

Propellers and shaft lines to Finnish Navy corvettes

In September 2019, The Finnish Defence Forces Logistics Command and Aker Arctic signed a contract for the design, delivery and integration of complete propulsion lines to four Pohjanmaa-class multi-role corvettes for the Finnish Navy. The development work already began in 2015.

The Navy's new Pohjanmaa-class multi-role corvettes have been designed to meet the performance requirements set by the Finnish Defence Forces for service in the area of the Baltic Sea.

With these corvettes the Finnish Defence Forces will be able to conduct daily surveillance all-year round, repel attacks from the sea, defend maritime connections vital to Finland, and secure Finland's territorial integrity, all more effectively.

Challenging weather

Finland's demanding conditions require the ability to navigate in different ice conditions, as well as in any kind of weather on the Baltic Sea.

Gale-force winds and the resulting wave heights restrict the operation of light naval units on the open sea. The significant wave height may reach above six meters in the northern part of the Baltic Sea. High waves, icy conditions, snow and sleet, and the rain and fog caused by temperature fluctuations may weaken the performance of surveillance and weapons systems, or even hinder their use.

The extent of ice cover on the Baltic Sea varies considerably from year to year but the severity of the ice-covered period does not entirely account for the difficulties caused to maritime transport. Pressure from gale-force winds on the ice cover forces layers of ice to form on top of each other and, eventually, form ice ridges. In a typical winter, our own harbours and the archipelago freeze while the rest of the Baltic Sea is unfrozen.

Multiple tasks

The vessels of the Squadron 2020 project will, in addition to surveillance and territorial duties, take part in safeguarding maritime transport in cooperation with national and international authorities.

Pohjanmaa-class ships are purchased and manufactured in Finland for the Navy to fulfil its duty to ensure safety in Finland for its citizens during normal and emergency conditions.



Photo courtesy of Finnish Defence Forces

Construction to begin

Construction of the vessels is scheduled to begin in 2022 and the four-strong squadron will achieve operational readiness in 2028.

Rauma Marine Constructions (RMC Oy and RMC Defence Oy) based in Rauma on the western coast of Finland will build the vessels for the Squadron 2020 project. The Swedish aerospace and defence company Saab AB was selected as the supplier of the vessels' combat systems.

Aker Arctic's role

Aker Arctic's scope of delivery includes ice-strengthened controllable pitch propellers and their pitch control mechanisms, propeller shafts, bearings and shaft seals. In addition to complete design, calculations and material supplies, Aker Arctic will be responsible for installation supervision, and commissioning of the propulsion lines.

Aker Arctic has been developing the propulsion line in co-operation with the Finnish Defence Forces since 2015 to ensure that the new multi-role corvettes will meet the demanding operational performance requirements of the Finnish Navy. An essential part of this development is matching the propeller with the hull to achieve high open water speed, ice-going capability and low underwater noise levels. ■