

DESIDER

AN INSIDE LOOK AT DEFENCE EQUIPMENT & SUPPORT



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



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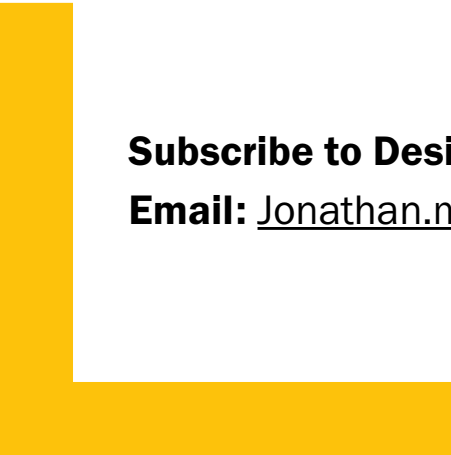
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START Talking

When I became CEO of DE&S two years ago I gave one of my first speeches at the DVD land defence conference. I'm returning to DVD this year to give a keynote address and naturally I've been thinking about how much has changed in both DE&S and the land area in that time.

We've seen some dramatic shifts in the global defence landscape since September 2022, as well as in the pace of defence innovation. We only need to look at how AI and uncrewed systems are being rapidly incorporated into modern warfare to see how quickly things are moving.

And we've made some equally large shifts as a consequence. We've worked with British and Ukrainian industry to deliver some incredibly innovative capabilities at speed. In fact, we've delivered over 1,000 project lines for Ukraine.

Building on the vision that General Sir Patrick Sanders set out at DVD 2022, we've made huge progress with the British Army. We've strengthened the Army's core platforms with progress on Ajax, Boxer and Challenger 3 programmes, which are supported with top-cover thanks to deliveries of the Apache E fleet, and enhanced air defence systems, such as Sky Sabre.

General Sir Roly Walker, Sir Patrick's successor as Chief of the General Staff, has laid down the gauntlet for us to go further, to double and then triple the lethality of the Army and strengthen our contribution to NATO. And we are determined to rise to that challenge.

You need only look at Exercise Steadfast Defender, NATO's largest military exercise since the Cold War, for an example of what we can achieve as an enterprise. The DE&S Vehicle Support Team, with their Army and industry partners, mobilised more than 2,000 vehicles for the land element of the exercise.

I was also reminded recently about Project Hunter, a joint initiative between DE&S and the Army Special Operations Brigade. The project delivered the Alternative Individual Weapon (AIW) system, an exceptionally reliable and accurate rifle, to time and budget. The team behind it credit this to concise, open engagement from everyone involved.

That is the goal: to design together, build together and support together; to drive more operational efficiency, achieve more with the resources we have and make what we produce go further.

Today, the UK's defence enterprise is working hard to deliver greater scale at greater speed. We're focused on rapidly introducing new technologies and efficient processes, while strengthening our partnerships and alliances.

I spent some of August travelling around the UK, visiting some of our DE&S teams and industry partners. Their passion, dedication and drive to do the best to support our Armed Forces was palpable. I was energised by all that I saw, from the ramping-up of ammunition production to 3D-printed rocket motors.

These visits were an opportunity to strengthen the bonds within our defence enterprise and better understand how we can overcome the shared challenges we face – in skills, resources and supply chains.

We are working under significant financial pressures, while maintaining a high tempo of operations. Our work is complex and the threats we face are significant. As an enterprise, we have a lot of work to do to remain ahead of them.

When Defence Secretary John Healey announced a root and branch Strategic Defence Review, he stated that it wouldn't be another business-as-usual exercise. It would be a review, he said, that's being done with Defence, not to it. The review is considering the state of our Armed Forces, the threats that we face, the capabilities we need and the resources we have. It will create new opportunities for faster delivery, longer-term investment and more rapid innovation, with defence structures geared towards reaching this.

Defence Secretary Healey's vision is of a UK defence that makes "Britain more secure at home and strong abroad."

If we continue to work together – as a united UK defence enterprise and as a true partner to our global allies – I'm confident we can realise this.

The progress UK Defence has made in the last two years – the transformation of DE&S' operating model, the work of Defence Reform, and the levels of engagement and energy I see at events like DVD – give me confidence that we can and will deliver for our Armed Forces, our nation and our allies.

SENIOR LEADER COMMENT

Delivering the next generation of Land forces

Lieutenant General Simon Hamilton, DE&S Director General Land, looks ahead to DVD 2024 and to the future of the Land defence enterprise.

This is my first time writing in Desider and I'm pleased it is well-timed with this year's Dynamic Vehicle Display (DVD) event.

The last time I went to DVD, in 2022, I was Director of Programmes at Army Headquarters. Now, two years later, I'm approaching the event in my current role as the Director General of DE&S' Land domain.

As well as being a showcase for the British Army's capabilities, DVD is an important opportunity to discuss our shared goals and objectives, and see, first-hand, the remarkable innovations that the Land defence enterprise has to offer.

The British Army's vision, under Chief of the General Staff General Sir Roly Walker, is to field a new generation of land forces that leverage advanced digital technology and integrated systems. With a land war raging in Europe and global tensions rising to their highest levels in many years, the imperative to modernise our Land forces cannot be understated, nor can the need for us to work as One Defence to achieve that.

General Sir Walker's vision is focussed on doubling the lethality of the British Army by 2027, to create the most modern and lethal army in Europe. By working closely with DE&S and partners across the defence enterprise, the Army is evolving to become more agile, more operationally capable and more resilient.

DVD 2024 supports this vision by encouraging discussions and providing access to emerging technology that enables digital interventions and the low-cost/high-impact sensors and effectors that are key to the British Army maintaining the battlefield edge.

