

ROTOR

BY

AIRBUS HELICOPTERS

MISSION

**H160: Countdown
for the first delivery**

NO LIMITS

**CityAirbus reinvents
vertical flight**

SERVICES

**Welcome
to AirbusWorld**

The trusted
all-mission
workhorse



100 MILLION FLIGHT HOURS

The Airbus helicopters fleet reached the 100 million flight hour mark at the beginning of March 2020. A milestone to make your head spin! The Ecureuil family alone has logged a total of 35 million flight hours. From a mission standpoint though, the civil side has accumulated 70 million flight hours and the military side 30 million. #thanks100Million to all our customers who have made it possible to reach this historic milestone.

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Innovative

NASA PLACES ORDER FOR THREE AIRBUS H135 HELICOPTERS

The National Aeronautics and Space Administration (NASA) has placed an order for three H135 helicopters, marking the first-ever partnership between the US space programme and Airbus Helicopters. The H135s will be operated out of Kennedy Space Center in Florida for a variety of missions, including security during rocket launches, emergency medical services, and passenger transport. Two of the helicopters are scheduled for delivery later this summer, with a third planned for early 2021.

DRF LUFTRETTUNG EXPANDS ITS H145 AND H135 FLEET

Airbus Helicopters and DRF Luftrettung have signed a contract for the purchase of 15 new H145s, three H135s and the retrofit of the operator's current 20 H145s to the five-bladed version. This will bring the H145 fleet of the German helicopter emergency medical services (HEMS) provider to 35 helicopters, making them the biggest operator of the five-bladed H145 in the world. The contract, booked in 2019, also renews DRF's HCare smart contract, a full support parts-by-the-hour contract for DRF's entire fleet for the next eight years.

RACER: FIRST TRIAL CAMPAIGN ON THE ENGINE BANK CONCLUSIVE

The Aneto-1A engine, which will be installed in the high-speed RACER demonstrator, underwent its first bench tests at Safran Helicopter Engines in February 2020. This is an important step in the development of the demonstrator as the engine remains a key element in achieving the ambition of flying fast while reducing the environmental impact. With power of 2500 shp, the Aneto-1A enables the use of a new electric start-up system specifically developed for Airbus Helicopters and designed by Safran Aerosystems. This starter-generator system aims to increase the reliability of the engine start-up sequences and to optimise certain operational phases (engine shut-down, maintenance cycles, etc.).

MORE THAN 1,000 ROTORCRAFT NOW SHARING DATA WITH AIRBUS HELICOPTERS

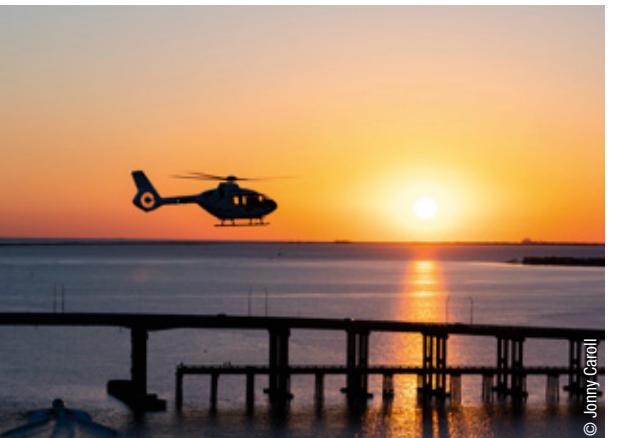
In just over one year, the number of helicopters now sharing flight and maintenance data with Airbus Helicopters has doubled. This progress advances Airbus' creation of a connected helicopters ecosystem in which data from disparate sources is shared and analysed, helping operators make sense of their data for added business value.



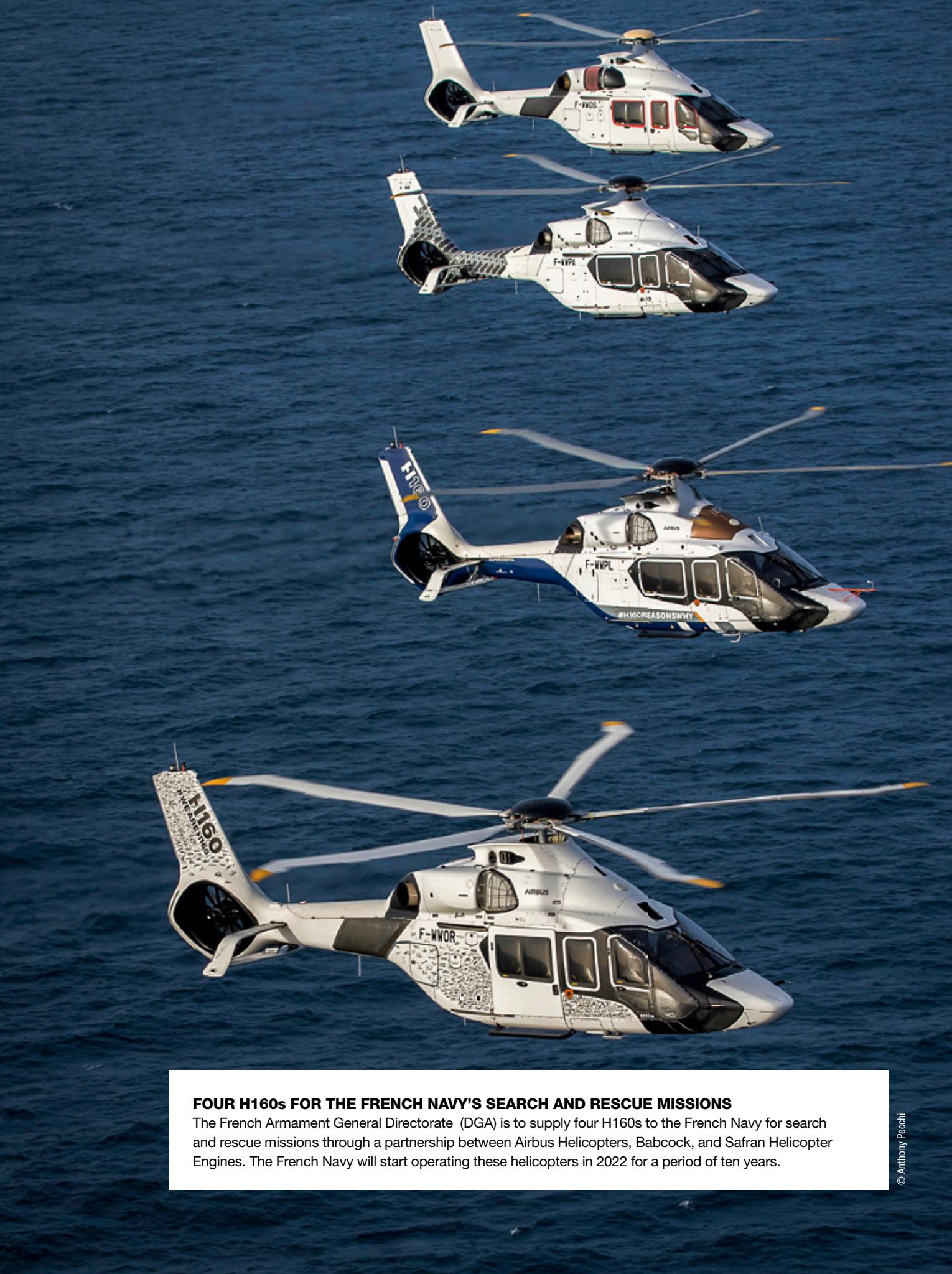
Connected

**ROYAL THAI AIR FORCE ORDERS H135s FOR MILITARY TRAINING**

Airbus Helicopters has received an order for six H135 military training helicopters from the Royal Thai Air Force, as part of its pilot training enhancement programme. The first military training helicopters ever ordered by the Royal Thai Air Force, these H135s will be used for an array of training missions, including ab-initio flight training. They will complement the Royal Thai Air Force's existing H225M fleet, bringing its Airbus fleet to 18 units.

