

AW newsletter

Autumn 2018

ThinkCustomer

CONTRACT FOR 22 AW169M BY ITALY'S GUARDIA DI FINANZA

In mid-November we were awarded the contract by Italy's Guardia di Finanza for 22 new generation AW169M twin engine helicopters, which includes also a comprehensive support and training package and could be further extended with optional services. Deliveries are expected to start in summer 2019 and to be completed by 2024.

Guardia di Finanza will deploy the aircraft to perform different missions, including patrol and reconnaissance, law enforcement, rescue and homeland security, enlarging the actual fleet of 14 AW139s, six of which are already in service and the following eight due to be delivered in 2019.

The AW169M is the military variant of the new generation AW169 4.8t twin-engine helicopter, designed to the latest FAR/JAR/EASA requirements as well as those of military, homeland security and government users.

The AW169Ms of Guardia di Finanza will receive a

military qualification by the Italian Directorate of Air Armaments (ARMAEREO) and will feature a dedicated configuration including rescue hoist, emergency floatation system and life rafts, wire cutters, TCAS II (Traffic Collision Avoidance System), NVG (Night Vision Goggle) compatible cockpit, HTAWS (Helicopter Terrain Awareness Warning System), advanced communication system, OPLS (Obstacle Proximity Lidar System), advanced HUMS (Health Usage Monitoring System), AFCS (Automatic Flight Control System) with SAR modes, searchlight, ice detector, fast roping and satcom. The aircraft will be also fitted with a range of Leonardo systems.

The contract for the AW169M by Guardia di Finanza follows the success of our AW169 in Italy for emergency medical services with various operators across the nation. The AW169 has been successful also in law enforcement missions in Europe and the Americas.



THE FLEET OF OUR HELICOPTERS GROWS EVEN STRONGER IN CHINA

At the beginning of November, during the China International Import Expo in Shanghai in the presence of the Italian Deputy Prime Minister and Minister of Economic Development, Labour and Social Policies Luigi Di Maio, we announced the contract with Sino-US Intercontinental Helicopter Investment (Sino-US) of China for 15 AW139s.

Deliveries are scheduled between 2019 and 2021 and the aircraft will be used by Kingwing General Aviation (Kingwing) to perform EMS missions in China. Established in 2006, Kingwing, one of the leading general aviation companies in China, has signed collaboration agreements with many hospitals and emergency centres across the country, and is continuing its rapid expansion.

This contract further strengthens our collaboration with Sino-US, based on existing contracts for EMS helicopters, including 34 AW119Kx single engines, 24 AW139s and 25 AW109 Trekkers.

Furthermore, during China International Import Expo, we also announced the signature of a Heads of Agreement (HoA) to further expand our long term relationship. This HoA confirms Sino-US as the exclusive distributor of Leonardo helicopters in the Chinese civil and commercial helicopter market, with a purchase and delivery plan for 160 aircraft of various types throughout the years 2019-2023. It also foresees the establishment of a Leonardo Authorised Training Academy in China in partnership with Sino-US, and the setup of a Completion and Customisation Centre managed by Sino-US.



SPECIALIST AVIATION SERVICES: 'EXCELLENT' SERVICE CENTRE

During an official ceremony held at Helitech in Amsterdam, Specialist Aviation Services (SAS) was appointed an Excellent Service Centre for the AW169 and AW139 helicopters in the UK and Ireland under Leonardo's guidelines.

SAS is an established service centre for the AW169 and AW139 in the UK. It provides a range of support and maintenance services and it is a prime AW169 customer. In the last six years SAS ordered 12 units dedicated to Emergency Medical Service (EMS) nationwide.

SAS is based in Cheltenham, Gloucestershire and is setting up a second base in RedHill, Surrey, in view of supporting the AW139 in the VIP/corporate market. We have a solid and growing partnership with SAS, based on the introduction of the AW169 in the UK's EMS market, where eight helicopters are already in service with UK air ambulance charities.

This ranking of "Excellent" is assigned to selected Service Centres which are focused on maintaining third party fleets and on having the largest scope of service capabilities, all while guaranteeing the continued

achievement of our customers stringent expectations and considering specific market requirements. This step reflects a strong commitment to position the customer at the core of any activity, from design to through life cycle support.



OUR NETWORK OF MAINTENANCE AND REPAIR SERVICES IN EUROPE IS EXPANDING

In mid-October we signed a Memorandum of Understanding (MoU) with Heliwork Services to carry out an AW109 series overhaul. Heliwork Services in Thruxton, Hampshire, UK, is an Authorized Service Centre and Authorized Components Repair Centre for a range of our helicopter models and parts including dynamics and main/tail gear boxes (MGB/TGB). Under the new MoU, the existing AW109 series MGB/TGB mid-life inspection capability will be upgraded to full overhaul and this represents the first instance a third party organization is granted overhaul capability on AW109 series MGB/TGB. We signed an additional MoU with SPECTO Aerospace (formerly Airborne Services) in the Netherlands, appointing SPECTO a Blade Repair Centre for the AW109 and AW139 helicopters across Europe, including Russia.



