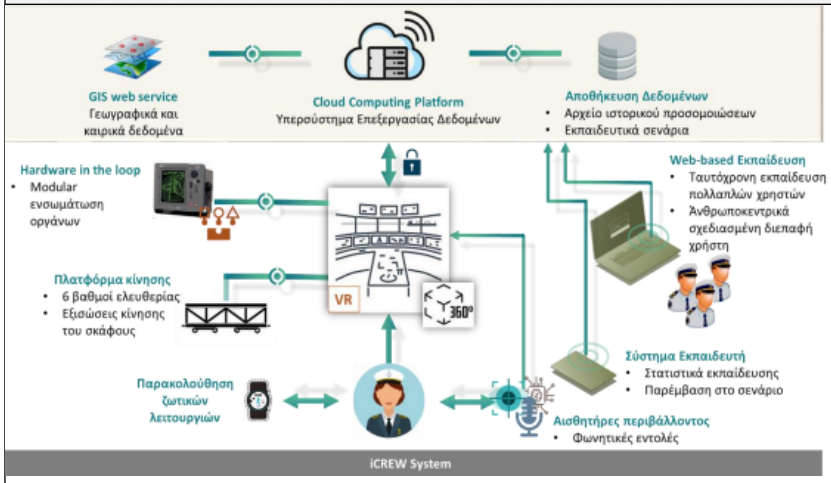
iCREW: Intelligent small craft simulator for advanced crew training using Virtual Reality techniques (www.icrew.club)

Country	Contract value (€)	% carried out by Epsilon	No of staff provided	Client	Origin of funding	Date (start/end)	Consortium Members
Greece	868.706,50	17% 148.232,50	8	European Commission	EC ΓΓΕΤ	01/06/2022 30/11/2024	4 Partners

Description of the project



The iCREW project aims to develop an advanced small boat simulator designed for training skippers in various real-world conditions they might encounter at sea. The system utilizes virtual reality technology to create a highly immersive and realistic training environment, allowing users to practice handling small boats in different weather conditions, navigate in congested waters, and dock in multiple ports safely. The simulator includes real-time photorealistic graphics, multi-channel audio, a full-function open or closed cabin with working controls, and three-axis motion to replicate real-world turbulence and waves. The iCREW project seeks to address the lack of proper training, which is a major cause of maritime accidents involving small boats worldwide, and it aims to significantly reduce such accidents by improving skipper training.

iCREW objectives are:

- To provide realistic simulations of small boat handling in a variety of weather conditions, different water regions across the globe, and in the presence of other vessels, allowing operators to practice in safe, controlled environments.
- To address the high percentage of global maritime accidents involving small boats, which are often caused by insufficient training and unsafe handling, especially in challenging conditions.
- To create a modular training system capable of replicating the full functionality of a boat's bridge, including photorealistic graphics, multi-channel audio, and motion simulation that mimics real-world turbulence and waves.
- The project aims to support both professional and amateur skippers by offering interactive training environments where instructors can monitor, evaluate, and guide trainees.

Services provided

User Requirements Analysis and System Architecture:

- Analysed user requirements, collecting data, and contributing to the system architecture.

Development and Integration of Logistics Infrastructure:

- Engaged in the study, design, and integration of the hardware and logistics infrastructure necessary for the iCREW system.

Cloud Computing Platform Development:

- Lead the development of the iCREW system's cloud computing platform, which provides real-time geoinformation services and ensures the system's scalability and accessibility.

Creation of Virtual Environments and Simulation Models:

- Created virtual environments and simulation models, which were central to the training and educational applications of iCREW.

System Integration and Validation:

- Played a crucial role in the integration, testing, and validation of the final iCREW system, ensuring that the technology is fully functional and meets project objectives.