NAUTIS - MARITIME SIMULATION SOLUTIONS BY VSTEP

NAUTIS Simulators are DNV certified integrated simulator solutions in compliance with the latest IMO requirements. With a full range of simulators, from desktop trainer to full mission bridge, NAUTIS simulators fulfil the training requirements of watch officers, captains, chief officers, pilots, DP operators, nautical colleges, naval academies, maritime training centres and individual ship owners.

YOUR CERTIFIED TRAINING, OUR MISSION

NAUTIS Simulators allow training in full compliance with international standards and regulations:

- The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (or STCW)
- IMO Model Courses
- IMCA Guidance on the use of simulators (IMCA C 014 Rev. 4 – March 2015)
- Approved and Certified by DNV - with class notation for Integrated Simulator System, Tug, HSC - to be compliant with the Class A standard for certification of Maritime Simulators No.2.14 January 2011 and compliant with the requirements of the STCW Convention, Regulation I/12.
- Nautical Institute Accreditation for DP Training Centres running VSTEP NAUTIS Dynamic Positioning Simulators
- DNV-GL Class A Certification for Dynamic Positioning Simulators

OUR KEY VALUES FOR YOUR SUCCESSFUL SIMULATOR SOLUTION

Quality - We strive to exceed our customers’ expectations at every point of service delivery, including superior product quality, excellent services and efficient, personal support.

Innovation - We continuously push the boundaries of innovation to improve the effectiveness and economic value of our simulators.

Value - We create training simulators for any size of budget to help our customers maximise the value they generate from our products.

Ease of Use - Our simulator products are easy to operate and require low maintenance.
NAUTIS SIMULATORS - EXCEEDING THE STANDARD
NAUTIS Simulators are unique in many ways. With its focus on Quality, Innovation, Maximising customer value and Ease of use, we guarantee a simulator solution that is fully compliant to today's demanding standards and is fully tailored to meet your specific training requirements. There are many things that set apart NAUTIS from the legacy simulators currently in the market. Here are a few:

360° Class A FMB => 3 PC’s

LESS HARDWARE ALLOWS LOWER COSTS
NAUTIS Simulators are optimised to deliver high quality, certified simulator power, but without the need for lots of expensive PCs. A complete NAUTIS FMB Simulator needs only a few PCs to run on, saving hardware costs and making installation and support easier.

HIGH QUALITY SUPPORT, ALWAYS NEAR YOU
VSTEP customer support is supervised from our world headquarters in The Netherlands and coordinated with our strategic partners around the globe, always near you. We provide high-quality support and different service agreements according to your level of support needs. VSTEP customer support makes sure you always receive the help you need, when you need it, quickly and efficiently.

AN OPEN INTERFACE FOR EASY SOFTWARE CUSTOMIZATION
NAUTIS supports an open interface, which allows customers to add their own customised software-developed navigation panels and nautical instruments to a Full Mission Bridge Simulator to make it look and behave exactly like a specific ship. This is a lot more cost effective than buying the real equipment of that ship and making hardware interfaces, which is of course also possible with NAUTIS.

COMPREHENSIVE, USER-FRIENDLY INSTRUCTOR TOOLS
The NAUTIS Instructor Stations are the most comprehensive and user-friendly in maritime simulation, with a complete graphical interface in both 2D and 3D. Whether you like an ECDIS chart view as the main view of the Exercise Manager and a 3D view as a secondary view, the NAUTIS Instructor Station offers it all. Easily drag and drop ships in the environment, connect towing/mooring/replenishment lines, drop anchors, change the dynamics and behaviour of every vessel and view the force vectors acting on a ship...all from the comfort of the actual 3D or 2D view.

“QUALITY”

“VALUE”

“INNOVATION”

“EASE OF USE”
**REQUIRED TYPE OF TRAINING**

- Shiphandling & Manoeuvring
- ECDIS Model Course
- RADAR/ARPA Model Course
- NavAids (GPS, AIS, Echo Sounder, Speed Log)
- AIS Model Course
- VHF Radio Communications
- Officer of the Watch Model Course
- GMDSS Radio Comms Model Course
- Bridge Teamwork 1.22

