

Rotor

BY AIRBUS HELICOPTERS

MISSION
The H145Ms
of the Bundeswehr

BEHIND THE SCENES
The new
Paris-Le Bourget site

LOGBOOK
EMS missions
in Finland



ACHI
Tailored for you



© Light & Shadows

08

FEATURED ARTICLES ACH, tailored for you



Communication Director: Yves Barillé (Publication Director), Editor in Chief: Belén Morant (send your comments and pictures to contact.rotor-magazine.ah@airbus.com), Director of photography: Jérôme Deulin, Translation: Burton, Van Iersel & Whitney, Munich; Amplexor. Published by: **CAECORSE**. Printed by: SPI, N° ISSN 1169-9515 (Copyright Airbus 2017, all rights reserved). The logo and the names of its products and services are registered trademarks of Airbus. Magazine printed on Triple Star, paper originating from sustainable forests.



IN THE SPOTLIGHT

4/ The first H175 delivered in Asia Pacific

360°
5/ Highlights from Airbus Helicopters

UP ABOVE
16/ Air Glaciers' H135 in Switzerland

LOGBOOK
18/ Emergency care takes flight in the Land of the Midnight Sun

MISSION

20/ Above the volcano
22/ Time for the elite
24/ The H125 taking on the roof of the world

AROUND THE WORLD
26/ Helicopters help Tanzania to flourish

BEHIND THE SCENES
28/ Paris-Le Bourget: an industrial transformation project

OFF THE BEATEN TRACK
30/ At the summit at all times!



© Lorette Fabre

When we study megatrends, we dream up and foresee new uses for things. Airbus Helicopters is playing its part in these major global trends by taking vertical flight and applying it to the uses of tomorrow's world. Our goal is to make a difference in terms of excellence, quality and safety, and by anticipating future needs through new solutions.

In creating our new Airbus Corporate Helicopters brand, we are offering a customised response to the demands of the corporate and VIP market. Taking inspiration from the expertise of Airbus Corporate Jets, ACH strives for excellence in the products and services it offers in what promises to be a high-growth market in the coming years. Vertical flight will also provide a unique solution to the growing need for urban mobility, by making it much easier to travel around and between cities. Studies show that by

“Our goal is to make a difference in terms of excellence, quality and safety, and by anticipating future needs through new solutions.”

Guillaume Faury

2030, 60% of the global population will be living in cities, some 10% more than in 2010. Providing new solutions to curb the rise in road traffic while also protecting the environment will be a major challenge. The aerial vehicle we are developing in the CityAirbus project—the first flight of which is scheduled for late 2018—will deliver precisely this solution for city residents. Breaking free from gridlocked city streets, this all-electric flying taxi, which will also be self-piloted, will carry up to four people. The rapid vertical flight solution provided by our Racer technology demonstrator will also enable journeys to be made between city centres in record time.

Finally, the VSR700 drone's promising future on the military market has bolstered Airbus Helicopters' commitment to the new vertical take-off and landing (VTOL) drone segment.

IN THE SPOTLIGHT



ASIA

October 2017

The first H175 delivered in Asia Pacific.



JAPAN 40 YEARS OF COOPERATION WITH KAWASAKI HEAVY INDUSTRIES

This year marks 40 years of successful collaboration between Airbus Helicopters and Kawasaki Heavy Industries – a cause to celebrate the highly successful cooperation in both Japan and Germany. In 1977, Teruaki Yamada and Dr. Ludwig Bölkow – then-CEOs of Kawasaki Heavy Industries and Messerschmitt-Bölkow-Blohm, a predecessor company of Airbus Helicopters – signed a cooperation agreement to produce a joint twin-engine rotorcraft for eight to ten people. Under the agreement, the Japanese company would be responsible for development and production of the airframe and the main gearbox, while the main rotor and its control-system components as well as the tail boom and cockpit window would be designed and made in Germany. This division of labour has remained more or less the same to this day. In 1979, just two years after the agreement was signed, the first BK117 prototypes took to the skies above Germany (June 1979) and Japan (August 1979), marking the start of the flight test campaign. To this day, some 1,400 helicopters have been built on the back of this strong German-Japanese cooperation, which together have accumulated over 4.8 million flight hours.



NORWAY FIRST H135 WITH HELIONIX FOR A CIVIL CUSTOMER

In late August, Norwegian air-rescue organisation Norsk Luftambulans AS (Nolas) became the first civil customer to take delivery of an H135 helicopter equipped with Helionix avionics. Nolas currently operates twelve H135 helicopters from its bases in Norway and Denmark. Six additional H135s with Helionix avionics are scheduled for delivery to the Norwegian customer by late 2018. The Helionix digital avionics suite – also available for the H145, H160, and H175 – reduces pilot workload while increasing mission flexibility and flight safety thanks to features such as the 4-axis autopilot. A further 20 H135 helicopters with Helionix avionics will be delivered by the end of the year. More than 1,250 H135s are in service worldwide, which together have accumulated over four million flight hours.

WORLD SAFELOG PROJECT IS DEPLOYED TO CUSTOMERS

Airbus Helicopters is now transporting dynamic assemblies in new containers incorporating foam dampers calibrated according to the transported parts, or in a removable frame equipped with cable dampers supporting the dynamic assembly. These brand-new containers are also equipped with sensors (traceability of major parameters) and shock detectors (based on an ink capsule activated in case of exceeded thresholds). Its deployment, which will take place around the world, began with operators of the H225 and the Super Puma AS332 in July 2017 and will extend to other helicopters like the H175 as of November. These improvements show Airbus Helicopters' commitment to bettering the safety of its customers' flights through enhanced traceability of parts, notably during transport.





© Thierry Rostang

© Thierry Rostang

FRANCE THE H160 LANDS ON THE BPC MISTRAL

On 4 September, within the framework of the 15th Summer Defence Conference, which took place in Toulon, the H160 prototype was presented for the first time to the decision-makers of the defence community in France.

This followed the decision officially announced in March 2017 by the French Ministry of the Armed Forces to make the militarised H160 the basis of the future HIL programme (joint light helicopter). It should also be noted that on this occasion, the H160 landed on a military ship for the first time, setting down on the BPC (projection and command ship) Mistral.

