

# AW newsletter

Autumn 2021

## NEW CENTRE TO SUPPORT LATIN AMERICAN OPERATORS

Our new Service and Logistics Centre in Brazil has reached operational readiness, strengthening the support we offer to customers in Brazil and across Latin America. The facility, which covers 80,000 m<sup>2</sup>, is based in Itapevi, 30 km from São Paulo and can accommodate up to 20 helicopters at any one time.

We have invested R\$60 million, around €9m, in the site which expands our previous service capacity in the country by about 50% with the option for further growth in future. It is part of our continued commitment to customer proximity and to increased focus on stronger support capabilities.

Numerous services are being added to the centre gradually, including maintenance, training facilities, as well as painting and completion activities. The new site is expected to host up to 370 aircraft each year.

Latin America is an important market for our helicopters, with some 500 aircraft in service, 190 of which are in Brazil, including 120 in the State of São Paulo. These helicopters are deployed for a wide range of missions, ranging from VIP/corporate and VVIP transport through to offshore transport, rescue services, firefighting, law enforcement and military roles.



## BRISTOW CELEBRATES 500,000 FLIGHT HOURS LANDMARK

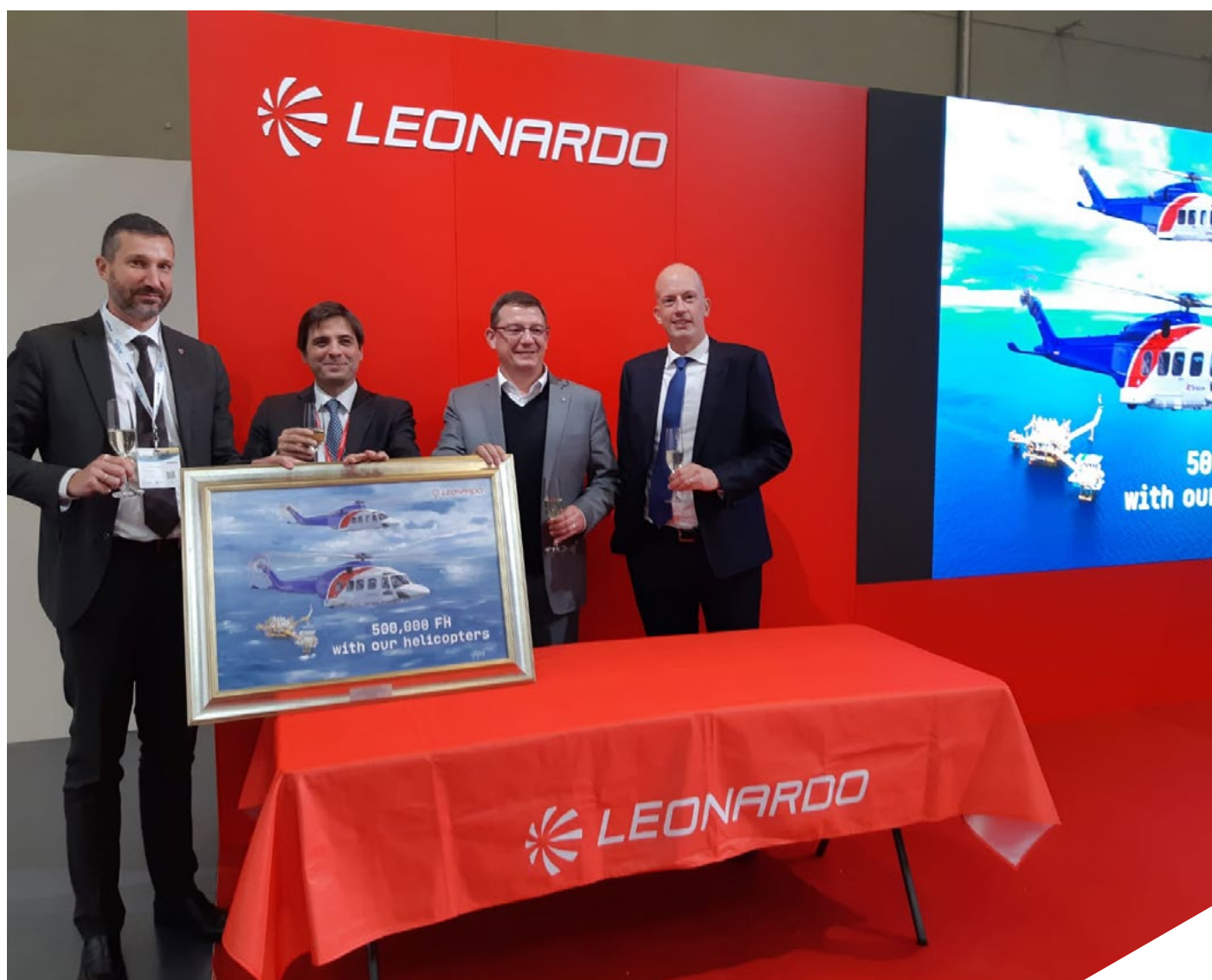
We were honoured to celebrate an outstanding milestone achieved by our customer Bristow, which has surpassed 500,000 flight hours with its fleet of Leonardo helicopters – more than 300,000 of these with the market-leading AW139. We marked the occasion at the European Rotors event held in Cologne, Germany in November.

We have been partners with Bristow for over 25 years and the company deploys a range of types including the AW119 single engine, AW109 light twin, AW139 intermediate twin and AW189 super medium. Bristow's current fleet of Leonardo helicopters accounts for over 90 units.

These helicopters have successfully accomplished missions such as offshore transport supporting the energy industry, search and rescue, and emergency medical services across several geographies including in North and Latin America, Europe, Africa and Australasia.

Bristow has also become one of the world's first operators leveraging the unique advantages of the Leonardo's AWFAMILY concept by operating both the AW139 and AW189.

The AWFAMILY delivers unprecedented fleet management benefits, combining cost-effectiveness, flexibility, ease of maintenance and training to maximize mission effectiveness and safety through a range of commonalities between the two types. These include latest certification and safety standards, a common support approach and tools, a common range of components, and closely-aligned training solutions. Bristow is also going to introduce the AW609 tiltrotor in the future, taking a further step forward in operational capabilities and innovation.



## WORKSHOPS AND CONFERENCES AT EUROPEAN ROTORS





**EUROPEAN  
ROTORS** | THE VTOL  
SHOW AND  
SAFETY  
CONFERENCE

**Nov 16 – 18, 2021**  
Koelnmesse | Germany

[www.europeanrotors.eu](http://www.europeanrotors.eu)

organised by  **EHA**  
European Helicopter Association

in cooperation with  **EASA**  
European Union Aviation Safety Agency

We were pleased to participate in the European Rotors event which took place from 16 to 18 November at the Cologne Fair in Germany. A collaboration between the European Helicopter Association the European Union Aviation Safety Agency, it represented an exceptional showcase for the rotary wing community.

OEMs and industry players came together to do business and share technological advances through a comprehensive training programme. The renowned EASA Rotorcraft and VTOL Symposium focused on the latest safety developments during vertical take-off and landing flight.

Our 416m2 stand hosted an AW169 on static display, configured to perform offshore missions in support of windfarms, as well as an area dedicated to Customer Support Services & Training. The day before the exhibition our CSS&T colleagues held the Customer Advisory Board (CAB), a virtual event streamed through a dedicated platform. Leonardo Helicopters also sponsored or organised several prominent conferences and workshops, outlined below.

