

# Navy Seeks to Unleash the Potential of Unmanned Systems



Chief of Naval Research, Rear Adm. Lorin Selby, observes an unmanned vessel on Pier 12 during Integrated Battle Problem 21 (UxS IBP 21) Distinguished Visitors Day at Naval Base San Diego, April 16. U.S. Pacific Fleet's UxS IBP 21, April 19-26, integrates manned and unmanned capabilities into the most challenging operational scenarios to generate war fighting advantages. *U.S. NAVY / Mass Communication Specialist 2nd Class Natalie M. Byers*

ARLINGTON, Va. – The Department of the Navy (DoN) is producing an after-action review of the U.S. Pacific Fleet-led Unmanned Integrated Battle Problem 21 (IBP21), an exercise held April 19-26 in San Diego, California, the Office of Naval Research said in a June 17 release.

“Advancements in technology have created the opportunity to provide our military with an operational advantage by developing improved manned/unmanned command and control capabilities,” said Dorothy Engelhardt, director of unmanned systems for the deputy assistant secretary of the Navy for Ships. “This enables our military to be more agile, lethal and decisive.”

During IBP21, numerous multi-domain unmanned platforms – including unmanned aerial, surface and underwater vehicles (UAVs, USVs and UUVs, respectively) – were put into real-world, “blue-water” environments, working in sync with manned platforms in actual combat drills designed to support Pacific Fleet objectives in the Indo-Pacific region.

“Large-scale exercises such as IBP21 are critical for the Navy and Marine Corps to make the transition to a hybrid manned-unmanned force in the future,” said Chief of Naval Research Rear Adm. Lorin C. Selby. “These demonstrations ensure what

works in theory will work in the fleet—in an environment that is messier, dirtier and wetter than a lab. They also allow us to get valuable feedback from the Sailors and Marines themselves.”

Many of the platforms tested in IBP21 were supported by the Naval Research Enterprise (NRE), which Selby commands. Comprising the Office of Naval Research (ONR), ONR Global (the command’s international arm) and the Naval Research Laboratory, the NRE is tasked with providing the capabilities and long-term vision ensuring U.S. naval dominance today and into the future.

The purpose of IBP21 was to explore a variety of questions about how unmanned systems can be incorporated into fleet operations. For example: How can unmanned and manned systems work together effectively in diverse warfighting scenarios? How can you integrate unmanned systems seamlessly into existing platforms? What is the best way to train Sailors and Marines to use such complex, evolving technologies?

So far, major takeaways from IBP21 include: Unmanned systems are resilient, enable better beyond-line-of-sight targeting, and improve battlespace awareness and command and control. They also provide significant advantages in ISR (intelligence, survival, reconnaissance) and Targeting and Fires capabilities, without creating additional risks to the mission or warfighters. The result—more effective offensive and defensive postures.

The testing of new unmanned technologies reflects the Navy and Marine Corps’ commitment to rethinking concepts of operations, as noted in the widely publicized naval document “Unmanned Campaign Framework,” which was recently released by the DoN.

The Unmanned Campaign Framework notes autonomy will complement, not replace, manned assets, and will provide warfighters far more options in combat.

Since the completion of IBP21, naval leaders, scientists and engineers have assessed what worked, what didn't and future actions for accelerating unmanned capabilities to the fleet and force.

These future steps include:

Continuing to leverage fleet experimentation exercises to execute the DoN Unmanned Campaign Plan

Creating a more iterative experimentation process to tighten the "test fast, operate, learn fast" concept

Improving industry partnerships and participation in fleet experiments and exercises

Improving the integration of secure communication networks to maximize effectiveness of manned-unmanned teaming

Developing concepts of operation and employment to quickly operationalize unmanned systems.