**NEW ALTERNATE GROSS WEIGHT FOR THE H135**

H135 helicopters with the new alternate gross weight benefit from a 120 kg (265 lb) increased takeoff weight and useful load. This increase can also be used to extend the range by up to 75 NM or the endurance by up to 40 minutes under standard conditions. The new AGW will be certified by EASA and the FAA in 2020 and can be retrofitted on all H135s with Helionix.

**FOUR H160s FOR THE FRENCH NAVY'S SEARCH AND RESCUE MISSIONS**

The French Armament General Directorate (DGA) is to supply four H160s to the French Navy for search and rescue missions through a partnership between Airbus Helicopters, Babcock, and Safran Helicopter Engines. The French Navy will start operating these helicopters in 2022 for a period of ten years.

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Welcome to AirbusWorld

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Bruno Even, CEO of Airbus Helicopters

“Because we know how crucial your work is, all Airbus Helicopters teams have been mobilised to preserve the continuity of our missions.”

For several weeks now, we have been facing the coronavirus COVID-19 pandemic. It has affected the whole world and is progressing rapidly in certain countries. We know that many of you are fighting to protect the population against the pandemic right now with your helicopters. We have seen SAR and EMS services tirelessly ferrying patients; armed forces mobilising their helicopters to alleviate the burden on overflowing hospitals; rotorcraft transporting first aid supplies and police helicopters patrolling to ensure we all comply with governmental confinement measures. The well-being of the population is, without a doubt, the priority of each and every one of us at this time.

On behalf of everyone here at Airbus Helicopters, I take this opportunity to send our gratitude and encouragement to all of you fighting on the front line against the virus. Because we know how crucial your work is, all Airbus Helicopters teams have been mobilised

to preserve the continuity of our missions to the best of our ability in the current circumstances in order to support your operations. But we also know there are many other customers whose activities are being cut back drastically due to the COVID-19 crisis. There are operators that have practically stopped flying. Our desire is to be by your side more than ever, listening and finding solutions, together, that will help you weather this storm. Because that is the only way to emerge victorious from this crisis: united. The current circumstances show us to what extent the world today is global and interdependent. If we can gain something good from all this, it will be precisely the solidarity that so many people around the world are showing. On behalf of all of us at Airbus Helicopters, I thank you for your loyalty and confidence, both in good times and the difficult times that we are currently experiencing. Please take good care of yourself and those close to you.

35**YEARS OF PBH**

The first parts-by-the-hour contract was signed 35 years ago in 1985.

3,015,100

Flight hours logged in 2019 with Airbus helicopters worldwide

13 H225s

The Japan Coast Guard has ordered two more H225 helicopters, bringing their H225 fleet to 13.

3,093**OPERATORS**

in 152 countries are using Airbus helicopters, including 97 armed forces worldwide.

1st ACH**IN THE PACIFIC REGION**

A new ACH135 was delivered in 2019 to Melbourne-based operator and launch customer, Microflite, which offers luxury charters in Australia.

- 2 dual-qualified full-flight simulators operating in Malaysia.**

The Airbus Helicopters

Simulation Centre

(AHSC) in Malaysia

houses two full-flight simulators for the AS365 N3/N3+ as well as the H225/H225M, both achieving FFS B and FTD Level 3 by EASA.

54%**MARKET SHARE**

Airbus Helicopters was the leader in the civil and parapublic market with a 54% of the market share.

27 H145**AIRBUS HELICOPTERS FLYING IN ITALY**

22 of 27 H145 in Italy are configured for EMS missions.

Over the Italian territory there are 53 EMS bases.

1,350

Airbus helicopters are flying in Latin America.

1,600
H125/AS350

helicopters perform aerial work in the world, and have accumulated 10.6 million flight hours.

The trusted all-mission workhorse

Versatile. Powerful. The adjectives that attach themselves to the H225 have come to define more than the operational capabilities of this heavy helicopter; they could equally be said about the H225's current undertakings in civil work.

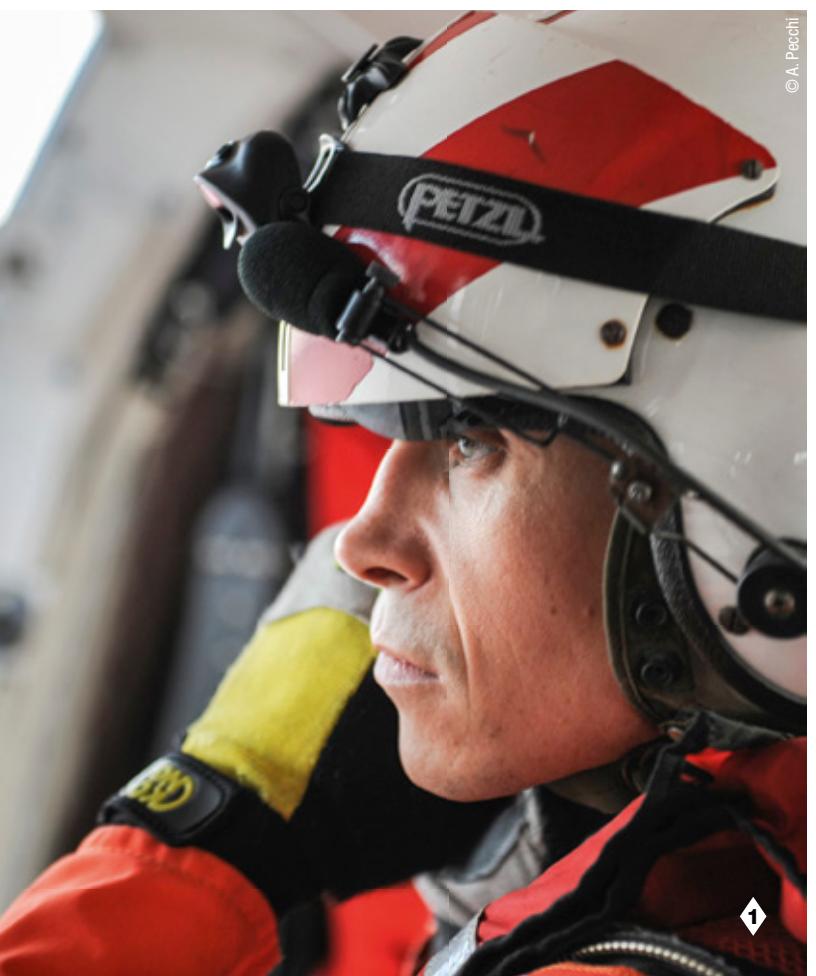
Article: Heather Couthaud



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Used in a variety of missions from firefighting to search and rescue (SAR), it was the H225's ability to carry 19 passengers and its 600-NM range, as much as its ruggedness and power, that quickly turned it into a fixture in the oil and gas industry.





Fast forward to today. With the oil and gas industry in the throes of a downturn, the H225 has taken the opportunity to reposition itself to conquer new markets and equally demanding mission segments, demonstrating just how versatile this civil helicopter really is.

CHALLENGING WORK IN NEW SEGMENTS

While the H225 is still present in the oil and gas industry, particularly in Asia and Latin America with 18 H225s in the region, it is finding itself bought, reconfigured, and reassigned to challenging work in other segments – some completely new – thanks to its versatility and immediate availability.

Of 118 H225s previously employed in oil and gas operations, 58 have been signed to reallocation contracts to reconfigure them for aerial work, utility, search and rescue, and military activities. Thirty-one are in service today. In addition, more than 30 are in negotiation for similar contracts.

