

ROTOR

JOURNAL



SEARCH AND RESCUE

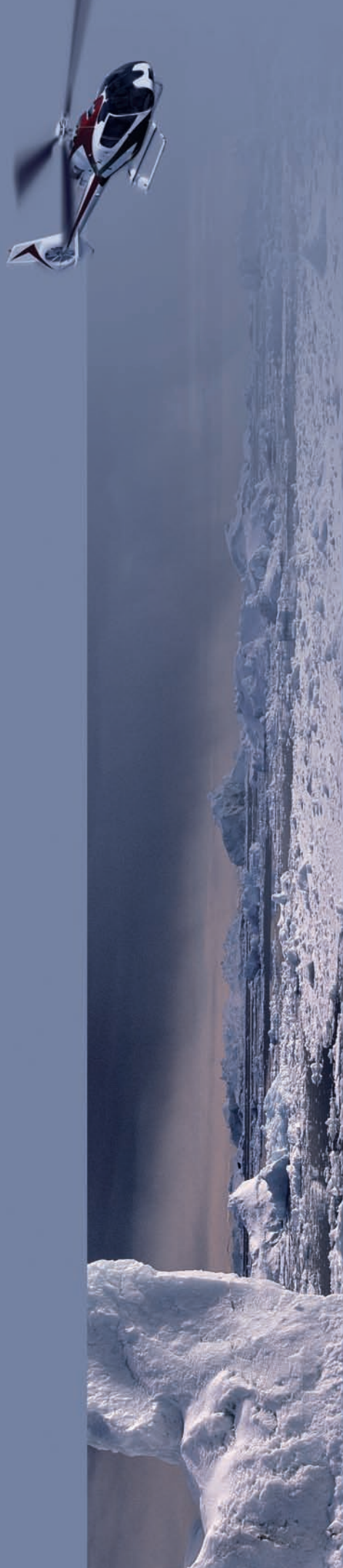
A Changing Market

REACH

Getting Ready for Phase Two

EC725

UNDER FIRE



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n° 79

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The Noblest Mission: Saving Lives

By Lutz Bertling, *CEO*

When lives are in danger on the roads, in the mountains, at sea, or after a natural disaster, the helicopter is an essential part of any rescue effort. When every moment counts, when roads are blocked, or when boats are in distress, the helicopter is still the most effective way of saving lives. Helicopters do this every day, but the whole world really sits up and takes notice during major disasters such as the earthquake that recently devastated the Sichuan province in China. The vital aid provided by our rotorcraft made the authorities and the public realize how important helicopters can be in this type of situation. Until now, rescue missions were mainly entrusted to governments, but private operators are increasingly assisting military and public safety organizations: Take, for example, the oil and gas sector where our helicopters are used to save the lives of a large number of people in distress, most often in extreme weather conditions.

The rapidly changing search and rescue (SAR) market is booming, and we offer the most comprehensive range of helicopters in the world, providing our customers with exactly what they need in terms of payload and range. In the space of two decades, SAR aircraft have considerably broadened their horizons. The most advanced helicopters can now fly both day and night, in all weather conditions, hundreds of nautical miles from the coast. With ever more sophisticated mission equipment and ever more reliable helicopters, we offer our customers the best products for carrying out the noblest mission a helicopter can perform: saving lives.

We acknowledge and pledge our gratitude to the maintenance technicians and the flights crews who risk their lives performing these missions. We do everything we can to provide you with the best aircraft, but the success of the mission depends on how you maintain and operate our helicopters.

You can be proud of the outstanding performances you achieve with our helicopters. And this, in turn, makes us proud of your success!



The Spectacular Kilauea

Kilauea rises 1,200 meters above sea level against the flank of Mauna Loa on the eastern side of Hawaii's Big Island. The volcano has been continuously spouting lava since January 3, 1983, making it the most active on the planet.

Kilauea is the most recent volcano in Hawaii. With its lava fountains and flows of molten lava that spill into the ocean, it is also the most visited.

© Corbis / Douglas Peebles



Since its entry into service, the EC145's availability has never dropped below 95 %, and the helicopter is used in a wide range of situations. Every year, the French Civil Defense's helicopters help rescue approximately 10,000 people !



High Mountain Rescue

Approximately one quarter of the missions performed by the French Civil Defense's EC145s take place at high altitude, where the aircraft's fantastic performance levels are second to none.

© Eurocopter / Rémy Michelin



© Eurocopter / Patrick Palma

SEPTEMBER 24 TO 27, 2008 ► **MONACO YACHT SHOW**

For the sixth year running, Eurocopter took part in the Monaco Yacht Show with an EC130 B4 on board the yacht Lady Christine and an EC155 B1 operated by Heli Air Monaco at Monaco Heliport. More and more owners are buying helicopters for their luxury yachts, and Eurocopter is providing first-rate support to the yacht industry and the corporate & private aviation market. This market alone accounted for more than 20% of the 802 helicopters sold by Eurocopter in 2007.

SEPTEMBER 17 TO 21, 2008

► **AFRICA AEROSPACE AND DEFENCE**

During Africa Aerospace and Defence 2008, Eurocopter Southern Africa Ltd. (ESAL) inaugurated its maintenance and service center in Cape Town. The company has been set up to meet the needs of the increasing number of customers in Southern Africa. “This investment demonstrates ESAL’s determination to provide high quality services to our customers, and emphasizes our long-term commitment to the region,” declared Fabrice Cagnat, president and CEO of Eurocopter Southern Africa Ltd. ESAL also organized a law enforcement seminar where issues such as the most recent technology and equipment available on the market, the intrinsic needs of law enforcement operations, as well as training and maintenance procedures were discussed.



AUGUST 14 TO 16, 2008

► **LABACE 2008**

During LABACE 2008, Helibras—Eurocopter’s subsidiary in Brazil—signed contracts worth a total of almost 15 million dollars and announced the sale of the first two EC145s in Brazil. The aircraft, which will be operated in the corporate segment, are to be delivered in August 2009 and September 2010 and will be based in São Paulo. In related events, Helibras also signed other important contracts. Helisul Táxi Aéreo, one of the biggest air transport companies in Brazil, ordered two AS350 B2 Ecureuils and two EC130 B4s, which will increase the number of helicopters operated by this company to thirty. Eurocopter helicopters make up 53% of the fleet. The São Paulo-based Helimarte Táxi Aéreo also bought an AS350 B2 Ecureuil, which will increase this company’s fleet to nine aircraft: Four come from the Eurocopter range.

ALMAGRO

THE PRINCE OF ASTURIAS ON BOARD THE TIGER

Felipe de Borbón, Prince of Asturias and heir to the Spanish throne, recently visited the Attack Helicopter Battalion #1 of the Spanish Army Airmobile Force in Almagro. The prince was given a full briefing on the Tiger program and performed a 45-minute flight. From his seat in the gunner position, Prince Felipe described the flight as an “incredible and fascinating experience”.

The Prince of Asturias traveled to the Coronel Sánchez Bilbao base in a Super Puma belonging to the Spanish Air Force, which was escorted by two Tigers and two BO105s. Dressed in the uniform of the Spanish Army Airmobile Force, the prince toured the facilities and took time to speak to people in detail about the Tiger program. The battalion has already received five of 24 Tigers, and has had to extend hangars, stores and workshops at the base to accommodate the new aircraft. ■



© ET

CREATION OF EUROCOPTER INDONESIA

As part of the Group’s policy of international expansion, Eurocopter has set up a subsidiary in Indonesia, PT Eurocopter Indonesia. Based in Jakarta, the subsidiary is run by Henri Stell. Against the backdrop of a booming Asian market, the new subsidiary will support Eurocopter’s activities in this enormous archipelago. Eurocopter Indonesia will work very closely with the state-run company PTDI, the Group’s long-standing industrial partner in Indonesia. ■

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BERLIN

EUROCOPTER BEFORE PARLIAMENT

On October 14, 2008, a parliamentary evening was held at the Bavarian state representative office in Berlin. Lutz Bertling, president and CEO of Eurocopter, gave a speech outlining the Group’s current situation to 200 important guests, including German members of parliament, members of the government, representatives from the army, and Eurocopter’s customers. The guests were welcomed by Bundestag President Norbert Lammert. In his speech, Dr. Bertling discussed the progress of the Group’s current research programs, underlined the efforts Eurocopter is making to keep its position as the world’s leading helicopter manufacturer, and offered his analysis of the Group’s future prospects given the present financial turmoil. This highly appreciated event is organized every year to thank the company’s main political contacts, and to inform Eurocopter’s customers. ■



100,000

This was the number of flight hours recorded by the Attack Helicopter Battalion #1 of the Spanish Army Airmobile Force as of August 19, 2008. The battalion's BO105s and HAP⁽¹⁾ versions of the Tiger notched up 99.5% of this total, performing armed reconnaissance missions, training flights, and special training operations for the formation of the new HAP Tiger division.

By early 2009, the Spanish Army Airmobile Force will have received the sixth and final Tiger in its HAP version. From then on, the Spanish army will receive 18 HAD⁽²⁾ versions of the Tiger.

