

Rotor

BY AIRBUS HELICOPTERS

SERVICES

HxCare, 100% at the service of customers

LIFE OF THE RANGE

H135, quiet, reliable, and versatile

LOGBOOK

First H225 SAR operating in Spain



A multidisciplinary military range
For all theaters

08

FEATURED ARTICLES

The helicopter:
unparalleled tactical mobility

© Anthony Pecchi



Communication Director: Yves Barillé (Publication Director), Editorial Director: Pascale Fleury, Editor in Chief: Belén Morant (contact.rotor-magazine.ah@airbus.com), Iconography: Jérôme Deulin, Translation: Burton, Van Iersel & Whitney, Munich. Published by: **because**. Printed by: SPI, N° ISSN 1169-9515 (Copyright Airbus Helicopters 2015, all rights reserved). A-Star, Alouette, Arms, AS332, AS350, AS355, AS365, AS532, AS550, AS555, AS565, Bluecopter, Blue Edge, Blue Pulse, BK117, B0105, Cigalhe, Colibri, Cougar, Dauphin, Djinn, Dolphin, H120, H130, H135, H145, H155, H175, H225, H135M, H145M, H225M, H160, Eco-Star, Ecureuil, E-Techpub, Eurocoat, Fenestron, Fennec, Frelon, Gazelle, Horizon, Indoc, Keycopter, Lama, M'arms, Miniarms, Minihums, Panther, Puma, Sarib, Sirina, Spheriflex, Starflex, Steadycontrol, Stylence, Super Puma, Thinking without limits, Tiger, Tigre, Twin-Star, Vemd, Vertivision, VSR700 are trademarks of Airbus Helicopters. Magazine printed on Triple Star, paper originating from sustainable forests.

**IN THE SPOTLIGHT**

4/Poland pre-selects
the H225M Caracal

360°

5/Overview of
Airbus Helicopters events

UP ABOVE

18/The H145 passes above
volcanic splendor on Reunion
Island

IN ACTION

20/On a mercy mission
22/The Saint Bernard of the skies

LIFE OF THE RANGE

24/H135

SERVICES

26/HCare
100% at the service of customers

BEHIND THE SCENES

28/A test center that's one of a kind

AROUND THE WORLD

30/Airbus Helicopters Foundation:
a mandate to save lives

LOGBOOK

32/Under the watchful eye
of Nemo

OFF THE BEATEN TRACK

34/A safe port of call



For more information
www.airbushelicopters.com



Follow us on
[twitter/AirbusHC](https://twitter.com/AirbusHC)



Join us on
[facebook/AirbusHelicopters](https://facebook.com/AirbusHelicopters)



Follow us on
[youtube/AirbusHelicopters](https://youtube.com/AirbusHelicopters)



© Lorette Fabre

We live in a fast-changing environment, and Airbus Helicopters wants to actively contribute to this change by preparing for a better future. The 2015 Paris Air Show was a major milestone for us, at which we were delighted to announce the maiden flight of the H160 on the opening day.

Our H160, which is the first helicopter of the H generation, will support this better future by being a good citizen with strong personality: lower sound levels, less fuel consumption, fewer emissions, more performance, beautiful design, and cost efficiency. We are very excited to see this new helicopter growing and preparing for its next phases.

The Paris Air Show was also the opportunity to show you, our customers, everything we are doing to respond to your needs with our

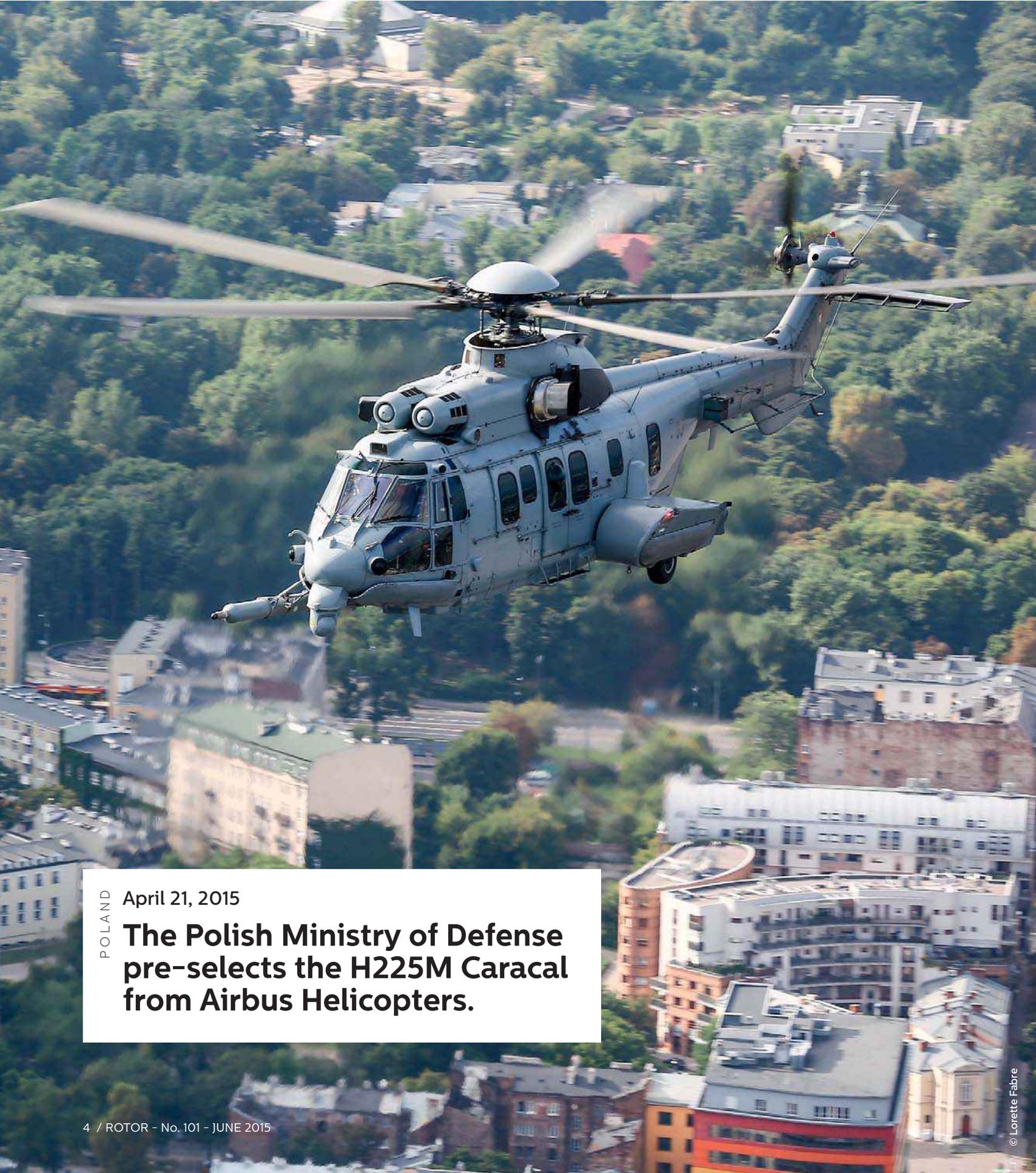
“Contributing to change by setting new standards.”

Guillaume Faury

current range, from the civil H135 and new H175, to the military H145M and H225M – which has widely proven its operational capabilities in real combat conditions, as you will learn more about in the following pages.

Another glimpse toward our future was the announcement of the launch of the concept phase of a new project: the X6, which will benefit from the heritage of our latest rotorcraft – including the H175 and H160. In the next decade, this helicopter will become for the heavy segment what the H160 is today for the medium: a game changer.

With this new generation, relying on Airbus Helicopters' transformation, we continue our journey to becoming the *Airbus* of helicopters, setting new standards and paving the way for a better helicopter industry in the coming decades.



