INSIDE DEFENSE

Navy launches additive manufacturing facility to boost submarine industrial base

By **Nick Wilson** / October 6, 2022 at 1:37 PM

Navy officials and industry partners cut the ribbon yesterday on a new additive manufacturing facility intended to bolster the service's submarine industrial base.

Located within the Center for Manufacturing Advancement (CMA) in Danville, VA, the Additive Manufacturing Center of Excellence (AM CoE) aims to promote growth and resiliency of submarine production, according to a **press release** from shipbuilder Austal.

"Recognizing the compelling need to increase manufacturing capacity within the industrial base, the Navy established the AM CoE to design a 'build-to-print' capability aimed at long-lead-time parts in order to achieve schedule adherence, build production reserves, and ultimately deliver Virginia and Columbia-class submarines to the Nation," the release states.

The AM CoE will be used for skilled workforce training and will develop "qualified part recipes" that can be transferred to industry for large-scale production. It will include Navy-dedicated printing, non-destructive testing (NDT), metrology, and other supporting technologies.

"The CoE will also focus on exploiting AM for distributed production, working to bring new entrants to the submarine industrial base while also supporting forward-leaning casting foundries looking to adopt AM to bolster their production volume," Austal's announcement continues.

Austal will oversee a group of industry experts at the center, including Phillips, Industrial Inspection and Analysis, IALR, FasTech, Commonwealth Center for Advanced Manufacturing and The Spectrum Group.

The University of Virginia and shipbuilders General Dynamics Electric Boat and Huntington-Ingalls Newport News Shipbuilding will also participate in AM CoE efforts.

The facility is expected to achieve full operational capability late in 2023. Until this milestone, work will take place at partners' in-house facilities.

At an August event, Rear Adm. Scott Pappano, who oversees the Columbia-class ballistic missile submarine program, **stressed the importance** of the industrial base and the need for a larger skilled workforce to meet the Navy's submarine building and maintenance needs.

The first of **12 Columbia-class submarines**, which will replace the ageing Ohio-class submarines as the Navy's primary sea-based nuclear deterrent, is approximately 25% complete. But workforce shortages and supply chain issues have caused delays.

The simultaneous construction of Columbia-class and Virginia-class submarines, in addition to continuing maintenance of the 14 Ohio-class submarines, has stretched U.S. shipbuilding capabilities.

In August, Pappano signaled the service will play a more active role facilitating training for skilled trade workers, including training in additive manufacturing.

Last year, the Defense Department **published an instruction** that "establishes policy, assigns responsibilities, and details procedures regarding the implementation and use of additive manufacturing (AM) within the DOD."

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