



Naval Supremacy

Full European technology at the service of Naval Supremacy



ELTGROUP
Defence

ELTGROUP.NET



ELTGROUP

**We do not
simply anticipate
the future**

Who we are

In a fast-changing world we represent the touchstone of technological evolution thanks to our creative and timely strategic thinking and an innovative portfolio of solutions unique in its entirety.

What we do

To offer the most innovative solutions to guarantee the security of people, means and information in the most complex operational scenarios: this is our sole mission.

Our clients recognise the uniqueness of our offering: to work with us means entrusting themselves to an international company of outstanding excellence which, thanks to its Italian roots, creates bespoke solution with professionals who mould the best technologies to suit their needs.

How we do it

We invest in our people, the most important asset, to anticipate the needs of tomorrow with the ingenious of today.

ELT Group designs and develops entirely in house, and complete the supply up to the finalization of each program, including integrations and installation on board of any type of platform. We use cutting edge technologies suitable for export.

We stay close to the customer with our network of offices, granting proximity to the end users of our solutions. A full expert and skilled team is at your disposal for the satisfaction of your EW exigencies.

ELT Group is a technical partner and a preferred solution provider of the Italian Armed Forces.

Electronic Defence

Anticipate and neutralize continuously evolving threats at the forefront of innovation for the protection of the fleet and the mission success.

VIRGILIUS INTEGRATED SYSTEM

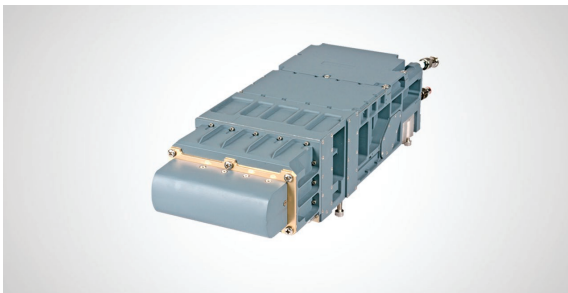
Shield & Spear

ALL IN ONE

Virgilius is the integrated system par excellence, where integrated means that its architecture is fully software definable and then you have RESM /RECM/CESM inside one solution. Specific threat awareness, surveillance and jamming functions are provided to the Combat Management System in full automated and continuous cycle. It becomes a consequence that it is suitable for a wide range of ships and missions, with a particular focus on operational roles such as Air Defence, Anti Submarine Warfare, Ballistic Missile Defence etc.

This powerful ability either supports ISR operation with deep ELINT/COMINT features.

All in one is perfectly witnessed by Virgilius integrated antenna system.



Virgilius RESM at a glance

VIRGILIUS is conceived to perform emitter detection, classification, identification and to counter a large threat variety including Multifunction and LPI Radars.

- Early Warning in-deep signal extraction and classification/identification
- Picture Compilation and update of the tactical situation, fusing the information in a unique integrated and synthetic picture
- Activation of “soft-kill” actions such as jamming and decoying
- Advanced Specific Emitter Identification (SEI) features

Virgilius RECM at a glance

Virgilius provides outstanding jamming functions in full automated and continuous cycle through its integrated Rx-Tx technology.

- Modular Effective Radiated Power generation
- Intelligent programmable deception countermeasures
- Highly flexible, to be configured taking into account the multiple installation constraints
- Selected by several Navies worldwide



Virgilius CESM at a glance

Virgilius can be extended in its surveillance range by the integration of ELT/332 CESM/COMINT system

- Detection and direction finding of radio emitters of interest
- Support to radar and Comm E.O.B.
- Analysis and classification of exotic signals
- Multi-sensor coordination for specific SIGINT tasks



Electronic Defence

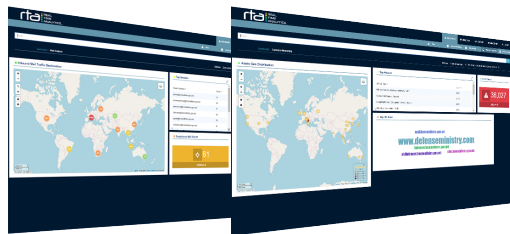
CYBER DEFENCE

REAL TIME ANALYTICS (RTA)

Ship Protection from Cyber Threats

A ship's EW infrastructure is designed to provide a set of cyber security capabilities that will be implemented and embedded in the overall architecture design. It allows monitoring of resource allocation and access control for systems and communications of the internal network to the EWS to discover specific anomalous behavior also in relation to different internal conditions. To this purpose has been developed RTA (Real Time Analytics) advanced internal monitoring module, responsible for overseeing every communication across the internal network and surveillance of the correct behavior and usage of resources within its subsystems.

