

Partnerships Bridge the Gap

Simulator Renewal 2008



Partnerships for Economic Prosperity

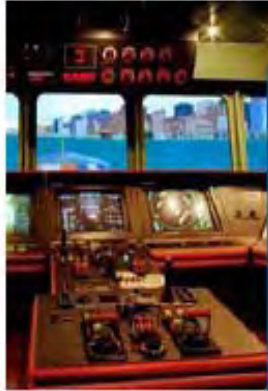
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GREAT LAKES INTERNATIONAL MARINE
TRAINING CENTRE

A Joint Presentation
by the
Ontario Marine Industry
and Georgian College



Marine Industry and
Training Infrastructure
for Ontario

Partnerships for
Economic Prosperity



January 2007

■ The Ontario Marine Industry and Georgian College's Partnerships provides for:

- Future marine training needs
- Research capabilities
- Distance learning
- Career skills upgrade capabilities
- Reduced training and related costs
- Attraction/recruitment initiatives
- Attraction of foreign students and international training opportunities
- Positive economic impact

Partnerships for Economic Prosperity

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January 2007

- The Ontario Marine Industry and Georgian College's Partnerships committed to:
 - Provincial Government \$3 million
 - Federal Government \$1.435 million
 - Marine Industry Partners \$1.2 million
 - Georgian College and others \$0.3 million (ie. IMSA, CCMM, City of Owen Sound ...)
 - Ask is \$8.4 million
 - Total \$5.935 million
 - Difference \$2.465 million (passing the hat after presentation)

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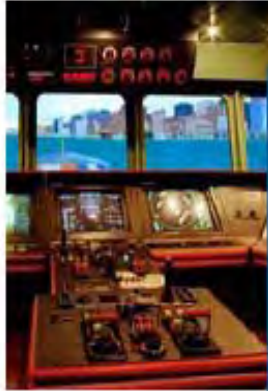
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January 2007

■ The Ontario Marine Industry and Georgian College's Partnerships with simulator supplies.

- Transas
- Kongsberg (Norcontrol)
- MSI (Marine Safety International)

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MarineSafety International

*The World Leader in Professional Maritime
Training Services*



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TRAINING CENTRE

- **Facilities in Newport, RI; Norfolk, VA, and New York, NY.**

- 8 Visual simulators
- Certified Instructors
- USCG approved courses
- Well-equipped classrooms and briefing areas
- Comfortable customer service areas
- Ample amenities
- Private customer areas



MarineSafety
international

"The best safety device on any ship is a well-trained crew..."

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MarineSafety Canadian Training

- 26 year relationship
- Tailored training for the unique maritime environment
- Validated Data bases
- Accurate ship models
- Transport Canada Approved Courses



"The best safety device on any ship is a well-trained crew..."

MarineSafety
international

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MarineSafety Canadian Training

■ Transport Canada Approved Courses

- BRM
- Ship Handling
- Emergency Ship Handling
- ECDIS
- Piloting
- Train the Trainer



"The best safety device on any ship is a well-trained crew..."

MarineSafety
international

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- New Simulation Center, currently being built – will house 2 360 degree HFOV FMSHS's, 3 part task bridges, Navigational Lab, Crisis management simulation/command system