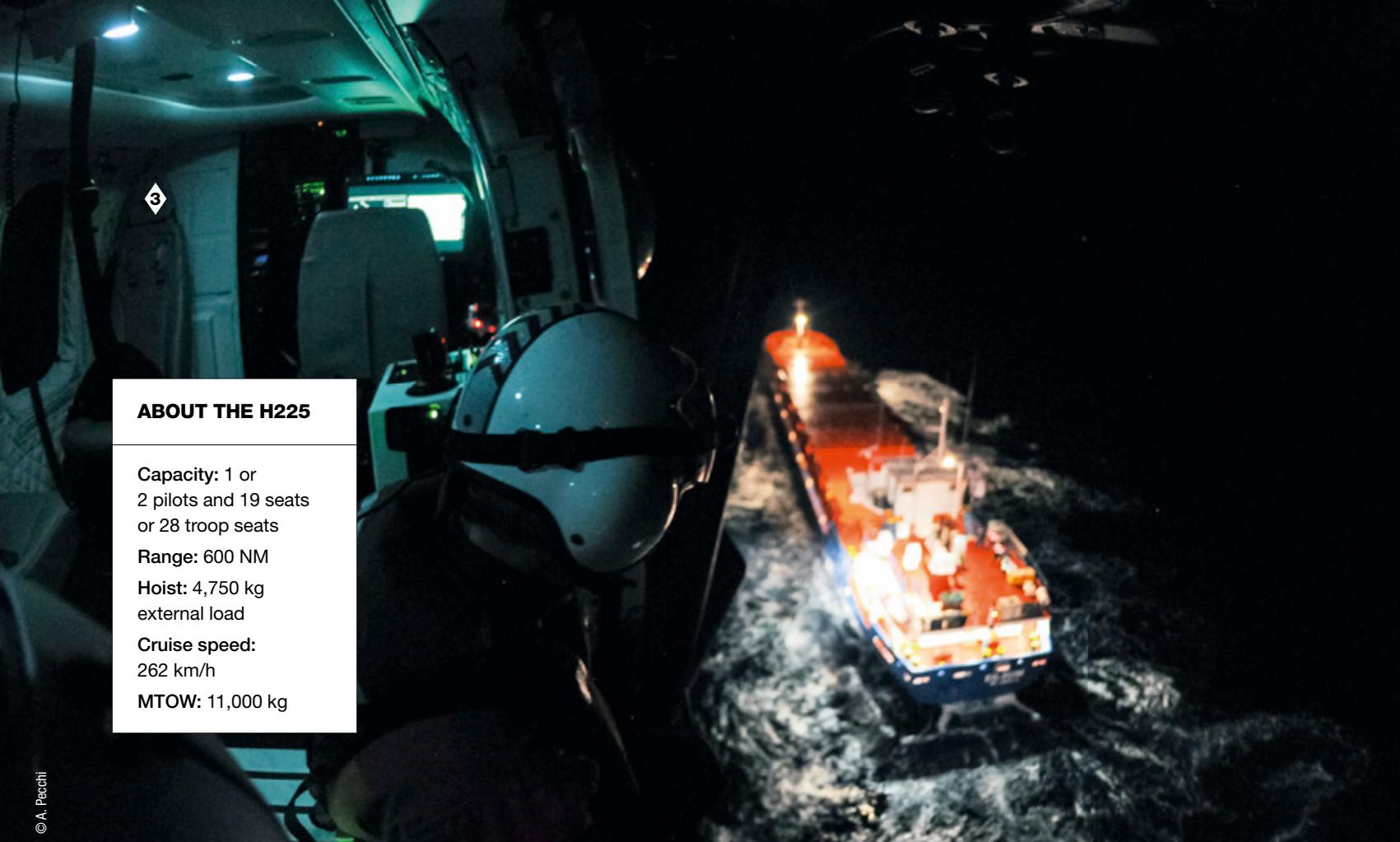
These repurposed H225s are destined for new customers the world over: 21 aircraft are intended for the Ukraine and 22 for the US – where one was recently put to use in the Hurricane Dorian relief effort in the Bahamas, through operator Air Center Helicopters. Others are in operation with the US

H225/H225M BY THE NUMBERS

- Around 230 H225 and H225Ms flying today
- The majority in Europe, Latin America and Southeast Asia
- 29 orders for the Super Puma family in 2019, up from 17 in 2018
- 700,000 flight hours



© Airbus Helicopters



ABOUT THE H225

Capacity: 1 or 2 pilots and 19 seats or 28 troop seats

Range: 600 NM

Hoist: 4,750 kg external load

Cruise speed:
262 km/h

MTOW: 11,000 kg

© A. Pecci

Armed Forces for passenger transport, the training of special operations forces, vertical replenishment and casualty evacuation missions. Other H225s are destined for China, Iceland and Spain for SAR, coast guard and other parapublic duties.

A SOLUTION FOR ANY NEED

The explanation for the H225's rebound lies in the helicopter's ability to suit any need. Beyond the scope of oil and gas operations, it has made inroads in the civil market thanks to its heavy-lift capacity (4,750 kg external load), all-weather aptitude and fast cruise speed (262 km/h). A 2,270-litre water cannon was developed to aid in firefighting operations, while private and governmental transport and SAR also figure among its frequent civil duties.

The H225's recovery also owes much to its unmatched availability. Among in-service oil and gas H225s, a 95% availability rate is the norm. This translates to more aircraft flying than ever, as attested by the H225 family's 20% increase in flight hours during 2019, 44,300 in total.

MISSION MAKEOVERS

The H225 repurposing market is characterised by short-term opportunities requiring reactivity on the part of Airbus.

The turnaround time is often demanding, with customers expecting to receive their aircraft within a few months of solidifying an order.

"In order to meet these expectations, we often proactively launch modifications to an aircraft in advance, in anticipation of the coming sale. These modifications entail fitting the H225 with new mission equipment, enabling the aircraft to perform its future mission," says Christoph Zammert, Executive Vice President of Customer Support & Services at Airbus Helicopters.

Different types of retrofits already completed include SAR retrofits, utility (MPA), cargo sling, blade folding, winches, weight-saving kits, FAA conversions, and blade de-icing. In some cases, Airbus Helicopters has turned around a new aircraft in as little as three months.

Supporting new customers once they have received their new aircraft is also a key success factor. Around 75% of the repurposed H225 fleet in service is covered by an HCare global support contract.

1: Jesús Lucas Ayuso, H225 winch operator for SAR operations.

2: There are usually 360 people working in the Super Puma final assembly line in Marignane, France.

3: Babcock has two H225s for SAR operations in Galicia, in Spain: one in Coruña, which began operations in 2014, and another in Santiago de Compostela since 2018.

Super Puma: A presence into 2050

The H225 is at the heart of a strategy that involves the entire Super Puma family. Rotor talks to Michel Macia, Head of the Super Puma programme at Airbus Helicopters.

© KOT ILLUSTRATIONS



WHAT IS THE H225'S FUTURE COMMERCIALLY?

Michel Macia: We are confident that the H225 has quite a number of years still ahead of it. It has proven to be a very versatile aircraft, as witnessed by its repurposing activity, in which half of the aircraft stored after the oil and gas crisis are now with new owners. The recent continued success of the Super Puma in terms of sales gives us confidence that there is still a lot of growth to be seen for the H225, as well as its military counterpart, the H225M. We believe the aircraft will still be flying well into the 2050s and that we will still be manufacturing them in 2030. This is why we continue to discuss future upgrade options with our customers, to bring current aircraft up to date with greater performance, connectivity and mission capability.

