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NX • Teamcenter • Simcenter Femap

Simcenter 3D • Simcenter STAR-CCM+ • Amesim

Portland, OR

WE DO THIS EVERY DAY

Since 2008 Applied CAx has guided companies to realize their investment in digital engineering tools.

NX CAD

SIMCENTER FEMAP

NX CAM

SIMCENTER 3D

TEAMCENTER

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SOLID EDGE

Our support team



SIMCENTER 3D · FEMAP · STAR-CCM+
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Our Next Femap Training Opportunity

Oct 18th – Oct 28th, 2021

Live, Online

AppliedCAx.com/Training

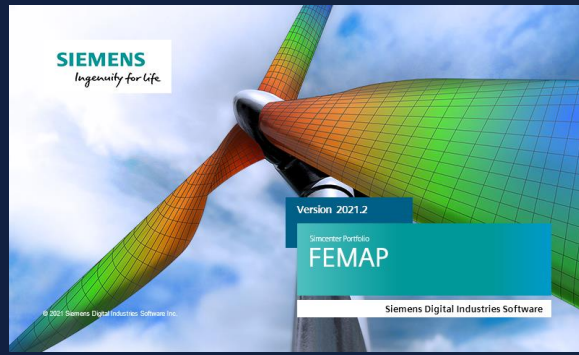
CAE Support Review:

As far as tech support is concerned, I have had fast and top-quality responses. The awesome thing is, I get a lot of information during the support communication, but I also receive the full concept and learn a lot. Even if the issue is very simple, I get a quick response. If someone asks me about buying Siemens products, I will surely recommend Applied CAx.

Srivatsa Pradeep, MSME
Project Consultant (Structures & FEA)
Hatch LTK Engineering Services

HATCH LTK

Positive Change for the Next Century



Simcenter Femap Best Practices: Model Organization, Working with Views, and Presentation Graphics

A Seminar for Simulation Engineers

Adrian Jensen, PE, MBA – Senior Application Engineer, CAE

Associativity

- Connections between entity types
- Granular control (pros/cons)
- Geometry-FE Model Connections

Controlling Views

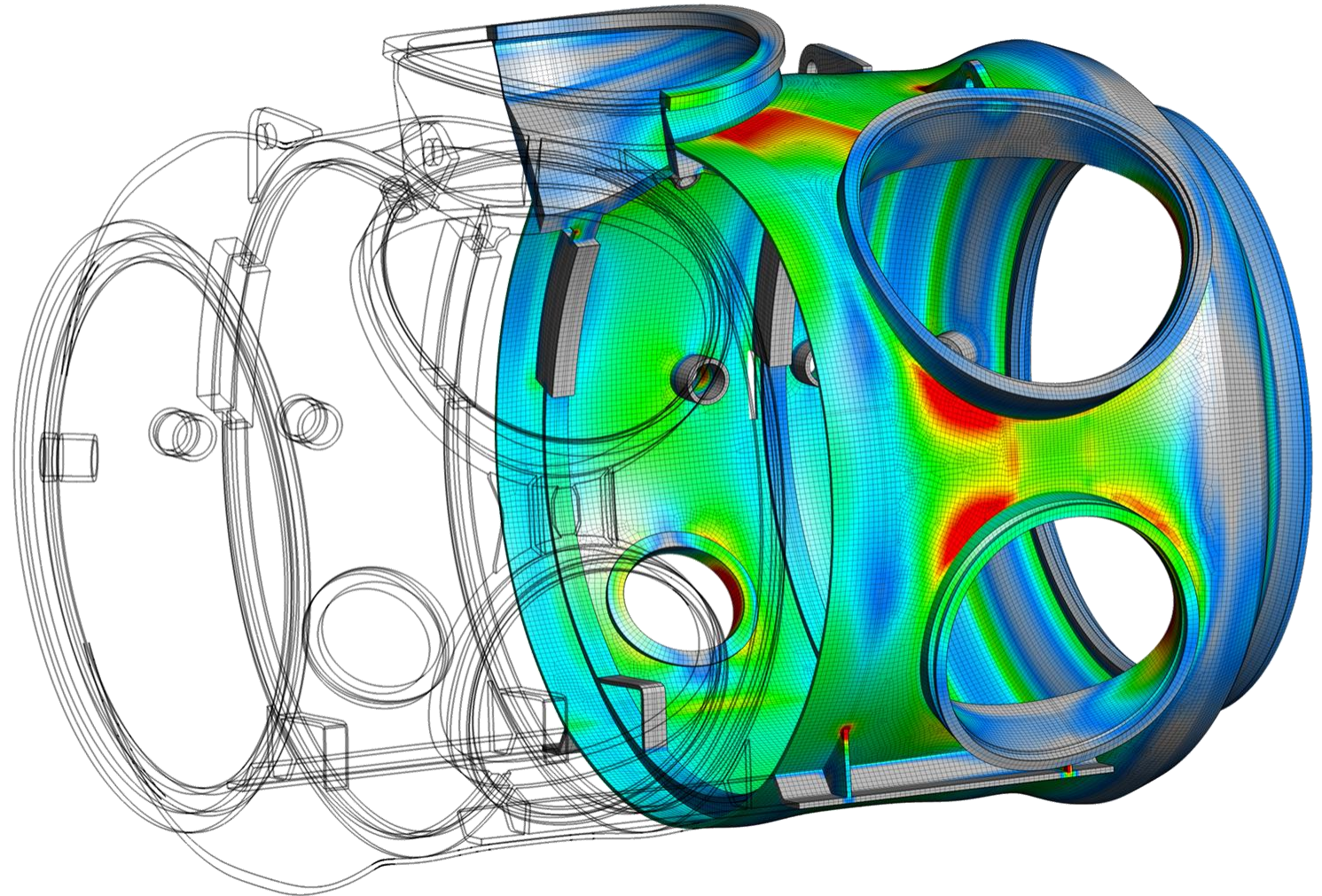
- Displaying types of entity
- Showing specific entities
- Easy on-screen picking
- Nuclear option (resets)

