

ANALYSIS OF ENGINE PRODUCT ARCHITECTURE

CGN helped our client study the detailed engineering design interactions between engine elements to identify the areas of high design complexity, groups of highly interactive elements (clusters), optimal design sequences based on information flows, and aligned teams to improve information exchange and reduce the number of design iterations and the amount of rework.

Business Problem

Our client's design organization had been struggling with meeting the cycle time, cost, and quality goals due to excessive number of design iterations, high levels of rework, and information dissemination deficiencies.

CGN Solution

CGN brought in proprietary techniques to study the current engineering design interactions between various product elements, visualize them to the engineers, and identify the areas of high complexity, as well as groups of highly interactive system elements. A better design sequence was developed, which helped reduce the number of design iterations, decrease the amount of rework, and solved some of the major integration issues. Based on the interaction data a more efficient team structure has been proposed and insights were made into optimizing the product architecture.

Customer Benefit

The project reduced the number of design iterations and amount of rework, which brought in substantial cost savings. Team communication has been improved, which upgraded collaboration, information dissemination, and helped with resolving integration issues. Identification of the optimal design sequence has allowed engineering resources to be efficiently distributed, design quality has improved, and substantial material cost reductions have been achieved.

SCOPE

Conduct analysis of engineering and team interactions to realign team structure, design sequence, and communication architecture with the actual product design

BUSINESS DRIVERS

Optimize design sequence; improve information dissemination between engineering teams; shorten design cycle times; reduce design costs; improve design quality



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