

# AW newsletter

Spring 2020

## SUPPORTING THE COVID-19 RESPONSE ACROSS OUR GEOGRAPHIES

Around the world as countries face the challenges of the COVID-19 pandemic, helicopters are proving to be an invaluable asset in response efforts. Here we look at just some of the ways in which we, as the Helicopters Division are contributing to these efforts in our home geographies of Italy, the UK, the US and Poland.

In Italy we have developed specific bio-containment solutions to limit the risk of contagion for crew and medical staff when transferring patients in our AW139, AW169, AW189 and AW101 helicopters. The bio-containment solutions have been developed in collaboration with the relevant authorities (both the Italian Civil Aviation Authority [ENAC] and the European Aviation Safety Agency [EASA]) and are compliant with European standards for airborne ambulance service.

The installation of the bio-containment solution supported by Leonardo is a landmark in the use of space on-board helicopters, as it completely isolates the patient from pilots and other crew, while ensuring functionality and airworthiness. To integrate this solution, we have adapted versatile components, such as power supply and ventilation systems, like as those used in hospital intensive care units. We have also worked to provide technical assistance in real-time, as well as developing specific sanitisation and cleaning procedures for the safe use of these bio-containment systems.

In Italy, the new bio-containment systems have been used on AW139 and AW169 models – used for medical aid by several regions – while the Italian Air Force has also been using the HH-101A "Caesar" helicopters of the 15th Wing of Cervia (variant of the AW101) for transporting patients. The Italian company, Babcock Aviation, has also obtained ENAC's and the UK National Health Service's (NHS) approval to use specific stretchers with a bio-containment system.

As the Helicopters Division in Italy, we have also made available our pilots and three helicopters (two AW139s and an AW189) in various configurations to provide technical support to the Italian Armed Forces' helicopter fleet, organisations, institutions, police forces. Our Head of Flight Operations Giuseppe Afruni said: "As Chief Test Pilot I have been able to support my country, making available a group of high-level aviation professionals as well as state-of-the-art helicopters. This was also made possible by our Company's availability in responding to the emergency."

Continued on Page 2...



...Continued from Page 1

We have also provided 24/7 support to all Leonardo helicopters engaged in the emergency, including maintenance and other services for the Civil Protection Department. Elsewhere in this newsletter we explore the different ways in which our operators around the world are making best use of our products in the COVID-19 response and how our Customer Support and Training professionals have adapted to continue to provide services throughout the crisis.

Further innovation has come from the Helicopters Division in the UK, where a helmet and oxygen mask modification now means crew can operate our aircraft whilst in close proximity to each other in the cockpit. Chief Test Pilot in the UK Mark Burnand explained: “We have taken our existing oxygen mask, which is compatible with our helmets/visors and has a built-in microphone for comms, and hose, and then connected a standard filter from an industrial respiratory protection equipment [RPE] face mask.”

This mask is used in association with rigorous cockpit decontamination processes prior to the crew entering the aircraft and after completion of its flight duties. The new system also reduces the risk to and from the maintainers who service the aircraft before and after the flight. Leonardo Helicopters in the UK has design and operating approvals that permit Aircraft Equipment Assemblies via the Military Aviation Authority (MAA).

In all our geographies we have been working closely with Emergency Medical Services (EMS) operators to ensure that they are able to make the best use of their aircraft in the COVID-19 response, while continuing to prioritise pilot and crew safety. In the US this has included support to national EMS forums and the sharing of specific technical advice on the use of leading isolation systems on board EMS helicopters, as well as feedback on specific disinfection solutions for EMS operators. Similar close cooperation with and support to our customers has been our standard practice throughout the COVID-19 crisis in all our geographies.

Our support has not been limited to the technological; around the world we have been supporting – both as a Company and as individuals – local fundraising efforts. In Poland PZL-Świdnik, a Leonardo Helicopters company, has made a donation to the local healthcare system. The gift of PLN 200 thousand to Lublin’s Independent Public Provincial Hospital allowed the purchase of medical and laboratory equipment. These funds helped supply an analytical laboratory with specialised equipment and tests to help identify COVID-19 cases in the region.

## 50 YEARS OF MEDEVAC FOR MARYLAND STATE POLICE

*Customer Focus*

2020 marks the 50th anniversary of the first Medical Evacuation (MEDEVAC) mission flown by the Maryland State Police Aviation Command, which currently operates a fleet of ten AW139s.

The move into MEDEVAC missions by the state police heralded the creation of an integrated emergency medical system for the state that has since saved thousands of lives. Members of the Maryland State Police Aviation Command have completed over 180,000 missions and transported more than 150,000 patients over the past five decades.

Its MEDEVAC missions commenced in November 1960 with a Hiller UH12E helicopter, soon upgraded to a fleet of Bell Jet Rangers, which were then replaced in the late 1980s with AS365 Dauphin helicopters. In 2013, the programme was enhanced again with the transition to the AW139. This new AW139 fleet saw the installation of additional safety equipment and related measures, along with a second pilot and second medic to the standard flight crew.

The Maryland State Police Aviation Command now operates 24 hours a day and has grown to include aerial rescue, homeland security support, Search and Rescue (SAR) and disaster assessment. The Aviation Command currently has a fleet of 10 AW139s, assigned to seven sections located in the counties of Allegany, Frederick, Baltimore, Prince George’s, St. Mary’s, Talbot and Wicomico.



Civilian Pilot-in-Command Craig Thompson has been with the Maryland State Police for 46 years, many of them on the MEDEVAC programme, where he remains a pilot with the Aviation Command. He spoke about the fleet’s evolution: “The Jet Ranger was fun to fly, but not certified IFR (instrument flight rules), even though we flew in less than VFR (visual flight rules) weather all the time. The Dauphin was fast and instrument capable,” he explained, adding: “The AW139 was a big jump from the Dauphin. Our current aircraft is much bigger, faster and much more capable.”

Assembled and serviced in nearby Philadelphia at our North America headquarters, the state-of-the-art AW139 successfully performs multi-mission roles across the continent and around the world. Additional US customers include the Los Angeles Fire Department, New Jersey State Police, Miami-Dade Fire Rescue, and other major Emergency Medical Services (EMS) and SAR operators.

## DORSET AND SOMERSET AIR AMBULANCE MARKS SECOND DECADE

Spring 2020 saw the 20th anniversary of operations for the Dorset and Somerset Air Ambulance (DSAA) in the southwest of the UK, which currently operates using an AW169 helicopter.

The DSAA went into operation on 21st March 2000 at 8am and had their first call-out at 8.52am the same day. Since then, they have carried out thousands of missions, saving lives across the region. Beginning with a single BO 105 helicopter, the DSAA then upgraded to the twin-engine EC135 in 2007. Ten years later, developments in the clinical landscape necessitated a further change of aircraft, to the current AW169.

