionally capable asset to Defence."

Shadow crews are expected to begin training with the flight simulator in late-2024.

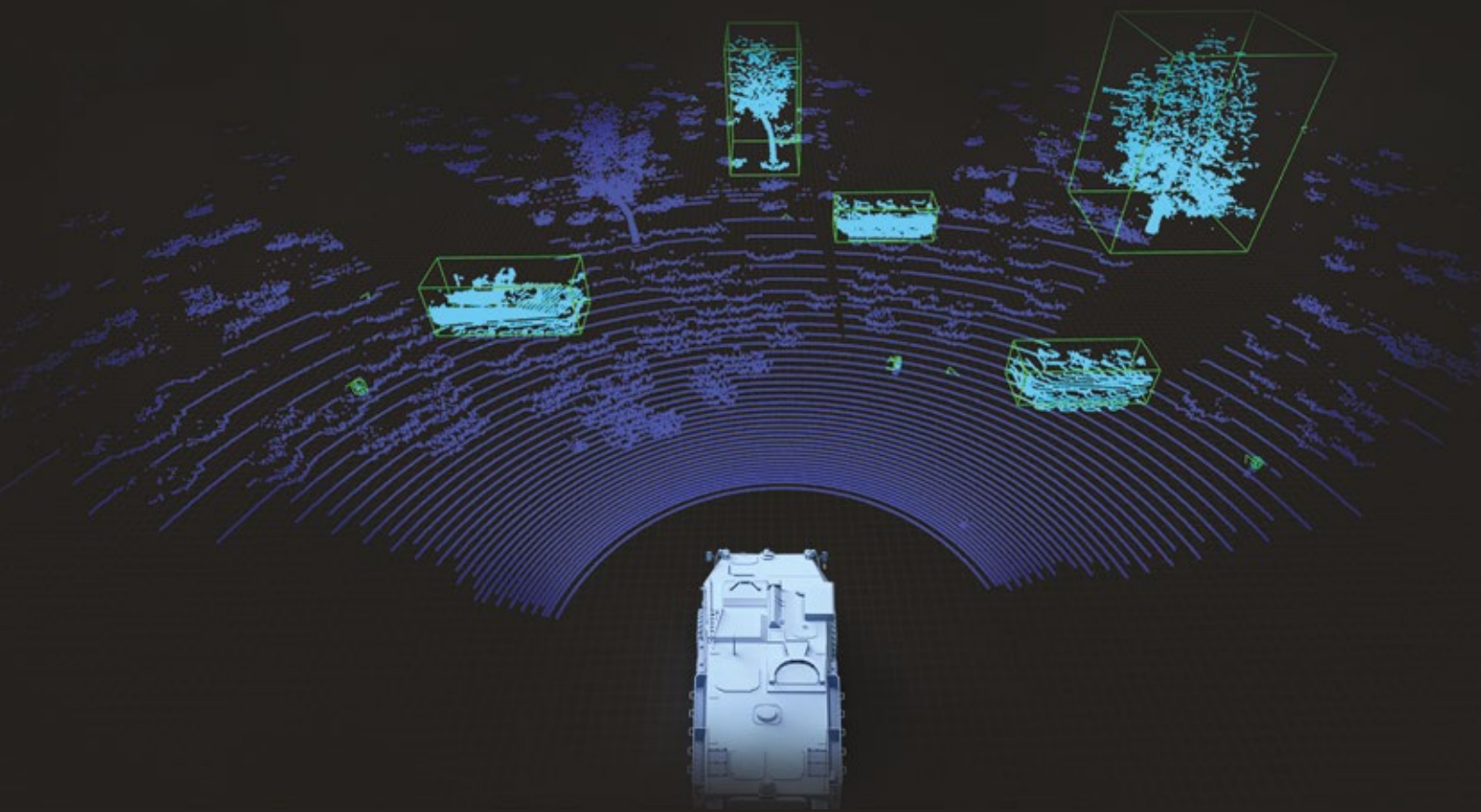




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FEATURE

Specialist defence avionics and electronics agency DECA joins DE&S

On 1 April, the Defence Electronics and Components Agency (DECA) joined DE&S, in a move that will greatly strengthen both organisations.



