

No. 126 - FEBRUARY 2022

ROTOR

BY

AIRBUS HELICOPTERS

IN THEIR WORDS

**Aerial work:
No mountain
high enough**

MISSION

**The NH90
in the eye
of the storm**

OFF THE BEATEN
TRACK

**Controlling
mosquitos
from above**

Rethinking the sky



FIRST AIRBUS HELICOPTER FLIGHT WITH 100% SUSTAINABLE AVIATION FUEL

An Airbus H225 has performed the first helicopter flight with 100% Sustainable Aviation Fuel powering one of its Safran Makila 2 engines. The flight, which took place at the company's headquarters in Marignane, marks the start of a flight campaign aiming to assess the impact of unblended SAF on the helicopter's systems with the aim of certifying the use of SAF blends that exceed today's 50% limit.

[Watch the video here](#)

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WORLD'S FIRST H160 DELIVERED IN JAPAN

Airbus has delivered the first-ever H160 to Japanese operator All Nippon Helicopter (ANH), heralding a new chapter for this next-generation twin-engine helicopter. With 68 patents, the innovative H160 is the world's most technologically advanced helicopter.

The H160 was delivered from Airbus' helicopter facility in Kobe, Japan, where flight training and specialised equipment installation for electronic news gathering will be performed before the helicopter's entry into service next year. ANH has an Airbus Helicopters fleet comprised of five AS365s and five H135s. This H160 will join its existing fleet for electronic news gathering for TV stations across Japan.



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TWO NEW H145s FOR FRENCH SÉCURITÉ CIVILE

The French Armament General Directorate (DGA) has ordered an additional two five-bladed H145s destined to serve the Sécurité Civile, an agency of the French Ministry of Interior that performs rescue and air medical transport services throughout France. This contract is a follow-up to the contract signed in 2020 for an initial batch of two H145s which were delivered in December 2021.

Established in 1957, the helicopter division of the Sécurité Civile operates a fleet of 33 EC145 helicopters on call 24/7 throughout France for rescue missions.

BAVARIA ORDERS EIGHT FIVE-BLADED H145s FOR ITS POLICE FORCE

The Ministry of Interior of Bavaria has ordered eight five-bladed Airbus H145s for its police force, following a European tender launched in 2021. The helicopters will replace the state's current H135 fleet and will be operated by the two bases of the Bavarian helicopter squadron at the airport in Munich and in Roth, close to Nuremberg. The first delivery is planned for 2023.

More than 200 helicopters from the H145 family are deployed for public services and law enforcement missions around the world.

FRANCE BECOMES FIRST H160 LAW ENFORCEMENT CUSTOMER

The French Gendarmerie will operate 10 H160 helicopters from 2024. Its H160s will be equipped with the Airbus Helicopters Helionix suite, a Safran Euroflir 410 electro-optical system, winching, and fast roping capabilities. The air force command center of the Gendarmerie Nationale and Airbus Helicopters are also working closely together to develop a tailored mission management system.



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Protecting



© Emy Miranda



© Eric Roz

FIRST NAVAL COMBAT H225M DELIVERED TO THE BRAZILIAN NAVY

Airbus Helicopters has delivered the first H225M in naval combat configuration to the Brazilian Navy. Stationed at the naval base in São Pedro d'Aldeia, the aircraft will boost the Brazilian Navy's mission capabilities, including anti-surface warfare and maritime surveillance. Developed by the engineering team at Helibras (the Brazilian subsidiary of Airbus Helicopters), this naval version of the H225M is the most complex configuration that has ever been produced for this multi-role helicopter. The aircraft's embedded systems include the EWS IDAS-3 (counter-measure system), MBDA Exocet AM39 B2M2 missiles, the APS143 tactical radar and the naval mission system, N-TDMS (Naval Tactical Data Management System), developed in partnership with Atech and Airbus Defense and Space, which is responsible for making the command and control of all embedded systems, including the missile system.

26 NEW AIRBUS HELICOPTERS FOR THE HELICOPTER COMPANY

The Helicopter Company (THC), established by the Public Investment Fund (PIF) as the first and only helicopter services provider licensed to operate commercial flights in the Kingdom of Saudi Arabia, announced in December 2021 that it has signed a second purchase agreement with Airbus Helicopters. The partnership will contribute to the ongoing expansion of THC's regional fleet ahead of announcing an exciting new journey as a general aviation champion, with twenty orders of the newly launched five-bladed H145 and six ACH160 models. All aircraft feature cutting-edge technologies and biofuel-compatible engines, marking a significant milestone in developing alternatives to conventional aviation fuels and achieving decarbonisation of helicopter flights.



© Francisco Frances

SPAIN'S MINISTRIES OF DEFENSE AND INTERIOR SIGN FOR 36 NEW H135s

The Spanish Ministries of Defense and Interior have signed a group order with Airbus Helicopters for 36 new H135 helicopters. Each ministry will receive 18 helicopters to be operated by the Air Force, Navy, National Police and Guardia Civil. The deliveries will start next year and will be completed by 2026.

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Bruno Even, CEO of Airbus Helicopters

“Above all, we want people to feel comfortable and happy with this exciting new reality.”

If Urban Air Mobility is to be successful, it must deliver real benefits to society. This means that Airbus cannot undertake this venture alone. Our challenge is not only to create a safe, compact, emission-free vehicle with a low noise footprint, but to ensure that it can be integrated into air traffic safely. Above all, we want people to feel comfortable and happy with this exciting new reality.

Therefore, we are developing and contributing to working models of the full ecosystem, including infrastructure, operations, safety and regulation, and first and foremost public acceptance. This is how we engage with partners to co-create real working applications of UAM to pave the way for a new mobility system.

Our vision of air mobility is inclusive and focused on benefiting everyone. We are not pursuing an idea of an autonomous flying taxi that speeds over our homes without any rhyme or reason. Instead we are creating a

vehicle and an infrastructure with a genuine raison d'être. A sustainable eVTOL, adaptable to the needs of each city and which provides a complementary mobility offer that brings real benefits to the entire population.

From the outset, and based on the incredible experience accumulated with the first CityAirbus demonstrator and the Vahana, we opted for the more challenging but undoubtedly safest possible path: to create a vehicle that would satisfy the criteria of EASA's Enhanced Category, the strictest category defined for VTOLs because there can be no shortcuts when it comes to safety.

We are very close to realising what was only a dream just a few years ago. Today is the beginning of a new reality. I invite you to read this special report in our Rotor magazine to find out what we are doing to continue pioneering sustainable aerospace for a safe and united world.

3.85

GIGAWATT HOURS

of solar power per year will be delivered to the site in Donauwörth by 2022 to reduce Airbus Helicopters' environmental footprint.

50%

All Airbus-made helicopters are currently certified to run with a blend of as much as 50% sustainable aviation fuel in the kerosene.

Around 20%

of the Airbus helicopter fleet is covered by an HCare global support contract

1,515

There are more than 1,500 H145-family helicopters in service around the world, logging a total of more than six million flight hours.

20th

and final H145M delivered to the Hungarian Defense Forces on time, on budget and on quality.