GERMANY FIRST FLIGHT OF THE H145M WITH HFORCE WEAPON SYSTEM

The H145M completed its first flight with a complete HForce weapon system at the end of August 2017 in Donauwörth, Germany. With the modular system, the H145M can be equipped with various guided and ballistic armaments such as missiles and laser guided rockets, guns, machine guns and rockets. Qualification of HForce on the H145M is planned for 2018. The next steps before qualification are a firing campaign in Hungary and a test of laser-guided rockets in Sweden before the end of the year. The Republic of Serbia is the first customer for the H145M with HForce weapon system, ordering nine H145Ms, including four attack helicopters equipped with HForce. HForce is a comprehensive, modular and cost-efficient weapon system that can be used on any military version of Airbus' civil helicopter range (H125M, H145M and H225M).



© Airbus Helicopters/Christian Keller



© Christian Keller

GERMANY **THE WORLD'S FIRST H145 FULL FLIGHT SIMULATOR IS CERTIFIED**

The H145 simulator of the Airbus Helicopters Training Academy in Germany has received the highest possible Level D certification as a full flight simulator from the German Federal Aviation Office. The simulator at Airbus' Donauwörth site now provides national and international customers with comprehensive training opportunities, in particular for missions under extreme flying conditions and for practising emergency procedures. It is the first approved H145 full flight simulator in the world and the first helicopter simulator in Germany to receive Level D certification. Level D helicopter simulators need, among other things, to be able to move in six directions, allow an optical all-round vision of at least 180°, work with realistic audio and visual effects and perform special manoeuvres and motion effects.

JAPAN **JAPAN COAST GUARD ORDERS THREE ADDITIONAL H225s**

This summer, Airbus Helicopters was awarded a contract from the Japan Coast Guard (JCG) for the purchase of three additional H225s. This new order will bring the JCG's total H225 fleet to nine helicopters by February 2020. In 2016, the JCG placed an order for a sixth H225, which will be delivered in 2018.

Under the agreement, the three H225 helicopters will be used for security enforcement, Japanese territorial coastal activities, as well as disaster relief missions.

Currently operating eight helicopters from the Super Puma family, the JCG first introduced Airbus' AS332 L1 into its fleet in 1992, and subsequently welcomed its first H225 in 2008. With this latest order, the JCG's Super Puma fleet will eventually grow to eleven helicopters by 2020.



© Japan Coast Guards

HIGHFLYER: THE NEW CUSTOMER APP FROM AIRBUS HELICOPTERS

Airbus Helicopters has launched a new application for customers who wish to receive the company's latest information on their mobile devices. Compatible with smartphone, tablet or laptop, the Highflyer app contains updates on Airbus innovations, products, service bulletins, regional activities, events and news.

Customers can customise their news with personal alerts on their favourite topics and download the articles for reference offline. The app, available from Google or the Apple store, lets users share articles or get more information.







ACH TAILORED FOR YOU

Helicopters are the ideal complement to corporate and VIP customers due to the unique capabilities rotary wing aircraft bring: providing a point-to-point transport for business and corporate customers and an enhanced lifestyle for VIP customers, enabling luxury travel between assets or even to remote, inaccessible locations. Today, helicopters destined for the private and business aviation market comprise 16% of Airbus' civil helicopter deliveries, and with the introduction of eye-catchers like the H160 and H175, there are more offerings than ever to satisfy its clientele. In the wake of the market downturn, this sector is gaining in attention and importance for manufacturers such as Airbus.

Airbus Corporate Helicopters, identified by the ACH logo, build on the company's leadership in the private and business aviation market, offering a unique level of quality finish, craftsmanship and bespoke service matching the most demanding requirements. ACH clients are exacting – whether private owners, corporate executives, or VIPs – and expect unfailing performance, exquisite comfort and a touch of the individual. The answer, as the pages of our feature article show, is an offering tailored directly to their needs and expectations.

ACH EXPANDING THE VIEW FROM THE TOP

Ben Bridge, Executive Vice President Global Business at Airbus Helicopters, speaks to us about the market outlook and customer appeal of Airbus' high-quality brand of helicopters.

Article: Heather Couthaud

What is today's market for corporate helicopters?

Ben Bridge: The civil and parapublic (C&P) market has seen a downturn since 2012, this is true, but after another flat period we expect to see it grow again from 2019 on. As of today, we secure 33% of the global private and business helicopter fleet. So it is an important area to focus on to contribute to our sales in a difficult period. Private & business aviation (PBA) already makes up 16% of Airbus Helicopters C&P deliveries in value, 22% in volume within the last 5 years. To further improve this position while strengthening our customers' satisfaction, we have decided to launch Airbus Corporate Helicopters.

Why did Airbus create its ACH brand? Isn't there already a business aviation range?

B.B.: The range of our helicopters is the same for all our customers but the equipment solutions we offer are tailored to the specific mission(s) our clients need to perform. Providing products and services for this segment is really a philosophy which requires a dedicated

approach. Benchmarking the corporate jet industry's highest standards, ACH makes a difference in the ownership experience and the high-end quality of its Corporate/VIP offering. ACH provides a tailored offering to corporate and VIP customers, those who generally have low flight hours and high expectations for their transport needs. Airbus' specialised divisions merging all to one, we saw an opportunity for ACH to be the rotary wing complement of Airbus Corporate Jets – ACJ – Airbus' VIP and corporate fixed-wing offering. This was a great opportunity to put together a dedicated and global business platform to better serve our customers and find new ones through association with ACJ.

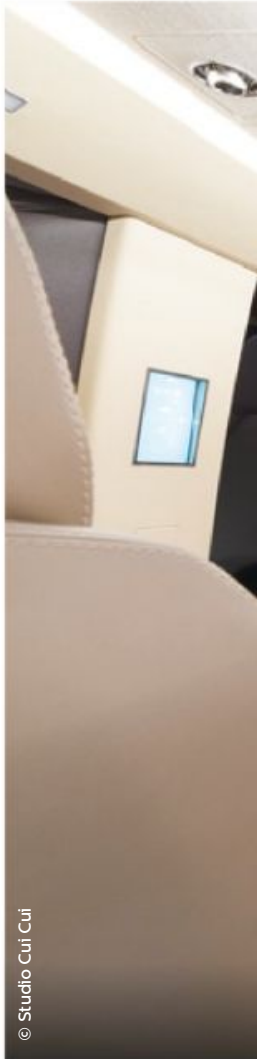
What is the appeal for customers who acquire these helicopters?

