



MCM C2 using an UAV as a relay platform



AT A GLANCE

WHAT IT IS:

The system comprises an Unmanned Surface Vehicle (USV) deploying and operating a tethered rotary wing Unmanned Air Vehicle (UAV) that carries a radio and other sensors.

HOW IT WORKS:

The USV is deployed with the Unmanned Underwater Vehicles (UUVs) from the Command Ship outside the mine threat area. When UUVs surface at intervals during the mission the UAV is able to communicate with the UUV to exchange data packets via the Radio link. These data packets are relayed back to the command ship to enable processing of the data before the UUV mission is complete.

WHY IT IS IMPORTANT:

Current operations are restricted by the time taken to collect and then process data captured by the UUV. This delays follow-on missions to relocate and take action on any mine like contacts identified. Further, a manned vessel currently has to enter the threat area and remain in the vicinity to launch and recover the UUVs and communicate with them.

**Unmanned Warrior is part of exercise Joint Warrior 2016, hosted by the United Kingdom off the North-West coast of Scotland.*



The MCM C2 combines air, surface and sub-surface unmanned assets for the first time to speed the operational pace and reduce the detect-to-engage timeline in naval mine warfare. It also enables military personnel to operate further away from high risk areas.

Unmanned Warrior provides a means to investigate new equipment and designs capable of operating in harsh maritime conditions. The exercise is a very important step in the development of this concept, and while only the rotary wing UAV will be deployed this time, the geography of the trials area will help further define capabilities and limitations of the current technology. Additionally:

- Demonstrate the ability to operate in a multi-national force
- Advance interoperability with other systems
- Further the collaborative research between partner nations

Principal investigators include: the Space and Naval Warfare Systems Center, Pacific, Naval Undersea Warfare Center, Rhode Island and internationally with both Defense Science Technology Laboratory in the United Kingdom and Defense Research Development Center in Canada.

Research Objectives for US in Unmanned Warrior 2016:

- Deployment and operation in a harsh environment.
- Achieving stable and repeatable communications over a useful range.
- Interoperability with international C2 systems.