1st five-bladed H145 for offshore wind operations delivered to HTM Helicopters. The European Union targets an increase in the offshore wind energy capacity to more than 60 gigawatts by 2030 (2020: 12 gigawatts). The H145 can address more than **95% of the world's current and future offshore wind farm projects.**

10,500

FLIGHT HOURS

have been performed by the helicopter test flight team during 2021.

3,131 m

During a flight test campaign at 'high altitudes' conducted in Montgenèvre in 1953, Jean Dabos, SNCASO test pilot, raised the altitude record by helicopter to 3,131 m by landing his SO.1221 'Djinn' at the top of Mont Chaberton.

4

H145 FIVE BLADES

delivered to STARS in 2021.

18,000

INTERVENTIONS

carried out by helicopter day and night from the 23 bases of the French Sécurité Civile. On average, a person is rescued every 33 minutes.

New MECA 4.0

Covering an area of 7,260 m², including 5,430 m² of workshops and 1,580 m² of offices, the new facilities represent a total investment of 53 million euros to manufacture, maintain and repair the dynamic assemblies of Airbus helicopters. It includes four connected and ergonomic assembly stations to maximise the traceability and reliability of operations.

Rethinking the sky

The global concern for the future of the planet makes large cities, together with manufacturers and regulators, consider a more sustainable, quieter low-altitude flight model, one that can respond to the urgent transportation problems in evidence today.

Articles: Isis Franceschetti and Belén Morant



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Airbus embraces the future of UAM holistically - a successful service cannot be achieved by focusing on the vehicle alone. Its objective: to propose to the market a safe, zero emission product with low sound levels that is harmoniously integrated into the lower airspace to deliver real benefits to citydwellers and beyond. On the pages which follow, read all the details making this turn-of-the-century fantasy into reality, step by step.

“UAM is a unique expression of Airbus’ pioneering spirit”

In September 2021, CityAirbus NextGen was unveiled at the Airbus Summit in Toulouse. What are the next steps on this journey toward the launch of an Urban Air Mobility service, and how will we get there? Joerg P. Mueller, Head of Urban Air Mobility (UAM), explains how the eVTOL programme came to life and how it will help us get closer to sustainable aviation this decade.

WHY DID AIRBUS CHOOSE TO DEVELOP URBAN AIR MOBILITY (UAM) ACTIVITIES?

Joerg P. Mueller : Airbus is a place with a lot of creativity and ideas. This is particularly true in the area we call “Urban Air Mobility” today. When we launched our UAM activities, many projects within the company, some of them dating back ten years,



were already aimed at exploring the benefits of full electrification of air vehicles. But the real push came only when we realised that these new electrical drone-type vehicles would be ideally suited to address a market need for passenger transport in urban areas, that was up to now not served by aerial solutions. Driving this subject and being part of it over the years is for me an extraordinary experience: you Airbus have the chance to see such a breakthrough from the very beginning to a mature solution that we want to bring to the market in the years to come.

WHAT DIFFERENTIATES AIRBUS FROM THE COMPETITION IN THE UAM SECTOR?

J. P. M. : At Airbus, we are lucky to benefit from a world leading market position in the aerospace industry, and to build on decades of experience

in developing and certifying aircraft. Having access to this expertise throughout the company is a major strength in our UAM journey, as specialized knowledge is often just one call away with such an extensive knowledge base for vertical flight. Our pioneering mindset enables us to have a global vision of this emerging UAM market, by taking into account all the bricks that are required to launch a safe and reliable transport service. Thanks to this holistic approach to UAM, we have a broad exploratory basis that ranges from Voom, our experimental passenger experience-dedicated app, to UTM and city integration activities, to the development of our technological eVTOL demonstrators Vahana and CityAirbus, and today our prototype CityAirbus NextGen. Technological breakthroughs achieved through our UAM programme also feed into techno-bricks for other projects aiming at decarbonising aviation at Airbus. With this virtuous circle, we are investing into the future, with an even broader ambition than UAM.

YOU’RE MENTIONING THE NEXT GENERATION OF CITYAIRBUS, CAN YOU TELL US MORE ABOUT THE KEY TECHNOLOGIES THAT WILL BE INTEGRATED INTO THIS PROTOTYPE?

J. P. M. : With the CityAirbus NextGen prototype, we are targeting zero emission urban flights where citizens are looking for faster and cleaner ways to complete the final leg of their trip. The requirements of this market spot allow for a very simple design. The vehicle is solely controlled by varying the rotation speed of the propellers. It has no moving surfaces, tilting parts, or complex transformation between the take-off and cruise configurations. In addition, the extensive expertise of our partners Thales and Diehl will ensure that the control systems of CityAirbus NextGen are compliant with the highest levels of safety, as set by the EASA SC-VTOL Enhanced category. This is essential to ensure the redundancy of the computers and the vehicle’s safety.

WHAT ARE THE NEXT STEPS FOR MANUFACTURING AND ASSEMBLING THIS VEHICLE?

J. P. M. : We have been extensively using what we learned from our two technological demonstrators, Vahana and CityAirbus. Thanks to these learnings, CityAirbus NextGen is now in a detailed design phase. We are accompanying the vehicle’s development with numerous tests, ranging from isolated components to the full vehicle. This will allow us to have NextGen



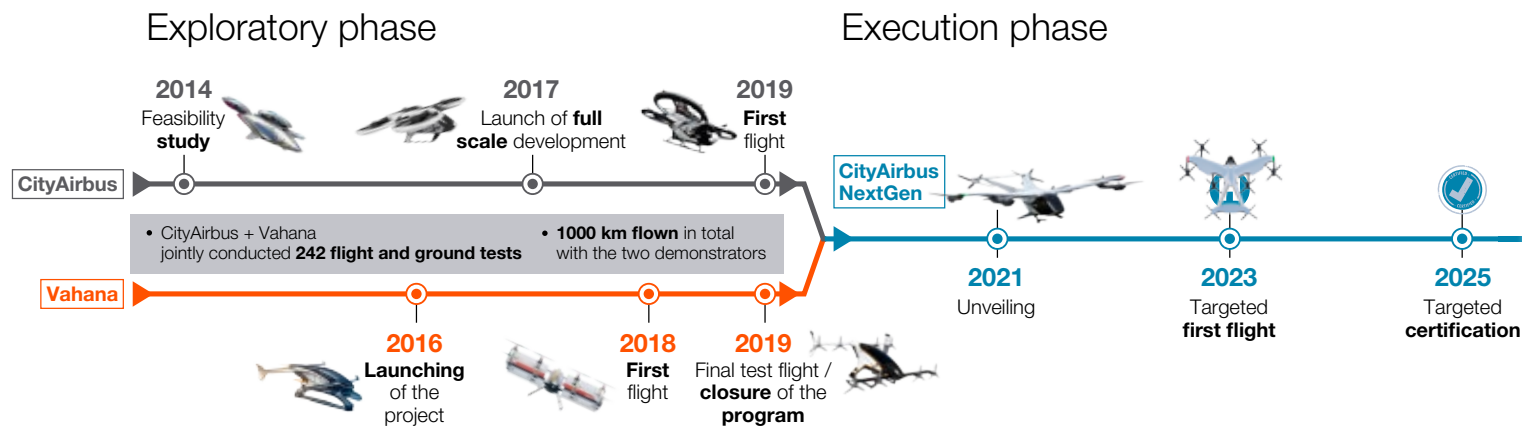
ready for a first flight in 2023, and to conduct test campaigns to measure the performance and sound optimisation of the prototype. This is a major step to mature the technologies and we will use the flight testing to get deeper insights into operational aspects of eVTOLs.

