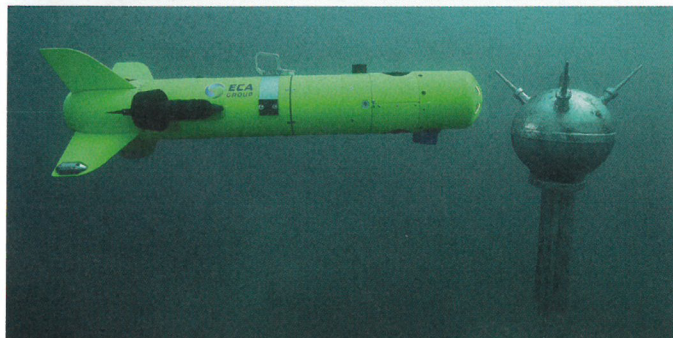
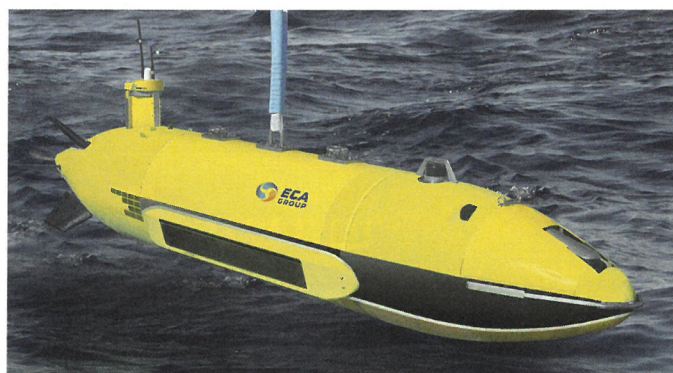


## New Punch in the Maritime Domain



ECA Group's waterjet-powered INSPECTOR Mk2 is a commercial boat-based USV that can be equipped with LARS for launching AUVs like SEASCAN Mk2 (top), K-STER (below), and A-9M. (Photos: Courtesy of Victor M.S. Barreira)

**ECA Group** promotes a number of new robotic/unmanned underwater mine disposal systems. At Euronaval 2016, the company unleashed a new Unmanned Surface Vehicle (USV), to complete its family of Unmanned Maritime Systems (UMS). The new vehicle is named INSPECTOR Mk2, which, according to ECA Group officials in Le Bourget, is designed to perform detection and identification of mine threats in very shallow waters such as harbours and amphibious landing areas. The new USV can be fitted with the company's Launch and Recovery System (LARS) for deploying inspection (SEASCAN) and neutralisation (K-STER C) drones. A high data-rate radio-link enables real-time Mine Countermeasures (MCM) missions that can be supervised by operators on-board a nearby mothership.



Top: The A27-M AUV was recently selected for a bilateral MCM programme. Below: The SEASCAN Mk2 identification vehicle offers enhanced endurance and a video and sonar capability. (Photos: Courtesy of ECA Group)

Fifteen years ago, the company initiated studies on Autonomous Underwater Vehicles (AUVs) for mine detection and classification. In 2005, it was awarded by the French DGA procurement agency to develop an AUV able to carry different sensors to perform seabed survey and detect mines. This prototype was named after a fish (DAURADE) and fitted with advanced technology sensors. It opened the door for a whole operational family of AUVs, the first one of which has been the A27-M. In 2011, the DGA awarded ECA Group to develop and manufacture a "man portable" AUV, dubbed AUV A9-M. It has been designed to conduct detection and identification tasks in shallow waters and obstructed areas where a traditional Mine Countermeasures Vessel (MCMV) cannot operate with its hull-mounted sonar. Fitted with a high-resolution sidescan sonar, the AUV A9-M is able to survey more than 1sq.km per hour with a resolution of 3-10cm, and detect any kind of seabed obstacle in shallow waters down to 200m. As any other AUV, it can be operated by Explosives Ordnance Disposal (EOD) teams and Special Forces in highly risky areas close to an enemy's shoreline.

The man-portable AUV A9-M is a lightweight system dedicated to Mine Warfare missions. Its advanced design enables the vehicle to operate in minefields without the risks of detonating a mine or explosive, which is thanks to its very low-level of acoustic and magnetic signatures. Fitted with a high-resolution sonar, the vehicle offers accurate seabed imagery. This capability enables the operator to detect and classify mine-like objects in complex terrain.

More recently, ECA Group completed its AUV family by introducing the mid-size AUV A18. More compact and lighter than the AUV A27, it offers longer endurance and ultra high-resolution imagery obtained from a Synthetic Aperture Sonar (SAS). Additionally, the vehicle carries a Volume Search Sonar (VSS) for detecting and identifying mooring mines in the water column. ECA Group informed *NAVAL FORCES* that with this sensor payload the vehicle offers a survey capability exceeding 2sq.km per hour at a constant resolution of 3cm. With these characteristics, according to the company, the AUV A18 provides a "much better performance" than any other hull-mounted sonar. The first AUV A18 will be delivered to a yet unnamed international customer by the end of 2016.