

NH  
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SAVING LIVES

PROTECTING HEROES

  
NH Industries

AIRBUS

Fokker  
by AIRBUS

LEONARDO

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





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**NH90**

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# IN OPERATIONS



## CUSTOMERS

- Australia
- Belgium
- Finland
- France
- Germany
- Greece
- Italy
- New Zealand
- Norway
- Oman
- Qatar
- Spain
- Sweden
- The Netherlands

## ZONES OF OPERATIONS

- Afghanistan
- Caribbean Sea
- Coast of Somalia
- Fiji Islands
- Irak
- Mali
- Papua-New-Guinea
- Vanuatu Islands

Caribbean Sea

Mali

Cost of Somalia

Afghanistan

Australia

Papua-New-Guinea

Vanuatu Islands

Fiji Islands

New Zealand





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## A COMMON PLATFORM for all missions



### The NH90 is the most modern and versatile helicopter in its class.

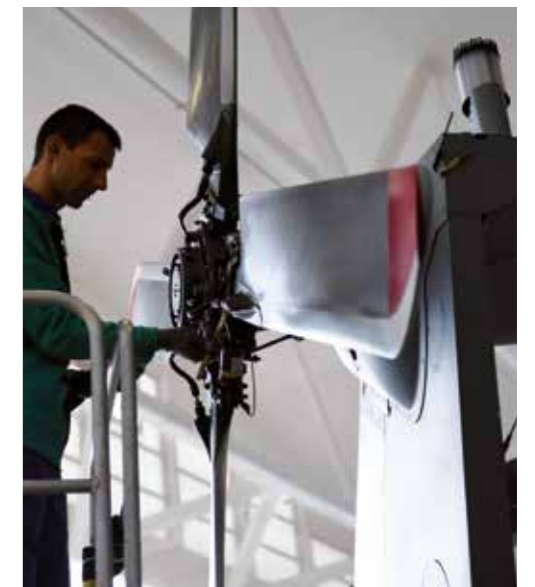
It has been designed to replace all aircrafts in its category.

There are two versions of the NH90,

- ◉ the **NH90 NFH** (NATO Frigate Helicopter) for naval missions
- ◉ the **NH90 TTH** (Tactical Transport Helicopter) for tactical missions.

The NH90 is agile, stealthy, safe, efficient and powerful.

- ◉ Fly-by-wire flight controls
- ◉ Full composite airframe
- ◉ Full composite damage tolerant rotor blades
- ◉ Fully de-iced
- ◉ 2 X 2,000 (or 2x2,500) KW FADEC engines
- ◉ Full glass cockpit
- ◉ Integrated mission system
- ◉ NATO interoperable





# NFH

## MISSIONS

The NH90 is designed for the concept of one NH90 per frigate capable of any naval mission.

- ASW
- ASuW
- Search And Rescue (SAR)
- Tactical situation awareness and control
- Maritime surveillance
- Anti piracy and counter terrorism
- Intelligence gathering
- Surveillance and control
- Delivery/recovery
- Casualty evacuation (CASEVAC)
- Medical evacuation (MEDEVAC)
- Assistance to ships
- Disaster relief
- Vertical replenishment

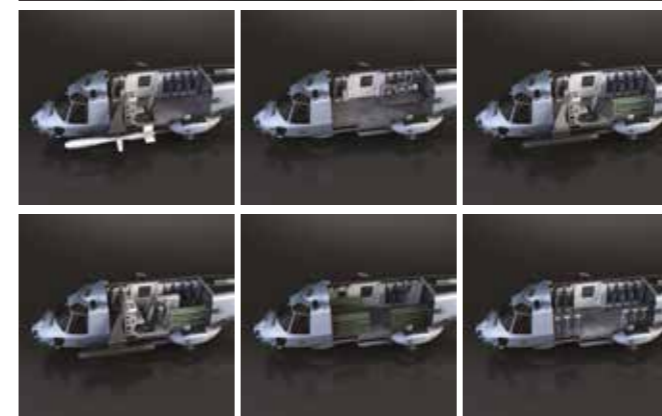


# NFH

## MAIN FEATURES

**NFH is the best naval helicopter in the world with each platform capable of the full range of naval and maritime missions and the flexibility to rapidly adapt to meet today's dynamic naval environment**