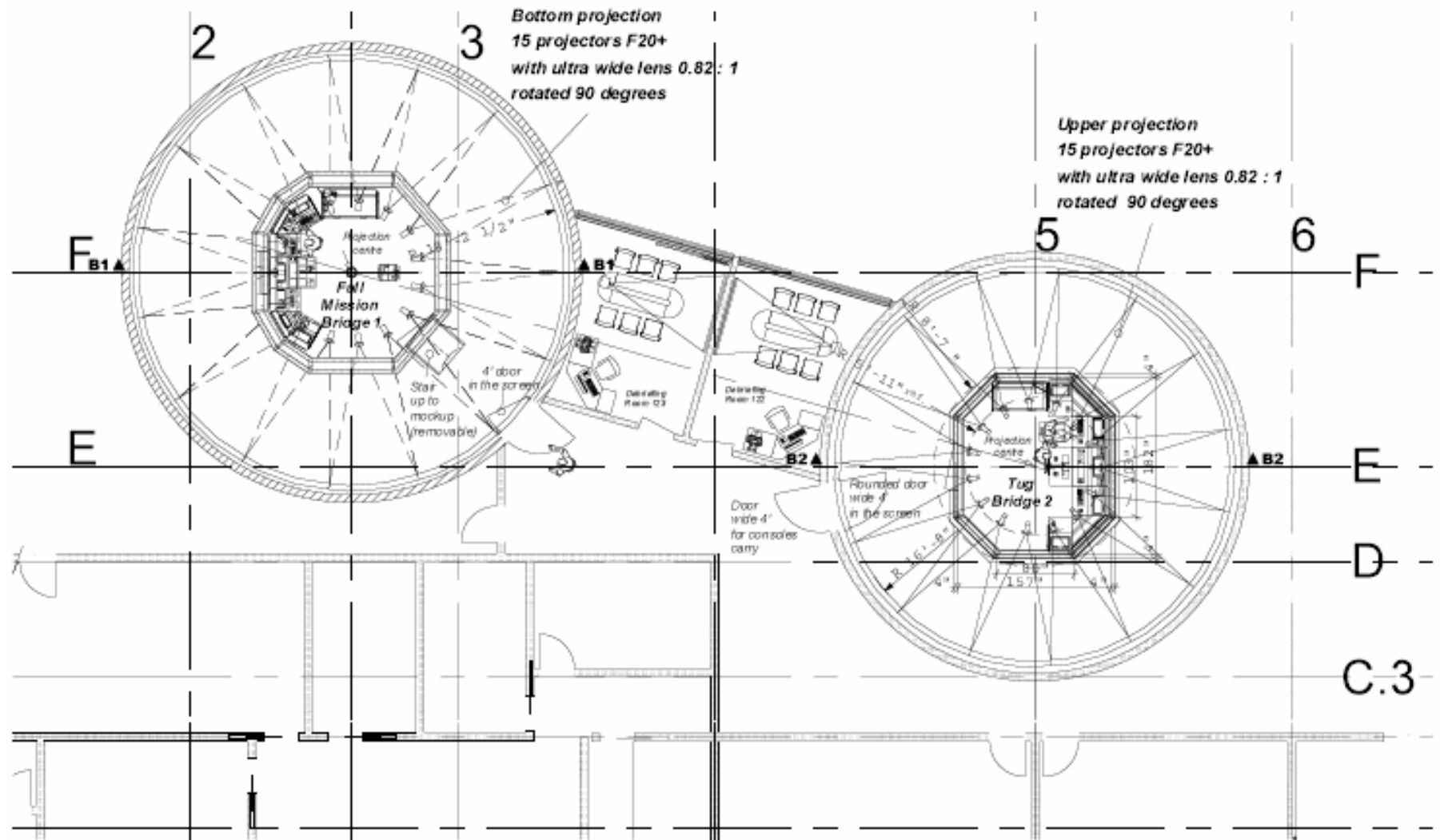


Transas

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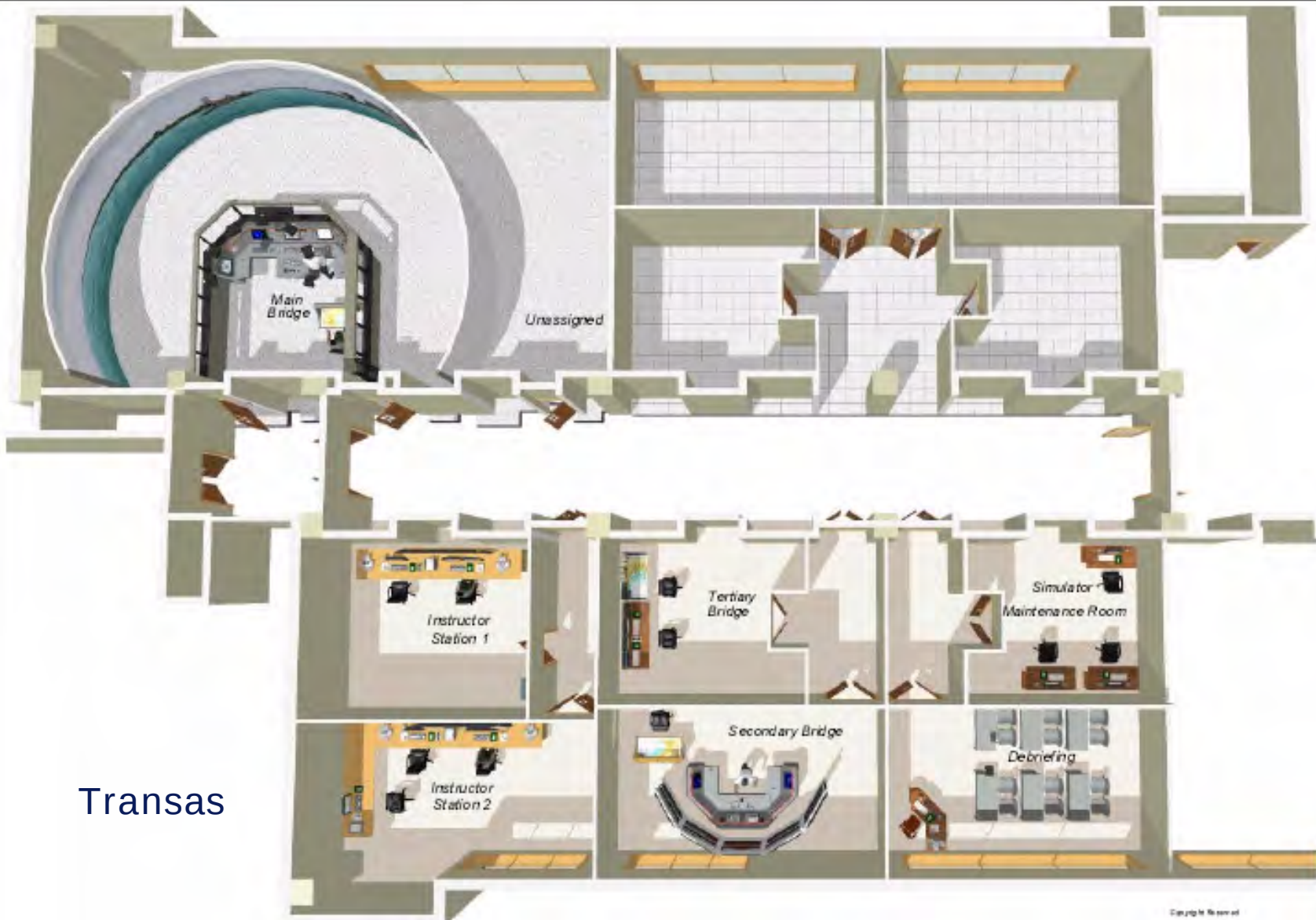
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California Maritime Academy