The spacious cabin, allowing 360 degree access to the patient, coupled with other factors such as cost, safety and potential for night operations, made the AW169 the natural choice for the DSAA. The new aircraft, later named Pegasus, entered into service on 12th June 2017, becoming the first AW169 helicopter in air ambulance operational service in the UK. There are now ten AW169s operating in EMS roles in the UK.

Pegasus is operated by Helicopter Emergency Medical Services (HEMS) experts Specialist Aviation Services (SAS), who worked closely with DSAA clinicians to develop a medical interior that enabled them to fully meet the needs of patients. This approach meant that the AW169 had to undergo very intense scrutiny by the European Aviation Safety Agency (EASA) before it could become operational.

The DSAA currently operates 19 hours a day (07:00 to 02:00) using two vital resources, the AW169 and its Critical Care Car.

The Specialist Aviation Services Group supports public service and other specialist operations, including VIP helicopter maintenance, offshore operations and night HEMS, providing aircraft, pilots, maintenance, modifications and training in Europe and the Middle East. Its UK headquarters are at Gloucestershire Airport and it also has a facility in Genk, Belgium.

The AW169 is ideally suited to life-saving primary and secondary missions and rescue services. Advanced technologies and flexibility mean the AW169 ensures a rapid emergency response, with a largest-in-class cabin that can accommodate two stretchers, either longitudinally or transversely, and has space for a full suite of life-support equipment. Wide sliding doors also allow easy loading/unloading of the patient, while in addition to the cabin, a large baggage compartment is available to store additional stretchers and loose equipment.



## 20TH ANNIVERSARY OF CORMORANT'S FIRST FLIGHT

This year marks two decades since the maiden flight of the Canadian version of the EH101 (the previous designation of the AW101), 14 of which now fly around 260 missions in support of Search and Rescue (SAR) operations in Canada every year.

The helicopter, designated as the CH-149 or Cormorant, is operated by the Royal Canadian Air Force (RCAF) as part of the Canadian Armed Forces' core mission of SAR. The first operational flight of the CH-149 was in 2002, when a Cormorant from 442 Squadron performed a medical evacuation from a merchant ship 200 km offshore in Hecate Strait.

Since the acquisition and deployment of the Cormorant in 2002, the fleet has accumulated over 92,000 operating hours in support of Force Generation and Force Employment. During this time the RCAF crews of Cormorant aircraft have won many plaudits for their skill and bravery.

A crew received the 2006/07 Prince Philip Helicopter Rescue Award from the UK's Guild of Air Pilots and Air Navigators (GAPAN) for risking their lives to save three victims of a helicopter crash on 25th October 2006.

This same award was given in 2009/10 and then again in 2012/13. In the latter case the crew also received the Cormorant Trophy for its rescue on 3rd February 2013 of three hunters from a Newfoundland ice flow in blizzard conditions with winds so strong that the helicopter flew the final 3 km to the rescue point rearwards.

The CH-149 has a standard operating crew of five which includes two pilots, a flight engineer and two SAR technicians. The cabin section can seat up to 15 casualties or 12 stretchers and their accompanying staff.

In May 2018 the Canadian government expressed its continued commitment to modernise and expand the country's SAR helicopter fleet through the Cormorant Mid-Life Upgrade (CMLU) programme. This will upgrade the Cormorants to the latest AW101-612 standard, as is currently being delivered to Norway, providing a low-risk upgrade path to deliver a modern, proven solution. Leonardo as the prime contractor, together with the support of its Canadian "Team Cormorant" partners IMP Aerospace and Defence, CAE, GE Canada and Rockwell Collins Canada, will deliver the CMLU programme in Canada.



## CELEBRATING 15 YEARS OF SAR EXCELLENCE IN PORTUGAL

This year the Portuguese Air Force (PtAF) is celebrating the major milestone of 15 years of the EH101 Search and Rescue (SAR) helicopter in-service. The first two of 12 EH101 (the previous designation of the AW101) helicopters arrived in Portugal on 11th February 2005 and entered operations in the following year. Six were originally configured for SAR (Mk 514), four for Combat SAR (Mk516) and two for fisheries protection (Mk515).

The fleet has now achieved over 24,200 flight hours with more than 2,458 lives saved. The Portuguese SAR Region has an area of over 5 million square kilometres; the largest in Europe and second-largest in the world after Canada. Lengthy and challenging rescue missions over the years have amply demonstrated the motto of Esquadra 751, Para Que Outros Vivam (So Others May Live).

In 2011 the PtAF rescued a group of sailors from the Kea with the EH101, comprising 9 hours and 30 minutes of actual flying time. This rescue is the PtAF's longest ever SAR mission, both in terms of flight time, and the distance covered of 980 nautical miles, departing from their base in the Azores, including 720 nautical miles of non-stop flight.

Another notable rescue mission involving Esquadra 751 occurred in February 2013. This long-range rescue of a yachtsman participating in the Vendee Globe round the world race was carried out in heavy sea conditions and at night, with the total mission time being 8 hours and 30 minutes, and 912 nautical miles being covered.

The PtAF have also used their EH101 aircraft to transport various VIPs such as their president, and, in 2010 and 2017, the Pope, where the preparation, planning and installation of a special VIP cabin fit was completed in record time and to the highest standards.

In 2015, Esquadra 751 was awarded by Helicopter Association International the Sikorsky Humanitarian Service Award. This was only the second time in the history of this US-led award that it had been presented to a non-US-based organisation.

During all of this time we have played a key role in providing support through traditional arrangements – most recently a ten-year in-service support arrangement (the Fully Integrated Support Solution, FISS). This has been delivered at Monitjo Airbase, working with our Industry partner OGMA.

Looking to the future, we are taking the opportunity to collaborate more closely with the PtAF to design and implement a new in-service support solution within a new commercial framework. It is hoped that this arrangement will be adapted as necessary to meet future challenges such as obsolescence.

Paul Clempson, Head of Military Export Customer Services Management at Leonardo Helicopters, Yeovil, said: “The valued and trusted long-term friendship with Portugal will only serve the EH101 programme well, as we work together to create new opportunities to support 751 Squadron in the long term.”

With a successful product, and a well-established and excellent relationship with our Portuguese customers, it is hoped that the EH101 Programme will continue for another 15 years, alongside of course the other Leonardo platforms Portugal currently operates – the AW119Kx and, soon, the upgraded Lynx Mk95A to be operated by the Portuguese Navy.



## FIRST POLISH ASW AW101 ON THE PRODUCTION LINE

Production of the first of four AW101s for the Polish Navy is well underway on the Final Assembly Line at our Yeovil site in the UK, following initial assembly of the airframe at sites in the UK, Poland and Italy.

