

Rotor

BY AIRBUS HELICOPTERS

MISSION

A long night for Caracals of the French Air Force

LIFE OF THE RANGE

EMS helicopters: ready for the Golden Hour

LOGBOOK

H175 : Welcome to the deep sea in Mexico



Helicopter solutions for humanitarian missions



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Helicopter solutions for humanitarian missions



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Vertical take-off and landing (VTOL) technology is unmatched in its ability to access the most remote areas, transport necessities quickly and evacuate injured people. It is in such emergency situations, where lives are at stake, that the helicopter comes into its own, and we feel great pride at being able to help people through our products.

At Airbus helicopters we work tirelessly to improve our range and offer helicopters that are able to meet the highest safety, availability and efficiency standards in carrying out these operations. Our 58 per cent share of the EMS market is a reflection of our quest for excellence

“The helicopter comes into its own in emergency situations where lives are at stake.”

Guillaume Faury

in this segment and encourages us to keep improving. Through the Airbus Helicopters Foundation, which has provided relief in 11 countries to date, we also play a direct role. The support we give involves sharing our expertise in identifying aircraft to meet needs, and in providing flight hours. In doing so, we draw on our network of customer centres around the world. Through this issue of *Rotor* magazine I hope to pay tribute to all the stakeholders – organisations, operators, pilots and authorities – who are collectively engaged in humanitarian helicopter airlift missions, and to assure them of our steadfast support.

IN THE SPOTLIGHT



WORLDWIDE

December 2016

The H175 now benefits from an increased 7.8 T MTOW*.

*Allowing customers to gain an extra 300 kg payload or increase the RoA by 40 NM.

CHILE WILDFIRES: FIREFIGHTING FROM THE AIR

Throughout January 2017, more than 90 wildfires raged across parts of Chile.

To help combat the fires, aid was sent by a host of countries including the United States, France, and Peru. Still, it has been an all-out effort for firefighters, land brigades, the Chilean military, and even civilian aircraft operators.

The Chilean Navy flew an AS365 Panther in the region of Pumanque, the then-epicentre of the fires, in mid-January. With bambi buckets slung to the helicopter's underside, they attacked active fires, supporting the work of land brigades and helping to contain the fires.

To help their countrymen during the worst of the fires, Ecopter joined the aerial fight with two H125 helicopters. Dispatched to Pirque, Alhue, Linares and Cajon del Maipo, the extra workload required coordination and effort beyond the call of duty on the part of its pilots, crew, maintenance and operations staff.



FRANCE H135 DELIVERY TO SAF HELICOPTERS

The French operator SAF Helicopters has received the first of two ordered H135s for air rescue. The helicopter will be used in Besançon in eastern France, where it will replace an EC135 T2. Before the rotorcraft is put into service at the beginning of March, it will be fitted with air rescue equipment from the Swiss company Aerolite. Besides air rescue, SAF Helicopters is also a helicopter operator for passenger transport and air work assignments. For these tasks, the company uses helicopters from the Ecureuil family and a Super Puma. Overall, SAF Helicopters operates over 55 rotorcraft in its fleet, which consists only of Airbus helicopters.

Rotor Magazine readership survey

The team behind Rotor Magazine works hard to bring you in-depth information on helicopter products, missions and services. Your opinions and feedback are very important to us to make sure we are meeting your evolving needs and expectations.

We'd appreciate 5 to 10 minutes of your time to complete the online Rotor Magazine readership survey.

> Go to the survey in Rotor On Line at www.airbushelicopters.com





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© Charles Abarr

WORLDWIDE **AIRBUS HELICOPTERS MAINTAINS MARKET LEADERSHIP IN 2016**

Airbus Helicopters delivered 418 helicopters in 2016, a 5% increase compared with 2015, against a challenging market backdrop. The company strengthened its lead in the civil and parapublic helicopter market while maintaining its position in the military market. Further, it logged gross orders for 388 helicopters in 2016, a stable performance compared to the 383 gross orders of 2015.

Highlights of 2016 included success in key military campaigns for the H225M, which was selected by Singapore and Kuwait, as well as for the H135/H145 family which was selected in the UK for military flight training. Last year also saw first deliveries of the new AS565 MBe Panther naval helicopter to Mexico and Indonesia and the first flight of the NH90 Sea Lion for the German Navy. On the civil side, the first H175 medium-twin helicopter in VIP configuration entered service in 2016, while the public services variant began flight-testing ahead of certification in 2017. A Chinese consortium signed an order for 100 H135s to be assembled locally over the next ten years. Certification of the Helionix-equipped version of the H135 was granted by EASA in November 2016, while flight-testing activities of the next-generation H160 continued at a steady pace throughout the year, paving the way for the first firm orders to be signed in 2017.

SERBIA **REPUBLIC OF SERBIA ORDERS NINE H145M**

The Republic of Serbia will acquire nine H145M helicopters from Airbus. The contract for procurement, associated services and related industrial cooperation was signed in Belgrade between Airbus Helicopters, the Ministry of Defence and the Ministry of Interior of the Republic of Serbia on 28 December 2016. In addition to the procurement of helicopters and the support solution including spares, tools and documentation, the contract also includes the transfer of dedicated technology for maintenance and repair tasks on the purchased helicopters. In parallel, the Serbian aeronautics plant, “Moma Stanojlovic,” near Belgrade will be certified as a maintenance centre for Gazelle and integrated into Airbus Helicopters maintenance network.



© Airbus Helicopters

USA **NEW UH-72A LOGISTICS SUPPORT CONTRACT**

Airbus Helicopters Inc. was awarded a contractor logistics support contract in December 2016 by the US Army to provide spare parts, material and engineering support for the Army’s UH-72A Lakota fleet of utility and training helicopters. The contract includes a base year and four one-year options, with a potential five-year value of more than \$967 million. Airbus Helicopters Inc. will provide the support at Army and National Guard bases in 43 states as well as in Kwajalein, Guam, Puerto Rico and Germany. The US bases include Fort Rucker in Alabama, where the UH-72A is operational as the Army initial-entry training helicopter. An initial contract installment of \$17.4 million has been exercised. Management of both UH-72A production and logistics is conducted out of the company’s headquarters in Grand Prairie, Texas, with production performed in Columbus, Mississippi.



© Christian Keller

GERMANY **BO105 CELEBRATES 50TH BIRTHDAY**

On 16 February 1967, the BO105 took its maiden flight in Ottobrunn in Munich. Designed as a lightweight multi-purpose helicopter of the two-tonne class, the BO105 then advanced to become the most innovative light-weight helicopter of the time thanks to its modern technology and materials. What made this aircraft particularly special? For the first time, the rotor of a helicopter was equipped with a rigid, articulated titanium rotor head and glass fibre-reinforced rotor blades. This so-called “Bölkow rotor” significantly reduced the maintenance effort compared to conventional rotor heads with impact and swivel joints, as fewer moving parts were required. In addition, the special rotor of the BO105 helped provide high agility and manoeuvrability, for which it is still known today. Another novelty was that this lightweight helicopter had two engines. The BO105 was therefore the pioneer of modern helicopter technology. The light, twin-engined H135 and H145 helicopters in particular benefitted from these technical achievements. The current successor to the BO105 by Airbus Helicopters is the H135. Since the first deliveries in 1970, over 300 customers worldwide have purchased around 1,400 aircraft. In total, the BO105 fleet has completed over eight million flight hours. Approximately a third of the entire fleet is still in operation today. Airbus continues to provide a comprehensive service for the light helicopter and guarantees the long-term supply of spare parts.