CAN YOU TELL US MORE ABOUT THESE FUTURE UPGRADES?

M.M.: Among other improvements, we are currently developing and qualifying a new glass cockpit for the H225M, which should bring ergonomics and situational awareness to the flight crew. New avionics include four large display

units (8x10 inches, the largest ones in this aircraft category) with enhanced high resolution, an improved electro-optical system, digital map and situational awareness display, along with many other improvements.

The civil version also comes with a new 19-seat arrangement with two more forward-facing seats, enhanced TCAS II traffic collision avoidance system coupled with highly appreciated and recognised digital dual duplex 4-axis autopilot for improved operational safety.

H225s satisfy the most demanding public service and search and rescue missions thanks to autopilot upper SAR modes, an installation for flight in icing conditions, a modern electro-optical system, digital moving map, and an efficient SAR cabin layout, with internal fuel best in class long range capability. All versions come with a cockpit and tail boom camera for greater boarding visibility from the cockpit.

HOW DO YOU ENVISION THE FUTURE OF THE PROGRAMME?

M.M.: We have taken strong industrial commitments to ensure the ramp up of the programme. In September 2018 we launched the construction of a third assembly line at our Marignane site, following the flexible models of our other FALs so that it will be able to accommodate production of both the H215 and H225. We started out from scratch, but today this new line brings together 360 production personnel, all the support functions essential for its success, and assembles eight aircraft in parallel. In keeping with our new industrial strategy, the aircraft's subassemblies are manufactured at centres of excellence before being assembled in full in Marignane. The FAL also benefits from a digital shopfloor environment and connected tools such as HoloLens for digital mock ups. In all, I can say we are truly investing in this programme.

"We will still be manufacturing H225s in 2030."

Michel Macia, Head of the Super Puma programme



© Anthony Peccetti

All in a day's work

More than 300 H225/H225Ms have been built so far, reaching more than 700,000 flight hours around the world. Today, this aircraft is used to carry out operators' most demanding missions. A closer look.

Aerial work: the versatile heavy lift solution

The H225's heavy-lift capacity (4.75 tonnes) is an advantage in aerial work, while a real time display of power margins and a top-flight vehicle monitoring system aid pilots during critical moments. With a unique endurance capacity, the H225 is the only class-C certified helicopter for hook operations.

Firefighting: staying on the fire longer

The H225's extra-long range (>600 NM) is a benefit in getting to the fire, and staying long enough to help put the flames out. Equipment include a belly tank, belly water cannon, water bombing kits, or the Simplex Aerospace SkyCannon, perfectly suited to fight fires in metropolitan areas. Besides battling fires, the H225 can also transport 19 firefighters to and from the scene, as well as reconfigure to other missions in fires' off-season, including passenger transport.

Search and rescue: the all-weather long-range solution

Among its search and rescue features, a long cabin allows room for rescue

swimmers, while the flight crew benefit from SAR modes with search patterns and an automatic transition to hover. The Japan Coast Guard operates nine H225s and two AS332s for security, coastal activities and disaster relief, relying on the H225's all weather conditions.

Private and governmental transport: exceptional comfort

The H225 can accommodate up to 11 passengers in exceptional comfort. Selected by heads of state and governments for its outstanding qualities, its attributes include a high cruise speed, low sound and very low vibration levels (double active vibration reduction control systems), and cabin space.

The H225's extensive customisations include a cabin featuring one or two lounges, large armchairs, a foldable table, galley, toilet unit, and a wide selection of refined materials.

H225M: the combat-proven helicopter

As a true multi-purpose and versatile military asset, the H225M enables military forces to deploy wherever and whenever needed. Operating both from ships and from land, even in icing conditions, this helicopter has an all-weather capability supported by night vision goggle compatibility. Its outstanding 700 NM range can be extended with air-to-air or hover in-flight refuelling capabilities.



© Dianne Bond

CUSTOMERS TALK ABOUT THE H225



Wang Zhenfeng,

*Director of the North Sea No. 1 Flying Rescue Team,
China Rescue and Salvage of Ministry of Transportation China*

"The key advantages of the H225 are its larger payload capacity and external cargo sling capability, advanced autopilot system and search and rescue mode, which enable us to have a fast response and ensures our successful rate of rescue missions, especially for large scale search and rescue missions."

We will proactively explore our operational capabilities on search and rescue for islands, highways, natural disasters, cruise exploration, and forest firefighting by fully leveraging the outstanding performance of the H225 in China."

Chen Guoquan,

*Director of the South Sea No. 1 Flying Rescue Team, China
Rescue and Salvage of Ministry of Transportation China*

"We're operating the H225 for various missions, including search and rescue both for land and offshore, air cruising, and oil exploration. As a mature helicopter, the H225 is one of the most advanced civil helicopters in the world. The H225 can fulfill demanding requirements for offshore search and rescue missions with its various outstanding features, including high power margin, excellent autopilot system, strong payload capacity, and longer endurance range. As a heavy helicopter, the H225 is a good choice for a sound air search and rescue fleet with a combination of other medium and light rotorcraft and fixed wing aircraft. We enhanced our operational capabilities for various missions, including low altitude hoisting on the sea, search and rescue in the harsh weather of typhoons, as well as for offshore oil and gas platforms, air exploration, and forest firefighting. In terms of maintenance, we have been operating the H225 over ten years and obtained 1,200-hour inspection and 8-year inspection capabilities for the H225. Regarding the training, we have established a comprehensive system both on theoretical training and upgrading practical standards among pilots and technicians."



John Bean,

Chief Operations Officer of ACHI

"Many of the contract opportunities we've been looking at had very old aircraft – around 30 or 40 years old. This was affecting their reliability and their ability to satisfy customer needs. We therefore decided to look for a modern aircraft that was easily supportable and that could carry even more payload, with greater range, because in the utility market, payload and range are the key to customer satisfaction.

The H225 was rather unique in this sense. Thanks to the availability of these aircraft due to the decline in the oil and gas sector, we were able to acquire a fairly significant number and convert them from an offshore

configuration to one more suited to utility work, with capabilities such as external cargo hooks, an external hoist for human recovery, an NVG cockpit, etc. This conversion allowed our helicopters to fulfil a whole new range of missions that had previously only been possible for military customers of the H225.

Airbus had a lot of experience here because they were familiar with the military variant of the H225, but adapting them was a bit of an engineering challenge as we had a list of around 12 modifications! Fortunately, our partnership with Airbus has paid off, with them providing the engineering and technical support combined with the

MRO facilities.

ACHI's strategy for the future is to diversify. We want to make sure we are in at least five or six different markets in addition to the US Navy maritime support roles. We are expanding into personnel recovery and casualty evacuation roles, firefighting utility roles, and construction operations. The H225 is a key player in this diversification.

There aren't too many large heavy-lift aircraft like the H225 that are modern, have a good range and payload, and are sustainable. That is where the H225 is unique.

We see it covering around 75% of the expansion into these new markets."

Jesus Hernández Bravo,

Pilot, Head of Flight Operations SAR at Babcock

"Clearly, using the same aircraft in Coruña and Santiago de Compostela greatly facilitates synergies in equipment, maintenance and personnel. The H225 based in Coruña offers a prompt response time of less than 15 minutes, while the H225 based in Santiago de Compostela is mainly used for scheduled evacuations and searches as the response time is less than 45 minutes. In 2019 they were used on 69 missions with a total of 51 people rescued.

The H225 is the only helicopter with a range of 200 NM. That is why it was essential to have a second helicopter with the same characteristics based nearby to complement our long-distance response capabilities under any weather conditions. This second helicopter can also be used to help rescue large numbers of people... although just a few months ago we used the H225 to evacuate 23 people from on board the Blue Star after it ran aground on rocks — and all in a single trip!