(1) Hélicoptère Appui Protection / Combat support helicopter

(2) Hélicoptère Appui Destruction / Support suppression helicopter

AGENDA

Over the next couple of months, Eurocopter and its subsidiaries will be participating in various air shows and events all over the world.

FEBRUARY 11 TO 15, 2009

► Aero India
Yelahanka (India)

FEBRUARY 22 TO 26, 2009

► IDEX
Abu Dhabi (United Arab Emirates)

FEBRUARY 22 TO 24, 2009

► Heli-Expo
Anaheim (United States)

MARCH 10 TO 15, 2009

► Australian Airshow
Geelong (Australia)

MARCH 29 TO 31, 2009

► HAC
Vancouver (Canada)

HELLENIC AEROSPACE INDUSTRY DELIVERY OF THE FIRST COMPOSITE PARTS

The Greek order for twenty NH90s included a work offset agreement. Now, after more than five years of planning, negotiations, implementation, training and qualifying, Hellenic Aerospace Industry (HAI) has started manufacturing composite parts at its new facility, which Eurocopter helped set up. HAI is using the most cutting-edge equipment: Ultrasound robots and a laser-assisted layup machine.

Three years after the new facility was officially opened by the Greek prime minister, the first forward and central modules for the NH90, as well as Fenestron parts for the EC135, were delivered to the assembly lines in Donauwörth and Albacete: The quality of the parts was impeccable. ■



© HAI



© Eurocopter / P. Pema



MOUNT SAINTE-VICTOIRE AS350 B3 ECUREUIL RESTORES MOUNTAIN MONASTERY

Hélicoptère de France's AS350 B3 Ecureuil performed a very unusual mission on September 16, 2008. The helicopter was chartered by the company Helitec to transport about 30 loads (weighing 600 to 700 kg each) to and from Mount Sainte-Victoire, near Aix-en-Provence. The loads consisted of equipment and material being used to renovate the monastery on the mountain. The five-hour operation was a difficult one, requiring a constant back and forth and sling work over hilly terrain in blustery conditions, during which the helicopter did not land once. The pilot therefore had to be extremely careful and accurate during the approach phases and maneuvers. But as a past master at aerial work, and thanks to its outstanding engine performances, the AS350 B3 Ecureuil demonstrated once again that it is in a class of its own. ■



> **MARKUS STEINKE**
CEO of Eurocopter UK

AN ISLAND'S POTENTIAL

The British helicopter industry is characterized by specificities that will directly impact Eurocopter UK's objectives over the next few years. An interview with Markus Steinke, the CEO of Eurocopter UK.

ARTICLE: REGINA LANGE

What are the specificities of the British helicopter market?

Markus Steinke ► With 750 helicopters in service, the UK hosts the biggest civil and parapublic turbine fleet in Europe and the fourth largest in the world. As an island between Europe and North America, the influence of American manufacturers and the U.S. dollar is even stronger in the UK than on the European continent and in the Euro zone. Eurocopter's market share in the UK amounts to 45%. In addition, the helicopter market in Ireland features 100 Eurocopter helicopters .

As far as the military market is concerned, the UK has been actively involved with almost no interruption in crises all over the world since the end of World War II. Eurocopter products have successfully served Her Majesty's forces for more than 30 years for activities such as transportation, training and liaison.

However, we can not speak about UK helicopter operations without highlighting the extremely active energy market. On the one hand, there is extensive oil & gas exploration today, and on

the other hand, there is the upcoming new business of wind farms, which is rapidly developing due to the advantageous geographical attributes of the British Isles.

In addition, as London is one of the world's financial capitals, many worldwide companies have an office in the UK. This combined with the fact that London is a magnet that attracts celebrities and successful individuals creates many interesting opportunities for the corporate and VIP market.

Finally, we must remember that the UK is home of another European helicopter manufacturer, which increases the competition in this area of the world.

What are your priorities for Eurocopter UK?

M.S. ► Under the category "full focus on customer needs", there are three main axes:

1. Offer state-of-the-art, local services to oil & gas operators. Become a strategic onshore partner for the UK Minister of Defence (MOD). Remain a market leader in the civil/parapublic market.

Concerning the first point, Eurocopter

(EC) UK's commitment to the oil & gas market is best expressed at the new site in Aberdeen, which will be set up within close proximity to customer bases. This site will offer not only logistical/PBH⁽¹⁾ and technical services, but also simulator training on the EC225 full motion flight training device (FTD).

The UK Armed Forces operates a variety of Eurocopter products, which constitute, for example, part of the backbone of UK military operations in the Middle East. EC UK will manage the evolution of this fleet by providing onshore capability and capacity in the UK and by being ready for any future needs expressed by the MOD. The most urgent issue at the moment is the upgrade of the MOD's Puma fleet.

Last but not least, our UK customer base frequently asks for customized solutions, either for the helicopter itself or for the support during operation. EC UK will expand its service offers for the different market segments to provide "bespoke" solutions—be it for police, VIP, utility or EMS missions. By the way, EC UK will also offer its highly cultivated design and customization capabilities to the other members of Eurocopter's worldwide group.

Can you tell us briefly about the notion of "global offers"?

M.S. ► "Global offers" are already standard practice in the UK. Drawing upon EC UK's dense network of maintenance and field rep sites (i.e. Dublin, Belfast, Hawarden, Bedford, New castle, RAF Benson), the objective is to further enhance proximity, reactivity and service offers, such as training, for our customers. Currently 60 customers rely on full service maintenance contracts. We are committed to keeping our customers at the heart of all of our activities. ■

(1) Parts by the Hour



© Eurocopter/J.P. Brassler

THE EC175: AIR-TO-AIR REFUELING

Hot on the heels of the technical qualification⁽¹⁾ issued by Eurocopter, the French air force conducted a campaign in Italy last summer to test the air-to-air refueling capability of the EC725.

ARTICLE: RÉGIS NOYÉ

The campaign had two goals: To evaluate the air-to-air refueling capability of the aircraft and to define the training required to qualify pilots.

Until now, air-to-air refueling for helicopters has only been performed by a relatively small circle of countries, including the United States and Israel, and an exclusive group of aircraft: The AS332 L2 Super Puma and a few U.S. tactical helicopters. Air-to-air refueling for helicopters is still a fairly innovative procedure therefore: It was certainly a 'first' for the French air force. Rotor Journal met up with Major Norbert Idelon, instructor and head of 02.331 squadron. Major Idelon is one of the first two pilots to be qualified by the Flight Test Center (FTC), which carried out the evaluation. The FTC is also responsible for the future training of pilots.

Why did the French air force introduce air-to-air refueling for the EC725?

Major Norbert Idelon ► Air-to-air refueling is essential because it greatly enhances the operational capability of the aircraft, and hence the air force. It considerably increases the aircraft's range and endurance and removes the need for refueling stops on the ground with all the technical risks and logistical organization that entails. It makes far-away deployments, sea crossings and longer missions possible. We can even refuel over enemy territory, because the refueling can be performed out of the range of fire. In fact, air-to-air refueling is just one part of the huge leap forwards we have taken with the EC725.

Why was the test campaign conducted in Italy?

N. I. ► In France, we only have tankers for fighter planes, not helicopters, so an international protocol was signed to share the refueling capabilities of the air forces covered by the agreement, and Italy is one of the countries that signed the protocol. The tanker used in Italy—the

most up-to-date Hercules C130J—is also the only one with a refueling capability that can fly at speeds of 105 to 130 knots with its flaps 70% extended.

What did you cover during the test campaign

N. I. ► We were able to completely verify the EC725's refueling capability: 120 contacts were made with the tanker, although not all of them involved an actual transfer of fuel. We notched up 25 flight hours, over 12 flights, flying at different speeds (110 to 130 knots) and altitudes (500 to 10,000 feet). We were able to refuel with the aircraft at its maximum weight, but the EC725 was not always given a full tank of fuel. One of the aim's of the campaign was to measure the aircraft's refueling capability when it was carrying a full operational load so we therefore simulated, for example, the presence of 15 commandos on board



During this test campaign, 120 contacts were made over 25 flight hours (not all involved an actual fuel transfer).



▶ A TECHNOLOGICAL GEM

• **WITH ITS FIVE-BLADED SPHERIFLEX ROTOR** and its twin Makila 2A engines, the EC225/EC725 combines the agility of a smaller aircraft with considerably more power.

• **ITS FOUR-AXIS AUTOPILOT 4 AXES** provides exceptional hover capture and control.

• **ITS MAIN GEARBOX** can run for 30 minutes without oil.

As the helicopter flies in the wake of one of the tanker's wings and engines, the main difficulty is flying through the turbulence created.

Talk us through the main difficulties of air-to-air refueling?

N. I. ▶ As the helicopter flies in the wake of one of the tanker's wings and its engines, the main difficulty is flying through the turbulence created by the tanker. You need sufficient reserve power to do this. Next, we have to factor in the parallax error caused by the position of the probe, which is on the right-hand side of the aircraft. All this requires a high level of technical skill from the helicopter pilot, just as it does in an airplane. The pilot also has to be very careful bringing the moving drogue and probe into contact.