PORTUGAL'S AIR FORCE ORDERS FIVE AW119KX MULTIROLE HELICOPTERS

In mid-October we announced that the Portuguese Ministry of Defence (MoD) selected the AW119Kx as its new multirole single engine helicopter to meet its future operational requirements. Five aircraft will be delivered from our plant in Philadelphia starting in late 2018. The Portuguese Air Force has an option for a further two units.

The AW119Kx helicopters will be used to perform a wide range of missions and roles, which include training, MEDEVAC, troop transport and short range maritime search and rescue (SAR) and may also be used for firefighting. The aircraft will represent an outstanding training capability for military crews before moving to

the AW101, Super Lynx and other frontline types. After the thorough and rigorous assessment of competing models, our AW119Kx demonstrated to be the best-suited solution to meet the customer's stringent requirements. The Portuguese Air Force is already flying our AW101s for long range SAR, utility, personnel recovery and fishery protection missions. The Portuguese Navy has a fleet of Super Lynx aircraft (including a Mid Life Upgrade) for maritime duties. So this latest contract underlines a further reinforcement of the long standing partnership with the Portuguese Ministry of Defence in the helicopter sector.



100 NH90 HELICOPTERS MANUFACTURED IN TESSERA

On October 29th a ceremony was held in our plant in Tessera (Venice) to celebrate the 100th NH90 helicopter manufactured at the site.

The largest military helicopter programme in Europe, the NH90 is the optimal choice for modern operations

thanks to its fully composite airframe with a large cabin, its excellent power-to-weight ratio and its wide range of role equipment. It features a quadruplex fly-by-wire flight control system for reduced pilot workload and enhanced flight handling characteristics.



NEW LOGISTIC CENTRE OPENED AT OUR VERGIATE PLANT

Following an intense 2018 relocation and process streamlining activity, the new Logistic Centre, located at our Vergiate Plant, in Italy, was officially inaugurated on 18th December 2018. "For some time now our priority has been to centralize our logistical and technical operations under one roof and it is my great pleasure to see that wish fulfilled" says Vittorio Della Bella, SVP Customer Support and Training. "This new facility does not only represent a state of the art platform, but it also integrates Leonardo Helicopters central logistic operations in one site, achieving significant synergies and improving the quality and level of service provided to our customers". Designed according to the most innovative standards, the new 18000 sqm facility centralizes multiple operations that until now were spread across a number of locations

inside our Lonate Pozzolo's plant. As well as providing much-needed office space for logistics and technical personnel, which allows them to better co-ordinate processes and streams, the facility also houses all the mechanical systems and equipment to make every phase of the logistic flow (order picking, processing, certification, packaging and transport) more efficient. This includes a new mezzanine work platform to support growth, production and safety as well as a freewheel roller conveyor system that guarantees us a smooth delivery. Keeping an eye towards environmental sustainability, this important investment represents a further step in the strategy of new projects, services and initiatives we are implementing to ensure a competitive, modern and integrated Customer Support offering.



SOON A NEW SUPPORT CENTER IN BROUSSARD, LOUISIANA

Leonardo Helicopters will soon be opening the Gulf of Mexico Support Center in Broussard, Louisiana. Starting in early 2019, the 16,000 square foot facility will feature a fully capable blade repair shop servicing AW109s, AW119s, AW139s, AW169s, and AW189s. A 5,000 square foot warehouse will provide material and technical support. The Gulf of Mexico Support Center opening is evidence of our commitment to increasing customer support in the Americas where over 700 Leonardo helicopters are in service.

Customer feedback was an essential reason Leonardo decided to grow its footprint in the Gulf of Mexico region. Since 2016, the Customer Support & Training team has significantly invested in a “TeamUp” initiative with customers around the globe.

“We’re constantly looking at the status of our fleet and the environment of the global market. We take great pride in working closely with our customers to gather

feedback on ways we can improve. It became clear the Gulf of Mexico Support Center is an opportunity to address demand for blades, provide service for local customers, and further improve our responsiveness,” said Mike Hotze, VP, Customer Support and Training North, Central and Spanish Speaking South America.

“The team we’re assembling here in Louisiana has decades of experience working in aviation and rotor blade repair. We’re looking forward to providing the highest quality product and service to our Leonardo customers. We’re eager to get the doors open and get started,” said Troy Penny, General Manager, Leonardo Gulf of Mexico Support Center.

