

No. 127 - JUNE 2022

ROTOR

BY

AIRBUS HELICOPTERS



IN THEIR WORDS
"We must prepare ourselves for much tougher engagements"
- General Vallette d'Osia

MISSION
Half a decade of passion: the ACH brand at new heights

OFF THE BEATEN TRACK
Lifesavers from the air

Military Special: Renewing the Range



FIRST FRENCH NAVY H160 DELIVERED TO BABCOCK

The first of six H160 helicopters, destined to deliver maritime search and rescue operations for the French Navy, has been delivered to Babcock. Equipped with a winch and a modular cabin that can be optimised for each mission, Babcock will oversee the integration of a Euroflir 410 Electro Optical System (EOS), prior to its entry into service later this year. The H160s will be certified for use with night vision goggles which are necessary for winching operations at night. The six H160s will bridge the gap to the arrival of the H160 Guépard as part of the French DGA's Joint Helicopter Programme (HIL). They will be maintained and equipped in partnership with Airbus Helicopters and Safran Helicopter Engines, ensuring the highest level of availability for the French Navy and the continuity of SAR operations on the Atlantic and the Mediterranean coasts.

© Babcock

JAPAN'S ALL NIPPON HELICOPTER SIGNS FIRST-EVER HCARE SUPPORT CONTRACT FOR ITS H160

All Nippon Helicopter (ANH) has signed a five-year HCare Smart parts-by-the-hour contract with Airbus Helicopters for its first H160. The aircraft was delivered from Airbus' facility in Kobe in December 2021, where flight training and specialised equipment installation for electronic news gathering are underway for the helicopter's Japanese entry into service this year. Under this customised HCare material management programme, ANH's H160 is guaranteed the supply of spare parts and repaired parts at a fixed rate per flight hour. With a dedicated pool of parts maintained by Airbus, the customer will benefit from optimised inventory and maintenance cost control.



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Performing



© Vincent Thian

MALAYSIAN MILITARY'S H225M FLEET CLOCKS MOST FLIGHT HOURS IN ASIA

In service since 2012, the Royal Malaysian Air Force's fleet of 12 H225M helicopters has accumulated over 20,000 flight hours – the most in Asia. Designed for the most demanding missions, these H225Ms have participated in various exercises and humanitarian missions, including flood rescue and lifesaving operations. The Royal Malaysian Air Force's H225M pilots who have achieved 2,000, 1,500, 1,000 and 500 flight hours respectively were also presented with flight hour achievement awards at a joint ceremony with Airbus at the Kuantan Air Base.



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SINGLE-ENGINE HELICOPTERS GET NEW TECHNOLOGY BOOST

A new light data recorder will be available as optional equipment for H125 operators in the last quarter of 2022 and later for H130 operators; hardened and lightweight, this system will record flight data so that all information can be retrieved in the event of an incident. A brand-new instrument panel is also now available for the H130. Featuring a new Garmin G500H TXi touchscreen main flight display, this new cockpit will provide pilots with a significantly-improved human-machine interface and will ease pilot workload while freeing up valuable space on the control panel.

NEXT STEPS FOR CITYAIRBUS NEXTGEN AND UAM

Over the past few months, Airbus has taken more steps forward on its journey towards making Urban Air Mobility (UAM) a reality. The company established an Air Mobility Initiative in Germany featuring leading industrial partners, research institutions and local municipalities who will work together to develop research projects that will deliver air mobility both within and between cities. In Italy, a Memorandum of Understanding was signed with ITA Airways, to explore the creation of tailored UAM services by identifying strategic use cases for emission-free mobility solutions. These developments follow the announcement in March that Spirit AeroSystems will develop CityAirbus NextGen's wings.



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Leading



© Jerome Deluill



© Eric Raz

HEMS ORDERS TO THE FORE AT HELI-EXPO

Airbus Helicopters' continuing suitability for HEMS missions was again underlined at Heli-Expo in Dallas, with 22 orders specifically for these operations. Stat Medevac led the way, signing for 10 H135s, while Swiss Air Rescue signed for nine H145s and Boston Med Flight ordered what will be the first-ever five-bladed H145 to be utilised by a medical operator in the United States. In total, Airbus announced 36 new orders at March's air show for 11 H145, 12 H135 and 13 H125 helicopters.

VSR700 AUTONOMOUS TAKE-OFF AND LANDING CAPABILITIES TESTED AT SEA

Airbus Helicopters has begun trialling autonomous take-off and landing capabilities at sea for the VSR700, an unmanned aerial system (UAS) being developed in the frame of the SDAM (Système de drone aérien de la Marine) programme, conducted by the DGA (Direction générale de l'Armement - the French Armament General Directorate) for the French Navy. This flight test campaign paves the way for the upcoming demonstration of the VSR700 at sea onboard a French Navy frigate.



GERMAN NH90 SEA TIGER ENTERS FINAL ASSEMBLY LINE
 Final assembly of the NH90 Sea Tiger began at Airbus Helicopters' Donauwörth site in April. The Sea Tiger's maiden flight is scheduled for 2023, with development and qualification flights still to come before first delivery in 2025.
 The NH90 Sea Tiger will replace Sea Lynx helicopters, which have been in service with the Navy since the 1980s. In addition to reconnaissance and transport, the Sea Tiger's missions include engaging targets above and below the water's surface. For this purpose, the Sea Tiger is equipped with active diving sonar, passive sonar buoys and torpedoes and guided missiles.

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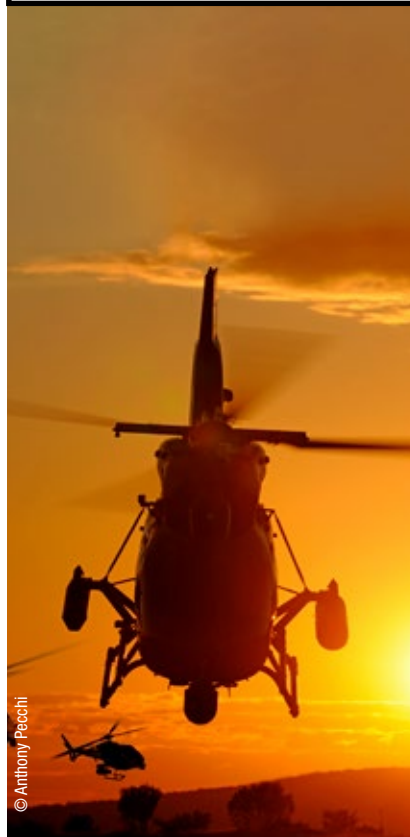
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Bruno Even, CEO of Airbus Helicopters

“The roles played by military helicopters are multifaceted, but always crucial.”

