



ELTGROUP

LAND FORCE.

EMSO at the service
of Land Forces.

WE ARE ELT GROUP

Safeguarding the globe
with unmatched EMS expertise.

For over seven decades, we have been a beacon of innovation, leading the charge in shaping a secure future. Operating across 11 countries in Europe, the Middle East, Asia, and the USA, our commitment to excellence is evident in our extensive history and unwavering dedication to innovation.

Over the past three years, our significant investments in cutting-edge technologies have propelled us to the forefront of the Electromagnetic Spectrum (EMS) realm.

Collaborating with esteemed research institutions and universities, we've cultivated an Innovation Ecosystem, fostering groundbreaking solutions for defense, cybersecurity, and EMS. Our identity, deeply rooted in a rich history, has evolved into a global force, participating in major defense programs, and contributing to the sixth-generation fighter GCAP.

From cybersecurity to pioneering EMS technologies, our relentless pursuit of innovation goes hand in hand with sustainability, reflecting our forward-looking approach to building a safer and more stable world.

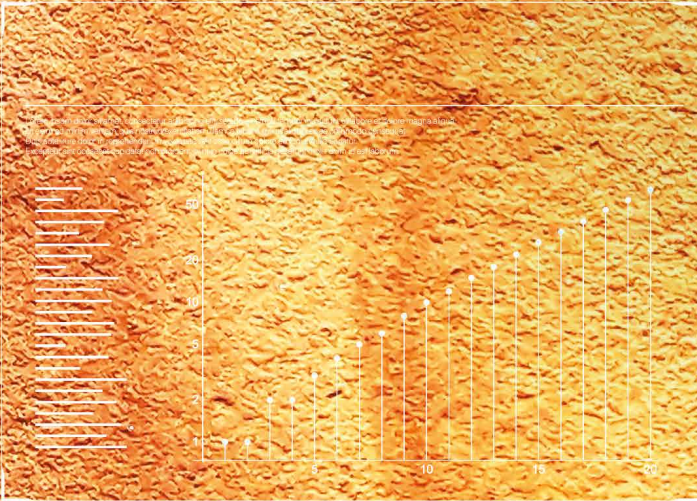
Our approach to Defense

Protecting people and assets with
integrated multi-domain solutions.

As a global leader in Electromagnetic Spectrum Operations (EMSO), our state-of-the-art technology portfolio features proprietary technologies and integrates various capabilities into software-defined systems. This enables our customers to engage in Electromagnetic Defense, Intelligence, Surveillance, Reconnaissance (ISR), Cyber ElectroMagnetic Activities (CEMA), and Asset and Information Protection through a multi-domain approach. Defense remains at the heart of our operations, with a product line spanning Electromagnetic Warfare and Intelligence, serving the Armed Forces of 30 nations across 5 continents.

Embracing a turn-key solution approach, Global Sustainment complements our offerings, providing a complete EMSO experience through education, training, advanced simulation systems, operational support, and full Life Cycle Management.

Our commitment extends to enhancing platform defense with multi-spectral defensive electronic attack and integrated sensor solutions, in order to fulfill our greatest goal: protect people and assets.



/01.

VEHICLE-SOLDIER-CONVOY PROTECTION

Providing a comprehensive approach to EM protection for humans, platforms and convoys, leveraging a range of advanced technologies to detect, neutralize, and learn from threats.

COUNTER-UAS ADRIAN ON-THE-MOVE

↳ Neutralization of LSS UAS while maneuvering.