Model Organization

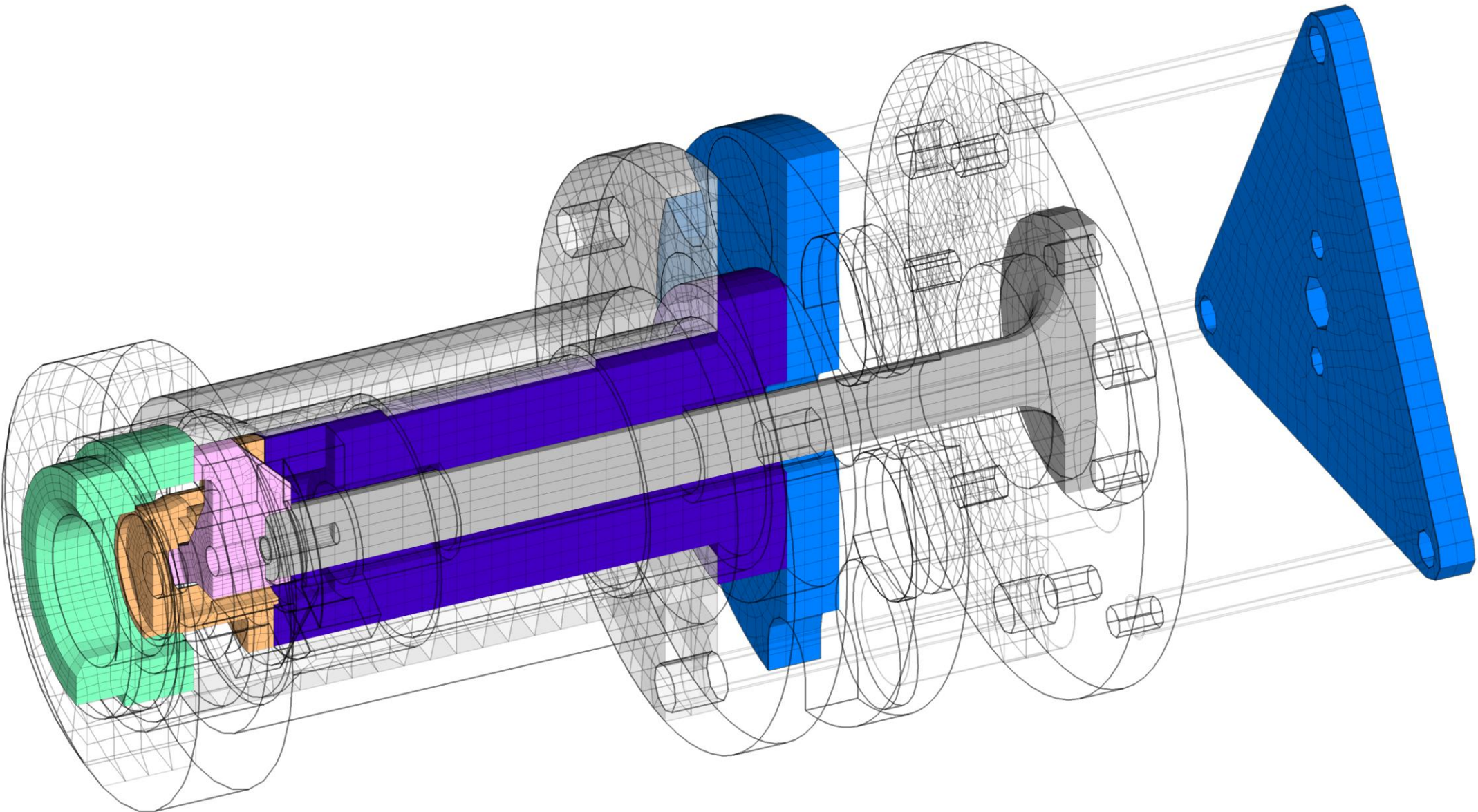
- Groups
- Layers
- Smart numbering