The Real Time Analytics module is a solution provided by CY4Gate, an ELT Group Group company specialized in Cyber EW & Intelligence.



RTA at a glance

- Monitoring of the occurrence of possible anomalies and errors in the internal network
- Monitoring of all possible anomalies and errors of the processes and applications running on the EWS platform
- Collecting and enriching logs and raw data coming from subsystems and network in order to enable advanced "incident analysis" and support the specialists to generate a lessons learned package
- Recognize abnormal behavior in complex events using a Machine Learning approach
- Implement specific countermeasures that can be applied to the EWS context to contain the impact on classified threats by isolation of a system / subsystem / sub-network showing an anomalous behavior and the request for a specific system validation

Electro Optical Infra Red

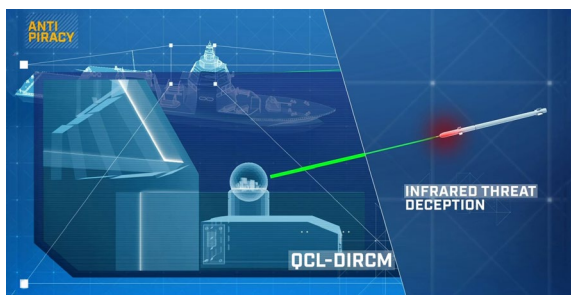
A 360° capability against most deadly threats represented by IR-guided missiles and leveraging the combat capability of the ship.

QCL-BASED DIRCM SYSTEM

Fit for the purpose

QCL-DIRCM represents the next generation in DIRCM technology, but already available and free of export restrictions. It introduces Quantum cascade lasers to generate countermeasures, which represents a decisive step forward compared to semiconductor laser technology, along with a very compact design, now including a spherical dome.

QCL-DIRCM can be installed on every type of surface ships.



QCL-DIRCM 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 shipborne environment
- Wide spatial coverage (well beyond the hemispherical sector) also with a single turret
- Complete European Solution

Intelligence Surveillance Reconnaissance

Deliver a unique capability for full ISR operations through a combination of different assets with a new generation of systems.

VIRGILIUS

Shield & Spear - Feed the intelligence cycle

Virgilius is designed for advanced Signal Intelligence missions within the ship's integrated EW suite. Its function is to collect electromagnetic emissions to determine their inherent features, including "fingerprinting" of the systems associated with them in order to feed the "intelligence" cycle.

Flexible deployment also allows tactical use during preparation and support for joint missions, for example on airborne Early Warning platforms.

There are no obstacles that intelligent technology cannot overcome.



Virgilius additional SIGINT features

- Wide instantaneous IF bandwidth
- Capability to operate in dense, complex and a priori unknown electromagnetic scenarios
- E.o.B. creation/updating and presentation on digital maps
- Very accurate DOA measurements
- Automatic and computer-aided fine analysis both at Interpulse and Intrapulse level
- Digital recording of all the acquired data (PdMs and Intrapulse analysis data)
- Capability to be tasked and interrogated (through the on-board communication facilities) by a remote command center in a Network-Centric Architecture

ELT/332

Silent Sentinel

When the mission requires thoughtful knowledge of the electromagnetic environment and you need to anticipate the enemy's behavior then you come to ELT/332.

ELT/332 is the perfect completion to the ESM ship's suite, by extending the electronic surveillance to radio bands of interest. Not only monitoring and direction finding but, by mean of additional automatic features, nothing will go unnoticed and even the densest electromagnetic scenarios will be detected, demodulated and classified.



