

# Rotor

BY AIRBUS HELICOPTERS

**MISSION**  
The H135 in service  
of the law in Japan

**BEHIND THE SCENES**  
An "operator zero"  
for the H160

**LOGBOOK**  
Heavy challenges for  
the H215 in the Alps

Helicopters, when  
they are needed most



© Government Flying Service

# 08

## FEATURED ARTICLE Helicopters, when they are needed most



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Erratum : On page 5 of Rotor Magazine, issue 109, the name of Mr. Teruaki Yamada, CEO of Kawasaki Heavy Industries, was incorrectly written as “Ternaki.”



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© Lorette Fabre

2017 has unfortunately been a year again marked by natural disasters. To overcome such catastrophes, the helicopter has once again proved to be a unique solution, quickly bringing aid to hard-to-reach areas, allowing help to arrive quickly in the evacuation of stranded people, as well as working to rebuild the places that were hit.

This edition is a testimony to the very mission of Airbus Helicopters: assisting people. Knowing that lives depend on the availability and efficiency of our helicopters strengthens our commitment and determination to constantly get better and offer products and services that achieve a higher level of performance and safety.

**“Knowing that lives depend on the availability and efficiency of our helicopters strengthens our commitment and determination to constantly get better.”**

**Guillaume Faury**

In this issue, we want to pay tribute to all those who dedicate their lives to bringing aid to populations with their helicopters, more often than not in urgent or stressful situations. A number of civil and military operators have filled some of our pages with their personal experiences of the recent hurricanes in Texas, Hong Kong and the West Indies.

Their stories once again show how vital helicopters are in situations of natural disaster or humanitarian crisis. They encourage us to keep striving for excellence in everything we do.

IN THE SPOTLIGHT

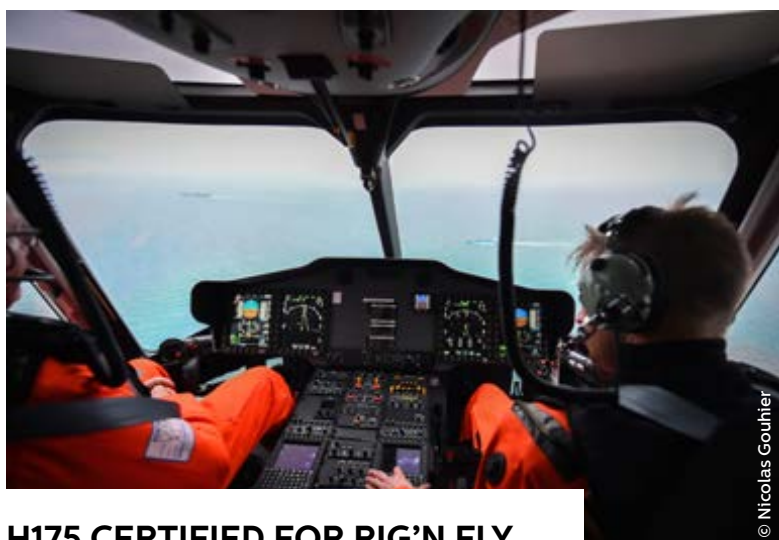


FRANCE

13 October 2017

**The third H160 prototype  
joins the flight test  
campaign.**

© Stéphane Kervella



© Nicolas Gouhier

## WORLDWIDE H175 CERTIFIED FOR RIG'N FLY

Airbus Helicopters received EASA certification for Rig'N Fly avionics (Rig Integrated GPS approaches with eNhanced Flyability and safetY) for its H175 super-medium helicopter.

Already certified for the H225, this avionics upgrade enhances the H175's offshore mission capability, providing fully automatic approaches to oil rigs. The automated mode also reinforces flight safety by allowing the crew to focus on flight parameters and the external environment. Rig'N Fly uses a combination of sensors (GPS, barometric altimeter, radar altimeter, weather radar, etc.) to provide enhanced flight precision and situational awareness for automatic rig approaches.

The system also includes offset approaches, which can be tailored to weather conditions and oil rig environments for the safest, most standardised approach, placing the helideck in the most easily visible position for the crew.



© Thierry Rostang

## WORLDWIDE CITYAIRBUS DEMONSTRATOR PASSES MAJOR PROPULSION TESTING MILESTONE

Airbus Helicopters recently completed the first full-scale testing for the propulsion system of the CityAirbus demonstrator – a multi-passenger, self-piloted electric vertical take-off and landing (VTOL) vehicle designed for urban air mobility. During this successful testing phase, the CityAirbus team checked the individual performance of the ducted propellers, as well as the integration of the full-scale propulsion unit with two propellers, electric 100 kWh Siemens motors and all electrical systems.

CityAirbus is a battery-powered air vehicle able to vertically take off and land. It is designed to carry up to four passengers over congested megacities to important destinations such as airports or train stations in a fast, affordable and environmentally friendly way. The innovative four-ducted propeller configuration significantly contributes to safety and a low acoustic footprint.



© Beatriz Santacruz

## FRANCE AIRTELIS ORDERS THREE H215s FOR AERIAL WORK

In October 2017 Airtelis, with the support of Nova Capital Group, signed a contract with Airbus Helicopters for the purchase of three H215 heavy helicopters, including two options. These aircraft complement Airtelis' existing fleet of two H225s. The first delivery took place later in October. The H215 will be equipped for aerial work operations in support of Airtelis' power line construction and maintenance missions. Airtelis carries out helicopter maintenance work on high and very high voltage power lines as well as on large infrastructure, plus load transport, structure assembly, repair and maintenance. With over 60 years of experience performing helicopter utility missions, Airtelis puts its expertise at the service of power grid operators and their contractors.



© NHV

**NETHERLANDS** **AIRBUS HELICOPTERS AND NHV CELEBRATE THREE YEARS OF H175 OPERATIONS**

NHV became the H175's global launch customer when its first two aircraft entered service in December 2014. Since then, the NHV fleet has expanded with a growing number of H175s; the last helicopter of the first batch of ten aircraft that were ordered in 2012 was recently delivered. Deliveries of the remaining six aircraft, following a second batch confirmed by NHV in 2014, will take place in the coming years to broaden NHV's capabilities.

Initially operated from Den Helder, NHV gradually expanded H175 operations to other bases in the North Sea and West Africa, where the aircraft has accumulated experience and gained maturity. The aircraft is currently in operation at NHV's North Sea bases of Den Helder (Netherlands), Aberdeen (Scotland) and Esbjerg (Denmark).

**WORLDWIDE** **E-COMMERCE FOR HELICOPTER UPGRADE SOLUTIONS IS NOW AVAILABLE**

Airbus Helicopters has reached another step in efforts to drastically improve its offer of helicopter upgrade solutions. On top of improvements in quotation and delivery lead-times and the continuous enrichment of its catalogue of upgrade solutions, Airbus Helicopters now offers customers the possibility of ordering SB/STC solutions, online, via its Keycopter e-ordering service. Thanks to an intuitive interface, customers can easily search for upgrade solutions using parameters like aircraft families, upgrade categories and/or keywords. Once they have selected a solution, customers can then order the associated SB/STC and kit directly online or ask for a dedicated quotation if customisation is required.

**HUNGARY** **HFORCE-EQUIPPED H145M COMPLETES FIRING CAMPAIGN IN HUNGARY**

Airbus Helicopters recently completed a ballistic development test of an HForce weapon system on an H145M helicopter at Pápa airbase in Hungary. The system being tested included guns (FN Herstal HMP400), unguided rockets (Thales FZ231) and cannons (Nexter NC621), as well as an electro-optical targeting system by Wescam (MX-15) and a helmet mounted sight display by Thales (Scorpion). All of the planned and required tests were performed under a demanding time schedule. Before HForce can be qualified on the H145M, additional steps are needed: the testing of laser-guided rockets in Sweden before the end of the year, as well as additional live-firing trials in the summer of 2018.