CHILE **FINAL H215M TO THE CHILEAN ARMY**

In early December, the Chilean Army took delivery of a 10th H215M, the last delivery in a project that began in 2008 with the purchase of 8 of these helicopters, to which 2 more were added in 2013 and 2014 respectively. The new rotorcraft will serve alongside the previous 9 in the Helicopter Battalion of the Chilean Army’s Air Brigade.

The army’s H215M have completed more than 10,000 flight hours in a large number of missions that range from the provision of aid to remote areas and medical evacuations to firefighting and disaster relief. The Chilean Army’s Air Brigade played a crucial relief role during the floods that hit the Atacama region in 2015, carrying out 56 missions to provide support for flood victims.



© Anthony Pecchi

The H215 offers a long range capability and a high seating capacity perfectly tailored for humanitarian and NGO operations.





HELICOPTER SOLUTIONS FOR HUMANITARIAN MISSIONS

Humanitarian and crisis response historically has been one of the fundamental duties of any nation, whether it be the deployment of aid workers or much-needed tools—for sometimes highly demanding missions. Such responses can be as advanced as providing helicopter solutions if they will effectively support the aid response.

With more conflicts and natural disasters worldwide, this sovereign duty has been put more recently in the hands of multi-national organisations and aid agencies to share resources and increase global coverage.

Due to the limitations of government assets available for crisis or humanitarian aid, these agencies have in recent years been shifting to using privately owned assets, especially for aviation, to conduct complex helicopter missions in harsh environments while still respecting stringent civilian airworthiness requirements.

Read on to learn how Airbus helicopters are put at the service of humanitarian agencies through specialised operators and the Airbus Helicopters Foundation.

Article: Belén Morant

Airbus Helicopters humanitarian operations consulting

In order to support its partner operators, Airbus Helicopters provides strategic, operational and financial advice on how to penetrate the markets of multi-national organisations such as the UN, WFP or EU. Coordinated by the company's business development department, from tender to fleet availability in operations, the consultants' role is to ensure that operators, driven by a cost-effective approach, shape the most realistic and technically high-scoring offer while keeping safety as a number one priority. The success of the humanitarian operations consulting approach has already been seen in Kosovo, Mali, and Afghanistan, and soon, in other demanding yet highly visible environments.



© Héliblue Hélicoptères



Romain Gauduchon, expert in emergency management for the Directorate-General for European Civil Protection and Humanitarian Aid Operations (ECHO).



© Lorette Fabre



© DR

“THERE IS A NEED FOR A SMARTER CONSOLIDATED LOGISTICS APPROACH”

Interview with Romain Gauduchon, an expert in emergency management for the Directorate-General for European Civil Protection and Humanitarian Aid Operations (ECHO).

While the helicopter has always been central to emergency operations, be they humanitarian, civil protection or peacekeeping missions, today’s context makes aid agencies more likely to rely on specialised operators with helicopters featuring high standards in safety, availability and efficiency.

What is the added value of using helicopters in emergency operations?

Romain Gauduchon: One common denominator of all emergency responses is the pivotal role played by logistics in the timely delivery of what is needed, where it is needed, to save lives. To that effect, the helicopter proves instrumental in many ways, not only allowing operators to serve “last mile” destinations, but also to carry out vital CASEVAC or SECUEVAC missions in benefit of humanitarian personnel—not to mention aerial mapping of the affected area.

A helicopter can go pretty much anywhere with a level of accessibility, manoeuvrability and versatility unmatched by other means of transport. Thomas Edison (1908) summed it all up: “The airplane won’t amount to a damn until they get a machine that will act like a hummingbird. Go straight up, go straight down and alight like a hummingbird.”

What are the performance criteria for helicopters engaged in humanitarian actions?

R. G.: Humanitarian agencies only charter helicopters from air operators

that are commercially licensed by their respective civil aviation authorities to conduct public transport consistent with the International Civil Aviation Organisation’s Standard Aviation Recommended Practices (SARP). The field realities of operating helicopters in complex operational environments may impose additional specific requirements that are more stringent than the general standards. To that effect, the EASA type certification for helicopters represents the guarantee that a high level of rotorcraft performance is designed at the manufacturing stage.

What are the main issues and challenges, current and future, for heliborne operations in the aid sector?

R. G.: Finding the right helicopter operator with the right asset at the right time, and who is willing to engage in complex emergencies, can prove quite difficult. In parallel, I see the reinforcement of local capacities as a main priority in the bid to increase the resilience of affected countries, as opposed to relying on external logistics intervention which is not always cost efficient and timely; in other words, having

to bring helicopters from outside by chartered plane. In that regard, the modus operandi of the Airbus Helicopters Foundation must be praised as it taps into local helicopter services to be first responders.

The global trend is here to stay. That is to say, more complex crises and natural disasters in the future, and less funding channeled to humanitarian undertakings. There is an overall need for a smarter consolidated logistics approach, notably in air operations which include the helicopter, to ensure modular heliborne solutions are readily available whenever and wherever needed. The private sector such as Airbus has a major role to play in achieving this goal. ■



Read the entire interview on Rotor On Line.



© Lorette Fabre

WHO ARE THE MAIN PLAYERS IN HUMANITARIAN HELICOPTER SUPPORT?

Helicopters perform vital missions for NGOs and international organisations for the deployment of humanitarian aid and peacekeeping missions. In these cases, helicopters are most commonly used to transport people and goods, for emergency medical evacuation and observation.

The United Nations' helicopter fleet (up to 200 aircraft in recent years) is a key asset in conducting humanitarian and peacekeeping operations. Helicopters are not owned by the UN, like other vehicles, but are contracted out to helicopter operators. With respect to peacekeeping operations, the UN, via the UN Procurement Division, subcontracts roughly 90 aircraft to civilian operators. Roughly another 80 units are contributed by the armed forces of member states to the UN's peacekeeping forces, known as the Blue Helmets, to keep the peace in conflict zones.

EMERGENCIES ON THE GROUND

Other types of humanitarian aid organisations, such as the Red Cross, Doctors without Borders or UN agencies such as the World Food Programme, tend to deploy

their aid in emergencies on the ground, with independent air coordination. They prefer to use civilian operators under framework agreements to ensure speed, autonomy and availability. Nowadays, roughly 50 helicopters operate on behalf of these organisations. For example, Babcock uses its two H155s for emergency evacuations by the Red Cross in South Sudan.

