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

## Challenge 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.
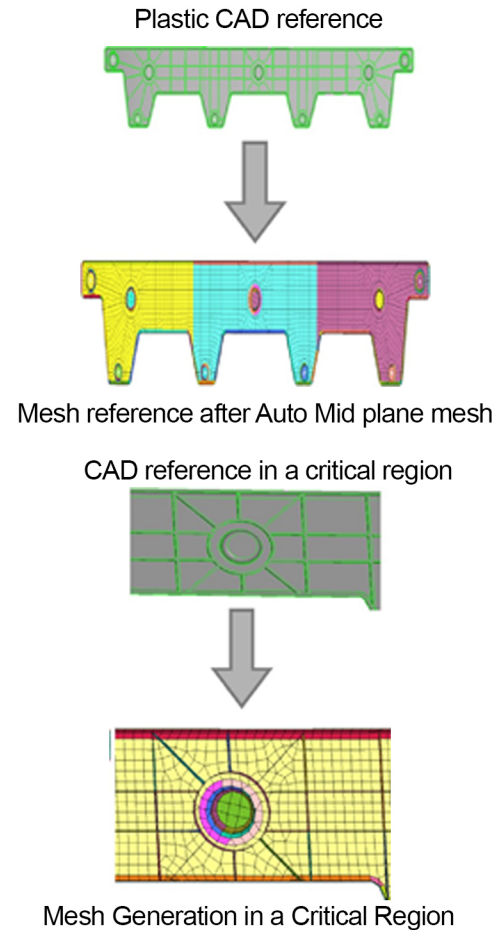
## The Solution

MeshWorks has two convenient options which the user can chose 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 | Time taken = 1/3 x |
| | Manual effort = more | 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 |

Plastic CAD reference



Mesh reference after Auto Mid plane mesh

CAD reference in a critical region



Mesh Generation in a Critical Region

**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.

PRE/ POST PROCESSING

MULTI- DISCIPLINARY OPTIMIZATION

PROCESS AUTOMATION

CAE/ CAD MORPHING

CAE PARAMETRIZATION

**DEP** MeshWorks