

LEONARDO ELECTRONICS

# CUSTOMER SUPPORT & SERVICE SOLUTIONS



# DELIVERING SUPPORT ADVANTAGE TODAY AND TOMORROW

In an increasingly unstable world, the importance of world-class support for UK Armed Forces and international partners has never been more relevant. Which is why delivering support advantage is right at the heart of our mission within Leonardo.

Over the past 15 years, we have built on our strong heritage in the air domain, which can be traced all the way back to the first Integrated Operational Support (IOS) contract for the Sea King fleet.

Today, we support critical technologies on board platforms ranging from fast jets to helicopters. We're proud to be the largest supplier of avionic support to the UK MoD and a trusted partner for our customers worldwide.

And as we look to the future, we will continue to strengthen the long-term partnerships that are the bedrock of how we deliver value to our customers, while investing in the cutting-edge digital solutions of tomorrow.

SVP, Customer Support & Service Solutions



## SUPPORTING UK PROSPERITY

E666
MILLION
Spent with 2,100 UK suppliers

Driving Britain's recovery through inspiration, invention and engineering

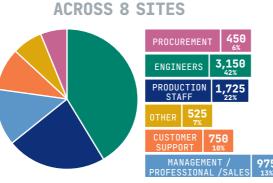


A total GDP contribution of £2.1 billion and 29,000 jobs supported across the UK

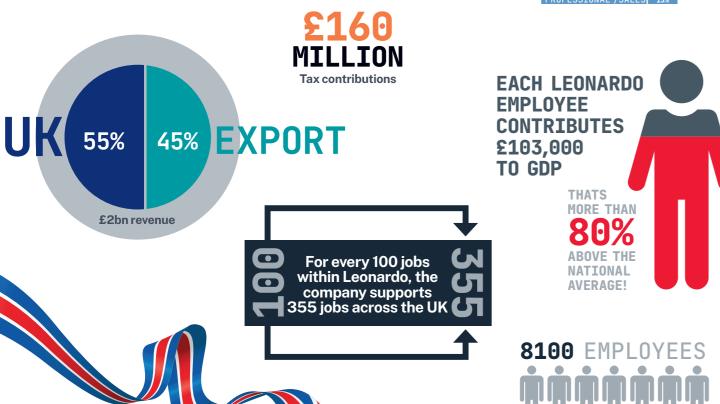








SKILLS BREAKDOWN

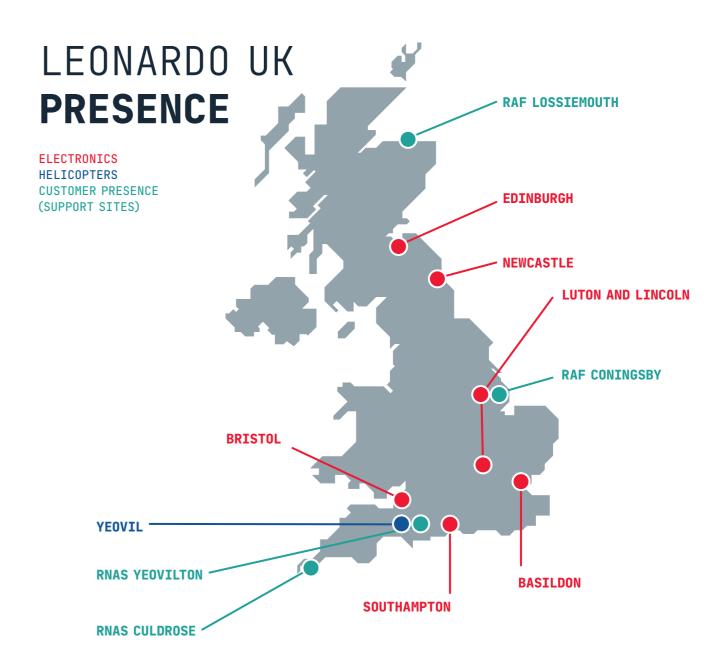


### LEONARDO UK

The heritage of Leonardo dates back more than a century, evolving from companies including Ferranti and Marconi's Wireless Telegraph Company which were founded in the late 1800s.