- Full Glass Cockpit and on board sensors fusion (EOS, radars, Digital map, etc.)
- ESM suite
- EOS (daylight and IR cameras, Laser Range Finder)
- HMSD (Helmet Mounted Sight Display)
- 360 degree radar with ISAR mode
- Link 11
- SONICS System, combining Dipping Sonar and Sonobuoys management
- 1 or 2 mission consoles
- Self-protection suite (Ballistic Protection, Chaff & Flares)
- IFF interrogator
- Digital map generator
- 2 Marte missiles (MK2/S or MK2 ER)
- 2 torpedoes (MU90, MK46, Stingray)
- Mixed configuration (1xTorpedo + 1xMissile)
- Pintle machine guns
- Automatic folding system (blades and tail)





# TTH

## MISSIONS

- Tactical troop transport
- Logistics and utility
- Special operations
- Disaster relief
- Casualty evacuation (CASEVAC)
- Medical evacuation (MEDEVAC)
- Search And Rescue (SAR)
- Combat Search And Rescue (CSAR)
- Counter terrorism
- Airborne command post
- Parachuting
- VIP transport



# TTH

## MAIN FEATURES

The NH90 TTH is an outstanding helicopter featuring unrivalled agility and a state-of-the-art mission system for mission success.

- Full glass cockpit
- 2 X 2,000 KW engines for power reserve anytime
- State-of-the-art communication and navigation suite
- Piloting FLIR for high speed tactical flight
- HMSD (Helmet Mounted Sight Display)
- Up to 20 crashworthy foldable troops seats
- Self-protection suite (Ballistic Protection, Chaff & Flares)
- Weather radar
- 5 hours endurance
- Pintle machine guns and gunpods
- Rear ramp
- Easily reconfigurable cabin with a wide choice of equipment
- 2 large sliding doors
- Manual folding system (blades and tail)





# MARITIME TACTICAL TRANSPORT

MAIN FEATURES  
and missions



A specific NFH configuration for success in both onshore and offshore missions.

### Missions:

- Onshore and offshore Tactical troop and VIP transport
- Marine Special Operations
- Surveillance and control
- Delivery/recovery
- Assistance to ships
- Disaster relief
- Vertical replenishment
- Logistics and utility
- Onshore and offshore SAR
- Onshore and offshore MEDEVAC / CASEVAC
- Anti-piracy and counter terrorism
- Airborne command post
- Parachuting

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### Features:

- Full glass cockpit
- State-of-the-art communication and navigation suite
- Piloting FLIR for high speed tactical flight
- HMSD (Helmet Mounted Sight Display)
- Up to 20 crashworthy foldable troops seats
- Self-protection suite
- Weather radar
- 5 hours endurance
- Pintle machine guns and gunpods
- Rear ramp
- Automatic folding system (blades and tail)
- Compatibility with Traversing Systems
- Easily reconfigurable cabin with a wide choice of equipment
- 2 large sliding doors and windows
- Pintle machine guns

# SPECIAL OPERATION FORCES

MAIN FEATURES  
and missions



A specific TTH configuration to allow more demanding Combat SAR and Special Operations with:

- New generation optical sensors (EOS, Distributed Aperture System cameras) coupled with new generation digital display helmet (HMSD-DD)
- Sensors and terrain databases display fusion allowing better comprehension of tactical situation while providing DVE capabilities
- Continuous digital flow of sensors images available for aircrew and commandos to be displayed on digital tablets and goggles (tasks allocation)
- Additional tactical satellite communication
- New fast roping, rappelling & extraction devices designed for Special operations commandos
- Machine gun self-protection from a new rear window freeing up the large sliding doors access
- Extended radius of action with side 500kg external fuel tank, fire support gun mounts on the side doors
- Additional «kitable» rear ramp capabilities

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## DEPLOYABLE Worldwide

The NH90 is designed to be easily deployed and operational anytime anywhere

- Aero transportable
- Folding system for transport (blades and tail)
- Amphibious capability
- 5 hours endurance for self-deployment
- External fuel tanks
- APU (Auxiliary Power Unit)
- Sand filters
- Electromagnetic compatibility
- Operational between - 40 degrees to + 50 degrees
- Fully de-iced for flight in known continuous icing conditions
- Environmental control system (air conditioning)
- Easy to maintain in unprepared sites
- Operational from sea level to 20,000 ft
- NATO interoperable





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ONE PLATFORM  
two mission systems

