

MAGAZINE

# ROTOR

THE WORLD OF HELICOPTERS BY EUROCOPTER - NO. 95 - JULY 2013

**LIFE OF THE RANGE**  
A NEW BREED OF  
DAUPHIN: THE N3e

**ASSEMBLIES**  
HELICOPTER  
PAINTING

**MISSION:  
POSSIBLE**

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# ( THINK BUSINESS )

When it comes to gaining a competitive edge in commerce, you simply need the best.  
With a Eurocopter helicopter you will fly faster and more safely, while enjoying greater comfort and reliability.  
**Invest in an EC175.**



Thinking without limits

 **EUROCOPTER**

AN EADS COMPANY



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## WE ARE COMMITTED TO YOUR MISSIONS

It is an honor to rejoin Eurocopter after having spent more than four years in the automotive industry. With a decade of experience in Eurocopter's flight test, development and commercial activities, I understand the demanding nature of your missions, and I am ready to serve you once again.

Over the past few years, Eurocopter has achieved impressive global growth – an accomplishment that couldn't have been possible without you. We appreciate your continued trust.

With this expansion, the company has gained new dimensions – adding new products and services while also increasing its industrial capacity and international footprint. These decisions were driven by our dedication to delivering the best mission capabilities to you.

Our way forward is clear: concentrating on customer satisfaction by focusing on the maturity of our products and further enhancing our services.

Whether you explore offshore oil & gas fields, save and protect lives, or combat forest fires, you all expect full availability for your aircraft and uncompromising standards of safety and quality, allowing you to concentrate solely on the missions ahead.

Together with my team, I look forward to an open dialogue with you – as your input is essential to our partnership and to Eurocopter's flight path ahead. We will remain at your side at all times. This is my commitment to you.

*Guillaume Faury, President and CEO of Eurocopter.*

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© Anthony Pecchi/Eurocopter



© Source vidéo Jean-François Bramard

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As the use of unmanned rotorcraft gains momentum in combat zones and is considered for other dangerous operations, Eurocopter demonstrates its own capabilities with optionally piloted vehicle (OPV) flights using the company's EC145 testbed helicopter.



© Alain Lemoine

10 FEATURED ARTICLES  
**MISSION: POSSIBLE**

Should mankind receive credit for the helicopter's many uses, or should the plaudits go to this extraordinary aircraft? Did people invent the helicopter specifically to support all their areas of activity, or was it the helicopter that inspired its inventors to apply it in so many different ways?

For the designers of the Eurocopter range, these are the questions that compel them to keep a close eye on human behavior and

activity. By listening to what customers have to say and providing innovative technical solutions, the manufacturer has, since the helicopter's inception, developed aircraft capable of meeting every expectation and excelling in every situation. Helicopters are synonymous with the missions of the future; of all flying machines, the helicopter conducts the broadest range of missions—a range that is expanding all the time.

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© Eric Raz/Eurocopter

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A helicopter's appearance defines its brand image. The reorganization of the painting activity in Marignane aims to ensure that Eurocopter helicopters are dressed their best.

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The Dauphin N3+ is changing more than just its name. The "e" for "evolution" signifies a new upgraded version offering better performance levels with increased comfort and safety. Operating costs have also been cut by 10 percent for the N3e, which will reach customers by the start of 2015.



© Netherlands Ministry of Defense

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### Pushing the Limits of Extreme

Helicopters are sometimes the only vehicle capable of travelling in extreme weather or to hazardous and nearly inaccessible locations. Here's a look at three operators who fly their Eurocopter aircraft through demanding conditions to protect polar bears, fight piracy, and cross the Andes.

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The United Kingdom is an important market for the helicopter industry. With its vast portfolio of missions – ranging from salmon fishing and Oil & Gas exploration to Royal family transport – and its geographic

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© Anthony Pecchi/Eurocopter

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© David Dennison

### Wilderness Rescue in South Africa

A call to evacuate a small group of stranded employees from Mapungubwe National Park turned into the largest and most grueling rescue mission conducted in the history of the South African Red Cross Air Mercy Services. Captained by rescue pilot Johan Stone, the organization's EC130 B4 rescued 89 people in just over nine hours.

FOR MORE INFORMATION CHECK OUT

MAGAZINE **ROTOR** ONLINE



Watch a **VIDEO** of:

- The preservation of Provence's past (see page 7)
- Peder Thaulow Eidsgaard of Pegasus Design on the EC175 VIP version (see pages 8-9)
- The first unmanned flight of the EC145 demonstrator (see pages 20-21)
- The EC175's demo tour in the United States (see pages 32-33)



Learn more **INFORMATION** about:

- Air Greenland (see page 25)
- Eurocopter in Great Britain (see pages 28-29)



**Brazil**  
**A HAPPY 35th ANNIVERSARY FOR HELIBRAS**



© Helibras

The LAAD-Defence & Security Trade Show held in Rio de Janeiro from April 9 to 12 offered the perfect venue for Helibras to celebrate its 35th anniversary. The timeline on display at the Helibras stand depicted the Eurocopter subsidiary's accomplishments over the years. Helibras has captured 50 percent of Brazil's civil and military markets and more than 600 Eurocopter helicopters are operating in the country today. Helibras leveraged the event to announce a new milestone in its long-term commitment to Brazil: the official groundbreaking of a new training and simulation center in Rio de Janeiro. Slated to open in 2014, the center will mainly provide training on the EC225/EC725 for customers from the armed forces and the oil & gas segment.

**United States**  
**EC145 MERCEDES-BENZ STYLE MAKES ITS DEBUT**



© Charles Abarr/Eurocopter

The first EC145 Mercedes-Benz style destined for the U.S. market – the third of this special-edition luxury aircraft to be produced – arrived at American Eurocopter on May 29. The new owner, Speedway Aviation, received the

aircraft on July 9. The helicopter, which seduces with maximum comfort, exquisite styling and functionality, will embark on a demonstration tour around the United States before entering commercial service.

**Scandinavian Helicopters**  
**DELIVERY OF THE 70th AS350 B3**



© Thierry Rostang/Eurocopter

Adrian Pihl Spahiu, Lennart Pihl, Patrick Pihl Spahiu and Martin Pihl of Scandinavian Helicopters upon receiving their 70th machine, an AS350 B3.



© Charles Abarr/Eurocopter



©DR

## The Tiger READY FOR ACTION IN ALL THEATERS

The Tiger is steadily acquiring combat experience in Afghanistan and Mali. The German fleet of four Tiger UHTs belonging to the Bundeswehr's Combat Helicopter Regiment 36 arrived in Afghanistan in December 2012. They have been fully operational since January, performing surveillance and escort missions. The French Army Air Corps simultaneously deployed up to eight Tiger HAPs in northern Mali to participate in two operations in the Sahel. Spain also recently deployed

three Tiger HAPs to support the withdrawal of ground troops in Afghanistan.

The aircraft have experienced excellent availability and have proven their ability to adapt to intense environments. For example, the French Tiger HAPs in Mali (*see picture*) are operating out of a minimally equipped airport far from any support base, with aircraft completing up to 50 flying hours per month and 10 flying hours per day.

## Airtelis EUROCOPTER HELPS PRESERVE PROVENCE'S PAST



© Lorette Fabre

The Super Puma operated by Airtelis, a subsidiary of RTE<sup>(1)</sup>, was used for a special mission this past March. In partnership with Eurocopter and the mayor's office of Tholonet (a small town in southern France), Airtelis airlifted a nineteenth century control valve weighing 1.7 tons from the bottom of a valley and carried it via sling to the castle in Tholonet. Part of the Marseille-Provence 2013 European Capital of Culture events, the operation preserved an invaluable artifact from Provence's past that attests to the major hydraulics projects that brought water to the people of the region. The valve will be on display beside other water works in the regional park of the Société du Canal de Provence, which welcomes 3,000 visitors every year.