Moving from Army HQ into DE&S allows for an interesting perspective on the changes that have taken place in UK Defence. I can see all too clearly how vital it is that we work seamlessly as One Defence to deliver the equipment and support programmes that will give our front-line personnel the edge when they need it most.

DVD 2024 is the first time that trial platforms of the Ajax and Boxer armoured vehicles and the Challenger 3 main battle tank will be presented together as one powerful, integrated group. They are the tangible future of modern warfare – interoperable platforms that work together to amplify their impact. It is a potent example of the results we can achieve and the large, complex programmes of work we can deliver when DE&S and its industry and mission partners work in unison.

This year's DVD is the first major UK Land event since DE&S began standing-up our new operating model and a good moment for us to discuss the changes we're making with our partners across the enterprise. We are close to finishing the most wide-ranging change process DE&S has seen for a decade. This evolution will make us into an organisation ideally suited to closer collaboration.

The benefits of our new ways of working will be felt across UK Defence in the coming months, as we take the best of what we already do and build on them to become an organisation that delivers more effectively, efficiently, with greater availability and pace.

The tagline for DVD 2024 is: "Working together to pull the future into the present. More Modern, More Lethal, More Productive." I cannot think of a better goal, not just for the event, but for everyone involved in advancing the UK's Army capabilities and the whole UK defence enterprise.





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FEATURE

The Army's new ABC: Ajax, Boxer and Challenger 3

The Ajax and Boxer vehicles and the Challenger 3 main battle tank are at the centre of British Army's future force.

In the future, Ajax, Boxer and Challenger 3 will form Brigade Combat Teams that spearhead the UK's land fighting power and provide a critical contribution to NATO's deterrent strength.

The first Ajax and Boxer vehicles have been delivered and are in test phases prior to becoming fully operational, while Challenger 3 prototypes continue to undergo crucial trials.

Want to know more about these game-changing platforms?

Ajax armoured cavalry vehicles

The Armoured Cavalry Programme, commonly known as Ajax, is expected to achieve Initial Operating Capability (IOC) between July and December 2025, when the British Army will be able to deploy a family of advanced, medium-weight armoured fighting vehicles.

Ajax is the name given to both the group of vehicles and the specific turreted variant. The programme will deliver six variants in total based upon a common base-platform, with a number of roles, from reconnaissance and command and control to repair and recovery.

The Ajax turreted variant will be the principal Ground Mounted Manned Reconnaissance asset at formation and battlegroup levels, providing a consistent surveillance capability. It is equipped with a 40mm stabilised cannon and advanced surveillance equipment designed to integrate future systems.

Significant progress has been made over the last year, with more than 33,000 km driven in support of reliability trials, acceptance of the latest capability standard and a ramp-up of production to meet the IOC quantities required.

Boxer infantry carrying vehicles

The Boxer Mechanised Infantry Programme will deliver 623 vehicles in four variants, each designed to enable highly-skilled personnel to carry out their specific roles. The first UK Boxer prototypes began joint army-industry trials at the UTAC Millbrook proving ground in January 2024.

The modular, eight-wheel Boxer vehicles are a step-change in capability. They can travel 735 km on a single tank of fuel, reach speeds in excess of 100 km/h and provide 360° local situational awareness to their crews in all conditions while offering enhanced awareness of the battlefield.

The Infantry Carrying variant utilises the vehicle's high tactical mobility and exceptional operational range to transport eight passengers and three crew at pace. The Specialist Carrier takes advantage of Boxer's options for internal reconfiguration, allowing specialist battlegroup assets – including anti-tank detachments, snipers and engineers – to be carried.

The Command variant allows for dispersed command and control over large distances and in support of troops in close fighting, while the Ambulance variant, with its high roof configuration, ensures medical evacuation teams are able to carry a mix of stretcher-borne and walking wounded.

Challenger 3 main battle tank

With its world-leading, UK-developed, advanced modular armour and powerful firepower, Challenger 3 boasts an impressive range of state-of-the-art technology. It is the most lethal, well-protected tank ever operated by the British Army. It will be the UK's only all-weather anti-tank capability.

The Challenger 3 will be armed with the latest NATO-standard smoothbore gun, increasing its interoperability with European NATO colleagues. The new gun will be paired with the most lethal ammunition available, which is being jointly developed with Germany, greatly enhancing the Army's ability to defeat evolving threats.

A suite of next-generation sights will provide its crew with greater situational awareness, including enhanced day and night targeting abilities as part of the new digital turret.

The first two Challenger 3 prototypes have been undergoing live-fire, integration and safety trials that are progressively building confidence in the tank's design and performance.



Ajax armoured cavalry vehicles



FEATURE

Boxer infantry carrying vehicle



Challenger 3 main battle tank. Credit: RBSL 2024.

NEWS

UK Defence's 'Through-life Support Conscience'

Vice Admiral Andy Kyte, Chief of Defence Logistics and Support and Head of Defence Support, has now joined DE&S' Executive Leadership Team.

I became Chief of Defence Logistics and Support (CDLS) in September last year, after 36 years in the Royal Navy. As a career logistician, with experience in operational logistics and more recently in joint service posts, becoming CDLS was a great opportunity to take all I've learned and focus it on driving forward Support.

Support is where logistics, supply chains and engineering coming together to generate, deploy and sustain our Armed Forces. It's no surprise then that the UK's Defence Support Enterprise is a big beast. With 60,000 personnel involved (including industry), and a £1.6 billion annual spend it really does run from the factory floor to the front-line.

With growing threats and changes to the strategic context, and the recently commissioned Strategic Defence Review, it's vital that we talk about Support. The delivery of credible deterrence, and the ability to get to the fight, stay in and win it, are based on having a Support Enterprise that is resilient, resourced and fit for the task.