### **OFFSHORE CONFERENCE OFFSHORE WIND HELICOPTER OPERATIONS**

Leonardo Helicopters hosted this conference where Heliservice, one of our main customers in the Offshore segment, was among the speakers. Heliservice is a German operator providing passenger and cargo transport services to and from windfarms, and is active in air rescue. During our presentation, we had the opportunity to highlight the potential advantages of using helicopters rather than the traditional vessels for offshore logistics management, delivering significant cost-saving opportunities.

A training course for search and rescue missions was on offer, involving both classroom and simulator elements, designed to test innovative pilot assistance systems in realistic operating conditions.

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## **VERTICAL LIFT SUSTAINABILITY & ESG CONFERENCE**

### **EUROPEAN ROTORS 2021 HELIOFFSHORE PANEL ON SUSTAINABLE AVIATION FUEL**

The focus of the conference, sponsored by Leonardo Helicopters, was the importance of eco-friendly fuel and how to make it affordable on the market.

Although the aviation sector makes a relatively small contribution to total global CO2 emissions, decarbonisation still represents one of the main challenges. Sustainable Aviation Fuels (SAF), currently awaiting full certification, have the highest potential to reduce emissions by 2050.

From the Regulator point of view, two useful levers can be used to make the use of this 'green fuel' more attractive: CO2 disincentives, such as the Carbon Tax, for instance, which sets the price to CO2 emissions, allowing the market to determine emission reductions. In alternative SAF incentives, which could enhance the demand granting financial help to SAF users, compensating SAF's higher costs.

## **PBN WORKSHOP**

### **PBN AND GNSS FOR ROTORCRAFT OPERATIONS: BENEFITS AND CHALLENGES**

#### **LEONARDO - ENAV PBN SOLUTIONS AND SERVICES**

This workshop hosted a presentation by Leonardo Helicopters and ENAV (National Body for Flight Assistance) dedicated to the implementation of PBN (Performance Based Navigation) routes, which through GNSS are considered strategic to improve air transport.

After an opening briefing on the European regulatory framework, the stakeholders discussed the benefits of this new approach to air navigation, as well as increased integration between rotary wing and fixed wing aircraft.

Thanks to a collaboration agreement, Leonardo and ENAV can offer complete cutting-edge products and solutions for the construction of PBN infrastructure starting from the revision of the airspace concept, through the design and validation phase of flight procedures and on to operational approval.

Leonardo Helicopters is the only OEM 'EASA Certified Type2 Data Service Provider' authorised to process flight data by providing aeronautical databases to be used for the AW169 and AW189, meeting all the stringent data quality requirements of PBN procedures.

## **EASA ROTORCRAFT AND VTOL SYMPOSIUM**

### **EUROPEAN ROTORS ROTORCRAFT AND VTOL SYMPOSIUM 2021**

For the first time European Rotors hosted the 'EASA Rotorcraft and VTOL Symposium', a unique European forum dedicated to the latest developments in the world of vertical mobility with a specific focus on safety. Leonardo Helicopters participated with a presentation on

the recent and current market situation and upcoming challenges.

Emanuele Bufano, Leonardo Helicopters Head of Airworthiness, analysed and compared 2019 and 2020 data from the 'Offshore', 'HEMS and SAR' and 'Law Enforcement & Military' segments. Our new Training Academy inaugurated in the USA at the Philadelphia site and the enhancement of online training services such as 'Helilink' were also on the agenda.

Bufano then provided an overview of our product portfolio and talked about the design solutions adopted from the point of view of new technologies, safety and sustainable business models.

In conclusion, Bufano outlined two parallel paths of technological innovation for the future, one dedicated to 'Fast Rotorcraft' (AW609) and 'Smart Helicopter' and the other to 'Rotary Unmanned Aerial Vehicles' (RUAV), for advanced, connected and safe air mobility.

## **HEMS CONFERENCE**

### **AW609 HEMS**

The conference discussed the latest challenges and developments in the HEMS sector with high-level international speakers. We dedicated our presentation to the AW609 tiltrotor, a leading product in terms of next-generation performance and currently progressing towards civil certification.

The presentation covered the heritage of the platform, improvements on the latest version of the design, plus the features and operational advantages that the new aircraft will offer.

Specifically in the HEMS segment, the key benefit is the possibility to transport patients directly and rapidly from an accident site to the nearest hospital without the need to rely on the support of fixed-wing aircraft to cover long distances.



## **VERTICAL FLIGHT SOCIETY CONFERENCE FAST ROTORCRAFT IN CLEANSKY2 DEVELOPING TECHNOLOGIES FOR NEXT GENERATION OF FAST ROTORCRAFT**

The conference was hosted by the 'Vertical Flight Society' and focused on 'Clean Sky', which since 2008 has been the largest European research programme dedicated to developing innovative and cutting-edge technologies to reduce CO2 emissions and noise pollution from aircraft.

In 2014 Clean Sky was extended and included in the 'EU's Horizon 2020 programme', from which it receives funding, taking the name Clean Sky 2. It has ambitious objectives that by 2024 will see the integration of cutting-edge technologies in the aeronautical sector and proposed innovative configurations for a 20/30% reduction in polluting emissions.

Currently 75% of the expected results have already been achieved, 160 out of 543 projects have been completed and 30% of the demonstration prototypes will be completed by the end of 2021.

Leonardo Helicopters, which leads a team of professionals alongside 30 other European partners, attended the conference with our 'NextGenCTR Programme Manager' Andrea Artioli, who gave a speech on the new generation of tiltrotors for civil use.

### **MARKET OVERVIEW PANEL**

The opening of European Rotors featured a 'live panel discussion' on the current market situation in the rotorcraft sector involving the main OEMs.

Paul De Jonge, VP Marketing of Leonardo Helicopters, cited the three main themes for our Division in the last year: resilience, products, and strategic markets. Even in the difficult period of the pandemic, we continued to guarantee precise and timely assistance to customers, supported by investments in digital solutions, in addition to the training offer that is now central to our organisation.

In the meantime, we have continued to update our product range, with improvements such as the increase in performance of the AW169 and the evolution of the product portfolio, including the integration of Kopter combined with the development of the AW09.

The AW169, on display at our stand, received particular attention as the only new generation helicopter in its class and one capable of offering great advantages in the Offshore Wind and HEMS segments.

Commenting on the theme of safety, De Jonge underlined the company's desire to promote PBN routes, which represent a true step forward in flight safety even at low altitudes, optimising airspace through advanced satellite navigation and on-board avionics systems.

In conclusion, he talked about upcoming challenges: the commitment to continue the development of the 'Clean Sky 2 Next Generation Civil TiltRotor' demonstrator prototype, plans to obtain civil certification for AWHero that will follow the military certification recently received, and the development programmes related to the AW609 and AW09.

He also mentioned the expansion of CSS&T network which saw the opening of new facilities in the USA and Brazil and the increased adoption of services and digital technologies such as Big Data and advanced analytics.



## **POLICE AVIATION CONFERENCE MISSION MANAGEMENT SYSTEM'S CAPABILITIES FOR LAW ENFORCEMENT OPERATORS**

The focus of the conference was a discussion between high-level speakers regarding the new challenges and the latest developments in the Law Enforcement and parapublic sector.