(1) Réseau de Transport d'électricité



**WATCH A VIDEO  
OF THE MISSION AT  
ROTOR ONLINE**

[www.eurocopter.com](http://www.eurocopter.com)

The EC175 was developed as a market leader in medium-sized helicopters for offshore transport in the energy industries, Search and Rescue and medical services. When Eurocopter decided to create a VIP version of the machine, it turned to Pegasus Design. We talk to Pegasus co-founder Peder Thaulow Eidsgaard about the project.

Interviewed by  
**TREVOR HUGGINS**

Photos by  
**PASCALE ANZIANI**

## “WE GAVE IT THE WOW FACTOR”

### How did you become involved in the VIP project for the EC175?

**Peder Thaulow Eidsgaard:** We design private jets and super-yachts, so we have extensive knowledge of tastes and expectations in the VVIP segment. These are ultra-high net worth individuals who are willing to spend a lot of their own money – and they are not willing to make compromises. Although we hadn’t designed a helicopter before, we were aware of the construction methods, specification of materials, and how to use drawings and sketches to communicate our vision. The task was to find a way to make the exterior paint sleek and attractive, and to create an interior unlike any other. We wanted to give it the “wow factor”.



“We wanted to offer a range of color and detail combinations – because clients in this segment expect a high level of customization.”

### What were the design concepts behind your work?

**P.T.E.:** Most helicopters look like large cars on the inside – there are many shapes and curves. We wanted to simplify that look and create a calmer atmosphere by introducing vertical and horizontal lines. Within the one architecture, we wanted to offer a range of color and detail combinations – because clients in the VVIP segment expect a high level of customization. We also wanted to create an environment in which the owner could leave his or her VVIP jet, yacht or villa, enter the helicopter, and feel it’s in tune with his or her luxurious lifestyle.

### So how were those concepts expressed in the EC175?

**P.T.E.:** We created an entry-level Executive version targeted for the corporate market, with a more neutral interior. We focused on durability rather than just luxury, so, for example, this version can accommodate far more seats. Above the Executive version are three very different VVIP versions. One is very masculine with materials and a feel inspired by luxury sports cars; another is sophisticated and contemporary, inspired by modern penthouse apartments, such as those you would find in New York City; and the third is very classical, with dark woods and embroidered fabrics, inspired by the grand villas of Europe. By changing

materials and background panels, you can completely change the feel of an interior.

### In practical terms, how are these concepts put into practice?

**P.T.E.:** Take windows for example, which often have a strange shape on the inside. We wanted to eliminate that, so we covered the mullions with rectangular shapes. We also wanted a lot of indirect lighting, which we integrated into the side ledge and ceiling to create different atmospheres. You can tone down the full lighting and rely on just indirect lighting to create a cozy atmosphere for sleeping or relaxing. For the exterior, we created a dark band to tie the windows together, and ran it back to the tail to add length. We added a decorative stripe along the side and the bottom of the body; this is important, because as you wait for a helicopter you do see it from below – which you almost never do with a jet. This detail is a signature element.

### How has it been to work with Eurocopter?

**P.T.E.:** Working with Eurocopter has been a fantastic experience. The company builds excellent helicopters and has considerable experience. The two of us collaborating to create something new – a huge organization and a small dynamic company like us – has worked very well. We’ve had challenges, as you’d expect in any project where you are pushing the envelope, but we overcame them.

“Working with Eurocopter has been a fantastic experience. The company builds excellent helicopters and has considerable experience.”



**WATCH THE VIDEO  
INTERVIEW AT ROTOR ONLINE**  
[www.eurocopter.com](http://www.eurocopter.com)

## ***EXPRESS CV***

### **Peder Thaulow Eidsgaard – from yachts to private jets**

**1972:** Born in the United Kingdom. Raised in Oslo, Norway.

**1992-1996:** Attended Art Center College of Design (Europe), La Tour-de-Peilz, Switzerland. Bachelor of Science degree.

**1996-2005:** Joined Andrew Winch Design, London.

**2005:** Co-founded Eidsgaard Design, London with Ewa Tasior Eidsgaard. Specialty: super-yachts.

**2006:** Co-founded Pegasus Design, London and Monaco, with Mike Savary. Specialty: private jets.



# 10 FEATURED ARTICLES

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**HELICOPTER MEDICAL  
SERVICES**

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**FOREST FIRES  
AND ENVIRONMENT**



## MISSION: POSSIBLE

Article **ARNOLD FREEMAN**

Photos by **ANTHONY PECCHI AND CHRISTOPHE GUIBBAUD**

Should mankind receive credit for the helicopter's many uses, or should the plaudits go to this extraordinary aircraft? Did people invent the helicopter specifically to support all their areas of activity, or was it the helicopter that inspired its inventors to apply it in so many different ways? For the designers of the Eurocopter range, these are the questions that compel them to keep a close eye on human behavior and activity.

By listening to what customers have to say and providing innovative technical solutions, the manufacturer has, since the helicopter's inception, developed aircraft capable of meeting every expectation and excelling in every situation. Helicopters are synonymous with the missions of the future; of all flying machines, the helicopter conducts the broadest range of missions—a range that is expanding all the time. ▬

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**POLICE AND TOURISM**



The helicopters that make up Eurocopter's extensive portfolio now perform more than 400 different types of missions. They offer our customers the highest possible levels of safety and availability.

# ACCESS EVERYWHERE

As the helicopter's operational scope continues to grow, Eurocopter offers a comprehensive range of aircraft to meet the needs of operators.

Article  
**ARNOLD FREEMAN**

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Since the end of World War II, the helicopter has consistently broadened its field of operations, gaining in reliability, performance and capabilities thanks to the technical advancements from which it has benefitted and continues to benefit. Civil and military operators increasingly rely on the helicopter to fulfill their missions across the world, both day and night and in virtually any weather condition.

Rescue services are among the most important tasks the helicopter performs in the civil market. These are provided both by private companies, particularly in the field of emergency medical services, and by state, civil and military organizations.

© Anthony Pecchi/Eurocopter



| View of the AS365 N3's cockpit.

Bangkok Helicopter Services' EC145 carries out EMS flights in Thailand and neighboring countries.



© Anthony Pecchi/Eurocopter

## HELICOPTER MEDICAL SERVICES SAVING LIVES AT ANY COST

Many countries use helicopter medical services to carry out a range of tasks, from transporting the injured and the ill from their initial place of treatment, to inter-hospital air services. The aircraft used most widely around the world to perform these missions is **the EC135**. A light twin-engine helicopter with a maximum takeoff weight of 2,950 kg and a large cabin, the EC135 is especially suited for **medical rescue missions**.

Recent technical developments have also allowed its manufacturer to enhance its capabilities, including the available power on takeoff, the payload, and the performance at altitude and in hot weather.

Out at sea, however, where **flight endurance**—a factor linked to fuel capacity—comes into play, the task of saving lives falls to other helicopters. **The naval versions of the EC225 and the NH90** excel in this environment.

Operated by armed forces, these powerful aircraft can travel large distances out to sea, with the EC225 capable of venturing 200 nautical miles (370 km) from base and the NH90 some 250 nautical miles (463 km).

Professional and amateur sailors owe their lives to these helicopters. As well as performing Search and Rescue, the naval version of the NH90—known as the **NFH (NATO Frigate Helicopter)**—is designed to complete a host of other missions, namely anti-ship and anti-surface, maritime surveillance, logistical transport, refueling, evacuation and special anti-terrorism and anti-piracy operations.

### *HEMS:* *A LIFE-SAVING SERVICE*

In Europe, one in 175 people will one day suffer a heart attack; in the United States, the figure is one in 43. Some ten percent of these people will die unless they are taken to a hospital within an hour of the attack, which means that for the thousands of men and women living more than 25 kilometers from a hospital, the only chance of survival lies with helicopter emergency medical service (HEMS).

A study conducted in a 2,000-bed European hospital revealed that over a four-year period, some 38 people owed their lives to the rapid intervention of a helicopter. In all of these cases, land-based emergency transport services would have been unable to save them.



© Anthony Pecchi/Eurocopter

Mountain rescue is just one of the many missions performed by the French Gendarmerie.