How do you rate the flight qualities of the EC725?

N. I. ▶ First up, the aircraft has sufficient power to provide extra safety when flying in low altitude turbulence. And, in terms of aerody-

namics and flight qualities, the aircraft is just perfect for refueling. The autopilot and the user-friendliness of the instrument panel also help the pilot greatly.

What's next?

N. I. ▶ We are going to conduct a qualification campaign for our crews and a night flight test campaign. Four conversion flights are recommended for the pilots to be able to refuel on both sides of the helicopter, firstly sitting in the right-hand seat, then the left-hand seat (the tanker has a refueling pod under each wing). The helicopter is also equipped with night vision goggles, which will make refueling at night much easier. ■

(1) See Rotor Journal No. 75





SEARCH AND RESCUE

A Changing Market

Private operators are now performing search and rescue (SAR) missions for oil companies—an assignment that was once reserved for the military. The upshot is a growing market for specialized aircraft.

ARTICLE: ALEXANDRE MARCHAND

© Alain Ernoult / ernoult.com

Until now, the private sector has had no role to play in search and rescue activities: Depending on the country, SAR work is usually entrusted to the air force, the navy, the interior ministry or even the transport ministry.

In the last few years, however, private operators have begun performing these public service missions. This change is closely linked to very specific developments in the oil & gas industry: Companies have begun drilling further and further from the shore in areas that are no longer covered by national emergency services. Private companies have therefore stepped in to take over from or at the least provide support to military and public safety organizations.

The JIGSAW contract (see article, page 22) is a very good case in point: Two AS332 L2 Super Pumas based in the Shetland Islands provide permanent SAR services to oil companies in the North Sea. This type of arrangement makes very good sense from a financial point of view, and will undoubtedly be emulated. It also offers operators flexibility: They can either choose to allocate a helicopter to SAR missions full-time or choose optional equipment that allows them to quickly reconfigure a helicopter as needed for transport or rescue duties.

In both cases, a private operator can also make a return on a SAR helicopter by leasing its services to governments when required. From an operational point of view, governments have nothing to fear: Major operators, especially in the oil & gas sector, have proven their capabilities in terms of organization and training for many years now.

This type of arrangement does require a high level of cooperation between the operator and the government however, and in reality, few countries are ready to implement such an innovative approach.

The United Kingdom is, once again, the exception to the rule.

As the UK SAR program clearly demonstrates, the Ministry of Defence is determined to outsource SAR missions to private operators. Various operators are competing for this five-year contract, which calls for a dozen or so helicopters.

This future contract alone accounts for an important slice of the SAR market, which is now estimated at approximately ten specialist aircraft a year. Only two or three sales a year were made in this sector a decade ago, but aging military fleets and the growing demand from oil & gas companies explain this rapid expansion.

Oil companies, governments and operators are looking for multi-purpose aircraft that can perform an extremely wide range of missions. Eurocopter is in a very strong position to meet demand with a comprehensive range of aircraft that can meet many different needs in terms of endurance and payload. ■

Nine out of ten SAR missions at sea are flown within 50 nautical



Two AS332 L2 Super Pumas based in the Shetland Islands provide permanent SAR services to oil companies in the North Sea.



The AS365 N3 Dauphin can perform flights at sea both day and night. When fitted with auxiliary tanks, the helicopter offers 4 hours and 30 minutes of flight endurance, which translates into a radius of action of 150 nautical miles for the rescue of 4 to 6 people.

© Eurocopter / P. Penna

miles of the coast. Only 3% of missions require a helicopter that can fly more than 200 nautical miles.

The Eurocopter Offer

From the EC145 up to the EC225, Eurocopter offers a wide range of helicopters capable of performing search and rescue (SAR) missions. Customers can find solutions for every mission and for every budget.

Questions abound when it comes to deciding on the right helicopter for SAR work: What type of missions will the helicopter be used for? And how much will it cost? Will the helicopter be flying over sea or land? Close to the coast or far out to sea? Will it be used day and night, in all weather conditions?

As these questions clearly illustrate, search and rescue needs can vary a great deal from one customer to the next. But in-depth analysis has revealed some common trends: "We know that 90% of SAR missions at sea are flown within 50 nautical miles of the coast," explains Jérôme Combe, who is in charge of the SAR segment at Eurocopter. "And only 3% of missions require a helicopter that can fly more than 200 nautical miles. Helicopters such as the AS365 N3 Dauphin and the EC145 are therefore the perfect choices in most cases. Certain countries have

special geographical conditions however, and require more powerful aircraft like the EC175 or EC225."

The flight endurance a helicopter can offer is obviously a key factor, as is its carrying capacity. In Great Britain, for example, 97% of SAR needs at sea can be covered by a helicopter capable of carrying six passengers. One point may seem obvious but should still be kept in mind: Choosing a SAR helicopter is always a compromise between performance levels and actual needs. One of the strengths of Eurocopter is to offer an extremely diverse range of helicopters adapted to each situation.

The EC145: SAR Capabilities Accessible to Everyone

The EC145 is currently the best compromise available for missions over land and within 100 nautical miles of the shore. Its carrying capacity (4 to 6 victims), equipment (hoist, weather radar, etc.) and its design (a large, open cabin space; a high rotor with a small diameter; wide doors) make it the perfect choice for both rescue and public safety missions. Mr. Combe sums the helicopter up this way: "The EC145 can cover about 85% of SAR needs both day and night over land, and up to 100 nautical miles off the coast during the day."





The EC175 will offer true multi-role capabilities over a range of 100 to 150 nautical miles.

► **The AS365 N3 Dauphin: Rescue at Sea, Both Day and Night**

In the medium helicopter category, Eurocopter offers the AS365 N3 Dauphin, which can perform flights at sea both day and night. It is currently the reference for many operators providing rescue services, including the extremely prestigious US Coast Guard. "A big plus offered by the Dauphin is its extremely sophisticated autopilot, which can automatically perform transitions from cruise flight to hover flight," stresses Mr. Combe. "This is an essential flight system for flying night SAR missions at sea." When fitted with auxiliary tanks, the AS365 N3 Dauphin offers 4 hours and 30 minutes of flight endurance, which translates into a radius of action of 150 nautical miles for the rescue of 4 to 6 people. The Dauphin is also qualified for deck takeoffs in rough seas (50 knots of wind and 8° of roll).

The EC175: Taking it Up a Notch

The EC175, whose SAR version could enter into service by 2014, will offer even greater capacities. It will have the same 24-hour capabilities as the Dauphin, but with even more cabin space, meaning that a full set of medical equipment can be carried onboard. "You could say the EC175 will be the Swiss Army Knife in our range!" suggests Mr. Combe. "It will offer true multi-role capabilities over a range of 100 to 150 nautical miles, and at a much lower cost than the helicopters in the heavier category." With its cabin that can hold 16 people, and more powerful engines, the EC175 would be able to rescue all the occupants of a helicopter in the Dauphin class during a SAR mission at sea. This is a powerful illustration of its impressive new capacities.

The NH90: Excellent SAR Capabilities

The NH90 and the EC225/EC725 family are the top of the Eurocopter range for performing long-distance SAR missions in all weather conditions. The NH90 is the reference for tactical military transport, and offers excellent SAR capabilities as well (see article, page 21).

The EC225/EC725: The World's Best Autopilot

The EC225/EC725 family was developed with the French Air Force specifically for combat SAR missions. The EC725 and its civil version, the EC225, are equipped with the most high-performance autopilot in the world, which can be used to perform hoisting operations in automatic hover flight with unequalled precision and stability over land and also at sea. The EC225 has many other features that make it the reference on the market for this mission segment. It offers low operating costs and high availability two absolute musts for oil & gas operators. Its modular cabin can quickly be changed from a passenger transport to a SAR configuration, and its outstanding endurance means it can be used to rescue 25 people at distances of up to 250 nautical miles when equipped with auxiliary fuel tanks. ■

ARTICLE: ALEXANDRE MARCHAND

Choosing a SAR helicopter is always



The EC145 can cover about 85% of SAR needs both day and night over land, and up to 100 nautical miles off the coast during the day.



The EC225 has outstanding endurance: It can be used to rescue 25 people at distances of up to 250 nautical miles when equipped with auxiliary fuel tanks



During the campaign in September, 2008, the aircraft were deployed on a variety of missions: From aerial search flights to rescues requiring winch operations.



During these SAR trials, the reliability of the NH90s exceeded 90%.

a compromise between performance levels and actual needs.

FINNISH NH90

Excellent Performance in SAR Trials

Starting in 2010, the Finnish Army Aviation plans to deploy its fleet of NH90s on aerial work and support missions for non-military government bodies, in addition to its normal military and special operations. These will include law and order, firefighting and search and rescue missions on land and at sea. This will be a highly demanding activity, because the aircraft are to be on standby 24 hours a day, seven days a week. To ensure this service, they will need to be capable of flying day or night, under highly varied, often grueling meteorological conditions. They will also have to deal with a diversity of mission requirements, ranging from rescuing shipwreck survivors at sea to evacuating injured persons who have met with an accident while riding a mountain bike or collecting mushrooms in the forest.