B.B.: Airbus is already known for making high-quality products and providing excellent service. ACH takes this to another level for customers that demand something special or bespoke. We are also developing a dedicated service offering – turnkey oriented – tailored to their low flight time and demanding

availability profile. Also, synergies between ACJ and ACH will be an opportunity to continuously improve our common understanding of customers' expectations and our offering towards them.

What are some highlights that we can expect in the future?

B.B.: First of all, ACH was launched at EBACE 2017. We are looking forward to seeing the first bookings of the ACH160 in the next few months and unveiling our final design concept. ACH160 is highly anticipated in the small medium market and is generating a lot of enthusiasm among the Corporate/VIP community. First deliveries of this version are planned to happen in 2020. We will also deliver shortly the first ACH135 helicopters incorporating Helionix, our state-of-the-art avionics solution; and continue to deliver the first H175 Corporate/VIP helicopters. The H175 is an amazingly capable aircraft whose cabin offers a jet cabin environment and ride. We are also in the process of delivering an H225 to a head of state in the Middle East. ■



© Studio Cui Cui



© Eric Raz



The ACH175 sets a standard in terms of elegance and comfort in flight, with a cabin that offers a similar environment to that of a business jet.

Markets: where does ACH fit in?

Airbus Corporate Helicopters addresses the private and business aviation market, which is vast and varied. For instance, it includes a first group of private individuals, High Net Worth Individuals, often aeronautic enthusiasts, mixing business trips with personal outings. The second group is the most common profile, which uses the helicopter for corporate needs. In such cases, a company will use the aircraft to transport executive staff and clients, but this definition can also include operators who organise charter flights for executives and affluent clients. Finally, a third group in this category are Ultra High Net Worth Individuals who use their helicopter exclusively for personal needs.

Governments make up another VIP category. Transporting heads of state and high-level government officials safely and to nearly any location with little advance warning marks the helicopter's true value.

For all these categories, ACH's offering provides customers with best-in-class products and attentive service.



Ben Bridge, Executive Vice President Global Business at Airbus Helicopters.



© Camille Moitrenc

The ACH145's compact body enables it to land just as easily on a rooftop as on a yacht or an isolated landing pad.

ACH RAISES THE BAR

A closer look at what the fanfare is all about.

Article: Heather Couthaud

ACH160, ACH145—is Airbus changing the names of its helicopters again? Not quite, but with the launch of its exclusive PBA platform, certain products are starting to bear the ACH acronym. More than this, though, the ACH philosophy is about products and services characterised by their personal touch and attention to detail.

“With ACH we want to raise the bar of the industry in terms of ownership experience, providing private and business aviation customers with a dedicated platform and approach tailored to their needs, incorporating their codes and delivering an unmatched perceived quality. We aim at positioning the brand as the high-end reference in this sector,” says Frédéric Lemos, Head of ACH at Airbus’ helicopters division.

A TAILORED SUPPORT SERVICE

One of the new approaches is HCare First, a tailored version of the company’s HCare support service. A comprehensive programme that offers extensive coverage, high availability, and optional maintenance by Airbus’ worldwide network, the service enhances the ownership experience and helps with aircraft resale value. Drawing on an international network of customer centres and technical specialists, the manufacturer can provide 24/7 support anywhere in the world—an indispensable service for globe-trotting users.

To create the ACH brand, Airbus reorganised some of its teams and resources, drawing on its pool of specialists in the PBA arena. Dedicated procedures were established to follow through on the brand’s promises of perceived quality,

availability and concierge-like attention.

ACH’s branding principles are shared with ACJ, its sister brand managing the sale of Airbus business jets, for a consistent group approach to this market. Arising from this connection, ACH’s distinct look utilises copper, black and white, and antique neutral tones. ■

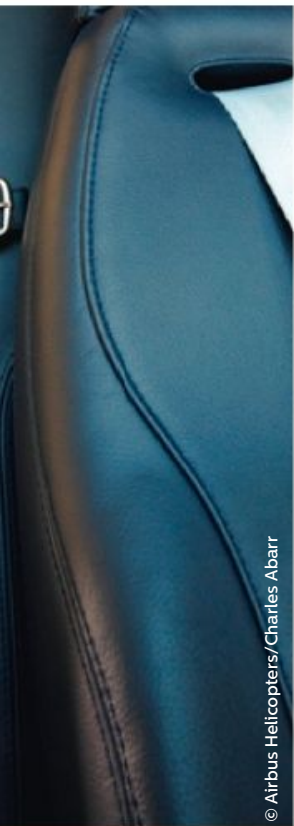


© Jean-Marc Kessely



© Ned Dawson





© Airbus Helicopters/Charles Abarr

“ACH is a new approach to providing customers with an exceptional and unrivalled experience while acquiring and owning a corporate or private helicopter. It is a philosophy and a product line supported by a dedicated service approach and first-in-class quality offering, unmatched in the helicopter industry.”

Frédéric Lemos,
Head of ACH - Airbus Helicopters.

ONE BRAND, THREE INTERIORS

It's all about the look. Discover the three design styles offered under ACH, from tasteful to luxurious and, of course, highly individual.

STYLENCE® BY ACH

This style could be described as elegance on the wing. As Airbus Corporate Helicopters' in-house style, Stylence® by ACH comprises clean lines and a spare look. It is characterised by neutral tones, geometric or abstract patterns, and minimal ornamentation that allow the exemplary craftsmanship to shine through. A detailed finish, fine materials and thoughtfully appointed features maximise the comfort and functionality of the helicopter.

ACH EXCLUSIVE

ACH Exclusive is just that: luxurious. It aims for a look that is at once refined and exclusive, placing passengers in an environment that does its utmost to impart relaxation. The line allows for customisation and bespoke craftsmanship, letting customers choose from a variety of materials, trim and colours. It is the place where individuals work with Airbus' design staff to create an interior that is theirs alone.

ACH EDITIONS

If you want to see what happens when a helicopter is in the hands of luxury brands and designers, look here. The ACH Editions line gives free reign to the expertise and imagination of top designers from Hermès and Mercedes Benz, as well as the vision of world-renowned designer, Peder Eidsgaard, and Pegasus Design. These interiors are marked by timeless design, elegant detail and exceptional materials. ■

ACH

Airbus Corporate Helicopters

ACH is a high-quality, sophisticated and exclusive brand offering an end-to-end, service-based ownership experience.