ELT/332 at a glance

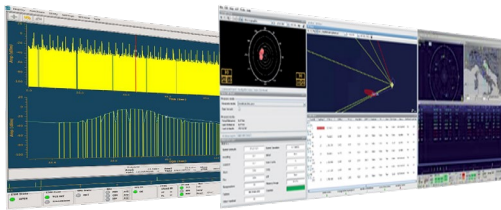
- Detection and Direction Finding of very short emissions
- Automatic warning of high priority emitters
- Operate also with raw data libraries (mission data)
- Automatically analyze, classify, display and record also unknown emissions
- Capability to operate as CESM controller that exploits/performs functions for multi-sensor coordination

Intelligence Surveillance Reconnaissance

ELT/1000

Advanced Patrol

Rotor UAV are nowadays widely used by modern Navies. ELT/1000 is a compact and high performance Radar ESM payload designed to support EW mission upon integration into this type of UAS. Its function is to collect electromagnetic emissions by extending the detection range with the flight range of the UAS. The next step is to fuse the UAS sensor's data into a complete and update Common Operation Picture. SWaP characteristics are achieved through compact design and high integration technology assuring the installability on the majority of tactical unmanned platforms that are currently available on the market.



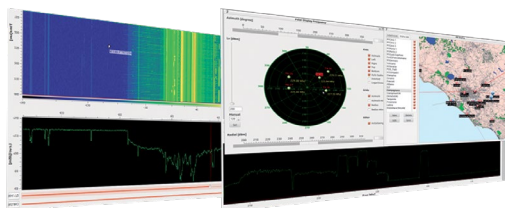
ELT/1000 at a glance

- 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

Ears over the horizon

The ideal completion of a full naval Signal Intelligence capability. Tailored to be installed on a Rotor, ELT/1001 is a compact and high performance Communication ESM payload designed to support EW mission upon integration into UAS. The System is designed for fast real-time interception, direction finding and automatic pre-classification of complex broadband signals, frequency-agile transmissions (e.g. frequency hopping emitters) and analog/digital modulated signals. All these features allow the system to fully respond to all the requirements connected to Intelligence, Surveillance and Reconnaissance missions performed by small airborne platforms. The highly modular and scalable architecture allows the ELT/1001 CISM-COMINT System to be either used as a standalone unmanned sensor or to be integrated in a complete SIGINT System.



ELT/1001 at a glance

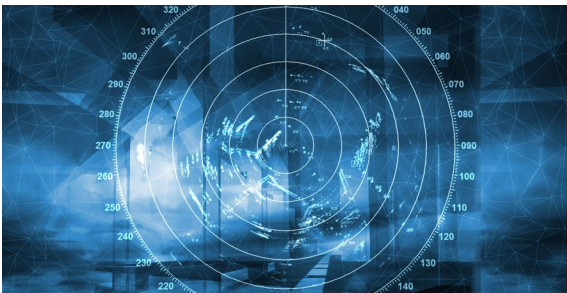
- Surveillance of the electromagnetic spectrum by performing automatic detection, discrimination, pre-classification and first-level identification of communication emitters
- Demodulation of communication signals and content production with real-time audio listening
- Wideband recording of RF signals for data collection and off-line analysis
- Extremely light, compact, low power and rugged design allowing installation on the majority of tactical platforms with severe SWaP requirements
- Large storage capability for recording large data, allowing to support long duration missions

Intelligence Surveillance Reconnaissance

EWM Master Mind

You cannot leave the complex system of systems of an Electronic Warfare Suite without its Master.

Electronic Warfare Manager, named ELT/950, is the solution. It is the innovative Command and Control developed to integrate and manage networked EW sensors and actuators, delivering automatic means to evaluate the most effective deployment of the available resources in order to maximize the effectiveness of the measures and countermeasures adoptable by the ship. Just one interface to the platform, it is the ideal partner of any modern Combat Management System, providing full-automated data flow and specific interfaces for “ad hoc” activities, such as emitters’ characterization, recording and retrieval of EW events.



EWM at a glance

- Mission Planning
- Distributed Sensor Data Fusion and Situation Assessment Dissemination
- Distributed Passive Emitter Tracking
- Active Countermeasure management (effectiveness prediction) and activation
- Scalability
- Platform/Protocol Independence

Homeland Security & Force Protection

Deliver a comprehensive capability to assure a global security.