© Anthony Pecchi





© Christian Keller

## GERMANY HANDOVER OF THE 150<sup>TH</sup> H145

At the end of October 2017, Helicopter Travel Munich (HTM) received the 150<sup>th</sup> H145 at Airbus Helicopters' site in Donauwörth, Germany. HTM, whose fleet also includes helicopters in the H125 and H135 families, uses the H145 from its base in Emden for offshore missions in the North Sea. The first customer for the H145 was the German air rescue service DRF in July 2014. Since then, the H145 fleet has clocked up over 80,000 flight hours. With 27 H145 helicopters in service, the Babcock Group is the largest operator of these aircraft. The H145 is used primarily for air rescue and in law enforcement. Germany is the largest national market for the H145, with over 30 helicopters in service.



## WORLDWIDE AIRBUS COMPLETES SALE OF VECTOR AEROSPACE TO STANDARDAERO

StandardAero Aviation Holdings, Inc. and Airbus SE announced on 3 November the finalisation of StandardAero's acquisition of Vector Aerospace Holding SAS from Airbus. The newly combined company, which will retain the name of StandardAero, has more than 6,000 employees in 42 locations across five continents, with an annual revenue of approximately US\$3 billion.

## THAILAND ROYAL THAI ARMY LAKOTAS ENTER SERVICE WITHOUT A HITCH

The Royal Thai Army (RTA) is Thailand's largest military branch. In addition to conventional military undertakings, its airborne arm is responsible for emergency medical services (EMS), evacuation, reconnaissance and utility services. Its rotorcraft fleet comprises a variety of makes, many of which – as in the case of its Vietnam-era Huey helicopters – are in need of replacement. To this end, the RTA acquired six new Lakota helicopters from Airbus Helicopters, Inc., in 2014.

The RTA's purchase of the Lakotas came with a unique support set-up: five weeks of training for pilots and maintenance personnel at the division's headquarters in Grand Prairie, Texas, followed by support in the form of one field service and one logistics representative in Thailand. During their two years in operation, the RTA's Lakotas have seen an availability rate of 100% when the aircraft are not scheduled for maintenance.



© RTA



Hong Kong Government Flying Service rescued 70 people during tropical storms that struck Hong Kong and Macau, employing its Super Puma and Dauphin helicopters to bring them to safety.



# HELICOPTERS, WHEN THEY ARE NEEDED MOST

Harvey, Irma, Jose, Katia, Maria, Ophelia. The names are sadly familiar to us. The hurricane season of 2017 will go down in history as one of the most active and devastating in years, as a string of powerful storms laid waste to hundreds of communities and brought misery to thousands of people. It is in desperate conditions such as these, when people are too scared to venture from their homes, that hundreds of men and women take to the controls of helicopters and come to their aid. Defying winds as strong as 295 km/h, helicopters have again demonstrated their ability to reach places that are otherwise inaccessible to rescue hundreds of people. As the storms raged, we saw helicopters take to the skies to perform rescue, evacuation, salvage and search missions. And after the winds had died down, we saw them assist with arduous reconstruction work in the days and weeks that followed. There are not enough pages in *Rotor* to tell all the stories behind these heroic acts. In compiling this report, however, we would like to pay tribute to all the helicopter operators who have worked day and night to come to the aid of victims. Their efforts deserve the warmest praise from Airbus Helicopters.

UNITED STATES

# THE COAST GUARD DURING HURRICANE HARVEY

During 25 - 29 August, the USCG mobilised crews and aircraft from across the US to assist in the rescue effort for Hurricane Harvey, which first made landfall in Texas. Below, a first-hand account from Lieutenant Junior Grade, Bradley Harbert, who flew the Dauphin MH-65 helicopter.

Article: Heather Couthaud - Photos: USCG

"I was in Illinois when the storm hit, standing duty on the Great Lakes. We got the call on Thursday night that we were going to have to come back down to Texas to respond to the storm. I woke up Sunday morning to a call saying that Houston was totally flooded and that we needed to get there as soon as we could. That first day, we primarily conducted rooftop rescues. Our crew hoisted nine people off of rooftops in the Houston area. The weather was pretty terrible, probably 300 to 400 foot ceilings. Winds were fluctuating from 25 to 45 knots, and it was pouring down rain for the entire day. It was pretty crazy flying.

"The second day, after the storm hit, I flew with another Houston pilot, a rescue swimmer and a flight mechanic. We launched around 7 p.m. and were tasked with doing medical transfers for critically injured and sick children. We were moving them from hospital to hospital north of Houston and to the west. The weather was the same as it was Sunday, but we were flying at night, so the visibility was even worse. We transferred four children that evening and flew six hours. That was another stressful night.

"I've been a qualified MH-65 pilot for about eight months. It was definitely a heightened sense, making sure we were clear of obstacles, and with the power being out, lots of the obstacles that were usually lighted weren't. We were relying on our night vision goggles

to see. A lot of the missions were pretty critical, children that needed to get to a hospital, so there was an urgency that heightened the stress level.

"Overall, the MH-65s performed great. In the wind, the helicopters were safe and stable while we were hovering and hoisting.



**Lieutenant Junior Grade Bradley Harbert, US Coast Guard**

- Age: 25
- Base: Air Station Houston
- Qualified on MH-65 in November 2016
- Qualified pilot on: MH-65, flew the T-6B and TH-57B/C in flight training
- Flight hours: 455

"The individual cases during the storm varied greatly. We would get a call that there was someone on a ventilator and their battery died, and we had 45 minutes to get them to the proper hospital. And places that were initially being used as refuges ended up flooding, so that people who had been sheltering needed to get transferred. In those cases, there would be a line of helicopters landing, escorting as many people as they could into the aircraft, and taking off.

"Because the cloud ceilings were so low, we ended up flying along the major highways because we knew there weren't power lines over the highways. The air traffic controllers helped us out as well; they were able to advise us of other aircraft because during those first couple of days, a lot of aircraft were hoisting in a relatively small area.

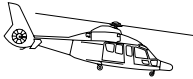
"When I was younger, Hurricane Katrina was the Coast Guard's calling card and I thought, 'who knows if something like that could ever happen again.' After the storm ended, it sunk in that I had just been a part of something pretty similar. It was incredible to see; we had aircraft and air crews from all over the Coast Guard and they were able to show up, blend in, and start launching without much delay. We could shake hands and go. Everything was executed safely and we were able to save or assist, using aviation assets, 1,703 people." ■





90 MH-65 pilots and roughly 350 transient crew members were deployed during Hurricane Harvey's rescue efforts.

### Dauphin MH-65



- Capacity: 2 pilots, 1 flight mechanic, 1 rescue swimmer
- Powerplant: Two Safran Arriel 2C2-CG turbine engines
- Range: 290 NM
- Maximum speed: 175 knots



The MH-65s logged 693 flight hours during the Hurricane Harvey response.

# HELICOPTERS ON THE FRONT LINE

Following hurricanes Irma and Maria, French and Dutch army helicopters were quickly mobilised to assist the population.