To differentiate the company's exclusive private and business helicopters, these will now feature the ACH prefix: ACH130, ACH135, ACH145, ACH160 and ACH175.

ACH 130



- 130 kts
- 617 km / 333 NM
- 1 + 6



Comfort with forward-facing energy-absorbing seats. A large sliding door and long boarding steps on both sides allow an easy cabin access.

ACH 135



- 139 kts
- 587 km / 317 NM
- 1 + 6
2 + 5



The elegant interior design with stylish seats and cabinets creates an exclusive ambience. In all configurations, passengers can sit comfortably.

ACH 145



- 144 kts
- 640 km / 346 NM
- 1 + 9
2 + 8



With over eight possible layouts, this is the industry's most flexible cabin and the one most likely to offer an interior solution that meets the most demanding requirements.

ACH 175



- 155 kts
- 1,078 km / 582 NM
- 2 + up to 12



With flowing lines and harmonious materials, the ACH175 provides a smooth and quiet jet-like ride at high speeds, and a climate-controlled cabin.

- Fast cruise speed
- Max range with standard fuel tanks
- Capacity

Source: Airbus / Light & Shadows

Infographic: beatrizsantacruz.com

ACH 160

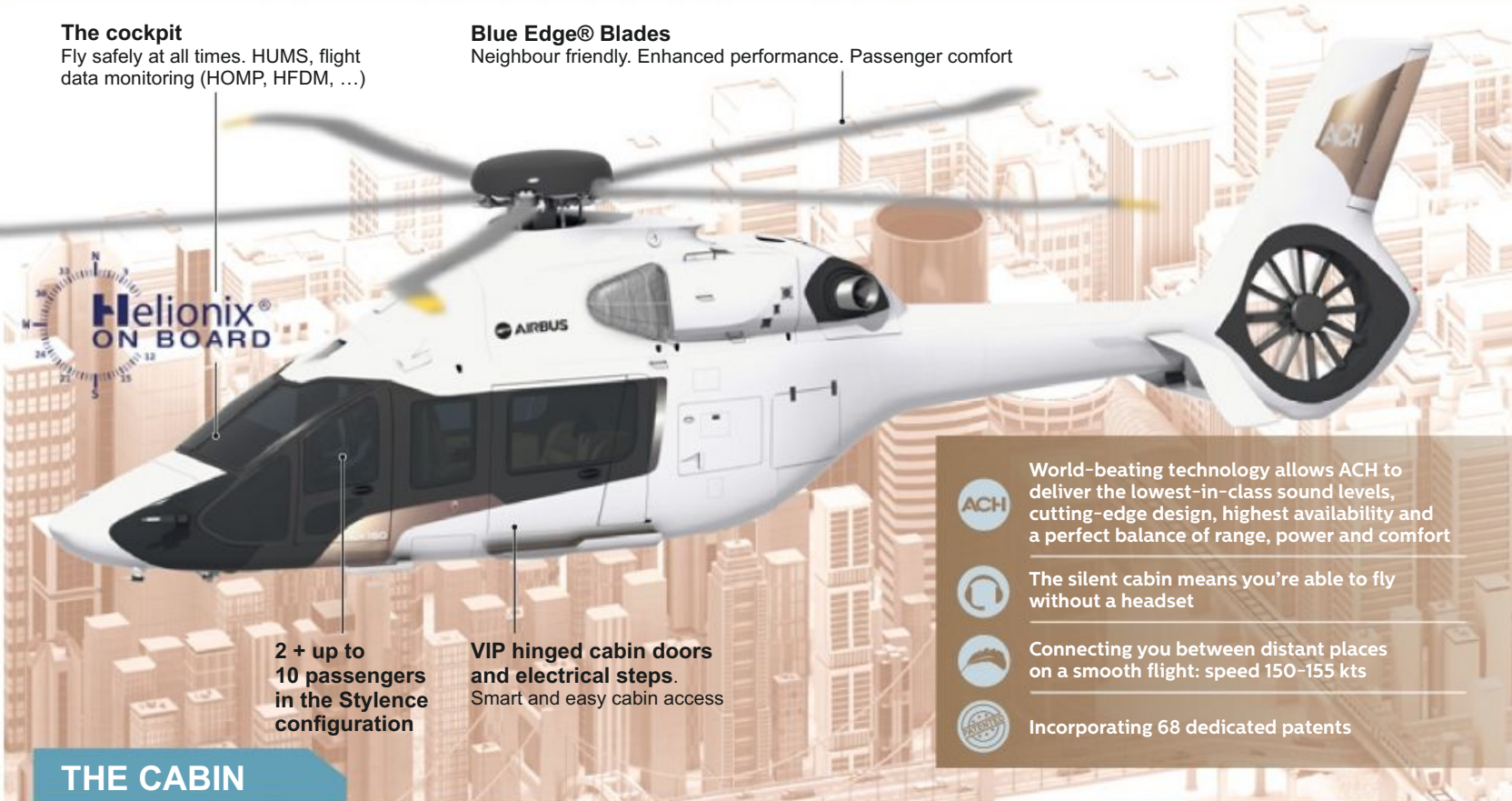
VIP and corporate customers benefit from the highest safety standards built into Airbus products by design including the Fenestron shrouded tail rotor (quieter and safer), advanced avionics (the Helionix suite of advanced avionics shared across Airbus' twin-engine range) and tailored HCare First support.

The cockpit

Fly safely at all times. HUMS, flight data monitoring (HOMP, HFDM, ...)