If you ask around at the base what they appreciate the most about the H225, pilots, rescuers and winch operators alike will all undoubtedly say it's the H225's performance in poor weather conditions, when the waves get as high as 10 metres... and that's not such a rare occurrence in our region. The H225 offers outstanding stability; the automatic systems also help a lot and the autopilot in SAR mode is incredibly reliable. I know some pilots who don't want to fly any other helicopter now!"



An NH90 from the FAMET
carrying out a training mission.





HELP FROM THE HEAVENS

Article and photos: Francisco Francés

1

For a little over a year now, Spain's Guardia Civil has been using an H135 helicopter for rescue operations in the Pyrenees. In the winter months, the ski resorts are bustling with snow seekers and tourists and aerial rescue activity is at its peak.

"One of the advances of the H135 compared to the EC135 P2+ is its improved performance in high and hot conditions."

Brigada Valcarcel,
H135 pilot with the Guardia Civil.

The sun dawns over high clouds above Aragón in the central Pyrenees on a Sunday morning. It's March, and the snow entices skiers to enjoy the slopes of the Pyrenees. At 2:30 pm, Teniente Coronel (Major) Rodríguez, in charge of the Guardia Civil UA* in Huesca, hears his phone ring. With one glance at the phone number on the screen he knows they have to mobilise. The crew, the maintenance specialist and the EMS medic immediately spring into action in response to the call placed to 061 (the Spanish local emergency phone number).

"Weekends are usually very busy due to the massive influx of skiers and hikers in our area of operations," explains the commander as he prepares for the flight. In less than seven minutes, the 'Cuco', the helicopter's callsign, is airborne.

On board, the medic checks that all her equipment is in order. "An initial handicap we face is the lack

of information on the status of the injured person. We have to be prepared to deal with a range of different scenarios," she explains. On this occasion, a skier has fallen from a height of several metres and is immobile. For the moment, there is no further information.

IMPROVED FEATURES

"One of the advances of the H135 compared to the EC135 P2+ is its improved performance in high and hot conditions. In the summer we have to fly when temperatures exceed 20° Celsius and at altitudes greater than 10,000 feet. During our missions, which are always at high altitudes with conditions similar to today's rescue, we push the helicopter to its limits in order to save lives," explains Brigada (Warrant Officer 2nd Class) Valcárce, a pilot with the Huesca UA.

After a brief 20-minute flight, the H135 touches down

to pick up two specialists before taking off once again on its way to the accident zone at an altitude of more than 7,900 feet. There are now six crew members – and their equipment – on board. The two GREIM* specialists know the area like the back of their hand. With the information they receive, they are able to provide the pilots with rough coordinates. They also have more detailed information on the injured person: "He's semi-conscious, with acute back pain and he's unable to move his legs."

In only 10 minutes they arrive at the site of the accident. They are flying above 8,200 feet in stronger winds now, which are steadily driving cloud cover lower. The skiers are located on a tongue of ice some 70 metres wide, wedged in a corridor between two vertical walls of rock.

SAFETY FIRST

The pilots analyse the area and wind conditions before deciding how to make their approach. Due to the circumstances, they decide to aim for a point below the victim's location to drop off the rescue team. Wind conditions and the increasingly low cloud coverage make a winch rescue operation too risky. The rescuers and the medic jump to the ground and the commander hovers overhead while the medical



team examines the patient. Meanwhile, the clouds continue to drop rapidly.

The initial diagnosis is a possible spinal fracture. "This type of injury makes it very complicated to evacuate in the current conditions," explains the medic later on. They will have to move fast as clouds are engulfing the entire area.

They are now flying in whiteout conditions, a common occurrence which the crew is well prepared for. The helicopter is lighter now that only the two pilots are on board. They land on the snow and once the patient has been stabilised, he is lifted into the cabin. After everyone is aboard, the pilot pulls up and the helicopter rests lightly on its skids. The H135 responds perfectly with all the personnel on board, gaining speed and altitude as it emerges from the corridor of ice and snow on its way back to the base. The patient was evacuated to the provincial hospital in Huesca, where he received initial treatment. After several days in hospital he was transferred to a hospital in Madrid, where he continued his recovery.

*UA: Aerial unit.

*GREIM: Grupos de Rescate Especial de Intervención en Montaña (Mountain Rescue and Intervention Group).

H160 COUNTDOWN FOR THE FIRST DELIVERY

Article: Belén Morant – Photos: Eric Raz



Now that its certification is approaching, the H160's entry into service is just around the corner. Companies like Shell have already shown interest in being one of the first users of this helicopter designed to make life easier for operators, pilots and passengers. Equipment accessibility has been facilitated by the helicopter's optimised architecture, the maintenance plan was thoroughly verified during the Operator Zero campaigns, and it is delivered with intuitive 3D maintenance documentation. The countdown to the delivery of the first H160 has begun. It is the opportunity for several operators participating in demo flights to talk about their impressions.



▲ Général Bertrand Valette d'Osia, **Commandant ALAT**.

"The first impression after this flight is how easy it was. We were given a demonstration of the new capabilities offered by this aircraft, which will amaze our crews who are still flying on older generation helicopters (Gazelle and Puma). We carried out a mission in a relatively unusual configuration, during which we were able to measure the added value of the autopilot and the overall qualities of the aircraft, which is equipped with a rotor that responds perfectly in all configurations. Flight quality and comfort are extremely impressive, in particular the reduction in noise and vibrations. The extreme

responsiveness of the on-board systems offers the pilot effective assistance in dealing with the trickiest situations, especially when managing faults. The ergonomics of this aircraft will help our crews during combat, and they will familiarise themselves quickly. In terms of range, the H160 Guépard will fall between the Tiger (our attack aircraft) and the NH90 Caiman (our transport aircraft). It will complement the Tiger and Caiman, admittedly with a less extensive range of missions, but it will perform well in terms of safety and can be flown over all terrains."

→ H160 :
COUNTDOWN
FOR THE FIRST DELIVERY

Michal Schutty, ▶
CTO NHV, Belgium / Oil and gas operations

"I had an excellent experience on board the H160. What surprised me the most, was the low noise level which was very comfortable. I think that passengers travelling a lot by helicopter would love this just as much, as it is determining for the comfort in the cabin. Also, the vibration level is significantly lower than I experienced in other types of helicopters. As for the pilots, the automation of the helicopter is absolutely brought to the next level, with the automatic takeoffs from the helipads and the automatic engine failure recovery and loss of control flight stabilizations features. I am confident they will love flying this machine equipped with such state-of-the-art autopilot and avionics system."



The H160 could definitely be used in the North Sea for several missions, but might especially make the difference in oil and gas operations because it is all about safety and comfort for the passengers. There were moments I felt no vibrations at all—I felt like I was flying in a jetliner."

◀ Matthew Munson,
Heligroup, UK / Charter and VIP

"This helicopter is amazing! In the UK we operate the new H135, which we use for private and VIP charter. After flying the H160, I think it is very, very smooth, very comfortable. It has a lot of power and it's very manoeuvrable from the pilots' perspective, as well. Therefore, our customers would be very happy in the back of the H160. I've found it very easy to fly because the Helionix avionics installed there are exactly the same as what we have in our H135, so all systems are exactly the same. The cyclic and the collective are the same as well, so it felt very natural to be flying it after flying in our H135—very smooth. The sound level is much lower than I expected, even in a prototype machine; we were able to take off our headsets and not experience much noise. The vibration level we tried at different speeds, from 100 kts to 170 kts, and there was no difference at all—very impressive. Clearly, it has been a well thought-out machine."



Stefan Verstraeten, ▶
Group CAMO Manager at Noordzee Helikopters
Vlaanderen (NHV), Postholder
Part M for the UK and BE AOC.