In the European Union, humanitarian aid is managed by the European Commission for Humanitarian Aid and Civil Protection (ECHO), which uses civilian operators for helicopter humanitarian missions. Operator Starlite's H215s were deployed as part of the European Union Training Mission in Mali (EUTM), a programme for training and evacuation missions in hostile territories in Mali. ■

H215 – Tailored for humanitarian duties

Within Airbus' Super Puma family, H215 workhorse helicopters are legendary for their rugged design, excellent payload lift performance, and demonstrated ability to operate in the most austere environments.

The H215 offers a long range capability and a high seating capacity (19 passengers plus two pilots within H215 long version) perfectly tailored for humanitarian and NGO operations. The H215 has already demonstrated its ability to perform medical evacuation in the frame of humanitarian missions with Starlite in Mali and in Kosovo for EU operations.

AN IMMEDIATE RESPONSE TO NATURAL DISASTERS THROUGH THE FOUNDATION

By making helicopters available to humanitarian organisations operating on the ground in the hours immediately after disaster strikes, the Airbus Helicopters Foundation plays an essential role in getting the best out of helicopters during humanitarian crises.

The Airbus Helicopters Foundation lends its support to humanitarian organisations that provide on-site assistance immediately following natural catastrophes, such as floods and earthquakes, by quickly making helicopters available to them. In the wake of catastrophe, the Foundation draws on the expertise of Airbus Helicopters and its entire network of customer centres to find the helicopter that is best suited for humanitarian missions, always with the goal of saving the maximum number

of lives. The Foundation has already provided a total of 310 hours of assistance for humanitarian missions in 11 countries (Mexico, Bolivia, Chile, Ecuador, Haiti, Dominica, Serbia, Bosnia, Philippines, Fiji, Vanuatu). Because it is also crucial in terms of both safety and efficiency that emergency response teams are specifically trained on helicopter missions, the Foundation also provides assistance with the training of medical and rescue workers in heliborne operations. ■



Read more about the missions facilitated by the Foundation.

On the ground in 2016



HAITI

Hurricane Matthew / October 2016

On 4 October, the eye of Hurricane Matthew, the most powerful hurricane on record in almost a decade, crossed the south-west of Haiti. Following the immediate aftermath, the Foundation was able to provide two AS350s belonging to an operator from the Dominican Republic, for humanitarian purposes. A bigger helicopter (AS365) was also available as required. Helicopter flights were intense during the first two weeks after the catastrophe and were used for emergency aid missions, transport of doctors and urgently needed supplies, and to assess the scope of the damage. The assistance of helicopters was also crucial for helping to restore access to drinking water.



ECUADOR

Earthquake / April 2016

Within twelve hours after the earthquake on 16 April 2016, the Airbus Helicopters Foundation was able to identify a Quito-based H125 helicopter operator and immediately put the helicopter at the disposal of humanitarian agencies on the ground in order to provide a significant number of flights for Ecuadorian rescue workers, performing a high number of missions in the days following the disaster. The Foundation also coordinated some flights performed with an H215 which flew to that area to further support the relief activities.



FIJI

Cyclone Winston / February 2016

The Foundation chartered an AS355 to perform a first assessment flight within the first 48 hours of the catastrophe. Many other flights followed as the Foundation left the helicopter at the disposal of rescuers for two weeks. The helicopter helped notably to transport humanitarian workers to inaccessible villages and to carry more than eight tonnes of humanitarian materials to the most severely damaged areas. These flights also led to the rapid identification of the most badly damaged schools, revealing urgent need for repairs for around 100 of them before they were able to re-open.

“SOLID TEAMWORK AND CAREFUL OPERATIONAL PLANNING”

With humanitarian missions becoming the domain of specialist companies, *Rotor* talked with helicopter operators to find out about the realities on the ground. Below, we hear from Babcock International and Starlite Aviation about operating in the humanitarian sector.

Article: Heather Couthaud

BABCOCK MCS GERMANY

Last year, engineering services giant Babcock International acquired Heli Aviation and put the German provider of humanitarian aid under the aegis of its mission critical services (MCS) business. Since 2013, Heli Aviation (now renamed Babcock MCS Germany) has been performing medevac missions with two H155 helicopters in Juba, the capital of South Sudan, on behalf of the International Committee of the Red Cross (ICRC). Missions include transporting cargo, moving Red Cross staff and transporting refugees, and evacuating the sick and wounded and others who have been affected by conflict.

Each helicopter flies more than 50 hours per month. Because Babcock’s area of operations is large, it’s common for the aircraft to fly for up to eight hours a day. They often travel more than 1,500 kilometres with several refuelling stops en route. Despite the often touch-and-go security situation, the operator avoids hostile areas wherever possible. “Together with the ICRC, the planning of our missions is done with great caution and takes into account not just distances and weather but also the security situation,” says Harald Lohoff, Head of Operations & Crew Training Manager, Babcock MCS Germany. “The conditions are

occasionally uncertain but we fly safe routes to avoid areas of military action.”

While challenges to flying in South Sudan are many, weather presents a particular worry. During the dry season, landing sites become hampered by dust – an irritant to both helicopters and crews, as well as impacting visibility. And because temperatures can reach into the high 30s (Celsius), the helicopters must perform close to the limits of their operating envelope. Performing in such a challenging environment requires the commitment of a dedicated crew: “it takes solid teamwork and careful operational planning from a group of people who deliver in exceptional circumstances,” says Lohoff.

The success of Babcock’s missions undoubtedly hinges on detailed scheduling and operational planning. However, there is no question the H155 is a key ingredient in the operator’s ability to provide humanitarian relief. “I am pleased with the way the H155 responds to the conditions we are operating in,” says Lohoff. “We demand a great deal from these aircraft and given the harsh environmental conditions, I expected more technical problems. The H155 hasn’t failed to give us the performance and reliability we need to carry out these critical humanitarian missions.” ■



Babcock MCS Germany performs medevac missions with two H155s in South Sudan.

© Paweł Krzysiek



Starlite Aviation supplied H215s for humanitarian purposes in Mali and Kosovo.

© Patrick Gertner

STARLITE AVIATION

With bases in both Ireland and South Africa, Starlite Aviation supplies helicopter services for a variety of commercial and humanitarian purposes. Flying operations in unforgiving environments such as Mali with high altitudes and intense temperatures, Starlite has been using H215 helicopters (formerly AS332 C1e) since 2014. “Such intense operations are possible thanks to the helicopter’s versatility in adapting to a host of different roles,” says Alan O’Neill, Group COO for Starlite. “Our first H215, fully equipped with intensive care equipment, has been used to support medevac operations in Kosovo for the EULEX mission and the second H215 for the European Union Training Mission (EUTM) in Mali.”

The capacity and ability of the H215 has been fundamental in allowing Starlite to function optimally in their humanitarian capacity, such as providing medevac to injured EUTM personnel following the terrorist siege on Bamako in 2015.

