

# AW newsletter

Spring 2018

*ThinkCustomer*

## BLUE SKIES TO THE AW189 IN OCEANIA

CHC Australia presented two brand new AW189s to the local aboriginal community on Wednesday the 11<sup>th</sup> of April.

The two super medium helicopters, first of their category in Oceania, entered into service earlier this year under the Woodside contract at the CHC Karratha airbase in Western Australia, joining a fleet of five AW139s.

The AW "Offshore Family fleet" is flying offshore to Woodside's helidecks at a maximum distance of 160 nm, completing their missions safely.

The naming ceremony has seen the involvement of the local aboriginal Ngarluma tribe, whose elders christened the two AW189s with ancient names, Garlawirrura, which means dragonfly, and Warduardura, which means small hovering bird.

Woodside provided very positive feedback, confirming their complete satisfaction with the helicopters and the related entry into service.

The Oil&Gas Company declared to be very pleased by such a smooth start of operations, with the two brand new helicopters flying with no disruption.

Passengers (over 3.000 since the 1<sup>st</sup> flight) reported to be very satisfied with the comfort of the cabin.

Woodside confirmed that the AW189 has been their helicopter of choice thanks to its advanced safety and technological features, wide and comfortable passenger cabin layout and commonalities with the AW139, currently operating from the same base.

CHC Australia fleet is also flying a 3<sup>rd</sup> AW189 as a training and back up helicopter.



## 2017 CORMORANT TROPHY - THE WINNER IS: ROYAL CANADIAN AIR FORCE “RESCUE 901” CREW

The Cormorant Trophy, to be presented every year to a Canadian civilian, government or military helicopter crew performing the most demanding helicopter rescue of the year, has been awarded, since 2002, when Leonardo (formerly AgustaWestland) commissioned it.

The winner of the 2017 Trophy is the Royal Canadian Air Force crew of search and rescue helicopter “Rescue 901”. They managed to rescue five crewmen, who were forced to abandon a fishing vessel 250 km offshore in fierce weather and rough seas.

The distress call from the FV Northern Provider was received by the Halifax Joint Rescue Coordination Centre on March 5, 2017. The Rescue 901 SAR team based in Gander knew they had a difficult mission to complete, as the boat was 250 km offshore in 10-metre-high waves with wind gusts over 110 kmh. In order to maximize fuel availability and amount of time they could stay at the rescue scene, the AW101 Cormorant was stripped of non-essential equipment.

When the Rescue 901 crew arrived, the scene presented the fishing vessel being tossed in different directions with several obstacles on the ship such as fishing equipment. Furthermore, due to sea ice, they had to change the original plan. They could not lower the rescue hoist to pick up the fishermen but they would have to jump into the freezing water and be picked up one-by-one.

Notwithstanding all the difficulties of keeping the helicopter over the rescue scene and having to wrestle the hoist line, all five fishermen were hoisted into the Cormorant and all flew safely back to the base with the crew composed by:

- Major Jim Pinhorn, Aircraft Commander
- Captain Nicole Lively, First Officer
- Master Corporal Sean O’Callaghan, Flight Engineer
- Sergeant Damien Robison, Search and Rescue Technician (SARTech) Lead
- Master Corporal Anthony Bullen, SARTech Member

## CH-149 CORMORANT MID-LIFE UPGRADE AND FLEET AUGMENTATION PROGRAMME

The Government of Canada recently announced its intention to proceed with the CH-149 Cormorant Mid-Life Upgrade Program (CMLU).

The CH-149 Cormorant (designation of the AW101 in Canada) was introduced into service in 2002, and since then it has successfully carried out a number of SAR missions with unparalleled performance, in all weather conditions. It is Canada’s AW101 primary search and rescue helicopter fleet, as the AW101 proved to be the only helicopter to meet Canada’s challenging search and rescue requirements and it has been an excellent asset providing outstanding coverage and capability.

Team Cormorant, led by Leonardo with IMP Aerospace and Defence and CAE, Rockwell Collins Canada, GE Canada as well as other Canadian subcontractors, will provide a complete upgrade to Canada’s Cormorant fleet, also increasing it by up to seven additional

AW101s. We look forward to continuing working with the Government of Canada to conclude the Options Analysis and finalize the requirements for the CMLU programme, which includes also simulation and training.

Besides resolving obsolescence issues, the CMLU will provide significant reduction in cost of ownership in the operation of the current Cormorant fleet, extending its life to 2040 and beyond. The AW101 has continued over the years to improve its performance and capabilities due to its cutting-edge technologies, some of which have already been applied to the Cormorant.

The AW101 SAR is operating not only in Canada but also in several other countries including Denmark, Portugal and Norway and has an established track record of successful SAR missions. The AW101 is also used for personnel recovery in Italy and for military duties in UK and many other countries around the world.