Today's context shows that defence solutions are as crucial as ever and Airbus helicopters are an important part of securing a safe and united world. While many people might immediately think of combat helicopters flying into battle or covertly transporting troops for secret missions, the reality is that helicopters in the service of armed forces all over the world are also dedicated to saving the lives of members of the public. The roles played by military helicopters are multifaceted, but always crucial. Whether it is naval search and rescue operations or missions inside combat zones, the challenges facing our operators are diverse and the stakes high.

The Airbus offer supplements specialised military helicopters with militarised versions of a civil range that are proving themselves every day in the most challenging conditions. We have a strategy in place to modernise our entire range. We are developing and integrating innovative technology that will respond to customers' needs, delivering a competitive edge until the arrival of disruptive, next-generation technology.

Naturally, a helicopter can only offer support if it is flying, so we must always take steps to enhance the availability of our fleet. Work has begun on this and is already bearing fruit, but we must go even further. Militaries are putting their faith in us and

we accept this responsibility, offering ambitious performance-related contracts to focus on delivering quick and effective improvements. While our range of civil helicopters leads the market, we have the ambition to better address the military helicopter market, providing countries with the means to protect their citizens, values and vital infrastructure.

The lesson of history is clear: peace and security can never be taken for granted. The European helicopter industry is critical to realising the continent's ambition for "strategic autonomy" in an unstable world. To counter global threats, governments must continue to invest in their defence capabilities. Against such a backdrop, their armed forces need state-of-the-art and well-maintained equipment to perform their role effectively and with as few casualties as possible. We recognise that the ecosystems within which militaries operate are complex and therefore meeting their needs requires a tailored approach. This understanding has been at the heart of our renewed portfolio: the H160M, H175M and Tiger Mark III upgrade.

The pilots flying our helicopters, the soldiers who depend on them and the public served by these vital missions deserve the very best. It is our responsibility to deliver.

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60

TIGERS

to be upgraded as part of the MkIII contract signed by France and Spain.

3,868

TECHNICIANS

trained worldwide in 2021.

70th

anniversary for long-term HEMS operator Rega – they have a fleet of 8 Airbus helicopters.

2,877,300

total fleet flight hours for the H130.

1

THE FIRST

five-bladed H145 has been delivered to Chile.

Around 2,000

legacy aircraft are currently in operation by 750 customers around the world.

10th

anniversary of Airbus Helicopters office in Kobe, Japan - with 100 operators it represents 52% of the civil and parapublic sphere.

The H125

operates in 108 countries around the world.

30,000

slings loads of powdered lime dropped annually by Swedish operator Scandair Helicopter using its fleet of three H125s to protect the ecology of the region's lakes.

2,000 flight hours achieved by HeliOtago's H145 in the first two years of its HEMS operations. The aircraft has achieved a dispatch rate of 100% and availability rate of 98%.

4,808m

the height of Mont Blanc where the Sécurité Civile's new H145 landed for the first time. It will officially join the Dragon fleet after its qualification flights.

1,400

helicopters flying in 29 countries throughout Latin America.

Military Special: Renewing the Range

From combat operations to saving lives with the Coast Guard, military helicopters play an essential role in every corner of the world. Operators that face evolving and emerging challenges require innovative solutions, which is why Airbus is constantly modernising, renewing and innovating its military range.

Articles: Alexandre Marchand and Ben Peggie



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Airbus has over **2,600 military helicopters** in service in over 90 armed forces around the world.



With **551,503 flight hours** in 2021, military helicopters play an essential role in global security.



With **5,800 deliveries** expected in the next 10 years, the **military helicopter market** will remain essential to pioneering a safer world.

“We must prepare ourselves for much tougher engagements”

As Commander of the French Military’s ALAT (Aviation Légère de l’armée de Terre) since 2019, General Vallette d’Osia is responsible for a fleet of 285 helicopters and 13 fixed wing aircraft. He explains the essential development priorities for the French army’s aviation in the years to come.



WHAT SUPPORT DO HELICOPTERS OFFER TO MILITARIES?

GEN. VALLETTE D’OSIA: The land commander expects his aviation combat arm to be a fast method of disrupting an enemy. For example, this could allow the engagement of first echelon forces and avoid their destruction by a well-organised enemy firing from afar. A combat helicopter’s main quality remains its lightning speed and its ability to generate surprise. This remains a main topic of



interest for the industry. In the coming decades, confrontations will probably take place in a more transparent battlefield where helicopters will be more exposed.

HOW IMPORTANT WILL MANNED-UNMANNED TEAMING (MUM-T) BE FOR MILITARY HELICOPTERS?

G. V. D’O.: Whereas developing MUM-T will undoubtedly be important, the helicopters we already have are able to cooperate with all tactical units on the battlefield; they represent a coherent answer in terms of performance, speed, endurance, connectivity and weapon systems. Manned combat aircraft will remain at the centre of air combat until at least 2045, matching the ambition to stand ready to engage whenever required and according to our ALAT motto “de la terre par le ciel”, from the earth via the sky.

WHAT ARE THE DEVELOPMENT PRIORITIES FOR THE FRENCH MILITARY?

G. V. D’O.: We must prepare ourselves for much tougher engagements, against enemies close to our technological level. To defeat your enemy, you must first respect them and this means upgrading our air combat capabilities. The current replacement of the Puma by the Caïman and from 2027, the Gazelle with the H160M Guépard, represents the end of the previous generation of helicopters. The NH90 Caïman helicopter is combat proven in severe conditions and has strong development potential to meet future challenges. In 2025, it will make a qualitative leap forward to the Special Forces standard, which I am very confident about. For example, the NH90 will be used to lead operations in degraded visual environment (DVE), allowing us to go further with greater security. The mid-life upgrade of our fleet from 2030 will also enable us to fully access collaborative fighting and interoperability with unmanned aerial vehicles (UAVs).

HOW IMPORTANT IS MAINTENANCE TO MILITARY OPERATORS?

G. V. D’O.: With more complex aircraft, maintenance is a major issue that could prevent us from having the necessary number of helicopters in the right place, at the right moment. We are looking at becoming more agile through the dynamic management of our assets. By gathering in the same place the people responsible, at state and industry level, for maintenance issues, we are now achieving remarkable improvements regarding aircraft availability.



