

Rotor

BY AIRBUS HELICOPTERS

PANORAMA
Airbus Helicopters
results in 2015

LIFE OF THE RANGE
Two versions of the H215 for
a large spectrum of missions

LOGBOOK
Inside
the H160

Meeting the challenge
**Welcome to
North America**



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FEATURED ARTICLES
Welcome to North America



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Our current environment is particularly difficult. It remains marked by a historically low civil market particularly in the Oil & Gas sector, which has been hard hit by the steep decline in oil prices, and a military market which has been severely affected by the budgetary difficulties which states are experiencing in their military equipment acquisition programs. Despite this, Airbus Helicopters has continued its growth in 2015, buoyed by its transformation plan, the quality of its services, the availability of its helicopters and its unremitting commitment to safety. A year during which Airbus Helicopters has continued to implement its strategic roadmap, especially with the development of the H160 and the start of the X6 concept phase.

Airbus Helicopters owes this result to its customers and thanks them for their trust, loyalty and faithfulness. They have allowed the company to maintain its position in 2015, and they may remain assured of our commitment

“Airbus Helicopters owes this result to its customers.”

Guillaume Faury

to pursue our transformation plan.

The year 2016 will not be marked by a significant turnaround in the helicopter market. It will also be a difficult year for all customers who operate in complicated, tense market situations and, sometimes, in a politically and economically unstable environment. To get through this difficult period, Airbus Helicopters' ambition is to be a partner of choice for its customers by offering them the expected level of adaptation, by demonstrating a high degree of reliability and by meeting its commitments.

In the North America special report, you will find an example of the way in which the company is capable of organizing itself to develop its proximity to its customers, work alongside them and be a trusted partner in a highly changeable international environment. 2016 appears as a year of challenges to be met. Airbus Helicopters is looking forward to it with ambition and determination.



FRANCE December 2015 / January 2016

The French government orders seven Tiger HAD and six NH90



© Bundeswehr



© Nicolas Gouhier



© A. Pecchi



© Thierry Rostang

GERMANY DELIVERY OF THE FIRST H145M

Airbus Helicopters delivered the first two lightweight military multi-role H145M helicopters to the German Armed Forces (Bundeswehr) in December 2015. The helicopters will be used by the Kommando Spezialkräfte (KSK), the German Army's Special Forces, in Laupheim. The Bundeswehr, which is the launch customer for the H145M, has ordered 15 of these helicopters. With a delay between the contact signature and first delivery of just two years, this project is a benchmark of efficient cooperation between Bundeswehr, authorities and industry.

SCOTLAND THE H175 ARRIVES IN ABERDEEN

In January, the H175's launch customer, NHV, brought two of its super-medium helicopters to Aberdeen, Scotland to reinforce its oil and gas fleet in the North Sea. With a 90% availability rate and 2,000 flight hours to its name since its start of operations in December 2014, the H175 boasts increased flight safety, greater passenger comfort, and competitive operating costs. NHV have taken delivery of a total of six H175s, with four more slated for delivery in 2016.

RUSSIA H225 RECEIVES RUSSIAN CERTIFICATION

In December 2015, the H225 received certification from Russian certification authorities. It is the first time in history that a foreign heavy class helicopter has been certified in Russia. This certification will open up the all-weather market not only in Russia, but in other countries such as Azerbaijan, Armenia, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan and Uzbekistan for which the H225 is perfectly suited with its de-icing system. A demo tour organized last summer in Russia allowed the offshore community to witness firsthand the capabilities of the H225's four-axis autopilot, its operational readiness, and its comfort in flight.

FRANCE SECOND H160 PROTOTYPE TAKES OFF

The H160's second prototype took off on January 27 in Marignane, kicking off a busy 2016 for the H160 as it pursues its flight test program with two prototypes. It is the first H160 to fly with the Turbomeca Arrano engines. PT1 had accumulated more than 75 hours of flight testing by the end of 2015, allowing the aircraft to open the flight envelope and validating some of the helicopter's excellent features right from the start. 2016 will be an equally active year for the H160 with the beginning of its commercialization and many other milestones in helicopter development, industrialization and preparation of support activities in order to bring a fully mature helicopter to the market.

Airbus Helicopters results in 2015

Despite weak market conditions, Airbus Helicopters managed to keep a leading position in the helicopter sector, improved customer satisfaction, and progressed its development programs and its strategic Transformation Plan.

FACTS & FIGURES*



Airbus Helicopters was able to outperform its competitors despite a challenging 2015 market.

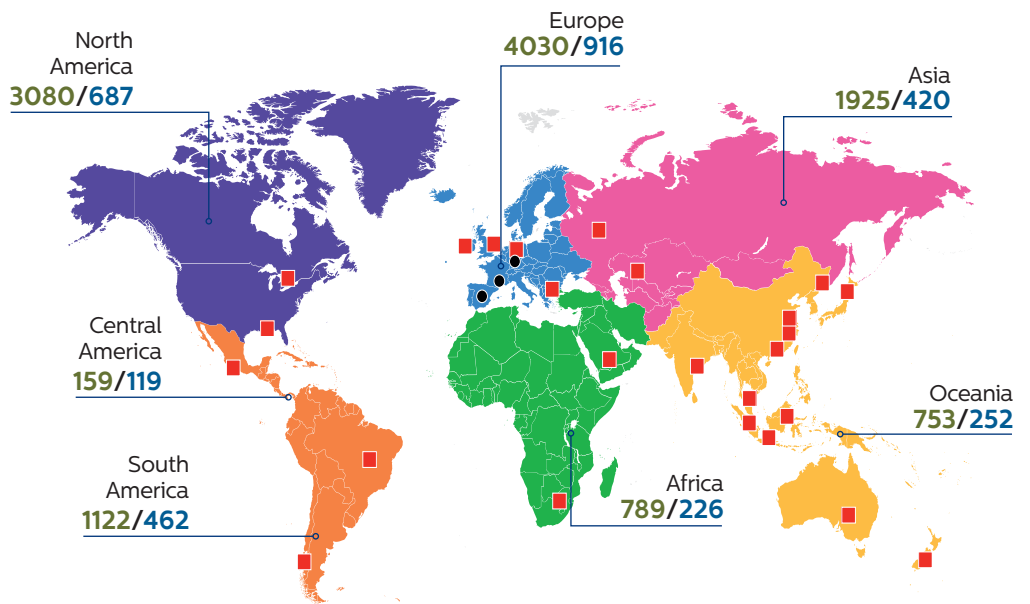


Airbus Helicopters remains the leader in the civil and parapublic market having delivered 45% of the market share for turbine helicopters** (in units) in 2015.