Since then we've invested continuously in the skills and technologies needed to keep the UK safe and prosperous.

Today, we are right at the heart of the UK's advanced engineering sector—making a vital contribution to the success of the economy. We're the largest supplier of complex electronics to the Ministry of Defence and our solutions support the world-leading capabilities of UK Armed Forces, as well as a growing number of international customers.



## SUPPORTING THE SYSTEMS THAT SECURE OUR FUTURE

#### SUPPORT YOU CAN COUNT ON

As part of Leonardo's electronics business in the UK, our Customer Support & Service Solutions team is dedicated to ensuring the readiness and reliability of critical technology and systems that underpin national security.

We provide tailored solutions that meet the evolving needs of the UK Armed Forces and international customers. Examples include the maintenance of advanced avionics, complex supply chain management, and supporting mission-critical equipment our warfighters depend on.

Our work spans a number of platforms, ensuring that defence assets like the Eurofighter Typhoon, Wildcat, and Merlin helicopters are operationally effective and mission-capable. By prioritising innovation and operational excellence, we enable defence capabilities to meet the challenges of today's missions and tomorrow's demands.





### WHAT WE DO

Our team is responsible for the continued availability of complex systems on-board modern defence platforms including radars, mission systems, navigation and communications, enabling crews to conduct missions successfully and return home safely.

In an unstable world, supportability is more important than ever before; to deter aggression and project force.

With defence budgets under increasing pressure, we continue to help the UK Armed Forces and customers around the world to make informed 'balance of investment' decisions on the trade-off between availability and cost, reducing through-life cost of ownership and enabling savings to be reinvested in capability.

The support partnerships that we forge, across industry and the Armed Forces, underpin the way we work as we strive for the 'win-win' that delivers value-for-money while maintaining operational effectiveness.



### **HOW WE DELIVER VALUE**

Our business is built on the exceptional skills, knowledge and experiences of our people. This collective know-how and commitment to collaboration is at the heart of the value we bring to customers.

We have a wealth of experience in problem solving, crafting solutions, and establishing long-term, benefits-driven partnerships across complex defence programmes. We bring all this together to create support solutions tailored to the specific needs of our end-user customers.

#### INTEGRATED OPERATIONAL SUPPORT (IOS)

Founded on the ethos of 'cost down, efficiency up', this end-to-end support model takes an output-based approach. IOS guarantees operational performance by managing and balancing risk on measures like availability, for a suite of mission-critical equipment, against an incentivised cost challenge.

#### **SPARES**

Provisioning of everything from high-volume commodities through to high-value electronic systems required to maintain platform or system availability.

#### MRO

Maintenance and repair of complex electronics throughout ML1 to ML4, including third-party MRO

#### ADVANCED MODELLING

Analysis and forecasting of asset reliability and logistics data, to inform investment decisions, provide real-time information, and support solution design and operation to optimum effect. Technical Training services – for individuals and teams, equipping operators and maintainers with the skills they need to carry out their specialist roles.

#### TECHNICAL AND OBSOLESCENCE SUPPORT

Providing technical support and Design Authority advice at the point of need, including FRACAS (Failure Reporting, Analysis, and Corrective Action System) and through-life equipment and material obsolescence management and mitigation.

#### TEST AND REPAIR

One of the key levers to improving front-end availability and reducing the impact of supply chain repairs, we design, develop, maintain and manage test solutions. These are often delivered as part of an ML2 capability at Technical Diagnostic Centres at military bases and customer sites and under Part 145 regulations.

### PROVEN TRACK RECORD

With strong expertise in both the design and development of state-of-the-art electronics systems, and the delivery of complex programmes, Leonardo is a long-standing, trusted partner of the UK MOD.

Over the past 25 years, our support to the UK Armed Forces has evolved substantially from the first Integrated Operational Support (IOS) contract.

The IOS concept, based around contracting for availability, remains the focal point for our continued support of the UK's Wildcat and Merlin helicopter fleets. The model consistently delivers improved operational output and value for money by streamlining efficiencies and improving whole-life costs.

