



Helicopter Emergency Medical Service



eurocopter
an EADS Company

thinking without limits





The Golden Hour, A Question of Life or Death

A little girl suffers a major head injury in a car crash. She is 75 km from your hospital as the crow flies; much more by winding country roads. Statistically, if she is admitted to paediatric neurosurgery within 60 minutes she can be saved. This is the 'Golden Hour'. Beyond this time, she has a 30% chance of dying. And an even greater chance of being permanently disabled.

Send an emergency unit by road? At that distance it will take more than an hour just to get to the scene of the accident, much less back to the hospital.

Her only hope is a Helicopter Emergency Medical Service (HEMS). Because only a helicopter can fly in a straight line to the accident site at 250 km/hr, reaching the injured child in just 18 minutes. There, paramedics or a doctor can quickly work to stabilize her condition. Eighteen minutes more and she will be safely in surgery, with transport side effects on wounded brain reduced to the minimum. Time to spare: an average emergency mission by road is 40 minutes each way. The same mission for a helicopter is around 17 minutes each way.

Each year 2% of the population of a developed country will need emergency transportation to a hospital. Many of these millions of victims live beyond the 'Golden Hour' zone for ground emergency vehicles. But most can be reached and saved by helicopter.

The HEMS. No ground service is complete without it.



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Hospitals and HEMS operators around the world increased their purchases of helicopters by almost 40% between 2001 and 2005. But they increased their purchases of Eurocopter emergency medical aircraft by 100%.

Maybe they know something you don't know.

Every year, 1 person in 175 in Europe (1 in 43 in the U.S.!) will suffer a cardiac infarction. 10% of them will die unless they reach a hospital within the Golden Hour. If they succeed, the death toll drops to 1%! For the thousands of victims who live more than 25 km from a hospital, their only hope is the Helicopter Emergency Medical Service.



GFJ/SAMU 42

A study at a 2,000-bed European hospital with both HEMS and emergency ground vehicles showed that, over a 4-year period, 38 survivals were "indisputably" due to the helicopter.

In cases of victims with cardiac arrest, ground units had 0% success in Return to Spontaneous Circulation (RSC); the air medical unit had 27% success and 11% leaving hospital safe.

For patients in cardiogenic shock, the average death rate is 80%, reduced to half (40%) with fast angioplasty helped by helicopter transport. In brain trauma cases, 40% of patients brought in by ground units died. Of those brought in by helicopter, 31% died. A quarter more survivals!



Rémy Michélin

Tricks of the trade

Only an emergency medical helicopter can deliver medical care where no ground vehicle can possibly go.



Urgence Pratique/Dr. Deslandes

Only a Helicopter Emergency Medical Service:

- Gets to victims 3 to 5 times faster than road units
- Flies over obstacles and straightens winding roads
- Never gets caught in traffic
- Vastly enlarges the health security footprint of a hospital
- Reaches victims far from roads
- Provides the quickest relief from major pain
- Reduces the risks of high-speed road missions
- Increases the output of EMS teams
- Carries victims directly to specialised services
- Saves people from certain death
- Saves victims more than 25 km away
- Gives the same chance to all, wherever they are.

In cases of non-fatal brain trauma, if circulation and oxygenation can be re-established within 90 minutes, the patient has a good chance of recovering. If the ride to the hospital takes longer, the patient is more likely to require a lengthy stay and suffer afterward from debilitating losses of brain function. Using the Glasgow Coma Scale (GCS), 48% of patients delivered by HEMS showed good brain function upon admission. Of road unit patients, only 15% showed acceptable functions. 36% of air medical patients recovered; only 15% of road unit patients did as well. More than twice better recovery!

In some countries, where a doctor flies with the HEMS, he can make a diagnosis, start treatment and call ahead while he redirects the helicopter toward a specialised hospital unit, such as a burns unit, an intensive care unit or a neurosurgery centre, rather than going to a general hospital. This helps save even more time and lives.



DDSC/Base Maignane



GEJSAMU 42

Finally, the founder of the European HEMS and Air Rescue Committee estimates that "10% of medical helicopter missions save a life that would otherwise be lost.

The 60,000 missions flown each year in Germany save at least 5,000 lives." In considering HEMS there are practical and political issues as well. In many countries, local small-town hospitals and services are being closed or downsized as expensive, or because they have too few activities to remain safe; and specialised services (trauma units, burns units and neonatal intensive care, etc.) are centralised in major urban hospitals. The only way to maintain medical care for the rural and small-town populations 'left behind' is the air medical program.

