Aker Arctic ten years

Aker Arctic celebrates ten years as an independent company this year. From an initial twelve persons, we are today a world-renowned company in arctic technology with close to fifty employees and a turnover of 10 million euros. However, our history begins nearly five decades earlier.

It is 1969 and the 106 000 DWT tanker SS Manhattan tries to prove that the Northwest Passage is a viable commercial route for shipping oil from the Arctic. Humble Oil has modified her for the task with the assistance of Finnish Shipbuilding Company Wärtsilä, which is experienced in building icebreakers. The SS Manhattan gains valuable experience during the voyage through the Northwest Passage and this full-scale experiment with the (at that time) largest U.S. flag vessel operated by Esso (Exxon) marks a significant milestone in arctic transports.

Along this development Esso (Exxon) initiates the idea of an ice model basin, where the performance of the SS Manhattan and possible future vessels is to be tested. Wärtsilä decides to follow through and the first ice model-testing basin in Finland, Wärtsilä Icebreaking Model Basin (WIMB), is ready in 1969.

Ten years later, Wärtsilä decides to expand its ice research facilities and Wärtsilä Arctic Research Centre (WARC) is inaugurated in 1983. This bigger and better facility also serves universities for research purposes and the solid foundation of our cutting edge ice knowledge is established. Unfortunately Wärtsilä Marine goes bankrupt at the end of the 1980s and as a result a new shipbuilding company, Masa-Yards is founded. It takes over also the testing facility and ice research continues under a new name, Masa-Yards Arctic Research Centre (MARC), which later becomes part of the Norwegian Kvaerner group.

Uncertain times

Mr Mikko Niini, previous Managing Director of Aker Arctic remembers how the future of the ice research laboratory was uncertain many times during those years.

"The 1990s were difficult times, the Soviet Union collapsed and our joint projects stopped. Luckily, western oil companies began investing in Russia - in Sakhalin in particular - and subsequently became interested in our services, so we survived. During this time the azimuthing electric thruster was developed, which lead to the revolutionary Azipod® product and Double-Acting Ship concept (DAS™) we invented and developed for ice navigation. The big change for us came when Aker took Kvaerner over and the new management decided to separate the research centre from the local shipbuilding entities. In 2004 I was given the task of managing the change and building a new research facility, but first I needed to find enough partners willing to invest money in it. In addition to Aker Yards, and after many discussions with potential partners, the joint owners became Aker-Kvaerner Oil & Gas, Wärtsilä and ABB."

A day of celebration

"Aker Arctic Technology Inc started operations in January 2005 with 12 persons and from there we began to build our identity as an independent global ice partner," Mr Niini continues.

"At the end of 2005, Aker decided to focus on vessels other than icebreakers and we were able to pick eight key ship designers from Helsinki Shipyard to join us. Two months later, our new facility in Vuosaari Marine Business Park was ready and we could move in. On the inauguration day Mr Göran Wilkman, one of our founding employees, was in the Arctic for full-scale tests of Norilskiy Nickel's first vessel. Through a live call he told us that the vessel had clearly surpassed all design targets – it was a day of double celebration."

Entire ship design projects

"In the beginning, our business was model testing and consulting work but step-by-step we have expanded our services in order to manage complete projects. In addition we provide training for ice operations, which by recent development of the ice simulator now can be carried out with advanced tools. We have built up an organisation that can carry out entire ship design projects in partnership with our customers," says Mr Reko-Antti Suojanen, Managing Director of Aker Arctic.

“Typical for arctic projects is that they extend over a long period of time. From the initial preparations to design, construction and verification, the timeframe can be up to ten, even twenty years. We have become used to this timeframe throughout our long history and have to date many successful complete design projects behind us.

2005 Aker Arctic Technology Inc
We began independent operations in January 2005.

Our roots are in shipbuilding, which makes it easy for us to communicate with shipyards and support them in construction. One growing focus area is offshore projects and fixed structures for the Arctic."

Competence transfer

A few years ago, some of our most experienced employees started to reach the age of retirement and therefore a competence transfer program was set in place to transfer know-how and skills to the new generation of ice experts.