Meanwhile, the Joint Avionics Service (JAS) which we deliver with BAE Systems as an integral part of UK Typhoon Support (TyTAN), has played a critical role in ensuring the availability of the Royal Air Force fleet of Typhoon multi-role combat aircraft.

Our extended team of over 500 people enabling Leonardo UK's Customer Support & Service Solutions business, spans sites in Edinburgh, Luton, Basildon, Lincoln, Southampton, Bristol and Yeovil, as well as at our new Digital Centre of Excellence in Newcastle.

Crucially, we also have teams embedded with the UK MOD at sites including RAF Coningsby, Lossiemouth, Lyneham, Cosford, and Brize Norton; RNAS Yeovilton, RNAS Culdrose, Salisbury Plain, Defence Equipment & Support (DE&S) DECA (MOD Sealand and MOD Stafford), as well as at all UK national ports of entry.

This distributed approach means that our people are able work closely with service personnel, civil servants and industry partners in a single team dedicated to ensuring the availability of UK defence assets.





#### WHAT SETS US APART

The value we bring to the end-user is built on strong technical expertise and a collaborative 'can do' mindset which means we're always ready to tackle problems, no matter how complex.

#### **OUR STRENGTHS**

#### COLLABORATION

We are collaborators at heart. Every day, we work with a multitude of partners across our support programmes. We strive to build strong relationships with our supply chain and wider industry colleagues. We work shoulder-to-shoulder with service personnel. And we engage with the whole defence enterprise. This spirit of open collaboration is vital in forging long-term partnerships based on trust.

#### BESPOKE SOLUTIONS

Every support solution we develop is tailored to meet customers' unique requirements. We are committed to delivering what truly matters to the frontline. We start by listening to the customer's challenges: What are they trying to achieve? What are the barriers? How can we apply our knowledge and expertise? We then shape our support to address and balance those requirements.

#### PROBLEM-SOLVING

Our business is all about solving problems. As an engineering-led organisation, overcoming challenges is central to what we do and it's one of our greatest strengths. Customers know they can come to us with a problem, big or small. They trust us to find a solution that works. And they know we will always act as a 'critical adviser', challenging their thinking when it's the right thing to do and working together to get to the root of the issue.

#### PLATFORM AGNOSTIC

We develop and deliver support services across the air, land and maritime domains. This breadth of expertise means we can be platform-and product-agnostic. We take what we learn from supporting one platform and apply that knowledge to improve how we deliver support on a different platform or domain, to the benefit of our end-users.

#### EMBRACING THE POWER OF DATA

Data is becoming an increasingly powerful tool in delivering support advantage. Through detailed modelling, we already track and interpret data from a wealth of sources to create the most robust and intelligent support solutions. We are continually investing in new capability, harnessing rapid advances in Artificial Intelligence modelling to add new capabilities and help end-users make informed decisions through smart use of data.

## TYPHOON: JOINT AVIONICS SERVICE

The Joint Avionics Service (JAS) plays a key role in ensuring the Royal Air Force Typhoon fleet maintains constant operational readiness. Through JAS, we support around 70% of the avionics onboard Typhoon, demonstrating our ability to manage complex supply chains across multiple nations.

#### **HOW JAS OPERATES**

Leonardo works collaboratively with BAE Systems alongside the RAF to deliver JAS, which forms part of the wider 10-year Typhoon Total Availability eNterprise (TyTAN) support programme, launched in 2016.

Typhoon's advanced avionics suite sets it apart from other combat aircraft. JAS focuses on optimising the supply chain and managing the repair of all avionics, including Typhoon's Defensive Aids Sub-System (DASS), fire control radar, navigation and communications systems.

Collaboration underpins every aspect of the JAS concept. The 'single team' approach is an essential ingredient in meeting the fleet's required flying hours and improving support resilience as well as minimising supply chain costs. Our support ensures off-the-shelf availability of key avionic assets. It is a significant undertaking, encompassing more than 330 individual avionic part numbers.

Leonardo back office teams in Edinburgh and Luton provide support to the Typhoon radar and DASS respectively, delivering an unrivalled technical advice and comprehensive engineering support service to the Typhoon fleet.

