



News Release

Defense Advanced Research Projects Agency

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FOR IMMEDIATE RELEASE

December 28, 2010

ACTUV Program Initiates Concept Designs

As new submarine classes achieve ever increasing levels of acoustic quieting and operational performance, tracking foreign submarines has become more difficult. Some modern diesel electric submarines are able to challenge conventional tracking approaches, risking future U.S. capability in the undersea battlespace. The Defense Advanced Research Projects Agency (DARPA) has initiated the Anti-Submarine Warfare (ASW) Continuous Trail Unmanned Vessel (ACTUV) program to address this deficiency.

The ACTUV concept is based on an independently deployed unmanned naval vessel optimized for continuous trail of quiet submarines. "It will be a clean sheet unmanned ship design with no person stepping aboard at any point in its operating cycle," said Rob McHenry, DARPA program manager. "ACTUV will enable unique architectures for robust platform performance across a range of conventional and non-conventional missions, as well as cost-effective fabrication approaches."

The program seeks to advance autonomous operations technology with a goal of full compliance with safe navigation requirements while executing its tactical mission under a sparse remote supervisory control model. Finally, ACTUV will leverage its unique characteristics to employ a novel suite of sensors capable of robustly tracking quiet diesel electric submarines to deliver a game changing operational capability that puts asymmetric tactical and economic advantages in the United States' favor.

Based on lessons learned from the six month Phase 1 effort, DARPA will define a system performance specification to serve as the basis for subsequent competition for prototype system design, construction and at-sea demonstration.

Six contractor teams will support the development of concept designs for the ACTUV system, and execute risk reduction activities for key technology enablers. Integrated system concept design teams include Northrop Grumman Undersea Systems, based in Annapolis, Md.; Science Applications International Corp (SAIC) Intelligence, Security, and Technology Group, based in Long Beach, Miss.; and Qinetiq North America Technology Solutions Group, based in Waltham, Mass. Conducting development and demonstration of key enabling technologies are the University of Washington Applied Physics Laboratory, in Seattle, for testing of high frequency active sonar for acquisition and tracking of submarine targets; Spatial Integrated Systems, based in Kinston, N.C., for development and at-sea demonstration of unmanned surface vessel autonomous algorithms for submarine tracking and Rules of the Road compliance; and Sonalysts, based in Waterbury, Conn., for development of an exploratory crowd-sourced tactics simulator.

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