MeshWorks - Accelerator for ANSYS Workbench Solutions

DEP MeshWorks | Application Sheet

MeshWorks as rapid model building and assembly tool for ANSYS Workbench. MeshWorks Parametric FE Modeling engine is a great value add for What if

Challenges faced to study 'what if' scenarios quickly

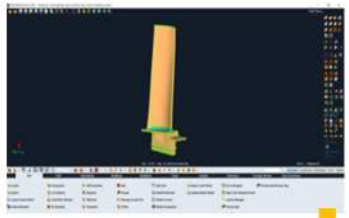
Mesh modeling and assembly are no doubt critical and fast pacing them through automation is always welcome. Studying what if scenario also needs to be considered and accelerated.

The Solution

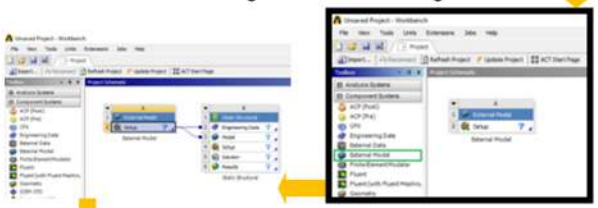
MeshWorks has state of the art modeling and model assembly tools besides a unique easy to use automation methodology. The acceleration to what if scenario study is done by parametric FE modeling technique in MeshWorks. Parametric FE modeling helps create design enablers without any waiting or need for CAD. MeshWorks has wide variety of FE parameterization options that helps analyze various cumulative effects of design enablers. Paired with DoE, parametric model accelerates what if scenario / design exploration.CDB file exported from MeshWorks can be imported into ANSYS Workbench.

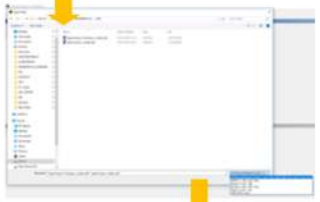
Value

Parametric FE modeling helps users study what if scenarios without waiting for CAD. Design performance enablers like beads, ribs, bulkheads are created as parameters. Paired with DoE parametric FE model beyond shape parameters accelerate design exploration without waiting for CAD and has positive impact in accelerating product development. Savings to user from this transformative process is in excess of 30 percent of product development time.

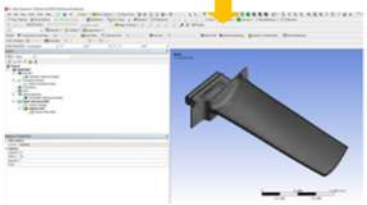


Import CAD and Create Mesh in MeshWorks
Creation of DoE and Design Generation using MW

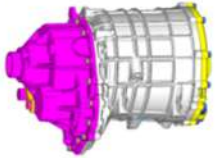




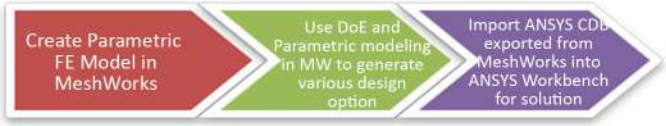
Import mesh model from MeshWorks into ANSYS Workbench



Model ready in Workbench for analysis



Application of MeshWorks driving analysis of E drive using ANSYS Workbench solution scheme



Work Flow – Driven by MeshWorks

Complete Pre & Post Processor

- Comprehensive FE/CFD pre & post processor with powerful tools for CAD clean-up, meshing (shell, tetra, hexa, hybrid, etc.), highly automated model assembly and results processing.
- Complex FE/CFD can be generated 30% faster and with better quality than other competitor products.

Customized Engineering Process Automation

- Customer CAE processes can be rapidly automated using a fast Record>Create-GUI>Plumb>Publish process.
- 2X to 10X time reduction can be expected for processes that are repeatable.

CAD & CAE Morphing Technology

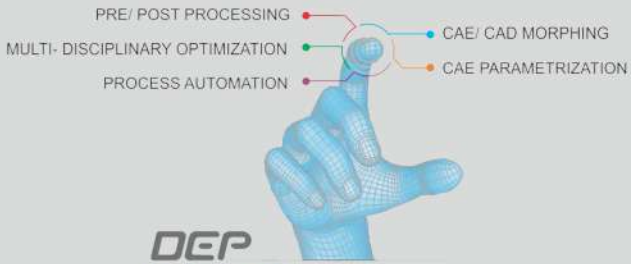
- Reduces Finite Element (FE) & Computational Fluid Dynamics (CFD) model building time by 50% to 80%.
- Generated morphed CAD models representing optimized designs very rapidly and form the main link between CAE & Design teams.

Parametric CAE Technology

- Rapidly converts FE & CFD models to intelligent parametric CAE models, enabling fast design iterations & Design of Experiment (DoE) studies.
- Most comprehensive parametrization engine addressing several categories of parameters such as shape, gage, material, spot welds, seam welds, adhesives, design features, etc.

Multi-Disciplinary Optimization (MDO)

- Enables Multi-Disciplinary Optimization to meet design targets, minimize product weight, and minimize manufacturing cost using parameteric CAE models.



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