Defence has at times struggled to place enough emphasis on the value of through-life support. This has resulted in gaps between the capability and the support solution, which have had an impact on availability. Every platform we procure and support could ultimately end up on the front-line, so we have to look at things through the eyes of the Joint Commander. If they have something with a sub-optimal support solution, it will be challenging to integrate and sustain it.

As CDLS, and in my capacity as Defence's Through-life Support Conscience, I bring an end-to-end perspective to organisations in the support ecosystem. I own the support strategy and policy, and provide insights into how to best deliver these. If we get them right, then there's huge value in this. For one, we can ensure that each capability brought into service has an end-to-end support solution in place, so that personnel can rely on the kit, equipment and platforms they are using.

I also lead the Defence Support organisation within Strategic Command. While we deliver some direct support, our primary focus is on improving Support for the future, from developing ideas of the future delivery of support to large digital modernisation programmes. All in close conjunction with DE&S.

As CDLS I provide the conscience and authority to drive things in the right direction, but I don't own all the levers of change. That's why sitting as a full member on both the UK Strategic Command and DE&S executive leadership teams (ELT) is so important. What we need to achieve can't be done by one person or organisation alone.

Taking my seat on the DE&S ELT mirrors a wider effort to closely align DE&S and Defence Support. It's a natural integration, and a great opportunity to share cross-functional knowledge. With the stand-up of DE&S' new operating model and the ongoing Defence Reform process, we have an opportunity to enact the necessary improvements to how we deliver support.

I'm particularly focused on the operating model's Gateway and Systems Integration areas, where I think my role can bring a lot of benefit. This includes encouraging greater collaboration between teams and helping those in the delivery space shape support solutions at a much earlier stage.

Ultimately my responsibility is end-to-end coherence and integration. Thanks to the changes we're making, we can now work deliver support more collaboratively together, with a One Defence mindset, and, in doing so, make the UK more secure at home and strong abroad.





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FEATURE

"It all comes down to diversity of thought."

Angela Owen OBE, founder of Women in Defence UK, explains why gender equity is key to a stronger Defence.

Everyone who works in the defence sector shares an underlying purpose: to defend and protect the nation. This includes Women in Defence UK. We work towards this through the lens of gender equity. Gender equity for all, not just women.

Why does gender equity make Defence stronger? It all comes down to diversity of thought. At Women in Defence UK, our work is aimed at increasing not only the number of women in the defence sector, but also the number of women with influencing roles, at the decision-making tables. In the current geopolitical climate, having people with diverse backgrounds and experiences among our decision-makers – people who will look at problems with different eyes, bring fresh ideas into the room and see solutions beyond potential 'group-think' – is paramount.

I was in the Army for 30 years. When I left, I started working as a consultant in the defence and security sector. I would go to conferences or seminars, and there would be a hundred men

in the room and maybe half a dozen women. I wanted to make connections with those women, so I set up a group online and that was 13 years ago. Women in Defence UK grew out of that.

Women in Defence UK now has three main strands of work. The first is Inspire - our annual awards programme. It's in its ninth year and will be announcing the 2024 short list very soon.

The second is Critical Mass. We're building a bank of critical knowledge and leading practice from over 40 partners from across the sector to help accelerate gender equity. Alongside this, we run annual Critical Mass summits. At our summit this year we invited Elliott Rae, founder of Parenting Out Loud, to speak about the importance of encouraging and enabling men to be active and present at home and have a career. Arguably, when it comes to childcare, women have more choice than men; maternity leave is generally more generous than paternity leave. It's another angle to the challenge of gender equity.

The third is our Challenge interview series. Four times a year I sit down with the people at 'the top of the shop' in the MOD to discuss and, yes, challenge them on their equity, diversity and inclusion plans. It's an opportunity to, politely, put questions to them that we source from our community, which otherwise might not filter up to their level. These interviews help to move the conversation on; we bring different ways of looking at things to the table. It's a good approach that works for both sides.

When I sit down with Andy Start at DVD this year, it will be his first Challenge interview, though he is a member of Women in Defence UK's Strategic Advisory Board. We already gain a lot from his experiences, his insight and his energy, and I'm looking forward to a lively conversation.

If I look back, it's clear to see the progress we've made in the fight for gender equity. Things really are moving. Thirteen years ago, setting up a women's group could have been career limiting. Now people are proud to be members of our group and others, to be allies and ambassadors for women who work in defence of the nation.



FEATURE

On the move and hitting the target

Mike Bird, DE&S Futures Lab Command Lead, explains how his team brought together an expert group to explore stronger, more secure alternatives to satellite navigation systems.

As Ukraine's Armed Forces contend with having their communications disrupted, it is a reminder that the Russians are experts in electronic warfare.

The possible implications of an adversary gaining the advantage in electronic warfare are significant. One area of particular importance is the ability to manoeuvre. It's crucial that those commanding the UK's Armed Forces are able to pinpoint where their personnel are, get them where they need to go, and have them hit the right target with greater speed and precision than their adversaries.

The arrival of Global Navigation Satellite System (GNSS) technology, principally the United States' GPS, caused a seismic shift in the Land domain, as armies took a major step forward from the map, compass and protractor. GNSS technology has enabled greater accuracy, especially regarding precision firing, and enhanced the tempo of operations.

However, GNSS technology is not immune from the 'cat and mouse' of action and counter-action. The UK's adversaries continue to develop electronic warfare methods to disrupt or deny access to GNSS, to prevent our ability to gather accurate positioning, navigation and timing (PNT) information.

Building on work conducted by the Defence Science and Technology Laboratory (DSTL), DE&S' Space Delivery Team asked Futures Lab to explore mature and emerging Alternative Navigation (Alt Nav) technologies, which could provide accurate and resilient PNT information and do not rely on GNSS. The aim being to determine their utility to in-service and future defence capabilities.

We convened a bespoke team of experts from industry to investigate this with DSTL and the Space Delivery Team. They explored potential technologies to identify those with the required technical maturity, which could make a significant contribution to mitigating Defence's PNT vulnerabilities.