By the same token, the best way to make expensive centralised services cost-effective is to fly in patients from far and wide.

In this regard, the HEMS also has a vital **secondary mission as air medical transport** between hospitals. Fitted with advanced life-support (ALS) equipment, it can provide seamless intensive-care during the transfer of patients who require specialised medical attention at a distant hospital. The medical helicopter has far fewer accelerations and decelerations and far less vibration than a ground unit, and of course there are no tight turns, screeching stops and bumpy roads. It thus provides a stress-free, stable, comfortable ride, which is especially important for trauma patients.

How a multi-million-dollar investment can pay for itself.

Cost-effective? Don't take our word for it.

Researchers at the Department of Economics, Clark University, tested the costs of an HEMS versus ground units at a major Boston hospital. They created an experimental model that replaced the helicopter service with a hypothetical ground-based system. Assuming similar response times and staffing, in order for the 'new' ground network to do the same job as the helicopter, covering the same service area, it would require an annual budget two times greater than the original HEMS budget. And the cost per patient carried would be 60% greater.

The economists' laconic conclusion?

"The commonly held notion that condemns helicopters as an excessively expensive technology for patient transport is incorrect."

Another example: A 2,000-bed hospital in France has 7 ground emergency vehicles and 1 emergency medical helicopter. The helicopter picks-up all severe patients and takes into account the long distance transports. To replace the helicopter would require buying 7 more trucks, with all the associated running expenses and staff. And the trucks would still not save as many lives as the helicopter because they go, on average, only one third as far and three times more slowly.



GFJ/SAMU 42

When you consider the cost of 1 day in intensive-care (€2,000), 1 day in surgery (€1,000), 1 treatment for haemophilia (€3,000/day) or a new CT scanner (€952,500), the cost of a flight hour by helicopter is not a lot of money for saving lives that might otherwise be lost.

Consider again those 60,000 helicopter sorties in Germany. They saved at least 5,000 lives. And each sortie cost, at a maximum, €500. Then each life saved cost €6,000. How often do you get a chance to do so much with so little?



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Eurocopter© D.R.



SA Gendarmerie/Digne

Frequently, the typical HEMS new prospect goes through 6 stages:

- 1.Total scepticism that a multi-million-dollar helicopter can save her money.
- 2.Rhetorical—and often hostile—questioning.
- 3.Reading Eurocopter literature when nobody is looking.
- 4.Taking a leap of faith and going on a demonstration ride.
- 5.Doing the math for herself.
- 6.Becoming a HEMS enthusiast and trying to persuade friends.

An economic model study for a Köln, Germany, fire department HEMS "analysed the cost-effectiveness of a 15-minute response time (state regulation) of advanced life support (ALS) equipment provided by helicopter (€1,083,800 annual [inflation-adjusted] cost) versus a ground-based system (€690,884 annual cost) covering an 80-km radius.

In the first instance, the region was allocated 1 additional helicopter and had 6 ALS cars removed (daytime only). This improved response times and saved nearly €1,032,200 per year [inflation adjusted]. The additional use of rescue helicopters in EMS regions (80-km radius) remains cost-effective up to an ALS: helicopter cost ratio of 1:6."

Another academic study said this:

"Ask a patient whose life was saved by a helicopter if the program is cost-effective, and he will undoubtedly say 'Yes'. But **what is the cost-effectiveness of saving a life?**

There is a dramatic impact upon the individual and society as a whole. Increasing the survivability of a critically ill or injured patient who may return to gainful employment, may reduce the overall cost to the patient and to society by avoiding a lifetime of disability and welfare.

An air medical program may also be cost-effective by extending a regional tertiary care centre's capabilities to a larger geographic area. This **decreases the need to duplicate expensive trauma centres, burn centres, high-risk prenatal units and neo-natal intensive care units.** Finally, an air medical program also decreases the



number of ground ambulances needed for long-distance patient transports. [...] This will free more ambulances for local coverage."

More proof that emergency medical helicopters are profitable? The American hospital system, which is profit oriented, would not be the world's biggest HEMS user if helicopters ran at a loss!



8 out of 10 emergency medical helicopters are Eurocopter's. Here is why.

Fast

An emergency medical helicopter must, of course, be fast (that is what it is there for). But there are **2 kinds of "fast"**:

Eurocopter rotorcraft offer fast cruising speeds of 220 to 270 km/hr. But just as importantly, they can be started and get off the ground in less than 2 minutes. Some other helicopters can take up to 5 minutes. That means that the Eurocopter helicopter has gone 9km while the other is still taking off !