**SIMULATOR CATEGORIES**

- **NAUTIS Desktop Simulators** - Portable simulators for navigation, ECDIS/Radar, Radio comms training.
- **NAUTIS Console Simulators** - Integrating NAUTIS simulation software with a console set-up offers additional realism to the training experience.
- **NAUTIS Full Mission Bridge Simulators** - A DNV Class A or Class B certified simulator, based on the latest IMO STCW requirements. The FMBS integrates advanced bridge consoles with a full 240° or 360° simulator experience using either projection or high-end flat screen visualisation technology.
- **NAUTIS Desktop OSV & DP Simulators** - Portable simulators to train Dynamic Positioning and handling of OSVs with different types of propulsion systems during offshore operations.
- **NAUTIS Full Mission OSV & DP Simulators** - Train Dynamic Positioning and handling of OSVs with different types of propulsion systems during offshore operations on board an actual offshore vessel bridge replica.
- **NAUTIS Desktop Tug Simulators** - Portable simulators to train the handling of tugs with different propulsion systems during tug operations. Various types of tugs are available with different kinds of propulsion systems, from conventional shaft propellers to ASD and tractor tugs.
- **NAUTIS Full Mission Tug Simulators** - Train advanced handling of tugs with different propulsion systems during tug operations on board an actual Tug bridge replica.
"ENHANCE YOUR TRAINING CURRICULUM WITH A FULLY COMPLIANT SIMULATOR SOLUTION!"
An Electronic Chart Display & Information System (ECDIS) is a computer-based navigation information system that complies with International Maritime Organization regulations and can be used as an alternative to paper nautical charts. An ECDIS system displays the information from electronic navigational charts (ENC) and integrates position information from the GPS, radar and automatic identification systems (AIS).

The NAUTIS Desktop ECDIS/Radar Simulator makes high quality training based on the new IMO Model Course 1.27 affordable and portable. It provides all required components as described by the IMO:

- Type approved ECDIS
- An outside view
- Radar/ARPA data input/overlays
- VHF communications between the instructor and students.

Thanks to the affordable price and small form factor of the NAUTIS Desktop ECDIS/Radar Simulator, high quality certified training becomes a possibility on any location, including on board of ships. Full classroom configurations are also possible.

“COST EFFECTIVE CERTIFIED TRAINING
WITH AN IMO COMPLIANT DESKTOP SOLUTION!”
NAUTIS DESKTOP SIMULATOR CONFIGURATIONS

STANDARD NAUTIS DESKTOP SIMULATOR

Training Type
1. Basic Ship Handling & Manoeuvring
2. Basic Radar/ARPA training
3. ECDIS Model Course 1.27
4. VHF Radio Communications

Software Included
- NAUTIS Trainee Station
- NAUTIS Radar Interface Module
- IMO Type-Approved ECDIS
- IMO Type-Approved Radar/ARPA
- NAUTIS VHF

Upgrade Options
- Professional Desktop Trainer
- Premium Desktop Trainer
- Console Trainer (all types)
- 2 additional outside view displays
- Pro or Premium Control Box

“CERTIFIED ECDIS TRAINING MADE PORTABLE AND AFFORDABLE!”

PROFESSIONAL NAUTIS DESKTOP SIMULATOR

Training Type
Same as Standard (1-4), plus:
5. Radar/ARPA Model Course 1.07
6. NavAids training (GPS, AIS, Echo Sounder, Speed Log)
7. AIS Model Course 1.34
8. Officer of Navigational Watch Model Course 7.03 (partly)

Software Included
Same as Standard, plus:
- NAUTIS Instruments (GPS, AIS, Echo Sounder, Speed Log)

Upgrade Options
- Premium Desktop Trainer
- Console Trainer (Professional/Premium)
- 2 additional outside view displays
- Pro or Premium Control Box

“A POWERFUL MODEL COURSE TRAINING SOLUTION, FROM ECDIS TO AIS AND RADAR/ARPA!”
**PREMIUM NAUTIS DESKTOP SIMULATOR**

**Training Type**

*Same as Professional (1-8), plus:*

9. GMDSS Radio Communications
   Model Course 1.25, 1.26

10. More advanced ship handling & manoeuvring, including emergency control

**Software Included**

*Same as Professional, plus:*

- GMDSS Simulator

**Upgrade Options**

- Premium Control Box
- Console Trainer (Premium)
- FMB Simulator

"A DESKTOP SIMULATOR POWERHOUSE WITH 120° OUTSIDE VIEW"

**DESKTOP SIMULATOR CONTROLLER OPTIONS**

Desktop Trainers include either the **Standard** or **Pro** Control Box and can be upgraded to the **Premium** Control Box
Realistic training on board actual high quality ship bridge replicas becomes possible with the NAUTIS Full Mission Bridge (FMB) Simulators. These fully certified Full Mission Bridge DNV Class A simulators comply with the Class A requirements as set by DNV's interpretation of the STCW.