Engaging with a range of commercial actors allowed us to provide a broad 'voice of industry', rather than a single 'company view', thereby generating greater insights and technical assurance. And by combining this with inputs from mission partners, Alt Nav technologies could be aligned with military capabilities.

The group identified and assessed candidate technologies resulting in 81 possible pairings that mapped a specific technology to a Defence platform, for example, fibre optic gyroscopes paired with a mobile artillery platform. We presented these to decision-makers alongside recommendations for further work.

By adopting the principles of brevity, consistency, relevance and robustness in their evidence-building and reporting, Futures Lab



was able to speed up critical evidence-gathering and help to reduce the risks attached to future decision-making. The group's success was the result of working in a mutually supportive and collaborative manner.

Ukraine continues to dramatically illustrate that Land warfare can be a brutal and violent environment, and that the ability to accurately manoeuvre is a vital requirement.

As the vulnerability of accessing standard GNSS technology grows, the effective adoption of Alt Nav technologies could be the key to ensuring the UK's Armed Forces have access to precise, timely information to enable greater freedom of action and to hit the right targets with the right weapons at the right time. Without Alt Nav technologies their ability to effectively out-manoeuve the UK's adversaries is at notable risk, but with them we could make a major contribution to achieving mission success.

FEATURE

DVD 2024: Delivered by Defence, for Defence

DVD 2024 is delivered by DE&S, in partnership with the British Army, making it a UK defence show delivered by Defence itself. Ali O'Hagan, the DE&S project manager behind DVD 2024, tells us more.

What does your role as DVD project manager involve?

I'm responsible for planning, co-ordinating and managing DVD 2024, from concept phase to execution, ensuring maximum benefits for the defence industry and acquisition community. This involves working with a team of stakeholders from UTAC Millbrook, Army and the DE&S Land Equipment Operating Centre (LEOC), including selling exhibition space to more than 250 exhibitors who will bring hundreds of different pieces of land equipment to the event.

It's a unique job and, unlike many project management roles in DE&S, it allows me to see the project through from start to finish in a relatively short space of time.

How have your previous roles prepared you for this task?

This is my first time working with the DVD delivery team and it's certainly a very different project to others I've delivered. My previous roles have been Land project management roles delivering military equipment programmes in LEOC and the Weapons Operating Centre. Before joining DE&S, I worked in events management at several international sporting arenas, including Twickenham and Ascot. All of these roles have provided me with a wealth of stakeholder management and organisational skills, which have been essential for this DVD role.

What's the most challenging part of organising an event like DVD?

DVD is an unusual event in that it's organised and delivered by a small team within LEOC. But what we lack in size, we more than make up for in defence insight. Our knowledge, skills and experience, teamed with that of the British Army, means we're able to put on a great event for stakeholders in the Land Equipment space. It's important to have the correct influence and support, so a significant challenge is making sure that all stakeholders, who have their own unique agendas and ways of working, are listened to and represented.

What are you most excited about for this year's DVD?

Having Women in Defence UK at DVD for the first time is a step in the right direction for inclusivity within the Defence sector. I'm very interested in the role women play in Defence. My personal experiences, having worked in Defence for many years, have led me to realise the importance of accelerating gender equity to create a more welcoming environment. This is an opportunity to highlight the crucial roles women play in the defence space and encourage young women to consider the diverse and interesting careers it offers.

What have you learnt from the experience and what do you think you will take from it?

Collaboration is key. I was nervous that people wouldn't buy-in and support us, as most of the DVD 2024 delivery team also have their 'day jobs' alongside this event. We all have our own expertise, whether it's organising speakers or planning the movement of huge military platforms, while keeping around 4,000 visitors safe and engaged. There's so much each individual brings to the team and everybody is really willing to support and assist each other. Thankfully I have a great team behind me that allows for me to press on and understands my very driven approach.



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NEWS

£850 million MaST agreement launched

A new framework to boost UK warship and submarine availability presents huge opportunities for UK businesses, including SMEs.

Minister for Defence Procurement and Industry Maria Eagle visits Somers Forge.



Delivery, who said: “In order to support a global Britain and a global Navy there is a need to ensure platforms, systems and equipment remain operational across the globe. Improved processes that allow the delivery of the right parts to the right place at the right time, support strategic repair capabilities without compromising safety or availability, and enable access to specialist technical expertise, are of paramount importance. The MaST programme is a key enabler in this space, while also being a catalyst for greater involvement of UK-based small and medium enterprises.”

The MaST effect

Leeds-based Performance Engineered Solutions (PES) is an engineering design solutions specialist with a multidisciplinary team. Although PES has carried out work previously for clients operating in the defence supply chain, this is the first time the business has had a chance to bid directly for MOD contracts.

Mike Maddock, Managing Director at Performance Engineered Solutions, said: “Although fast-growing, PES is still relatively small compared to the giants of the global defence industry, meaning MaST represents a huge and valuable opportunity to grow the business. It’s a great achievement for a company of our size to be included in this framework and we are proud to be part of it.”

He added: “South Yorkshire and the North in general have an illustrious history of supplying the defence, aerospace and other advanced manufacturing industries. This continues to this day, with major prime suppliers and many key companies in the defence supply chain.”

Thanks to a new £850 million, seven-year framework agreement, UK small to medium-sized enterprises (SMEs) will play a greater role in ensuring Royal Navy warships and submarines are continuously available for operations around the world.

The MaST framework is designed to increase availability of support and spares to non-combat systems aboard UK warships and submarines. It is a critical enabler of naval operations that has seen 39 defence suppliers selected to bid for contracts across three frameworks. Of those suppliers, over half are classed as SMEs.