"My job, managing the continuing airworthiness together with my team, is all about the process of keeping the aircraft in a condition where it remains airworthy throughout its life."

With the H160, I noticed a big step forward on the maintenance aspects. What I found impressive is that Airbus Helicopters is now aligning the maintenance programme and maintenance philosophies with best practices in many aspects, and thus seriously improving operators' costs and burden. It's great to see fixed and rotary wing are teaming up to combine decades of best practices that will only benefit the operators. Another example is the Zero Operator philosophy, avoiding that the first operator needs to go through the initial hiccups that are traditionally related with bringing an aircraft into service. For a lot of the maintenance in the lower checks, you don't need any tools or equipment, you just need inspections and that means operators can avoid cost. It's a big improvement on other helicopters and previous maintenance programmes. The new and interactive



troubleshooting system, which is more aligned with what we know from Airbus' fixed wing division, is also a big step forward. I also noticed the upgrade in visualisation for the engineers of the platform they are going to use to do all the maintenance. They really get to see what is going on, and where they have to look."

◀ Tilj Vuyk,
private owner, UK.

"I think it is a really nice machine, easy to fly, very comfortable, with great visibility. Definitely, I think it is a great helicopter. I love it! I am a pilot myself and I could land it here and bring it back to the airport. When I took the commands, I saw it was very easy to handle. My first lift off was as if I did it every day. It can be used for private aviation because it is quite big, anyone can fly it, and the sound and vibration levels are fantastic. I am very impressed... I might buy one! (Laughs)"



NORTH SEA POSITIVE VIBES

Selecting the right equipment is vital to success in the North Sea and according to oil and gas customers, NHV and CHC Helicopter, the H175 has proven its worth carrying passengers and crew safely where they need to go.

Article: Samantha Pitt

NHV
Fleet: 60+ helicopters, among which the H175 and helicopters from the Dauphin and H145 family
Headquarters: Ostend (Belgium)
Employees: 550
Missions: mainly focused on the energy producing industry, but also performing HEMS, maritime services including SAR, offshore wind farms and harbour pilot services



© Marcio Jumper Nakatsu-Brazil

NHV, THE FLEET LEADER

"Customers want an aircraft that's always ready to fly," explains Jamie John, Base Manager for NHV in Aberdeen. "They want it to deliver on time, be comfortable, quiet and offer a different solution to the norm. We can see that the H175 is producing on all these fronts, allowing customers to have peace of mind and know that their passengers and staff will get where they are going safely, efficiently and on time."

The NHV Group was the inaugural customer of the H175, with the first two aircraft entering service in December 2014. They now operate 13 H175s from their Aberdeen (Scotland) and Esbjerg (Denmark) bases. Choosing the H175 enables the company to cover 90% of its North Sea offshore installations with a full payload.

"It's great for offshore," says pilot Tom Willis, NHV. "We can do the job of the super heavy fleet now. It's a very stable, fast and quiet machine...and it's great that the passengers are able to see out."

Today, NHV is the H175 fleet leader with 36,000 flight hours. In 2019, the company was awarded another long-term contract with Petrofac to cover four crew change flights per week and will depart from NHV's base in Aberdeen using the H175.

"It's perfect for pilots," claims Eric Verhoogt, engineer at NHV. "It flies really well, just like a fixed wing. Accessibility is also better than for a lot of older aircraft. It's a very nice aircraft to work on as an engineer."

"It's a lot more intuitive," adds NHV pilot, Neil Christie. "It was exciting for someone like me who's into technology, the iPad generation. There was a lot of light from the windows and a great view."

MUCH APPRECIATED SAFETY FEATURES

"It's an absolute pleasure to see the crews coming out of the H175 because they're just grinning from ear to ear," says Regional Maintenance Manager/Deputy Operations Manager, Lee James, CHC Helicopter. "They love to fly it because of its automation, because of its capabilities."

CHC Helicopter operates four H175s in the North Sea: one in Norwich, England and three in Aberdeen, Scotland on offshore oil and gas operations. Their last H175 was the first Airbus helicopter to be delivered with digital logcards, a document that tracks the entire history of critical helicopter parts, from manufacture to the end of their in-service lives.

The Helionix advanced avionics suite of the H175 is one of the safety features most appreciated by crews. It offers unrivalled pilot assistance in an intuitive human-machine interface, improving overall safety through reduced pilot workload. "The difference is the superior interface with the Helionix and Airbus autopilot," explains Captain Maxine Ackerley, CHC Helicopter. "You can find anything you need at a glance."

[Watch the video here](#)



© Eric Raz



© Nicolas Gouhier

1: The NHV Group was the inaugural customer of the H175.

2: NHV operates 13 H175s from their Scottish and Danish bases.

3: The H175's Helionix advanced avionics suite is one of the safety features most appreciated by crews.

4: CHC Helicopter operates four H175s in the North Sea



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CITYAIRBUS REINVENTS VERTICAL FLIGHT

CityAirbus is a technology demonstrator paving the way for a new family of aircraft with 100% electric propulsion.

Article: Alexandre Marchand
Photo: Patrick Heinz

"CityAirbus is a full-scale experimental demonstrator, a tool which will enable us to test new technical solutions that could eventually transform helicopter flight," explains Marius Bebesel, programme manager. With a laden weight of 2.2 tonnes and the ability to eventually carry a highly modular payload of up to 250 kg, the demonstrator could naturally find applications in the field of urban mobility. But that's not all: the possible scope of applications for such an aircraft could go much further, notably rescue or emergency medevac missions, and this might be just the tip of the iceberg...

1

ESSENTIAL TECHNICAL CHOICES

At the heart of CityAirbus lie innovative engines and propulsion choices. The aircraft carries eight electric motors of 100 kW connected to the same number of propellers, grouped in pairs in four nacelles 2.8 m in diameter. These nacelles positioned at the four corners of the aircraft are fixed, as is the pitch of the propeller blades. Engine redundancy is a key factor in safety, as the aircraft could do without one or two of its engines with no danger. Four batteries developed by Airbus Defence and Space provide the electrical power. In order to meet the constraints of operations in a built-up area, particular attention has been paid to the acoustic footprint: the electric motors are inaudible and the relatively low rotation speed of the propellers also contributes to the quietness of the aircraft.

FOCUS ON SIMPLICITY

Simplicity, which is synonymous with safety and efficiency, is in the DNA of CityAirbus. As the nacelles and propellers are fixed pitch, three-axis attitude control is achieved simply by varying the power transmitted. The consequence is that the aircraft has no servo controls, thus reducing weight, increasing reliability and bringing down maintenance costs. The development work concerns the search for the correct operating balance between the vehicle configuration, the electrical system (batteries and electric motors) and the power management, to ensure the required failure tolerance while staying within strict weight and performance constraints. "We have to find the right recipe for accommodating all the ingredients of the chosen propulsion method. This is the technical challenge of this type of aircraft," summarises Marius Bebesel.

2



3

STEP BY STEP TO THE FUTURE

CityAirbus made its first tethered flight on 1 May 2019 at the Airbus Helicopters facility in Donauwörth (Germany). Since then, the demonstrator has been carrying out free flights, albeit controlled from the ground. The aim of Marius Bebesel's team is to achieve a first automatic flight, gradually expand the flight envelope and validate the level of performance in order to pave the way for the next generation. However, the challenges are not purely technical: EASA is already working on the rules to be applied to certify this future generation of aircraft. "Certification work will not only concern the platform, but also a new operational concept in order to achieve broad acceptance by the public authorities," Marius Bebesel adds.