“We continue to make strategic investments that increase customer support around the globe. We’re excited to expand our capabilities in the Gulf of Mexico region,” said Vittorio Della Bella, SVP Customer Support & Training Worldwide.



Work in progress in Broussard



THE AW189 FLEET ACHIEVES 50,000 FLIGHT HOURS

We are proud to announce that the AW189 in-service fleet has reached 50,000 Flight Hours (FH), going towards more and more ambitious goals. It counts more than 60 helicopters and grants an outstanding performance level in its class, leading missions under a wide range of conditions in over 18 countries and across 5 continents, confirming its versatility and multirole capability. Reaching over 40,000 FH in the original offshore configuration, the fleet is now deployed to perform Search and Rescue and further missions such

as VIP/Executive and Private Transport, Utility and Fire Fighting. In the last 12 months the leading super-medium helicopter has shown an increasing flight activity performing over 18,000 FH and a growing average trend of 1,600 FH/Month, with the outstanding fleet leader approaching the 4,000 FH milestone.

This great result represents a further step in a long path. The AW189 is continuously improving its performance and we are already looking forward to the next milestone. Stay tuned!



LEONARDO HELICOPTERS AND SINO-US SUCCESSFULLY COMPLETE AW189 CHINA DEMO TOUR

Leonardo Helicopters and Sino-US Intercontinental Helicopter Investment (Shanghai) Co. Ltd., jointly completed the first AW189 helicopter demo tour for Chinese customers. The offshore configured AW189 flew almost 3,000 km from Kuala Lumpur, Malaysia and joined an EMS configured AW139 at Shenzhen Nantou Heliport in China, one of the busiest heliports in China. Ms. Lucia Pasqualini, Consul General of Italy in Guangzhou, delivered a key note speech at the event concluding the tour, promoting trade and high tech exchange between Italy and China. Important existing and potential Chinese customers attended the event. Captain Leonardo Mecca, pilot of the AW189 during the tour, is an AW139 and AW189 flight instructor with more

than 30 years and 10,000 flight hours of experience. He also serves as the Head of the Leonardo Helicopters' Training Academy in Malaysia. He commented that AW189 achieves its current stellar success due to the rich operational experience gained on the AW139, its high power to weight ratio, advanced avionics, Human-Machine Interface, big cabin space accommodating up to 19 passengers. From Oct 19th to Oct 20th, the AW189 flew from Shenzhen to Shanghai, crossing another 2,000 km in two days, ready to participate in the First China International Import Expo, where together with our Chinese Distributor Sino-US we displayed the AW189, an AW139 and an AW109Trekker.



BRISTOW INTRODUCES THE AW189 TO AFRICA COMMERCIAL OPERATIONS

Bristow Helicopters (Nigeria) Limited is the first offshore and oil and gas operator in Africa to introduce the AW189 into commercial service. The AW189 provides a complete aviation solution to support Bristow's customers in performing oil and gas crew change operations with daily flights departing from Port Harcourt. Since the introduction of the AW189 into Bristow's fleet in 2014, the aircraft has been exclusively operated by Bristow in the United Kingdom to support both oil and gas and search and rescue missions. In September 2018, the AW189 was ferried from Bristow's Aberdeen base to Nigeria to start the preparation and become operational. "Bristow has continued to lead the industry in introducing new aircraft types and technology to the civil market," said Bristow Senior Manager, Commercial and Service Delivery Clement Falayi. "We have a robust and proven process for the introduction of aircraft types, including the aircraft planning, personnel training and the establishment of all required facility infrastructure and support methodologies." "A large percentage of our clients in Nigeria conduct their operation in both nearshore and deep offshore locations of

Nigeria water. The introduction of the 16-seat AW189 into Nigeria enables Bristow to provide a robust solution that provides the necessary flexibility and easily meets the most complex client requirements."

Working together, we are fully committed to supporting Bristow's fleet, guaranteeing the maximum level of safety and efficiency. In Nigeria, we also provide a support contract and a locally based Technical Representative to ensure continuous assistance and accurate service.



LEONARDO HELICOPTERS AT PENSACOLA AIR SHOW

While the US Navy Blue Angels' precision formation flying entertained in air, Leonardo Helicopters exhibit commanded the attention of several hundred thousand aviation enthusiasts on the ground attending the 2018 Pensacola Air Show this past 2-3 November. The exhibit not only focused

on the competition to be the next US Navy helicopter trainer by displaying the TH-119 and Trekker featuring its advanced Genesys glass cockpit, but also reinforced Leonardo's commitment to innovation by featuring the AW609, in its first public appearance in over three years.