Article: Alexandre Marchand

As early as 4 September 2017, two days before Irma made landfall when its path towards Saint Martin and Saint Barthélemy was confirmed, the first French air force Puma was being prepared by the Guyanese armed forces. The helicopter flew to its area of operation under its own power - a nine-hour flight with two stopovers. Meanwhile, the surveillance frigates Ventôse and Germinal were withdrawn from anti-drug trafficking operations in the Caribbean and were made ready to intervene with their on-board aircraft: an Alouette 3 on the Germinal and a Panther on the Ventôse. The Ventôse arrived off Saint Martin on the evening of 7 September. In spite of the port of Marigot's inaccessibility, the vessel immediately began unloading essential materials using its Panther, which flew back and forth between the boat and land. On the

same day, a second Puma belonging to the air force left Guyana under its own power to reinforce the armed forces command centre in the West Indies. An improvised base was set up with a fuel depot for the helicopters.

## THE PUMA AND CAIMAN ON THE FRONT LINES

On the morning of 9 September, an Airbus A400M took off from the Orléans airbase with a range of equipment including a Puma from the 3rd Combat Helicopter Regiment of the ALAT (French Army Light Aviation). The aircraft was disembarked the same evening in Guadeloupe and was quickly put into action. Three days later, the BPC (projection and command vessel) Tonnerre sailed from Toulon carrying more than a thousand tonnes of cargo and four helicopters: one Puma from

the air force's 1/44 "Solenzara" helicopter squadron and, for the ALAT, one Puma from the 3rd Combat Helicopter Regiment (RHC) and two NH90 Caiman aircraft from the 1st RHC. The latter were accompanied by a mobile batch offering a potential of fifty hours' flight per aircraft, for a period of around one month. This is an essential contribution to the efforts of the armed forces as the Caiman aircraft, which can operate both day and night and in all weather, offer around twice the carrying and range capacity of the Puma. For the Caiman aircraft, which are already heavily involved in foreign operations in the Sahel, the engagement during Irma 2017 was also a double first: the first assistance mission on national territory and also the first projection by sea. To date, the ALAT has a fleet of 25 Caiman aircraft with more than 10,000 flight hours.

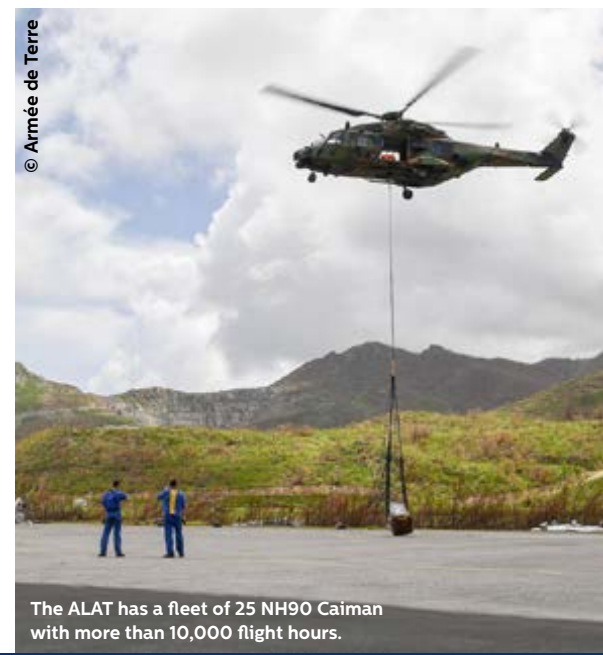


More pictures available in Rotor Online



© Simon Ghesquière / Marine Nationale / Armées

View from the Puma cabin of the Antilles after Hurricane Irma.



© Armée de Terre

The ALAT has a fleet of 25 NH90 Caiman with more than 10,000 flight hours.



Close to 50 medical evacuations were carried out in the first weeks.

© RNLAf



The NH90 evacuated Tom, a two-day-old baby, with his mother. Mission accomplished! ■

© RNLAf

### THE NH90 ON A DUTCH FRIGATE

A few days after Irma, it was Hurricane Maria's turn to hit the region – mainly the island of Dominica, a micro Caribbean state. Faced with colossal damage, the island received rapid support from the Dutch armed forces. The frigate HNLMS Zeeland, which was already in the area to assist Saint Martin after Irma's passage, was immediately engaged with its on-board NH90. Both the airport and road infrastructure had

been severely damaged and the helicopter was used to carry relief supplies and evacuate the injured from the most remote areas of the island. On 6 October, after a little more than two weeks' operation, a hundred flight hours had already been recorded. The aircraft carried out 48 medical evacuations and transported more than 37 tonnes of water and 8.2 tonnes of food. The crews performed more than 200 landings in hard-to-reach areas. Mission accomplished! ■



On 6 October, the Dutch NH90 had already transported 37 tonnes of water and 8.2 tonnes of food.

© RNLAf

# Helicopters in disaster management and relief

## Pre-disaster – PREVENTION



## Impact – ACTION



## Hong Kong Government Flying Service rescues 70 amid typhoons

Hong Kong Government Flying Service used its Super Puma and Dauphin helicopters to rescue civilians during the tropical storms that struck in August 2017.

Article: Heather Couthaud

On 23 August 2017, Typhoon Hato hit Hong Kong and nearby Macau. The signal 10 tropical storm was followed four days later by tropical storm Pakhar, a signal 8. Many lives were lost, and many more had to be rescued in seas whipped by hurricane-force winds.

Among those in the fray was Government Flying Service (GFS), a multi-mission government department which operates three Super Puma AS332 L2 and four H155 Dauphin helicopters in Hong Kong.

On 22 August, a day before tropical storm Hato made landfall, a four-person crew on one of GFS's AS332 L2 Super Pumas was called out on what would be the first of three separate rescue campaigns spanning one week. "We had to fly towards the typhoon and the bad weather. Because it was quite a distance away from Hong Kong, providing back-up support to our crew was difficult," says Captain Michael Chan of GFS. All eight men were rescued and brought safely to land.

A second operation followed on 23 and 24 August, when Hato swept into Hong Kong. The Super Pumas were well-equipped for the emergency. With two Safran Makila 1A1 engines providing enough power to fly in gale-force winds, and putting the large cabin to maximum use, the GFS crews rescued 51 people over the two-day operation.

In total, 70 people were safely rescued. "This is a major achievement for the Super Puma," says Captain Chan. ■