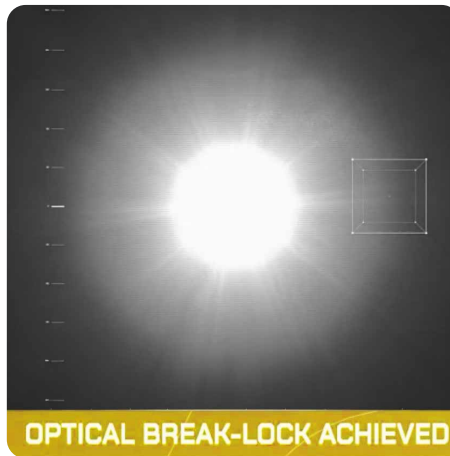
ADRIAN (Anti-Drone Interception Acquisition Neutralization) is a family of Counter-UAV solution designed to Intercept and Neutralize LSS (Low-Small-Slow) UAV (mini/micro/small) in multiple scenarios and environments. The family includes a special, distinctive and field proven on-the-move configuration, based on a modern and intuitive Command and Control, powered by AI-based algorithms, functionally integrates multispectral sensors and effectors.

↳ [Counter-UAS ADRIAN On-The-Move at a glance]

- 2D or 3D RADAR detection and tracking, as an option (radar-less configuration for extreme covertness)
- Direction Finder for RF up/down link detection and tracking (drone and Radio Control)
- EO/IR Cameras for detection, auto-tracking and visual confirmation (camera used as the main sensor in the radar-less configuration)
- Radio-link Demodulation and Decoding for protocol reconnaissance
- Radio-link smart jamming waveforms
- GNSS navigation disruption techniques (jamming and spoofing)
- Cyber Electromagnetic Attack enabling UAV Hi-jacking
- Integration with various assets of kinetic effectors

EO/IR SELF-PROTECTION

↳ Jamming and deception against EO/IR guided threats.



The ELT/577 DIRCM (Direct Infrared Counter Measure) triple band system belongs to ELT IR-based family of EO/IR Countermeasures systems. The system, with small size and weight (20 kg), provides a reliable and effective protection of vehicle and convoys. The product is used as a component of a Self-Protection Suite, to create jamming or deception effects against EO/IR guided missiles. When integrated in the Suite, the product generates the relevant jamming/deception techniques in a stand-alone mode or cooperating with passive decoys (flares) to enhance the effectiveness. It is based on Quantum Cascade Laser (QCL) solid state technology.

↳ [EO/IR Self-Protection at a glance]

- Fast, effective and reliable neutralization of present and future IR-guided missiles (adaptable to threat evolution)
- Prompt and effective reaction to counter multiple, even simultaneous threats (ELT patent)
- Rugged design for airborne environment
- Wide spatial coverage (well beyond the hemispherical sector) also with a single turret
- Complete European Solution

ELT/334 COUNTER-IED

↳ Protecting soldiers and vehicles from improvised explosive devices.



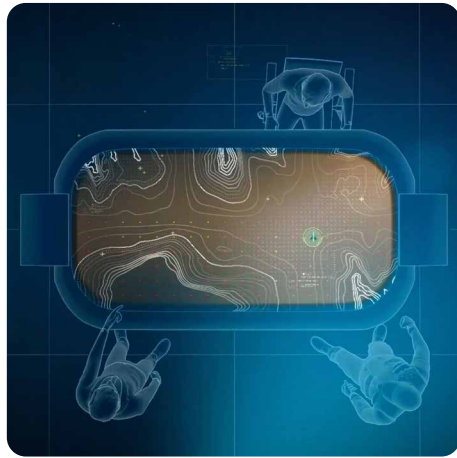
The family of devices ELT/334 is used for radio activation systems jamming of explosive devices called RC-IED (Remote Controlled Improvised Explosive Devices), operating in the VHF/UHF band. The system generates a noise signal, which prevents the activation signal, to arrive intact at the receiver and actuate the explosive device. It is available in man-portable and on-vehicle configurations.

↳ **[ELT/334 at a glance]**

- | | |
|---|--|
| → Enable unique mobility capabilities | → GPS for synchronization of multiple jammers at the same operational area |
| → Full coverage IED jamming system in single unit for threat up to 6GHz | → Scalable power output based on platform and requirements |
| → Waveforms are custom made according to specific project needs and constraints | → Easy to maintain, allowing very low MTTR |
| → Various configurations and Form factor | |

ELT/950 EWMANAGER

↳ Integrating and managing sensors and effectors across the EMS.