45 Missions Accomplished

For this reason, the Helicopter Battalion from Utti Jaeger Regiment is currently engaged on a campaign of evaluation and training flights for different types of mission, after having performed a number of tests focusing exclusively on winch operations. During one of these campaigns, in September this year, two NH90s in Initial Operational Capability (IOC) configuration carried out 45 missions over an eight-day period, accumulating around 58 flight hours. The aircraft were deployed on a varied range of missions, from simple aerial search flights to rescues requiring winch operations. The latter were conducted at different altitudes and involved a variety of targets, including coast-

guard patrol vessels, life rafts, and even open water, at first using dummies and then real-life swimmers. During these missions, a loadmaster relayed a constant stream of information to the pilots concerning the position of the helicopter with respect to the target.

20 Aircraft

The performance of the helicopters during these missions was described as “encouraging”. The Finnish Helicopter Battalion was apparently more than satisfied with their reliability, which exceeded 90%. It should be pointed out that the aircraft were parked overnight in the open air, where nighttime temperatures often dropped below zero (°C). Conclusion: The Tactical Transport Helicopter (TTH) version of the NH90 is capable of performing a variety of SAR missions, on land and at sea, even under instrument meteorological conditions (IMC) and exposure to frost and ice. The Finnish Army Aviation first started operating with the NH90 in May 2008. To date, it has taken delivery of five aircraft. Four more, in the IOC+ configuration, are scheduled for delivery in 2009, to be followed by six in Final Operational Capability (FOC) configuration in 2010 and another five in 2011. The IOC and IOC+ helicopters will later be upgraded to FOC standard. The fleet will then comprise a total of 20 fully operational NH90s.

ARTICLE: RÉGIS NOYÉ



© BOH

Eurocopter has a comprehensive range of aircraft that can meet many different needs in terms

The Record to Beat: 4 Minutes... Held by Bond Offshore Helicopters

Four minutes...that's all it took for an SAR-configured AS332 L2 Super Puma operated by Bond Offshore Helicopters (BOH) to respond to an emergency callout and arrive at a drilling platform in the middle of the North Sea, to the amazement of the oil company's employees! Admittedly, this was due to the fortunate circumstance that the aircraft happened to be taking part in a training mission not far away.

Nevertheless, as Bond Offshore Helicopters managing aircrewman Andrew Mottram likes to point out, this anecdote illustrates the extent to which response times can be reduced—sometimes by one or two hours—when helicopters are stationed offshore. This is one of the basic principles of the Jigsaw helicopter rescue system developed by BP, which can also be utilized by other oil companies operating in the region. A 15-year contract for this service was awarded to British operator BOH in March 2006. The company uses the Miller oil platform, situated halfway between the Scottish coast and Norway, as its offshore base.

It should perhaps be pointed out that the terms of the Jigsaw contract are extremely demanding. BOH is required to guarantee the sea rescue—by winch—of 21 persons anywhere in a defined zone of the North Sea using helicopters stationed at this base, and to transport them to safety in less than two hours! This explains the special emphasis given to crew training, which can take place twice a day in the most demanding periods. Adding

the time needed for refueling the aircraft after each mission and various technical flights (for testing, reconfiguration, etc.), it is easy to understand that Jigsaw operations account for 1700 flight hours for a total of fifty or so rescues, or over 100 hours for each mission actually undertaken.

Two SAR Helicopters

In terms of technical resources, the Jigsaw system relies on two exceptionally well equipped AS332 L2 Super Puma helicopters, the second of which is based in the Shetland Islands. They are supported by 5 similar aircraft deployed on transport missions to carry personnel to and from the drilling platforms. This activity accounts for 9000 flight hours annually. Bond Offshore Helicopters also operates flights on behalf of the British and Norwegian coastguards. The company has 40 years of experience and its present fleet comprises no less than 12 helicopters, all from Eurocopter. The three EC225s are currently used for passenger transport ■

ARTICLE: RÉGIS NOYÉ

French Civil Defense has Full Confidence in the EC145

ARTICLE: RÉGIS NOYÉ

“Using the EC145 for our rescue missions at sea has allowed the French rescue coordination centers to increase the amount of missions they entrust to us. This aircraft has enhanced our operational capabilities and our credibility.” This is the assessment of Jean-Pierre Schuller, head of operational resources at the Civil Defense’s helicopter unit. Every request for

assistance at sea is centralized through the rescue co-ordination centers, which then allocate each mission to the armed forces or to public safety organizations such as the French Gendarmerie, Customs and Civil Defense. The nearest, most suitable and available means of rescue is then dispatched. A few requests also come from more local sources such as first-aid posts. “Lots of rescues can take place just 100 or 200 meters from the shore, when swimmers or surfers are swept away by big waves,” Jean-Pierre Schuller points out.

Fourteen of the Civil Defense’s thirty EC145s are currently assigned to rescue missions at sea: One aircraft at each base along the French coast, and another in Guadeloupe. And three Ecureuils, which can also be equipped for forest firefighting duties during the summer, provide back-up when demand is at its highest.

In 2007, these aircraft notched up 979 flight hours performing 1,121 rescue missions at sea—some 9% of the total missions carried out by the French Civil Defense last year.

of endurance and payload for SAR missions.



© Eurocopter / Rémy Michélin

100 Nautical Miles in All Conditions

“Once upon a time, these missions at sea were mainly the responsibility of the navy and the air force, but the EC145’s performances and equipment now give us an almost all-weather capability. We can perform missions as far out as 100 nautical miles from the coast, which is why our services are being called on more and more. We can fly to the rescue using instrument flight rules, and then carry out the mission under visual flight rules or using night vision goggles,” Jean-Pierre Schuller explains. “Given that laminar flow creates a calm atmosphere just above the sea, our only real limitation is wind speeds exceeding 50 knots when we start up. The flight crew decides if the mission can go ahead. We are ready to take off within 30 minutes at most by day and one hour by night.”

You don’t have to read between the lines to see that Jean-Pierre Schuller has full confidence in the EC145 and the safety that it provides. The aircraft has numerous features which make it ideal for rescue assignments: A winch that can be lowered as far down as 90 meters with a maximum load of 275 kg, a user-friendly instrument panel, exceptional flight handling qualities and the permanent assistance provided by the autopilot, which offers excellent stability during winching operations, in particular. And given his many years of experience, Jean-Pierre Schuller definitely knows what he’s talking about! ■



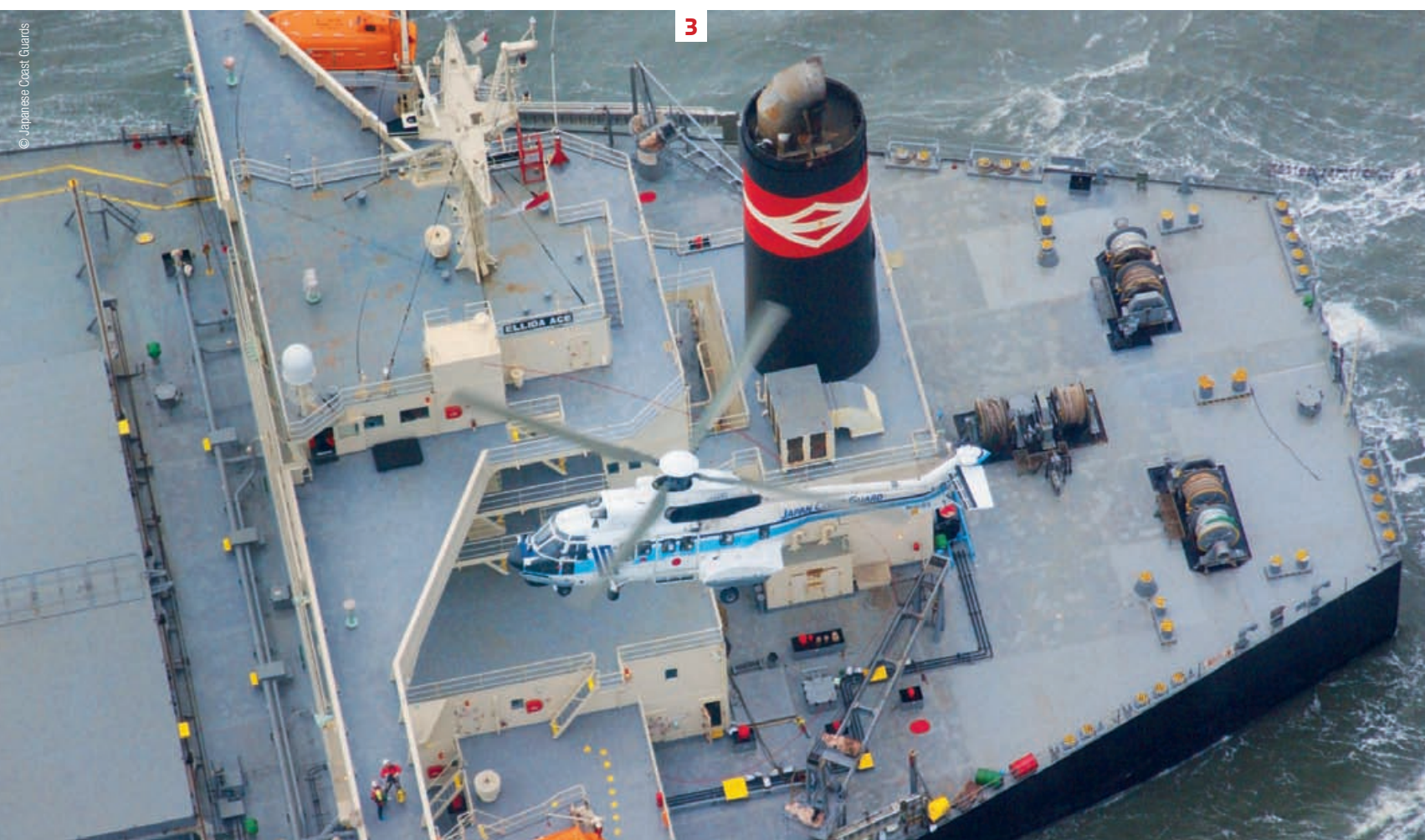
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© Star Aviation