POLAND

April 21, 2015

The Polish Ministry of Defense pre-selects the H225M Caracal from Airbus Helicopters.

INDIA

H130 ENTERS THE INDIAN MARKET

Airbus Helicopters recently signed orders for its H130 with launch-customers Sanjay Ghodawat Group and Global Vectra Helicorp Ltd. (GVHL), for one helicopter each. The two customers have introduced the H130s for passenger transport services in Kolhapur and Delhi, respectively. The Sanjay Ghodawat Group is a diversified conglomerate with a presence in consumer products, energy, mining, chemicals and agribusiness. GVHL is India's largest private helicopter company, which will assign the H130 to Birdie – its onshore operations division offering charters and religious tourism services.



© AH India

FRANCE

LOW-SOUND IFR OPERATIONS

The final stage of a seven-year project devoted to helicopter approach procedures successfully finished by minimizing environmental impact. Airbus Helicopters used an H175 to fly low-sound IFR approaches to the heliport of Toulouse-Blagnac airport in south-western France. The environmentally-friendly approaches were flown using accurate lateral and vertical guidance provided by EGNOS (European Geostationary Navigation Overlay Service), and the European Satellite-Based Augmentation System (SBAS), in the presence of airplane traffic simultaneously approaching and departing airport runways. Airbus Helicopters is the world's first helicopter manufacturer to demonstrate such helicopter-specific IFR procedures at a heliport located at an airport with commercial airline traffic.



© JF Bramard

© Charles Abar

Transportes Aéreos Pegaso renews its confidence in the H145.

MEXICO

FRAMEWORK CONTRACT WITH PEGASO

The framework contract recently signed in Donauwörth with the Mexican operator governs the details concerning an order for new H145s for the next seven years. The first order could be signed before the end of the year and the first delivery expected near the end of 2016. This contract marks a new chapter in the successful collaboration uniting Airbus Helicopters and Transportes Aéreos Pegaso for more than 30 years.



© Anthony Pecchi

PERU & BOLIVIA

H145 WRAPS UP HIGH AND HOT TESTS

The H145 took to the skies above Bolivia and Peru at the beginning of May for high and hot tests. The tests serve to increase the H145's flight envelope at very hot temperatures and high altitudes. The altitude tests were performed at the La Paz/El Alto airport, at an elevation of 13,325 ft above sea level and conditions of up to ISA+25°C. Additional tests were performed at an elevation of 17,000 ft. The emphasis of the flight tests was on performance and controllability. The results exceeded expectations and will help establish the maximum takeoff and landing altitude for the helicopter up to 20,000 ft.





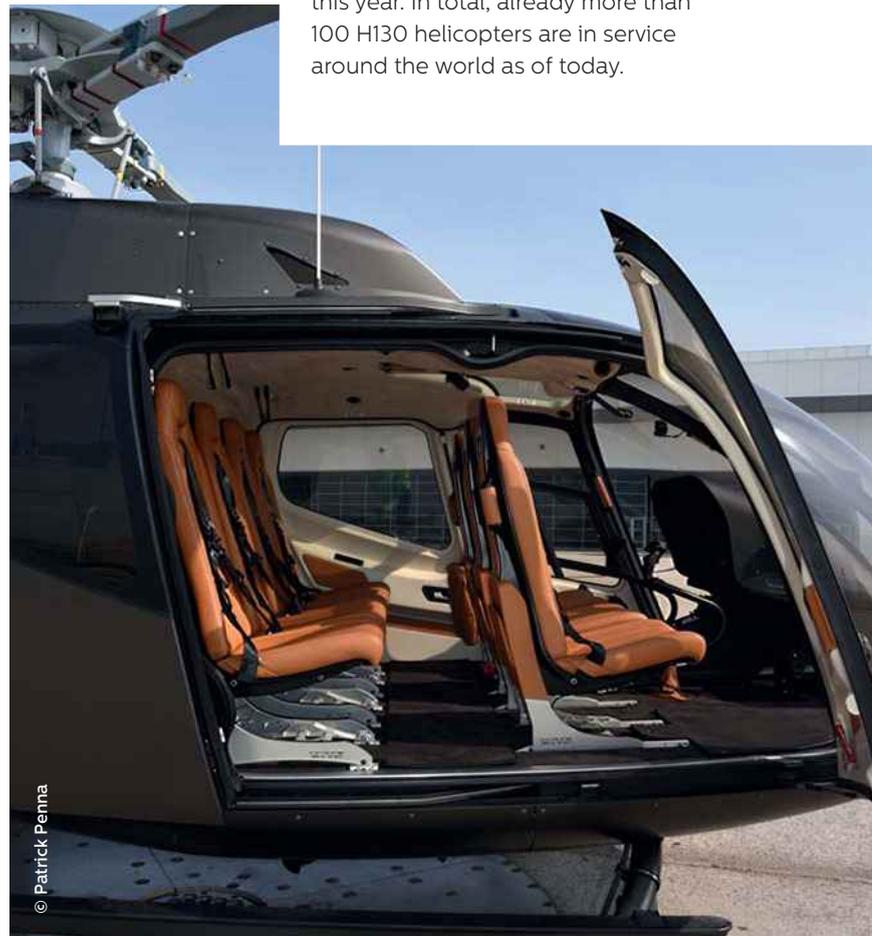
© Clément Mahoudeau

WORLD THE H PILOT CLUB

The H Pilot Club, sponsored by Airbus Helicopters, has been launched to officially represent the global community of pilots and flight mechanics certified on, and owners of, Airbus Helicopters rotorcraft. The idea: to bring together both civil and military vertical flight enthusiasts of all missions, all aircraft and all locations around the globe. The H Pilot Club offers its members the opportunity to exchange about innovations in matters of helicopters and flight, as well as to share best practices in use today. This new community of enthusiasts will enjoy access to a calendar of meetings and events throughout the year. Get to know more about the club at www.hpilotclub.com, and become a member of the community in your own right.

EUROPE SUCCESSFUL ENTRY INTO SERVICE OF THE FIRST H130 STYLENCE

The first H130 in Stylence configuration has been delivered to a European customer end of March. This new version tailored to the needs of private and business aviation features an elegant cabin and offers smooth flights with low vibration and sound levels. Furthermore, the H130 family will continue to grow with an aerial work configuration expected this year. In total, already more than 100 H130 helicopters are in service around the world as of today.



© Patrick Penna



© Anthony Pecchi

BRAZIL

HELIBRAS FLEET CENTER FOR OIL & GAS CUSTOMERS

Helibras has created a new structure to support operators who transport workers and materials to offshore oil platforms located along the Brazilian coast. Installed in Rio de Janeiro, the Fleet Center counts on a multidisciplinary team from Helibras and Airbus Helicopters to perform technical support for a fleet which logs a large number of daily flight hours and which demands high aircraft availability. Dedicated to its oil and gas clients, the Fleet Center team can request support from other divisions of the company in order to assure a high level of fleet availability and operational safety.

GERMANY H145M CERTIFIED BY EASA

Airbus Helicopters' H145M was certified by the European airworthiness authority EASA (European Aviation Safety Agency) on May 15. This certification clears the way for the military type approval, and for the initial two deliveries of this helicopter before year-end to the Bundeswehr (German Armed Forces), who have ordered 15 rotorcraft. First deliveries for the second H145M customer, the Royal Thai Navy, will begin in 2016.

The H145M was certified by EASA on May 15.



© Charles Abarr



© Frédéric Lett



Airbus Helicopters' strength lies in the complementary nature of its rotorcraft.

THE HELICOPTER: UNPARALLELED TACTICAL MOBILITY

Whether it's on the front lines or in a supporting role, in broad daylight or under the cover of darkness, the helicopter has become a prime player in military theaters around the world. Through its unrivaled versatility and vast range of operations, it can respond to a variety of situations. Knowing how to provide comprehensive solutions to these operational needs, knowing about military issues so as to anticipate them over the next years, are Airbus Helicopters' essential qualities. They allow the company to place its impeccable know-how at the service of armies, air forces, and navies on the five continents.

