



HELICOPTERS DIVISION

AHERO EYE IN THE SKIES

 **LEONARDO**



AWHERO

TACTICAL RUAS

The new AWHERO Rotary Unmanned Air System (RUAS) benefits from the Leonardo's strength and extensive experience in rotorcraft development. The company ensures rapid systems integration thanks to its capabilities in every domain: Air Platform & Systems, Sensors, Datalink, Data processing and analysis, Cyber Security.

The highly technologically RUAS includes a range of key features:

- Safety Critical Systems Redundancy to ensure High System Integrity & Reliability
- Automatic Failure Management
- Multiple and modular payload capacity
- Manned-Unmanned teaming capabilities.

The AWHERO includes:

- A NATO STANAG-4586 compliant Ground Control Station with two operator positions to separate Command & Control safety critical functions from Payload Management
- One or more Air Vehicles
- Redundant datalink composed by a Command & Control and a Wide Band real-time Data Link system
- Transponder with ADS-B out and IFF as independent systems to locate the Air Vehicle.

The AWHERO development incorporates early design features such as:

- International aeronautical standards
- Reliability, Availability, Maintainability, Testability (RAMT) concepts.

MODULAR PAYLOAD BAYS

Two modular payload bays host a range of sensors. The payload can be nose, underbelly or side mounted. The nose bay can accommodate a 10" EO/IR turret or an 8" EO/IR turret with radar, while the underbelly and side bays can be used for heavier payloads.

MISSIONS

The AWHERO is designed to fulfill the spectrum of short-range military missions, either Battlefield or Maritime:

- ISTAR
- Force Protection
- Combat Support
- Route Clearance
- Cargo Re-Supply
- Maritime Security
- BLOS Comms Relay
- Antipiracy
- Riot Control

PAYLOAD

- EO/IR Turret
- Maritime RADAR
- SAR
- ESM
- ADS-B
- IFF
- LIDAR
- AIS

READY FOR LAND AND MARITIME OPERATIONS

The AWHERO can perform land operations from rough terrain and in harsh environment and is ideally suited for maritime operations. Its low footprint and light weight means that it can be easily maneuvered, stowed and maintained in ships facility.

MAIN NAVAL CAPABILITY

- Automatic Deck Takeoff & Landing
- Easy handling on the deck
- Minimum Time from Alert to Launch
- Foldable blades to minimize footprint in the hangar
- Heavy Fuel Engine
- Deck Lock system
- Integrated with ship Combat Management System.

DATA PROVISION AND INTEROPERABILITY

Due to its modular architecture, the AWHERO can be readily interfaced with the existing end-user networks in order to provide:

- Live Streaming Video
- Radar images
- Identified objects, ships, vehicles and persons
- Automatic Identification System (AIS) information and track of the vessels
- Georeferenced objects.

MAXIMIZED RELIABILITY

The AWHERO is the only RUAS in its class that has been designed to the same safety design concept applied to helicopters such as systems redundancy and guarantees high reliability and maintainability, ensuring low operating costs. Triple-redundant flight control and navigation system

- Redundant Data Link
- Dual-redundant electrical system
- Independent flight termination system
- Automatic emergency procedures:
 - Command & Control link loss contingency plans
 - GPS outage flight mode.

TRANSPORTABILITY

The AWHERO can be transported by land, sea, commercial air transport and strategic air lift. Blade fold without the need to remove any other part of the airframe reduces ranging for flight and quick stowage post flight. The system, including tools and spares, is storable in a 20ft standard container, compatible with global shipping requirement. The AWHERO stowage condition supports parent ship units in high sea state conditions.

MAINTENANCE, SUPPORT AND TRAINING

The Leonardo Helicopters Customer Support & Training worldwide network delivers an extensive range of support solutions that are tailored to meet the Customers' unique requirements ranging from routine spares & repairs, component availability solutions and frontline manpower support through to fully Integrated Operational Support solutions.

Leonardo Helicopters designs, develops and delivers integrated training solutions and services in the live and virtual training domains, from type conversion through to full operational and mission capability.



GROUND CONTROL STATION

- Flexible and modular hardware configuration options:
 - laptop
 - portable rugged
 - integrated with Control Room
- HMI designed leveraging the experience of Leonardo Helicopters' test pilots
- Compliant with STANAG 4586
- Common interface to control other Leonardo Helicopters unmanned platforms.

DATA LINK

Command & Control Data-link

- Secure encrypted transmission according to FIPS security standard (AES 256)
- Long-range coverage (50NM, optional 100NM)
- Duplex architecture solution provides complete hardware redundancy to maximize mission reliability.

Payload Data Link

- Wide band based on MIMO technology
- Up to 2 simultaneous full HD video transmissions
- State-of-the-art compression technologies and encryption system
- Net mesh capability
- Long-range coverage (50NM, optional 100NM)
- Auto-tracking capability based on GPS and signal strength.



AWHERO CHARACTERISTICS

Weights

MTOW	200 kg class	441 lb
Useful Load (Payload + Fuel)	85 kg	187 lb

Performance

Endurance	6 hours (at 35 kg payload)	
Ceiling	4,268 m	14,000 ft
Max Cruise Speed	167 km/h	90 kts

Dimensions

Main rotor diameter	4.00 m	13 ft 2 in
Length	3.70 m	12 ft 2 in
Height	1.20 m	3 ft 11 in
Width (with folded rotor)	1.2 m	3 ft 11 in

Engine	Heavy Fuel (JP-5, JP-8, Jet A-1)	
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