

DARPA Working on New Unmanned Ship Concepts



DARPA, which developed the Sea Hunter USV, is developing two new concepts. U.S. NAVY / John F. Williams

ARLINGTON, Va. – The Defense Advanced Research Projects Agency (DARPA) is developing two concepts of operations for unmanned ships and other watercraft, the agency's acting director said July 30.

DARPA, which successfully developed what is called the Sea Hunter autonomous unmanned surface vessel, now operated by the U.S. Navy, is doing more work on autonomy and other crew-less technology.

Peter Highnam, acting director of DARPA, who spoke to the Defense Writers Group at a webinar of the Project for Media and National Security of the George Washington University, said the agency is developing the Sea Train and the NOMARS (No Manning Required Ship) concepts.

Under the Sea Train concept, a group of four or more unmanned vessels, either physically connected in trail or unconnected but sailing in formation, would be able to reduce the resistance of high sea states. They would be linked by command-and-control and navigation systems that could detach hulls for different missions and reassemble in trail or in formation.

"How do we find a way involving [artificial intelligence] or autonomy?" Highnam asked rhetorically. "How do we put three or four hulls very closely in trail through different sea states to really be very efficient? Think of bike racing, being ... up close behind the guy up front. You have to be constantly tracking that. So, there are potentially huge wins in terms of fuel efficiencies in autonomous longhaul work."

The NOMARS program involves a vessel designed from the outset to need no accommodations for a crew. "If you were to design a vessel completely from scratch, with no intention of ever having people on it, including perhaps repair at sea, what would you do differently?" he asked. "What I like about is, does the notion of 'up' even matter? Think of no [air conditioning], no messing, no staterooms, it's a very different place to be."