



ECA Group delivers to an Asian Navy its Mine Identification & Destruction Systems (MIDS) for deployment from a USV

ECA Group has delivered to an Asian Navy several Mine Identification and Destruction Systems (MIDS) combining K-STER I identification ROV (Remotely Operated Vehicles) and K-STER C neutralization ROVs as well as equipment for automatic launch and recovery from naval surface drone USV (Unmanned Surface Vehicle) in a global solution which can be operated from shore or a distant mothership.

Trust based on 40 years of expertise in MIDS systems

ECA Group has been a specialist in MIDS systems for more than 40 years. Indeed, ECA Group, in cooperation with [Naval Group](#), innovated and developed the first MIDS system in the early 1970s.

This underwater wire-guided mine identification and destruction robot called [PAP](#) (Self-Propelled Fish) was the first MIDS robot. After having equipped 3 countries with the tripartite mine hunter program (Belgium, France and Netherlands), the PAP is successful in England, Germany and the countries of Asia and the Middle East, which will make him become the best-sold MIDS.

In total, about 30 marines have been equipped with MIDS PAP robots, many of them are still in use, starting with the French Navy that uses them since the mid-70s. Nowadays, ECA Group has delivered a thousand of MIDS robots for mine clearance at sea.





SEASCAN & K-STER: A complete range of specialized and qualified MIDS

With the evolution of technologies, ECA Group has been developing since 90ies a new, more efficient MIDS system composed of 2 types of underwater robots: On the one hand, the [SEASCAN](#) a retrievable ROV, with a higher performance rate than K-STER I, which carries out the identification of the mines and on the other hand, the ROV / [K-STER C](#) ammunition which, like a missile, is guided towards the mine and destroys it. The ROV SEASCAN is therefore an identification ROV equipped with a sonar and a camera that make it possible to see the object and to confirm that it is indeed a mine, while the K-STER C is a mine disposal vehicle fitted with a powerful shaped charge able to destroy 100% of IED, EOD or mines, layed on seafloor or moored even with harsh environmental conditions.

Several navies are equipped with K-STER: Singapore, India, Lithuania, ... Like the PAP, this MIDS system complies with NATO standards for acoustic and magnetic discretion which are a key point for any robot approaching a mine.

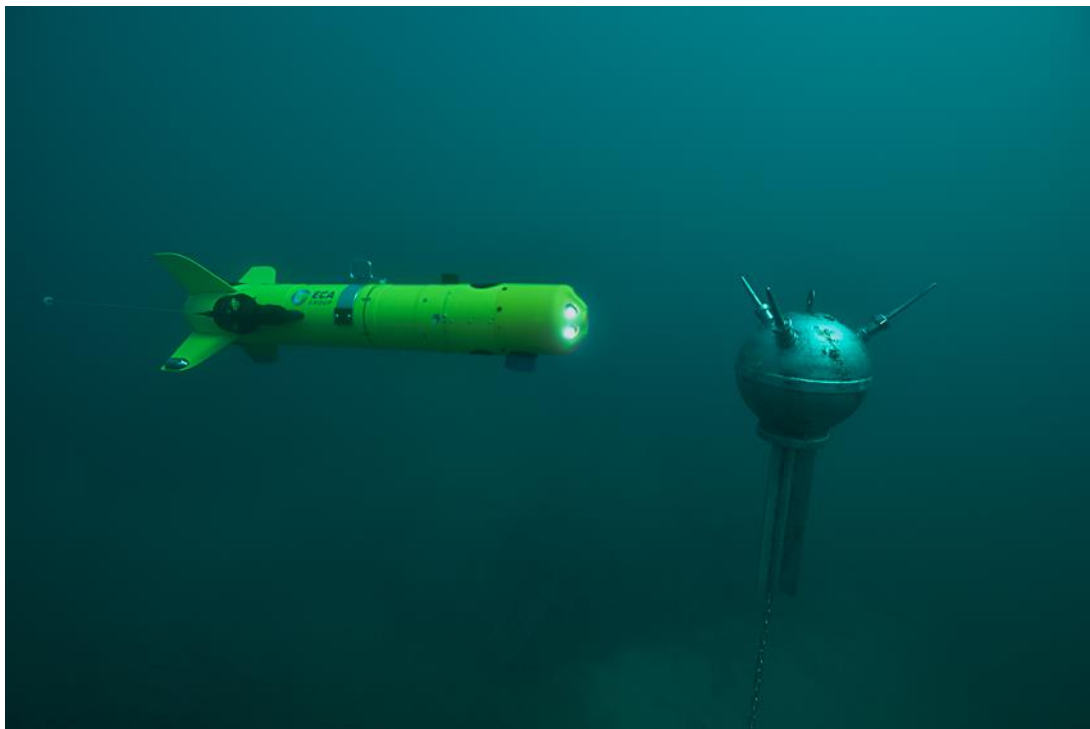
The [SEASCAN](#), an enhanced version of the [K-STER I](#), is the result of continued ECA Group development. Thanks to a dedicated Launch and Recovery System (LARS) and with an autonomy of more than 3 hours it can be deployed from an [USV \(Unmanned Surface Vehicle\)](#), to successively identify many mine-like underwater objects (MILCO) without being retrieved thus reducing drastically identification time.

