SIMBT
SIMULATION SCIENCE AND TECHNOLOGIES

We know Success begins with Commitment to Customer Vision.

SimBT was established on 31 March 2009 in Technopolis Technology Research Area of Middle East Technical University, Ankara. Up to now, we have developed 55+ applied research software solutions in the areas of defense, security, healthcare, energy, transportation, training, museum and advertisement for our customers such as Turkish Presidency of Defence Industries (SSB), Turkish Armed Forces, Turkish Naval Forces, Turkish Directorate General of Coastal Safety, Aselsan, Havelsan, Roketsan, TUSAŞ, Savronik, STM, Milsoft, EnerjiSA, Innova, Mercedes-Benz, Ronesans Holding, Altay, CTech, etc.

In order to provide professional solutions to our customers, we also get academic support from University instructors and R&D centers such as Middle East Technical University, Bilkent University, Hacettepe University, METU Center for Image Analysis (OGAM) and METU-TAF Modeling and Simulation R&D Center (MODSIMMER).

SimBT is a SME company that has brought together specialist with profound experience in the below system and technology areas:

- Modeling, Simulation and Simulator Systems
- Artificial Intelligence and Machine Learning
- 3D Computer Graphics and Animation
- Mixed, Virtual & Augmented Reality
- Computer Based Interactive Training and Multi-Media Systems
- Geographic Information Systems
- Decision Support Systems
- Embedded and Real-Time Software
- Civilian and Military Platform and System Applications
- Stereoscopic, Auto-Stereoscopic and Holographic
- 3D Visualization Systems
- Land and Maritime Simulations and Simulators
- Image Processing and Data Technologie

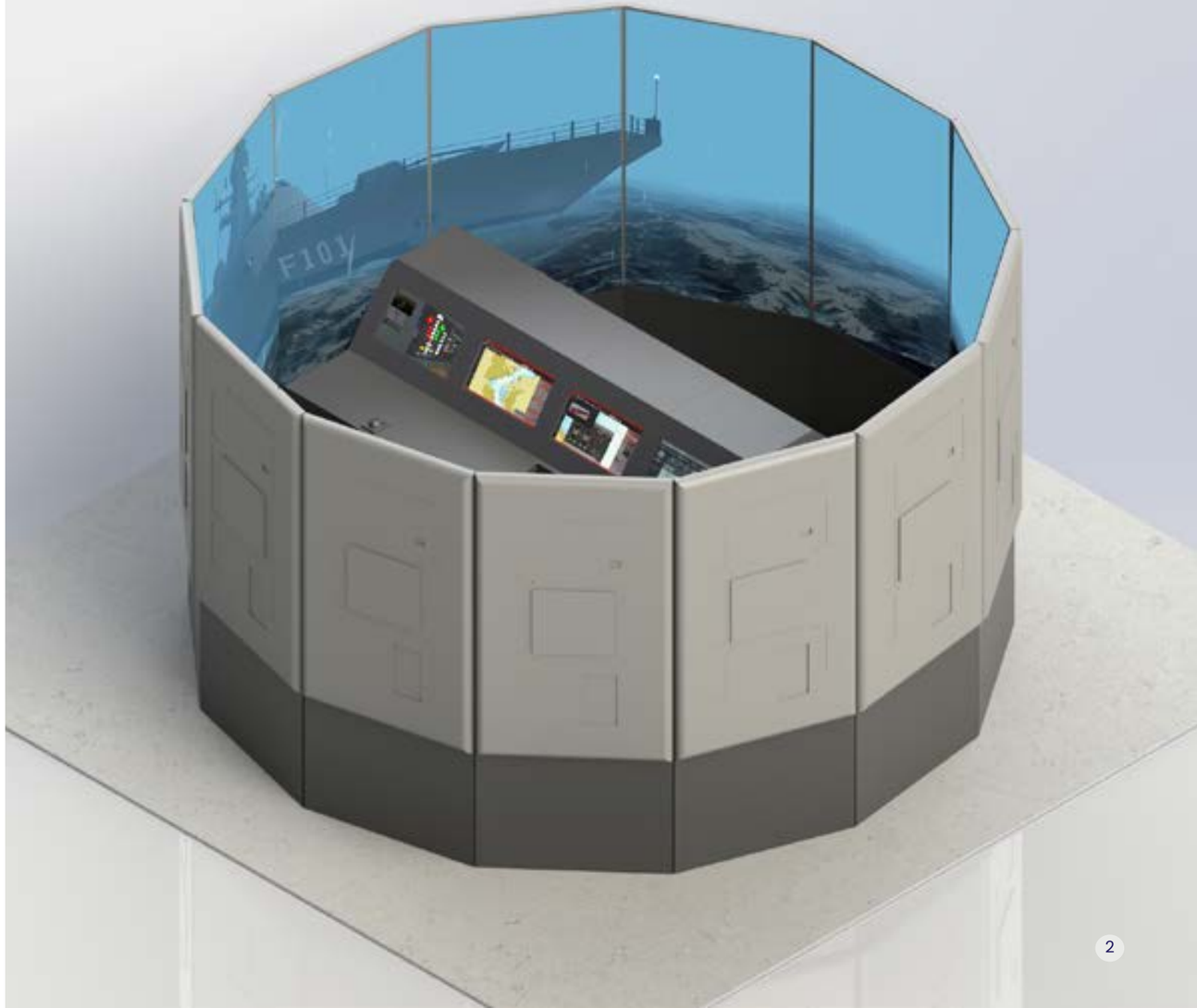
SimBT has the required compliance to national military and civil quality qualifications such as ISO 9001:2015, CMMI Level-3, MIL-STD-498, MIL-STD-973, ISO 27001:2013; Turkish Loyd and RINA Certification, STCW Convention Compliance Certificate and NATO/National Facility Security Certificate.