A WIDE CHOICE OF MISSION  
EQUIPMENTS

## NH90 MAIN MISSION EQUIPMENTS

TTH	EQUIPMENTS	NFH
B	Infrared Suppressor	N/A
B	Self Sealing Supply Tanks	N/A
N/A	Steerable Nose Wheels	B
N/A	Automatic Blade Folding	B
B	Manual Blade Folding	N/A
B	Rear Ramp	Op
Op	Emergency Floatation System	B
N/A	TACAN	B
Op	Satcom	Op
Op	Cargo Hook	Op
Op	Rescue Hoist	Op
Op	Cargo Winch	Op
Op	HMSD	Op
Op	Electro Optical System	Op
Op	Internal Auxiliary Fuel Tank	Op
Op	External Auxiliary Fuel tanks	Op
Op	Hover In Flight Refuelling	Op
Op	Mission Recorder	Op
Op	VFDR	Op
Op	Ice Protection System	Op
Op	Weather radar	N/A
Op	Piloting FLIR	N/A
Op	Electronic Warfare System Chaff & Flare dispenser	N/A
N/A	Tactical Radar *	Op
N/A	IFF interrogator	Op
N/A	Electronic Support Measures Chaff & Flare dispenser	Op
N/A	Deck Lock Device and Traversing System	Op
N/A	Dipping sonar	Op
N/A	Sonobuoys	Op
N/A	Torpedoes	Op
N/A	Anti-Ship Missiles	Op

\* Replaced by the Tactical Radar

B: Basic  
Op: Optional  
N/A: Not yet Applicable



TECHNOLOGIES

- Fly-by-wire
- Full composite airframe
- Datalink L11
- Satcom
- Helmet Mounted Sight Display (HMSD)
- Growth potential L16 L22
- HF/V/UHF
- Navigation: INS/GPS

- Dual channel FADEC engines
- Glass cockpit
- 4 axis autopilot
- Self-protection suite with laser warning receiver, radar warning sensor and E/O sensor.
- HUMS (Health and Usage Monitoring System) and MDS (Monitoring and Diagnostics System)
- Automatic blade and tail folding (electrically powered)
- Fully integrated digital mission system

**The full composite airframe of the NH90 has several advantages over conventional airframes:**

- Better endurance
- Low radar cross section
- Easy to repair
- Better sensor accuracy
- Increased crashworthiness





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## SURVIVABILITY and safety

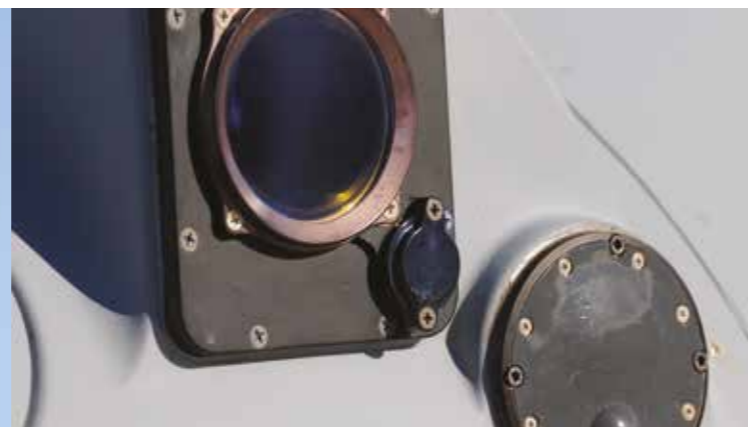


- Diamond shape for low radar cross section
- IRS to lower the infrared signature
- Self-protection suite to avoid or counter all threats
- Retractable landing gears
- High energy absorbing landing gears
- 30 min dry run main gearbox

- High redundancy:  
fly-by-wire segregated channels
- Dual channel FADEC engines
- Full Emergency Flotation gear
- Damage tolerant design
- Self-sealing fuel tanks

- Armour protection
- Multibox composites blades
- Cable cutter
- Obstacle warning system
- De-icing system
- Sensors to operate in harsh weather and at night

- Energy absorbing seats
- Energy absorbing airframe
- Crashworthy up to 11 m/s





## SPECIFICATIONS



### NH90 GENERAL PERFORMANCE (BASIC AIRCRAFT)

- ◉ **Maximum cruise speed\*** 300 km/h / 162 kts
- ◉ **Economical cruise speed\*** 260 km/h / 140 kts
- ◉ **Maximum rate of climb\*** 11.2 m/sec / 2,200 ft/min
- ◉ **OEI rate of climb 2 min rating\*** 4.3 m/sec / 850 ft/min
- ◉ **OEI rate of climb continuous rating at 2,000 m (6,560 ft)\*** 1.5 m/sec / 300 ft/min
- ◉ **Hover ceiling IGE\*** 3,200 m / 10,500 ft
- ◉ **Hover ceiling OGE\*** 2,600 m / 8,530 ft
- ◉ **Maximum range** 982 km / 530 Nm
- ◉ **Maximum range with 2,500 kg payload** 900 km / 486 NM
- ◉ **Maximum endurance** 5 h
- ◉ **Ferry range (with internal auxiliary fuel tanks)** 1,600 km / 864 NM