*Civil, parapublic & military

**greater than 1.3 tons of MTOW

AIRBUS HELICOPTERS IN SERVICE FLEET



Number of in-service helicopters
Number of operators

● Main sites

■ Customer centers distributing Airbus Helicopters products & services

MAKING INROADS IN 2015

January

In line with the new brand name and its transformation, Airbus Helicopters' products adopt new names. The letters EC are replaced by the letter H.



March

- Airbus Helicopters unveils the new H160
- Airbus Helicopters launches HCare Services offer.

May

Airbus Helicopters' militarized H145M receives its on-time EASA certification.



June

Airbus Helicopters launches X6 concept phase, for the future in heavy-lift rotorcraft.



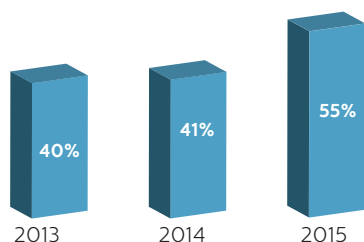
CUSTOMER SATISFACTION

Airbus Helicopters is on the winners' podium

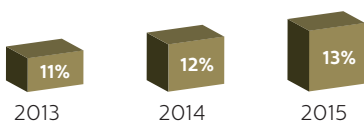
In 2015, Airbus Helicopters secured second place in the customer satisfaction survey conducted by mainstream media in the aeronautical sector. A clear progression, which reflects a significant improvement in the perception of Airbus Helicopters among its customers. This second-place ranking awards in particular the efforts made to improve support and services. Focus on logistics, which drove this success.

BOOKINGS TRENDS (UNITS)

In the wake of a global recession in the helicopter industry, Airbus Helicopters has continued to steadily increase its bookings market share, defying the downturn that has affected competitors.



Civil & parapublic bookings trends* (units)



Military bookings trends (units)**

* greater than 1.3 tons of MTOW

** Airbus Helicopters % (with NHI)

1 Very clear progress on spare parts

Airbus Helicopters delivers 98% of all “planned” parts (parts ordered two weeks in advance) on time. This result is formulated by the OTR (On Time Request) 5B index, which measures the rate of delivery compared to the date requested by the customer.

2 A worldwide effort

The OTR improvement is also a result of the fundamental work across all Customer Centers. These have been raised to an equal level of performance and competence worldwide. Inventories for the most widely distributed parts were completed close to the customer, and those less common at regional hubs. Between 2013 and 2015, missed OTRs fell from 18.3% to 5.2% in the Customer Centers.

3 In cooperation with customers

Airbus Helicopters makes strong commitments, but success also depends on anticipation and customers’ ability to plan. They are encouraged to plan their orders, with a notice period of at least two weeks. The result has been spectacular. Between 2014 and 2015, the percentage of planned orders increased from 26% to 69%, at the expense of orders categorized as AOG, which fell from 48% to 4%.

4 A firm financial commitment

Airbus Helicopters is committed to accomplishing 100% of deliveries on time for all “planned” parts. Every late delivery – even if it is only by one day – will result in financial compensation on a future order.

July

The Bluecopter demonstrator confirms the feasibility of Airbus Helicopters’ advancements in eco-friendly helicopter design.



October

Airbus Helicopters sets up final assembly line in China in cooperation with Sino-German Ecopark.

November

- Airbus Helicopters and Korea Aerospace Industries affirm partnership for export and support of Korean helicopter platforms (LAH and LCH).
- Airbus Helicopters starts flight tests with high-compression engine as part of the European Clean Sky initiative.
- Airbus Helicopters Industries



in Brasov, Romania is officially launched and will assemble the new H215.





Today, there are 2,310 Airbus Helicopters aircraft being operated by 458 U.S. customers. In Canada, the fleet comprises 695 helicopters operated by 195 customers.

WELCOME TO NORTH AMERICA

There is no doubt that 2016 is a year to watch in the United States and North America, with the U.S. presidential election undecided and economic uncertainty, particularly in the oil market, a concern. For helicopter operators, direct business from oil and gas is being impacted as well, particularly in Canada, creating a slump in industries like utilities, where helicopters play roles in maintenance, heavy lifting, and aerial work. The continent appears to shoulder its troubles lightly, however, judging by the growth seen in EMS and law enforcement, and strong interest in the corporate and VIP segments, with this trend expected to continue. Statistics show a need for fleet replacement; aging aircraft and the secondary market indicate that, between the two oceans, sales may not be long in coming. Whether the market is motivated to make those acquisitions remains to be seen, and if manufacturers are to have success, it will be because they continue to improve their product offering. Watch skywards, then, to see how the continent takes on 2016.

Article: Heather Couthaud

FEATURED ARTICLES

Airbus Helicopters Canada

Date founded: **1984**

Capabilities: Aircraft Sales & Completions, Maintenance Repair and Overhaul, Aftermarket Support & Services and Composite & Metallic Manufacturing

Fleet: **695** helicopters operated by **195** customers

Fleet makeup: H120, AS350 B2, H125, H130, AS355 NP, H135, H145, AS365 N3+, H155, H175, H215, H225

Market information: leading provider of helicopters for the Canadian utility, law enforcement, emergency medical service, and corporate markets.



The utility market is especially important in Canada.



In the air medical segment, Airbus Helicopters is well positioned on the light twins, such as the H135 and the H145.

© Ned Dawson



About 150 H130s are flying in temperatures above 90 degrees Fahrenheit in Las Vegas.