## AEROCARDAL LIMITADA NEW AUTHORIZED SERVICE CENTRE IN CHILE

Last April Aerocardal Limitada, based at Comodoro Arturo Merino Benítez International Airport, was appointed Authorized Service Centre in Chile, during an official ceremony at our stand during the exhibition FIDAE 2018. The new Service Centre will provide comprehensive support and maintenance services for Chilean owners and operators of the AW109 legacy of light twins and the AW119 single engine helicopters. Aerocardal Limitada operates two AW109 Grand helicopters, deployed for EMS missions, and has been delivering maintenance services for AW109 Power,

Grand and Grandnew types in Chile for 8 years. Thanks to this agreement it now widens its support capabilities delivering services also for new models, including the AW109 Trekker, which recently entered the market. This new addition to the service centre network confirms Leonardo's commitment to be closer to the customer and their evolving requirements. The Chilean fleet of Leonardo helicopters consists of over 20 aircraft of different types, performing missions from VIP/ Executive transport, firefighting and law enforcement to emergency medical service and utility tasks.



## IMPORTANT CONTRACT WITH THE MINISTRY OF DEFENCE OF QATAR

During the DIMDEX Exhibition in Doha, held last March, the Ministry of Defence of Qatar announced a contract for the purchase of 28 NH90 medium twin-engine multirole military helicopters.

The agreement, for 16 NH90 TTH for land operations, 12 NH90 NFH for naval missions, also includes a comprehensive support, maintenance and training services package as well as associated infrastructure and could be further extended in the future.

Deliveries are expected to start before June 2022 and to continue through to 2025.

In the frame of this contract we will have the role of prime contractor, with responsibility for programme management, final assembly and delivery of the 12 NH90 NFH helicopters as well as an eight-year support and training services package for crews and maintenance technicians.

The NH90 is the largest military helicopter programme in Europe. Two main versions are available for this helicopter: one dedicated to naval operations, the NH90 NFH (NATO Frigate Helicopter) and the TTH (Tactical Transport Helicopter) for land based operations.

In the frame of this programme -

managed by NHIndustries, which is owned by Leonardo, Airbus, and Fokker - Leonardo is responsible for or contributes to the design, production and integration of a wide range of NH90 critical components and systems. These include the rear fuselage, main gearbox, hydraulic system, Automatic Flight Control System (AFCS), plant management system, NFH mission system, power plant integration and final assembly of TTH and NFH aircraft for various customers.



## TRAINING ACADEMY MALAYSIA (AWM): HEADWAYS AND LATEST ACHIEVEMENTS

Our Malaysian Training Academy counts on 15 people of which 6 are flight instructors and 6 are ground instructors. The hub is currently equipped with a Level D, a Maintenance Trainer Simulator (MTS) and a Virtual Interactive Procedural Trainer (VIPT) for the AW139. The flight simulator services are provided with our partner PWN Excellence (in cooperation Authorized Synthetic Training Centre since 2013), which has been the first in the Asia region offering AW139 FFS Level D services.



AWM training capabilities will soon be expanded with a second AW139 FFS Level D and new modern FFS facilities, close to Subang Airport, planned to be ready in the last quarter of 2019; while the AW189 FFS Level D entry into service will be accomplished in 2020. The latest key AWM programmes include two major projects developed with the Royal Malaysian Police and Vietnam Helicopters.

The first phase of the AW139 Royal Malaysian Police training has been completed in the last quarter of 2017 with 12 pilots and 16 engineers rated on the type and 4 pilots rated as instructors.

The activity implied 600 simulator hours, 300 helicopter hours and 15 theoretical courses. The second phase will be completed within 2019 and a further phase is expected to begin by the end of next year.

These latest activities will be focused on specific modules which involve 12 pilots and include a dedicated flight training session of 3 months. The successful completion of the first worldwide AW189 Maintenance Test Pilot course with Vietnam Helicopters has opened the way to a further training contract, implying a larger number of pilots and engineers to be trained during 2018.



In addition to these two training programmes, AWM has recently conducted several courses at customers' bases, for example in Papua New Guinea, Thailand and Bangladesh.

This trend led AWM to broaden the traditional courses portfolio introducing several new options (e.g. theoretical recurrent/refresher courses for AW139 and AW189) and innovative modules on weight and balance, aircraft kits, rescue hoist, logistics management, aircrew personnel, pre-flight inspection and emergency exit. Dedicated courses on PBN for pilots and practical refresher for engineers will be made available to customers shortly.



AW Malaysia gained CAMO authorization from CAAM on AW139, AW189, AW119, AW109S and AW109E.

This marks a milestone achievement for the enhancement of our Customer Support capabilities, reconfirming the commitment to meet customers' needs and improve their satisfaction.

## LH TRAINING AGREEMENTS: SCOPE, ADVANTAGES AND LATEST ACHIEVEMENTS

The LH Training Agreement is a contract through which we commit to provide our customers tailored training solutions in order to meet their specific requirements and achieve greater satisfaction.

Thanks to the Training Agreements, our customers can benefit from the following advantages:

- Special economic conditions frozen for the duration of the Training Agreement
- Tailored and dedicated courses based on customers' requirements and training needs
- Customized payment conditions
- Priority course booking
- Free of charge courses depending on training volumes
- Possibility to renegotiate the contents of the Training Agreement

Through these benefits, we ensure an efficient and economical training framework for customers' current and future projects.

Among the latest agreements, we recently signed a new contract with the Netherlands Police, Executive Airline and SAS.

