

Military tests unmanned ship designed to cross oceans

May 2 2016, by By Julie Watson

The military is launching tests on the world's largest unmanned surface vessel—a self-driving, 132-foot ship designed to travel thousands of miles out at sea without a single crew member on board.

The so-called "Sea Hunter" has the potential to revolutionize not only the military's maritime service but commercial shipping—marking the first step toward sending unmanned cargo vessels between countries, according to military officials, who showed off the ship in San Diego on Monday before it was put in the water.

The Pentagon's research arm, the Defense Advanced Research Projects Agency, or DARPA, developed the ship along with Virginia-based Leidos. DARPA will test it in conjunction with the Navy over the next two years off California's coast. The tests will largely focus on its ability to react on its own to avoid collisions with seafaring traffic.

During the testing phase, the ship will have human operators as a safety net, but once it proves to be reliable, the autonomous surface vessel will maneuver itself—able to go out at sea for months at a time.

Program manager Scott Littlefield said there will be no "remote-controlled driving of the vessel," instead it will be given its mission-level commands telling it where to go and what to accomplish and then software will enable it to drive itself safely.

The military initially built the diesel-powered ship to detect stealthy

electric submarines, but developers say they believe it has the capability to go beyond that, including doing mine sweeps. There are no plans at this point to arm it.

"There are a lot of advantages that we're still trying to learn about," Littlefield said.

Among them is the possibility that the full-size prototype could pave the way to developing crewless cargo vessels for the commercial shipping industry someday, he added. Countries from Europe to Asia have been looking into developing fleets of unmanned ships to cut down on operating costs but the idea has sparked debate over whether it's possible to make robotic boats safe enough to run on their own far from land.

The International Transport Workers' Federation, the union representing more than half of the world's more than 1 million seafarers, has said it does not believe technology will ever be able to replace the ability of humans to foresee and react to the various dangers at sea.

The "Sea Hunter" was built off the Oregon coast, and moved on a barge to San Diego's coastline to begin testing. The prototype can travel at a speed of up to 27 knots per hour, and is equipped with a variety of sensors and an advanced optical system to detect other ships, Littlefield said.

The program to develop the ship cost \$120 million, though Littlefield said the vessels can now be produced for about \$20 million.

During the collision tests, the ship will be programmed to follow international traffic rules for boats of its size, Littlefield said. There are no standards for unmanned ships yet, but he believes that could change if vessels like this one make it out of the experimental stage.

The Navy over the years has experimented with a number of unmanned systems—from drone helicopters to small, remotely controlled boats launched from ships. The Pentagon's budget over the next five years calls for investing in more high-end Naval ships, including \$600 million to be invested in unmanned undersea vehicles.

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Citation: Military tests unmanned ship designed to cross oceans (2016, May 2) retrieved 26 April 2024 from <https://phys.org/news/2016-05-military-world-largest-unmanned-ship.html>

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