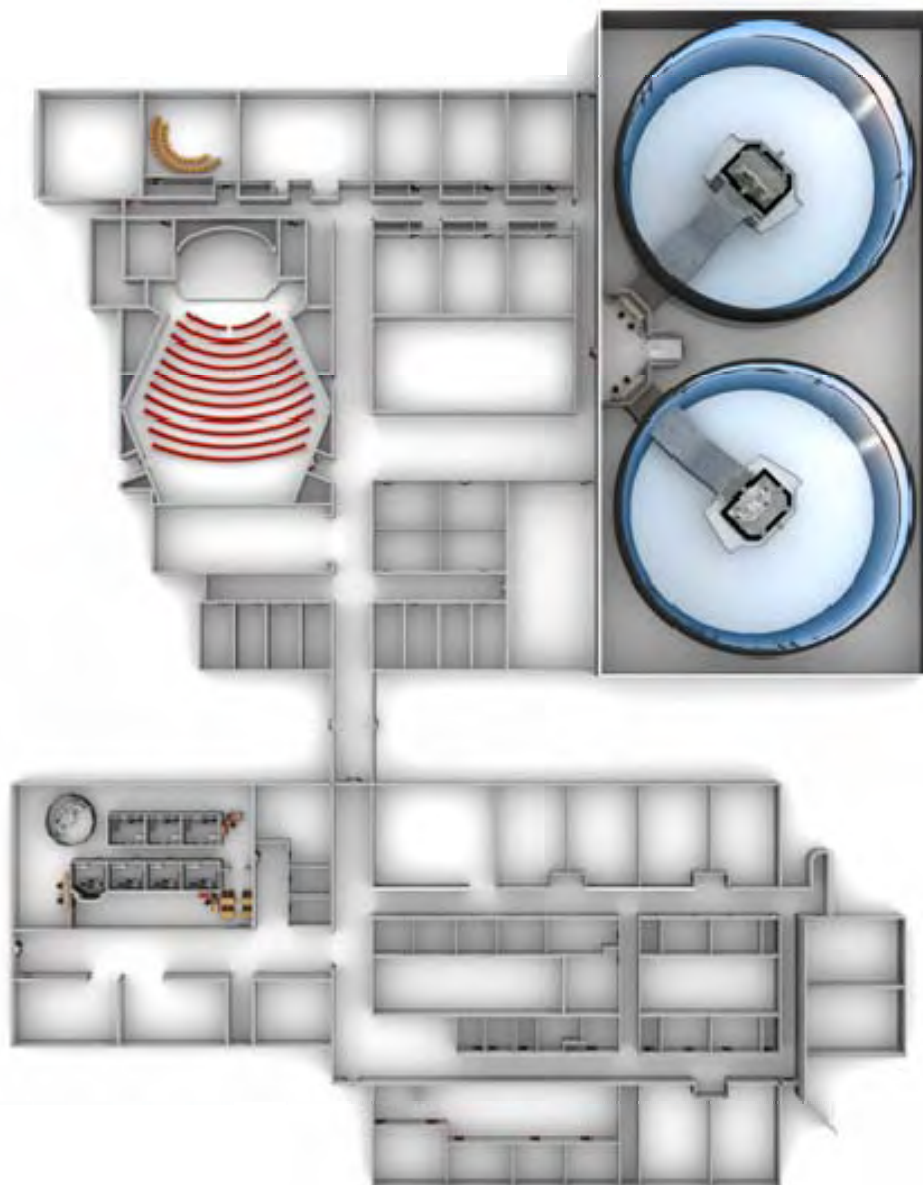


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Australian College of Kuwait (2)

