

Press Release

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3D Systems & Huntington Ingalls Industries Collaborating to Qualify Corrosion-Resistant Alloys for Direct Metal Printing

- Marine alloys would enable replacement of traditional casting technologies – accelerating production, improving control of supply chain
- 3D Systems intends to add these new alloys to its industry-leading materials portfolio – helping customers address new applications

ROCK HILL, South Carolina, March 18, 2021 – [3D Systems](https://www.3dsystems.com) (NYSE:DDD) today announced it is collaborating with Huntington Ingalls Industries' Newport News Shipbuilding division to develop Copper-Nickel (CuNi) and Nickel-Copper (NiCu) alloys for powder bed fusion additive manufacturing. These new materials could allow Newport News Shipbuilding to additively manufacture parts that are traditionally cast – reducing lead times by up to 75% to improve supply chain efficiency.

CuNi and NiCu are well-known alloys that are corrosion-resistant, which makes them ideal for marine applications. While parts produced with these metals possess high strength and toughness over a variety of temperatures, they must currently be produced using traditional casting methods. This requires very long lead times – sometimes in excess of 12 months – and multiple suppliers. If these alloys could be formulated for use with metal 3D printing technologies, lead times for some of these parts could be reduced to a fraction of the traditional procurement time.

“Customer-centric innovation has been a driving force for 3D Systems since its founding,” said Chuck Hull, co-founder, EVP, chief technology officer, 3D Systems. “Through our on-going collaboration with Newport News Shipbuilding, we have yet another opportunity to bring to bear our deep materials science and application engineering expertise – allowing our customers to maximize the power of additive manufacturing within their organization. These new materials have the potential to redefine Newport News Shipbuilding’s innovation pipeline enabling them to more efficiently deliver high-quality parts.”

Through this materials development effort, 3D Systems is working with Newport News Shipbuilding to select the alloy composition, design the process parameter experiments, and qualify parts which includes tensile and other material testing. With these new materials, Newport News Shipbuilding will be able to use their metal AM solution to produce replacement parts for castings as well as valves, housings, and brackets. With the successful use of these materials demonstrated, 3D Systems anticipates they will be added to its materials portfolio to address a breadth of applications where corrosion is a major concern such as oil and gas production and refining, and utility energy production.

“We’re excited to continue our partnership with 3D Systems on these important shipbuilding alloys,” said Dave Bolcar, vice president of engineering and design for Newport News Shipbuilding, a division of Huntington Ingalls Industries. “Over the past few years, our companies have collaborated to support the qualification of metal additive manufacturing technologies in order to build parts for naval warships and conducted research and development of a corrosion performance design guide for direct metal printing of a nickel-based alloy. We’re looking forward to expanding on these efforts by developing parameters that will allow us to further expand the use of additive manufacturing into our platforms, in order to improve both product quality, schedule, and performance for the fleet.”

3D Systems has contributed additive manufacturing expertise to the U.S. Navy for decades with its additive manufacturing solutions being used for everything from aircraft parts to submersible components. In 2018, 3D Systems and Newport News Shipbuilding entered a [joint development agreement](#) to qualify metal additive manufacturing technologies to build naval warships. At the time, 3D Systems delivered and installed a ProX® DMP 320 – the predecessor to the company’s [DMP Flex 350](#) - with the goal of moving portions of Newport News’ manufacturing process from traditional methods to additive, thus enhancing production rates of high accuracy parts with reduced waste, and reducing cost. Developing new marine alloys for Newport News’ unique

applications needs will allow them to continue expanding the role AM plays in their manufacturing workflow.

Forward-Looking Statements

Certain statements made in this release that are not statements of historical or current facts are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause the actual results, performance or achievements of the company to be materially different from historical results or from any future results or projections expressed or implied by such forward-looking statements. In many cases, forward-looking statements can be identified by terms such as "believes," "belief," "expects," "may," "will," "estimates," "intends," "anticipates" or "plans" or the negative of these terms or other comparable terminology. Forward-looking statements are based upon management's beliefs, assumptions, and current expectations and may include comments as to the company's beliefs and expectations as to future events and trends affecting its business and are necessarily subject to uncertainties, many of which are outside the control of the company. The factors described under the headings "Forward-Looking Statements" and "Risk Factors" in the company's periodic filings with the Securities and Exchange Commission, as well as other factors, could cause actual results to differ materially from those reflected or predicted in forward-looking statements. Although management believes that the expectations reflected in the forward-looking statements are reasonable, forward-looking statements are not, and should not be relied upon as a guarantee of future performance or results, nor will they necessarily prove to be accurate indications of the times at which such performance or results will be achieved. The forward-looking statements included are made only as of the date of the statement. 3D Systems undertakes no obligation to update or review any forward-looking statements made by management or on its behalf, whether as a result of future developments, subsequent events or circumstances or otherwise.

About 3D Systems

More than 30 years ago, 3D Systems brought the innovation of 3D printing to the manufacturing industry. Today, as the leading additive manufacturing solutions partner, we bring innovation, performance, and reliability to every interaction - empowering our customers to create products and business models never before possible. Thanks to our unique offering of hardware, software, materials, and services, each application-specific solution is powered by the expertise of our

application engineers who collaborate with customers to transform how they deliver their products and services. 3D Systems' solutions address a variety of advanced applications in healthcare and industrial markets such as medical and dental, aerospace & defense, automotive, and durable goods. More information on the company is available at www.3dsystems.com.

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