



Blue Shield
Strengthening European
Maritime Security

FACT SHEET #1

AI AND DUAL-USE INNOVATION: ADVANCING MARITIME SECURITY IN EUROPEAN HOTSPOTS

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AI AND DUAL-USE INNOVATION: ADVANCING MARITIME SECURITY IN EUROPEAN HOTSPOTS

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I. EXECUTIVE SUMMARY

Artificial intelligence (AI) is increasingly playing a foundational role in European maritime security. Along with advances in drone, cybersecurity and electronic warfare technologies, AI poses opportunities and challenges for the EU in protecting its blue zones. In this new context, threats to critical infrastructure and the maritime economy arise rapidly.

II. POLICY LANDSCAPE AND TECHNOLOGY MAPPING

The EU is aware of gaps in its capabilities, as evidenced by ReArm Europe 2030, which indicates cyber and AI, drones and counter-drone systems, and maritime security as 3 out of 9 Critical Defence Capability Areas for action. The [EU's Drone Strategy 2.0](#) also seeks to create a competitive European drone market and provide unified regulations in their economic use. Finally, the [EU AI Act](#) also plays a role in regulating AI dual-use technologies deployed for civilian use.

III. BEST PRACTICES

1. EU and EU-backed Innovation Showcases

1.1 [RPAS Services for Maritime Surveillance 2017-2023](#): Remote piloted aircraft systems (RPAS) play an integral role in the security of maritime spaces. The European Maritime Safety Agency (EMSA) has developed this project to create a comprehensive set of capabilities and position the EU as a world leader in drone technology. This project works within the framework of the EU Drone Strategy 2.0. RPAS can integrate AI systems for advanced threat response, which will be integral in patrolling EEZs and monitoring port activities.

1.2 [Copernicus Maritime Surveillance Service](#): CMS uses satellite imagery from the EU Space Programme's Copernicus Earth observation component combined with EMSA and automated ship data to inform nations with interests in the maritime domain about various threats. EU institutions, nation states and organizations can access the information through the EMSA online

portal. A comprehensive view of the maritime domain, paired with traditional and emerging military systems will be key to enforcing policies and security measures.

1.3 PANDORA-EDIDP: The PANDORA project, funded by the European Defence Industrial Development Programme (EDIDP) and Greek and Cypriot Ministries of Defense, is an AI-enabled real-time threat detection and incident response system aimed at facilitating endpoint protection and information sharing on warships. AI implementation allows for accelerated decision-making and countermeasures, while the system promotes information sharing between key stakeholders. The technology can be easily implemented in existing military and state technologies to improve threat response.

2. EU-NATO Collaborative Frameworks

2.1 Robotic Experimentation and Prototyping with Maritime Unmanned Systems: REPMUS is a unique partnership between NATO and the European Defense Agency (EDA) that demonstrates the application of emerging technologies in the maritime domain through large-scale exercises, in collaboration with the Portuguese Navy and the University of Porto. Emerging technologies like AI systems and drones are tested in real-world conditions. REPMUS 26 will take place from August to September 2026, with the aim of fostering closer cooperation between NATO and the EU.

3. Industry and Governmental Synergies

3.1 Naval Drone Testing and Experimentation Capability: A 2025 French Directorate General of Armaments (DGA) project in partnership with the French Navy, nicknamed CapXDN, aiming to increase capacity for testing of new maritime technologies through real-world drone testing in the Mediterranean (Toulon) and the Atlantic (Brest). Continued innovation by major EU nations will strengthen overall EU security and offer an opportunity for partnerships and collaboration.

3.2 Kongsberg Autonomous Shipping: Private firm Kongsberg is developing unmanned remote and AI piloted shipping systems for commercial use. Kongsberg has partnerships with EU navies. Unmanned ships will play an important role in their security strategy. Currently deployed Kongsberg technologies include Kamewa Waterjet ambulances for the Norwegian Coast Guard and Combat Management and Navigation Systems for the Royal Norwegian Navy. Unmanned ships can help patrol and protect the Portuguese maritime space and port economy.

IV. CONCLUSION

A wide suite of innovative technologies and practices are currently in use and being developed by the European Union and its allies. These technologies will be critical to maintaining peace and security in the Portuguese maritime space, as well as enhancing opportunities for fair and lawful trade and economic activities like fishing and shipping and protecting vulnerable areas from environmental damage like oil spills. European agencies can benefit from strategic partnerships with international allies like NATO and technology enablers like [DIANA](#) (Defence Innovation Accelerator for the North Atlantic) to achieve comprehensive technological capability. Emerging technologies pose new challenges for security but also offer opportunities.

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