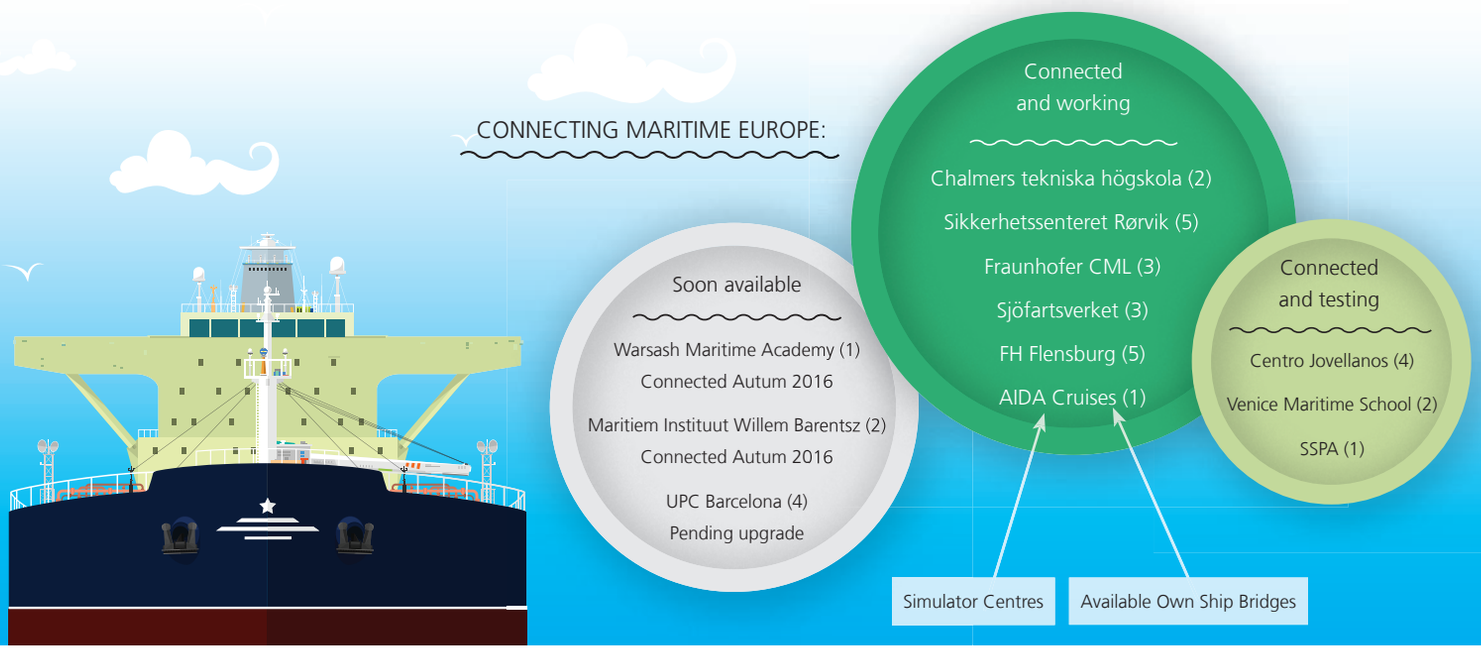
STM
SEA TRAFFIC MANAGEMENT

SEA TRAFFIC MANAGEMENT VALIDATION PROJECT



EUROPEAN MARITIME SIMULATOR NETWORK

STM Validation Project Activity 3 – EMSN

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The EMSN test-bed

Prior to implementation, Sea Traffic Management services must be thoroughly validated in a realistic environment. Being the largest and most progressive civil facility of its kind, the European Maritime Simulator network is just the platform for this new way of concept testing. Presently, 13 maritime simulation sites across Europe with a total of 37 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 as an e-navigation test-bed is the key asset for validation of STM services in a controlled environment and ensures transparency and reproducibility of results.

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.
The STM Validation project develops and tests services to promote implementation. New and bigger test-beds are established for in-situ and simulation environments.

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www.stmvalidation.eu

IMPRESSUM

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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 survey or external expert rating. 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, IEEE's Distributed Interactive Simulation (DIS) standard is used to ensure accessibility regardless of simulator maker.

The potential for maritime training

Beyond the validation of concepts, services and prototypes, the EMSN might also be used in training of maritime professionals.For example, coordination of and participation in search and rescue operations is a demanding tasks which can't be practically trained without a high number of participating units. But also more common situations like navigation in confined and densly trafficked waters can be mimicked. This may including e.g. pilot take-over and VTS interaction and creates exercises meeting the degree of complexity that characterises present-day's navigatorial challenges.