GREYSHARK at REPMUS 2025

Autonomous Underwater Capabilities for Naval Operations
EUROATLAS | EvoLogics

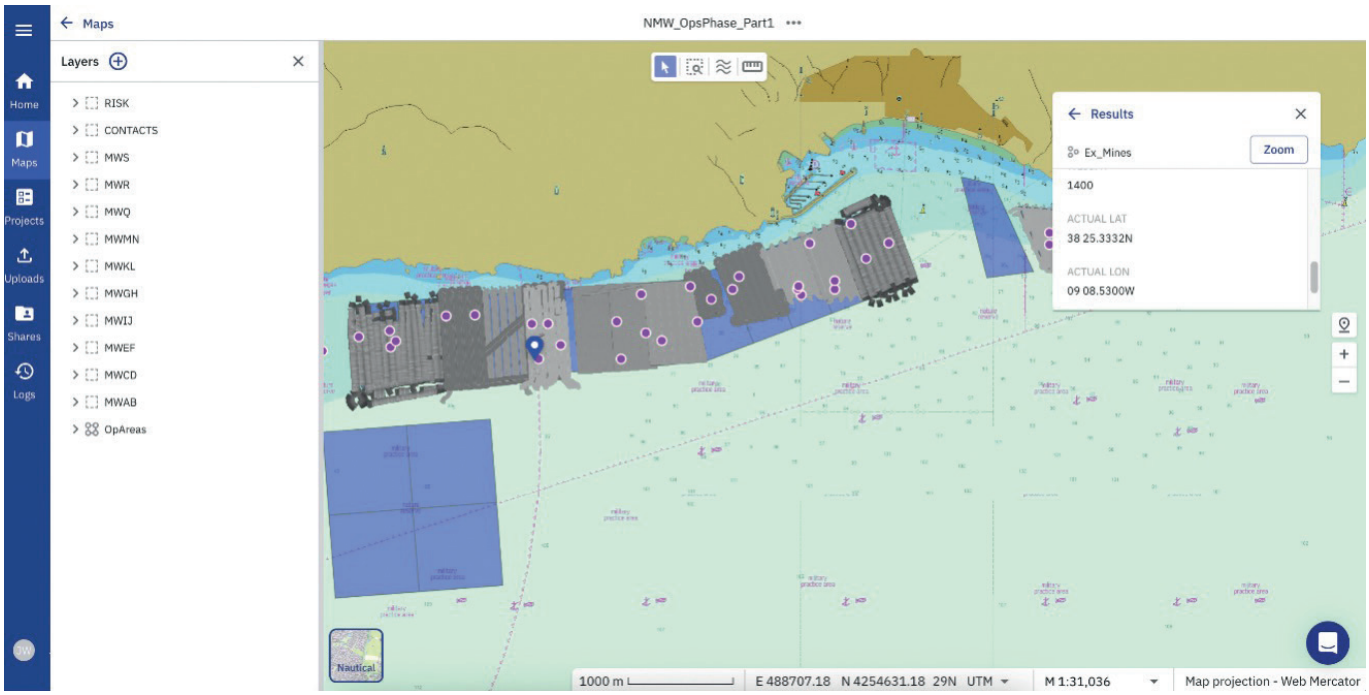
Exercise: REPMUS / Dynamic Messenger 2025

Location: Sesimbra & Tróia, Portugal

Domains: Naval Mine Warfare | Underwater Warfare

REPMUS – NATO EXPERIMENTATION FOR UNMANNED SYSTEMS

REPMUS (Robotic Experimentation and Prototyping with Maritime Unmanned Systems) is one of NATO's most important experimentation exercises for maritime unmanned technologies. It brings together navies, research institutions and industry partners to test new technologies and operational concepts in a multinational environment.



Picture 1: Chart with NWM areas in True Ocean Platform from North.io

Operational domains include Naval Mine Warfare (NMW), Underwater Warfare (UWW), Critical Undersea Infrastructure (CUI), Above Water Warfare (AWW), Force Protection (FP) and Rapid Environmental Assessment (REA).

