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LEONARDO HELICOPTERS

# AWHERO EYE IN THE SKIES



# A<sup>W</sup>HERO



## MILITARY GRADE TACTICAL ROTARY UAS

AWHero is the leading 200 kg class rotary UAS, leveraging on Leonardo's strength and extensive experience in rotorcraft development and system integration; it is the combination of Leonardo's best technologies, including Air Platform & Systems, Sensors, Datalink, Data Processing and Analysis, Cyber Security. With its modular, multi-payload capabilities and a mission-oriented architecture it is the perfect solution to enhance operational effectiveness, persistence and support commanders' decision making in complex maritime and land scenarios. Leonardo with AWHero as a military grade rotary UAS, is your capability partner to ensure and retain advantage over adversaries.

## MILITARY CERTIFIED

AWHero is the only Military Certified UAS in its class. Its certification, based on the worldwide endorsed STANAG 4702, demonstrates that the system's design, development, production and support meets Military Airworthiness Authority requirements, delivering the highest levels of mission reliability, availability and effectiveness to military and para-public organisations.

## ROLES & TASKS FLEXIBILITY

AWHero is based on a mature modular architecture that allows a wide range of in-the-field changeable payloads including Maritime RADAR, EO/IR, SIGINT, LIDAR, hyperspectral camera, communications relay and AIS. The two high capacity payload bays (nose and underbelly) allow for differing combinations of multi-sensors suites which can be configured for the mission to enhance effectiveness in a broad range of roles and tasks, including ISTAR, ASW, Electronic Warfare, Communication Relay, Border Protection, Combat support, Force Protection.

## ENHANCED CYBER RESILIENCE

AWHero embodies cybersecurity features, in order to enhance system survivability from cyber threats in degraded and contested military operating environments. Key features include a dual redundant frequency diversity encrypted data-link, configurable lost-link contingency procedures, anti-jamming GNSS and GNSS-out flight mode.

## NETWORKING AND DATA DISSEMINATION

AWHero is equipped with a wide band MeshNet capable data-link to disseminate real-time sensor data in the live theatre of operations to networked naval, land and air assets. The dual redundant data-link ensures a robust and resilient wide-band data dissemination capability, ensuring persistent wide area situational awareness even at maximum range.

Payload data transmission is fully compliant to STANAG formats including Video, Metadata and Radar data. Thanks to its modular architecture, AWHero can be readily interfaced with the end-users' existing networks satisfying specific interoperability and interchangeability needs.

## BORNE FOR NAVAL OPERATIONS

Using Leonardo's extensive experience of helicopter embarked operations, AWHero is the best choice for complex and high-end Maritime Operations. Features include: modular and multiple payload capabilities, full automatic deck takeoff & landing (no man on deck required), heavy fuel engine, deck lock system, ease of deck handling (including ranging, start up and recovery), minimum time from alert to launch, foldable blades to expedite deck operations, minimal footprint in the hangar and maximized compatibility with the ship's organic assets.

MIMO data-link with MeshNet capability supports by design multiple antennas in order to easily achieve the 360 degrees coverage around the ship. Control station design, containerized or fully integrated into the ship's command system, is optimized for the integration of the payload data into the Combat Management System in order to provide commanders with a comprehensive multi-domain FIND and FIX capability.