Formed in 2015, DECA is a specialist agency supporting a vast range of defence avionics, electronics and components to provide high-quality, cost-effective support to the UK Armed Forces. The merger follows a Cabinet Office review that highlighted DECA's considerable contribution to Defence and concluded that combining it with DE&S would help create new opportunities for growth and secure the long-term future for both organisations.

The move creates new opportunities for DECA, DE&S and the Armed Forces by enabling DE&S to build on DECA's rich heritage as the MOD's in-house repair, maintenance, overhaul and upgrade service provider. DECA has repeatedly demonstrated that it can provide innovative solutions to guarantee best value for Defence and that it has the agility to

adapt to a fast-changing defence landscape.

By facilitating more sharing of expertise and best practice, closer alignment will maximise DECA's potential benefit to Defence. Together DE&S and DECA will provide the effective support that is so vital to the Armed Forces, as well as delivering cost savings for Defence.

DECA Chief Executive Geraint Spearing said, "The decision to merge DECA into DE&S recognises the important contribution DECA makes to Defence, our wide-ranging capabilities and the critical support we provide to the UK Armed Forces."

DECA will continue to offer its extensive services to DE&S, wider MOD, government partners, such as the Defence Science and Technology Laboratory, and the international defence industry.

Here are two examples of successful DECA initiatives:

Crewguard helmet refurbishmen

DECA's Stafford-based team is one of the MOD's little-known gems. It offers a wide range of diverse and bespoke services, including ground support equipment maintenance, repair, overhaul and upgrade, carpentry, sheet metal work, cable testing, cryogenics, cylinder testing, paint shop facilities and more. The team displayed its impressive capabilities when it received an urgent request from the DE&S Soldier Training and Special Projects team for the refurbishment of Crewguard helmets. The team refurbished 769 helmets to an extremely tight deadline, exceeding both the delivery date and output numbers, and ensuring the Armed Forces had the protection they needed.

Typhoon support

The formidable Typhoon aircraft play a critical role in the UK's air operations, so reliable, cost-effective support and maintenance for them is essential. A collaboration between DE&S, BAE Systems and DECA provides strategic direction, investigation and innovative support solutions that increase their availability.

For example, a specialist Generator Test Stand installed at DECA's Sealand site in North Wales allows engineers to fine-tune a range of Typhoon generators, enabling the team to reduce delays by efficiently returning serviceable assets to the manufacturer for an ongoing modification programme. Looking to the future, the joint team has identified a number of items with potential for new, innovative repair solutions, which will save UK Defence both time and money.

“The decision to merge DECA into DE&S recognises the important contribution DECA makes to Defence, our wide-ranging capabilities and the critical support we provide to the UK Armed Forces.”

- DECA Chief Executive Geraint Spearing



NEWS

Painting the way to a more sustainable future

DE&S is working with partners in the Royal Navy and industry to better understand how ships can operate more efficiently and reduce their impact on the seas they sail through.

UK scientists are taking a novel approach to increase their understanding of how Royal Navy ships can operate more sustainably and limit their impact on marine biodiversity.

Biofouling – the accumulation of unwanted marine growth on the hulls of ships – is a problem for vessels and the seas they sail in. Heavily fouled hulls spread marine organisms beyond their natural ranges, with the potential for harmful environmental impacts. And biofouling causes increased hull friction, which forces ship engines to work harder, leading to increased fuel consumption and greenhouse gas emissions.

In the past, a set of patch tests were applied to a single ship's hull. After one or two years at sea, the tests would be inspected and the paint that performed the best would be used across the whole fleet. However, this did not always result in the best protection for every ship.

DE&S has been working with QinetiQ and Plymouth Marine Laboratories (PML) Applications to design and manufacture a specialist raft that can test anti-fouling coatings on five classes of Royal Navy ship at the same time.

DE&S has invested £350,000 in the work, which includes the cost of the raft, equipment and laboratory, and team working on the project. By looking at where the ship is sailing, how fast it will be travelling and how many days it will be docked for, scientists can determine the most efficient anti-fouling paint for that ship to prevent the build-up of biofouling.