Our contract with the Polish State Treasury Armament Inspectorate is to provide four Anti-Submarine (ASW) helicopters, additionally equipped with medical equipment for Combat Search and Rescue (CSAR) operations, to the Polish Navy. Polish firm PZL-Świdnik, a Leonardo Helicopters company, will be acting as prime contractor, supported by Leonardo in the UK and Italy.

The contract also includes an Integrated Logistic Support (ILS) and training package, which will enable the Polish Navy to efficiently operate and maintain the AW101 throughout its lifetime.

Despite the challenges presented by the COVID-19 pandemic we have been able to progress the build of the first aircraft, POL01, with adaptations to normal procedures including reduced shift working, regular deep cleaning and mandatory social distancing. Work on POL02 is expected to start in summer this year. All helicopter deliveries are due by end-2022.

While production of POL01 progresses, our Engineering department has continued to issue drawings to support the build programme, which has been crucial for the manufacture of electrical harnesses. Regular design reviews with suppliers have been able to take place virtually, as have team meetings and reviews.

Initial baseline development of the training package is also underway. All customer candidates will go through “ground school” at the Training Academy in Yeovil, before either returning home to Poland or, in the case of the aircrews, going on to flying training. The customer pilots converting to the AW101 will use the Leonardo Full Flight Simulator (FFS) – in Norway – before flying the actual aircraft. This latter training is scheduled for the last year of the programme and will be finally carried out on delivery aircraft – prior to acceptance by the customer – commencing when the production aircraft are available.

The AW101, tailored to the needs of the Polish Navy, will take advantage of open architecture avionics and continuous product improvement to enable future capability and technology growth to meet changing operational demands, including missionisation, enhanced air vehicle performance, improved situational awareness and ILS.

The PZL-Świdnik facility in Poland represents the third pillar of Leonardo’s manufacturing capability in Europe, alongside Italy and the UK.



## GLOBAL SUPPORT FOR THE COVID-19 RESPONSE

We have explored how as the Helicopters Division we have responded to the crisis in our four domestic markets elsewhere in this issue of the AWNewsletter. Here, we take a closer look at how Leonardo, which is among the top ten global players in aerospace, defence and security, continues to provide resources and people around the world to support the management and containment of the COVID-19 pandemic.

Through the use of two C-27J Spartan military transport aircraft from the Aircraft Division and one ATR 72 regional aircraft, and thanks to the customers who have endorsed the initiative, Leonardo and its crew are supporting Italy's Civil Protection Department. These aircraft are carrying out shuttle flights between Italian airports and other destinations, including international airports. The flights are supporting the transportation of essential medical equipment and materials such as ventilators, masks, etc.

At the Leonardo site in Grottaglie, Italy, the Aerostructures Division launched the initial production of valves made through additive manufacturing technology (3D printing). These support the initiative of Italian firm Isinnova, based in Brescia, to allow the modification of a particular model of dive mask, allowing its use as a respirator for sub-intensive therapies. This activity has since been expanded to include the Electronics Division at its La Spezia site in Italy.

Meanwhile, Leonardo employees across the UK have answered the national call in response to the COVID-19 emergency, to manufacture Personal Protective Equipment (PPE) to help protect National Health Service (NHS) staff and critical workers. Again, using additive manufacturing and 3D printing capability, Leonardo employees – who normally work on the development of helicopters, electronics and avionics – turned their engineering skills to the production of protective face shields.

Engineers at the company's Basildon, Bristol, Edinburgh, Fareham, Luton and Yeovil sites have been producing visors for healthcare and social care facilities across the country, as well as for an education charity supporting vulnerable children. Leonardo engineers are also producing face shields for colleagues working to support programmes defined by the UK Ministry of Defence as critical to the ongoing security of the UK and its allies.

With working from home very much part of the “new normal”, Leonardo's Cyber Division has responded by offering two months of its Threat Intelligence service free-of-charge to companies to improve their cyber defence. The service has been provided to the first 100 companies that applied and allows them to monitor major cyber threats and cover any related vulnerabilities.

Around the world, Leonardo's people have also raised money for charities and made donations to support the purchase of medical and laboratory equipment, with some giving an hour of their salary to sustain local hospitals. In the UK many Leonardo employees have been providing their support to the NHS, carers and the vulnerable. From sewing groups making up scrubs for health workers at hospitals and care homes and crocheting toys for children of key workers, to a volunteer organising a virtual concert for local primary school children being home schooled. And of course across all our Divisions and geographies we have countless “everyday” volunteers who were already involved in supporting their communities, and who have been part of the upsurge in local efforts of mutual support in this time of crisis.

As Leonardo CEO Alessandro Profumo has stated: “We can be proud of Leonardo because not only did we respond immediately to this crisis, but above all, from day one, we were there. Through our solidarity initiatives and our wide-ranging support to institutions and operators on the frontlines, we are supplying resources, aircraft and services, both to provide emergency support, and ensure the continuity of secure communications and essential activities.”



## OPERATORS AROUND THE WORLD RISE TO THE COVID-19 CHALLENGE

Our helicopters' flexibility, reliability and safety have given the aircraft an important role to play in the response to the novel coronavirus pandemic. In this article we look at the actions of just a handful of our global operators in the fight against COVID-19.

Our military and dual-use platforms are in service with national forces around the world, and governments have been quick to mobilise these rotary wing assets. In Italy, air transport between hospitals was provided from early on in the crisis by the Air Force using an AW101 equipped with new biocontainment systems. You can read more about this technological advance and other responses from our Division elsewhere in this issue of our AWNewsletter.

The Italian Air Force is one of the only military wings in Europe with the capacity to allow COVID-19 patients to be transported by air in these sorts of biological containment devices, ensuring the safety of pilots and other crew members. At Italy's Cervia Air Base a hub has been created where the HH-101A (the designation of the Italian Combat Search and Rescue [CSAR] AW101) helicopters of the 9th and 15th Wings, together with other aircraft, are deployed with specialised Air Force medical teams. All assets are at immediate readiness 24/7 under the control of the Air Operation Centre of the Air Operations Command at Poggio Renatico, which receives and processes requests from hospitals, prefectures and the Civil Protection Department.

The Italian Health Ministry and Civil Aviation Authority (ENAC) has also authorised Babcock Aviation to install isolation stretchers - IsoArk N36-2 and IsoArk N36-4 biocontainment units - on AW139 and AW169 helicopters. Since 21st February, Babcock, among the world's leading Helicopter Emergency Medical Services (HEMS) operators, has increased its fleet, performing nearly 2,000 missions and more than 1,600 flight hours. Across Europe - in Italy, Spain, France, Portugal and Scandinavia - Babcock has continued to operate aerial emergency services, with all bases remaining open and HEMS teams helping in COVID-19 response efforts.



