

Cost Modeling for Enterprise Transformation (COMET)

PROBLEM / OBJECTIVE

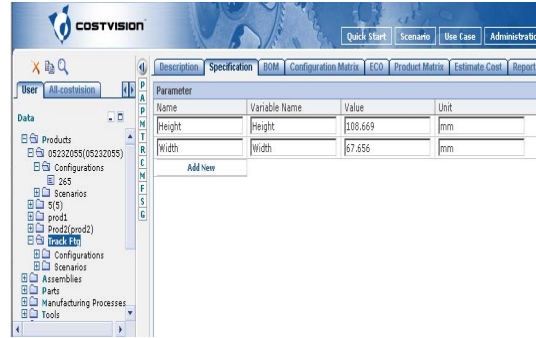
The COMET program was developed to address inaccurate cost modeling problems that lead to higher fabrication costs and technology delays. Currently, design trade studies are reliant upon cost estimates that must be modified line-by-line as designs are revised, which is extremely inefficient. In addition, current cost models either use stored manufacturing and processing information, which is often out of date, or require constant labor to update and validate production information.

ACCOMPLISHMENTS / PAYOFF

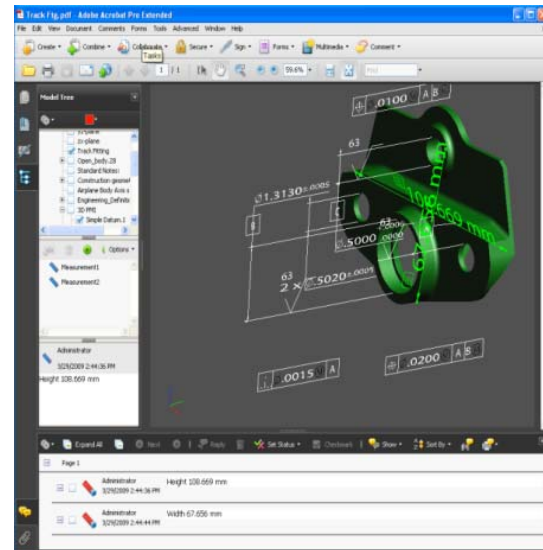
Process Improvement:

During COMET's Phase I effort, researchers investigated the automated extraction of critical design features and shop floor control systems to provide real-time cost data. Developments in key enabling technologies and standards such as Adobe 3D Portable Document Format, Standard for the Exchange of Product model data, (STEP), and Open Applications Group Integration Specification, (OAGIS), have enabled the open transfer of design and manufacturing information. The use of open standards allow for the automated incorporation of product design features and shop-floor capability information into cost modeling software quicker with fewer errors.

To date, the COMET program has shown initial success in extracting geometric design information and incorporating manufacturing process plans. These capabilities ensure complete and accurate cost estimates while expediting the process and minimizing computational errors. During Phase II of the project, the COMET team plans to expand data extraction capabilities, automate the transfer process, and demonstrate the full range of developed capabilities.



Costvision Screen View



CAD File

Expected Benefits and Warfighter Impact:

The COMET program prepares cost estimates in a fraction of the time taken by prevailing methods and ensures these estimates are accurate and complete. COMET is expected to improve affordability through what-if-trade analysis of weapon systems, reduce production costs, and shorten development and implementation time. When the full capability of COMET is deployed, to guide design decisions, an estimated 10 to 20 percent reduction in program costs is expected.

POINT OF CONTACT

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