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FLEETWERX Leads DoD Effort to Field-Test Warfighter-Ready Innovation in Stage 1 Operational Validation

SAN DIEGO, CA - FLEETWERX, a Naval Postgraduate School (NPS) Partnership Intermediary Agreement (PIA) partner dedicated to advancing emerging technologies, recently launched Stage 1 of its Operational Validation campaign. This initiative tests and refines next-generation defense capabilities in real-world conditions. Conducted in early May, the campaign brought together top industry innovators and government stakeholders to evaluate how distributed, field-ready technologies perform under operational stress, closing the gap between concept and deployment.

The event simulated a future-forward sustainment model in which advanced manufacturing nodes, autonomous delivery systems, and adaptive digital platforms produce and deliver mission-critical parts to the warfighter at the point of need. Government teams—including INDOPACOM, SURFPAC, the Naval Postgraduate School's Consortium for Advanced Manufacturing Research and Education (CAMRE), and the Joint Additive Manufacturing Working Group—collaborated directly with industry developers to assess each system's operational performance.

Firestorm Labs, a San Diego-based defense startup, demonstrated modular autonomous systems and expeditionary manufacturing designed for contested environments.

Dynovas, also based in San Diego, deployed its Field Optimized Advanced Manufacturing (FOAM) Pod, capable of producing structural parts from metal, composites, or ceramics in under 72 hours.

Craitor, a third San Diego based company, applied its ruggedized, rapidly deployable, manportable system that can print even on the move during tactical ground or shipboard transport, in temperatures ranging from -40°F to 122°F, in high humidity, and through shock and vibration.

Phillips Federal, based in Hanover, Maryland, showcased its Phillips Additive Hybrid containerized manufacturing system—integrating Haas CNC equipment with Meltio's Laser Wire Directed Energy Deposition (DED) technology—during on-site testing in operational field conditions.

Overmatch, based in Plano, Texas, participated on-site with Revolution Al™, an adaptive training platform designed to optimize performance in real-time across physical and digital domains.

Throughout the validation, industry participants operated their technologies in direct coordination with DoD evaluators, gathering immediate user feedback to identify strengths, address limitations, and refine integration. Rather than a static demonstration, the exercise emphasized operational realism—testing each system's ability to perform in dynamic, resource-constrained settings reflective of today's contested logistics environments.

"This wasn't about showcasing tech in a vacuum," said Morgan Bower, Director of FLEETWERX. "It was about measuring performance where it matters—alongside the warfighter, under pressure, in conditions that reflect today's operational landscape. That's how we separate ideas from impact."

"NPS and CAMRE are honored take the lead on these exercises with the support of SURPAC. Our contribution to advanced manufacturing on the tri-service arena during these exercises is invaluable to moving the needle of operational advanced manufacturing with the support of faculty and student involvement contributing to the research being carried out in the field." said Dr. Garth Hobson, Director of CAMRE

FLEETWERX served as the connective tissue across this effort, enabling collaboration between NPS, the defense community and emerging innovators. As an NPS and DoD partner, FLEETWERX plays a critical role in ensuring that high-potential technologies can be tested, adapted, and scaled to meet real operational demands. Its mission—turning innovation into impact—is grounded in the belief that credible, warfighter-ready capabilities must be proven under pressure, not just promised on paper.

"Operational Validation shows what's possible when we collapse the distance between innovation and end-use," Morgan added. "When government, industry, and the operational force collaborate early and often, we don't just move faster - we get it right."

With Stage 1 now complete, formal evaluations and performance data will be delivered to participants and government stakeholders. These findings will shape Stage 2 of Operational Validation, where selected capabilities will undergo broader testing and integration into mission sets aligned with emerging DoD priorities.

In an era of accelerating threats and increasingly contested supply chains, the need for agile, deployable, and resilient technology is more urgent than ever. Operational Validation offers a new model—one that delivers speed without sacrificing rigor and brings innovation to the edge of the fight.

For more information, visit <u>www.fleetwerx.org</u>.