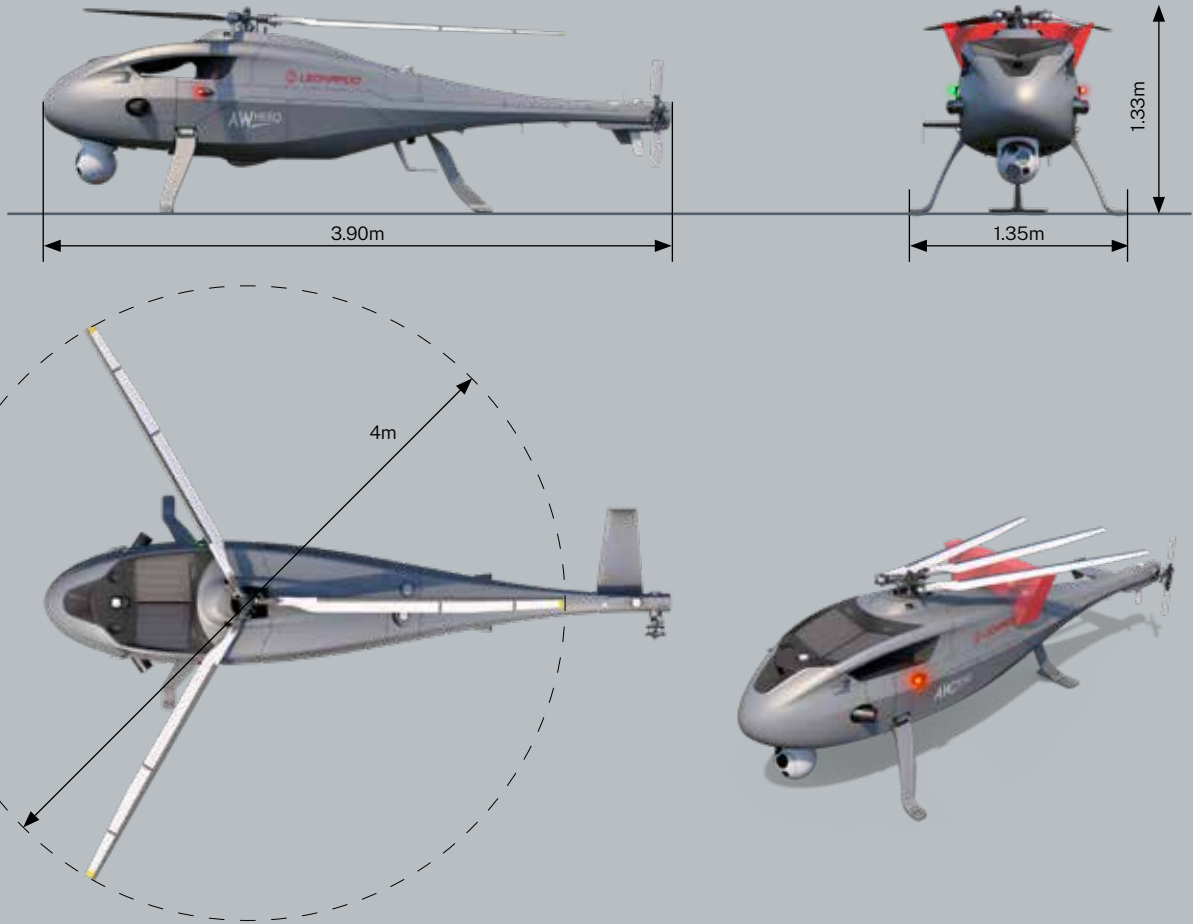
## MARITIME RADAR FOR UNPARALLELED WIDE AREA SURVEILLANCE

AWHero is unique in its class, capable of integrating the high performance Maritime Radar Gabbiano TS20 Ultra-Light to extend ship's detection horizon and effectively enhance situational awareness even in adverse weather conditions. The Gabbiano TS20 Ultra-Light Maritime Radar, manufactured by Leonardo, is a low SWAP multi-mode mechanical scan surveillance radar with 180° azimuth coverage. In maritime surveillance mode the radar has target Track While Scan (TWS) capabilities, Maritime Moving Target Indicator (MMTI) and a high resolution Inverse Synthetic-Aperture Radar (ISAR) and capability for target classification.

Alongside the Radar, the enhanced maritime surveillance multi-sensor suite includes the 8" EO/IR and AIS. Control Station HMI provides Radar Tracks and AIS data merge for potential threats first reconnaissance and automatic control of EO/IR to point and identify the selected target.



## AIR VEHICLE



## AWHERO CHARACTERISTICS

<b>MTOW</b>	200kg class
<b>Powerplant</b>	Heavy Fuel
<b>Payload</b>	Up to 40 kg underbelly bay, up to 20kg nose bay
<b>Endurance</b>	6 hours

### CONTROL STATION

- 2 Consoles: Command & Control and Payload Management
- Redundant design (Payload Console used as back-up of the Command & Control)
- Fully interoperable, STANAG 4586 compliant
- Fully compliant with relevant STANAG formats to allow a readily integration with ship CMS

### DATA LINK

- Redundant architecture with frequency diversity
- Secure encrypted transmission according to FIPS standard (AES 256)
- Wide band (10+ Mbps) based on MIMO technology
- State-of-the-art compression technologies
- MeshNet capability
- Long-range coverage (100km, extendable)

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