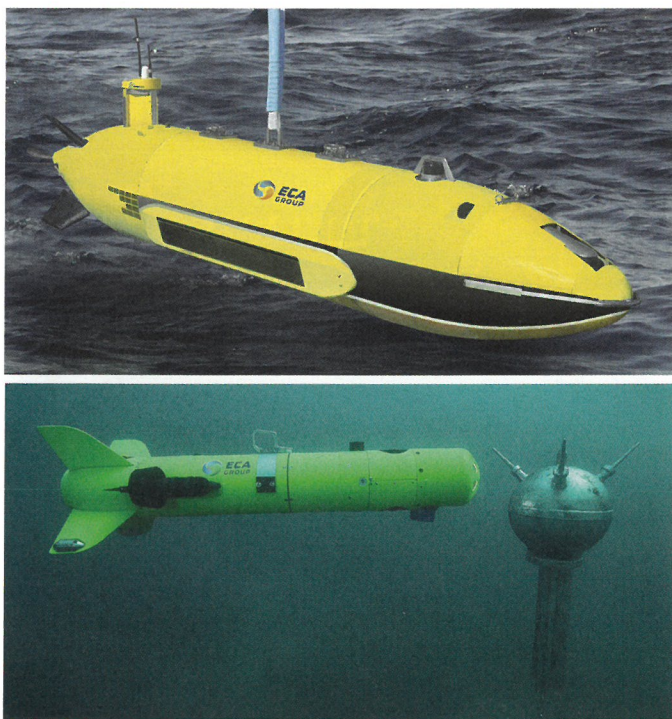




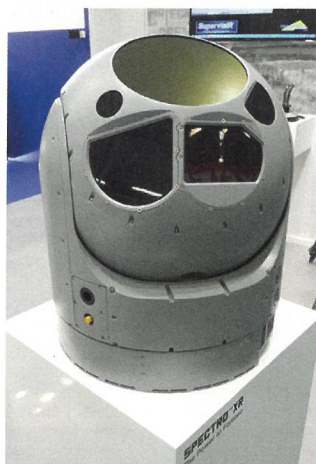
Top: The A27-M AUV was recently selected for a bilateral MCM programme.
Below: The SEASCAN Mk2 identification vehicle offers enhanced endurance and a video and sonar capability.
(Photos: Courtesy of ECA Group)

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.

New Sensor Payload Delivers Enhanced Situational Awareness



◀ SPECTRO XR is suited for missions in the complex maritime environment, including long-range surveillance, targeting and fire control, and Search and Rescue.
(Photo: Stefan Nitschke)

Elbit Systems showed-off its latest electro-optical (EO) sensor payload in Le Bourget. Named SPECTRO XR, the new sensor is in principal a multispectral system for ISTAR (Intelligence, Surveillance, Target Acquisition and Reconnaissance) tasks offering "20-in payload performance in a 15-in payload", according to the

company. At the core is a large imaging system that combines up to nine fully digital sensors into a single platform: MWIR (Medium-Wave Infrared); VNIR (Visible and Near-IR); SWIR (Short-Wave IR); and a laser rangefinder. "All of them with a high level of stabilisation", said Elbit Systems. This exactly enables the user to obtain the required high performance when he operates in adverse weather conditions typical of the littorals. The manufacturer said the new sensor payload can be fitted to various platforms, including rotary-wing and fixed-wing aircraft, aerostats, naval ships, and land vehicles. The manufacturer predicts a successful introduction by 2017.

EO experts at Elbit Systems raise many points to claim that new, more advanced systems like SPECTRO XR will still be needed to enable full-scale Situational Awareness (SA). Whether implemented as an airborne payload, or functioning aboard a surface ship, SPECTRO XP can offer users with more limited budgets an affordable solution to overcome security risks. *NAVAL FORCES* learned that many services in strong need of new solutions like SPECTRO XR are not spending nearly enough money on new SA sensor technology.

Lockheed Martin conducted a successful controlled flight test of the Long Range Anti-Ship Missile (LRASM) surface-launch variant from the Self Defense Test Ship. This was the third successful surface-launched LRASM test, according to Lockheed Martin. The test proved the missile's ability to load mission data using the modified Tactical Tomahawk Weapon Control System (TTWCS+), align mission data with the moving ship and launch from the Mk41 Vertical Launch System (VLS). During the test, LRASM exited the VLS launcher,



LRASM is a precision-guided anti-ship missile that leverages the successful JASSM-ER heritage, and is designed to meet the needs of the US Navy and US Air Force in a robust Anti-Access/Area-Denial threat environment.
(Photo: Courtesy of Lockheed Martin)