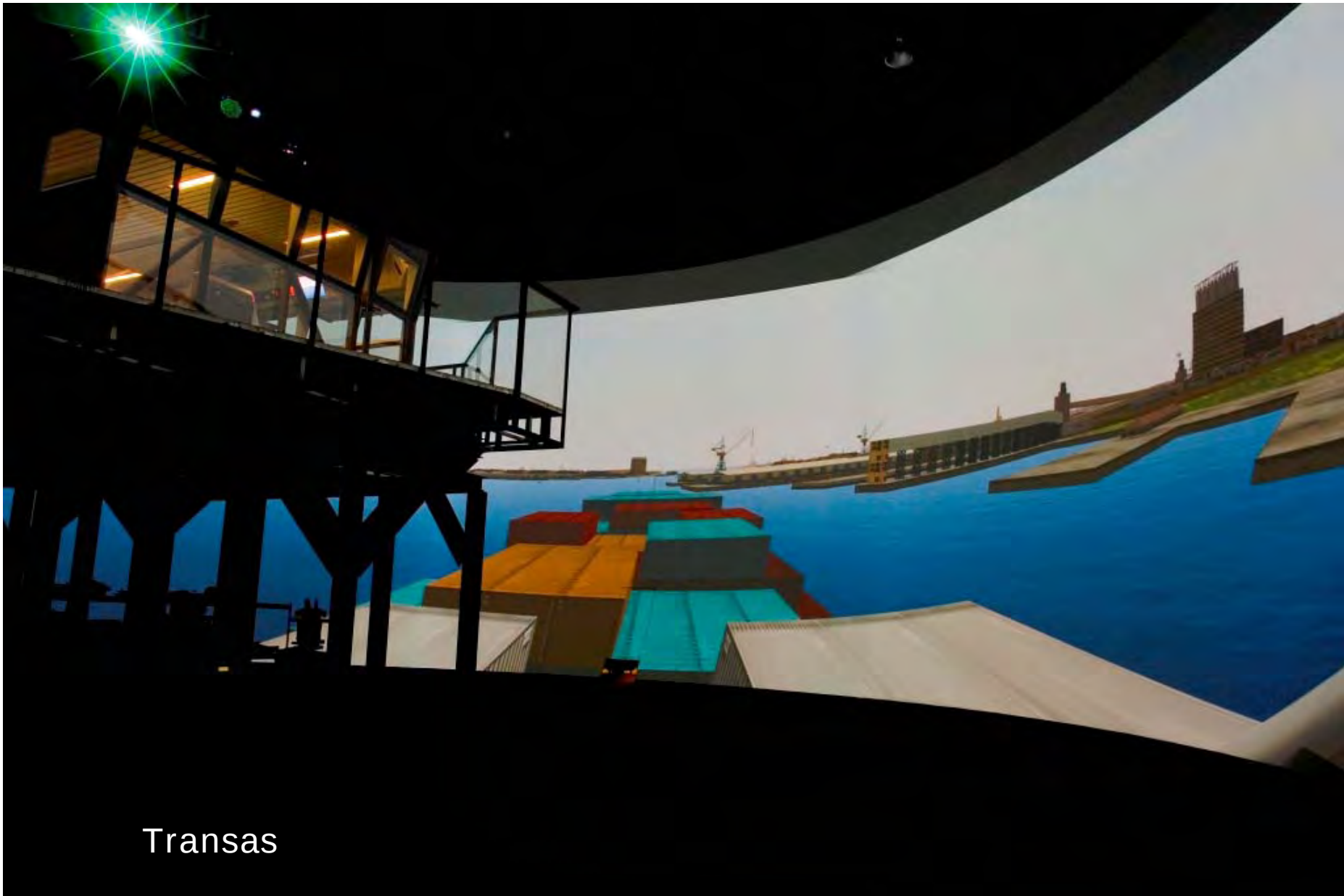


Maritime Institute of Technology & Graduate Studies



Transas

MITAG's - Projection



Transas

Navigational Classroom



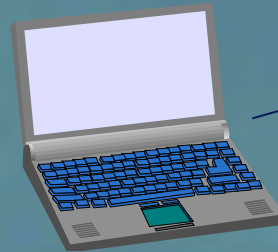
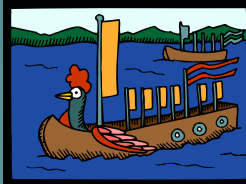
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WEB enabled simulator models:
Navigation and Shiphandling
Engine Room
Cargo Handling