ELT/950 is a Command and Control system operating on the electromagnetic spectrum layer where more systems, on the same platform (ELT/950 EWM) or on more distributed platforms (ELT/950 LOKI), are managed. The product is designed for performing also in the Cyberspace domain.

The Electronic Warfare Manager (EWM) is a system aimed at integrating the management of:
Sensors: → On-board → Off-board (i.e. remotely controlled)

Shooters: → Active → Passive

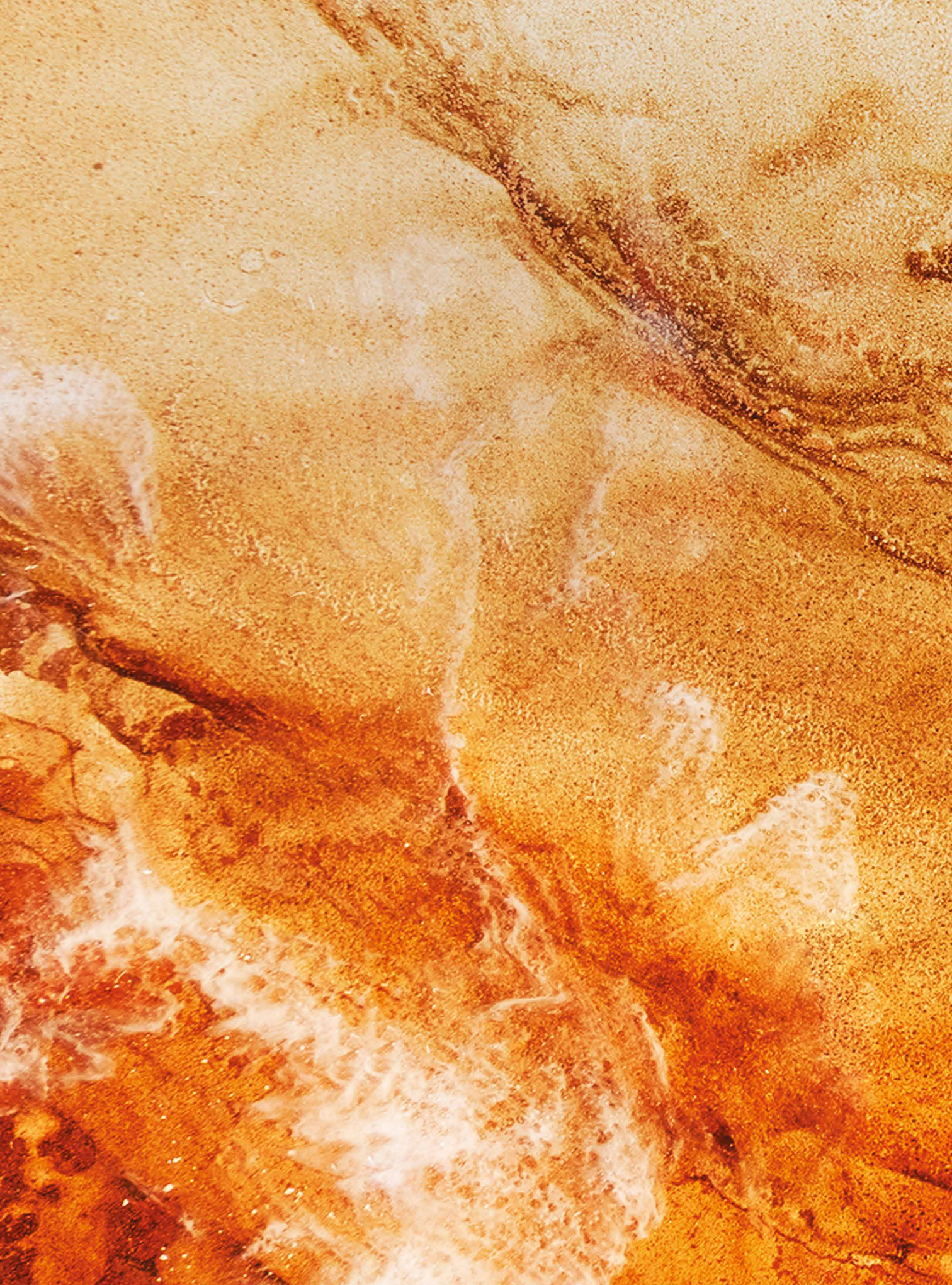
The EWM continuously retrieves data from the available sensors and performs a data fusion process aimed at stating what tracks are related to the same platform.


