Wärtsilä Simulation & Training Solutions

Bringing Technology, Expertise and Content Together

Wärtsilä Simulation & Training solutions connect maritime stakeholders by providing integrated solutions and high quality content that bridges the gap between STCW and required level of competency.
SCALABLE SIMULATORS for training and certification of seafarers on all types of vessels

CLOUD SIMULATION SOLUTION lets users access simulators and other training content and applications online anywhere anytime

TOTAL SHIP CONCEPT connects the bridge with the engine room to allow training in the communications skills required in real life

e-TUTOR automated evaluation and assessment system for simulator control and reporting

INTEGRATED SOLUTIONS, knowledge exchange and crewing service

A wide range of own TRAINING COURSES covering different maritime domains

MORE THAN 5500 MARINE SIMULATION SYSTEMS IN 91 COUNTRIES

45% OF THE MARINE SIMULATION MARKET
DRIVING PROGRESS IN MARITIME SIMULATION AND TRAINING

Wärtsilä Academy steps up to the challenges of providing training in a digital world characterised by increased emphasis on learning methods that accommodate flexibility and collaboration. Wärtsilä Academy solutions are built from the ground up to train and prepare seafarers of the future. They offer micro-learning, enabling education anytime from anywhere, personalized training and e-learning supported by remote tutoring. They offer gamification of training, drawn from real-life situations and virtually recreated, to make it more engaging for individual learning or for building team skills in multi-player mode. Furthermore, new content distribution technologies allow these solutions to reach seafarers on every platform, with options for virtual, augmented and mixed reality.

COMPLETE SOLUTIONS

Wärtsilä Academy supports training providers throughout the whole process:
- Training need analysis (TNA)
- Selecting the right simulation technology
- Design of training facilities; consultancy on infrastructure works
- Turnkey project management and deployment
- Customised development for specific applications
- Train-the-trainer courses
- Certification support
- Customised maintenance and support services
- Courseware and training content development and delivery
NAVIGATIONAL and GMDSS Simulation & Training Solutions

TRAINING TO STCW AND BEYOND

**ECDIS SIMULATOR** allows for STCW 2010 compliant ECDIS training, meeting the latest IEC and IHO requirements.

**OFFSHORE SIMULATION SOLUTIONS** are designed for training in Dynamic Positioning, Anchor Handling, Oil Spill Response, and Remotely Operated Vehicle operations.

**DP SIMULATOR** allows for The Nautical Institute approved Dynamic Positioning training focused on operational procedures for adverse events, which are too complex and dangerous to train at sea.

Full-scale **VTS SIMULATOR** allows the provision of IALA V-103 training in a realistic environment.

Fully integrated **TUG SIMULATOR** provides users with effective tools for both ship assistant training tasks and professional training in tug and barge operations.

**FISHING SIMULATOR** allows for training in basic fishing processes, vessel manoeuvring and acoustic device handling.
ICE NAVIGATION SIMULATOR is used for training on vessel operations in cold weather, meeting the requirements of the Polar Code.

SAR OPERATIONS SIMULATOR enables practice for search and rescue operations involving rescue boats, helicopter support and coordination with shore authorities even in the most adverse weather conditions.

SURVIVAL CRAFT SIMULATOR delivers a solution that prepares seafarers for multiple possible scenarios that can occur during lifeboat drills.

ECOLOGICAL SIMULATOR educates seafarers on the relationship between fuel consumption and emissions, and implications for vessel operation and compliance with international regulations.

NAVAL APPLICATIONS provide procedural and operational simulation training for navies and coast guard authorities.

GMDSS SIMULATOR imitates ship-to-ship and ship-to-shore communications using simulated terrestrial and satellite communication systems.
TECHNOLOGICAL Simulation & Training Solutions
BASED ON THE ADVANCED TECHSIM PLATFORM

ENGINE ROOM SIMULATOR is built to train and assess the competence of engine department personnel, including officers in charge of an engineering watch, second and chief engineers and ratings.

ERS can provide a replica of a vessel’s machinery and engine control rooms, accurately simulating their function down to every detail.

ERS allows ship compartments to be recreated as a virtual reality model, in which the user controls an avatar to move between operation posts and perform job functions.

ERS hardware can be both REAL DEDICATED PANELS and VIRTUAL PANELS, or a combination of both.

The ship model can be changed in one click, allowing several ship types to be simulated within the same FULL MISSION INFRASTRUCTURE.
HIGH VOLTAGE TRAINING BREAKER is a solution for training marine engineers in electrical systems, which replicates the functions and operation of a real hardware high voltage generator breaker cabinet.

SHIP ENERGY MANAGEMENT SIMULATOR trains watchkeeping personnel in techniques for monitoring vessel energy consumption and best practice for making continuous improvements leading to energy savings.