Custom Graphics

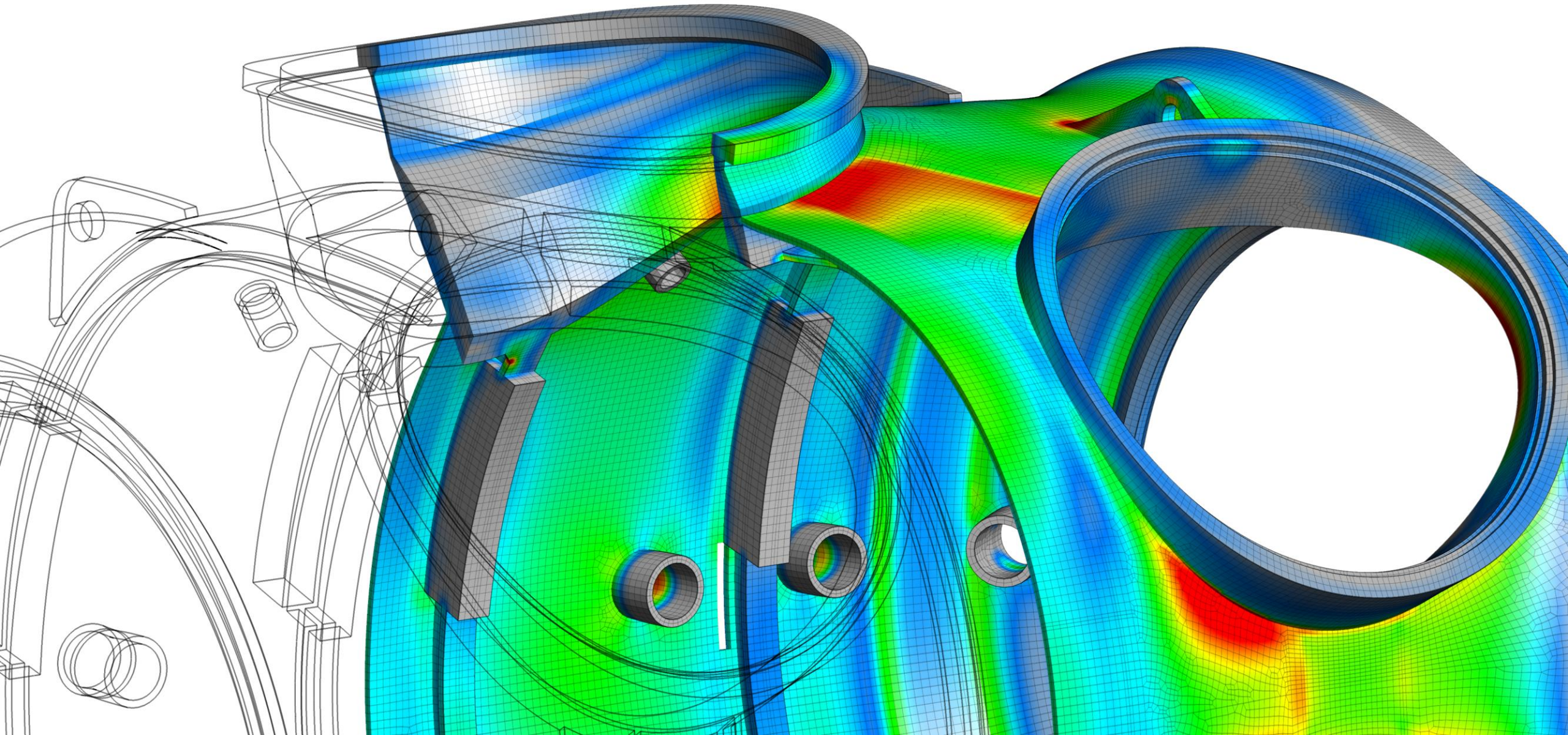
- A few favorite settings
- And some API scripts



