Ford Motor Company
Case Study

CADIQ enables Six Sigma model quality

CADIQ

If the model is the master, then downstream modifications must be reconciled with the product design model. When you integrate all phases of the product lifecycle, then the design model must be reusable. CADIQ, a vendor-neutral application, identifies model-based design (MBD) data quality issues that impact downstream reuse for tooling, simulation and data exchange.

CADIQ compares geometry, assembly structure, design features and product manufacturing information among related models to identify significant differences. These are summarized in statistical reports and visualized with interactive 3D graphics. When design problems are diagnosed on the manufacturing floor, CADIQ can effectively communicate them to engineering using 3D PDF.

Engineers responsible for long-term data archival and retention (LOTAR) use CADIQ to validate neutral file conversions of 3D CAD models. If needed, additional data can be added to the archive, enabling comprehensive validation of the retrieved model in a future CAD system.

Challenge

When Ford implemented a Six Sigma Model Quality program, The objective was to eliminate 70% of downstream rework related to design data.
Ford lacked effective product data interoperability and CAD model reuse between engineers and its global network of suppliers. To improve design responsiveness, Ford needed a solution that would allow them to utilize CAD models without substantial rework.

Solution

Ford selected CADIQ, a Six Sigma quality and comparison tool developed by ITI. CADIQ identifies CAD model quality defects. With CADIQ, Ford can also estimate and track the number of opportunities for each type of geometry and topology defect.

Result

The value of CADIQ was made available to all worldwide divisions of Ford, including Mazda and Volvo. CADIQ allows all divisions to estimate six-sigma quality levels for a specified set of models within their model quality and design processes.

Ford encouraged all suppliers to adopt CADIQ, to ensure the quality and interoperability of models

Create Momentum

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