U.S. Coast Guard Establishes UxS Cross Functional Working Group

Technicians recover a ScanEagle small unmanned aerial system (SUAS) drone aboard USCGC Stratton (WMSL 752) in the Pacific, in 2019. *U.S. COAST GUARD / Chief Petty Officer Sara Muir*

A report from the National Academies of Sciences has recommended the U.S. Coast Guard "take a more strategic and accelerated approach to exploit the capabilities of existing and future unmanned systems," and the Coast Guard agrees.

The report, "Leveraging Unmanned Systems for Coast Guard Missions," has called on the Coast Guard to engage more with unmanned systems (UxS) and the capabilities they bring to Coast Guard missions. The report acknowledges the service is currently investigating how to use UxS for its 11 statutory mission areas and to introduce their capabilities into the fleet and force structure.

"As other military services and other operational agencies of the U.S. Department of Homeland Security (DHS) integrate UxSs into their force structures, the Coast Guard will be impelled to do the same, because it engages in joint and combined operations and missions with these partners," the document said. "Abundant evidence in this report points to both a compelling need and burgeoning opportunities for the Coast Guard to proceed more aggressively, albeit strategically and deliberately, in leveraging UxS advancements. Indeed, the study committee concludes that to remain responsive and fully relevant to its many missions, it is imperative that the Coast Guard take a more strategic and accelerated approach to exploit the capabilities of existing and future unmanned systems."

In fact, the report's authors were "struck by the magnitude and breadth of opportunity that lies ahead for the Coast Guard to pursue UxSs across its multiple operational domains and missions." However, the report said "those initiatives have been characterized by limited funding spread over many years and the absence of a formal means, or a pacing mechanism, for proactively identifying, investigating, and integrating promising systems."

The report found that, although the Coast Guard has multiple ongoing UxS initiatives, an opportunity for improvement exists by developing a formal means for identifying, investigating, and integrating promising systems. The report recommended the creation of a high-level UxS strategy.

The service has taken that advice seriously, and responded enthusiastically by establishing an Unmanned Systems Cross Functional Working Group on Dec. 21, 2020, to create a strategic vision for leveraging UxS across Coast Guard missions.

In his 2021 State of the Coast Guard address, Commandant of the Coast Guard Adm. Karl Schultz said the key to spotlighting bad behavior is maritime domain awareness.

"Last fall, our Research and Development Center tested the ability of unmanned surface vessels to augment traditional ship and aviation capabilities for operations in the far reaches of the Pacific Ocean. We learned that the future of our unmanned systems strategy will most likely rely on more diverse systems and effective integration of machine-learning to unlock actionable data for Coast Guard operators," he said. "These are valuable lessons as we stand up an unmanned system element within our Coast Guard Requirements Shop to consider how unmanned technology can augment our future fleet."

The UxS Cross Functional Working Group is currently developing the Coast Guard's strategy for UxS. By leveraging and adapting

these technologies, the service envisions achieving increased efficiencies, enhanced personnel safety, and improved mission performance across Coast Guard operations.

The Coast Guard Research and Development Center and the Department of Homeland Security's Office of Science and Technology, through partnerships with the Department of Defense, have been evaluating UxS technologies for several years.

"These research-focused initiatives complement the service's requirements generation and evaluation, industry engagement, and robust acquisitions processes to ensure multi-mission operational requirements are met by the best-suited capability, including manned, unmanned, and hybrid solutions," said a Coast Guard spokesperson. "The UxS Working Group is responsible for aligning strategic efforts ranging from the identification and evaluation of emerging technologies to their operational deployment and related doctrine."

According to Lisa Kirkpatrick, Deputy Assistant Commandant for Capability (CG-7D, the cross-programmatic working group), under the direction of the Assistant Commandant for Capability (CG-7), is comprised of subject matter experts from across the Coast Guard including representatives from the Coast Guard Coast Guard Research, Development, Test & Evaluation and Innovation Program, the Office of Aviation Forces' Unmanned Aircraft Systems Division, the Office of Requirements and Analysis, the Office of Shore Forces, the Office of Cybersecurity Program Management, and the Directorate for Response Policy.

"The UxS Working Group follows a proven integrated product and process development approach, and will directly inform the service's next steps to incorporate unmanned systems to increase safety and enhance mission effectiveness across Coast Guard operations," Haring said.

The Working Group’s accomplishments and lessons learned will inform the potential establishment of a permanent UxS office, and help apply a holistic approach towards UxS across the range of Coast Guard multi-mission operations.