The aim of such process is: to create a synthesis of the surrounding environment; to state what platforms are present, what they are doing and what they will possibly do in the close future; to activate and coordinate the available countermeasures.

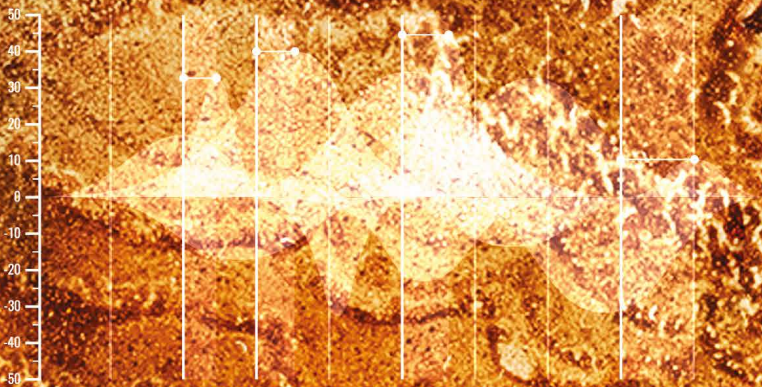
The EWM represents a single point to access the whole suite of EW Sensors and countermeasures enabling for Status Management and Library Management.

↳ [ELT/950 EWMManager at a glance]

- Control the Configuration and State
- Monitor the status of connected subsystems and User
- Load and dispatch mission libraries to the connected subsystems
- Record relevant information about the scenario evolution for Post Mission debriefing and analysis
- Picture Compilation: create a synthetic situation of the surrounding scenario
- Elint Analysis: provide means to perform dedicated technical analysis
- EWM periodically proposes a possible engagement plan



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/02.

SUPPORT TO GBAD

Information gathering, surveillance, warning and countermeasures over the EM Spectrum in support to Ground Based Air Defense.

TEWS

↳ A Comprehensive system-of-systems solution to detect-classify-identify and counter air threats.



TEWS is a very powerful integrated Electronic Warfare/SIGINT system of systems used for GBAD applications. The system is composed of several networked, rapidly deployable mobile tactical platforms.

TEWS' mission is:

- provide information on the electromagnetic and Signal Intelligence (SIGINT) scenario on adversary assets and emitters (Electronic Order of Battle – EOB);
- detection of adversary emitters located “deep” in neutral/enemy territory providing vital early warning information to effectively counter any likely aggression;
- maintain a local (or regional) aerial image in case you need to keep your SURVEILLANCE RADAR turned off due to anti-radiation missile (ARM) attacks;
- deny the use of the Electromagnetic Spectrum to sensors and/or threat communication, acting both in reactive (Area Protection) and preventive (Electronic Attack) modes.

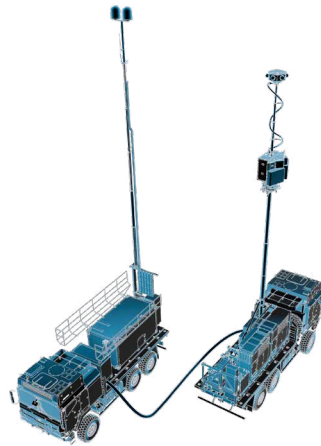
The system is made up of operational cells, each of which is made up of an EWC2 mobile station, 3 ESM/ELINT mobile stations, 3 ECM mobile stations in the Radar band, 1 CESM/COMINT mobile station and 1 or more Communication ECM mobile stations. The sensors and effectors are based on proven ELT technologies.

