

# New contracting service for shipbuilding

A new contracting service, where Aker Arctic takes full responsibility for ordering and delivering special components and systems for ice-going vessels from selected partners, is now available for shipbuilders.

When planning vessels and special constructions for ice conditions, technical expertise is necessary to understand the technical requirements of the components and systems. At Aker Arctic, we have many employees with a shipyard background, and therefore with extensive know-how in building ships and specifying requirements to material suppliers.

"We have noticed that our customers value this technical know-how combined with the delivery and commissioning of the actual component.

Therefore, we have started a few pilot projects to develop this service," Kari Laukia, head of ship design and engineering, explains.

"The idea is to use selected partners to manufacture the components. Then we take full responsibility for the design, delivery, installation and/or supervision and finally commissioning, with the final scope depending on the customer's needs. We guarantee that the component will work in the challenging ice conditions it is designed for," Laukia says.

These services are particularly intended to complement our own design projects with demanding material deliveries but are also available separately.

"The first pilot projects are underway. We are now developing this service, deepening our cooperation and fine tuning our working methods. Our plan is to incrementally add more products to the portfolio we can offer our clients," Laukia adds.

## Propeller delivery service



*Aker Arctic delivered the propellers for the arctic module carrier and supervised the installation.*

We have a profound understanding of propulsion concepts. When we design vessels, we also have to make sure that the chosen propulsion system fulfils the performance requirements. Taking care of delivering the propellers and/or shaftline components for vessels we have designed is therefore a natural extension of our service.

We take responsibility of the entire delivery process and our partner suppliers manufacture the propeller; e.g. by combining our vessel design with the propeller delivery, our customers can benefit from assured quality as well as cost efficiency.

"Our pilot project last year was delivering the high ice class propellers to the arctic module carriers, and that went very well," Laukia says. Read more about the project on page 7. ►

## Bridge service for ice vessels

The command bridge of an ice going vessel requires some additional design aspects compared to an open water vessel. In our normal design work, the bridge design is at a concept or basic design level, which means that there are still interfaces the shipyard needs to subcontract or do on its own. By going deeper into details in the bridge design, we can provide cost savings for the shipyard.

We can also deliver the necessary equipment as we cooperate with many suppliers. The equipment and design package can include plans for classification and the shipyard for the navigation and communication system, signalling equipment, consoles, lighting, interior, HVAC, preliminary steel construction plans for wheelhouse and

*We can provide cost savings for the shipyard by taking detail design into account already during the concept phase and utilizing standard solutions when possible. We can also deliver the necessary equipment as we cooperate with many suppliers.*

mast, bridge windows and wipers. The key idea is to include the bridge as an ongoing, unbroken process from early concept all the way to the finalised vessel. User feedback helps us to enhance future bridge design and supplies and is important throughout the entire process. Installation and supervision are also available as an option.

The simulator we have developed for simulation of ice operations and vessel behaviour in ice is a very useful tool in the detailed planning of the bridge. It can also be used to test a ship design in operational simulation, and even in ice conditions.



## On-site support in construction

We always support shipyards that build the vessels we have designed to ensure correct construction solutions and to avoid mistakes. Now, we are taking this support one step further by providing a support person on-site during construction. This person will focus on ice and cold related matters, which need special attention to achieve the required

quality, and ensure that the design details are kept during production phase. "The higher the ice class and the lower the design temperature, the more details there are that need to be done in a certain way. This service is especially important if a shipyard is building an ice vessel for the first time," Laukia emphasises.

The support service is, for instance, currently being provided to the Piriou Shipyard in France, which is building a new polar supply vessel (see page 9). We have agreed to provide on-site support during the construction period.

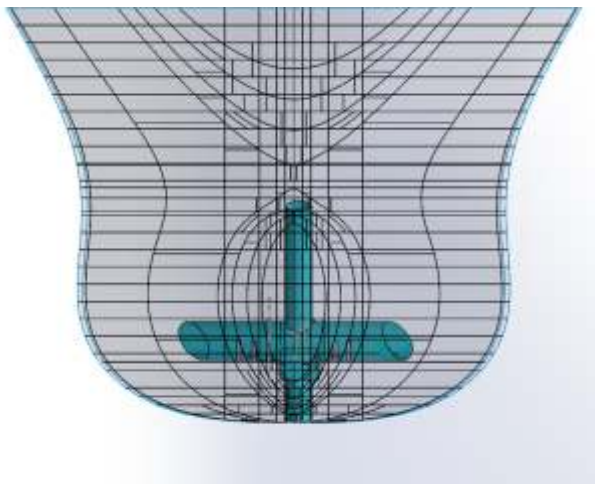
## Bow Flushing System

Environmental demands keep growing all the time. Aker Arctic has developed a new auxiliary system, the Bow Flushing System (BFS), which decreases ice resistance in ice channels for certain hull forms, consequently lowering the

propulsion power needed to maintain the vessel's original speed. This can be an advantage for instance for vessels of lower ice-class which are affected by the Energy Efficiency Design Index (EEDI).

Alternatively, when EEDI is not an issue, the vessel's speed can be increased

while using the original propulsion power, thus enabling the possibility for increased earnings. In harbours it is used as a normal side thruster, but in channel ice it becomes a vertical thruster. Bow form and bulb design must be done taking into account the BFS system in order to achieve best efficiency.



*Located in the bow of a vessel, Aker Arctic's new auxiliary system, the Bow Flushing System, decreases ice resistance for certain hull forms, lowering the propulsion power needed.*



*The simulator we have developed for simulating ice operations and vessel behaviour in ice is a very useful tool in the detailed planning of the bridge.*