Article: Alexandre Marchand

FEATURED ARTICLES

“The days when engineers could get together and draw up specifications on their own are clearly over.

Constant communication between operational units and industry is now absolutely essential, and the turnaround times for information exchange must be kept short.”



“A SHARP RISE IN MILITARY OPERATIONS”

Interview with Camille Grand, Director of the Foundation for Strategic Research.

How will armies be able to evolve in an helicopter environment? What do armies expect from manufacturers? Camille Grand has been the director of the Foundation for Strategic Research since 2008 and has been deputy diplomatic advisor at the French Ministry of Defense from 2002 to 2006. Here, he shares his vision with *Rotor*.

Article: Alexandre Marchand

What is your assessment of the current geopolitical situation?

Camille Grand: Contrary to the prevailing beliefs at the end of the Cold War, when many thought we would reap the benefits of a “peace dividend,” we’ve seen a sharp rise in the number of political crises and military operations. The nature of these engagements has become a great deal more varied than in the past, with escalating security requirements in terms of homeland security.

How would you describe the current military engagements?

C.G.: The engagements are much more intense, and go well beyond simple “peacekeeping missions.” Current military operations in Iraq and the Sahel are prime examples. Another important point is the duration of the operations; these are long-term missions with no predefined timetable. We’re also seeing countries involved in numerous theaters at the same time. The French armed forces, for example, are currently participating in operations in Iraq and the Sahel, and in the war on piracy in the Indian Ocean and drug trafficking in the Antilles, without forgetting Operation Sentinelle in France itself!

What do helicopters have to offer in this context?

C.G.: The helicopter offers unparalleled tactical mobility, with both daytime and nighttime combat capabilities. It’s become an even more essential tool considering that, unlike in the past, western superiority can no longer be taken for granted in all the various types of engagements. An important reason has

been the reduced size of western armies, which has resulted in fewer troops being deployed in military interventions.

Can the helicopter be a “force multiplier” to make up for these reduced troop numbers?

C.G.: It can, but only to a certain extent. Tactical mobility is limited by the number of available aircraft, and there’s been cause for concern in this area as well. The number of helicopters in service and the operational availability of these rotorcraft are not always compatible with the goals of political leaders. A review was recently conducted at the midway point of the French military’s five-year planning act, and it highlighted this very problem. This increasing awareness of our military shortages has been long overdue.

What are the most pressing needs, in terms of helicopters?

C.G.: Carrying capacity and operating range remain critical factors. A lesson to be learned from recent operations is that the crucial role of heavy-lift helicopters should not be overlooked, as they’ve demonstrated their ability to increase the mobility of our armed forces. Fleet availability, fleet renewal and technical support are also important issues.

What avenues need to be explored?

C.G.: I think we need to take a closer look at tactical drones based on rotorcraft technology. Fixed-wing drones have demonstrated their usefulness and have now reached maturity. Naval applications for unmanned helicopters seem obvious, but we need to take a

closer look at their use in land-based theaters—in particular for reconnaissance and surveillance missions, which are vitally important for our troops.

What role does industry have to play?

C.G.: The days when engineers could get together and draw up specifications on their own are clearly over. Constant communication between operational units and industry is now absolutely essential, and the turnaround times for information exchange must be kept short. It’s true that this type of arrangement can create tension between the end users, who are constantly looking to adapt their equipment to their mission profiles, and the manufacturers, who prefer offering products with long life cycles to ensure profitability. Designing more modular helicopters may be the solution, so that the aircraft can be upgraded to a new version at a reasonable cost.

How can manufacturers help the armed forces in the coming years?

C.G.: By proposing innovative solutions, the helicopter industry can win over operational staffs, who have now come to terms with budget constraints. Innovative service offers that include technical support for helicopters in the field, for example, may be an effective response to the new challenges faced by reduced fleets confronted with intensified engagements. These types of services may be an opportunity for manufacturers who are now selling fewer helicopters to step up their activities—provided that these services don’t become a financial trap for the armed forces, of course. ■

FEATURED ARTICLES



Airbus Helicopters offers customized services adapted to military needs.

© Frédéric Lert



Dominique Maudet,
Executive Vice President
Global Business & Services
at Airbus Helicopters.



The Airbus Helicopters military range covers every mission need on the market: reconnaissance, combat, tactical transport and training.



© Lorette Fabre



© A. Dubath

“COVERING THE ENTIRE OPERATIONAL SPECTRUM FOR AIR COMBAT”

Airbus Helicopters has more than sixty years of experience serving military customers around the globe. The keys to its unique know-how: understanding operational needs, offering adapted products and services, and working in close cooperation with armed forces to anticipate future developments. Interview with Dominique Maudet, Executive Vice President Global Business & Services at Airbus Helicopters.

Article: Alexandre Marchand

How important are military programs to Airbus Helicopters?

Dominique Maudet : Airbus Helicopters’ activity is balanced between civil and military applications, but it should be kept in mind that the military sector is particularly important, as it forms the backbone for our programs. Military contracts provide us with work over the long term, help us establish strong partnerships with customer countries, and make it easier for us to plan ahead for our order book.

What types of solutions does Airbus Helicopters offer its military customers?

Right now, we’re the only helicopter manufacturer in the western world that covers the entire operational spectrum for air combat operations, with products ranging from the Fennec up to the H225M. We manufacture two specialized helicopters that offer a broad range of solutions to meet market needs: the Tiger for armed reconnaissance and fire support missions, and the NH90 for tactical troop transport and training missions. To this, we must add the emerging demands of anti-terrorism operations, at the limit between civil and

military, for which our helicopters and our equipment are also perfectly suited.

Are the days numbered for helicopters used only for military operations?

The dual-use nature of our range continues to be a key factor in our market positioning, as the recent pre-selection of the H225M by Poland clearly demonstrates. We’re using this same approach in our development work for drone technology. Military applications in this field are already evident, but we also think civil applications may have a promising future. In parallel, we’ve also received a great deal of positive feedback from the theaters about our specialized military helicopters, the Tiger and NH90. To achieve the sort of high performance levels and survivability rates they have, a specific design is a must.

You’ve mentioned the wide range of air combat products offered by Airbus Helicopters, but an extremely large heavy-lift helicopter, in the twenty ton range, is missing from the family...

We still have a project to develop a heavy-lift, French-German helicopter

program, which partners from other countries could join as well. The financing is still lacking, but we already have the technical capabilities to develop such a helicopter. Via its customer centers, Airbus Helicopters already performs maintenance for many heavy-lift helicopter fleets.

Speaking of maintenance, where does technical support for military fleets fit?

In addition to our work directly with armed forces, we offer customized services adapted to specific military needs, ranging from flight crew training to comprehensive fleet management via PBH (Parts By the Hour) contracts, which guarantee the availability of our customers’ helicopters (see page 26).

Does France hold a specific place in this plan?

For our French military customers, who’ve been faced with an escalating number of engagements over the past decade, we’ve set up a dedicated military support center. An integrated team of more than 500 people now addresses the entire MRO for the sole benefit of the French customer. ■

Mission accomplished: in all theaters of engagement

Whether it be combat, saving lives, protecting local populations, performing homeland surveillance, or fighting the war on drug trafficking and terrorism, it's all in a day's work for the exceptional group of men below who agreed to share their experiences.



“The Lakota is a compact helicopter offering an excellent carrying capacity while maintaining a moderate downwash. This last point is important because it allows us to perform hoist operations without endangering victims.”