↳ [TEWS at a glance]

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|---|--|
| → Passive detection & Location (EOB Production) | → Emitters and Weapon System Identification by libraries |
| → High Value Sites and Area protection | → SEI Library and SEI function available |
| → Electronic Attack | → Data Link, High Speed/Long-Range |
| → Briefing/Debriefing procedure available | → Wide RF Range Jamming |
| → Intelligence Data Acquisition | |

ANTI-SAR ZENITHAL JAMMER

↳ A unique system in the field of Radar Countermeasures.



The product is used in support to land military operations by offering electromagnetic countermeasures (jamming, deception) against aerial platforms equipped by Synthetic Aperture Radars (SAR).

The product is an all-in-one solution for search-track-countermeasure of aerial threats equipped by Synthetic Aperture Radars, in order to deny/degrade the use of the electromagnetic spectrum (jamming) as well as create false targets or obfuscate the real target with fake images/spots. The product is particularly effective in land/naval operations against aerial platforms equipped with radar imaging sensors, such as drones or satellites. The product is based on a solid-state AESA (Active Electronically Scanning Array) mono-pulse architecture, with receiving/transmitting capability, reprogrammable in terms of countermeasures techniques and wide operational bandwidth.

↳ [ANTI-SAR ZENITHAL JAMMER at a glance]

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| → Passive detection (ESM Electronic Support Measure) | → Availability for Naval Platform and Ground mounted platform |
| → Azimuth/Elevation Direction of Arrival Estimation | → Critical asset protection by means of image hiding |
| → Classification of SAR Target | → Deception capabilities (i.e. generations of customized false targets) |
| → ECM (Electronic Counter Measure) capability versus Satellite SAR systems | → Patented Jamming Architecture Solution |

ADRIAN

↳ Countering commercial drones to protect critical infrastructures.



ADRIAN (Anti-Drone Interception Acquisition Neutralization) is a family of Counter-UAV solutions designed to Intercept and Neutralize LSS (Low-Small-Slow) UAV (mini/micro) in multiple scenarios and environments. The family includes versions for fixed and transportable deployment.

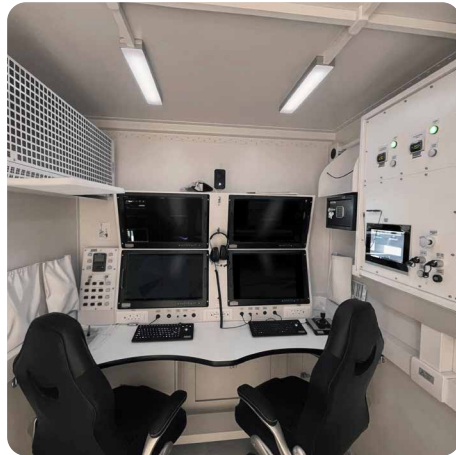
A modern and intuitive Command and Control, powered by AI-based algorithms, functionally integrates multispectral sensors and effectors.

↳ [ADRIAN at a glance]

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|---|--|
| → 2D or 3D RADAR detection and tracking | → Radio-link smart jamming waveforms |
| → Direction Finder for RF up/down link detection and tracking (drone and Radio Control) | → GNSS navigation disruption techniques (jamming and spoofing) |
| → EO/IR Cameras for detection, autotracking and visual confirmation | → Cyber Electromagnetic Attack enabling UAV Hi-jacking |
| → Radio-link Demodulation and Decoding for protocol reconnaissance | → Integration with Hard-Kill various assets |
| → Real-time data fusion across all sensors | |

AURELIUS

↳ Countering small-class UAVs to protect critical infrastructures.