There are many challenges ahead of us in order to build a light-weight, reliable electrical drive train powered with batteries. This drive train will be controlled by a fully electronic flight control system and will provide the same safety levels as commercial aircraft.

This is why the next step on our journey toward the launch of CityAirbus NextGen for commercial use will be to work on certifying the different subsystems of the vehicle. With this, we will be able to enter the certification phase of NextGen as early as 2025.

WHAT INSPIRED YOU TO JOIN THE UAM ADVENTURE AT AIRBUS IN THE FIRST PLACE?

In 2014, while working in corporate strategy, I learned about patents on disruptive vehicles filed in the US, as well as the first “transformational vertical lift” conference that addressed the concept of eVTOLs. I found that very inspiring and started thinking about the opportunities arising for Airbus with electrical propulsion. During this strategy project, I was introduced to the CityAirbus team, who had already thought of a technical concept. Together we wrote the first strategy paper on UAM and drew a holistic picture of the many UAM initiatives within the company, ranging from new travel concepts to electric helicopters and all kinds of alternative flying devices. We quickly realised that these projects were a unique expression of Airbus’ pioneering spirit to achieve sustainable aerospace, and an outstanding base to start what today is our UAM portfolio.



“UTM is a key enabler of UAM”

Unmanned Traffic Management (UTM) is a completely new ecosystem that has to deal with unmanned vehicles. Current Air Traffic Management (ATM) based on human controllers that talk to pilots cannot tackle the integration of these new vehicles (drones, air taxis, cargo drones and other eVTOLs), which will be flying together in low-altitude airspace, and will be either piloted remotely or fully autonomous.

“There are two pillars to make urban air mobility happen: one obviously is the vehicle itself, and the other is its integration into the airspace. We need to make sure that our vehicles can be integrated in whatever form unmanned traffic management (UTM) will take,” states Miguel Ángel Vilaplana, Head of Airbus UTM. “This integration needs to be safe, effective, and automated to manage a growing number of vehicles that will be flying simultaneously in an airspace that is already busy.”

A HOLISTIC VISION

Airbus started working on UTM in 2017, with the creation of the company’s UAM vision. “When, at Airbus, we launched the UAM strategy, we did something pioneering and decided to look at the whole ecosystem in a holistic way: that is, asking how these aircraft were going to be integrated into the airspace. How would these vehicles recharge? What would the business case be behind all this?” remembers Miguel Ángel Vilaplana. “National states cannot define UTM on their own: they need the help of the aeronautical industry to provide these services. Pioneering this type of work was a business opportunity.”

APPLICATIONS AT ALL LEVELS

Even if the vehicles are unmanned, UTM has to perform similar functions to those traditionally carried out by today’s air traffic management system: providing authorisations to take off, approving flight plans, installing measures to keep vehicles safely away from each other and so on. However, the scope of ATM and UTM are fundamentally different.

“The perimeter of UTM starts in the very low levels of airspace, from 0-ground level to 500 feet, mainly around cities; but there could also be applications of unmanned aircraft for agriculture, inspections in remote areas or medical equipment transport that can go beyond cities,” explains Vilaplana. “Nevertheless, we also see applications of UTM principles at very high altitudes, to deal with the digital integration of stratospheric drones. We are currently working with Airbus Defence and Space on the Zephyr programme in this direction. You can see UTM like a sandwich, at the lowest and highest levels, and we will gradually integrate it with ATM in the middle. Our common vision is to have a safe and fully integrated airspace.”

In order to have a complete vision of the needs of all air traffic, the UTM and ATM teams at Airbus are working together closely, in the same Commercial Aircraft entity, collaborating with all the divisions. “We obviously work hand-in-hand with the Helicopters division to carry out our air taxi project, but we also work with the Defence and Space division in their ambition to build civilian drone applications, as well as with Commercial Aircraft, to make sure we contribute to protect and transform today’s ATM. We don’t want to negatively impact the capacity and we need to keep our commercial aircraft flying as safely and efficiently as they do now,” explains Miguel Ángel Vilaplana.

TODAY’S SERVICES FOR FLYING AIRCRAFT

Today, Airbus is already providing basic operational UTM services in the US to automatically provide authorisations to drone operators in the frame of the Federal Aviation Administration’s Low Altitude Authorization and Notification Capability (LAANC) programme. The aim of this programme is to safely integrate small drones into the national airspace, and is designed to provide services both to private drone pilots who want to fly their aircraft, and to



SMART CITIES: FOCUSING ON PASSENGER EXPERIENCE

With CityAirbus NextGen, Airbus is taking a sustainable and responsible approach to Urban Air Mobility, and applying our holistic vision to the application of eVTOLs as a new mode of transportation. Airbus’ mission as a leading manufacturer is to facilitate the journey toward the implementation of UAM services in cities and regions around the world. In this role as a key enabler for UAM, we must consider the impact eVTOLs will have on our communities and on us as citizens. “With the UAM Initiative Cities Community (UIC2), which is part of the EU’s Smart Cities Marketplace*, we are leveraging the potential of lower airspace to lead the discussion on how eVTOLs will be integrated into urban and metropolitan areas, and how they will be part of responsible UAM services” explains Vassilis Agouridas, Head of EU Public Co-Creation & Ecosystem Outreach at Airbus. For public as well as private stakeholders, public and wider societal acceptance must be considered at every step in order to provide a truly beneficial service to citizens. This means, for example, that UAM services should be seamlessly integrated with other modes of mobility available to citizens. This intermodal approach is also known as MaaS (Mobility-as-a-Service), meaning the efforts of all mobility actors are directed at co-creating a passenger-centric service in which mobility solutions adapt to the needs of passengers and not the other way round. “Integrating a new mode of transport into urban and metropolitan areas brings new, exciting opportunities but also new tasks and responsibilities for each member of this ecosystem. Our close collaboration with cities and regions in Europe and beyond will help us all navigate this new environment and set the standard for safe, sustainable and responsible UAM services together” says Vassilis.

[*Click here for more information](#)

companies that want to optimise their unmanned aerial system workflow.

On the European side, the European Commission just provided the very first regulatory framework for UTM operations, the U-Space regulation. Expected to enter into force in 2023, this framework will foster the drone economy and will enable eVTOL operations at scale, thanks to new digital and automated services such as flight authorisations, strategic deconfliction and contingency management support, while addressing an appropriate interface with manned aviation and air traffic control.