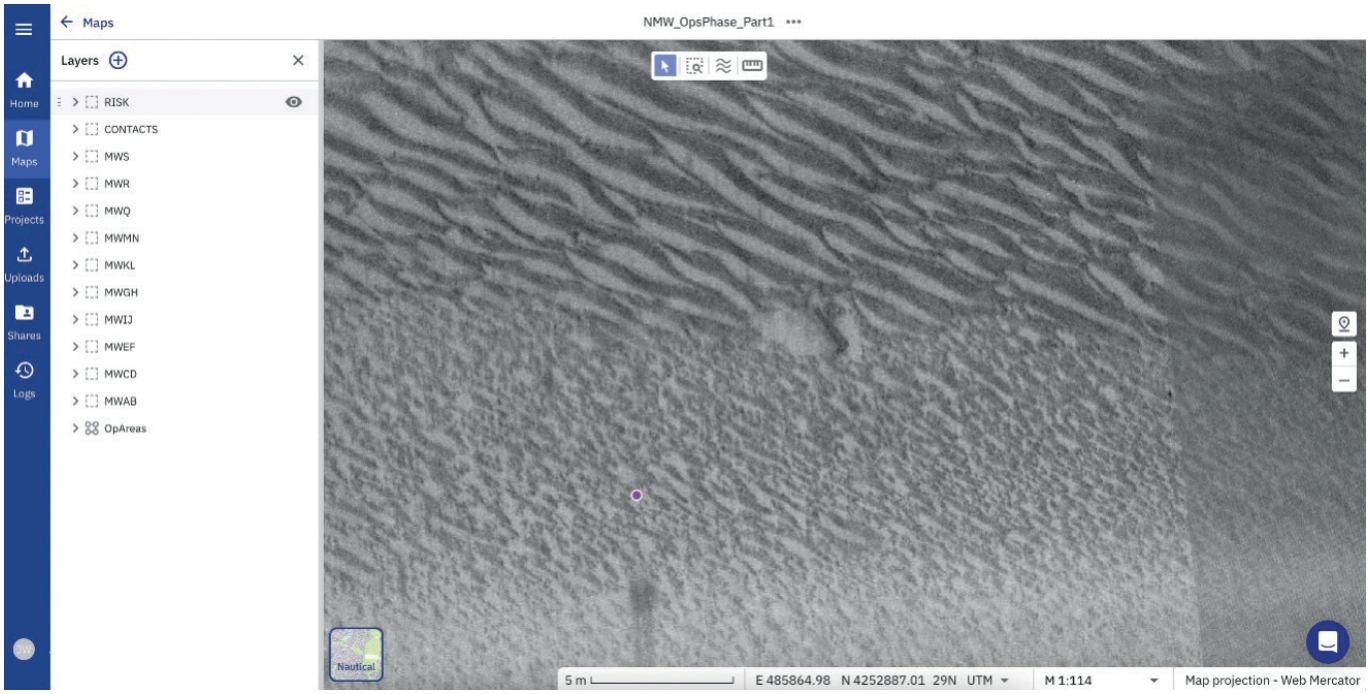
FIRST PARTICIPATION
OF GREYSHARK AT REPMUS25

Picture 2: GREYSHARK Launch Sesimbra

REPMUS 2025 marked the first participation of the GREYSHARK autonomous underwater vehicle, jointly developed by EUROATLAS and EvoLogics. For the exercise, the team deployed the battery-powered GREYSHARK Bravo variant to demonstrate operational readiness in multinational mine countermeasure operations and as a target in the UWW area. As a result, it can be said that GREYSHARK was not detected by other AUVs, Gliders or sensor platforms at any time.

Key Capabilities:

- Long-range autonomous underwater operations
- High-resolution seabed mapping
- Multi-mission capability
- Covert underwater surveillance