We participated with a presentation on the capabilities of the 'Mission Management System'. We have decades of experience in providing highly integrated avionics systems and mission solutions suitable for both the civil and military markets.

By leveraging an 'open' architecture management system, it is possible to fully integrate mission sensors and customised requirements to provide effective support in search, surveillance, evidence collection and strategic operations.

## **ROTORCRAFT SIMULATION WORKSHOP - POLIMI CERTIFICATION BY SIMULATION: LEONARDO HELICOPTERS' VIEW AND EXPERIENCE**

This workshop was dedicated the importance of simulation in training, design and certification of rotary wing aircraft. Several experts in the sector analysed the recent developments of simulation models and systems combined with the methodologies adopted for various applications.

In our view, simulation has a vital role to play and delivers three practical advantages: increased safety thanks to the option to simulate flight conditions that would be too risky in a live flight setting, the reduction of flight test costs, and the ability to experiment with different configurations in various operating conditions.

Simulators are now a widely accepted element of training and we have set a target to reduce certification flights by half over 10 years.



## **SWISS INNOVATION DAY CONFERENCE FROM THE FIRST SWISS HELICOPTER TO THE FIRST SWISS HYBRID HELICOPTER**

The conference, sponsored by the 'Swiss Helicopter Association', focused on the future of aviation from a Swiss standpoint. Our presentation analysed the transition from a conventional AW09 to a hybrid version of the helicopter, addressing the challenges associated with the increasing "electrification" of rotary wing aircraft.

Currently the main obstacle to the development of a fully electric helicopter is represented by the energy density of the battery cells. Electric helicopters must balance battery weight and autonomy with range and payload, a trade-off that generates different operational scenarios, which cannot yet guarantee the same performance as turbine aircraft.

The environmental aspects are also increasingly important - by emitting lower levels of CO2, the hybrid concept enjoys greater public acceptance, at a time when society is increasingly sensitive to environmental issues.

## SLOANE CELEBRATES A FABULOUS 50 YEARS

Our warmest congratulations go to Sloane Helicopters, the UK's oldest privately-owned helicopter company, which recently celebrated 50 years of operations. Sloane has been Leonardo Helicopters' sole UK and Ireland distributor since 1995 and over that time has sold more than 90 new Leonardo aircraft. It is also an authorised Leonardo service centre.

Sloane has a strong track record in Helicopter Emergency Medical Services (HEMS), having operated in the sector for 22 years. Sloane introduced the AW109SP GrandNew to the UK EMS market and has continued to operate AW109s in this role for three EMS contracts: Warwickshire, Northamptonshire Air Ambulance (WNAA), Derbyshire, Leicestershire, Rutland Air Ambulance (DLRAA) and the Irish Community Air Ambulance (ICAA).

We were delighted to join Sloane's celebration event in September, which was held at Sywell Aerodrome in Northamptonshire and included a display by The Blades aerobatic display team and the Ultimate Warbird Experience. It was a valuable opportunity for us to meet customers face-to-face and to hear their experiences.

During the event, Andrea Mirteto, Leonardo Helicopters VP Global Sales Europe; and Jacopo Borghi, Head of Region for the UK and Ireland; made a special presentation to Sloane Chairman David George in recognition of the productive 26-year partnership that our two companies have enjoyed.



## TOLL AW139 FLEET SETS 20,000 FLIGHT HOURS MILESTONE

We congratulate our customer and partner Toll for having recently reached 20,000 flight hours with its AW139 fleet.

In just four and a half years, Toll Ambulance Rescue Helicopter Service AW139 fleet has completed more than 10,000 rescue and retrieval missions, over multiple sites, delivering critical care to the community in New South Wales and Australian Capital Territory.

Operating 24/7, 365 days a year, with its eight AW139 helicopters it represents one of the largest aeromedical fleets in Australia, where the environment is challenging and variable/diverse and patients in remote areas can be reached faster than before.

Thanks to the leading-edge technology installed in each AW139, including fully integrated avionics, specialist medical and neonatal equipment, "the AW139 is able to balance the combination of speed, performance and payload to provide the most exceptional aeromedical platform available today" said Colin Gunn, General Manager Toll Helicopters.

Furthermore, Toll can also benefit of its Aeromedical Crewing Excellence (ACE) Training Center, a Leonardo Authorized Training Centers, providing state-of-the-art simulation technology unparalleled in Australia where an AW39 Full Flight Simulator Level D is homed.



## 2021 CUSTOMER ADVISORY BOARD MEETING – GOING DIGITAL!

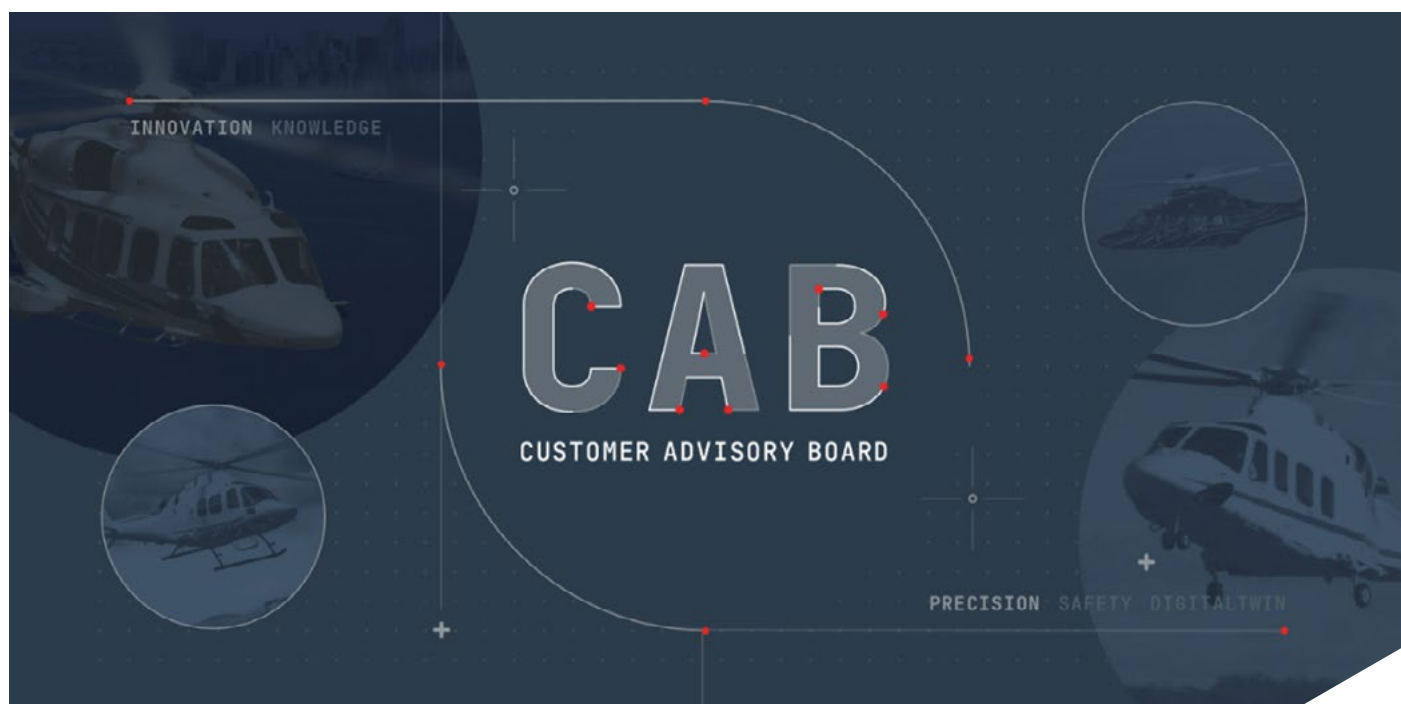
The Customer Advisory Board (CAB) is an important opportunity for us to keep in close contact with customers and operators, while sharing the latest updates and improvements. The most recent meeting took place in November on the eve of European Rotors in Cologne and followed a digital format due to the continued effects of the pandemic.