LIQUID CARGO HANDLING SIMULATOR enables the training and competence assessment of crew working on liquid cargo tankers, gas carriers and shore terminals, as well as other staff responsible for the safe cargo handling operations and auxiliary equipment.

SAFETY MANAGEMENT AND CONTROL SIMULATION teaches personnel responsible for the safety of cargo, personnel and equipment, emergency procedures for preventing fires, flooding and other incidents.
Simulator Development Tools
R&D SUITE FOR QUICK AND ACCURATE MODELLING

MODEL WIZARD 3D DATABASE EDITING TOOL for the development and modification of high-quality marine simulation area databases and ship models

SHIP MODEL TOOLKIT for real-time hydrodynamic ship motion simulation for external software applications

SHIP MODEL LIBRARY today contains more than 600 highly realistic and mathematically accurate virtual models of a wide selection of ships. Our catalogue is continually growing

Simulators can function as an effective tool for research and feasibility studies for designing ports, channels and terminals etc, thanks to their highly accurate MATHEMATICAL MODELLING
VIRTUAL SHIP YARD SOFTWARE
for developing and editing ship motion, engine and propulsion models, as well as controlling and documenting the results

SEAGULL 3D VISUALIZATION TOOLKIT
for developing real-time 3D applications that realistically simulate the sea surface, wave and wind force and direction

SAILING AREA LIBRARY covers nearly all important shipping areas, straits and ports of call, as well as extensive sections of inland waterways

CARDINAL SOFTWARE for 3D current analysis and forecasting in support of specific consultancy or R&D projects
Simulation & Training in a Shared Environment

HIGH QUALITY TRAINING ON LAND OR AT SEA

IMPROVED INTEGRATION between training schools, ships and shore based fleet operation centers

Scenarios run on simulators using REAL SHIP TRAFFIC CONTROL, SHIP SPECIFIC AND OPERATIONAL DATA

Real-world data CONTINUOUSLY ADJUSTS SHIP MODELS AND SCENARIOS within the simulation environment

Seafarers gain the CRITICAL CORE COMPETENCES that enable SUPERIOR DECISION-MAKING, ENHANCED SAFETY in everyday operations

Simulators can be interlinked to provide TRAINING AND ASSESSMENT FOR MULTIPLE CREW ROLES working together
SYSTEM-SPECIFIC TRAINING available direct to the ship enabling immediate familiarisation for new crew

Cloud-based access to high quality professional DEVELOPMENT, CONTENT AND EXPERTISE anywhere, onshore or onboard

Real-time ship data can be utilised for PREDICTIONS and REHEARSAL SIMULATION

Shore-based staff can simulate and analyze scenarios to offer ADVICE & SUPPORT to the ship before, during and after challenging operations

As part of the DECISION-MAKING PROCESS, Simulation & Training are employed to OPTIMISE processes and to enable more integrated way of working
Training Courses at Wärtsilä Academy

HIGH QUALITY TRAINING CREATES HIGH QUALITY SEAFARERS

ENGINE CONTROL ROOM FULL MISSION SIMULATOR

SPECIALISED SHIPHANDLING TRAINING

PART-TASK NAVIGATIONAL BRIDGE

INSTRUCTOR WORKSTATIONS

FLIGHT DECK OPERATIONS

OUTSOURCED TRAINING

SURVIVAL CRAFT

CLASSROOMS

SHIP TRAFFIC CONTROL

ICE NAVIGATION TRAINING

MACHINERY CONTROL ROOM

BRIDGE RESOURCE MANAGEMENT

HUMAN ELEMENT LEADERSHIP & MANAGEMENT
NAVIGATIONAL SIMULATION FACILITY
SHIP AND TUG HANDLING SIMULATORS
FULL MISSION ASD TUG BRIDGE
PART-TASK MINI-TUG BRIDGE
LOCAL OPERATION POSTS
FLEET OPERATIONS
SHIP
ACADEMY
TECHSIM FACILITY
HIGH VOLTAGE COURSES
INCIDENT RESPONSE TRAINING
ENGINE RESOURCE MANAGEMENT
SHIP AND TUG HANDLING SIMULATORS
SPECIFIC AND BESPOKE END-USER TRAINING

ALL TYPES OF TRAINING AND COMPETENCE ASSESSMENT FOR SEAFARERS

NAVIGATIONAL AND TECHNOLOGICAL SIMULATOR TRAINING
Wärtsilä is a global leader in smart technologies and complete lifecycle solutions for the marine and energy markets. By emphasising sustainable innovation, total efficiency and data analytics, Wärtsilä maximises the environmental and economic performance of the vessels and power plants of its customers.

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