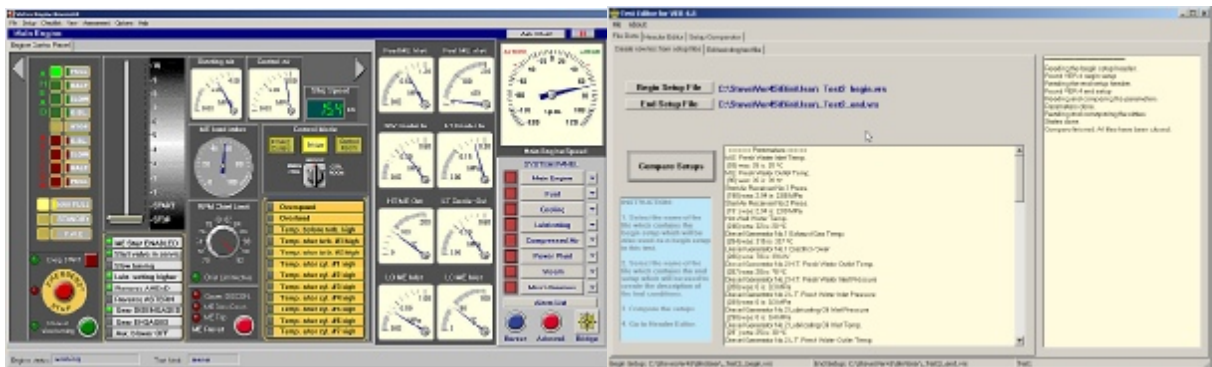
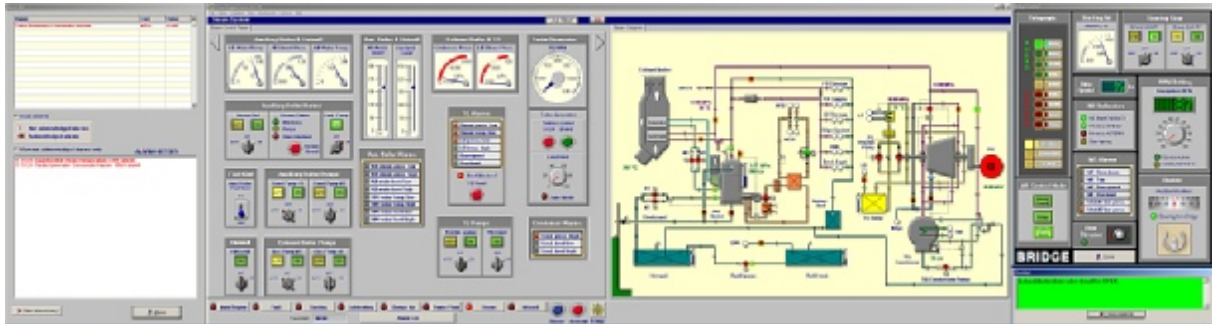




Virtual Engine Room 4.8

Virtual Engine Room 4.8 (VER 4.8) is a PC-based full mission engine room simulator with a multiple resolution two screen support and 14 automatic tests compatible with STCW requirements.



VER 4.8 has been developed to comply with:

- STCW Code: Section A-1/12 and Section B-1/12.
- ISM Code: Section 6 and Section 8.

