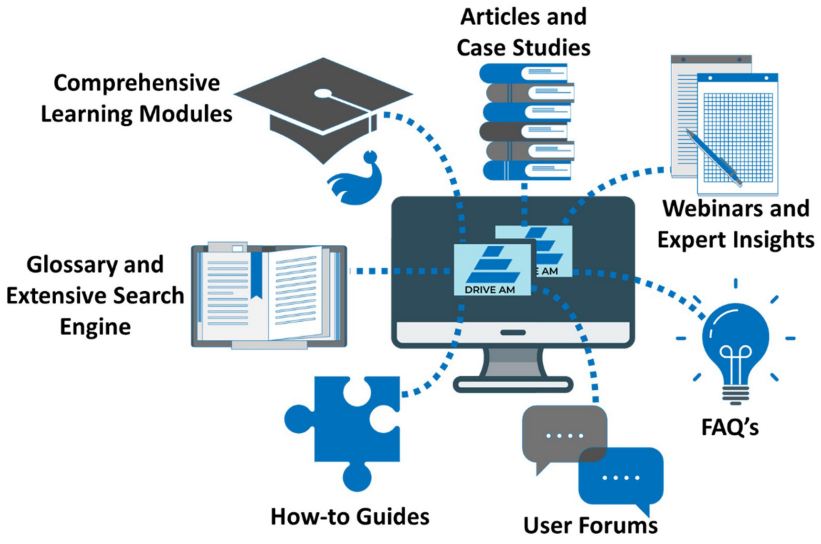
PROJECT SUMMARY 5521.003

DRIVE AM - Phase 3



Overview of the proposed Additive Manufacturing Knowledge Base

PROBLEM

Realizing the true benefits of additively manufactured components within the Department of Defense's (DoD) Industrial Base has been and continues to be a challenging task. This project will build on previous DRIVE AM efforts to assure the viability and recognition of additive manufacturing (AM) in the defense industry, and among soldiers, technicians, engineers, and other DoD leadership roles by exposing them to current, state-of-the-art, educational programs that incorporate fundamentals through the authority-level curriculum. The project will also create and provide access to a comprehensive and easily accessible AM Knowledge Base as well as educate DoD personnel on the importance and need for AM qualification and certification programs across the DoD.

OBJECTIVE

Train active duty, transitioning soldiers, and DoD personnel to 1) best utilize AM to support maintenance and sustainment activities, and 2) leverage AM to maintain superiority within DoD operations and technologies and the defense industry supply chain. In addition, DRIVE AM includes a STEM K-PhD pipeline program to sustain workforce needs as well as an AM business creation ecosystem to support the defense supply chain. The project team will also work with existing AM companies and the defense supply chain to help keep up with emerging technology, maintain economic competitiveness, and expand the technical workforce through training, research, and access to the AM Body of Knowledge.

AMERICA MAKES TECHNOLOGY DEVELOPMENT ROADMAP

This project aligns to:

VALUE CHAIN

ASTM PROCESS CATEGORY
Binder Jetting
Material Extrusion
Powder Bed Fusion

EQUIPMENT
N/A

MATERIAL
N/A

TECHNICAL APPROACH

The University of Texas at El Paso (UTEP) Keck Center, with support from Tailored Alloys and Additive Manufacturing Education Partners, will implement a team approach to 1) continue insertion of the DRIVE AM Foundation program throughout DoD and expand virtual asynchronous content; 2) focus on the development of the DRIVE AM Knowledge Base; 3) continue developing awareness throughout DoD on UTEP's unique approach in using a specific laser powder bed fusion (LPBF) qualification test artifact for deepening understanding throughout the LPBF workflow to benefit DoD; and 4) advance the DRIVE AM STEM K-PhD pipeline and economic development initiatives.

PROJECT START DATE

March 2023

EXPECTED END DATE

March 2025

EXPECTED DELIVERABLES

- Define the Additive Manufacturing Body of Knowledge
- Creation of digital content to support the Body of Knowledge
- Define data sets (metal part certification) to drive Industry Standardization
- DRIVE AM Sustainability Plan

FUNDING

$1,800,000 total project budget

PROJECT PARTICIPANTS

Project Principal:
University of Texas at El Paso (UTEP) Keck Center

Other Project Participants:
Additive Manufacturing Education Partners, LLC
Tailored Alloys, LLC

Public Participants:
U.S. Department of Defense