1: There are new types of aircraft now, flying new types of missions. That is why we need a more scalable and integrated future traffic management system.

“Bringing the public onboard”

“At Airbus, we consider Urban Air Mobility as a complete service to society. This is not just about technological breakthroughs, it is also about seamlessly integrating this new mode of transport into our communities and our daily lives. For UAM to be integrated into urban mobility systems, we have to demonstrate how sustainable and viable it will be and this means bringing the public on board from the very beginning.

That is why we are building multiple partnerships with key players in this new market, to work together to reach public acceptance of eVTOLs in cities and regions where this innovative mode of transport will be operated. We are already building a broad network in Europe, with partners such as Aéroports de Paris and Munich based stakeholders, to create the first fully functioning ecosystems for UAM. But our ambition goes further than our home countries: we are also keen to create new international partnerships for the global expansion of this service.

Through our broad network of stakeholders, ranging from urban planners to airlines, regulatory



authorities and first and foremost future passengers, we are pioneering the safest and most sustainable path that will help us make zero emission urban flights a reality in the very near future. For me, UAM is a passion project. It is a once in a lifetime chance to build something that has never been built before. Whether it is the technology, vehicles, certification standards, even the industry and market itself, it is being defined right now. We are doing this together with a brand new set of collaborators and co-creators, to make zero emission urban air transport a reality.”

Balkiz Sarihan,
Head of UAM Strategy Execution and Partnerships at Airbus

framework, extensive studies provided an in-depth understanding of the parameters required to build a reliable passenger-focused service. From the analysis of the specificities of the Paris region’s transport infrastructure, to the preliminary design of state-of-the-art and smoothly integrated vertiports, to the definition of acceptable sound levels in urban environments, the collective work engaged over the past few years has opened the Parisian ecosystem even more widely. It has given birth to the Re.Invent Air Mobility Initiative, where Airbus is acting as an anchor partner. François Le Maréchal, Project Leader for City Integration at Airbus Urban Mobility, said: “eVTOLs, as new vectors of transportation, enable ...



... us to rethink mobility in the third dimension and to provide communities with zero emission alternatives while complementing existing ground transportation services and connecting remote areas. All those aspects strengthen collaboration between institutional and industry partners toward a shared goal: making Paris the spearhead of sustainable, community-focused urban transport.”

In the evolving transport network in Ile de France, Airbus’ holistic approach to eVTOLs brings a powerfully engaging perspective. It also leverages the region’s industrial know-how, notably by building on the manufacturer’s strong footprint in the region. For instance, CityAirbus NextGen’s blades will be manufactured at Airbus Paris-Le-Bourget, and benefit from the site’s expertise in sound-level optimised design. Consequently, both the technological and societal challenges are at the core of Airbus’ engagement in Ile de France, to make missions possible in Paris for and with CityAirbus NextGen this decade.

1: The main challenges for the emergence of this new technology are those of acceptability, security, and qualification of uses.

2: Tests will set the standard for the integration of eVTOLs in urban areas, with the forthcoming 2024 Olympic and Paralympic Games in sight.

BAVARIA GERMAN AIR MOBILITY INITIATIVE MODEL DRIVES INTERNATIONAL DEPLOYMENT OF AIRBUS’ UAM SERVICE

In Bavaria, Germany, Airbus has positioned itself at the center of a multi-faceted transport environment, by initiating a start-up-like entity dedicated to Urban Air Mobility, named Airbus Urban Mobility. This new unit benefits from agile ways of working and close collaboration with mobility stakeholders in the Munich region. Partnerships have been secured between the manufacturer and key players from the aerospace and transportation areas.

Within this mobility network, Airbus supports the building of an ecosystem around Electric Air Mobility (EAM), by focusing on three main streams: the development of an electric urban aircraft (eVTOL), applied research on Unmanned Traffic Management (UTM) and the design of a Vertiport with the appropriate ground infrastructure. This triple-axis system is fundamental to gain public acceptance, by simultaneously driving the development of vehicle components, looking at automated routes that would suit urban communities’ needs and maintaining a human-centric outlook in order to provide the safest and most reliable service to passengers.

“This ecosystem, also known as the Air Mobility Initiative (AMI), is destined to become an exportable model of collaboration for Airbus”, says Andreas Thellmann, Senior Program Manager at Airbus Urban Mobility. Indeed, defining a working framework for the integration of eVTOLs is a feat the manufacturer intends to reproduce beyond its home countries, through the mobilisation of its worldwide Support & Services network that will ensure the highest quality of operations for partners and passengers.

“There is no possible shortcut for safety”

Certifying a completely new type of vehicle to guarantee the safest airspace is a challenge for manufacturers, but also for regulatory authorities. David Solar, Head of General Aviation and VTOL Department from EASA, shares the main challenges and achievements to make the new world of UAM a reality.

WHAT IS THE CURRENT SITUATION REGARDING THE EVTOL REGULATORY FRAMEWORK IN EUROPE?

David Solar: By 2018, we had already identified more than 200 projects by companies and start-ups who were willing to start developing their own eVTOLs and thinking about new ways of flying. We decided to start working quickly on the requirements and to go public and be transparent, so as to accompany these entities designing their aircraft. This also allowed us to gather plenty of feedback, which is always useful. On the aircraft certification side, in July 2018 EASA published the Special Condition VTOL, setting performance-based requirements for eVTOL certification. It is so far limited to aircraft with an MTOW of less than 3,175 kg and fewer than nine passengers. In 2019 and 2020, we published for comments the first set of MoC (Means of Compliance) of the SC-VTOL and the Special Condition E-19 for electric and hybrid propulsion systems. In 2021, we published the final release of MoC phase 1. We are currently consolidating the second set of proposed MoC for the SC-VTOL following comments we received during the consultation period and expect to release the final version in the beginning of 2022. On the operational side, we are currently developing a Notice of Proposed Amendment



(NPA), which should be published Q2 2022 and which will address all operational requirements to enable eVTOL vehicles to fly. That means Air Operations (OPS), Flight Crew Licenses (FCL), maintenance, vertiport guidance, etc. On the air traffic management side, we are developing U-space (a set of services to help unmanned vehicle operators comply with airspace rules) aspects to enable a safe and fair airspace for everybody.

IS THIS APPROACH VERY DIFFERENT THAN WHAT WE CAN SEE IN OTHER COUNTRIES?

D.S.: EASA has decided to be transparent and public on eVTOL certification. This is to give the market a clear view on safety expectations in Europe. So far, the FAA has not published any guidance on how they are going to certify eVTOL, but clearly, EASA is trying to engage with the FAA on eVTOL certification. Other authorities are, for the moment, looking at the development of EU and US regulatory frameworks. Many foreign authorities are using public information and as such, the SC-VTOL seems to be used.

HAVE YOU SEEN MAJOR CHALLENGES TO SETTING UP THIS NEW FRAMEWORK ON A FULLY NEW TYPE OF VEHICLE AND WAY OF FLYING?