Under these agreements, we will provide those customers with pilot and maintenance training courses with the aim of enhancing the solutions already in place. These training programmes will be conducted both at our Italian Training Academy (Sesto Calende) and at customers' bases ensuring cost effective, as well as flexible and fully tailored solutions.

## OUR GRANDNEW AT THE WORLD SUPERYACHT AWARDS

The World Superyacht Awards are assigned during an event organized by Boat International Media, the world's leading media group servicing the superyacht industry, which also publishes superyacht magazine and luxury books.

This year the 13th edition of the award took place on May 19th, to recognize - like every year - the remarkable ingenuity and innovation which are an essential requirement to design, engineer and build the world's finest luxury yachts.

This year, for the first time, the "Support Vessel"

category was introduced, where we also played a role with our Grandnew, which was on board Game Changer. Thanks to its capability to provide excellent helicopter landing, support and hangar facilities, demonstrated with our GrandNew, as well as the availability of deck space to carry and launch four specialist tenders, three PWCs four trail bikes and a submarine, Game Changer won the first prize in her category.

You can watch the video here  
[https://youtu.be/LYAht\\_TfCz8](https://youtu.be/LYAht_TfCz8)



## NEW DIGITAL PUBLICATION SERVICES

We are pleased to announce the development of a new IETP platform called “Amerigo 4 Plus”, that provides customers with the following benefits:

- No administrative rights required to install the IETP on PC
- Multiple IETP Tabs navigation features through the “open in new tab” function
- New Illustrated Parts Data (IPD) spreadsheet export function through which users can create a spreadsheet of the IPD contained in the IETP (Tools menu).

In addition to all the above, customers can customise the IETP content selecting the applicable Data Modules to the helicopter’s configuration via the “Configurator” function – a feature that is now available for IETP of the AW Family Products (AW139, AW169, AW189). Moreover, users can personalize their IETP view selecting the applicable kit to their configuration and creating multiple configuration sets.

The configuration is quickly generated by an advanced platform that allows them to easily identify their own kit through name and/or part number.

Thanks to a dynamic configuration view, users can finally switch from one configuration to another or restore the basic IETP display.

We are also glad to announce the release of an updated version of the “Amerigo 4 Mobile” web application, the IETP version embedded in the Leonardo Customer

Portal, with a new user friendly graphic layout. An adaptive layout provides users with the best view setup allowing an intuitive navigation experience. The user can import his IETP configuration also in Amerigo 4 Mobile in order to view the applicable contents. Customers can easily import the Configuration developed and recorded with the “Configurator” tool of the IETP and view all the applicable contents within Amerigo 4 Mobile platform. Click here to see the tutorial of “Amerigo 4 Plus” and “Amerigo 4 Mobile”.

<https://leonardo.agustawestlandcom/amerigo/>



## FIRST AW101 COMMANDO MERLIN DELIVERED TO UK'S COMMANDO HELICOPTER FORCE

The delivery of the first AW101 Commando Merlin Mk4 helicopter, announced at the end of May by the UK Minister for Defence Procurement, marks an important milestone in the Merlin Life Sustainment Programme (MLSP).

The MLSP contract, awarded to Leonardo in January 2014 by the UK Ministry of Defence (MoD), consists of two phases. Phase One, completed on schedule in March 2016, comprised the delivery of seven Merlin Mk3 interim aircraft. Phase Two will last until the end of 2020, delivering 25 Commando Merlin Mk4/4A aircraft from Leonardo Helicopters' Yeovil facility.

The Commando Merlin Mk4/4A helicopters are fully optimised for ship operations, including automatic main rotor blade folding and tail fold, an increased undercarriage and improved cabin safety features. The aircraft feature the same advanced technology cockpit developed by Leonardo for the Royal Navy's Merlin Mk2 aircraft, therefore the UK's Merlin fleet benefits from a common cockpit.

The self-protection system on the new Commando Merlin aircraft has been upgraded, providing optimum security.

The existing Integrated Merlin Operational Support (IMOS) contract, in force since 2006, will grant full support to the Commando Merlin aircraft.

We have also been awarded a contract to deliver a range of Commando Merlin synthetic training devices


comprising two Flight Training Devices (FTDs), a Flight Navigation Procedures Trainer (FNPT) and a Rear Crew Trainer (RCT), which are scheduled for delivery during 2018 and 2019. The devices will be installed in the dedicated Commando Helicopter Force training facility located at the aircraft's main operating base - RNAS Yeovilton.



# NEW REPAIR INSTRUCTION QUERY FORM

In order to reduce the Damage Assessment time and the number of iterations to complete during the repair design activity, we have developed a new standard form, named Repair Instruction Query (RIQ). RIQ will guide operators to achieve the best damage assessment in the shortest possible time, by sharing key

elements and essential information. The form is already available and downloadable through our Leonardo portal and we recommend our customers and operators use it. For additional information please refer to the Information Letter GEN-18-069, issued on January 23rd, 2018.



## REPAIR INSTRUCTION QUERY

AgustaWestland Products

**RESET FORM**

Ref. TQ No

**1. CUSTOMER INFORMATION**

Customer/Operator

Client Reference PoC

Contacts (e-mail/tel.)

