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DESIDER

AN INSIDE LOOK AT **DEFENCE EQUIPMENT & SUPPORT**

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TODAY, TOMORROW, TOGETHER

In this issue

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The Executive Lens
(with Lt General Simon Hamilton)

It was great to see the Government's much-anticipated Strategic Defence Review (SDR) launched by the Prime Minister and Defence Secretary earlier this month.

In today's uncertain world, where we see threats rising across Europe, the Middle East and Africa, it couldn't be more important for the UK to have a defence enterprise it can rely on to move with agility, innovation and speed, and deliver battle-winning capabilities to our armed forces.

The SDR is the blueprint for how UK Defence will evolve to achieve this. It outlines how we must change to fortify our systems, strengthen our deterrent and ensure we remain a potent force at the forefront of global safety and security.

For DE&S, this means going further to develop, exploit, procure and deliver the right equipment at the right time, and support it through-life. Thanks to the changes we've made to our operating model over the last two years and the hard work, patience and energy of our teams, as well as the establishment of the new National Armaments Director (NAD) Group, DE&S is better placed than ever to respond to the SDR's recommendations.

The SDR places long-term partnership with industry at the heart of a strong UK Defence. A thriving shared enterprise is going to be pivotal to delivering at the ambitious pace and scale required. And, as a crucial bridge between our armed forces and industry partners, DE&S will play a leading role in efforts to open up our enterprise and break down the barriers between our front-lines, firing ranges and factories.

As the SDR recognises and we in DE&S know well, Defence can be a powerful engine for growth, delivering well-paid, high-skilled jobs across the UK. The thousands of jobs created through new contracts to support munitions manufacturing and test facilities, and the announcement of new apprenticeships at the Harland & Wolff shipyards are proof-positive of that.

But the SDR also recognises the significant untapped potential we can release through further procurement reform, combined with investment in novel technology, advanced manufacturing and new skills. Together, they can build the UK's productive capacity, ensuring that defence investment delivers for the war-fighter and the economy.

We have already made big strides in this and the upcoming Defence Industrial Strategy will provide us with a further opportunity to drive the necessary radical reforms forwards. The war in Ukraine has been a stark reminder that maintaining our stocks of munitions and spares, and having the systems in place to replenish and resupply them at speed, is vital to holding the battlefield advantage.

The SDR also calls for a doubling-down on 'digital first', not only in what we procure but in how we procure, with increased automation, integration and adaptability, and a 'wartime' pace of innovation, measured in months not years. To get there we will need to leverage the potent combination of conventional and digital war-fighters; where the power of uncrewed systems complements the heavy metal of tanks, frigates, aircraft and artillery.

The UK's Wildcat helicopters, deployed as part of Royal Navy efforts to secure safe shipping routes in the Red Sea, are already aided in their operations to great effect by remote-piloted Peregrine drones, delivered and supported by DE&S. There is a future where this is the norm across all domains.

I'm hugely proud to see the role DE&S is able to play in the NAD Group. Guided by the SDR's recommendations, we will work with colleagues across the NAD Group and the Military Strategic Headquarters to build a more modern, effective, lethal armed forces.

The work we must do now, across the defence enterprise, is to determine the most effective way to deliver this together. This is the time for us to demonstrate the value and benefit of the foundations we have built.

As Deputy CEO, it remains my priority to support DE&S through the next stages of this journey and, with our industry partners, to provide our armed forces with the edge to protect our nation and our allies.

We are moving forwards together, enacting the SDR, with honesty, transparency, collaboration and determination.

FEATURE

The value of 'always-on' production models

William Freer, National Security Research Fellow at the Council on Geostrategy, explains why the UK and other nations should consider a new production model.

The below represents the views of the author and not of Desider, DE&S or the UK Ministry of Defence.

Since the end of the Cold War, the prevailing culture of defence procurement and production in the UK and for most of its allies has been to strive for efficiencies.

To maximise reduced defence budgets, many of the measures found in the private sector's 'just in time' methodology were adopted – as seen in recent years by supply chain shortages (particularly explosives) for artillery ammunition. With the return of peer threats – adversaries with comparable capabilities, such as Russia and China – there is a growing recognition of the need for a culture change to better prepare the UK to face the geopolitical environment it is now confronted with. The watchwords of the future are resilience and redundancy, rather than efficiency.

However, shifting towards a culture focused on resilience rather than efficiency is not easy. One of the potential ways this could be achieved is by switching to 'always-on' production models. This has been recognised in the recent Strategic Defence Review (SDR), in particular in relation to munitions production. But what exactly is 'always-on' production, what are the pros and cons of such a model, and how might it be implemented?

Rather than handing out a contract for a limited production run, contracts would be designed to ensure the defence sector is always busy – providing continuity in place of what is sometimes referred to as the 'feast' and 'famine' cycles that the sector has faced for three decades.

Such an approach retains supply chains, workforces, skills, machinery and the other components needed for a smooth operation. This ensures capacity is available to expand on when needed, increasing availability for export orders as well as supplying the UK Armed Forces. (One of the reasons South Korean defence exports have boomed is their simply having the latent capacity available.) The downsides of keeping production lines 'hot' are that it can reduce competition and is inevitably more expensive – albeit the costs needed to restart production lines with a 'feast' and 'famine' approach are removed.

Given the growing consensus that the costs of resilience are a worthwhile investment, the more important consideration is implementation. There is no 'one-size fits all' approach to achieving 'always-on' production, the SDR itself hints at this in outlining that shipbuilding should also strive for an 'always on' model in addition to munitions. Different approaches will be required for different types of equipment.

One approach is multi-year contracts. In place of designing a contract around achieving a set delivery number by a set date, say 1,000 missiles by 2030, a multi-year contract would instead aim to produce a certain amount each year over a much longer period of time, for example 100 missiles a year for 10 years. This helps create certainty for defence firms over a longer period of time.

Yet this potential route can create a further problem. Multi-year contracts necessarily spread production over a longer period of time and so delay full delivery, but there was likely a reason the armed forces wanted those missiles by the date they specified. This is where a second approach, known as continuous low-rate production, can be added in.