The National Grid Corporation of the Philippines (NGCP) has plans to build and maintain a power grid in Southeast Asia.

## AERIAL UTILITY WORK KEEPING THE POWER ON

The helicopter plays a discreet role in developed countries, operating behind the scenes in areas that almost seem to work by magic.

One prime example is **electricity**, which runs through every home, office and public space. All it takes to bring lighting, household appliances, heating systems and the like to life is a simple flick of a switch.

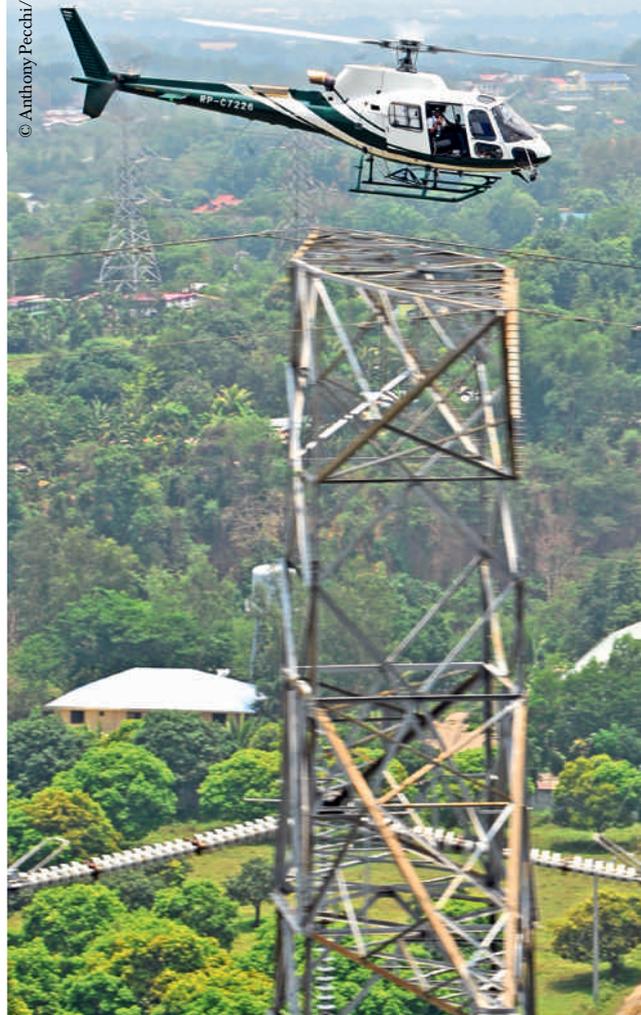
Before reaching the cables supplying industrial premises, railway stations, hospitals, apartment blocks and houses, power is transported along **high-to very-high-voltage lines ranging from 63,000 to 400,000 volts**.

Installation, inspection and maintenance of these power lines are very often carried out with the assistance of the **AS350 Ecureuil**, the most versatile aircraft in the Eurocopter range. The Ecureuil enables electrical line workers from France's national grid operator **RTE (Réseau de transport d'électricité)** to inspect and repair power lines that stretch for thousands of kilometers.

**In the wake of exceptional weather conditions** such as major storms, the helicopter remains on duty to ensure that national grid facilities are returned to service faster than any land-based team could manage.

The helicopter also plays a key role in electricity generation in the offshore wind farm sector—a market with huge potential that is expected to grow by nearly 30 percent between now and 2020. Here helicopters offer rapid response and excellent cost effectiveness for the construction and maintenance of turbines stretching 90 meters in diameter. Now a highly visible presence in this sector, **Eurocopter actively contributes to the promotion of renewable energy.**

© Anthony Pecchi/Eurocopter



Malaysian operator Awan Inspirasi, which has been operating helicopters in the oil & gas industry since 2008, took delivery of its third EC225 on June 6, 2013.

Having identified the considerable potential of offshore wind farms, Eurocopter is now making a decisive contribution to the promotion of renewable energy.

The Southern Vietnam Helicopter Corporation operates a fleet of EC225s, Super Puma AS332 L2s and Dauphin EC155s.



© Anthony Pecchi/Eurocopter

## OIL & GAS A VITAL RESOURCE

**Oil & gas** is another industry in which the role of the helicopter does not immediately spring to mind. When we're fueling our cars, how many of us give a moment's thought to the thousands of flying hours racked up by crews subjected to harsh conditions around the world?

Yet, **with the search for oil resources shifting farther and farther out to sea**, major drilling companies are demanding helicopters that offer even higher levels of performance. It is no surprise, then, that the EC225 has established itself as an aircraft ideally suited to this mission, and a large number of operators are adding it to their fleets.



© Anthony Pecchi/Eurocopter

### OIL & GAS: 1,100 KM OUT AT SEA

Brazil has high hopes of developing its new offshore energy resources. The recent discovery of oil and gas fields off the Brazilian coast has led Petrobras, which operates most of them, to contemplate setting up platforms farther and farther offshore, extracting from ever greater depths. To assist with the development of these offshore sites, a number of EC225s were recently delivered to transport operator Omni Táxi Aéreo. Among its many exceptional attributes, the EC225 can cover distances in the region of 600 nautical miles (fully 1,100 km) thanks to its external pod tanks.



© Awan Inspirasi

An EC225 equipped with a fire-fighting kit and operated by Guangdong Province Police Force, China.

© Patrick Penma/Eurocopter

## FOREST FIRES RESCUING PEOPLE AND PROPERTY

**Tackling forest fires** at the source ranks high on the list of missions performed by the helicopter.

The Eurocopter range features a number of aircraft capable of springing into action in such situations. **The AS350 Ecureuil** can be fitted with numerous pieces of equipment that provide the required capabilities, such as a belly tank or a sling-borne water bucket.

**The EC225**, meanwhile, can drop up to 4,000 liters on a target area thanks to a flexible water tank attached to the cabin floor and connected to a release device. Given its ability to make high-precision approaches at low speed, the helicopter has an extremely useful role to play in coordinated responses to forest fires, complementing the work carried out by water bombers.

We have grown accustomed to the helicopter's extraordinary ability **to come to the rescue of people and property**, saving lives and protecting buildings and facilities from destruction. Firefighting is another field, however, where innovation can further enhance the helicopter's capabilities.

A case in point is **the AS365 N3 Dauphin** recently delivered to **the Japanese government's Fire and Disaster Management Agency (FDMA)**. The country's authorities plan to use this helicopter to fight major fires and respond to earthquakes and tsunamis. The aircraft has been fitted with groundbreaking equipment that allows the crew to relay data in real time to ground stations via satellite, without the blades' rotation interrupting transmission. After receiving the information, the FDMA can deploy teams and equipment to the right place at the right time and achieve new levels of efficiency.



## ENVIRONMENT PRESERVING THE FLORA AND FAUNA

The environment is another area in which helicopters play a number of different roles. One example is the fleet of **AS350 B2 Ecureuils and EC120s** operated by Canadian tree-planting specialists **Slave Lake Helicopters**. Another is **the Ecureuil** flown by the Norway-based firm Pegasus. In order to preserve the ecological balance of the country's natural water system, the company uses the aircraft to spread fertilizer into lakes and rivers from tanks attached to slings. Meanwhile, up in the Arctic Circle, **Air Greenland AS350** allows scientists to count and tag polar bears as part of conservation program (See article on page 25).



With the helicopter's assistance, the Canadian company has planted more than 81 million trees.

## POLICE RISING TO THE OCCASION

The helicopter allows police forces to reach new levels of efficiency **in surveillance and law enforcement.**

The U.S. Department of Homeland Security – and Customs and Border Protection in particular – are responsible for monitoring America’s vast borders on a permanent basis. Along the country’s southern border, air units use **EC120s** to carry out complex surveillance missions. With their low operating costs, ease of use and low noise signature, they have quickly become tried and trusted partners of the men and women of **the U.S. Border Patrol.**

The G8 summit held in mid-June in Fermanagh, Northern Ireland, gave the national police force’s helicopters an excellent opportunity to demonstrate their abilities: patrolling the large fenced-off area around the Lough Erne complex where the summit was held. **With its EC135s and EC145s,** the Police Service of Northern Ireland had the resources to accomplish the task—resources it makes use of all year round, with each helicopter completing **1,100 flying hours** every 12 months.

