ASD Tug
Simulator

ASD Tug Simulator
Developed by Tug Masters for Tug Masters

The advanced ASD Tug Simulator was developed in conjunction with SeaWays Consultants and is capable of training a range of functions. From basic tug handling manoeuvres for trainees to advanced towing methods for tug masters (such as in-direct towing), any operation can be simulated.

Training Goals

Transas ASD tug simulator has been designed by tug masters and for tug masters to provide high fidelity and cost-effective training in complex and risky operations. The simulator is the perfect tool for training in:

- ship assist work
- high speed escort work, and
- integrated tug master and pilot training.
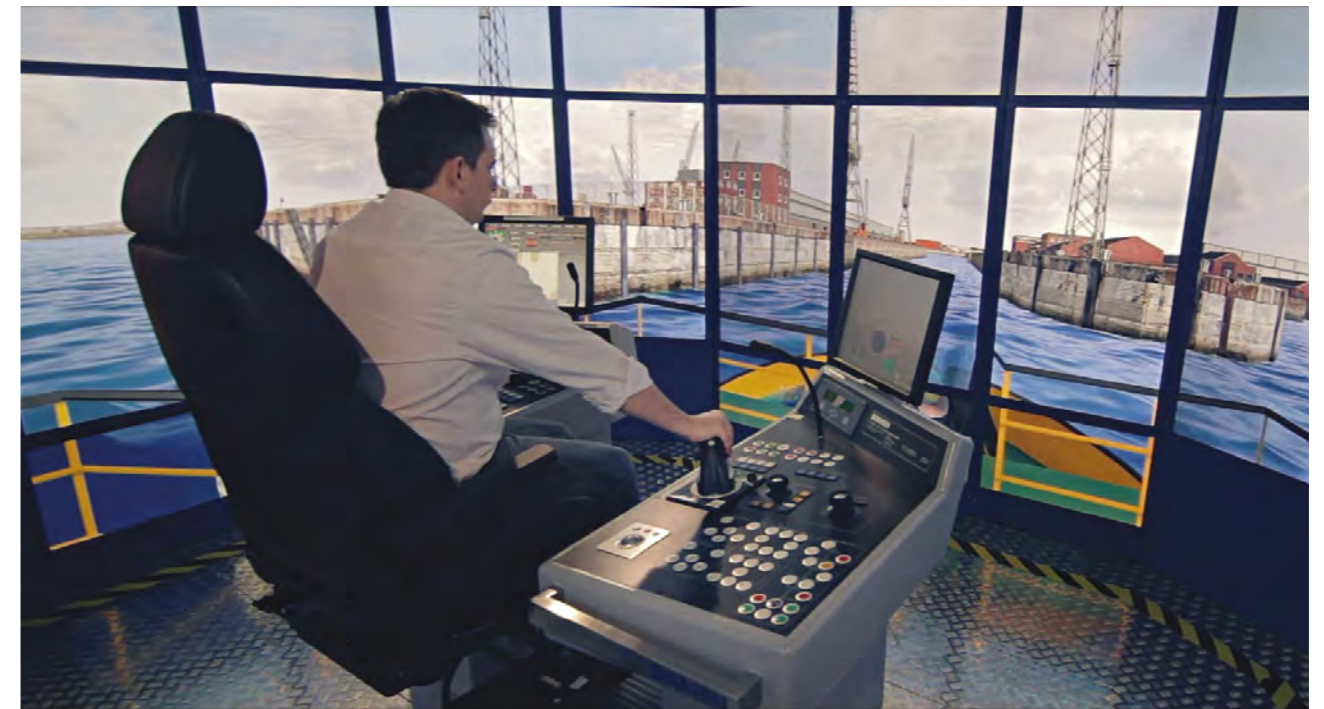
Project Innovations

3D

For better immersion in the training, we have made our tug simulator 3D so that trainees can accurately judge distances on a 2D screen. This covers depth perception, one of the key training requirements of tug masters when operating in close proximity to large vessels under tow.

Hydrodynamic Model:
as Real as it Gets

16 pages of manoeuvring notes, hours of real time video and 200 man/weeks of hard work