“CAUTIOUSLY OPTIMISTIC” ABOUT NORTH AMERICA MARKET

In June 2015, Christopher Emerson was named President of Airbus Helicopters, Inc. and Head of Airbus Helicopters North America Region, with the responsibility of managing operations at Airbus Helicopters’ U.S. and Canadian Customer Centers. He shares his vision about the market outlook and challenges with *Rotor*.



© Nicolas Gouhier



© Anthony Pecchi



What is your big picture view about Airbus Helicopters’ current position in the U.S. and Canada?

Chris Emerson:

I would characterize the market outlook in North America as “cautiously optimistic.” What I mean is that there is an underlying strong demand for new aircraft, but customers are finding it difficult to pull the trigger on acquisitions. We are missing a positive outlook on where our economy and, ultimately, the standard of living is going. With oil prices predicted to remain near \$30 a barrel for the foreseeable future, our offshore operators are struggling to find work for their large fleets. Oil prices have a knock-on effect in the utility market, where operators that support the onshore oil industry also are in need of work, an important market in Canada. If we exclude oil related businesses, I expect the market will be similar to where we ended in 2015. We delivered 86 commercial and 27 military aircraft in North American in 2015.

What are the main challenges you’re facing?

C.E.: We’re not just selling a helicopter we’re also selling the future. We have to make customers want to buy an Airbus Helicopters rotorcraft. For instance, in the U.S. we had a lot of

interest this year from the VIP market, but we’ve only been able to convert a quarter to a third of that into deals. We will be working to convert a lot of that interest into bookings in 2016. In the air medical segment, we are well set on the light twins, the H135, and the H145. However, we have fierce competition in the single-engine market, which is why we need to advance quickly on our H130 offering. Airborne law enforcement is showing an increase in demand. Local governments, despite a reduction in federal funding, have money for adding to and upgrading their fleets.

Another area that we will improve on,

especially in air medical, is reducing direct maintenance costs. We will make it easier and less costly for our operators to maintain their fleets. We are actually rolling out a program to eliminate the 12-year inspection on our light helicopters and spread those inspections out over the life of the aircraft. We’re also improving TBOs and have eliminated some life limited parts. We have some good programs we plan to introduce in 2016, designed to lower operating costs of our light helicopter fleet.

We also need to work with Vector Aerospace, once they receive certification for the AS350/H125 crash-resistant fuel system, to aggressively market and supply this upgrade to our customer base. This is an important issue for our customers and they want it addressed quickly.

Airbus Helicopters, Inc.

Date founded: 1969

Fleet: 2,310 helicopters operated by 458 U.S. customers

Fleet makeup: H120, H125, H130, H135, H155, AS355, AS365, H145, H175, H215, H225

Market information: leader in air medical, law enforcement, tourism, VIP. Second in oil & gas, utility

What are the main peculiarities about the North American market?

C.E.: What’s interesting about the North American market is that customers in all of our market segments operate their aircraft at the extremes. In Las Vegas, as an example, we have about 150 H130s flying in temperatures above 90 degrees Fahrenheit almost year round. The operators are flying over 1,000 hours a year per aircraft, in cycles of about two hours each, at the highest speeds that our flight manuals allow. Other types of operators place incredible demands on our aircraft as well. ■

A QUALITY PRODUCTION IN MISSISSIPPI

With delivery of the first American-made H125 Ecureuil to the Ohio State Highway Patrol in December, Airbus Helicopters, Inc.'s Mississippi FAL will begin an intensive production schedule of assembling two H125 a month, in addition to its current workload building military UH-72A Lakotas. Below, an overview.

"There's a lot of benefit to having the H125 made in Mississippi. Certain agencies, particularly law enforcement, want our product to come from America," said Doug Carriger, Senior Director of Marketing at Airbus Helicopters, Inc. At the 325,000 square-foot final assembly line (FAL) in Columbus, Miss., single-engine H125 AStars (known outside America as the Ecureuil) start their lives as a bare airframe. Technicians wire the aircraft's electrical and avionics systems first, then add the crash-resistant fuel system and cabin structure before installing a Turbomeca Arriel 2D engine and flight control hardware. The result has been an undeniable success. "Customers love seeing the aircraft, love seeing the production line," said Carriger. "It gives them confidence to see how the aircraft go together." In 2005, Airbus Helicopters, Inc. began light assembly, test flights and certification of what were then AS350 B2 and AS350 B3 helicopters in Columbus. In late 2014, the plant added a full final assembly line for the H125. As part of this transition, managers and lead assemblers trained at Airbus Helicopters headquarters in Marignane, France. "Having a Mississippi FAL for our civil products is a value to the Group," said Airbus Helicopters, Inc. President Chris Emerson. "It allows us to take

advantage of local knowledge, local suppliers, and it gets us closer to the customer."

A big part of the Mississippi plant's value is its employees. With U.S. military veterans comprising nearly half the workforce, technicians are already highly skilled, employing the training they learned in the service. The production line can now transfer those best practices to making

a high-quality civil product.

Another selling point is shorter delivery times. "There are a lot of post-sale design and configuration benefits to having the line here," said Carriger. "Particularly with the heavy law enforcement completions, where we have design reviews of all the avionics and instrument panels. If a customer requests a change, it's easier to get it inserted into the production flow."

With demand for single-engine aircraft strong in segments like law enforcement and air medical, the plan is for the Mississippi FAL to produce two helicopters a month in 2016, while still meeting commitments on delivering Lakotas to the U.S. Army. "We are looking at ways of being more cost effective at a lower rate. Regionalization will help us," said Emerson. "Being able to deliver to Canada, the U.S., and even Mexico out of a U.S. FAL is a huge benefit."

Loyal customers have signed up. The Ohio State Highway Patrol extended its 20-year relationship with Airbus Helicopters by taking delivery of the inaugural Mississippi-built H125 in December. Several more were also delivered to other customers. "We have a lot of talent," said Emerson. "But the recipe for success always starts with having the right product." ■

Airbus Helicopters North America

USA

Headquarters and completion

center: Grand Prairie, TX

Production and manufacturing:

Columbus, MS

Employees: 900

Activities: Sales, manufacturing, assembly, support & services

Canada

Head office and manufacturing:

Fort Erie, ON

Employees: 220

Activities: Sales, manufacturing, assembly, support & services

Support centers: Richmond, BC; Mirabel, QC

© Airbus Helicopters / Jérôme Deulin



© Airbus Helicopters Inc.