Simulator Family

MARSIM-Maritime Simulator Family

Enables simulator training and certification of

- Watch officers,
- Chief officers,
- Captains,
- Pilots on all types of vessels

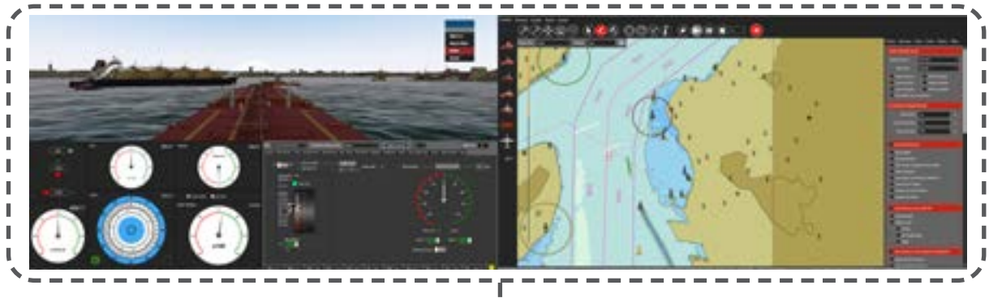


Compliance With International Standards/Regulations

- International convention of training, certification and watchkeeping for seafarers (STCW'2010).
- IMO model courses.
- International SOLAS conventions.
- IMCA guidance on the use of simulators; c 014 rev.2