Over in the UK the military's rotary wing assets have been used to support the COVID-19 response. Three AW101 Merlin Mk2 helicopters from 820 Naval Air Squadron, based at the Royal Naval Air Station Culdrose in Cornwall, have been used as air ambulances and to provide logistics/transport support to the South West and offshore islands. A further three AW159 Wildcat Helicopters from 1st Regiment Army Air Corps, operating out of the Royal Naval Air Station Yeovilton, near our U.K site in Yeovil, have also been on call to provide logistics/transport support in the South, as has an Army Wildcat helicopter, based at RAF Leeming, supporting the North.



Remaining in the UK, HEMS operator Specialist Aviation Services (SAS) has a fleet of ten AW169s supporting a number of UK air ambulance operators. SAS is a turnkey provider of operational services, using Leonardo's advanced AW169 platform in combination with its own bespoke medical interior. SAS already provided the services needed to allow these organisations to collectively fly over 5,000 missions per year, providing life-saving care to critically ill patients.

Throughout this period SAS has been working closely with its customers and the UK's National Health Service (NHS), in particular, supporting transport of medical personnel between major hospitals and facilitating transfers of time-critical trauma patients between hospitals after changes in the trauma network.

The operator has adopted three principles in its pandemic response: (1) Continue to maintain a safe, compliant operation, ensuring protection of the crew, thanks to a specialised Pandemic Response Plan. (2) Deliver strong and flexible support to customers, leveraging on Leonardo's support to implement a barrier between the cockpit and main cabin, reducing the risk of viral transmission in flight to the pilots. (3) Keep an eye to the future and the eventual return to "normality", carefully managing any deviation from usual operations - from training to recruitment - to ensure minimum possible impact to recovery time.

...Continued from Page 8

Our operators in China have also been active from the very outset in providing support wherever it has been needed. In the last week of January, Hubei region shut down transit heading both outbound and within its borders. The transportation lockdown made it difficult to restock dwindling medical supplies for the outbreak's then-epicentre, Wuhan. Kingwing General Aviation, a major air rescue operator with a fleet of more than 60 of our helicopters, responded on 1st February by dispatching its AW109 Trekker helicopter to Xiantao City to carry medical materials.

It subsequently transferred protective clothing, masks and other donated materials to Wuhan Union Medical College Hospital, and played a key role in setting up the "air bridge" to the beleaguered province. Our operators have since granted their support beyond Hubei to Zhejiang, Gansu, Jiangsu and many other Chinese provinces.



The response has not just been from HEMS operators: Shanghai New Sky Helicopter performed multiple operations with its VIP configuration GrandNew and AW139, transporting boxes of donated PPE in both Hubei and Zhejiang provinces.



Such is the vital nature of the role played by our helicopters in the response, that the Civil Aviation Administration of China (CAAC) has officially underlined the positive contribution and important role of Kingwing GA and other enterprises operating Leonardo helicopters in the fight against the pandemic. Our operators continue to contribute to support the COVID-19 response in China, with missions including the transfer of medical personnel and patients, delivery of medical materials, traffic supervision and other aerial services.



In Canada, air ambulance operators Ornge and STARS have continued to conduct life-saving missions across the country throughout the emergency, thanks in part to the uninterrupted support we have been able to provide throughout the crisis. STARS serves western Canada, including Alberta, Saskatchewan and Manitoba. The STARS fleet includes three AW139s, alongside other aircraft, and operates 24/7. Ornge is based in Ontario, where its AW139 fleet – comprising a dozen helicopters that operate alongside aircraft and land ambulances – performs duties from one of 12 bases across the province.

We have supported these operations by sharing approved methods of disinfection for the cockpit and cabin for the AW139. In addition, we have been able to continue to provide an uninterrupted supply chain and support for maintenance activities, despite the challenges presented by the pandemic.



Over in Brazil Omni Health Team Medical Helicopters and Brazilian offshore operator Omni Táxi Aéreo formed the Omni Health Team at Macae and Rio de Janeiro, with a fleet including four AW139 helicopters reconfigured to carry out medical evacuations. Meanwhile, in the Caribbean Bristow Americas' AW139 is being used to transport acutely ill offshore workers in the oil and gas industry with suspected COVID-19 in the Gulf of Mexico, Trinidad and Tobago, and Guyana.

We are proud to see our operators around the world respond so readily and capably to the COVID-19 crisis and congratulate them all on their efforts. As you will read elsewhere in this issue of the AWNewsletter, we have also played our own part in this, ensuring continuity of support and training around the clock, and contributing to the technological innovations needed to keep crew and pilots safe as they go about these new duties.

## FLEET OPERATIONS CENTRE: NON-STOP SUPPORT 24/7

As around the globe people face the huge challenges presented by the pandemic, through our Fleet Operations Centres (FOC) we have worked hard to make sure that in these uncertain times our civil and military customers worldwide can still receive the support they need, without interruption.

Our FOC teams in Italy, the UK and the US have continued to provide technical and logistical support activities to ensure the monitoring of our global helicopter fleet, some of which have been actively engaged in COVID-19 response missions. Through the FOC we provide assistance to our customers, whether through the supply of spare parts or technical support, ensuring the resolution of Aircraft on Ground (AOG) situations in the shortest time possible.

In Sesto Calende, Italy, our FOC is operational with our people carrying out their activities directly onsite, working on a shift pattern. Two separate offices have been set up for the activities of the Italy-based FOC, reducing the density of staff and ensuring their health and safety in line with government guidelines.

Meanwhile in the UK everyone within the Yeovil-based FOC has full capability while working from home just as they would have within the office. Efforts have been made to provide our people with all the equipment and technical support needed to deliver an uninterrupted service while working remotely, from internet dongles to mobile phones. Many of the measures in place are based on tried-and-tested existing approaches normally used to cover public holidays or weekends

Similar steps have been taken in our Philadelphia, US, FOC, where the team is functioning at 100% capability, despite working from home. They continue to provide 24/7 coverage with their standard three-shift system.

All FOC activities are of course supported by warehouse and logistics staff, who operate on site while strictly adhering to local guidelines on social distancing, including use of protective equipment and revised shift patterns.

Whatever the circumstances, we remain committed to providing the highest level of support to our customers around the world, whenever and wherever they need it.



## ACQUISITION OF KOPTER FINALISED

Following an initial announcement at Heli-Expo in January, on 8th April Leonardo confirmed the closing of the acquisition deal for Swiss helicopter manufacturer Kopter.

