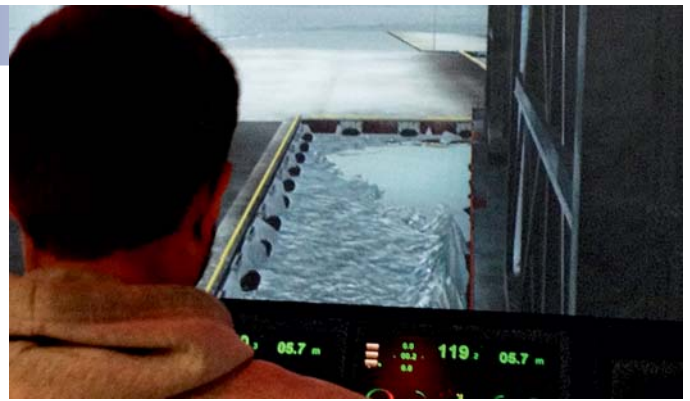




Yamal LNG Port of Sabetta feasibility studies, Captain Sampo Karppinen from ZPMC - Red Box Energy Services is steering. In the picture Captain Karppinen is reversing the Heavy Module Carrier in 1 m level ice and in the picture above right he is maneuvering the vessel to the quay in 3 m brash ice.



Ice simulator attracts attention

Aker Arctic's ice simulator was displayed at the SMM Exhibition in Hamburg last September and at the NaviGate Exhibition in Turku in November. Many interested parties approached us and praised the visual choices and real feel of the simulator. Since then, new features have been added and more will come.

With the ice simulator, operations in ice can be simulated and vessel's behaviour in ice can be practised in advance. It can also be used for planning, e.g. when vessels have not even been constructed yet and plans are still possible to change.

The ice simulator has been praised as visually appealing and very realistic. Ice breaks in the simulation in the same way as in real life and ice and vessel interaction is correct.

"Last month for example, we had icebreaker captains join us at the Finnish Maritime Academy Aboa Mare in Turku to test the ice simulator," Project Manager Jorma Koponen says. "Their comments were truly positive.

According to them, a training tool like this was unthinkable a few years ago. They thought it was useful and the effects of ice were clearly present. They also gave us valuable input on how to further improve the simulator tool."

New features

Radar function is a newly added feature, which is unique to our ice simulator. When a vessel navigates in an ice field, the radar shows the tracks or the openings in the ice field exactly as in real life, without using a "ScanFaker". This is a valuable feature since the radar is an important tool in real life when the operator determines where to navigate and tries to find the most safe and economical route through an ice field.

"Software Developer Mr Martti Kesäniemi has joined us from Microsoft to strengthen our team and will further develop the program. New features will be added in relation to icebreaking and towing functions will be improved. Inclining effect, the breaking of ice, and pressing and moving ice fields will be added too. When customers buy the program, they might want new features and this can be considered, if they are feasible, therefore improvements depend slightly on what our customers wish for," Mr Koponen points out.

Captain Tom Ekegren from Arctia Shipping tried the ice simulator at the Finnish Maritime Academy Aboa Mare in Turku. According to him, a training tool like this was unthinkable a few years ago. He thought it was useful and the effects of ice were clearly present. Captain Ekegren also gave us valuable input on how to further improve the simulator tool.

Feasibility study for Yamal LNG

Last year, our first feasibility study was conducted for Yamal LNG using the ice simulator. Aker Arctic has designed the concepts for LNG-carriers for exports of LNG to the market, as well as designing an Arctic heavy module carrier for transporting LNG train modules to the site along with the assisting icebreaking tug to ensure efficient all-year operations. The ice simulator was programmed to include the exact design of the port, one Arctic heavy module carrier and one icebreaking tug. Our customer could then navigate the vessels in different weather and ice conditions and test how the harbour and vessels will work and if there was any need to adjust plans.

"The Polar Code will include compulsory ice navigation training for deck officers before going to Polar areas. Using our ice simulator would be the easiest way to arrange training, so we believe it will become very useful in the future. We have now installed a small ice simulator at the Helsinki headquarters to use as a test bench and maybe even for customers to try, in addition to the full mission bridge simulator tool available at Aboa Mare in Turku," Mr Koponen explains. ■