AURELIUS is a family of Counter-UAV solutions designed to Detect-Classify-Track UAV (class Small) in multiple scenarios and environments. The family includes versions for fixed and transportable deployment, integrating:

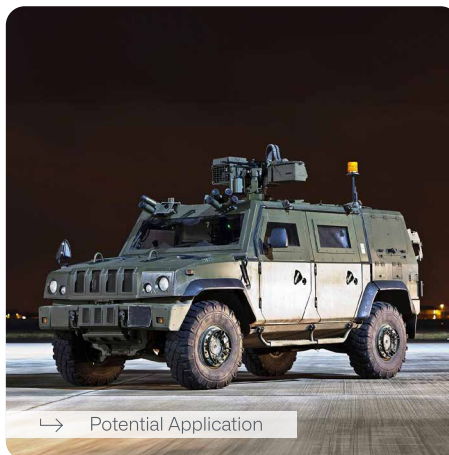
- RADAR – High class 3D Radar to guarantee an extended detection/tracking of class II drones;
- EO/IR CAMERA- queued to Radar and/or RDF to confirm the identification and track the drone;
- RADIO DIRECTION FINDING – RDF passive sensor to intercept video and telemetry downlink signals to detect the bearing of drones;
- ADS-B Receiver – This sensor receives the ADS-B signal to monitor the avionic traffic and display the situation on the map;
- Command and Control, to manage all the components of the system, implements the sensor data fusion AI-based Image Recognition and Emitter Identification for Target Classification;
- Anomalous Behavior Detection-Classification and Loaded-Unloaded Target Recognition;
- When integrated with ELT TEWS system, AURELIUS provides Electromagnetic Neutralization and integration with a weapon system.

↳ [AURELIUS at a glance]

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|--|--|
| → Detection of very low power and Frequency Hopping Signals | → GNSS spoofing to force drone landing in a safe area |
| → Real-time threat analysis (classification, identification, geo-location) | → User-friendly HMI, with immediate feedback on alarms and threat features |
| → Post analysis for forensic application | → External interface to central operative center |
| → UAV soft kill by countermeasure against radio control and GNSS system | → Easy deployable and possibility to integrate on mobile vehicles |

KARMA

↳ Clear Route.



KARMA (Kinetic Anti-dRone Mobile Asset) ensures convoy as well as outpost protection by assuring the monitoring of the skies over possible approaching threats.

KARMA is the most advanced and innovative Counter UAS solution capable to work without Radar, being silent from an Electromagnetic point of view.

KARMA is a fast deployable Counter UAS solution designed to detect, recognize and identify UAS Class 1 and 2 and it works in a mobile as well as steady configuration.

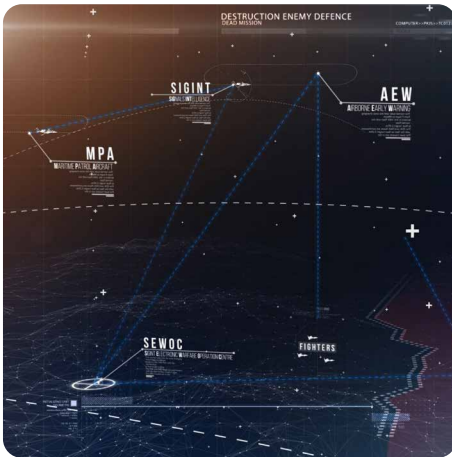
KARMA is the most modular and scalable solution, integrable in a wider and complex air defense network, with full flexibility to operate with a wide range of sensors and effectors, including kinetics, offering quick and tailored response to forthcoming dangers. KARMA's powerful neural networks empower the detection, identification and tracking of drones' cinematics in multiple scenarios and environments enabling UAS neutralization. KARMA is multidomain, fulfilling tasks ranging from Close Troops Protection to Air Defense and Homeland Security.