Added to the original contract would be an agreement to produce a small amount of stock until directed otherwise (perhaps 10 missiles a year from our hypothetical 1,000 missile contract) to keep the production line partially open. The idea behind this is that expanding production from a low level is many times easier than rebuilding it from scratch. More realistically, given fiscal constraints, 80 to 90 percent of the contract to be delivered as standard with 10 to 20 percent of the remaining number switched to continuous low-rate production.

Other potential approaches include capability partnerships and multilateral programmes with allied countries. Different always-on production models will suit different types of equipment. The key to success will be in developing a tool-kit of always-on approaches, and matching those to different contracts.

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NEWS

New UK investment in munitions factories and long-range weapons

The UK will build six new munitions factories and procure thousands more long-range weapons to strengthen the UK Armed Forces and support jobs across the country.

UK Defence will be bolstered through plans to purchase up to 7,000 UK-built long-range weapons and a new £1.5 billion government investment that will see at least six new munitions and energetics factories built.

As part of the Government's response to the Strategic Defence Review (SDR), the investments will together support around 1,800 highly skilled jobs across the UK, and drive growth in every region.

One of the SDR's recommendations is to create an 'always on' munitions production capacity in the UK, which can be scaled up at speed if needed. By investing in new munitions and energetics factories, the UK will be able to rapidly increase its stockpiles to meet the demand of high-tempo warfare. Energetics are substances that release energy rapidly - key components of weapons, including propellants, explosives and pyrotechnics.

The additional funding will see UK spending on munitions reach £6 billion by the end of this parliament. It follows the Prime Minister's commitment to increase defence spending to 2.5 percent of UK GDP, recognising the critical importance of military readiness in an era of heightened global uncertainty.

The SDR sets a path for the next decade and beyond to transform Defence and make the UK secure at home and strong abroad. It will drive innovation, jobs and growth across the country, allowing the UK to lead in a stronger NATO.

Defence Secretary John Healey said: "The hard-won lessons from Putin's illegal invasion of Ukraine show a military is only as strong as the industry that stands behind it. We are strengthening the UK's industrial base to better deter our adversaries and make the UK secure at home and strong abroad. We will embrace the Strategic Defence Review; making defence an engine for economic growth and boosting skilled jobs in every nation and region as part of our Government's Plan for Change."

Andy Start, UK National Armaments Director, said: "There's an absolute recognition within the SDR that we can only fight and sustain through a conflict if we are fully integrated with our industrial base, both here and overseas. To make that happen under Defence Reform, we are reorganising ourselves to make sure that we're easier to deal with for each of the segments of industry that we operate.

"The SDR speaks to the fact that we'll segment the market into first long-term strategic relationships with the critical players who are unique in terms of their ability to deliver complex platforms, such as ships, aircraft and nuclear submarines. Then a middle layer, where we're developing relationships with dual-use technology providers that can be innovative and give us modular upgrades and spiral development for our systems to make us much more lethal, more quickly, at lower cost. We've done that effectively with Ukraine. We're looking to take that approach and use it to deliver capability for UK Defence.

"This is a really exciting time to transform what is already a really vibrant and effective industrial sector, and see it develop as the defence market grows dramatically around the world."

NEWS

New weather radar enhances safety and operations at RAF Akrotiri

A £5.7 million investment has significantly improved the Met Office's weather forecasting capability across the British Forces Cyprus (BFC) estate.

RAF Akrotiri has unveiled a state-of-the-art weather radar system. The new radar system, the first of this type delivered by DE&S, ensures the Met Office can provide accurate, real-time weather forecasting, safeguarding personnel and operations across the BFC estate for years to come.

The £5.7 million project, named Project Boreas after the Greek god of storms and the cold north wind, ensures the safety of airfield operations and personnel across the British Forces Cyprus (BFC) estate.

The new Vaisala WRM200 dual-polarisation C-band radar provides real-time wind profiles and precipitation data, enabling the Met Office to monitor wind shear and impending tornado activity. The system enhances flight and airfield safety and operational efficiency while offering a future-proofed capability for the region.

Infrastructure and procurement

Following a Defence Infrastructure Organisation (DIO) study in 2021, it was determined that the existing radar system and its housing were no longer fit for purpose. Among other issues, the housing failed to meet earthquake-proofing standards, a critical requirement in seismically active Cyprus.

UK Strategic Command tasked the DIO with constructing a new tower and building, while the Air Defence and Windfarm Mitigation Systems (ADWiMS) Delivery Team within DE&S oversaw the procurement of the radar and its protective fibreglass casing, known as the radome. After a competitive tender process, Aquila was selected as the supplier, subcontracting the radar manufacturing to Finnish company Vaisala, a global leader in weather radar technology.

Delivery and installation

The infrastructure work, including demolition of the old building and construction of the new facility, began in late 2023. In parallel, the radar and radome were manufactured in Finland, where testing was conducted, with ADWIMS engineers present, to ensure the system met all user requirements.

Once the new tower was ready, the radar was transported to RAF Akrotiri, installed, and rigorously tested. Initial Operating Capability was declared on 29 January 2025, with Full Operating Capability following on 26 March 2025 after a two-month assessment period using live weather events.

Operational Benefits

The WRM200 radar is now fully operational, with a potential lifespan of up to 20 years, providing the Met Office with high-fidelity data to ensure airfield and flight safety across the BFC estate. The system is currently maintained by Aquila and the ADWIMS Delivery Team under a 7.5-year Contractor Logistics Support agreement.

Alex Fox, Principal Met Officer for British Forces Cyprus, said: "The radar has already proven invaluable to our team. Its ability to identify individual weather cells and provide timely updates minimises operational disruption while ensuring personnel safety. We anticipate even greater benefits as we continue to utilise the system and improve our understanding of local weather patterns."

The successful delivery of Project Boreas marks a significant milestone in enhancing safety and operational capability at RAF Akrotiri.

Morvern Rennie, Assistant Head UK Strategic Command IGDN Portfolio, said: "It's exciting to see the weather radar in action. From speaking to people across BFC, I can really understand the benefit of having earlier warning about weather events which prevents damage to property. Better data allows the Met Office to develop analysis which, in turn, supports improved decision-making for our pilots and aircrew. Boreas is a great example of the One Defence mindset and I'm proud of how our teams have worked together to deliver this essential capability."