This means Eurocopter helicopters are the fastest from the time of the original alert to the time of arrival at the patient's side.

Land anywhere safely

EMS helicopters must be able to land on difficult, unprepared terrains. And they must do it in such a way that they guarantee the safety of the personnel aboard and persons on the ground.

Eurocopter cockpits offer pilots a maximum of transparency and a minimum of instrument panel. Pilots get an excellent view of their landing terrain from all possible angles. Passenger cabins also offer generous visibility.

Eurocopter rotorcraft are designed to provide exceptional manoeuvrability. Their exterior dimensions are as compact as possible. However their skid landing gear lets them land easily on slopes. This design ensures that the helicopter is able to land as near to the patient as possible, whatever the terrain.

To maximize the safety of persons on the ground, the tail rotor on many Eurocopter aircraft is either protected inside a casing (the shrouded Fenestron®) or is mounted high up and safely between wide ailerons. The main rotor is also safely out of reach, a full 3 metres off the ground.



Eurocopter© Patrick Penna

Flight safety

In order to fly safely the pilot must not be distracted by his instruments or the mechanics of the aircraft. Eurocopter cockpits use a state-of-the-art instrument, the digital Vehicle and Engine Multifunction Display (VEMD), which summarizes what the pilot needs to know about the mechanics of the flight at any moment. On many models, our "new avionics" digital glass instrumentation also greatly simplifies the pilot's task, allowing him to concentrate on safely doing the job at hand.

Another safety feature is the installation of energy-absorbing seats as for pilot and co-pilot - just in case of hard landing.



Féry Michelin

Shhhhhhhh

Emergency medical helicopters are at the service of the community. Their quietness can help in community acceptance.

Thanks to the use of modern composite materials, low noise main rotors and the shrouded Fenestron®, Eurocopter aircraft are - bar none - the quietest helicopters in the world, with noise levels up to 2 to 3 times lower than the norms for civil aviation, substantially lower than the strict regulation (ICAO) limits. At 300 metres in height, the sound of most of our rotorcraft would be drowned out by a passing vehicle. This is fundamental in countries where hospitals' neighbours are, sometimes, ready to lodge a complaint against helicopters even if they perform a medical flight!



Eurocopter© Patrick Penna



Wolfgang Obrusnik

Ergonomics

Loading and caring for the sick and injured in a medical emergency helicopter is a delicate business. Speed is of the essence, yet easy loading and the ability to tend to the patient are vital.

Eurocopter aircraft offer a variety of extra-wide doors to facilitate loading and unloading. Some, like the EC135 or the EC145, have extra-wide sliding doors on either side through which a patient can easily be loaded, even in a sitting position. Double clamshell doors in the rear allow the same ease of access as a ground ambulance. Other models have large bays for voluminous equipment. All doors are designed without thresholds to avoid tripping when entering or leaving.

Wide cabin floors are entirely flat and unobstructed so that medics can move equipment freely and tend to patients from any angle. In most cases stretchers emplacements can be swivelled for easy handling. There is room for any configuration of medical equipment, including large stand-alone items such as paediatric intensive-care units and cardiac assistance machines. In some models the number of stretchers and medical personnel can be quickly and easily varied.

Pivoting passenger seats can be easily

repositioned. Medical personnel can be seated at the head of the patient to facilitate intubation, etc.

The open, undivided cabin space itself can be put to good advantage. Communication between medics and pilot is much improved beyond the mike-and-earphone system, with the pilot able to see and react to medics' body language.

Comfort

In an emergency medical helicopter nothing is more important than the comfort and well being of the patient.

The spacious Eurocopter cabins are among the most silent and vibration-free in the world. They offer a bright, reassuring ambiance that contributes to the well-being of patients and makes the medics' work easier.

Equipment

Eurocopter emergency medical helicopters can be fitted with a vast array of flight-certified medical equipment customized to the specific needs of the operator. This includes defibrillation devices that are certified for in-flight use. This kind of equipment maximizes the ability of HEMS medics to save lives, even while in-flight.

Eurocopter helicopters can also be fitted with a variety of certified rescue equipment, including winches, searchlights and hailers.

The cockpit layout of our aircraft can be adapted to the type of missions that will most likely be flown, whether night and day Visual Flight Rules, automatic pilot coupled to navigation or Night Vision Goggles, etc. Instrument Flight Rules equipment is also available for IFR medical transport to or from equipped landing platforms.