WHAT DO AIRBUS HELICOPTERS OFFER MILITARIES IN THE WAY OF MAKING A DECISIVE OPERATIONAL IMPACT?

G. V. D’O.: By supplementing our leaders’ tactical sense with reliable, high-performing aircraft, strategists can devise unexpected manoeuvres. The Airbus H160M Guépard offers a significant qualitative leap in the way we infiltrate and recce in order to engage in deep operations. The Guépard will be resilient, able to connect to an air-land network, and interoperable with drones (MUM-T). It will enable us to outperform an adversary until the arrival of disruptive technologies that we can expect in 20 or 30 years. The H160M and Tiger helicopters will also be complementary. The Tiger has a wide operational experience acquired through many deployments. From 2030 to 2050, its MkIII standard upgrade will give us a combat-proven aircraft with a high-end strike capacity, the ability to fire beyond visual contact and interesting air-to-air capacity that is renewed with Mistral 3. It will have the additional capacity to collaborate and interoperate with UAVs.

1: General Vallette d’Osia, Commander of the French ALAT.

2: A Tiger offers support to two tactical helicopters.

3: A soldier uses the winch to disembark from a French Cougar.



©Light & Shadows

1

Airbus' military helicopters: solutions for today and tomorrow

The helicopter, a complex and in some ways fragile machine, has nevertheless become a major player in combat in all modern armies. It is more indispensable than ever to the military because of its ability to get away from the terrain while remaining close to the ground, in contact with troops, thanks to its ability to hover.

Airbus Helicopters, the world leader in civil helicopters, is already a major player in the military market. In the future, the company's ambition is to maintain its status as a trusted and strategic partner for military operators who have placed their trust in it, and to this end it offers a range of specialised and civilian aircraft that meet the needs of today and tomorrow.

"In the framework of the Barkhane operation in the Sahel, no conventional operation is launched without the support of medevac and attack helicopters. In special operations, most operations are helicopter-based," said Patrick Bréthous, military adviser to the CEO of Airbus Helicopters. "In the maritime domain, the presence of the helicopter is just as crucial: no frigate leaves for an operation without its onboard helicopter. The CSAR (Combat Search and Rescue) Caracal are the guardian angels of fighter aviation." What is true today will undoubtedly be true tomorrow, even if the engagements may be even tougher, against opponents with a comparable technological level.

A MODERN AND DIVERSE RANGE

The solutions offered by Airbus Helicopters are based on the proven foundations of a modern and diversified range. The specialised aircraft designed

"An H160M will enable an army to gain the upper hand over its adversary until the arrival of breakthrough technologies in 20 years' time."

for military use, the NH90 Caiman and Tiger, are complemented by militarised aircraft from the commercial range, such as the H225M, H145M, H160M and H175M.

Airbus' strategy aims to offer value to operators by continuing to integrate operational enhancements into its current range, such as the Tiger or NH90, while simultaneously working towards disruptive future innovations. The mid-life renovation of the operationally proven NH90 fleet, starting in 2030, will also allow access to collaborative combat, integration into the digitised battlespace and interoperability with drones.

TECHNOLOGICAL ADVANCEMENTS

Since 2018, Airbus Helicopters has demonstrated its ability to make a helicopter and a tactical UAV work together, and this know-how will eventually be applied to the entire range. This interaction with UAVs, 'collaborative combat', and integration into communication and command networks will also be among the strengths of the H160M Guépard. "It will enable an army to gain the upper hand over its adversary until the arrival of breakthrough technologies in 20 years' time." Among other expected breakthroughs are those in the domain of stealth, taken in its broadest sense, with a focus on the close control of the aircraft's sound, thermal or even electromagnetic signature. "At the same time, they must not lose any of their capacity to create surprise through their manoeuvrability and autonomy," explains Bréthous "In this respect, cooperation is being studied within NATO and EU working groups to prepare solutions for the post-2040 replacement of aircraft in service, and Airbus Helicopters is actively involved in this."

Finally, cost of ownership will also be a key factor in operating a large number of aircraft, as harder engagements will necessitate. "The economic equation must always be very present in the studies underway," says Patrick Bréthous.



2



©Thomas Golsique

3

1: The H160M Guépard will be a key part of the French military's helicopter programme.

2: Patrick Bréthous, Military Adviser to the CEO of Airbus Helicopters.

3: Soldiers boarding a Cougar in the depths of winter.

"Simplifying maintenance tasks and limiting implementation costs are strong demands from operators." All these messages are received "loud and clear" by Airbus Helicopters, which has made "defence and security" one of its three strategic priorities, with ensuring the satisfaction of military customers as a common thread.

Coming soon: the H175M

The H175's military version will be the newest member of the Airbus Helicopters family, filling an important gap in the product range and offering a vital replacement for Puma and Super Puma fleets. H175M Programme Leader, Gilles Arnaud, and Operational Marketing Manager, Arnaud Roux, give us the inside track on the development.



“We have a platform that has been tested and proven in challenging civil conditions.”

Arnaud Roux,
H175M Operational Marketing Manager.



“The H175M will benefit from the significant experience learned from throughout our entire military range.”

Gilles Arnaud,
H175M Programme Leader.

“When I joined Airbus Helicopters two years ago, as an H175 pilot and former Puma and Super Puma military pilot, I didn't understand why there wasn't an H175M version already,” states Arnaud Roux. “However, there are certain advantages to not arriving too early. For example, we have a platform that has been tested and proven in challenging civil conditions.”

The H175 is currently operated in some of the most challenging conditions. Today there are more than 50 in service collectively accumulating more than 130,000 flight hours. Amongst this 50, seven have totaled over 12,000 hours in public service missions, including search and rescue operations similar in scope to those that could be performed by militaries. A further 26 fly year-round in the tough operating environment of the North Sea. Based on such a solid platform, the H175M is a proven and low-risk solution. Indeed, the only changes being made to the military version are the H175's remaining Chinese airframe components, which are being sourced from European suppliers.