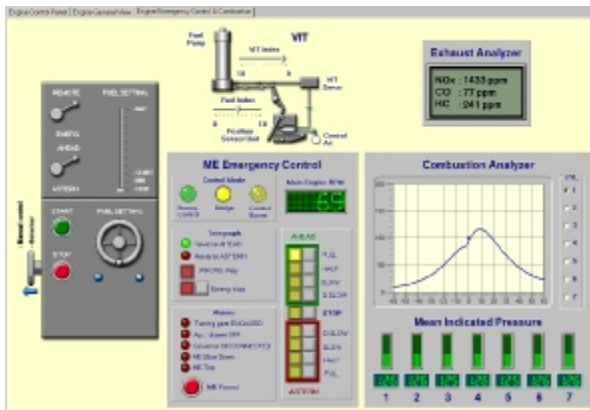
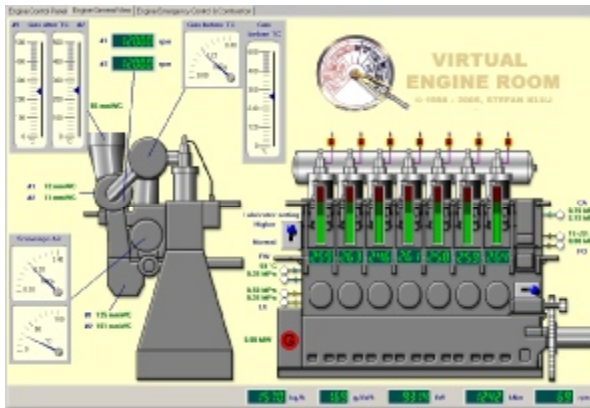
VER 4.8 has the type approval certificate issued by the classification company.

The main educational tasks, which can be accomplished with **VER 4.8** are listed below:

- Learning typical ship's engine room **operating routines** with the support of the integrated **checklists**.
- Ship's engine room **operation training**. The user will be able to accomplish any operational task starting from pre-prepared or previously saved **exercises**.
- Training in corrective action when faults occur. **Different faults** can be mixed in the run-time or loaded from disk.
- **Standardised assessment** divided into 14 STCW compatible tests. These tests provide an independent and fully automated trainee evaluation.

Virtual Engine Room 4.8

VER 4.8 simulator model includes the following systems:



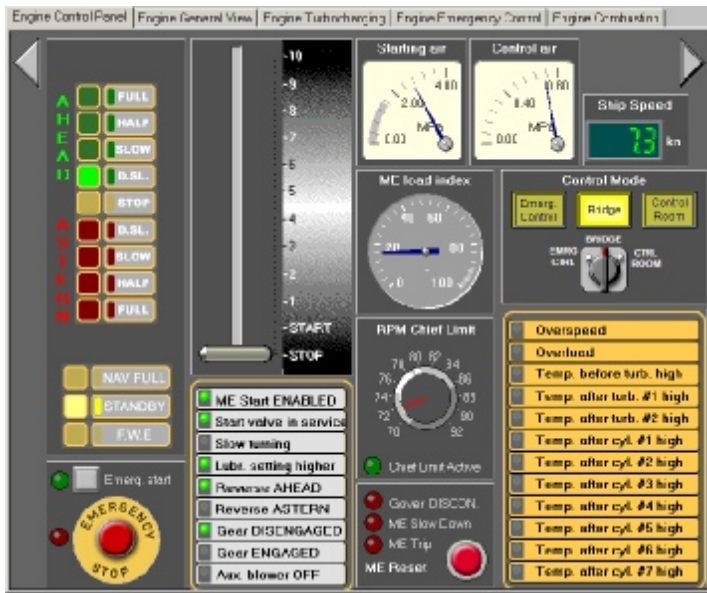
- The main engine (2 stroke, low speed, 7 cylinders, fixed pitch propeller)
- The VIT simulation, exhaust emission control).
- The main engine remote control system (manual from CR, automated from the bridge and the emergency control at the engine side)
- The fuel system (MDO and HFO, including storage system and separators).
- The lubricating system (LO circulation and separator, LO storage and stern tube lubricating).
- The cooling system (sea water and fresh water central cooling).
- The compressed air system.
- The sewage treatment plant.
- The sludge and garbage incinerator.
- The steam system (auxiliary boiler, waste heat recovery, superheated steam, consumers).
- The power plant (2 diesel generators, 1 shaft generator, 1 turbo generator and 1 emergency diesel generator, multiple power consumers with separate circuits and bow thruster).
- The bilge system with oily water separator.
- The ballast system.
- The steering gear.
- The refrigerating system.
- The domestic water system
- The air conditioning system
- The simplified own ship model with ship speed modelling..

