

## UNITEST FULL MISSION ENGINE ROOM SIMULATOR WITH TOUCHSCREENS



The UNITEST simulator with touchscreens is a significant innovation in the development of full mission engine room simulators. This new feature reduces the main disadvantage of full mission engine room simulators in hardware version with realistic consoles and panels that consisted in the inability to adapt to various modern solutions applied in engine rooms unless expensive hardware changes were implemented. Hence, as a result of the introduction of touchscreen monitor technique, the simulators are much more flexible and lead to quicker and cheaper adaptation to the fast-changing reality of engine rooms.

The simulator provides a realistic, ship-like environment based on real hardware consoles and high quality 3D presentation. The systems include vital components, such as main engine local and remote control, engine telegraphs, engine room local panels, integrated automation system, etc.

In the engine room simulator with touchscreen solution, the following configuration is applied:

1. Hardware console with 6 touchscreen monitors (22-24") for engine control room visualization;
2. Set of 3 to 6 touchscreen monitors (42") in vertical position for electrical switchboard simulation;

3. One big touchscreen monitor (50 - 80") for engine room components' 3D visualization, together with additional touchscreen monitor (22-24") for proper navigation through different engine room sub-systems.

The following UNITEST engine room simulators with 3D visualization can be applied on touchscreen version:

1. Low Speed Engine Room Simulator LER3D based on MAN DIESEL (B&W) LMC engine;
2. Low Speed Engine Room Simulator W-Xpert electronically controlled based on Win-GD W-X35, Win-GD W-X62, Win-GD W-X72, Win-GD RT-flex 50DF;
3. Medium Speed Engine Room Simulator MED3D based on MAK engine;
4. Medium Speed Engine Room Simulator MER3D based on Rolls-Royce (Bergen Diesel) engines;
5. Medium Speed Engine Room Simulator PSV3D (Platform Supply Vessel) based on Rolls-Royce (Bergen Diesel) engines;
6. LNG Diesel Electric Engine Room Simulator LNG-DE3D based on typical solutions and presently used in LNG diesel electric engine rooms;
7. Diesel Electric Engine Room Simulator DE3D based on typical solutions and presently used in diesel electric Platform Supply Vessels engine rooms.



The complexity of the sub-systems, equipment and machinery that form an engine room constitutes a new challenge for the entities that wish to develop an effective engine room simulator.



The solutions developed by UNITEST have considerably improved the level of simulator fidelity in comparison to real machinery. In consequence, it was possible to eliminate the disadvantages of the engine room simulator with typical 2D presentation consisting of a schematic and simplified presentation of machinery systems.



A typical configuration of the Engine Room Simulator with touchscreen solution offers the flexibility in applying different configurations of engine rooms starting from low speed main engine (with conventionally and electronically controlled solutions), through medium to high main engines.



