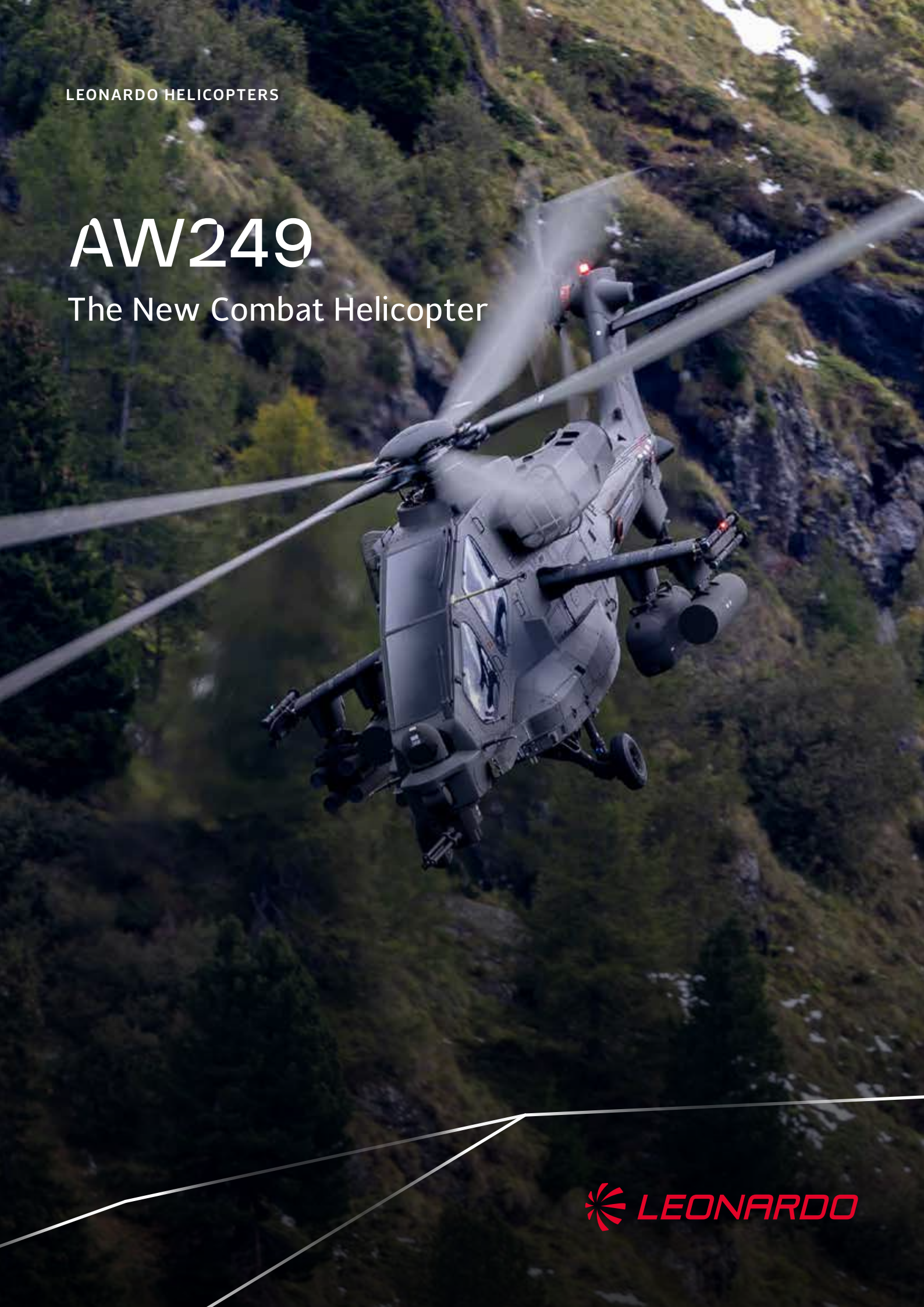
LEONARDO HELICOPTERS

# AW249

## The New Combat Helicopter



LEONARDO


AW249

## THE NEW COMBAT HELICOPTER

# With a long history, expertise and continuous development in military combat helicopters, Leonardo presents AW249

As a new combat helicopter, the AW249 is technologically advanced with outstanding performance and high survivability; it has greater speed, range and endurance for deep strike operations. Fully equipped for the modern battlefield, it offers full digital military networking for multi-domain operations with the capacity for Crewed-Uncrewed teaming. 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 with systems providing real-time active obstacle/terrain scanning and digitalization, the helicopter allows crews prompt stand-off target identification and engagement with both self-carried or remotely launched weaponry.

