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The NATO Centre for Maritime Research and Experimentation tests Wave Glider technology for the first time in a NATO ASW exercise

An energy-efficient robotic vehicle debuts as a communications gateway of an experimental network developed by CMRE within the Proud Manta '13 framework

The Antisubmarine Warfare (ASW) Exercise Proud Manta '13 (POMA '13), which includes participating ships and aircraft from ten NATO nations, will be held from 23 February to 6 March off the coast of Sicily.

As in 2012, the 2013 Proud Manta includes again major scientific tests during the exercise: scientists from the NATO Centre for Maritime Research and Experimentation (CMRE) are testing technologies and software that they have been developed for detection and tracking of submarines in the marine environment. In particular CMRE performs experimentation with an autonomous ASW barrier to protect a shoreline asset using autonomous underwater and surface vehicles (AUVs and ASVs), with the Ocean Explorer AUV performing detections as in POMA '12, and the Wave Glider, a new wave-powered unmanned surface vehicle debuting here for the first time in a NATO ASW exercise, acting as a communications gateway.

This large-scale exercise is a valuable opportunity for CMRE to test cutting-edge ASW systems in a realistic scenario. It is also an occasion to see how new advances in research and technology, such as autonomous underwater vehicles (AUVs), can be applied to NATO missions in the future.

In the last two years, CMRE (formerly called NURC) participated in Proud Manta '11 and '12 and gathered data in conjunction with the exercises, helping NATO plan their operations. The Centre also monitored the test area with gliders prior to and during operations to measure oceanographic variables. Following those successful experiences, CMRE's role in the exercise has been confirmed this year and includes two components: Multistatic ASW Experimentation using collaborative AUVs and ASVs, and tactical planning and exercise reconstruction using CMRE's Multistatic Tactical Planning Aid (MSTPA) tool.

POMA 13 CMRE experiments are conducted from and supported by the 93-metre NATO Research Vessel *Alliance*, the only ship jointly owned by all NATO nations.

About CMRE. The STO-CMRE (Science and Technology Organization – Centre for Maritime Research and Experimentation) is located in La Spezia, Italy. Formerly NATO Undersea Research Centre (NURC), the Centre focuses on research, innovation and technology in areas such as defence of maritime forces and installations against terrorism and piracy, secure networks, development of the common operational picture, the maritime component of expeditionary operations, mine countermeasures systems, non-lethal protection for ports and harbours, anti-submarine warfare and marine mammal risk mitigation. CMRE operates two ships, NATO Research Vessel *Alliance*, a 93-meter 3,180-ton open-ocean research vessel, and Coastal Research Vessel *Leonardo*, a smaller ship designed for coastal operations. In addition to its laboratories the Centre is equipped with a fleet of autonomous underwater and surface vehicles and a world-class inventory of seagoing sensors.

CMRE PAO: pao@cmre.nato.int; tel. +39.0187527369; mob. +39.3357809721.