Blue Edge® Blades

Neighbour friendly. Enhanced performance. Passenger comfort



Helionix
ON BOARD

2 + up to 10 passengers in the Stylence configuration

VIP hinged cabin doors and electrical steps. Smart and easy cabin access



World-beating technology allows ACH to deliver the lowest-in-class sound levels, cutting-edge design, highest availability and a perfect balance of range, power and comfort



The silent cabin means you're able to fly without a headset



Connecting you between distant places on a smooth flight: speed 150-155 kts



Incorporating 68 dedicated patents

THE CABIN

Electro-chromatic windows and partition

Ceiling with decorative elements

Optimised, ergonomic cushion foam with high-quality leather

Side ledges offering a combination of storage compartments

4 VIP energy-absorbing armchairs

Cabinet between armchairs

Cockpit cabin partition



HUMS: Health Usage Monitoring System

HOMP: Helicopter Operation Monitoring Programme

HFDM: Helicopter Flight Data Management

UP ABOVE

© Air Glaciers / Richard Chapuis / Air Glaciers' HB5 in front of Mont Collon at the end of the Hérens en Valais valley (Switzerland), during a mountain medical course from the SSMM (Société de Médecine de Montagne).



Emergency care takes flight in the Land of the Midnight Sun

With a fleet that includes next-generation H145 helicopters, FinnHEMS handles 15,000 emergency medical missions a year for Finland.

Article: Heather Couthaud – Photos: Nicolas Gouhier

Extending 1,160 kilometres in length, at latitudes that include heavy snowfall and strong winds – not to mention months of near-continuous darkness – Finland has placed its trust for helicopter emergency medical services (HEMS) in the hands of FinnHEMS. Owned equally by Finland's five University Hospital Districts, the non-profit serves as the country's national administrative unit for HEMS, buying the flight operations as turn-key contracts. With rare exceptions – such as transporting burn victims to hospital – FinnHEMS' main task is responding to primary calls. Six bases and eight helicopters, including four H145s, support some 15,000 missions a year, or approximately 2,500 calls per year per base.

PROVIDING A VITAL SERVICE

"We had a mission with a patient who was severely burned," says Ralf Molander, a pilot at Oulu base, 500 kilometres from Helsinki and bordering the far-north region of Lapland. "It became apparent that we wouldn't be able to fly all the way in VFR [visual flight rules]. The only choice was to fly an instrument approach, which we did here, to the Oulu airport. An ambulance then picked up the patient."

At each base, located at regional airports, a crew of three people – a pilot, a HEMS crew member and a physician – handle anywhere from six to seven alarms a day. These usually involve an accident in remote regions, or situations in which vital functions are at risk (loss of consciousness, heart function, breathing). Patients may require urgent care on-scene, treatment on board, or need to be flown directly to hospital. In Molander's case, the crew's mission radius is about 400 kilometres from the city of Oulu; they'll respond to calls anywhere from a ten-minute flight away,

up to distances closer to 30 minutes' flight, in the case of towns like Pudasjärvi and Vaala.

TAILORED FOR EMERGENCIES

To handle the demanding work, the company uses HEMS-configured H145s, equipped with AeroLite medical equipment and a stretcher. The most recent incarnation of Airbus' twin-engine, four-tonne range, the H145's enhancements include the manufacturer's Helionix® avionics suite, 4-axis autopilot, and greater performance thanks to two Arriel 2E engines. "The automation is really advanced for this size of helicopter and the avionics are really next-generation," says Molander. "The H145's power is great. We no longer have a problem with single-engine hovering power in an emergency, so we can make the approaches to HEMS sites with confidence that we're okay even in the case of an engine failure."

Tailored for emergency services, the H145 aids the safe loading and unloading of patients through wide sliding doors at the side and large clamshell doors in the rear. The cabin is able to accommodate up to two stretchers with partial or full suites of medical equipment. Perhaps most noticeable, its Fenestron® shrouded tail rotor serves the dual function of a low external sound level in flight, and additional safety for staff working around the helicopter on the ground. "I really like the new helicopter and the new equipment," says Ville Voipio, a medical doctor for FinnHEMS. "The H145 makes my work easier and smoother, inside the helicopter as well as loading up the patient. I'm really satisfied with it." ■

- 1 – The H145 is equipped with an AeroLite medical interior and a stretcher.
- 2 – Large rear doors facilitate patient loading aboard the H145.
- 3 – FinnHEMS's base of operations is near the Oulu airport.
- 4 – Ville Voipio, FinnHEMS medical doctor.
- 5 – The cabin's volume aids the administration of care during flights.
- 6 – The H145 above Oulu, on the northeast coast of the Gulf of Bothnia.

"The automation is really advanced for this size of helicopter, and the avionics are next-generation and easy to understand."


Ralf Molander,
FinnHEMS pilot



Watch the video on Rotor On Line.



H145



- Capacity: 1 pilot + up to 11 passengers or 2 pilots + up to 10 passengers
- Engine: 2 Turbomeca ARRIEL 2E with FADEC
- Fast cruise speed: 240 km/h - 130 kts
- Range: 816 km/441 NM
- Endurance: 4h33 min



Above the volcano

Flying to the Piton de la Fournaise volcano as it erupts over the exceptional geological sites of Réunion Island – a UNESCO World Heritage site, 42% of which is a national park, judged to be one of the five most beautiful places in the world – are just some of the services offered by Corail Hélicoptères.

Article: Régis Noyé

With a fleet of eight Airbus helicopters, including five H120s and H130s and three twin-engine Ecureuil rotorcraft, Corail Hélicoptères is one of three civil helicopter operators on the island of Réunion. Its full fleet is distributed across four bases, two of which are on Réunion itself (Hermitage heliport and Pierrefonds airport at Saint Gilles), one on the island of Saint Martin (at Grand Case) and one on Mauritius (Plaisance airport). Its main line of business is conducting tourism flights, along with other aerial work – mainly lifting, power line inspections, aerial photography, etc. With a total of around 5,000 flight hours per year, each of the company's nine pilots flies more than 500 hours yearly. Of particular note, all rescue and medical missions on the island are managed by the Gendarmerie (military police), instead of a civil security body, which is not present on the island. As the holder of Part 145 certification, Corail Hélicoptères maintains its own rotorcraft.

UNPREDICTABLE THRILLS

"An eruption of Piton de La Fournaise obviously adds a very powerful extra thrill to the tourism flights we offer, but it's pretty random as it can never be planned in advance," explains Sébastien Diernaz, head pilot at Corail Hélicoptères. "In fact, the underground chambers fill with lava very irregularly and unpredictably. For instance, following a major eruption in 2007, there was hardly any activity for six consecutive years and then we had four eruptions in 2015, followed by two in 2016 and several this year. So, unfortunately, it's not possible

to book a flight with an eruption guaranteed...it's a real stroke of luck!"

