

Digital Depot and Model Centric Design

PROBLEM / OBJECTIVE

Using conventional Technical Data Packages (TDPs) based on traditional drawings the Army's sustainment activities are forced to manually re-create the data for use in downstream activities. Furthermore, acquisitions based on traditional practices take extended periods prolonging the time to mission.

The Digital Depot and Model Centric Design projects were developed to address these issues by refining process called Model Based Enterprise (MBE). This process maximizes the reuse of the original 3D Computer Aided Design model. By reusing this digital model much of the manual effort and cost/time associated with them can also be reduced.

ACCOMPLISHMENTS / PAYOFF

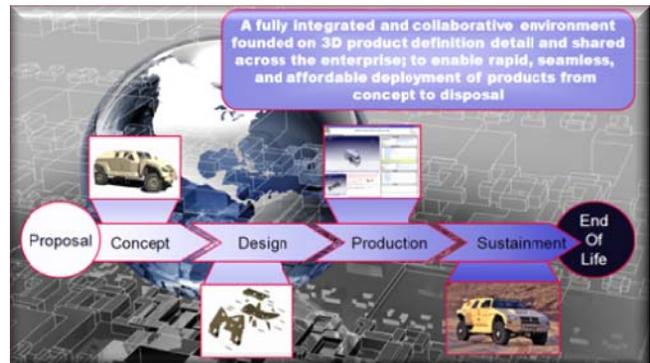
Process Improvement: The Model Centric Design team has developed process that organizes data within the models so that it can be easily understood by all of its users. This also allows the information contained within to be extracted programmatically to facilitate the design reuse.

In short this set of processes can:

- Reduce non recurring engineering and manufacturing by at least 50%
- Reduce the time to mission by 50 – 60%
- Allow sustainment activities to be performed from a TDP prior to receiving the first vehicle

Implementation and Technology Transfer: The Digital Depot program has been the center of technology transfer for this effort. In a series of efforts at both Red River Army Depot (RRAD) and Letterkenny Army Depot (LEAD) the team successfully created a local center of competency. This team successfully created a model based work instruction for the Bradley Cross-drive Transmission and GMV Kits at RRAD & LEAD respectively. RRAD has also used this technology to virtually layout various assembly lines prior to actually having to build physical activity.

Another aspect of this project was a comprehensive supply chain assessment on their capability of using a 3D TDP. This assessment found that over 60% of the suppliers were capable of using the model in place of a drawing



Expected Benefits and Warfighter Impact:

This program focuses on reforming the way TDPs are created, received and used by the acquisition and sustainment community. The end result is the reduction in the time to mission for all future programs. Thus getting and maintaining critical assets to the Warfighter quicker without sacrificing quality.

TIME LINE / MILESTONE

Start Date August 2004
End Date September 2009

FUNDING

U.S. Army ManTech \$11M+

PARTICIPANTS