A FRESH START

Though born of an existing programme, the H175M still represents the opportunity to design a dedicated military cabin arrangement from a blank page, therefore completely adaptable to a particular customer's needs. “However, in another important sense, we are not starting from scratch,” says Gilles Arnaud. “The H175M will benefit from the significant experience learned throughout our entire military range, allowing us to advance quickly and astutely.” The initial development will be geared for troop transport and special forces missions, with a combat search and rescue (CSAR) and maritime security version likely to follow. With the largest fuel capacity in its market, from its completely internal fuel tank with a capacity over two metric tonnes, the H175M boasts an impressive radius of action of nearly 300 nautical miles and an endurance close to six hours, without impairing on the cabin capacity nor on the external aerodynamic shape. The H175's public service and search and rescue use also means that it already features equipment for fast roping, EOS and a sling which will naturally be integrated into the military version. An Electronic



◆ An H175M in flight.



2



3

Warfare System and machine guns which can be fired either from the front windows or from lateral doors will also be added. With 12 cubic metres of space, the cabin will be the largest on the market for a helicopter of this size and therefore perfectly adapted to carrying troops. The interior has been ergonomically designed to seat up to 16 troops, with back-to-back foldable seats and large doors facilitating quicker and easier entry and exit for soldiers. It also features an internal cargo space of 2.3 cubic metres, easily accessible from the cabin, meaning soldiers can have vital access to additional equipment without leaving the helicopter, should it be required.

A PERFECT PUMA REPLACEMENT

As product development continues, there is already clear interest from the UK Ministry of Defence as a potential customer seeking to replace its AS330 Puma fleet. Though it will undoubtedly face competition, Arnaud Roux believes there are many compelling factors that make the H175M stand out: “The avionics. Helionix @ will make a big difference. It is already one step beyond the standard glass cockpit and further reduces pilot workload. Very importantly, all British military pilots learn to fly on the H135 or H145 with Helionix, providing major benefits such as reduced training time and, in turn, allowing more time to be dedicated to specific and vital operational training.”

“Also, in terms of transport, a super-medium helicopter can comfortably accommodate between 12 and 16 troops for special forces operations. A typical special forces group is comprised of between 8 and 12 commandos. It makes more operational sense to arrive simultaneously with smaller helicopter units at several separate locations. The new generation offers new avionics, new equipment, more scope, larger fuel tank capacity – and in the military, you can never have enough fuel – so it will be attractive for many militaries looking to modernise their fleets.” Gilles Arnaud agrees: “We are seeing a clear trend that operators are looking for lighter platforms that are more efficient and cheaper to operate and maintain than larger types. Replacing the Puma with the H175M is a good example of this. In the next 25 years, there will be a demand for 1,500 super-medium helicopters.”

Another attractive aspect of Airbus Helicopters’ offer is that should its bid be accepted by the UK Ministry of Defence (MoD) the industrialisation of the H175M will take place at Airbus’ Broughton facilities. This means an important role for Airbus UK, as a significant part of the assembly, testing, training, maintenance and support of the H175M will be based there, enhancing service for the client, further reducing costs and strengthening



©Anthony Pecchi

4

Airbus’ British presence. Beyond any helicopters dedicated to the UK MoD, the Broughton final assembly line would deliver all H175M helicopters – creating significant export opportunities for the UK, in addition to necessitating the recruitment of many new highly skilled local workers.

ALIGNING THE PLANETS

With a large market and an interested launch customer lining up, it might appear that the planets are aligning to give the H175M a smooth arrival, though it is not merely coincidence. Instead, it reflects the work that is done to anticipate the needs of military customers and subsequently

deliver impactful defence and security solutions that meet them. With connectivity likely to be increasingly essential on the battlefield of the future, helicopters will continue to have an essential role in the military ecosystem to support the delivery of decisive missions and operations. The H175M, offering the optimal blend of a proven platform with latest-generation technology and sufficient adaptability to be tailored to specific operator requirements, is ready to fulfill this role. With the programme officially launched and the prototype H175M flying, Airbus Helicopters is in great shape to address the UK requirement due to be decided in 2023.

2: A proven platform from the most demanding operations in the civil market.

3: The completely internal fuel tank offers the largest capacity on the market without compromising cabin capacity or aerodynamic shape.

4: The H175M can comfortably carry 16 troops or 12 commandos with tactical gear.

NH90 support goes vertical

In a major evolution for the NH90 programme, two of its largest operators have opted for an innovative ‘vertical’ support contract that aims to radically improve fleet availability.

For military customers, the design, production and delivery of a helicopter is only a part of the decision-making process, with support being a critical factor in terms of mission success. With fleets of 75 and 95 NH90s respectively, the French Direction Générale de l’Armement and the German Bundeswehr need to know that they can rely on their availability. That’s why both have signed the NH90 Support Contract, designed to resolve many of the challenges impacting the current fleet. The agreement will see NHIndustries, which manufactures the NH90, take responsibility for a significant part of the logistics and maintenance activities for a period of five years, meaning the respective militaries will have more scope to focus on their operations. “This agreement has been carefully crafted in order to provide the French and German armed forces with the right set of services for improving NH90 operability, affordability and serviceability,” says Nathalie Tarnaud-Laude, President of NHIndustries.

RISING TO THE CHALLENGE

Optimising NH90 fleet availability has been a consistent goal and this development means NHIndustries must ensure the continuous flow of airworthy parts to France and Germany through a flight-hour-based service. The inventories of the participating nations will also be managed and sufficient resources allocated to ensure that scheduled inspections and maintenance run

seamlessly. Additionally, a variety of catalogue services can be activated, as and when required, either by the entire community or by individual nations, thus allowing maximum flexibility. The contract is performance based, further proof that positive impact is an absolute priority. With the possibility of two further extension options worth an additional five years, there is every incentive to deliver quick improvements.

A BLUEPRINT FOR OPTIMAL SUPPORT

This verticalisation is at the heart of the NH90 Support Contract offer, which is popular with military operators. These commitments are long-term and end-to-end, with a single contract replacing multiple existing contracts for each fleet

and entrusting a single prime contractor with a scope of action covering the entire aircraft, including the supply of parts and the logistics management of stocks. These characteristics make it possible to assign more ambitious performance objectives to manufacturers at controlled costs, with penalties if they are not met. Vertical contracts are already in place with the DGA for its Cougar and Caracal fleets, which have already seen a nearly 10% increase in fleet availability since the contracts went into effect in late 2019. This is a sign that this solution is effective and delivers the requisite level of customer service required by military customers, operating under the most challenging of mission parameters.