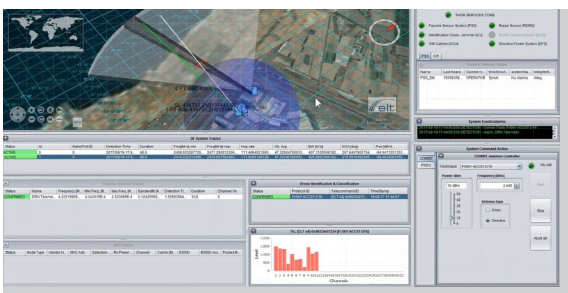
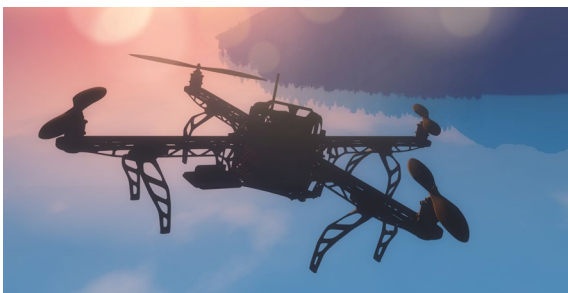
ADRIAN

Clear Waters

ADRIAN (Anti-Drone Interception Acquisition Neutralization) takes control of no-drone areas and assures detection, identification and appropriate reaction if becoming a potential threat.

ADRIAN is the state-of-the-art Counter-UAV solution designed to intercept and neutralize LSS (Low-Small-Slow) UAVs in multiple scenarios and environments, including coastal lines, harbor facilities, open seas. ADRIAN can detect and resolve the latest problems in ships global security.

ADRIAN is the most complete solution available worldwide, integration 2D and 3D radar thanks to its system of systems architecture. ADRIAN is multidomain, fulfilling tasks ranging from Air Defence to Homeland Security.



ADRIAN at a glance

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

Homeland Security & Force Protection

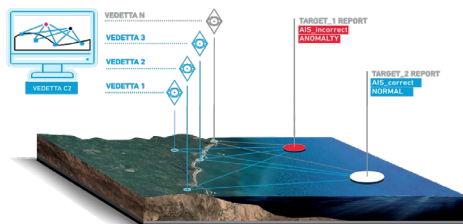
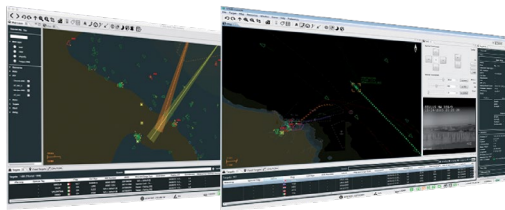
VEDETTA

Blue Border Surveillance

VEDETTA (Vessel Enhanced DETection and TrAffic Acquisition) is a passive detection and geo-location System for coastal and sensitive infrastructures surveillance.

VEDETTA is a Multi-Sensor System that can be used in stand-alone operation, as well as in cooperative scenarios with VTS (Vessel Traffic Service).

The System is meant to be a support and gap-filler to the traditional maritime traffic surveillance.



VEDETTA at a glance

- VEDETTA provides innovative features and significant added value in the maritime traffic monitoring service (greater robustness against illegal activities)
- The Specific Emitter Identification (SEI) on AIS signals is able to verify the identity of the respective emitter
- VEDETTA also reveals, in a completely autonomous way, abnormal naval courses that could indicate potential illegal activities

Global Sustainment

Mastering the Electronic Warfare full capability with a global training, operational support and lifecycle logistic management in one global solution.

Customer Support & EW Academy

Global Sustainment for Global Success

ELT Group considers customer support as a global capability across all domains.

It consists of a complete, modular program to sustain the enter-into-service, training, maintenance & overhaul, mid-life upgrade and decommissioning phases of all ELT Group systems.

EW Academy is the new program developed to provide a full series of tools for customers, training and full immersion experiences related to the systems provided. Highly specialised EW experts with heterogeneous knowledge of the various scenarios and products are available to users.

The Electronic Warfare Simulation & Training Center also offers training in an innovative EW BATTLE LAB with 3D simulation.

We deliver Global Sustainment because the success of a system lies in the combination of technologies and human skills.



Our solutions

ELT Group is world leader in naval surveillance, protection and intelligence operations, with a state-of-the-art technology portfolio that integrates several capabilities into software defined systems. This allows to carry on Electronic Defence, ISR, Cyber Defence and extended Naval airborne operations with the same solution: full European technology at the service of naval supremacy.

Our solutions are designed for all types of naval platforms, from surface ships to submarine, from special missions' vessels up to ASW/MPA airplanes and Unmanned Aerial Systems.

