

# AN/AQS-20X Minehunting Sonar and Tow Vehicle (all variants)



In May 2023, the Navy declared initial operational capability of the AN/AQS-20C, referred to as “Minehunt,” as deployed from the Mine Countermeasures (MCM) Unmanned Surface Vehicle (USV). The Navy intends to complete IOT&E of MCM USV and Minehunt in FY24 upon completion of its cyber survivability evaluation. DOT&E will report operational effectiveness, suitability, and cyber survivability after completion of IOT&E.



## SYSTEM DESCRIPTION

AN/AQS-20C projects acoustic energy (i.e., active sonar) and records returning acoustic energy from its surrounding environment. The AN/AQS-20C is powered by and towed from the MCM USV. This combination, or MCM USV and Minehunt, deploys from the littoral combat ship (LCS) as a component of the MCM Mission Package (MP) or can deploy independently from ashore.

A remote USV operator uses MCM USV and Minehunt to search along pre-planned tracks using a radar and camera surveillance suite to redirect the MCM USV and Minehunt if needed to avoid obstacles and other watercraft. The system also provides sensor status and sonar information to a remote payload operator. Operators can analyze recorded data from the MCM USV and Minehunt after its return to the LCS, or shore, to identify and localize potential mines. Sailors can also configure the MCM USV to tow a mine sweep payload, and in that configuration the system is called the Unmanned Influence Sweep System.

## MISSION

Commanders will deploy MCM USV and Minehunt from the LCS, or ashore, to identify and localize moored and bottom mines in sea lanes, straits, choke points, fleet operating areas, and amphibious objective areas. Other systems are then used to neutralize existing

mines. The Navy intends for the LCS MCM MP with the MCM USV and Minehunt to replace the functionality provided by the *Avenger*-class MCM ships and MH-53E Sea Dragon MCM helicopters.

## PROGRAM

MCM USV and Minehunt is an Acquisition Category II program. The Navy declared initial operational capability of MCM USV in April 2022 and Minehunt in March 2023. DOT&E approved an update to the MCM USV and Minehunt Test and Evaluation Master Plan (TEMP) in January 2023. The cyber survivability test of MCM USV and Minehunt will be conducted in conjunction with the LCS MCM MP testing and will be resourced in the LCS TEMP.

### » MAJOR CONTRACTORS

- Textron Systems – Hunt Valley, Maryland
- Raytheon, a subsidiary of RTX (formerly Raytheon Technologies) – Arlington, Virginia
- Bollinger Shipyards – Lockport, Louisiana

## TEST ADEQUACY

The Navy conducted several IOT&E events in August and September 2022 which included LCS-based and shore-based functionality testing. The LCS-based testing was conducted in conjunction with the LCS MCM MP IOT&E and observed by DOT&E. Some

test events were inconsistent with the DOT&E-approved test plan and required added test. The remaining IOT&E event, the cyber survivability evaluation of the MCM USV and Minehunt, is scheduled to be conducted in 3QFY24 to complete IOT&E.

## PERFORMANCE

### » EFFECTIVENESS AND SUITABILITY

DOT&E will provide a classified IOT&E report that details operational effectiveness and suitability in FY24 after completion of IOT&E.

### » SURVIVABILITY

Insufficient data are available to determine cyber survivability of MCM USV and Minehunt. DOT&E will provide a classified IOT&E report that details cyber survivability after completion of the required cyber survivability test of MCM USV and Minehunt in FY24.

## RECOMMENDATIONS

The Navy should:

1. Identify and correct all observed AN/AQS-20C software failures from operational test and then conduct FOT&E of MCM USV and Minehunt under operationally representative conditions.
2. Complete IOT&E in accordance with the DOT&E-approved test plan.