IMPROVING AVAILABILITY, A KEY FOCUS

Strong commitments have been made at all levels of Airbus Helicopters to improve the availability of military fleets, with CEO Bruno Even making a personal commitment to all customers. Beyond the verticalisation of support launched by the Minister of the Armed Forces, the evolution of internal processes and the implementation of innovative management tools have also contributed to improving the situation. In September 2021, the creation of a Tiger platform bringing together manufacturers and official organisations (Direction de la Maintenance aéronautique) led to frank and direct exchanges between the various players. A great deal has also been done within the Group to enhance a ‘defence spirit’ and strengthen links with users. The improvement in the situation for the Cougar, Caracal and Tiger fleets is notable and efforts are continuing, particularly in the direction of the Caiman fleet.



© Patrick Heintz

1: French and German NH90s fly in formation.

TIGER MkIII

Upgrading its stripes

Agility, survivability, precision and fire power

With unmatched agility, range and performance offering unrivalled superiority on the battlefield, the Tiger has established itself as the essential attack asset. Thanks to the collective enhancements of the MkIII upgrade, the Tiger will continue to be customers' trusted best partner in extreme military environments for the next decades to come.

Connect to the digital battlefield



Change the balance of power

New air-to-ground missiles with man-in-the-loop



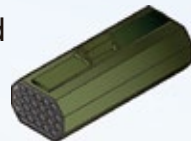
New air-to-air missiles



Improved turreted gun



New laser-guided rockets



COMMUNICATION SYSTEMS

- Radios
- Link with drones
- Satcom

WEAPONS

- Air-to-ground missiles
- Air-to-air missiles
- Gun
- Rockets
- Countermeasures

SIGHT CHAIN

- EOS
- Helmet

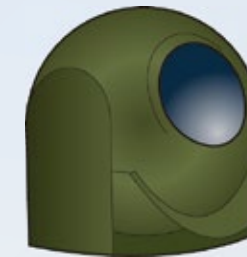
AVIONICS

- Avionics suite
- Tactical Data Management System
- Battlefield management system

NAVIGATION

- System synchronised with Galileo

See before being seen



Better interoperability with a networked aircraft

Manned-unmanned-teaming to **extend the field of view without exposure**

Real-time sharing of threats, mission data and situational awareness thanks to new digital avionics and a new battlefield management system

Complete panel of latest-generation weapons (air-to-ground and air-to-air missiles, laser-guided rockets, guns)

Improved targeting with new high-performance sensors and helmets

Integration of the **latest detection and identification capabilities**

Reduced crew workload with new state-of-the-art digital avionics suite and five 10-inch colour displays

With a high availability rate, the H160 will be ready to conduct search and rescue missions at any time.

H125: SERVING THE FORCES, SERVING THE PEOPLE

A paradigm shift in operations is becoming increasingly visible in armed forces as well as police and government units, around the world. Helicopters are increasingly operating in support of the general public, more than any other mission. One example of this is in Chile, where the navy's fleet operates a variety of missions to protect coastal populations and care for the aquatic environment.

Article: Renata Ahumada. Photos: ©Chilean Navy (Armada de Chile)

Chile is a country with more than 4,300 kilometres of coastline, not including the Antarctic Territory, so naturally there are a variety of missions needed to ensure that citizens can enjoy their beaches safely. The Chilean Navy carries out maritime search and rescue missions, as well as safeguarding national assets and upholding maritime safety.

Around 26 million sq km of Chilean maritime territory are kept under the watchful eye of the Navy. When it comes to safeguarding human life at sea and supporting the rescue of its citizens, the Chilean Navy knows it can count on an efficient, fast, safe and state-of-the-art fleet.

December 2020 saw the delivery of the first of five H125 helicopters that the Navy acquired under the "Gaviota" project. This project aims to modernise the aircraft of the HU-1 squadron, which counts among its various missions the training of pilots, crews and maintenance personnel of the naval units that will work with these aircraft. Last year they received their second and third helicopter, making their first missions in the 2021/2022 summer season a milestone for Chilean naval aviation.

PROTECTING THE COASTS IN SUMMER

The summer season in Chile, which ran from 15 December to 15 March, ended with the H125s having clocked approximately 260 flight hours.

"Today we can carry out medical evacuation missions that were not possible before."

Commander Ignacio Gamboa Muñoz

"Specifically, we had 18 rescues during this period, mainly on the beaches of La Serena, San Antonio and Valparaiso. We also carried out preventive patrols, which were fundamental for the protection of human life," said the commander of the HU-1 Squadron, Commander Ignacio Gamboa Muñoz. "The H125 has a great power capacity, which facilitates our work on the coast, allowing us to make stationary flights to supervise bathers who put themselves at risk, facing southeast winds of 15 to 20 knots. In addition, the aircraft offers us stability thanks to the tail rotor," highlights Commander Gamboa.

"In all the rescues we had the advantage of having a faster helicopter, compared to what we had before. In addition, we had the advantage of flying with open doors, which allowed us to go up to 130 knots, compared to the previous 90 knots, so we could go at a speed 30% faster to reach an emergency."

In terms of aircraft availability, the Navy has been very satisfied with the possibility of not having to pause between missions, which has improved its speed of response to emergencies.

NEW MISSIONS

The H125s have been operating in the Coquimbo and Valparaiso regions for the past few months, but their missions have gone beyond rescue, thanks to the carrying capacity of the H125: "Today we can carry out medical evacuation missions that were not possible before. In the past we used to lift 200 kg, today we are lifting 600 to 800 kg, which facilitates and greatly optimises the time required for this type of manoeuvre", says the commander of the HU-1 Squadron, Frigate Captain Ignacio Gamboa Muñoz. For the remainder of the year, the Navy team will be conducting training courses on the H125 and will begin its island support missions for the communities of Juan Fernandez Island, San Felix Island and Easter Island, among other missions.



1: The Chilean Navy uses its H125 fleet to protect people on its coastline.

2: Divers using the H125's winch.

3: Flying with open doors allows the H125 to arrive at emergencies faster.

GERMANY LIFESAVERS FROM THE AIR

For almost 50 years, DRF Luftrettung crews have been relying on Airbus helicopters to rescue people in distress. For the past year, the air rescue organisation has also been using the new five-blade H145. *Rotor* spoke to Simon Lehrich, pilot and fleet manager of the West Region at the DRF Luftrettung, about his experiences with the new version of the H145 family.