To ensure the Typhoon fleet is always ready to fly, we prioritise keeping assets 'on the wing' wherever possible, tapping into the knowledge of our Field Service Representatives (FSRs) and engineering support teams. To maximise availability, we conduct maintenance on base, close to the aircraft.

By performing advanced maintenance tasks closer to the customer, we significantly reduce the need for repairs to enter the broader supply chain, ultimately streamlining operations and minimising downtime. This approach not only strengthens our collaboration with the customer but also enhances efficiency, driving operational readiness in a more responsive and cost-effective manner.

These more complex 'black box' repairs are performed on-base by Leonardo personnel, calling on technical support and advice from the back office as required, including members of the EuroRADAR and EuroDASS Consortia.



#### THE VALUE OF MODELLING

We use advanced modelling techniques to predict and plan the precise support requirements for Typhoon's avionics. This modelling examines the flying profile and is capable of simulating millions of sorties. It also forecasts the demand for spares and repairs as well as provisioning for technicians and FSRs.

Modelling is also key to equipment availability because it allows us to predict potential failures. We can then proactively put in place measures to reduce any wider impact on aircraft availability, for example by minimising D-state (aircraft-on-ground) situations.

#### INVESTING IN THE POWER OF DIGITAL

We are investing in cutting-edge data and digitalisation capabilities that will increasingly use AI and other automated technologies to fine tune how we support the avionics on board Typhoon. For example, AI will enable us to predict more precisely when we need to ramp up spares availability or make changes to repair or supply chain capability.

Meanwhile, digitalisation will enable more effective in-country support, allowing technicians to access additional expertise remotely via digital 'reach back' into the wider Leonardo support organisation.

#### FUTURE-PROOFING TYPHOON

Typhoon will remain a critical asset for the UK through to 2040 and potentially beyond. With that in mind, we are taking a long-term approach to how we support the platform through to its out-of-service date. We are working collaboratively with industry partners and the UK MOD to develop support solutions that fit the changing needs of defence and ensure that the future JAS contract will sustain Typhoon and keep it at the forefront of protecting UK interests.

## ROTARY WING IOS: KEEPING WILDCAT AND MERLIN FLYING

The Wildcat and Merlin helicopter fleets are vital components of the UK's multi-role military helicopter capability. Working side-by-side with our colleagues from Leonardo Helicopters and service personnel, we are responsible for availability of the advanced avionic equipment on board both platform types.

#### HOW WE DELIVER SUPPORT

The comprehensive Rotary Wing IOS support solution brings together the expertise of our Edinburgh and Luton-based repair cells along with a team permanently based at the Leonardo Helicopters facility in Yeovil. We also have a field service presence at the two main operating bases –RNAS Yeovilton for the Wildcat and Merlin Mk4, and RNAS Culdrose for the Merlin Mk2.

This collaborative joint industry/customer team is the focal point for support activity. It ensures that we can have a constant open and honest dialogue with the end-user about support issues, helping to solve problems quickly and efficiently. We contract for availability and our key performance metric is 87% off-the-shelf avionic equipment availability. This is fundamental to ensuring that Wildcat and Merlin helicopters are available to fly.

For Wildcat, we are responsible for any repairs required to the helicopter's highly capable Seaspray 7400E multi-domain Active Electronically Scanned Array (AESA) radar. Our avionics support on Merlin is focused on the helicopter's mission system, communications equipment, and Automatic Flight Control System (AFCS). We also support a range of non-Leonardo equipment on board the aircraft.



The systems we repair are flight critical—the helicopters cannot fly without them—and the high-value, low-volume nature of the assets involved means that repair pools are small. There is therefore significant pressure to streamline the repair process to maintain platform availability. The nature of complex electronic systems also means that they are subject to unscheduled failure. So, our support solution is fine-tuned to minimise repair turnaround times and keep helicopters flying.

#### REDUCING THROUGH-LIFE COST

A focus on through-life cost rather than platform acquisition cost is an increasingly important factor in military procurement programmes. Within our rotary wing support solution, we help the end-user make informed decisions on how to minimise support costs through smart use of modelling.

