

Context

Maritime security is crucial for the global economy, with small unmanned vessels posing both risks and opportunities for law enforcement, including the Belgian Defence. The vastness of the ocean makes traditional surveillance methods economically and operationally challenging. Therefore, Unmanned Maritime Systems (UMS) are increasingly vital, using autonomous technologies to enhance efficiency in monitoring and threat response. Despite advancements, unmanned systems face complexities from dynamic climatic conditions, requiring collaborative efforts among drones, vessels, and sensor infrastructure to improve detection and security.

Objective

- Provide an OSSA (Open System Standard Architecture) software for an USV fitting MCM needs in shallow waters.
- MULTIMETER will serve as a test case with respect to regulation for autonomous sailing in the Belgian territorial waters.
- Develop technologies on an actual platform to be used by the Belgian Navy, which opens the door towards the valorisation and exploitation of the IP developed within MULTIMETER towards actionable products that are of direct use for the Belgian Navy.



Methodology

A sonar will be installed on the USV to collect large amounts of data that will be used for training automated (AI based) mine detection methodologies.

Navy officers will be trained to operate the user-friendly MULTIMETER C2 system that will provide real-time feedback & control of the vessel over redundant mobile communication services.

A robust and faster USV for operations up until sea state 5 using the USV from Exail.

Validation of swarming capabilities of collaborative unmanned vessels in simulation.

MCMLab Multimeter Autonomous Unmanned Vessels for Maritime Mine Countermeasures Operations

Partners



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