Next-generation armed RPAS Protector enters service

Protector, a new large, armed remotely piloted system, has been certified safe to operate by UK forces around the world.

The Protector Remotely Piloted Air System (RPAS) has entered service, having been awarded a Military Type Certificate (MTC), the formal recognition that an aircraft is safe to operate around the world under UK aviation laws.

The UK Military Airworthiness Authority issued Group Captain Neil Venables, Protector's Chief Engineer and Type Airworthiness Authority, with the MTC at the end of April. This is the first time a large, armed RPAS has demonstrated the high levels of engineering standards needed to gain the MTC.

It has been an 11-year journey to reach this point, requiring considerable investment from the UK, matched by industry R&D funding and an unwavering commitment from all partners to overcome programmatic and technical challenges.

Receiving the MTC marked the final step toward the issue of a Release to Service (RTS) document, which authorises the aircraft to operate under UK aviation laws. The RTS was issued just two weeks after the award of the MTC; a further significant achievement that allowed Protector to reach the significant programmatic milestone of Initial Service Date (ISD), with crews now building up their skills through UK training exercises.

Group Captain Venables said: "This is a huge achievement. A game-changer. Through meticulous planning, excellent collaborative work and a tenacious determination to deliver for the front-line, we were able to go from award of an MTC to delivery of an RTS in record time. Protector offers Defence a world-leading capability, which is uniquely positioned to be further developed into new roles and new theatres of operation."

Protector will take the place of the MQ-9A Reaper, the workhorse of the remotely piloted ISTAR force for the last 16 years. The unique capability that a five-tonne, armed drone brings to the battlefield made it the go-to platform for armed forces all over the world. The RAF was an early adopter, working closely with the US Armed Forces throughout the in-service life of Reaper.

Both Reaper and Protector are manufactured by General Atomics. "Earning an MTC for MQ-9B was a herculean effort and a seminal achievement for our company," said General Atomics CEO Linden Blue. "I congratulate our team for this outstanding accomplishment, and I know our customers need this type certification, which will open civil airspace for their flight operations."

Protector has been developed from over three million flight hours of Reaper experience. It incorporates the latest technology, including a number of features designed-in from the beginning that ensured it would be awarded the MTC and gain access to civilian airspace, including anti-icing systems, and lightning and fire protection. Importantly, it has also been designed to be ready for spiral development and future upgrades.

The focus now shifts to deploying the capability on operations. The DE&S Uncrewed Air System Delivery Team is switching focus from concept, assessment, development and manufacture to in-service support. The backbone of this is the Protector Availability Support Solution (PASS), a multi-year, multi-facetted industry support contract delivered by General Atomics. They are in the process of building up the industry side of the support solution and will work as part of the integrated support enterprise for the foreseeable future.

Protector is poised to be the backbone of the UK's armed ISTAR capability for many years and is positioned to take on more of Defence's capability challenges. UK Defence is stronger now Protector is in-service.

Group Captain Rich Cameron, Uncrewed Air System 3 Team Leader, said: "The awarding of the PASS contract marks three years of intensive work to turn a concept into a reality. This has generated a first-in class sustainment solution for the RAF Protector fleet that exploits contractor-owned inventory from a global common spares pool."

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SYSTEMATIC

NEWS

Major General Anna-Lee Reilly appointed Director General Core Delivery

Major General Anna-Lee will now lead the largest area within DE&S.

Major General Anna-Lee Reilly CB has been announced as the new DE&S Director General (DG) Core Delivery.

She will replace Dr Simon Dakin in August and take up the role on promotion to Lieutenant General in the British Army, moving on from her current role as Director Strategic Capability, Engagement and Operations.

DG Core Delivery is a vital role in DE&S. Maj Gen Anna-Lee will be responsible for leading nearly 8,000 people to deliver more than 700 defence programmes. These programmes include everything from aircraft carriers to fast jets, tanks and soldiers' boots.

Maj Gen Anna-Lee said: "I am delighted to have been selected to be the new Director General Core Delivery. It is a huge role that has the responsibility of overseeing the largest part of DE&S delivery and I am really looking forward to working with everyone to continue the great work that Simon Dakin has already done.

"We now have important work to do so we can embed our ways of working to speed up delivery and meet the UK's ambition set out in the Strategic Defence Review and Defence Reform.

"I am incredibly proud of the work that my Strategic Capability, Engagements and Operations Team has delivered over the past few years and I'm confident they will continue their fantastic and critical work in their new structures."

As Director Strategic Capability, Engagement and Operations, Maj Gen Anna-Lee has played an important role in the UK's support to Ukraine. Under her leadership, DE&S teams have completed over 2,000 delivery tasks, delivering some of the largest, fastest, most complex procurement activity in the organisation's history.

Maj Gen Anna-Lee has been appointed following a Cabinet Office Commissioner-led open competition.

Lieutenant General Simon Hamilton, DE&S Deputy CEO, said: "Anna-Lee's wide-ranging experience of operations means that she is perfectly placed to lead Core Delivery and build our capabilities across all our environments and technologies. She brings with her to the role a new perspective and enthusiasm for supporting our armed forces colleagues, and I'm looking forward to welcoming her to the Executive Learning Team in due course.

"I would like to thank Anna-Lee for the exceptional leadership she's shown in relation to our support to Ukraine. The enormity of that effort isn't underestimated. The dedication and determination shown to ensure our allies are provided with the equipment and support needed to fight their ongoing war are key qualities that will help us continue driving forward our operations in future."

As DG Core Delivery, Maj Gen Anna-Lee will also be part of the National Armaments Director (NAD) Group.

Andy Start, UK National Armaments Director, said: "Anna-Lee's appointment as DG Core Delivery is a pivotal moment for DE&S and the NAD Group. As an accomplished engineer and leader, she brings a wealth of experience in delivering complex programmes and supporting capability projects across DE&S, the wider MOD and industry.

"Anna-Lee's proven track record in driving delivery at pace and working with diverse delivery teams will be instrumental in helping DE&S and the NAD Group maximise their collective impact in equipping our armed forces with world-class capability."