\*at 10,000 kg

### NH90 ENGINES POWER RATINGS

(uninstalled power data-ISA/Sea level - 100% NR)

#### ◉ RTM 322-01/9

- |                       |                      |
|-----------------------|----------------------|
| • OEI 30 sec          | 2,172 kW - 2,913 shp |
| • OEI 2 min           | 1,855 kW - 2,488 shp |
| • OEI Continuous      | 1,781 kW - 2,388 shp |
| • AEO TOP 30 min (x2) | 1,781 kW - 2,388 shp |
| • AEO Continuous (x2) | 1,664 kW - 2,231 shp |

#### ◉ GE T700/T6E1\*

- |                       |                      |
|-----------------------|----------------------|
| • OEI 30 sec          | 2,095 kW - 2,809 shp |
| • OEI 2 min           | 1,842 kW - 2,470 shp |
| • OEI 60 min          | 1,692 kW - 2,269 shp |
| • AEO TOP 30 min (x2) | 1,692 kW - 2,269 shp |
| • AEO Continuous (x2) | 1,577 kW - 2,115 shp |

\*GE engines with Integrated Particle Separator (IPS)

For peculiar climatic situations and environments, enhanced versions are available upon request.

#### ◉ External dimensions (rotors turning):

- Length 19.56 m / 64.18 ft
- Width 16.30 m / 53.48 ft
- Height 5.31 m / 17.42 ft

#### ◉ Weights

- Maximum gross weight 10,600 kg / 23,369 lb
- Alternate gross weight 11,000 kg / 24,250 lb
- Empty weight 6,400 kg / 14,109 lb
- Useful load 4,200 kg / 9,260 lb

#### ◉ Cargo capacity

- Cargo hook 4,000 kg / 8,818 lb
- Single or dual rescue hoist 270 kg / 595 lb
- Rescue hoist on ground 400 kg / 880 lb

#### ◉ Fuel capacity

- 7 cell internal system 2,035 kg / 4,486 lb

#### ◉ Internal auxiliary fuel tanks (each)

- 400 kg / 882 lb

#### ◉ External auxiliary fuel tanks (each)

- 292 kg / 644 lb or 500 kg / 1,102 lb

#### ◉ Internal dimensions

- Width 2.00 m / 6.56 ft
- Length 4.80 m / 15.75 ft
- Height 1.58 m / 5.18 ft
- Volume 15.20 m<sup>3</sup> / 536.78 ft<sup>3</sup>

