



ELWAVE

ELECTRIC IMAGING

DETECTION

CLASSIFICATION

TRACKING

**Underwater
electric field sensing**

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.**

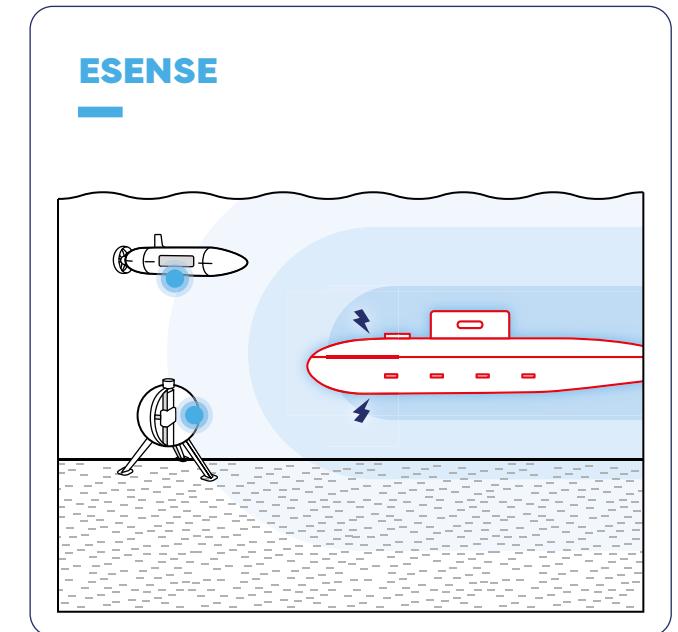
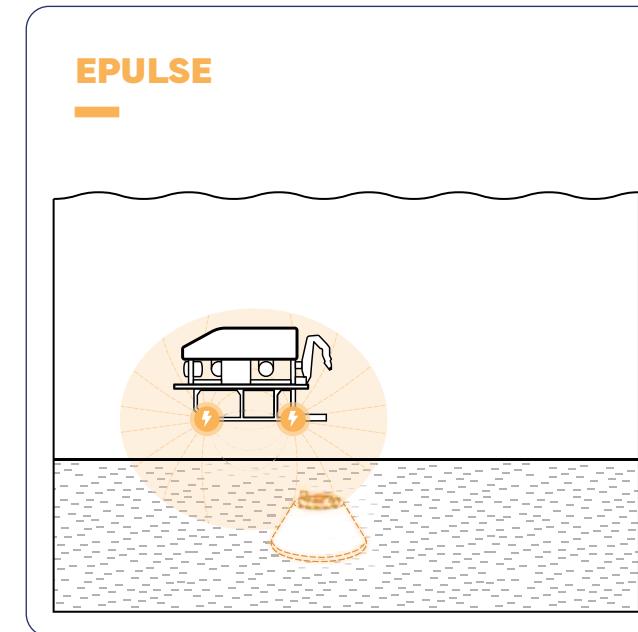


BIO-INSPIRED SENSING: ACTIVE AND PASSIVE ELECTRIC PERCEPTION.

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

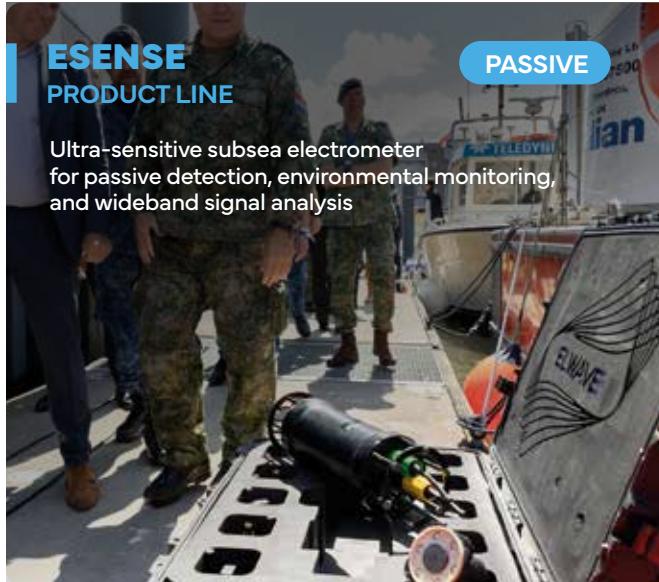
Free-export / ITAR free

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)

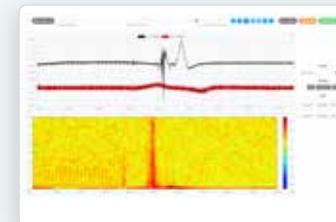
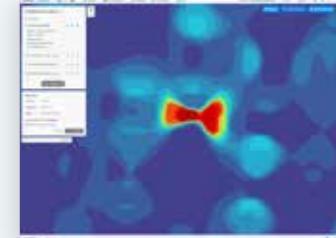
Dual-use / ITAR Free