AROUND THE CRATERS

"If there is an eruption, we fly in a figure-eight above the area, which generally includes several small craters of less than 10 metres in diameter, around the main crater, in a site that stretches to a diameter of about 8 km overall. We then descend to about 700 feet above the ground simply to avoid the turbulence generated by the differences in temperature. The passengers are obviously surprised, but the flight doesn't entail any particular risks. All pilots have completed the flight at least once under the supervision of an instructor and then do so alone on board. The volcano is of the "effusive" type, so there is no ash cloud and therefore no risk of the engine absorbing particles – there are just streams of red lava flowing down the slope. There may be clouds of sulphur, identifiable because they are blue – these are to be avoided as they are physically harmful. In general, visibility is only very rarely impeded," says Sébastien Diernaz.

"Tourism flights account for around 75% of the company's business – an indication of the knowledge and experience of its nine pilots."

Sébastien Diernaz,
head pilot at Corail Hélicoptères

1 – A Corail H130 flies over the Piton de la Fournaise, one of the world's most active volcanoes.

2 – In 2016, the company booked more than 6,100 tourism flights and transported close to 37,405 passengers.

3 – Established in 2003, Corail Hélicoptères is equipped with a fleet of 10 helicopters.



1

© Kelly Maillot



© Antony Pecchi

2



© Antony Pecchi

3

MISSION

H145M



- Maximum take-off weight: 3.7 tonnes
- Capacity: 2 pilots and up to 10 soldiers
- Engine: 2 Turbomeca Arriel 2E turboshaft, dual-channel FADEC
- Maximum speed: 240 km/h
- Maximum range: 638 km



1



2



3

- 1 – Special forces fast roping out of the H145M.
- 2 – The H145M undergoing cold-weather testing in Vidsel (Sweden).
- 3 – Handover of the 15th and final H145M in Laupheim.

GERMANY Time for the elite

Bundeswehr special forces are called into action when regular troops reach the limit of their capacities. These elite soldiers rely on the H145M for their operations worldwide. Here, two officers explain what they appreciate about the multi-purpose helicopter.

Article: Joerg Michel – Photos: Luftwaffe – Johannes Heyn

The Bundeswehr ordered a total of 15 H145M LUH SOF* aircraft. The last helicopter was handed over in Laupheim in June 2017. “The H145M LUH SOF provides us with new capabilities,” says lieutenant colonel Daniel Peisker, who has been working on the procurement and operational testing of the H145M for the Bundeswehr for many years. “Now we can get our special forces where they need to be faster, more safely and more efficiently.”

Bundeswehr special forces are called into action when regular troops reach the limit of their capacities—scenarios that include dealing with the abduction of German citizens abroad, going after war criminals in crisis areas and averting terrorist threats overseas. In these situations, rapid deployment is essential. “One of the decisive benefits of the H145M LUH SOF is that it can be transported by air—in an A400M, for instance—for strategic deployment. This gives us rapid access to theatres worldwide,” says Peisker. “Also, because there is minimal dismantling involved in air transportation, we can rapidly get our mission underway once we arrive at the target location.”

RIGOROUS TESTING UNDER EXTREME CONDITIONS

Before the helicopters entered service, the Bundeswehr subjected them to rigorous testing under extreme conditions. “During the cold weather campaign in northern Sweden at the beginning of the year, we put the H145M LUH SOF well and truly through its paces in extreme cold weather conditions,” says lieutenant colonel Peisker. From Vidsel in Sweden, not far from the North Pole, the helicopter performed landings on snow, night flights and operations using the winch—all at temperatures of well below 0°C. “To ensure the helicopter’s operational readiness in any climate, in summer the H145M LUH SOF went for testing in Jordan, where it was exposed to extremely

hot, dry and sandy conditions,” continues lieutenant colonel Peisker. “So far, the helicopters have passed every test with flying colors.”

A STRONG PERFORMANCE IN THE ALPS

During testing, the Bundeswehr also conducted typical special forces missions using the helicopter, including the transportation of four special forces soldiers in full equipment to a deployment site in the Alps—a potential destination for German special forces if there are hostages to be freed**. “The H145M negotiated the complex and highly demanding mission with ease,” says lieutenant colonel Andreas Buttenmüller, who has been a Bundeswehr pilot for 24 years and flies the Tiger support helicopter and the CH-53 alongside the H145M. “As a pilot, I am particularly impressed by the helicopter’s single engine performance. This provides more safety in deployment, for instance if an engine fails under fire while a soldier is fast roping.”

A VERSATILE, MULTI-PURPOSE HELICOPTER

Whether it’s freeing hostages, conducting special reconnaissance or protecting important individuals abroad, Bundeswehr special forces trust in their versatile, multi-purpose helicopter. “Our missions require a compact helicopter with lots of storage space, a large payload and high performance—while also being quiet and difficult to detect,” says lieutenant colonel Buttenmüller. “In this regard, the H145M is the best helicopter for our operational needs while also offering a very good availability rate and excellent reliability.” ■

* Light Utility Helicopter (LUH) Special Operations Forces (SOF)

** Deployment phases: Loading of fully equipped and armed soldiers; flight to deployment area; special forces abseil into position; all soldiers and rescued individuals picked up following successful conclusion of mission.

Fact facts

Helicopters based in Laupheim: 15

Flight hours: Over 3,900

Mission availability: More than 99% thanks to a collaborative, service-based support agreement with Airbus

Equipment: Abseil system for the deployment of special forces; high-performance camera system; attachments for fire support; ballistic protection; electronic self-protection system

The H125 taking on the roof of the world

The H125s operated by Lhasa Snow Eagle General Aviation Corporation for humanitarian relief, emergency medical services and high-altitude sightseeing flights are the first commercial helicopters to take to the skies above Lhasa, the capital of Tibet.

Article: Alexandre Marchand – Photos: Snow Eagle General Aviation

Delivered in quick succession over the summer, the four H125s are the first from an order of 12, with a second batch of four due for delivery by 2018, and the last four, which are still on option, in 2019. Nowadays, more than a hundred H125s are in service in China, representing the single biggest type of helicopter in the country.

