

Largest Advanced Manufacturing Demonstration in Department of War History Set for RIMPAC 2026

Naval Postgraduate School's student, faculty and industry research team will deploy advanced 3D printing technology aboard ships and at locations across Hawaii.

MONTEREY , CA, UNITED STATES, July 7, 2026 /EINPresswire.com/ -- The [Naval Postgraduate School's](#) (NPS) [Consortium for Advanced Manufacturing Research and Education](#) (CAMRE) is preparing to support [Rim of the Pacific \(RIMPAC\)](#) 2026 with what organizers describe as the largest advanced manufacturing demonstration ever conducted by the U.S. Department of War (DOW), bringing together military, government, academic, commercial and coalition partners to operationalize advanced manufacturing for the Navy and joint force.



Building on the success of RIMPAC 2024, NPS' Consortium for Advanced Manufacturing Research and Education (CAMRE) is heading back to Hawaii for RIMPAC 2026 with their largest, most ambitious at sea effort to date.

RIMPAC 2026 brings together 35 nations, approximately 40 surface ships, five submarines, more than 140 aircraft and 25,000 personnel operating throughout the Hawaiian Islands.

Throughout the exercise, NPS students, faculty and partners will deploy advanced manufacturing systems aboard ships and at locations across Hawaii to produce replacement parts, support distributed logistics, and evaluate new technologies designed to improve fleet readiness. Rather than demonstrating individual technologies in isolation, CAMRE's focus is on operationalizing advanced manufacturing by proving that digital manufacturing networks can rapidly deliver critical capabilities wherever they are needed.

RIMPAC 2026 also marks the first time CAMRE has integrated advanced manufacturing, artificial intelligence and unmanned systems into a single operational demonstration. Underpinning

much of this effort is FLEETWERX, NPS' Partnership Intermediary Agreement (PIA), which serves as a bridge between government, academia and industry. By connecting researchers, military organizations and commercial technology developers, FLEETWERX accelerates the transition of emerging capabilities from research and development into operational use while creating opportunities for faculty and student collaboration on real-world defense challenges.

"Rather than focusing on a single manufacturing technology, the demonstration will execute the complete workflow of expeditionary manufacturing, from receiving a digital request and identifying available production capacity to manufacturing through distributed nodes, transporting and delivering parts in support of operational forces," notes Chris Curran, program manager for CAMRE. "The objective is to demonstrate how advanced manufacturing complements an integrated logistics network in contested environments."

Instead of waiting days or weeks for parts to move through traditional supply chains, commanders could submit a digital request, identify the nearest qualified manufacturer, produce the part near the operational area, and deliver it directly to forces in the field.

"The globally-distributed manufacturing model gives commanders and program offices resiliency in their supply chains," said U.S. Marine Corps Lt. Col. Michael Radigan, CAMRE advanced manufacturing and repair operations subject matter expert. "Enabling service members to train to the highest standards for producing the most critical of parts, ensures operating forces have valid options across the globe to maintain readiness and lethality."

The distributed manufacturing network connects military units, government organizations, industry, academic institutions and coalition partners while cataloging manufacturing equipment, technical expertise and production capacity across the enterprise. When a critical requirement emerges, the network identifies the people, machines and materials capable of producing a solution as quickly as possible.

Exercises such as RIMPAC also allow NPS researchers to identify challenges that cannot be replicated in laboratory settings. With thousands of personnel, dozens of ships, and



Students, researchers and industry partners evaluate advanced manufacturing (AM) systems during Joint Interagency Field Experimentation 26-3, hosted by the Naval Postgraduate School (NPS) at Camp Roberts, Calif., May 13, 2026.

multinational forces operating across the Hawaiian Islands, RIMPAC provides the scale and complexity needed to evaluate whether distributed manufacturing can function under realistic operational conditions. Unlike laboratory demonstrations, the exercise exposes technologies to the logistical constraints, coordination challenges, and operational demands they would face during real-world missions.

