

Full mission bridge simulator



The Tafelberg has been in sight for some time, but now also the contours of the Cape Town Harbour come into view. It soon becomes clear to the mate that the harbour is a concentration point of many maritime activities. The number of other container ships, tankers and cruise ships is increasing. Smaller approaching coastal vessels suddenly change course. The approach to the harbour is not free. Furthermore, there seems to be a much stronger current than the mate has expected. The strong side wind does not contribute to calm behaviour of the ship. The mate changes direction and adjusts speed. Over the VFH, he establishes contact with the pilot boat to arrange for the safe embarking of the pilot. The most difficult part of this simulation exercise is going to start now.

The full-mission bridge simulator is one of the show-pieces of the STC-Group. The advanced bridge system, one with a very realistic 240-degree external image provides the opportunity to navigate various kinds of ships in areas that are projected in high resolution on large screens. When the learner looks 'outside', he

imagines that he is really approaching the harbour of Cape Town, approaching the harbour of Dubai, finds himself in the Channel or in one of the dozens of other places in the world where ships are navigating. Instructors themselves can build different scenarios depending on the skills of the learner.

The simulator

On the full-mission bridge simulator, learners learn to work with various instruments, inter alia the radar and the ECDIS electronic nautical chart that includes all waters in the world. Besides six full-mission simulators with external imaging, the STC-Group has four 'blind' cabins without imaging in which the same exercises are performed on radar and with the aid of ARPA and navigation instruments. At the end of the course, the learners are regarded to be competent to navigate a ship into a harbour not only on the simulator, but also in actual practice. Junior pilots are also trained on these simulators. Also for experienced pilots and captains the simulator offers good training possibilities. The training is done with existing harbours that are



completely imitated in the simulation, so that learners are able to explore their own limits. Navigating into harbours and docking under circumstances that seldom present themselves prepare them for eventualities.

The instructor follows the actions of the learner and the simulated ships from the instructor room next to the simulator. In advance, he has fed a number of variables into the program that affect the simulation, for instance the intensity of other maritime traffic, the incidence of currents, wind force, sea-way, visibility, and even malfunctioning of the ship instruments or rudder.

The exercise

Exercises on the full-mission simulator are played back and analysed jointly. Every moment of the simulation can be reviewed. During this debriefing, all facets of the manoeuvres are dealt with. Attention is paid to matters such as using radar and means of navigation, reacting to movements of other ships, recognising the danger of collision, avoiding collision and following the correct communication procedures at sea. In the ship management courses, communication among the bridge team members also forms part of the evaluation.

Various objectives

The effectiveness of simulators with regard to reality on a real ship has been investigated scientifically. The conclusion is that many aspects of the practical situation are well simulated in a simulator and that the training value of simulation is even higher than that of the real situation. Taking this into account, the simulator has become an increasingly important part of training.

A ship management course is intended for maritime officers who want to obtain navigational competence as captain or first officer. For several days experienced officers are trained to give guidance to a team on a bridge during a Bridge Resource Management course. After a theory lesson and a briefing applied exercises follow, which become increasingly complex. These simulations require not only full knowledge of navigation and collision rules, but especially management capacities.

Having the right man on the bridge ensures optimal and safe navigation.

Tailor-made simulations

On request, the STC-Group develops tailor-made programs. On the request of and in co-operation with a shipping company, a program can be developed that concentrates on the company's fleet and their navigation areas. Specific procedures and situations of this shipping company can be taken into account. The instructors of the STC-Group have long experience in working on the bridge and are used to working with experienced seamen. Damage to a ship caused by a collision can be avoided when personnel have attended a course in which extra attention has been given to a simulation of navigating in extreme maritime traffic. In these simulations, especially the information exchange with the bridge team is important.

Further information

For further information about this and other simulators, you can contact STC B.V. STC B.V. is a subsidiary division of the STC-Group and responsible for non-subsidised activities. STC B.V. provides standard courses as well as courses that are tailor-made for your industry. Included in STC B.V. are the contract education division of the Shipping and Transport College, Maritime Simulation Rotterdam B.V. (MSR), Dynamar Consultancy B.V. and the International Maritime Transport Academy (IMTA).

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