The NAUTIS Certified DNV Class A Full Mission Bridge simulators are fully compliant with the Class A DNV Standards for Certification No. 2.14 for Maritime Simulator Systems and IMO model courses 1.22 and 1.32. They address all new elements from the newly revised IMO STCW Convention, which entered into force January 2012 and allows realistic training of a wide variety of training courses.

FIELD OF VIEW
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.

INSTRUCTOR STATION
Delivery of a NAUTIS FMB Simulator includes a NAUTIS Instructor Station. The NAUTIS Instructor Station is a mandatory element of the DNV Class A certified simulators. Under the STCW guidelines, the instructor must be located in a separate room and be able to visually follow the proceedings of an exercise. The NAUTIS Instructor Station includes duplicates of the student’s navigation screens as well as the instructor’s control panels. This way, the instructor can follow the trainee’s decisions and actions in detail.
NAUTIS FULL MISSION BRIDGE SIMULATOR CONFIGURATIONS

STANDARD NAUTIS FMB SIMULATOR

Training Type
1. Ship Handling & Manoeuvring
2. ECDIS Model Course 1.27
3. VHF Radio Communications
4. Radar/ARPA Model Course 1.07
5. Radar/ARPA, Bridge Teamwork and Search & Rescue Radar 1.08
6. NavAids training (GPS, AIS, Echo Sounder, Speed Log)
7. AIS Model Course 1.34
8. VHF Radio Communications
9. Officer of the Navigational Watch Model Course 7.03 (partly)
10. GMDSS Model Course 1.25, 1.26
11. Bridge Team Work 1.22

Software Included
- NAUTIS Trainee Station
- Radar Interface Module
- IMO Type-Approved ECDIS
- IMO Type-Approved Radar/ARPA GMDSS Simulator
- NAUTIS Instruments (GPS, AIS, Echo Sounder, Speed Log)
- NAUTIS Control Panels (Autopilot, Navlights, Alarms)

Upgrade Options
- Professional FMB Simulator
- Premium FMB Simulator
- Chart table
- Virtual binoculars

PROFESSIONAL NAUTIS FMB SIMULATOR

Training Type
Same as Standard (1-11), plus:
12. Larger teams possible for BRM/BTM training

Software Included
Same as Standard, plus:
- Additional Radar/ARPA
- Additional ECDIS

Upgrade Options
- Premium FMB Simulator
- Increased 360° Field of View
- Cylindrical projection system
- Helmsman console
- Pelorus
- Virtual binoculars
"NAUTIS FMB SIMULATORS PROVIDE SIMULATION TRAINING IN ACCORDANCE WITH KNOWN DESIGN CRITERIA, CLASS AND IMO REQUIREMENTS."
NAUTIS INSTRUCTOR STATION

TOTAL CONTROL AT YOUR FINGERTIPS

An Instructor Station is a mandatory element of STCW compliant simulators. The Instructor Station allows the instructor to follow the trainee’s decisions and actions in detail during each simulator training session and includes after action review and assessment. The NAUTIS Instructor Station interfaces seamlessly with all NAUTIS Simulators.

The configuration of the Instructor Station consists of displays on which the outside view and navigation screens of the trainee are duplicated in real-time. With the Exercise Manager component, the instructor can also carry out a range of tasks:

• Prepare an exercise. Select a training environment, and add one or more vessels in it, using the easy drag-and-drop interface. Set the weather conditions and time of the day.
• Save exercises for later use
• The NAUTIS Instructor Station has both a 3D bird’s eye view of the environment and a 2D chart view.
• Assign trainees that are logged into the exercise to one of the vessels
• Start, pause, record or stop the exercise.

During an exercise, the instructor can perform the following actions in real-time:

• Change the weather, visibility and time of day
• Show a trail of all the ship movements
• Shift any of the vessels to a different position
• Add new target vessels, and set their speed and direction, or add them to a complex track
• Change the track of the target vessels and helicopters

“A POWERFUL TOOLSET AND EASY TO USE INTERFACE FOR OPTIMAL EXERCISE CONTROL!”
Excellent training and support are an important part of operating a simulator. As part of simulator delivery, VSTEP provides basic and advanced training courses for each customer.