D.S.: There are a number of challenges beyond the regulatory framework. I cannot list them all, but I will highlight a few. If we talk about the vehicle itself, the first limitation could be the payload, due to battery weight. Therefore, integration is key and fitting low-consumption fly-by-wire systems in such small aircraft is definitely not easy. This is quite new

compared to traditional designs where propulsion and flight control systems are clearly independent. Another challenge is that all these aircraft have quite unconventional designs, such as the multi-copter, tilt rotors or vectored thrust. There is no or very limited experience of their flying characteristics. In conventional VTOL flight, we have good modeling capabilities, but we always have some surprises in real flight. We expect some post-flight test adaptation on eVTOL.

Energy management is also a critical function. Not only is the battery design critical to prevent thermal runaway, but there is also battery monitoring, battery life management, battery charging and discharging, etc.

On the operational side, there are also challenges. One of them will be creating the right pool of pilots, as it is not very easy today to enter into this market. Replacing the pilot and being fully automated will be a second step... we are not there yet.

WILL PUBLIC ACCEPTANCE OF THESE KINDS OF AIRCRAFT ALSO BE A CHALLENGE?

D.S.: Regarding the public acceptance of these kinds of vehicles, in 2021 EASA published the results of the first EU study on citizens' acceptance of urban air mobility. It was clear that the acceptance was higher when the population could see the public benefit of these operations, such as medical

“The first EU study on citizens' acceptance of urban air mobility shown that the acceptance was higher when the population could see the public benefit of the VTOL's operations, such as medical transport”

David Solar,
Head of General Aviation
and VTOL Department
from EASA

1: Airbus' collaboration with cities and regions in Europe and beyond will help to set the standard for a safe, sustainable and reliable UAM service.

transport, the transport of doctors, etc. The top three benefits that were identified are faster, cleaner and have extended connectivity. This study also showed that the population has concerns about potential issues such as safety, security, noise and the impact on wildlife. This is very good feedback, as these topics need to be tackled from the design phase. We could imagine incorporating wildlife protection system into the aircraft to make sure birds notice their presence in advance. Overall, the study has shown a positive attitude towards UAM, and this was not a given. It has shown that people are in favour if the right preventions are taken. Robustness and noise are the biggest part of it. Safety is the biggest issue in terms of design, as we won't be able to make a single mistake affecting safety if we want to make this happen. There is no shortcut for safety and there is no second opportunity after an accident. Looking at the past could help in such instance.

AS YOU KNOW, AIRBUS IS CURRENTLY WORKING ON THE CITYAIRBUS NEXTGEN PROTOTYPE. WHAT CAN YOU SAY ABOUT THE PROCESS TO MANAGE ITS FUTURE CERTIFICATION?

D.S.: We are working together via Innovation Partnership Contracts (IPC) and Technical Advice Contracts (TAC) to have cooperation on critical topics and try to define some certification principles. Regarding the NextGen vehicle, Airbus took the constraint from the very beginning of the design to match its vehicle to the criteria of the Enhanced category⁽¹⁾, designing a vehicle without moving surfaces to reduce the number of cases of potential failure. I hope the future NextGen will be mature enough to fully enter the market. Airbus designing an aircraft to meet such requirement is a key enabler for their roadmap to market. On a general note, it is very important that all OEMs demonstrate the benefits of a global flight experience: an end-to-end approach, taking into account the added value of their solution for passengers and the population, from the waiting time to boarding, to the security checks and operational cost.

(1) The Enhanced category is the most stringent category defined in the SC-VTOL. This category is designed to support Commercial Transport of Passenger and flight over "congested hostile environment" – basically over cities. The level of safety required is equivalent to Large Transport aircraft of today.



CityAirbus NextGen

Safe, sustainable, and integrated urban air mobility

URBAN AIR MOBILITY

Certifiable to the highest safety standards according to the EASA SC-VTOL Enhanced category



Cruise speed of **120 km/h**



80 km operational range



Covering up to **95%** of highly requested journeys in and around cities

V-shaped tail

Fixed Wings

8 electrically powered propellers

4-seater aircraft

Sustainability



Noise-friendly design

- Below **65dB(A)** on flyover
- Below **70dB(A)** during landing



Zero-emission flight operations (CO₂, NOX)

Missions where CityAirbus NextGen's configuration can bring added value

MEDICAL SERVICES



CONNECTING COMMUNITIES



ECO-TOURISM



FRANCE COMMITS TO H160M

Last December, as the calendar counted down to a new year, Airbus Helicopters was counting up another key order, with the French Armament General Directorate (DGA) becoming the launch customer for the H160M. Designated the Guépard, this latest generation helicopter is designed to supply fast and efficient support for a large variety of missions.

Article: Ben Peggie – Photos: Light & Shadows

The H160M has officially opened its order book, with the DGA signing a contract for the acquisition and support of an eventual 169 helicopters. This contract solidifies the French military's desire to create a Light Joint Helicopter (HIL) programme, aiming to equip the three armed forces with a single helicopter model, replacing five different types that are currently in service. By standardising the fleet with a common platform, the French military will benefit from reduced operating costs as well as an optimised logistical footprint, whilst simultaneously increasing operational availability.

The existence of a single fleet within the army will also make it possible to pool efforts in terms of training, technical support and the management of spare parts.

SUPPORTING OPERATIONS FOR THE NEXT 40 YEARS

As part of the contract Airbus Helicopters will develop several prototypes and deliver a first batch of 30 aircraft which will see the army receive 21, the navy eight and the air force initially taking one. As the military version of the EASA-certified H160, the French army has opted for the first in a new generation of helicopters in order to modernise its

“The Guépard will give our armies the means to lead missions for the next 40 years in the most efficient manner.”

Florence Parly, Minister for the Armies.

existing helicopter fleet. Designed as a modular helicopter, the Guépard is ready to operate in the toughest conditions, and, as a single platform, can perform a variety of critical missions. As the Minister for the Armies, Florence Parly, pointed out “the Guépard will give our armies the means to lead missions for the next 40 years in the most efficient manner.”

MISSION SPECIFICS

The H160M's speed and range as well as the configurations envisioned for its operations will allow it to work in close support of other more specialised helicopters like the Tiger or NH90. It will be equipped with Airbus Helicopters' HForce weapon system, a modular and incremental solution enabling the use of a large choice of weapons. The Guépard has been designed to be highly polyvalent in order to both perform transversal and specific missions. Equipped with a hoist and a fast roping arm, it will be able to conduct operations such as search and rescue, transporting troop personnel or freight and medical evacuation. Indeed, many of its missions will be consistent across the three forces, however it will also perform a variety of specific missions depending on the branch of the military.



Navy

The navy version will be tasked for surface warfare, featuring the MBDA ANL anti-ship missile. It will act to protect and support the naval force. Including special naval actions and state actions at sea.

Army

When deployed with the French army the Guépard will perform army reconnaissance missions. This version will also feature a door machine gun, allowing it to provide fire support. With its ability to carry a maximum of 10 passengers (or five fully equipped commandos), the H160M will also be able to support Special Forces incursions and with its state of the art technology serve as a mobile command post.



