

## Exercise areas

We have a large library of exercise areas. New areas are continuously added. Exercise areas will normally consist of radar, depth, buoy, chart and visual files.

## Student Evaluation

The SEA system™ allows structured and objective assessment of student performance.

## Upgrade program

Software upgrades, enhancements, new instruments and equipment is continually made available to all customers, and can be included as part of our long-term support program.

### Main specifications

Instructor stations	1 - 8
Own ships bridges	1 - 16
Simultaneous exercises	1 - 16
Target ships	100
Target waypoints	1000
Buoys (per exercise)	1000
Tugs	10
Mooring lines	10
Fenders (per exercise)	500
Banks & channels	Calculated based on depth contour
Exercise area	221 x 221 nm maximum
Earth geometry	Spherical
Depth chart	Exceeds 150 000 points
Radar resolution	3.13 metre
Loran C	All available chains
GPS	All available satellites
RDF	All stations are programmable
Models	3 DOF & 6 DOF

### Requirements

Voltage	230 V or 115 V ±10%, 50 or 60 Hz
Temperature	5 to 40 °C (41 to 104 °F)
Humidity	20 to 90%, no condensation



Desk top simulator



Multitask simulator



Full mission simulator



Instructor station



Visual system



## Polaris Ship's bridge simulator



Photo Curtesy RTM Star Center

*“The scalable -  
high performance  
simulator for your  
training needs!”*

### Experience

Polaris is our 6<sup>th</sup> generation ship's bridge simulator, representing an investment of more than 140 man-years of development. It is a result of detailed studies that has carefully defined the optimum solution.

### Competitive pricing

We can offer the best purchasing and life cycle cost. This is possible because we manufacture in volume. Polaris is not a development project, but a fully developed system. It is tested and proven by a large number of customers all over the world. This demonstrates not only our quality, but also our ability to deliver on a worldwide base. Through our Long Term System Support Program we assume the risk of providing maintenance at a fixed price - we are that sure of equipment reliability.

### System integration

The Polaris Ship's Bridge Simulator can be interconnected with our, communication, engine room or cargo/ballast simulators to form “complete” ship simulation systems.

### Certification and approvals

Kongsberg Maritime is officially recognised as the leading supplier of ship's bridge simulators, and Polaris exceeds the requirements of STCW'95 regulation I/12, Section A-I/12, Table A-II/1, Table AII/2 and Table AII/3 and Section B-I/12. The following have certified or approved Polaris:

- Det Norske Veritas (DNV)
- The Norwegian Maritime Directorate
- Ministry of Transport of Russian Federation
- Maritime and Coastguard Agency (U.K.)
- United States Coast Guard
- Department of Transportation (U.S.A.)
- Defence Combined Material Agency under the following standards: AQAP-110 Edition 2 and AQAP-150 (which includes the requirements of ISO 9001 and ISO 9000-3 Quality Assurance standards).

## Bridge equipment

Polaris has a modern design similar to current onboard equipment. The design has taken into account the latest requirements to bridge design, working heights and has a modern professional styling. Our modular instrument panels and consoles allows you to buy a custom tailored simulator at the price of a standard system. Any bridge equipment is available both on monitor and as fully functioning instruments. At present more than eighty different instruments are available. Modular design makes individually laid out bridges and equipment configurations easily configurable. This makes adaptation to special training requirements easy. Affordable visual systems are available with all our bridge simulators. We believe that like our other customers, you will be proud to own a Polaris system.

The STCW Convention requires that simulators used for training and as a means to demonstrate competence, shall be approved by a maritime administration. Det Norske Veritas (DNV) has established a standard for carrying out such approval. The Polaris ship's bridge simulator is type approved by DNV for class A, B, C and X categories of simulators. The modular design allows it to be configured for all levels of training from full mission to special task simulators as follows:

## Full mission systems

By a full mission simulator we understand a simulator capable of simulating a total shipboard bridge operation situation, including the capability for advanced manoeuvring in restricted waterways.



