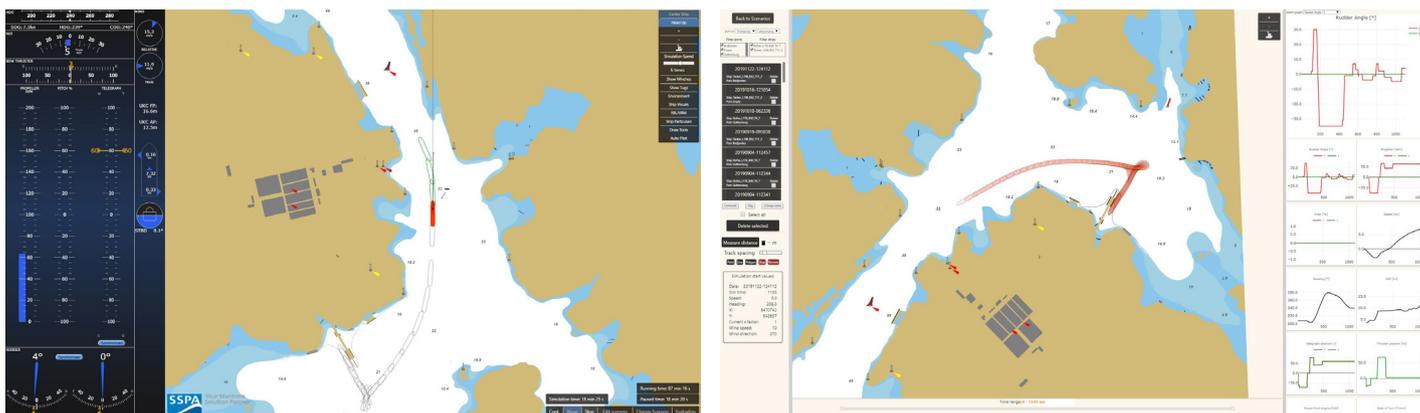


SEAMAN Online – taking availability and flexibility to the next level

The phrase “Repetitio est mater studiorum” or “Repetition is the mother of learning” was the starting point for the SEAMAN Online™ development. Requested by clients who wanted to provide their staff or students with unlimited access to a manoeuvring training environment, SEAMAN Online is the world’s first web-based professional maritime manoeuvring training simulator, taking availability and flexibility to the next level.



Left: the simulation interface. Right: the evaluation interface. SEAMAN Online™ is the first web-based professional maritime manoeuvring training simulator.

Anywhere, anytime

In contrast to other ship manoeuvring training tools, SEAMAN Online™ is a fully web-based tool provided as a Software as a Service (SaaS). This adds significant flexibility as well as reduces costs for anyone who needs to train or evaluate ship manoeuvring in confined spaces in varying conditions.

The only thing needed to access SEAMAN Online is a reasonably modern computer and internet connection to perform or evaluate exercises on board, at the office, at school, at the library, or at home.

Based on 80 years of experience

SEAMAN Online uses the same core as all other simulation-related services provided by SSPA. The core is based on 80 years of ship hydrodynamics testing, research and development, as well as 50 years of maritime simulation activities. This vouches for a high level of accuracy of the ship movements when training in SEAMAN Online.

SEAMAN Online is capable of handling various hydrodynamic effects, such as bank and squat effects, shallow water effects and ship-to-ship interactions, as well as different weather-related forces generated from wind and current.

It also includes the ability to perform tug- and mooring rope-assisted manoeuvres.

The tool’s interface includes a conning display based on the outcome of the EU-funded CyClaDes project and a bird’s eye 2D visualisation of the Electronic Navigational Charts (ENCs) in line with the International Hydrographic Organization’s (IHO) S-52 standard. This provides an interface familiar to most maritime students and professionals.

Standard and customised

Depending on the needs of the user, it is possible to provide everything from generic training vessels and environments to bespoke ships and port models through the tool. This implies that the tool can be adopted to suit various types of maritime organisations, such as shipowners, maritime training facilities, ports, consultants, etc.

Chalmers University of Technology

Chalmers University of Technology has, for a long time, used simulation solutions supplied by SSPA. These have been software-based tools installed on computers in specific simulator rooms. To use these tools, the students have had to book a timeslot beforehand during periods where the availability has been poor.