Despite not being able to meet in person, the CAB meeting represented a valuable chance to spend some time together and to continue an open dialogue.

The event was organised in two sessions to cover both hemispheres and at heart of the agenda was news about products and services. We presented updates on our commercial and dual use products, engineering services, training and simulation solutions, with a focus on our global footprint as a sign of Leonardo Helicopters' continued commitment to customer proximity.

We also spoke about new programmes and training aids, such as the Engineering Services Foundation and the Modular Interactive Training for Helicopter Operators (MITHOS) as tangible examples of continuous investment to deliver the highest levels of service.

Didn't attend the event and interested in listening what our executives said?







## 2021, WHAT A YEAR!

Since 2020, we have all adapted our ways of working and thinking due to the COVID-19 pandemic. Despite the ongoing challenges, we have not lost sight of what is most important for us here at Leonardo Helicopters: staying true to our philosophy of customer proximity and satisfaction, whenever and wherever you need us.



This philosophy allows us to give you the best possible flight experience, ensuring that all products and services needed to perform your mission are available in a timely, efficient and cost-effective way.

As an example of our commitment to provide improved and more local services, we are continuing to invest in and strengthen our network to enable direct access to support and training services.



In the past two years, we have opened a blade repair centre in the Gulf of Mexico ensuring a cost-effective boost to operational support in the United States. And we have inaugurated the Leonardo Helicopters Support Centre in South Africa, which now provides support to all our customers in the region.

Meanwhile, our Blade Repair Centre in Malaysia, which represents another key facility for our customers in the Asia-Pacific region, offers full repair capabilities with rapid turnaround times for the full commercial and dual-use range of helicopters. And we are pleased also to

confirm the recent completion and operational readiness of our new Service and Logistics Centre in Itapeví, Brazil.



Another milestone achieved this year is the expansion of Leonardo Helicopters' Training footprint. In April 2021 we opened our state-of-the-art Training Academy in the US that is co-located at our Philadelphia campus, providing customers with a 360° training experience that includes the entire lifecycle of the helicopter.

With the first US-based AW169 Level D FFS, the AW139 Level D FFS and the first AW609 FFS and Virtual Enhanced Training Devices (VETD), we offer a unique and customised training capability leveraging on our own OEM data. We are also able to call on a wide range of system mock-up and virtual maintenance trainers.



And a final thank you for the extraordinary feedback you have given us both in the 2021 Professional Pilot Product Support Survey, ranking us first for the third year in a row, and in the 2021 AIN Product Support Survey where we achieved first position as well. These achievements are a great incentive to continually improve your experience with us.

## HELIWISE 4 MOBILE - NEW RELEASE TO BOOST FLEET AVAILABILITY

Our HUMS Support Services now offer operators a brand new mobile solution – HeliWise 4 Mobile.

HeliWise 4 Mobile is available for all mobile devices and for Windows-based devices, whatever the operating system (iOS, Android and Windows), and offers support to daily field operations.



As part of this release, operators will have the opportunity to exploit the following features:

- › Wi-Fi connection to the helicopter's Data Transfer Device (DTD)
- › Data Download
- › Data Debrief

For further information, please contact us at:  
[hums.mbx.aw@leonardocompany.com](mailto:hums.mbx.aw@leonardocompany.com)

### Download HeliWise 4 Mobile:



## AMERIGO 4 FLIGHT NOW AVAILABLE

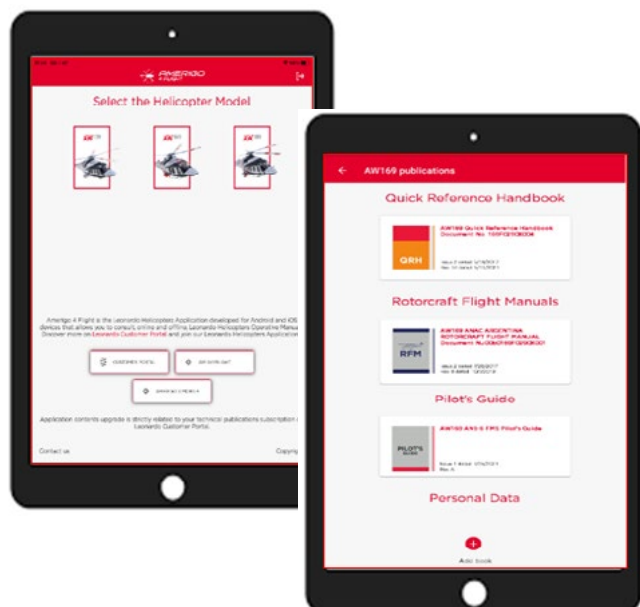
### Enhancing your operational Technical Publications user experience

We're always looking for new ways to make our Technical Publications more user friendly. The latest development is the launch of Amerigo 4 Flight – a new application which is designed to enhance the operational Technical Publications user experience.

Created in line with our Engineering Services Foundation (ESF) programme, it is part of Leonardo Helicopters' commitment to develop digital solutions that provide customers with the highest quality of services.



### Download Amerigo 4 Flight:



Amerigo 4 Flight (A4F), which completes the mobile suite for access to Technical Publications, is available for both Android and iOS devices allowing operators to easily access and consult the Rotorcraft Flight Manuals, Quick Reference Handbook and Pilot's Guide, via mobile devices.

Users of the Leonardo Customer Portal with an active Technical Publications subscription can easily access A4F using the same login credentials and download the relevant operating manuals.

## HELILINK - WHAT'S NEW!

Rapid access to remote support is vital to our customers, which is why we are continuing to evolve our HeliLink application to guarantee the best virtual technical support, 24 hours a day, anywhere in the world.



One of the lessons from the COVID-19 pandemic has been the growing importance of digital services in keeping customers connected. The latest developments with HeliLink will ensure that we are constantly closer to our customers' operations and increase our responsiveness when there are urgent issues.



Download HeliLink:



- There are several new features available within HeliLink:
- › Borescope compatibility to enhance support during troubleshooting
  - › Enhanced meeting management to support attendees, change meeting planning and copy meetings
  - › Email notifications integrated within calendars
  - › Meeting recording without losing data security.