The Lakota is a compact helicopter offering an excellent carrying capacity as well as a powerful and agile platform.

**And also...
Building Lakotas
in Mississippi**

2007: start of full assembly of UH-72A Lakota light utility helicopters for the U.S. Army.

358 UH-72A
Lakotas delivered on time (347 to U.S. Army, 11 to U.S. Navy and Thailand) meeting strict requirements for quality.

423 Lakotas
ordered to-date: 412 by U.S. Army; 5 by U.S. Navy (used for test pilot training at the Navy's Maryland flight test center); 6 by Thailand.



Certain operators, particularly law enforcement agencies, look for Airbus Helicopters rotorcraft that are produced in America.



Employees are a big part of the Mississippi plant's values.

FEATURED ARTICLES



PROTECT AND SERVE FROM THE SKIES

The canyons of Los Angeles County are riddled with twisting roads, prompting frequent accidents. Soaring temperatures and steep, treacherous mountain paths mean hikers can easily run into trouble. And the sprawling landscape also tempts suspects on the run from the law. It is factors like these that challenge the Los Angeles Police Department (LAPD) and the Los Angeles County Sheriff's Department (LASD) as they patrol their joint jurisdictions with a fleet of H125 and AS332 L1 helicopters.

Photos: Anthony Pecchi

1 – 75 LAPD officers work in the Air Support Division (ASD)

2 – For patrol and surveillance, the agency operates a fleet of fourteen H125.

3 – The fleet of Airbus Helicopters serves to protect ten million Los Angelinos.

4 – The AS332 L1 operated by the LASD flies over the Hollywood hills.

5 – The three SAR AS332 L1 Super Puma helicopters are equipped with stretcher and rescue hoist.

Operating over an area of 4,084 square miles (10,577 km²), the LASD – the largest sheriff's department in the world – is the chief law enforcement agency for the nearly 10 million inhabitants of the County of Los Angeles. For the agency's aerial operations, the pilots of the LASD Aero Bureau are charged with patrolling the mountain regions north and east of the L.A. basin in specially-equipped H125 helicopters. The agency's main missions are to aid in manhunts for suspects who may seek refuge in the hills; mountain searches for injured or lost hikers; and transporting prisoners.

"From the start it's been a marvelous adventure," says Keith Edey, instructor pilot with the sheriff's department. "I've experienced some spectacular missions, high-speed pursuits, difficult takeoffs from high mountain summits, very complicated rescues where we've saved people who would certainly have perished without our help."

For patrol and surveillance, the agency operates a fleet of fourteen H125 aircraft equipped with forward looking infrared (FLIR), searchlights, and radio communication to coordinate

with their colleagues on the ground. "We work in parallel with the LAPD Air Support Division," Edey says. "There are times when we help each other in certain missions. We have a very good relationship."

READY FOR HIGH-RISK OPERATIONS

In 2012, the LASD Aero Bureau acquired three AS332 L1 Super Puma helicopters, uniquely for search and rescue (SAR) missions. Equipped with a stretcher and rescue hoist, the AS332 L1s fly as many as 7 to 10 missions a day. In the mountains at blistering temperatures, the larger aircraft is particularly suited to rescues. Says Edey, "The Super Puma is astonishingly easy to pilot. Once you've learned all of its integrated systems, the machine can literally fly by itself."

The LAPD's motto "to protect and to serve" is upheld by nearly 10,000 police officers, of whom 75 are in the Air Support Division (ASD), the department's helicopter unit. Based at the LAPD Hooper Heliport, considered the biggest airport in the world on a rooftop, the helicopter unit's principal mission is

to reinforce the work of their comrades on the ground via aerial support.

For such a vast city of nearly 4 million inhabitants, the ASD operates just one type of helicopter: the H125, twelve of which are equipped with a searchlight, thermal imaging and moving map systems, the former an asset during manhunts in the congested, urban zones of Los Angeles city. Two H125s are dedicated full-time to surveillance. "The goal is to be able to respond immediately to a call," says Kevin Gallagher, LAPD chief pilot. "We have to be very proactive and not lose any time."

Speed and power are of the essence when negotiating high-risk operations in tandem with the police's specialized SWAT team (Special Weapons and Tactics). "The H125 offers an aerial perspective that lets us quickly get information about potential suspects," says Edey of the Aero Bureau. "That's very important when we work with the SWAT team."

For ten million Los Angelinos who look skywards for protection, the steady presence of Airbus Helicopters aircraft must surely be a reassuring sight. ■

EQUIPPED FOR THE COLD

Operating in northern climates and remote outposts, Canadian operators Great Slave Helicopters (GSH) and Coast to Coast Helicopters, Inc. each maintain a large fleet of Airbus Helicopters H125s. Here, they tell us why the helicopter is perfectly adapted to challenges in a land where aerial work is king.

Article: Samantha Pitt and Heather Couthaud

Great Slave Helicopters

One of Canada's largest helicopter operators with over 80 light, intermediate and medium twin- and single-engine helicopters.

Airbus Helicopters Fleet:
AS350 B2, H125, AS355, BK 117

Parent group: Discovery Air

Operations: Firefighting, aerial work, utility (power line, forestry), heli-skiing, seismic exploration, heliportable diamond drills, wildlife tourism.

A multi-use platform

Based in Yellowknife in the Northwest Territories, GSH provides an extensive range of helicopter services, from firefighting to hauling diamond drills. And with operations as far north as the North Pole, the company can boast of handling extensive environmental conditions, too: from the Canadian Rockies to altitudes at sea level. "Most of our work is short haul, usually under 100 km from remote bases of operation," says the company's president, Chris Bassett. "Our operations stretch from the North Pole to the very southern tip of Chile, and our temperatures vary from -40°C to +40°C. It seems that every day presents a different challenge for our pilots and engineers. And the H125 covers it all."