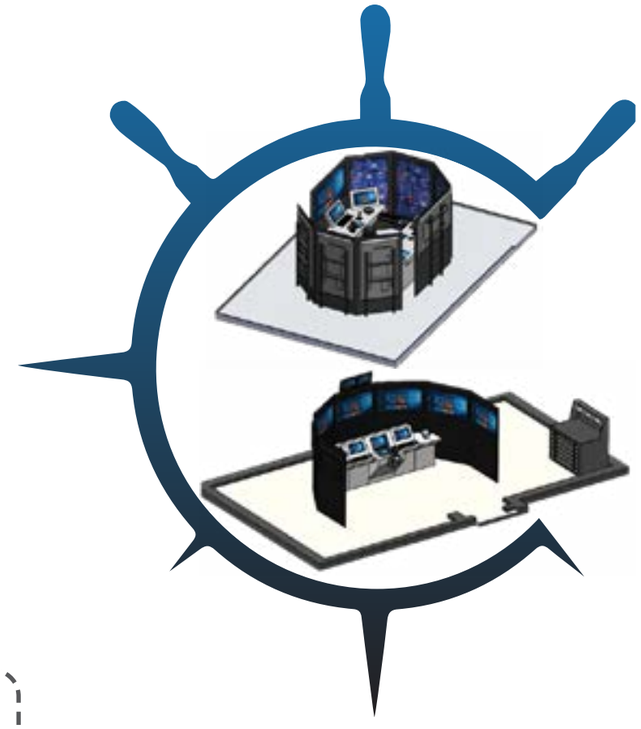
DNV

IMO INTERNATIONAL MARITIME ORGANIZATION



Navigation Simulator

FMBS



TUG Simulator

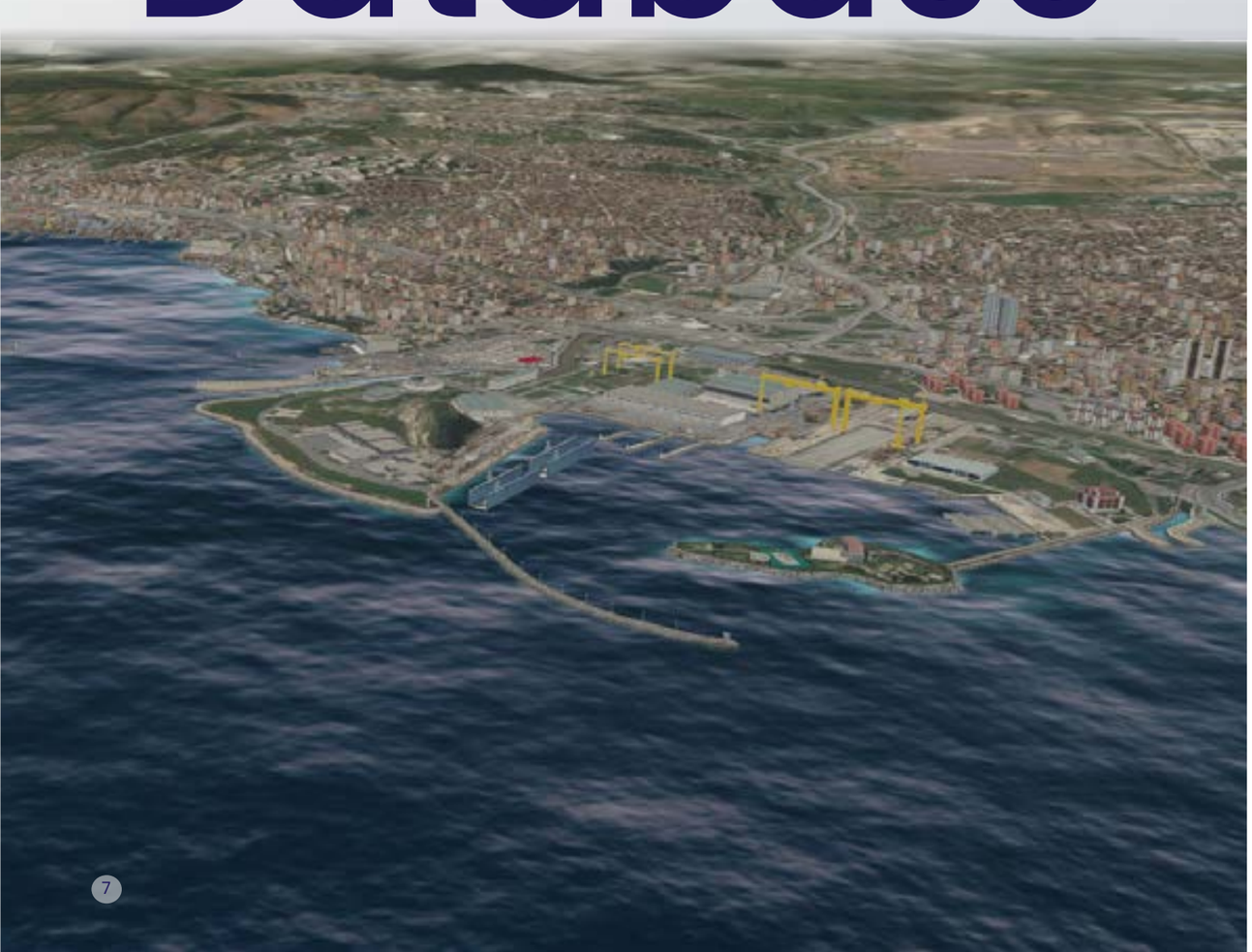
GMDSS Simulator

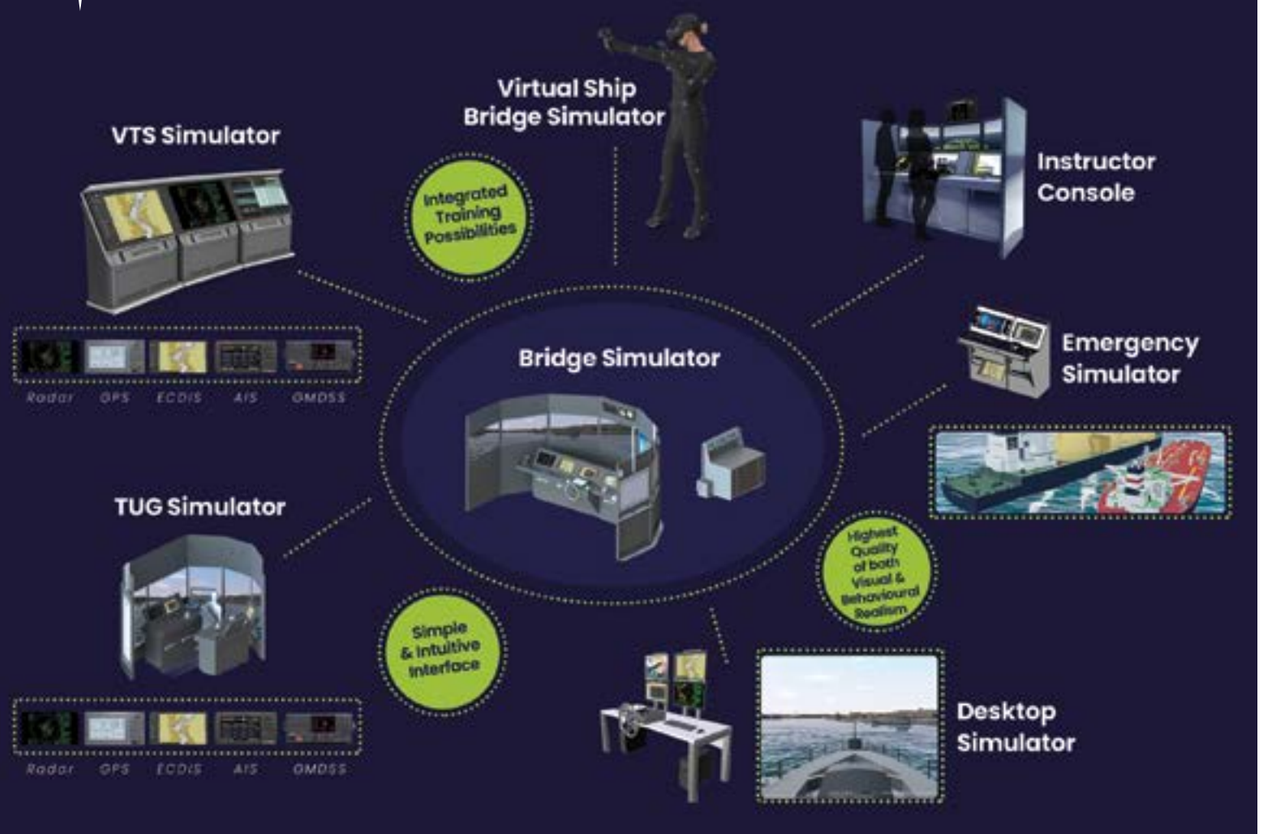
MARSIM

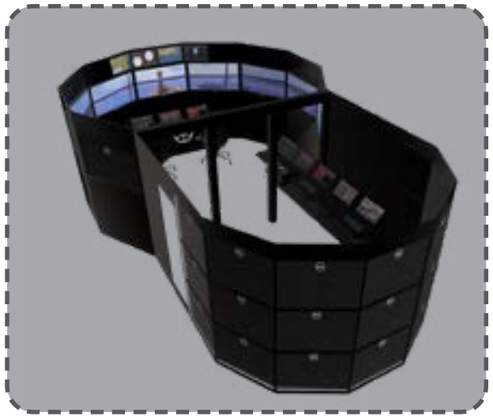
- MARSIM is specifically designed to provide training in best practices and to build the level of competence needed for advanced operations and STCW requirements.
- It integrates a sophisticated physics engine, which in addition to offering advanced hydrodynamic modeling (6 dof), allows vessels, objects, and equipment to behave and interact realistically, improving the quality of training significantly.
- With a state-of-the-art visual system and the many options for integrating additional equipment and simulators,