USA: Lakota, perfectly sized for disaster response

“We were the first Army National Guard unit to receive the UH-72 Lakota back in June 2008. Since entering service, our eight helicopters have been used on a constant basis to provide assistance to local populations through a wide range of missions. In 2010, we worked for over six months to help contain the oil spill following the explosion of the Deepwater Horizon oil rig. Our Lakotas performed surveillance missions, acted as radio relays for participating authorities, and guided seafaring vessels as far as 200 km off the coast. When the Mississippi River caused catastrophic flooding the following year,

we were called in once again for a large-scale intervention. And last year, after a series of deadly tornadoes struck the mid-west, the Lakota's compact design made it possible for us to quickly take action. We were the first response teams to reach the site, and were able to land in close vicinity to the tornado victims. We were also able to land at all the helicopter landing pads at local hospitals.”

Lieutenant colonel **James Haynie**, commander of the 1st Battalion, 185th Aviation Regiment of the Mississippi Army National Guard. ■

Bolivia: The C1e, an invaluable tool for the war on drugs

“La Fuerza de Tarea Aérea Diablos Rojos (or ‘Red Devils’) is an elite Bolivian Air Force unit that has been fighting the war on drugs since 1987 in cooperation with other military and law enforcement units. Our recently acquired Super Puma AS332 C1e helicopters have enabled us to intensify our efforts. The two new rotorcraft, baptized the ‘Jatun Puma,’ have already logged 453 flight hours since the first unit was delivered in August 2014. Our fleet will include six of these helicopters by 2016. The reason we chose the C1e is clear: We wanted to have the best helicopter available to help us crack down on drug traffickers, and the C1e provides us with all the tools we need. Its multi-mission capabilities are

astonishing, and it offers excellent carrying capacity (up to twenty passengers). We also appreciate its SAR capabilities, modern avionics and endurance of up to three hours and twenty minutes thanks to a sixth fuel tank. All these features make it the perfect helicopter for effectively fighting against drug trafficking, as we must constantly adapt to changing conditions and unpredictable events. The logistics support and maintenance services provided by Airbus Helicopters since the start of operations have enabled us to maximize the effectiveness of our helicopters.”

Colonel **Fredy Oscar Taborga**, Commander of the Fuerza de Tarea Aérea “Red Devils” ■



The C1e is perfectly adapted to the highly demanding flight conditions (“high & hot”) commonly encountered in Bolivia.

Click here
to see more photos



Mali: Faster and farther

“In 2013, the French government decided to launch Operation Serval in Mali on short notice, and the French armed forces had to react quickly following this decision. We were asked to rapidly deploy strike forces over distances of as much as 500 kilometers, and to strike hard. Our helicopters proved to be the perfect tool for these types of operations. However, we knew the logistics would be complicated, leading some to believe that the helicopters wouldn’t be able to keep up with such a fast-moving desert campaign. We were able to make the necessary adaptations and change the way we organized our maintenance. When I arrived in Bamako at the start of the operation, I had forty containers filled with spare parts. When we reached Timbuktu a few weeks later, only ten percent of that initial stock remained. Our northern advance through Mali was

so rapid that it was impossible for the spare part flow to keep up with us. We were making intensive use of our helicopters at the time, and the scheduled maintenance and overhauls kept getting closer and closer! But we were able to adapt and keep our helicopters in the air thanks to the tireless efforts of our mechanics. They had to work in the dust and sweltering heat, often with only a rudimentary tool kit, and were faced with extremely sketchy sanitary conditions. I would like to pay tribute to them. Thanks to their dedication, the Tiger, Puma and Gazelle helicopters under my command—some twenty rotorcraft in all—never let us down and were always available.”

Colonel Frédéric Gout, former commander of the 5th Combat Helicopter Regiment. ■

TIGER	
<ul style="list-style-type: none"> • Capacity: 1 pilot + 1 gunner. • Engine: 2 x MTR390 E • Max cruise speed: 146 kt (271 km/h) • Operating range, unarmed: 515 NM (953 km) 	



© Frédéric Lert

France: The unbeatable response plan of the French Air Gendarmerie to Charlie attacks

“Our response to the terrorist attacks in Paris last January fully demonstrated the effectiveness of the regional coverage provided by the Air Gendarmerie. When we received confirmation on the morning of January 8 that the terrorists were attempting to leave Paris, we were able to quickly mobilize seven of our H135s and H145s. The H135s, equipped with TV/infrared cameras and real-time image transmission systems, were primarily used to hunt down the escape vehicle. In parallel, the H145s were assigned to fire support missions and transported snipers and special operations units from the GIGN and RAID. Thanks to the onboard mapping and flight control systems of our H135s and H145s, our flight crews were able to fly at low altitudes with night vision goggles over areas covering hundreds of kilometers—despite the poor weather conditions. The live feed of images to the region-

al Gendarmerie units deployed on the ground proved to be invaluable. Helicopters were on permanent patrol with infrared searchlights and thermal cameras, helping to close the net around the terrorists, and Gendarmerie units patrolling on the ground finally caught up with them on the morning of January 9.

Pumas from the GIH joint helicopter forces were quickly deployed to the site, where the elite units of the GIGN fast-roped down into position. They received support during the maneuver from two H135s of the Gendarmerie that had taken up a position near the building where the terrorists were holed up, and were eventually neutralized.”

General Daniel Leimbacher, commander of the French Air Gendarmerie. ■

The presence of patrol helicopters helped close the net around the terrorists.



Mexico: Panther bolsters territorial surveillance

“The Mexican Navy operates four AS565 MB Panthers, and a portion of the fleet is assigned to the Coatzacoalcos navy air base in the state of Veracruz. Our primary mission with the Panthers is to bolster the territorial surveillance capabilities of the Mexican Navy in the region. In addition to patrol and surveillance missions, the navy also performs maritime search and rescues. A rescue hoist is always installed in our Panthers, along with a forward-looking infrared (FLIR) if necessary, to provide assistance to local populations in the wake of natural disasters. We have performed relief work both here in Mexico (in 2007, for example, after intense flooding struck the state of Tabasco) and abroad (such as in Haiti, where the Panthers were quickly reconfigured as air ambulances and performed evacuations with onboard med-

ical teams after the island was hit by an earthquake). Each of our Panthers logs an average of three hundred flight hours per year. Last April, when a fire broke out on the Pemex oil rig in the Bay of Campeche, one of our Panthers flew reconnaissance missions to locate missing persons. On that same day, it was also used to perform a medical evacuation of a man with heart problems. It should also be noted that we receive technical support from Airbus Helicopters specialists directly at our base, which is something we truly appreciate.”

Rear Admiral **Alberto Valerio Verduzco**, commander of the Coatzacoalcos navy air base, and Commander **Esteban Jesús Peña Maldonado**, commander of the first naval squadron, which has logged 1,315 flight hours on the Panther. ■



The Panther is also known for its speed, which is a key factor in emergency situations.

MILITARY MARKET: STEADY AS SHE GOES...

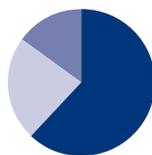


MILITARY FLEET IN SERVICE

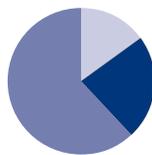
Approximately **22,000 helicopters are currently in service** for armed forces around the world, including Russia and China. The worldwide fleet of civil helicopters is larger, but the value of each market is roughly equivalent.

SLIGHT DECREASE IN 2014 COMPARED TO 2013, WITH 876 military helicopters delivered to armed forces in 2014.

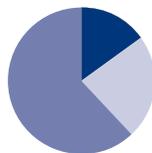
THE THREE MILITARY MARKET SEGMENTS



62%
Utility
helicopters



23%
Attack
helicopters



15%
Naval
helicopters



The position held by Airbus Helicopters in 2014 in terms of deliveries (by value) thanks to the Tiger, Lakota, Panther and NH90 (NHI) programs.



4th

The worldwide ranking of Airbus Helicopters, behind Russian Helicopters, Sikorsky and Bell (for fleets in service).