When emergency is a priority,  
only the helicopter can offer



safety

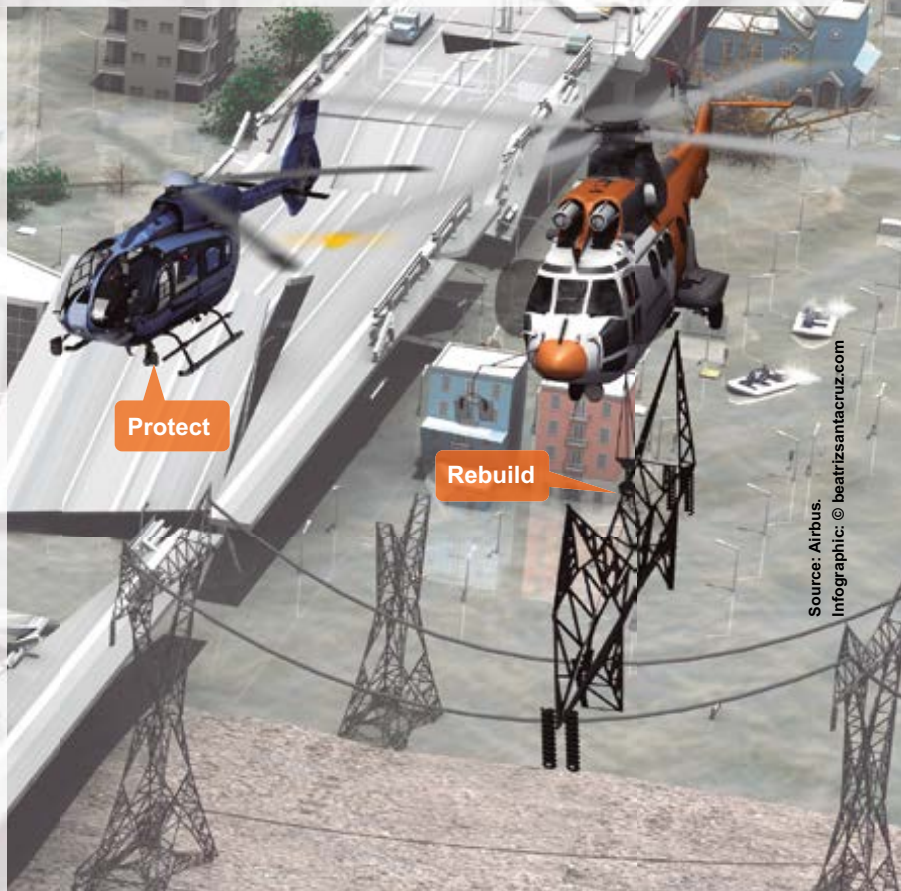
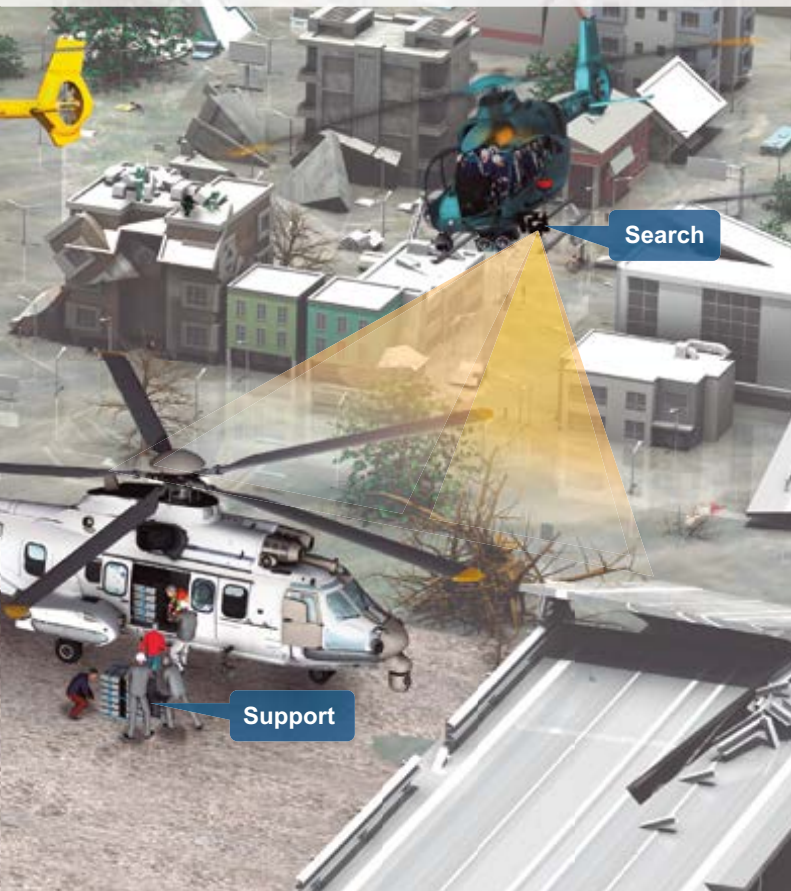


availability

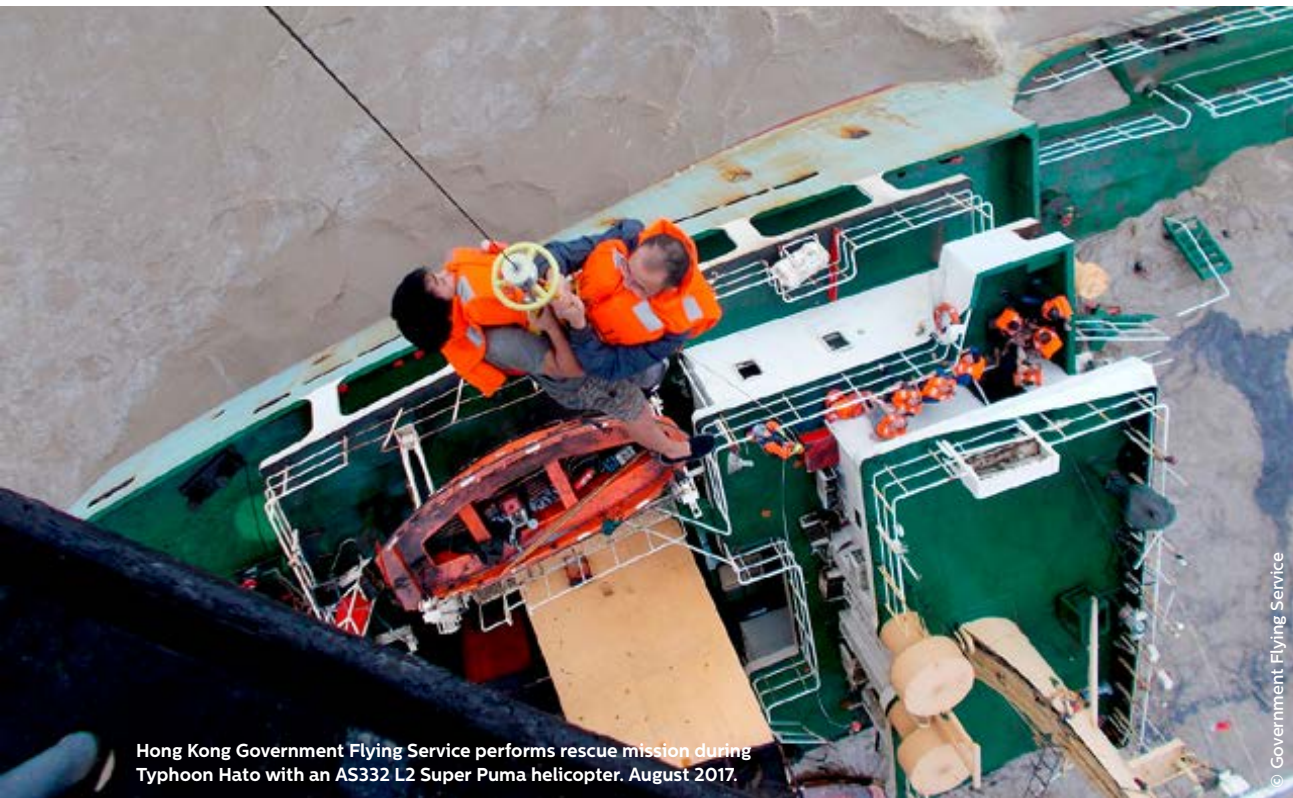


flexibility

## Post disaster – RECONSTRUCTION



Source: Airbus.  
Infographic: © beatrizsantacruz.com



Read the entire  
story in Rotor  
Online

UP ABOVE

© Anthony Pecchi / Three mythic H125 pilots meet at the foot of Mont Blanc; Pascal Brun of Chamonix Mont Blanc Hélicoptères, Gerold Biner of Air Zermatt and Carlo Cugnetto of GMH.







# FIRE FIGHTING

Utilising helicopters not only allows teams to reach the scene more quickly, but also offers greater accessibility for operations in difficult situations and rapid transportation of fire fighters and their equipment.

**H125** With its payload capacity, endurance and manoeuvrability, the H125 is always ready for the most rigorous high and hot missions and sling operations.



