



ELWAVE

ELECTRIC IMAGING

DETECTION

CLASSIFICATION

TRACKING

**Underwater
electric field sensing**

WWW.ELWAVE.FR

CONTACT@ELWAVE.FR

ELWAVE BRINGS A NEW SENSE IN SUBSEA OPERATIONS, THE ELECTRIC SENSE.

INSPIRED BY NATURE

Some fish can perceive their environment through electric fields, even in murky, complex waters. This remarkable biological sense — used for navigation, hunting, and obstacle avoidance — has inspired a new approach to subsea sensing.

OUR MISSION

ELWAVE transforms this natural ability into powerful new technologies for the underwater world. We develop bio-inspired electric sensors that detect and classify objects on the seabed and in the water column. This "electric sense" adds a new dimension to subsea perception, beyond acoustics, magnetic and optics.

FROM SCIENCE TO SYSTEM

Our expertise spans the entire development chain: electric sensing, electronics, signal processing, mechanics, and software. All ELWAVE systems are designed and built in-house, enabling us to deliver both standard products and tailored, mission-specific solutions.



ELWAVE IS SENSING
WHAT OTHERS MISS.

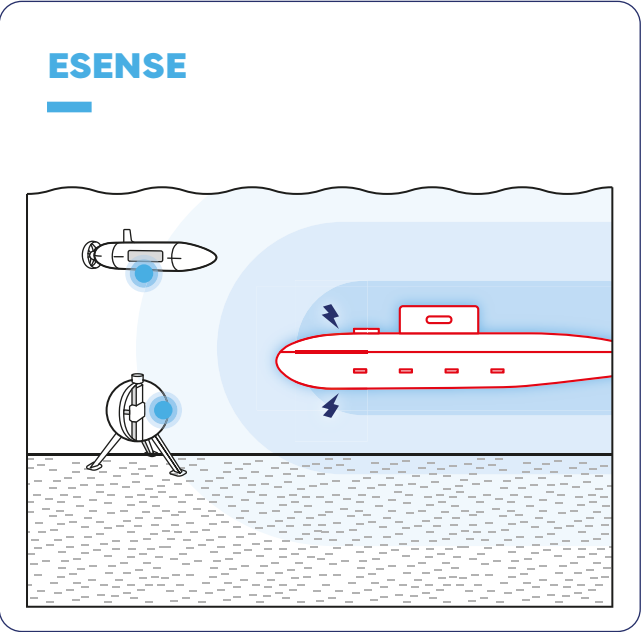
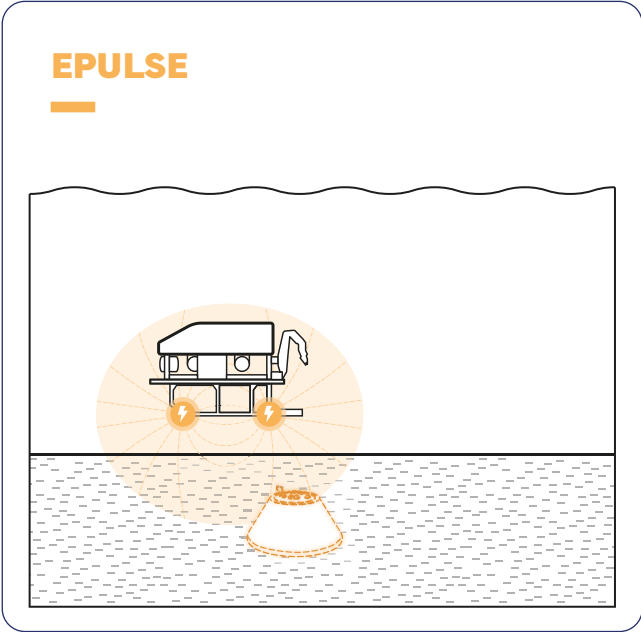


BIO-INSPIRED SENSING: ACTIVE AND PASSIVE ELECTRIC PERCEPTION.