FIRST AW609 OPERATORS TRAINING REVIEW

The first AW609 Operators Training Review, held on October 25th and 26th at our facility in Philadelphia, was aimed to gain feedbacks and insights from highly experienced operators. Over ten companies attended the event, with sixteen representatives and pilots coming from afar afield as Malaysia and Japan.

The Customer Support and Training session, led by Fabrizio Peano, focused on the latest solutions for the AW609 as well as product and CS&T future developments, including specific training aids and a focus on maintenance.

The event offered the opportunity to perform the AW609 Pilot Ground workshop together with exercises in Distance Learning (DL) mode and the Interactive Computer Based Training (ICBT). The attendees also flew the AW609 Engineering Simulator with our instructor pilots, experiencing some basic flight maneuvers such as autorotation.

The second day focused on the progress of Aircrew Certification Standards (ACS) with FAA and a briefing on pilot recurrent training. The closing was represented by an open forum, which allowed guests to provide feedbacks and recommendations based on their operational

experience on both fixed and rotary wing aircraft. The AW609 Operators Training Review was very well received and the participants appreciated the possibility of contributing to the AW609 training development as well as our openness to understand aircrew licensing issues. Attendees also asked for future editions as they appreciated the collective thinking and opinion exchange and they would like to keep it alive, and they are also keen to assist in the development of the AW609 programme.



10,000 FLIGHT HOURS FOR THE SUPER LYNX HELICOPTERS OF THE ROYAL MALAYSIAN NAVY

The Royal Malaysian Navy's 501 Squadron reached the milestone of 10,000 flight hours with their six Super Lynx helicopters. During a ceremony held in mid-October at the Royal Malaysian Navy's Lumut base we presented Vice Admiral Dato' Pahlawan Hj Mohamad Adib bin Abdul Samad, Western Fleet Commander of the Royal Malaysian Navy, with a plaque. The professionalism of both the air crew and maintenance personnel who have flown and maintained these helicopters over the years both at Lumut and whilst deployed aboard Royal Malaysian Navy ships have greatly contributed to reaching this important milestone. The first Super Lynx was delivered to the Royal

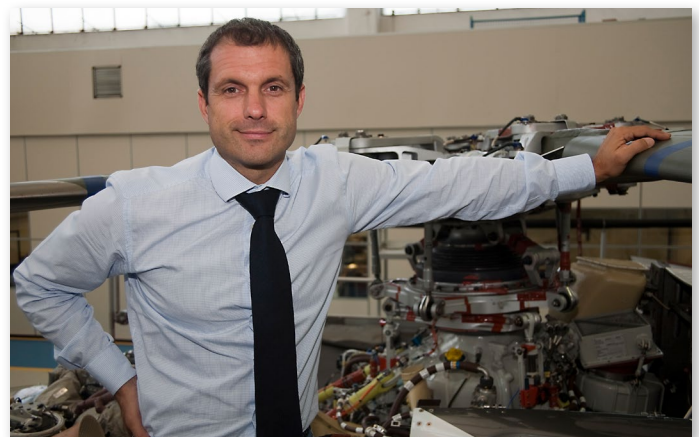
Malaysian Navy in 2003 while the other five aircraft in 2004. They are all equipped to perform a wide range of roles including anti-surface warfare, anti-submarine warfare, maritime and coastal surveillance, over the horizon targeting and a number of secondary roles. The Royal Malaysian Navy greatly enhanced its maritime capabilities with the introduction of the Super Lynx. The aircraft have now participated in more than 100 national and multi-national exercises, while also giving a significant contribution to anti-piracy operations in the Straits of Malacca, South China Sea and the Gulf of Aden, as well as protecting the East coast of Sabah against intruders.



VERTICAL FLIGHT SOCIETY, ITALIAN CHAPTER - LUCA MEDICI NEW PRESIDENT

The American Helicopter Society, the oldest technical society dedicated to enhancing the understanding of vertical flight technology, is called Vertical Flight Society since 2018. It was founded in 1943, when the first helicopter entered into service in the United States, and has always been considered the main source of interaction and exchange of information on helicopter technology. The Association has many chapters all over the world in order to promote and sponsor its activities, collecting and putting into context the initiatives and realities of the individual countries. The Italian section "Enrico Forlanini" was founded in 2015 in Milan, to pay homage to the legacy of the inventor and pioneer of aviation, who in 1877 developed the design of a helicopter powered by a steam engine. The Italian section avails itself of the support of the Milan Polytechnic and Leonardo Helicopters. The link between research, OEMs and operators is, in fact, the fundamental element on which the association is founded to combine the world of vertical lift with that of innovation, operations and certification. On October 11th the Italian chapter announced that during their last meeting they appointed as new president Luca Medici, Head of Aircraft System Integration of Leonardo Helicopters, who replaces prof. Marco Borri of the Polytechnic of Milan. "Being a member of the Vertical Flight Society or the International Committee of the European Rotorcraft Forum is the result