Date

**2. HELICOPTER DATA**

H/C Model  (1) S/N  (2)

F/H  (3) Landing/Cycles  (4)

H/C Status  (5) Specify  (6)

Competent Authority Civil  Military

**3. PLANNING INFORMATION**

Maintenance Capability

Repair Desired Delivery Date

Next Scheduled Maintenance Scheduled Release to Service

Expected Within F/H  Days

**4. DAMAGE ASSESSMENT**

Type of Damage  (7) and  (8)

Exact Damage Position

STA	<input style="width: 50px;" type="text"/>		Damage Dimension
WL	<input style="width: 50px;" type="text"/>		Length <input style="width: 50px;" type="text"/> u.m.
BL	<input style="width: 50px;" type="text"/>	LH <input type="checkbox"/> RH <input type="checkbox"/>	Width <input style="width: 50px;" type="text"/> [mm] (9)
			Depth <input style="width: 50px;" type="text"/>

Main Damaged P/N  (10) and  (10)

Description  and  (11)

S/N  (11) and  (11)

F/H Same as H/C  or  (12) and Same as H/C  or  (12)

Damage Description:

Note: Fill out this form for each damaged P/N. If the damage covers adjacent P/Ns, fill out a single form.

**5. OTHER DETAILS**

Repair already accomplished at same area (ASRP, SK, DWG, STC, etc...):

Attachment YES  NO

Repair suggested (ASRP, SK, DWG, etc...):

STC (Supplement Type Certificate)

- (1) Select the applicable helicopter from the provided possibilities.
- (2) Provide the helicopter's Manufacturer Serial Number.
- (3) Provide the helicopter's Flight Hours at the time of discovery of the damage. For F/H format, use a decimal number.
- (4) Provide the helicopter's Landings/Cycles at the time of discovery of the damage.
- (5) Select the status of the helicopter at the time of discovery of the damage from the provided possibilities.
- (6) Choose, from those provided, the Agency/Authority under which the helicopter is registered.
- (7) Select the damage type from the dropdown list. Refer to applicable IETP.
- (8) In case of multiple damages on same P/N, select the second damage from the dropdown list. Refer to applicable IETP.
- (9) Select the unit measurement.
- (10) If it is known, specify the damaged P/N or next higher assembly P/N. Refer to applicable IETP.
- (11) If applicable, provide the damaged P/N Serial Number (e.g.: Tail Boom S/N).
- (12) If applicable, provide the damaged P/N Flight Hours at the time of discovery of the damage. For F/H format, use a decimal number.

## AW159 DEMONSTRATED TO MALAYSIA'S ARMED FORCES

Two AW159 Wildcats are part of Exercise Jeanne d'Arc of the French Navy. The two helicopters are embarked on a helicopter assault ship - FS Dixmude - to provide a battlefield reconnaissance capability to the deployed forces.

Exercise Jeanne D'Arc is a French-led exercise which has the aim of strengthening strategic partnerships and exercising freedom of navigation operations across the Indo-Asia-Pacific region. The exercise has the goal of facilitating interaction between militaries throughout the Indo-Asia-Pacific region.

This exercise gave us the chance, with the support of the UK's 847 Naval Air Squadron, to present our Wildcats to Malaysia's Armed Forces at the Royal Malaysian Navy Base Lumut and Leonardo Helicopters' facility at Subang

Airport, near Kuala Lumpur, in the past month of April. The AW159 is equipped with a semi-rigid rotor head, making it ideal for ship operations, like the legendary Lynx helicopter. It is also fitted with composite rotor blades utilising the same technology that enabled the Lynx to break the world helicopter speed record. The AW159 has the most modern integrated cockpit of any naval helicopter.

The Wildcats are deployed in both naval and over land roles including ASuW, ASW, maritime surveillance and battlefield reconnaissance by the UK's Royal Navy and British Army. The Republic of Korea Navy operates eight AW159 helicopters in ASW and ASuW roles. The Philippine Navy has also ordered two AW159s, that will be delivered next year.



## AW139 DELIVERED TO BUSAN

We have recently delivered an AW139 to the Busan Metropolitan City, which will be operated by the Busan Firefighting Department in Korea, to replace an older generation helicopter and will be used for firefighting and rescue operations. It is equipped with a bambi bucket, rescue hoist and searchlight as well as customer specific equipment.

This latest delivery marks the continuous growth of the Leonardo helicopter fleet in the Korean public service sector, where our helicopters are deployed for several missions, such as firefighting, search and rescue, emergency medical services and law enforcement. The fleet includes not only AW139s but also GrandNew, AW169 and in the near future also the AW189.



## DRAWING PRODUCT SAFETY FROM OPERATIONAL DATA ANALYSIS

Our accident/incident investigation and prevention department has recently completed a safety study on Control Flight Into Terrain (CFIT) events which occurred in the last 20 years. This led to the improvement of existing components and to the promotion of dedicated training projects aimed at enhancing our safety standards.