A key advantage of this tug simulator is the improved built-in hydrodynamic modelling and interaction capabilities of the tug with its tow. Our software developers collaborated closely with tug masters to replicate the exact characteristics felt during tug manoeuvres. This advanced capability allows the operator to acquire the necessary skills before going live on a real tug, without risk of damage.
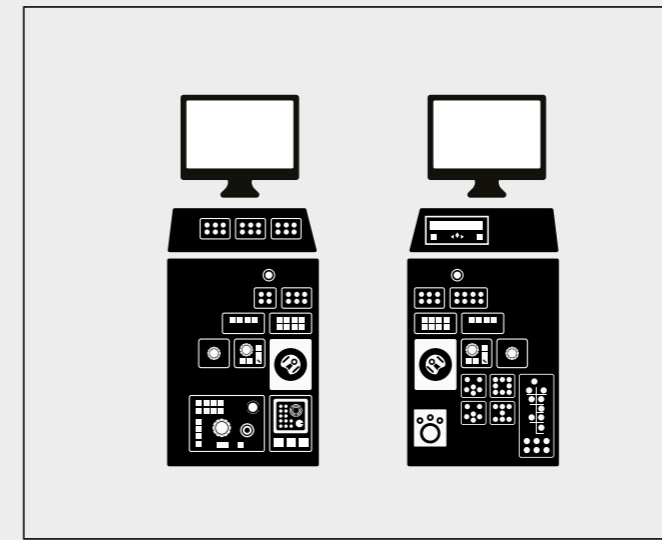
Configurations

Desktop solution

To familiarise and practise basic operations, a simplified desktop configuration can be used.
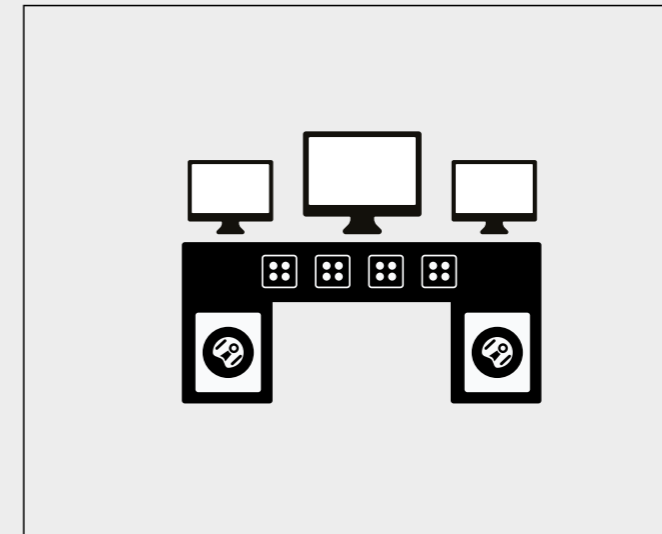
Full mission simulator

In tug simulation, the requirements for visualisation and hardware are higher than those of conventional ship operations. Thus, additional features such as vertical angle of view, rear view visualisation and dedicated hardware should be considered for a tug full mission bridge.
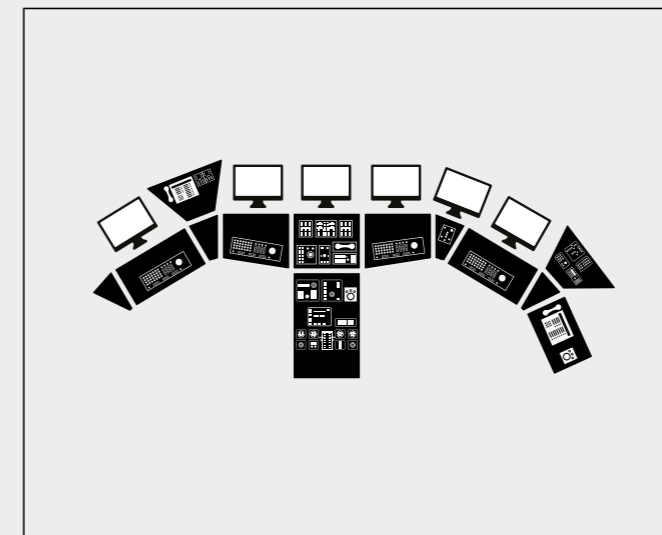
Joint training

As the simulator is built on the NTPRO 5000 simulator platform, the instructor can operate multiple tug training stations in one scenario. This flexibility provides the simulator with more advanced training capabilities where multiple tug operations can be conducted for large vessels or even rig moves with a rig master co-ordinating. The addition of a Full Mission Bridge simulator to these training scenarios allows the bridge team on the vessel being towed to take part. This simulation configuration then can be used for advanced pilot training, whereby a pilot can be trained in tug placement, control, communications and operations.

Full mission tug bridge

Desktop solution

Full mission shiphandling bridge

INTEGRATION

Hardware

In addition to the advanced hydrodynamics model, the simulator can be equipped with real tug controls to enhance the training environment further.

For the simulator at Portsmouth, we integrated a DAMEN tug console. ASD tugs are one of the most popular tugs in the world, and the addition of the exact bridge console used in these vessels truly enhances the simulator's training capabilities. Operator can move effortlessly from training simulator to real tug without any familiarisation period required.

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