of the experience I have gained over the years in the various roles I have held. I have always worked between industry and university and I am pleased with this recognition" Luca tells us. "My contribution in this new role will be expressed in connecting as many different realities as possible, capitalizing on their value and finding a common language able to translate all the contributions into results." Being part of such associations means recognizing that our company wants and considers fundamental keeping a high commitment in the field of innovation, enhancing the contribution that can be obtained from all the stakeholders involved.



CS&T KEY PERFORMANCES ACROSS THE US

Leonardo's U.S. Customer Support team remains focused on safety while striving to grow and improve working relationships with all our customers. Throughout the year, we track activities using Key Performance Indicators (KPIs) including Customer Issue Resolution, Fleet Availability, and Delivery Schedule Adherence (DSA). Here is how our KPIs stacked up in 2018.

Customer Issue Resolution: this was nearly perfect in the U.S. with 98.1% of all customer issues resolved within 30 days. Half of the issues were resolved between 0-2 days, an outstanding performance that shows the priority and level of attention we give our customers.

Fleet Availability: this is crucial to track because we want to be sure our customers are able to use their aircraft when needed, especially in emergency situations. Dispatch availability for AW139 customers was extremely high, coming in at 94.78%. Dispatch availability for AW189s was 89.21%. AW109/AW119s dispatch availability was 89.21% due to compliance with the MGB torque fitting Technical Bulletin—a circumstance our team worked diligently to resolve.

Delivery Schedule Adherence: getting critical parts to customers is essential to keeping their fleets up and running. DSA tracks delivery

timeliness from suppliers. This year, 88% of customer orders were delivered on time and 78% of all orders were delivered early thanks to the commitment of our materials planning and procurement teams. Because of warehouse expansion projects in Italy and the U.S., some delays occurred despite our best efforts to minimize disruption. We expect full backlog recovery by mid-January and are excited to share the many benefits of larger warehouses. We are proud of our Customer Support team's performance in 2018 and eagerly await more feedback from valued customers. Last year, Leonardo finished second in ProPilot magazine's annual Product Support survey. This year, we are confident our customers have noticed improvements. We encourage you to please fill out ProPilot's survey on our behalf. Thank you!



THE AW139 ROI CELEBRATES ITS SECOND EDITION

During the second edition of the AW139 Italian Operators Conference (Raduno Operatori Italiani - ROI) we shared with the main AW139 Italian government operators a review of the current practices and circulated examples of successful innovation for products, services and training. The event, held on September 26th and 27th at our plant in Vergiate, brought together around 50 attendees, including both operators and suppliers. After an introductory overview on the growing AW139 Italian government fleet and our initiatives in terms of operators' proximity and maintenance capability, the event focused on sharing experiences. Operators' issues have been analysed in detail through dedicated plenary sessions, which gave also the opportunity to explore the latest AW139 product improvements. A key point of the agenda was the presentation of two of the world's main helicopter

rescue hoist and engine providers, who shared their experience and gave an overview of their systems. Last but not least, a closing keynote session invited the conference's attendees to deepen their knowledge of the next-generation sensor systems developed by Leonardo Land & Naval Defence Electronics and Airborne & Space Systems. Working across boundaries and linking different fields, the second AW139 Italian Operator Conference served as a unique chance to meet several leaders of the sector, to exchange ideas and perspectives and to promote Leonardo's integration capacity.

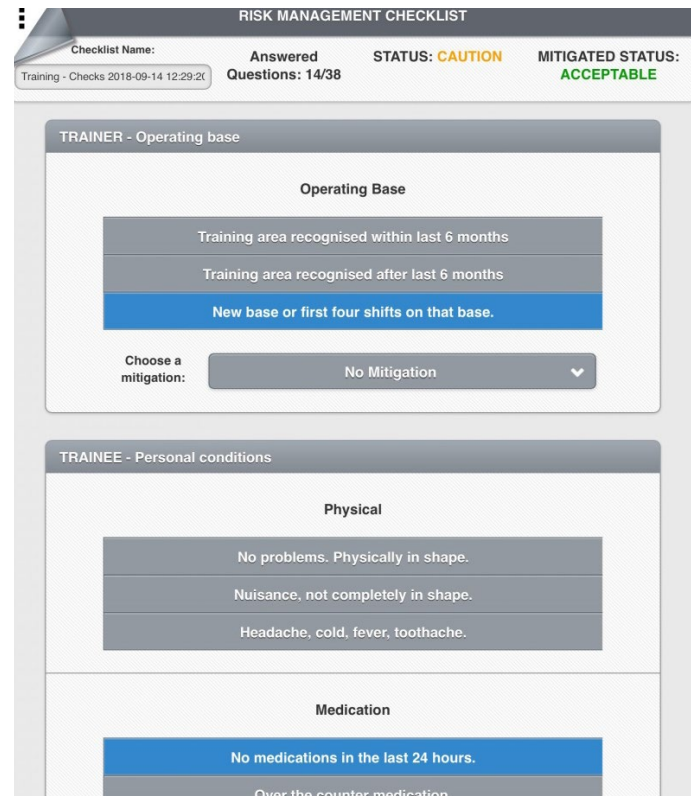
Click on the link below to enjoy the post-event gallery and learn about the feedbacks from the attendees!