UP ABOVE





IN ACTION





© Robert Mckenzie

SOUTH AFRICA

On a mercy mission

They rescue fishermen from stormy seas, transfer ill babies to specialized children's wards and fly health specialists into isolated areas. KwaZulu-Natal Department of Health's Aeromedical Services in South Africa give us a glimpse into a day's work.

Article: Robert Mckenzie and Beata Cece



© Robert Mckenzie

"Mercywing 5 is on a mercy mission to Edendale hospital, Mercywing 5," Kevin Donellen informs air traffic control over his headset, before the Air Mercy Service pilot heads into the skies over KwaZulu-Natal on the South African east coast.

In the scope of a contract with SA Red Cross Air Mercy Service (AMS) in South Africa, the KwaZulu-Natal Department of Health, which consists of pilots and a dedicated team of flight paramedics from KZN Emergency Medical Services, save lives every day. They provide an air ambulance network, rural health outreach and emergency medical rescue service to metropolitan areas and remote rural communities. All AMS aircraft are equipped with an advanced life support (ALS) medical interior. Part of the fleet is an EC130 B4 from Airbus Helicopters. Baptized Mercywing 5, the helicopter has capacity for two pilots, three crew members and one stretcher, and is fully equipped with a dedicated, intensive care interior which includes oxygen connections and brackets to hold the equipment. Kevin Donellen's mission is precise. Only minutes beforehand, the KZN Emergency Medical

Services paramedics were informed by the flight coordinator that a patient in the intensive-care unit of Edendale hospital needed to be transferred by helicopter.

EQUIPPED WITH MEDICAL EQUIPMENT OF THE HIGHEST CALIBER

Before taking off, the crew make sure that everything is secured, as a poorly-stowed object could become a veritable projectile in the cabin.

After a 25-minute flight the helicopter arrives at its first destination. The patient is in a critical but stable condition. Before the man can be transferred, all the medical equipment being used to support him in the hospital needs to be changed to the equipment that has been brought on the helicopter. This includes a ventilator, vital signs monitors and infusion control devices.

The paramedics load the patient carefully into the helicopter. After the stretcher and the equipment are properly secured again, the EC130 B4 takes off and flies towards its next stop – the Inkosi Albert Luthuli Central Hospital in Durban. Awaiting their arrival is a team of doctors. They check on the patient,

before helping to offload him. Only after arriving in the trauma casualty ward and helping to change the patient over to the hospital's equipment can the flight paramedics consider their mission to be accomplished.

However, their work isn't done yet: the paramedics unpack the medical equipment, which needs to be cleaned and charged, while the pilot oversees the helicopter's refueling. A short while later, both the crew and Mercywing 5 are ready for the next mercy mission. ■

"The KwaZulu-Natal Department of Health provide an air ambulance network for medical emergencies."

The Saint Bernard of the skies

Whether it's over the steep cliffs of Germany's tallest peak

or in temperatures reaching minus forty degrees near the Arctic Circle, the first missions of the H145s operated by the German Automobile Club (ADAC) and Scandinavian Medicopter Ab (SMC) have demonstrated the helicopter's exceptional reliability.

Article: Beata Cece

MOUNTAIN RESCUE

Trapped on a snow-swept cliff face, an exhausted mountain climber sends out a call for help. In just a matter of minutes, the "Christoph Murnau" rescue helicopter of the ADAC appears on the horizon. The flight crew spots the man in distress on a steep slope of the Zugspitze, the highest peak in Germany. After being hoisted on board, the climber is transported back down to the valley. The "Christoph Murnau" is the first H145 to enter service for the ADAC. Based in Murnau, in the southernmost part of Germany, the helicopter carried out its first mission on March 23, 2015. "The operation went very smoothly," recalls Gerhard Wittmann, who is in charge of flight operations at ADAC. "The hoist is extremely rapid and reliable, and the large doors on the H145 make it very easy to bring in the rescue sling holding the patient."

52,000 MISSIONS PER YEAR

Since that initial success, ADAC has taken delivery of two more H145s. The three helicopters have already completed 270 flight hours between them. The twin-engine's impressive power has won over the pilots, says Gerhard Wittmann, as it guarantees optimum safety: "We perform 52,000 missions a year, and we never know exactly what we're going to find once we reach our destination." The flight crews must be prepared for the unexpected. "Just to give one example, a pilot may begin his approach and then an ambulance suddenly arrives on the scene and he has to pull out at the last second," explains Wittmann. "In such a situation, you need a whole lot of power in reserve!"

AN ACCIDENT NEAR THE ARCTIC CIRCLE

When asked which technical capability they find most impressive on the H145, the pilots at SMC are quick to respond: "The power! The strength of this helicopter is incredible." Four H145s have now joined the fleet of Scandinavian Medicopter AB, an EMS helicopter operator with three bases in northern Finland. The four H145s have already completed 842 flight hours, primarily for EMS missions. At the end of February, the first of the four helicopters performed its maiden mission near the Arctic Circle to rescue victims of a car accident. In the month of March 2015, the H145s of SAA (the parent company of SMC) completed 154 missions—the majority in extremely severe weather conditions.

BATTLING SEVERE WEATHER CONDITIONS

"Here in northern Finland, the temperature can drop to forty degrees below zero," says Pekka Autere, chief H145 pilot. "But that can't prevent us from being ready to go 24 hours a day. The night vision goggles and IFR (Instrument Flight Rules) capabilities of the H145 make it possible for us to meet any challenge." The cockpit is equipped with instrumentation that enables the pilot to fly in any conditions. Gerhard Wittmann of the ADAC says that the certification of the avionics system for satellite navigation procedures is another essential feature of the helicopter's all-weather capabilities. The ADAC is now quickly moving ahead with plans to test the satellite navigation system for approach flights to certain hospitals. "As far as I'm concerned, the H145 is truly the helicopter of the future," says Gerhard Wittmann. "It will allow us to provide even better service to people in need." ■

1 – With its twin-engine power, Helionix avionics, 4-axis automatic pilot and reduced fuel consumption, the H145 has been met with enthusiasm by customers in Finland. The first H145 was delivered in January 2015.

2 – The three H145s operated by ADAC have now completed 270 flight hours between them.

3 – The shrouded tail rotor of the H145 offers increased safety for passengers and rescue personnel on the ground—especially in stressful emergency situations.

"Certification of the avionics system for satellite navigation procedures is another essential feature of the helicopter's all-weather capabilities."

Gerhard Wittmann, in charge of flight operations at ADAC.

<p>H145</p> 
<ul style="list-style-type: none"> • Capacity: 2 pilots + up to 10 passengers • Engine: 2 Turbomeca Arriel E2 • Max cruise speed: 130 kt (241 km/h) • Operating range: 442 NM (819 km)

Click here
to watch the video



H135

The H135 is known for its endurance, compact build, low sound levels, reliability, versatility and competitive cost.

Dimensions



Key figures



Maximum takeoff weight (MTOW): **2 980 kg**



Maximum range: **609 km / 329 NM**



Maximum speed: **278 km/h / 150 kts**

EMS EQUIPMENT:

Compliant to the most stringent HEMS standard EN13718 guaranteeing highest quality for patient care.

Cabin design compliant with international treatment standards

New main rotor blades and lateral air intake for higher lift

Improved performance in single engine/Cat A operation and in high & hot conditions

GPS approach with vertical guidance (LPV) increasing mission capabilities in poor visibility

Cockpit features the fully integrated navigation, communication and GPS avionics solution GTN750 from Garmin

New multi-functional floor with weight-savings of up to 27 kg compared to the previous combination of two floors

PRIVATE TRIPS AND BUSINESS TRAVEL

Enjoy a quiet, fast and smooth ride.