Among such initiatives is our latest operation safety programme, for which further information is available in our Training Catalogue, while relevant courses can be accessed through the distance learning modules, available for all users interested in the topic, through the mobile application AW Training and our Training Portal. This programme allows us to support all customers' safety requirements, ensuring specific analysis and flight reconstructions, gathered through the most valuable

data sources, advanced and technological tools as well as an experienced team of professionals. Some of our customers have already taken advantage of this programme, giving positive feedback on the solutions provided. All data is treated with maximum confidentiality, with the aim of achieving the highest operational safety improvement. Depending on customer data agreements, information can also be used to perform additional studies and to further improve the safety score of customers' products.

Since a zero accident objective can be reached only improving the general operation safety and reinforcing the prevention projects, we deeply encourage all our customers to participate into the programme.

If you are interested please contact us at:

[TrainingOperationRequests.AW@leonardocompany.com](mailto:TrainingOperationRequests.AW@leonardocompany.com)

## AWHEREO IN AUSTRALIA

In March we presented our AWHEREO Rotary Unmanned Air System (RUAS) to national and local authorities in Australia, in response to different requirements supporting defence, law enforcement and border control programmes.

The region is rapidly adopting Rotary Wing Unmanned Aerial Systems (UAS) across all portfolios of Government. Several agencies are identifying multiple opportunities where they can improve their business outcomes through UAS Intelligence Surveillance and Reconnaissance (ISR).

We presented AWHEREO at the Air Affairs Australia (AAA) base, Nowra, New South Wales to Political, Australia Defence Force (ADF) and Media personnel, and then transferred to Canberra for display and briefing at the Police Technology Conference (PolTech), where we also gave a presentation about 'UAS to Support Law

Enforcement', to support the display and interest in AWHEREO.

AWHEREO is an extremely advanced rotorcraft unmanned aerial system, designed to respond to current and future market requirements in terms of operational capabilities, cost effectiveness and safety. The certification oriented design, with multiple redundancies, guarantees the maximum integrity, reliability and availability of the system.

Configurable with a wide range of mission sensors located in 2 payload bays, AWHEREO is the perfect solution for the modern digital battlespace both for land and naval applications transferring real-time Full Motion Video (FMV), radar imagery data to other airborne and surface units to augment Land and Maritime Security Operations.



## LEONARDO HELICOPTERS TEAMS WITH POLITECNICO DI MILANO TO ADDRESS VIBRATION AND NOISE

The three-year COMFORT project was launched in January 2016, with the aim of assessing the feasibility of an array of technologies for vibration and noise reduction, then to proceed with a down-selection of the viable concepts and bring them to physical demonstration. The platform baseline for the study is represented by the AW139.

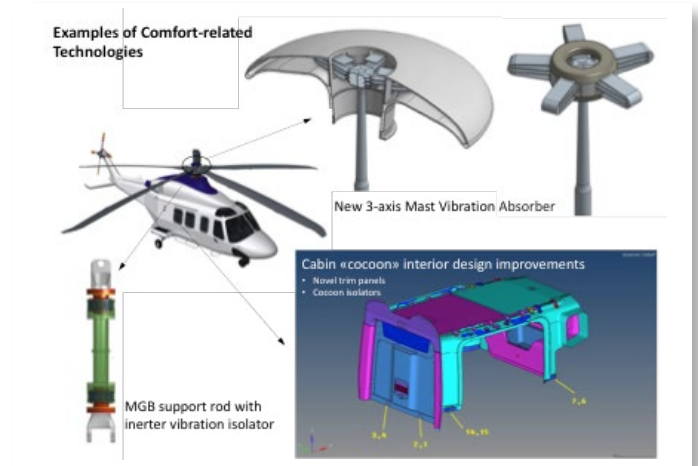
The research activities focus on three major areas: the rotor where vibrations originate, the gearbox and its support rods through which rotor/MGB vibrations are diffused into the airframe and the cabin structure which is where we ultimately want to reach a comfortable vibration target level.

The final objective of the program is to demonstrate significantly improved effectiveness in vibration and noise reduction through a coordinated use of passive and active systems. So in the frame of this project a set of advanced devices with high vibration suppression devices are being developed, including active/passive mast vibration absorbers, MGB strut isolators and local airframe actuators.

On the simulation side the efforts are focused on a realistic virtual modeling environment in order to study the mutual interaction among devices, as well as the selection, sizing and tuning of appropriate control approaches and algorithms.

Another element of the project is the development of more meaningful comfort metrics, based on the most recent international standards related to vibration and noise.

COMFORT has the potential to pave the way to a new, multi-disciplinary methodology, which will enable a more integrated approach to vibration and cabin noise reduction in the design phase thanks to improved prediction tools, while at the same time validating new technological solutions implementing a wide spectrum of strategies for the improvement of cabin comfort.



Technology

## DANISH AW101 REBUILD PROGRAMME

A Royal Danish Air Force AW101 has returned to its main operating base at Karup in Denmark after undergoing major repairs at our Yeovil site. This has restored the customer’s fleet back to the original 14 aircraft deployed for a range of missions including search & rescue, medical transport and troop transport. The aircraft, serial M-518, suffered extensive damage

during a night landing incident in Afghanistan in October 2014, whilst supporting coalition forces.