SKYFLIGHT GETS NEW FUNCTIONALITIES, LEADING SAFETY EXCELLENCE

Flight Risk Assessment is the latest Skyflight functionality further increasing safety through a precise evaluation of the risks associated to the flight. This feature was developed by embedding in the system the EASA EHEST pre-departure Risk Assessment Checklist, that is applicable to different types of missions (training, HEMS, passenger transport, etc.), relying on the PAVE approach - the acronym that identifies the main risk factors associated with flying: personal, aircraft, environment and external pressures. Through Skyflight's Flight Risk Assessment, pilots can easily fill out the Risk Assessment Checklist, inserting mitigations where applicable and verifying the top score achieved. Each checklist can be saved and shared with one or more users, just sending it via email. The Risk Assessment Checklist can be customized according to the company safety manager, who can shape questions and answers, possible mitigations as well as users' messages. The score of each question may vary depending on the personalization, establishing when the aircraft should not fly as a result of the total score gained. With this feature, Skyflight offers to pilots a 360 degrees tool that combines flight planning with risk assessment and flight safety. From now on, they do not only achieve a deep understanding of the current situation and the involved dynamics, but also anticipate changes and future developments, clearly understanding the consequences related to their flight. Skyflight Service is available for iPad and iPad mini devices.

Click on the icon to download the Mobile App and to explore all the service features!



Highlights

AWFAMILY WEBINARS: IMPROVEMENTS, INTERACTION, LIVE

Successful communication is essential in every relationship, even more in a dynamic and fast changing world as the rotorcraft business. This is why starting from May 2018, our Product Support Engineering (PSE) team has developed for customers and operators a series of webinars with the aim of sharing updates on AWFAMILY helicopter models in terms of in-service events, product improvements, HUMS service as well as publication and digital developments. The 2018 schedule consisted of six webinars which, in some cases, were specifically arranged for events such as the Maintenance Improvement Team (MIT) and Customer Advisory Board (CAB) meetings in order to expand the circle of participants and to involve those who were unable to attend directly. Altogether the webinars totaled more than 150 registrations, with positive feedbacks in terms of subjects covered and of the event virtual format, which represents a new way to communicate with our customers on a regular basis. Through the webinars, the audience was able to chat, vocalize opinions, ask questions and get real-time feedback, which was highly appreciated. Moreover, we made available a recorded version of the webinars through the Leonardo Customer Portal, for those who could not attend in real time.

A great number of operators, especially from the Oil & Gas business, asked us to repeat the schedule next year as they want to be involved. Therefore, we are glad to invite you to visit the AWFAMILY webinars webpage where you can check out 2019 dates, with relevant agendas and speakers.

We implemented a new technology making the connection easier and faster.

Click on the button below and apply for registration!

2019 AWFAMILY WEBINARS



AWTEAMUP
EXCELLING TOGETHER

WEBINAR AGENDA SPEAKERS

THE 2ND SERVICE CENTRE CONFERENCE IS COMING

WE ARE WORKING FOR YOU!

Technological innovation, efficiency and quality are crucial factors in the aviation industry. Customers' needs focus on Turn-Around-Time and competitive costs, which means that they need to achieve helicopters availability and reliability, while ensuring flight safety, at the lowest possible costs. We believe that this challenging goal can be accomplished through a close collaboration with the Maintenance Repair Overhaul (MRO) hubs and an open dialogue in the MRO network. This enables to leverage on industry knowledge and to share and be inspired by different methods and approaches. This spirit is the base of the second edition of the Service Centre Conference, after the launch event which took place in 2015 at our facility in Vergiate (Italy). The purpose of the initiative is to offer the opportunity of meeting and interacting in a

global network of more than 90 partners, as well as to represent a valuable occasion to promote discussions and reflections on major topics and expectations.