Meanwhile, along the Somali coast, a Dutch Army NH90 conducts patrols to fight piracy (*See article on page 26*).

**And in Chile, the Police Air Unit operates two Ecureuil AS350 B3s** in the ongoing fight against drug traffickers, whose plantations are often located in the country’s most inaccessible areas.

### POLICE SERVICE OF NORTHERN IRELAND: 100 PERCENT EUROCOPTER

Eurocopter supplies all the helicopters operated by the Police Service of Northern Ireland and its fellow forces in Scotland and the Republic of Ireland. The company now has a 70 percent share of the police-force market in the British Isles.

© Eurocopter UK



© Thomas Coisque



SAF Helicopters transports skiers in France, Switzerland and Italy.

## TOURISM THE BEST VANTAGE POINT IN THE WORLD

Helicopters enable many missions that are less grave but equally serious, such as providing television coverage of the Tour de France. Among the world’s most closely followed sporting events, this great race owes thanks to the helicopter, which captures images for live broadcasts sent around the globe by satellite. And the cameramen whose job it is to bring the race to our TV screens like no helicopter better than **the AS350 Ecureuil.**

Helicopters also amaze us by offering a bird’s eye view of the world’s most spectacular natural sights.

In the United States, for example, **a number of transport companies** specialize in visits to the Grand Canyon. **It is here that the EC130 wears its tour guide hat,** offering operating costs that are hard to beat and giving six passengers at a time a comfortable ride and exceptional visibility.

### DATASHEET

**EC135/635**  
276 customers  
2,737,000 flying hours

**EC225/725**  
33 customers  
300,000 flying hours

**NH90**  
12 customers  
43,000 flying hours

**AS350/AS550/EC130**  
1,544 customers  
21,514,000 flying hours

**AS365 N3 DAUPHIN**  
99 customers  
564,000 flying hours

**EC120**  
442 customers  
1,423,000 flying hours

**EC145**  
109 customers  
831,000 flying hours

Source: June 2013 statistics

FRENCH ARMY

# THE FIRST TIGER HAD

Article **PRESS RELEASE EXCERPT**  
Photo by **ANTHONY PECCHI/EUROCOPTER**

While the Tiger continues to prove its worth in military interventions and demonstrate its superior value for money among attack helicopters, the latest member of the Tiger family, the HAD<sup>(1)</sup> support and attack helicopter, was delivered to France's DGA armament procurement agency on April 19. Destined for the French Army Air Corps (ALAT), which held an official ceremony on May 29 at the Le Cannet des Maures air base in southern France to mark the helicopter's arrival, the helicopter will join the 97 multi-role Tigers currently in service. The HAD<sup>(1)</sup> version, which has seen 40 units ordered by France and 24 by Spain, features two MTR390-E turboshaft engines that provide 14 percent more power than the HAP<sup>(2)</sup> combat support version. The new engines have increased the Tiger's maximum takeoff weight from 6.1 to 6.6 metric tons, improving both its payload capacity and safety for the crew, as the cockpit now benefits from full ballistic protection. While retaining all the advantages of the HAP (handling qualities, turreted gun accuracy, small logistics footprint for an attack helicopter, suitability for amphibious operations, etc.), the HAD version is also equipped with a new optronic sighting system, the capability to launch Hellfire air-to-surface missiles, an evolved electronic warfare suite, double the capacity for 68 mm-70 mm rockets, and an IFF (identification, friend or foe) interrogation system. Following certification on January 14, 2013 and qualification on April 11, 2013 by the DGA, this delivery marks an important stage in the program. Now Eurocopter can offer this advanced helicopter to its export customers.

(1) Hélicoptère Appui Destruction

(2) Hélicoptère Appui Protection





# THE PILOT HAS LEFT... THE COCKPIT!

Article  
JEFFREY LENOROVITZ

As the use of unmanned rotorcraft gains momentum in combat zones and is considered for other dangerous operations, Eurocopter demonstrates its own capabilities with optionally piloted vehicle (OPV) flights using the company's EC145 testbed helicopter.



Eurocopter is now positioned to pursue OPV flight opportunities for its product line of light, medium and heavy-lift helicopters – enabling them to be flown by pilots or in an unmanned mode. This technology was validated through an internally funded demonstration pro-

gram coordinated by a Eurocopter team in Donauwörth, Germany, which led to two flights at the French Air Force test center in Istres, France. The achievement benefitted from the company's expertise in flight control and autopilot systems, human-machine interface,

system architecture and integration. "Eurocopter innovation is once again expanding the mission capabilities of helicopters, and we are ready to apply the proven optionally piloted vehicle competence in meeting customers' needs," explained Eurocopter Chief Technical Officer Jean-Brice Dumont.

Eurocopter's unmanned demonstrations at Istres – one of which was conducted in the presence of international reporters – used a four-dimensional flight plan uploaded to the helicopter. After an automatic takeoff, the EC145 flew the planned circuit via multiple pre-programmed waypoints, during which the helicopter deployed a load from its external sling. The EC145 continued on a return route segment that represented a typical observation mission, followed by an automatic landing.

For its delivery of the external load, the helicopter entered a planned hover – enabling a ground station controller to provide flight control inputs in orienting the EC145 over the drop point. The ground controller then transmitted a command to release this load once the helicopter and load



From the ground station, the controller enters flight commands to guide the EC145.



© Source vidéo Jean-François Bramard

The helicopter is equipped with a “plug-in” OPV avionics rack in the cabin behind the pilot seats, which contains the data link subsystems.

were correctly positioned. The EC145 demonstrator incorporated an enhanced dual-duplex four-axis automatic flight control system (AFCS) and the latest navigation systems. In addition, it was fitted with a “plug-in” OPV avionics rack in the cabin behind the pilot seats, which contained the data link subsystems. Visibility during the EC145’s unmanned flights was provided to the ground station via onboard cameras. This was complemented by an external gimbaled camera on the helicopter for infrared and daylight mission imaging. Eurocopter’s OPV system was configured to enable uploading of the four-dimensional flight plans to the helicopter via data link from the ground station. The system included an automatic hover-to-land capability in case of major system degradation.



© Source vidéo Jean-François Bramard

Eurocopter’s OPV system was configured to enable uploading of the four-dimensional flight plans to the helicopter via data link from the ground station.

“We are ready to apply the proven optionally piloted vehicle competence in meeting customers’ needs.”

Jean-Brice Dumont, Eurocopter Chief Technical Officer.



WATCH THE VIDEO OF THE FIRST  
OPV FLIGHT AT ROTOR ONLINE  
[www.eurocopter.com](http://www.eurocopter.com)

## HELICOPTER PAINTING

Article  
ALEXANDRE MARCHAND

A helicopter's appearance defines its brand image. The reorganization of the painting activity in Marignane aims to ensure that Eurocopter helicopters are dressed their best.

# WHERE CREATIVITY AND PRECISION MEET

In the past, Eurocopter adopted standardized paint schemes for its helicopters and would call on outside help whenever any creative work was necessary. But things have changed. In 2010, the painting activity was reorganized. New facilities were set up that group together some 40 highly qualified Eurocopter employees, new digital painting tools were introduced, and recruitment reflects a desire to encourage more creativity in-house.

"Our talent hunt corresponds to our desire to stay in touch with current visual styles while also anticipating future trends," says Carine Delarche, head of the engineering department at the Painting Product Center. "Because we have mastered all facets of helicopter painting, we have become the reference for customers and operators alike. With our new setup, we can offer paint schemes that are both original and technically flawless, while at the same time keeping costs and lead times to a minimum. At the same time, we're spearheading environmentally friendly initiatives that reduce the solvents used in our paints and utilize more water-based products."