It arrived in Yeovil for the damage to be assessed and a repair scheme to be drawn up. Following a decision by the customer to proceed with the repair programme in October 2016, work started with repairing and replacing the damaged structure before commencing

the reassembly of the aircraft using a mix of new, repaired and original parts. M-518 returned to flight on 1<sup>st</sup> May 2018 at Yeovil, following the completion of the repair programme.

John Dixon, our VP Customer Support & Services UK said “This was a challenging and complex repair programme due to the extent of the damage to the airframe, so we are delighted to have completed this programme and restored the Royal Danish Air Force’s fleet back to 14 aircraft.”

The Yeovil facility has a proven track record of undertaking complex upgrade and repair programmes on EH101, AW101, Lynx and Super Lynx helicopters, providing cost effective life extension and return to service solutions for our customers.



## BRAZILIAN NAVY LYNX UPGRADE TRAINING PROGRAMME

Our Training Academy (TA UK) and Flying Training Centre (FTC) have recently hosted a team from the Brazilian Navy for conversion training to their new Lynx Mk21B.



The Mk21B is the result of a modernisation programme which includes the conversion of 8 Mk21A helicopters out of a fleet of 12. The changes include:

- Engine upgrade to CTS800-4N with associated structure/transmissions and electrical systems
- New Integrated Digital Cockpit
- Avionic additions including Tactical Processor and Traffic Collision Avoidance System
- Defensive Aids Suite with RWR & Countermeasures
- Electric Rescue Hoist
- Logistics Support/Revised Technical Publications/Spares/GSE/FSR
- Aircrew and Maintainer Training

### Ground Training

Training commenced on the 5th March with ground training at the TA UK and concluded with the flying

training session on 1<sup>st</sup> May.

The Brazilian Navy trainees were mechanical and avionic technicians, engineering managers, tactical coordinators (TACCOs) and pilots; a total of 48 students plus 4 Brazilian Navy interpreters.

The Brazilian Navy representatives were great students and a pleasure to teach. They were friendly, attentive, knowledgeable and willing to learn. A mix of practical training and the use of the Brazil Desk Top Emulator, along with the instructor led training, was well received by the students. The overall average score for their assessments was 94%, an excellent result.

### Flying Training

The Brazilian Mk21B Pilot/TACCO courses commenced in Yeovil on 26<sup>th</sup> March, with a total of 50 hours to be delivered in 30 days.

The initial course was for the TACCOs: 5 hours each for the Left Hand Seat occupants receiving practical instruction on the new systems of the aircraft; this was followed by the receipt of practical instruction on the latest updates including the new engines. The final course was for 2 Brazilian pilots allowing them to deliver training to their own crews once back in Brazil.

All students completed their training 10 days ahead of schedule. The feedback was very positive averaging over 96%. The success is not only due to the hard work of the Flying Training Team, but also to the excellent support from Field Service and Operations, allowing the task to be completed in such good time and with such a satisfactory result.

TA (UK) and FTC wish to thank the onsite Brazil Navy GFRLYX team. Their support over the last few years has been outstanding, from suggesting the use of Brazilian Navy Pilots as interpreters, to assisting with the training syllabi.



## KAAN AIR SERVICES DEVELOPMENT AND OPERATIONS

Kaan Air, based in Istanbul, is one of our Authorized Service Centres and Official Distributor, operating one AW139 and five AW119Kx helicopters across the region. Kaan Air flight services focus on passenger transportation, tourist flights, transmission line monitoring, aerial forest fire fighting operations, offshore crew shuttle, hoisting services and Helicopter Emergency Medical Services (HEMS).

As an Authorized Service Centre for the AW109/ AW119 and AW139 models, Kaan Air also performs regular line and base maintenance on other customers' fleets and collaborates with Leonardo Helicopters in special maintenance activities thanks to the experience gathered on AgustaWestland Products.

Kaan Air is a subsidiary of Basari Group and, since its foundation, has successfully continued to grow in the Turkish and international markets, strengthening its position in the helicopter sector through strategic acquisitions (Birdview Italy and Wiking Helikopter Service) and new joint ventures (Helistar, StarFlight Australia).

The partnership between Kaan Air and Leonardo Helicopters is continuing to increase rapidly, consolidating the ability to offer a full range of services, guaranteeing maximum performance through time and delivering technologically advanced helicopters, together with superior after-sale support services in terms of technical assistance and infrastructures.



## NEW DEVELOPMENTS FOSTER FUTURE PROJECTS WITHIN THE UK REGION

The UK & Ireland helicopter market continues to see strong sustained growth through the combination of our product portfolio and the recent introduction of a new and improved service plan scheme.

The AW109 has been a steadfast choice within its weight category and has seen great success through the distributor agreement between Leonardo and Sloane Helicopters Limited. The AW139 is now well established within the regional market place with six aircraft now in service and one further delivery taking place this quarter. The relatively new VIP configured AW169 fleet continues to expand with five aircraft now in service in the UK. To support this growing fleet, providing the best levels of service within Customer Support and Training it is

vital to strengthen Leonardo's leadership in this market segment. Customers' needs are changing and the support offered to our customers is now more dynamic and flexible through the variety of options included in our new service plan offering.

In light of this, we are planning the enhancement of our service centre network, partnering with Specialist Aviation Services in supporting the AW139 corporate market as Service Centre. Moreover, we are increasing the levels of investment within the region, maximising the stock levels and extending the current team of local professionals.