Launching MaST, Minister for Defence Procurement and Industry Maria Eagle visited one of those SMEs, Somers Forge in Halesowen near Birmingham. During the visit, she saw first-hand how Somers Forge transforms raw materials into parts for Royal Navy ships.

She said: “The spares and repairs that keep our warships and submarines at sea are critical, and this agreement will ensure that more British small businesses – from Southampton to Aberdeen – will be at the heart of supporting the Royal Navy.

“By backing our defence industry, we will keep the nation safe and support more than 200,000 jobs.”

Samson Folkes, Managing Director of Somers Forge, said: “Being selected for the MAST framework represents a huge opportunity for our business. We have been a defence supplier since 1912 and are incredibly proud of our heritage supporting the Royal Navy. For Somers Forge, winning contracts through MAST can help us sustain vital jobs and apprenticeships in the Midlands as well as underpin our growth ambitions.”

The Minister was accompanied by Dr Simon Dakin, DE&S Director General Core

NEWS

Tyche satellite procured by DE&S launched into space

A UK satellite, which will support British military operations, has been successfully launched into space.

A satellite named Tyche, which was procured through a £22 million contract awarded by DE&S to Surrey Satellites Technology Limited, has been successfully launched.

Operating in low Earth orbit for five years, Tyche will provide timely space-based imagery. It is UK Space Command's first satellite capable of capturing daytime images and videos of the Earth's surface. As a result, it will strengthen the UK's Intelligence, Surveillance and Reconnaissance (ISR) capabilities.

The Tyche project involved the DE&S Space Delivery Team, UK Space Command, the Defence Innovation Unit, the Defence Science and Technology Laboratory (DSTL) and Surrey Satellites Technology Ltd.

Paul Russell, DE&S Space Team Leader, said: "Working closely with UK Space Command, DSTL and industry to understand how to deliver in a new, complex and critical environment has been an exciting journey. To see Tyche – the first of a new generation of UK military capabilities – delivered into orbit is an incredibly proud moment and a tribute to everyone's commitment to this project."

Designed and built in the UK, Tyche is the first satellite to be fully owned by the MOD. It was launched from Vandenberg Space Force Base in California by SpaceX using their re-usable Falcon 9 rocket, as part of the Transporter 11 mission. The first signals from Tyche were received a few hours after lift-off, confirming the successful launch.

As part of the MOD's space-based ISTARI programme, Tyche is the first of a constellation of satellites and supporting ground

systems to be delivered by 2031. These will support military operations and contribute to other government tasks, including environmental and natural disaster monitoring, the development of mapping information, and tracking the impact of climate change around the world.

Minister for Defence Procurement and Industry Maria Eagle said: "Tyche will provide essential intelligence for military operations as well as supporting wider tasks across Government. Tyche shows the UK's commitment to supporting innovation in science and technology, stimulating growth across the sector and supporting highly skilled jobs in the UK."

The design and build of the 150 kg satellite – which is roughly the size of a washing machine – has supported around 100 highly skilled roles at Surrey Satellites since 2022.

Major General Paul Tedman, UK Space Commander, said: "This is a fabulous

day for UK Space. The successful launch of Tyche has shown that UK Space Command, and its essential partners across defence and industry, can rapidly take a concept through to the delivery of a satellite capability in orbit. Tyche represents the first of a future constellation of intelligence, surveillance and reconnaissance satellites that we will launch over the coming years."

The Tyche project will now begin its Launch and Early Operations Phase, during which the satellite's systems will be gradually brought online and tested, and payloads exercised and calibrated.

Future work will include the integration of Tyche into the UK Space Command ground architecture being developed by DSTL and the Minerva Operational Concept Demonstrator Programme, as well as the DE&S-led procurement of the Primus ground station and Beroc command and control system.

Credit: SPACEX © 2024



FEATURE

Future-proofing partnerships in the UK and around the world

Kevin Craven, Chief Executive of ADS, explains the necessity of long-term investment and an effective partnership between industry and Government for UK Defence.

If the challenging geopolitical climate of recent years has shown us anything, it's the vital importance of all areas of the UK's defence ecosystem working together effectively. That spans everyone from Whitehall and industry through to front-line personnel.

The intent of the new Government to, alongside industry, create an industrial strategy is a welcome part of this collaboration. The Government has shown its clear commitment to the UK's innovative, ambitious, world-renowned advanced manufacturing sectors, including Defence.

However, we must be clear: creating a stable climate that promotes and incentivises investment and ensures the UK remains attractive in a highly competitive international environment must be a priority. There is a strong global demand for defence capabilities and this fits perfectly with the Government's mission to grow and develop the economy.

Investment in Defence is a long-term partnership. In order for any investment to remain relevant to emerging technologies and tactics, our military capability must be maintained and supported by an equally relevant defence industry.

It is important that industry has a dialogue with Government – conversations cannot be only one-way. Joined up thinking across all stakeholders, and across the wider ecosystem, is everyone's responsibility. Long-term commitments to develop our sector will allow UK industry to ramp up production. This not only benefits Defence, but the wider economy as well. Enhancing the level of defence spending, and the certainty this fosters, over the long-term will allow industry to invest accordingly.

Nowhere is this requirement brought into sharper focus than in the case of Ukraine. I was honoured to visit Kyiv earlier this year alongside DE&S CEO Andy Start. It was a privilege to observe British and Ukrainian businesses working together. The significant commitment from both British and Ukrainian Governments is hugely important for our future security. It is clear that there is considerable untapped potential to deepen industrial relations and trade between our nations.

Britain has rightly led the way in support for Ukraine and I am proud of the role ADS has had in this; developing a private sector-led Ukraine trade mission model and delivering the first of many last month.

Of course, supporting Ukraine also means restocking our own supplies. This is heavily reliant on our supply chains, and – with 93 percent of our membership made up of the SMEs that form such an important part of our industrial bedrock – it is abundantly clear that our safety and security depend on all areas of our ecosystem.