Distance education now possible with new technology

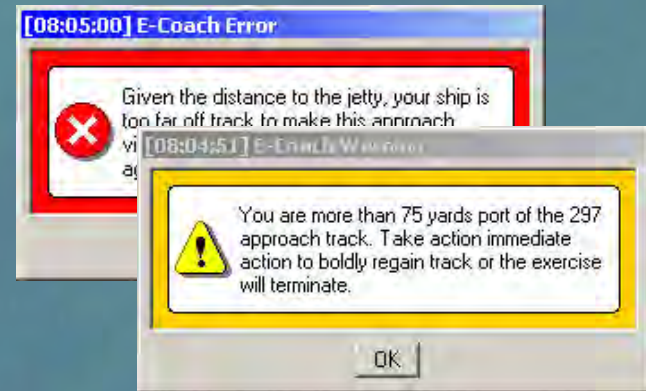
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An instructor's new best friend

- An automatic event based “feedback” to the student’s computer.
- Fully integrated to the Assessment System.
- Customized evaluation using defined criteria's and warning levels.
- Pre-programmed E-Coach exercises available.



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Desktop Workstations is
flexible and configurable

Fully supported Voice on LAN

All GMDSS functions available

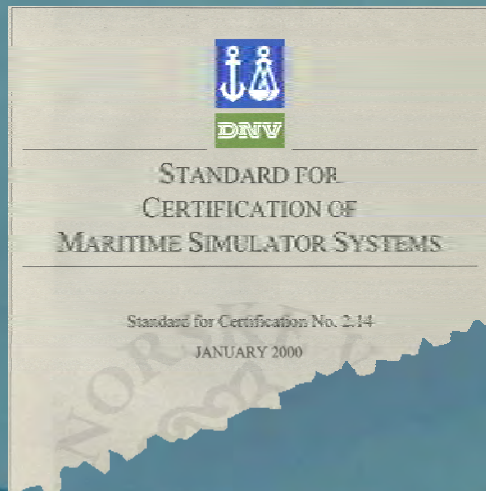


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- DNV classified solutions:
- Class A (240° Visuals)
(plus 360° “pan”).
- Class B (120° Visuals).
- Class C (Blind/Radar only).
- Class X (i.e. DynPos).



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Table A1 Simulator classes for the function area bridge operation

Class A (NAV)	A full mission simulator capable of simulating a total shipboard bridge operation situation, including the capability for advanced manoeuvring in restricted waterways.
Class B (NAV)	A multi task simulator capable of simulating a total shipboard bridge operation situation, but excluding the capability for advanced manoeuvring in restricted waterways.
Class C (NAV)	A limited task simulator capable of simulating a shipboard bridge operation situation for limited (instrumentation or blind) navigation and collision avoidance.
Class X (NAV)	A special tasks simulator capable of simulating operation and/or maintenance of particular bridge instruments, and/or defined navigation/manoeuvring scenarios.

The classification from Det Norske Veritas (DNV)

Available through <http://exchange.dnv.com>

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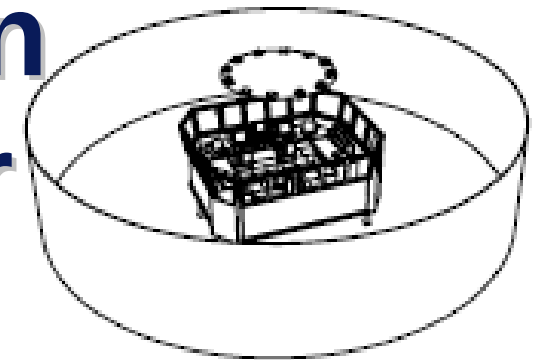
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Projectors are a major expense for Class A simulators



Usually 12 projectors at \$12,000 to \$60,000 each with 700 - 1000 hours running time per bulb and most projectors have multiple bulbs at \$1,000/bulb average.

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**10,000 sqft is
required for
navigation
simulator
alone**

PLAN
FMS Simulator Area

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FULL MISSION SHIP SIMULATOR PROPOSED SOLUTION FLOOR PLAN Georgian College	SCALE	DRGNO 200408 HT TRACES	CHECKED
	1:175		APPROVED
	PROJWFL	 	APPROVED
 Kongsberg Maritime AS Simulation	FIGURE 301228	REPLACEMENT FOR	REPLACED BY
	DRGNO HS301228		REL- P
	REF.		PAGE 1 of 1

Class A Simulator must be theater style, 12 degree visual vertical, 35-50 foot circle and the height of screen is approximately 15 feet



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Theater style offers full 360 degree view



Real thing

Simulated view

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Bridge layout can be customized if required