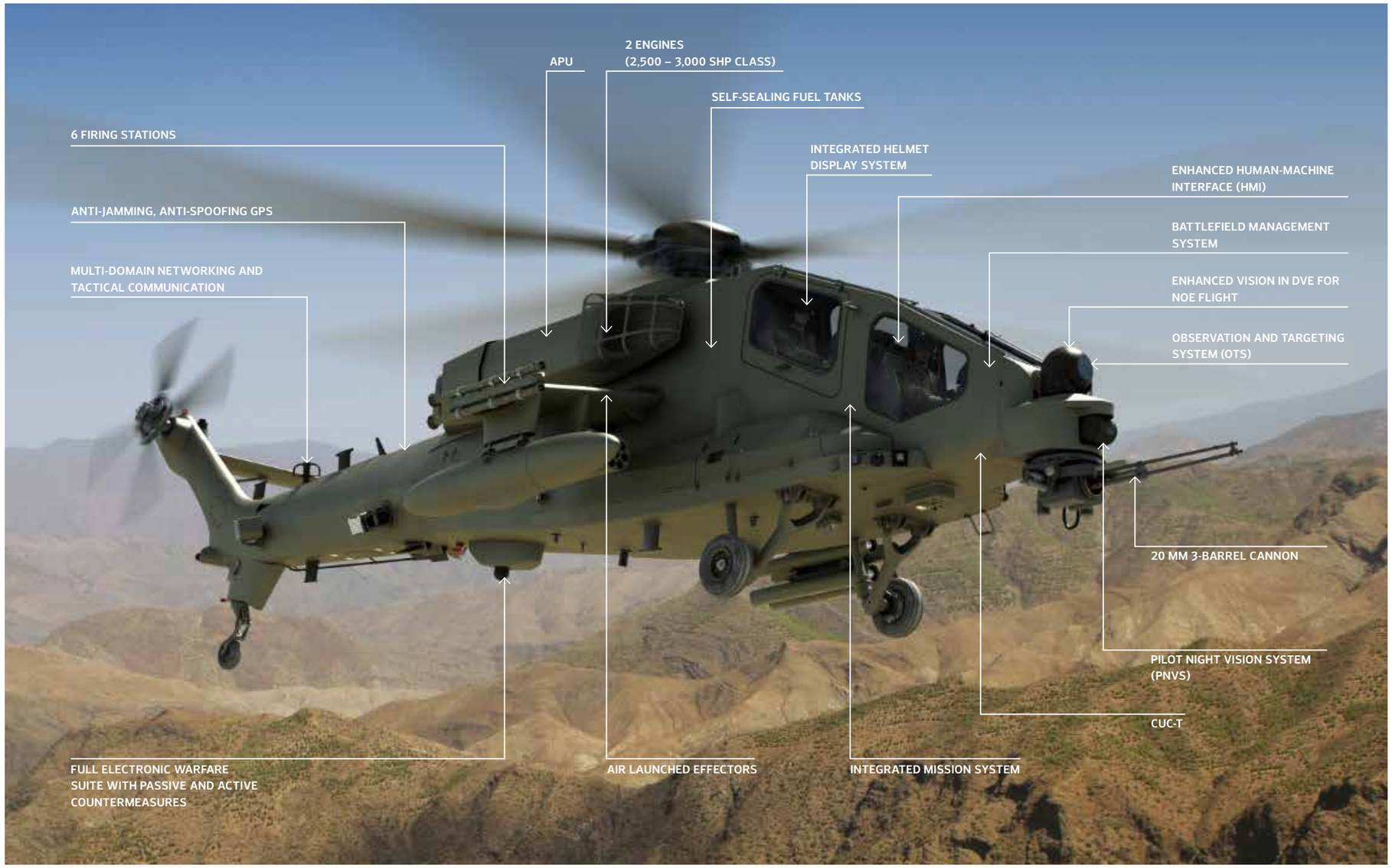
The AW249 boasts high power-to-weight ratio and low weight in its class, enabling the agility necessary for Nap Of the Earth flying, though maintaining a low piloting workload thanks to functions such as the Automatic Tactical Navigation. The anti-jam and anti-spoofing GPS and a full Electronic Warfare suite with passive and active countermeasures all concur to make the AW249 suitable for any contested/threatened battlefield.

The lethality of the AW249 is granted by the swift and precise targeting capability made possible by exploiting its multi-spectral sensors and their processing algorithms providing sharp Automatic Target Recognition function.

The AW249 features an Open Avionics Architecture, fully owned by Leonardo Helicopters, granting the flexibility to embody new capabilities to adapt to the ever changing battlefield requirement and the technological evolutions.

