MARINE TRAFFIC ENGINEERING CENTRE IN MARITIME UNIVERSITY OF SZCZECIN, POLAND

The **Marine Traffic Engineering Centre** located at the **Maritime University of Szczecin, Poland**, offers navigation training in accordance with IMO STCW Convention and a full range of scientific-research works in marine traffic engineering for determination of interactions among a navigator, ship, water region, navigational marks, hydrometeorological and operational factors, in the environment as realistic as possible, enabling evaluation of navigation risk and safety in open and restricted sea and inland waters.

The Centre comprises:

– **one full mission navigation bridge simulator** with 270° visual projection, equipped with live and screen-simulated marine ship equipment including ARPA, ECDIS and DP class 2 consoles (**accredited by NI for DP training**),

– **two multi task navigation bridges** with 120° visual projection, equipped with mix of real and screen-simulated ship-like equipment including Voith-Schneider tug console,

– **two desktop PC simulators** with one monitor visual projection and one monitor screen-simulated ship equipment,

– and a dedicated staff of more than 20 teachers and scientists supervised by Prof. Stanisław Gucma, Ph.D., DSc., Master Mariner.

All hardware and software is forming the Polaris System from Kongsberg Maritime AS which was granted DNV certificate for compliance or exceeding the regulations set forward in STCW'95 (section A-I/12, section B-I/12, table A-II/1, table A-II/2 and table A-II/3).
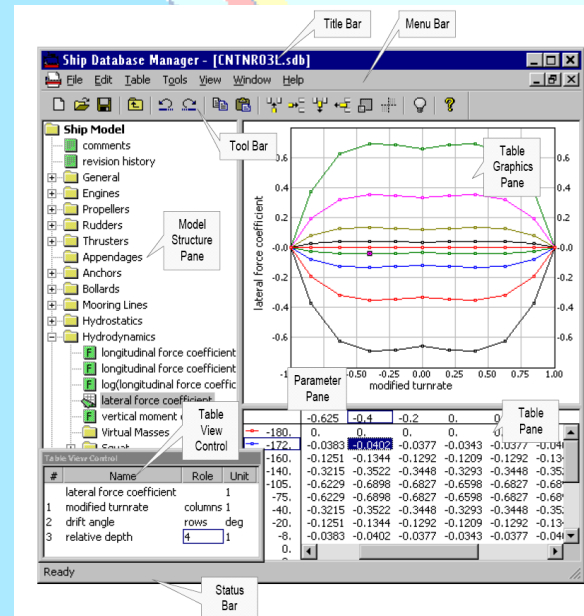
In order to create own ship models a hydrodynamic ship-modelling tool is available. This tool enables creating almost any ship type (controls for at least two engines with propellers' controls for fixed propeller, adjustable pitch propeller and azimuth; rudder controls adequate for various types of conventional rudders, active rudders, Z-drive/azimuth and thrusters – DP ready) with very high fidelity hydrodynamics in 6 DOF (surge, sway, yaw, roll, pitch & heave).

Visualisations of own ships, target ships and research areas are made in Multi-Gen 3D type environment.

Exercise or research areas will consist of the following types of databases interconnected to simulator live-marine equipment, screen-based equipment and hydrodynamic ship models: radar databases, depth databases, buoy databases, chart databases, visual databases, wave databases, current databases, wind databases, tidal height databases, fender databases, bank databases, navtex databases, DGPS databases, VTS databases, lock gates databases.
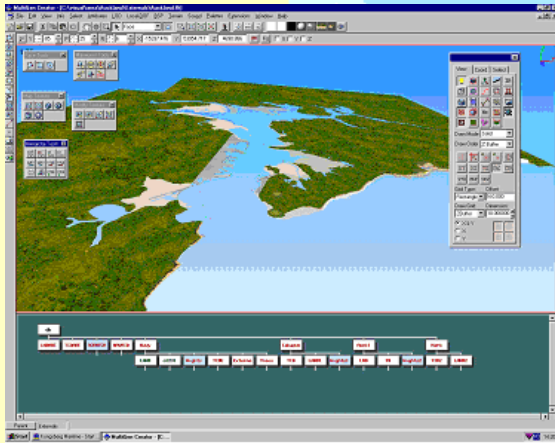
MTE Centre presently has ready to use **10 databases of sea - harbour areas including 8 European ones: Gibraltar Strait, English Channel, Europort, Hamburg, Danish Straits (Great Belt, Little Belt), Ystad, Świnoujście and 11 ship models including LNG carriers**.
MTE Centre is ready to perform the following Courses:
- DP Induction and DP Simulator course acc. to Nautical Institute standards,
- Ship Simulator and Bridge Teamwork (IMO Model course 1.22),
- Operational Use of Electronic Chart Display and Information Systems (ECDIS) (IMO Model course 1.27),
- Operational Use of Integrated Bridge Systems including Integrated Navigation Systems (IMO Model course 1.32),
- Automatic Identification System (IMO Model course 1.34).

MTE Centre **is also ready to conduct training courses of shiphandling and manoeuvring in any sea areas** (improving skills in handling a ship with emphasis on using engine**(s)**, rudder(s), thrusters, azipod(s), Voith-Schneider in shallow waters, with wind and current effect and interaction with other ships and tugs).

In scientific domain MTE Centre is ready to perform navigation safety analysis of any water region based on tenths of registered parameters of own and target ships' in reference to the research area (among others: positions, SOG, COG, SOW, COW, heading, rate of turn, ship's controls adjustments – propulsion devices, rudders, thrusters, tugs, anchors, mooring ropes, external excitations).

Maritime University of Szczecin
Institute of Marine Traffic Engineering
Wały Chrobrego 1-2,
70-500 Szczecin, Poland.
Contact:
MTEC Manager Pawel Zalewski, Ph.D.
phone: +48914809403, +48914809404
fax: +48914809539
e-mail: irm@am.szczecin.pl,
           p.zalewski@am.szczecin.pl
www: http://cirm.am.szczecin.pl