Notable operations include hundreds of thousands of hours logged in the Arctic transporting heliportable diamond core drills. "Our H125s provide a multi-use platform that's flexible, reliable and cost-effective. For aerial work, all of our H125s are equipped with vertical reference windows in the floor, cargo hooks, and cargo mirrors," Bassett says.

Keeping the fleet airborne has been made easier, he notes, thanks to support like the Keycopter portal which, while a challenge during rollout, "has proven to be a valuable tool for us. Airbus Helicopters support has improved tremendously in the last few years," says Bassett. ■





© Coast to Coast Helicopters

Coast to Coast Helicopters group is the largest family-owned business in Canada with over 130 aircraft.

Coast to Coast Helicopters, Inc.

Family-owned business with over 130 light, intermediate and medium helicopters and fixed-wing, operating from a global network of bases.

Airbus Helicopters fleet: over 56 Ecureuil helicopters including H125, AS355

Operations: Utility (power line, forestry, mining), seismic exploration, military and defence, search & rescue, aerial survey, heli-skiing.

Extreme temperature performance

Alberta-based Coast to Coast Helicopters' fleet of Ecureuils range across Canada, offering a full array of aerial services. With winters lasting five months amid frigid temperatures, General Manager Frederic Allard praises the Ecureuils' (AStar) anti-fog ventilation system and internal cargo space. The company uses their H125s particularly for high and hot operations, "8,000 feet at above 20°C," when transporting heli-portable drills.

"The AStar is the most versatile aircraft you can have for utilities missions," Allard says. "These helicopters are good for long lining equipment and transporting passengers." Indeed, the company has seen some exceptional successes. When floods hit the Alberta region in 2013, Coast to Coast worked with the Royal Canadian Mounted Police using H125s to safely rescue 350 people.

Support for the fleet is another positive. "Airbus Helicopters provides one of the best services in the industry," Allard says. "With a team in place to support our needs anytime, anywhere."

"The beauty of the AStar model is it can do everything," Allard continues. "Every model of AStar, even those of 35 years ago, still have their place today. Customers love its forward facing passenger seats which offer superior visibility." ■

UP ABOVE





The first two H160 prototypes in flight over Marseille in February 2014. © Anthony Pecchi

LIFE OF THE RANGE

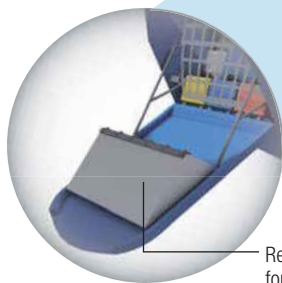
H215

The mission-proven H215 – available in two different versions – is characterized by its rugged design, excellent payload lift performance, cost efficiency and demonstrated ability to operate in the most austere environments – all while reaping the benefits of a glass cockpit and the renowned 4-axis autopilot used on the H225.




MULTIROLE LONG AIRFRAME


The longer version perfectly meets multirole and passenger (or troop) transport missions.



Rear access for luggage

Proven and appreciated

 **587 aircraft** delivered...

 ...in **48 countries**

 ...have accumulated close to **5 million flight hours**

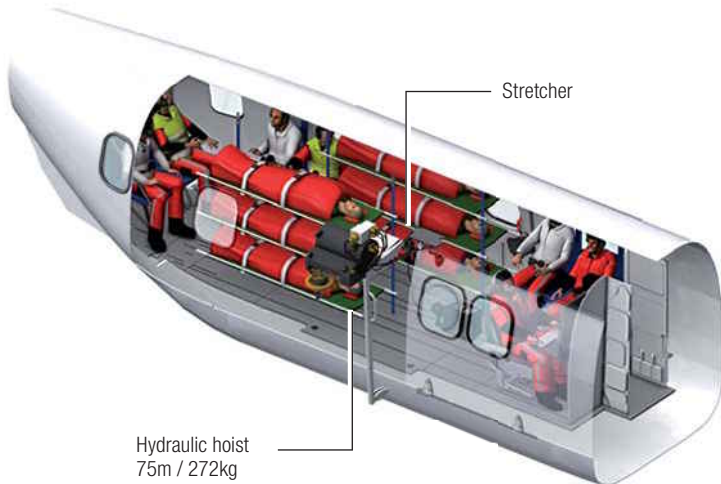
Thanks to this, the H215 benefits from a proven and appreciated maintenance history.

Dimensions

The 4-axis autopilot from H225 helicopters provides flight envelope protection, unrivalled precision and automatic hover stability in even the harshest operating conditions.

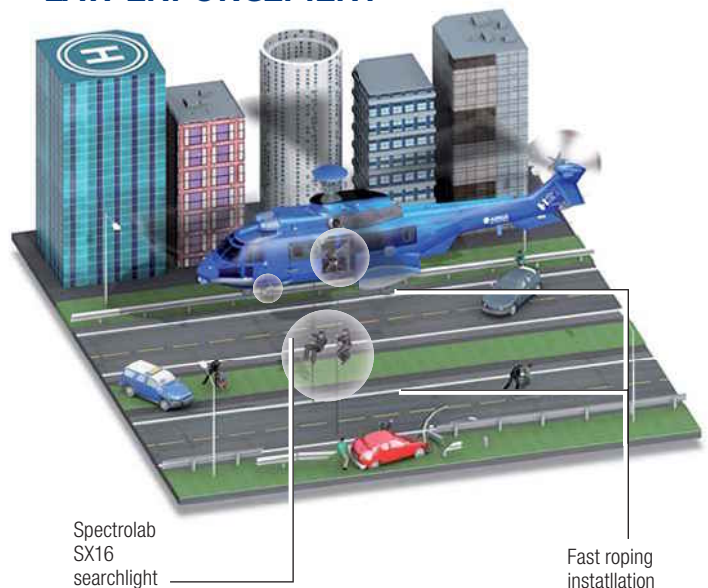
MEDEVAC / HUMANITARIAN OPERATIONS

The H215 is also able to operate in harsh conditions such as snow, sand, as well as high and hot environments.