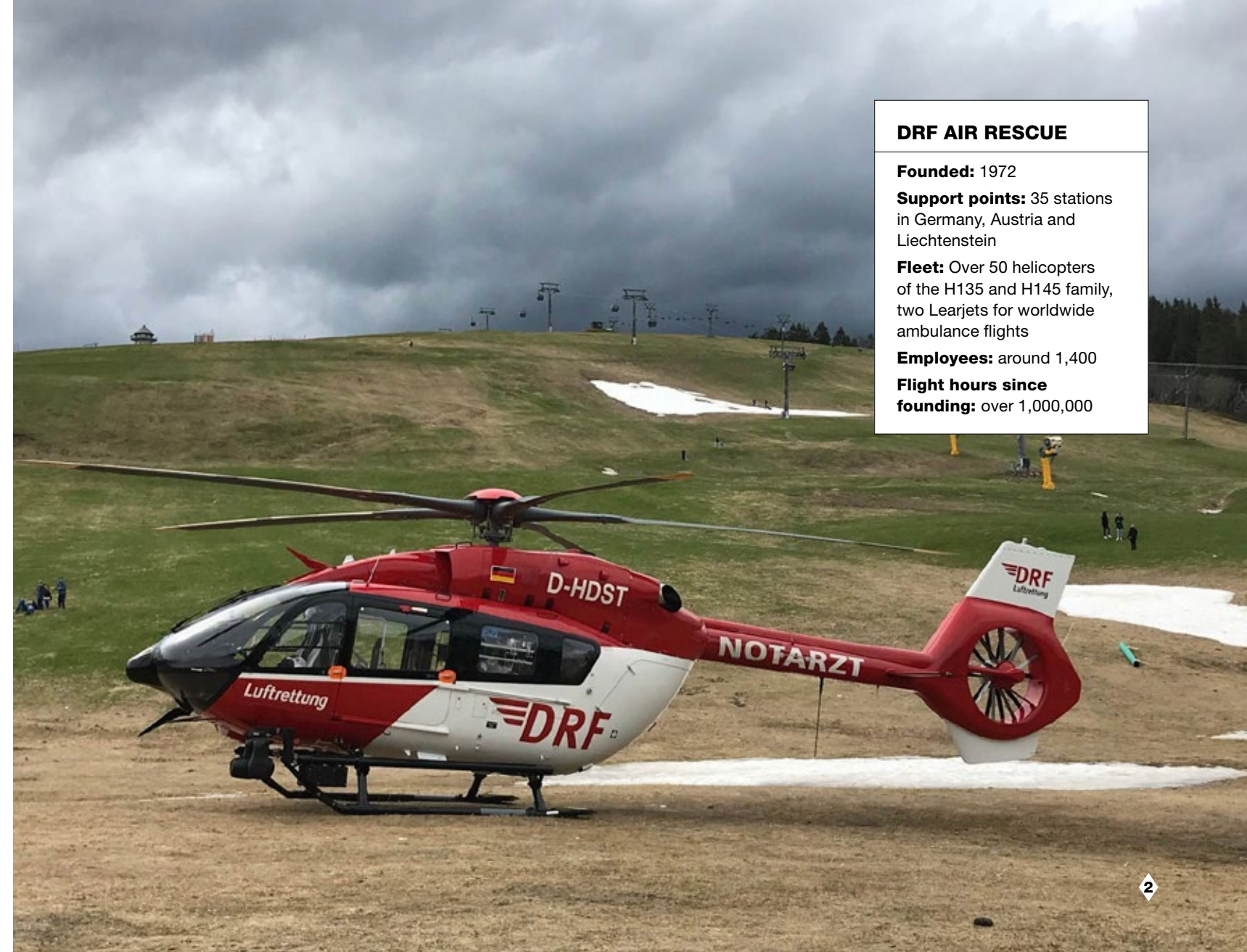
Article: Jörg Michel. Photos: ©DRF Luftrettung



At the end of 2020, the DRF Luftrettung took delivery of the first of 15 ordered five-bladed H145s. This was followed in early 2021 by the world's first converted H145, upgraded from the four-bladed to five-bladed version. Simon Lehrich, who has already flown both predecessor versions, the EC145 and the four-bladed H145, is one of the first pilots with the German air rescue organisation to experience the new aircraft in action. "The first time I flew in the new H145, I was immediately hooked," says Simon Lehrich. "It's almost like sitting in a spaceship, completely vibration-free. Everyone who flies on it is thrilled."

VERSATILE ALL-ROUNDER

In the past year, Lehrich and his colleagues have flown many different missions with the new H145, always with one goal in mind: helping people in need and providing the fastest possible medical care. "On one mission, we were called to an accident on the highest mountain here in the region," Lehrich recalls. "On the Feldberg, a father had fallen so badly while tobogganing with his child that emergency medical care was needed on site and rapid transport to a clinic. After all the preparations at the scene, we flew the patient quickly and gently to Freiburg University Hospital. Transport by ground ambulance would certainly have taken more than 30 minutes". The organisation also uses the latest version of



DRF AIR RESCUE

Founded: 1972
Support points: 35 stations in Germany, Austria and Liechtenstein
Fleet: Over 50 helicopters of the H135 and H145 family, two Learjets for worldwide ambulance flights
Employees: around 1,400
Flight hours since founding: over 1,000,000

the H145 family for secondary transports, i.e. transport from one hospital to another. "A patient with aortic dissection had to be transported from Tuttlingen via the Black Forest to the university hospital in Freiburg. The flight route took us over the Black Forest and the weather conditions were challenging. With the five-bladed H145, we were able to bring the patient quickly and, above all, calmly to the specialised hospital, thus contributing to his recovery."

MORE PAYLOAD AND IMPROVED CONNECTIVITY

The helicopters of the DRF Luftrettung are equipped with special medical equipment for different types of missions. The increased payload offered by the five-bladed H145 also helps: "The

additional 150kg help us to always have the right equipment on board," says Lehrich. "For example, we have a heavy, mechanical resuscitation device on board that supports the emergency doctor."

The helicopters can also be equipped to transport small children. For these missions, the H145 is equipped with a transport incubator, which is attended to by a specialised team, thus enabling stable transfer of infants and premature babies. Maintenance has also been simplified thanks to modern technology: "After the missions, the helicopter's UMS* data is transferred directly to our system via Wi-Fi, making it possible to identify necessary maintenance at an early stage, making it easier to plan and minimise downtime."