## TEAMING UP WITH CHC: THE POWER OF COLLABORATION FOR DIGITAL INNOVATION

### Q. What is your name and what is your role in CHC?

A. Dave Balevic, I am the Senior Vice President of Engineering and Operations at CHC Helicopter.

### Q. Tell me more about your Company: which is the fleet size and which missions are performed by your helicopters?

A. For more than 70 years, CHC Helicopter has provided safe, reliable, cost-effective helicopter service in some of the most remote and challenging environments around the world. We operate a large, global mixed-fleet and have extensive experience transporting customers in the oil and gas industry, supporting search-and-rescue and EMS contracts, and providing maintenance, repair and overhaul services.

### Q. How would you describe the project on real-time HUMS data transmission?

A. The real-time HUMS data transmission project installs key data sets from Leonardo's Heliwise HUMS analytics software on SKYTRAC's data acquisition unit and transceiver onboard CHC's AW139 aircraft.

Paired with real-time monitoring and a globally reliable satellite connection, we're notified about issues as they arise during flight.

Once the aircraft arrives back at home base, a wireless file downloads the process using WiFi and 4G cellular connectivity sends complete HUMS data straight into the Heliwise software.

### Q. What are the key benefits this project can generate for operators performing offshore missions?

A. Beyond the obvious safety benefits, our HUMS data will flow much faster.

Real-time alerts mean we're working to highest active monitoring standard, so we can quickly address issues with the aircraft, and maximize aircraft availability for our customers.

Ultimately, this will help us streamline our operations and improve scheduling and availability for our customers.

### Q. This is the pilot project launched on the AW139, with the intention of going live very soon. Which changes do you expect in your organization and processes, and how are you thinking to manage them?

A. This data will help further ensure safety and reliability across our fleet.

We started offloading data wirelessly in March and plan to launch the full solution this summer.

The information we uncover will help us improve processes across our fleet and we look forward to continuing to work with Leonardo and SKYTRAC on how to further simplify our aircraft data offloading and analysis.

### Q. This project represents one of the main steps towards mutual data sharing and services digitalization in the rotorcraft industry. What are, in your opinion, the future challenges and opportunities in this field?

A. Right now, I would say the rotorcraft industry is far behind where its needs to be. We are currently collecting volumes of data, but we need for it to be more usable, with increased automated decision making, so we can get the aircraft quickly cleared and safely back in the air.

We need to continue working to narrow the gap with the fixed wing industry and increase automation for these processes, eliminate manual downloads and verifications that impact the productivity of our aircraft.

There is a greater overall need for improved data sharing and predictive analytics across the industry. This project is a very significant step in the right direction for all of us.

### Q. One year ago we launched the AW TeamUp brand to promote our continuous commitment in enhancing the proximity and the partnership with our Customers. This project is a great example of the "TeamUp" ethos, thanks to the strong collaboration between Leonardo, CHC and Skytrack. What does "TeamUp" mean to you?

A. This project has only been possible because of the strong collaboration between Leonardo, SKYTRAC and CHC. We appreciate the support we've received and are proud that our work together will help improve the future of our entire industry.

### DAVID BALEVIC Senior Vice President, Engineering & Operations

Dave was appointed Senior Vice President, Engineering & Operations in May 2015, coming to CHC with 26 years of engineering leadership experience at General Electric.

During his time at GE, he held progressive roles in aviation, power generation and oil & gas. Before joining CHC, Dave led engineering for the drilling and surface division at GE Oil & Gas. In that role, he was responsible for all aspects of technology development, new product design, requisition engineering, field support and customer technical engagement. He holds a master's degree in aerospace engineering from the University of Cincinnati and a bachelor's degree in mechanical engineering from Clarkson University.



## AAROI-EMAC AND LEONARDO AT SHANGHAI'S RUIJIN HOSPITAL

China is one of the most rapidly growing EMS markets. Together with AAROI-EMAC (Italian association representing over 10,000 Physicians Anaesthetists of Critical Care) we joined forces to deliver a first international demonstration of helicopter critical care and EMS capabilities. The exercises and the dedicated conference recently took place at Shanghai's Ruijin Hospital in China with two AAROI-EMAC's representatives in attendance. The feedback was very positive, especially about medical personnel and first responders training, particularly when operating on EMS helicopters also thanks to the availability of an AW119Kx and an AW139 operated in China by Kingwing and owned by Sino-US Intercontinental company. Sino-US Intercontinental, Leonardo's exclusive helicopter distributor in the Chinese commercial and civil market, has established the first and largest EMS national service in China.

The demonstration at Shanghai's Ruijin Hospital is a milestone in the frame of the collaboration agreement signed in 2017 by AAROI-EMAC and Leonardo, which lists among its objectives the implementation of scientific, technical and organizational developments in the delicate and fundamental healthcare sectors in which they operate. The final aim of the agreement is to contribute to the publication, with scientifically validated data, of EMS-dedicated protocols useful to reform hospital systems, already developing according to the Hub-Spoke models. The two partners, Leonardo and AAROI-EMAC, just started presenting it internationally thanks to the experience gathered in the variety of conditions and requirements characterizing helicopter operations in Italy. This project will contribute to the potential development of a European standard and can represent a model for countries interested in developing their own helicopter rescue service.