Hydraulic hoist
75m / 272kg

LAW ENFORCEMENT



Spectrolab
SX16
searchlight

Fast roping
installation

AERIAL WORK SHORT AIRFRAME

Based on a shorter airframe, this variant has an increased payload and full hook capacity. It perfectly matches any kind of aerial work / utility (with internal or external loads).

Optimized industrial concept






Thanks to its new flexible industrial concept, Airbus Helicopters is able to swiftly personalize the helicopter, and to propose significantly reduced delivery times.



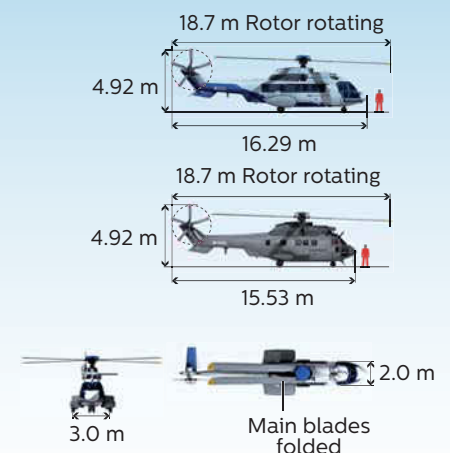
FIREFIGHTING MISSIONS



TECHNICAL DATA MULTIROLE AND AERIAL WORK H215

					
	Capacity	Engine	Fast cruise speed	Max range with standard tanks	Endurance without reserve at 70kts
Long H215 multirole version	2 Pilots + 19 comfort seats or 22 troop seats	2 TURBOMECA MAKILA 1A1 Turboshaft	262 km/h 141 kts	866 km 468 NM	> 4h09min
Short aerial work version	2 Pilots + 15 + 2 comfort seats or 20 troop seats			642 km 346 NM	> 3h19min

Dimensions



Source: Airbus Helicopters. Infographic: © Beatriz Santacruz.

H PILOT CLUB

A big family

The H Pilot Club aims to bring Airbus Helicopters–certified pilots and mechanics together with the owners of the manufacturer’s helicopters in a single community. We reveal more about it.

Article: Belén Morant



© Airbus Helicopters / Patrick Penna

How?

Anyone wishing to join the H Pilot Club can do so with just a few clicks on the web, which is where club members can post their news articles, share their most eye-catching photos and chat with other pilots and mechanics. Making use of a shared calendar, members can publicize their most important events of the year and keep abreast of what’s going on at the H Pilot Club. The website also features a forum and a blog, where technical and everyday issues are discussed.

Meanwhile, the H Pilot Club “Job Market” brings operators looking for specialists or specific equipment into contact with potential applicants. ■



© Lorette Fabre

H Pilot Club

Date of creation:
June 2015

Potential members:
40,000

Open to certified pilots, mechanics and crew members.

Most recent events 2015:

- China in November
- India in December

What?

Created in June 2015, the H Pilot Club is a community of certified mechanics, pilots and crew members, all of them helicopter enthusiasts. Offering its members the opportunity to discuss their experiences, views and best practice with each other in a relaxed atmosphere, it is a unique platform that allows operators from all over the world to come together, no matter whether they are individuals, or private, civil and military operators. ■

When?

The H Pilot community meets on a regular basis at events organized in cities around the globe, and is also present at the world's major aeronautical events. In addition, the club organizes one-off events that take technical and everyday issues as their themes, such as the gathering held in China in November, which attracted 30 people, or the India event in December, with nearly 100 people attending. It stages events in collaboration with other major brands, too. One such show was held with Porsche in the south of France, where H Pilot members gained a close-up look at the manufacturer's cars and had a chance to share their passion for all things aeronautical and automotive. ■



© Clément Mahoudeau



© Airbus Helicopters / Jérôme Deulin

Who?

The H Pilot Club now has more than 1,000 members in its ranks. 60% of them are pilots, 30% mechanics and 10% crew members. Its members receive a distinctive club badge and automatically form part of the wider H Pilot family. If they wish, members can become even more involved by organizing events and setting up consultancy programs. ■

You can find more information at the website Hpilotclub.com





WORLDWIDE **Fleet Keeper**

Airbus Helicopters has developed a new communication tool to better manage customers' daily helicopter activity. Tested by operators, it combines simplicity, sharing and intelligence. Fleet Keeper belongs to the HCare Fleet offer, a suite of software simplifying customer maintenance, allowing them to focus on operations. A demonstration below.

Article: Alexandre Marchand

A SIMPLE PRINCIPLE

The Fleet Keeper software was designed to completely replace the Technical Logbook. It can be used before, during and after a flight, to provide simple information about the aircraft: pre-flight checks, consumption, levels, flight hours, cycles, etc. Thanks to Fleet Keeper, all this information will be recorded live and integrated into the same database, which is easily accessible in the Cloud from desktop PCs and mobile tablets.





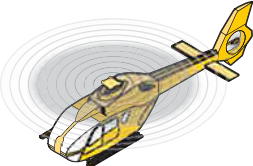
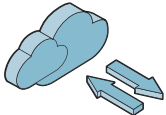
SOFTWARE THAT CAN BE USED BY EVERYONE

All those directly involved in operations – pilots, mechanics, airworthiness managers, etc. – will have access to Fleet Keeper in a coordinated manner. They

will therefore be in possession of all information about operation cycles at the same time, without having to duplicate it, thus reducing the risks of making transcription errors common to written documents. Documents (photos or sketches) can also be exchanged using this communication tool.

REAL ADDED VALUE

The aircraft's utilization will be better understood and information shared efficiently between customers and Airbus Helicopters. In the long run, this new ability to manage information will help to control aircraft availability, performance and knowledge, as well as direct operating costs. ■

KEY FEATURES					INTERFACES	
					iOS	
User friendly design	Electronic signature	Customized web based solution	Interact in real time	Compatible with Airbus Helicopters product range & any other rotorcraft	iOS / mobile App	Import/Export from/to your Maintenance Info Systems. e.g: RUSADA ENVISION

A USER FRIENDLY, COST EFFECTIVE CLOUD-BASED ALTERNATIVE TO THE TRADITIONAL PAPER TECHNICAL LOG BOOK.