Large windows offer excellent visibility outside



Elegant Stylence interior

Comfortable seats with smooth/perforated leather

360° approachability



Compact design allows landings in confined spaces

Lowest sound level in its class (average 8,5 db below ICAO limit)

POLICE

A flexible platform for daily law enforcement operations.

Video communication

Communications connection



Increased payload:

The H135 offers notable improvements in terms of performance¹ in comparison to previous versions (all under ISA+20 conditions):

- Hover out of ground effect:
 - + 200 kg at 6 600 feet
- Single-engine operation/CAT A:
 - + 90 kg at sea level
 - + 113 kg at 1 000 feet
 - + 154 kg at 2 000 feet

1) Depending on the engine version. The preliminary figures and the complete flight envelope will be made available after flight testing.

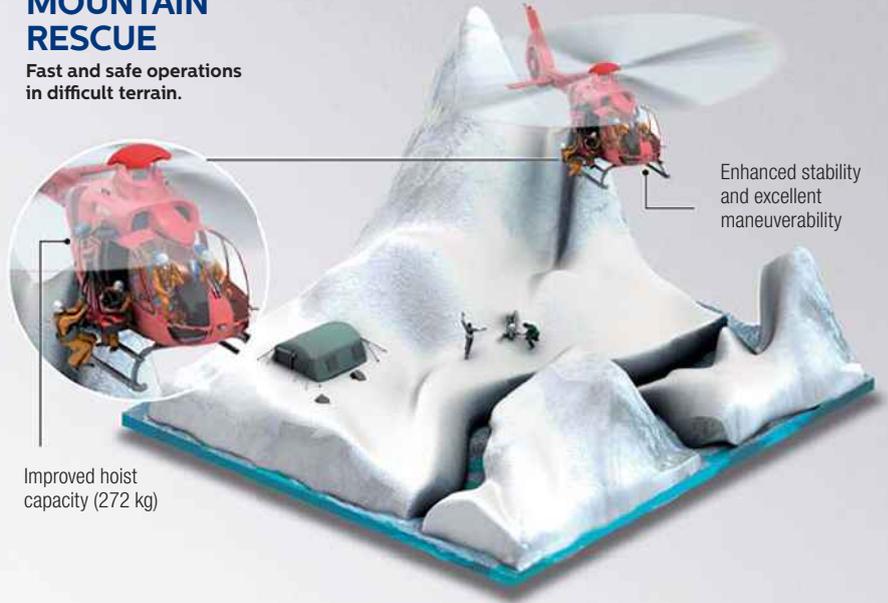


Engine options: Two Pratt & Whitney PW206B3 turbine engines or two Turbomeca ARRIUS 2B2 plus turbine engines

New FADEC software provides optimized engine control

MOUNTAIN RESCUE

Fast and safe operations in difficult terrain.

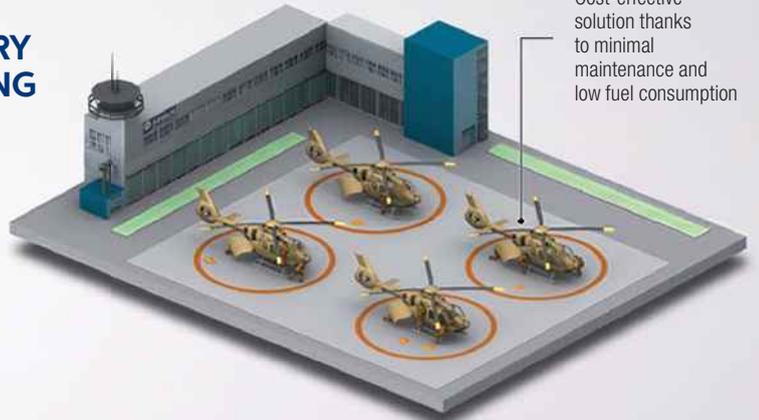


Improved hoist capacity (272 kg)

Enhanced stability and excellent maneuverability

MILITARY TRAINING

Advanced training capabilities for air crews operating medium or heavy multi-role and combat helicopters.



Cost-effective solution thanks to minimal maintenance and low fuel consumption



Lateral stretcher loading

Rear stretcher loading

WIND FARM SERVICE

Adapted for support flights to wind farms or other offshore transportation operations.

Increased performance and range for offshore hoist operations (Class D Human External Cargo (HEC) certified)



Power reserve leads to increased safety margin and reliability

Floats



High-performance Electro Optical System (EOS)

HCare

100% at the service of our customers

At the recent HAI Heli-Expo trade show, Airbus Helicopters launched its new service offer, HCare. Set to provide customers with even better services, HCare is the most complete service on the market.

Article: Monique Colonges



“Our goal at Airbus Helicopters couldn’t be clearer: to keep our customers in the air, all around the globe, 24 hours a day. This new service offer is the result of the corporate transformation initiative currently underway at Airbus Helicopters. It illustrates our firm commitment to providing our customers with competitive solutions that are tailored to their needs.”

Mathieu Louvot,
Senior Vice President Support & Services

2 Flight training and operations

Airbus Helicopters has set the standard in terms of flight safety by providing a full range of training services, from type certificates to full-flight simulators. For example, the Helionix avionics suite installed on both the H145 and the H175 reduces flight training time by 30 percent compared with traditional type certificate training. ■

1 Spare parts and components

This service has three options to choose from, depending on the customer’s specific needs:

EASY: Products from our catalogue available to all our customers, guaranteeing highly reliable services for spare parts, overhauls and repairs.

SMART: “Parts by the hour” contracts to ensure our customers benefit from high performance levels while maintaining control over their budgets. This is the perfect choice for customers who want to plan their budgets, keep a close eye on spending, increase fleet availability and cut down on paperwork. This type of contract has now been revamped for the H125 and H130: extremely competitive prices, no down payments, and a new option for customers who want complete coverage for their helicopter.

INFINITE: Comprehensive turn-key solutions, with pre-defined commitments for total fleet availability. This option allows customers to remain fully concentrated on their operations while Airbus Helicopters takes care of all the maintenance operations. ■





3

Maintenance, repair & overhaul, and upgrades

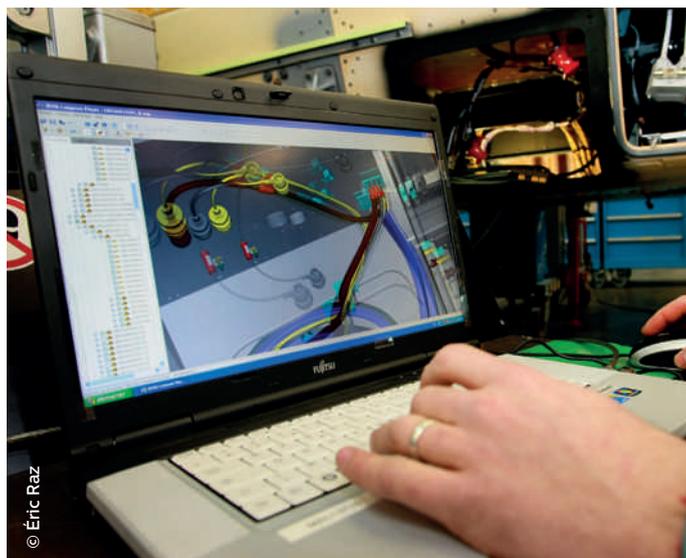
Airbus Helicopters offers its customers tailor-made solutions so that they can get the most out of their helicopters, whether it be maintenance, repair, overhaul or upgrades. Customers can now pick and choose from our online catalogue of “off-the-shelf” upgrades (www.upgrades.airbushelicopters.com). ■



4

Technical support

Airbus Helicopters offers the same high levels of expertise to all its customers, around the clock and around the globe, thanks to its widespread customer support platform and over 150 tech reps (technical representatives) stationed worldwide. ■



5

“Networked” services

By networking our services, we reduce turnaround times for support work and thereby improve the performance levels of your helicopters. The Keycopter portal is one powerful tool, but we also offer interactive tools for managing flight data and scheduling maintenance work. ■

Objective 100%



- 100% of spare part orders scheduled at least 15 days in advance are delivered on time.
- 100% of our customers were visited by an Airbus Helicopters technical representative in 2015.
- 100% guaranteed availability of our support teams, who will answer any customer questions 24 hours a day, seven days a week, thanks to our new worldwide platform accessible via Keycopter, email, telephone or fax.