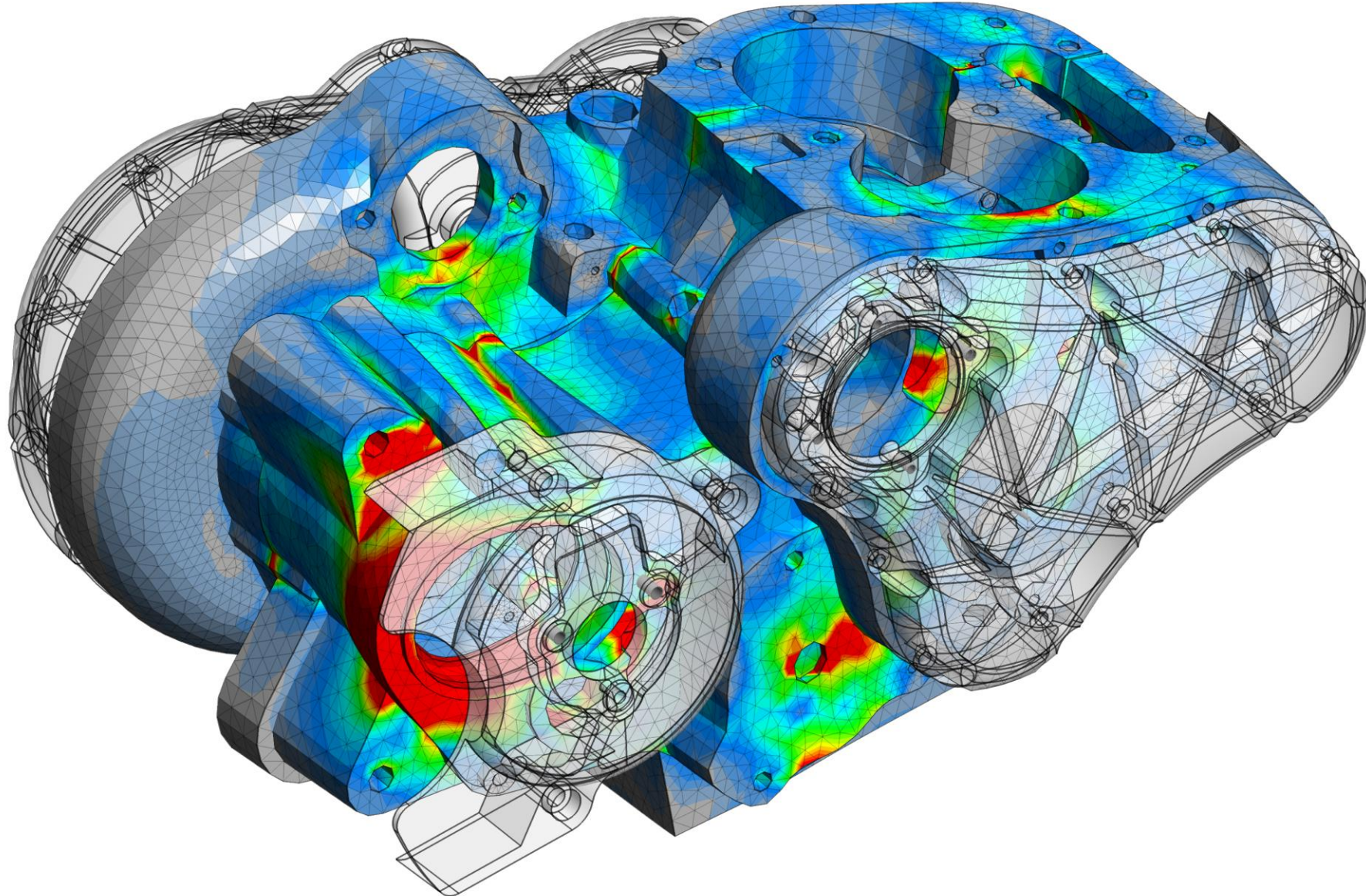
But First...