Our modelling techniques allow us to analyse every aspect of support from spares provision and repair turnaround times through to quantities of repair and overhaul stock. We can also run 'what if' scenarios to ensure the overall support solution is robust.

We help the customer to solve increasing supportability challenges around obsolescence as new-generation technology is integrated onto platforms alongside older analogue equipment. Meanwhile, as pressure on defence budgets pushes back platform out-of-service dates, we are seeing fewer platforms available, making repair turnaround times ever more important.

Building supply chain resilience is another challenge. There are numerous external factors, including the Covid-19 pandemic and the added complexity of post-Brexit trading rules. The result is that supply chains are under significant pressure. There are global shortages of some raw materials and ongoing issues around skills and knowledge-retention within an evolving supply base. Managing these supply chain complexities effectively is another way that we ensure unbroken support to the end-user.

#### BROADER ROTARY WING SUPPORT

Beyond Wildcat and Merlin, we have a strong track record over many years of successfully supporting the Apache attack helicopter fleet operated by the British Army Air Corps. We also have an ongoing multi-year support contract with the UK MOD to support the defensive aids suite on board the Chinook Mk5, Mk6 and Mk6A fleets. Work is led by our team in Luton and we also provide support at RAF Odiham as requested to embody equipment updates on the aircraft.

#### FROM IOS TO ROTARY WING ENTERPRISE

Support for the Wildcat and Merlin helicopter fleets comes under the umbrella of the Wildcat Integrated Support & Training (WIST) and Integrated Merlin Operational Support (IMOS) contracts, which cover the British Army Wildcat Mk1, the Royal Navy's ship-borne Wildcat Mk2 and both Merlin types (Mk2 and Mk4) operated by the Royal Navy.

The IOS concept has proven itself over the past two decades by improving platform availability and reducing through-life costs. The IMOS contract is currently in its 19th year of 20, while the WIST programme is at year 12 out of 15.

Looking to the future, both helicopter platforms will form part of the wider Rotary Wing Enterprise (RWE) currently being developed by DE&S in close collaboration with Leonardo Helicopters and Boeing. The RWE aims to drive up availability of the UK warfighting helicopter fleet comprising Apache, Chinook, Merlin and Wildcat while providing a more cost-effective way to support the fleets in future.



## TECHNICAL TRAINING SERVICES: A NEW ERA OF LEARNING

Leonardo provides training and simulation services to military customers both in the UK and worldwide.

Within Leonardo, we are applying our collective knowledge and expertise into developing technical training services that embrace innovative use of technology to meet tomorrow's training challenges.

#### LEONARDO TRAINING PEDIGREE

- International Flight Training School (IFTS), Cagliari: Equipping a new generation of fast jet pilots with the skills they need through a strategic partnership between Leonardo and the Italian Air Force
- Helicopter Training Academy, Yeovil: Providing the latest interactive synthetic air crew, ground crew and maintenance training for UK MOD customers as well as international students from more than 30 countries
- Wildcat Training Centre (WTC), RNAS Yeovilton: For more than a decade, the WTC has delivered advanced synthetic training to the UK military's AW159 Wildcat pilots, aircrew and ground personnel
- Leonardo Academy, Lincoln: Enabling customers to achieve information advantage and to maximise their investment in Electronic Warfare systems, including offensive and defensive cyber

#### OUR TECHNICAL TRAINING PORTFOLIO

Within CS3, we currently deliver a broad range of technical training that includes:

- · Aeronautical engineering training for the RAF and Royal Navy at RAF Cosford in Shropshire
- F-16 ground training and engineer training in support of the air forces of Norway, the Netherlands, Portugal, and Romania
- Loadmaster training for the A400M Atlas, the RAF's next-generation military transport

#### A REVOLUTION IN LEARNING

Training is entering a new era of transformation. We are seeing rapid advances in areas such as AI and Big Data, coupled with emerging threats that require fresh skillsets. At the same time, there is a new generation of digitally savvy students entering the workplace who have been immersed in technology from a young age and who learn in a completely different way than they would have even 10 years ago. Against this backdrop, training services must adapt at pace to deliver the world-class learning environments of tomorrow.