The acquisition of Kopter Group AG (Kopter) from Lynwood (Schweiz) further strengthens our leadership in the global rotorcraft sector and is in line with the objective of our industrial plan to reinforce core businesses. The purchase price, on a cash and debt free basis, comprises a US\$185 million fixed component plus an earn-out mechanism linked to certain programme milestones from 2022.

Kopter's new single-engine helicopter is a perfect fit for our state-of-the-art product range and provides further opportunity for future technological development. The product will benefit from our experience in service and training and our extensive commercial network, as well as our industrial know-how. The Swiss company's complementary competencies will help drive the development of disruptive technologies, as well as new mission capabilities and performance, including innovative hybrid/electric propulsion solutions.

Primarily based in Switzerland and established in 2009, Kopter was originally known as Marenco Swiss Helicopter before rebranding as Kopter Group AG in 2018. Its single-engine SH09 combines cutting-edge technology with the latest safety features. The new helicopter will offer outstanding performance for high mission-effectiveness in a variety of applications.



## FIVE MORE YEARS OF INTEGRATED OPERATIONAL SUPPORT FOR MERLIN

The UK has awarded the contract extension for the fourth five-year period of the 25-year Integrated Merlin Operational Support (IMOS) programme to Leonardo. The comprehensive availability-based support package for the UK Ministry of Defence (MoD) fleet of AW101 Merlin helicopters covers the period from 1st April 2020 to 31st March 2025 and is valued at £694 million (approximately €786 million).

We were first awarded the 25-year IMOS contract in 2006. It aims to both increase the availability of Merlin helicopters to the Frontline Commands and also save the MoD around £500 million in support costs over the contract period. In addition, the IMOS contract also includes achieved flying hours and incentives related to delivering agreed levels of spares availability, operational fleet aircraft numbers and Merlin Training System availability.

Thirty Royal Navy AW101 Merlin HM Mk 2 multi-role maritime helicopters and 25 AW101 Merlin HC Mk 4 and 4A aircraft are covered by the IMOS contract. These latter aircraft are currently undergoing conversion from Merlin HC Mk 3 and 3A helicopters as part of the Merlin Life Sustainment Programme, awarded in January 2014.

Conversion of 13 aircraft is now complete, which has helped the Commando Helicopter Force achieve the Littoral Manoeuvre (LitM) IOC Milestone and the new Merlin Training Centre containing Synthetic Training Simulators at RNAS Yeovilton. The Royal Navy's Merlin Mk2 helicopters are currently being used as part of the MoD's support for the UK response to the COVID-19 crisis.

The versatility of the AW101 allows customers to configure the helicopter for a wide range of primary and secondary roles. Sophisticated avionics and mission systems, coupled with long range and endurance, provide operational persistence for all missions. This flexibility makes the AW101 the world's most advanced, versatile and capable multi-role helicopter.

In the UK, Leonardo is a high-tech manufacturer and one of the largest suppliers to the MoD. Our site in Yeovil is the UK's only onshore helicopter OEM with end-to-end design, build and support facilities. Furthermore we host a joint industry/MoD IMOS team, which is co-located in Centenary House at our site, to allow joint working and ensure seamless service.

IMOS is just one example of our Integrated Operational Support (IOS) programmes, a capability that we are able to offer to all military and government customers.



## TWO NEW AW119Kx's BOOST RESCUE CAPABILITIES IN LATVIA

April saw the entry into service of two AW119Kx single-engine multirole helicopters with Latvia's State Border Guard as part of a programme that also includes a dedicated training package for aircrew and technicians.

The new aircraft replace two AB206B JetRangers, and will be used to perform a wide range of missions including Search and Rescue (SAR), transport, firefighting and disaster relief. This newest delivery adds to the two AW109 Power light twins successfully in service with the State Border Guard for the past 11 years.

The combination of AW109 Power and AW119Kx helicopters will boost the State Border Guard's mission capabilities and flexibility to perform day/night operations 24/7. The contract for the new AW119Kx helicopters features a customised configuration as well as aircrew/maintenance technician training services, plus the option for an additional unit.

The AW119Kx is a best in class single-engine helicopter featuring a state-of-the-art avionics system for enhanced situational awareness, mission effectiveness and safety. Its large cabin is able to accommodate up to six passengers and it has the redundancy of all critical systems typically available on twin-engine aircraft, delivering outstanding reliability and safety.

More than 350 AW119 helicopters have been ordered to date in over 40 countries by over 130 customers. The new AW119Kx is perfectly suited to perform many roles including law enforcement, EMS, utility, fire-fighting, VIP/corporate transport, training and government/military duties. Law enforcement, homeland security and military operators in Europe, North and South America and Asia have all chosen the AW119 to meet their operational requirements.



## ADDITIVE MANUFACTURING EXPERTISE IN THE SPOTLIGHT

Representatives from Leonardo and other industry leaders recently attended a prominent forum for additive manufacturing – better known as 3D printing – users, research and development experts and other partners within the aerospace and space sector.

The sixth annual Additive Manufacturing for Aerospace and Space Conference was held in Birmingham, UK on 26th and 27th February. The conference provided attendees with the opportunity to share the latest technical developments and successes within additive manufacturing and the future challenges to the industry.

Leonardo was represented by David Wragg (Leonardo Helicopters), who gave a presentation on the use of AM within the Division, and Rob Armstrong (Leonardo Electronics) who was part of a panel discussion.

Metallic Materials Engineer David Wragg explained why such events are so valuable for the industry: “The conference was an excellent forum for discussion of the uptake of additive manufacturing in the aerospace industry. The key message I took away was the need for collaboration and more industry engagement in every area, particularly standards, which are required to ensure the rapid and safe adoption of this technology.”

Rob Armstrong also underlined the importance of networking and collaboration: “The conference was a great opportunity for us to hear from other companies in our industry; how far advanced they are in their additive manufacturing capabilities, the strategies they are adopting and parts they have produced. There was a strong desire from many to collaborate where we can, in order to accelerate adoption of the technology in aerospace.”



## MAKING A GREEN SUPPLY CHAIN A PRIORITY

The first in a series of workshops on European environmental legislation governing the chemicals industry took place at one of our sites in Italy on 31st January, further illustrating our ongoing commitment to a greener and more sustainable future.

The workshop at our Cascina Costa site focused on the EU's Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) regulation, which aims to improve the protection of human health and the environment and enhance the innovation and competitiveness of the EU chemicals industry.

Presentations came from Massimo Scalvenzi, Coordinator of REACH activities for the Chief Technology and Innovation Office Organisational Unit, together with colleagues from the Helicopter Division: Francesco Acerbi, coordinator of the Helicopter REACH Team; Giacomo Armeni, Procurement and Supply Chain Organisational Unit; Mariella Pesetti, Head of Laboratories; and Fernando De Marco, Industrial Engineering Organisational Unit.