"The competence transfer and the education programs we have for training current and new employees have been successful. Our workforce is steadily growing, with young, bright engineers with a passion for ice swelling our ranks, and soon we will reach a new milestone of 50 permanent employees," adds Mr Arto Uuskallio, Sales and Marketing Manager.

"Looking back at the past ten years, our company has grown and developed through our different customer projects. It is a step-by-step learning curve where the outcome from one project helps us in the next. As a service company, we will continue to develop in ways which will best support our customers in their future projects," Mr Suojanen emphasises.

2013 Ownership changes
The Finnish Government owned investment company, Finnish Industry Investment Ltd, acquired a majority stake of the shares (66,4%) of Aker Arctic from STX Finland in order to keep arctic marine know-how in Finland. Other current minority owners are ABB Oy Finland and Aker Engineering and Technology AS from Norway with 16,8% of shares each.

2014 Turnover reaches 10 Million euros
From twelve persons and a turnover of 3,6 million euros, we are today a world-renowned company in arctic technology with close to fifty employees and a turnover of 10 million euros.

2005 Prirazlomnoye
Our first basic design project, which was an entire ship design project. It gave us the confidence to use the wide range of our know-how to serve our customers. As we had been part of a shipbuilding company, we wanted to stay hands-on in shipbuilding and to receive feedback also directly from the shipyards.

2006 Vuosaari facilities ready
Our new office building and model testing facility in Vuosaari Marine Business Park was ready and Aker Arctic personnel moved in.

2006 Norilskiy Nickel arctic container vessels
Breakthrough vessels with the new, revolutionary Double-Acting Ship (DAS™) technology we developed. Today this technology is more or less the standard in arctic vessels. These were among the first ships to operate year-round in the Arctic and proved that it is possible.

2007 Varandey arctic shuttle tankers
The pioneering trio of arctic tankers designed specifically for the project, built by Samsung and owned by Sovcomflot began to transport crude oil in the Russian Arctic region without icebreaker assistance for the first time in the world.

2010 Yamal LNG project
Development work for the Yamal LNG exports had already begun in the 1990s and continued until 2006. In 2010 the Yamal LNG project moved ahead and we have been involved in the planning and design development of LNG-carriers, Sabetta harbour as well as designing the port icebreakers to ensure efficient all-year operations.

2010 Ice simulator
Aker Arctic's ice simulator was introduced and has been continuously improved since. The simulation tool can be used both for planning vessels and operations and for training the crew.

2010 Turret mooring system
Turret mooring system introduced at the model testing facility. The amount and the characteristics of the mooring lines can be changed according to specifications.

2011 Oblique icebreaker
The first unit of the unique Aker Arctic developed oblique icebreaker concept was ordered by the Russian Government. Initial development work for this concept was underway already in the 1990s, an example of how the time-span for arctic projects can be decades long.

2009 Caspian Sea shallow draught icebreaker tugs
Five shallow draught icebreaking tugs for independent year-round operations in the North Caspian Sea. A basic design project where we also supported the shipyard until all vessels were ready and delivered.

2011 Multimodel testing
Multimodel testing began at our model testing facility. Several vessels can be tested at the same time, which is especially important in testing and visualising ice management operations.

2012 Canadian polar icebreaker
We became a member of the design team for the new polar icebreaker for the Canadian Coast Guard with responsibilities for all ice related technologies.

2012 Chinese polar research icebreaker
Conceptual and basic design began for the highly advanced polar research vessel for China.

2013 Finnish LNG-fuelled icebreaker
The world's first LNG-fuelled icebreaker was ordered by the Finnish Transport Agency. We created the concept design and are also actively involved in the construction together with the owner and the shipyard.

2014 Arctic module carrier
Development of two PC3 class module carriers, which can operate year-round in delivering construction modules from Europe and Asia to the LNG-plant in Sabetta. Design work was carried out in close cooperation with ZPMC-Red Box Energy Services. We are currently supporting the two vessels' construction work in China.