NEWS

New Ukraine trade mission boosts UK defence partnerships

A fifth trade mission, the largest to date, deepens the bonds between the UK and Ukraine, while providing fresh opportunities for Defence.

A record 51 UK and international companies joined the fifth UK-Ukraine trade mission in Kyiv, making it the largest British-led trade delegation to Ukraine to date.

The trade mission brought together leading UK defence firms to deepen cooperation with Ukrainian industry and with partners from Norway, the Netherlands, Sweden, Finland and Latvia. This collaboration demonstrates a united multinational industrial front with European allies, scaling-up support for Ukraine's defence needs and strengthening supply chain resilience with international partners.

Participating companies from the UK defence sector, specialising in areas like uncrewed systems and military goods, are securing contracts that will boost high-skilled jobs in regions across the country, supporting the Government's Plan for Change. The mission follows the new UK-EU Security and Defence Partnership, which could create significant opportunities for the UK's defence industries.

DE&S Director Strategic Capability, Engagement and Operations Major General Anna-Lee Reilly joined the mission to Kyiv. Afterwards, she said: "The UK has led another hugely successful international trade mission to Kyiv. The support provided by the UK gives hope to the people of Ukraine, and this event reinforces our commitment. DE&S remains central to the delivery of equipment, munitions and vital supplies to Ukraine on behalf of Task Force Kindred, and Task Force Hirst works internationally to deepen defence-industrial co-operation between our countries. I am incredibly proud of all we have achieved so far."

This latest mission is a significant step in the UK's 100 year partnership with Ukraine, reinforcing the UK's long-term support for Ukraine's defence, security and recovery, and drawing on the collective industrial capacity and capability of European allies.

Defence Minister Lord Coaker said: "We're building resilient supply chains, putting Ukraine in the strongest possible position to achieve a just and lasting peace for years to come. The UK is continuing to show the way on support for Ukraine, from military support to leading the Ukraine Defence Contact Group where, since the UK took the chair, nearly £23 billion has been pledged in military support for Ukraine."

Kevin Craven, CEO of trade association ADS, said: "It is a privilege for industry to lead the UK in engagement both within Ukraine and with our Ukrainian counterparts. Indeed, this week's trade mission – the most multinational of its kind to date – has been nothing but inspiring. The UK defence industry's support to Ukraine is unwavering and stands ready to increase production capacity, develop innovative new capabilities and build a resilient ecosystem. Continued collaboration, both with our government counterparts and international allies, is pivotal as illegal Russian aggression continues to intensify. We will continue to deepen our industrial ties and fulfil our moral duty to the Ukrainian people."

Norwegian State Secretary Marte Gerhardsen said: "European allies need to stand together with Ukraine for as long as it takes. We work closely with Ukraine, the UK and other European countries. The Russian aggression against Ukraine continues, and the need to rapidly strengthen Ukrainian and European defence capabilities are apparent."

Defence is a key growth sector in the Government's upcoming Defence Industrial Strategy, and this trade mission is a prime example of how government and industry can work together to aid allies and boost UK security.

NEWS

New Javelin Launch Unit upgrade doubles engagement range

A new Javelin Lightweight Command Launch Unit will significantly improve the ability of users to engage at distance and gain the battlefield advantage.

The British Army has conducted its first successful extended-range live-fire trial of the new Javelin Lightweight Command Launch Unit (LwCLU). The 4km shot, a record distance for the LwCLU, on Salisbury Plain, demonstrated Javelin's enhanced battlefield effectiveness.

Developed and produced through Raytheon and Lockheed Martin's Javelin Joint Venture (JJV), Javelin is a versatile, portable, combat-proven, multi-purpose weapon system. The new LwCLU, partially manufactured by Raytheon at their Glenrothes facility, is 30 percent smaller and 25 percent lighter than the current Command Launch Unit, delivered in 2005 through the JJV.

An optics upgrade doubles the LwCLU's engagement range and significantly improves the ability of users to conduct day and night engagements. The LwCLU is also adaptable and compatible with all current and future Javelin missile variants.

Kevin Vause, DE&S Lethality and Protect Team Leader, said: "Javelin contributes £56 million per year to the UK economy at current production rates; this will grow with plans to significantly increase capacity. The UK – as a key partner – supplies components to support production of both missiles and Command Launch Units, helping to meet the global demand for this critical anti-armour capability. Aligned to the Strategic Defence Review, there is the potential for future economic growth through the securing of vital jobs in the UK and a strong export market."

Cdre Rich Harris, DE&S Head of Gunnery Systems and Munitions, added: "Witnessing the UK's new LwCLU firing Javelin missiles at twice the range is exactly what the Army needs to double lethality."

Victoria Thornhill, DE&S Javelin Project Manager, said: "The new Javelin LwCLU's extended range doubles lethality while improving capability, allowing our armed forces to engage targets from further away. The UK Armed Forces are pioneers in firing the LwCLU out to the 4km range, making them the first in the Javelin international user group to conduct this activity. This is a major achievement for the UK Javelin programme, delivering a lighter, more capable anti-tank weapon that will change the dynamics of battle."

Andy Amaro, JJV President and Javelin Programme Director at Raytheon, said: "Today's test validates the advanced range and target detection capabilities LwCLU provides soldiers to expand the battlefield and distance them from incoming threats. Partnering with the British Army on this extended range LwCLU live-fire has allowed us to further demonstrate the robust capability of the LwCLU and the Javelin missile."

Dave Pantano, JJV Vice-President and Lockheed Martin Javelin Programme Director, said: "This live-fire exercise showcases a significant first-time event for the JJV and demonstrates that Javelin continues to mature to defeat ever-evolving threats. As the JJV continues to expand our international footprint, our partnership with the British Army allows us to collaborate on next-step efforts to support their current and future modernisation efforts."

This collaboration underscores the commitment to strengthening the UK's defence industry while equipping the British Army with state-of-the-art technology.

British Army Lt Col Chris Woods said: "The successful engagement of a target at 4km is a statement of intent. It represents a tangible demonstration of how seriously the Army is taking the Chief of the General Staff's direction to double fighting power by 2027. This is a world first, conducted by British Army soldiers. I am really proud of the team from DE&S, the JJV and the Parachute Regiment."