“The H215 is an ideal helicopter for humanitarian missions as it offers long range capabilities, power, speed and a large useful payload,” says Alan O’Neill. “The helicopters have provided exemplary performance and operational readiness throughout the 3 years Starlite have operated

them. The operational performance of these helicopters in Mali and Kosovo is proven.”

Both helicopters have since been leased to Starlite’s partner company, Air Center Helicopters, Inc. (ACHI), in preparation for US Department of Defence operations for personnel recovery and CASEVAC missions, among other duties. ■

Waypoint Leasing

In January 2017, Limerick-based Waypoint Leasing (Ireland) Limited announced plans to lease an Airbus H225 helicopter to Global Helicopter Service GmbH (GHS) for work in humanitarian and utility missions in Africa. Since 2014, GHS has operated humanitarian aid missions with such organisations as the United Nations/World Food Program (UN/WFP), and Médecins Sans Frontières/Doctors without Borders (MSF), mainly in the fight against the Ebola crisis in Sierra Leone and Liberia. The 11-tonne, twin engine H225 is well suited to the task of transporting passengers and cargo, as well as dangerous goods. “We believe that the performance and utility of the H225 put the helicopter in a strong position to deliver excellent capabilities in utility and humanitarian missions,” says Ed Washecka, Chief Executive Officer of Waypoint.

UP ABOVE





LIFE OF THE RANGE

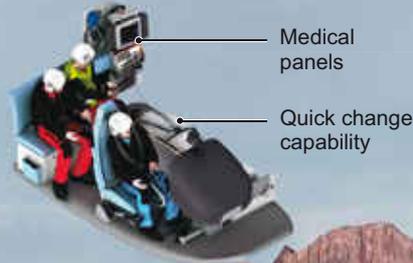
EMS

Emergency Medical Service

When immediate emergency assistance is needed, helicopters are irreplaceable. Airbus offers a range of helicopters recognised for safety and reliability, speed, large EMS cabins, low vibration levels, excellent manoeuvrability, the ability to land anywhere, and low operating costs.

H125

This most successful and proven single-engine helicopter can transport one stretcher and up to three medical crew members with necessary medical equipment.



Medical panels

Quick change capability

Almost 200 aircraft in service for EMS missions

Most economical EMS helicopter

Fenestron®

Lowest external sound level in its class



Outstanding visibility

Wide side-loading capability of 2.2 metres

H130

The H130 is the only EMS platform in its class to be spacious enough to accommodate two pilots, three crew members and one stretcher.

Two-pilot configuration

Full access to patient



Medical wall

EMS kits are available in two different configurations, depending on whether one or two pilots are flying, according to national regulations



Access to the patient's head from above for corrective measures

The golden hour, only a helicopter emergency medical service:



Reaches victims three-to-five-times faster than road units



Significantly enlarges a hospital's health security footprint



Improves survival rates



Can make the difference between life and death



Gives the same chance to everyone, wherever they are

Helicopters for two kinds of EMS missions:

Primary: In HEMS, having the speed and capability to land with a medical team as close as possible to the patient in life threatening situations is vital. The stabilised patient can be transported by helicopter to hospital quickly.

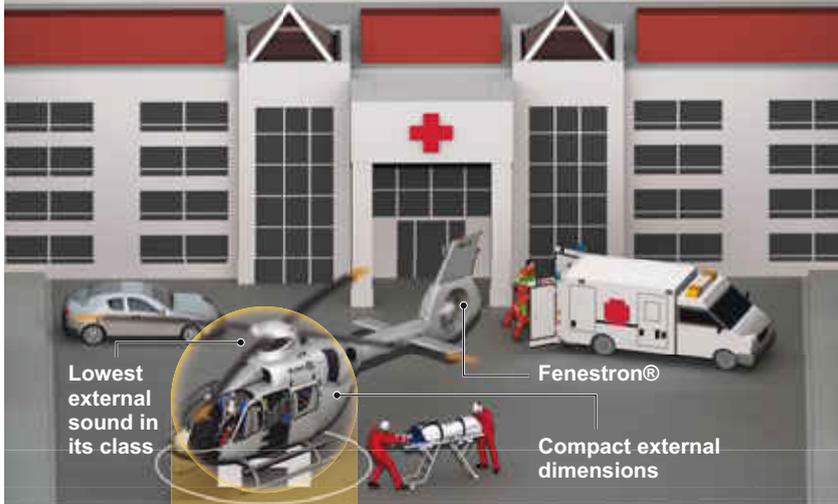
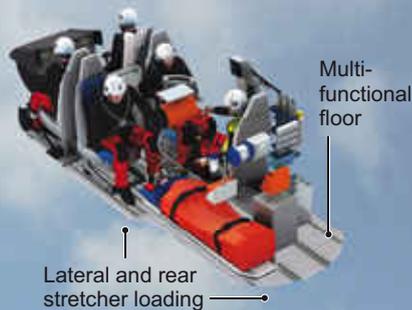


Secondary: Air ambulance flights provide a rapid response for urgent transfers of critical patients from one hospital to another.



H135

For primary EMS missions – meaning rapid interventions – the H135 is the first choice thanks to its versatile cabin design, with almost 600 units in service worldwide.



H145

The new H145 offers a spacious cabin that is flexible in making quick configuration changes, answering to primary and secondary missions as well as rescue operations with hoist.



The H145 is offered with a variety of dedicated EMS interiors, including single patient, dual patient or intensive care transport.



Infographic: © beatrizsantacruz.com
Source: Airbus.

Key figures

Ecureuil
H125 + H130

HEMS helicopters in service worldwide



Market share in its category



Airbus HEMS market share



Light twin
H135 + BK117 / H145



Welcome to the deep sea

Transportes Aéreos Pegaso is the first operator on the American continent to fly the H175, which now has a total of 160 flight hours. We join the H175 on its daily operations in the study of seismic activities.

Article: Belén Morant - Photos: Anthony Pecchi

The sun rises in Villahermosa, the capital of the State of Tabasco, Mexico. The temperature is 35 degrees Celsius and the humidity is around 90%. Pegaso's H175 is leaving the hangar to carry out its daily mission: transporting employees from WesternGeco, a division of Schlumberger. Nothing would be out of the ordinary were it not for the "office" of these workers, which is a ship located more than 220 nautical miles from the coast that maps the sea floor in search of geo-seismic information. As the daily costs of these ships are very high, they cannot afford to deviate from their route to change the crew. Therefore, the company relies on the H175 to transport their employees without having to change the ship's course.

LONG DISTANCE COMFORT

The H175 arrived at Pegaso's hangar on 16 August 2016. Since then, it has been operating in the Gulf of Mexico in deep sea explorations and seismic activity controls. "We fly an average of 40 to 50 hours per month and the end customer is highly satisfied with the capacity of the cabin, which allows us to transport more passengers and therefore reduces the number of rotations," explains José Erosa Zepeda, Director of Operations at Transportes Aéreos Pegaso.