### GRAPHIC AND TECHNICAL REQUIREMENTS

Expressing similar sentiments, Max Ferrettini, who oversees the painting design office for civil helicopters, pointed out that one of Eurocopter's strengths is its ability to satisfy demanding graphic and technical requirements for its customers. "The fact that we work so closely with production gives us unique tech-



Helicopter painting must take into account a wide variety of specific constraints during the design phase.

nical legitimacy as both designers and creators. We can guarantee the technical reliability of our offers and strike a good balance between creativity, corporate image and technical requirements." Painting a helicopter is much more difficult than one might think, due to the wide variety of specific constraints. Whether it be the helicopter's specific contours,

inspection hatches, optional equipment, antennas, or technical markings, everything must be taken into account during the livery design phase. This work has now become much easier thanks to special software that can generate extremely accurate and realistic 3D images. Further downstream, the paint scheme and technical markings can be



© EC Chile

Eurocopter designed and painted a highly precise livery on a Dauphin in VVIP configuration for a customer in Chile. During the acceptance visit, the customer spent two hours of the inspection admiring the external paint job.



New imaging software quickly generates highly original and realistic 3D creations.

projected right onto the helicopter by lasers – another means of ensuring high precision and shorter painting cycles. “From design through to production, we are now implementing a true digital painting activity here at the product center,” said Ms. Delarche. But the last word goes to the team of 12 painters and one mechanic working

under team leader Vincent Mevel: “Our reputation is based on the irreplaceable paint finish we provide and our ability to reproduce the same decorations for different helicopters in the same fleet right down to the last millimeter.” Their strict standards truly reflect the technical excellence of the aircraft they paint.

## *DID YOU KNOW?*

**1** It takes approximately 30 liters of paint to cover an Ecureuil, and twice that much for a Super Puma.

**2** Eurocopter is also working to harmonize the catalogues, processes and designs with the German range to obtain a truly coherent offer for all Eurocopter helicopters.

**3** On commercial aircraft, the polyurethane and acrylic-based paints requiring refinishing are progressively being replaced by water-based paints and paints with lower solvent content. Self-adhesive color films are also being developed for more sophisticated patterns.

The Dauphin N3+ is changing more than just its name. The “e” for “evolution” signifies a new upgraded version offering better performance levels with increased comfort and safety. Operating costs have also been cut by 10 percent for the N3e, which will reach customers by the start of 2015.

Article  
ALEXANDRE MARCHAND  
Photo by  
ANTHONY PECCHI/EUROCOPTER

# A NEW BREED OF DAUPHIN: THE N3e

## Rotor and Main Gear Box

To handle the increased transmissible power and at the same time reduce operating costs, the AS365 N3e has been equipped with the upgraded StarFlex rotor head and the reinforced main gear box of the AS565 MBe military version. The new equipment offers longer times between overhauls (TBO), resulting in a 10 percent reduction in direct maintenance costs.

## Engines

The new Turbomeca Arriel 2N turboshaft engines with dual-channel FADEC<sup>(1)</sup> deliver increased safety by providing approximately 15 percent more power with one engine inoperative. With these improved performance levels, the N3e offers better operational capabilities for Performance Class 1 flights from offshore platforms and Category A flights from helipads (for example, an increase in maximum takeoff weight of 340 kg in ISA+20 conditions).

[1] Full Authority Digital Engine Controls

## Avionics

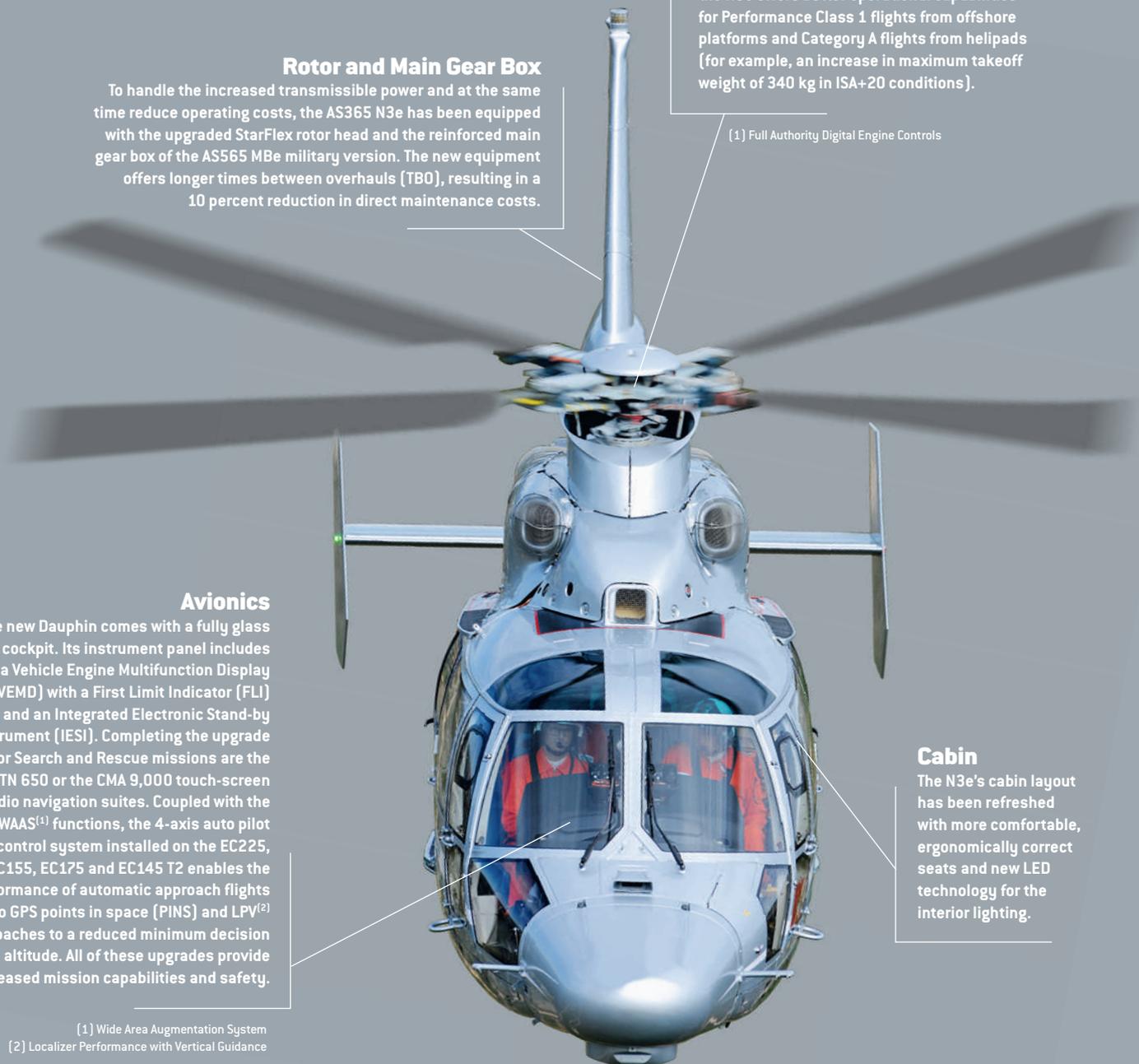
The new Dauphin comes with a fully glass cockpit. Its instrument panel includes a Vehicle Engine Multifunction Display (VEMD) with a First Limit Indicator (FLI) and an Integrated Electronic Stand-by Instrument (IESI). Completing the upgrade for Search and Rescue missions are the GTN 650 or the CMA 9,000 touch-screen radio navigation suites. Coupled with the new WAAS<sup>(1)</sup> functions, the 4-axis auto pilot control system installed on the EC225, EC155, EC175 and EC145 T2 enables the performance of automatic approach flights to GPS points in space (PINS) and LPV<sup>(2)</sup> approaches to a reduced minimum decision altitude. All of these upgrades provide increased mission capabilities and safety.

[1] Wide Area Augmentation System

[2] Localizer Performance with Vertical Guidance

## Cabin

The N3e's cabin layout has been refreshed with more comfortable, ergonomically correct seats and new LED technology for the interior lighting.



