DEP MeshWorks

Weight optimization and process automation for a transmission housing without any performance degradation

About the Client

The client is one of the major global power train companies based out of North America.

The Challenge

DEP was asked to perform weight optimization for a transmission housing, without any performance degradation from NVH, durability and stiffness stand points. The objective also included developing a process automation process for the optimization.

The Solution

Engineers at DEP created a parametric model of the transmission and clutch housing for NVH, durability and stiffness FE models using MeshWorks. The parameters included rib insertion, rib thickness, wall thickness and fillet radius. DEP engineers also created scripts to automate post processing of durability, stiffness and NVH analyses. MeshWorks and the scripts were integrated under ISight for process automation. A complete process automation set up was built and implemented by DEP Engineers.

The DEP Edge

MeshWorks developed by DEP, was used to create the parametric FE model for the transmission and clutch housing. The design parameters included rib thickness, fillet radius, wall thickness, and inserting new ribs. DEP engineers also built scripts for post processing of results from analysis.

The Result

The project was completed in 12 weeks, including training in the automated optimization process to customer engineers.

The deliverable also included specific post processing tools as well.

Read more online at
www.depusa.com