Subjects covered included legislative requirements, an overview of Divisional activities and REACH-compliant processes, as well as the likely future direction of the legislation. Our Division also presented its plan to gradually introduce chromium-free materials and processes as part of our drive to make our products more environmentally friendly in the medium to long term. The workshop was attended by the majority of the Italian-based companies that supply us with surface treatments.

Our Division's REACH team works within a cross-functional and cross-geographical framework to develop an approach that consolidates Leonardo's partnership with its supply chain, improve awareness among suppliers, ensure business continuity and to guide decisions made within the supply chain itself.



## AWARD FOR TH-119 CERTIFICATION TEAM

Further recognition of the achievement of our certification team for the TH-119 has come in the form of an award from the Vertical Flight Society (VFS). The US team, led by Program Manager Enzo Galli, was announced as the winner of the Society's prestigious Harry T. Jensen Award on 1st April. The prize recognises outstanding contributions to the improvement of reliability, maintainability, safety or logistics support through technical achievement or improved design.

The TH-119 certification team, working with Genesys Aerosystems, engineered the first single-engine helicopter approved for Instrument Flight Rules (IFR) in the US since the 1990s. This may herald a sea change in safety standards

for the country, where the majority of helicopters are single-engine; IFR flight is discernibly safer than Visual Flight Rules (VFR) flight in marginal weather.

In January the TH-119 was selected by the US Navy as its next training helicopter in an open competition called Advanced Helicopter Training System (AHTS) TH-73. The US Navy has ordered 32 helicopters, with the total procurement expected to reach 130.

The VFS awards ceremony will be held as part of its Forum 76, which will take place 6th to 8th October in Virginia Beach, Virginia. Note: Harry T. Jensen Award from VFS will be assigned on 7th October.



## NEW BLADE REPAIR CENTRE OPENS IN MALAYSIA

As part of our commitment to customer proximity and a worldwide network, our Malaysian subsidiary has now opened a new blade repair centre in Kuala Lumpur. Leonardo Malaysia successfully achieved European Aviation Safety Agency (EASA) certification on 17th December 2019, in addition to the necessary approvals from the local Malaysian authority.

The 32,000-sq-ft state-of-the-art repair facility, located close to Subang International Airport, home to the main Leonardo Malaysia facility, is now able to provide a wide variety of repair capabilities for the full commercial range and dual-use range blade models of our helicopters (AW109 series, AW119 series, AW139, AW169 and AW189).

Strategically located to support the entire Asia Pacific region, this repair centre is able to achieve tight turnarounds thanks to a direct link with our Italian Centre of Excellence. Leonardo Malaysia is consolidating its role as a “one-stop-shop”, able to meet the needs and requirements of operators and customers in the area, working together with carefully selected vendors and partners, with the goal of steadily increasing component repair and overhaul (R&O) capabilities in East Asia.

This new addition to the network is a further evidence of our commitment to expand customer support services across the Asia Pacific region and beyond, where over 500 of our helicopters are in service, and aligns with the Division’s plans aimed at strengthening our level of service worldwide.

In addition to the R&O and support services, we also offer an extensive range of training in Malaysia, through our Training Academy in Kuala Lumpur. Here students can take a range of courses, including technical and logistical training, for the AW109 Power and AW139 helicopters. We expect to expand the range of training to new platforms including the AW169 and AW189 products in the near future.

For more information on our services where you are, please refer to the dedicated points of contact within the Customer Support & Services Directory on the Leonardo Portal or under the tab “Personal Area - Contacts” on the AWTeamUp mobile app.



## HELILINK: TECHNICAL SUPPORT WHEREVER YOU ARE

We have further enhanced our digital capability with a virtual technical support service, HeliLink, which helps guarantee the highest levels of technical support to all our customers worldwide.

This service augments our existing remote engineering support services in a simple but innovative way, using remote video call, interactive chat and push notifications, and is available anytime, anywhere. Key benefits include enhanced fleet availability and maintenance efficiency, providing customers with high-quality distance support and services.

HeliLink connects operators with our global Product Support Engineering (PSE) team, improving access to expert technical support anytime, anywhere. Through it we can provide live support and assistance for troubleshooting and damage assessment, as well as prompt solutions to technical queries. The service uses remote video-call support and its features include augmented reality, document and image sharing and interactive chat functions.

The platform can be used by the PSE team during any technical support activity, and is provided at no cost for the customer. HeliLink support is selected by the PSE team on a case-by-case basis, who then agree the timeframe for the HeliLink support call with the customer. Connection instructions are provided by e-mail, to a portable device or phone, which is then used to temporarily activate the connection and perform the HeliLink call. The link expires following conclusion of the call.

HeliLink can also provide a technical solution for operators, who can deploy this capability within their own organisation (e.g. operation, maintenance and engineering) to help support a more stable and efficient internal information exchange and improve efficiency. Quotations are available for this service upon request from our Customer Support Account Managers.

In fact, HeliLink can be used in multiple ways, for example it can be used by to support maintenance and operation of different bases at a variety of locations or to support helicopters operating away from the main base. It can be used by the quality system to perform and track tasks using the platform's capability.

For more information about HeliLink, please contact Leonardo Helicopters PSE at the following address: [engineering.support.lhd@leonardocompany.com](mailto:engineering.support.lhd@leonardocompany.com)



# HeliLink

**SHARE, CONNECT, SOLVE**

*Accelerate your digital capability*



## AW LIVE TRAINING: INTERACTIVE TRAINING AT YOUR FINGERTIPS

Thanks to AW Live Training, available through our advanced learning platform, AWTraining, you can now join live classes in real time, wherever you are.

With AW Live Training you get all the benefits of on-site training-instructor-led training sessions, real-time interaction and collaborative exercises - in a virtual environment. This new service enables student, peer, and instructor collaboration in the comfort of your own space.



There are options for either exclusive packages of customised courses or open-registration, standard courses. Both of these can be activated simply by contacting your country's dedicated Training Account Manager, whom you can identify through the interactive map on our website.

The innovative delivery methods AW Live Training (live, instructor-led training sessions) and AW Training (customised courses) have allowed us to provide remote training to over 2,000 students since March alone. We continue to raise the bar for our established and respected training programmes, and we continue in our mission to provide outstanding flight and maintenance training, enabling our customers to achieve the highest level of safety and operational capability.

For more information on AW Live Training, please follow this link.

## TRAINING SERVICES NOW INCLUDE RUAS

We have become the world's first rotorcraft Original Equipment Manufacturer (OEM) to meet our operators' demand for both helicopter and remotely piloted asset integrated training capabilities, with the announcement of a comprehensive training and mission planning programme for Rotorcraft Unmanned Aerial Systems (RUAS).

