

Project executed an editorial review of the MAMLS program

Total of 12 technical reports were reviewed and finalized



Maturation of Advanced Manufacturing for Low-Cost Sustainment (MAMLS) logo

PROBLEM

Since 2013, America Makes has supported many diverse initiatives focused on advancing the current state of additive manufacturing (AM) technology. The advancement of the technology is dependent solely on the deliverables, or records, created from the technical activity. An editorial review of the existing MAMLS Phase 1 documentation would provide increased clarity of current project deliverables, in addition to laying the groundwork and establishing a precedent for the quality of future technical records.

TECHNICAL APPROACH

An experienced technical writer, previously utilized within the America Makes and NCDMM network, reviewed, edited, and revised 12 technical report documents from Phase 1 of MAMLS. The review of the existing MAMLS Phase 1 documentation provided increased clarity of current project deliverables and laid the groundwork for establishing a precedent for the quality of future technical records.

OBJECTIVE

The objective of the project was to provide clear deliverables and data for the Maturation of Advanced Manufacturing for Low-cost Sustainment (MAMLS) program, which began in 2016 and continued into 2020. The goal of the effort was to provide documentation to be readily translated into other America Makes and Air Force programs to ensure exceptional return on investment and transition opportunities.



**AMERICA MAKES
TECHNOLOGY
DEVELOPMENT
ROADMAP**

This project aligns to:



PROCESS

**ASTM PROCESS
CATEGORY:**
N/A

EQUIPMENT:
N/A

MATERIAL:
N/A

ACCOMPLISHMENTS

Through the lifetime of the MAMLS project, there were 1,300 pages across 12 specific task orders, edited within a six-month period of performance. The types of documentation varied from technical data review, process explanation, parameter reflection, planning for workshops and demonstrations, summation of data, and reflection on lessons learned to advance this research. The documentation focus areas were as follows: T-Pipe Casting using 3D Sand Printing, Organic Parts Production, Bracket Redesign and 3D Sand Printing Demonstration, Large Scale Additive Manufacturing for Metal Bond Tooling, F-16 Drill Fixture Repair at Hill Air Force Base Using Advanced Manufacturing Technologies, Advanced Digital Metrology Methodologies for F-16 Vertical Tail Repair, Big Area Additive Manufacturing for Composite Tooling, Advanced Technology Laser Additive System Machine Development, Bearing Housing Additive Manufacturing Demonstration, Additive Manufacturing Metal Repair Using Directed Energy Deposition, and Gearbox Paint Masking Using Fused Deposition Modeling. Additionally, there was a technically-edited final report that provided a presentation and summation of data and findings in the 3021.001 APPT Risk Reduction project.

PROJECT END DATE

April 2019

DELIVERABLES

- 1,300 pages of existing documentation reviewed
- Final scientific/technical report

FUNDING

\$153,728 total project budget

(\$133,728 public funding / \$20,000 private funding)

PROJECT PARTICIPANTS

Project Principal:

NCDMM/America Makes

Public Participants:

U.S. Department of Defense