ONR's autonomous underwater hull inspection vehicle nearing procurement

April 7 2011

The Explosive Ordnance Disposal Hull Unmanned Underwater Vehicle Localization System can maneuver under ships to detect explosives. Funded by the Office of Naval Research, is closer to reality following the awarding of a production contract in March. Credit: Courtesy photo

An Office of Naval Research (ONR) autonomous underwater vehicle, which can maneuver under ships to detect explosives, is closer to reality following the awarding of a production contract in March.

Since that award, ONR researchers have been preparing for a demonstration of the Explosive Ordnance Disposal Hull Unmanned Underwater Vehicle Localization System (EOD HULS) in June at Naval

Surface Warfare Center Panama City, Fla.

That test will be the last with the full system, said Dr. Thomas Swean an ONR research scientist.

"This will be a big demonstration of our capabilities. The system will go into the water to survey a ship," he said. "ONR developed an unmanned underwater vehicle (UUV) that could maneuver in very tight and complex areas."

On March 2, Massachusetts-based Bluefin Robotics was awarded a $30 million contract to produce EOD HULS. The goal is to develop a small and affordable autonomous vehicle that can inspect ships for anomalies.

Previously, teams of divers had been required to carry out inspections of hulls. That work often took hours to complete on vessels that could be as large as container ships, Swean said.

HULS evolved from the Hovering Autonomous Underwater Vehicle, an ONR initiative awarded to Bluefin and the Massachusetts Institute of Technology (MIT) in 2002. Bluefin designed the vehicle while MIT developed the control systems.

The EOD program office then turned the idea into the EOD HULS program with initial funding that started in 2006.

Three bids were received for the initial development phase, and the Bluefin team was selected. Under phase two, Bluefin developed prototype systems. Those UUVs passed all testing, leading to the March contract award for procurement of EOD HULS.

Besides the platform itself, ONR is also involved in developing many of the sensors being used on EOD HULS, Swean said. "Some date from as

far back as the early 1990s."

Provided by Office of Naval Research