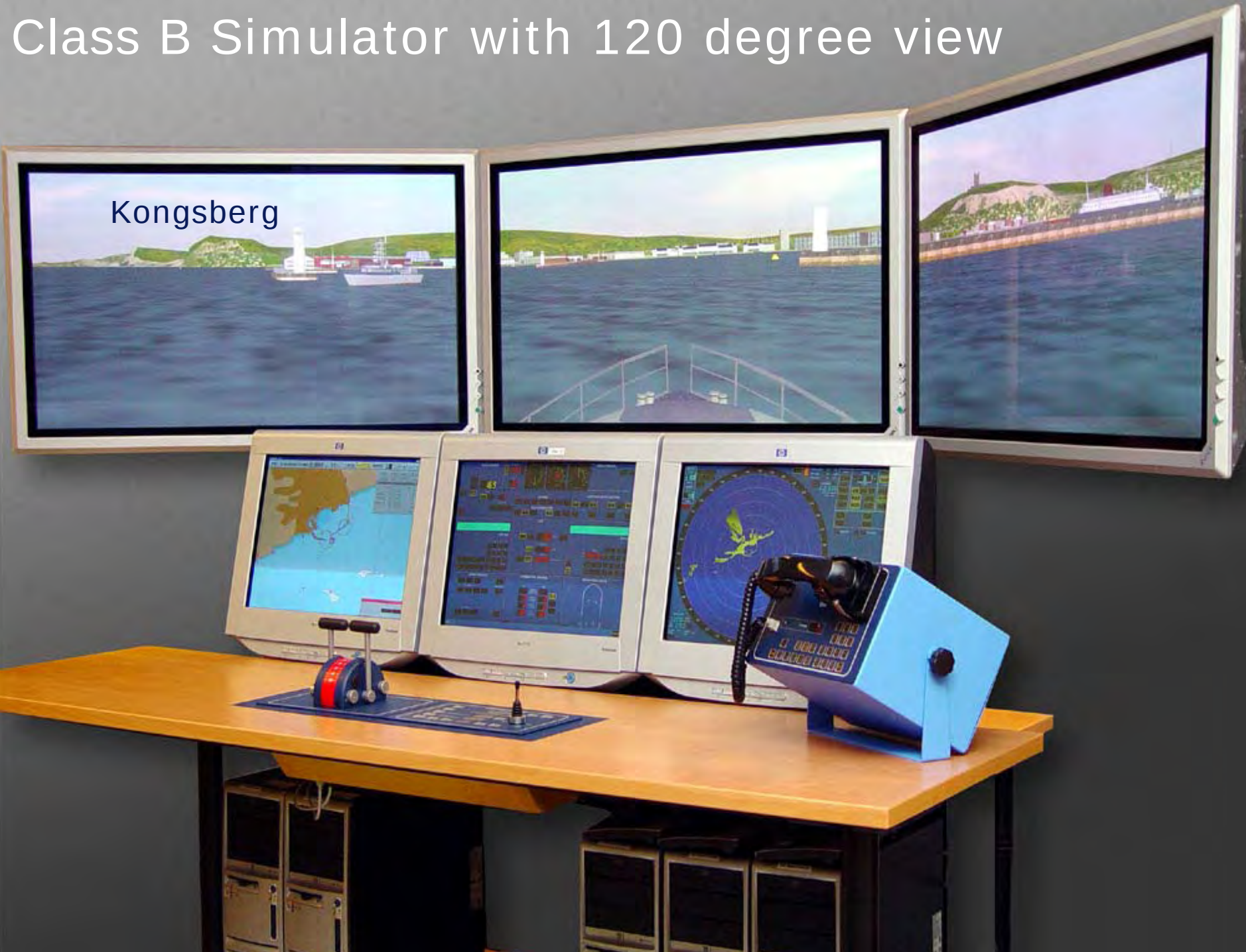
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Class B Simulator with in-window view

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Class B Simulator with 120 degree view