Here is a list of VER 4.8 main features:

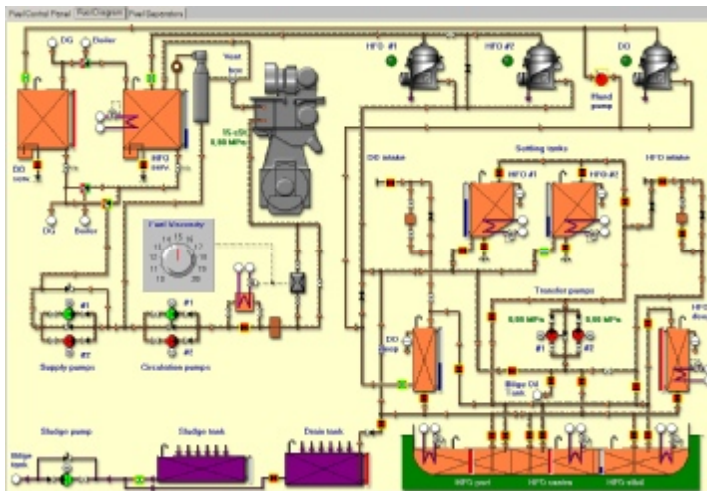
- VER 4.8 is a **highly realistic simulator** for ship's engine room training which can also be used as a low cost introductory simulator.
- The mathematical model simulates a typical ship's engine room with a **2-stroke, low speed engine**, its auxiliary systems, power plant and a steam system.
- The **user interface** includes all virtual controls and alarms and creates a very realistic environment. VER 4.8 supports WXGA (11280 x 768), SXGA (1280 x 1024) and HD1080 (1920 x 1080) screen resolutions and **two monitor display** (see page 1).
- **Mimic diagrams** with active valves, pump status indicators, tank level indicators and selected digital gauges make the system easy to use.
- Multichannel **digitised sound** provides a very realistic ship's engine feel. The sound effects include: engine sound correlated with engine speed, the sound of a diesel generator starting and running, open indicator valve sound, alarm and machine telegraph buzzers. The volume level for all sound channels can be freely selected according to personal preferences.
- **Synthesized speech** emulates the chief engineers advices, spoken checklist instruction and communication with a bridge integrated within the scenario.
- The **Computer Aided Assessment (CAA)** is fully integrated with the simulator. It includes 3 generic and 14 STCW compatible tests. The **Test Editor** is included, so it is possible to create new, custom tests and to edit the existing tests.
- VER 4.8 can co-operate with another PC connected in a **local area network**. This second PC can be used as an instructor terminal enabling online monitoring of student activities, fault simulation and telegraph communication between a bridge and an engine room.

Virtual Engine Room 4.8

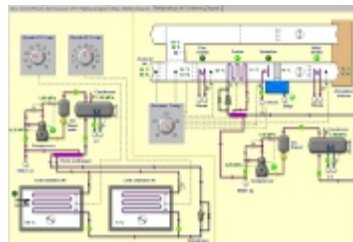
VER 4.8 offers different types of user interface:



The control panels include very realistic, animated virtual controls like switches, gauges and lamps. The control panels imitate the most important parts of the control room equipment.

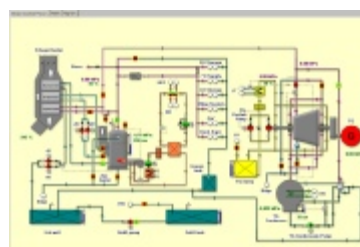


The mimic diagrams present the layout of all vital engine room systems. They include active valves, animated status indicators and tank level gauges.