Without a buoyant, agile, reliable supply chain, the UK's defence capabilities are more vulnerable. We need a business climate that allows SMEs across the supply chain to develop and grow. Investing in them will allow the next generation of industrial muscle to develop. Doing that will help us be prepared for all possibilities, including conventional, unconventional and asymmetric warfare, both here and alongside our international allies.

Short-termism and a lack of integration are problems we simply cannot afford to have in the current climate. I am encouraged by the way the defence industry and DE&S are engaging, yet there is much more to be done. Only together, with truly open and supportive collaboration, can we achieve the ultimate goal of our continued security.



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FEATURE

Increasing capability through environmental sustainability

Mick Brown, DE&S Environmental Protection and Sustainable Acquisition (EPSA) Team Leader, introduces Desider to a new management framework for forecasting and managing the whole-life emissions associated with military equipment.

Defence accounts for over 50 percent of Central Government's greenhouse gas (GHG) emissions. As Lieutenant General Richard Nugee said in the MOD's 2021 Climate Change and Sustainability Strategic Approach, climate change is now "firmly a Defence Problem". Understanding the climate benefits and operational advantages of reducing emissions is vital to maintaining and enhancing defence capabilities.

In the future, defence equipment will need to operate in a climate-changed and energy-transitioned world. By introducing green technology, UK Defence can increase equipment performance and reduce the fuel, spare parts and other resources required to maintain and operate it.

Assessing the current and future GHG emissions of defence equipment allows us to better understand GHG-related risks and liabilities.

Since 2022, we have been developing the technical and organisational readiness to help DE&S delivery teams understand and reduce the carbon footprint of the equipment and support solutions they provide to our front-line command mission partners.

Whole-life equipment emissions

The EPSA team is developing a Whole-Life Equipment Emissions Management Framework that enables teams to forecast the GHG emissions associated with each lifecycle stage of their project. This is being done in consultation with the MOD Climate Change and Environment team and the climate change and sustainability leads in the British Army, Royal Navy and RAF. We are supported in this work by Aurora, the Engineering Delivery Partner service.

The management framework is underpinned by a GHG emissions accounting methodology that identifies key emissions sources to be considered at each stage of the equipment lifecycle. A data platform then enables collation, analysis and reporting of equipment emissions information.

In early lifecycle stages, the framework can calculate emissions data using high-level estimates of weight, material type and published conversion factors, informed by comparisons with similar systems. As the project progresses through its design, development and manufacturing stages, accurate emissions data will be provided by the supply chain, including forecasts of in-service energy efficiency, which are validated by actual operation energy consumption figures. End-of-life GHG emissions are then modelled to encourage consideration of 'circular economy' principles: re-use, re-purpose and recycle.

But understanding the whole-life carbon footprint of defence equipment is only a means to an end. The real value comes from using emissions information to inform decisions relating to equipment procurement and through-life support. We are working with stakeholders across the MOD to ensure carbon footprint considerations are embedded into wider acquisition policies, processes and tools.

Piloting the approach

My team recently piloted this approach with the Multi Role Support Ship (MRSS) project. The project will replace the capability and capacity of multiple assets, including the Landing Platform Dock and Landing Ship Dock classes and RFA Argus, with a single multi-purpose ship.

We worked closely with the MRSS team to estimate the anticipated whole-life GHG emissions associated with the vessel's lifecycle. We were able to confirm the primary drivers of carbon emissions, and this data will help inform the team's procurement decisions going forward.

Following this successful pilot, EPSA is exploring opportunities to further refine and test the Emissions Management Framework and are looking to collaborate with other projects.





DE&S awards £71 million vehicle support contract

NP Aerospace will deliver spares and post-design services for British Army, Royal Navy and RAF vehicles.

DE&S has awarded vehicle integrator and armour manufacturer NP Aerospace a £71 million conventional vehicle systems spares and post-design services (CVSSP) support contract. The contract will run for four years, with two options to extend by one year beyond that.

The contract will see NP Aerospace deliver spares and post-design services to over 15,000 MOD vehicles employed widely across the British Army, Royal Navy and RAF. This includes the entire Land Rover and Pinzgauer fleets, and the Lightweight Trailer fleet. The combination of post-design services and spares provision will enable NP Aerospace to rapidly address obsolescence and other supply chain risks, improving vehicle availability for the front-line user.

The CVSSP contract consolidates and amalgamates former individual MOD post-design service contracts providing a new single point of contact. It will ensure that vehicle fleet availability is maintained at the required levels to meet operational and training needs.

DE&S Vehicle Support Team Leader Brigadier Matt Wilkinson said: "We have a long-standing relationship with NP Aerospace and I'm delighted that we are able to continue this partnership. Not only does it provide the best possible service to the Armed Forces, but it also aligns with the MOD's future Land Industrial Strategy initiatives, including an evolution of the Land Integrated Operating Services."

In 2019, NP Aerospace won a similar vehicle support contract known as Protected Mobility Engineering & Technical Support (PMETS) that has successfully supported the MOD's fleet of over 2,000 Protected Mobility Vehicles. The vehicles covered under the PMETS contract include Mastiff, Wolfhound, Ridgback, Buffalo, Choker, RODET, Foxhound, Jackal, Coyote and Husky. Having successfully delivered PMETS for five years, NP Aerospace was well-placed to align the newly awarded CVSSP contract alongside PMETS using tried and tested procedures that have already gained the confidence of the MOD.

This contract award will create and sustain jobs at NP Aerospace's Coventry facility. The company's facilities will also be expanded in due course to enable, integrate and deliver the contract.