- The use of a sophisticated physics engine supports full interaction including 3D hull collision detection with shore- and maritime-based objects and vessels.

- The ship dynamic model editor allows adding different types of ships in a short time.
- More than 20 different types of commercial ships and 15 naval ships can be used as our own ships.
- As the target ship, 50 different types of ships were modelled.
- Exercise area editor, allows adding different training areas.
- There are more than 20 exercise areas in the database.

Visual Database



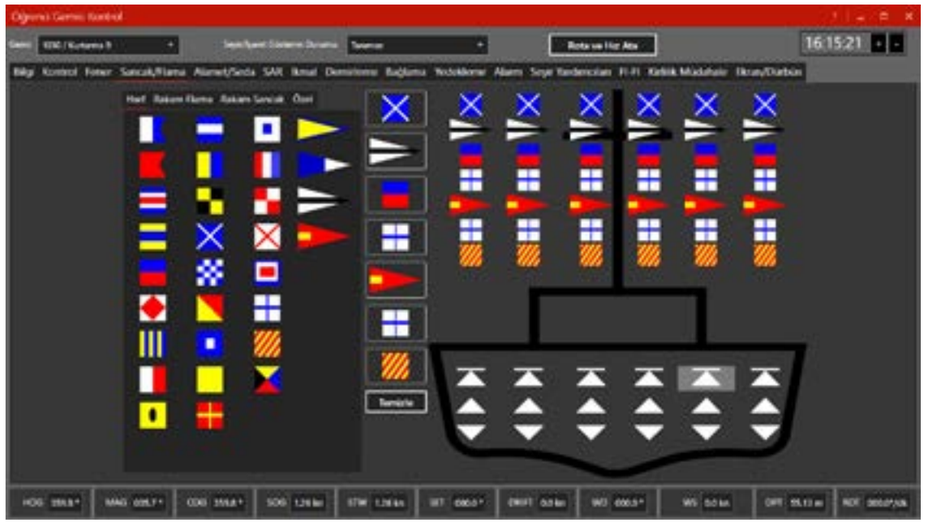




MARSIM provides PC based desktop system through to a Full Mission Bridge simulator with LED and projectors, optionally on a six degrees of freedom motion platform.

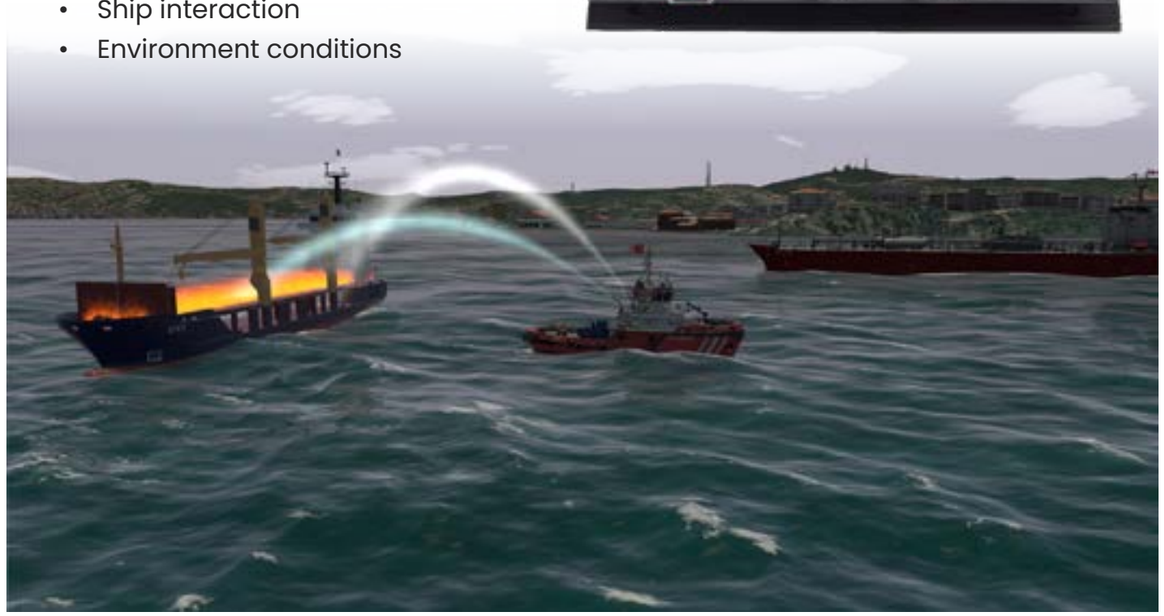
Full Mission Bridge Simulator (FMBS)

