

Maritime VR training

The competitiveness and development of the maritime sector together with the continuous effort on increasing operations performance while reducing operational costs, drives the needs for on-board effective and qualitative training safety related issues. Virtual reality (VR) has been considered by classification societies and training organizations as a technology that can significantly improve seafarer's performance and competence with the adaptation of maritime applications developed for design simulation and gaming.

Emerging immersive technologies, such as virtual reality (VR), augmented reality (AR) and mixed reality (MR) transformed the concept and operations of maritime simulations and simulators with disruptive functionality and operations on land and at sea.

The MarISOT technology

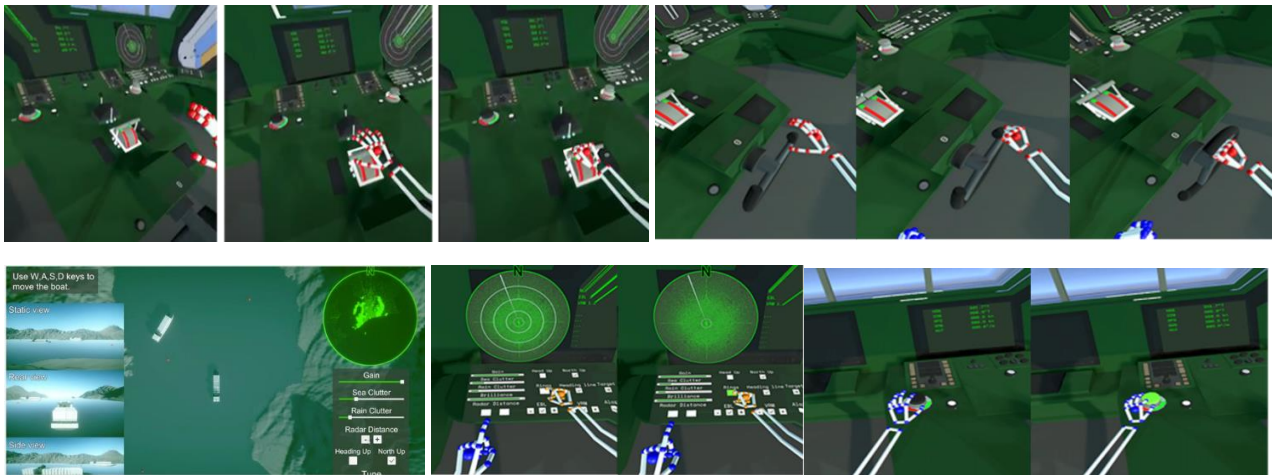
The term Immersive Safe Ocean Technologies (ISOT) has been invented at the Turku University of Applied Sciences (TUAS) after the extensive research and development efforts by Prof. Dr. Evangelos Markopoulos and Prof. Dr. Mika Luimula to integrate VR and AR technologies on major maritime and shipping needs.

This resulted to the development of MarISOT (Maritime ISOT) that emphasizes primarily on safety at sea technologies and strategies that contribute towards effective maritime safety operations. Its cost-effective, portable technologies can be used on board just in time or in maritime training centers. Today MarISOT consists of four technologies namely: (1) command bridge, (2) engine/machine room, (3) crane, and (4) fire safety. MarISOT intends to address major shipping environmental challenges such as accident prevention and sea pollution reduction.

MarISOT integrates in its VR environment state of the art technologies such as Artificial Intelligent (AI) and cognitive, brain and behavioural, sciences to support and predict the training effectiveness based on the state of mind and body of the trainee. Technologies such as hand tracking, finger tracking, eye tracking, natural language processing, speech recognition, expert systems, neural networks, decision support systems, and others have been applied in the MarISOT training episodes to deliver first class education, valuable training skills and behavioural data that can be furthermore analysed to improve the training and the vessel's safety operations. MarISOT award winning research innovations has been published at reputable blind peer review international conferences and journals (IEEE, Springer, MDPI, etc).

The certifiable training scripts have been developed for MarISOT by leading maritime training and manufacturing organizations such as Aboa Mare and Wartsila Sea and Land Academy.





Mega ships, smart ships, and soon autonomous ships drive the maritime sector and its demand for better educated seafarers. MarISOT technologies impact employee productivity and career development, protecting at the same time the investments made in the shipping industry and its funders on modern vessel acquisition or vessel technological upgrades.

Maritime Green and Safe Oceans

Today MarISOT provides a low-cost on-board environment that contributes to sea safety while maintaining environmental and sustainable vessel operations. The evolution of MarISOT has been shifted from an on-board VR training Blue Ocean technology into a sea safety sustainable Green Ocean technology.

The MarISOT philosophy and its strong element of immersiveness in its VR and AR driven technologies extend business opportunities beyond Blue Ocean Strategies towards Green Ocean Strategies where operational effectiveness is driven by environmental sustainability while maintaining financial sustainability.

Green Ocean Strategies address social, corporate, and customer needs and expectations by shifting innovation towards sustainable operations. Organizations targeting Green Ocean Strategies can improve their reputation but also achieve high ESG (Environmental, Social, and Governance) ratings which are valued by their clients and investors.

MarISOT immersive technologies drive this transition from Blue Ocean Strategies to Green Ocean Strategies through maritime safety, maritime accident avoidance, pollution avoidance, for clean oceans.

Contact us. For further information, and until the website is ready please contact:



Prof. Dr. Eng. Evangelos Markopoulos,
TUAS Fellow and Visiting Professor on
Applied Research & Innovation
CEO. MarISOT Technologies
evangelos.markopoulos@turkuamk.fi



Adj. Prof. Dr. Eng. Mika Luimula.
Principal Lecturer, Research Group Leader.
Head of AVR Turku and AIF AVR Ecosystem
CEO. MarISOT Technologies
mika.luimula@turkuamk.fi