



ECA Group demonstrates multi-simultaneous MCM drone operation during MCM Trials 2017



ECA Group demonstrated the capability to deploy simultaneously its AUVs, USV and ROVs to perform MCM operation, within the framework of the Belgian Navy evaluation of Unmanned Maritime Systems 2017.

Since 1970's, legacy MCM operations, consist of employing a dedicated Minehunter equipped with dual frequency hull mounted sonar for Detection and Classification of sea-bottom objects, and Remote Operated Vehicles for Identification and Neutralization. The recent evolution of drone technology enable them to collaborate, to be increasingly autonomous and have enhanced operability distance. MCM operations are now about using multi-type unmanned platform swarms to drastically increase the capabilities of a single support ship whilst reducing the time of operation and ensuring crew safety.

In the harsh subsea conditions of the North Sea including (poor visibility and strong currents), ECA Group has deployed from the Coastal Patrol Vessel (CPV Pollux) of the Belgian Navy, its **Unmanned MCM Integrated System (UMIS)** dedicated to underwater mine warfare composed of an **AUV A9-M** and an **INSPECTOR Unmanned Surface vehicle** itself deploying two **SEASCAN MK2** ROVs.

In parallel, the long range A27-M, has also been operated from the same CPV with the support of ECA Group personnel.

This complete set of vehicles was deployed within an evaluation area for a predefined MCM mission. Through its radio and acoustic communication links, ECA Group systems were able to demonstrate their capability to operate in parallel, with real-time cooperative actions, whilst maintaining operators aboard the CPV in a safe zone several kilometers outside of the mine field. After only a few minutes the first contact snapshots automatically generated by the Automatic Target Detection software embarked in the **AUV A9-M** relayed by the USV were received and the classification process could immediately start whilst the AUV continued its survey mission following a subsea preprogrammed pattern.

The USV **INSPECTOR** was immediately sent to the location of the shortlisted classified contacts to deploy the **SEASCAN** inspection vehicle. This **ROV** was remotely operated using the subsea optical fiber from the **USV** and the latter's radio link to the operator aboard the CPV in order to carry out the final visual camera identification.

All the collected data from this operation is to be examined by the Belgian Navy in order to evaluate the performances of the ECA Group unmanned MCM integrated system.