*Usage Monitoring Systems: Monitoring systems of the helicopter.

1: Pilot and fleet manager Simon Lehrich in front of the five-bladed H145.

2: The DRF Luftrettung uses its five-bladed H145 for urgent life-saving missions.

1

HALF A DECADE OF PASSION: THE ACH BRAND AT NEW HEIGHTS

© Marco Jumper

Five years ago, Airbus Helicopters launched its dedicated platform, Airbus Corporate Helicopters (ACH), for private and business aviation.

Among the brand's aficionados: customers in Brazil, whose discerning taste within this rotor-friendly environment has been a key contributor to the region's ACH boom.

Article: Heather Couthaud

Sleek, discreet and elusive; the tasteful expression of the rotorcraft world. Private and business helicopters can be glimpsed flying over metropolises, lifting off from anchored yachts, and hovering over rooftop helipads. Since its launch at EBACE in 2017 as the non-identical twin to the Airbus Corporate Jets (ACJ) family, the ACH brand has become the pinnacle of private and business aviation (PBA). Steadily increasing from 53 bookings in 2017 to an

impressive 103 bookings in 2021, ACH increased its market share both in volume and value by over 20%. During this period, it launched the much-lauded ACH130 Aston Martin Edition in 2020 and gave us the successful entry into service of the five-bladed ACH145 in 2021, with the first ACH160s also set to be delivered in 2022. Additionally, during 2021 it was the most resilient segment in the civil market. With around 2,000 helicopters, ACH makes up more than 15% of Airbus Helicopters'



2

© Eric Raz Imagin'R



3

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THE ACH OFFERING

There are three distinct interior lines: **ACH Line** is the in-house style concept with clean lines and simple elegance. **ACH Exclusive** responds to customers looking for greater refinement. **ACH Edition** offers a selection of special collaborations from world-renowned designers and luxury brands. Each is customisable, thereby offering customers limitless possibilities. Going to show that when it comes to private and business aviation helicopters, an ACH aircraft really can 'arrive anywhere'.

dedicated to PBA operations. Since its launch, ACH has secured a major portion of the market share, from 40% five years ago to over 70% of the PBA market today. São Paulo is an ideal window into ACH's dominance in Brazil. Two hundred rooftop helipads connect the bustling city, offering easy landings to the 400 helicopters operating in Greater São Paulo. Helicopter corridors are integrated into the airspace of Brazil's most populous megacity, where road congestion and risk make helicopter travel not only desirable, but often essential. Piquing Brazil's appetite for corporate helicopters were the single-engine ACH125 and ACH130, but interest soared as the light-twin ACH145 began replacing aging fleets. In 2018 Helibras, Airbus Helicopters' Brazilian customer centre, delivered the world's first ACH145 Line (see sidebar) to Brazilian customer, Bodepan Empreendimentos Agropecuários e Imobiliários. This year, Helibras also delivered two new five-bladed ACH145s in a local bespoke configuration to Air Jet Taxi Aéreo Ltda. for private flights.

THE FINER POINTS

The ACH organisation is unique, starting with the initial decision to create a dedicated unit, resulting in a honed understanding of the lifestyle of its customers.

"The sale support was extremely attentive to us, polite and realistic with the numbers presented. The business flowed effortlessly," says Deived Pegoraro, Director of Grupo Pegoraro, one of Brazil's biggest distributors, based in Santa Catarina. The company operated an EC130 B4 for 12 years and now has acquired an ACH130.

"We have been very satisfied," says José Montanaro, aircraft manager of Sete Cravos Ltda., which owns an ACH145 Line delivered in mid-2020. "The service is excellent and the machine is a pure joy."

global fleet of in-service aircraft. Little wonder. From its emphasis on exclusivity, quality and comfort to the brand's focus on providing a distinctive end-to-end ownership experience-supported by a network of wholly-owned service centres - the ACH ethos is visible anywhere you look.

BRAZILIAN BEAUTY

Nowhere is this more true than in Brazil, where half of the country's 1,300 turbine helicopters are

1: The ACH130 paved the way for the brand's success in Brazil.

2: An ACH145 in flight.

3: The ACH160 will be delivered in 2022.



1

1 Always working as part of a team

“I had worked with several Tech Reps when I was in the military and I was able to measure the usefulness and efficiency of this technical assistance from the side of the Forces, as well as the efficiency of this interface between the operator and the industrial back office. For me, the professionalism of the people I met was an additional source of motivation. Being a Tech Rep is an exciting and rewarding job, which brings you into contact with people from all walks of life. But it is also a demanding job because you have to be flexible, responsive and available in order to be able to adapt easily to the different contexts and working methods of each operator. I have carried out several long-term missions (from one to several years) with military operators in France and abroad, working on the Super Puma and NH90 ranges. Today, technology makes it possible to stay connected with the head office 24 hours a day, wherever you are in the world. This is a considerable help: even if the Tech Rep is often alone at the operator’s site, they can always count on the help of a real team of specialists in the back office...”

Edith Laurent



2

2 At the service of the client

“This job offers daily challenges that can sometimes be very stressful, but working as a team to solve problems and help our customers is a source of satisfaction that is sometimes difficult to explain... It is the inexpressible happiness of being able to help others, even if in our profession this happiness can sometimes seem ephemeral, as our daily lives are filled with technical worries! I have been working for Airbus Helicopters in Latin America for almost 25 years. It was a very proud moment for me when I joined this company whose aircraft I had always admired. There have been profound changes in the profession in recent years. The use of digital tools has given us direct contact with the company’s experts and with our clients, for whom our support has become faster and more efficient. On the other hand, the unfailing availability that we must deliver to the operators means more pressure on our shoulders!”

Gabriel Gérez



3

3 Learn anything that can be learned

“I joined Airbus Helicopters Philippines’ Quality and Safety team in 2015. During the time with Quality, we were able to make and document some repairs that had become a key priority for a customer. My role in managing this solution, along with my technical skills and work ethic, convinced the management of Airbus Helicopters in the Philippines that I had the ideal profile to become a Tech Rep.

I work with a variety of operators in the country, from private, commercial companies, to government operators, all flying light to medium helicopters.

The best part of my job is when I can come up with a solution to get a helicopter back to flying safely. Especially when that solution is a repair that can be performed locally, without having to ship out the aircraft somewhere else.