Wolfgang Obrusnik

Light single-engine helicopters

AS350 B2/B3 / EC130 B4

A family concept for economical medical flights

Eurocopter's single-engine helicopters can all be equipped for the full range of medical operations with specific light dedicated equipment. However they offer one notable advantage over twin-engine helicopters: they are considerably less expensive to buy and maintain. The AS350 B2 and B3 are the best-selling light single-engine helicopters in the world, and have become much sought after for their flexibility, safety and low acquisition and maintenance costs. Thanks to its exceptional cabin size and other qualities, the EC130 B4 is now also considered as the successor of the famous Alouette III for EMS missions.



	AS350 B2	AS350 B3	EC130 B4
Capacity PAX + pilot With stretcher + PAX + pilot	Up to 6 + 1 1 + 2 + 1	Up to 6 + 1 1 + 2 + 1	Up to 7 + 1 1 + 2 + 1
Useful load kg / lbs	1,030 / 2,270	1,009 / 2,224	1,050 / 2,315
MTOW kg / lbs	2,250 / 4,960	2,250 / 4,960 (**)	2,427 / 5,351
Powerplant Turbomeca	Arriel 1D1	Arriel 2B1	Arriel 2B1
Takeoff power kW / shp	546 / 732	632 / 847	632 / 847
Rotor diameter m / ft	10.69 / 35.07	10.69 / 35.07	10.69 / 35.07
Overall Length m / ft	12.94 / 42.45	12.94 / 42.45	12.64 / 41.47
Fast cruise speed (*) km/hr - kts	246 / 133	258 / 140	240 / 130
Hover ceiling IGE ISA m / ft (*)	3,000 / 9,850	4,023 / 13,200	3,100 / 10,165
Range (*) km / NM	666 / 360	657 / 355	610 / 329
Fly-over noise level compared to ICAO limit. EPNdB	- 4.8	- 5.1	- 8.5

(*) At MTOW - (**) 2,370 kg with optional specific equipment kit.



Claude Leclercq



Eurocopter® Jérôme Deulin



SAMU 51

AS350 B2 and B3

The AS350 B2 can carry pilot, medical crew and patient as well as stowed equipment at 246 km/hr (133 kts).

The AS350 B3 goes even father faster and higher, out-classing all other 6/7-seat helicopters, and being made to measure for very high altitudes, high temperatures and heavy load transport.

The AS350 B3 is equipped with a Full Authority Digital Engine Control (FADEC), which ensures care-free engine handling, with guaranteed thrust settings and automatic start-up sequence as well as

outstanding reliability and simplified maintenance. Both helicopters feature a cockpit equipped with a dual LCD screen VEMD which allows the pilot to see at a glance the main parameters of the vehicle and the engine. FADEC and VEMD systems substantially reduce the pilot's workload and enhance safety. The Starflex hub is made entirely of composite materials; it remains as innovative and exclusive today as it ever was. The rotors themselves are corrosion-proof and resistant to nicks as is the jointless tail rotor.

EC130 B4

The EC130 B4's cabin is a full 25cm wider than that of the AS350 B2/B3, which allows it to comfortably carry patient and medical crew. The EC130 B4 features Eurocopter's patented Fenestron® shrouded tail rotor, which makes it the quietest helicopter in its class – 7dB below the ICAO's strictest limits (average). Low noise parameters have also been designed into the flight systems, including the Full Authority Digital Engine Control (FADEC) and the controlled variable speed rotor system.

The cockpit is equipped with VEMD and First Limit Indicator which, along with the FADEC, greatly reduce the pilot's workload and improve safety.

The Turbomeca Arriel 2B1 engine is rated at 632 kW (847 shp). A high level of redundancy is built in, with dual flight computers, multiple engine sensors and dual hydraulic systems. The simple design of the EC130 B4 considerably reduces maintenance costs and provides a high level of availability.

For medical evacuation, the EC130 can comfortably transport up to two stretcher patients and two doctors or medical staff.



AEC®

Light twin-engine helicopters

AS355 NP / EC135 / EC145

Made for EMS missions

Eurocopter's light twin-engine helicopters – the AS355 NP, EC135 and EC145 – are qualified and certified for use anywhere in the world, however strict the regulations are. The AS355 NP, twin-engine version of the single-engine AS350 series, provides the best quality/price ratio in the twin-engine market. The combined AS350/AS355 fleet has logged over 19 million flight hours, and the AS355 NP is one of the most successful twin-engine helicopters in the world, with over 600 currently in use. Unrivalled in its class, the EC135 is a very powerful multi-purpose helicopter offering outstanding performance and exceptional adaptation to the EMS role. Born of the most recent generation of light twins it is designed to keep operating costs to an absolute minimum. The EC145 fits your EMS mission as if it were made for it, because it was! The EC145 is everything the world has come to expect from Eurocopter: dependable, efficient, quiet, powerful, comfortable and safe. But its trump card is that it has by far the biggest and best cabin of any helicopter in its class. The EC145 can be configured to fit your needs exactly, whatever they are.