In this light, through the participation of our specialists and the involvement of keynote speakers, we will provide you a dedicated focus on:

- MRO Digitalization
- Cutting edge Lean Maintenance
- Predictive Maintenance

The 2nd Service Centre Conference will be held in May 2019, at our new blades repair centre in Broussard - Louisiana, where you will have the chance to visit the facility.

We are almost ready, so please put a note in your agenda - the "Save the Date" for this event will follow soon!



THE AW139 NETHERLANDS NATIONAL POLICE CORPS PICK UP THE CHALLENGE OF SECURITY

The Dutch national police force consists of ten Regional Units, the Central Unit and the Royal Netherlands Marechaussee, a gendarmerie force performing military police as well as civil police duties. In addition to their tasks, these agencies also carry out specific missions including monitoring and fighting criminal activities as well as providing security support through temporary detention of suspected criminals pending judicial decision. Within this scenario, the Netherland National Police Corps provide police services also through a dedicated fleet of helicopters. Their two AW139s, which have reached 10,000 flight hours, started to operate in 2009, with the most advanced coastguard and law enforcement systems for patrolling and security preservation such as video recording technology and infrared cameras. At the beginning of 2019 a further AW139, with a completely renewed law enforcement configuration, will enter into operation guaranteeing the performance of a wider range of missions.

This last activity fits within the framework of a joint collaboration with the Netherland National Police Corps which will lead to the upgrade of the first two AW139s, taking them to the most updated standards.



AN ADDITIONAL AW139 FOR LOS ANGELES FIRE DEPARTMENT

In mid-December we announced that the Los Angeles Fire Department (LAFD) will enhance its emergency response capabilities with the introduction of a fifth AW139 helicopter into its fleet, which will be deployed to perform a range of missions primarily including fire suppression, emergency medical service (EMS) and search and rescue (SAR). Delivery of this aircraft from Leonardo's Philadelphia facility is expected in Spring 2019.

Thanks also to its helicopter fleet which is based at Van Nuys Airport (KVNy), the Los Angeles Fire Department protects more than four million people in America's second largest city.

It is responsible for 400+ square-miles, 106 stations, and over 3,200 firefighters. LAFD Air Operations' mission includes fire suppression, air ambulance transport, hoist rescues, reconnaissance and mapping. The first of its AW139s entered into service in 2008 and since then the current fleet of four AW139s accumulated over 7,000 flight hours, helping respond to over 700 incidents annually, including the wildfires which have been

devastating Southern California.

Features customized for the LAFD AW139 include, among others, search light, rescue hoist, advanced water tank for fire suppression, wire-cutter and modular cabin interior.



THREE NEW AW139S FOR THE ITALIAN NATIONAL FIRE CORPS

With the new order for the supply of three AW139s, which also includes integrated logistic support and training for pilots and technicians, and encompasses options for a further 12 helicopters, the Italian National Fire Corps (Vigili del Fuoco) sets to enhance its emergency multirole airborne capabilities to be able to serve even better the national community and also counter more effectively the ever increasing level of risks. The delivery of the three new aircraft is expected to be starting shortly and to be completed in 2019 and should be progressively replacing the aging fleet of AB412s which have been in service for decades. In order to face better the several challenging missions they are called to every year, not only in firefighting but also in rescue operations, the Italian National Fire Corps, which is part of the department of firefighters, public rescue and civil defence within the

Italian Ministry of the Interior, will be leveraging on the world's best rescue helicopter which can also perform maritime and mountain Search and Rescue (SAR), medical rescue, and disaster relief/civil protection. The new aircraft of the Italian National Fire Corps will feature a wide range of mission equipment, including an external rescue hoist, cargo hook with bambi bucket provision, weather radar, multi-band and satellite communication systems, high definition Forward Looking Infra-Red / Low Light TV (FLIR/LLTV) system, Leonardo's high definition mission console with digital recorder, high definition down link, Leonardo's Optical Proximity LiDAR System (OPLS), Night Vision Goggle (NVG) capability, new generation Trakka searchlight, emergency floatation system and external life rafts, external loudspeaker, medical rack and bubble windows.



LEONARDO INNOVATION DAY

Leonardo's first Innovation Day took place at the Città della Scienza (City of Science) in Naples on November 28th, a public event where Leonardo presented its innovations to experts as well as the general public, to highlight the interplay between advanced technologies, new trends and global challenges.

Innovation Day focused on new technologies in the Aerospace, Defence and Security (AD&S) sectors, all areas which require a high degree of knowledge and where environmental challenges are a key factor.

The event was attended by Italy's Minister of Education, University and Research, Marco Bussetti, as well as senior representatives from industry, Italian institutions and the world of science.