↳ [KARMA at a glance]

- | | |
|--|--|
| → Unique Radar-less and Kinetic approach | → GNSS jamming and spoofing |
| → Detection of Mini Micro and Small drones through powerful neural networks | → User-friendly HMI, with multi tracks pattern threats |
| → Real-time optical track wide scan threat analysis (classification, identification, tracking) | → External interface to central operative center |
| → Post analysis for forensic and training application | → Fast deployable and platform agnostic, can be integrated on any vehicles |
| → Jamming on ISM bands against radio-controlled threats including FPVs | |

EMSO C2

↳ The highest level of integration and management of spectrum-dependent systems.



EMSO demands a level of coordination and synchronization which is impossible without specialized capabilities that support EME situation awareness, coordination and priority of actions. Command and Control of EMSO (EMSO C2 as a pillar of the largest C5ISTAR) is growing as an emerging need, it includes: Mission simulation, Mission support, Training. It connects assets in the battlefield and creates a networked & distributed EMSO environment. It collects, fuses, correlates and synchronizes all contributions/data/information in order to present a common & recognized EMSO operational picture, giving also instructions and orders to achieve desired effects, ensuring C2 of forces by protection and resilience of links. It enables Decision Makers to monitor EMSO in the battlefield, achieving Spectrum Superiority and exercising effectively and completely C2 of all assets.

What difference it makes: enable Decision Makers to monitor EMSO in the battlefield in near real time, achieving Spectrum superiority and exercising effectively and completely C2 of all assets disseminating Domain Awareness, in one single tool, capable of managing Big Data.

↳ [EMSO C2 at a glance]

It can be used in the following capabilities:

→ EMSO contribution (Recognized Electro-Magnetic Picture) to Common Operational Picture

→ Spectrum Management, Spectrum Monitoring

→ Enable Maneuver in the Electromagnetic Environment (EME)

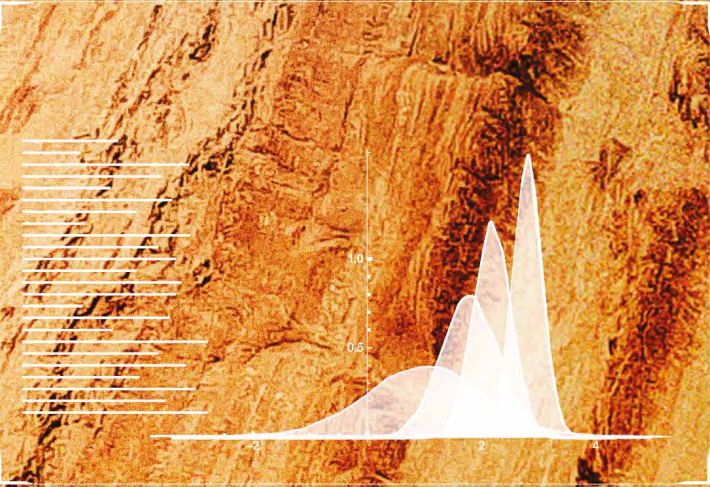
→ Situational Awareness/Land Domain Awareness

→ Information Warfare

→ EMSO-related assets (sensors & effectors) management (EMSO battlespace management)

→ Support to the Decision-Making process as a pillar of the larger C4ISTAR





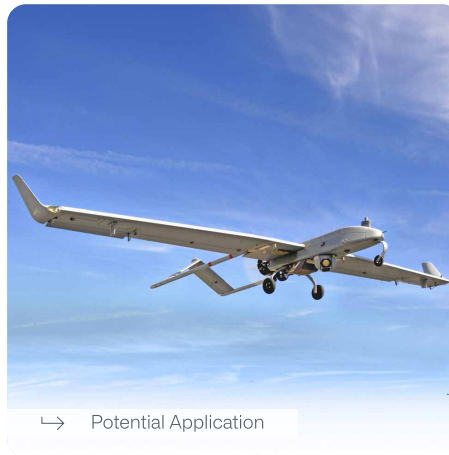
/03.