Worldwide Customer Support

Toll free*: + 800 55 56 97 97
Other countries: + 33 (0)4 42 85 97 97
Fax: + 33 (0)4 42 85 99 96
customersupport.helicopters@airbus.com



* list of countries on www.airbushelicopters.com

FRANCE **A test center
that's one of a kind**

An astonishing new building was recently unveiled at the Marignane plant in southern France. Built in under a year, the giant cylinder known as DHCO—Dynamic Helicopter Zero—now makes it possible to perform dynamic integration testing for the H160 and future helicopters in the Airbus Helicopters range. *Rotor* takes you on a “behind-the-scenes” tour of this unique testbed.

Article: Monique Colonges – Photos: Jérôme Deulin

“These ground tests enable us to really speed up the maturation process for new helicopters in the range during their development.”

Gary Clark,
head of vehicle test
and integration at
Airbus Helicopters



A highly innovative structure with a double-crown architecture prevents noise pollution from reaching the surrounding buildings.

What?

AN INNOVATIVE STRUCTURE AT THE CENTER OF MARIGNANE

“We needed nearly 300 tons of steel and 3,000 cubic meters of concrete to build it,” says Gary Clark, head of vehicle test and integration at Airbus Helicopters. “It’s the only facility of its kind in the world! And for more than one reason. First of all, the facility was built right at the center of a major production site, which was quite a challenge! We chose this location so that we could have all the participants right at the site and quickly take action when necessary. The structure itself is also extremely innovative. The enclosure around the building is fully shielded to absorb any impact. It’s lined with a thick layer of rock wool and has a unique ‘double crown’ architecture to avoid noise pollution. The retractable roof means that our teams can work in all types of weather when we’re not conducting tests. It also has a state-of-the-art control room above the test floor so we can run the tests in complete safety.” ■



The DHC0 is used to perform integration testing on dynamic assemblies (main and tail rotors, engine, MGB, TGB, transmission, flight control system), all assembled on the helicopter's bare air frame.

Name: **DHC0**

Date of creation: **2014**

Staff: **7**

Number of tests per month:

- **20 hours per month in integration/troubleshooting mode**
- **100 hours per month in endurance testing mode**

Test types:

- **Engine controls**
- **Thermal evaluation**
- **Endurance of dynamic assemblies**
- **Structural loads & flight controls**

How?

SPEEDING UP THE ROUTE TO MATURITY

"The DHC0 allows us to perform integration testing on the dynamic systems: the main and tail rotors, engine, main gear box (MGB), tail gear box (TGB), transmission and flight control system are all assembled on the bare air frame of the helicopter. These ground tests mean we can really speed up the maturation process for new helicopters in the range during their development phase—and in particular before the first flight of prototype no. 1," says Gary Clark. "The tests help to cut costs stemming from unforeseen problems, which in the past could be detected only during test flights. As a result, the helicopters can be introduced to the market much more quickly. In addition to development and integration testing, the bench can also be used to perform endurance testing on dynamic assemblies as required by certification authorities." The H160, a precursor to the new testbed, performed its first "bench flights" in March 2015. ■



With its state-of-the-art control room, the tests can be performed in complete safety.

Who?

EXTREMELY DEDICATED TEAMS

The turnaround time for the entire project was less than a year, from the initial presentation of the project to the financial committee at the end of 2013 to final delivery at the end of 2014. It was a record time, considering the complexity of the building. "The DHC0 offered us an opportunity that we simply could not pass up," explains Gary Clark. "All the teams involved in the project did their utmost to make sure that this innovative new tool would be available on time for the H160, enabling it to attain an unsurpassed level of maturity prior to its first flight." ■

THE AIRBUS HELICOPTERS FOUNDATION

A mandate to save lives

Created in 2012, the Airbus Helicopters Foundation has chosen to focus on providing humanitarian aid and emergency services. One of the Foundation's strengths is its strong and coherent identity that fully embodies the company's values. The Foundation provides support for actions in the general interest where the helicopter can be a truly valuable tool.

Article: Régis Noyé



RAPID RESPONSE TO NATURAL DISASTERS

The Airbus Helicopters Foundation lends its support to humanitarian organizations that provide on-site assistance immediately following natural catastrophes, such as floods and earthquakes, by quickly making helicopters available to them. The helicopter is a vital multi-purpose resource that can be used to assess the situation on the ground, transport teams and basic necessities, and locate people and bring them to safety. In the wake of catastrophe, the Foundation draws on the expertise of Airbus Helicopters and its entire network of customer centers 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 assistance for humanitarian missions in seven countries (Mexico, the Philippines, Bolivia, Serbia, Bosnia, Vanuatu and Chile).



SUPPORT TRAINING FOR EMERGENCY TEAMS

In order to effectively manage as many crisis situations as possible, medical teams and rescue personnel must constantly improve their working practices—in particular for missions involving helicopter-borne assistance, which has proven its worth time and again. By helping emergency rescue teams get the training they need, the Airbus Helicopters Foundation is actively involved in efforts to improve the effectiveness and the safety of these missions. The Foundation provides financial assistance for projects to equip and train helicopter rescue personnel, and also finances ongoing training for medical teams. One example is a specific training module that has been developed for disaster medicine. The Foundation has already provided support for three of these types of projects in France, Brazil and China.



Making their helicopters available to humanitarian organizations that are partners of the Foundation is another way that customers can participate in emergency operations in their region.

“The Foundation is an extension of the core activity of Airbus Helicopters. Our goal is to ensure that people in distress all around the world can quickly benefit from the many types of assistance that only the helicopter can offer during crisis situations.”

Sabine Péré,
director of the Airbus Helicopters Foundation



In the field

REPUBLIC OF VANUATU

- Date: March 2015
- Purpose: Perform medical evacuations and distribute medical supplies, water and food to assist victims of Tropical Cyclone Pam
- Result: 22 flight hours for humanitarian missions

CHILE

- Date: April 2015
- Purpose: Provide relief to flood victims and perform flights to locate missing persons
- Result: 14 flight hours for humanitarian missions

BRAZIL

- Date: May 2014
- Purpose: Provide Brazilian medical personnel with emergency medical training
- Result: 42 people trained

FRANCE

- Date: April 2014
- Purpose: Train and equip rescue swimmers from the Société Nationale de Sauvetage en Mer (French National Lifeboat and Lifeguard Society)
- Result: 50 volunteer rescuers trained



SPAIN Under the watchful eye of Nemo

The H225 SAR (search and rescue) helicopter operated by INAER has been fully operational since February of this year. The flight crew from A Coruña, Spain, who work in one of the most hostile environments on the Iberian peninsula, welcome *Rotor Magazine* on board the first helicopter of this type to operate in Spain.

Article: Belén Morant – Photos: Anthony Pecchi

The telephone rings at the base and all the conversations come to a halt. A simple hand gesture from Jesús is all it takes: time to get moving! In just fifteen minutes, briefing included, the flight crew is already heading off into the skies in their H225 SAR helicopter. This rapid response time is hardly a matter of chance: The Helimer 401 crew based in A Coruña (northwestern Spain) follows a rigorous training regimen, 80 percent of which is at night, to make sure they'll be ready for any unexpected event. They know full well how unpredictable SAR missions can be. "We're ready to take off in just fifteen minutes, 24 hours a day, 365 days a year," says Chief Pilot Jesús Hernández.