Claude Leclercq



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AS355 NP

The AS355 NP is renowned as a hardworking, flexible, extremely reliable and economical high-performance helicopter. The AS355 NP can carry one patient and a two medical crew plus pilot and a considerable load on the most demanding high and hot missions at a cruising speed of 222 km/hr (120 kts). It is powered by two Turbomeca Arrius 1A1 engines, with dual FADEC systems for automatic, care-free engine handling. It also offers exceptional one-engine-inoperative (OEI) performance, which makes it ideal for EMS missions that require a high level of safety above urban environments. The AS355 NP also features a glass-cockpit VEMD man-machine interface, which makes the pilot's job easier and less tiring. The AS355 NP can operate from building helipads in congested areas. It also offers excellent manoeuvrability and easy maintenance. It is fully IFR certified and can be equipped with a 3-axis autopilot.

EC135

The EC135 gives you the choice of two Turbomeca Arrius 2B2 or two Pratt & Whitney Canada PW206B2 engines, both with dual Full Authority Digital Engine Control (FADEC) for care-free engine management, guaranteed thrust settings, automatic start-up sequence, optimised fuel efficiency and simplified maintenance. It also offers exceptional One Engine Inoperative performance and is JAR/FAR 27 compliant. Wide lateral doors and rear clamshell doors facilitate access and loading, particularly useful for EMS missions. Flexibility, comfort, ease of handling, low maintenance; it is not hard to see why the EC135 has become a favourite for cost-conscious EMS organisations the world over. The state-of-the-art glass cockpit with LCD screen Vehicle and Engine Multifunction Display (VEMD) reduces the pilot's workload, freeing him for the mission at hand. The bearingless rotor-head, finely 'tuned' composite-material rotor blades and third-generation, Fenestron® shrouded tail rotor all contribute to the EC135's exceptionally smooth and quiet ride, and low noise signature.

EC145

The EC145 offers a flat-floored, unobstructed cabin, wide cockpit and cabin access, plus wide clamshell rear loading doors and extensive glazing. Its size makes it an economical solution for every kind of emergency medical service with room for two patients on litters plus four medical attendants and all their equipment. This single-pilot, IFR category-A-certified workhorse offers the advanced, glass-cockpit VEMD man-machine interface which makes the pilot's job easier and less tiring.

The EC145 is fitted with energy-absorbing seats and landing gear, shock-resistant composite materials and redundant design of all critical systems and components.

The EC145 is a record-breaking 6.7 dB below the already strict ICAO limits. The EC145 is particularly well adapted to emergency medical services and flying intensive-care units.

	AS355NP	EC135	EC145
Capacity Passengers + pilot With stretcher + PAX + pilot	Up to 6 + 1 1 + 2 + 1	Up to 7 + 1 2 + 3 + 2	Up to 8 + 1 2 + 3 + 2
Useful load kg / lbs	1,107 / 2,440	1,455 / 2,208	1,793 / 2,953
MTOW kg / lbs	2,600 / 5,732	2,910 / 6,415	3,585 / 7,903
Powerplant Pratt & Whitney Turbomeca	Arrius 1A1	PW206B2 Arrius 2B2	Arriel 1E2
Takeoff power kW / shp	343 / 460	498 / 667 (PW) 473 / 634 (TM)	550 / 738
Rotor diameter m / ft	10.69 / 35.07	10.20 / 33.50	11.00 / 36.09
Overall Length m / ft	12.94 / 42.45	12.06 / 39.90	13.03 / 42.65
Fast cruise speed (*) km/hr - kts	222 / 120	254 / 137	246 / 133
Hover ceiling IGE ISA m / ft	2,575 / 8,450	3,045 / 10,000	2,925 / 9,600
Range (*) km / NM	731 / 395	635 / 342 (PW) 620 / 334 (TM)	680 / 370
Fly-over noise level compared to ICAO limit. EPNdB	- 2.3	- 7.8 (PW) / 9.5 (TM)	- 7.3

(*) At MTOW - (**) 2,370 kg with optional specific equipment kit.