### Stay tuned for further improvements!

For more information, please contact Leonardo Helicopters Product Support Engineering here: [engineering.support.lhd@leonardocompany.com](mailto:engineering.support.lhd@leonardocompany.com)

## OUR DIGITAL TRANSFORMATION JOURNEY

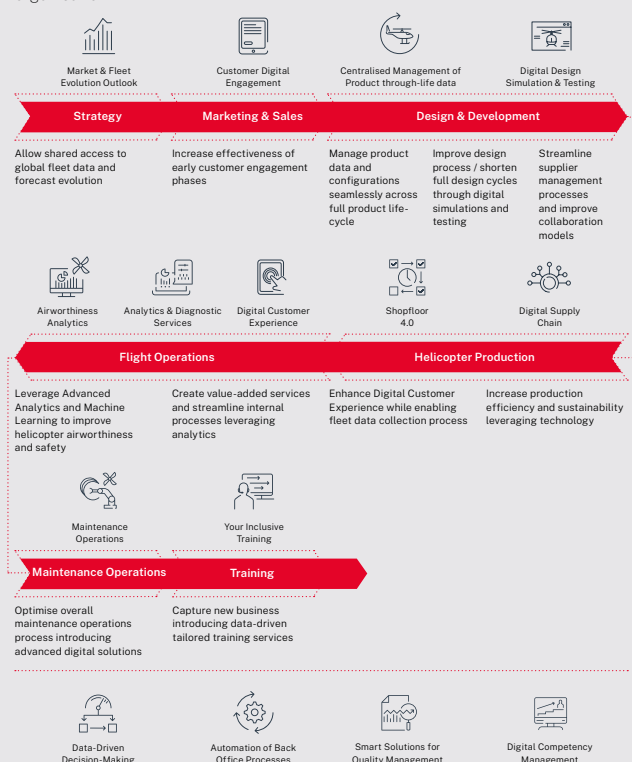
Every sector of the global economy is changing rapidly due to advances in digital technologies, and companies are preparing to fully exploit the massive amount of available data to improve their competitiveness.

Against this backdrop, we have embarked on a Digital Transformation journey to strengthen Leonardo Helicopters' leadership position, looking at our entire value chain to transform the way we operate, meet our customers' expectations and build a long-term sustainable business model.

With this in mind, we are focusing on how we can better harness digital techniques across the Leonardo Helicopters Division - a process which will involve every part of our organization through a series of targeted initiatives.

These plans will include reshaping our processes, developing and implementing new technologies, fostering a compelling digital customer experience and adopting new ways of working driven by collaborative values and behaviours. Look out for more information on our Digital Transformation and some of the projects we are going to be investing in.

Leonardo Helicopters' Digital Transformation will shape the entire value chain, from Strategy and Marketing & Sales, through to Engineering & Design, Manufacturing & Operations, and Customer Support Services & Training, implementing a roadmap covering 15 projects that will involve all parts of the organisation.



# ENGINEERING SERVICES FOUNDATION - OUR NEW CUSTOMER SUPPORT PROGRAMME

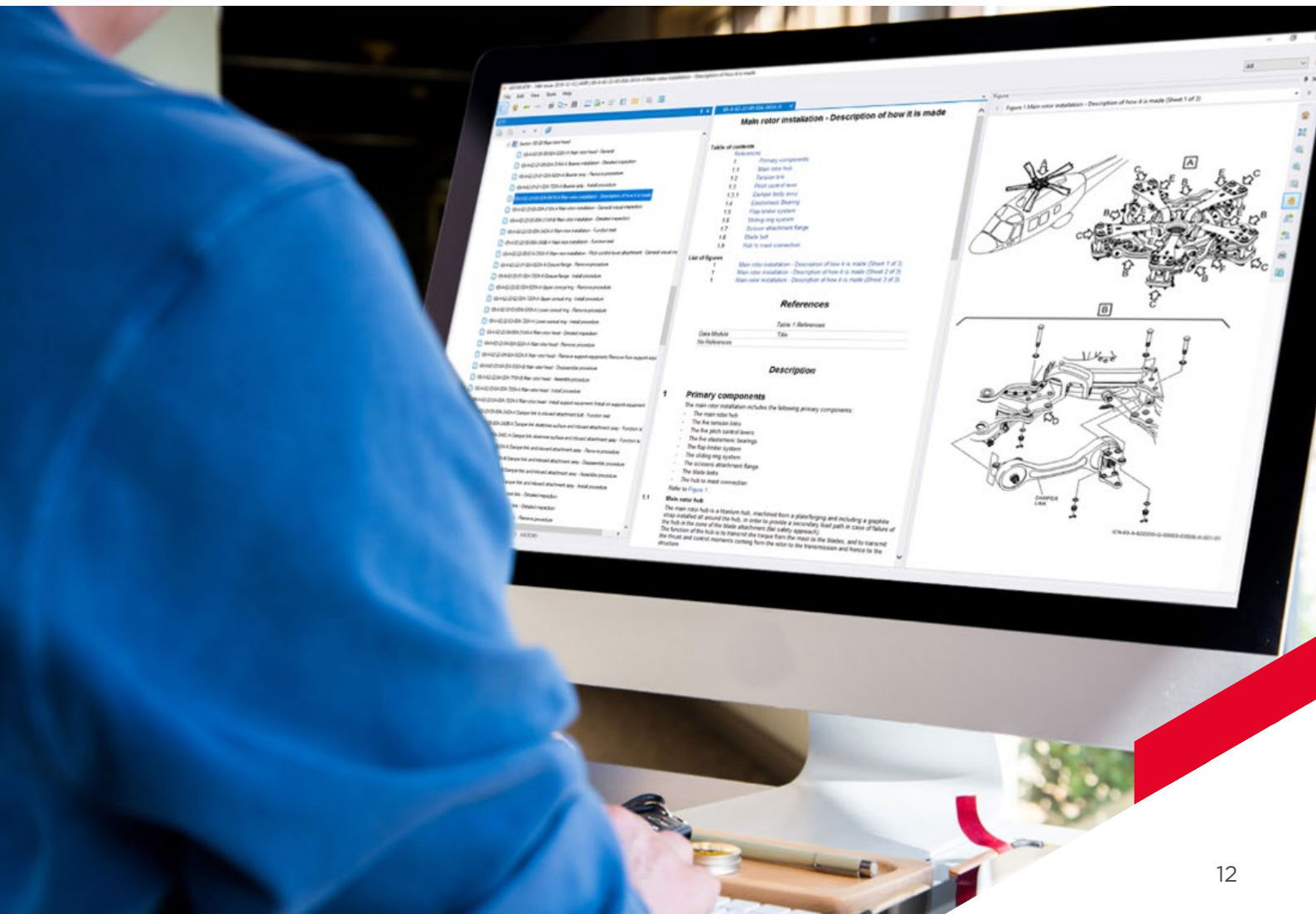
Engineering support, technical publications development, updates, and product improvements are among the services of the extensive range of engineering services and solutions we provide to all our customers allowing them to enhance and simplify their daily operations. The main focus is to allow continuing airworthiness and to increase the availability and reliability of their fleet.

In line with our commitment in supporting you efficiently in your daily maintenance and operational activities, we have developed a new support scheme programme, called Engineering Services Foundation (ESF), which will replace the existing Technical Publications subscription. The new programme will offer you a wider and more comprehensive set of engineering services, in order to ensure you the best-in-class technical support for your helicopters.

The ESF program will be available for all customers operating our Commercial Products and is built on five clusters, which are available through the Basic Services pack:

- ▶ **Technical Support Services**, which include Service Engineering continuous support and HUMS Support Services
- ▶ **Technical Publications Services**, addressing all documentation requirements and which relies on the new LH Publications System that has been released this year.
- ▶ **Software Services**, among which NAVIGATION DATABASE revision service: and electronic distribution of Airborne Software.
- ▶ **Modifications Services**, to ensure your fleet remains up-to-date to the latest design solutions developed by LH
- ▶ **Fleet Data Exchange-based services**, leveraging on existing Reliability Data Sharing Group initiative and planned to develop significantly in the coming months.

