



HELICOPTERS DIVISION

AW249

 **LEONARDO**

AW249

SHAPING THE FUTURE





THE NEW COMBAT HELICOPTER

With a long history, expertise and continuous development in the military combat market Leonardo presents AW249

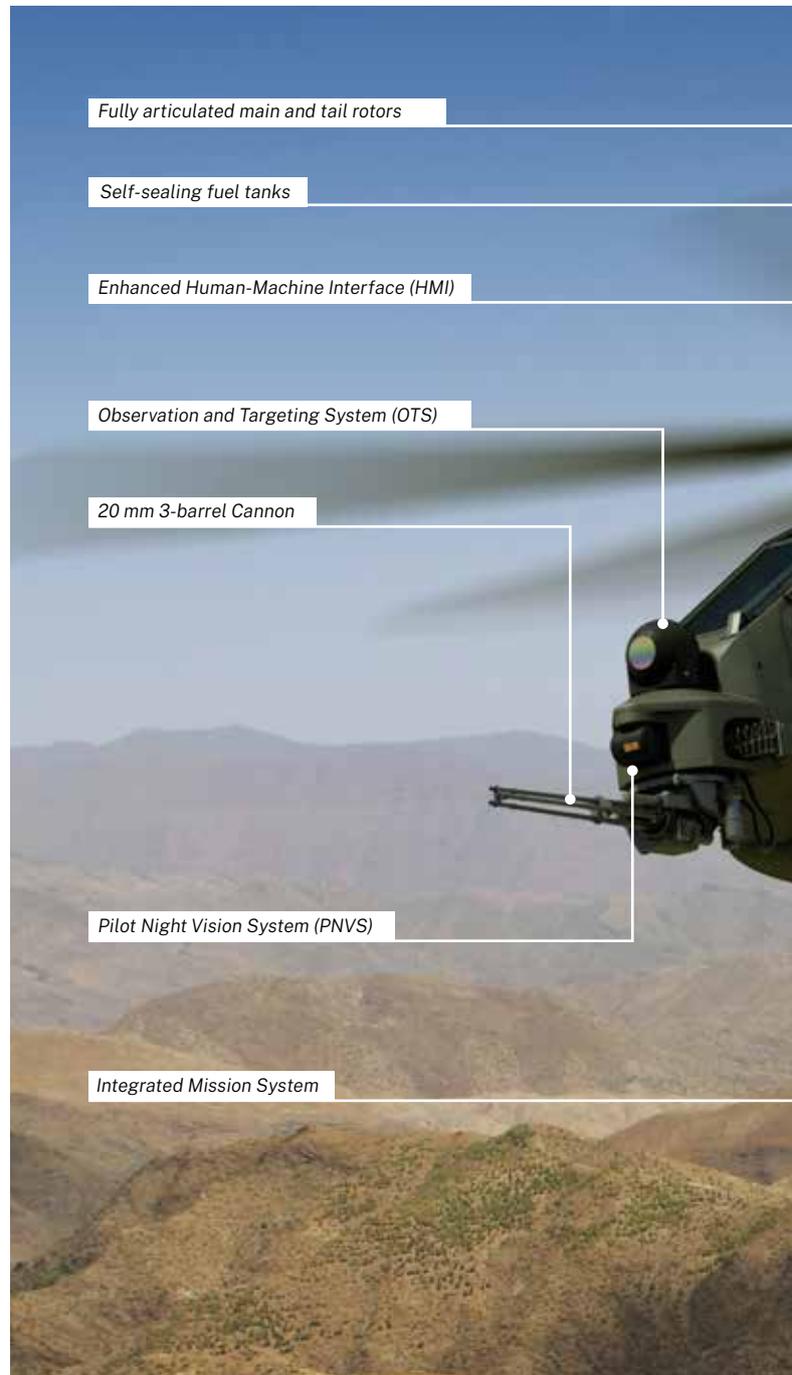
A new combat helicopter, the AW249 is technologically advanced with outstanding performance and high survivability; it has greater speed, range and endurance with higher payloads. Fully equipped for the demands of the modern battlefield it offers full digital military networking for multi-domain integrated operations with the capacity for Crewed-Uncrewed teaming with Unmanned Air Vehicles (UAVs). The cutting-edge battle management system gives an integrated and fused tactical picture from all mission and information management systems providing the best situational awareness available. Operating in all environments, day or night, the helicopter conducts multiple missions giving crews the operational advantage to identify enemy targets and, if necessary, engage them with a range of weapons, before becoming threatened.