#### ◉ Sliding doors opening

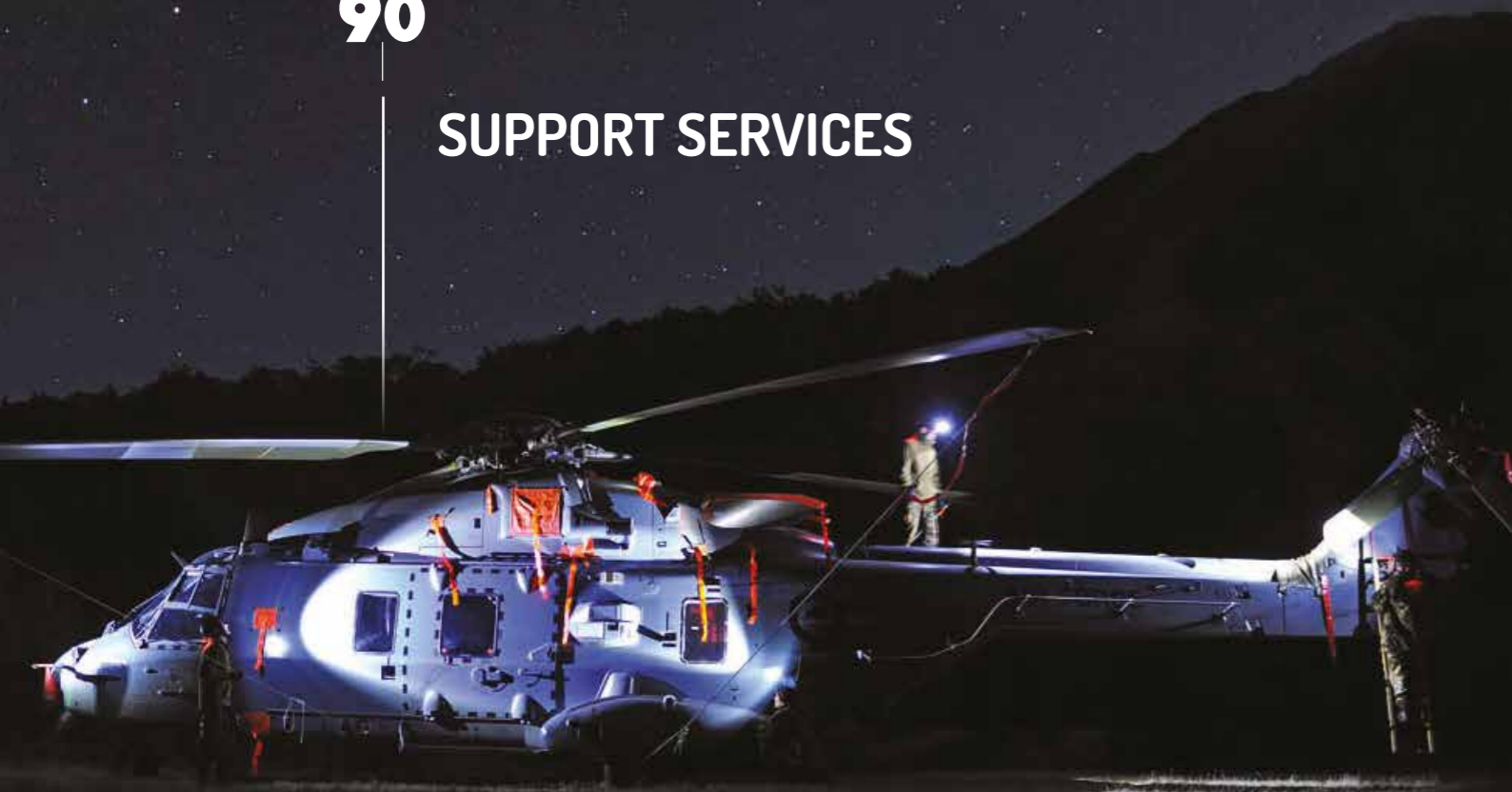
- 1.60 x 1.50 m / 5.25 x 4.92 ft

#### ◉ Rear ramp opening

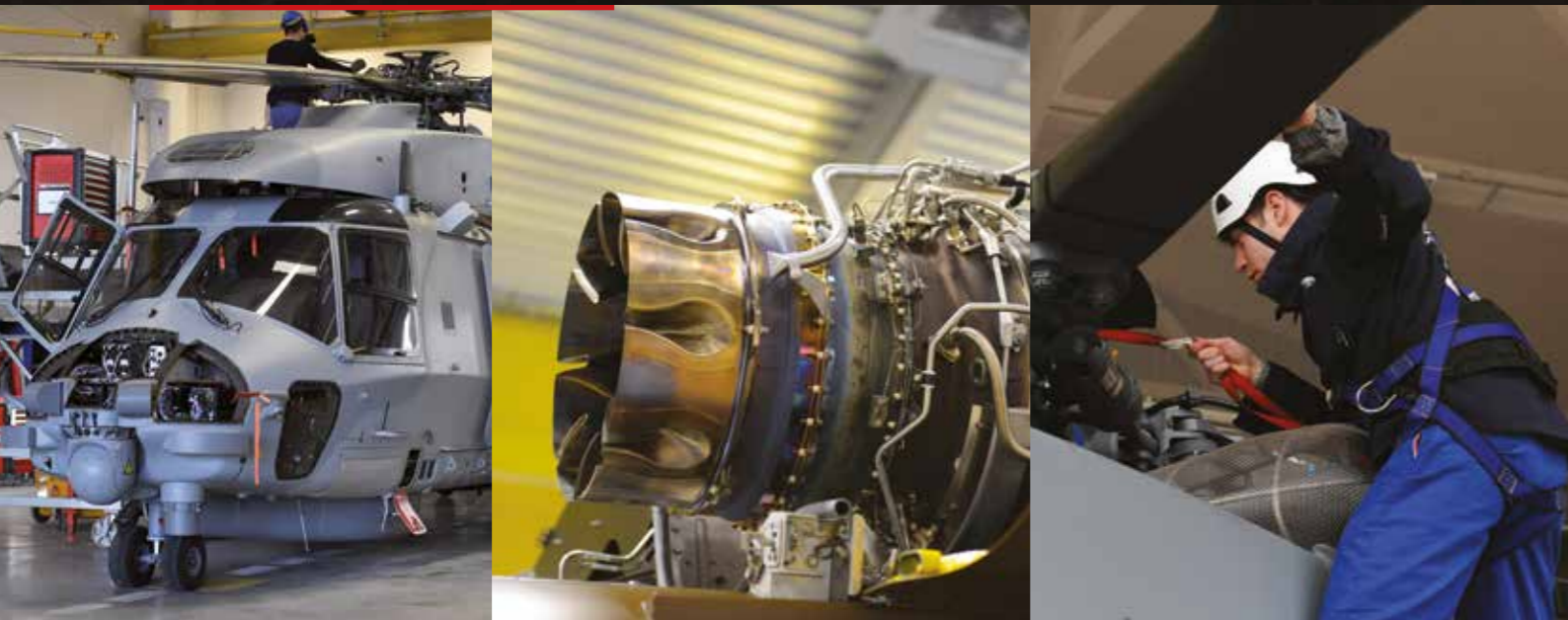
- 1.78 x 1.58 m / 5.84 x 5.18 ft



## SUPPORT SERVICES



**“THE EXCELLENCE OF EUROPEAN INDUSTRY FOR THE BEST AVAILABILITY”**  
Because our customers’ missions are vital, NHI and its partner companies provide the best support solutions insuring the NH90 is ready, available and operational – anytime, anywhere



### 1 – COMPREHENSIVE SUPPORT PACKAGES

- Nose to tail solutions – turnkey, covering the entire helicopter
- SBH (Service By the Hour) – securing material availability with full budget control
- Parts and maintenance – your material at your demand
- Training and training media – for pilots, groundcrew and tactical operators
- Technical publications – electronic manuals, always up-to-date
- Technical support services – everything from helpdesk to on-site support

### 2 – ONE INTERFACE TO ADDRESS ALL YOUR NEEDS

Because each customer is special, NHI ensures that each NH90 end user is in contact with a single partner company responsible for all support needs.

This concept of Delegated Partner Company ensures the optimal level of reactivity.

### 3 – STATE-OF-THE-ART TECHNOLOGY TO SIMPLIFY MAINTENANCE

The NH90 has been designed and is proven to operate in the most demanding conditions. This includes the capability to be maintained without the backup of dedicated facilities when deployed for prolonged periods of time.

NHI leverages new technologies and feedback from its customers to further increase the effectiveness of all logistic and maintenance aspects of the NH90.

### MAINTAINABILITY FEATURES

#### GLIMS

#### Ground Logistics Management Information System

This ruggedized laptop interfaces with on-board systems, allowing maintenance teams to manage the components of the NH90.

