

OPEN SIMULATION PLATFORM CREATING DIGITAL COOPERATION

Joint Industry Project - Call for Partners

Simulations are today widely used in all stages in the life cycle of a vessel. However, the potential of simulations is not fully utilized as the initial cost of establishing simulation models is considerable, and re-use of models is limited. Based on a standard developed by the automotive industry we aim to establish a standard also in the maritime industry, enabling re-use of models and collaborative system simulations.

DNV GL, Rolls Royce Marine, SINTEF Ocean and NTNU have agreed to act on this challenge together. We propose bringing together key industry stakeholders to define a standard enabling exchange of simulation models - reducing cost and complexity related to simulations. Through a 2-year joint industry project we want to develop an open source simulation environment to facilitate model sharing and co-simulation for the maritime industry. The new standard will be based on well-established standards from the automotive industry.

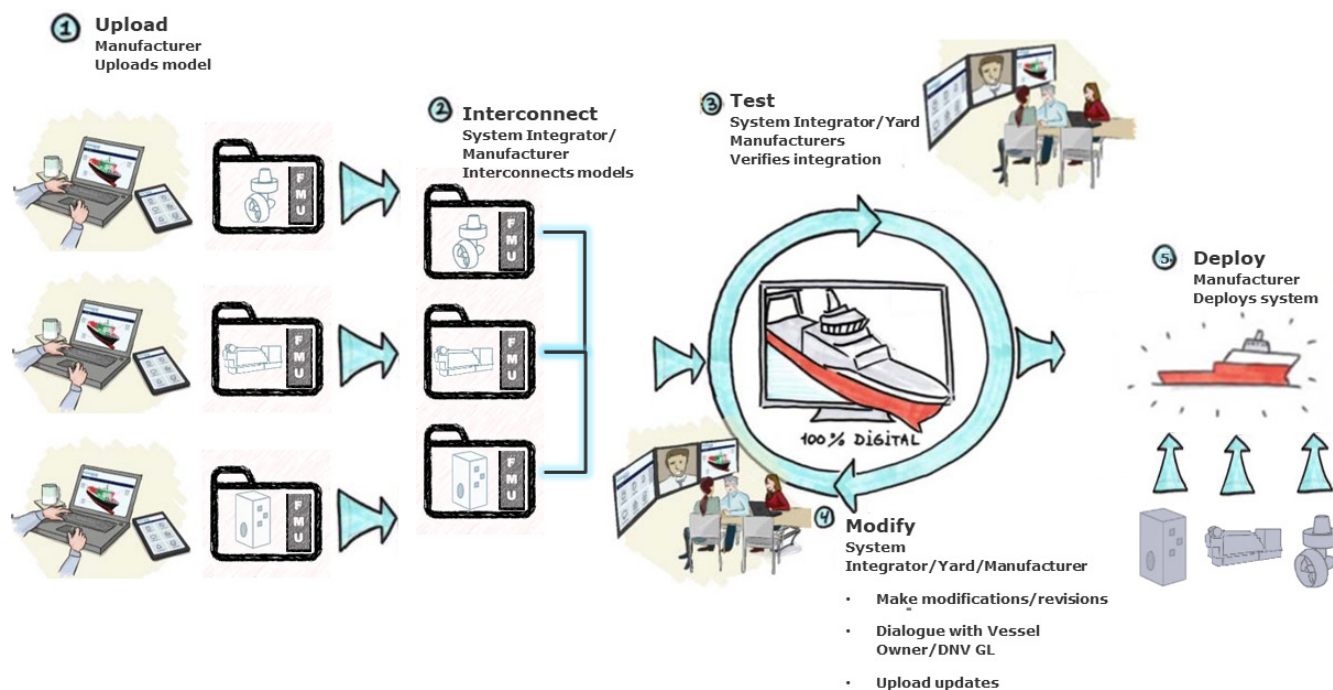
BENEFITS

The output of the JIP will be a foundation for collaborative sharing of simulation models and an open industry platform for creating digital twins of products, systems and complete vessels. This can be used to verify system integration, aid system design, and plan and optimize vessel operation in a virtual environment. As a JIP participant, you will have the opportunity to directly influence the industry standard, participate in use case pilots, have early access to the supporting technology and get support for technology usage.

OPEN SIMULATION PLATFORM (OSP)

- Establish a de facto maritime industry standard for models and system simulation
 - Develop open source simulation software and reference models supporting and implementing the standard
 - Increase efficiency and reduce industry cost related to system design, engineering, installation and operation by use of digital twin technology
 - Enable managed sharing of black-box models while protecting IPR
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Helping the industry master design, optimization, testing and integration of complex components, systems and software



PARTICIPANTS

This JIP aims for participation from:

- Manufacturers designing, developing and maintaining Cyber Physical Systems
- Designers interested in optimizing vessel performance supported by simulation
- Yards interested in addressing challenges related to integration of complex software driven systems
- Operators and vessel owners looking for simulation based methods for optimizing vessel operation and reducing off-hire
- Research/academia developing or delivering simulation services to the maritime industry

DELIVERABLES AND PROJECT SCOPE

The JIP consist of 4 work packages (WP):

- WP 1: Development of a Core Simulation Environment for co-simulation of digital twin components
- WP 2: Standardization of system modelling and interfaces
- WP 3: Establishment of Maritime reference models
- WP 4: Development of use cases and mutual benefit cases



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