

# Unmanned Systems Earning Their Spot in Sea Services' Toolboxes

NATIONAL HARBOR, Md. – Unmanned and autonomous systems aren't new to the armed forces, but in many ways the tools are still evolving and, along with that, the sea services are evolving alongside them to determine their proper place in their toolboxes.

Rear Adm. David Hahn, chief of naval research and director of innovation, technology requirements, and test and evaluation, likened the sea services' unmanned needs to deciding which 14 clubs you need to win the Masters.

"Today, as we look at the tools provided, most of those legacy tools require a lot of human interaction. Do we think that the unmanned tool set that we can provide our Navy and Marine Corps is ready to go in the bag? Do we think that we're going to get an expert result ... by completing the job? Not just a better drive, not just a better putt, but completing it all across that kill chain."

Hahn said there has been "tremendous success" with platforms, like larger unmanned underwater vehicles, but often they increase the need for manpower. His No. 1 ask for an unmanned system today would be an unmanned vessel that can sea at sea for 70 days without intervention that operates in concert with other maritime vessels.

As these systems progress, they are going to grow in their autonomous capabilities, said Rear Adm. Mark W. Darrah, program executive officer for Unmanned Aviation and Strike Weapon for the Navy, migrating into stochastic behaviors through machine learning that will enable them to do their own mission planning.

"We have to set the parameters for what it will base its decisions on," he said. "There's a lot of work that needs to be done there."

Currently, there is a healthy appetite in the Navy for what unmanned and autonomous systems offer.

"I will tell you, when I arrived we had an \$850 million contract for ISR [intelligence, surveillance and reconnaissance] services in theater. In three years, we were at ceiling," he said.

And, at the same token, very sophisticated unmanned systems that are flanked by poor legacy systems would be akin to driving a Lamborghini at 25 mph, he said, so the Navy must focus on improving the entire kill chain, not just the platform.

Brig. Gen. Christian Wortman, vice chief of naval research, commander, Marine Corps Warfighting Lab, Office of Naval Research, said he's focused on Commandant Gen. Robert Neller's orders to be "faster, more effective, more responsive."

Instead of homing in on a certain vehicle or vessel, he said his needs today center on defending networks, and any autonomous system that enhances the Marine Corps' sense of environment that it's operating in.

Though the Coast Guard has had a lot of success with the unmanned systems it has deployed, Rear Adm. Michael Ryan, assistant commandant for capability, said it is still working to leverage all they have to offer.

"The Coast Guard is probably late to the table in some regards. ... We are working diligently to close those gaps. These are a force multiplier," he said.

Though the service now has the funding to integrate more unmanned assets into its portfolio, Ryan said the Coast Guard

has to be careful on how it applies its funds, capabilities and labor to maximize mission effectiveness.

“Our mission set, our area of operations are ripe for leveraging this type of capability and technology,” he said.