Medium twin EMS helicopters

AS365 NG / EC155 B1

Built to handle the heavy EMS missions

When every second can be critical for the patient, quick intervention can save life. The spacious cabins of the Eurocopter's Dauphin medium twins can easily accommodate bulky medical equipment. The cabins' configurations can be changed within minutes and allows room for the addition of a second stretcher when necessary. These aircraft are ideally suited to EMS missions, to transfer patients from hospital to hospital or rapid flight to an accident scene. In addition to a very high speed, the AS365 NG Dauphin is high power reserve and its good OEI performance make it a safe aircraft for operations over urban areas or SAR operations in difficult conditions. The AS365 NG's large unobstructed cabin provides a platform for simultaneous hoisting operation, if necessary, and offers plenty of room for patients to be cared for by on-board medics. The EC155 B1 is Eurocopter's top-end 5-ton twin-engine helicopter, and features a plethora of the latest proven technologies. The EC155 B1 offers more cabin space than almost any other helicopter in its class. Its exceptional roominess, comfort, speed and endurance make it an ideal EMS platform, with its low vibration and noise levels providing a less stressful environment for the sick and injured.





Eurocopter® Patrick Penna



Eurocopter® D.P.



Eurocopter® Jérôme Deullin



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	AS365 NG	EC155 B1
Capacity Passengers + pilot With stretcher + PAX + pilot	Up to 12 + 2 4 + 1 + 2 or 2 + 4 + 2	Up to 13 + 2 2 + 4 + 2
Useful load kg / lbs	1,891 / 4,169	2,302 / 5,074
MTOW kg / lbs	4,300 / 9,480	4,920 / 10,846
Powerplant Turbomeca	Arriel 2C	Arriel 2C2
Takeoff power kW / shp Emergency power	625 / 838 717 / 961	703 / 943 785 / 1,053
Rotor diameter m / ft	11,94 / 39.17	12.60 / 41.34
Overall Length m / ft	13.73 / 45.05	14.30 / 46.91
Fast cruise speed (*) km/hr - kts	269 / 145	265 / 143
Hover ceiling IGE ISA m / ft (*)	2,620 / 8,596	2,145 / 7,050
Range (*) km / NM	792 / 427	791 / 427
Fly-over noise level compared to ICAO limit. EPNdB	- 4.7	- 6.9

(*) At MTOW

AS365 NG

Technical advancements developed by Eurocopter on the AS365 NG include modular design of the mechanical assemblies and extensive use of composite materials (including the Starflex® rotor head, blades and airframe...), which has significantly reduced maintenance requirements. The AS365 NG also incorporates the new generation, all composite Fenestron® tail rotor that provides higher maneuverability and optimal safety for passengers and ground personnel. The AS365 NG's Fenestron® reduces noise signature (average 3.1 dB below ICAO level) and provides improved damage tolerance, increased Service Life Limit (SLL) and reduced maintenance.

The AS365 NG's wide lateral cabin access combined with enlarged bubble sliding doors make it well adapted to SAR operations such as hoisting and long range missions.

Its low vibration levels and high flight stability provide working comfort for medical attendants and a smooth ride for patients. The AS365 NG can be fitted with a 4-axis autopilot and the weather radar for safe operation in demanding climatic conditions.

The Turbomeca Arriel 2C engines offer a maximum power of 729 kW / 977 shp per engine with proven technology, safety and reliability at its best. The engines' FADEC controls decrease pilot workload and increase safety.

EC155 B1

The EC155 B1 features two FADEC-equipped Turbomeca Arriel 2C2 engines for totally automated OEI safety. The EC155 B1's five-bladed bearingless Spheriflex® rotor and Fenestron® tail rotor result in a noise level that is 4.5 dB in average below the ICAO's latest standards. The EC155 B1's exceptionally low noise and vibration levels make the aircraft so comfortable that passengers might have the impression they are in a fixed-wing airliner.

The EC155 B1's design includes the widespread use of highly resistant, corrosion-free composite materials and light alloys.

The EC155 B1 offers the most advanced man-machine interface available: the 'Avionique Nouvelle' instrument panel with large LCD displays that reduce the pilot's workload, improve safety and ease maintenance.

The EC155 B1 offers exceptionally high cruise speeds, long range, and a large cabin. Which is why, the EC155 B1 is often the helicopter of choice for emergency medical and flying intensive-care missions. Lightweight modular EMS equipment means you can change mission configurations quickly and easily. The large unobstructed cabin allows room for multiple patients, medical personnel and all the equipment - including bulky intensive-care units - that are needed to maximize the patient's health and comfort.

***Mission-
Oriented
Dedicated
Services***





Because Life Won't Wait.