Source: Airbus Helicopters
Infographic: © Beatriz Santacruz

NORWAY

Getting the most out of the H225 with the FCOM

Early last September, the Norwegian branch of the NHV Group completed training on Airbus Helicopters’ H225 flight crew operating manual (FCOM), becoming the first operator to fully integrate the manufacturer’s recommendations into daily operations.

Article: Heather Couthaud

In December 2014, Airbus Helicopters released the rotorcraft industry’s first OEM-issued FCOM for the H225. A mainstay in the fixed-wing world, the FCOM is a source document that incorporates manufacturer guidelines for enhanced operational safety as well as for increased efficiency.

“When the pilots started training using the FCOM, they were amazed by the extra features built into the aircraft, which they never used,” explains Dag Johan Saetre, accountable manager for NHV in Norway. “They’ve discovered more automation in the aircraft than they were aware of. People have seen the advantages of the FCOM. They’ve noticed reduced workload in the cockpit.”

The Stavanger-based company operates two H225 helicopters in Norway, one of which is on contract with Norske-Shell and the other on standby for backup and adhoc operations.

Working with Airbus Helicopters in Aberdeen, Scotland, NHV adopted a gradual implementation of the FCOM into its operations. This included having an Aberdeen instructor observe crews on the flight line, for instance, to identify areas best served by the manual. All NHV pilots underwent training in the simulator not once, but twice, in order to adopt the updated operating procedures which resulted from NHV’s dialogue with the manufacturer.

Such training has resulted in changes to daily operations. “We started using more of the settings for

decision-height and decision-altitude,” says flight operations manager, Bram Sevenhuijsen. “We used to set it to one value for all phases of flight. Now we’ve started using this as an extra barrier in the system, specific to the situation.”

NHV’s early adoption of the FCOM was due in large part to the on-board attitude of management and operational pilots from the beginning. “We see this as the next step in safe operations,” says Dag Johan. “That’s why we started this cooperation with Airbus Helicopters, to assess the system, train all our people, rewrite our procedures. Then we adjusted the procedures together to see how we could improve them even more.”

“For me, the FCOM is the awareness of extra safety features in everything that’s available in the aircraft,” adds Bram. “The added value of the automation, for instance, is that if you go into an engine-out situation, you will be able to get the most out of the remaining engine. I think we were always safe, but we have added more margins to safety. Being aware of these tools can help in case of an abnormal situation.”

With its mission to continuously build on and improve safety, Airbus Helicopters is incorporating feedback from NHV in efforts to expand the FCOM to other aircraft in its fleet.

“The buffers for safety have increased,” says Bram. “It’s made us aware of all the features available. We’re saying to ourselves, ‘let’s start using all the advanced features.’ It is a big step forward.” ■


1 – NHV flight operations manager Bram Sevenhuijsen (left) with accountable manager Dag Johan Saetre (right).

2 – The FCOM incorporates manufacturer guidelines for enhanced operational safety and increased efficiency.

3 – NHV’s early adoption of the FCOM was due to the on-board attitude of management and pilots from the beginning.

“When the pilots started training using the FCOM, they were amazed by the extra features built into the aircraft. We see this as the next step in safe operations.”

Dag Johan Saetre, accountable manager for NHV in Norway.

H225	
<ul style="list-style-type: none"> • Capacity: 2 pilots + 19 passengers • Engine: 2 Turbomeca Makila 2A1 • Max cruise speed: 142 kt (262 km/h) • Operating range: 650 NM 10 pax (1,204 km) 	



All aboard the H160

The finalization of a new helicopter is a true team effort that must be prepared well in advance. To get a firsthand look, *Rotor* takes you on board the first H160 prototype for its initial flight to open the flight envelope.

Article: Alexandre Marchand

With hardly a cloud in the sky and barely a whisper of wind, the weather couldn't have been better in Marignane on this January day in 2016. Outside the flight test building, the first H160 prototype awaits its flight crew. It takes an expert eye to notice the test instruments fitted on its rotor.

"Since the initial flight, we've found some elements of the main rotor hub that need to be optimized," explained Nicolas Certain, chief flight engineer for the H160. "The design office asked the supplier to optimize its parts, and they've now been delivered, installed and instrumented. We performed a ground runup to test the system, and now we're going to perform the first flight to open the helicopter's flight envelope."

To prepare for the flight, all three members of the flight crew—Nicolas Certain, Flight Test Engineer Laurent Maruejols and Test Pilot Olivier Gensse—first had to sit down together to draw up a test order. A flight window was then reserved and the crew was given authorization to use the Istres flight test site, with an air traffic controller monitoring the site during the tests.

THE RESULT OF A LONG SERIES OF MEASUREMENTS

As is the case for each mission, a pre-flight inspection is first carried out by the teams on the prototype flight line. The H160 was designed to make the inspection as quick and easy as possible, but the teams carefully look over the test equipment. While Olivier Gensse logs the helicopter in on his laptop (using the e-logbook software), the team responsible for the test system turns on the recorders and onboard test equipment. Meanwhile, Laurent Maruejols makes the final adjustments to the onboard software.

The engines are finally started up. After checking the remote measuring system, the helicopter taxis across the parking area towards the taxi-hold. A complete check is performed for ground resonance:

the helicopter is found to be stable, and the flight can now begin. After first performing a hover flight, the helicopter quickly gains in altitude and speeds off to Istres. In the front left-hand seat, Nicolas Certain announces the waypoints and monitors the specific flight parameters for the test, while from the back seat, Laurent Maruejols monitors the helicopter's safety parameters and stress levels. Olivier Gensse, as both pilot and flight commander, stays on the flight path by "locating" the announced waypoints. The roles are well defined for the flight crew, which has been working on the H160 since its first flight.

