MxD 14-01-09	Category: Quoting Process, Recurring Manufacturing, Engineering Change
Title:	Integration of AVM iFAB Tools for Industrial Use
Completion Date:	2017-08-17
Project Team:	Pennsylvania State University (PSU), aPriori Technologies Inc., Oshkosh Defense LLC, PTC Inc.
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Objective:
The objective of this project was to mature and implement the DARPA Adaptive Vehicle Make (AVM) iFAB manufacturing analysis software for an industrial design/manufacturing organization and demonstrate the technology for a product under development. The Manufacturing Analysis System (MAS) is a powerful software architecture that provides model-based, automated analysis of designs with the ultimate goal of providing accurate cost estimates at various levels of a product's bill of material. The MAS combines streamlined manufacturing data specification within the CAD/design environment, detailed should cost estimation using a variety of analysis models/tools, and product cost management, and visual feedback in a web-based environment to support a diverse product development team.

Summary:
The Manufacturing Analysis System provides model-based, automated analysis of designs with the ultimate goal of providing accurate cost estimates at various levels with a product's bill of material. The MAS combines streamlined manufacturing data specification within the CAD/design environment (MAAT), detailed should cost estimation using a variety of analysis models/tools, and product cost management and visual feedback in a web- based environment (MAS Web Application) for a diverse product development team.

Market impact:
The Manufacturing Analysis System developed in this project is primarily intended for industrial OEMs that design and manufacture (both internally and through vendor outsourcing) large/complex products built at low-medium rates of production. This would include but is not limited to heavy manufacturing industries (farm/construction equipment, DoD combat vehicles, etc.). Benefits to high-rate production environments such as automotive manufacturing is not anticipated. Also, benefits to the small and medium enterprise may be limited based on lack of design functions or inaccessibility of the required commercial software tools expected for the MAS.