Guests attending Innovation Day had the opportunity to look in-depth into Leonardo's technological heritage across a range of products, platforms and systems, with a vast exhibition area which was divided into themed zones where attendees could see and touch innovative technologies and materials.



Each Division was called to present its peculiar products during the event, and we, as Leonardo Helicopters, had an AW169 in HEMS configuration in static display, as

well as a model of the active blade of the main rotor, the mock-up of the Next Generation Civil Tiltrotor, the dummy transmission of an AW101.



1ST AW139 HUMAN HAZARD ANALYSIS WORKSHOP: TOGETHER TO ACHIEVE A STEP CHANGE IN SAFETY

In order to achieve a step change in safety, we have to go beyond the traditional safety management approach, starting from the establishment of valuable partnerships that allow discussing the current scenario through multiple experiences, different know-how and new strategies. This objective lies at the heart of the 1st AW139 Human Hazard Analysis (HHA) Workshop, held on October 3rd at our premises in Cascina Costa, in cooperation with Heli-Offshore: the global, safety-focused association for the offshore helicopter industry. During the AW139 HHA Workshop we met with engineers from our major operators, to identify together the maintenance aspects that can potentially introduce human error and to analyze the AW139 helicopter with a man-machine system approach. We deeply analyzed almost 200 different AW139 maintenance procedures on

rotors and gearbox systems in order to explore possible open issues and to determine mitigating actions aimed at preventing future maintenance errors leading to incidents or accidents. The results of the work stream highlighted the extreme safety design of the AW139 also from the Human Hazard assessment point of view. Positive feedbacks were received from the operators, who defined the event as “[...] a great opportunity, opening new windows to talk with Leonardo in a less formal way” so that “this should be repeated in the future, actually we should try to do this regularly.” Listening to our customers, we will add to our 2019 schedule a second AW139 HHA Workshop with the aim of applying this joint analysis approach to many other procedures, increasingly enhancing the safety of our products.



AW109 MAIN TRANSMISSION 3200 FH INSPECTION REMOVAL

At the end of 2018 the major intermediate inspection on the main transmissions part numbers 109-0400-03-113/-117/-119, to be carried out at 3200 FH, will no longer be included in the applicable Aircraft Maintenance Planning. This achievement will lead to a significant maintenance burden reduction on the AW109 Series fleet. This result was made possible thanks to a detailed review of our repaired spares, in collaboration with our MRO network and a selected number of customers, which confirmed that the technical developments implemented over the years have actually increased spares' reliability, improving wear trends of the helicopters' main components. A prime example is the

modification applied to the main case P/N 109-0402-44-109, which allows enhancing the retaining system of the main case installation. This improvement prevents fretting and corrosion between upper and main case, that often requires the transmission disassembly at the major intermediate inspection. The A109E, AW109SP, A109S and A109S Trekker helicopters installing main transmissions part numbers 109-0400-03-113/-117/-119 are already compliant with this upgrade, so that their first scheduled removal is to be carried out at 4800 FH TBO. The applicable maintenance publications are under revision to include this streamlined schedule.

AW119KX EMS OPERATORS IN THE USA ACHIEVE IMPORTANT FLIGHT HOURS MILESTONE

During the Air Medical Transport Conference in Phoenix last October, we celebrated two important milestones for the AW119Kx EMS fleet in the USA.

Life Flight Network has logged over 40,000 flight hours with its fleet of 21 Leonardo AW119Kx helicopters while Life Link III has logged over 15,000 flight hours and transported over 8,000 patients with their fleet of 10 Leonardo AW119Kx helicopters.

Life Flight Network is the largest air ambulance not-for-profit in the United States operating in Oregon, Washington, Idaho, and Montana and provides emergency medical attention to patients often in critical conditions with its fleet of AW119Kx acting as mobile Intensive Care Units (ICUs).

Each Life Flight Network AW119Kx is equipped with a state-of-the-art Garmin G-1000H cockpit, Night Vision Goggle capability, satellite weather, and the capacity to transport two patients or a specialty team, with unencumbered full-body access.

Life Link III is the largest hospital-based non-profit consortium program in the United States with ten member-owners, operating out of eight helicopter bases in Minnesota and Wisconsin. Life Link III's AW119Kxs as well perform the role of flying Intensive Care Units (ICUs) providing emergency pre-hospital care for patients often in critical conditions.



The AW119Kx has met high standards of operational requirements and availability since the first aircraft was delivered to Life Link III in early 2014. Configuration includes advanced glass cockpit and night vision goggle (NVG) capabilities.

Our presence on the North American EMS helicopter market continues to grow and now totals more than 110 across a fleet of AW119s, AW109s, and AW139s.





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