

► DIGITAL SYSTEMS

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Rheinmetall at REPMUS26: Interconnected unmanned systems for the protection of maritime infrastructure

Rheinmetall AG is continuously testing modular and interconnected solutions for maritime operations. As a leading international systems provider for security, the company is participating in the multinational REPMUS26 (Robotic Experimentation and Prototyping with Maritime Unmanned Systems) proving exercise in Portugal from 31 August to 25 September 2026. Already since 2024, the DAX-listed group has been contributing its expertise as a systems integrator for complex, multidimensional maritime systems to this large-scale trial.

The exercise on the Troia Peninsula and in the surrounding Portuguese waters brings together navies, research institutions, and industry to further develop unmanned systems within a realistic, multidimensional operational environment.

Interoperability as key to strategic security:

The networked deployment of unmanned platforms, from seabed to space, is crucial for protecting critical port infrastructure, strategically important port facilities, and coastal waters. At REPMUS26, Rheinmetall is demonstrating that mission success is determined not merely by the performance of individual platforms, but by their seamless networking. Integrating all sensor data into a multidimensional operational picture creates the conditions for early situational awareness and graded, precise courses of action.

An overview of the technological trial setup:

Mobile Mission Control

A key element of this year's contribution is a containerised, relocatable demonstration setup. This will serve as a mobile command and control centre for the German Navy during the four-week exercise, supporting operational port security.

Open integration architecture

The Rheinmetall Battlesuite is based on the Tactical Core Middleware from blackned GmbH and is the technological backbone. This architecture creates an open environment for the flexible and application-specific integration of innovative sensors, effectors and mission modules from various technology partners.

Graded underwater sensor system

A particular focus in 2026 is on experiments involving unmanned underwater sensors from renowned industry partners. The aim is to generate a persistent operational picture and enable operators to control multiple unmanned systems of different types and from various manufacturers via a common user interface.

► Key facts

- Rheinmetall tests interconnected unmanned systems at the NATO exercise REPMUS26 for the protection of ports and critical infrastructure
- Containerised system serves as a relocatable operations centre for the German Navy to provide a multidimensional operational picture covering underwater and surface domains
- Rheinmetall Battlesuite Middleware connects sensors from different manufacturers and enhances interoperability among NATO partners

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“REPMUS offers us an excellent opportunity to test our prototype development in realistic scenarios”, explains Gregor Mannherz, Head of the Rheinmetall Delegation. “By collaborating with operational experts from our naval customers and government agencies, we can design our products and solutions more efficiently, thus accelerating development in a targeted manner”.

By validating collaborative operational concepts and enhancing interoperability, Rheinmetall is making a significant contribution to strengthening the defence capabilities of NATO partners and to safeguarding global maritime supply routes.