

Tug Handling

- the proven approach



Safety first. This is paramount and requires realistic training environments. We supply tug bridge simulators and training concepts which provide realistic and validated training platforms. Both for regular training and crew selection. In the end the safe way is the best way and the safe way is our way.

The challenge

Tugs are powerful, maneuverable and demanding to operate. They require special skills, competences and massive experience to handle safely and efficiently. Training in a virtual environment with simulators mimicking the bridge of a tug is a highly efficient way to achieve these skills. Similar, simulators provide the most efficient tool for qualifying decisions when planning maritime infrastructure projects.

Working environment

The benefits of using simulators are unquestionable. Results are fast and measurable when the participant experiences how virtual reality blends in to reality. This is what numerous tug masters state when letting go of the handles in our simulators. The environment we create is what the tug master experiences now and what they will experience in the future.



Turning virtual reality into reality

Our fleet of tugs covers a wide range of types and sizes with all conceivable propulsion systems. If you need a tug not in our fleet then we will build it to your lines. We combine these with tank tests or data generated over the years.

The current fleet includes:

- ASD
- VSP
- Rotortug
- Twin-screw
- Carousel
- Z-drive
- Conventional

The level of detailing is matched to exact requirements, e.g. low visual detailing for design purposes and high for training.



Training

Training is more than just practicing. The approach is important and that is why we have adopted best practice from other industries to develop pedagogically based courses and concepts designed to give the participant maximum value. Indeed some of the principles and concepts, which we have developed, have today been adopted by other industries.

Courses are tailored to suit the individual client's needs and span the entire range from basic to intermediate and advanced tug master training.

We provide training in our tailored tug simulators, equipped and instrumented to mimic any tug and facilitate the required environment.

Our simulators operate in a cluster which enables several tugs and other vessels to interact in a common environment characterized by a high perception of realism and where all aero- and hydrodynamic effects are accounted for.

In-house training

Our simulators are provided in all sizes and formats making it affordable to invest in an in-house simulator. This lowers the cost of training and adds other benefits, e.g. for assessing potential crew members in the selection process.

We provide both stationary and mobile training units and do so worldwide.

The approach of the instructor is instrumental for the value of the process. That is why we offer Train-the-Trainer courses designed to provide the instructors with all the necessary teaching and pedagogical tools required to build skills and competences efficiently.

Designing

The cost of building or changing the maritime infrastructure is high and requires that all relevant scenarios are considered and that issues such as safety, operability and costs are addressed. The simulator environment offers an affordable way to evaluate the various scenarios and experience how the different solutions accommodate the challenges.

The engine room

The core of the simulator is the DEN-Mark1 engine developed in the early nineties. An engine renowned for its quality and the accuracy with which it replicates the performance of a vessel in a virtual environment. The model has been validated in numerous cases against model tests and full-scale measurements. With access to extensive experimental facilities, including towing tanks and wind tunnels, and professional mariners among the staff, the hydrodynamic models are continuously updated and refined. The three most important environmental influences, current, winds, and waves, are modelled accurately from the best possible sources today. It is the accuracy of the modelling of the hydro and aerodynamic forces, which are the success of this engine.

Background

FORCE Technology is a non-profit organization and is a member of Advanced General Technology Group, which is a grouping of independent Danish research and technology organizations.

Standards

Our simulator center is recognized by the Danish Maritime Authority (DMA) and DNV as a maritime training institution. The development and implementation of training courses is conducted in full compliance with the Danish Maritime Authority's guidelines for Quality Management of Maritime Training and Education and STCW as amended.

Our instructors are Maritime Pilots, Captains and Tug Masters with many years of experience from all types of tugs and projects involving tug handling. They continue to sail in order to keep updated with the newest technology within the tug segment.





References

Our customers include:

- Svitzer Peru
- Svitzer Puerto Rico
- Svitzer Australia
- Svitzer Angola
- Svitzer Scandinavia
- Svitzer Netherlands
- Svitzer Africa
- Svitzer Middle East
- Svitzer United Kingdom
- Svitzer USA
- German Coastguard
- Buksér & Berging
- Swedish Coastguard
- Fairplay
- Bugsier
- Serco Denholm UK
- Multtraship NL
- Kotug NL
- Adriatic LNG
- Anadarko petroleum corporation
- Dublin Port
- URAG
- Multtraship
- BTÖ

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