AUSTRALIA

THE H135 MEETS THE GREAT BARRIER REEF

Aviator Group uses a fleet of H135 aircraft to transfer specialised marine pilots to and from shipping vessels and cruise ships.

Article: Heather Couthaud – **Photos:** Aviator Group



"We've been so impressed with the aircraft that we've just introduced our second Helionix aircraft into service."

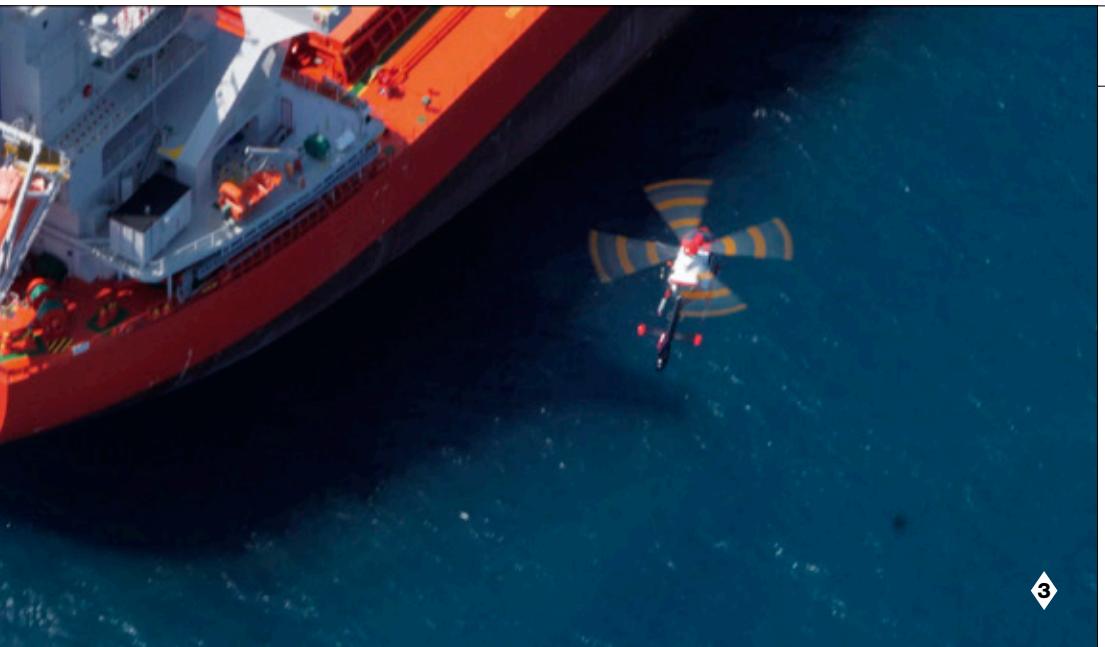
Ian Vanderbeek,
CEO of Aviator Group.



Helicopter rotors churning the air only metres overhead. A vast sea below and a landing pad on a ship's deck, hemmed in by obstacles. It might be daytime, it might be night. Once you're lowered down, an intense job awaits you. This is the daily commute for harbour pilots, highly specialised ship captains who take the controls of container ships and large vessels and navigate them through ports, where reefs, banks, currents and tides present hazards to visiting ships. Increasingly, helicopters have provided a safe and fast way to take them to the ships' boarding grounds.

QUICK TURNAROUNDS AND HIGH DEMAND

For more than 25 years, Aviator Group has been operating helicopter marine pilot transfer flights in Australia. Since 2008, the company has used the H135. "We've found that the aircraft fits that niche



AVIATOR GROUP
Headquarters: South Mackay, Australia
Founded: 1993
Staff: 52, of which 30 pilots and 12 maintenance technicians
Fleet: 10 helicopters, of which six H135 and 2 AS350
Areas of operation: six ports, from Queensland (north) to Melbourne (south) and Port Headland (west)

of operating within the close inshore environment," says Ian Vanderbeek, CEO of Aviator Group. The flights are often just 3 to 5 NM – up to 20 NM to reach spots farther out. The Blossom Bank boarding ground near the Great Barrier Reef is located 120 NM from the company's headquarters. The quick turnarounds and high demand (Aviator Group effects more than 14,000 transfers a year) mean its pilots are kept busy year-round. "We operate 24/7, 365 days a year," says Vanderbeek. "Shipping never stops."

Important, then, to use all the tools at their disposal. Aviator Group introduced its first Helionix-equipped H135 into service last year. "We've been so impressed with the aircraft that we've just introduced our second aircraft into service. The main advantages that we've found with the Helionix is it significantly reduces pilot workload, and it's provided us with a much greater improvement in safety, particularly as we operate single pilot operations at night."

A DAY LIKE ANY OTHER

Harbour pilot transfers take the form of either land-on or hoist missions. The former involves landing on the ship, and is crewed by just one helicopter pilot. Hoist operations require an air crew officer to operate the winch and guide its passenger.

"One of the principal advantages of the H135 is a reduction in fatigue" for harbour pilots, explains Vanderbeek, comparing the helicopter's three or

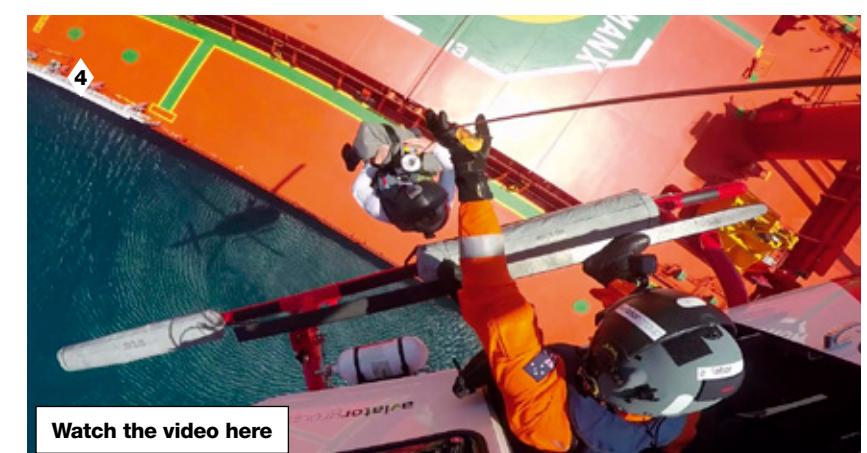
four-minute journey to the longer one by launch. Helicopters can also undertake transfers in higher sea states or windier conditions than by traditional means. "The H135 has great performance and fantastic cabin egress and ingress, which is very suitable for the type of work that we undertake," says Vanderbeek. Much of the transfer is at the helicopter pilot's discretion, such as the vessel's maximum movements of pitch, roll and heave during a land-on mission; or wind speed and visibility during hoists. "It's critical for harbour pilots to find an efficient way of transferring out to vessels that is both safe and reduces the level of fatigue. That's why we're finding that helicopters, and in particular the H135, are becoming the preferred choice of those leading pilot organisations," says Vanderbeek.

1: Aviator Group operates six H135 helicopters for harbour pilot transfers.

2: Flights to ships' boarding grounds are often just 3 to 4 NM from shore.

3: The H135's performance and cabin egress are suited to maritime operations.

4: Hoist operations require an air crew officer to guide the harbour pilot's descent.