Our FMBS simulator fulfills the requirements of IMO Model Course 122 Ship Simulator & Bridge Teamwork, 2002 Edition
In 2022, 420 pilots and 100 tugboat masters were trained in the simulator centre of the Ministry of Transport And Infrastructure



FMBS Training

- Bridge team management training
- Crew resource management
- Pilot training
- Ship handling and maneuvering
- Bridge watchkeeping
- Ship interaction
- Environment conditions



- Communication and GMDSS
- Colreg training,
- Emergency response,
- Familiarization with equipment used on board
- Squat and bank effects
- Ice navigation/ice management
- Berthing, mooring, anchor usage
- Tugging and tow master training,
- Passage plan
- Naval tactical training

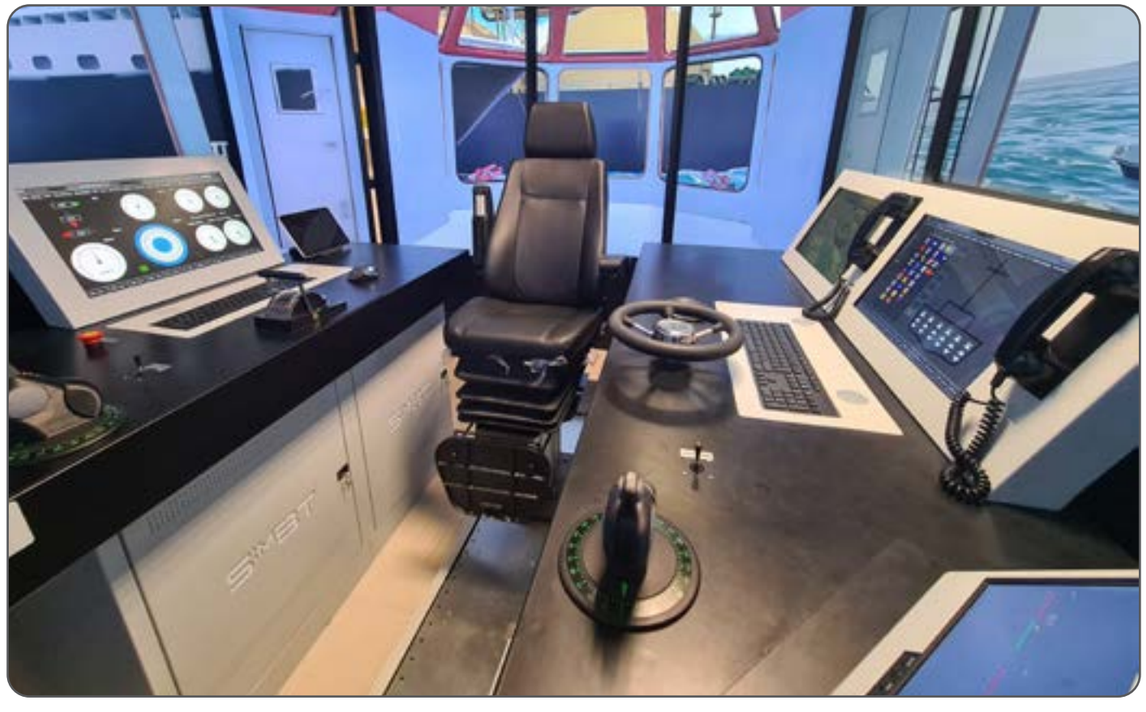
GMDSS Training

- Our GMDSS simulator fulfills the requirements of IMO Model Course 1.25 for GOC and accommodates communication training such as:

- VHF and MF/HF with digital selective calling (DSC),
- Connection to narrow band direct-printing (NBDP-NAVTEX),
- Sart and epirb,
- Inmarsat system to cover sea areas of GMDSS A1, A2, A3 AND A4.
- All internship communication devices intercom, PA systems and UHF radio.
- All systems are available with any mix of handsets, stalk mic or headsets.

TUG Simulator

Different types of tugs simulated in the simulator such as Voith Schneider Propeller and ASD (Azimuth Propeller)
Designed for Tug masters and provides high fidelity and cost effective training in complex and risky operations.



TUG Simulator

ECDIS Training

- Our ECDIS simulator is a real ECDIS system that is certified by RINA and we call it horizon; it fulfills the requirements of IMO Model Course 1.27 And accommodates ECDIS training such as:

- ECDIS familiarization
- Operating the ECDIS system with all available functions in order to navigate safely
- Knowledge of the capability and limitations of ECDIS
- Proficiency in the operation, interpretation, and analysis of information obtained from ECDIS
- ECDIS can be supplied in various configurations, from computer programs suitable for shipboard training to full mission simulators with real ship controls.

Radar Training

- Our radar simulator fulfills the requirements of IMO Model Course 1.08 And accommodates radar training such as:

- Radar familiarization
- Operating the radar system with all available functions in order to navigate safely
- Knowledge of the capability and limitations of radar
- Earth curvature, relative and true motion.
- False echoes,
- Shadow effect,
- Trial maneuvers,
- Parallel indexes,
- Sea and rain clutter.