"We have eleven bases throughout Spain and are probably one of the largest sea rescue services in Europe." The H225 has extended the operating range of the base in A Coruña to 225 nautical miles in all weather, and flight crews have 30 minutes to perform their rescue mission once they arrive. These upgrades have not gone unnoticed by the rescue teams: "The weather conditions off the coast of Galicia can be very difficult. The waves can reach heights of twelve meters and there is a great deal of precipitation. Visibility is often quite low as well. At times, you might think it was the North Sea! Fishing is intense in the area, and the majority of our missions concern work accidents on fishing boats, shipwrecks and medical evacuations."

RESCUES IN HIGH SEAS

When performing sea rescue missions with the H225, affectionately known as "Némo," Jesús is accompanied by a co-pilot, a hoist operator and two rescuers. The Wescam, radar and infrared camera are essential

for these types of missions, as rapid response times are a must. Once the target has been located, the doors are opened and the hoist operator guides Jesús into the correct position. This maneuvering is all the more tricky at sea, where the target is in constant movement. The rescuers are then set down on the ship in a sling. "The H225's automatic pilot can quickly calculate the height of the waves and determine an average value so that the helicopter remains in a stable vertical position during hover flight. This is essential in order to use the hoist in complete safety. We've made great gains in terms of safety for all the different flight phases—not just hover flights, but also takeoffs and landings," says Jesús. The dual-hoist system is much more rapid than the previous model, and also increases safety for rescuers—in particular over rough seas. "I feel so safe that I get the impression I'm in an airplane!" says H225 copilot Ernesto Coello when asked about his experience on board the new helicopter, in which he has now logged eighty flight hours. "There are so many systems and equipment suites that make our work easier. The 4-axis automatic pilot is a thing of beauty, whether for hover flight or for All Weather SAR (takeoff, hover flight and automatic approach). The system has enabled us to reduce the minimums during our operations—both for visibility and the ceiling. It's been a pleasant surprise!"

It's nearly midnight when the rescuers finally return to base to clean the salt off the equipment before changing shifts with the next crew. Under the watchful eye of the Tower of Hercules, the fishermen know they can work in complete safety: Némo will always look after them. ■

1 - The Helimer H225 responds to emergency calls within 15 minutes, 24 hours a day, 365 days a year.

2 - The H225 has a range of 225 nautical miles in which to perform rescues lasting 30 minutes.

3 - The dual-hoist system offers increased safety for rescuers—in particular over rough seas.

4 - The Wescam, Euronav, and 360° radar systems reduce response times for search and rescue missions, when time is of the essence.

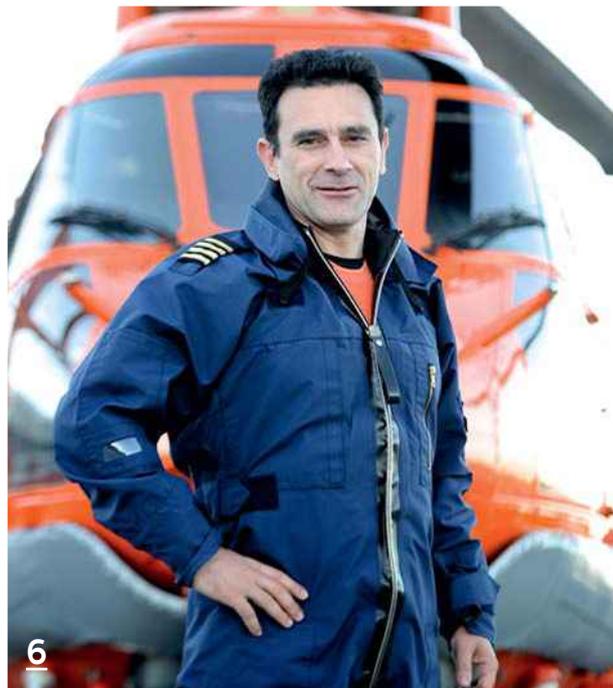
5 - Eighty percent of training takes place at night.

6 - Jesús Hernández has logged nearly 300 flight hours with the H225 and 1,800 with the Super Puma family.



H225 

- Capacity: 2 pilots + 19 passengers
- Engine: 2 Turbomeca Makila 2B
- Max cruise speed: 142 kt (262 km/h)
- Operating range: 650 NM 10 pax (1,204 km)



FRANCE

A safe port of call

At the port of Bordeaux, the helicopter remains the preferred means for transporting harbor pilots out to inbound ships arriving from the high seas. Once they've been hoisted down to the vessel, a second mission begins for the pilots: helping ship captains complete their berthing operation in the port. Today, Airbus Helicopters mans the ports of Havre, Dunkerque, and Bordeaux.

Article: Régis Noyé

“We use an EC135 T2 for our missions. There’s room on board for three port pilots plus the hoist operator and the helicopter pilot, meaning we can maximize our profitability.”

Guillaume Blondet,

in charge of technical operations and safety at Pilotage de la Gironde



© Jérôme Deulin / Airbus Helicopters



© Patrice Cour

Harbor pilot: a highly specialized profession

It's the harbor pilot's duty to help the captains of incoming ships maneuver their vessels when berthing in the port, and also to assist outgoing vessels on their journey out to sea. Ship piloting is compulsory at the port to avoid any difficulties when maneuvering through tight passages and to ensure the ships respect maritime traffic regulations. The port pilot system was first introduced in Europe and is now used in most ports around the world. In France, ship piloting is required at all the country's main commercial ports.

A rapid and effective tool

The helicopter offers a safer, more comfortable and, above all, much faster alternative to harbor boats for transporting pilots to and from inbound and outbound ships. Whereas it normally takes an hour to perform a boat transfer, the helicopter can get the job done in around ten minutes. The brief flight also gives the pilot the opportunity to assess the surrounding traffic. Over the years, the helicopter has become the preferred choice for these types of missions, depending on a number of factors: weather conditions, ship accessibility, and availability of personnel, as the majority of these transfers take place at night.



© Jérôme Deulin / Airbus Helicopters



© Patrick Penna



© Société Pilotage de la Gironde

Careful preparation

When the helicopter approaches a ship, it may be faced with various obstacles, depending on the vessel's surface profile (containers, cranes, antennas, etc.). The helicopter's approach can also generate turbulence. When preparing for the mission, the helicopter pilot must carefully study several factors in addition to the usual flight parameters: the type of vessel to which the harbor pilot will be conveyed, and any special characteristics it may have (its size, draft, deck profile, etc.). The ships are all listed on the Internet by category, making them easy to identify.

Hoisting on ships

Once the helicopter is in position above the ship, the harbor pilot is hoisted down to the deck from a height of 10 to 25 meters, depending on the surface of the ship. While the harbor pilots are often a bit reticent at first, the exciting maneuver soon becomes routine. Some even say they find the whole operation "very comfortable!"

Thirty years of experience

"Pilotage de la Gironde has been using the helicopter for transport missions since 1985. The company currently operates an EC135 T2 that it purchased new seven years ago to replace its EC135 T1, which had in turn replaced an Ecureuil. The EC135 T2 is judged to be perfectly adapted to its mission: it's a robust helicopter, is easy to fly, and provides excellent stability in hover flight and good resistance to salty environments. The company, which employs two helicopter pilots, two hoist operator technicians and 21 harbor pilots, performs its own maintenance work and has opted for a comprehensive PBH contract covering the airframe, engines and hoist. Pilotage de la Gironde performs between 80 and 100 hoist operations per month, representing approximately 220 flight hours per year," explains Guilhaume Blondet.

THINK SPECIAL OPERATIONS

Armed with cutting edge defense helicopter technology. All-weather capable, unrivalled in the harshest environments, combat proven. Ready for special operations from most remote areas or warships. **H145M - Deploy the best.**



Important to you. Essential to us.