Although AW249 is characterized by speed and durability, allowing it to survive in the most difficult conditions during assault and air support tasks, it also provides very competitive maintenance and operating costs due to the modern design. The design is to the strictest safety requirements of the European Defence Agency, NATO and EASA standards. The mission system, developed with the advice of military crews, prioritises safety and mission requirements reducing pilot workload and increasing mission capacity. The helicopter, thanks to rigorous design standards, ensures high safety and survivability.

With capacity and growth potential the new AW249 Combat Helicopter will deliver operational advantage in evolving scenarios for the next 30 years.

DESIGNED FOR THE FUTURE BATTLESPACE

AW249 is equipped with a complete set of navigation, day and night mission and fire control systems, as well as the ability to manage and control UAVs. The aircraft incorporates an open systems architecture with growth potential, state-of-the-art communications and an advanced battlespace management system. The mission system will enhance situational awareness, reduce pilot workload and increase both mission capacity and safety.



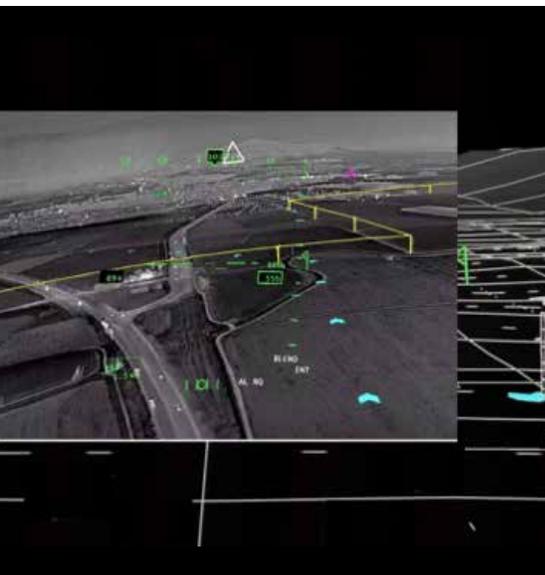


2 engines (2,500-3,000 SHP class)

Dedicated 60 kW Auxiliary Power Unit (APU)

6 firing stations

Electronic Warfare - detection and jamming



AW249 KEY FEATURES

MAJOR SYSTEMS

- 2 Multi-core touchscreen Large Area Displays, for ultimate situational awareness
- 4 Multi-core touchscreen Enhanced Display Control Units, centralized control of the aircraft systems
- Precise Targeting and Piloting Sensors
- LTE Gateway for transferring tactical data and images
- Software Defined Radios with civil and military wave forms
- High Frequency Radio
- Wide Band LOS Datalink for UAV control
- Tactical Data Link 16, crucial for Net-Centric warfare
- Next Generation IFF for secure identification and reduced collateral damages
- Multi-sensor based Flight Management System
- Performance Based Navigation for civil airspace operations
- External Auxiliary Fuel Tanks for extended range

ERGONOMICS & HMI

AIR VEHICLE AND CORE AVIONICS & SYSTEMS FEATURES

Next Generation Avionics fully integrated into Digital Battlefield Management System delivering enhanced situational awareness and mission effectiveness in both day and night all weather operations. Ergonomic cockpit & next generation avionics for enhanced intuitive control of all aircraft systems are fully integrated across the digital battlefield. Large Area Display, Touch Screen with Gesture Recognition provides speed and accuracy of interface.

- 2 Large Area Displays (21,5")
- 4 Enhanced Display Control Units (8,4")
- Hands On Controls And Sticks
- Ergonomic Cockpit and Next Generation Avionic
- Intuitive control of all the aircraft systems fully integrated into the Digital Battlefield

LETHALITY

- Guided and Unguided 70 mm Rockets
- Air-to-Air Infrared Guided Missiles
- Air-to-Ground Radiofrequency or Fiber Optic Guided Missiles
- 20 mm 3-barrel Cannon, Integrated Helmet Display System enslaved
- Automatic Launcher Assisted Pitch Control
- Attack AFCS Mode



MULTIMISSION CAPABILITY & ISTAR CONOPS

- Multi-mission capability, including Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR), Aerial Escort, Close Air Support, Air Interdiction and Fire Support.