Starflex:  
Well-adapted  
rotor head for  
water bombing

Versatile

Mirrors

Excelling in high  
& hot and extreme  
environments

Manoeuvrable

Hook capacity  
up to 1,400 kg

Up to  
1,200  
litres  
of water

## Helicopters as fire fighting units



Minimise damage



Increase safety



Remain cost effective



Save more lives

## There is a fire fighting solution for every need



Bambi bucket®



Belly tank



Internal kit of 4,000 litres for the H225



High-rise fire fighting cannon

# H215

The H215 is characterised by its rugged design, excellent payload performance, cost efficiency and demonstrated ability to operate in the most difficult conditions.



# H225

With its unique ability to perform both day and night-time water bombing missions, the H225 is the most modern and state-of-the-art solution on the market to quickly and efficiently fight fires.



From patrol to fire attack, equip your Airbus helicopter and be ready for whatever comes your way



Patrol and surveillance



Coordination



Transport of material



Transport of fire fighters



Fire attack



Rescue and extraction

# Meeting heavy challenges in the Alps

**HeliAustria's proud history spans 35 years** operating helicopters like the Alouette, H125, H135 and now two H215 in the Austrian. A closer look at this second-generation company.

Article: Heather Couthaud - Photos: Anthony Pecchi

With just a single helicopter, HeliAustria was in business. In the Austrian Alps, 58 kilometres south of Salzburg, helicopter pilot Johann Knaus founded the company that for the next 35 years would be owned and carefully tended by himself and later, his son, Roy Knaus. Based in St. Johann im Pongau at an elevation of 550 metres (1,803 feet) above sea level, HeliAustria's missions include helicopter emergency medical services (HEMS), aerial work, passenger transport, and fire fighting. The family-owned enterprise also provides winter-time services like avalanche blasting and search and rescue, a critical need in a region where the Salzburg Slate Alps (Salzburger Schieferalpen) rise to the north and the two Tauern ranges dominate the south. Operating in all major countries bordering the Alps, HeliAustria's history of operating Airbus helicopters reaches as far back as using the Alouette and Lama for passenger transport in the 1980s and 1990s. "The Lamas were good workhorses. We still keep them in our hearts," says Roy Knaus, HeliAustria's owner and a pilot himself, whose experience with the Airbus range led to the company's later decisions to acquire the H135 and H215.

## FLEXIBLE UNDER PRESSURE

In 2016, HeliAustria acquired four H215 Super Pumas which they converted for heavy-lift aerial work. "We saw that the Super Puma could cover about 80% of what we wanted to do, from the lower Alps to the upper levels," says Knaus. "The Super Puma is known as a reliable aircraft. Everything we heard about it was confirmed—it's versatile, it's got an economical fuel burn. Pilot-wise, we think it is a very simple helicopter, although big. But we have experience with long line

jobs in cities, so we knew what the Super Puma could do and so far, we are satisfied."

## ONE HELICOPTER, MANY MARKETS

Over the years, HeliAustria's management hasn't been afraid to tackle new challenges in different markets. "You may do avalanche blasting with the H125 while you're doing rescue work with the AS355," says Knaus. With the arrival of the Super Pumas, the company's aerial services grew to include operations as far away as Spain, Slovenia and Croatia. Marketed in two versions, depending on the airframe length, the helicopter's short variant is best-suited for aerial work. The greater payload accommodates heavy internal or external loads, while the ability to install a hydraulic hoist or a cargo sling – for loads up to 4,500 kg – further adds to its appeal. Increasingly able to lease out their fleet to other companies, last year HeliAustria's pilots ferried the H215 to Africa, for a combination offshore and construction job that needed precisely the Super Puma's expertise in heavy cargo loads.

And HeliAustria's next conquest? "We try to develop markets which we think will have a future," says Knaus. "The H215 is a very effective fire fighting machine because you can carry crews to the fire and then, with a Bambi bucket, fight the fire. The aircraft is fast, particularly in getting to the scene, and with its fuel consumption you can stay on the fire for about three hours." Another day, another challenge. ■



Watch the video on Rotor Online.

**1** – HeliAustria performs HEMS, aerial work, commercial transport and filming, among other activities.

**2** – In 2016, the operator decided to go into the heavy lift market with the purchase of four H215s.

**3** – One of HeliAustria's values is that employee motivation is the basis of their success.

**4** – Roy Knaus, the company's owner, particularly appreciates the H215's low fuel consumption.

**5** – The H135's low operating cost and outstanding performance in HEMS were the primary selling points for Roy Knaus when buying their first H135.

**6** – HeliAustria count about 20 helicopters in their fleet, among them the H125 and the H215.

## HeliAustria

**Date founded:** 1982

**Base:** St. Johann im Pongau, Austria

**Fleet:** 20 helicopters, including AS355, H125, H135, H215

**Operates in:** Austria, Sweden, Norway, Germany, Belgium, Italy, Switzerland, Africa, Spain, Slovenia, Croatia, Poland, Romania, and France

**Missions:** HEMS, aerial work, avalanche blasting, SAR, fire fighting, passenger transport, sightseeing, aerial photography



1



2



3

## H215



- Maximum take-off weight: 8,600 kg
- Capacity:
  - 2 pilots + 19 passengers/  
22 troops (long version)
  - 2 pilots + 15 passengers/ 20 troops  
(short version)
- Engine: 2 Safran Makila 1A1 turboshaft
- Fast cruise speed:  
262 km/h / 141 kts
- Maximum range:
  - 866 km / 468 NM  
(long version)
  - 642 km / 346 NM  
(short version)



4



5



6

## MISSION



UNITED STATES

# UH-72 Lakotas photograph California fire damage

## Earthquake, hurricane, fire... after the catastrophe, what then?

Survivors need power restored and homes repaired. During the California fires, aerial surveys by the National Guard and others provided vital information, quickly.

Article: Heather Couthaud - Photos: California Army National Guard

Poppies bloomed red across California in April 2017, the product of a winter of heavy rains. Red again coloured the hills as a series of wild fires burned those same flowers, tearing across Northern California from 8 October until mid-month, when most fires had been contained. Blackened husks of vines and hollowed-out homes were left behind.

From as early as 10 October, pilots of the California Army National Guard were called upon to take aerial images of the region. They used two UH-72A Lakota helicopters equipped with a Wescam MX-15 camera. The fires' scale required immediate documentation of destroyed and compromised structures, utility towers, and infrastructure, which would form the basis of damage assessments by the Federal Emergency Management Agency (FEMA), utility companies, and local authorities.

### AN UNPRECEDENTED SCOPE

The imagery collected by the UH-72s was used to expedite recovery efforts, including FEMA's decision to declare a state of emergency and commence funding for recovery projects. "The UH-72 equipped with an electro-optical/infrared sensor provided initial damage assessment for one thousand residences to support restoration and recovery efforts," states Air Force Major Megan Stromberg, the intelligence officer in the Guard's Joint Forces Headquarters responsible for collecting damage assessments. "On the Sulfur Fire in Lake County, the full-motion video capability of the UH-72 was used to assess the status of power distribution lines, allowing the utility companies to prioritise their resources in response to the fires, to get electricity delivery restored to customers as quickly as possible." The UH-72s also flew personnel from a variety of functions,

**1 - The Coffey Park neighborhood in Santa Rosa was destroyed during the Tubbs fire.**

**2 - The UH-72 Lakota provided damage assessment for thousands of structures in Northern California.**

**3 - Several thousand buildings were destroyed during the fires, including this hilltop home.**

**4 - Smoke and poor visibility were a constant during the weeks following the fires.**



permitting authorities to assess the damage and make planning decisions.