## Multi task systems

By a multi task simulator we understand a simulator capable of simulating a total shipboard bridge operation situation, but excluding the capability for advanced manoeuvring in restricted waterways.

## Limited task systems

By a limited task simulator we understand a simulator capable of simulating a shipboard bridge operation situation for limited (instrumentation or blind) navigation and collision avoidance.



## Special task systems

By a special tasks simulator we understand a simulator capable of simulating operation and/or maintenance of particular bridge instruments, and/or defined navigation/manoeuvring scenarios.



## Special task simulators

We have provided a range of special task simulators including:

- River boat simulators - both European & U.S.
- Anchor handling simulator.
- Dynamic positioning simulators.
- Cruise ship - replica bridge with Litton & Emri bridge equipment.
- Ferry simulator - replica bridge with STN Atlas bridge equipment.
- Z-drive and azipod for navy & cruise application.
- Voith Schneider tug - fully instrumented

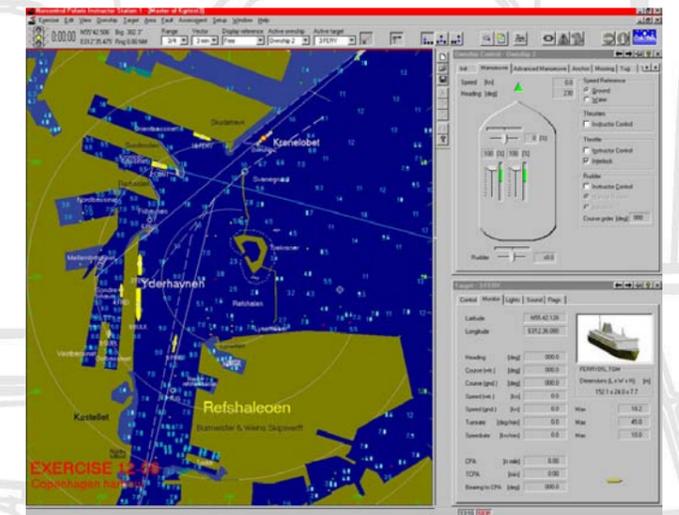
## Instrument panels

A complete set of instrument panels are available with Polaris. Functionality and operation are based on and are similar to real ship's equipment. Instruments are designed with night viewing in mind, and include dimmable illumination.



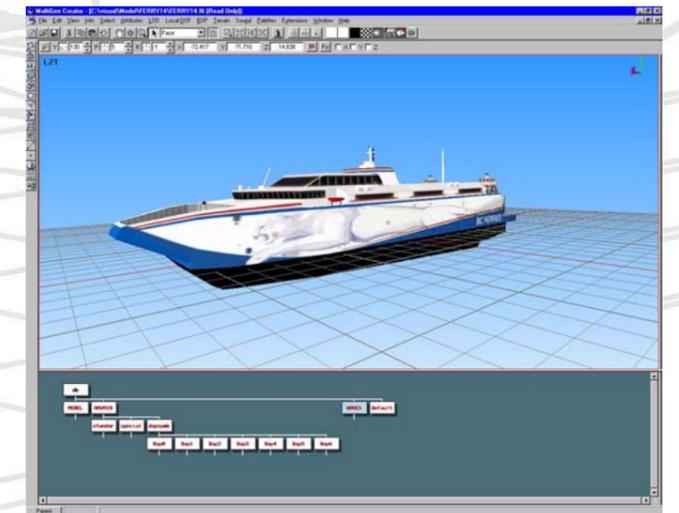
## Instructor stations

Much effort has gone into the design of our instructor and debriefing facilities. This has resulted in the most user-friendly and flexible workstation available today. Our debriefing equipment includes colour printers, large screen projectors, voice recording, etc.



## Simulation models

Our success as a bridge simulator manufacturer is in part due to the quality of simulation models. These have been developed in close co-operation with several marine research institutes around the world.



## Visual systems

Our visual systems are designed to provide near reality images in all aspects of navigation, ship handling and tactical operations. This requires more than just an image generator. It requires the engineering skills of designing and setting to work the projection system, wheelhouse and screen, making them into a working training environment.