Class B Simulator with 120 degree view



Class B Simulator configured to industries need



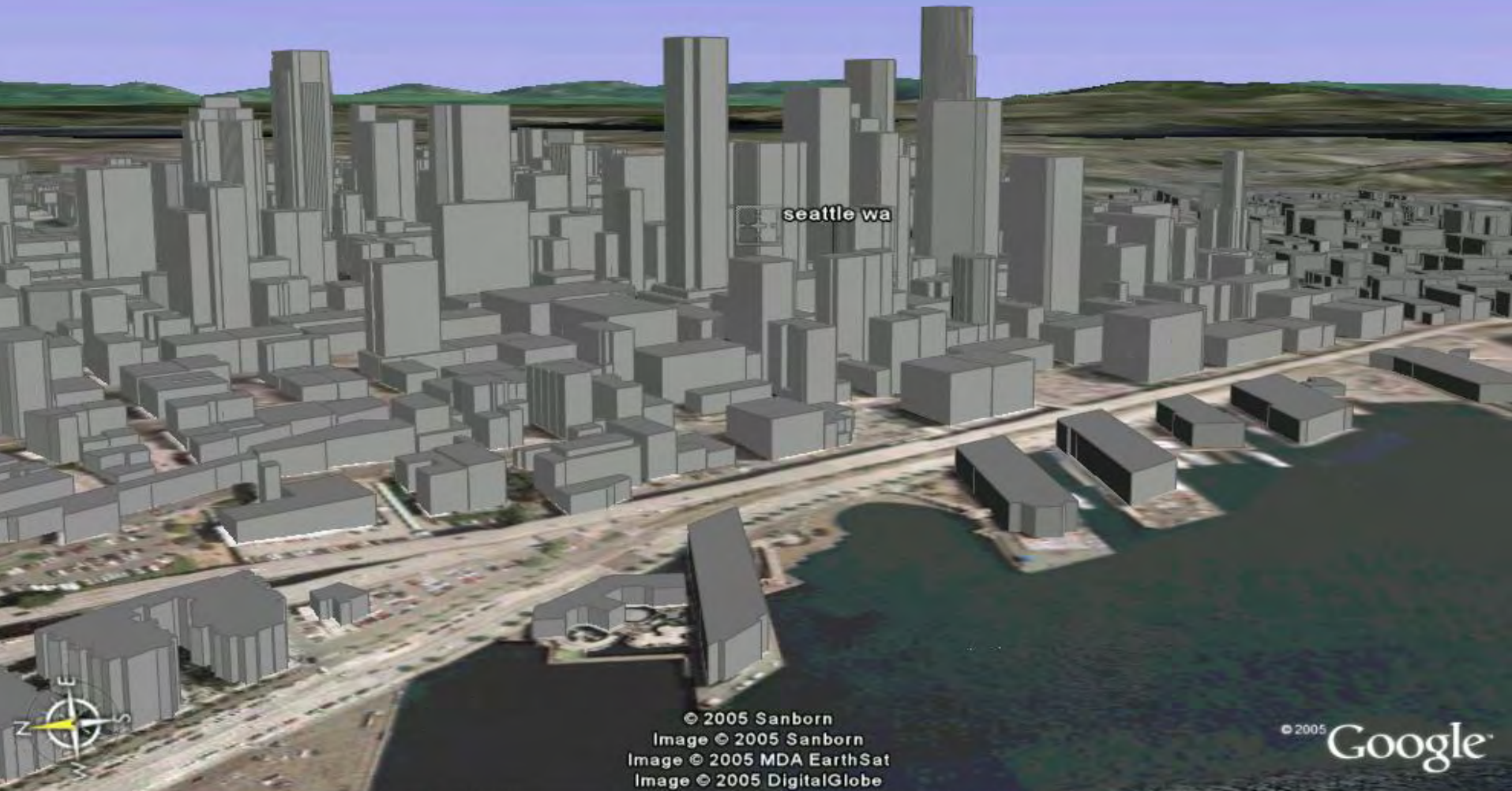
- Any commercial ECDIS provider using standard NMEA interface including;
 - Transas
 - Litton
 - OSL
 - Kelvin Hughes
 - Furuno
 - STN Atlas
- Full AIS support.



- Vectorized chart (i.e. C-MAP)
- Raster charts (ARCS)
- Radar overlay capability (SeaMap-10)

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- World wide library with unique coverage of navigation-, passage and harbour areas.
- Extreme details and capabilities such as:
 - "All" weather conditions, rain, fog, etc.
 - Full " Beaufort scale" waves and sea.
 - Binocular & Wing (stb/port)control.



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High level of sophistication in simulation models

- Various training objectives
 - Ice avoidance
 - Sailing through the ice
- Various ice scenarios
 - Homogeneous ice
 - Fields (possibly drifting) of solid ice
 - Broken ice



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Engine Room Simulator Upgrade

- Cost between \$500,000 to \$900,000
- Increase workstations to 8
- Purchase steam plant, (4th class combined available)
- Switch the current Sulzer plant for the B&W plant
- License the 12 station GMDSS lab as a PPS Lab
- Change the current mimic for an projected mimic panel

Slow Speed Diesel Engine Plants

- [ERS - MAN B&W 5L90MC VLCC - L11](#)
- ERS - MAN B&W 7K80MC VLCC - L11
- ERS - Sulzer 6RND90 Tanker - L11
- ERS - Sulzer 6RLB66 CC - L11
- ERS - Sulzer 12RTA84 Container Ship

Medium Speed Diesel Engine Plants

- ERS - MaK 8M453 Corvette - M11
- ERS - MaK 8M32 Trawler - M11
- ERS - MaK 6M453 Ferry - M22
- ERS - MaK 6M453 River Boat - M22
- [ERS - Pielstick 10PC4 Ferry](#) - M22 --- US Army Fort Eustis 1+6 Simulator
- ERS - Pielstick 10PC4 Container Ship - M22
- ERS - Pielstick 6PC20 Multi Purpose Vessel - M21
- ERS - Pielstick 10PC4 Shuttle Tanker - M22