The missions were unusual for Major John Allen, a California Army National Guard pilot. "This is a mission you would typically do after the main fire fighting effort was over," he says. "But these fires were so large that in some areas, the fire was out, homes destroyed, while nearby another was still actively burning. We were saying, 'I can't believe we're actually going out in this stuff.' But there was so much damage that recovery would have been at a standstill if we hadn't been able to provide those images."

### DIFFICULT TRANSITIONS

Temporary flight restrictions (TFRs) were placed around the fires by CalFire, the state fire department, within which fire fighting aircraft operated. "In some cases, the tops of the TFRs were 7,000 feet above ground level, so we'd

have to fly over," says Allen. "There were an unprecedented number of fixed-wing tankers and helicopters. We didn't want to get in the way, so we had to figure out paths through the area."

Coordination of the TFRs was a highly-controlled effort. During one flight, Allen had to cross three fire areas, contacting different people as he transitioned. Not always familiar with the area, and with smoke and ash in the air, visibility was a challenge. "The Lakota is a great platform," he says. "It's stable because of its instrument flying capabilities and its communication package. It gives pilots confidence in flying into lower visibility areas." "These fires were eye opening in that there were so many structures burnt," he says. "The areas that it burnt through are places that we typically don't worry about. For me personally, it was incredible to think of the type of wind event it took to create this type of disaster." ■

## California Army National Guard

One part of the US Army, which comprises the Active Army, the Army National Guard and the Army Reserve. Each state has its own National Guard.

**Typical UH-72A crew:**  
1 pilot, 1 copilot, and 1 crew chief (non-rated crewmember) on the camera

**California bases:** Stockton (UH-72 base), Mather, Los Alamitos

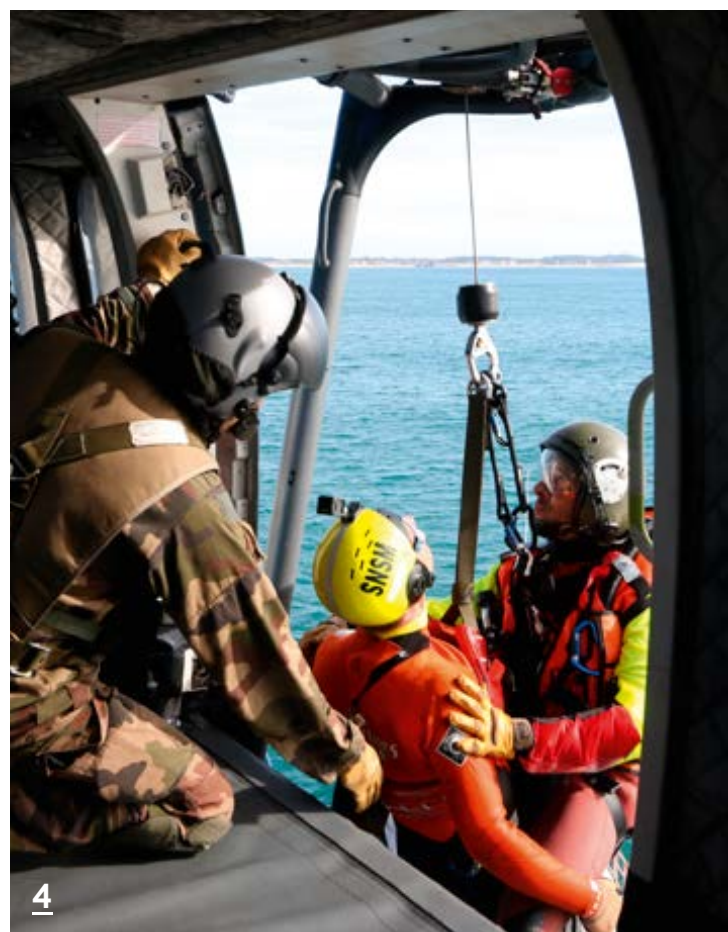
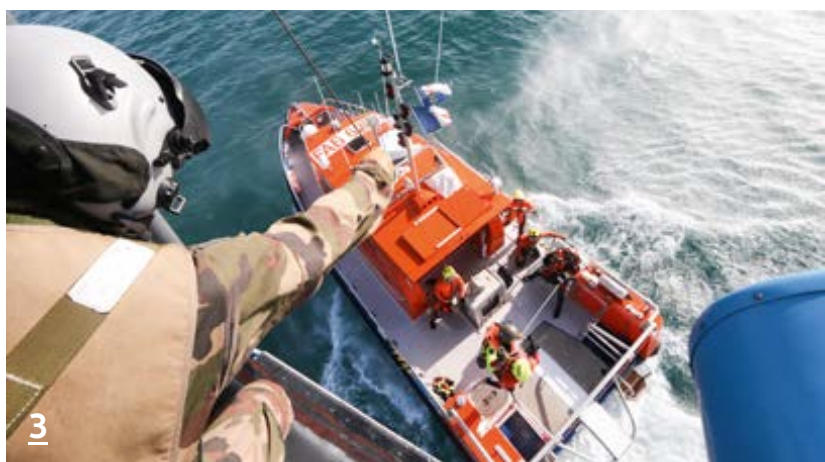
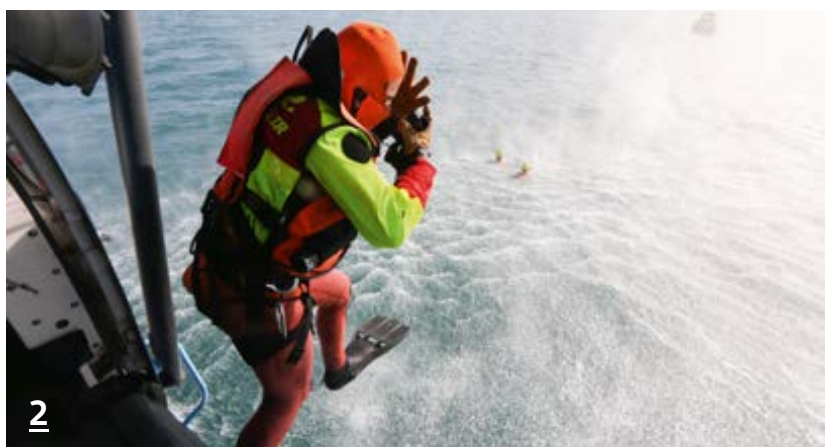
**Pilots who assisted in October fires:** 10

**Total hours flown:** 50

**Approximate area covered:** 245,000 acres in Sonoma, Napa, Santa Rosa counties

**Equipment:** Wescam MX-15 camera with electro-optical/infrared sensors and full-motion video

# MISSION







FRANCE

# An H225 for best-cost training

**The French air force is using a civil H225 to train its crews.** The flight hours, provided by a consortium as a turnkey solution, allow the military to conserve the Caracal's potential while benefiting from the attributes of a very similar helicopter.

Article and photos: Frédéric Lert

Summer lingers in southwest France and many of the people strolling along the beaches raise their eyes to the H225 flying south at 150 knots. The day's mission is hoist training operations at sea with an SNSM\* lifeboat. A typical mission to say the least, except that it is a military crew from the EH1/67 "Pyrenees" squadron that is flying the civil helicopter. The blue and white paint scheme is well-known in the community: it shows the helicopter to be one of the two H225s belonging to Airtelis (see sidebar). "A convention signed at the start of 2017 with the consortium composed of the companies Airtelis and Icare allows us to use the helicopter in a highly flexible way for a wide range of training missions," states the air force representative from the squadron's home base at Cazaux. With just two Caracal aircraft available for operations abroad, participation in national and international exercises, emergency rescues at sea or on land, and scheduled maintenance operations, the unit does not have much room for manoeuvre. The arrival of the H225 is therefore a real bonus.