SUPPORT TO ISTAR

Leveraging the emerging unmanned assets to capture, process, and disseminate information across the electromagnetic spectrum.

ELT/1000

↳ SWAP solution of a Radar ESM for UAV/UGV.



ELT/1000 is a family of Radar ESM systems for installation on UV (Unmanned Vehicle) platforms. The product is used in support to land military operations by offering electromagnetic passive surveillance for intercepting, classifying and identifying and passively geo-locating radar RF signals. It is designed to be employed in light ISR missions performed by small airborne platforms such as Tactical UAVs. Envisaged applications are: Border Surveillance, Law Enforcement Operations, Intelligence.

The system is supported by a Ground Station of Mission-oriented Command and Control, jointly working with the platform Control Station.

The product is based on digital signal processing techniques and technologies and covers E-J frequency bands. Its SWAP characteristics are: 20 kg weight, unconditioned air cooling, 300W max power consumption.

↳ [ELT/1000 at a glance]

→ Radar Emitter measurement and technical parameters extraction

→ High accuracy Direction of Arrival

→ Emitter Geo-Location

→ High Recording Capacity

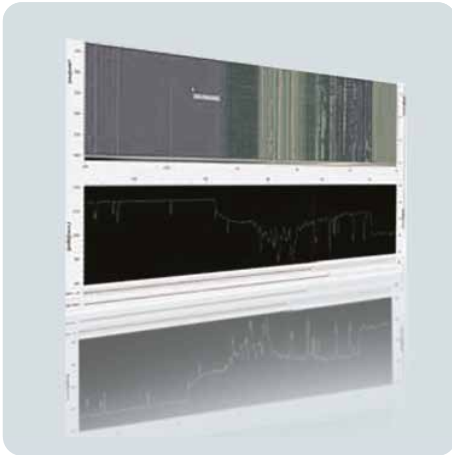
→ Very wide operative and instantaneous bandwidth

→ High sensitivity

→ High Probability of Intercept

ELT/1001

↳ SWAP solution of a Communication ESM for UAV/UGV.



ELT/1001 is a family of Communication ESM systems for installation on UV (Unmanned Vehicle) platforms. The product is used in support to land military operations by offering electromagnetic passive surveillance for intercepting, classifying and identifying Communication RF signals. It is designed to be employed in light ISR missions performed by small airborne platforms such as Tactical UAVs. Envisaged applications are: Border Surveillance, Law Enforcement Operations, Intelligence.

The system is supported by a Ground Station of Mission-oriented Command and Control, jointly working with the platform Control Station.

The product is based on digital signal processing techniques and technologies and covers UHF-VHF frequency bands. Its SWAP characteristics are: 30 kg weight, unconditioned air cooling, 400W max power consumption.

↳ [ELT/1001 at a glance]

- | | |
|--|---------------------------------|
| → Wide operative and instantaneous bandwidth | → Wide spatial coverage |
| → Selectable narrow band for analysis | → High sensitivity |
| → High Dynamic Range | → High Probability of Intercept |

Our solution

ELT Group is a world leader in Electronic Warfare for the aerial domain of military operation, with state-of-the-art technology portfolio that integrates several capabilities into software defined systems. This allows to perform Electronic Defense, ISR, Force Protection and extended combined aerial, terrestrial and naval operations with the same solution: full European technology at the service of Air Force.

Our solutions are designed for all types of platforms, from attack helicopters to transport planes, from special mission aircraft to unmanned aerial systems.

They are entirely conceived, developed and produced in-house, supported by internal R&D.

All our products and systems are designed for exportability.

We offer the following capabilities in Electronic Warfare:

- Electronic Defense
- Electro Optical Infra Red
- Self Protection
- Intelligence Surveillance_ Reconnaissance
- Homeland Security & Force Protection
- Global Sustainment

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