Soon after beginning operations in the Gulf of Mexico in September 2016, Pegaso's H175 succeeded in carrying out a crew change with 4 passengers on the flight there and 6 on the flight back (plus the pilots), travelling a distance of 245 NM (490 NM there and back)

without refuelling. Until recently, this operation, which had comfortable fuel reserve margins for safety reasons at all times, would only have been possible with a heavy helicopter.

A NEW ADDITION TO THE PEGASO FAMILY

After more than 6 months of operation in Mexico, the H175 has now been perfectly integrated into the Pegaso family, who have been operating Airbus helicopters since 1981 and have a fleet of 27 machines of this brand in service. Today, the Pegaso team has only good things to say about the H175: "We consider the H175 to be the best option for offshore flights longer than 140 NM with redundant safety systems that make the crew feel protected. It performs a very smooth and fast flight and the passengers have already told us that they are comfortable onboard," explains José Erosa. "Another key advantage of the H175 is the Helionix avionics suite. This is a great support to the crew as it helps them to work in the cabin, access information and understand the flight processes. It is an excellent helicopter for missions in the Gulf of Mexico." The H175 returns to the hangar after it has dropped off the seismic exploration company's employees. The maintenance team now has to give special attention to the care of the systems so that they aren't impaired by the humidity and saltpetre that are typical of the Gulf. Maintenance of the rotorcraft is essential and Pegaso, as an Airbus authorised service centre, is an expert in the area. The H175 is ready to set out for the ocean once again and take on the deep sea. ■

- 1 - José Erosa Zepeda, Director of Operations at Transportes Aéreos Pegaso.
- 2 - The vessel is located more than 220 nautical miles from the coast.
- 3 - Maintenance of the rotorcraft is essential and Pegaso, as an Airbus helicopters authorised service centre, is an expert in the area.
- 4 - The ship maps the sea floor in search of geo-seismic information, and cannot afford to deviate from their route to change the crew.
- 5 - Pegaso has been operating Airbus helicopters since 1981 and have a fleet of 27 machines of this brand in service.



H175



- Capacity: 2 pilots and 16/18 passengers
- Powerplant: 2 Pratt & Whitney PT6C-67E with FADEC
- Max. cruise speed: 274 km/h (148 kts)
- Range: 1,096 km (592 NM)
- Endurance: 5 h 40 min



MISSION



© Airbus



© EH1/67 Pyrénées



© EH1/67 Pyrénées

1 - The conditions under which the French Army's Caracals are engaged in the Sahel are extremely hard.

2 - The decisive moment when, in flight, the supply pole will make contact with the basket of the refueller.

3 - In-flight refuelling by night is now one of the techniques used by the French Air Force's Caracals.

FRANCE

A long night

In May 2016, two Caracal rotorcraft of the 1/67 helicopter squadron "Pyrenees" of the French Air Force were used in combat as part of Operation Barkhane. A new chapter was opened in the history of the helicopter.

Article: Alexandre Marchand

"Storm up ahead!" someone shouts, and all heads turn. From the east, a wall of sand had appeared out of nowhere and rises rapidly in the sky, relentlessly making its way towards us. And we are meant to be taking off this very evening!

The sudden arrival of this tsunami of dust is a brutal reminder that it isn't just the jihadists lurking in the mountains only a few kilometres from our base that pose a threat. In the middle of the desert, the sandy conditions can also deal their share of nasty surprises. For two weeks now, we have been deployed at an advanced base of Operation Barkhane, right near the combat zones. Two Caracal helicopters, two crews, a technical team as small as possible and, last but not least, 80 flight hours in difficult conditions and blazing temperatures reaching close to 50 degrees Celsius during the day. The Caracal aircraft have worked wonders, increasing transport, medical evacuation and intelligence missions as well as commando raids. The time has come to return to our base behind the lines in N'Djamena, 2,000 kilometres to the south-east of our current position.

A MIX OF BRAVERY AND SAFETY

For this return flight we could have done the same as for our arrival: 48 hours of ferrying and numerous stops to refuel. We opt for bravery and, to a certain extent, safety: our return will be performed at night, in one go, and without stopping, instead employing in-flight refuelling. We have mastered this technique but it has never been used in a night-time operation before. There's always a first time for everything, right?

We set off late in the night. The enemy is aware of our presence. In the past they have greeted the French base with rocket fire, luckily always off target. They could attempt an attack at the moment we leave, when we

would be at our most vulnerable. The night will camouflage us. When we take off on patrol, the aircraft is almost 11 tonnes, its maximum weight. We fly using night vision goggles, all lights turned off. Ten minutes later we have reached flight level eight-zero (altitude of 8,000 feet, about 2,400 metres), out of range of the Kalashnikovs. The night is very dark, no moonlight, and the sand in the air masks the horizon. Our night vision goggles only reveal flat terrain as far as the eye can see. But there's no need to worry: our inertial measurement units constantly recalibrated via GPS know where they're going and the autopilot has all our confidence for this very long flight. Neither the night, in-air turbulence nor the absence of navigation landmarks on the ground unsettle us. We are calm.

After just over 2 hours and 30 minutes of flying, it is time for us to meet with our tanker aircraft, an MC-130J of the US Air Force, in mid-air. We refuel as we'd learned in training: not a single word spoken over the radio, simply a few brief exchanges of colour codes. Our two Caracal helicopters guzzle in time. Each takes about 2 tonnes of fuel and then disconnects. Our tanker leaves us and returns to its base. We continue our course, racking up degrees of longitude.

A FLIGHT FOR THE HISTORY BOOKS

The day is breaking in front of us when we refuel for the second time. After 5 flight hours we arrive in East Niger. Another 2 tonnes of fuel for each aircraft to get us through the home straight. We can now make out Lake Chad glistening in the sun. The Chadian capital is behind it. We slowly make our descent. We land, taxi the aircraft and finally park. On the instrument panel, the FMS displays 8 hours and 32 minutes of flight time and 1,111 nautical miles travelled. ■

"The Caracal aircraft have worked wonders, increasing transport, medical evacuation and intelligence missions as well as commando raids."

A crew member of the "Pyrenees."

Sales, support and manufacturing for a growing region

Airbus Helicopters in Mexico has taken steps in recent years to cement its footing in the aeronautic industry, making strides in flight safety, manufacturing, and market presence. A detailed look below.

Article: Heather Couthaud

Airbus Helicopters' presence in Mexico spans more than fifty years, beginning in 1964 when deliveries of the first Alouette helicopters to the Air Force and the Presidential Air Transport Unit launched a long and successful relationship. During the intervening years, the manufacturer's customer centre has played an important role supporting the region. More than 460 Airbus helicopters ply the skies here, among them the Ecureuil, popular with civil protection and emergency medical services (EMS); the H145, used in Oil & Gas; the Dauphin, employed for private, business and VIP aviation; and the H225 and its military variants, the H225M and Panther, for air force, navy, and government flights. Making its debut in the region last year, the 7-tonne class H175 took up service with operator Transportes Aéreos Pegaso for Oil & Gas and seismic exploration.

