



NAVAIR is Improving the Process for Accepting and Managing Data in a Model Based Enterprise

Project Snapshot



Picture Courtesy of PMA-261

Project Lead:

PMA-261 NAVAIR

Project Dates:

Sept 2017 – May 2018

Objectives:

- Streamline the technical data receipt, verification, validation and migration into the PLM
- Provide a secure 3D Data Exchange System for non-engineers such as Logistics, DLA and NAVSUP to consume 3D Product Data
- Demonstrate a secure capability to import, validate, export and execute movement of data to provisioning and sustainment functions such as NAVSUP and DLA

Estimated Savings:

80% reduction amount of reverse engineering requirements (\$4.3M Annually)

80% reduction amount of rework due to incorrect technical data (\$1.2M Annually)

80% reduction of TDP Engineering Support Requests (DLA 339) (\$3.2M Annually)

40% reduction of labor associated with healing CAD data (\$291K Annually)

M2757 3DData Exchange Rev A (1017)
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Program Offices, such as the H-53 Heavy Lift Helicopters program office (PMA-261), transitioning to Model Based Enterprise (MBE) processes require a method of verifying/validating thousands of complex 3D models in a short time period. Also needed is the ability to generate production-quality model-based documents and Technical Data Packages (TDP) that provide non-computer-aided design (CAD), non-engineers, and other downstream consumers with the detailed engineering and manufacturing information required for effective model-based communication and collaboration.

The *3D Data Exchange Project* will configure and improve the Product Lifecycle Management (PLM) system production environment for technical data that is being delivered from Sikorsky's ENOVIA PLM system to the PMA-261 ENOVIA PLM system. This data can be pushed to or pulled from program partners, both external such as the original equipment manufacturer (OEM), U.S. Navy Naval Supply Systems Command (NAVSUP), Defense Logistics Agency (DLA), and internal, such as Fleet Readiness Center East. PMA-261 has contracted with International TechneGroup's (ITI) CADIQ software solution to accept, verify, validate and provide a certification report for technical data delivered to potential users. PMA-261 is on contract with Anark 3D PDF as the standard for the U.S. Navy Naval Air Systems Command (NAVAIR), and proposes the same solution for the Navy, and Department of Defense.

The 8-month effort will analyze the as-is data and take the necessary steps to assure the project has useable data that meets the data requirements. Requirements will be developed in each of the components that make up the complete system. The team will mesh these requirements into the developing architecture and evaluate how each component system comes together to populate the architecture. The project team will then establish the architecture and develop the 3D Data Exchange System. This system will be pilot tested within the Sandbox environment and the project team will collect and analyze feedback. Upon completion of the project, PMA-261 will have a process in place that will reduce the amount of reverse engineering requirements for creation/verification/validation of data, reduce labor associated with healing of CAD data, reduce the amount of rework due to incorrect technical data, and reduce the requirements for TDP Engineering Support Requests caused by programs using full model based definition in lieu of 2D drawings. These translate to a cost savings of \$9M annually for the CH-53K program.

Naval Shipbuilding Advanced Manufacturing is a Navy ManTech Center of Excellence, chartered by the Office of Naval Research (ONR) to develop advanced manufacturing technologies and deploy them in U.S. shipyards and other industrial facilities. NSAM's primary goal is to improve manufacturing processes and ultimately reduce the cost and time required to build and repair Navy ships and other weapons platforms. For additional information on this and other NSAM projects, please visit <http://nsamcenter.org>.

