



12th Arctic Passion Seminar in Helsinki

Aker Arctic's annual customer seminar gathered nearly one hundred Arctic specialists and other professionals from the shipping, shipbuilding and other related industries from around the world.

Finland took over the two-year chairmanship of the Arctic Council from the United States in May 2017. Aleksi Härkönen, the Ambassador for Arctic Affairs from the Ministry for Foreign Affairs of Finland, opened the day and talked about Finland's goals for this period.

CEO Reko-Antti Suojanen reminded the audience of the significant milestones for this year: beginning the IMO Polar Code, Yamal LNG's first arctic LNG project and the first LNG icebreaker *Polaris* entering into service.

Professor Gary Marquis, Dean of the Aalto University School of Engineering, talked about the Aalto Ice Tank, which is being significantly improved, as well as the cooperation with Aker Arctic. During the Arctic Passion Seminar, Aker Arctic and Aalto University signed a co-operation agreement on the joint use of ice tanks for model testing and research purposes. The combination of two ice laboratories – Aker Arctic's 75 m long and 8 m wide basin and Aalto University's unique 40-by-40 m square tank – has resulted in improved capabilities particularly for manoeuvring and other operative icebreaking model tests. The co-operation also brings new opportunities for research in ice technology.

Tero Vauraste, CEO of Arctia Ltd, the company responsible for icebreaking in the Baltic Sea, presented the first experiences of the LNG icebreaker *Polaris* in the Northern Baltic, where she has been assisting vessels from January onwards. He said the vessel has proved to meet all operational expectations and the selected hull and propulsion concept provide significant operational benefits compared to older vessels. He added

that the *Polaris* has proved, that the design supports more effective and quicker assistance to meet the rising demands for icebreaker capabilities and the new challenges from the assisted vessels such as new EEDI designs. Mikhail Grigoryev, Director for GECON, gave an update on the economic development of the Russian Arctic Zone, including the forecasted freight traffic and the foreseen tasks ahead for shipbuilding.

Polar expedition cruises are becoming increasingly popular but are associated with safety risks if the cruise vessels are not designed for cold and ice. Director Nicolas Dubreuil and Captain Etienne Garcia from Compagnie du Ponant gave an interesting presentation of their polar expedition cruises and how they assess the risks involved to keep passengers safe.

Aker Arctic has been assisting Daewoo Shipbuilding and Marine Engineering Company with the development of an LNG carrier for Yamal LNG. Sung-Pyo Kim, Deputy Director, DSME and Ilkka Saisto, Team Leader, Aker Arctic Technology Inc., presented the development project.

Then followed an ice tank demonstration. This year, we demonstrated the ability of a modern icebreaking vessel to penetrate pressure ridges both in the ahead direction using conventional ramming and backing methods, or astern utilizing the flushing effect of the azimuth propulsion units. The ice ridges in the model test basin were produced by a method that mimics the natural process of ridge formation, resulting in a realistic triangular cross-section.

In the afternoon, a joint presentation of case studies on ice propeller development was held by Kari Laukia, from Aker Arctic, Ari Viinikkala, from TEVO Oy and Alexander Ilyintsev, from JSC Zvyozdochka.

Aker Arctic Canada has developed a new ice strengthened lifeboat, which Evan Martin discussed. You can read about this project in the 1/2017 issue of Arctic Passion News.

The design and construction of the first ever arctic condensate carrier was presented by Li Tao, Managing Director at Guangzhou Shipyard International. The gas condensate tanker will be used to transport gas condensate, which is a by-product separated from natural gas before its liquefaction process.

In 2014, Aker Arctic designed two PC3 class module carriers, in close cooperation with ZPMC Red Box Energy Services, for the delivery of construction modules to the LNG plant in Sabetta. The two vessels, named the *Audax* and the *Pugnax*, were delivered in early 2016 and Dirk Verhoeven, COO of ZPMC Red Box Energy Services, described the first operational experiences.

Mikhail Belkin, Assistant to Director General, Rosatomflot, explained how their company plans to support arctic shipping in the future and what atomic icebreakers are in process. The demand for their services has and will further increase.

The day was concluded by Tomas Arnell, Head of the Icebreaking Department at the Swedish Maritime Administration. The topic of his presentation was icebreaking in Sweden and the Northern Baltic and plans for the future.

We would like to thank all the guest speakers and participants of this year's successful and interesting Arctic Passion Seminar! The seminar presentations can be found on <http://akerarctic.fi/en/arctic-passion/arctic-passion-seminars>.