Advanced Fire Fighting Training

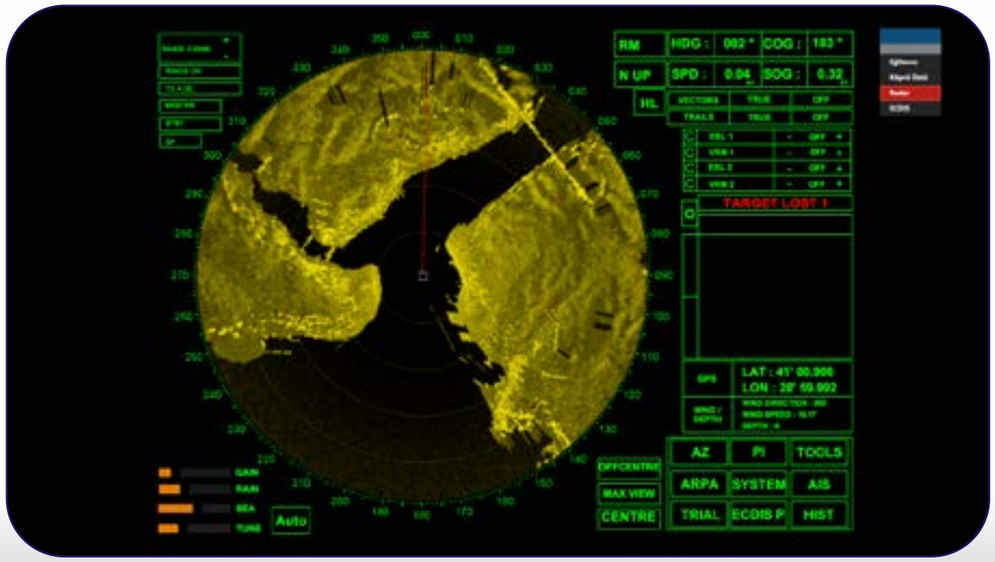
SimBt offers a virtual reality-based maritime advanced firefighting simulator equipped with cutting-edge technologies to effectively get firefighting training.

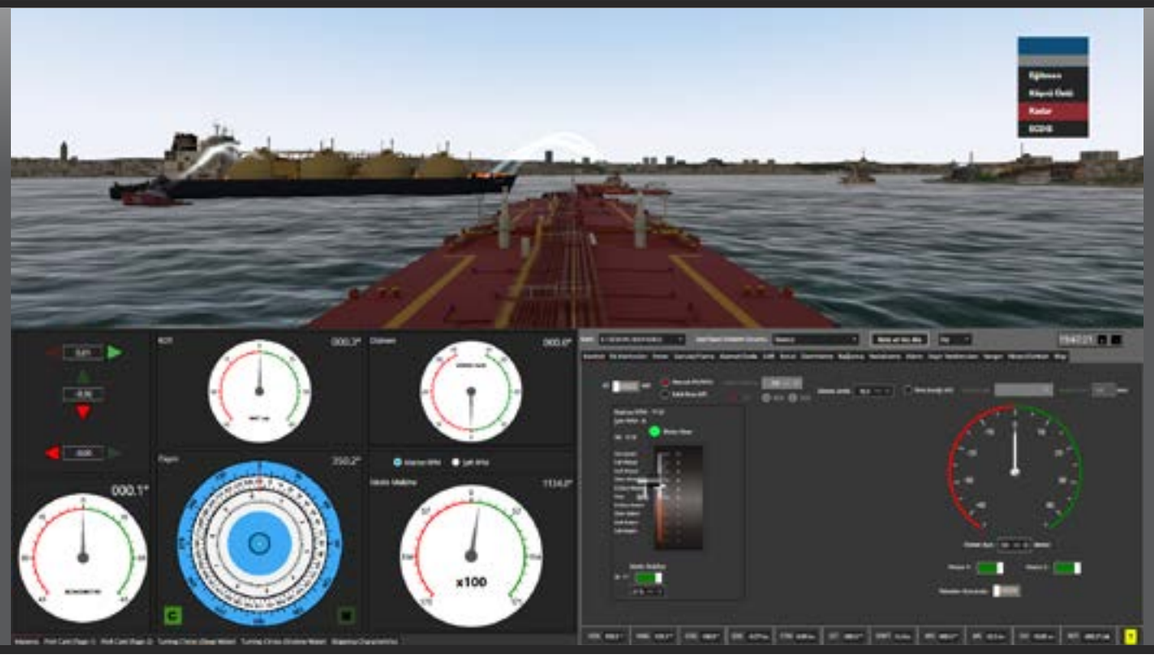
Ship fires pose a major threat to the survival of ships and correct response of ship crew is vital. It is of great importance for your ship and crew to experience fire training, which is difficult to perform in real environments, in a safe and realistic way.