The number of emergency phone calls has dramatically increased in the past few years. Helicopters play a key role, making the difference by rescuing people in many locations and terrains: mountains, sea or city. We know that every minute can make the difference between life and death. Your helicopters have to be ready for missions at a minute's notice, any time of the day or the night. At the same time, EMS operators must meet the demands of tight budgets and stakeholders.

To answer all your specific needs we have introduced innovative programs for total support, which ensure you maximum availability, minimum operating costs and budget control.

Through these service offerings, our target is to be your reference partner in your day-to-day missions and to help you to achieve all your operational and financial targets.

We know your missions are very demanding, so we offer you the very best support.



Eurocopter© Jérôme Deulin

A complete series of services allows you to customize your program to match your needs.

Completely flexible, you can add a service at any time depending on your specific requirements or constraints.

R & O Programs

Training

Technical Assistance

In-service Introduction Package

Computer Aided Maintenance

Maintenance Tool Rental



SAVU 51



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Eurocopter® Wolfgang Obrušnik



Eurocopter® D.R.

Repair and Overhaul Programs

At Eurocopter, we know that schedules and organized logistics are the keys to operational readiness.

To satisfy your specific requirements, we have designed three different repair & overhaul program levels.

From basic repair services to an all-inclusive package, each of them is dedicated to match your business profile.

• Access

This reference program offers relevant OEM repair and overhaul services with guaranteed repair turn-around times within an optimized contractual framework. Moreover, if you want a guaranteed and predictable DMC rate, you have the option of selecting the payment per flight hour option. As we fully understand that part availability is a key ingredient to ensure your missions, you may also order parts as standard exchanges within this contractual framework.

• UMIP: Unscheduled Maintenance Insurance Plan

This service provides replacement parts within 24 hours for all unscheduled repairs for dynamic components, blades and basic equipment. The payment per flight hour option allows you to smooth out your expenses in case of unscheduled repairs, and thus offers you better control of your budget.

• EMS Availability Program

This comprehensive program is based on payment per flight hour rather than payment when the maintenance activity occurs, for both scheduled and unscheduled events. Thanks to the dedicated inventory, you are guaranteed of the availability of components within 24 hours without having to own an inventory.

Maintenance costs are fixed and helicopter downtime is minimized. This service allows you to accurately and reliably control the complete operating and maintenance costs of your aircraft.

We offer more than services, we offer solutions!



Eurocopter© Eric Raz



Philippe Poulet / missionspeciale.com



Eurocopter© Patrick Penna

Training

- **Emergency procedures training:**

This training covers all malfunctions and failures, either on twin or on single engines, and develops familiarity with emergency procedures. This course can be undertaken at Eurocopter's premises or in customer's premises.

- **Mountain training:**

This training teaches pilots to deal with the changing environments that can be experienced during flights over mountains. It includes briefings on weather, navigation and manoeuvring in the mountains, and the decision-making challenges that crewmembers must be prepared for. This includes proper management of the aircraft's aerologic environment in order to increase safety in mountainous environment.

- **IFR extension:**

The vast majority of commercial traffic operates exclusively under IFR. Within Type Rating or Refresher training, the IFR extension provides knowledge on a new aircraft type.

- **Night Vision Goggle (NVG) training:**

This training is necessary to perform safe and efficient aircraft operations using night vision goggles. The NVG training is only available at customer's premises, in order to ensure familiarity with the local operating environment.

Three levels are available: initial, perfecting and instructor course.

- **Mission training:**

Hoist training is dedicated to all crew members: pilots, hoist operators and rescuers. This course teaches the crew to optimize their flight and to adapt to the rescue environment.

- **Safety and Survival Training (SST):**

In order to comply with OPS3.965 regarding Emergency and Safety Aid, Fire Fighting and HUET (Helicopter Underwater Escape Training). It includes theoretical and practical instruction.

- **Crew Resource Management (CRM):**

The CRM course teaches optimization of the crew's communication. It deals with human performance topics such as judgement, decision-making and stress management in a multi-crewmember environment.

- **Computer Based Training (CBT) / Web Based Training (WBT):**

Interactive software dedicated to allow personnel to perform stand-alone training. This software is available on familiarization and refresher courses. It is non-qualifying.