[Watch the video here](#)

WELCOME TO AIRBUSWORLD

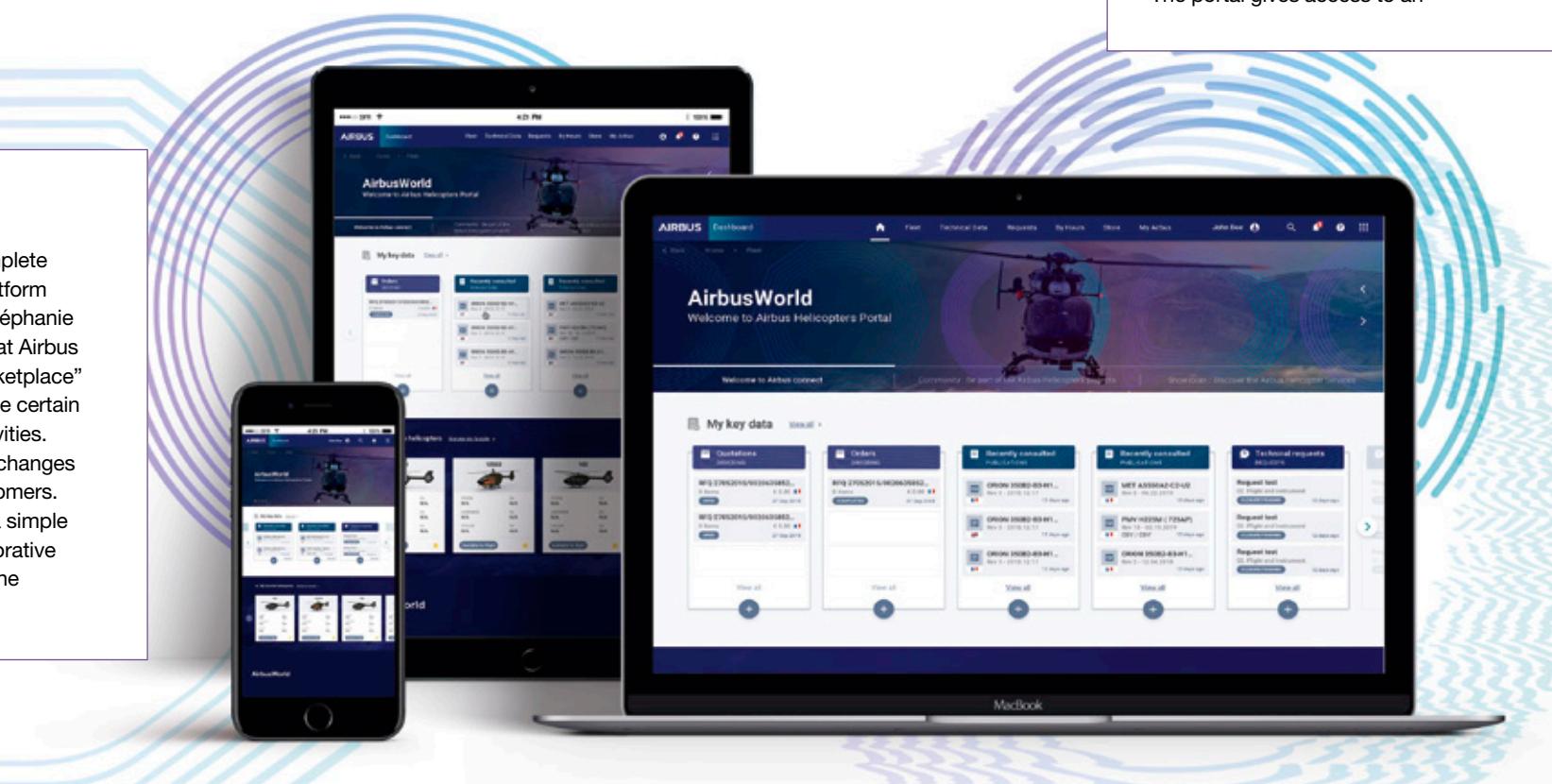
At the most recent Heli-Expo show, Airbus Helicopters unveiled AirbusWorld, its new collaborative customer platform, accessible worldwide. This major change to the old Keycopter portal benefits from numerous exchanges with users to offer a more flexible operation and new online services, in an entirely revamped format.

Article: Alexandre Marchand

1

DIGITALISATION WORKING FOR THE CUSTOMER

"Our aim is to offer our customers a complete digital chain accessible from a single platform hosting all our activities," summarises Stéphanie Bonnefoy, Head of Connected Services at Airbus Helicopters. The development of a "Marketplace" also enables Airbus Helicopters to involve certain partners who contribute to operator activities. Other functions allow direct and daily exchanges between Airbus Helicopters and its customers. AirbusWorld is therefore more than just a simple customer portal and offers a truly collaborative platform bringing the various players in the helicopter world together.



2

A MARKETPLACE FOR CUSTOMERS AND PARTNERS

The Marketplace, the cornerstone of AirbusWorld, is revolutionising the eOrdering service. It now offers customers the opportunity for one-stop purchasing of products sold by Airbus Helicopters and other suppliers. It enables operators to compare what is being offered by suppliers, to buy a wide range of aeronautical and non-aeronautical equipment, spare parts, tools and ground support

equipment and consumables, and have them delivered. Customers will be able to take advantage of the geographical proximity of certain suppliers in order to reduce their transport costs and guarantee quick delivery. The Marketplace catalogue and supplier referencing is rapidly expanding, offering a broad range of packaging and quantities.

3

NEW SERVICES AND MORE EXTENSIVE BROWSING CAPABILITY

Drawing on the experience acquired with Keycopter and feedback from users, AirbusWorld offers simplified and intuitive browsing, for example with the possibility of switching rapidly from one application to another within the site by means of shortcuts and menus on all pages. The AirbusWorld platform improves the sharing of ideas and collaboration between Airbus Helicopters and its customers by creating online communities to deal with topics such as products, events and projects. The portal gives access to an

interactive map of the Airbus Helicopters global network to help customers locate the nearest points of contact within their business region. A catalogue of services (showroom) is also available online to enable customers to choose the most appropriate solution for improving their activity. The eOrdering tool through which parts can be ordered online is changing and now has new functions, notably a Marketplace enabling customers/operators to obtain parts directly from third-party suppliers.

4

A POSITIVE IMPACT FOR OPERATORS

AirbusWorld is also a collaborative platform enabling Airbus Helicopters to collect and use technical data, with the aim of making better use of the potential of its customers' aircraft. Customers can also take advantage of more in-depth analyses, accessible from the portal, to further improve their

Customers testimonials

« The new refresh on the AirbusWorld has been a fantastic experience for the customer. Very easy to use, very intuitive system and I found the online marketplace has a very Amazon-like feel which will help improve the supply chain department moving forward »

Rob Parsons,
Yellowhead Helicopters

« On a day-to-day basis it helps when you're able to go to one website instead of multiple screens and platforms. Being able to do many different things inside one platform makes a big difference. All the main features are much easier to access. It's pretty much 1-2-3... and you're done ! »

Veronica Lozano,
Rotorcraft Support Inc.

operations. "AirbusWorld is an essential tool in helping customers take full advantage of the transition to all-digital," stresses Stéphanie Bonnefoy. At the Heli-Expo show in Anaheim, Hungarian Air Ambulance, which operates nine H135s, signed a three-year contract for complete digitalisation of its support with Airbus Helicopters. Other operators will rapidly be following suit.

5

NEW ROAMING SOLUTIONS

Access to the services on the AirbusWorld platform is gradually being extended to all roaming devices (telephone, laptops, tablets, etc.). This improved mobility primarily concerns technical documentation, accessible via the O.R.I.O.N. application, for which the

search engine has been improved and is now, for example, accessible both on- and offline. The technical request application is now also available and can be used offline, with automatic synchronisation when next connected to the network.

THE H145. WHAT THE PEOPLE YOU RELY ON, RELY ON.



FLY
WE MAKE IT

It's no surprise the H145 is the helicopter of choice for rescue missions. Whatever mother nature throws at you, it can bring help to where it's needed. Compact and versatile, it provides outstanding flight performance under the most extreme conditions.

Reliability. We make it fly.

