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Simulation

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Ship's Bridge Simulator – For Smooth Sailing Ahead



Kongsberg Polaris I

Navigating a ship is never an easy task. Naval personnel must be equipped with the best knowledge to steer the ship to ensure that it stays on the right course. However, most importantly, they must be alert and vigilant to ensure that the ship does not encounter collisions with any obstacles, either of static or moving types. Live training on a real vessel can be a hindrance due to cost-efficiency. It is impossible to take a vessel to sea each time during training, thus, a highly-sophisticated, state-of-the-art ship's bridge simulator system is highly in demand. This is to ensure that the navy personnel are surrounded by realistic environment of ship navigation just as if they are handling a real ship. This is important when navigating and manoeuvring in restricted waters, the out-of-window view through electronic screen is very important. Masters and pilots depend on their own visual observation in making decisions, they base their decisions of rudder, engine and tug movements to a large degree on visual information, for instance, ship's speed,

drift, heading, rate of turn and distances obtained from the outside world. **ADJ's Training & Simulation** highlights some of the ship bridge simulators in the market today.

ShipSim

The system, from the ECA Group is a multi-functional interactive bridge simulator that enables to learn how to conduct a vessel in same conditions as in reality. ShipSim contains the same functions as in a "full mission" bridge simulator and it can be operated with a few clicks of the mouse. It covers the main operations related to the handling and manoeuvring of a ship in all kind of environmental conditions. ShipSim is the perfect entry level solution for equipment familiarisation and knowledge refreshment for all level of competence, and designed to cover a wide range of training situations. The System is able to run simultaneously a virtual unlimited number of exercises. It is possible to execute parallel and cooperative training session. ShipSim is able to connect more than 16 trainee workstation to an

instructor workstation.

ShipSim offers interactive conning for ship manoeuvring and device control. It also provides external view with pan, tilt, and binocular capabilities. Other features include generic ARPA radar simulator RadSim that has all the features in real ARPA radar. Customers can also opt for the Electronic Chart Display and Information System (ECDIS). It is possible to link any brand of real, type approved ECDIS to the ShipSim system. The ECDIS includes electronic profile of coast lines, depth, currents, traffic separation schemes and any information found on nautical charts.

In a latest development, Nautical Institute Leonardo Da Vinci of Milazzo in August last year has awarded ECA Group the contract to supply the ShipSim system to the facility. Barely a month later last September, was the company chosen to deliver the ShipSim to Groupe ProRisk in Brest, France.

Kongsberg K-Sim Polaris

This is one of the oldest systems in the

market, and has been used and trusted by naval forces all over the world. Behind the Polaris ship's bridge simulator lies an investment of more than 140 person-years of development. Polaris can be designed from a PC desktop simulator to a full mission ship handling simulator. In addition, Kongsberg provides an e-learning module. The simulator can be expanded at any time with "additional instruments, workstations or complete integrated bridge systems. Several special task simulators are also available, including riverboat, anchor handling and dynamic positioning simulators, with other special simulation functions such as ice navigation, anti-terror and SAR-training". Polaris ship's bridge simulator can be connected with Kongsberg's communication, engine room and cargo/ballast simulators, allowing students to train and interact as required in real ship operations. Polaris can connect up to 26 bridges and 8 instructor stations in the same simulator. With the SeaView R5 7th generation visual system, Polaris provides the highest-fidelity, most realistic visualisation of vessels and exercise areas available in simulation training.

In November last year, the Royal Australian Navy (RAN) has chosen Kongsberg to expand its maritime simulator facility at HMAS Watson, Sydney with the addition of the company's new ship-handling and navigation simulators and the integration of a new visual display system for its existing bridge simulator. The expansion has been established under the current support contract between Kongsberg and RAN, in order to provide capacity to meet current and increasing demands for training. Kongsberg will deliver a new stand-alone K-Sim Polaris Full Mission ship's bridge simulator, and a Part Mission bridge simulator. Both systems will have the same functionality as the RAN's existing bridge simulators at HMAS Watson.

In parallel to the delivery of new bridge simulators, KONGSBERG will also adapt the existing full mission bridge simulator – which is being relocated within the HMAS Watson facility – using new visual display technology. The simulator will be upgraded from a projector based system to the same LED screens that the RAN's new Polaris simulators will use to deliver



ECA Ship Sim

highly realistic visual scenes.

Earlier in mid-February 2016, Kongsberg Maritime has delivered and installed a suite of new bridge simulators for Indonesia's Ministry of Transportation. Kongsberg had won the contract to supply its K-Sim Polaris simulator to the Indonesian Navy by means of a competitive tender. Under the contract, Kongsberg has supplied 1 x DNV GL A compliant full mission bridge simulator with 240° Field of View and ten x part task simulators.

VSTEP - Nautis

Realistic training on board actual high quality ship bridge replicas becomes possible with the NAUTIS Full Mission Bridge (FMB) simulators. NAUTIS FMB simulators are designed to provide a 240° horizontal field of view and are

easily upgradable to a 360° horizontal field of view, providing full surround vision. A DNV Class A or Class B certified simulator, based on the latest IMO STCW requirements. The FMB integrates advanced bridge consoles with a full 240° or 360° simulator experience using either projection or high-end flat screen visualisation technology. NAUTIS Full Mission Bridge Simulators are designed to provide a 240° horizontal field of view and are easily upgradable to a 360° horizontal field of view, providing full surround vision.

On August 22 last year, VSTEP and its local distributor PT Megatech Mandiri Setia was selected by Indonesia's maritime academy, Akademi Maritim (AKMI) Suaka Bahari Cirebon to train its students in accordance with the latest IMO requirements and model courses.



VSTEP NAUTIS-5