# PUSHING THE LIMITS OF EXTREME

Article  
BELÉN MORANT/ÉRIC GIVAUDAN

Helicopters are sometimes the only vehicle capable of travelling in extreme weather or to hazardous and nearly inaccessible locations. Here's a look at three operators who fly their Eurocopter aircraft through demanding conditions to protect polar bears, fight piracy, and cross the Andes.

## AIR GREENLAND

### IN THE LAND OF ICE

How are extreme missions performed at temperatures as low as minus 35 degrees Celsius? Air Greenland reveals the secret: meticulous pilot training and absolute faith in its 12 Ecureuil AS350<sup>(1)</sup> helicopters deployed for scientific missions, heli-skiing operations, long-line cargo sling operations and EMS evacuations in the Arctic.

#### FLYING WITH LIMITED VISUAL REFERENCES

"The combination of mountainous terrain, low temperatures and strong winds (often 30 to 40 knots) poses a major challenge for our operations, which often take us far from our bases for several days," explains Flemming Nyrup, heli-skiing coordinator at Air Greenland and supervisor pilot on the AS350. "During winter, which lasts for seven to eight months in the Arctic, we must take the maximum precautions for avoiding white-out conditions, where snow stirred up during takeoff and landing can cause visual references to be lost.

Another difficulty we regularly face is the presence of flat-light conditions in snowy terrain when clouds block the sunlight. This makes it difficult to establish visual references. Both these phenomena require the application of special techniques, which is why our pilots perform specific training each year to fly safely in these conditions."

#### PROTECTING POLAR BEARS

Air Greenland also provides helicopter support for a team of scientists who count and tag polar bears in the Arctic



Air Greenland provides helicopter support for a team of scientists who count and tag polar bears in the Arctic as part of a conservation program.

as part of a conservation program. The team searches the ice for polar bears from a height of 300 feet. Once located, the bears are shot with a tranquilizer dart, which knocks them out for around half an hour. "During this time, the animals are measured and blood and cell samples are collected," explains Nyrup. "These operations require the team to be far from its base for several days. As pilots, it's essential for us to have total confidence in

our equipment. Without a reliable helicopter, it would be practically impossible to perform these operations."

(1) Two B2s and 10 of the B3+ variant. In 2014, two EC225s are scheduled to join the fleet.



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[www.eurocopter.com](http://www.eurocopter.com)

## ROYAL NETHERLANDS ARMY

### COMBATING PIRACY WITH THE NH90

Since 2009, the Dutch armed forces have been part of the European Union Naval Force participating in Operation Atalanta. The purpose of the operation is to protect vessels off the coast of Somalia and to prevent and combat acts of piracy in the country's coastal waters. When an NH90 NFH<sup>(1)</sup> was deployed to perform counter-piracy operations in 2013, its performance levels – notably its operating range, radar and FLIR<sup>(2)</sup> detection capabilities, and weapons system – proved highly superior to those of the Lynx it replaced.

#### SURVEILLANCE AND RECONNAISSANCE

For counter-piracy missions, the NH90 performs patrols and gathers information over a vast area around the size of Europe. The crews detect suspicious vessels, keep them at bay, and if necessary rappel on board using the helicopter's "fast roping" beams. The operating conditions are extremely trying for both men and machine. Temperatures can reach 40 degrees Celsius by April and often climb to 50 degrees Celsius in summer, with relative humidity levels of 90 percent and the ever-present saline air typical of frigate-based operations.

"Generally speaking, high heat and altitudes affect an engine's performance levels, leading to reduced carrying capacities and maximum takeoff weights," explained Christian Bergez, Eurocopter technical representative for the NFH. "But unlike the previous generation of helicopters, the NH90 has a power margin sufficient to perform takeoffs at its maximum weight of 11 tons at sea level. It can operate with its maximum carrying capacity and still retain a comfortable amount of power on reserve<sup>(3)</sup>."

#### REAL AND REMARKABLE PROGRESS

Deployed in the area since January 2013, the NFH has proven well up to the task.



Deployed in the area since January 2013, the NFH has logged more than 160 flight hours and has performed extraordinarily well

The helicopter has logged more than 160 flight hours and performed extraordinarily well. From its first weeks of deployment, the NFH has made it possible – thanks to the superior performance of its detection system – to identify and then arrest nine pirates who operated more than 250 kilometers from where the vessel was based.

"Last April, the Dutch prime minister and the minister of defense visited the crews in the Gulf of Aden on board the frigate De Ruyter. They congratulated the employ-

ees for a job well done, as the NH90 was fully involved in the operation's success. As they pointed out, no vessel has been attacked since May 2012," concluded Mr. Bergez.

(1) The Naval Frigate Helicopter variant, operated by the Royal Netherlands Navy since 2010. This is the first time the NFH is flying actual missions off of a frigate.

(2) Forward Looking Infrared.

(3) The NFH was built with enough power to perform deck landing maneuvers in severe weather conditions, which require a great deal of power.

## BOLIVIAN AIR FORCE

# EC145: SENSITIVE MISSIONS IN EXTREME CONDITIONS

High altitudes, cold weather, fog and winds: just another day's work for the two EC145s that have been in service for the Presidential Air Group of Bolivia since 2012. Their primary mission is to transport the president of the Plurinational State of Bolivia, Evo Morales, to destinations around the country. The geography varies widely in Bolivia, which means the helicopters may transition from temperatures of 20 degrees Celsius in the plains to altitudes of more than 4,000 meters in the Andean Plateau in just 25 minutes.

### CROSSING THE ANDES: EXTRAORDINARY FLIGHT CAPABILITIES REQUIRED

"Our base is located in La Paz at an altitude of 4,000 meters, where the temperature often drops to zero degrees Celsius in the morning and flight conditions are often ISA+5 or worse," said Major José Mercado, an EC145 instructor pilot. "These severe altitude and temperature conditions force us to fly the helicopters at full power the



"The President of the Plurinational State of Bolivia is extremely pleased with the EC145, because it is a twin-engine helicopter that can fly anywhere in the country in complete safety without the slightest technical or environmental restriction," said Major Mercado.

entire time. Luckily for us, the EC145 is an absolutely splendid aircraft that has proven to be extremely effective."

The flight crews of the Presidential Air Group must also deal with other challenges on almost a daily basis: gusts of wind and updrafts and downdrafts, which mainly occur between May and October. Humidity levels also run high during the rainy season (October to March) – an important factor at high altitudes.

"Flying at high altitudes always has been and always will be a tricky business," added Major Mercado. "The temperature, humidity and pressure conditions in the Andes often provoke sudden changes in air currents. It's impossible to precisely determine their intensity in advance. When we can correctly use the wind to our advantage, it can really increase the margins for available power, but the slightest error in calculation can have catastrophic consequences. The key to our success is our in-depth understand-

ing of the EC145's performance levels, which enables us to optimize its operational capabilities."

### "IF IT'S A EUROCOPTER AIRCRAFT, WE'VE ALREADY WON HALF THE BATTLE"

The difficult flight conditions that predominate in Bolivia are at their most extreme when crossing over the Andes. In these cases, the EC145 must fly over the range's lowest passes<sup>(1)</sup>, situated at an altitude of 5,500 meters – the helicopter's flight ceiling. Clouds abound at this altitude, forcing the pilots to perform instrument flights. "Flying through clouds at 5,500 meters is something most pilots try to avoid, but it's routine for us when we have to cross over the Andes to reach the valleys and tropical plains. We have a saying among us pilots that I hear often: 'If the helicopter has all four blades and is a Eurocopter, then we've already won half the battle'."

(1) Mururata, Huayna Potosi, Illampu.



In Bolivia, the EC145 may transition from temperatures of 20 degrees Celsius in the plains to altitudes of more than 4,000 meters in the Andes in just 25 minutes.



# FLYING HIGH IN THE UNITED KINGDOM

Article  
**REGINA LANGE**

The United Kingdom is an important market for the helicopter industry. Due to its vast portfolio of missions – ranging from salmon fishing and Oil & Gas exploration to Royal family transport – and its geographic positioning between the American and European markets, competition on this island nation is fierce. Following is a snapshot of Eurocopter's footprint in the UK.