Jason Jones, from the DE&S' Ships Husbandry team, said: "Biofouling Management Regulations around the

world require ships to demonstrate effective biofouling management, and this is now an entry requirement for many global ports and harbours. If a ship is unable to do this, it may be prevented from continuing its deployment and this would impact on its operational capability."

With fuel typically accounting for a significant percentage of marine transport costs, this work, while still in its early stages, has the potential to deliver real efficiencies for the Royal Navy and reduce environmental harm.

Dr Tom Vance, PML Applications Chief

Operating Officer, said: "We're very proud to be supporting the Navy, through DE&S, by generating independent data to show how different biofouling management technologies, including coatings, actually perform. Our unique field-based testing infrastructure simulates the speed and activity profiles of different classes of ships, allowing us to match the best antifouling coatings and tailored protection measures to individual vessels. This will enable the Navy to select the optimum antifouling coating technology and biofouling management approach for use."



Photo: The biofouling test raft.
Credit: PML Applications

FEATURE

Simplicity in Safety

DE&S might be complex, but when it comes to safety, there's real value in simplicity. John Allan sat down with Desider to tell us why.

I find safety fascinating. There's a real intellectual challenge to working out what could go wrong and how to best protect people from harm. That means looking beyond the technical challenge of identifying possible engineering failures to address the impacts of human behaviour and organisational change.

With any accident, there is always more going on than first appears. When we look more closely, less obvious flaws can become apparent. This could be something as simple as someone just having had a bad start to their day. We need to create the conditions where something this 'simple' is not a potential source of risk.

If an organisation is the sum of its parts, then it's all about the people. In terms of safety, everyone must have a chance to contribute – and that means feeling safe to speak out. Do we always give everyone the chance to speak out? Sometimes moral courage is required to go against the flow – it can be difficult to challenge the group. We have to make sure this is encouraged and not regarded as 'disruptive'. This simple approach to encouraging diversity of thought and preventing group-think has real benefits.

Following the Haddon Cave Inquiry into the 2006 Nimrod aircraft crash, my team became the technical arm of the newly-created Military Aviation Authority (MAA). This was the first dedicated safety regulator in the MOD – a daunting task, but one that came with the genuine prospect of a 'blank sheet of paper'. Most importantly, we were given the moral authority to make change.

We seized the opportunity to do something different. One of our early wins was the appointment of accountable individuals within each of the Front-line Commands. This brought clarity, as they could own the safety risks and hold enabling organisations, including DE&S, to account for the management of safety on their behalf. At the same time, we simplified how our safety regulations were published, for greater clarity and accessibility, and made sure everyone could access the information. Simple steps, but vital changes that made a real impact on the whole safety environment.

After seven years at the MAA, I moved to be Head of Quality, Safety and Environmental Protection at DE&S. I quickly realised that this was a moment to bring the simplicity,



clarity and more coherent approach that Haddon Cave had fostered to a broader canvas. This was key to informing our safety initiatives, including the Acquisition Safety Project, which ensured we have demonstrably competent people identified across the organisation responsible for the safety of our equipment.

Looking forward, I can see the challenge to 'keep things simple' extending in a number of directions. One of these will be to ensure that the spread of digital tools and environments does not create complexities of its own. We have to make sure we keep sight of our priority to maintain high-quality, accessible, targeted management information. We all need to be wary of losing ourselves in the complexity. Remember: keep it simple to keep it safe!

NEWS

Designing equipment that's 'fit' for the future

To ensure that the data used by MOD equipment designers accurately and safely reflects current body shapes and sizes, DE&S commissioned a new Tri-Service Anthropometric Survey, the largest of its kind in the UK.

The last time body shape and size data was collected for the British Army, Royal Navy and Royal Marines, and RAF (known as the Tri-Service) was in 2007. Since then, there have been significant changes in the demographics of the UK Armed Forces, with many more women and people with different ethnic backgrounds. For example, in 2011 the restriction on women serving on submarines was lifted, and in 2018 all ground close combat roles were opened up to females. As a result, there is a significant group of people across the three Services using equipment that was not designed for their body shape and size.