DEFENCE ESTATES & INFRASTRUCTURE

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FEATURE

Can a digital twin improve the UK's Strategic Base?

DE&S' Futures Lab brought together a group of experts to explore, create and assess the benefits of developing a digital twin to support UK Defence's logistical demands.

A critical factor in all military endeavours is logistics. The ability to deploy the right people, to the right place, in the right numbers, at the right time and with the right kit to sustain and recover them. This is a massive undertaking, further complicated by the numerous concurrent training and operational deployments that the UK undertakes.

This whole enterprise – known as the UK's Strategic Base – spans the support and logistics function for UK Defence. It covers Front-line Commands and a range of MOD organisations, including DE&S and the Defence Science and Technology Laboratory. It utilises a vast array of information systems and is critically reliant on the generation, collation, analysis and timely dissemination of relevant data.

Could a digital twin (DT) benefit the Strategic Base by supporting its planning and decision-making? This was the question UK Strategic Command asked the Futures Lab to explore.

A DT is a virtual representation of a physical object or system, which is created using real-time data from the physical version, combined with historical data and simulations. As the virtual model and its real world 'twin' are intimately connected, it means the DT is always up to date. It allows for monitoring, analysis and prediction of the object or system's performance and behaviour. As a result, the DT can rapidly identify anomalies and inefficiencies, enabling teams to use predictive analysis to help make informed decisions. This includes proactive maintenance, optimisation of operations and scenario planning.

Fundamental to the task was the building of a prototype, for use as a Capability Concept Demonstrator (CCD), on which to assess the viability of the idea that a DT could improve the functioning of the Strategic Base.

The Futures Lab team worked with its Defence partners and a military judgement panel to assess the 16 Joint Support Capabilities (JSC) that comprise the Strategic Base and select the best candidate with which to test the utility of a DT CCD. The Marchwood Sea Mounting Centre in Southampton was selected.

The CCD was tested against 25 user questions; a series of scenarios facing Marchwood; and a sophisticated set of criteria representing operational advantage, timeliness and estimated savings.

The CCD successfully demonstrated that a DT could be of benefit in supporting the Strategic Base. It showed that a DT could enable high-level decision-making. For example, the DT could provide notifications of where the Sea Mounting Centre's capacity had been exceeded and suggest mitigation strategies. It could also support planned uplifts in future strategic logistic vessels through options analysis on various potential future demand scenarios.

At a day-to-day level the CCD was also able to raise issues pertaining to the work force. The DT was able to provide warnings around skills shortages including when and where the issues would likely arise to inform future recruitment and training needs.

Overall, the task demonstrated that DTs provide a powerful tool for improving efficiency, reducing downtime and enhancing decision-making processes. It also offered the enticing opportunity for the DT to take predictive decisions requiring minimal human-in-the-loop engagement; thereby increasing the Strategic Base's efficiency, effectiveness and economy, better enabling the delivery of successful deployments.

NEWS

Test and evaluation services contract secures over 1,200 UK jobs

A new extension to the Long-Term Partnering Agreement with QinetiQ ensures the proper operation of MOD land, sea and air ranges and test facilities.

More than 1,200 jobs will be supported by a £1.5 billion contract, which DE&S has awarded to QinetiQ for the continued provision and modernisation of mission-critical test, trials, training and evaluation (T3E) services.

The five-year contract is an extension of the existing Long-Term Partnering Agreement (LTPA) with QinetiQ, which is responsible for the operation of 16 MOD land, sea and air ranges and test facilities, and the provision of specialist technical expertise and support services. LTPA services include weapons testing, delivering live-threat scenarios, test pilot training, and maritime testing and calibration.

Work carried out under the contract ensures that capabilities used by the UK Armed Forces deliver the performance required for successful missions and operations.

Richard Murray, DE&S Director of Lethality and Protect, said: "In the face of evolving global threats, this contract is a crucial element of ensuring our armed forces maintain the edge to protect our nation and allies. It reinforces our commitment to innovation that is informed by robust testing and evaluation, while sustaining 1,200-plus jobs across the UK, and providing upskilling opportunities for those working to support the front-line."

QinetiQ and the MOD will invest in modernising the UK's T3E capabilities so they remain resilient and relevant. Digitalisation will increase the pace at which new concepts and solutions are tested and delivered into service. QinetiQ and the MOD have also committed to improving how agile and innovative small and medium-sized enterprises (SMEs) are able to use the LTPA's services.

The jobs being sustained up to 2033 include more than 200 in Scotland and 200 in Wales. Jobs at larger sites in England include 400 at Boscombe Down in Wiltshire and 200 at Shoeburyness in Essex. The contract also supports a supply chain of more than 825 companies across the UK, 590 of which are SMEs.

Defence Secretary John Healey said: "Rigorously tested equipment and the trialling of emerging technologies are key to ensuring our armed forces are using combat-ready capabilities on the front-line. The contract will help keep the UK secure at home and strong abroad, as we drive forward innovation to bolster our national security and support skilled jobs across the UK."

Around 30 early career professionals will be supported by the contract and development opportunities will be available through a range of courses. These include digital training in modelling and simulation for engineers, and a newly launched Test and Evaluation Foundations programme, which is designed to equip managers with the skills to safely deliver T3E for new military capabilities.

Steve Wadey, Group Chief Executive Officer at QinetiQ, said: "The extension of our partnership with MOD enables us to continue investing to deliver the transformational change in test and evaluation that's required to ensure our armed forces have operational advantage over disruptive technologies."

In May, QinetiQ hosted Formidable Shield, a NATO joint strike exercise, at the MOD Hebrides range in Scotland. Other examples of the LTPA in action include the first launch of a ballistic rocket into space from the UK, the UK's first firing of a high-power laser directed energy weapon against aerial targets, and Europe's first successful demonstration of teaming a piloted aircraft with an autonomous air vehicle.

NEWS

Fifty-five new Fleet Solid Support apprenticeships created

Navantia UK will now offer 153 apprenticeships as part of the programme to build three Fleet Solid Support ships for the Royal Fleet Auxiliary.

Shipbuilding company Navantia UK, which recently bought Harland & Wolff, has launched 55 UK apprenticeships in Belfast, Northern Ireland, and Appledore, north Devon.