On 25th March 2020 Leonardo announced the extension of training services capabilities to include RUAS, meaning that we can now provide 360° training solutions to our growing customer base for maximised mission effectiveness and safety.

With the granting of an Authorised Training Organisation Certificate for UAS by the Italian National Civil Aviation Authority (ENAC), Leonardo is now able to supply training services for light and very light category remotely piloted systems (up to 25 kg) through our Helicopter Training Academy in Sesto Calende, Italy.

This certification makes us the world's first rotorcraft OEM with this capability, which is expected to be recognised by the European Aviation Safety Agency (EASA) in 2021. This new service further increases the range of our high-quality training, and reflects the evolving market demands from operators who are increasingly using small UAS for their missions, including disaster relief and emergency response.



In addition, we are also developing a comprehensive training package for the AWHERO 200 kg class RUAS. The training syllabus will exploit solutions and methodologies available for piloted helicopters leveraging our established and growing training capabilities, already offered globally through our training academies and centres. Anticipated services include a mission planning system tool based on our successful SkyFlight system.

The AWHERO RUAS was involved in the successful maritime surveillance capability demonstration performed within the framework of the European OCEAN 2020 initiative in the Mediterranean Sea at the end of 2019. The OCEAN 2020 team is coordinated by Leonardo and involves 42 partners from 15 European countries. The project aims to demonstrate enhanced situational awareness in a maritime environment by integrating legacy and new technologies for unmanned systems and Intelligence, Surveillance, Target Acquisition, and Reconnaissance (ISTAR) payloads.

## EXPANSION OF SUPPORT CAPABILITIES IN SOUTH AMERICA

The strong growth of our products in the South American market is to be supported by an expansion of our regional customer service capabilities, thanks to a new facility being built in Brazil.

The ground-breaking ceremony for the new centre, in Itapevi, some 30 kilometres from São Paulo, took place in mid-February. The new facility on a 79,000-square-meter area, will be run by Leonardo do Brasil. Meanwhile, our customers in the region will continue to benefit from our high-quality services through the existing centre in São Paulo.

Initially, the new support centre will feature maintenance hangars, a bonded warehouse, workshops and other supporting services, including a dedicated heliport, but there is potential for further expansion. Services to be provided include spares, maintenance, product support, engineering services for the AW119 single engine, AW109 light twin series, and the AWFAMILY (AW139, AW169 and AW189).

There are currently more than 190 of our helicopters operating in Brazil, performing a variety of missions, including: corporate/private transport, law enforcement, public services, offshore transport, and naval applications. The new centre is a reflection of our strong and continued



growth in the South American market, including the introduction of all our new models to the region. Further expansion in the market is likely for a range of roles, including Emergency Medical Services (EMS) / Search and Rescue (SAR), security and disaster relief.

This new, larger facility is also testament to our long-term commitment to the region and its customers, in line with our Industrial Plan's focus on stronger customer support services and proximity. The enhanced services we will be able to deliver through the new centre will help maximise our customers' mission effectiveness and the safety of their operations.

## NEW JOINT VENTURE IN BRAZIL TARGETS URBAN SECURITY AND RESILIENCE



A new joint venture between Leonardo and a Brazilian firm focussed on regional development has been announced, which will develop and deliver projects in the areas of security and resilience, infrastructure management, and helicopter-based services.

The formation of Leonardo&Codemar S.A. was announced on 12th February; the company is a joint venture between Leonardo, through its subsidiary Leonardo International, set up to support our global operations, and CODEMAR (Companhia de Desenvolvimento de Maricá) which addresses regional development in the municipality of Maricá, Brazil.

Ownership in the joint venture, established under Brazilian law, is split 49% to CODEMAR and 51% to Leonardo. The joint venture's objective is to become a flagship for the development and delivery of urban security and resilience projects, and new infrastructure and helicopter-based services that will further enhance Brazilian industry's existing expertise.

The range of challenging and projects envisioned by the joint venture will see Maricá become a "living lab" examining how the latest technology can contribute to the safety and quality of daily life and promote sustainable development. Leonardo&Codemar's status as a preferred partner for the Municipality of Maricá will also provide access to similar projects in the wider Latin America region.

"We are thrilled about the new development of Leonardo's presence in Brazil, showing how an open-minded and fair dialogue between such different organisations can shape unexplored and promising mutual opportunities", said Leonardo CEO Alessandro Profumo. He added, "The new joint venture will focus on delivering systems and services for the security, resilience and protection of populations and territories and will prove how space, cyber and digital, aeronautical, and unmanned technologies can contribute to development."

A strategic location means Maricá is set to become a primary logistic base for oil and gas operations throughout Brazil, meaning the region has great potential not only in the energy sector but also in related businesses such as financial, high tech and services. In addition, its proximity to Rio de Janeiro makes it well-placed for a planned tourist and residential development.

CODEMAR executes projects focusing on the sustainable socioeconomic development of Maricá and the East Fluminense region, working in partnership with the Maricá City Hall and public and private entities to attract investment and generate jobs and income. It is a joint-stock corporation established in 2014.

## PROTECTING THE NEW UK SUPERCARRIER

The integrated and crucial role played by our helicopters in the UK maritime defence programme was underlined at a recent event held on board one of the Royal Navy's two new aircraft carriers.

Ahead of the HMS Prince of Wales leaving on its first sea trials, the second of the Royal Navy's new Queen Elizabeth Class carriers was alongside Liverpool docks from 29th February to 2nd March.

During the first two days, visitors were allowed on board to see the engineering and technological achievements on the cutting-edge warship first-hand, including our AW159 Wildcat and AW101 Merlin helicopters. Following the public viewing days, there was a UK Naval Engineering, Science & Technology (UKNEST) event on board to celebrate the achievement of UK engineering in the development and building of the carriers.

Attendees at the event were UKNEST members, including those involved in the delivery of the carriers, among them Leonardo representatives from the Helicopters and Electronics Divisions. UKNEST provides a forum for the UK's professional naval engineering, science and technology community, covering issues ranging from education and training to naval technology research and development.

The event featured presentations on the building and operation of the carriers, as well as information on careers in engineering. Helicopters Division representatives provided attendees with information on AW101 Merlin and AW159 Wildcat, including their roles in the Maritime Task Group and current development projects, such as the new weapons wing for AW159 Wildcat.

Visitors to the carrier on the public days also saw the AW159 Wildcat and AW101 Merlin helicopters. These aircraft provide maritime surveillance and multi-domain force protection from enemy sub-surface, surface and air threats. These helicopters are designed and built at our Yeovil facilities in the UK.