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

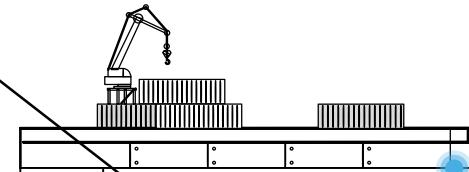


ESENSE FROM INTEGRATION TO RESULTS

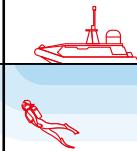


APPLICATIONS

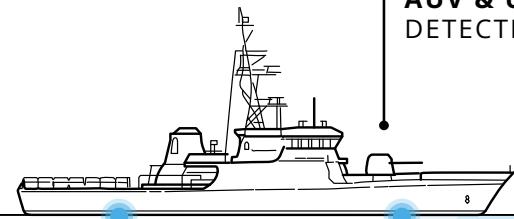
MARITIME SURVEILLANCE
AUV, USV, DIVERS INTRUSION



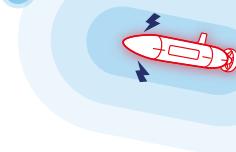
MINE COUNTERMEASURE



ANTI-SUBMARINE WARFARE
WARFARE

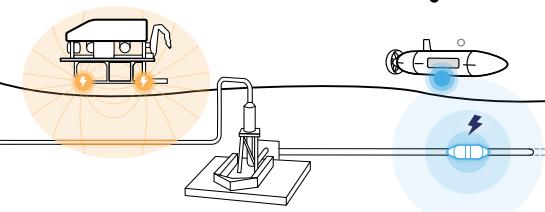


AUV & USV DETECTION



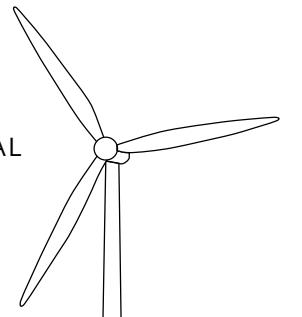
PIPELINE INSPECTION & TRACKING

CONTACTLESS CATHODIC PROTECTION



UNEXPLODED ORDNANCE & DEBRIS SURVEY

CABLE TRACKING WITH DEPTH OF BURIAL

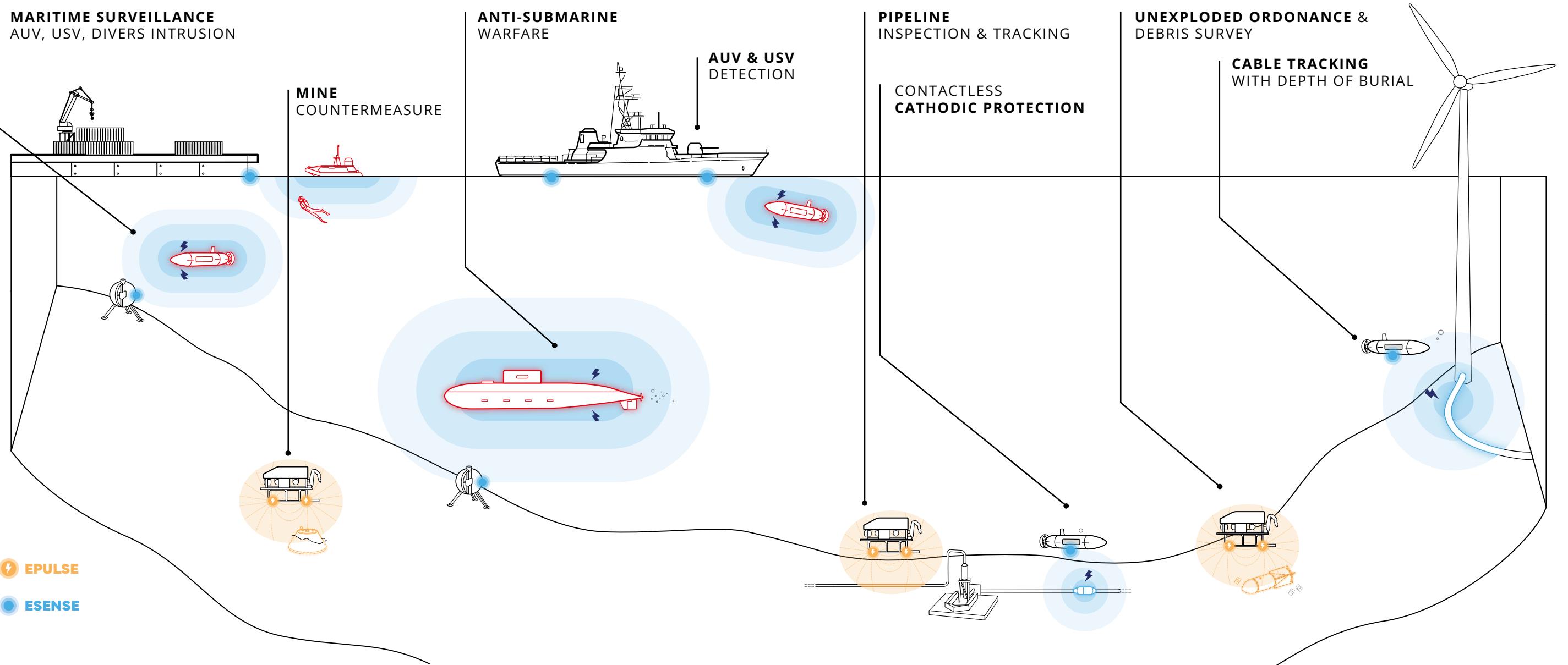


EPULSE

ESENSE

DEFENSE & SECURITY

COMMERCIAL & SCIENTIFIC





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