HII and Thales Successfully Demonstrate Expeditionary PathMaster's Autonomous End-to-End MCM



POCASSET, Mass. – HII, America's largest military shipbuilder and the global leader in autonomous seapower, and Thales, a global leader in advanced technologies, have successfully demonstrated an end-to-end autonomous mine countermeasure capability.

This demonstration leveraged Thales' Expeditionary Pathmaster, an open and modular expeditionary mine countermeasure architecture designed to integrate autonomous platforms, sensors, mission management systems and effectors from multiple providers into a unified operational framework.

Through this architecture, HII's REMUS 620 unmanned underwater vehicle (UUV), alongside sensors, mission management tools and neutralization capabilities from multiple providers, was integrated into a single end-to-end operational workflow spanning mine detection, classification and neutralization.

The demonstration was conducted using Thales' Expeditionary Portable Operation Center (ePOC), a rapidly deployable command and control system designed to support expeditionary mine warfare operations. Acting as the operational hub, the ePOC hosted Thales' Mission Management System and sonar data analysis software, integrated with HII's REMUS 620 UUV, HII's Odyssey mission management solution and Thales' Advanced Acoustic Concepts' ANGLER mine neutralization capability.

The REMUS 620 is HII's next-generation medium-class UUV, designed for long-range, multi-day operations with a modular, open architecture that enables the integration of mission-specific payloads and sensors. HII's Odyssey Mission command and control enable mission planning and management, while supporting increasingly collaborative operations across unmanned platforms.

Together, these technologies demonstrated a complete "Find, Fix, Finish" mission chain of mine countermeasure operations:

- **FIND**: HII REMUS 620 UUV, integrated with the Thales SAMDIS 600 multi-aspect sonar, autonomously searches the undersea environment to detect potential mine threats, controlled by HII's command and control (C2) software which interfaces with the Thales ePOC.
- **FIX**: Detected contacts were analyzed using Thales' software, which combines high-resolution multi-aspect sonar imagery with AI-enabled Automatic Target Recognition (ATR) capabilities, enabling operators to classify and localize mine-like objects, thus building the tactical picture required for operational decision-

making.
- **FINISH**: Thales AAC’s ANGLER underwater effector and Remotely Operated Vehicle (ROV) concluded the mission chain by completing rapid re-acquisition of the mine-like objects, visual identification of the mine threat, ultimately providing the means to engage and neutralize the identified mine.

All mission assets were successfully coordinated through the Expeditionary PathMaster environment, leveraging Thales’ mission management system within ePOC to provide operators with a unified operational picture and consistent command and control throughout the mission.

The demonstration included the automated launch and recovery of the REMUS UUV, equipped with Thales’ SAMDIS 600 Multi-Aspect Synthetic Aperture Sonar, using HII’s Sea Launcher system.

The exercise also highlighted Expeditionary PathMaster’s open architecture, which enabled Thales to integrate HII’s autonomous underwater systems and ANGLER’s neutralization capability into a common, NATO-compliant mission environment. This approach allows allied navies to combine capabilities from multiple suppliers while maintaining operational coherence.

“Bringing “Find, Fix and Finish” together demonstrates what is possible when proven unmanned platforms, advanced sensors, autonomy and effectors are designed to operate as an integrated system,” said Duane Fotheringham, president of HII’s Unmanned Systems group. “This demonstration advances our work with Thales from sensor integration to a complete mine countermeasure mission capability. Together, we are giving naval forces a path to conduct these demanding missions faster, at greater scale and with sailors farther from the mine threat.”

Building on HII and Thales’ successful 2025 integration and field exercise of the SAMDIS 600 sonar aboard the REMUS 620, the latest demonstration expanded beyond sensor integration and underwater performance to encompass mission management, AI-assisted exploitation and mine neutralization within a unified system.

Sébastien Guérémy, vice-president, Underwater Systems, Thales stated, “This demonstration alongside HII, a leading American partner, illustrates Thales’ ability to work with the best international players to address the critical challenges of mine warfare. Thales’ mine countermeasures solutions, such as Expeditionary PathMaster, has again proven that it can integrate autonomous platforms, advanced sensors, mission management and neutralization systems into a single AI-powered operational framework.”

As threats and mission requirements evolve, this demonstration underscores HII and Thales’ shared commitment to modular, interoperable and autonomous solutions that allow naval customers to rapidly integrate new sensors, platforms, autonomy and effectors.

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