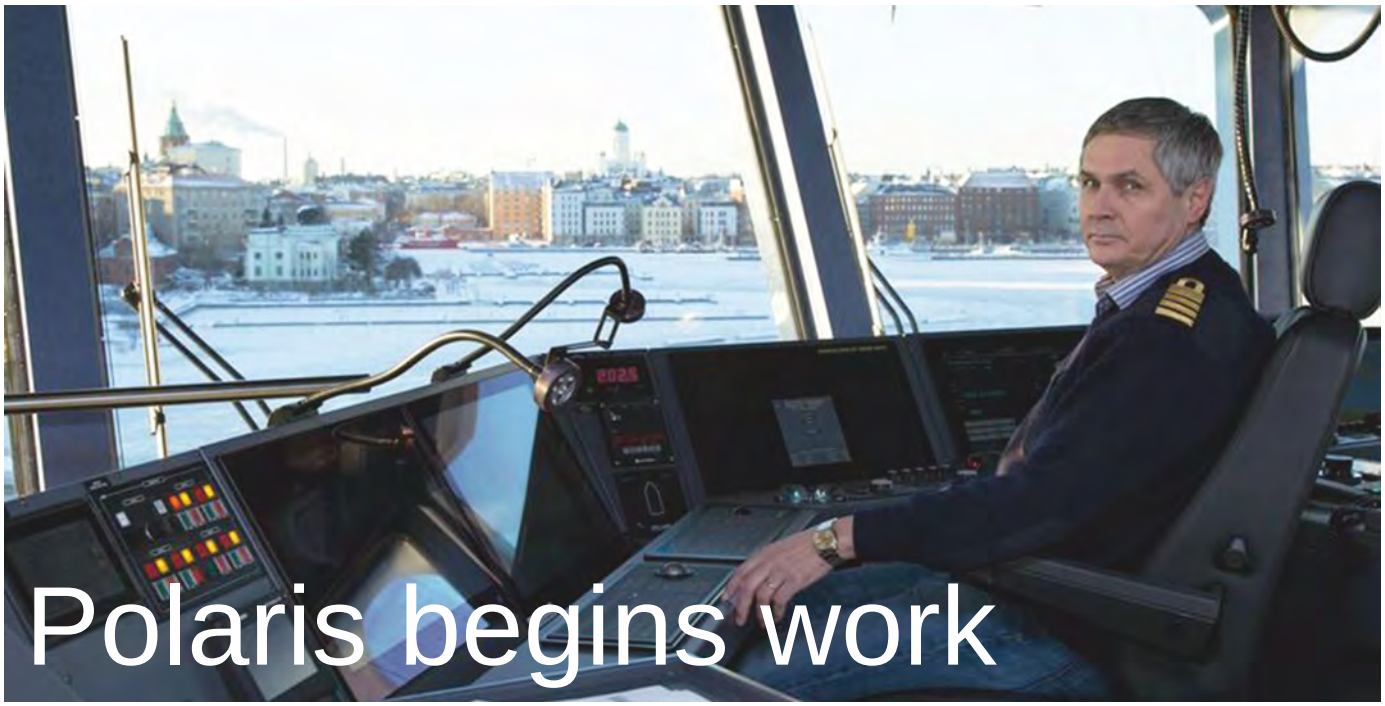

Polaris begins work

The brand new Finnish LNG icebreaker *Polaris* began her work in January this year. Praised for her powers and environmental solutions, Captain Pasi Järvelin and his crew are now testing her in the heavy ice conditions in Bay of Bothnia. The first weeks have been successful.

Pasi Järvelin at the bridge in Helsinki, before departing for icebreaking duties in the Bay of Bothnia.

Pasi Järvelin, the Captain of the new Finnish icebreaker *Polaris*, has worked forty years on the sea, all over the world. He has sailed around the world, spent several months in Antarctica, worked offshore, steered *Nordica* through the Northern Sea Route from Alaska to Europe and managed icebreakers for the past thirty years.

When the planning of *Polaris* began in 2013, Captain Järvelin joined the concept team in order to give his input on what is needed in a modern icebreaker. His responsibilities were icebreaking, cranes, interior design, the bridge, dynamic positioning (DP) and oil response.

"The advantage is that I know the ship inside out. I know exactly how she will behave in different situations and what she is capable of," Järvelin says.

Captain Järvelin was also involved full-time in writing the specification and supervising the construction work at Helsinki Shipyard together with his experienced colleagues Björn Fagerström, Jarmo Paajanen and Juha Hiltunen. "I went every day to the shipyard for two years, which taught me a lot about the vessel."

Quick movements

Polaris is a powerful icebreaker with a triple azimuth solution: two propulsion units in the stern and one in the bow. "From a users perspective, the biggest difference to traditional icebreakers is *Polaris'* agility. Her rate of turn is more than 200° in a minute. I believe the third Azipod in the bow will make *Polaris* the unchallenged dancer on the ice fields, as we say in Finnish."

"The vessel is very pleasant to steer, but the driver has to pay attention to sudden moves because she is extremely easy to turn around. In ice situations, the bow pod has to keep moving all the time."

Captain Järvelin mentions other special features such as quite a sharp bow and the steadiness when steering ahead. "The oil spill response system in case of oil accidents and the 'no compromise approach' regarding icebreaking are exceptional features in this modern icebreaker."

Polaris is also the first dual-fuelled icebreaker able to use both low-sulphur marine diesel and LNG as fuel. "Her scheduled life-time is fifty years and LNG is the future," Järvelin emphasises.

"Furthermore, we don't discharge any waste or grey water to the sea, not even shower water. Everything is transported to the shore every ten days when part of the crew is exchanged, the vessel refuelled and fresh groceries stocked."

Successful design

Polaris is based on the Aker ARC 130 concept developed by Aker Arctic in cooperation with ILS and the Finnish Transport Agency.

"Cooperation with Aker Arctic and ILS have been excellent during the entire project. Suggestions were always positively received and changes were made swiftly. I would especially like to highlight my appreciation for Mika Hovilainen and Esa Hakanen at Aker Arctic as well as Jyrki Lehtonen and Harri Eronen at ILS, all of whom had significant roles in the successful design," Järvelin says.

First weeks of icebreaking

Polaris is now in Bay of Bothnia for her first season of icebreaking. This area is the most difficult around Finland in winter due to the combination of freezing temperatures and strong winds. Icebreaking and escorting services are performed jointly with Sweden and there are currently five Finnish and Swedish icebreakers in the area to ensure safe travels at all times.

"The first two weeks have been very successful," Järvelin reports from Bay of Bothnia. "We have assisted thirty merchant vessels but only one needed towing, as the Azipods are extremely efficient. The left pod turns in the counter-clockwise direction and the right pod in clockwise direction, which means that the flushing effect keeps most of the ice away from the bulb of the assisted vessel. We have received plenty of positive feedback from customer ships for this feature."

"Dislodging vessels stuck in ice has been performed with speed and elegance. Most of the time we have needed only two or three engines, but in a few cases in stormy weather where the merchant vessel was in hard ice pressure, we used all four engines for a quicker relief. Although winter is only beginning, it is already clear that the vessel specifications will be met," Järvelin says.