To help students achieve mastery in their chosen discipline, we are creating training services that blend physical in-person learning in the classroom with immersive, hands-on experiences, giving students a more personalised learning journey.

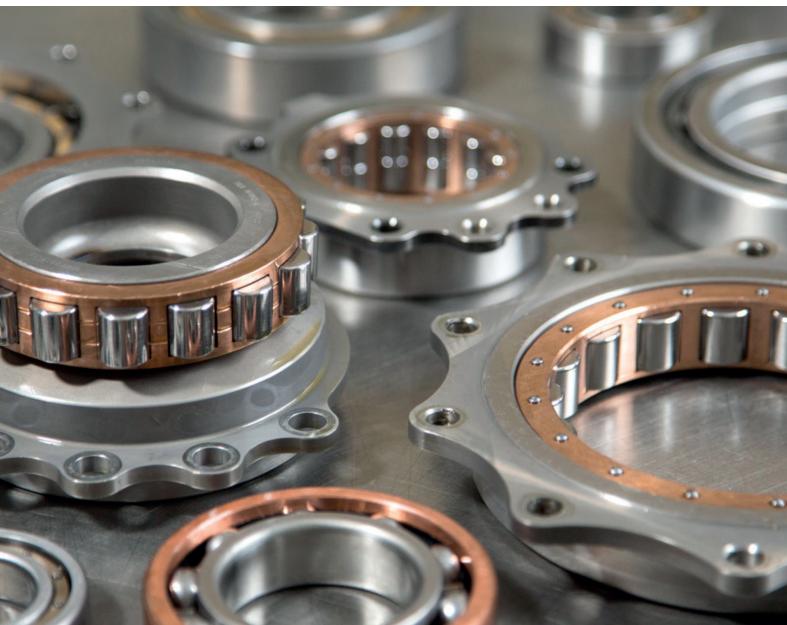
## COMMODITIES: RIGHT PLACE, RIGHT TIME

Commodities are the lifeblood of day-to-day support for the UK Armed Forces. Through the Commodities IOS contract with the UK MOD we support more than 90 platform types across air, land and sea. The contract spans fixed-and rotary-wing assets as well as a plethora of British Army and Royal Navy platforms.

The Commodities IOS solution delivers availability for routine spares as well as ad hoc tasking and obsolescence management across about 150 stores locations, ensuring that parts are in the right place at the right time so that tasks/missions can be completed successfully.

We are responsible for provision and distribution to the point of need of around 15,000 separate NCNs (NATO Stock Numbers). This includes nuts, bolts, screws, washers, metals, gaskets, electronics, components, cable, rivets, filters, gauges, integrated circuits, sleeving, switches, terminals, plugs and sockets.

Since it began in 2014, the IOS contract has placed strong emphasis on demand satisfaction and value for money, consistently delivering over 95% parts availability over the past 10 years.





## MODE 5: IDENTIFY FRIEND OR FOE (IFF)

The introduction of Mode 5 Identify Friend or Foe (IFF) technology enables UK units to rapidly identify friendly forces as well as potential threats. Mode 5 IFF features advanced cryptography and world-leading electronic technology developed by Leonardo. It allows UK forces to operate safely alongside NATO allies and significantly reduces the risk of 'blue on blue' incidents.

In 2017, the UK MOD contracted the Team Skytale partnership comprising Leonardo UK and Hensoldt to manage the roll-out of the Mode 5: IFF. The work covers more than 300 individual installations.

A 12-month contract extension valued at £4.9 million was agreed with the UK MOD and continues our support for Mode 5 across UK air, land and sea platforms. The contract extension builds on the work we have done over the past five years and brings additional platforms into the contract, taking the total number of legacy platform types supported to more than 30.

One of the big challenges for our Bristol-based Mode 5 team is the complexity and breadth of the platforms involved. The programme spans fixed-wing and rotary-wing aircraft, uncrewed air vehicles, land platforms, surface ships, submarines, and radar systems. Each platform type undergoes a full design review and associated trials before the Mode 5 installation is completed. We have worked closely with all the different platform design authorities to certify the system, which is playing a vital role in giving UK forces freedom of action.