The alarm panels show typical engine room alarms with a buzzer, blinking lamps and easy access to all necessary information. When two monitors are connected to PC, the control panel is displayed on the separate screen.

or



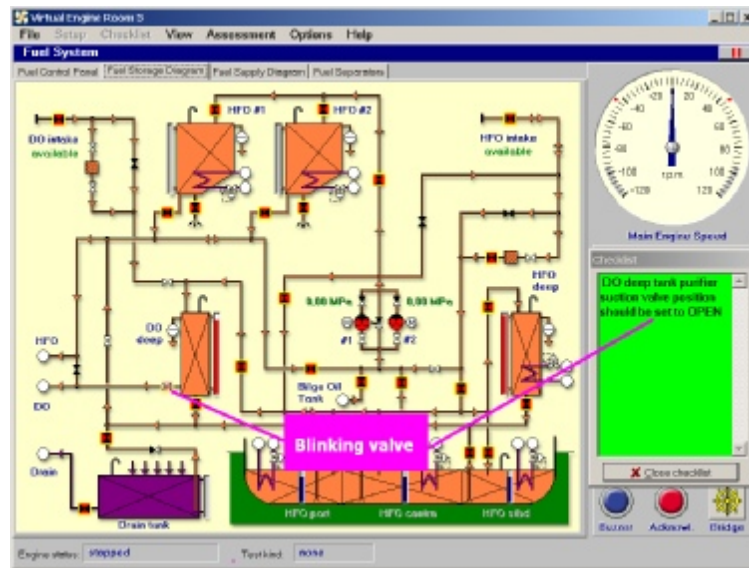
Virtual Engine Room 4.8

Other examples of **VER 4.8** features are shown below:

The green **Checklist window** shows instructions relevant to the selected checklist.

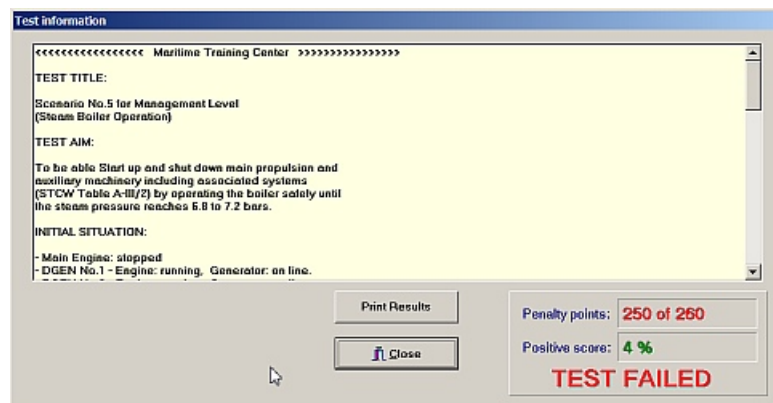
The appropriate system window will always open when a new checklist step is shown in the checklist window.

The control lamp, switch or gauge specified in the checklist step “blinks” in order to make it easier to identify.



The **Assessment window** includes:

- A full list of errors with related penalty points.
- The total number of penalty points.
- Score in %
- The final results (Passed or failed).



The **Test Editor** enables to create the new custom tests and to edit the existing tests.

It is possible to edit both: the parameter test conditions (limit value plus the logic condition) and the state test conditions (required status). It is possible to assign the penalty points for every test condition.

PARAMETER TEST CONDITIONS							
Parameter Name	Units	No	Status	Limit	Value	Penalty	Use it
Diesel Generator No 1 Predictive Power	kW	111	above	value	0.14	100	yes
Diesel Generator No 2 Predictive Power	MW	214	above	value	0.14	100	yes
Turbo Generator Predictive Power	MW	322	below	value	0.01	100	no
Turbo Generator R.P.M	rpm	258	below	value	100	100	yes

STATE TEST CONDITIONS				
State Name	No	Status	Penalty	Use it
Exhaust Boiler Steam Outlet Valve Position	10174	CLOSED	10	yes
Exhaust Boiler Superheated Steam Valve Position	10175	CLOSED	10	yes
Turbo Generator Superheated Steam Inlet Valve Position	10205	CLOSED	10	yes
Turbo Generator Gland Steam Inlet Valve Position	10203	CLOSED	10	yes
Ejector Motive Steam Inlet Valve Position	10211	CLOSED	10	yes
Turbo Generator Condensate Pump Switch Position	10251	OFF	10	yes

For further information please contact: