

# DM3D Technology Powers First-Ever Installed 3D-Printed Valve Manifold Assembly on U.S. Navy Aircraft Carrier

*DM3D is a fully integrated metal additive manufacturing company and a trusted digital manufacturing partner of critical metal components for several industries.*

DETROIT, MI, UNITED STATES, March 17, 2025 /EINPresswire.com/ -- [DM3D](#) Technology, a global leader in direct metal deposition ([DMD](#)) additive manufacturing, is proud to announce its pivotal role in the production of the first-ever installed additively manufactured valve manifold assembly on a U.S. Navy aircraft carrier at Newport News Shipbuilding ([NNS](#)), a division of HII (NYSE: HII).



The benefits of this innovation will extend well beyond Enterprise (CVN 80), as we incorporate our expertise in additive manufacturing into the fundamentals of shipbuilding.”

*Dave Bolcar, NNS Vice President of Engineering and Design*

The valve manifold assembly, a specialized assembly that allows distribution of a single source of fluid to multiple points on the ship, is installed in a pump room on Gerald R. Ford-class aircraft carrier Enterprise (CVN 80). The assembly, which is approximately 5 feet long and 1,000 pounds, reflects the shipyard’s pursuit of all opportunities to support construction using additive manufacturing. NNS

collaborated with DM3D Technology to manufacture the manifold body.

“What started as a proof of concept quickly turned into a tangible result that is making a meaningful difference to improve efficiencies in shipbuilding,” said Dave Bolcar, NNS Vice President of Engineering and Design. “The benefits of this innovation will extend well beyond Enterprise (CVN 80), as we incorporate our expertise in additive manufacturing into the fundamentals of shipbuilding.”

This milestone underscores the transformative potential of additive manufacturing in naval shipbuilding, demonstrating the ability to produce mission-critical components with enhanced efficiency, reduced lead times, and optimized material usage. DM3D’s patented DMD technology was integral to manufacturing the valve manifold assembly, leveraging its unique capabilities in large-scale metal additive manufacturing to meet stringent performance and reliability

standards required for naval applications.

“DM3D is honored to be part of this historic advancement in shipbuilding,” said Bhaskar Dutta, CEO of DM3D.

“This successful deployment of a 3D-printed valve manifold assembly showcases the strength of our DMD technology in delivering high-performance metal components for the most demanding environments. From printing one of the largest metal parts for NASA’s RS-25 Engine for the space launch system to these large manifolds for the CVN 80 aircraft carrier; we have a history of adding value to mission critical programs. We are excited to continue collaborating with defense and industry leaders to drive innovation and provide a fully-integrated domestic supply chain for critical metal components.”



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The additively manufactured valve manifold assembly, installed aboard an aircraft carrier currently under construction at Newport News Shipbuilding, represents a significant step forward in the Navy’s adoption of advanced manufacturing technologies. By reducing dependency on traditional supply chains and enabling on-demand production of complex components, DM3D’s additive manufacturing solutions are helping revolutionize the naval industry’s approach to ship construction and maintenance.

As a pioneer in large-scale direct metal deposition, DM3D remains committed to advancing the future of metal additive manufacturing, supporting mission-critical applications across aerospace, defense, energy, and other industries.

For more information about DM3D and its advanced additive manufacturing solutions, please visit [www.dm3dtech.com](http://www.dm3dtech.com).

About DM3D:

DM3D is an advanced digital manufacturing company that uses its patented blown-powder metal Directed Energy Deposition (DED) technology coupled with fully integrated machining, heat treatment and inspection infrastructure to offer a one-stop-shop solution for critical metal components. The company has manufactured and supplied over 30,000 parts to customers in the aviation, defense, space, energy and industrial sectors. The company manufactures parts as large as 10x10x10 feet with over 30 different alloys for both new build parts and for repairs. DM3D operates a large fully-integrated facility in Detroit with several printers and post

processing equipment, and has over 25 different systems installed across the globe at defense depots, R&D centers, universities and customers. DM3D is ISO 9001, NADCAP, JCP, DD2345, GE S-1000, ITAR certified and also holds a FAA Certified Station Repair license to ensure repeatable, highest-quality manufacturing for metal products.

#### About HII:

HII is a global, all-domain defense provider. HII's mission is to deliver the world's most powerful ships and all-domain solutions in service of the nation, creating the advantage for our customers to protect peace and freedom around the world. As the nation's largest military shipbuilder, and with a more than 135-year history of advancing U.S. national security, HII delivers critical capabilities extending from ships to unmanned systems, cyber, ISR, AI/ML and synthetic training. Headquartered in Virginia, HII's workforce is 44,000 strong.

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