ELWAVE offers a complete suite of subsea electric field sensors:

Active electric (EPULSE): generate an electric field around itself, any object with a different impedance will modify the field and thus be detected.

Passive electric (ESENSE): measures surrounding electric activity





RELIABILITY
Solid-state, no moving parts, titanium electrodes, ...



STEALTH
No acoustic emission



ELECTROMAGNETIC COMPATIBILITY (EMC)
Harmless to subsea environment & no interference with external sensors

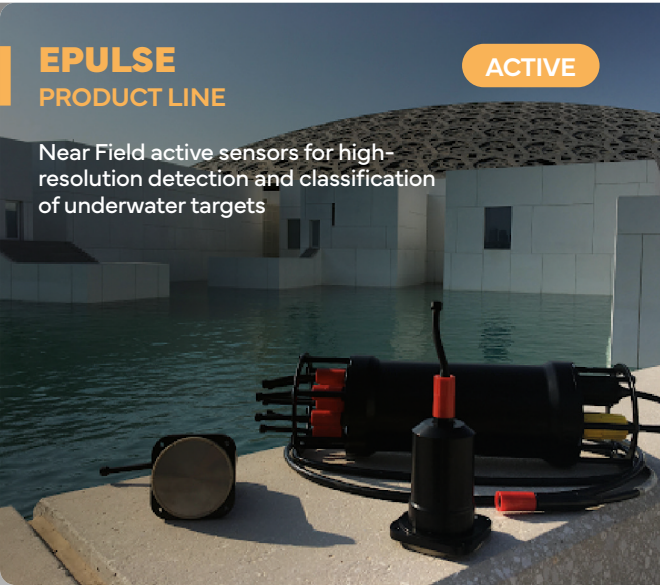
OUR PRODUCTS

SENSORS

EPULSE
PRODUCT LINE

ACTIVE

Near Field active sensors for high-resolution detection and classification of underwater targets



FEATURES AND BENEFITS:

- 4 to 8 electrodes
- Detects all material (metallic, plastic...) in all conditions (buried, no visibility...)
- Super-classification: target size, localization and electric impedance
- Combat diver detection
- Real-time impedance mapping with centimetric resolution
- Free-export / ITAR free
- 300m and 6000m depth rated

ESENSE
PRODUCT LINE

PASSIVE

Ultra-sensitive subsea electrometer for passive detection, environmental monitoring and wideband signal analysis



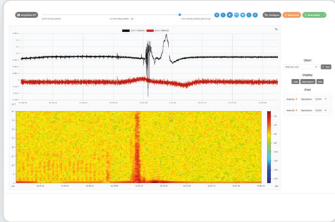
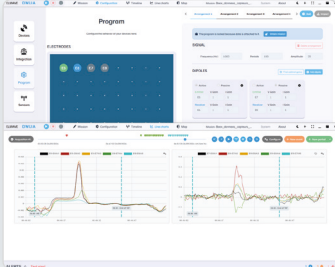
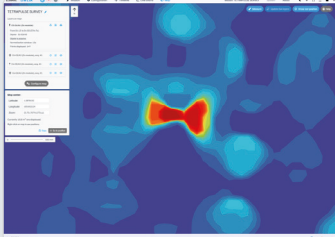
FEATURES AND BENEFITS:

- 1 to 3 axis
- Ultra-high sensitivity (picoV/m)
- Wideband: DC to 2000 Hz
- Long range > 500m (submarine, AUV, USV)
- Self-calibration for long term deployment
- Solid state titanium electrode
- Low energy consumption (<1,5W for 3-axis)
- Fast wake up time (<0,5s)
- 3rd party input (Mag & Hydrophone)
- Dual-use / ITAR Free
- 300m and 6000m depth rated

SOFTWARE

OWLIA
SOFTWARE

OWLIA offers a common interface for a complete user experience, from sensor setup, to data visualisation and analysis and export.



OUTPUT

EPULSE
FROM INTEGRATION
TO RESULTS



ESENSE
FROM INTEGRATION
TO RESULTS



APPLICATIONS