The H125s now in service bear the livery of Snow Eagle, the first general aviation company to receive approval from the Civil Aviation Administration of China (CAAC) to operate in Lhasa and across Tibet. Snow Eagle is a joint venture that is 51% owned by Ruo'er Group, a major aerospace player in China, and 49% owned by the Lhasa Potala Tourism Culture Group. The founding of Snow Eagle is a key phase in the development of aerospace activities in Tibet. "The arrival of the H125s in this region is a historic first for our group and for Airbus Helicopters," said Mr Yong Lyu, the chairman and founder of Ruo'er Group.

A HIGHLY DYNAMIC OPERATOR

It is a first that poses several technical challenges, both for the aircraft themselves and their crews. With its extremely high average altitude and often challenging terrain, the region is nothing short of mission territory for the H125s. Lhasa lies 3,600 metres above sea level, while the altitude of the highest point in the area where the Snow Eagle aircraft now operate is 5,200 metres. "The speed with which the first aircraft have entered into service is down to the effective technical support offered by Airbus Helicopters and the energy and drive of their operator," said Vincent Dufour, the commercial director for Greater China. "Ruo'er Group is well known as an established player in the Chinese general aviation industry and known for its professional approach. As the group's founder, Mr Lyu has shown exceptional

motivation in developing his company. He started out with a light-helicopter training venture but had always expressed an interest in the H130. Ultimately, he opted for the H125, which sets the benchmark when it comes to aerial work at high altitude." The aircraft based in Lhasa will be used for emergency medical services, mountain rescue and power line surveillance as well as for carrying sling loads and transporting dignitaries, among other tasks.

"We're just starting our operations in Tibet, and we believe that there's major development potential in the general aviation market there, especially for corporate helicopter transportation," said Lyu. "With its excellent high-altitude performance, the H125 plays a central role in both our current activities and our development projects." ■

"We're just starting our operation in Tibet, and we believe that there's a big market potential for the development of corporate helicopter aviation in Tibet. With their excellent high altitude performance, it's very important for Ruo'er Group to operate H125 helicopters in Tibet."

Mr Lyu Yong, Chairman of Ruo'er General Aviation Development Group

1 – The H125s purchased by Ruo'er Group will be operated on high plateaus, where the average altitude is between 3,600 and 4,500 metres.

2 – Lyu Yong, Chairman of Ruo'er General Aviation Development Group.

3 – The H125s will be used for EMS, search and rescue, tourism and sightseeing, as well as corporate aviation missions.



1



2



3

AROUND THE WORLD



1 - An H155 of the Tanzania People's Defence Force (TPDF) with Jerome, TPDF technician, during an emergency evacuation training mission.

2 - Mount Meru (view from Arusha airport).

3 - A TPDF H155 with Ally Juma, TPDF pilot, during a connecting flight to Zanzibar.

TANZANIA

Helicopters help Tanzania to flourish

In recent years, Tanzania has been poorly equipped with helicopters despite its significant need for them. But this is gradually changing.

Article: Alexandre Marchand - Photos: Patrick Hatton

“The gradual deployment of this fleet corresponds to a genuine desire on behalf of the Tanzanian authorities to acquire an effective tool for a wide range of missions”.

Cécile Arnaud,
sales manager
for the region.

In June 2014, Airbus Helicopters signed a contract with the Tanzanian Government for the supply of twelve rotorcraft. It was one of the major contracts signed in Africa in the past twenty years. Furthermore, it marks the genuine onset of heliborne operations in Tanzania, an East African country with 55 million inhabitants, which is currently buoyed by great ambitions in the field of energy and tourism.

“At present, helicopters are virtually non-existent on the Tanzanian landscape,” states Cécile Arnaud, sales manager for the region. “However, over the coming years, we will witness the development of numerous opportunities in this undeveloped market.”

The contract signed with the Tanzanian armed forces in 2014 marks an ambitious first step. It has already resulted in the arrival of two H155s in Dar es Salaam. One helicopter is a VIP version and the other is equipped for public service missions. These rotorcraft will be followed by two civilian H225s (in SAR and VIP configuration). Subsequently, four H215Ms will be delivered.

SIGNIFICANT NEEDS

“The gradual deployment of this fleet corresponds to a genuine desire on behalf of the Tanzanian authorities to acquire an effective tool for a wide range of missions,”

states Cécile Arnaud. “The H155 was commissioned with an extremely high level of technical support and training. Even today, we still have a pilot and a technician permanently assigned to these helicopters.” The entry into service of the entire new fleet will require an extensive transfer of know-how with ab initio training of the new helicopter crews and mechanics. Tanzania has shown a broad range of needs which extend well beyond the military sphere. Firstly, to service the energy sector: the discovery of offshore gas fields will lead to offshore operations in the near future that will have to be supported by helicopters. Secondly, the oil pipeline project that will link Uganda to the Indian Ocean will require regular surveillance. The need for helicopters is also important in terms of tourism, from aeromedical evacuation around Kilimanjaro to the control of animal reserves and the fight against poaching. Tanzania's lack of infrastructure also paves the way for the set-up of safe and rapid helicopter links to the islands (Zanzibar, Mafia or Pemba) as well as between Dar es Salaam, the country's economic capital, and Dodoma, 450 km away, the country's administrative capital which is undergoing extensive redevelopment. More than ever, the helicopter has pride of place in Tanzania's growth. ■

Paris-Le Bourget: an industrial transformation project

The transfer of Airbus' La Courneuve activities to the Paris-Le Bourget (PLB) site is more than just relocation to a new area; it is a genuine transformation project that affects the organisation of work, industrialisation processes and, ultimately, the company's competitiveness. It encompasses an extremely ambitious objective: to reduce production costs and manufacturing cycles. This relocation also foreshadows the group's new industrial structure and the high level of specialisation at each site involved. Over time, Paris-Le Bourget will design and manufacture all the blades for Airbus Helicopters.

Article: Alexandre Marchand



© Amélie Laurin

THE CHALLENGES OF MOVING

The historic site at La Courneuve presented two major drawbacks: it was old and some parts were dilapidated (the oldest building dates back to 1917); moreover, it was enclosed in an urban area, thereby ruling out the possibility of expansion.

The construction of a new facility at the Paris-Le Bourget site made it possible to resolve these two problems in one fell swoop while maintaining the same scope of activity.

In addition to the entire blade division (from research and design to manufacturing and repair), the sales and marketing activities are also on site.