One example is expeditionary additive manufacturing aboard ships, where logistics proved to be as important as the manufacturing equipment itself. During previous deployments, researchers discovered that consumables such as shielding gas could become limiting factors, prompting new approaches that reduce logistical requirements while maintaining manufacturing capability.

"NPS gives us the platform to test these ideas under realistic conditions," said Radigan. "We know what the operational end state needs to be, and that allows us to connect research directly to fleet requirements."

This year's demonstration will also showcase several new capabilities. Researchers will evaluate the production of metal powder aboard a Canadian ship using technology developed through NPS partnerships before using that material to manufacture components at sea.

CAMRE will also support RIMPAC's counter-unmanned aircraft system experimentation by coordinating additively manufactured drone platforms produced by military, academic and industry partners. Some systems have even been manufactured aboard ships during the transit to Hawaii, while others will be produced on the islands before being assembled and flown during the exercise.

Other teams will demonstrate digitally-crewed surface vessels capable of autonomously delivering additively manufactured parts to U.S. and partner nation ships, testing new approaches to logistics in distributed maritime operations. Long-range operations with carriers, and interoperability with L-Class ship well decks, will be a first for the joint force.

Behind many of these demonstrations is the Joint Advanced Manufacturing Center (JAMC), which links advanced manufacturing capabilities across participating organizations through the Joint Advanced Manufacturing System (JAMS), a digital command-and-control platform developed at NPS. During RIMPAC, JAMC will integrate metal additive manufacturing systems fielded aboard four naval vessels, using JAMS to receive manufacturing requests, assign production across the network, and track parts from fabrication through delivery. The system enables ships to manufacture components not only for themselves, but also in support of other ships and forces ashore, creating a distributed manufacturing network that extends across the exercise.

Several industry partners participating in the exercise were integrated through FLEETWERX, helping bring emerging technologies into operational experimentation alongside military, academic and coalition partners. Working alongside CAMRE, FLEETWERX identifies and

integrates industry capabilities while facilitating faculty and student research that supports the exercise.

"The military doesn't need more isolated technology demonstrations. It needs a better understanding of how emerging capabilities contribute to readiness," said Morgan Bower, director of FLEETWERX. "We assist NPS in bringing together external operators, innovators, allied partners and researchers around real-world operational challenges. Technology only matters if it solves an operational problem, and exercises like RIMPAC help the government understand exactly where these capabilities provide value."

Through its partnerships, FLEETWERX helps accelerate the transition of promising technologies from research and development into operational use, giving faculty, students and industry partners opportunities to evaluate emerging capabilities in realistic military environments.

Beyond advancing technology, the exercise provides NPS students and faculty with an opportunity to move research from the classroom into operational environments alongside fleet operators, engineers and industry partners. Students will collaborate to execute demonstrations, evaluate emerging technologies, and observe firsthand how engineering decisions influence military readiness.

As CAMRE prepares for RIMPAC, the effort reflects NPS' broader mission of connecting education, research and experimentation to real-world operational challenges. Through the combined efforts of CAMRE and FLEETWERX, NPS continues to unite military, government, industry and academic partners to accelerate innovation while creating meaningful research opportunities for faculty and students. By bringing together experts from across the defense enterprise, the exercise will test not only new manufacturing technologies, but also the partnerships and processes needed to deliver critical capabilities at the point of need.

The demonstrations at RIMPAC will help inform future efforts to manufacture, repair and deliver mission-critical components in operational environments, continuing the transition of advanced manufacturing from a laboratory capability to an operational tool for commanders at sea and ashore.

Located in Monterey, California, Naval Postgraduate School (NPS) provides defense-focused graduate education, including classified studies and interdisciplinary research, to advance the operational effectiveness, technological leadership and warfighting advantage of the naval service. Established in 1909, NPS offers master's, doctoral and distance-learning certificate programs to U.S. Department of War military and civilian students, as well as to international partners, to develop warfighters and leaders who can think critically, solve complex operational problems and deliver mission-ready solutions through advanced education and research.

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