## AN AIRCRAFT SUITED TO MILITARY INSTRUCTION

In the cockpit, the two pilots have spotted the lifeboat. The helicopter slows, the right cargo door is opened and the onboard divers prepare for the first hoisting operations. The lifeboat is nose into the wind and sailing at six knots to counteract the effect of the rotor downwash. On the intercom, the flight engineer leans out of the door to give instructions: "Two metres forward... easy... one metre right."

Gripping the pitch control lever, the pilot flying blindly follows the instructions. Sitting next to the pilot flying, the copilot reads out the values on the radio altimeter. The operation has to be performed at low altitude as the lifeboat is only 11 metres long. Only 30 feet above the water, not a centimetre more. In the course of the following hour, a continuous stream of people and items passes through the cargo door: divers, a stretcher, mock victims of drowning, real rescuers. Some 15 round trips

later, the divers are exhausted and the flight engineer indicates that the thumb he uses to control the hoist is aching. The H225's fuselage and windows are covered with salt and the made-to-measure watertight cover on the cargo compartment looks like a footbath. It's time to go home – after a few landing exercises on the ruins of the concrete bunkers dotting the beach.

"The H225 has no armour plating, APU\*\*, extra fuel tank, armament or electronic warfare equipment and weighs only 5.7 tonnes when empty," explains a pilot. "That's 1.7 tonnes less than our Caracal aircraft with the same engines. The impression of lightness is phenomenal!" With such a power reserve, the helicopter is particularly at ease over the entire range of training missions it is required to perform: hoisting operations, mountain work, deck landings, etc. – in other words, all the operations the military refer to as the "technical foundation." Tactical training and real operations remain, of course, the prerogative of the "real" Caracal aircraft. ■

\* Société Nationale de Secours en Mer (French national lifeboat institute)

\*\* Auxiliary Power Units

**1 – Training in one-wheel landings completes the mission. Incredible precision required.**

**2 – At just a few metres from the surface, the H225 releases its rescue divers. The aircraft mists them with sea spray.**

**3 – The speedboat's antennae whip the air just metres from the helicopter. The aircraft's stability is essential.**

**4 – A member of the navigation crew manoeuvres the hoist. Note the floor covered by a protective tarp.**

## A win-win partnership

**The companies Icare and Airtelis joined up at the end of 2016 as a short-term consortium to provide turnkey flight hours for the French air force. The initial two-year contract may be renewed at the end of 2018. Maintenance, technical and operational coordination, and administrative management of the helicopter are managed by a team from the consortium.**

# The H135 in service of the law

The National Police Agency of Japan employs 10 H135s in law enforcement operations in nine prefectures throughout the country. Two new aircraft, equipped with Helionix avionics, will join the fleet in 2018.

Article: Belén Morant - Photos: Japanese National Police Agency

Dating from the delivery of their first Dauphin SA365N in 1986, the Japanese National Police Agency (NPA) has relied on Airbus helicopters to equip its law enforcement. Today, they utilise their 10 H135s and 10 Dauphin aircraft to perform missions such as aerial support, including patrol and tracking, electronic surveillance, or disaster relief. The NPA also supports search and rescue with their H135s when needed.

## EQUIPPED FOR SUCCESS

The NPA deploys an H135 in each prefecture, making it the reference helicopter for law enforcement missions in Japan. At present, the NPA is equipped with 50 light helicopters. As for new H135s that will enter service in 2018, special equipment will include a radio for traffic control, a GPS system, equipment for instrument flights, a hoist and fast-rappelling system, and the most modern equipment to ensure the aircraft's safety in flight\*. Further, the NPA is considering integrating night vision goggles by March 2019.

When asked which of the H135's qualities most appeal to the Japanese police force, the NPA is enthusiastic. "To ensure national security, our helicopters should be able to multitask," says a spokesperson for the agency. "The H135 is one of the best aircraft among light helicopters that meets our requirements. Police aviators are very fond of this compact machine, which can already be seen in almost every prefecture in Japan. It is a flexible, manoeuvrable, multi-mission helicopter that we can rely on. The NPA appreciates its easy maintenance and the high availability rate, which makes it a cost-efficient helicopter. In addition, we have valuable support from Airbus Helicopters Japan. Another thing our pilots appreciate

is its silence: the helicopters' low sound is an essential virtue for us, especially when operating within big cities."

## PREPARED FOR THE 2020 OLYMPIC GAMES

NPA aviation is playing its part in preparing for the Tokyo Olympics in 2020. The G20 Tokyo summit, as well as the Rugby World Cup in 2019 could also be factors in accelerating the Japanese government's acquisition of modern equipment.

"Airbus Helicopters Japan recently hosted its fourth customer symposium here in Tokyo, bringing together experts and operators from around the world," says an NPA spokesperson. "On this occasion, the NPA was able to share experiences and learn from the French gendarmerie. It was a very interactive experience that allowed us to discover new ways of operating and improving our missions in view of the events that we will have in the coming years. We expect to continue learning more from these different countries, always with the objective of improving aviation safety." ■

\* RALT (radar or radio altimeter), TCAS (traffic alert and collision avoidance system), HTAWS (helicopter terrain avoidance systems), ELT (emergency locator transmitter), CVFDR (cockpit voice and flight data recorder).

"To ensure national security, our helicopters should be able to multitask. The H135 is one of the best aircraft among light helicopters to meet our requirements."

**NPA spokesperson**

1 - Each H135 flies an average of 300 hours per year and will be in service for 20 years, until they reach around 6,000 hours.

2 - The H135s are based in Hokkaido, Tokyo, Saitama, Osaka, Fukui, Kochi, Tokushima, Fukuoka and Miyazaki. Two more will enter service in 2018 in Kumamoto and Wakayama prefectures.

3 - The H135s are also used for commercial passenger transport.

4 - The new H135s, which will arrive in 2018, will be equipped with Helionix avionics.





# Philippines: a long shared history

**Airbus Helicopters Philippines (AHP) is celebrating its 20th anniversary this year.** The decision to set up a local branch is justified by the customer centre's dominant position in the Philippine civil market.

Article: Alexandre Marchand - Photos: Airbus Helicopters Philippines

In the helicopter landscape in the Philippines, Airbus Helicopters out at a glance since it is the only original equipment manufacturer (OEM) present in the country via its joint venture with the Philippine Aerospace Development Corp (PADCO). It has been a long-term investment that has paid off as AHP currently holds slightly more than 60% of the country's civil and parapublic market.

"We are a long-standing player," says Lionel de Maupeou, General Manager of AHP. "And our operation is now developing around a wide range of activities: new and second-hand aircraft sales, line maintenance, scheduled maintenance, aircraft customisation, troubleshooting, etc."

## RECOGNISED KNOW-HOW

AHP sits close to operators in a 2,000 m<sup>2</sup> hangar in the general aviation area of Manilla international airport. The team of around sixty staff is strong and effective, "with almost perfect gender parity" adds Lionel de Maupeou. "Filipinos are well-known for their technical expertise and work ethic. It is quite common for us to send employees abroad on support missions."

This recognised expertise and proximity to customers results in a dominant position in the civil and parapublic market, with around 80 helicopters in service with 57 operators. Additional aircraft - two H130s, an H145 and an H155 - will arrive in the country before the end of 2017. Single-engine or light twin-engine aircraft are mainly used for corporate transport and VIP missions. The specific geography of the country, the lack of roads and the legendary traffic jams in the capital are major factors in the success of the helicopter. "We are at a rate of three to four sales per year," says the centre spokesperson. "That's a figure that could easily increase if other segments were to develop, such as, for example, tourism or EMS operations."