We will get in touch with you individually to discuss this topic in further detail and to setup the transition to the new Program.



# WORLDWIDE SAFETY WEBINAR - SAFETY TAKES FLIGHT

Our customers' flight safety is our top priority, which is why we launched the 'Safety Webinar Series' dedicated to Leonardo Helicopters customers, focusing on topics specifically developed for pilots, operators and owners.

The 'Safety Webinar Series' initiative started in 2020 and aims to develop, sustain, and improve helicopter safety. Each seminar examines dedicated safety topics, from best practice to prevent and manage unexpected flight / operational conditions, through to situational awareness and decision-making.

Since the series began, we have covered more than five geographies, including Brazil, Mexico, Chile, Malaysia and the continent of Africa.

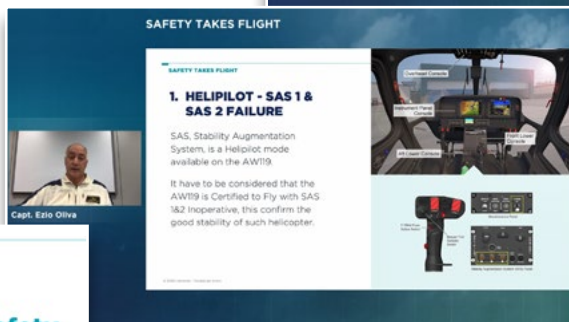
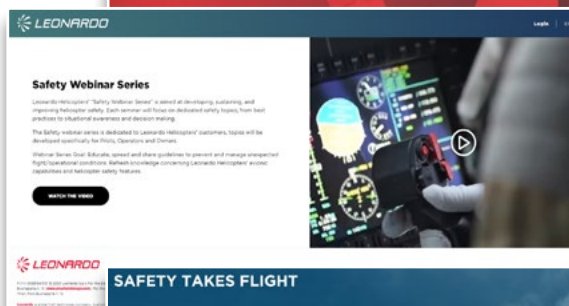
We introduced and presented several main topics, including:

- Controlled Flight Into Terrain (CFIT) and Loss of Control In-Flight (LOC-I). The importance of better understanding, identifying and mitigating these phenomena supported by relevant statistics. The topic underlined Leonardo Helicopters' commitment to safety and training.
- GLAM - the generational shift from analogue to digital, including benefits and new features.
- Multi Crew Cooperation (MCC) introduction and guidelines.
- Training Academy - A short introduction to the capabilities of our Malaysia Training Academy.
- AW119Kx - Introducing our single-engine helicopter with an in-depth look at emergency operations and related guidelines.

A moderator and a subject matter expert from our Training Academy led all the events, which included a live Q&A session with customers - a valuable way for us to gain feedback and to share technical content.

**Check the [safetytakesflight](#) webpage, register, and review all the webinars completed so far.**

We look forward to the Safety Webinar Series 2022, so stay tuned and join us for the forthcoming 'Safety Webinar Series'!



## PARTNERING WITH NORTHROP GRUMMAN ON FUTURE ROTORCRAFT UAS

We are joining forces with Northrop Grumman to investigate opportunities in an emerging frontier for rotorcraft technologies – Vertical Take-Off and Landing (VTOL) Uncrewed Aerial Systems (UAS).

The agreement will bring together Leonardo's expertise in rotorcraft with Northrop Grumman's capabilities in advanced aeronautics and next-generation autonomous UAS to capitalise on future global opportunities.

We will look at the potential to work together across a range of areas including air vehicle design, system architectures, payload optimisation and integration within the future battlespace. There will be a strong focus on customer requirements and mission-based concepts of operations.

We have a long track record of collaborating with Northrop Grumman, including working together closely on airborne platform protection. This partnership dates to 1995 with the joint development of the AN/AAQ-24(V) Nemesis Directed Infrared Countermeasure (DIRCM) for the US Department of Defense and UK Ministry of Defence.

Today, we are jointly addressing the US Army's Common Infrared Countermeasures (CIRCM) programme, which will protect hundreds of aircraft. Elsewhere, Leonardo Australia and Northrop Grumman Australia are teamed to compete for the Royal Australian Navy's Maritime Uncrewed Aerial System (MUAS) requirement under the SEA129 Phase 5 programme.

The proposed solution integrates the Leonardo AWHEREO Rotary Uncrewed Aerial System (RUAS) together with elements of Northrop Grumman's advanced battlespace architecture system. The goal is to deliver a next-generation deployable Intelligence, Surveillance, Reconnaissance and Targeting (ISR&T) capability.

Gian Piero Cutillo, Managing Director of Leonardo Helicopters, said: "This collaboration comes at a time when we see emerging military and civil requirements worldwide in the uncrewed domain. This partnership will enable a strong and concerted approach to existing, as well as next-generation VTOL UAS technologies from two leading global aerospace engineering companies."



## MAINTENANCE AGREEMENT FOR THE AW139 IN SAUDI ARABIA

During the Dubai Airshow we announced the signing of a Memorandum of Agreement (MOA) with Saudia Aerospace Engineering Industries (SAEI) to provide maintenance services for our growing AW139 fleet in the Kingdom of Saudi Arabia.

Under the agreement, SAEI will begin the qualification process to become a Leonardo Authorised Service Centre for basic maintenance of AW139s in the country. The MOA also includes the addition of the AW169 helicopter and the AW609 TiltRotor in the future.

The MOA demonstrates our long-term commitment to the Middle East and the focus on stronger support services and customer proximity.

Captain Fahd Hamzh Cynndy, CEO of SAEI, commented: “We are delighted to be appointed as the first authorised Leonardo service centre in the KSA for Leonardo’s AW139, AW169, and AW609 types.

“I am confident that our industry-leading capabilities will provide airline owners and operators with easy access to reliable, cost-effective and timely services, enabling them to achieve enhanced safety and efficiency while offering superior passenger connectivity and convenience.”

SAEI is the leading aviation technical solutions provider in Saudi Arabia, the Middle East and North Africa with over 60 years of experience. The company provides a wide range of maintenance, repair and overhaul (MRO) services to both civil and military customers.



## CANADA'S CORMORANT FLEET MARKS 20 YEARS OF SAVING LIVES

**CH-149 Cormorant**  
20th Anniversary of Cormorant's first delivery to Canada

**TRANSATLANTIC FLIGHT**

- + From Italy, via England, to Canada
- + 9 days of flight from 30 September - 11 October 2001
- + Distance covered 11,400 km (7,083 miles)

The Royal Canadian Air Force's CH-149 Cormorant fleet of AW101 helicopters is celebrating 20 years since the initial delivery to the Main Operating Base at Comox in British Columbia.

The anniversary was marked on October 11th, 2021 and followed the fleet's recent achievement of logging 100,000 flight hours.

The RCAF fleet operates in some of the toughest conditions anywhere in the world and aircraft have performed thousands of lifesaving missions across Canada, from the peaks of snowy windswept mountains to the east and west maritime coasts, as well as the high Arctic. The fleet has also been deployed internationally to provide humanitarian support.

After a distinguished two decades in service, the CH-149 Cormorant fleet requires a mid-life upgrade that is being proposed by Leonardo, together with its Team Cormorant partners, IMP Aerospace and Defence, CAE, GE Canada, and Collins Aerospace Canada.