2

© GFS



3

© Japanese Coast Guards

Rescues performed in extremely difficult conditions, which also put the rescue teams at risk.



4

© USCG

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5

© Airfrift

RETROSPECTIVE

Remarkable Rescues

ARTICLE: MONIQUE COLONGES

The helicopter has been used to save an untold number of lives and it would be impossible to tell the story of all the many rescues that have been performed. But certain rescues do stand out due to the exceptional circumstances in which they took place. Below are a few excerpts from past accounts of remarkable rescues.

⇒ July 1956 (1)

An Alouette II performed the first-ever helicopter rescue, at an altitude of over 4,000 meters. The flight crew—Jean Boulet (pilot) and Henri Petit (copilot)—was conducting an evaluation campaign on the Alouette II in mountain conditions when they received a call for help from a group of climbers at the Vallot refuge in the Alps. One of the climbers had suffered a heart attack and needed to be taken to the hospital immediately. Despite the risks of landing and taking off near the refuge, the flight crew decided to make the attempt. On the second try, the Alouette II was able to land, take on board the victim, and fly off to the hospital. The climber later recovered. ■

⇒ August - September 2005 (4)

From August 29th (when Katrina began to close in) to September 8th, 2005, the US Coast Guard deployed all its resources (helicopters, airplanes, ships, etc.), performing 23,909 rescues and 9,400 medical evacuations for a total of 33,309 people. 60% of these people were rescued by helicopters. Before hurricane Katrina struck the coasts of Louisiana and Mississippi, the USCG committed 16 HH-65 Dauphins from their bases in Mobile, Alabama and New Orleans. A single Dauphin crew saved 110 people in just one day. In total, the 16 Dauphins performed more than 4,000 hoisting operations and supplied assistance to about 8,000 people. For those victims who could not be moved straightaway, the helicopters also saved or helped thousands of others by distributing food and water supplies. ■

⇒ August 2006 (2)

August 3 and 4, 2006, are dates that will be forever remembered in the history of the Government Flying Service (GFS). Over these two days, the Hong Kong-based operator rescued 91 people in extremely difficult conditions, which also put the rescue teams at risk. It was also the first time that a Super Puma carried 32 people in a single rotation. That day, a force 3 typhoon struck the South China Sea, 170 nautical miles to the south west of Hong Kong. The crew of an AS332 L2 Super Puma readied themselves for takeoff in the GFS command and control center. Their mission was to save 23 people on board a survival vessel. A few hours later, the GFS picked up another Mayday call: 68 people returning from an oil platform were in grave danger. The Super Puma succeeded in carrying a total of 32 passengers, including the flight crew, in a single voyage back to Hong Kong while the wind continued to gust at 200 km/h. The other stranded people would be saved a few hours later. ■

⇒ October 2006 (3)

Three AS332 L1 Super Pumas operated by the Japanese Coast Guard saved 44 people from two floundering boats about 2 km from the port of Kashima during a violent typhoon. The ships had been capsized by 10-meter-high waves and very strong winds. The flight conditions were very difficult, and it took four hours to perform the rescue and transport the shipwrecked people to hospital. In 2006, the Japan Coast Guard saved the lives of 94 people with their AS332 L1 Super Pumas. ■

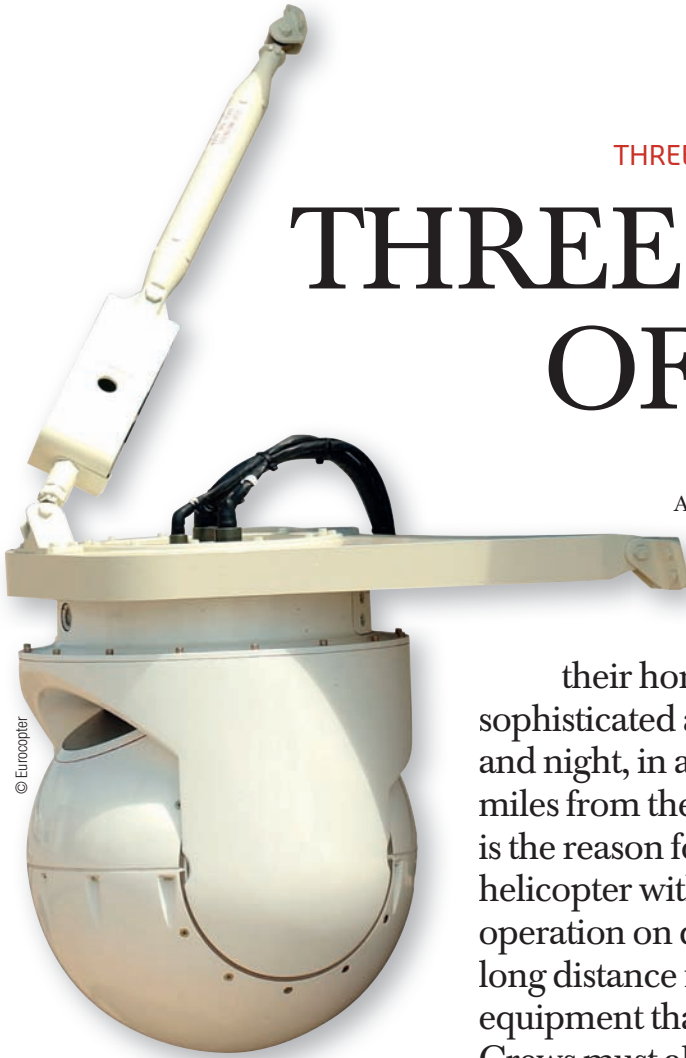
⇒ December 2006 (5)

The meteorological conditions off the coast of Iceland were particularly bad on the evening of December 19, 2006: The sea was rough with waves as high as eight meters, temperatures were very low, and visibility was extremely poor. A small Cypriot vessel hit the rocks by Keflavik off the Icelandic coast. A crew from the Danish Coast Guard set off immediately to the rescue, but its boat was capsized by the waves. Without delay, an AS332 L1 Super Puma from Airlift, based in Iceland, took off for the scene of the drama. Visibility was so poor that a rescuer had to be lowered by hoist into the rough sea. In the end, seven of the eight persons in danger were rescued. The Icelandic Coast Guard then proceeded to rescue the crew members from the Cypriot boat in distress. ■

THREE TYPES OF SAR OPERATION

THREE LEVELS OF EQUIPMENT

ARTICLE: ALEXANDRE MARCHAND



© Eurocopter

Within the space of two decades, search & rescue (SAR) helicopters have had their horizons considerably broadened. The most sophisticated aircraft are now capable of operating day and night, in all weather conditions, hundreds of nautical miles from the coast. Highly advanced mission equipment is the reason for this enhanced capability. While a light helicopter with a hoist is all that is needed for a daytime operation on dry land, performing a rescue at night, a long distance from the coast, calls for a complete set of equipment that can sometimes weigh almost a metric ton. Crews must also undergo complex training. Three levels of equipment correspond to the three main types of SAR operation.