Eurocopter has been committed to the UK through its products for more than 40 years.

## **A LOYAL SUBJECT IN A ROYAL COUNTRY**

The Group became a local player in the British market only in 2007 with the acquisition of McAlpine Helicopters Ltd, its distributor. Two years later, Eurocopter extended its business to the UK defense market. In 2010, the

company opened the Aberdeen North Sea Service and Training Center, demonstrating its ongoing commitment to the Oil & Gas community. With the acquisition of Vector Aerospace in 2011, Eurocopter expanded its footprint further in military maintenance, repair and overhaul (MRO) and engine MRO. Today, Eurocopter holds a dominant market leader position in the UK. Its helicopters and service personnel play a vital role in the smooth functioning of the country,

from police and air ambulance services, to energy exploration and distribution and defense.

## **A LAND OF ATTRACTION**

Many factors make the UK an active and attractive market for helicopter manufacturers. These include the breadth of missions and the ongoing innovation in services, with the potential of setting worldwide trends.

"In the UK, we encounter almost every

**45%**  
Eurocopter's UK  
market share

type of helicopter mission you could imagine," says Markus Steinke, managing director of Eurocopter UK. "This includes classic roles (police, EMS and transport) and more unique ones like lighthouse servicing, salmon fishing, and pipe and power line control, as well as servicing the biggest VIP market in Europe. On top of these there are the UK armed forces, which are active worldwide."

Many missions are conducted in harsh conditions that are very challenging for the teams and machines. This is especially the case in the North Sea, where demand for Oil & Gas exploration and the new offshore wind farm support sees steady evolution. In addition, the helicopter industry regularly receives requests from the UK Ministry of Defence operating its troops outside the UK in desert, mountain or jungle conditions.

Competition for the UK's civil and military markets includes not only home player AgustaWestland but also US manufacturers who view the UK and its Anglo-Saxon business culture as the gateway to the European market.

#### SERVICE INCLUDED

"What sets Eurocopter apart from other manufacturers is that we are able to handle any request a customer might have during the entire lifecycle of their helicopter," emphasizes Mr. Steinke. "Our design & integration center and maintenance mission control center in Oxford can accommodate everything from individual design solutions and the integration of complex new mission systems, to spares and training, to global service offers including maintenance, airworthiness, and engine life cycle management as well as hangarage." Customers benefit from having just one point of contact in the "One Stop Shop" approach to whom they can address all needs. Eurocopter solutions also include flight testing conducted by a dedicated flight test crew.

#### SERVICE EQUALS REACTIVITY

Oil & Gas customers in Aberdeen enjoy an average Aircraft on Ground (AOG) reaction time of less than 60 minutes from call to delivery for spare parts located in Aberdeen, thanks to the local North Sea Service Center, which Eurocopter UK opened in 2010. The Service Center offers customers a range of dedicated services for both man and machine right at their door step, including logistical and technical support, Parts by the Hour (PbH) services, and full flight simulator training for the several hundred pilots based in Aberdeen.

### SPOTLIGHT ON

#### Oxford – the UK's Civil Helicopter Hub

- EC UK has customized and delivered more than 300 civil helicopters in the UK.
- EC UK provides tailor-made solutions for UK customers throughout the 40-year helicopter life cycle – both before and after the acquisition of McAlpine Helicopters.
- As the original equipment manufacturer, EC UK provides support for the entire product range (not via third parties), thus ensuring the highest standards.



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## CUSTOMER TESTIMONIALS

**TRISTAN SMITH,**  
MANAGING PILOT, LANTHWAITE  
AVIATION.

"EC UK shares our company vision of focusing on operations, consistently completing maintenance ahead of schedule. As a pilot, one cannot underestimate the value of having absolute confidence in your maintenance organization."

**NIGEL HARE,**  
OPERATIONS MANAGER, DEVON  
AIR AMBULANCE TRUST.

"EC UK worked with my team every step of the way to ensure their aircraft met our needs. Because of the nature of our work, we required very specific customizations. Many of these changes will make a huge difference in the treatment of patients and to the crews flying on board. This in turn enables us to deliver the best possible patient care."

#### EUROCOPTER'S UK FOOTPRINT



- Eurocopter UK
- Vector Aerospace UK

Anticipating needs is one of the keys to success for the logistics chain. A close relationship between Eurocopter and its customers is therefore a must.

Article  
**ALEXANDRE MARCHAND**

## ANTICIPATION IS KEY



© Eric Raz/Eurocopter

To ensure the availability of parts and to respond to different types of requests (AOG, anticipated and urgent needs), the Group has strategically built a reactive global distribution network that supports logistics in France, Germany, Scotland, Hong Kong, the United States and Australia.

As the ramp-up in production intensifies and the number of flight hours continues to rise, the logistics chain is under constant pressure to keep pace with the overall increase in activity. More and more spare parts must be manufactured and distributed throughout the logistics network in step with anticipated needs. The right part in the right place at the right time and in the right quantities: It's not easy to solve an equation with four variables, but it's a must if we are to keep customers happy. "We have to establish a very fine balance," explained Pascal Gaudry, vice-president of

Logistics Support. "On the one hand, we have to satisfy global demand for parts, which often entails very tight deadlines. On the other hand, we have to supply the production lines, where manufacturing lead times are often measured in months. The role of Logistics Support is to act as the main gear box, if you will, at the intersection of two worlds operating at very different speeds." To adapt to demand, Logistics Support has been partitioned the world into three zones: Europe, supplied directly from the parent companies; Asia, serviced from the Hong Kong hub;

### SPOTLIGHT ON



© Patrick Penna/Eurocopter

Stéphane Maucci and Sébastien Le Cap  
of Mont Blanc Hélicoptères Technic's.

#### Logistics Partners: Mont Blanc Hélicoptères Technic's

Sébastien Le Cap is in charge of logistics at Mont Blanc Hélicoptères Technic's. Speaking from first-hand experience, he'll be the first to tell you that solving spare part procurement problems to keep his maintenance shops well supplied "is a full-time job":

"We have to go back to the drawing board and thoroughly review the entire logistics process. Over the years, IT systems have become weighed down with too much useless data. It can still be difficult at times to obtain single parts. Wide-scale changes are necessary to bring systems up to date. I think it's great that Eurocopter is looking to work with operators instead of trying to solve all the problems on its own. We have to let Eurocopter know what we need, and help them understand the particular ways we do business. By exchanging more information, the logistics chain can evolve in ways that benefit everyone. It's about more than just statistics and calculations. Logistics must also take into account the working habits and specific technical skills of each operator. This is why we're more than willing to get involved in Eurocopter's workshops."



©Thierry Rostang/Eurocopter

## *THREE QUESTIONS FOR*

**MAX BERTELLO,**  
HEAD OF SPARE PARTS  
AND REPAIR ORDER  
MANAGEMENT.

**You're in direct contact with the customer. How does this help spare parts activity flow more smoothly?**

**M.B.:** We strongly encourage our customers to anticipate their needs as precisely as possible, as this enables us to be more responsive to their requests and to provide them with a higher quality of service. The more urgent the requests we have to deal with, the more snags we risk encountering in the logistics flow. To avoid these situations, we're doing everything we can to transform the "unpredictable" customer requests into a "smooth" order schedule with suppliers.

**How do you encourage customers to play their part?**

**M.B.:** We strongly encourage customers to attend our workshops, where we treat them as true partners in the distribution chain. We sit down with them to analyze their needs and ask them to be as candid as possible to help us determine what's really required.

**Have you had to change the way you work to deal with the ramp-up and the increased procurement needs it has generated?**

**M.B.:** We're thinking about deploying our processes based on customer profiles rather than geographic areas. Although a military user and an EMS or offshore customer may be located in the same area, that doesn't mean they have the same needs in terms of logistics, so we shouldn't take the same approach in dealing with them.

and the Americas, backed by Dallas. "Geographical proximity helps us save on shipping times, but it's also essential to be in the right time zone when responding to a customer's AOG<sup>(1)</sup> request, when time is of the essence," added Mr. Gaudry. But a logistics system can only be effective if it is fed with the right information. Parts that need to be replaced at predetermined flight hours are easy to schedule, but the situation quickly gets complicated for parts replaced at more irregular intervals. Forecasting needs is a complex process, based on three types of information:

statistics (based on past consumption), technical expertise, and information received directly from the customer.

