



DEFENCE SYSTEMS

BY SPECIALISTS IN UNDERWATER ACOUSTICS AND ELECTRONICS

The most advanced technology, adapted to your requirement.

ELECTRÓNICA SUBMARINA



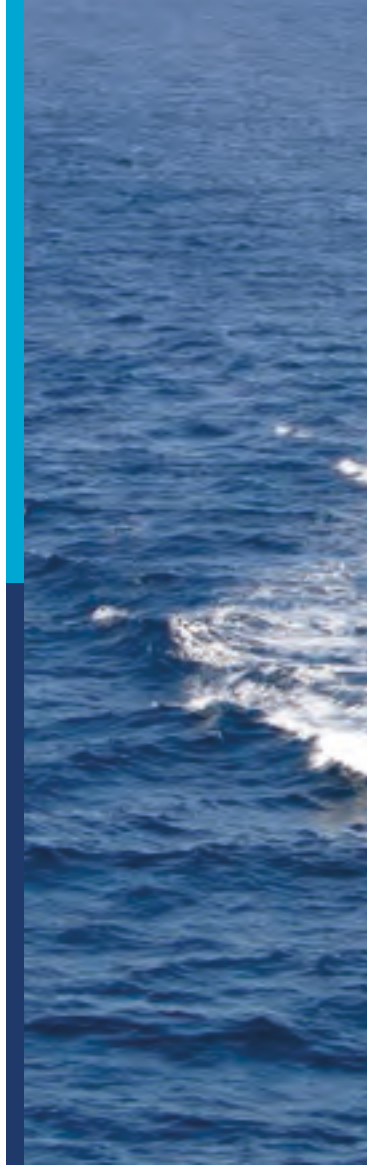


Solutions for submarine and anti-submarine warfare.

We develop sonar systems, naval mines and ASW systems for airborne and surface-borne. Furthermore, we are at the forefront of the market in Signature Intelligence area, covering the acoustic, electric and magnetic signatures of ships. We can provide you with the equipment and knowledge you need for measurement, analysis and intelligence collection.

International Presence.

The SAES technology is in service for a number of Navies and Naval Forces in 5 continents. We have high-tech systems for all kind of platforms involved in naval war such as minehunters, frigates, ASW helos and MPAs.







Response to any scenario.





DDS-03

Diver detection sonar for underwater protection of ships and critical infrastructure.

360° coverage. Automatic threat detection and alarms. High performance in unfavourable conditions like warm waters. Remote monitoring using wireless devices. Underwater warnings to dissuade the diver from continuing his approach.



Our ASW systems, both onboard and ground-based, enable for the best planning of the mission, efficient execution and acoustic intelligence collection.



ROASW

Sonobuoy acoustic processor that provides interoperability among ASW platforms.



Advanced techniques and algorithms for signal processing and acoustic classification.

Automatic contact detection and threat location. Including multistatic tools for a most effective tracking of the contact.

Remote management of ASW mission from the ship. No need for acoustic operation in the helicopter.

Common operational tactical chart for tactical, sensor (both acoustic and non-acoustic) and intelligence information to be exchanged between the platforms deployed.

The most suitable sonobuoy processor for small vessels and small ASW helicopters even unmanned ones.



Smart naval mines. A design for each scenario.

Cylindrical bottom mine for multipurpose. Wide range of depths.

Moored mines for deep waters.

Conical shape mines for shallow waters.

Safety on board.

It is safe to use on board as no pyrotechnic or pressure elements are needed to operate it. No special procedures are required for its use.

The mine includes signal recording capability, an auto-recovery system controlled by an acoustic link and a remote control function via acoustic link for changing the parameters once the mine is deployed.



MINEA

The most advanced smart naval mines for training.

Main features

Precision sensors: magnetic triaxial, electric triaxial UEP and ELFE, acoustic, seismic triaxial, pressure.

Easily deployed from any type of vessel or crafts.

Unit designed for submarine launching.

Automatic recovering system that does not require divers.

Signal recording and analysis tools.



Special Operations.

High efficiency to neutralize threats. Excellent results in detonation tests against up to 36 mm thick steel marine targets.

Faster activation and programming.

It incorporates a computer-controlled detonation system.

Lighter and greater distances.

Its dimensions and light weight give the mine low hydrodynamic resistance enable easy transport and deployment.

These features allow a single diver to carry two units, being the mine specially appropriate for the most demanding operations.

Attaching to all types of surface.

High-density magnets for quickly installation in magnetic surfaces. An additional device is available for fixing underwater to different types of surfaces.