Laird Evans, DE&S human factors specialist, said: "There are approximately 13,000 people from BAME communities and over 21,000 women serving in the UK Armed Forces, so it's important that equipment designers have access to the latest data regarding body shapes and sizes. Although body shapes and sizes may not have changed substantially in the past 15 years, even small changes may prove significant when designing military equipment."

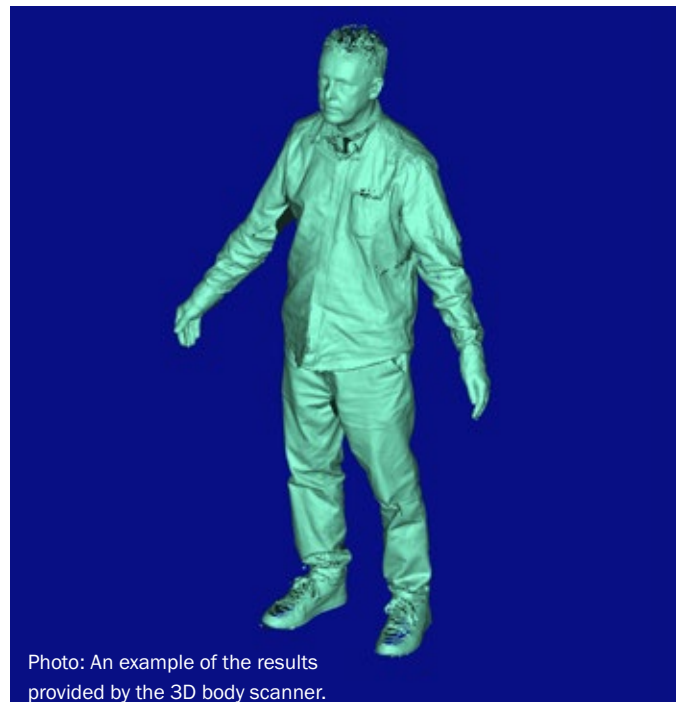
The DE&S Defence Ordnance Safety Group Personal Ballistic Protection team has contracted QinetiQ to measure over 2,750 personnel from across the Tri-Service, and to collect over 180

measurements from each volunteer. To carry out this survey, QinetiQ has purchased two state-of-the-art 3D body scanners, which will record roughly 90 percent of the measurements, with the remaining being taken by hand.

Susie Bloodworth-Race, Personal Ballistic Protection scientist, said: "Data from the Survey will enable future equipment to be designed using realistic size profiles that reflect the current demographics. This ultimately makes design, procurement and acceptance smoother for all parties involved, and especially improves the lives of service personnel.

All military equipment should be designed with reference to accurate body size data. This is especially important when designing soldier-worn equipment, such as body armour. The correct fit of body armour is a big factor in preventing behind-armour blunt trauma, and ill-fitting body armour increases the risk of musculoskeletal injury, excessive thermal and weight burden, and restricts movement. As body armour has so far not been designed with females in mind, they are much more likely to experience and be impacted by a poor fit. Simply making sizes smaller is not a sufficient approach; women are not small men."

The survey is scheduled to begin in mid-2023 and will continue until the end of the year.



NEWS

World-class virtual environment training system opens

A world-leading synthetic training system, procured by DE&S, which enables Armed Forces personnel to train together in an immersive environment, has entered into service.



Operating from a new purpose-built facility within the Air Battlespace Training Centre at RAF Waddington, the Gladiator system can link synthetic training devices to a central hub, allowing personnel from the British Army, Royal Navy and Royal Air Force to train together safely and securely.

The scale, complexity and security of the training provided by the new virtual training system is unparalleled within Europe. Key air, land, maritime, space and cyber capabilities will be integrated in the coming years, alongside increased connectivity with allies and partners.