## AIRBORNE AESA RADAR SUPPORT

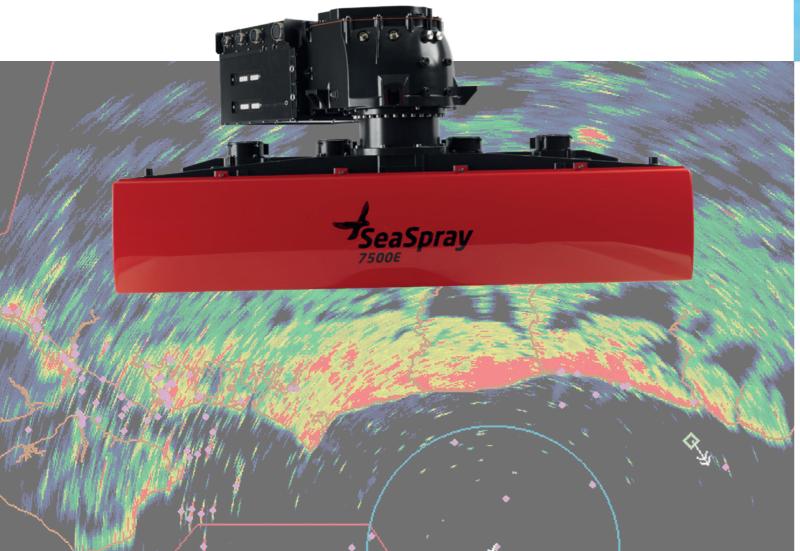
As the European leader in radar technology, we offer a comprehensive repair capability for a broad range of radar systems, to meet customer repair requirements and maximise platform availability.

Our repair service covers fixed-wing, rotary-wing, and uncrewed platforms and we are also developing a holistic radar support solution that encompasses not only repairs to current and out-of-production models, but also provisioning and spares, prognostics and configuration management to support the end-user.

We currently support radars including the Leonardo family of Osprey and Seaspray Active Electronically Scanned Array (AESA) radars that are exported worldwide, as well as older models such as the Blue Kestrel maritime surveillance radar.

#### TAILORED SUPPORT FOR RAVEN

We are currently designing a comprehensive support solution for the Raven ES-05 fire control radar fitted to the Saab Gripen NG swing role fighter. Leveraging all the experience and best practice from our longstanding support for Typhoon through the Joint Avionics Service, we are developing a support solution that is tailored to meet customer and end-user requirements.





## TEST EQUIPMENT - RAPID FAULT ANALYSIS

Our range of diagnostic test equipment enables avionic system faults to be identified and isolated quickly and accurately. Our Test Equipment Integrated Project Team (IPT) is responsible for designing and developing test equipment for both Leonardo and third-party avionics, as well as a multitude of platforms including the Raven ES-05 fire control radar on the Saab Gripen fighter. In the naval sector, our diagnostic technology is used to assure the availability of torpedo systems.

### LINAPS - GLOBAL SUPPORT AND TRAINING

LINAPS is the gold standard artillery pointing system on the market. We provide a global support and training solution that is tailored to the exact needs of the customer or end-user.

Our training offering spans both civilian personnel and military end-users, and includes 'train the trainer' packages as well as technical training for engineers, enabling them to perform in-country maintenance.

Design and manufacture of LINAPS, which is ongoing, is led by our team in Edinburgh, where we also conduct all complex repairs. The system is battle-proven and represents an important UK sovereign capability.

LINAPS is currently in service with the Armed Forces of the UK, Italy, Poland, Canada, New Zealand, UAE, Oman, Saudi Arabia, South Africa, Malaysia, Thailand and India.

The technology can be applied to all artillery and mortar platforms and offers exceptional pointing and accuracy in GPS-denied environments. The brains of LINAPS is the FIN3210 module. It gives orientation and position data for gun laying and navigation, ensuring pinpoint firing accuracy.

In 2024, the Italian and UK Ministries of Defence renewed their commitment to LINAPS, which will equip the Italian Army's FH70 towed howitzer and the British Army's L118 light gun.





#### For more information:

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