

## **Marinette Marine launches Arctic research ship**

Written by DAN JOLING The Associated Press

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ANCHORAGE, Alaska — A new \$200 million tool for Arctic marine research is nearly complete at a Wisconsin shipyard.

After the crack of a champagne bottle Saturday, the 261-foot Sikuliaq (pronounced see-KOO-lee-ack) — named for the Inupiat word for young sea ice — slid from a steel cradle and bobbed upright outside the Marinette Marine Corp, facilities in Marinette.

When the National Science Foundation vessel begins research missions in 2014, the Sikuliaq will fill a void in Arctic study that has become more noticeable with the profound recent melting of summer sea ice and accompanying northern activity, from offshore petroleum development and ecotourism to possible new trade routes.

"There's going to be a lot of new information that comes from this vessel," said Terry Whitledge, a chemical oceanographer at the University of Alaska Fairbanks, which will operate the vessel.

Marinette Marine has completed 75 percent of the vessel. After six to eight more months of construction and then sea trials, it's expected to reach its home port of Seward in January 2014.

The vessel's reinforced double hull can be pushed through ice 2.5 feet thick by two rotating thrusters and scalloped propeller blades.

Researchers in recent years have hitched rides on other federal vessels including the Coast Guard light icebreaker Healy but working from cutters is not ideal because science takes a back seat when other Coast Guard priorities kick in, Whitledge said.

The University of Alaska has been seeking a new vessel for decades. A former NSF research ship stationed in Alaska, the Alpha Helix, was taken out of service in 2004 and was flawed for Arctic use. Its original design included no winches that could lower sampling equipment over the side. Just 125 feet long, the ship had to head for cover in big water.

"We essentially didn't go to the Bering Sea in the winter," Whitledge said.

Replacements were designed three times but not funded. A fourth was "shovel ready" in 2009 when economic stimulus money became available.

Hundreds of scientists offered suggestions, Whitledge said. The ship will operate 30 weeks per year with up to 24 scientists on board. The ship will be able to collect water samples, deploy heavy and light gear, and map ocean bottom with a "multi-beam" system.

"There's lot of these acoustic beams going down, and when they come back, we can construct a three-dimensional picture of the bottom — canyons, seamounts, the symmetry of the region," Whitledge said.

The Sikuliaq will have side-scanning sonar for fisheries assessment. It will be able to profile sediment 50 to 70 meters deep, Whitledge said.

The vessel will have multiple cranes, some with special attachment gear that can pick up remotely operated underwater vehicles or other equipment without the danger of attaching a line. A double articulated A-frame crane off the stern will deploy loads that weigh tens of tons. The ship's versatility lends itself to missions with research in geology, physics, chemistry fisheries and other disciplines.

"This vessel has enough different options so we can do almost all of those without changing the gear," he said.

Nearly 100 feet of clear stern deck that can be used to collect long sediment cores revealing ocean history will be a huge asset, he said.