The Merlin Mk2 provides the Royal Navy with the capability and persistence to autonomously find, fix and strike subsurface targets. The new Commando Merlin Mk 4 has been designed for embarkation for amphibious operations, with folding rotor blades and tail that allow more aircraft to be stored in ships' hangars, providing greater operational capability. The Wildcat is optimised for small ship operations and will typically be embarked on the Frigates and Destroyers in the wider Maritime Task Group.

Leonardo also equips the HMS Prince of Wales with a variety of communications equipment and, as a member of the UKNEST forum, provides further capabilities for the carrier in partnership with other companies.

Weighing in at 65,000 tonnes and with flight decks the size of three football pitches, the new HMS Prince of Wales and HMS Queen Elizabeth carriers represent the largest warships ever built for the Royal Navy. For operations in its primary role of Carrier Strike the QE-Class carriers would carry an Air Wing of up to 40 aircraft with a mixture of F35 Lightning II and Merlin Mk2 Anti-Submarine and Airborne Surveillance and Control helicopters. For Littoral Operations a number of Merlin Mk4 helicopters would replace some of the F35s in order to conduct Air Manoeuvre, landing Royal Marines for Amphibious Operations.



# TOKYO FIRE DEPARTMENT RECEIVES FIRST AW189 IN JAPAN

AW189

Tokyo Fire Department (TFD) has taken delivery of its first AW189, a milestone for the Japanese market as it is the first AW189 new-generation helicopter to enter into service there.

The delivery took place on 23rd March 2020 from Mitsui Bussan Aerospace Co. Ltd., our distributor for AWFamily products in Japan. After local customisation at a Leonardo Helicopters Service Centre, the aircraft successfully transferred to the TFD and will be operated from the Tokyo Heliport base.

The brand-new AW189 is equipped with state-of-the-art mission equipment, including a dual hoist and extended-range auxiliary fuel tank, allowing it to execute long-range missions to remote islands, further expanding the operational capabilities of the TFD. Following this milestone entry into service, a second AW189 helicopter is already scheduled for delivery in Japan in 2021.

We have a fleet of over 130 helicopters in the Japanese public service market, operating in various roles including Search and Rescue (SAR), Emergency Medical Services (EMS), electronic news gathering, law enforcement and firefighting/disaster relief, performing missions every day in support of communities across the country.

# TWO AW169 EMS HELICOPTERS FOR PALM BEACH COUNTY HEALTH CARE DISTRICT

AW169

A health care district in Florida has signed a contract for two light-intermediate AW169s, the first Leonardo helicopter to feature a longitudinal roll-on stretcher system for specialty care transport

Announced on 16th April, the new AW169s for the Health Care District of Palm Beach County, Florida - also known as Trauma Hawk and a Federal Aviation Administration (FAA) certificated air carrier - will be in Emergency Medical Services (EMS) configuration for safe and rapid patient transport.

The Trauma Hawk custom medical configured cabin will help EMS teams provide the highest standard of care while also meeting the latest US helicopter air ambulance standards for operability and safety. The new longitudinal roll-on stretcher system will minimise workload and patient movement during loading and unloading.

The AW169 is also equipped with Localizer Performance with Vertical Guidance (LPV) GPS, a navigational aid that will further enhance safe approach and landing during low visibility. The AW169's spacious 222 cubic ft. cabin, closer to that of an intermediate-weight aircraft in size, and flexible layout ensures the 360-degree patient access that is essential for critical care.

The AW169 sets a new standard for EMS helicopters thanks to its Auxiliary Power Unit (APU) mode, which allows its cabin to stay "power on" with rotor blades stopped, for a quiet, comfortable and above all safe environment for patient care.

With more power and range than competing light-intermediate twin helicopters, the AW169 can travel up to 440 nautical miles, and has a top speed of 160 knots and operational ceiling of 14,500 ft, making it an ideal platform for EMS operations, particularly over extensive rescue areas.

Palm Beach County is Florida's largest county by area at over 2,300 square miles. The district maintains a well-organised instrument flight rules (IFR) infrastructure combining special instrument approaches and transition routing, plus an extensive FAA-approved instrument Flight Rules (IFR) pilot training programme.

With orders for over 220 AW169s placed by customers worldwide for a range of missions, the model has already been chosen by rescue and parapublic operators in nations including Italy, the UK, Japan, South Korea, New Zealand and the US



## PHASE 8 AVIONICS FOR AW139

The latest upgrade for the avionics of the class-leading AW139 has been announced; the new hardware and software will deliver superior functionality, with enhanced visual clarity and better situational awareness, leading to an even greater level of safety.

Clear vision in the cockpit means less crew fatigue and more safety, efficiency and comfort – all factors that drove the development of the AW139 Phase 8 upgrade for Honeywell's Epic 2.0 integrated avionics system. Certification by the European Aviation Safety Agency (EASA) was pending at the time of publication.

The upgrade delivers new custom approach capability, with new, more intuitive, flight-path based flight director guidance, a new collective power cue, Cursor Control Devices (CCD) that are superior in comfort and ergonomics, and wireless Wi-Fi transfer of flight plans. With new colour maps, showing more Visual Flight Rules (VFR) symbology like major and minor roads along with integrated terrain display, the upgrade allows AW139 pilots to enjoy an even better level of situational awareness.

A key feature of this upgrade is the SmartView™ technology, a synthetic vision system allowing safer operations in marginal weather conditions for the wide variety of demanding missions in which the AW139 continues to prove its industry-leading capability, day in, day out.

Additionally, search patterns for the Search and Rescue (SAR) mode functionality have also been upgraded, increasing overall efficiency and enabling pilots to use autopilot flown patterns, freeing them up to safely coordinate other SAR activity. The navigational improvements will be of value for a variety of missions, from Energy Sector, Law Enforcement, SAR and Emergency Medical Services (EMS) to VIP transport.

The AW139 already surpasses all other intermediate helicopters in terms of cabin flexibility, safety, speed and comfort. It can perform a large number of missions thanks to superior performance, proven technologies and safety features. The platform accommodates up to 15 passengers at the highest speed, in the most spacious cabin, with the best power reserve of any helicopter in its class.

A unique combination of craftsmanship and latest technology, the AW139 has redefined the paradigm of flight. Last year saw the delivery of the 1,000th AW139, and the global fleet has amassed over 2.7 million flight hours.



**Leonardo - Società per azioni**

Registered Head Office:

Piazza Monte Grappa, 4 - 00195 Rome - Italy

Tel. +39 06 324731 - Fax +39 06 3208621

**Leonardo Helicopters**

Head Office:

Via Giovanni Agusta, 520 - 21017 Cascina Costa di Samarate - Italy

Tel. +39 0331 229111



© **Leonardo - Società per azioni**

This document contains information that is proprietary to Leonardo - Società per azioni and is supplied on the express condition that it may not be reproduced in whole or in part, or used for manufacture, or used for any purpose other than for which it is supplied.