

America Makes and NCDMM Launch \$4.5 Million Project Call to Enhance Manufacturing Productivity with Additive Manufacturing

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America Makes and the National Center for Defense Manufacturing and Machining (NCDMM) have announced a new open project call, IMPACT 3.0 (Improvements in Manufacturing Productivity via Additive Capabilities and Techno-Economic Analysis 3.0), with a total funding of \$4.5 million from the Office of the Under Secretary of Defense, Manufacturing Technology Office (OSD ManTech). This initiative aims to leverage additive manufacturing (AM) technologies to significantly improve lead time, productivity, and yield within casting and forging (C&F) manufacturing operations. The program anticipates awarding three projects.

Additive manufacturing presents a critical opportunity for the defense industrial base and the broader manufacturing sector by offering increased productivity, enhanced design flexibility, and the potential for on-demand part production for both new and existing systems. The core objective of the IMPACT 3.0 project is to further integrate AM technologies into the C&F domain, thereby reducing lead times and generating substantial cost savings.

“Additive and advanced manufacturing technologies are vital for the castings and forgings industry and the defense industrial base to address current national supply chain vulnerabilities,” stated John Martin, AM Research Director at America Makes. “Through strategic initiatives in partnership with our members, we are committed to ensuring warfighter readiness for essential military platforms, ultimately strengthening the Department of Defense’s supply chain and bolstering national defense resilience.”

America Makes is dedicated to accelerating the development and deployment of innovative, cost-effective, and energy-efficient AM and 3D printing technologies to meet both defense and commercial requirements.

Proposed projects should demonstrate a Technology Readiness Level and Manufacturing Readiness Level between 4 and 7 at the project's inception.

The IMPACT 3.0 Request for Proposal (RFP) encompasses two distinct topic areas:

- **Topic 1 - AM in the Digital Foundry:** This area focuses on integrating sensors and automation to significantly increase production speed and capacity. The goal is to facilitate agile manufacturing processes, enabling rapid adjustments in serial production and efficient management of low-volume, intermittent orders.
- **Topic 2 - Wire Arc DED Process Sensing and Control:** This topic seeks to verify and establish robust tools for the real-time monitoring and control of the wire arc Directed Energy Deposition (DED) process. Successful projects will enhance confidence in wire arc DED for critical applications within the Department of Defense.