

Accelerated and Adaptive Army Fabrication Enterprise (A3FABE)

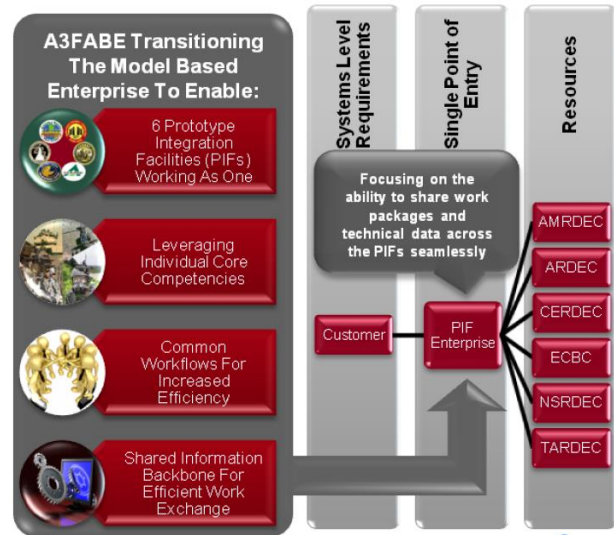
PROBLEM / OBJECTIVE

The Army Materiel Command has embraced technologies which impact nearly every aspect of our mission. Still, there are a number of gaps in business processes that rely on two dimensional (2D) Technical Data Packages (TDPs). Development of network centric, 3D model-based processes will create an Army-wide digital thread for all materiel solutions throughout the product lifecycle. The challenge to implementing such a digital thread is defining the should-be processes of an array of interlinked facilities and selecting the optimal tools and standards to be used for each activity. The objective of this effort was to identify and demonstrate model-based solutions to suit the manufacturing processes of the RDECOM Prototype Integration Facilities (PIFs).

ACCOMPLISHMENTS / PAYOFF

Process Improvement: This ManTech effort demonstrated processes to convert 2D tech data to 3D data and validated manufacturing data that could be distributed by acquisition organizations to potential vendors through a model based enterprise (MBE).

- Instituted the utilization of MBE manufacturing capability index among all RDECOM PIF organizations
- Demonstrated multi-organizational model based definition and viewable digital file representations across PIFs
- Developed and demonstrated Digital Work Instructions (DWI) for CNC Machine Setup and Model Based Machining Simulation transferable among organic manufacturing facilities (arsenals and PIFs)
- Instituted Distributed Numerical Control (DNC) networks at ARDEC's Manufacturing & Prototype Technology Division and at Watervliet Arsenal, providing a means to send manufacturing data directly to and from designer workstations.



Expected Benefits and Warfighter Impact:

- Reduced time from prototype to fully functional weapon systems.
- Improved RDECOM organization business processes that provide value added for the PIFs.
- Provided a baseline of MBE capability for the RDECOM PIF enterprise.
- Increased capture of manufacturing data that can be used to determine should-cost of fabricated materiel.

TIME LINE / MILESTONE

Start Date	October 2013
End Date	April 2018

FUNDING

U.S. Army ManTech	\$19.1M
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PARTICIPANTS

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 Subsystem Technologies, Inc. Dover, NJ