NAUTIS Simulators are DNV-GL accredited integrated simulator solutions satisfying the latest IMO requirements. VSTEP offers a complete range of simulators, from desktop trainer to full mission bridge, for a wide range of maritime training needs. NAUTIS simulators fulfill the training requirements of watch officers, captains, chief officers, pilots, DP operators, tugboat captains, nautical colleges, naval academies, maritime training centres and individual ship owners worldwide.

YOUR CERTIFIED TRAINING, OUR MISSION
NAUTIS Simulators allow training satisfying the following international standards and regulations:

- The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW)
- IMO Model Courses
- IMCA Guidance on the use of simulators (IMCA C 014 Rev. 4 – March 2015)

NAUTIS Simulators are accredited by DNV-GL and received the following certifications:

- Approved and Certified by DNV - with class notation for Integrated Simulator System, Tug, HSC – 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 using NAUTIS Dynamic Positioning Simulators
- DNV-GL Class A Certification for DP Simulators
- DNV-GL Certification for GMDSS Simulators

OUR KEY VALUES FOR YOUR SUCCESSFUL SIMULATOR SOLUTION
At VSTEP we believe in a personal approach, with dedicated account managers guiding you through the process from the planning phase all the way to the implementation and installation of your simulator(s). With our focus on Quality, Innovation, Maximising Customer Value and Ease of Use, we guarantee a solution meeting today’s demanding standards and satisfying the specific training requirements of your organisation.

**Quality** - We strive to exceed our customers’ expectations at every point of service delivery, including superior product quality and efficient personal support. VSTEP is an ISO9001:2008 certified company.

**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.
A DNV CERTIFIED TRAINING SOLUTION FOR TUGS

The NAUTIS Tug Simulators allow captains to experience and train the handling of tugs with different propulsion systems. The simulator includes an easy to use set of instructor tools to prepare and control manoeuvring exercises, multi-tug operations and ship manoeuvring parameters. The simulator provides a compact yet natural look and feel for realistic tug training.

The NAUTIS Tug simulation software provides the outside view, including a series of ports and vessels and a ship dynamics model suitable for the precise manoeuvring characteristics of modern azimuth stern drive (ASD) tugs in close proximity to a cargo vessel. Vertical LCD flatpanels can be used for the outside view to provide the same viewing angles as from inside a real tug. Also, special effects like the repulsion force of the cargo vessel’s bow wave and the suction effect caused by the propeller wash are part of NAUTIS ship dynamics system, a need for realistic tug training.

VSTEP offers integrated simulator solutions combining the NAUTIS Tug Simulator software with different hardware configurations to suit your budget in accordance with your training and certification requirements.

- **NAUTIS Desktop Tug Trainers** - portable and affordable solution for Tug/OSV handling & manoeuvring training.
- **NAUTIS Full Mission Tug Simulators** - advanced solution for realistic virtual tug training on board of an actual Tug/OSV ship bridge replica.
ADVANCED FEATURES, REALISTIC SIMULATION

NAUTIS Tug Simulators include advanced ship to ship forces including bow, stern and propeller forces. Forces can be displayed as vectors during exercises to maximize the learning effect.

KEY FEATURES

The NAUTIS Tug Simulators include groundbreaking features to guarantee a realistic simulation experience:

- Library of tugs of different sizes with different propulsion systems, fully configurable by the instructor.
- Ship dynamics model based on forces, with 6 degrees of freedom motion.
- Realistic tug-ship interaction forces at the bow and stern of cargo vessels taking into account both hull and propulsion interactions.
- Interaction forces adjustable by the instructor/ship dynamics engineer.
- Advanced rope dynamics system including line elasticity and breaking force.
- Towing line parameters adjustable by the instructor.
- Realistic tug friction characteristics when pushing ships. Realistic direct and indirect towing characteristics.
- Instructor can control towed vessels and multiple tugs for complex towing operations (e.g. vector tugs).
- Portable tug control console with azimuth controls or conventional propulsion controls.
- Option to show all forces as vectors to maximize the learning effect.
- Option to perform exercises with or without instructor control.
- Azimuth transverse arrest forces, when thrusters are turned sideways.
- Bollard pull visible for instructor. Instructor control over towing, mooring and anchor winches.
- Switch for forward-looking or reverse looking, with corresponding switch of controls.
- Instructor can introduce faults and failures in the tug’s engines during a manoeuvre, forcing the trainee to reconsider his actions. The trainee can experiment with different corrective actions and experiences the consequences without bringing himself, his crew or vessel in danger.
- The instructor has a PC available with multiple displays. One of these shows a bird’s eye view of the scenario in 3D providing him with a good overview of the situation.
NAUTIS Desktop Tug Trainer at TOS Training Centre
“Because of the “power of repetition”, the use of a simulator not only limits time spent on training, it also results in a higher end result compared to training on-the-job.”