Gladiator was procured from Boeing Defence UK by the DE&S Flight Simulation and Synthetic Trainers

(FsAST) project team. FsAST team leader Stuart Lafferty said: "It was a very proud moment to see this incredible capability enter into service at RAF Waddington. The level of collaboration between the MOD and industry partners has been nothing short of superb. It is exciting to think that this innovative system will continue to develop and will progressively link into and safely train countless personnel from across the UK Armed Forces."

The contract with Boeing Defence UK has created more than 50 highly skilled jobs in the UK, with over half based at the new facility. Boeing has also partnered with 14 small- and medium-sized businesses, and

technology providers from across the UK to deliver the new system, spending more than £24 million within the local supply chain.

The Gladiator system overcomes many of the factors that impact the UK's ability to complete necessary training in a live environment, including airspace constraints and environmental considerations. It does this by safeguarding highly classified information while linking training devices. Gladiator complements live training opportunities, enabling each training activity to be completed in the most effective environment.

The system was officially opened by Chief of the Air Staff Sir Mike Wigston, who said: "Gladiator will enable our forces to trial, test and practise their tactics in a secure environment, linked across all operational domains. It is an invaluable training tool for the next generation of warfighters across air, space, land, cyber and sea."

Initially, training will be available for Typhoon, Lightning (F-35), Airseeker (RC-135 Rivet Joint) and the Joint Fires Synthetic Trainer, with other platforms scheduled to join in due course.

Steve Burnell, Managing Director at Boeing Defence UK, said: "Gladiator represents a step-change in capability for the UK, allowing crews and ground forces from all three services, along with the UK's allies and partners, to train in a secure and seamless virtual environment."

PEOPLE

Joe Williams

Name:

Joe Williams

Job title:

Lead Technical Through-life Support (TTLS) manager on the Future All-Terrain Vehicle (FATV) project.

What does your role involve?

I recently joined the FATV team as Lead TTLS manager for the project. This new role involves daily negotiation and discussion about project requirements with our international allies in Germany, the Netherlands and Sweden, and our industry partners. We work across language barriers to ensure we get the correct vehicle with the correct specifications and importantly the correct through-life support to meet our front-line clients' needs.

What do you most enjoy about your job?

I enjoy reaching back into my 20 plus years of military experience and sharing that with my project team to improve our work. A lot of elements of the project I'm involved in as TTLS manager are things I experienced first-hand as a soldier. Hopefully I can help shape these and other projects to avoid any pitfalls that could be lurking.

What is your greatest accomplishment (in your role) to date?

I've worked in Sweden and represented the UK and our interests within the project throughout its critical periods. This isn't something I could have imagined myself doing before I started in this role. I've also worked closely with teams in Sweden and Germany, and deployed alongside the Swedish Armed Forces to make sure the equipment we are procuring is the best it can be.

What keeps you energised about working at DE&S?

No two days are ever the same. We are empowered to own the risks and issues in our areas, and can decide what needs to be escalated. No one is breathing down my neck or watching over my shoulder; it's very much a 'grown up' organisation that empowers its people.

Who or what has shaped who you are?

I joined the army at 16 (I'm now 37) and I am a very proud Royal Electrical and Mechanical Engineers Corp (REME) recovery mechanic. The tours I deployed on in Iraq and Afghanistan gave me first-hand experience of the pointy end of military procurement, so I never forget why we are doing what we do and why it's so important we get it right.

What do you enjoy doing in your spare time?

Spare time, what's that!? I have a two-year-old daughter (Mollie) and she dominates every spare moment of my life. I'm loving every minute of it and I'm grateful for the flexibility that working at DE&S has afforded me.

What might surprise people about you?

I am the first recovery mechanic to ever take a position at DE&S. It's normally reserved for the REME Artificers (clever people). So I was a bit of a test, but as I was asked to write this, I'd like to think the test is going well.

What's the best advice you've ever been given?

It's OK not to know something (especially in the project world); never be afraid to say you don't know, so long as you take the opportunity to learn, and know it for next time.



A British soldier prepares her kit for the start of Exercise Desert Khanjar in Oman.



EDITOR'S CHOICE

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Cover photo: A bio-security survey looks for biofouling on the hull of a vessel.
Credit: PML Applications.

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Printing

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