

## EMSN Connect

**EUROPEAN MARITIME SIMULATOR NETWORK - CADETS, OFFICERS AND NAVIGATORS NOW EXPERIENCE COOPERATIVE TRAINING**

## EUROPEAN MARITIME SIMULATOR NETWORK

### CONNECTING SIMULATORS FOR JOINT EXERCISES

The European Maritime Simulator Network EMSN was funded in the course of a European research project, connecting simulators from different manufacturers and at different locations to build a virtual maritime testbed. The reason for this development was the need for a test environment for new solutions in maritime communication and control: Prior to implementation, Sea Traffic Management services must be thoroughly validated in a realistic environment.

Today, 10 maritime simulation sites across Europe with a total of 30 bridges are connected in the expanding network. The EMSN facilitates large-scale traffic exercises with an unprecedented number of human-operated ships and also provides unique opportunities for data collection. The EMSN is thus the largest and most progressive civil facility of its kind for this new way of concept testing. Now, the EMSN plays an important role in the joint training

of nautical cadets and officers during their studies and is open for the use in further research projects.

### THE POTENTIAL AS TECHNOLOGY TEST-BED

Before market launch, new applications need to be tested under conditions which are as realistic and controllable as possible but at reasonable efforts. For various reasons, the EMSN is the perfect usability test facility for the latest developments in the maritime domain.

#### Complex environments

The EMSN connects state-of-the-art ship handling simulators, enriching their advanced capabilities regarding modelling of ship hydrodynamics and environmental conditions. Additionally, it allows the creation of large-scale exercise areas with a high number of maritime traffic units.

#### Realistic exercises

The EMSN facilitates a high number of human-operated ships within a single simulation environment. Thus, complex

and realistic traffic situations can be created and run in real time. New procedures and technologies for ship operation can be investigated in tailor-made exercises under realistic conditions.

#### In-depth assessments

The EMSN provides central logging of all quantitative data from participating sites. Additionally, qualitative data can be gathered by e.g. test participant surveys or external expert ratings. Based on this data, the impact of the tested application is assessed using maritime safety indicators which ensure comparability and transferability of assessment results.

#### Non-proprietary solutions

The EMSN is open to ship handling simulators regardless of site location and manufacturer brand. For real-time data exchange, the Distributed Interactive Simulation (DIS) standard ensures the standardized accessibility.

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## IMPRESSUM

The realistic visualization plays an important role during the work in the simulator network.

## INTRODUCING THE ASIA-PACIFIC MARITIME SIMULATOR NETWORK APMSN



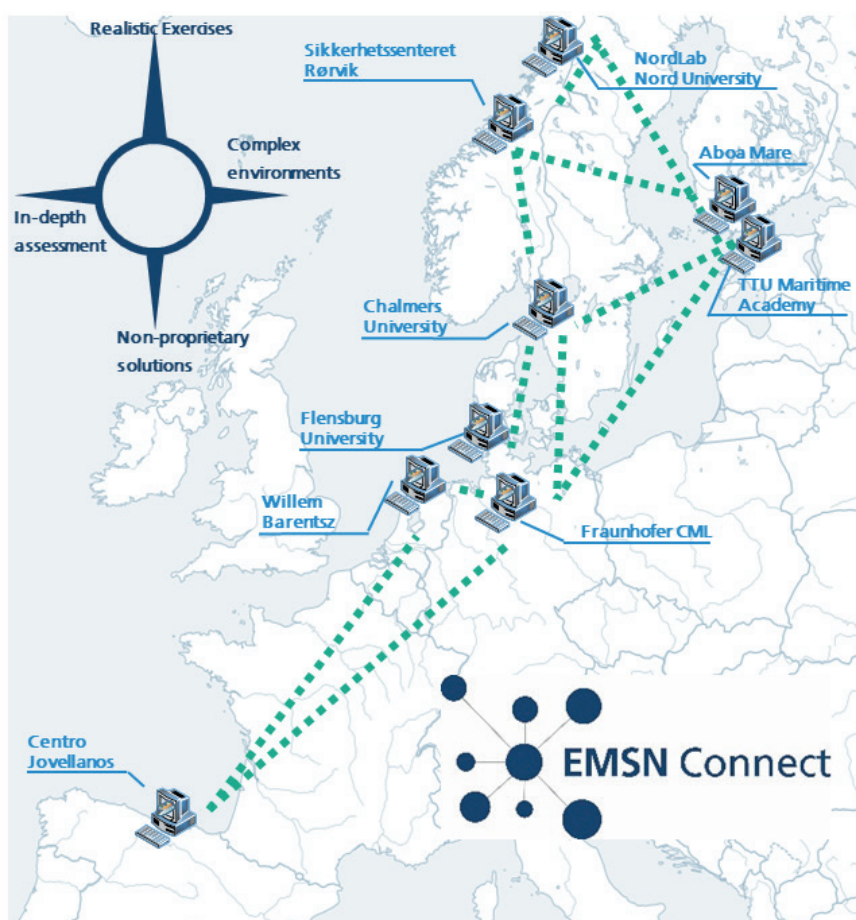
The Maritime Simulator Network will continue to be operated and expanded by Fraunhofer CML. In June 2019, the CML inaugurated the Asia-Pacific Maritime Simulator Network APMSN together with the Korea Research Institute of Ships & Ocean Engineering (KRISO).

APMSN shall serve as a validation platform for future initiatives like autonomous shipping and smart maritime logistics. As in the EMSN, distributed interactive simulator networks aim at bringing together ship handling simulators from research, education, the maritime industry and the shipping companies in a virtual surrounding. Thus, networks like EMSN and its new Asian branch APMSN give the participating partners the opportunity to virtually steer vessels in the same specific sea area, communicate amongst each other and practice joint maneuvers in narrow waters.

With KRISO as founding partner and first center in the Asia-Pacific branch a new era of interactive maritime simulation has started.

CML and KRISO hope to expand the APMSN with up to three further centers in the course of the year and aim for executing joint runs between the European and Korean centers. The vision for the years to come is establishing a truly global virtual ocean for the maritime training and research domain.

## PARTNERS OF THE MARITIME SIMULATOR NETWORK EMSN



## THE STM VALIDATION PROJECT

Route exchange between ships and with shore stations, time slot allocation for port berths and deep-sea assistance are only some of the services which make up the Sea Traffic Management concept. STM Validation and its preceding projects are developing the e-navigation solutions which will make maritime transport safer, more efficient and ecologically sustainable.

Route planning is simplified and accidents are avoided. STM services enhance situation awareness and enables actors onboard and ashore to see the bigger picture of the maritime logistics chain.

[www.stmvalidation.eu](http://www.stmvalidation.eu)



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