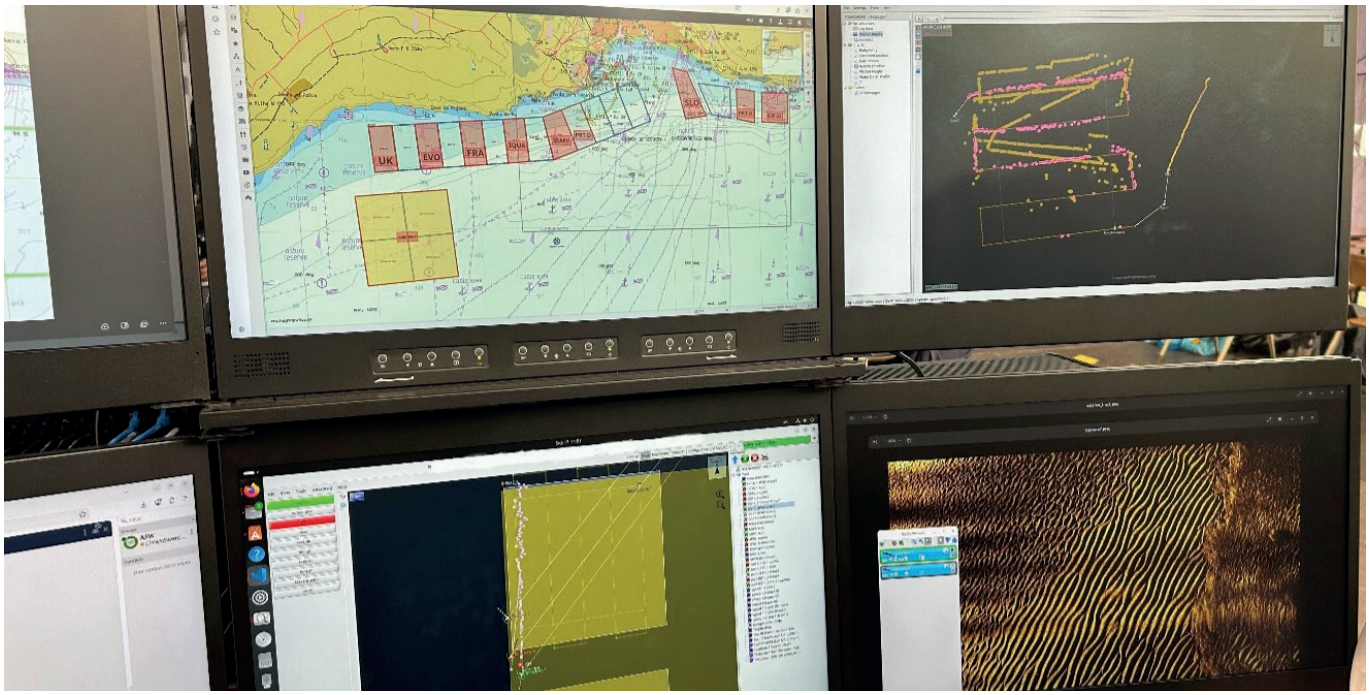


Picture 3: SAS picture in True Ocean Platform from North.io

Picture 4: SAS picture with mine-like object

FROM SENSOR
TO OPERATIONAL PICTURE

During REPMUS missions, GREYSHARK used its Synthetic Aperture Sonar (SAS) to scan large search areas and detect mine-like objects on the seabed. The Forward Looking Multibeam Sonar (FLS) was used for collision avoidance.



Picture 5: GREYSHARK Control Station

Detected objects were transmitted via Underwater Communication System using STANAG 4817 for NATO MUS and a Sonobot an autonomous surface vehicle acting as a mobile communication relay and EvoLogics Comms Buoys. Data from multiple systems was integrated in the Data Fusion Cell and processed through the Ocean Data Platform from North.io to create a shared operational picture.

AUTONOMOUS
MULTI-MISSION DEPLOYMENT

Picture 6: GREYSHARK on Trailer in Transport Container

The system was operated from a mobile 40-foot container equipped with generator power, communication systems and a large antenna. This setup enabled fully independent deployment without reliance on local infrastructure.

Picture 7: Chart Sesimbra/ Tróia

During the Distinguished Visitors Day demonstration, GREYSHARK autonomously travelled from Sesimbra to Tróia, covering approximately 25 nautical miles.

OUTLOOK –
GREYSHARK FOXTROT

Picture 8: GREYSHARK Sesimbra

For REPMUS 2026, EUROATLAS and EvoLogics plan to participate with multiple systems in both Naval Mine Warfare and Underwater Warfare scenarios.
A key highlight will be the introduction of the GREYSHARK Foxtrot, equipped with a fuel cell propulsion system. This vehicle will significantly increase endurance and represents the first AUV worldwide using this energy architecture.

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