Air Force

When supporting the air force, the Guépard will fly surveillance missions, and defend France's national airspace. It will be tasked with supporting search and rescue operations and is also capable of providing fire support or conducting intelligence missions.



Power increased H125
from Air Zermatt
performing aerial work



CHINA

THERE IS NO MOUNTAIN HIGH ENOUGH

1

State Grid General Aviation Co., Ltd (SGGAC) operates one H215 and 17 H125s for power line inspections throughout China, leaving it able to solve all energy emergencies, whatever the altitude and weather conditions. Details below.

Article: Belén Morant – Photos: SGGAC

In May 2021, strong convective weather in Shaoxing, Zhejiang province caused serious damage to the 500-kV Lanfeng power line's 6-base iron tower, leading to the tower's collapse and the line's suspension. Because the damaged iron tower is located in a mountainous area with lush vegetation, no roads led up the mountain and

transportation conditions were extremely poor. It was difficult for teams to carry out repair operations. SGGAC dispatched an H215 for emergency repairs to avoid having to cut down 15 acres of woods, a decision which greatly reduced the time needed for the rescue operation. In only 10 hours, the company completed the lifting and transportation of 61 bundles of materials for all 5-base iron towers, and were able to restore the power supply according to schedule.

STATE GRID GENERAL AVIATION CO., LTD.

State Grid General Aviation Co., Ltd. was established in 2009. It is a wholly-owned subsidiary of State Grid Corporation of China and a professional platform for helicopter power line services. Its business covers routine line inspections, laser scanning, acceptance inspections, emergency inspections, and other types of operations. Covering 29 provinces, municipalities, and autonomous regions across the country, its operations handle both AC and DC lines of various voltage levels. The company currently has 35 helicopters of various types, 28 medium and large UAVs, and more than 600 employees.

H215: A REAL ASSET FOR COMPLEX OPERATIONS

"The H215 is a proven multi-purpose helicopter with a maximum sling capability of 4.5 tonnes. It is an ideal model for our power line operations," says Chief Engineer Mr. Li Ruiyou from SGGAC. "Its flight performance for external loads at high altitudes is outstanding in the mid-size helicopter range. It

1: The company recently completed the Sichuan-Tibet and Central Tibet plateau line inspection with an H125, setting the altitude record for helicopter power line operations at 5,357 metres.

2: With a sling capacity of 4.5 tonnes, the H215 is key for the transportation of power grid materials.

has high operational sensitivity, a powerful engine, and all-weather instrument flight capability. These features make the H215 model easy to operate in specific electric power operations." Since the company's H215 was put into operation in 2019, the aircraft has successfully completed emergency repairs in the mountainous areas covered by the State Grid Corporation, as well as the transportation of power grid materials. Its reliable and stable performance has won unanimous praise from the company's pilots and maintenance personnel.

ALSO FAITHFUL TO THE H125

The corporation is also the largest H125 operator in Asia, with 17 units in their fleet. Since the introduction of the first H125 helicopter in 2012, the fleet's total flight hours have exceeded 40,000 in almost ten years, a flight-hour record on the continent with this model. "The H125 has significant advantages in performance, versatility, safety, maintenance cost and other aspects. It is good at working in extreme environments such as in high temperatures and at high altitude. We usually use this model in our regular line inspection business. In recent years, our

company has taken advantage of the high power, performance, and stability of the H125 to overcome operational problems like the changeable weather on the plateau, heavy rain and snow, turbulent airflow, etc. ... and always successfully!" says Chief Engineer Mr. Li Ruiyou.

AN AUTHORISED SERVICE CENTRE IN CHINA

In 2019, SGGAC also became an authorised Airbus Helicopters Service Centre in China. By enhancing its maintenance capabilities, actively learning from advanced foreign management experience, and standardising maintenance procedures, the company is improving its efficiency in order to establish itself as a solid Airbus Helicopters service centre in the domestic market. In the future, SGGAC's fleet will mainly focus on servicing the energy industry, including providing comprehensive emergency rescue services and offshore wind farm maintenance and operations. "We also hope to strengthen exchanges and cooperation with Airbus Helicopters, to contribute to the construction of power grids and continuously improve the company's maintenance capabilities and qualifications," finishes Chief Engineer Mr. Li Ruiyou.



Did you know?

State Grid General Aviation Co., Ltd. actively implements the development strategy of the State Grid Corporation's "One Body Four Wings" layout, contributing to the goal of "carbon peak and carbon neutrality" operations. It develops its aviation power line business with high quality processes, reducing carbon emissions through the whole process of production and operation. Its goal is to form a green development model from the ground to the air, and from production to management. By focusing on power substitutions, the company strengthens research on carbon emission reduction measures. It implements an energy-saving mindset, such as optimising the structure of the fleet and operating equipment, and implementing the recycling and reuse of used aviation kerosene.

2



FRANCE IN THE EYE OF THE STORM

On 5 July, the recovery of six people from the storm-torn yacht Don Quijote turned into an extraordinary rescue. Lieutenant Jean-Baptiste of Air Naval Squadron 33F describes a mission he will never forget...

Article: Alexandre Marchand

On Monday, 5 July 2021, Storm Zyprian was approaching Brittany, bringing with it winds of more than 110 km/h (60 knots). By the end of the day, the winds had strengthened, and the situation became extremely dangerous for those on board the Don Quijote, a 12m Danish sailing vessel facing a force 7 sea, with 8m high waves. Shortly after 9 p.m., the vessel was overturned by a breaker and lost its mast. The crew immediately activated their distress beacon.

The CROSS (Regional Operational Centre for Monitoring and Rescue) picked up the signal and called for the alert helicopter of French Air Naval Squadron 33F to take off. The sinking vessel was located 80 nautical miles off the coast, west of the Crozon peninsula. 38 minutes later, the NH90 Number 17, call sign Rescue Cyclone Victor, was in the air, with Lieutenant Jean-Baptiste, pilot and aircraft commander, the TACCO (tactical coordinator and co-pilot), a winch operator, two divers, a doctor and a nurse on board.

As darkness set in, the 33F's crew reached the area and found the sailing vessel out of control, regularly submerged by the waves. It was

1: The second NH90 that participated into de rescue managed to recover the seven occupants from the Don Quijote sailing vessel.

2: French Navy's NH90s keep a permanent alert from Lanveoc for Search and Rescue missions.

impossible to winch the diver! To enable a rescue, the occupants of the Don Quijote were forced to abandon their vessel and board the life raft.

FACING A CRITICAL SITUATION

"It was only when we saw them leaving the vessel that we realised there were not two but six people to save," recalls Lieutenant Jean-Baptiste, who added: "But the situation was already a little easier with the raft drifting. We lowered the diver who managed to get a foothold on the vessel and put



© Marine Nationale

"That night, I wasn't sure the mission could have been accomplished with any aircraft other than the NH90."