Daytime SAR Missions

The **hoist**, which is capable of lifting the rescuer and victim at the same time, is the main tool for SAR operations. The aircraft is also equipped with a flight management system (FMS), which flies the aircraft over a pre-programmed search grid at sea. The EC145 has the **perfect cabin** for SAR missions: Obstacle-free, with a flat deck and a modular design, it can accommodate one or two injured people lying down. For SAR operations, the EC145 is also equipped with **emergency flotation** gear on the skid landing gear, a weather radar, and a **PA system**. ■

2
The EC145 cabin has a flat deck that can accommodate two injured people lying down.



© Eurocopter / Jean-Michel

Round-the-Clock SAR Missions

To perform day and night missions, the SAR helicopter must have a sophisticated autopilot (AP) in addition to its standard equipment. The AS365 N3 Dauphin can be fitted with a four-axis AP, which receives information from additional sensors such as a Doppler radar, GPS and a second radio altimeter. This AP ensures automatic transition to hover flight. Just like on the heavier aircraft, the hoist operator can accurately adjust the position of the helicopter using **control stick in the cabin**. For nighttime SAR missions, the helicopter can be equipped with a forward looking infrared (FLIR) camera, powerful external lighting, a searchlight, and a cockpit that is compatible with the use of **night vision goggles**.■



Long Range, Round-the-Clock SAR Missions in All Weather Conditions

For this type of SAR mission, the main requirement for the aircraft—in addition to the equipment mentioned above—is a complete deicing system,

sophisticated navigation and search equipment, and extra medical equipment for taking care of survivors. The cockpit can also be equipped with a digital mapping system coupled with the Automatic Identification System (AIS) used by boats, and a satellite radio link. The cabin can be equipped with a console for the hoist operator, which displays the radar information, and has controls for the **FLIR** and the searchlight. To ensure the success of the mission, a back-up hoist can also take over should the main hoist fail.■

A Metric Ton

Performing a SAR mission at night far off the coast calls for a complete set of equipment that can sometimes weigh a metric ton.

EC725

UNDER FIRE

Dust, heat, high altitudes and ground-to-air threats: The operating environment of the three EC725s flown by the French Air Force and based in Kabul is far from enviable. But the helicopters—and their flight crews—have proven that they’re up to the challenge.

ARTICLE: ALEXANDRE MARCHAND

The EC725 is unquestionably the most sophisticated helicopter currently operating in Kabul. It can perform a wide range of missions both day and night in all weather conditions, including personnel and equipment transport, medical evacuations, reconnaissance, combat search and rescue, and convoy escorts. Over the past six months(1), the EC725s have been used to save the lives of dozens of civilians and military personnel. The helicopter’s configuration can quickly be changed to transport seriously wounded patients (with a complete set of medical equipment such as an electrocardiogram, syringe pump, and a defibrillator) or five slightly-wounded patients lying down. For large-scale emergencies, the roomy cabin can also hold even greater numbers of wounded. It’s the battlefield that always has the final say in Afghanistan.

“Since our arrival in Kabul on April 28th, 2008, we’ve performed 24 medical evacuation missions,” stated Lt. Col. Olivier C., Battalion Leader in Kabul. “Many wounded can be evacuated over the course of a single mission: When French troops were ambushed

and came under heavy fire on the night of August 18th in the Valley of Uzbini, we evacuated 23 wounded in a single mission in extremely difficult conditions.”

All three helicopters are on constant alert, and must be ready for takeoff in thirty minutes during the day and in less than an hour at



Since their arrival in Kabul in April, 2008, the EC725s have performed 24 medical evacuation missions.

© Frédéric Lert



▶ TECHNICIANS ON DUTY

A 16-MAN TECHNICAL TEAM accompanied the EC725 detachment to Afghanistan, along with two logistical experts. Only three additional technicians came to Kabul with the third helicopter that arrived on October 4th. “We’ve had no problems at all with the EC725,” said Major B. quite matter-of-factly. “The majority of the work is preventive

maintenance, based on the same maintenance intervals for civil helicopters. This makes it easy to spread out the work and avoid aircraft downtime.” There is, however, one job that can never be overlooked: The helicopters must be thoroughly cleaned once a week with water and compressed air to get rid of the inevitable dust that works its way into everything.

The three EC725s are on constant alert, and must be ready for takeoff in thirty minutes during the day and in less than an hour at night.

night. In reality, the flight crews have always taken off in under fifteen minutes for daytime alerts, and within a half hour for night missions. To ensure safety, the missions are flown with at least two helicopters.

“Almost every single helicopter operating in Afghanistan is restricted to Level 3 light conditions for night flights,” explained Lt. Col. C. “Our EC725s and the HH-60s of the US Special Forces are the only aircraft that can fly in Level 4 and Level 5 conditions—which means flying with no residual light whatsoever. And in Afghanistan, nearly half of our flights are performed in these types of conditions.”

Another important factor the helicopters must deal with is high altitudes. Kabul is located in a high-mountain basin 5,880 feet above sea level, and the city is surrounded by mountain peaks of over 15,000 feet.

One of the pilots put it simply: “Flying at 5,880 feet would be considered a mountain flight in France, but out here, that’s about the lowest altitude we see.”

Despite these extremely difficult conditions, the availability levels of the EC725s have been exceptional—nearly 100%, even taking into account scheduled maintenance intervals. The reliability of



► the helicopters is the most important guarantee of safety for the flight crews, but it is not the only one:

The helicopter pilots are systematically armed with self-defense weaponry for their missions. Side-mounted guns are manned from the time the engines are started until they are shut down at the end of the assignment, and decoy dispensers are armed prior to each takeoff. A team of commandos is always on board: Soldiers seated by the door survey the ground and signal an alert if they spot hostile fire.

And, as soon as the helicopters leave Kabul, they hug the ground and engage in breakneck nap-of-the-earth flights to avoid enemy threats. The flight crews are unanimous in their praise: "The EC725 is extraordinary! It combines the agility and power of an AS350 B3 Ecureuil with four times the carrying capacity!" ■

(1) Two EC725s were initially deployed from November 2006 to September 2007. They were then replaced by Cougars from the French Army Air Corps. The EC725s came back to Afghanistan in April 2008 to replace the Cougars. Since October 4th, 2008, a third EC725 Caracal has also been deployed in Kabul.



Maintenance performed on EC725s in Kabul is largely preventive, and based on the same maintenance intervals for civil helicopters.

EC725

A FIRST-RATE AUTOPILOT

The performances of the EC725 autopilot (AP) are on a par with the high standards set by the aircraft itself. Captain Franck Arnaudon, pilot in the EH 1/67 Pyrenees helicopter squadron, describes its main features.

ARTICLE: ALEXANDRE MARCHAND

The AP controls the helicopter not only via the latest-generation hydraulic system of the Super Puma family, but also via electric actuators. Located downstream of the hydraulic unit, these electric actuators ensure pitch and roll control, even if the hydraulic unit fails completely. Another important feature is the hover control, which is ensured by a solid-state gyrolaser that is correlated with GPS data. The EC725 can thus provide remarkable stability even in very strong cross winds.

The EC725 autopilot also offers the standard AP advanced modes, such as airspeed, heading, altitude, vertical speed and height control, as well as altitude capture. But what

really sets this AP apart is the high level of safety that it ensures in these modes, and the even more advanced features that it offers, such as automatic hover capture and control.

The AP is so accurate in fact that the pilot has no need to adjust or correct the controls, and breakouts can be performed in extreme weather conditions with final hover capture precisely at the required spot.

"The AP also gives us the capability to land in very tight and dusty spots," Captain Arnaudon explains. "While the AP keeps the helicopter stable in the cloud of dust, the flight engineer uses the control stick in the hold to accurately position the aircraft directly over the landing

spot. The hold gives the flight engineer the best view of the ground beneath the aircraft. This really improves our operational capabilities."

The flight crews in the Pyrenees squadron are unanimous in their praise for the AP, which they say is extremely user-friendly and perfectly suited to their operational requirements. The human-machine interface (HMI) is also singled out for praise.

Captain Arnaudon is equally forthcoming: "The EC725's AP is first-rate. It not only provides an extremely reassuring level of safety, but also makes a major contribution to the success of our missions." ■




© Australian Aerospace

EC130 B4 VERY SPECIAL LEATHER

On October 8, 2008, Australian Aerospace, Eurocopter's subsidiary in Australia, delivered an additional EC130 B4 to Advanced Flight, which already has a fleet of seven EC130 B4s, an EC120 B and an AS350 B3 Ecureuil. The delivery took place at Australian Aerospace's site in New Zealand. Whilst the delivery proceeded normally, there was certainly nothing ordinary about the aircraft interior—its seats, in particular. In fact, this helicopter is one of the first in the world to have seats made from a highly exclusive type of leather, designed by the American company Townsend Leathers in collaboration with the makers of a renowned brand of cigars. This demonstrates Eurocopter's ability to devise innovative solutions to meet the needs of its most demanding customers. ■

CHINA

NEW CONTRACTS SIGNED

During Airshow China 2008, Eurocopter signed a contract for ten EC155 B1s with the leading Chinese oil & gas operator Citic Offshore Helicopter (COHC). The Group also signed a contract for five AS350 B3 Ecureuils with the company Allyway. The five aircraft will perform utility missions and aerial work. A long-standing Eurocopter customer, COHC is renewing its unwavering loyalty to the Group's products with this new order. The EC155s will boost the company's fleet, which already includes 22 Eurocopter aircraft: Five AS365 Dauphins, five EC155 Bs, ten AS332 L1 Super Pumas, and two EC225s. Allyway's five helicopters are the first AS350 B3 Ecureuils to be sold in China. They also mark Eurocopter's breakthrough onto the Chinese market for the surveillance of high voltage power lines and pipelines. The helicopters will be delivered over the next two years, and will be leased to various Chinese operators—with Citic General Aviation Co. Ltd (CGAC) at the top of the list. ■ 



© Eurocopter/P. Penna



UKRAINE

ORDER FOR TWO EC145S

On October 16, 2008, the Ukrainian Ministry of Emergencies and Eurocopter signed a contract for two EC145s. These aircraft will be used for numerous missions in the Kiev region, such as search & rescues, emergency medical services, and fire fighting. The EC145s will be operated by the Special Aviation Squadron of the Operational Rescue Service of Public Safety of the Ministry of Emergencies, which is based at Nizhyn, in Chernihiv Oblast. The aircraft are scheduled to be delivered in 2009. ■



© Eurocopter/W. Oboznenik

CANADIAN OPERATORS

Businessmen on the Move

In Canada, business executives have discovered that helicopters are the most reliable means of reducing travel times and shrinking distances. And by selecting Eurocopter aircraft, they also shrink costs... read on for a few testimonials.