Traditionally, they were based in the Paris region.

In all, approximately 700 people work there, including the teams responsible for the operation of the site. The new building was commissioned in September 2016 and the transfer of activities from one site to another was completed in spring 2017. During the transfer, internal and external customers continued to receive deliveries, with no impact on the quality or quantity of products delivered. ■



© Amélie Laurin



KEY FIGURES

More than €100 M
in investment

Transfer of activities
in spring 2017

640 employees

60,000 m²

Nearly 5,000 blades
produced per year

A NEW LEVEL OF COMPETITIVENESS

The move from La Courneuve to Paris-Le Bourget is also a transformation project based on four major pillars:

- **Industrial organisation:** from now on, teams will have more responsibility. The call for collective knowledge goes hand-in-hand with a reduction in hierarchical levels. The quality control procedures implemented on site are more targeted at processes than on individuals; the objective is to produce quality, not to inspect it.
- **Digitalisation and standardisation:** activities are increasingly managed with tablets and screens, meaning the worker can access information as and when it is needed. In this way, employees gain autonomy.

- **Industrialisation and automation:** the blade manufacturing process remains very manual for blades currently in production, but research being carried out will enable the automation of certain processes, sometimes with the help of cobots (cooperative robots).
- **Site optimisation:** operation costs, coupled with a rational industrial organisation and investment, will result in a reduction in energy consumption. Maintenance contracts are optimised and based on the level of activity. ■

A NEW INDUSTRIAL STRUCTURE

To avoid the duplication of activities and investment, Airbus Helicopters' industrial sites have become more specialised and have gained know-how in their areas of expertise: Donauwörth will focus on airframe activities, while Marignane will be responsible for dynamic components. At present, the Paris-Le Bourget site will focus fully on the production needs of Marignane. Donauwörth will produce its own blades. But with the gradual phasing-out of the old product ranges and the escalation of the "X" programmes, the Paris site has been earmarked to eventually regroup all Airbus helicopter blade manufacturing activity. ■



© Amélie Laurin

At the summit at all times!

The mountains of Switzerland hold no secrets for Air Glaciers, a company specialising in aerial work and high altitude rescues since 1965. No helicopter mission is too difficult for its three SA315s, nine H125s and two H135s, operating from seven bases around the Bernese and Valais Alps.

Article: Belén Morant

A GUARDIAN ANGEL WATCHING OVER THE MOUNTAINS

“We perform an average of 2,000 rescue missions a year,” explains Patrick Fauchère, Air Flight Operations Manager at Air Glaciers SA. “Between 800 and 1,000 of these missions take place between 1 January and Easter, as most accidents occur when all of the skiers arrive in the valley. At this time of the year, we deploy our two medical H135s for the evacuation of injured people, with three or four H125s deployed for tactical support. Last winter we set a new record with 33 rescue missions on the same day.” The H135s are equipped with NVIS, a medical kit, a double hook and mirrors. For each medical evacuation mission, the aircraft takes off with a pilot, a doctor and paramedics, accompanied by a rescue specialist on the most technical missions (avalanche, crevasse, winch, for example). ■



A METICULOUS WINEGROWER

Every year, from early May to 15 August, Air Glaciers helicopters take on the job of treating difficult-to-access vineyards with a fungicide. For compounds with no synthetic products (neither pesticides nor herbicides), the helicopters have to make up to seven trips to ensure maximum efficacy.

“We equip our Lamas and our H125s with a Simplex kit so that we can spray the fungicide. Air Glaciers is a company that is committed to promoting the use of organic products without pesticides,” explains Fauchère. The flights, at low altitudes and with various obstacles, take place early in the morning to avoid temperatures above 25°C, which reduce the effectiveness of the treatment. Furthermore, to avoid having the product disperse, days without wind are given priority. In 2017, Air Glaciers used an H125 for the first time to carry out this mission and the results fully met expectations. “The feedback from the pilots is very positive. These are very dynamic flights, with lots of changes in direction, but the H125 is perfectly suited to such missions. It is a faster helicopter, capable of transporting heavier loads in a quieter, more understated manner.” ■



© Air Glaciers / Richard Chapuis



© Air Glaciers / Richard Chapuis

“At Air Glaciers, we are 100% mountaineers. We know the topography of our valleys and the peculiarities of each which means that we can offer the best guarantees to our customers regarding the quality and safety of the services for any air mission.”

Patrick Fauchère,
Air Flight Operations Manager
at Air Glaciers SA

In the field



© Air Glaciers / Richard Chapuis

HELI-SKIING

- **Where:** Swiss Alps at 40 landing sites permitting heli-skiing.
- **When:** normally from January to April
- **Difficulty:** management of aerology (air physics) and challenges of mountain flights (white-out conditions).

Switzerland is virtually the only country in Europe that allows heli-skiing, a weather-dependent activity. Air Glaciers uses its H125s to place up to five fully equipped skiers on peaks between 3,000 and 4,200 metres high, accompanied by a mountain guide. The flight itself is a wonderful adventure, as it enables passengers to marvel at the breathtaking landscapes.



© Air Glaciers / Richard Chapuis

REFUGES

- **Where:** Bernese and Valais Alps
- **When:** year-round
- **Difficulty:** at high altitudes, the helicopters fly to the limit of their capabilities, even though the pilots always allow themselves a margin for safety and aerology. The H125s are used for the construction and resupply of high mountain refuges. With their external load capacity, the H125s can carry construction equipment, workers, wood and structures as well as supplies.



© Bruno Siegfried

ANIMALS

- **Where:** Bernese and Valais Alps
- **When:** mainly the summer season but available all year
- **Difficulty:** external transportation of live animals.

With the arrival of warmer weather, animals go to the high pastures. During this period, animals sometimes injure themselves and perish in the mountains. With its H125s, Air Glaciers collects lost or injured livestock using special harness-like nets, and deposits them at the nearest location. Indeed, in Switzerland it is strictly forbidden to abandon an animal in the mountains.

ACH

Tailored for you

Introducing Airbus Corporate Helicopters (ACH). The widest choice of industry leading helicopters and a first class service specifically tailored to the corporate market. Complementing Airbus Corporate Jets (ACJ), Airbus is the only company providing a dedicated business aviation offer. ACH delivers the highest standards of safety, technology, craftsmanship and customisation.