Going through the hurdles of trying to break into the industry, my primary motivation has been to learn everything that could be learned. Normally, people might see flying or the aviation industry as a possibility only for the financially privileged, the daredevils, or men. Airbus showed me that there are different facets to aviation.”

Tasha Palugod

Tech Reps: helicopters’ dedicated supporters

A huge part of customer satisfaction depends on ensuring that helicopters are available to fly as much as possible. As key points of contact all over the world, Airbus Helicopters’ dedicated family of Technical Representatives play an essential role to find solutions and solve problems, meaning operators have access to their helicopters for any one of a number of important missions.

Article: Alexandre Marchand



1

CHILE ECOCOPTER AND BBOSCH PIONEER POWER WASHING

A new water-efficient method of cleaning electrical insulators is being deployed throughout Chile using a fleet of H125 helicopters.

Article: Ben Peggie. Photos: ©Ecocopter

Chilean operator Ecocopter is working in partnership with bbosch, a leading company in the country's energy development and metalworking industry, to optimise the cleaning of the country's electrical insulators. Using helicopters facilitates faster access to the high and medium voltage power transmission lines. Such a washing system uses between 60% and 85% less water and this method is estimated to be 500% more efficient than the traditional terrestrial method, equating

to massive savings. This is the first time this technique has been deployed in Latin America and the method will help to significantly improve the efficiency for cleaning 35,501 km of power lines across 3,100 km in Chile.

CLEANING UP WITH THE H125

Once the equipment has been installed on the helicopter, the washing process is controlled by an operator who is located on one side of

the helicopter. The system's tank is filled with demineralised water and the helicopter flies to the power lines. Upon arrival, the aircraft is positioned to one side of the tower and the chains are washed using a turret that fires pressurised water at the insulator, removing the dirt and residue accumulated by pollution, salinity and the passage of time – conditions which occur mainly in the northern part of Chile.

Chile's National Electricity System (SEN) includes electricity generation, transmission and distribution facilities, which extends from the regions of Arica Parinacota to Los Lagos. The aim is to keep the insulation chains throughout this network in an optimal state of cleanliness, in order to avoid possible line outages that could affect people.

THE RIGHT CHOICE TIME AND AGAIN

This mission might not be the first thing that springs to mind when people think of what helicopters do, but it represents another example of the H125's versatility, as it regularly performs operations as diverse as air crane operations, fire fighting, crop spraying, geological and wildlife survey, farming activities and many more. This versatility stems from the helicopter's cost efficiency and powerful performance. Quick, manoeuvrable and with enough power and capacity to carry the necessary weight, it has proven itself to be the ideal helicopter for aerial work time and again.

For operators such as Ecocopter, this adaptability is extremely important, as José Tomas Díaz, responsible for business development at the company explains: "We offer an important range of services to customers, so we need a helicopter that is versatile enough to perform each of them with a world class performance. Our H125 fleet is crucial to us because it consistently delivers optimal results."

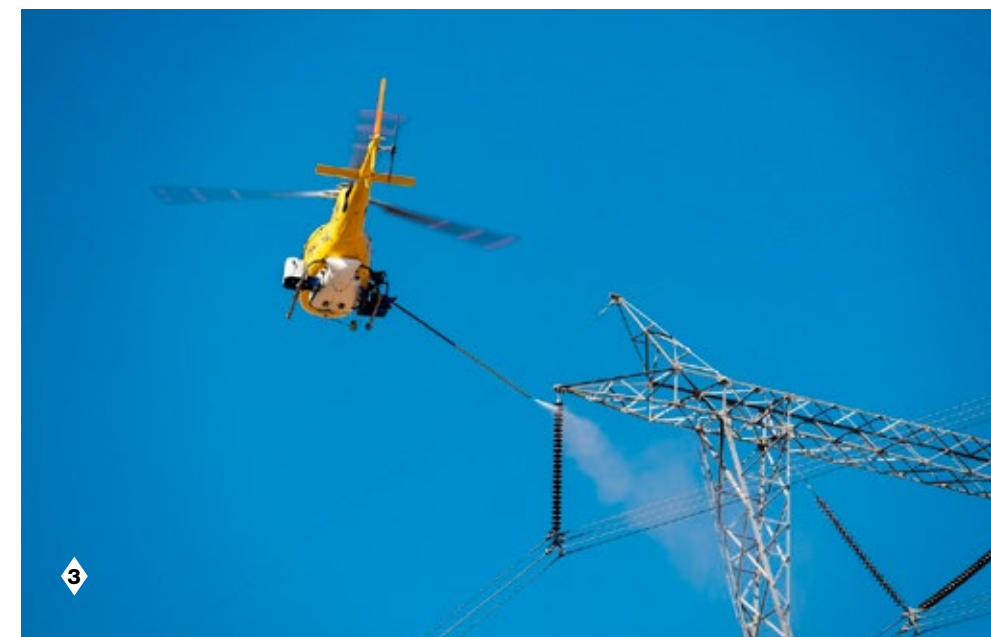
Commenting on the announcement Jerome Ronssin, General Manager of Airbus Helicopters Cono Sur said: "This mission is critical as it aims at ensuring a continuous supply of electricity to the country and its people. We are extremely proud that Ecocopter and our product the H125 were chosen to perform such an essential and challenging mission and that, all together, we contribute to the overall efficiency of Chile's energy infrastructure."



2

1: The versatility of the H125 means it can be quickly configured to perform a variety of operations, such as power washing.

2 & 3: Ecocopter's H125 in flight, cleaning electrical insulators.



3

CLEAN FLIGHT INITIATIVE

Ecocopter is part of the "clean flight" initiative launched by the Energy Sustainability Agency (Agencia de Sostenibilidad Energética, AgenciaSE), together with the Civil Aeronautics Board (Junta de Aeronáutica Civil, JAC) of the Ministry of Transport and Telecommunications. Vuelo Limpio is a Chilean initiative that brings together national airlines and operators to promote good practices in energy management in order to reduce fuel consumption and thus contribute to the care of the environment.

EVERY
CALL
IS
A
CALL
TO
ACTION



When armed forces are scrambled, they put their lives on the line, so they need a helicopter they can trust to get the job done, whatever the weather, whatever the situation. Versatile, multi-purpose, and equipped with a renowned automatic flight control system and upgraded avionics, the H225M is the long-range helicopter they can rely on. There will always be risk and danger, but wherever the call comes from, the H225M will help to keep our world beautiful and safe.

AIRBUS