Lieutenant Jean-Baptiste,
pilot and aircraft commander



© Anthony Pecchi

2

NH90

Maximum cruise speed (at 10,000 kg) :
300 km/h

Maximum range : 982 km

Max. endurance with standard fuel tanks : 5 hours

Useful load :
4,200 kg

Max. seating capacity Crew & pax : 23

the harness on the first person. Suddenly though, a huge wave hit the raft and swept it into the back of the helicopter, turning it upside down. At that moment, the winch cable stretched to such an angle that it suddenly snapped. Fortunately, it broke at the winch and the cable fell into the sea without hitting the rotor!" The situation was critical: all six survivors and the diver were now drifting in the water and night had fallen. The NH90 used its searchlight to help the diver pull together the crew of the Don Quijote. The rescue team then dropped its own life raft, as close as possible to the diver who was still in the water. He grabbed it, inflated it and finally managed to pull everyone aboard. The Caïman's crew headed back to Lanvéoc to change aircraft and above all to find a winch. Two hours later, they were back. With 60-knot winds that were dangerously close to the

Over **440** NH90s
delivered (as of mid 2021)

More than
200,000
total flight hours

maximum allowed by the flight envelope, it took them 36 minutes to recover the seven occupants of the raft. Shortly after 3 a.m., everyone was back on dry land, safe and sound. That night, I wasn't sure the mission could have been accomplished with any aircraft other than the NH90," concluded Lieutenant Jean-Baptiste. "Its power, its durability, its flight performance, everything came together to save the six people on the Don Quijote."

[Read the full story here](#)

SPAIN

THE H135 IN SPAIN

On the occasion of a new contract by the Spanish government for 36 units, Rotor takes the opportunity to review the history of the 80 H135s currently flying in the Iberian country.

Article and Photos: Francisco Francés Torrontera



Spain is a natural market for the H135. Its status as a partner nation and the extensive industrial and technological network in La Mancha, which includes the assembly line for part of this model, have established the H135 as a fleet favourite for a variety of customers.

SAVING LIVES ACROSS SPAIN

There are two civil operators in Spain which rely on the H135 for their vitally important HEMS operations. One of them is Eliance Global Services, which has 11 H135 helicopters operating across the country. According to the company, "The Airbus H135 is a clear case of constant technological innovation, as exemplified by the H135 with Helionix which we operate, the first one to reach our country. The H135 allows us to provide medical transport, SAR and more recently, law enforcement services at the highest level and with the most advanced features." Babcock Spain also has nine H135 helicopters providing services for different regional authorities that have transferred executive powers to Babcock in the field of medical care, among others.

THE FIRST H135 FOR POLICE MISSIONS

The Security Department of the Basque Government was the first police force in the world to use its predecessor, the EC135 in 1996. Its two helicopters, equipped with a modern optronics system for image capture and transmission, offered capabilities which were unheard of at the time. While mainly devoted to police operations, the H135s are also now used for rescue missions in mountainous areas and along the coast, including rescue winch operations.

The second regional operator to use the H135 is



the Government of Catalonia. Ever since 2000, its two helicopters have been carrying out mountain rescue operations in demanding high and hot conditions throughout the Catalan Pyrenees with firefighters of the Special Action Group (GRAE).

POLICE AND GUARDIA CIVIL

The Spanish National Police Force and the Guardia Civil, both of which report to the Ministry of the Interior, have had the H135 in their fleets since 2003. The National Police Force has a total of 16 H135s to carry out preventive and surveillance operations in their respective areas and coordinated actions with other law enforcement agencies. Meanwhile, the Air Service of the Guardia Civil has a fleet of 13 H135s. One of its more remarkable missions is fighting against illegal immigration and criminal networks involved in human trafficking. In this framework, the H135 works for the European Border and Coast Guard Agency (FRONTEX) to perform surveillance missions in the Strait of Gibraltar, whether by day or by night with FLIR

1: The new features of the H135 are a big improvement in mountain and high mountain rescue operations carried out by the Spanish Civil Guard.

2: The adaptability and versatility of the H135 make it the ideal helicopter for HEMS missions.

3: The H135s of the Emergency Military Unit of the Spanish army are widely used in operations to support the civilian population.

cameras.

The incorporation of the H135 also represented a considerable qualitative leap for the Guardia Civil on its rescue missions in mountainous areas: "One of the advances of the H135 compared to the previous version we had is its improved performance in high and hot conditions. In the summer we have to fly missions where temperatures exceed 20° Celsius and at altitudes greater than 10,000 feet. With these kinds of conditions, we push the helicopter to its limits in order to save lives," explains Brigada (Warrant Officer 2nd Class) Valcárcel, pilot of the Huesca Aerial Unit in the Aragon region of the Spanish Pyrenees.

THE H135 IN THE SPANISH ARMED FORCES

The Spanish Army operates 16 H135s that are used to carrying out a range of different missions. The pilot training centre (ACAVIET) began receiving its first H135s in 2005, marking the start of the transition from analogue to digital technology. The Emergency Helicopter Battalion, whose main role is to support the Emergency Military Unit (UME) of the Spanish Armed Forces, uses the H135 to aid the civilian population in the event of natural disasters or serious emergency situations, reconnaissance and search and rescue missions, along with firefighting activities, and personnel and cargo transport.

"The compact build of the H135 allows us to access confined spaces to perform rescues and evacuations which we might not be able to execute otherwise. Another key feature of the H135 is its ease of maintenance in terms of both costs and personnel hours, along with the low cost of spare parts, all of which greatly facilitates our operations," explains Lt. Col. Miguel Sánchez, commanding officer of BHELEME II.

The H135 played a key role during Operation BALMIS in response to the health crisis deriving from the COVID-19 pandemic. From 18 March through 9 May 2020, H135 helicopters provided direct support for this operation, airlifting personnel mainly from the Spanish Army and the UME to carry out rapid disinfection tasks in different locations.

"The H135's ease of maintenance in terms of both costs and personnel hours, along with the low cost of spare parts, greatly facilitates our operations."
Lt. Col. Miguel Sánchez, commanding officer of BHELEME II

SUPPORT TAILORED FOR AIRBUS AND HELIONIX AIRCRAFT

Approximately 2,000 in-service H120, Dauphin, Puma and Gazelle helicopters need parts and support — while their newer, Helionix-equipped cousins could optimise their operations by leveraging connected services. Here, we look at two packages that respectively aim to give these customers a boost: the HCare Classics, after offer tailored to legacy fleet operations, and the HDataPower pack aimed at Helionix-family fleets.

Article: Heather Couthaud

HCARE CLASSICS: LEGACY FLEETS IN THE SPOTLIGHT

“Our aim in creating HCare Classics is to respond to the priorities we’ve been hearing from customers operating the H120, Dauphin, Puma and Gazelle, which make up a sizable portion of our fleet. That’s the reason you’ll see an approach that’s both customer-centric, results-based and derived from their feedback,” says Christoph Zammert, Executive Vice-President Support & Services at Airbus Helicopters.

The new HCare Classics offer will help around 750 operators of legacy aircraft to get tailored support for their unique needs. For some operators, this could mean compliance with new airworthiness regulations or standardisation of their fleet.

This package of services can also go as far as proposing an onsite field representative is there to optimise their spare parts logistics flows.

