

CAE modeling for plastics done rapidly and with ease

Plastic Meshing process enables the user to quickly generate the mid plane mesh for plastic parts, and in certain solid cast parts as well.

Challenges currently faced

Plastic Meshing is a very time consuming process and requires a highly skilled engineer to do meshing, especially for plastic models like IP, Console, Fascia and Door Trims.

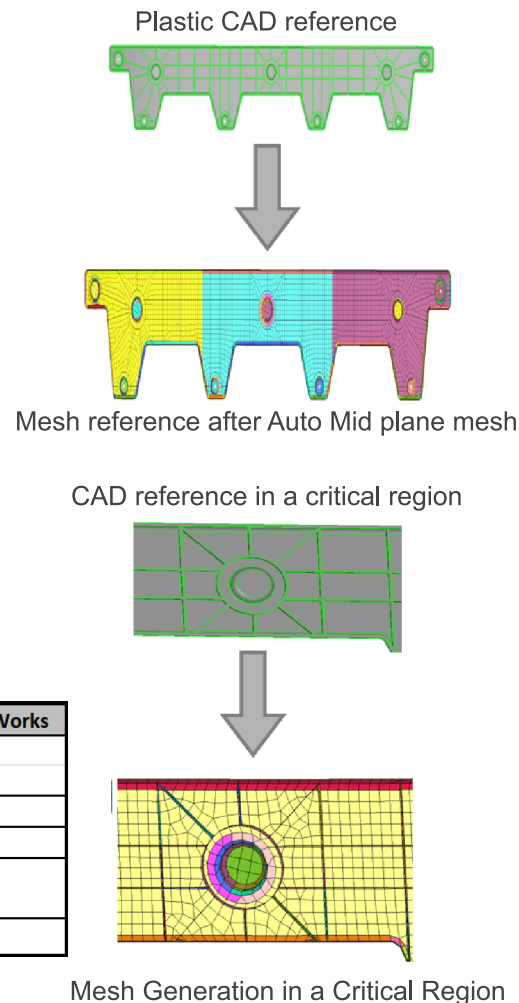
The solution

Meshworks has two convenient options which the user can choose from:

- For well defined geometries like hard trims, door trims etc, MeshWorks has a highly automated method which produces mid-plane mesh with one push button
- For complicated parts like IP, console and fascia, a manual method is also available. The manual method is a very sequential process and any engineer can be easily trained.

Value

	Process using other tools	Process using DEP MeshWorks
Mid plane meshing for plastics	Time taken = x Manual effort= more	Time taken = 1/3 x Manual effort= less
Thickness assignment	Limited	Efficient
Feature insertion in plastic parts	None	Excellent
Auto parameterization for plastic part features	None	Excellent
Connect to manufacturing process output	None	Excellent



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 models can be generated 30% faster and with better quality than other competitors' 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%
- Generates morphed CAD models representing optimized designs very rapidly and forms 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.

Design Optimization

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