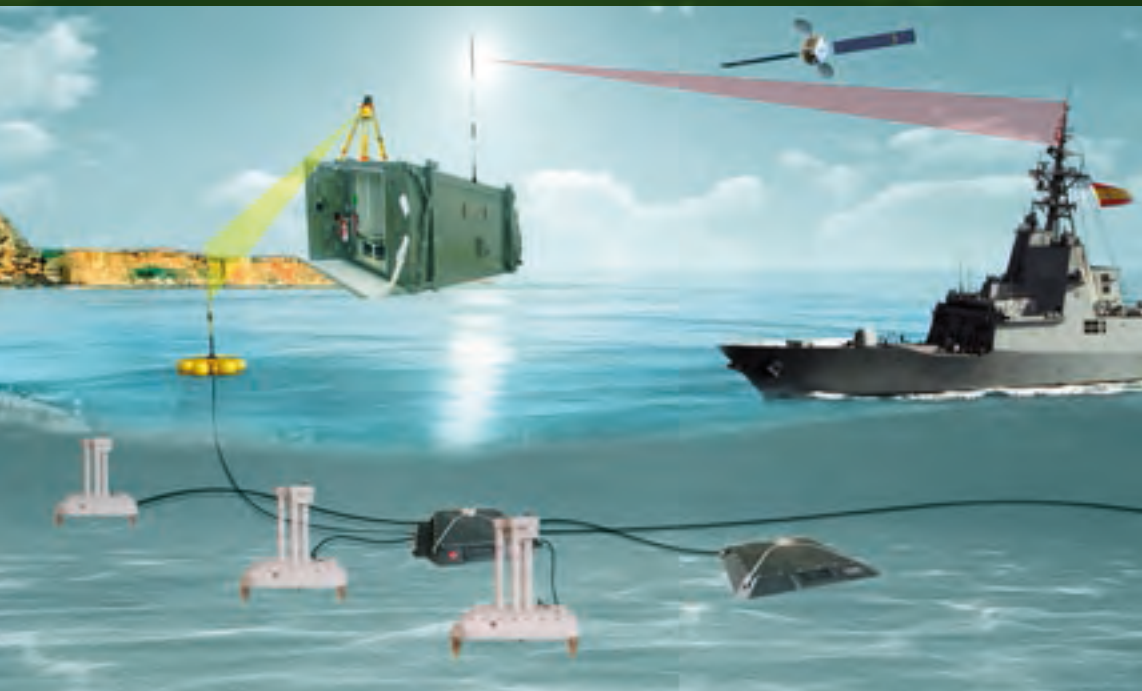
MILA

Underwater demolition charge
for special operation forces.



SIGNATURE MEASUREMENT & CONTROL FOR SHIPS AND SUBMARINES

Simultaneous measurement of acoustic, magnetic, electric, seismic and pressure underwater signatures.





MIRS

Portable range station for accurate measurement of ship signatures. Maximum precision anywhere.

Portable station.

Modular system. Its light weight and low consumption features allow MIRS to be easily deployed by two people from a rubber pneumatic boat.

Robust system in underwater conditions.

Minimal maintenance requirements, offering very good results when submerged for long periods of time. It can be used as a inconspicuous way for intelligence data collecting or as a fixed measurement station.

Signature data base.

The system enables to store, analyse and manage the ship signatures in order to have an intelligence signature database.

Real-time monitoring.

Tools for monitoring, graphical display and recording of different measured influences. Transmission of the data to the analysis center in real time.

Digital towed sonar with automatic deployment and **TAHS** collection system.
SEAPROF for acoustic propagation prediction and sonar performance calculation.
SICLA for acoustic classification of contacts and acoustic intelligence generation.
System for own noise and vibration monitoring **ONMS**.
DEWARS, for measurement of acoustic signature of submarines.
Underwater electric field sensor **SET 200/P** for electric signature measurement.
Service of analysis and modelling of underwater signatures.



More solutions

ONBOARD SYSTEMS

| Solutions for submarines and minehunters.



SPAS system for acoustic sonobuoy processing.
Acoustic analyzer FTAS for ASW mission support.
TAT system for acoustic training.

More solutions

ASW SYSTEMS

| Solutions for airborne and surface-borne. Ground support systems for post-mission analysis



A group of men, likely military or naval personnel, are seated in a classroom or training room, facing a large screen. The screen displays a simulation of a submarine, showing its internal structure and external components. The men are dressed in dark uniforms, and the room has a whiteboard in the background. The overall atmosphere is professional and focused on training.

SIMULATION AND TRAINING



Expertise and efficacy.

Our clients value our strong commitment to deliver on time and scope together with an effective equipment maintenance and specialized after-sales support.

Reducing development times and minimizing risks.

By means of simulators and stimulators of sonars, equipment simulators, interface simulators and other ad-hoc solutions for validation and test.

Tailored solutions for acoustic training of submarine crew and acoustic operators on ASW platforms.

Flexible and adaptable training programmes.

Training in underwater acoustics. Theory and principles.

Sonar detection and classification.

Sonar operation.

Theory of ship signatures. Measurement and analysis.

ASW acoustic operation.





We adapt to the client needs and the requirements of the program.

Engineering, in-house technology and our vast experience in large naval programs are at your service in order to provide you with flexible solutions, designed for adapting to your requirements, platform and scenarios. All developments and processes are subjected to strict standards and controls of quality both internal and external ones.



At the forefront of the market in underwater signal processing.

Our commitment is, from the scientific vocation and our experience, to provide you with the most advanced need-customized technology and specialized advice during all phases of your project.

The background of the advertisement is a photograph showing the silhouette of a submarine on the water's surface and a helicopter in flight above it. The scene is set against a dramatic sky with orange and yellow clouds, suggesting a sunset or sunrise. The submarine is positioned in the lower half of the frame, and the helicopter is in the upper left quadrant.

Expert engineers
In-house technical knowledge
Specialists in Underwater Acoustics and Electronics



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