Aker Arctic Technology Inc Newsletter February 2012

Arctic Passion News

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New staff and new innovations

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Improving ice-class tankers
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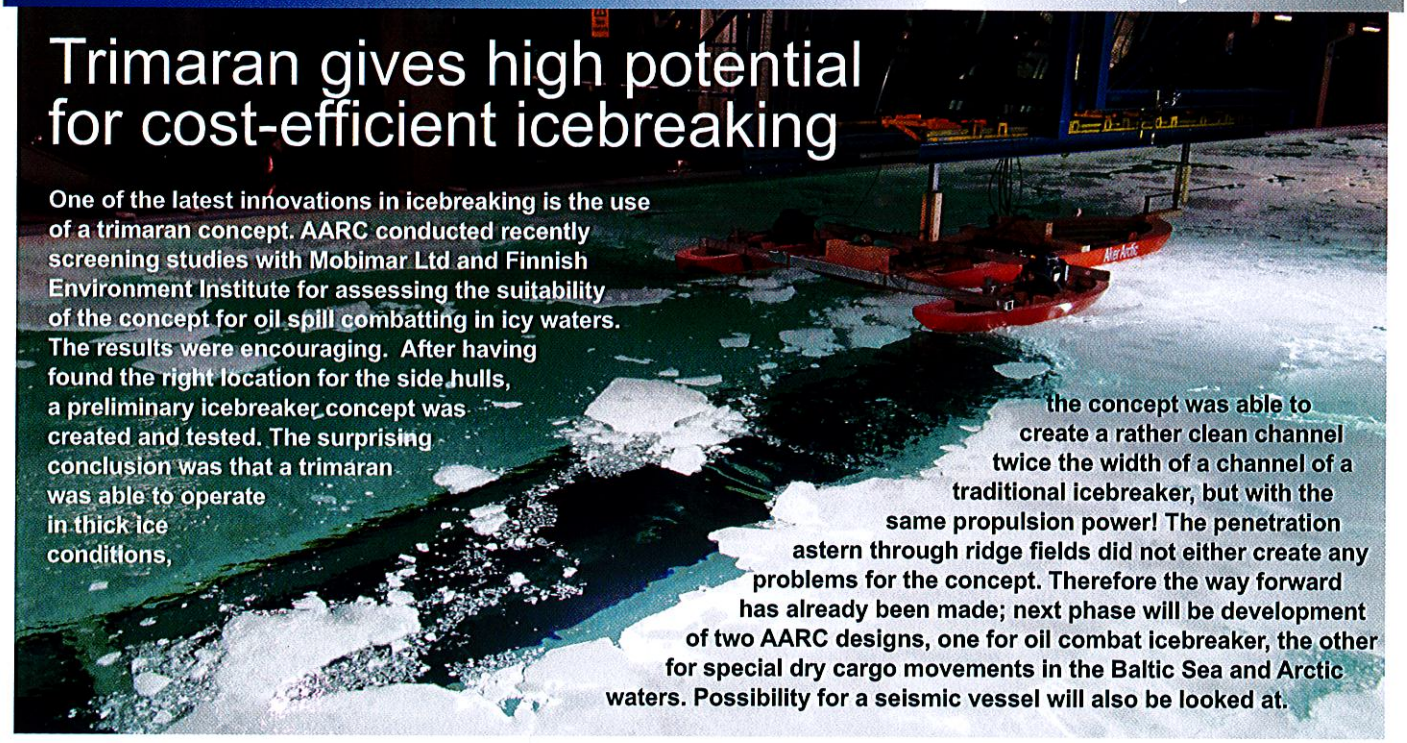
Trimaran gives high potential for cost-efficient icebreaking



One of the latest innovations in icebreaking is the use of a trimaran concept. AARC conducted recently screening studies with Mobimar Ltd and Finnish Environment Institute for assessing the suitability of the concept for oil spill combatting in icy waters. The results were encouraging. After having found the right location for the side hulls, a preliminary icebreaker concept was created and tested. The surprising conclusion was that a trimaran was able to operate in thick ice conditions, the concept was able to create a rather clean channel twice the width of a channel of a traditional icebreaker, but with the same propulsion power! The penetration astern through ridge fields did not either create any problems for the concept. Therefore the way forward has already been made; next phase will be development of two AARC designs, one for oil combat icebreaker, the other for special dry cargo movements in the Baltic Sea and Arctic waters. Possibility for a seismic vessel will also be looked at.