Employing 170 people at its Mexico City headquarters and 200 at its Querétaro location, the customer centre handles the bulk of sales, support and manufacturing for the growing region. In addition to the H175, 2016 saw significant deliveries. The Mexican Navy received the region's first upgraded Panther variant, the AS565 MBe – an order for ten aircraft to be filled by 2018 – as well as two additional H225 Super Pumas. “Both services, the Air Force and Navy, have shown complete support in the fleet,” says Francisco Navarro, CEO of Airbus Helicopters in Mexico. All told, some eleven H225M aircraft are in operation with the Mexican Air Force and three with the Navy, while a fleet of fourteen Panthers will outfit the Navy by 2018.

Such deliveries are a positive sign particularly in the military sector, where an historically erratic market places challenges on manufacturers. The uncertain geopolitical environment coupled with a weak Oil & Gas market play heavily on decisions for military acquisitions. But the country can absorb more medium and heavy helicopters, particularly in the armed forces and police. “It's clear

that Mexico with its size, its geographical situation and its security circumstances will need more helicopters,” says Navarro. Replacement needs for aging and obsolete fleets are just one example where Navarro sees light helicopters filling the gap.

A TRAJECTORY FOR GROWTH

The situation in the country's civil sector is considerably more predictable. One of the most promising markets is corporate and VIP. With congestion in megacities like Mexico City, helicopters are increasingly viewed as a solution for private and business aviation needs. A similar case is faced by emergency services; traffic is a critical challenge in getting patients to care. In contrast to inner-city problems, reaching Mexico's isolated regions is a different matter – one that helicopters can and do meet with greater regularity. Market opportunities like these place the country on an exciting trajectory for growth.

One of Mexico's most recent achievements has been its contribution to flight safety. In 2016, thirteen safety roadshows were held in Mexico, Bolivia and Brazil. These workshops, which bring operators, authorities, and Airbus together in the aim of encouraging practical solutions to safety issues, have cut down on the region's accident rate. Perhaps most noteworthy is the country's role in manufacturing. The industrial centre's 12,000 square metre facility at Querétaro, inaugurated in 2013, produced over 1,200 emergency exit hatches and 500 bulk cargo doors last year for the Airbus A320 family. Built to absorb up to 500,000 working hours and to be the single-source production site for jetliner and helicopter structures, the site draws upon an excellent relationship with the local government. “We are very happy with the position taken years ago of establishing the plant in Querétaro,” says Navarro. ■

1 – The Mexican Navy received the region's first upgraded Panther variant, the AS565 MBe.

2 – Employing 170 people at its Mexico City headquarters, the customer centre offers support activities for the growing region.

3 – Francisco Navarro, CEO Airbus Helicopters in Mexico.

“We have an excellent relationship with the local government and we are very happy with the position taken years ago of establishing the plant in Querétaro.”

Francisco Navarro,
CEO Airbus Helicopters
in Mexico.



1

Airbus Helicopters in Mexico

- **Founded:** 1982
- **Headquarters:** Mexico City
- **Manufacturing centre:** Quéretaro
- **Employees:** 370
- **Fleet:** 460 helicopters supported, including H125, H130, H135, H145, H175, Dauphin, Panther and H225
- **Activities:** Sales, manufacturing, support and training for 24 countries in Mexico, Central America, the Caribbean and South America
- **Market share:** 40% civil
- **Training:** Heli Escuela, devoted to ab initio, pilot and technician training



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2



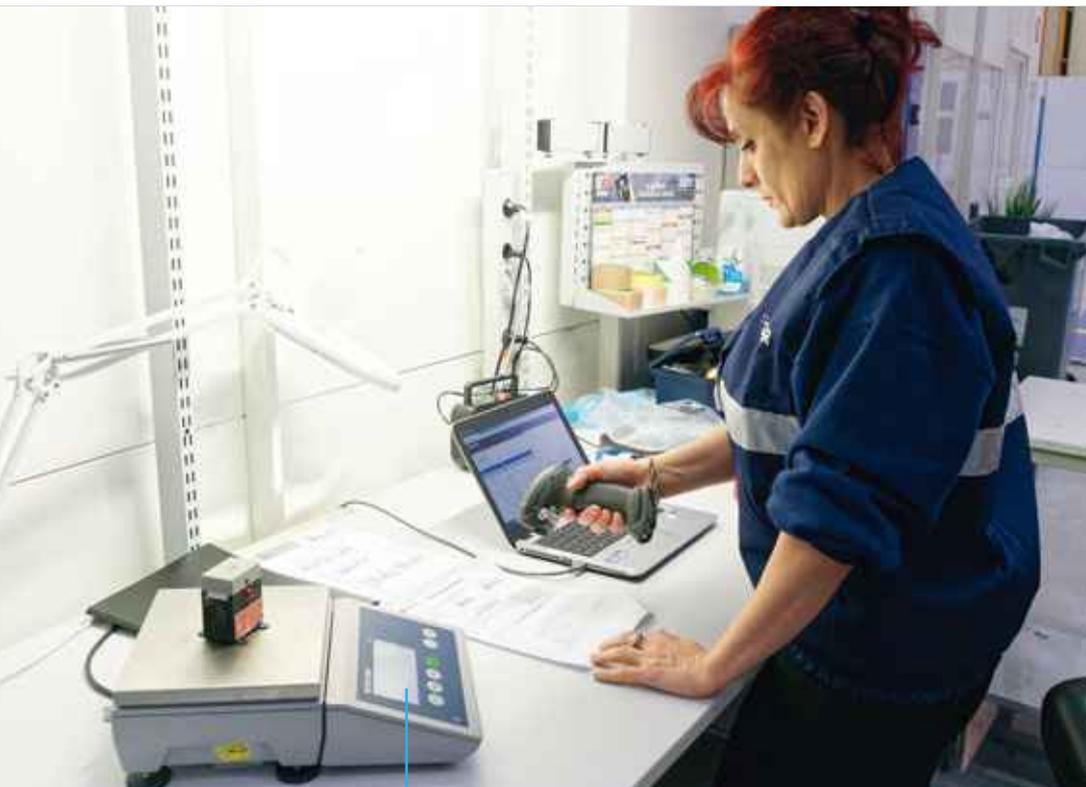
© Airbus Helicopters in México

3

Spare parts at the right price

After listening to customers' expectations regarding the consistency of spare parts pricing, Airbus Helicopters has decided to change its pricing methodology, based on the perceived value of parts.

