

How CERONAV improves maritime training with virtual reality

Romanian Maritime Training Centre CERONAV is a self-financed public national institution that provides training courses for seafarers, river, port and offshore rig personnel. CERONAV provides more than 200 types of courses for approximately 25,000 trainees per year using a variety of learning methods including state-of-the-art training facilities and simulators. The DERIN project (Digital Education Readiness in Maritime and Inland Navigation), coordinated by CERONAV and co-financed by the Erasmus+ Programme, aims to share knowledge and cooperation amongst a network of educators & trainers across Europe, with a focus on maritime and inland waterway education and training.



Challenge

During COVID, e-learning could still be used to transfer theoretical knowledge. However, acquiring practical experience was challenging due to restrictions for group activities and limited access to (costly) simulator equipment. The DERIN project was set up with EU co-funding to answer common needs across educational institutions by showing teachers everywhere that VR is a viable option for certain modules of practical training.

Solution

Virtual reality (VR) is rapidly transforming the landscape of education, offering an immersive learning experience that allows students to interact with their environment in a way that was previously impossible. By placing learners in a fully simulated environment, VR can create a more engaging and interactive learning experience.

Research has shown that this increased engagement can lead to significant improvements in knowledge retention and skill acquisition – with reduced costs by providing a more efficient and effective way to deliver education.

CERONAV and the project partners decided to start with story-based VR training using 360-degree video for the most realistic effect. Warp VR was selected as authoring and distribution platform for its affordability, ease of use and seamless methods to play immersive scenarios (including mobile phones, tablets & laptops). To save costs, the organizations used their own staff as actors and worked with only 3 cameras and VR headsets. Trainers found it captivating to create VR training courses themselves. The staff was trained with an instruction handbook and several hands-on workshops. Multiplier events, social media, and TV were used to promote further adoption with other educational institutions.

DERIN project partners initially created a series of information-based scenarios for mandatory courses like fire prevention & fighting, breathing equipment and closed confined spaces, and familiarization with the bridge. One additional scenario that was filmed partly on board a real operational vessel introduces the emergency generator and main diesel generator to the trainees. A classroom introduction module was also elaborated for the VR environment. All these scenarios require actions to be taken or questions to be answered by the trainee/ student who can see their results thus showing that such scenarios can be used for (self)evaluation.

Results

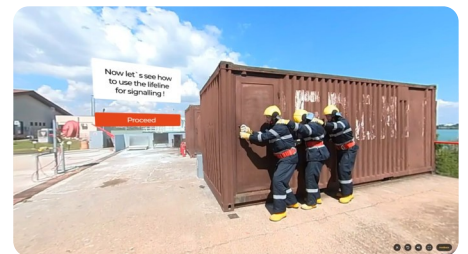
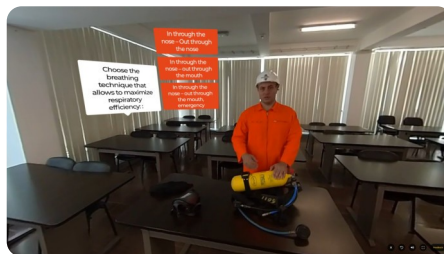
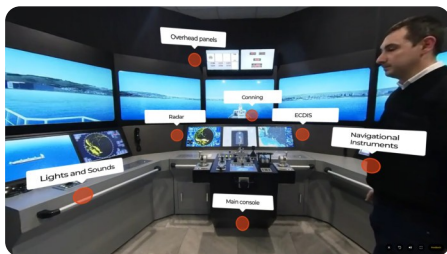
One of the goals of the DERIN project is to show to education & training institutions that VR technology can be a part of their teaching and learning process. Initial reactions were positive (most found it exciting), with VR training being recognized as a clear step forward. All trainers said they would like to take part in more sessions and try other VR scenarios, and trust that VR soon become a standard part of the maritime training process.

Quotes from users:

"The training improves my confidence. Even if I make a mistake, I know it will be just an exercise. I was surprised and really enjoyed to experience this new way of learning."

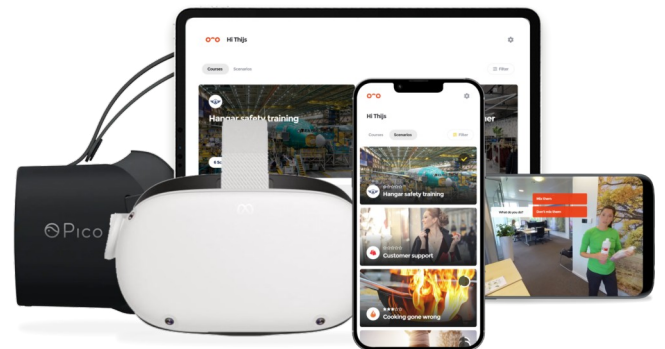
"It's mindblowing how real the experience is!"

"The VR training courses were very informative, easy to understand and as close to the real thing as possible."



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