

LEONARDO ELECTRONICS

# MSS

## Mobile Surveillance System



The MSS is an high mobility vehicular integrated system for on field surveillance which includes radar sensors, an optronic system, a Command & Control and Communication facility. The components combined performances allow the system to detect air, ground and maritime targets up to the nominal distance of 40km.

All the components are mounted on a 4 wheel drive highly mobile platform which also host a power generator, an Air Conditioning Unit and a set of communications devices which allow, together with the C2 based interoperability features, easy integration with higher echelon units and with other cooperating units.

The sensor group is based on a set of TMMR digital radars, configurable from 1 to 4 units, and the ultra-long range NERIO-ULR optronic system which are mounted on a telescopic mast. The 4.5mt mast length, combined with the platform height, allow the sensors, to overcome surrounding obstacles and detect very small targets on the surface and at very low altitude. Typical small detectable targets include micro-drones and crouching people.

The Command and Control room hosts two workstations with 27" 4K Multi Touch Configurable Display. The Axios C2 SW provides the functionality to control the organic sensors, additional radars and different external sensors (i.e. an ESM/ Direction Finder).

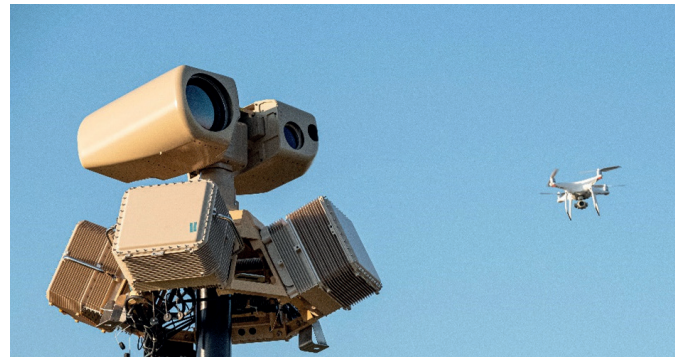
Sensor Data Processing and Multi source Data Fusion support the creation of a timely and reliable picture of the Controlled Area. Artificial Intelligence applied to image processing supports target tracking and classification. Threat Evaluation and Weapon Assignment can be added to the system when the MSS is connected to reaction systems (i.e. Jammers). A large set of communications interfaces allows the connection to controlled units (i.e. effectors) and other C2 systems.

The TMMR Multi-mission radar allows for detection of any moving/slow moving target from 0° to 90° degrees in elevation and in a 90° (120° degrees in extended mode) sector in azimuth. Detection distance of targets like micro-drones exceeds 7 km. Multiple TMMRs can be installed to cover larger surveillance sectors.

The TMMR use of C-band frequency allows an angle measurement precision sufficient to cue the NERIO-ULR on the target at a distance compatible with camera performances.

NERIO-ULR provides 24hr operational capability, and its Thermal Imaging camera combines an 11° to 0.9° zoom field-of-view high definition (HD) TI with a 360° x ± 60° system field of regard. The optronic system includes a high definition colour day TV camera with a compatible zoom field of view and optional, eye-safe Laser Rangefinder (LRF). The NERIO-URL allows for target recognition of targets like micro-drones beyond 5km.





## TECHNICAL SPECIFICATIONS

### AXIOS C2

- Two C2 Workstations with full functional reconfigurability and role/task assignment.

#### MAIN FUNCTIONS:

- Sensors Management
- Sensor Data Fusion
- Sensor Planning
- Threat Evaluation
- Weapon Assignment
- Interface/Comms management

### TMMR

- Search data rate: 2s
- Detection Max Range (Sw limited): 40 Km
- Minimum range: 150m
- Azimuth Detection (Standard Mode):  $\pm 45^\circ$
- Elevation Detection:  $0^\circ - 90^\circ$
- Weight: < 45 Kg

### NERIO-ULR

- Field of regard continuous:  $360^\circ$  (Az);  $\pm 60^\circ$  (El)

#### Small boat or vehicle range performances:

- Detection: > 40 Km
- Recognition: > 20 Km
- Identification: > 15 Km

#### Automatic Threat Detection and Tracking

### VEHICLE PLATFORM

- Overall length: 6290 mm
- Overall width: 2077 mm
- Gross Vehicle Weight: < 7000 Kg
- Payload: up to 4000 Kg
- Forging Depth w/o prep.: 650 mm
- Towing capability: 3500 Kg
- Single Cabin seats: 2+1
- Top Speed: max 90 Km/h

#### For more information:

infomarketing@leonardo.com

#### Leonardo Electronics

Via Tiburtina, Km 12.400, 00131 Rome-Italy  
T +39 06 41501, F +39 06 4131133

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