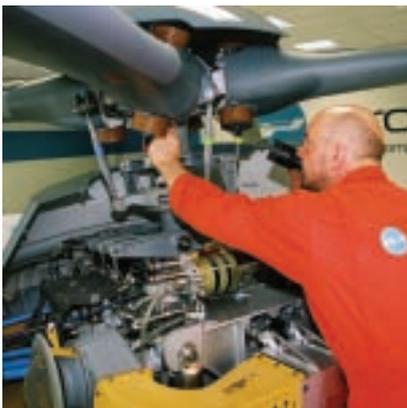


APHP/SAMU 94

To anticipate and solve all specific needs linked to the arrival of a new type of helicopter

Technical Assistance

Travelling to your premises, our technicians can install equipment, perform maintenance operations or help you develop and refine your logistic and maintenance organization. Our maintenance experts can provide you with on-the-job training and pass along their know-how and practical experience to your maintenance team.



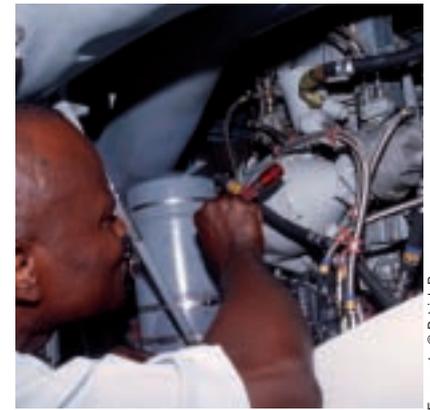
Eurocopter® Wolfgang Obusnik

In-service Introduction Package

The arrival of a new helicopter in your fleet often entails adjustments to your organization, the learning of new maintenance procedures by your technicians, and familiarization with a new piloting environment for your pilots.

The answer to your specific needs is definitely the in-service introduction package. Designed to help you launch your activities, this package includes additional training and technical assistance.

Our technicians offer you on-the-job training to assist recently qualified technicians in their daily work, giving them full confidence in the performance of the maintenance tasks. The additional 'line training' performed at your premises fully qualifies your pilots in the operation of a new helicopter in their specific missions and environment.



Eurocopter® Patrick Penna

Computer Aided Maintenance

Operating and maintaining a helicopter fleet requires accurate, detailed and real time data. Maintenance requirements rely on this data and better safety depends on it too. To provide you with a complete picture of your maintenance fleet requirements, we have implemented partnerships with leading companies in computer-aided maintenance. Their software allows you to easily schedule, track and perform your maintenance operations.

Maintenance Tool Rental

The choice to rent depends on your business needs, on how many tools you need and how long you need them. Renting can be a sensible solution for expensive, bulky or seldom used tools.





Eurocopter,

50 years of EMS expertise



GFJ/SAMU 42

Number one leader in the helicopter industry.

(We must be doing something right.)

More than 8 out of 10 Emergency Medical Service helicopters update for 2008 were Eurocopter rotorcraft. There must be a reason.

With 53% of all worldwide civil and parapublic helicopter deliveries, and 15% of worldwide military orders, Eurocopter is world leader in the design, manufacture and maintenance of rotary-wing aircraft

We owe our success to our clients, of course, and to five simple precepts:

First, safety. Safety has always been, and will always be, the top priority for Eurocopter.

Second, we work hard to understand your needs. Our mission is to provide helicopters tailor-made and fully equipped to suit your specific requirements.

Third, Eurocopter sells and supports the broadest range of helicopters offered by any manufacturer. We can fulfill any conceivable mission, whether it is law enforcement, Emergency Medical Services, personnel or cargo transport to offshore oil and gas platforms in any weather, or ferrying corporate officers and VIPs in the utmost comfort.

Fourth, meeting our clients' demands during more than 43 million flight-hours has driven our R&D engineers to an impressive number of technological firsts in order to make our helicopters safer, lighter, quieter, more durable, as well as easier and more economical to operate and maintain.

And fifth, Eurocopter is equipped to give you the individual attention, service and support you require. We have over 14,000 employees in 140 countries (more than any other manufacturer) serving our 2,800 clients and their 10,000-odd helicopters currently flying. The right help is always there when you need it, from component repair and overhaul services to parts and spares-support and training programs.

Created in 1992 from the merger of two existing helicopter manufacturers, Eurocopter is today a wholly-owned subsidiary of EADS, the European Aeronautic, Defence and Space Company, one of the two largest aerospace groups in the world. Which is a sixth reason for doing business with Eurocopter – you can count on us to be around for a very long time.



AEC



Rémy Michélin



Eurocopter© Jérôme Deulin



www.eurocopter.com

EMS F 05-09E. Designed by Eurocopter - Photos: Jérôme Deulin - GFJ / SAMU42 - Rémy Michelin - AEC© - Jean Pierre Brassler.

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