"It's very important to exchange information with operators in order to get the clearest possible picture," said Jésus Ruiz, vice president of customer support. "Communication is even more vital in today's volatile economic climate, as violent swings make it extremely difficult to anticipate production needs. It's essential for us to make sure our customers understand the constraints we face."

(1) Aircraft On the Ground

U.S. DEMO TOURS

Article  
REGINA LANGE AND ERIN CALLENDER

At the end of February, the youngest member of the Eurocopter family set out for new shores on a three-week demo tour in the United States.

# EC175: A NEW JOURNEY UNDER THE STARS AND STRIPES

The trip from February 25 to March 15 included stopovers in New Iberia, Lafayette and Lake Charles, Louisiana and concluded with a three-day wrap-up in Houston, Texas. Each leg of the demo tour included a static display, flight demonstrations, and presentations on topics ranging from operations and performance to Eurocopter’s innovative support and services available for the EC175. During the demo tour, some 285 helicopter experts, including airlift providers to the offshore oil & gas, law enforcement and emergency medical services (EMS) sectors, were given an intimate view of the new twin-engine, 7.5-ton helicopter. On the ground and even in the air they discovered the performance, advanced avionics, handling qualities and operational safety of the EC175.

**See what some industry experts had to say about their EC175 experience:**



© Anthony Pecchi/Eurocopter

***FACTS AND FIGURES***

- **26** flight evaluations
- **46** total flights
- **51.75** total flight hours
- **285** passengers
- **5** U.S. cities
- **3** U.S. states
- **2,941** total nautical miles (or 3,385 miles or 5,447 km) travelled while in the US



© Jay Miller

**Louis Duran, Captain, Los Angeles County Sherriff's Department.**

“I think it’s very capable and has a lot of potential in law enforcement and more particularly Search and Rescue (SAR) with its speed, weight and automation. For us, the speed allowing for fast on-station time is really important, and the automation allows flights in inclement weather.”



**WATCH A VIDEO OF  
THE EC175'S U.S. DEMO TOUR  
AT ROTOR ONLINE**  
[www.eurocopter.com](http://www.eurocopter.com)



**Frank Gayle, Chief Pilot,  
Era Helicopters.**

"The EC175 has a lot of power and it's a smooth ride. It was ergonomically well designed, the pilot station is comfortable, and the baggage compartment is excellent. It's easy to fly, and I think it has a place in offshore operations. I think that it will be more economical and a nice fit for some of our customers. We loved what we saw."



**Slade Thomas, CEO of Starlite  
Aviation Group.**

"My expectations were quite high since we were talking about a Eurocopter product, and I must admit that I was blown away. It's fast, extremely smooth, and has lots of power. I think it has a huge place in the oil and gas market, for sure."



**William J. Amelio, President  
and CEO of CHC Helicopter.**

"Based on my experience, I've concluded that being an EC175 test pilot is a terrific job! The flight was very smooth, and the aircraft creates a new 'super medium' class of helicopters. The avionics enable pilots to devote more attention and expertise to other flight considerations. I could see that the pilot was thrilled and proud to be at the controls of the aircraft."



**Rob Phillips, Director of Flight  
Operations for Bristow.**

"The EC175 will really fill a niche market. It's comfortable and I am really excited about this first impression. Things like the large windows will really be great from a customer's perspective."

**AND THE EC145 T2**



The EC145 T2 demo tour in the United States took place from March 8 to 21.

The tour started with a stop at the Heli-Expo air show in Las Vegas, followed by the first demo flights with Maverick and the Las Vegas Metro Police Department. From Las Vegas, the newest version of the proven EC145 continued on to Los Angeles, California, where the Los Angeles County Sheriff's Department, CAL FIRE, the San Bernadino County Sheriff's department and Southern California Edison (SCE) had the opportunity to test fly the EC145 T2.

These customers showed great appreciation for the aircraft, primarily due to its exceptional hot & high and One Engine Inoperative (OEI) performance. SCE, which operates a Eurocopter-only fleet, performed a benchmark of electrical line operations with Eurocopter in the United States as a comparison for France.

Following the demo of the EC145 T2 at their facility in Chino, California, SCE came away impressed with the aircraft's improvements, especially the OEI performance and situational awareness provided by the new avionics suite. "I am convinced that the EC145 T2 is more than capable to support Southern California Edison's infrastructure," SCE's chief pilot Torbjorn Corell said. "The EC145 T2 will be a very strong contender for Southern California Edison's fleet replacement program in the near future."



SOUTH AFRICA

# WILDERNESS RESCUE

A call to evacuate a small group of stranded employees from Mapungubwe National Park turned into the largest and most grueling rescue mission conducted in the history of the South African Red Cross Air Mercy Services. Captained by rescue pilot Johan Stone, the organization's EC130 B4 rescued 89 people in just over nine hours.

Article **COURTNEY WOO**



The scene that greeted South African Red Cross Air Mercy Services (AMS) pilot Johan Stone as he peered out the window of the EC130 B4 to the rising Limpopo River below was dire: "People were stranded on patches of high ground holding blankets, clothes and whatever was left of their belongings. Bridges were swept away, and there was water everywhere."

The AMS EC130 B4 and medical rescue team had been dispatched by the Limpopo Department of Health & Social Development on January 21, 2013 to evacuate a few South African National Parks personnel stranded in a remote corner of Mapungubwe National Park, which is home to lions, rhinos, leopards and other wild animals. Instead, the rescue team discovered dozens of people in need of evacuation.

"The weather intensified as we arrived at the site. We feared additional flooding due to broken dams, not to mention the threat of free-roaming wild animals, so we immediately escalated the scale of our rescue operation with a focus on getting everyone out to a safe gathering point," recalled Mr. Stone.

The EC130 B4 recorded 9.3 hours of flight that day – a record for AMS on any rescue mission in its 46 years of existence – in extremely difficult weather and landing conditions.

"Given the heavy rain and uneven terrain, the only way to load passengers was through vertical lift with partial and slope landings, full power on," added Mr. Stone.

Mr. Stone and the team of two rescue coordinators and flight paramedics successfully evacuated 89 people with the EC130 B4. The versatile helicopter was configured to transport people in a trooping arrangement, and all seats were removed except the pilot's and the two in the rear to accommodate as many as 11 individuals per trip.

"It was about halfway through the first trip that I realized we were 11 up: one crew member, four mothers, five children and me. I had never completed a mission of this scale before, flying at an altitude of between 1,500 and 2,000 feet with 300 kg of fuel, but I had faith in the EC130 and knew she wouldn't let me down," said Mr. Stone.

The helicopter flew the stranded people to safety, where they were further treated and assisted by the Limpopo Emergency Medical Services ground teams.

Mr. Stone says the mission couldn't have been accomplished without the EC130 B4.

"The size, reliability and power of the EC130 B4 are critical for this line of work. I can see why most emergency medical service (EMS) operators use them," said Mr. Stone. "The helicopter amazes me on a daily basis – it's strong, spacious, very powerful, yet small enough to get into those tight spots. But the most important thing that stands out is its reliability and low pilot workload. Once you've completed your preflight inspection and everything is in place, you can concentrate on the mission ahead."

That concentration paid off for Mr. Stone: "The people were stranded for more than one day without any idea that a helicopter would come to their rescue. As a pilot, nothing is more rewarding than when you look back and see those happy faces."

# ( THINK SPECIAL OPERATIONS )

Armed with cutting edge defence helicopter technology.  
All weather capable, unrivalled in harshest environment, combat proven.  
Ready for special operations from most remote areas.  
**Tiger – Deploy the best.**



Thinking without limits

 **EUROCOPTER**

AN EADS COMPANY