#### MDS & HUMS

#### Monitoring and Diagnostics System and Health & Usage Monitoring Services

Monitors the main systems of the NH90 in flight; the data is easily transferred and processed by GLIMS as well as Industry specialists, optimizing the usage and reliability of your assets.

#### IETP

#### Integrated Electronic Technical Publications

This electronic documentation provides all the information associated with flying, operating and maintaining the helicopter. The IETP follows modern standards and is kept up to date during the in-service service phase, insuring your teams have always the best information at hand.





## TRAINING

Because training is the key to mission success, NHI offers specific and tailored training packages

### TYPES OF TRAINING

#### ◉ Air crew

- Pilot and co-pilot
- SENSO
- TACCO

#### ◉ Ground crew

- Mechanical
- Electrical
- Avionics

### PRIMARY TRAINING LOCATIONS

#### ◉ France

AHTS (Airbus Helicopters Training Services), Marignane

#### ◉ Italy

Leonardo Helicopters, Sesto Calende

### Training media (appropriate to both air and ground crew courses)

#### ◉ Traditional classroom

Course introductions are conducted with a lecturer in a classroom environment.

#### ◉ Part task training

The use of representative and real systems allows the student to visualise and simulate any given system (avionic, electrical, hydraulic) or to physically take apart and rebuild a mechanical system.

#### ◉ Computer Aided Instruction (CAI)

is a very powerful and low cost method of increasing training effectiveness.

#### ◉ On the job training

#### ◉ Simulator

Flight simulators are available both with and without full motion.