The apprenticeships will give successful candidates the opportunity to support the Royal Navy's Carrier Strike Group by working on the Fleet Solid Support (FSS) programme.

The 35 apprenticeships in Belfast will be in metal fabrication and welding, delivered in partnership with Northern Regional College. The remaining 20, hosted in Appledore, will be in metal fabrication and will be delivered in partnership with Petroc College. The new offerings bring the total number of UK FSS apprenticeships to 153.

The FSS programme – procured and managed by DE&S – will result in prime contractor Navantia UK building three ships for the Royal Fleet Auxiliary, with integration and delivery taking place in Northern Ireland and Devon.

An essential supporting element for the Carrier Strike Group, the FSS ships will deliver crucial munitions, supplies and provisions to the Royal Navy while at sea. They will be central to logistical and operational support, including supporting counter-piracy and counter-terrorism missions, and will collaborate with allies on operations around the world.

The new apprenticeships, which will begin in August/September 2025, follow the acquisition of Harland & Wolff by Navantia UK in January this year and form part of a transformational investment plan for the group's shipyards.

Alex du Pré, FSS Project Leader at DE&S, said: "We are pleased to see this investment into FSS apprenticeships helping to inspire the next generation of skilled workers in Harland & Wolff's shipbuilding journey. Apprentices working on the build of these vessels can take pride in knowing that they will be part of a critical programme that will strengthen our national security and the Royal Navy's global presence."

Harland & Wolff's Belfast shipyard is undergoing comprehensive modernisation to enhance its shipbuilding and ship repair capabilities, creating an optimal environment for apprentices in the UK to learn their trade.

Katherine Thorn, Head of Talent and Culture at Navantia UK, said: "This apprenticeship programme represents our commitment to developing local talent and ensuring the future of shipbuilding in Belfast and Appledore. These future colleagues will be working on projects of national significance, contributing directly to the UK's defence capabilities."

The FSS programme is expected to create around 1,200 shipyard manufacturing jobs at Harland & Wolff, in addition to an estimated 800 in the UK supply chain.

Each ship will have a core Royal Fleet Auxiliary crew of 101 personnel, with accommodation provided for an additional 80 personnel operating helicopters and boats, or performing other roles when required.

NEWS

Accelerating advanced manufacturing for supply chain resilience

Wing Commander Jon McMahon, Defence Support Innovation Deputy Team Leader, provides an update on Project Tampa, the driving force behind additive manufacturing adoption.

Project Tampa aims to accelerate the adoption of additive manufacturing across the UK defence industry.

Working alongside a broad group of suppliers, we are producing and fitting predominantly metal additively manufactured parts to a range of in-service vehicles and equipment. So far, the project has worked with AMFG, Babcock, NP Aerospace, RBSL and Thales to print parts for the Mastiff patrol vehicle, Challenger 2 battle tank, Wildcat helicopter and the Royal Navy's Mine Counter-Measures vessel.

Our aim is to deliver a more resilient supply chain, increase platform availability and reduce UK Defence's carbon footprint. Around 30 percent of items in the Defence Inventory can be 3D printed.

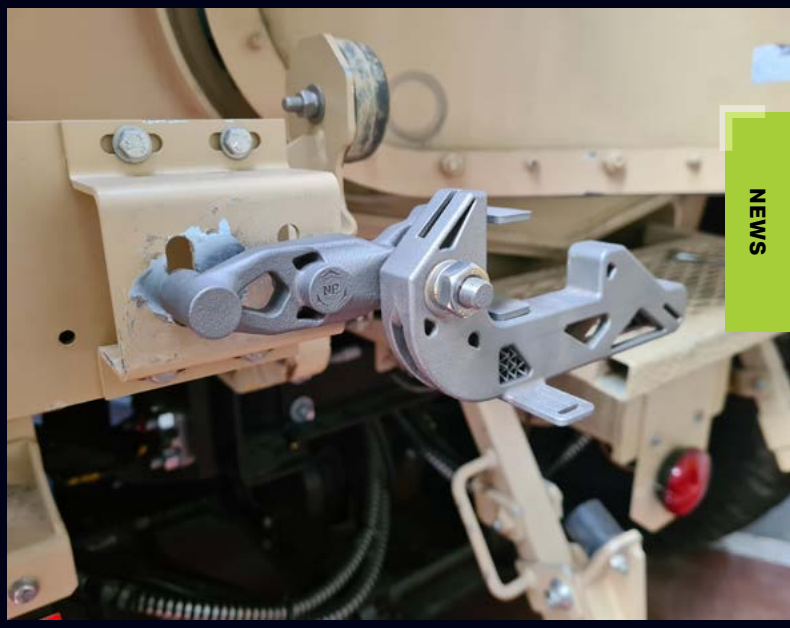
Using a spiral approach, the Project Tampa team has worked with DE&S and industry partners to progressively increase the level of complexity, producing at first non-safety critical parts and building up to safety-critical or safety-related components.

As a result of the first phase of the project, known as Spiral 1, a towing eye for the 105mm light gun has been brought into service. Several parts produced during Spiral 2 for Challenger 2 and the Titan armoured engineer vehicle have also been provisionally accepted.

The diversity of the parts, materials and processes involved is building confidence in metal additive manufacturing. The ability to overcome challenges, such as codification and certification, through collaborative working groups is helping bring more parts into the Defence Inventory. The range of parts now under development includes magazines for counter-measure dispensing systems, sonar array housing and an axle cradle for the Cougar armoured vehicle. The latter weighs around 90 kg and is lighter than the original part.

We have successfully selected our partners for Spiral 3 , which will see increasing collaboration between the MOD and UK industry, along with the US Department of Defense (DOD) and America Makes, the leading public-private partnership for additive manufacturing in the US. The primary aim for Spiral 3 is to further boost user confidence by proving repeatability of the process, showing that parts can be produced to the same standard by different suppliers, in the same way as we expect from traditionally manufactured parts.

By working with the US DOD and America Makes, we are asking our vendors to extend their supplier base beyond the UK and build the same parts internationally. This will help prove repeatability and show that it is possible to safely transmit the plans for parts with no risk of either data or IP compromise. This is an important step towards creating a global supply ecosystem that allows us to produce parts at the point of need, greatly reducing manufacturing and transit time.