CONOPS DESCRIPTION

ISTAR: Intelligence, Surveillance, Target Acquisition & Reconnaissance:

- Acting as the information acquisition element of a C4 system, the AW249 uses the surveillance systems (either its own or the ones of cooperating units) to scan the territory, identify ground units (both friend and foe) for its own use or to disseminate the information through a secure channel to the Command & Control Centre. As such it best leverages the advanced Crewed-UnCrewed teaming opportunities.

The AW249 excels in the following missions:

- **AERIAL ESCORT:** powerful sensors and precise weapon system enabling location, deterrence and neutralization of the enemy's threats
- **CLOSE AIR SUPPORT:** safeguarding convoys by locating the enemy forces before they can combat
- **AIR INTERDICTION:** using excellent flight performance it can engage other aircraft; Using real-time tactical awareness, it can undertake swift action to destroy key enemy forces, infrastructure and capabilities thus denying the enemy's freedom of action.



SAFE AND SURVIVABLE

BALLISTIC DAMAGE TOLERANT DESIGN

- Rotors & Drive Train
- Armor protection of crew seats
- Ballistic-damage tolerant displays

FUEL SYSTEM PROTECTION

- Self-Sealing bladder
- Isolated tanks
- Extra protection with Smart Transfer Subsystem

MIL-STD CRASHWORTHINESS

- High descent rate landing gear
- Energy absorbing structure
- Crashworthy crew seats
- Crashworthy fuel tanks

SAFE RETURN DESIGN CRITERIA FOR CRITICAL SYSTEMS

- Redundancy
- Separation
- Segregation
- Damage Tolerance

SELF PROTECTION

- Anti-Jamming
- Low Observable (radar and paint finishes)
- Automatic EW detection with chaff and flare
- Frequency agile radios

INTEROPERABILITY

Interoperability across multi-domains is a key capability for the modern battlefield; AW249 is interoperable with all air and ground assets. It is net-centric within a digital network where single cooperating assets share their own tactical information (voice, data, video), resulting the ability to prosecute joint and complex operational scenarios.

Being net-centric is thus vital for coordinated action in demanding environments. Assets involved range from command centres, to UAVs or other aircraft and satellites. Importantly it includes ground troops and their vehicles. The AW249 incorporates advanced “net-centric” capabilities such as COMSEC and TRANSEC communications either LOS or BLOS, through SDR radios, New Generation IFF Tactical Data Link 16, Wide Band Datalink LOS and LTE gateway.

AW249 CHARACTERISTICS

Weight

Max Take Off Weight	8,300 kg	18,300 lb
Useful Load	2,800 kg	6,170 lb

Engine Ratings (uninstalled)

AEO Take-off		2,503 SHP
AEO Max Continuous Power		2,274 SHP

Transmission Ratings

AEO Take-Off	2 x 126%	3,148 HP
AEO Max Continuous Power	2 x 116%	2,907 HP

Dimensions

Overall Length ⁽¹⁾	17.63 m	57 ft 10 in
Overall Height ⁽²⁾	4.26 m	14 ft
Overall Width ⁽³⁾	4.60 m	15 ft
Rotor Diameter	14.60 m	47 ft 11 in

⁽¹⁾ Tip to tip, rotor turning

⁽²⁾ Tail rotor tip, rotor turning

⁽³⁾ Store carrier on

Performance (ISA, SL)

Max Cruise Speed ⁽¹⁾	287 km/h	155 kt
Maximum Range ⁽²⁾	796 km	430 nm
Maximum Endurance ⁽³⁾		4 h 5 m
T/O & Landing Ceiling		-1000 ft ±15,000 ft
Flight Ceiling		20,000 ft
Rate Of Climb		2,350 ft/min

⁽¹⁾ MCP, average mission weight

⁽²⁾ No fuel Reserve

⁽³⁾ TOP, average mission weight

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