To do so, Airbus Helicopters is putting in place a new organisational model behind the offer, involving a dedicated plateau that brings together contract managers (as the voice of the customer) and product specialists, from design office experts to members of the supply chain.

One clear aim of Airbus’ new offering is the proactive monitoring of obsolescence. The OEM engages to keep a close eye on parts chosen together with operators, keying customers into potential cases where parts risk being in short supply. Obsolescence is routinely assessed, and customers get recommendations on mitigation measures or solutions. This goes hand-in-hand with assistance in reducing AOG, opportunities for fleet compliance and upgrade, and technical improvements for mission success.



© Anthony Pecchi

It’s all backed by investment and performance. Airbus is injecting 10M€ to reinforce the supply chain, and buying back used aircraft to refurbish parts. Commitments on lead times, pricing, and turn around times join a dedicated technical support service to reduce downtimes and give priority to rapid solutions.

AN END-TO-END DIGITAL CHAIN WITH HDATAPOWER

Helionix-equipped helicopters (H135, H145, H175 and H160) share not only a common cockpit design; they can reap the benefit of this digital environment as well thanks to an optimised set of services grouped together under one package. The entire chain of flight and maintenance operations is covered by HDataPower, from pre-flight and mission preparation to maintenance scheduling and logistics planning. “When we were designing this package of services, we wanted to make sure we were accompanying customers throughout their flight activities and bringing tangible added value,” says Christoph Zammert. It’s all possible thanks to the secure transfer of data via connectivity solutions (wACS** and D-Box services), which make data available immediately after a flight and give centralised 24/7 access to reports and data, onsite or in the field.

Thus, aeronautical databases become up-to-date references onboard, technical logbooks streamline



© DR

mission preparation and daily checks, flight data is enriched with contextual information for better operational decision-making, and fleet activity is displayed up to the minute for optimal dispatch and base management. Add to this airworthiness assistance based on UMS* data and an analytics service to optimise maintenance and parts ordering, and operators have at a glance the real-time status of their fleet’s usage, dispatching, airworthiness and maintenance needs—with significant results in fleet availability, safety, costs and the long-term value of their assets. End-to-end in the digital age: a notion whose time has come.

* UMS: usage monitoring system.

** wACS: wireless Airborne Communication System.

1: Aeronautical databases become up-to-date references onboard.

2: Helionix avionics suite equips more than 500 H135, H145, H160, and H175 rotorcraft around the world – with over half a million flight hours logged by this fleet.

3: Today, around 750 customers all over the world fly approximately 2,000 in-service H120, Dauphin, Puma and Gazelle helicopters.



© Eric Raz



UNITED STATES OF AMERICA CONTROLLING MOSQUITOS FROM ABOVE

Thirteen H125s contribute to controlling Florida's mosquito populations through aerial applications of larvicides and adulticides. The helicopter's power and reliability make it the aircraft of choice for this unique task.

Article: Heather Couthaud – Photos: Diane Bond

With place names like Mosquito Lagoon, Mosquito Lake and Mosquito Bay*, Florida's long relationship with the eponymous and annoying insect is clear enough—though no one can say it's an easy one.

CONTROL AND REDUCE MOSQUITO POPULATIONS

The Sunshine State's salt water marshes, swamps, and wetlands provide ideal conditions for mosquitoes to breed and proliferate, making it home to some 80 species. The insect population swells in the week after a wet period, as eggs hatch and larvae grow to maturity. With it, mosquito-borne viruses like West Nile and Zika present a risk to

Florida's communities—not to mention the nuisance mosquitoes bestow as a commonplace pest. Applying dry and liquid chemicals is considered one of the most effective ways to control and reduce mosquito populations over large areas, making the helicopter an important tool in the state's arsenal. Several counties in Florida operate the H125 in aerial spraying campaigns throughout the year, using larvicides to tackle egg-, larval- and pupal stages and adulticides when the insects emerge as flying, biting pests. Already used in crop spraying and firefighting, the H125 can be fitted with equipment like the three-part Isolair system that includes two liquid

1: The H125 is the helicopter of choice for Pasco County Mosquito Control, who operates 13 units of this helicopters for this unique utility mission.

2: Aerial spraying uses techniques and nozzles that apply very low volumes of chemical in micro droplets.

3: Lee Mosquito Control District uses the H125 to apply liquid and granular material for targeting mosquito larvae.

sprayers and a granular "hopper"; or AgNav's GPS-navigation system which automates the spraying, freeing up pilot workload. For Florida's spread-out communities, the H125's extensive payload capabilities enable it to maximize coverage areas and transform it into an effective mosquito fighting tool.

FAST AND FUEL EFFICIENT

The H125's speed and fuel efficiency are two additional qualities that make the helicopter the aircraft of choice for Florida's mosquito control districts. Brevard County Mosquito Control uses just two H125s to fight mosquito infestations in the area's 72 miles (116 km) of Atlantic coastline and salt marshes.

Other districts count its fuel efficiency among its benefits in this line of work. Lee County, on the Gulf Coast, uses six H125s to control mosquito populations—down from ten aircraft when they operated an older fleet. The district's transition to a smaller fleet was also made possible thanks

to the H125's low maintenance burden. Another fleet upgrade, in the Florida Keys Mosquito Control district, brought the area two H125s for aerial spraying and broadcasting. Charlotte County, on Florida's Gulf Coast, is another H125 operator with a single aircraft performing law enforcement and mosquito control duties.

On the west coast, Pasco County - home to roughly 45 different species of mosquito - is yet another operator which has been relying on a duo of H125s since April 2021. "In Florida, controlling mosquito populations is daily, year-round work, and our aerial tools are invaluable in the work that we do," said Adriane Rogers, director of Pasco County Mosquito Control. "We are always looking for the best, most efficient and most cost effective ways to fight mosquitoes, and the H125 is the solution."

* Mosquito Lagoon (Volusia County), Mosquito Lake (Clay County) and Mosquito Bay (Wakulla County).

[More information here](#)



Did you know?

Chemical dispersal is just one part of any programme to manage mosquito infestations. The US Environmental Protection Agency and Centers for Disease Control and Prevention have developed a multi-faceted approach to controlling the insects which forms the guideline for mosquito control districts. It involves preventive measures (elimination of their breeding habitats, removal of standing water), barriers (use of netting, screens, etc.), control at the larval stage (use of pesticides in targeted zones to maximize effectiveness), and control at the adult stage. Aerial spraying has been used for more than 50 years without harm**. It uses techniques and nozzles that apply very low volumes of chemical in micro droplets designed to stay airborne as long as possible. Aerial spraying should be done by experts, using a registered adulticide which has been evaluated by the EPA and does not pose risk to people, pets or the environment.

** Source: EPA, "Success in Mosquito Control: An Integrated Approach".

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THE WORLD IS A BEAUTIFUL PLACE

Keeping it that way is at the centre of all we do. That's why, with our unwavering commitment to decarbonisation, Airbus is paving the way for sustainable aerospace. Today, our technological developments are already helping to safeguard our precious planet. Discover more about how we're leading the journey, shaping a brighter future for generations to come.

AIRBUS