Cor de Ridder, Tug & Ship Handling Instructor at 360-Control
STANDARD NAUTIS DESKTOP TUG/OSV TRAINER

Training Type
Basic Azimuth Tug/OSV Handling and Manoeuvring

Software Included
• NAUTIS Trainee Station
• NAUTIS Tug and/or Offshore Module
• NAUTIS Radar Interface Module
• MARIS Radar/ARPA
• NAUTIS Conning

Upgrade Options
• Premium Tug/OSV Trainer
• Full Mission Tug/OSV Trainer (all types)

PREMIUM NAUTIS DESKTOP TUG/OSV TRAINER

Training Type
Advanced Tug/OSV Handling and Manoeuvring

Software Included
• NAUTIS Trainee Station
• NAUTIS Tug and/or Offshore Module
• NAUTIS Radar Interface Module
• MARIS Radar/ARPA
• NAUTIS Conning
• Polar View Basic Chart Viewer
• Independent Viewpoint, Usable for Stern/ Bow View or Binoculars
• NAUTIS VHF

Upgrade Options
• Full Mission Tug/OSV Trainer (all types)
STANDARD NAUTIS FULL MISSION TUG SIMULATOR

Training Type
Advanced Tug/OSV Handling and Manoeuvring

Software Included
- NAUTIS Trainee Station
- NAUTIS Tug and/or Offshore Module
- IMO Type-Approved Radar/ARPA
- NAUTIS Overhead Panels
- NAUTIS Conning
- Polar View Basic Chart Viewer

Upgrade Options
- Premium Full Mission Tug/OSV Trainer

“CERTIFIED TRUE-TO-LIFE FULL MISSION TUG TRAINING”

PREMIUM NAUTIS FULL MISSION TUG SIMULATOR

Training Type
Advanced Tug/OSV Handling and Manoeuvring

Software Included
- NAUTIS Trainee Station
- NAUTIS Tug and/or Offshore Module
- IMO Type-Approved Radar/ARPA
- IMO Type-Approved ECDIS
- NAUTIS Overhead Panels
- NAUTIS Conning
- NAUTIS VHF

“ADVANCED TRAINING AND ENHANCED AWARENESS WITH A 360° OUTSIDE VIEW”
TRAINING MODULES
The following two modules are available for Tug/OSV training, however the NAUTIS Simulators allow integration of additional specific modules to cover other training types and standards. For more information on the additional training modules please refer to the NAUTIS General Overview Brochure or contact one of our VSTEP account managers.

TUG MODULE
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, ocean tugs etc. (additional vessels can be created upon requests)
• For a complete list of all the features please refer to page 3 of this brochure

FOR WHOM?
• Tug Captains & Instructors

OFFSHORE MODULE
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 propulsions available including offshore supply vessels, ocean tugs, anchor handling vessels, oil tankers, etc. (additional vessels can be created upon requests)
• Advanced rope dynamics system including line elasticity and breaking 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
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 training session and includes an after action review and assessment. Different Instructor Station configurations are available for integration. For more information please contact one of our VSTEP account managers.

**DEDICATED SUPPORT AND SERVICE**

VSTEP’s customer support makes sure you always receive all help you need, quickly and efficiently. It is supervised from our world headquarters in the Netherlands and coordinated with our strategic partners and offices around the globe, always near you. Our account managers guarantee that you will always receive personal, quick and high quality support.

Furthermore, VSTEP provides simulator training courses to ensure that your training personnel are fully capable of operating the simulator when using it for your designated training purposes. Training is provided by experienced VSTEP engineers and an official training certificate will be issued to your training personnel.
NAUTIS Maritime Simulation Solutions is a product of virtual training and simulation developer VSTEP, an ISO9001:2008 certified company.

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