

Designing reliable, fuel-efficient propulsion systems that power vessels from port to port

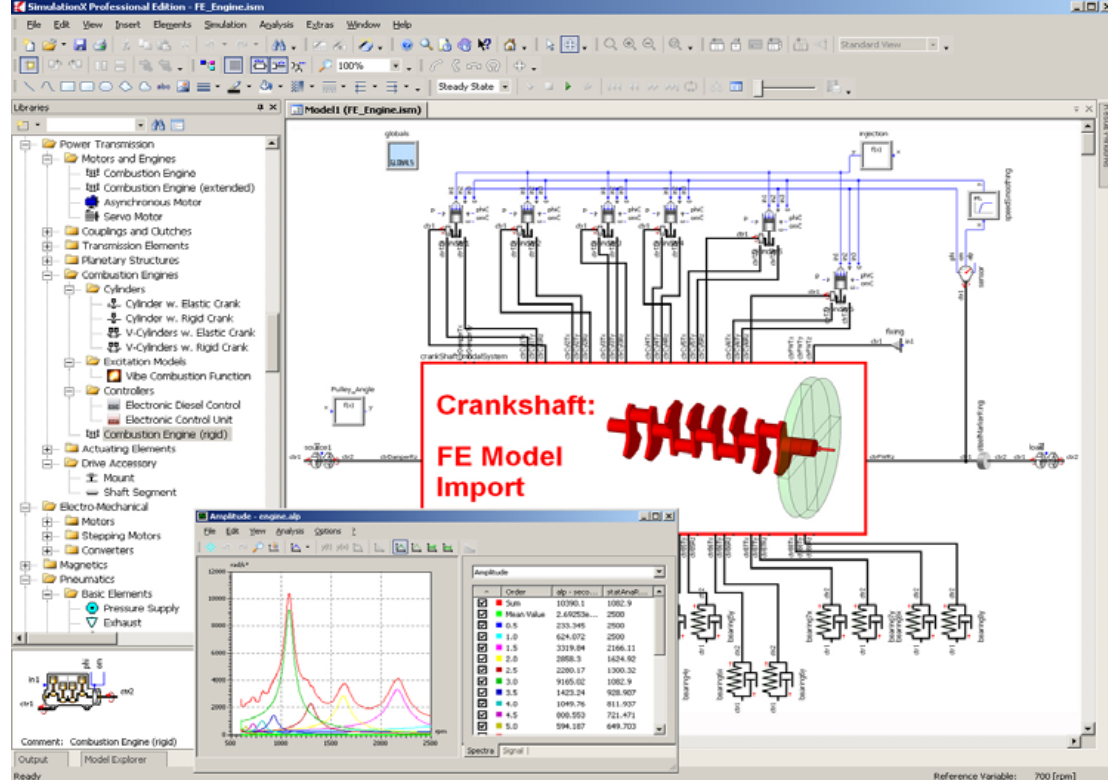
Marine & Shipbuilding



The multi-domain simulation tool SimulationX has emerged as an essential contributor to getting the required certification by efficiently designing, modeling, simulating, analyzing and optimizing ship systems and propulsion drive-lines.

In modern maritime industry, shipbuilders and suppliers face a number of challenges: new technologies must firstly meet the increasing demand on noise, weight and vibration reduction while operating in a reliable and sustainable way. Secondly, ship classification societies require the certification of all materials, components and systems relevant to safe operations and the quality of ships.





The key to system design analysis

One of the main application areas is the modeling of complex controlled, mechanical, hydro-mechanical, electrical and thermo-dynamical systems for the evaluation of the dynamic behavior. Thus, SimulationX facilitates in-depth conclusions on reliability, steady state vibration behavior, and transient processes.

An open architecture and a range of transparent, customizable models and libraries provide SimulationX users with the ultimate level of flexibility and user-friendliness. A model library specifically tailored to the needs of the maritime industry includes pre-built elements for steady state simulation and is supported by comprehensive methods e.g. for natural frequencies. This is why SimulationX facilitates the quick analysis and

reliable evaluation of dynamic system behavior. This is achieved within one model on one software platform, hence accelerating and simplifying the modeling and computation.

- **Structural Analysis** | analysis and assessment of transient behavior, short circuits, ice impact calculations, structure vibrations, durability, comfort
- **Non-linear Torsional Vibration Analysis** | evaluation of vibrations, compliance with limits, certifications
- **Vessel Energy Management** | analysis of energy consumption of ships and ship equipment units, optimization of energy flows and fuel economy, guarantee of energy supply
- **Safety Management** | assessment of risks and their impact on operations, analysis of failure modes and effects (FMEA)

All over the world, classification societies, shipbuilders, suppliers, and engineering partners, use SimulationX for designing and optimizing ship propulsion systems.

e.g. Bosch Rexroth, Bureau Veritas, Caterpillar Marine Power Systems, Det Norske Veritas, Diesel United, Germanischer Lloyd, Loher, Mitsubishi Heavy Industries, Scana Volda, and Stromag

„We are very pleased with the stability and user-friendliness of the program and the excellent technical support from the simulation engineers at ITI.“

J. Roaldsøy, Principal Approval Engineer, Machinery – DNV Maritime Technology and Production Centre

ITI Headquarters
Schweriner Straße 1
01067 Dresden · Germany
info@iti.de

www.simulationx.com

ITI Worldwide
For your local representative please visit:

www.itisim.com/global