David Petheram, Managing Director and Senior Vice-President of NP Aerospace Vehicle Systems, Services and Spares Business, said: "The CVSSP contract aligns well with NP Aerospace's abilities to support the MOD's future Land Integrated Operating Services initiative and the Land Mobility and Land Industrial Strategy. We are very much looking forward to working alongside our customer to improve and sustain the vehicle support delivered to the UK's Armed Forces. The CVSSP award, together with our current PMETS contract, provides NP Aerospace with the post-design support contracts covering the vast majority of the MOD's lightweight wheeled utility, and protected mobility vehicle fleets."

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NEW FOR 2025



IAVC's **new location at Farnborough International Exhibition Centre** will have a larger exhibition hall, offering more opportunities to meet key providers, decision-makers, and view the latest armoured vehicles in an interactive setting. The venue's layout will make it easier to move between plenary sessions, workshops, and networking meetings.



The new 3-day agenda includes more content to fully address key issues in the armoured vehicle community, along with **additional opportunities for in-depth discussions** with peers to tackle current challenges.



A wider selection of **tailored workshops**, including topics like additive manufacturing for maintenance and active protection systems, enabling more diverse discussions on operational challenges with peers and colleagues.



IAVC will bring together **more nations and organisations** than ever, providing opportunities to build new relationships within the armoured community and hear updates on their latest programmes, paving the way for future collaborations.



A **renewed focus on lessons from contemporary conflicts** to help forces better integrate new capabilities and maintain their combat advantage as the world transitions from a post-war to a pre-war era.



All conference attendees are invited to **join us as our guest for a range of international food and drinks at the end of day 2**, providing a relaxed environment to continue conversations from the day's sessions.

EARLY CONFIRMED SPEAKERS



Lieutenant General Carmine Masiello
Chief of Army Staff
Italian Army



Lieutenant General Mike Elviss
Commander Field Army
British Army



Major General Glenn Dean
PEO Ground Combat Systems (GCS)
US Army



Major General Lizzie Faithfull-Davies
Director Land Equipment
DE&S



Major General Jonny Lindfors
Commander
Swedish Army

DE&S activity highlights

A digest of some of DE&S' work from the past month.

Military 'silent hangar' will help protect against foreign GPS jamming

Under a new £20 million contract awarded by DE&S, QinetiQ will build a new anti-jamming test facility at MOD's Boscombe Down site in Wiltshire. The facility, one of the largest in Europe, will help develop British assets that can perform operations in the harshest electromagnetic environments.

Due to open in 2026, the 'silent hangar' will be large enough to fit some of the biggest military assets, including Protector drones and Chinook helicopters. The GPS simulators and threat emulators inside the chamber will be able to create a number of hostile environments to test how well equipment can withstand jamming and other threats that attempt to confuse or disrupt military assets.

It creates an ideal environment to test the integrity of UK military equipment, while preventing those tests from affecting other users, such as the emergency services and air traffic control.

The facility will support new roles in the local area over the next two years, further enhancing the UK's pool of electromagnetic expertise and skilled technical jobs. It will also offer a range of opportunities beyond Defence, to wider government, industry and critical national infrastructure.

MOD marine conservation project to boost biodiversity underway

An oyster conservation project to reintroduce at least 2,000 European flat oysters to the MOD estate has started at Navy Command's HMS Excellent headquarters on Whale Island in Portsmouth.

The Whale Island Native Oyster Restoration Project, which aims to re-establish a healthy population of native oysters, is a joint initiative between the DE&S Salvage and Marine Operations (SALMO) Wrecks team, the Royal Navy, the Defence Infrastructure Organisation and the Blue Marine Foundation (BMF) charity.

The severely depleted reef-forming keystone oyster species is being grown by SALMO and Navy colleagues under pontoons on HMS Excellent. This is supporting BMF's Solent Oyster Restoration project, which is reintroducing the oysters to help enhance biodiversity, clean the water in the Solent and restore an essential part of the marine ecosystem. As filter feeders, just one adult oyster can filter up to 200 litres of water a day, removing chemicals and pollutants. This can increase water clarity and enhance growth of sunlight-dependent species and habitats, which are key habitats for coastal protection and carbon sequestration.