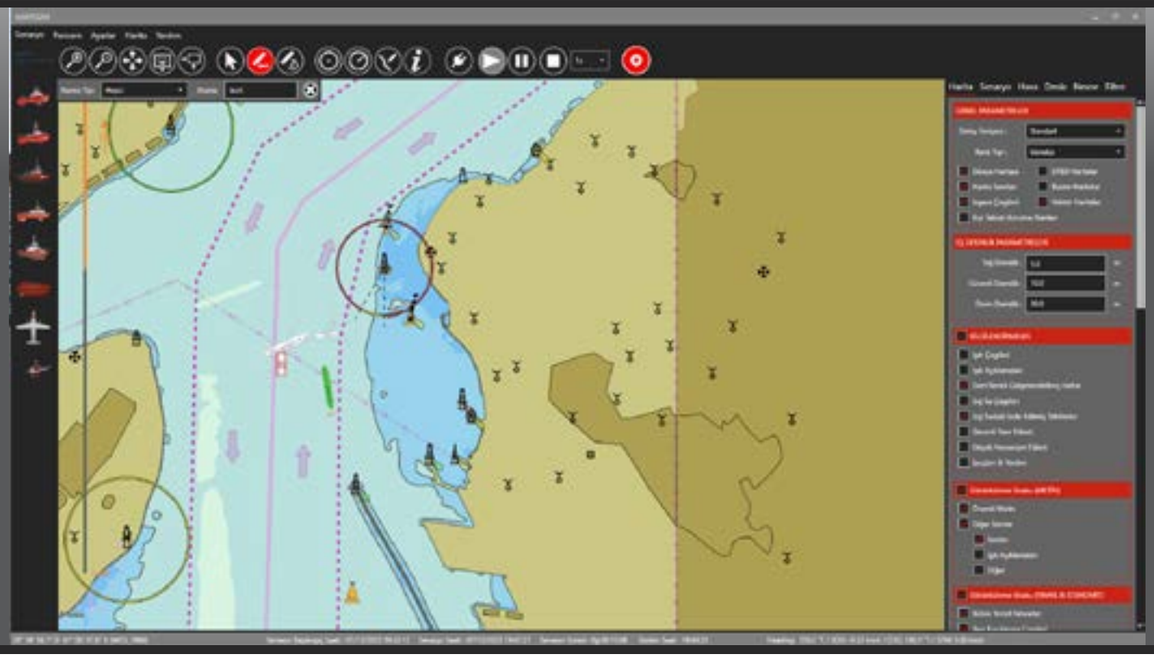
We offer you the opportunity to improve your firefighting skills in a safe and effective way with our ship fire training simulator developed in accordance with IMO Model Course 2.03 and DNV advanced firefighting standards.

Navigation Simulator

Navigation training incorporates advanced simulators for effective learning. Additional to certified ECDIS simulator, the radar simulator, it covers Bridge Resource Management (BRM), Emergency Navigation, and a comprehensive approach. The training combines theoretical instruction, simulator exercises, and practical shipboard training.







Liquid Cargo Handling Simulator

Our LCH simulator fulfills the requirements of IMO Model Course 1.04 and accommodates training for liquid cargo tankers, gas carriers and terminals.

Simulated Chemical/Product Tanker, Crude Oil Tanker, LPG Tanker, LNG Tanker, and more can offer a range of operations, including:

- Loading and unloading processes
- Ballasting operations
- Tank cleaning procedures
- Cargo heating and cooling
- Inert gas system operations

Fishery Simulator

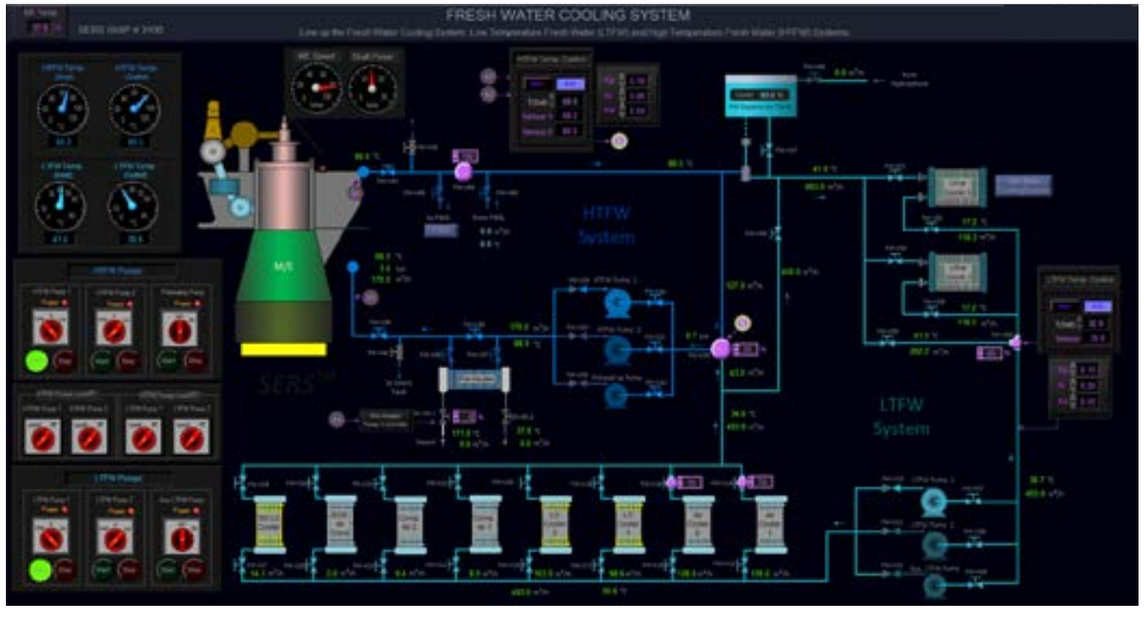
Navigation, maneuvering, fish-finding and -catching trainings can be done with our DNV GL compatible simulator by using virtual equipments and sensors on the fishing vessel. Ship crew can perform training as a team and carry out fishing activities in a safer and more efficient manner.

