

MARSI – Maritime Situation Image

Virtual Demonstration of the Use of Maritime Situational Images for the Protection of Maritime Infrastructure



Brief description

MARSI demonstrates, in a virtual environment, how maritime situational awareness can be used to protect maritime infrastructure. It is involved in projects relating to underwater object detection, the use of cosmic rays (muons) for tomographic examination of objects such as freight containers, and the detection of ships and submerged objects using fibre-optic cables on the seabed.



Goals

The exhibit illustrates the research objective of building a resilient infrastructure, promoting widespread and sustainable industrialisation, and supporting innovation. In the VR environment, users can interactively explore the institute's key areas of focus: improved monitoring, better situational awareness and a deeper understanding of what is happening within the infrastructure. The intended end-users are security authorities, infrastructure operators and research institutions.



Involved

DLR-Institute for the Protection of Maritime Infrastructures



Application

- object detection in the underwater area
- use of cosmic radiation (muons) for the tomographic examination of objects such as freight containers
- detection of ships and submerged objects using fibre optic cables on the seabed

Perspectives

The intended end-users are security authorities, infrastructure operators and research institutions.



Facts and figures

- Methods used on land do not work in the same way due to the different medium
- Light requires a precise line of sight; furthermore, there are suspended particles underwater that further restrict visibility
- Acoustics work well but have a very narrow bandwidth -> little information is transmitted per unit of time



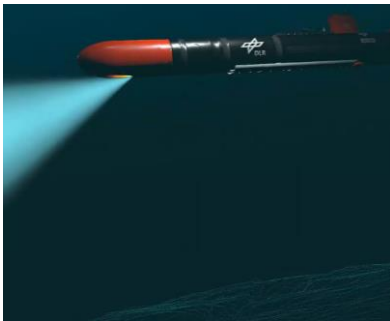
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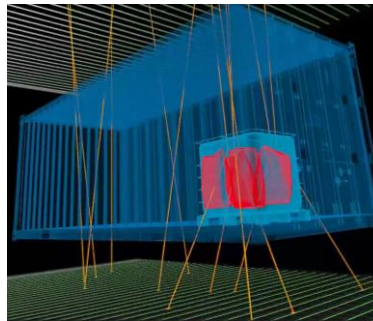
The exhibit uses virtual space to illustrate how the use of maritime situation images can be utilised for the protection of maritime infrastructures.

Three subject areas are presented and explained:

AUV / SeaCat



Muon Tomography



DAS – Distributed Acoustic Sensing

