

► ELECTRONIC SOLUTIONS

November 18, 2025

OPEX REPMUS/ NATO DYMS exercise in Portugal:

Rheinmetall deploys Mission Master as part of the exercise

The Düsseldorf-based technology group Rheinmetall participated in OPEX REPMUS 2025 (Operational Exercise Robotic Experimentation and Prototyping with Maritime Unmanned Systems) and DYMS (Dynamic Messenger), NATO's premier exercise dedicated to advancing maritime autonomy.

Held in Troia and Sesimbra, Portugal, this strategic event brought together allied armed forces, academic institutions, and leading industry players to drive innovation and enhance interoperability across the maritime domain.



The exercise was organized by the Portuguese Navy, NATO, and the European Defense Agency and is considered an international platform for testing a wide variety of unmanned maritime, undersea, airborne, and ground-based systems. In this demanding environment, Rheinmetall's Mission Master demonstrated its superior technical capabilities under real-world conditions.

Cutting-Edge Technology in Real-World Conditions

As a key platform for operational experimentation, REPMUS/ DYMS 2025 offered a unique opportunity to validate next-generation technologies under mission-relevant conditions. Rheinmetall showcased its world-class command-and-control systems, advanced sensor technologies, and mission management platforms, engineered to perform in complex, multinational operations.

Interoperability was a central theme, demonstrated through seamless integration with NATO-standard architectures, including STANAG-compliant interfaces and secure data-sharing protocols.

Proven Results, Exceptional Expertise

Rheinmetall's teams delivered outstanding contributions across land, air, and underwater scenarios, highlighting the performance of its autonomous ground systems, intelligent sensors, and real-time data processing platforms. The company also presented operator-in-the-loop mission management tools,

► Key facts

- Rheinmetall successfully demonstrated one of its core solutions for unmanned systems at the REPMUS/DYMS exercise in Portugal
- Mission Master system in action
- Videos:
<https://youtu.be/-HlfjEGBxcl>
https://youtu.be/_QxNgrk9-bY

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Please see videos:

<https://youtu.be/-HlfjEGBxcl>

https://youtu.be/_QxNgrk9-bY

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designed to provide military users with intuitive control over distributed autonomous assets.

Working side-by-side with military operators and system integrators, Rheinmetall captured invaluable operational feedback, accelerating development cycles and refining tactical relevance.

Strategic Commitment to the Future

Rheinmetall's active role at REPMUS/ DYMS 2025 reaffirms its position as a trusted partner in NATO's journey toward autonomous, interoperable defense capabilities. This mission-driven, innovation-focused approach demonstrates how industry leadership and operational collaboration can rapidly transform concepts into mission-ready solutions, enhancing maritime security and shaping the future of allied defense.

REPMUS/ DYMS 2025: A 360° Defense Vision

At REPMUS/ DYMS 2025, Rheinmetall showcased its 360-degree layered defense concept for expeditionary multi-domain harbor protection, coastal defense and land-based maritime UxV operations developed in close collaboration with NATO and partners.

Through live testing in realistic manned-unmanned scenarios, Rheinmetall supported to refine tactical procedures for Man- unmanned teaming and advance operational integration of UxV for Harbour Protection; key systems included the A-UGV Mission Master SP2, PATH Autonomous Kit, Q-UGV LASSy and of other partners i.e. EvoLogics, North.io and Euroatlas. These platforms were seamlessly connected through Battlesuite, an app-store like shared information space that eliminates data silos and enables rapid integrateable, mission-ready capabilities.

The demonstration highlighted scalable, software-defined solutions for critical infrastructure protection, proving how joint innovation accelerates readiness from concept to deployment.

Mission Master – versatile, robust, ready for action

The Mission Master was used in a combination of autonomous navigation, modular payload integration, and high adaptability – for reconnaissance, surveillance, and logistical support, for example. In combination with maritime sensor systems, the unmanned ground system demonstrated its ability to operate reliably and perform well despite harsh coastal conditions.

“The REPMUS exercise provided an excellent opportunity to test the interaction of ground- and air-based unmanned systems in a demanding NATO environment. The Mission Master has impressively demonstrated how technology and integration can effectively support our defense partners,” said Gregor Mannherz, Sales Manager Marine Systems at Rheinmetall Electronics GmbH.