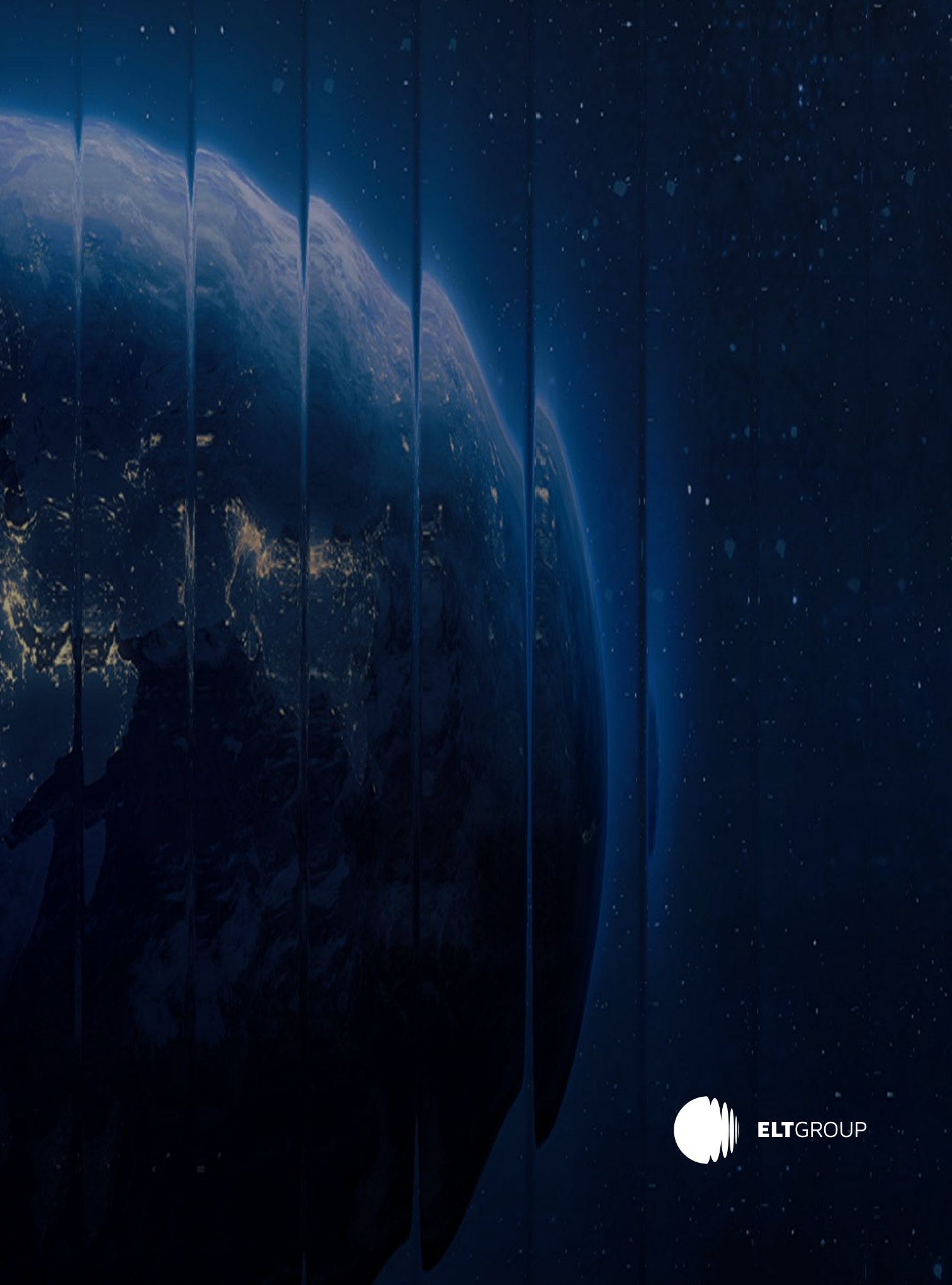
In the last decade we have been proudly selected by Navies from Europe, Asia, North Africa as their EW Provider, commissioning nearly 70 surface and submarine units.

Our equipment and systems are entirely conceived, developed and produced in-house and are all designed for exportability.

We offer the following capabilities in Electronic Warfare:

- Electronic Defence
- Electro Optical Infra Red
- Intelligence Surveillance Reconnaissance
- Homeland Security & Force Protection
- Global Sustainment





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