AUSTAL USA Expands Advanced Technology Operations



From Austal USAMOBILE, Ala. – Austal USA cut the ribbon for an expanded research center at the Austal USA Advanced Technologies (AT) facility in Charlottesville, Va. With the addition of 10,000 square feet, the now 25,000 square-foot

facility houses equipment for Industry 4.0 application development and will allow the team's capabilities to grow substantially over the next 12 months.

The expansion is necessary to support the company's growing role in the U.S. Navy's additive manufacturing program. Austal USA Advanced Technologies is spearheading the Navy's effort to revolutionize their supply chain through the implementation of additive manufacturing for castings, forgings, and fittings. Leading a team of industry partners, Austal USA Advanced Technologies operates the Navy's Additive Manufacturing Center of Excellence (AM CoE) in Danville, Va., the U.S. Navy's flagship for additive manufacturing of components for shipbuilding and ship repair. Austal USA Advanced Technologies is also leading efforts to implement other Industry 4.0 tenets to advance shipbuilding practices. This includes piloting extended/augmented reality tools for workforce training and enhancing and furthering shipyard automation.

The growth of Austal USA's footprint in Charlottesville comes as the Navy's AM CoE in Danville passed a major milestone in printing the 100th part in support of the Navy submarine and surface fleet. This milestone is on the path to creating a build-to-print capability in the submarine industrial base and Navy supply-chain at large. This capability chiefly supports Columbia- and Virginia-class submarine new construction as well as sustainment of Virginia- and Ohio-class submarines.

"The expansion of our Advanced Technologies research center demonstrates Austal USA's recognition of the importance of the U.S. Navy's submarine program to our Nation's maritime defense," commented Austal USA President, Michelle Kruger. "Not only are we a principal player in the additive manufacturing function but we are also building modules for both the Virginia- and Columbia-class submarines in our Mobile, Ala. new construction facility, a testament to our highly talented and capable workforce."

The 100th part printed is a copper-nickel, angle valve (PL114) manufactured using an EOS M400, laser powder-bed fusion additive manufacturing printer at the Danville AM CoE. The Puget Sound Naval Shipyard requested the part for installation on USS Pennsylvania (SSBN-735), an Ohio-class ballistic missile submarine commissioned in 1989.

The consortium of companies that operate additive manufacturers at this facility began printing first-articles-of-manufacture on-site in April 2023. AM data files produced at the Danville AM CoE will be available to submarine industrial base suppliers as manufacturing guidance where an alternative is sought to casting or forging of those parts. A plan for installation of the first articles printed at the Danville AM CoE is underway.

As the installation of the first 100 printed parts is completed or in-progress, the Danville AM CoE is becoming a significant contributor to the 100-part challenge issued by PEO SSBN Executive Director, Matt Sermon. In April 2024, at the Navy League’s Sea-Air-Space conference, Sermon encouraged ship builders and submarine industrial base suppliers to supply and install 100 AM-printed parts on Navy vessels by the end of calendar year 2024.

In addition to its role as the on-site heat treatment lead, Austal USA Advanced Technologies directs the production workflow and integrates the engineering, additive manufacturing, machining and post-processing, and quality inspection and testing capabilities of its AM partners. The Austal USA team ensures that the rigorous requirements of its Navy customers are met while delivering installable parts that demonstrate the ability of new manufacturing processes to shorten lead times for many parts that are traditionally cast or forged.