The AW249 also provides very competitive maintenance and operating costs due to its modern design and commonality with the proven AW149's dynamic system. The design has been shaped under the guidance of the Italian Army and meets the strictest safety requirements of the European Defence Agency, NATO and EASA standards.

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




## 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
- 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

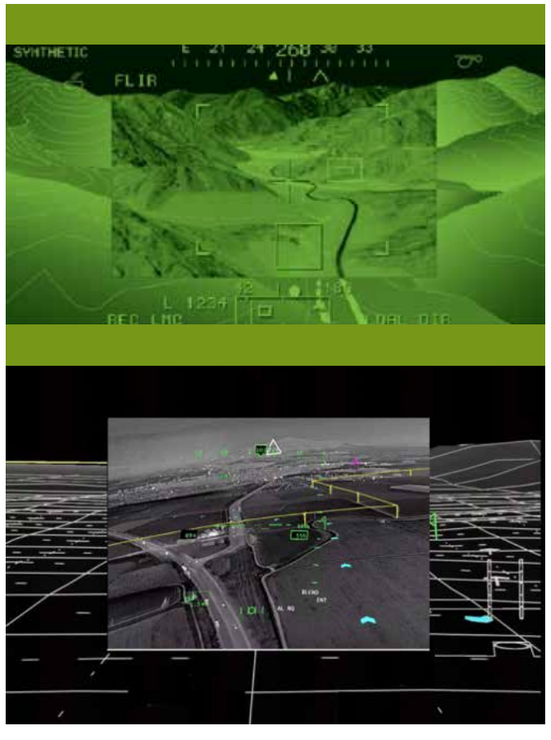
# ERGONOMICS & HMI

## 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.

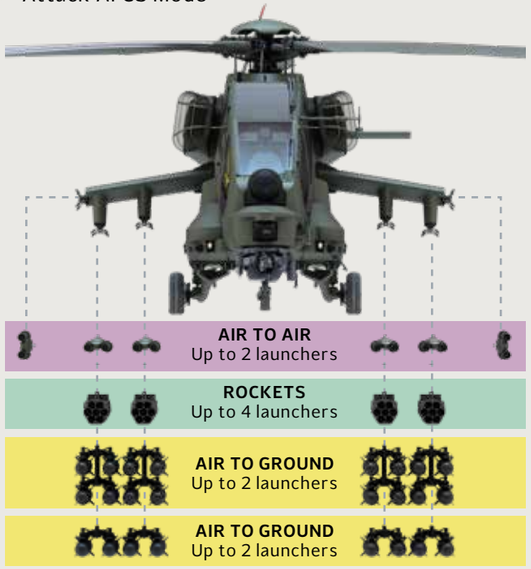
Ergonomic cockpit & next generation avionics for enhanced intuitive control of all aircraft systems. Large Area Display, Touch Screen with Gesture Recognition provides speed and accuracy of interface.

- → 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 weaponry solutions to include 70 mm Rockets, Air-to-Air & Air-to-Ground Missiles
- → 20 mm 3-barrel Cannon, Integrated Helmet Display System enslaved
- → Automatic Launcher Assisted Pitch Control
- → Attack AFCS Mode




## BATTLEFIELD DOMINANCE

The AW249 battlefield dominance is pursued by means of sensing the outer world, analyzing it and providing the crew with a processed result to shorten the tactical decision making process.
Key enablers are:

- → Sharp multispectrum sensors able to constantly scanning the terrain, digitalize it and a central avionic system able to automatically draw the tactical navigation path;
- → A powerful Battle Management System combining into several layers all the tactical information need to manage the mission
- → Automatic Target Regnition, exploiting either the own-carried sensors or those of a remote asset;
- → Low-latency secure networking with friendly assets.

An extensive range of smart weaponry is available, constantly and automatically providing the air vehicle with its own status and configuration, with LOAL and LOBL targeting, granting the greatest hit probability.

The AW249 is able to carry and conduct operations with Air Launched Effectors, which can be controlled up to LOI 4. The AW249's flight range is impressive compared to competitors, but it gets even higher when used in conjunction with other aerial collaborative assets.







# 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
- → Transmission dry run: 50 min
- → Flotation emergency system

## 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, trough 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 (UNISTALLED)**

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

**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 (i) | 287 km/h | 155 kt |
| Maximum Range (ii) | 796 km | 430 nm |
| Maximum Endurance (iii) | | 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 |

(i) MCP, average mission weight
(ii) No fuel Reserve
(iii) TOP, average mission weight

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