#### ◉ Maintenance Training Rigs (MTR)

These are representative aircraft designed to be used solely for maintenance training.

Final assembly of NH90 is completed at 4 locations

#### ◉ AIRBUS HELICOPTERS

Marignane - France

#### ◉ AIRBUS HELICOPTERS DEUTSCHLAND

Donauwörth - Germany

#### ◉ LEONARDO HELICOPTERS

Tessera - Italy

#### ◉ AIRBUS HELICOPTERS ESPAÑA

Albacete - Spain

### 31,25% AIRBUS HELICOPTERS

- Power plant
- Rotors
- Electrical system
- Flight control system
- Core avionic system
- Production assembly

### 31,25% AIRBUS HELICOPTERS DEUTSCHLAND

- Forward and centre fuselage
- Fuel system
- Communication system
- Avionics control system
- TTH mission system
- Production assembly

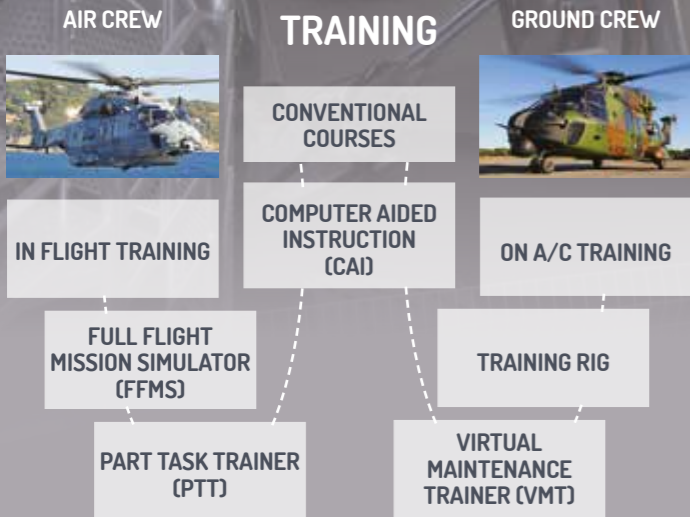
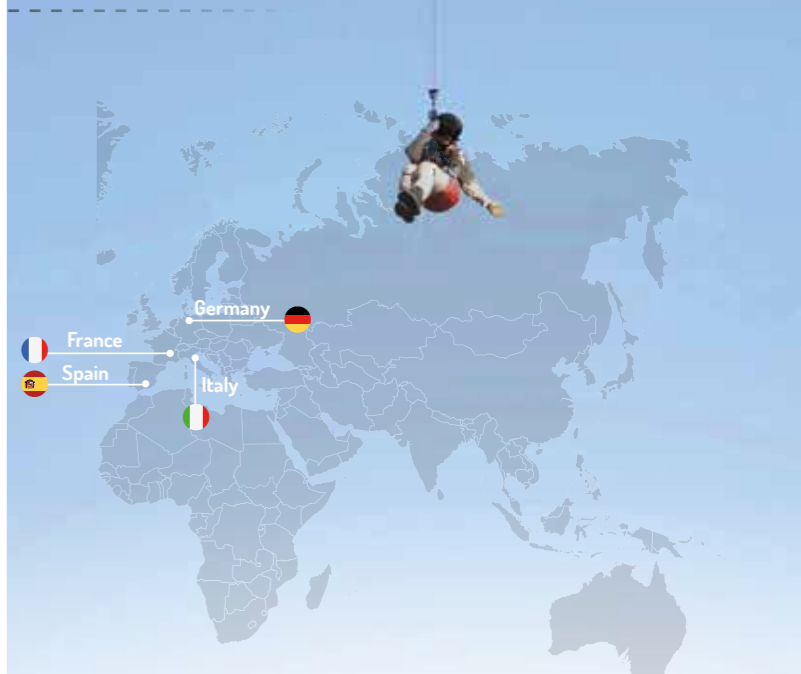
### 5,5% FOKKER

- Tail structure
- Doors
- Sponsons
- Landing gear
- Intermediate gearbox

### 32% LEONARDO HELICOPTERS

- Rear fuselage
- Main gearbox
- Hydraulic system
- Automatic Flight Control System (AFCS)
- Plant management system
- NFH mission system
- Power plant
- Production assembly

## ASSEMBLY LINES



The NH90 program is associated with a complete set of training means designed to ensure the best operational level for the flight crews and the ground crews. There are already several training facilities in Europe and Australia.