## W-3A SOKÓŁ CELEBRATES 25 YEARS OF SERVICE IN THE TATRA VOLUNTEER SEARCH AND RESCUE (TOPR)

The W-3A Sokół helicopter celebrates the 25th anniversary of entry into service in Tatra Volunteer Search and Rescue (TOPR).

The first W-3A Sokół helicopter for TOPR left the production lines in Świdnik on 12th February 1993 and its "baptism" took place a few days later with the first TOPR-operated Sokół initiated on-call rescue duties.

The aircraft used by TOPR rescuers is more than a specialized emergency helicopter with medical equipment meeting top standards. The Sokół fleet enables the crew to undertake direct actions from the helicopter hovering over the hardest-to-reach Tatra areas. Its advanced equipment guarantees provision of help and protection of life and health until the patient is transported to hospital - that is crucial for TOPR rescuers who are often called upon to transport casualties from the remotest parts of the Tatra mountains to a hospital in less than 30 minutes.

In the last three years the Sokół helicopter has been called for action from the Zakopane headquarters almost 600 times. "Bearing in mind that within that period TOPR rescuers have carried out more than 1900 actions, one can easily calculate that they have been accompanied by the helicopter in every third intervention" says Jan Krzysztof, Head of Tatra Volunteer Search and Rescue. According to TOPR statistics, the Sokół enabled rescuing

of more than 700 tourists among which were skiers, Tatra mountaineers, cave explorers and bikers.

It is worthwhile pointing out that the Sokół helicopter also performed several rescue actions in Slovakia. In the years 2015-2017 it completed 14 interventions, saving the lives of 18 people. This jubilee confirms how good, reliable and cost effective the Sokół can be for search and rescue missions; it is also manufactured in a maritime rescue version as Anakonda, while as Głuszec it can be used in combat search and rescue missions.



## AW169 VIP TOURING THE US

In the frame of the demo tour which started right after HeliExpo in Las Vegas, our AW169 in VIP configuration is now flying over the US to show its features to potential customers. The AW169 provides a spacious, comfortable and luxurious environment both for business and leisure; you can relax, enjoy the on board entertainment or continue your work while you're in the air.

On April 19th we landed at E. 34th Street Helipad at Atlantic Aviation, located on Manhattan's waterfront, right in the heart of one of the world's busiest cities. We kept the aircraft on static display in a prime parking space, so that it could be seen by all guests arriving via the city or by helicopter. The AW169 also performed some demonstration flights.

Helicopter travel in NYC is well known and a norm, so it was a good opportunity for the AW169 to be showcased and tested in a challenging urban environment, where all its high tech, safety and comfort features are the right blend for commuting there.

On April 26th and 27th, we stopped at the Chicago Vertiport, which was commissioned a few years ago, as the Wind City is just beginning again to utilize helicopters for personal/executive transport missions. We hosted a few customers and prospects in one of the hangars at the Vertiport, where the AW169 had a central stage to show its distinctive features: it is elegant, stylish, comfortable and sophisticated. These features are all combined with high technology and safety as well as unrivalled performance.

The AW169 also performed some demonstration flights, and was very well received. Once executives and top managers become accustomed to flying helicopters again, they will figure out it is the best way to get downtown, avoiding the city's clogged expressway, considering the Vertiport is less than 10 minutes away from Chicago's main business district.

The tour is continuing in Central and South America, to end at the airshow Labace from 14th to 16th of August in Sao Paulo, Brazil.

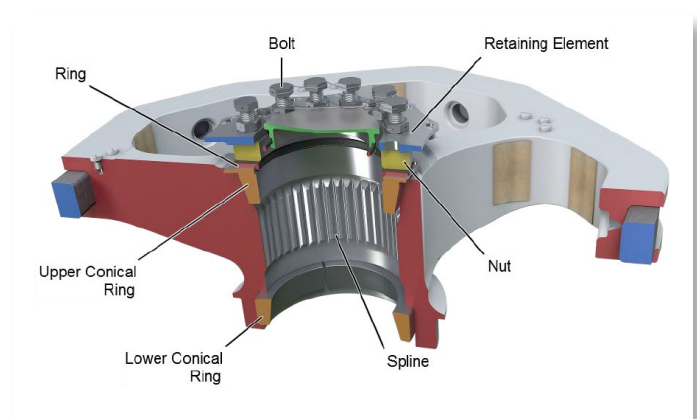


## AW169 FLEET: MAIN ROTOR HEAD IMPROVED INSTALLATION

The first AW169 was delivered over two years ago; in the meantime the worldwide fleet has accumulated almost 14,000 flying hours, performing a wide range of missions and in different environments.

One of the most recent achievements of the AW169 programme is the certification of the main rotor head improved installation, which reduces the number of repetitive scheduled maintenance checks (5-10FH) necessary to obtain the final stabilization of the main rotor conical ring retention bolts.

This improvement is available as an option for new production helicopters, while for the in-service fleet can be achieved through SB169-087.





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1948 • 2018

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