Beyond the project's core work, we have developed UK Defence's inaugural Advanced Manufacturing Strategy and are leading NATO's Critical Logistics Initiative on Additive Manufacturing. As we progress through Spiral 3, we are also looking toward the final spiral, where we will consider the creation of a framework that builds on the lessons we have learned. This could make it easier for DE&S delivery teams to procure additively manufactured parts where an existing supply chain does not exist or has long lead times.

This work is being completed collaboratively with industry, DE&S and the Front-line Commands, and we always welcome additional input to challenge our thinking.

NEWS

First Type 31 frigate completes construction and float off

HMS Venturer, the first of five advanced Type 31 frigates, has completed her construction phase and has made her first entry into the water.

HMS Venturer has successfully completed her construction phase and has entered the water for the first time.

The 5,700 tonne, 139-metre-long ship completed construction in her purpose-built facility in Rosyth. She was then positioned on to self-propelled modular transporters using specially designed transport cradles, before being proudly rolled out of the build hall. Days later, Venturer made her first entry into the water and completed her float off, marking further progress in the Type 31 programme.

Procured and managed by DE&S, the construction of the five Type 31 ships, known collectively as Inspiration Class, supports around 1,250 highly skilled jobs at Babcock, as well as 150 apprenticeships. A further 1,250 roles in the UK supply chain are also supported through the contract.

Steve Ranyard, Type 31 Team Leader at DE&S, said: "The float off of HMS Venturer marks a pivotal milestone in the Type 31 programme and demonstrates our continued commitment to strengthening the Royal Navy's fleet. DE&S teams will continue working closely with industry partners during this complex process, ensuring these essential ships are delivered to protect our nation's interests for decades to come."

Type 31 ships are based on a modular design that makes it easier for them to be upgraded and have their systems and equipment updated throughout their service life. The vessels will be fitted with a range of advanced weapons and sensor systems, including Sea Ceptor, a world-leading UK-designed and manufactured missile system, as well as a sophisticated combat system.

Commodore Steve Roberts, Royal Navy Type 31 Senior Responsible Owner, said: "Seeing HMS Venturer unveiled is a proud moment for the Royal Navy and her crew, and all the organisations in Defence that have contributed to this key milestone. This is the first of many exciting stages for the Type 31 programme."

The programme is making rapid progress and is now well into its multi-ship build phase with three ships in production. The second Type 31 ships will float from Rosyth in the next 12 months, and the first steel cut for the fourth ship is scheduled for 2026.

Minister for Armed Forces Luke Pollard said: "HMS Venturer will be at the heart of the Royal Navy fleet, deterring aggression and supporting our armed forces. She represents the best of Britain's world-class shipbuilding heritage. Today's significant milestone shows this government's commitment to grow the economy by supporting thousands of jobs in Scotland and across the UK."

The Type 31 is based on Babcock's Arrowhead 140 design and can also be tailored to meet the specific requirements of export customers.

David Lockwood, Babcock CEO, said: "Right here in Scotland we are building five complex warships in a single yard in just a decade; world-class performance. This is an incredibly proud moment for everyone in Babcock and the wider programme partners. Not only does it reflect the hard work, dedication and exceptional skills of our people, but this programme and the other work that we do here in Rosyth contributes significantly to the prosperity of the local and national economy."

Now that HMS Venturer has completed her float off, she will return to Rosyth to undergo extensive outfitting and systems integration in dock, before beginning sea trials and finally entering operational service.

Ministry of Defence

de&s

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NEWS

Funding for Typhoon fighter jet radar given the green light

A new £204 million investment has secured the manufacture and delivery of the ECRS Mk2 radar for the RAF's Eurofighter Typhoon combat aircraft.

Funding for a state-of-the-art fighter jet radar has been given the green light in a move that will transform the UK's air defence capabilities and support innovation across the defence industry.

The investment of £204.6 million will go towards the production and integration of the new ECRS Mk2 radar for the RAF's Eurofighter Typhoon combat aircraft, following successful flight trials which concluded earlier this year.

The radar is being delivered by the DE&S Typhoon Delivery Team, alongside mission partners Leonardo and BAE Systems. It will elevate the aircraft's status as a world-leading electronic warfare capability with its ability to simultaneously detect, identify and track multiple targets in the air and on the ground.

The funding, confirmed by Darren Jones, Chief Secretary to the Treasury, secures manufacture and delivery of the critical long-lead parts of the radar. It comes ahead of a contract for full-rate production of the radar, which is expected later this year.

Lyndon Hoyle, Head of the DE&S Typhoon Delivery Team, said: "The UK's commitment to these long-lead packages in support of series production reflects the growing confidence in the progress being made by UK industry in developing this state-of-the-art radar and the growing maturity of the system design.

"With initial production radars due to become available from 2028, the race is now on to get them integrated as soon as possible through the four-nation Eurofighter programme and deliver the battle-winning capability into the hands of our war-fighters."

The ECRS Mk2 is being developed and manufactured by Leonardo in Edinburgh and Luton, and will be integrated in to the Typhoon aircraft by BAE Systems in Lancashire. The project is expected to sustain 1,300 highly skilled jobs in the innovation and technology space across the UK over the next decade.

A prototype ECRS Mk2 radar was flown for the first time on-board an RAF Typhoon aircraft in autumn 2024 and successfully completed a campaign of flight trials in February this year. On current plans the radar is expected to go into service with the RAF by the end of the decade.

Mark Hamilton, Managing Director Electronics UK at Leonardo, said: "With modern conflict demonstrating the importance of electronic warfare to combat operations, we are proud that the UK's onshore combat air industry is the first in Europe to offer a radar with embedded wideband Suppression of Enemy Air Defence (SEAD) electronic warfare capabilities through a multi-functional array. Development is running several years ahead of other international efforts, and we expect to have the radar in service with the UK RAF before the end of the decade."

Richard Hamilton, Managing Director Europe and International, BAE Systems Air, said: "This commitment to the continued evolution of Typhoon's capability ensures the RAF maintains its operational advantage. It also sustains the UK's sovereign combat air skills enabling Typhoon to secure our skies into the future."