Features

- Fishing operations like deploying trawl, purse seine and long line are supported.
- 3D visualization of fishing environment, fishing vessels and fishing gears (fishing nets, winches, etc) with realistic physics models.
- Familiarization and training in fish-finding by using echo sounders, net sounders, multi-beam sonars.
- Familiarization and training in fish-catching with fishing nets and fishing gears.
- Monitring and adapting scenarios through instructor module.
- Replaying for debriefing and evaluating the training and giving feedback for trainees

Ship Engine Room Simulator

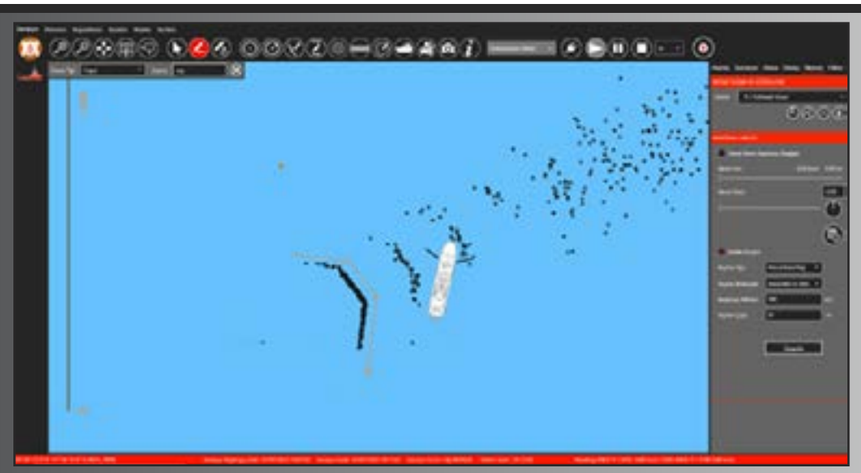
- SERSTM is a certified engine room simulator by ClassNK
- Certified to meet the training requirements per STCW 2010
- Certified to meet the IMO Model Course 2.07
- Instructor station with objective assessment tools for grading
- Provides both (Conventional and E-Controlled) main engines with dual fuel (HSFO & LSMGO) operations
- Interactive 50+ GUI Panels to include all engine room systems and machinery
- Academic level ship and machinery analysis tools for control systems, efficiency analysis, correlation and parametric studies
- Includes High Voltage Training (STCW AIII/6.4)
- All diesel generator operations with shaft/turbine generators



An Advanced Engine Room Simulator for both Training and Assessment

- Provides workstations of distributed engine and control room systems with one software setup
- Detailed electrical control systems with consumer parametric setup for energy efficiency training
- Simulator, ship, and environmental parameters
- Auxiliary machinery systems and panels
- Engine control room remote panels
- Energy efficiency and monitoring
- Emergency systems and panels
- Environmental safety
- High voltage training

Powered by GDS Inc.

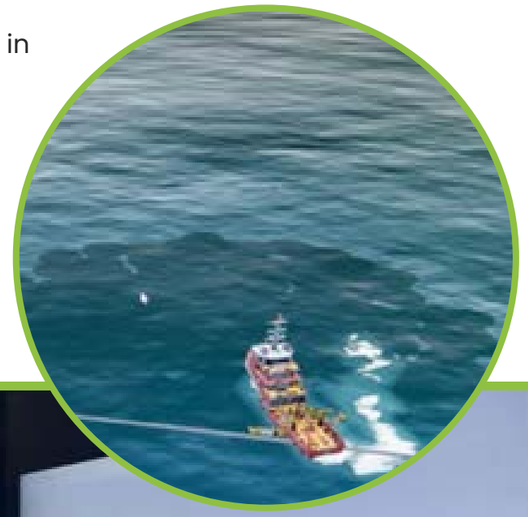


Ice Navigation Training

- FMBS simulator fulfills the requirements of IMO Model Course 7.11 Training such as:
- Ice navigation in polar waters in various ice conditions
- Interaction between passing vessels
- Ice avoidance
- Close proximity maneuvering

Emergency Response Training

- MARSIM creates a realistic training environment, for the creation of sea pollution. ERT can work stand-alone or it can work with FMBS.
- Pollution can be areal, line, and point in any desired geographical location.
- Simulated pollution types are:
- Fuel and oil spills/wastes, bilge wastes, oil spills, ,
- 50 Different types of chemical materials,
- Solid wastes (cargo, plastic, garbage, etc.).



Naval Training

- MARSIM provides a realistic environment for naval training such as:
- Tactical manoeuvres and combat tactics
- Mission planning
- Communication
- Replenishment at sea
- Formation

VR Bridge Simulator

- VR Simulator has the same infrastructure of FMBS, instead of the consoles using VR glasses.
- Students can receive training as if they were on the ships they will be on.
- For the Navy it creates realistic solutions.
- Turkish Navy uses the VR Simulator at three different bases,
- All Turkish Navy ships were simulated in the VR Simulator.


TURKISH NAVAL FORCES
1081
ITU MARITIME FACULTY
1884
Directorate General Of Coastal Safety
KIYI EMNİYETİ GENEL MÜDÜRLÜĞÜ
1856
M S C
MSC OSCAR
Costa Deliziosa
L P G
KIYI EMNİYETİ
COAST GUARD
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