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Combined Engine Plants

- ERS - CODOG MTU/LM2500 Frigate - CO42

Diesel Electric Propulsion Plants

- ERS - AC/AC Cruise ship - DE22
- ERS - AC/DC Research vessel - DE22

Steam Turbine Propulsion Plants

- ERS - AP25 VLCC - SP11

High Speed Engine Plants

- ERS - MTU/WJ Fast Craft - H22 --- US Army Fort Eustis 1+6 Simulator

Gas Turbines

- ERS - LM2500 Gas Turbines - GT22

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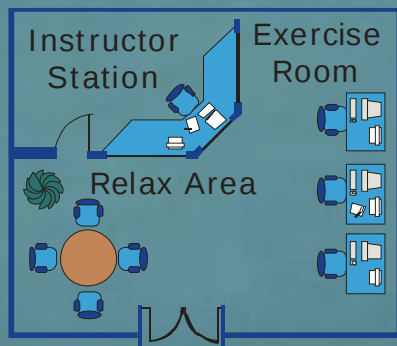
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Class B. A full mission simulator capable of simulating several tasks simultaneously in engine control room and machinery spaces, but with limited exposure to operational stations in machinery spaces.

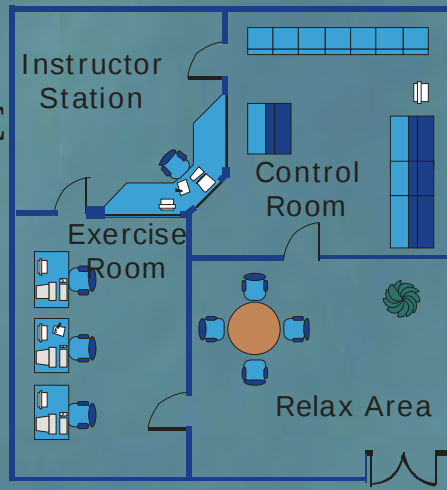
Class C. A specialized simulator capable of simulating operation and/or damage to one or more particular areas in engine room and machinery spaces, but with limited exposure to operational stations in machinery spaces.



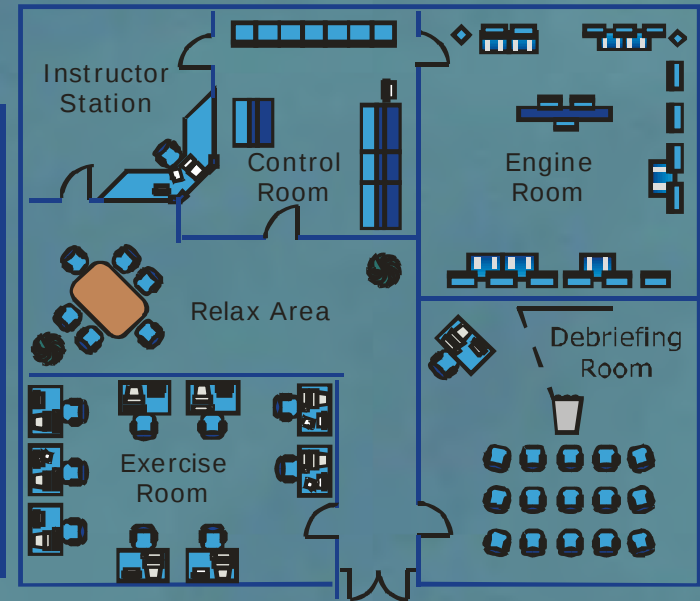
Limited Task - Class C



Multi Task - Class B



Full Mission - Class A



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Projected Mimic

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PERSPECTIVE VIEW
ENGINE ROOM AREA (Walls partly removed)

Drawing is a suggested layout.
Parts of delivery are shaded in dark.
SCOPE OF WORK

ISSUE	CHANGE	DATE	SIGN

FULL MISSION ENGINE ROOM SIMULATOR
PROPOSED SOLUTION
PERSPECTIVE VIEW
University of Trinidad & Tobago

 **Kongsberg Maritime AS**
Simulation

SCALE	DESIGNED	CHECKED
1:50	10.04.05 JAHK	APPROVED1
PROJECT	TRACED	APPROVED2
FILENAME	REPLACEMENT FOR	REPLACED BY
301132		
DRAWING	HS301132	REV. P
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Market for new training facilities

- Cadet Program
- Marine Industry Training Services
 - BRM
 - ERM
 - Ship Specific Training
- Specialized Training (Seaway Transits)
- Department of National Defense Reservist Training
- Port Development
- Crisis Management Training
- Port and Ship Security Training

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- Building Must Ready By April 1, 2008
- Equipment Delivery requires 4-5 Months Lead Time
 - Contract must be signed by November 1, 2007
- Equipment installation 45 Days at Site
- Site Acceptance Tests Completed by June 1, 2008
- Training of GC Staff Completed by June 15, 2008
- GC Staff Ramp-up July 15 – August 30, 2008
- First courses roll out September 1, 2008

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*"Things were done very differently on the farm
when I was your age, Kenny."*

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Questions??

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