ARTICLE: ALEXANDRE MARCHAND

Daniel Pelletier is founder of the Artopex brand of high-quality office furniture, which is distributed throughout North America. His company runs five manufacturing plants located at remote sites, requiring several hours of road time to travel between them.

Mr. Pelletier, who is also a licensed airplane pilot, first attended Heli-Expo in 1993. That's when he saw the light: Just a few months later, he obtained his license to become a helicopter pilot as well.

"The first helicopter I bought was a Bell 206B," he explained. "I replaced it in 2006 with an EC120, which offers extremely sophisticated technology and a design that is perfectly adapted to my needs. Thanks to the EC120, my travel times are only a fifth or a sixth of what they used to be when I had to travel around by car."

Shawn Murray and Gerry Thomson were of a like mind. The two business partners, who run a company specialized in scrap metal recovery, were constantly on the road prospecting or visiting customers. Both men are helicopter enthusiasts, and each now flies their own EC120. "Everything gets done much faster. Flying our own helicopters has helped us increase business exponentially. We fly two or three times a week, for a total of about 150 flight hours a year each."

Herbert Black is another businessman very active in metals who is convinced of the helicopter's utility: "Time is precious in this business," he stated. "From April through October, I use my helicopter just like a car. I fly from my office to the airport, and I also fly all around Quebec City, in Ottawa. With a helicopter, I know exactly when I'm going to leave and when I'll arrive, and I can really use my time more efficiently."

A Powerful Commercial Tool

"Herbert first began flying 28 years ago with an AStar," said Richard Airlie, Eurocopter Marketing Manager for Eastern Canada. "He spends all day on the telephone, and one day I even caught him starting the engine while he was talking on his cell phone! I had to give him a slap on the wrist for that one! But on a more serious note, I told him he might want to think about acquiring a helicopter equipped with a FADEC system to avoid making any mistakes during startup, and now he's operating an AS350 B3 AStar!". "It's a very robust and reliable helicopter," stressed its proud owner. "Plus the power it provides is an important safety factor. The AS350 B3 AStar is in a league of its own!" The helicopter does more than just shrink distances, all these businessmen insisted: It is also a powerful commercial tool. "I often



For Herbert Black, time is precious: With a helicopter, he can use his time more efficiently.



For Gerry Thomson and Shawn Murray, flying their own helicopters has helped them increase business exponentially.



Daniel Pelletier's EC120 is a fantastic PR tool.

© Frédéric Lert

EUROCOPTER CANADA LTD

New Facilities in Richmond

On October 8, 2008, Eurocopter Canada inaugurated its new facilities in Richmond, British Columbia. Eurocopter Canada is expanding to meet the growth of the market in British Columbia and to show its commitment to its customers in the region, as well as the rest of the country.

These new premises will house the technical support department and the spare parts logistics center, which will distribute parts to all Eurocopter customers in Canada. Marie-Agnès Vève, president and CEO of Eurocopter Canada, explained the region's significance: "British Columbia is an important market for Eurocopter Canada, with opportunities for growth in such sectors as the oil and gas industry, mining, forestry, law enforcement, and tourism."

take my customers, partners and distributors in my helicopter to visit our plants," Mr. Pelletier said. "I can travel to all our sites with three or four passengers in a single day. The EC120 also helps promote the avant-garde image that we like to associate with Artopex. It offers an extremely comfortable ride, and everybody in the cabin has a great view. It's a fantastic PR tool." Herbert Black coined a phrase to explain the impact his helicopter has on its passengers: "When I take my customers for a ride in the helicopter, they're chopperized. Which always makes it easier to negotiate after we touch down!" Jean-Guy Ouelette, a farmer and real-estate developer, offers a further example of the

helicopter's professional applications. Mr. Ouelette feels just at home behind the wheel of one of his enormous tractors as behind the controls of his EC120, which he uses for prospecting and land development activities. But that's not all. "For me, the helicopter is a symbol of personal liberty, and I often use it for hunting parties in the Great White North with friends or customers. You have much more freedom with an EC120 than you do with a seaplane. Three or four of us can take off with everything we need for about ten days. We also take along a satellite phone just in case." Whether it be for the city or the country, the EC120 has definitely won over Canadian businessmen! ■



Jean-Guy Ouelette feels just at home in his enormous tractors as he does in his EC120.

© Frédéric Lert

HELIXPRESS

New Helicopter Services in MOSCOW

HELIXPRESS is a new helicopter transport service that has been up-and-running since September 2008.

HELIXPRESS is the brainchild of the company Russian Helicopter Systems Corp., which is handling the logistical aspects. The operator UTair is also helping to run the service, which has been granted the necessary authorization to perform commercial transport flights. The standard service provides transport between the four main airports in Moscow and the major cities near the Russian capital for both corporate and private passengers. "Apart from a company director who hired an aircraft for a whole day, our first flights have lasted 15 to 30 minutes on average, with three to four passengers on board," explains Mikhail Kazachkov, president and CEO of Russian Helicopter Systems Corp.

Two Ecureuils on Duty

Two Ecureuils perform the HELIXPRESS flights: A twin-engine AS355 N, and a single-engine AS350 B3 to provide back-up if two jobs come in at once. Russian regulations do not require twin-engine aircraft or instrument flight rules (IFR) for passenger transport in



and around Moscow, but HELIXPRESS prefers to use twin-engine aircraft, just like in Europe, for this type of flight. Over the long term, the company plans to expand its fleet to around ten aircraft and to increase its number of bases. The company currently has two bases: One at Vnukovo-3 airport and one at the Crocus international exhibition center.

"It's not always easy to find our place in the air traffic around the major airports," points

out Mikhail Kazachkov. "We never know if we will be able to land exactly at our final destination, and sometimes we've had to wait for up to twenty minutes. But whenever it's possible we land right next to the terminal buildings." To avoid such delays in the future, HELIXPRESS is developing bases one or two kilometers from the airports where the helicopters can land and cars can then drive passengers to the airport. ■

ARTICLE: RÉGIS NOYÉ

► LOCAL SUPPORT

Eurocopter Vostok's maintenance, repair & overhaul (MRO) center in Moscow is providing technical support to HELIXPRESS. Eurocopter's Russian subsidiary opened in 2006, and is currently developing a service network for the Commonwealth of Independent States (CIS) using its first MRO center as a hub. The center was opened with Gazpromavia at Ostafevio airport near Moscow. Two other centers—one set up with UTair in Tyumen, and one with Russair in St Petersburg—will also be approved by the end of the year. The subsidiary plans to open three other centers in 2009: In Sochi, Irkutsk and Krasnoyarsk. The network will serve the more than 90 Eurocopter aircraft that are currently operating in Russia and the more than 30 Eurocopter helicopters in the other CIS countries.

► UTAIR

UTair is the leading helicopter operator in Russia, and has been working for 40 years in the oil & gas and mining sectors. The operator has 200 aircraft in service and transports three million passengers a year, which accounts for 25% of all flights in Russia. UTair also performs peace-keeping missions for the United Nations.

REACH

Eurocopter Gets Ready for Phase Two

Even before the end of Phase one of REACH⁽¹⁾, Eurocopter is already well prepared for Phase two, which will culminate in the total substitution of all dangerous chemicals by 2018.

ARTICLE: CHRISTIAN DA SILVA



© Eurocopter / Lorette Fabre



The new surface treatment facilities at Eurocopter are a first-rate example of the Group's long-term commitment to the environment.