THE COMPANY:  
NHINDUSTRIES



The NH90 Partnership, while taking the best from the European Rotorcraft and Defence Industries, is a collaboration between Airbus Helicopters, Leonardo Helicopters and Fokker Aerostructures.

The company «NHIndustries» is the focal point for the NH90 programme

NHIndustries is a french SAS company, based in Aix-en-Provence. It is wholly owned by Airbus Helicopters, Leonardo Helicopters and Fokker and provides the focal point for these companies for the NH90 programme.

Established in 1992, NHI has managed the design, development and entry into service of the NH90 for both NAHEMA (NATO Helicopter Management Agency, formed by the founding nations -Belgium, France, Germany, Italy, The Netherlands-) and export customers.

NHIndustries is certified to EN 9100, ISO 9001 and AQAP 2110, for prime contractorship and management of international aeronautical programmes.

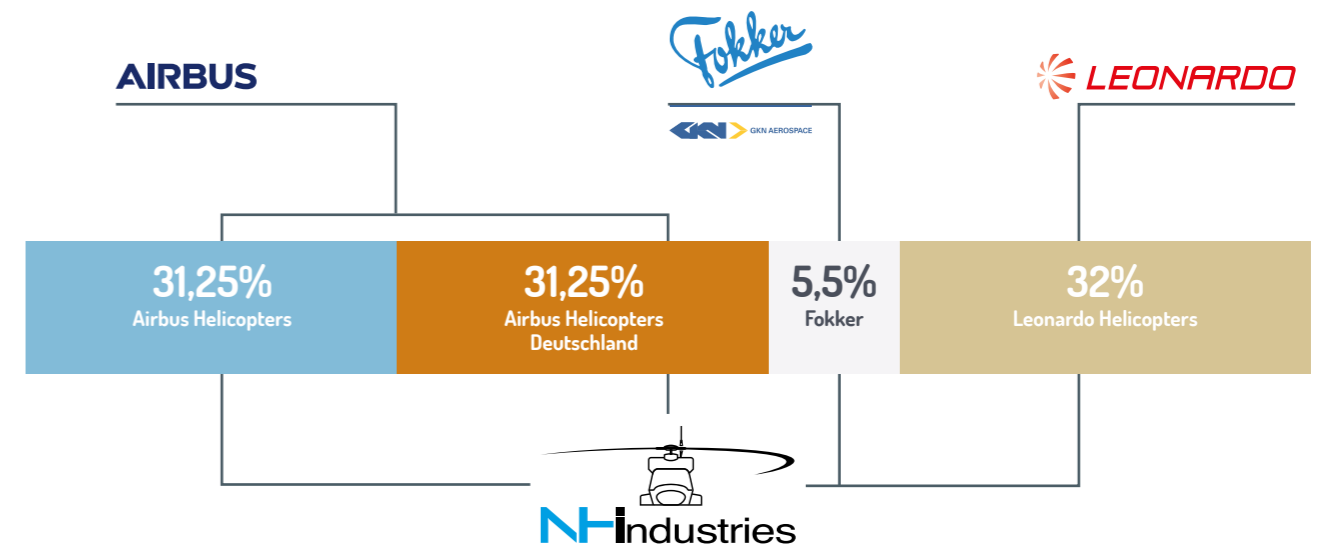
NHI's primary responsibilities are to the customer and to the partner companies for the following activities:

- Airworthiness and the process of safety
- Programme management
- Management of the design, development and configuration process
- Management of the Integrated Logistic Support (ILS) process
- Management of contracts, new business and marketing activities
- Management of quality assurance

The NHIndustries quality management system is designed to give assurance that the NHI processes render the outcomes that customers may expect. It creates more certainty in the business and supports.

NHI is recognized as an approved design and maintenance organisation. NHI aims to provide a consistent service that meets stakeholders' expectations by maintaining independent certifications to the internationally recognised EN9100, ISO 9001 and AQAP 2110 standards.

Additionally, NHIndustries is committed to supporting environmental issues through a policy of objectives and improvement programmes.







**Australian Aid**



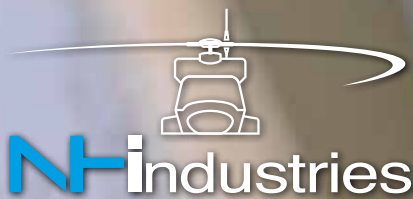
**MEDICAL KIT**

JACKET MK4  
COMPLETE  
RSM 4220 05 146-8033





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144 052



AIRBUS



LEONARDO

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