

## 100% Hex Mesh Modeling for TIRE tread & full Tire model.

### Challenges in Concept Studies

Tire tread are made with grooves & ribs feature with different height and width, due to which building hex mesh is a challenging task, which requires expertise in modeling.

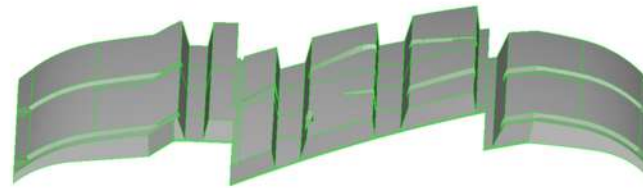
### The Solution

The process automation tool from MeshWorks makes this task automated and easy to execute. MeshWorks enables rapid hex mesh modeling with a high level of automation. It can generate a good quality mesh, with minimal user inputs, and the task can be performed by any engineer, and doesn't require a meshing expert.

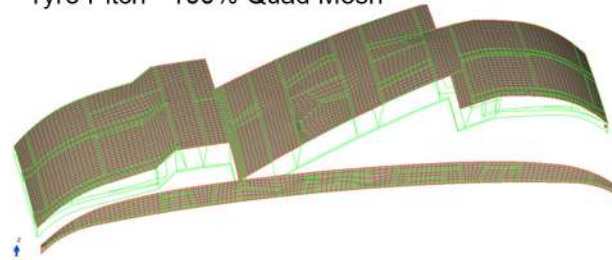
### Value

	Process using Other Tools	Process using DEP MeshWorks
Time taken for the task	1 Day	1 Hour
Expertise Needed	Highly experienced engineer	Regulat engineer
Auto parameterization of features for furthur optimization	None	Excellent

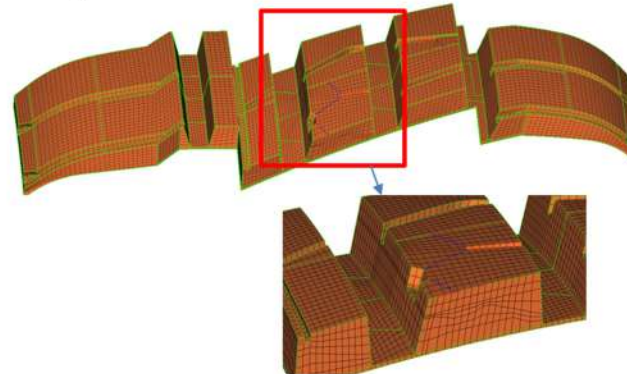
Tyre Pitch - CAD Data



Tyre Pitch - 100% Quad Mesh



Tyre Pitch - 100% Hex Mesh



### 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 parametric CAE models.