NEWS

DE&S highlights

A digest of DE&S news from the past month.

Submarine Dismantling Project achieves major milestone

The Defence Nuclear Enterprise (DNE) Submarine Dismantling Project has achieved a major milestone as it completes the fin cut and removal on demonstrator submarine, Swiftsure.

By the end of 2026, she will become the first decommissioned Royal Navy submarine to be dismantled. The innovative programme of work will enable around 90 percent of the submarine's structure and components to be reused or recycled, providing a safe, environmentally responsible and cost-effective solution for the recycling of the UK's decommissioned nuclear fleet.

The fin removal was delivered by the DNE in collaboration with DE&S' Defence Recycling and Disposals (DRD) Team, which managed the contract with industry partner Babcock. With a focus on sustainability, the DE&S team specialises in the responsible disposal of vehicles, vessels and equipment no longer needed by the UK Armed Forces.

Alistair Hughes, Head of DRD Team, said: "This sustainable solution has shown how we can extract the maximum value from surplus assets and improve Defence's supply chain resilience, while ensuring national security and prosperity remains at the core of what we do."

Lessons learned from this work will inform the blueprint for the recycling of the remaining decommissioned Pressurised Water Reactor 1 submarines, with high-quality steel already recovered from decommissioned submarines being repurposed into components for future submarines.

First meeting of defence council forges new partnership with industry

Earlier this month, Defence Secretary John Healey and BAE Systems CEO Dr Charles Woodburn co-chaired the first meeting of the Defence Industrial Joint Council (DIJC). The DIJC, managed by the Defence Supply Chain Capability Programme, brings together UK Government, defence firms, trade unions and investors. Its goal is to enable better decision-making and communication between the MOD and its industry partners to improve war-fighting readiness, drive innovation and boost UK jobs.

The DIJC replaces the Defence Suppliers Forum and aims to harness a wider and more diverse set of defence expertise to shape the future of UK defence manufacturing, supply chains and innovation – including trade union representation alongside SMEs and investors for the first time. The council is underpinned by a commitment to continually refresh and widen its membership to champion new entrants into the defence sector and ensure the DIJC reflects the defence sector of the future.

More than 200 support trucks delivered to British Army units

More than 200 support trucks bought under a rapid procurement process are now in the hands of the British Army and are being used on vital training exercises, with more to follow.

The multipurpose Rheinmetall MAN Military Vehicle trucks have been designed to allow troops to transport essentials, such as ammunition, food, water and support materiel, to operational locations.

A total of 500 vehicles were ordered under a £282 million contract awarded to Rheinmetall by DE&S, with support from the British Army. Fielding started last year and, less than six months after contract award, 217 vehicles have been delivered. These are being used by soldiers from 7 Regiment Royal Logistic Corps, who are currently on deployment in Wales on Exercise Tiger Ignite.

The MAN vehicles are part of the HX family, a cost-effective mobility truck class. Purpose-designed to bolster military operations, HX vehicles offer high mobility and reliability in challenging terrains and are equipped with a range of protection capabilities.

On current plans the remaining vehicles will be delivered by this autumn, when all vehicles will be formally accepted by the Army, boosting operational and readiness support.

A MAN Military Vehicle

PEOPLE

Bismaya Elizabeth Sabu

Job title
Senior Project Manager

What does your role involve?
I am a project manager in the Naval Support Integrated Global Network (NSIGN) Ships Engineering project. I am the project lead for Solution Design elements, which are primarily focused on developing the future support solution for our complex warships and translating that into commercial requirements. Our aim is improved availability, better value for money, more choice and greater resilience, and an empowered and equipped workforce. I manage the delivery of activities in the Solution Design team, which includes developing a schedule, ensuring we have all the resources to deliver against our plan, running stakeholder briefings, and monitoring and reporting performance.

What do you most enjoy about your job?
As a project manager I regularly interact with a broad range of functions and subject matter experts (SMEs), and with that comes a lot of learning and insight into new areas, which definitely keeps things interesting. I also enjoy the problem-solving element of this specific project, developing solutions based on what I learned from SMEs.

What is your greatest accomplishment to date?
A proud moment for me was organising and taking part in a Tough Mudder 15 km challenge with a group of friends, where we raised over £5,000 for Macmillan Cancer Support. Reaching the finish line, especially after many moments where I genuinely wasn't sure I'd make it, was incredibly rewarding. Doing it for a cause I truly care about made the whole experience even more meaningful.

What keeps you energised about working at DE&S?
It is definitely the sense of purpose and impact; knowing the work we do directly supports the UK's defence capabilities and makes a difference to national security. On top of that, the people-focused culture here is very encouraging, working with talented, supportive colleagues who are genuinely committed to collaboration and development keeps me energised day-to-day.

Who or what has shaped who you are?
I'd say a combination of being lucky enough to have strong role models and challenging experiences. My family, especially my grandparents (who are now 94 and 96) are the strongest, kindest, hardest working people I know and they have instilled some great morals in me from a young age. Ultimately, the people around me – family, friends and colleagues – who challenge, support and inspire me have had the biggest influence on who I am today. Equally, the times I've stepped into and faced uncomfortable or challenging situations are when I experienced the greatest personal growth.

What do you enjoy doing in your spare time?
I really value quality time with my family and friends. I love hosting and planning get-togethers; they help me recharge and stay grounded. I like traveling, exploring new places and, when I get a chance, diving into a good book or documentary. I've also recently discovered Padel, a sport that's a cross between tennis and squash, which I love playing!

What might surprise people about you?
Maybe that I'm actually a Geordie and a big Newcastle United supporter! Football was a big part of my life growing up and I played until I went away for university.

What's the best advice you've ever been given?
'You don't need to have all the answers – just the willingness to find them.' It took the pressure off needing to be perfect and encouraged me to stay curious, collaborative and open to learning.

Want to receive Desider direct to your inbox? Email: jonathan.mazliah100@mod.gov.uk

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The new Javelin Lightweight Command Launch Unit is fired during an extended-range live-fire trial on Salisbury Plain.

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Desider is the monthly corporate magazine for DE&S. It is aimed at readers across the wider MOD, armed forces and defence industry. It covers the work of people at DE&S and its partners, and other corporate news and information.

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