

# Unmanned U.S. frigates to stalk submarines (w/ Video)

February 4 2010, by Lin Edwards

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U.S. Navy combat ship Freedom (LCS 1).

(PhysOrg.com) -- In the U.S. the Defense Advanced Research Projects Agency (DARPA) is planning to introduce unmanned frigates for long missions shadowing diesel-electric submarines.

The vessels, dubbed *Anti-Submarine Warfare Continuous Trail Unmanned Vessels* or ACTUVs, are designed to be unmanned, with only intermittent communication from operators on shore or on a ship, and to require no maintenance for months. They will also obey navigational rules and be able to avoid collisions at sea.

The three main objectives of the program are to build an “X-ship” that operates without anyone stepping aboard at any point in its operating cycle, secondly to demonstrate the technical viability of the system under “sparse remote supervisory control”, and thirdly to demonstrate the anti-

submarine capability of the vessel and its “novel suite of sensors”. The ACTUV is unlike other unmanned vessels in that it is designed for global, independent deployment for months at a time.

Proponents claim crewless vessels would save the U.S. Navy money and free the expensive crewed ships from the routine work of continuously cruising the oceans shadowing submarines. The unmanned frigates would locate a [submarine](#) by “pinging” with active sonar to detect the submarine’s echoes, which means those on the submarine would know they have been detected. While nuclear submarines may be fast enough to escape the stalking frigate, fast and quiet diesel-electric submarines would not.

Other unmanned vessels are already in use, with Israel deploying Unmanned Surface Vehicles (USVs), mainly for surveillance purposes, and the U.S. Navy deploying unmanned drones from its submarines.

[DARPA](#) is the research and development section of the U.S. Department of Defense, which is charged with the job of maintaining the U.S. military’s technological superiority and avoiding technological surprises that could threaten the nation’s security. It will host an unclassified “Industry Day” conference on the ACTUV program at the Liberty Conference Center in Arlington, Virginia on February 16 to discuss the program and address any questions.

**More information:** [FBO announcement \(pdf\)](#)

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