

### Radio communications below deck can be patchy

United States Coast Guard (USCG) Fast Response Cutter (FRC)-based teams conduct routine inspections of fishing vessels. Radio communications inside the vessels can be inconsistent, forcing inspection teams to make multiple trips in and out of the vessel to coordinate information. Additionally, real-time photos and videos would streamline inspections and save FRC inspection teams valuable time.

### M2C2 shares photos in real time

Mobile Maritime Commercial Communications (M2C2) systems allow operational units to provide situational awareness and communicate with their dispatchers in real-time. Originally designed for use in remote, maritime, and hard-to-reach military operations where telecommunication services are limited, M2C2 is suitable when a single, permanently stationed command post might not be able to communicate well with operators on the move. USCG, in cooperation with the Department of Homeland Security Science and Technology Directorate (S&T), conducted test and evaluation of M2C2 system during April 2018 at the Joint Interagency Task Force South, Key West, Florida. The tests aimed to demonstrate M2C2 capabilities to share pictures and other media content in real time between the FRC and dispatch inspection teams.

### Demonstrations of three main use cases

The M2C2 team included a program management team, test operators, and a Knowledge Management team. Two operators from the FRC participated in the test event, using radios and an M2C2 system including a mobile device, Wi-Fi SATCOM, Mobile Awareness GEOINT Environment (MAGE), and a seized former drug boat, the “GOTCHA.”

Tests were focused on three main use cases:

- Initial system set-up and evaluation
- Performance evaluation on the FRC
- GOTCHA integration and simulation with the FRC

The team first set up the system on the FRC and conducted unit and functionality tests. They then conducted unit measurements of the entire configuration process and documented performance results and process duration to establish a baseline for performance, and to create a training platform for future system operators.

The test measured total time to connect, total time to confirm delivery and receipt of a transmission, bandwidth used, and other objective measures; as well as ease-of-use, as reported by the operators using the system as tested. The tests proceeded with vignettes and evaluations starting in the bridge area, on the first deck, and on the lower deck, using both Wi-Fi and radio communications, as operators moved around the FRC, simulating an inspection.



M2C2 tests aboard the USCGC William Trump FRC.

### Anticipated milestones

- Operational demonstrations with a partner nation
  - USCG FRC routine inspections
- Potential National Geospatial-Intelligence MAGE and Cooperative Situational Information Integration tech refreshes