Article: Julien Duboelle - Photos: Airbus / Thierry Rostang



INVESTMENTS TO REACH THIS LEVEL OF PERFORMANCE

To carry out the project in the best conditions and to keep the process going, Airbus Helicopters invested in two laboratories and teams, both in France and Germany, to physically analyse parts in order to evaluate their perceived value. The parts are also photographed to share them with customers through a digital catalogue. This catalogue, available online through Keycopter, is added to and updated every week. ■

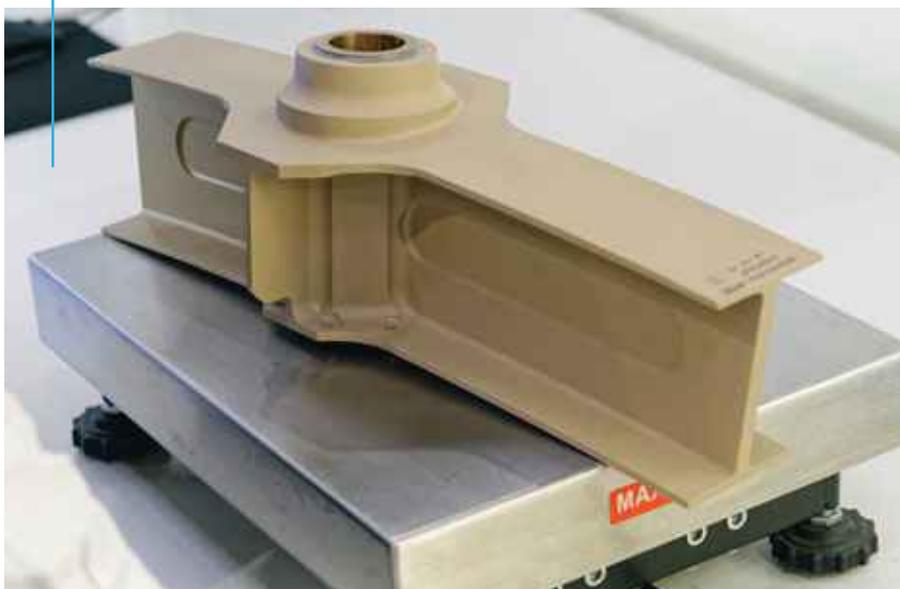
WHAT ABOUT THE ULTIMATE PRICE OF THE PARTS?

In response to customer constraints, discussed particularly in customer focus groups, and to better meet their needs, Airbus Helicopters has decided to return to its practice of putting out an annual publication of prices on 1 January. Today, almost 50 parts families have been created and half of the reassessed parts have seen their prices decreased. In addition, a strong customer care process has been implemented to provide constructive feedback on specific customer comments. ■



RESPONDING TO CLEAR CUSTOMER EXPECTATIONS

Analysis has begun on the technical and physical attributes of each part, such as the size, weight, complexity and manufacturing material. Technical experts group them by families, to then compare their value. This methodology makes it possible to obtain new consistent prices for all parts of the same family. Prioritising parts to reassess their value is done by focusing on those that customers order on a regular basis. Since April 2014, the prices of 36,000 P/Ns have already been reassessed, which accounts for about 80% of the volume of parts sold. In 2017, the objective is to reach 51,000 parts. ■



THREE YEARS OF TRANSFORMATION

In 2013, Airbus Helicopters launched an ambitious transformation to make tangible improvements that were in line with company priorities. They included improvements to quality and safety, customer satisfaction, competitiveness, and a focus on people. After 3 years, 62 projects have been completed by dedicated teams. 18 directly applied to customer satisfaction and are delivering results today.

3% of parts

were delivered late in 2016 against 17.1% in 2013.

79% of technical requests are answered within five days against 40% in 2013.

A technical support service

that is available 24/7, 365 days a year, through 3 hubs in Dallas, in Europe, and in Singapore, to answer questions rapidly, around the world.

Better cooperation

with customers, to share flight data and improve the availability of their fleets.

Implementation of a dedicated front office,

comprising both a customer support manager and a sales manager, working in close cooperation to satisfy every customer.

Customer centres

were also transformed to improve and standardise company practices, in order to offer the same level of service to every customer around the world.

Connected services: digital transformation

The Airbus Helicopters ecosystem, its technical, operational and regulatory environment, is today in full “digital transformation.”

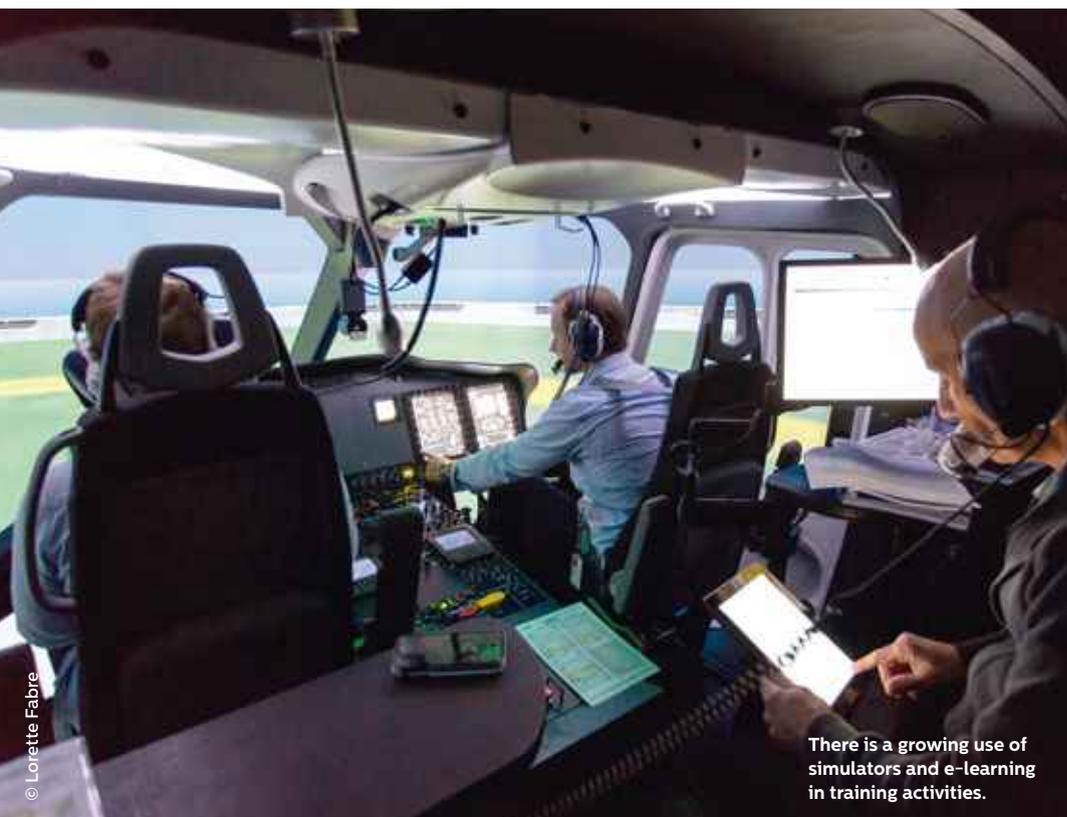
Article: Alexandre Marchand

“This is the result of three powerful forces,” says Antoine Rivet, head of Connected Services at Airbus Helicopters. “We are firstly driven by the emergence of new information technologies that offer many new tools (4G links and satellite communication, ‘Big Data’ visualisation tools, augmented or virtual reality, etc.) to work differently. At the same time, the market is

also pushing us towards this digitalisation, with customers displaying increased expectations as regards responsiveness, availability of their fleet and reduction of their operating costs. Finally, the regulatory authorities are also stakeholders in this transformation, particularly due to the increased requirements as regards data recording.” ■



Some applications are connected to the helicopter and are intended to assist customers in daily activities.