At an altitude of 5,000 feet, the helicopter performs a series of turns, each one a bit sharper than the last, to confirm the proper behavior of the rotor. The initial results are encouraging, as they show a decrease in stress levels. A load factor of 2.3 g was reached – a first for the prototype – and the remote measuring team confirms the figures. All the while, Olivier Gensse gets a feel for the helicopter's behavior through the flight commands. He knows he must remain extremely attentive to any vibrations, noises, or even strange smells: nothing can be neglected. Despite all the sophisticated sensors on board, the sensations felt by each member of the flight crew are still an essential part of any flight test. The tests have all been completed: It's time to head home. On the way back, Olivier Gensse takes the opportunity to evaluate the various autopilot modes. After landing, the flight crew meets with the remote measuring and design office teams for a full debriefing. An initial assessment is made based on the measurements and the impressions of each crew member. The development of a new helicopter is the result of a long series of measurements, analyses and brainstorming. Hundreds of flights are required, and in many cases the debriefing from one flight enables the teams to determine what they'll be talking about in the briefing for the next flight! ■

- 1 – Flight Test Engineer Laurent Maruejols (left), Test Pilot Olivier Gensse (middle) and chief flight engineer for the H160, Nicolas Certain.
- 2 – During the flight, the helicopter performs a series of turns to confirm the proper behavior of the rotor.
- 3 – The new canted Fenestron increases performance, flight stability and community-friendly sound levels.
- 4 – The flight test program is progressing and the helicopter's excellent features and outstanding handling qualities already have been validated.
- 5 – The H160 was designed to make the pre-flight inspection as quick and easy as possible.

The H Generation

The H160 is intended to replace the Dauphin/H155 family. The first flight tests have demonstrated that the initial technical and economic goals for the new helicopter – which were quite ambitious in terms of operating costs, reduced fuel consumption and external sound levels – will be met and in some cases even exceeded. The first prototype, which performed its maiden flight on June 13, 2015, has already logged approximately a hundred flight hours, and the second prototype successfully performed its first flight on 27 January, 2016. All in all, the H160 program will benefit from five dedicated test means to bring a fully mature H160 to the market in 2018.

1



© Airbus Helicopters / Patrick Penna

2



© Airbus Helicopters / Jérôme Deulin

3



© Airbus Helicopters / Patrick Penna

H160



- Capacity: 2 pilots + 12 passengers
- Engine: 2 Turbomeca Arrano
- Smooth cruise speed 160 kts
- Operating range: 450 NM (+20 min reserve) in public services configuration
120 NM radius of action in PC1 up to 12 pax

4



© Airbus Helicopters / Jérôme Deulin

5



© Airbus Helicopters / Jérôme Deulin

NORWAY

Experts on ice

Based in Norway, Airlift is an expert when it comes to icy conditions. In addition to aerial work, heavy lift and search and rescue services, the operator also helps investigate climate change and was even involved in a mission to Mars.

Article: Beata Cece



FIGHTING COLD AND ICE

Norway is known for its unforgiving climate: violent storms, freezing temperatures, heavy rains and low visibility can quickly turn into a deadly danger. When tourists become lost in the ice or fishermen in the cold sea, help must come quickly and reliably. These are two characteristics that apply to the AS332 L1 from Airbus Helicopters. Airlift uses this model for search and rescue missions in the country's challenging conditions. With this medium-size utility helicopter, the Airlift crew fights cold and ice, confirming the rotorcraft's capabilities in even the most extreme environment.

CHASING ANSWERS FOR A BETTER FUTURE

Stretching out beneath the helicopter is a seemingly endless sheet of Arctic ice. Suddenly, a polar bear appears in the whirled up snow. The H125 helicopter from Airlift flies towards the animal. A passenger appears, aiming a rifle at the bear. A shot cracks above the noise of the rotors. The polar bear is hit but continues to run for a few more seconds before collapsing onto the ice. But the animal is not dead. It is just unconscious, shot with a tranquiliser rifle so that the scientists on board the helicopter could take blood samples and DNA probes to examine the grade of pollution in the arctic. This is just one of Airlift's different services for scientific missions in polar regions – under the most extreme conditions. On a mission in the Antarctic in 2015 for example, an ice breaker with 30 scientists and the H125 on board was deliberately frozen into the ice of the Antarctic. The mission was to explore, among other things, the drift of ice and the pollution of air, water and ice. The scientists and helicopter crew spent six months on the ship. "These polar missions can be very difficult," says Gunnar Svein Nordahl, who accompanies some of these expeditions as a technician. "But it is an important task, because the data we collect enables researchers to observe changes in the climate."



Airlift, founded in 1986 and comprising 70 employees, is part of NHV Group.

"The H125 is extremely reliable in the cold. We often operate in temperatures down to minus 30 degrees Celsius and have to land on the sea ice. This means it is very important to know that the helicopter is able to take off again."

Gunnar Svein Nordahl,
from Airlift



In the field

ARCTIC AND ANTARCTIC

- **Date:** 2010
- **Purpose:** Airlift provided filming services for the BBC documentary *The Frozen Planet*.
- **Result:** The documentary, presented by Sir David Attenborough and reflecting on the incredible fragility of an ever-changing world, was a huge success.

- **Date:** 2011
- **Purpose:** Airlift assisted the testing of a prototype of NASA's Curiosity Rover in the harsh conditions of the Arctic.
- **Result:** The assignment provided important information for the Curiosity mission, which aims to find out if Mars is, or was, suitable for life.

- **Date:** since 2011
- **Purpose:** On its missions for the Norwegian Polar Institute, Airlift uses an H125 with an electromagnetic measuring system on board to assess the thickness of the sea ice.
- **Result:** The data collected helps scientists to understand the impact of climate change.

- **Date:** between 1996 to 2014
- **Purpose:** In Spitsbergen, an island in Arctic Norway, Airlift flew search and rescue operations with an AS332 L1 helicopter.
- **Result:** At temperatures as low as minus 40 degrees Celsius, Airlift provided onshore and offshore rescue missions.

THE FUTURE TAKES OFF



H160

Important to you. Essential to us.