The [K-STER C](#), deployed from a USV and operated from the shore or a mothership, is fully qualified as "mine disposal vehicle" and has been successfully evaluated by different navies. Its superiority has been demonstrated during evaluations alongside competing products. Fitted with a unique tiltable head, embedded in a hydrodynamic shape to avoid any change of the drag of the robot when orienting the head, the K-STER is able to target the area of the mine containing the explosive with a remarkable accuracy, even in a current of 3 knots. With its tiltable head and powerful explosive charge, the K-STER C is the only MDS on the market giving a probability of destruction close to 100% whatever the mine.



To simplify the task of the operator and improve mission efficiency, the MIDS system already integrates auto-depth and auto-track modules intended to automatize ROV's path to reach the area where the mine is located and its automatic return in the case of SEASCAN. The position of the mine being localized by the cartography readings carried out in advance, the future R&D programs of ECA Group's UMIS™ system will allow to guide automatically SEASCAN and K-STER towards the mine and to position them in firing position to destroy the mine.

These latest development benefit from lessons learned within a Franco-Norwegian cooperation called VAMA that had explored the path of autonomy for MIDS systems 10 years ago. As the technologies are now mature, ECA Group is implementing them in its new generation of MIDS systems.

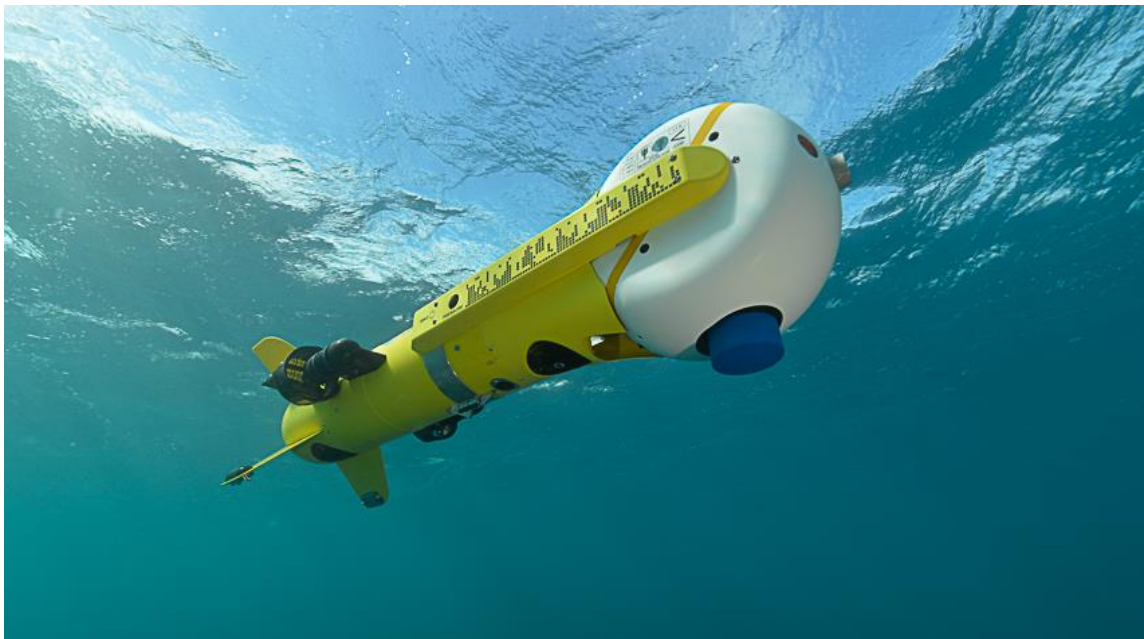


An innovative Launch & Recovery System for deployment from USV

As part of a Franco-Singaporean cooperation called SAFARI, ECA Group has developed the LARS which guarantees a quick and safe automatic deployment and recovery of SEASCAN and launch of K-STER from a manned or unmanned naval platform like an USV. Once this solution was finalized, an Asian Navy awarded a contract to ECA Group for MIDS carriers, which were delivered by the end of 2017, to be deployed on a large USV.

The MIDS configuration is usually composed of 2 or 3 K-STER C for one SEASCAN ROV. The number of embarked ROVs and associated LARS will depend on naval platform characteristics. Thus the 9m long [USV INSPECTOR 90](#) from ECA Group can be equipped with one MIDS system when the 12m INSPECTOR 120 will receive 2 MIDS simultaneously.

In the case of the delivered Asian Navy, the USV's size is longer than 15 meters. Thus, it is equipped by a larger number of MIDS.





MIDS as a part of a comprehensive unmanned system UMIS™

The deployment of SEASCAN-K-STER MIDS from a USV is automated and remotely supervised from the shore or a distant mother ship through [UMIS™](#), a unique management system of drones developed by ECA Group.

All ECA Group drones as well as all autonomous systems carried by these drones, such as the LARS of a USV, are managed by the UMIS™ system of supervision and mission management.

Each naval drone, each autonomous or remotely operated equipment of ECA Group drones system, integrates an embedded UMIS™ module which is linked to the main supervision core dispatched in the control consoles of the operation center located onboard the mother ship or ashore.

Almost 50 years after the invention of the PAP, ECA Group is still designing and developing innovative and competitive MIDS systems. The delivery to an Asian Navy is a direct demonstration of this commitment, as well as the recent integration of autonomy functions into ECA Group's all MIDS solutions.



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