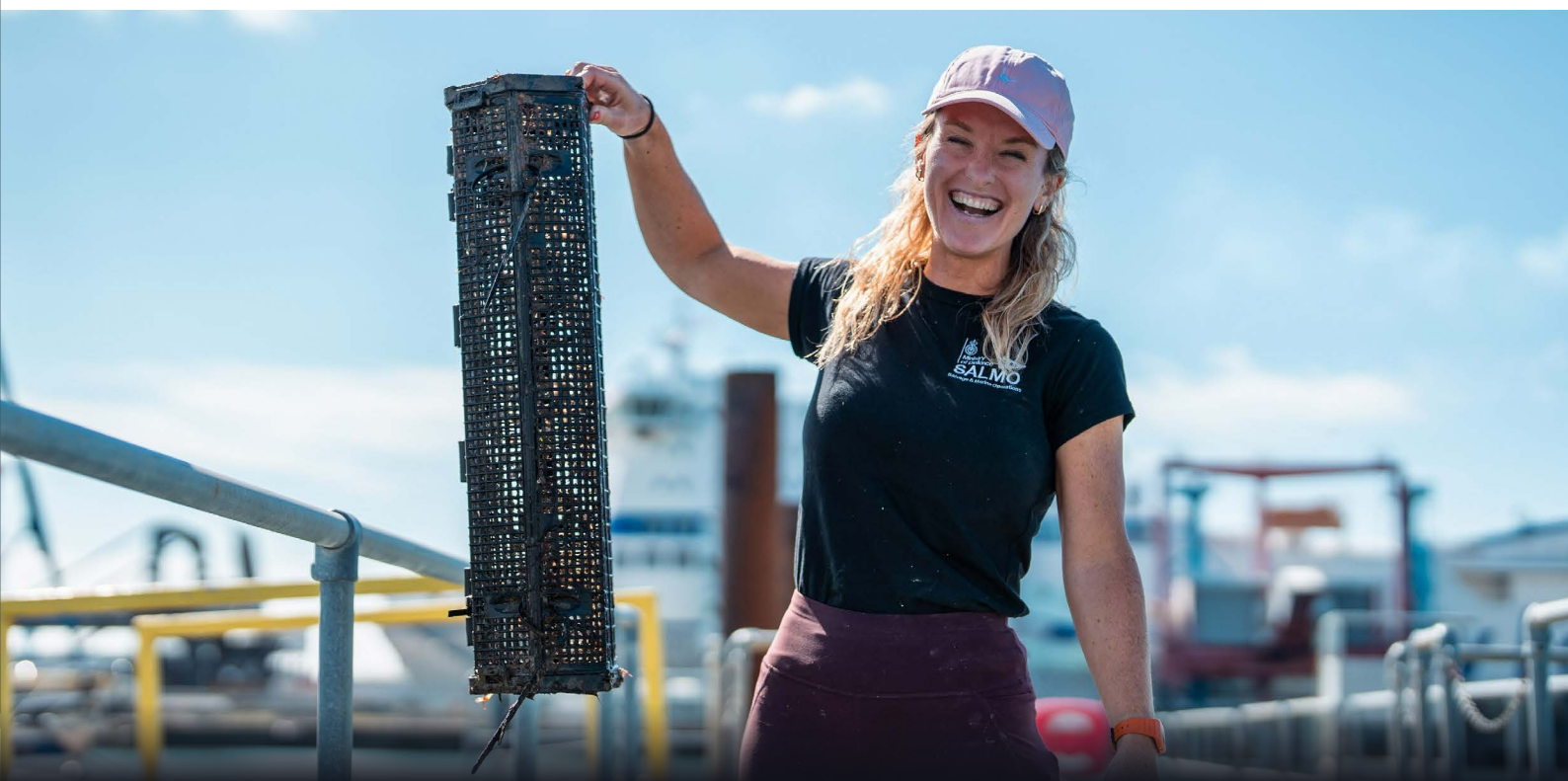
DE&S and North Bristol NHS Trust mentoring programme enters fourth year

The fourth cohort of DE&S staff are now halfway through a six-month cross-government mentoring programme with the North Bristol NHS Trust. The initiative matches DE&S project delivery personnel with an NHS partner based on experience, interests and future aspirations.

Through this shared experience, participants gain a broadened perspective and learn from their cohort's networks to identify opportunities and address potential future challenges.

The mentoring programme is a legacy of the exceptional work undertaken during the pandemic. Colleagues from DE&S and the North Bristol NHS Trust worked together to design and build a 300-bed temporary intensive care unit, known as the Bristol Nightingale Hospital.

It was recognised that there was a huge mentoring opportunity for reciprocal learning and sharing of knowledge between the two Bristol-based organisations. Since the initiative launched in 2020, 142 professionals have collaborated and shared knowledge across organisational boundaries.



Harriet Rushton, DE&S SALMO Wrecks Environmental Manager, on Whale Island in Portsmouth.

PEOPLE

Emma Parker

Job title

Palletised Loading System Rapid Procurement and Jackal 3/3E Project Lead

What does your role involve?

I lead two multi-functional teams that are delivering a Palletised Loading System and the Jackal 3/3E vehicle through a new rapid acquisition process. These projects are essential to NATO's New Force Model and the increase in the Land Fleet Requirement. We are running processes concurrently, challenging unnecessary procedures, taking extra risks where appropriate and building the foundations for rapid acquisition to be embedded within DE&S' new operating model. We are meeting the Army's aspiration for more military and commercial off-the-shelf purchases, and delivering in a compressed timeframe to ensure the platforms reach the Army quickly while still ensuring safety.

What do you most enjoy about your job?

Rapid procurement has long been only associated with urgent operational and capacity requirements. My teams are trying to deliver core vehicles using the same principles, alongside navigating the assurance boards and processes that a normal procurement entails, but within a compressed timeframe. It can be challenging for us and our suppliers, but it is never dull.

What is your greatest accomplishment to date?

Within DE&S it is probably delivering a complex conversion project during lockdown, where one platform is converted into another. This included the effects this had on the commercial aspects, the financial profile and the ability of engineers to do their jobs while safely social distancing. However, we still managed to deliver an integral capability to the Army within cost and performance parameters.

What keeps you energised about working at DE&S?

There will be a recurring theme here: the people I work and interact with are definitely what keeps me motivated. It is great that a group of people with entirely different skillsets can come together, prove a concept, dispel problems, jump hurdles and bring into service a usable, serviceable platform that is integral to our Armed Forces capability and lethality.

Who or what has shaped who you are?

Travel has enormously contributed to who I am. Being a military brat, I have been lucky to travel to some incredible places, learning to talk with people from all walks of life, and experience all sorts of different cultures. Hopefully it makes me a more rounded and approachable person.

What do you enjoy doing in your spare time?

My dog Bertie takes up a fair amount of our time at home, with long walks that never succeed in tiring him out. Otherwise, most of my time is spent with friends and family, often outdoors, always with good food and a plan for the next trip away.

What might surprise people about you?

I have an inherent belief that tea and cake can solve even the worst of issues.

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

Leave work at the front door, though that's hard to do sometimes, especially now when I'm working from home more frequently. The temptation to keep going and find a solution when an issue arises is strong, but it's important to remind ourselves to switch off and concentrate on life outside the laptop.





British Royal Marines Commandos participate in a warm start planning exercise in preparation for Exercise Predator's Run 2024. © DIVID 2024.

EDITOR'S CHOICE

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Workers at Somers Forge in Halesowen near Birmingham, transform raw materials into parts for Royal Navy ships.

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