## TO BETTER SERVE OPERATORS

The military market has traditionally been the preserve of the United States of America due to the

inter-governmental agreements signed between the two countries. The signing of a defence agreement between France and the Philippines, with an equipment section, in 2017 could shift these boundaries. There are opportunities. For example, the current government wants to reinforce its parapublic fleet. Several calls for tenders have been launched for supply of around 10 aircraft over the coming three years.

"We are a small entity, but we are well-established with a good reputation," sums up Lionel de Maupeou. "The Group's ongoing regionalisation will enable us to link the skills of the mother companies with those of customer centres and better respond to operator requests. This will be an asset in the coming years." ■





“Filipinos are well-known for their technical expertise and work ethic. It is quite common for us to send employees abroad on support missions.”

**Lionel de Maupou,**  
General Manager of Airbus Helicopters Philippines.



### Fast facts

The creation of Airbus Helicopters Philippines in 1997 is, in fact, based on a partnership with Philippine Aerospace Development Corp (an agency that is part of the ministry of transport) for the licensed production of the BO105 in the 1970s.



**AIRBUS DNA**

From its entry into service, the H160 will be accompanied by a technical environment and support solutions (maintenance, airworthiness monitoring, troubleshooting, flight data analysis, etc.) that will be mature. To achieve this result, Airbus Helicopters has therefore decided to place itself in the position of an operator and to comply with the corresponding regulatory and operational constraints. “We are thus the first customer for the aircraft,” says Antoine Fleischmann, H160 programme support and service manager. “In implementing this operation, we were greatly inspired by an identical initiative launched in Toulouse (France) for the Airbus A350. From the A350 to the H160, Airbus’ DNA is taking full effect.” ■

FRANCE **An “operator zero” for the H160**

**Airbus Helicopters is taking on the role of an operator to test H160 maintenance and support activities in detail** – even before the H160 enters service. The objective: to anticipate any blocking points and resolve them before delivering completely mature aircraft and services to launch customers . . . with no unpleasant surprises.

Article: Alexandre Marchand

**CUSTOMER BENEFITS**

Setting up integrated teams combining design and operational staff within the company’s design office has allowed work to be performed well in advance for such things as the ease of access to engine accessories and the architecture of the transmission deck (where most maintenance operations are performed). A highly-detailed study was also carried out on component and sensor locations in all the aircraft racks and bays. The “operator zero” concept has also played a part in writing the aircraft’s work cards and technical documentation – items that must be easy to understand for everyone. To avoid comprehension and translation errors, the documentation (which can be accessed via digital tablets) makes full use of 3D animation, with text being reduced to a minimum. The range of operations has been tested and quantified by personnel skilled in the use of the operator zero concept. “Although the H160 is a medium-twin helicopter, we wanted it to be similar to a light-twin due to its ease of maintenance,” explains Antoine Fleischmann. ■





### A LONG-TERM PROJECT

In getting its test programme running, the operator zero approach has benefited from development resources (in particular, the dynamic helicopter zero and system helicopter zero platforms) as well as the H160 prototypes. The amount of checking needed has varied according to a scale of most-critical to least: the most critical tasks, or those with a high operational impact, have been tested at full scale on the prototypes. The PT1, for example, was used for four weeks over the summer of 2017 to perform inspection and scheduled maintenance tests and to test corrective actions. The engine manufacturer, Safran Helicopter Engines, has also been closely associated with these operations, with the same objective - technical maturity at entry into service. All means of testing will now be used for the test programme until delivery starts. ■

## FAST FACTS

Some 40 technical tasks were tested in May 2017 during an initial campaign performed with the dynamic helicopter zero, and **33 others were tested this summer on the PT1, including eight on the engine.**

The objective is no scheduled maintenance task with **a time interval of less than 50 hours** that would require the presence of a technician.

**Around 200** essential tasks have been checked by the operator zero team.

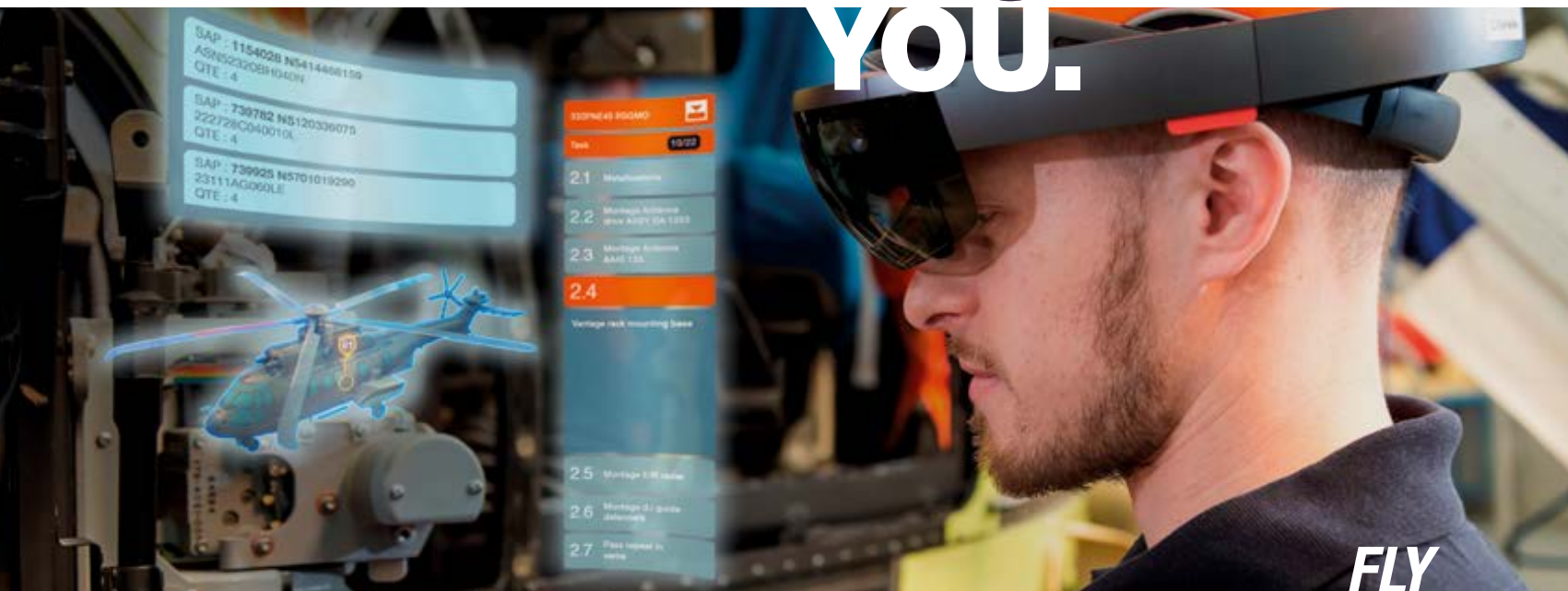


### THE COMING PT3 CAMPAIGN

The third H160 prototype flew for the first time on 13 October 2017. This helicopter has a fully-digitised flight manual and will be used by the operator zero team to simulate operational flights in completely realistic operating conditions. The helicopter's launch customers will be closely associated with these evaluations, which will commence around 18 months before delivery of the

first series aircraft. They will thus have the opportunity to test the configuration documentation and the interfaces between the aircraft databases and their own maintenance systems. The PT3 test campaign will also be an opportunity to simulate component replacement or spare part ordering operations in the same way as an operator would do using the aircraft's fully-digitised environment. ■

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**WE MAKE IT**

Continuous customer feedback means we're able to constantly re-engineer and improve our service. It's just one of the reasons we're the helicopter industry's biggest service network, providing 24/7 assistance to 150 countries around the world.

Collaboration. We make it fly.