There is a growing use of simulators and e-learning in training activities.

1

What is the digital strategy for our support & services business lines?

“The digitalisation and automating taking place in our main support and services business lines seek to improve our performance and to reduce our costs and cycles,” Antoine Rivet says, citing the growing use of simulators and e-learning in training activities. Another example is the use of remote diagnostic assistance tools as an alternative to the secondment of a technical representative. Or, again, optimising the planning and management of helicopter maintenance with the use of specialised software. Beyond the ongoing deployment of already tested solutions, new projects based on augmented or virtual reality technologies are also being studied. They could soon find their place in the MRO activities of Airbus Helicopters or its customers, upon request. ■



© Lorette Fabre

2 The development of numerous digital applications to benefit customers

Beyond the automation of its internal processes, Airbus Helicopters pursues the development of its web and mobile applications portfolio, some of which are connected to the helicopter, intended to assist customers in their daily activities and to facilitate the exchange of data with Airbus Helicopters. The HCare Connected Services offer thus serves to complement functionalities already available in the customer Keycopter portal (e-request, e-ordering, e-warranty and e-techpub). It combines two big families of applications, HCare Flight for pilots and HCare Fleet for technical and maintenance staff, gradually deployed over all of the products in the range (see Box). ■

HCARE CONNECTED SERVICES

An increasingly rich portfolio of connected services

- The HCare Flight portfolio dedicated to pilots includes applications covering the entire spectrum of their responsibility, in particular all flight preparation tasks (Flight Planner, Flight Perfo and Flight Balance).
- The maintenance and logistics support teams also have their own tools combined in HCare Fleet, in particular Fleet Keeper (electronic tech logbook), Envision (maintenance and logistic management software) or even Web Failure, an assistance tool for diagnostics and troubleshooting.
- It should finally be noted that certain of these applications are specific to Airbus aircraft, while others, adapted to customers using mixed fleets, allow the management of different manufacturers' aircraft.



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3 Always more intelligent services, thanks to Big Data

Customers benefit from a return of information, due to Airbus Helicopters specialists' analysis of a growing volume of a growing volume of data recorded in airborne systems or exchanged with customers – thanks to web and mobile applications, and their correlation with manufacturer data. Customers will thus be able to visualise and analyse their overall performance from relevant indicators and those of their crew, or even more accurately manage their maintenance, operations, and fleet availability. A range of complementary services with growing added value will also allow customers to position themselves against the competition, to receive alerts and, ultimately, to be proposed advice and corrective solutions, as well as tools to assist them when making decisions and anticipating events. ■

Imagination to power

Ecocopter doesn't like to go unnoticed. They are known globally for their helicopter designs, which have gone around the world because of their originality and exclusive hand-painted airbrush drawings. Ecocopter is now the protagonist again because of the uniqueness of their new missions, ranging from the Helibike in the Andean mountain range to de-icing vineyards with a helicopter.

Article: Belén Morant - Photos: Ecocopter



ANOTHER YEAR IN DAKAR

Support for the competition is now in its 8th year, with another 8 H125s 100% mobilised during 3 weeks of racing, which entails 45 to 60 days of preparation before, during and after the event. The H125s are basically used for filming, emergency evacuations, a helicopter for the race director and transporting people. They have flown around 600 total hours in Dakar 2017 in very demanding, dusty, and sandy conditions. "The logistics for the Dakar rally are very complex. We mobilise 24 people to ensure the maintenance and all of the logistics necessary for safe and correct operation, all without a fixed base, just a motorhome that serves as our base as we follow the race," explains Marcelo. "Dakar is an experience we love. Filming the cars, motorcycles and trucks so close, with incredible landscapes is a unique experience. In addition, the dynamic of companionship and camaraderie that is generated between the drivers of land vehicles and helicopter pilots is really great." ■

AFTER THE SUCCESS OF HELISKI, COMES HELIBIKE

Do you dream of going down the Andes on a mountain bike? It's never been so easy. Through heli-skiing in the Chilean Andes, Ecocopter has witnessed the growing success of sport tourism in South America. The Helibike, which allows the transport of up to five bicycles by helicopter to inaccessible peaks, emerged as a great opportunity after its association with the Chilean mountain bike champion, Diego Puelma. Once at the top, passengers just have to charge downhill on their bikes. "The greatest challenge of carrying out this idea was finding a device to transport the bicycles that would meet airworthiness requirements," explains Marcelo Rajchman, General Manager of Ecocopter. "Finally, we found some racks in New Zealand that fit the H125. With them, we can transport five bicycles and five passengers, generally enthusiasts of Chilean mountain biking who come to us in search of new thrills." ■





“All of our helicopters are hand-painted by an artist, who uses airbrush techniques, with diverse drawings and elements related to science, as a way to show and teach science in a different way. Our latest H125 is inspired by a Nobel Prize for neuroscience, but we have others that illustrate the human genome, space, and a tribute to Darwin, among other incredible designs.”

Marcelo Rajchman,
General Director of Ecocopter.

In the field



MINING

- **Where:** Throughout Chile
- **Since:** 2003

“We participate in all stages associated with mining, including mining exploration, where we use the H125 to transport exploration staff, geologists, drilling staff, machinery, supplies and everything necessary to an exploration area, without the need to build roads that alter the ecosystem. The H125 is unique for performing cargo load jobs at altitude and in conditions that would be very difficult for any other helicopter,” says Marcelo.



FROST CONTROL

- **Where:** Central Chile
- **Since:** 2010

Between October and November, when different crops in Chile are in flower (vines, cherry trees, cranberry bushes, among others), frost can destroy an entire year’s harvest. The H125s, which are kept in the vineyard and are on alert in case of frost, fly close to the ground at sunrise, stirring up the air with the movement of the blades, meaning that temperatures don’t freeze the budding flowers or small fruits in their most vulnerable state.



POWER

- **Where:** Throughout Chile
- **Since:** 2004

From building towers, to supporting the study and engineering of power plants, to performing preventive inspections of high-voltage power lines, all are carried out by the H125, with thermal imaging cameras and various equipment that make it possible to identify the points where problems in the line may emerge.

THINK SERVICE

Because you need your helicopters to be available around the clock, we have the largest network of helicopter training, logistics and maintenance centers across the globe.

Airbus - Ready to serve you 24/7.



AIRBUS