The Cormorant Mid Life Upgrade (CMLU) will address obsolescence issues, ensure compliance with emerging airspace requirements, extend the life expectancy of the fleet to beyond 2042 and return the Cormorant to Main Operating Base (MOB) Trenton through fleet augmentation.

The Cormorant continues to provide lifesaving capability, as evidenced by recent missions, including the rescue of

31 people from a sinking offshore scallop dragger off the coast of Nova Scotia. The Cormorant was part of a fixed- and rotary-wing team that supported this critical rescue operation.

Earlier in 2021, two CH-149 helicopters from MOB Gander and MOB Comox provided Search and Rescue (SAR) support to the North American Aerospace Defense Command's Amalgam Dart exercise. The event took place in the most northerly permanently settled place on Earth between northern Canada and Greenland.

The history of the Cormorant stems back to 1998 when Canada awarded a contract for 15 all-weather SAR Cormorant helicopters to replace its CH-113 Labrador fleet.

Following delivery of the first two Cormorant helicopters to Comox, BC, the first operational flight took place in July 2002, with a medical evacuation of a sailor from a freighter 200 km (110 nm) off the coast of BC.

Later that year, a Cormorant flew a 1,200 km (648 nm) rescue mission off Newfoundland, demonstrating its enhanced SAR capabilities by surpassing the 1,100 km range of the Labrador helicopters it had replaced.

From the first mission through to 2021 and beyond, the Cormorant's longevity and success is a testament to the hard-working crews who operate and support the multi-role three-engine helicopter now and into the future.



## TEAM AW149 UK STRENGTHENED

Our proposal to meet the UK's New Medium Helicopter requirement with a solution based on the medium multi-role AW149 military helicopter has been strengthened with nine companies confirmed as members of the onshore supply chain.

This takes the total to more than 70 supplier organisations from England, Scotland, Wales and Northern Ireland, which together form Team AW149 UK and represent the best of British engineering and manufacturing. Under the requirement, the UK Armed Forces plan to replace four helicopter types including the Puma HC2 by mid-2025.

Each Team AW149 UK member provides a vital component to the latest generation AW149 military helicopter, ranging from lights to avionics systems and other hardware and software components.

Leonardo has pledged that 60 to 70% of the platform's content and through-life support will be carried out onshore in the UK at Leonardo and through UK suppliers. This would represent an investment in UK skills, design and manufacturing and support thousands of jobs in towns and cities across the UK.

If selected by the UK Ministry of Defence, the AW149 would be built at our world-class helicopter manufacturing site in Yeovil, Somerset. The latest companies to join Team AW149 UK are Abaco Systems, Aerco, Chelton, Ford Aerospace, Forged Solutions, Incora, LFD, RDDS Avionics and Techtest Limited.

**LEONARDO**

**TEAM AW<sup>149</sup> UK**

**Abaco** SYSTEMS | **AMETEK** | **AERCO** HOW CAN I HELP? | **CHELTON** | **FORD** | **FORGED SOLUTIONS** GROUP | **incora** | **LFD** | **RDDS** AVIONICS LIMITED | **Techtest** Limited

## AW149 FOCUS: FULL ICE PROTECTION SYSTEM (FIPS)



Leonardo's Full Ice Protection System (FIPS) has proved itself an outstanding enabler of all-weather helicopter flying, having undertaken more than 20,000 flight hours during the past five years. Thomas Grant, AW149 UK Marketing Lead, explains how the system will enhance the AW149's multi-role capability.

Pilots need to be able to conduct operations safely in all weather conditions. Ice accumulation has many negative effects on aircraft including adding weight, reducing the aerodynamic efficiency of control surfaces, affecting the performance of critical systems, and potentially impairing pilot visibility.

### PROTECTION IN THE MOST SEVERE ENVIRONMENTAL CONDITIONS

To operate safely in icing conditions certain critical areas of the helicopter require protection from ice build-up. Certified in 2016 by the European Aviation Safety Agency (EASA), the Full Ice Protection System (FIPS) offered on the AW149 provides protection against the accretion of ice down to temperatures of  $-40^{\circ}\text{C}$ . This capability allows operators to continue their missions safely in known icing conditions.

The baseline AW149 is equipped with engine-air-intake anti-icing and windscreen and pitot-static heating systems, to which FIPS adds an ice detection system, electrical power generators, and heated elements within the windshield and main and tail rotor blades.

Though manual control is available, the FIPS is fully automatic. When activated, the crew is advised via the cockpit display when icing conditions are detected. The system monitors airspeed, air temperature and ice accretion rate, and provides information on icing severity to the Ice Control Box (ICB), which then manages power distribution to the main and tail rotor blades. Blade temperature is monitored to protect against overheating. The FIPS system is also mission installable, enabling operators to remove or install it for maximum operational flexibility.

### PROVEN PERFORMANCE

The development programme for an ice protection system is very demanding. The certification programme for the AW149 FIPS involved test aircraft performing icing trials in northern Europe and North America for up to three years, accumulating over 1,600 flying hours in icing conditions.

Certification activity required the aircraft to fly into both natural and artificial icing conditions, with the support of a US Army CH-47 HISS (Helicopter Icing Spray System). The objective of the certification process was to gather data and evidence and to verify aircraft flight characteristics and system performance.

We are proud to be an industry leader in providing superior ice protection systems, enabling operators to complete their missions safely in the most demanding environments.



## AWHERO ACHIEVES MILITARY CERTIFICATION FIRST

The AWHEREO Rotary Uncrewed Aerial System (RUAS) has achieved the world's first military certification in its weight category, paving the way for further development and integration of this leading-edge platform.

AWHERO builds on our extensive expertise in rotorcraft development, system integration and embarked helicopter operations. Now, the RUAS has been granted basic military certification in the 200kg class by Italy's Direzione degli Armamenti Aeronautici e per l'Aeronavigabilità (DAAA), the Directorate for Air Armaments and Airworthiness.

Since 2019, AWHEREO has been conducting maritime surveillance capability demonstrations on ships as part of the OCEAN2020 initiative - the European Defence Fund strategic research programme for naval surveillance technology and maritime safety. The programme brings together 43 organisations from across Europe, led by Leonardo.

AWHERO is also being evaluated for international tenders. Leonardo Australia and Northrop Grumman Australia's team has been shortlisted for the next stage of the SEA129 Phase 5 programme. The competition is to acquire a maritime uncrewed aerial system for the Royal Australian Navy which will deliver a deployable intelligence, surveillance, reconnaissance and targeting capability.



## TWO EMS CONTRACTS FOR AW119KX AND AW169 IN THE US

We continue to strengthen our presence in the Emergency Medical Services (EMS) market in the United States and were delighted to announce two new contracts during the Air Medical Transport Conference (AMTC 2021) held in Fort Worth, Texas at the end of October.

These latest sales continue to grow the share of Leonardo helicopters in the North American EMS market, which now totals over 100 across a fleet of AW119s, AW109s, AW169s and AW139s. Contracts announced at AMTC included two further Instrument Flight Rules (IFR) AW119Kx single-engine helicopters and one AW169 light intermediate helicopter for Life Link III, and one AW169 for Intermountain Life Flight.

Life Link III's aircraft will deliver EMS care to patients in Minnesota and Wisconsin. The operator is the first commercial EMS Part 135 organisation in the United States to fly the IFR-capable AW119Kx. These aircraft join Life Link III's current fleet of 10 AW119Kx Visual Flight Rules (VFR) aircraft. The latest AW119Kx IFR and the AW169 are expected to be delivered in 2022.