When a need to replace the old simulation solutions was identified by Chalmers, the idea of making it a web-based tool emerged. Based on this, SEAMAN Online was developed.

A first version was made available to Chalmers by mid-2018, and the first course it was used in was the compulsory “Ship handling and navigation in confined waters”, where all students were given a login and access to several tailor-made exercises.

“The introduction of SEAMAN Online into our Master Mariner programme has really increased the availability of a ship manoeuvring training environment for our students. No need to book a specific simulator room or computer anymore, just log in when you have the time. Despite this, I can still, as a teacher, evaluate the ability of each student and provide feedback and support through the tool.”

Capt. Reto Weber, Lecturer,
Chalmers University of Technology

The scope of these exercises included, among others:

- Applied hydrodynamics (IMO manoeuvre tests, shallow water effects, ship interactions, etc.);
- Manoeuvring characteristics of different ships, including the controllable, semi-controllable and uncontrollable forces involved in ship handling;
- Planning, executing and monitoring passages in confined waters such as archipelagos (blind pilotage techniques on radar, controlled turns, etc.);
- Manoeuvring large ships with and without the use of tugboats.

After the course, all students were asked to answer a voluntary online questionnaire about their experiences with the tool.

Stena Line Scandinavia

Stena Line Scandinavia has been using SEAMAN Online onboard on one of their vessels, the Stena Vision, since mid-2018. The ferry is operated between Karlskrona in Sweden and Gdynia in Poland.

Through SEAMAN Online, the crew of the vessel has had access to bespoke models of the two ports and of the Stena Vision ferry. The main use has been to test and evaluate different manoeuvres, especially in abnormal operational conditions such as harsh weather conditions or

"In my profession as a Master Mariner, I have used SSPA's simulation capabilities for a long time. SEAMAN Online is an attractive extension of their services and I use it regularly both to train and test different scenarios myself and to support and teach the junior staff of my vessel in the art of manoeuvring."

Capt. Christer Menfors,
Stena Vision



limited propulsion power availability. It has also given junior staff the possibility to train port manoeuvring under the supervision of the more senior staff.

Commercial introduction

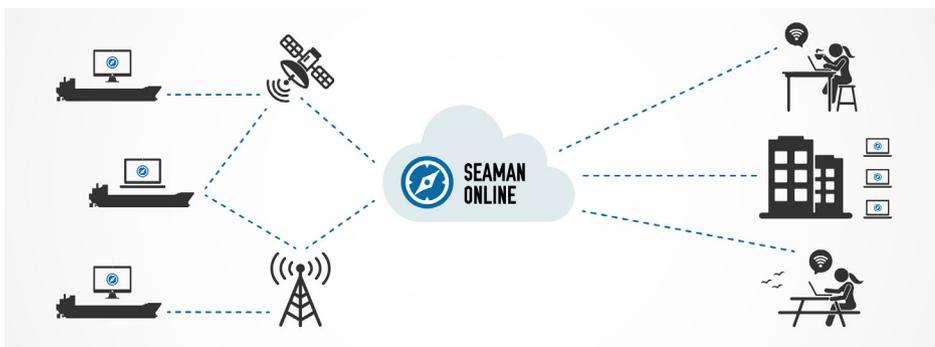
Based on the experiences gathered from the Stena Vision and Chalmers University of Technology, the tool was updated during the summer of 2019 and commercially introduced to the market at the Donsö Shipping Meet in September 2019.

Both Stena Line Scandinavia and Chalmers University of Technology have decided to expand the use of SEAMAN Online in their organisations. At present, all vessels in operation by Stena Line Scandinavia have the possibility to use the tool as support for their operations.

At Chalmers University of Technology, all students of the Master Mariner programme will have their own personal login to SEAMAN Online. It will be used as a training and assessment tool on many courses during the entire four-year programme.

Further reading and references are available at www.sspa.se/seaman-online-taking-availability-and-flexibility-to-the-next-level

Illustration by SSPA.



SEAMAN Online™ is a fully web-based tool. Perform or evaluate exercises on board, at the office, at school, at the library, or at home.



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Fredrik has an MSc in Naval Architecture from

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Nicole has a PhD in Human Factors from the

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