**SIMULATOR TECHNICAL SUPPORT AND MAINTENANCE TRAINING:**
- Simulator Start up/Shut down
- Connections and calibration of controls
- Interfaces check & finetuning for Radar, ECDIS and GMDSS simulator.
- How to detect / remedy hardware issues
- Back-up/restoring of configuration files
- Remote log-in facilities and simulator optimisation

**SIMULATOR AND INSTRUCTOR STATION TRAINING:**
- Creation of exercises
- Exercise Recording and playback / debriefing
- Initiate/restart an exercise
- Controlling target vessels during an exercise
- Introduce ship equipment or sensor faults and failures
- Change the operating environment during an exercise.
- Communication with the trainees on relevant comms channels.
- Visual tracking of an exercise in both 3D screen and chart
- Setting up a scoring or grading system to assess student performance.

Training is hands-on and provided by experienced VSTEP engineers. After successful training, an official Instructor & Maintenance Certificate is issued to the customer.
ADDITONAL TRAINING MODULES

NAUTIS Simulators allow integration of specific modules to cover additional training types and standards. These are the modules available for integration into the NAUTIS simulators:

**OFFSHORE MODULE**

**WHAT?**
The NAUTIS Offshore Module allows manoeuvring with Offshore Support Vessels and Platform Supply Vessels in proximity to oil platforms and other offshore objects.

**TRAINING TYPES:**
- Ship navigation, handling and manoeuvring of conventional and azimuth propulsion systems
- Assisting oil rigs / Rig moves
- Joint multi-vessel exercises

**FEATURES:**
- Library of offshore vessels with different propulsion
- Ship dynamics model based on forces, with 6 degrees of freedom motion
- Adjustable interaction forces
- Advanced rope dynamics system including line elasticity and snap force
- Option to show all forces as vectors
- Bollard pull visible for instructor
- Instructor control over towing, mooring and anchor winches

**FOR WHOM?**
- OSV & PSV Captains & Instructors

**AVAILABLE FOR SIMULATOR TYPES:**
- NAUTIS FMB Simulators - All Types
- NAUTIS Console Simulators - All Types
- NAUTIS Desktop Simulators - All Types

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**TUG MODULE**

**WHAT?**
The NAUTIS Tug Trainer module allows captains to experience and train the handling of tugs with different propulsion systems during tug operations.

**TRAINING TYPES:**
- Ship navigation, handling and manoeuvring of conventional and azimuth propulsion systems
- Assisting ships / Towing / Rig moves
- Equipment familiarization
- Joint multi-vessel exercises

**FEATURES:**
- Library of tug vessels with different propulsions
- Available including harbour tugs, ASD tugs and ocean tugs
- Realistic tug-ship interaction forces at the bow and stern of cargo vessels taking into account both hull and propulsion interactions
- Realistic tug friction characteristics when pushing ships; realistic direct and indirect towing characteristics

**FOR WHOM?**
- Tug Captains & Instructors

**AVAILABLE FOR SIMULATOR TYPES:**
- NAUTIS FMB Simulators - All Types
- NAUTIS Console Trainers - All Types
- NAUTIS Desktop Trainers - All Types
NAVAL TASK FORCE MODULE

The NAUTIS Naval Task Force module is specifically designed to meet the navigation and seamanship training requirements of navies and coast guards.

TRAINING TYPES:
- Ship handling and maneuvering for current Navy vessels and small craft
- Collision avoidance regulations
- Navigation planning and execution
- Tactical comms with radio, flags & morse lights
- Anti-Piracy Training
- Special Evolutions (RAS, Flight Ops, DIVTACs, Amphib Ops, etc.)
- SAR and MOB
- Replenishment at sea
- Formation steaming
- Amphibious landings
- Helo flight deck operations
- Plane guard / life guard station maneuvering and emergency response procedures

FOR WHOM?
- Navy
- Coast guards

AVAILABLE FOR SIMULATOR TYPES:
- NAUTIS FMB Simulators - All Types
- NAUTIS Console Trainers - All Types
- NAUTIS Desktop Trainers - All Types

ADDITIONAL TRAINING MODULES

NAUTIS Simulators allow integration of specific modules to cover additional training types and standards. These are the modules available for integration into the NAUTIS simulators:

SHIPBOARD INCIDENT MANAGEMENT

The Shipboard Incident Management software module offers an innovative solution to train offshore crews and damage control team members through interactive 3D simulation. The simulator is used to improve reaction, communication and knowledge in case of incidents, making actual drills & emergency response much more effective.

FEATURES:
- Allows virtual training of any thinkable incident on board of vessels, including shipboard fires and security issues during these emergencies.
- Train integration into the Chain of command with the local emergency services during on-board fires in ports.
- Incidents on both civilian or high security military vessels can be trained.

FOR WHOM?
- Civilian Ship Crews
- Watchstanders
- Naval Commanders
- Damage Control team members
- Navy & Coast guard shipboard personnel
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