



**Engagement**

**MANiBUS: Modern IAnd and Naval Borders external secURity Simulator**

Countries	Project value (€)	% by EPSILON	€ by EPSILON	Engagement	Funding by	Date	Partners
EL, FR, BE, UK, FI, MT, IL, EL, DE, ES, RO, BG, DE	6.963.701,25	1,9%	133.250,00	HORIZON	EU	27.08.2020	CERTH, ADS, UOA, CMRE, CENTRIC, VTT, MSIL, IDE, DTT, ROB, SIMAVI, ADMES, BDI, ABERON, IH, KEMEA, CAL-TEK, LIF, RADEXPERT, COPTING, NARI, MARINHA, HP, BPPH, BPR, IGP, SBGS, AFM

**Description**

European borders face threats and adversaries. The European Security Strategy and the Internal Security Strategy aim to make Europe more secure by combating terrorism and crime while strengthening cooperation on law enforcement and border management. The Border External Security strategy focuses on (1) controlling migration through arrangements between the EU and third countries, (2) deploying CFSP/CSDP missions for border security, and (3) utilizing Frontex and Europol to patrol the EU neighborhood. The urgent need for immediate responses shifts resource allocation toward tools, platforms, and systems primarily for tactical use, which is effective in the short term.



MANiBUS aimed to design and develop an interoperable platform for integrating real-time heterogeneous systems and data to create a highly realistic 4D digital twin of the maritime and land Border Surveillance/Control System (BS/CS) and the operational environment. It would serve as both (1) an online surveillance/control system and (2) an offline training and evaluation tool, enabling:

- Intense and realistic training for operational and tactical teams.
- Extensive testing and evaluation of current and potential assets.
- Recreation, testing, and evaluation of different High-Level Operational Scenarios (HLOS).
- Decision support for operational and strategic decisions.

**Outcome**

To achieve the overall goal and the specific objectives of the project, EPSILON and the consortium proposed to:

- Develop a Digital Twin - Virtual representation of surveillance assets and sensors
- Set up the Synthetic Environment
- Deliver a user-friendly interface to facilitate both novice and expert user capabilities through information and interaction abstraction behind modular and customisable components
- Enable autonomous and optimal asset actions
- Enhance C2 and on-site Training Capacities for Border Security Operations through intuitive Extended Reality (XR) Interfaces
- Create Serious Games for Interactive Training
- Provide online Decision support tool for optimal surveillance
- Integrate Control Command Centre (CCC) and Hosting Platform