"Safety is at the heart of everything we do. The addition of the AW119Kx IFR and AW169 support our transition to utilising instrument flight rules for patient transport and strengthen our fleet with new state-of-the-art aircraft and enhanced capabilities," said Greg Thingvold, Vice President of Aviation Operations at Life Link III.

Life Link III operates 10 helicopter bases that include Alexandria, Blaine, Brainerd, Duluth, Hibbing, Rush City, and Willmar in Minnesota, and Marshfield, Rhinelander, and Rice Lake in Wisconsin. The company plans to open its eleventh helicopter base in Detroit Lakes, Minnesota in spring 2022.

Meanwhile, Intermountain Life Flight (Intermountain Healthcare) has signed a contract for the first Full Ice Protection (FIPS) AW169 in North America, with delivery anticipated in late 2024. This new aircraft will significantly enhance patient care, allowing in-flight critical care and transport of patients in even the harshest winter conditions and will be the first helicopter in this category with the FIPS capability flying in North America.

FIPS allows the aircraft to operate in full icing conditions when other helicopters would be grounded. The system heats the windshield and blades to prevent ice accretion and provides automatic detection and activation delivering unparalleled mission capabilities in demanding environments.

"We are excited to add this aircraft to our Intermountain Life Flight fleet," said Kent Johnson, Director of Aviation Operations for Intermountain Life Flight, which is based in Salt Lake City. "The performance and safety features of this aircraft are outstanding and will serve us well in our environment and terrain."



## BESTFLY ORDER SEES AW169 ENTER AFRICAN MARKET



We are delighted to confirm an order for four AW169 helicopters from Angolan operator Bestfly. The aircraft will be deployed in the energy sector, increasing the AW169's presence in this important segment. The contract also represents the entry of the AW169 into the African market with the first purchase from a major local operator.

The arrival of the AW169 light intermediate twin will be a significant boost to Bestfly's growing air operations in Angola. The helicopters will be conducting passenger and equipment transport missions in the energy industry, taking advantage of the AW169's attributes which include the latest technology and navigation/mission avionics, the latest certification and safety standards, outstanding performance, the largest cabin in its category, and a modern approach to maintenance.

Commenting on the order, Bestfly said: "This contract is a great milestone for Bestfly in its sustainable growth strategy. We would like to thank Leonardo for its great support in putting this deal together.

"We are confident the AW169 will be a great addition to our fleet, enhancing the capabilities of our offshore and onshore operations. We would like also to thank our customers for their continued support and trust, allowing us to continue to grow stronger in the future."

Bestfly was founded in 2009 and quickly grew to become a market leader in business aviation. In the space of 10 years the company established itself as the largest operator in Angola.

The AW169 has a strong track record in the energy sector with success in both Europe and the Middle East. Supporting both oil and gas, and wind farm operations, more than 130 units have been delivered worldwide.



## FOCUSING ON SAR IN BELGIUM

We were honoured to take part in the International Search and Rescue (SAR) Meet 2021 which was hosted by the Belgian Air Force and held at Koksijde Air Base from September 27th to October 1st. The base is home to the 40th Squadron, which operates four NH90 NFH helicopters responsible for rescue operations off the Belgian coast.

The event was an opportunity for SAR operators to share experiences and demonstrate their missions, assets and procedures to one another. More than 100 crew, VIP and industry delegates from 13 nations attended the event which included a symposium and flight day featuring a winch challenge.

We have a longstanding presence in Belgium through Leonardo Belgium SA (formerly Agusta Aerospace Services). Based at Liège Airport, the Part 145 facility acts as the primary logistics and maintenance centre to support customers in the UK, mainland Europe and parts of Africa, and underlines our continued commitment to the country.

We were also delighted to present the SAR credentials of the AW169, focusing on development of the helicopter for the SAR mission, as well as flight test activities. There was also an RJ Bombeiros AW169 on static display, which attracted plenty of visitors during the event.

Overall, the SAR Meet was a valuable opportunity for us to listen to first-hand feedback from SAR operators and to understand more about the market requirements and trends for future SAR operations.



## AW609 MAKES MIDDLE EAST DEBUT IN DUBAI

The revolutionary AW609 TiltRotor took centre stage at the Dubai Airshow 2021, marking the first time that we have presented the aircraft at a major aerospace and defence exhibition outside Europe and the United States.

With Leonardo's focus in Dubai being on the future of flight and advanced electronics, the AW609 provided the perfect example of how our investment in transformational technologies is shaping the future of vertical flight.

The AW609 represents an impressive feat of engineering with its ability to take off like a helicopter before transitioning to cruise flight and delivering the performance of a fixed-wing turboprop. The aircraft can perform multiple missions, from passenger transport and medical care to civil protection, as well as search and rescue. The AW609 can fly at 500km/h with a range of almost 1,400km.

The aircraft on display in Dubai flew to the UAE for the opening ceremony of the innovative helicopter terminal built by Leonardo in partnership with Falcon Aviation Services. The terminal is located at the Expo 2020 Dubai site, which was also the setting for the launch of the new Agusta brand. Agusta, with its iconic heritage in field of

rotary wing flight, will be the name that embodies our commitment to excellence in VIP transportation, products and services.



## AW189 TO ENTER CHINA'S PARAPUBLIC MARKET

The AW189 is entering the Chinese civil helicopter market for the first time following an order for two of the type from Beijing Police. The first aircraft will be delivered in the first half of 2022 with the second AW189 following in early 2023.

The acquisition of the AW189 will enable Beijing Police to enhance its long-range, high-capacity law enforcement, rescue and firefighting capabilities for operations in the Chinese capital's metropolitan area.

Beijing Police is already an established operator of both the AW109 and AW139 and will soon be able to deploy the AW189, which will feature a range of mission equipment. The two aircraft be equipped with a search light, rescue hoist, tactical radios, weather/search radar, cargo hook and firefighting equipment.

Beijing Police has the largest Police Aviation Unit in China which features three AW139s, three AW109 Powers and one AW109 GrandNew. The introduction of the two AW189s coincides with Beijing Police spearheading an expansion among Chinese Police Aviation operators into emergency management roles assigned by the newly created Chinese Ministry of Emergency Management.

The contract also underlines the AW189's status as the most successful helicopter in the super-medium category with more than 100 units on order and 80 aircraft delivered to operators worldwide for a range of missions.



## AW139 - REALISING CAPABILITY FOR TOLL GROUP & AUSTRALIAN ARMY AVIATION

We have successfully delivered, through Leonardo Australia, the second of two AW139 helicopters to Toll Group. The helicopter is being leased to the Australian Army Aviation Corps and will operate from RAAF Base Townsville, Queensland, with the 5th Aviation Regiment, complementing the current MRH90 fleet.

The AW139 will be deployed to support the wider Australian Defence Force (ADF) by providing general aviation support services, several missions such as transportation of cargo and personnel during major exercises, as well as the training of ADF units in helicopter operations and other non-combat tasks for an initial period of two years.

The AW139 is being leased under Plan Corella, which was launched in October 2020, and is officially known as the Army Interim Commercial Helicopter.

The helicopter will keep its civil registration, but the livery has already been changed to a gloss white colour scheme with the Army titles and the Kangaroo logo, which identifies military aircraft in Australian service.





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