© Eurocopter / Lorette Fabre

▶ THREE KEY DATES IN THE REACH TIMELINE

- **NOVEMBER 2010**
Phase 1 deadline for registering the most toxic substances and hazardous substances used in quantities exceeding 1,000 metric tons per annum
- **JUNE 2013**
Phase 2 registration deadline for hazardous substances used in quantities exceeding 100 metric tons per annum
- **JUNE 2018**
Phase 3 registration deadline for hazardous substances used in quantities exceeding 1 metric ton per annum

Eurocopter has set up a structured, two stage project for all activities related to assuring compliance with the REACH regulation. The first stage concerns the pre-registration of all chemical substances currently in use, while the second stage involves progressively finding substitutes for all chemicals that present a risk to human health or the environment. During stage 1 of the project, Eurocopter set out to identify all of the chemical products it uses, and to produce a list of the suppliers from whom they are obtained. Eurocopter then had to verify that these suppliers had pre-registered all chemical substances contained in these products. These activities took place between June 1 and November 30, 2008. They mobilized the resources of numerous multidisciplinary and transnational teams, the majority of whose members were drawn from the central purchasing department, the design offices, the materials and processes laboratory, and the department for health, safety and the environment. After December 1, 2008, a registration dossier must be prepared to obtain the authorization to continue using the pre-registered substances for a limited duration, until such time as an alternative product has been developed and qualified.

the formulation of chemical products with the corresponding industrial processes and, from there, identifies the helicopter components or subassemblies for which they are used. Thanks to these databases, when the list of prohibited substances is published by the European authorities in 2009, Eurocopter will be able to immediately evaluate all affected elements in the manufacturing chain and take targeted measures to find alternatives. The process will be repeated each time that the EU regulation is updated. As an added bonus, this work provides Eurocopter with an ideal opportunity to standardize and rationalize the range of chemical products used in the production of its helicopters, as it has already done in connection with its painting processes. "This will add further credibility to Eurocopter's declared ambition to be a 'green' company manufacturing 'green' products. By implementing REACH, all toxic substances will soon be banished from our supply chain, our production and assembly lines, and the same applies to our aircraft," states REACH project manager Jean-Charles Anifrani. ■

A Cutting Edge Approach

Eurocopter's approach centers on a network of databases that links

(1) European regulation on the registration, evaluation, authorization and restriction of chemicals, under which the company is required to pre-register all chemical substances used in the manufacture of helicopters.

EC155

Reducing Operating Costs

With the help of its EC155 customers, Eurocopter presented a short-term action plan last summer to reduce the maintenance on this helicopter and provide significant gains for operators.

ARTICLE: BELÉN MORANT

EC155 customers can be rightly pleased. In Paris, on July 10, 2008, Eurocopter presented the first modifications to the EC155's current maintenance plan, which were identified in a thorough analysis and will significantly reduce the aircraft's operating costs in the short term.

"We set up a special working group made up of Eurocopter staff from Support & Services and the design office, as well as seven customers, who brought to the table a very wide range of maintenance

issues taking into account operational factors such as the frequency of flights, the environment and the regulations," explains Véronique Cardin, EC155 Service Chief Engineer at Eurocopter. The customers representing the oil and gas segment were Bristow UK, Bristow Nigeria, DanCopter, HeliOne as well as CHC

Scotia and CHC Netherlands, whilst the German Federal Police and Mont Blanc Hélicoptères represented the law enforcement and corporate segments." During the project's first stage, which was conducted between September and December 2007, customers were interviewed separately to ascertain their experience "in the field" of the maintenance program. The interviews identified maintenance tasks that were too close together, or seemed unnecessary, and pinpointed the most expensive operations or the concepts that were most difficult to understand.

After these interviews, an action plan was drawn up and presented to the working group, and several actions have already been finalized leading to significant operational gains. The bulk of the actions are based on a win-win process requiring a contribution from the customers participating in the working group. The customers provide Eurocopter with detailed reports attesting that they have uncovered no problems when performing certain maintenance operations that are penalizing in terms of manpower and aircraft downtime. In return, the design office endorses the extension of the inspection intervals or the simplification of the maintenance task. What's more, a similar approach has now been launched for the EC225■



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► WHAT THE CUSTOMERS SAY

"I'd like to thank you once again for inviting me to take part in the CAT meeting for the EC155. Bristow appreciates the hard work and effort Eurocopter is putting into this project and we can't wait to see the results."

Russell Gould, Senior Type Engineer, Bristow, Eastern Hemisphere

"Just a quick word to say thank you for all the hard work behind the improvements you presented at the CAT meeting for the EC155. I am fully conscious of the fact that when you are part of a large organization, where you are often reliant on other parts of that organization, it can be extremely difficult to bring about change."

Andy Broad, Engineering Officer, CHC Scotia Ltd.



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Helisim's turnover will be almost 16 million euros in 2008 and 90% of the training schedule for 2009 has already been reserved.

Helisim Enhances its Training Offers

ARTICLE: CHRISTIAN DA SILVA



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Helisim inaugurated its first full flight simulator (FFS) for the EC225 on October 10, 2008, as part of its continuing policy to enhance its training equipment to meet the ever-increasing demands of customers looking to improve flight safety

Right on schedule, Helisim and its shareholders—Eurocopter, Thales Training & Simulation, and Défense Conseil International—inaugurated the first Level D full flight simulator for the EC225 on October 10, 2008. The FFS was certified “ready for training” on August 20, 2008. A special ceremony attended by a hundred or so customers was held to mark the event. This new simulator will meet the needs of the many customers operating the increasingly popular EC225, particularly in the oil & gas segment, who need to perform qualifying training. The simulator offers type rating and recurrent training for offshore operations, as well as for other civil and military assignments (night vision goggles, search and rescue missions, and deck landings). Flight profiles can be adapted to every type of operational environment. The EC225 FFS provides the most realistic representation currently available of the aircraft in its latest configuration. It includes an instructor station, and can

simulate all systems, optional equipment and avionics. It also provides a full replica of the EC225 cockpit with sound system and simulation data package. The visual database features detailed reproductions of airports, helipads and platforms, as well as moving 3D objects. On October 21, 2008, the European Aviation Safety Agency (EASA) issued the Level D qualification, which complies with JAR STD 1 H standards⁽¹⁾, for the EC225 FFS.

An Expanding Training Offer

Helisim now has two full flight simulators, five Level D cabins and a Level 3 flight training device (FTD). The “roll in/roll out” concept makes it easy to “load” one of the five cabins into each of the simulators. In August 2009, an FFS for the TTH version of the NH90 will add an extra dimension to the range of simulators. The NH90 FFS has a new and even more sophisticated visual database, which includes tactical features such as threats,

missiles and airplanes. Helisim currently provides 11,000 hours of training each year. In 2010, the new simulator will raise this yearly figure to 14,000 hours.

Helisim's president and CEO Guy Dabadie assesses the progress made: “The simulators ran at maximum capacity throughout 2008, and 90% of next year's training schedule is already reserved. Helisim's turnover will be almost 16 million euros this year and will increase to 25 million euros in 2010, making us the world leader for Eurocopter products—something that is already widely recognized by operators. From the very start, we made a commitment to our customers that we would provide them with the best possible service, and our results speak for themselves. Our goal for the future is to enhance our offer of services even further, and to carry on providing our customers with the level of excellence they've come to expect.” ■

(1) Joint Aviation Requirements for Synthetic Training Devices

FLYING TO SAVE LIVES

Performing a search and rescue (SAR) mission in a helicopter requires first-class operational capabilities, leadership and anticipation skills. Juan Fontanals, a pilot, SAR specialist and director of operations at INAER Offshore, discusses his work.

ARTICLE: BELÉN MORANT

Can you talk us through a SAR mission in a helicopter?

Juan Fontanals ►► The SAR mission begins on the ground when the call comes through from the rescue coordination center. The aircraft and crew therefore have to be ready in

advance. Depending on the rescue conditions—the light, the weather, the target, the region, etc.—the mission can be organized in different ways. We don't have very much time to draft the emergency response plan, which then has to be approved by the rest of the crew—namely the winch operator, the rescuer, the copilot and the captain, for SAR missions with a Dauphin, for example.

To be able to give the best orders during the mission, pilots must always know what is going on around them. The state of the sea, the size of the target, the distance, and the light conditions can all make it very difficult to perform a SAR mission. That's why the coordination between everyone involved must be first-rate: The pilot has to make sure that the helicopter is in the right position over the target, whilst giving precise orders to the winch operator and the

rescuer. Then, if the pilot loses sight of the target, he or she has to follow the winch operator's instructions. Automatic flight systems have now made maneuvers a lot simpler and safer.

What qualities does a helicopter pilot need to successfully perform missions like these?

J. F. ►► A pilot is the leader who guides the crew through critical and stressful situations, which just about sums up any SAR mission.

When a pilot is well-trained, and follows the flight procedures to the letter, SAR operations become simpler and safer. Saying that, it's impossible to plan a SAR mission from A to Z: You're going to face numerous unexpected problems and need to anticipate. When you fly out to sea, you have to cover long distances with nowhere to land in the event of an emergency. Your first concern, therefore, is to make sure you can make it back to dry land.

To conclude, I think you need a well-trained pilot, who is calm, knows the procedures inside out, and has very good communication and coordination skills. You also need an effective and well-maintained helicopter of course! ■



▶ SHORT BIO

- **JUAN FONTANALS**
- **1980:** Pilot in the Spanish Navy
- **1986:** Offshore pilot for Helicsa
- **1993:** Air sea rescue pilot for Helicsa
- **Depuis 2006,** director of operations at INAER Offshore
- **Qualifications:** AS365 Dauphin (C and N versions), Sikorsky 61N.



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