Offshore patrol vessel for the Finnish Border Guard

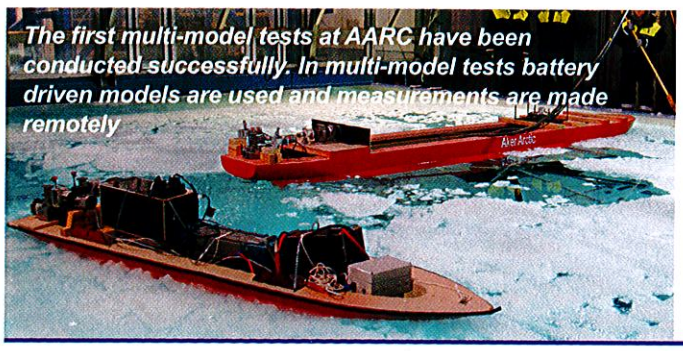
An LNG fuelled icebreaking offshore patrol vessel will be built for the Finnish Border Guard.

In December 2011, the Finnish Border Guard awarded to STX Rauma shipyard a contract on construction of a next generation offshore patrol vessel for delivery in November 2013. The highly advanced vessel will be 96 meters long and 17 meters wide and will be capable of serving a large variety of functions. The main duty of the offshore patrol vessel is to operate in open sea patrol. In addition to ensuring border safety and serving defence purposes, the vessel will be used for prevention of environmental damage, search and rescue, and different underwater assignments. The vessel is capable of operating in Baltic Sea ice conditions.

The Finnish Border Guard and the Finnish Environment Institute (SYKE) launched this project together and had earlier commissioned Elomatic in partnership with Aker Arctic for the feasibility verification and the concept design work.

The vessel complies with the client's functional specifications of excellent seaworthiness, sufficient speed (about 18 knots), efficient surveillance and communication capacity, efficient self protection and outfit for the special tasks, ability for oil spill collection also in winter conditions, capacity to collect and carry 1200 m³ of recovered oil/chemicals, capability to operate in a chemical disaster, emergency towing capacity up to 100 tons, provision of helicopter landing facility and launching and lifting of auxiliary craft in demanding sea states.

Multi model testing started



The first multi-model tests at AARC have been conducted successfully. In multi-model tests battery driven models are used and measurements are made remotely

Aker Arctic assists Royal Wagenborg with icebreaking support vessels

Aker Arctic has assisted Royal Wagenborg in the development of their next generation of Shallow Draft Ice Breaking Multi-Purpose Support Vessels (IMSV) now under construction.

Royal Wagenborg is currently constructing a pair of new ice breaking multi-purpose support vessels, *Sanaborg* and *Serkeborg*, at their Group yard Royal Niestern Sander in Delfzijl. These vessels are based on a platform design intended for operation in harsh weather and shallow ice-infested waters such as Wagenborg Kazakhstan B.V. encounters in the North-Caspian Sea. Aker Arctic has assisted Royal Wagenborg in the early phases of the development of the platform design especially for the stern-first icebreaking hull form and propulsion system, which will consist of two Wärtsilä developed 1,75 MW IcePods. The two new vessels are a further development based on the *Arcticaborg* and *Antarcticaborg*, which have been operating successfully for more than 13 years in the Kashagan project in the Northern Caspian waters. The new vessels, able to break 60 cm of level ice, have a length of about 70 meters, breadth of 14,0 meters and design draft of 2,5 meters.