

# Raytheon to Demo Unmanned Single-Sortie Mine Sweeping for Navy at ANTX 2019



An AQS-20C aboard an unmanned surface vehicle, which will be part of the single-sortie mine neutralization concept demonstration at ANTX 2019 the last week of August. The Raytheon Co.

ARLINGTON,

Va. – The Raytheon Co. is ready to demonstrate a single-sortie mine

neutralization concept using systems it developed or is developing. The

technology will be demonstrated at Newport, Rhode Island, during the last week

of August at ANTX (Advanced Naval Technology Exercise) 2019.

The Raytheon plan

is to demonstrate “detect to engage” sea mines using unmanned systems, Andy

Wilde, director of strategy and business development for Raytheon Undersea, said

in an Aug. 15 interview with *Seapower*.

Wilde said that

unmanned systems will “revolutionize” mine countermeasures (MCM) that currently

take weeks or months to clear minefields and put minesweepers at risk. The Navy

is developing an MCM mission package for the littoral combat ship (LCS) that

will rely largely on unmanned systems.

The concept for single-sortie mine neutralization is shown in this video. The Raytheon Co.

Raytheon will demonstrate its AQS-20C towed sonar, now in production, pulled through the water by a riverine craft acting as a surrogate for the Textron-built MCM unmanned surface vehicle (MCMUSV) that will be a component of the MCM mission package for the LCS.

Under the concept, an MCMUSV is launched from an LCS and deploys the AQS-20C. Once a possible sea mine is detected by the AQS-20C's synthetic aperture sonar, a Barracuda expendable semi-autonomous mine neutralization unmanned undersea vehicle is – on the same pass – launched into the water from a A-size sonobuoy launcher on the MCMUSV.

The Barracuda deploys a float that serves as an RF datalink to the CUSV and an acoustic data link to the Barracuda. The tactical mission plan is downloaded from the LCS to the Barracuda via the CUSV. The Barracuda starts a search track and, once it acquires a mine, it maintains position at the mine. The operator on the LCS confirms the object is a mine and commands the Barracuda to detonate the mine with a charge. The MCMUSV would then continue its mission on its planned track.

Raytheon will have a time slot during ANTX 2019 in Narragansett Bay to run its MCM system through several geometric patterns, Wilde said.

He said his company is looking to take advantage of artificial and machine learning to optimize the performance of its systems.

He also said the MCM mission concept could be expanded to other missions, including by use of a B-size sonobuoy launcher with other payloads.

The AQS-20C sonar is now in production. Raytheon currently is developing the Engineering Development Models of the Barracuda and recently completed the Navy's Preliminary Design Review.