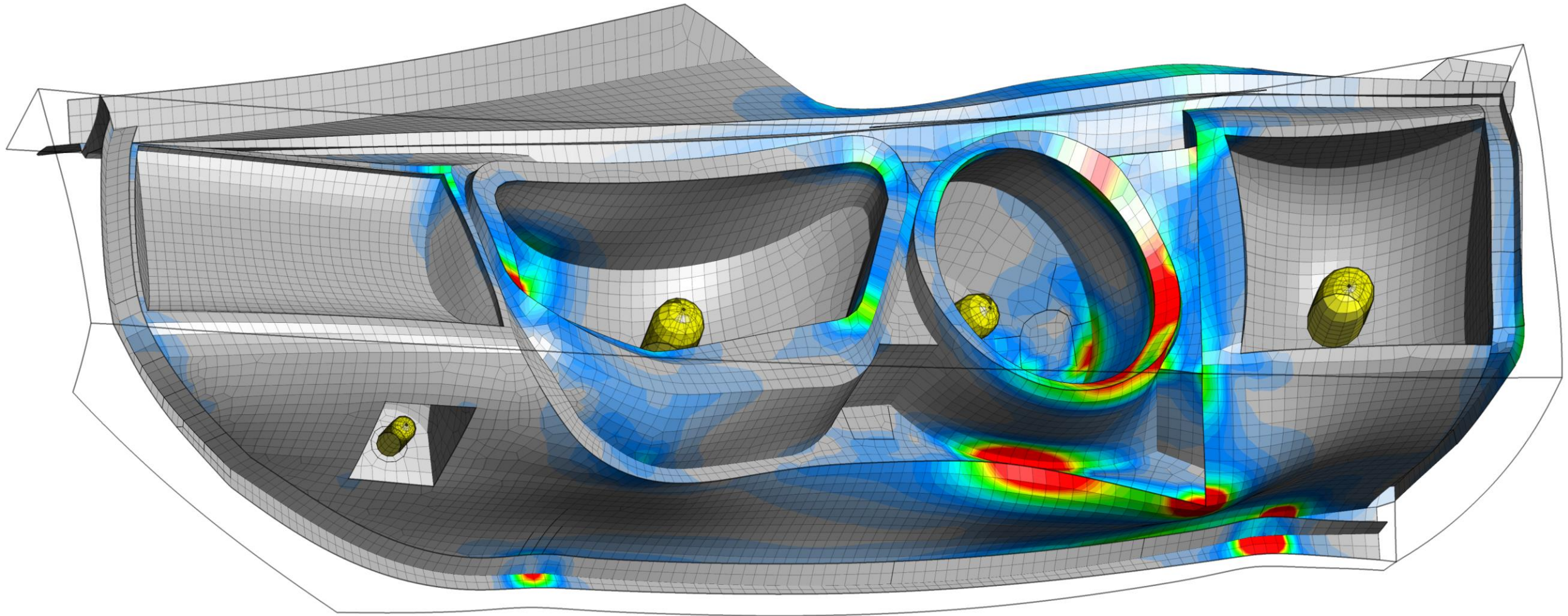
Some examples...



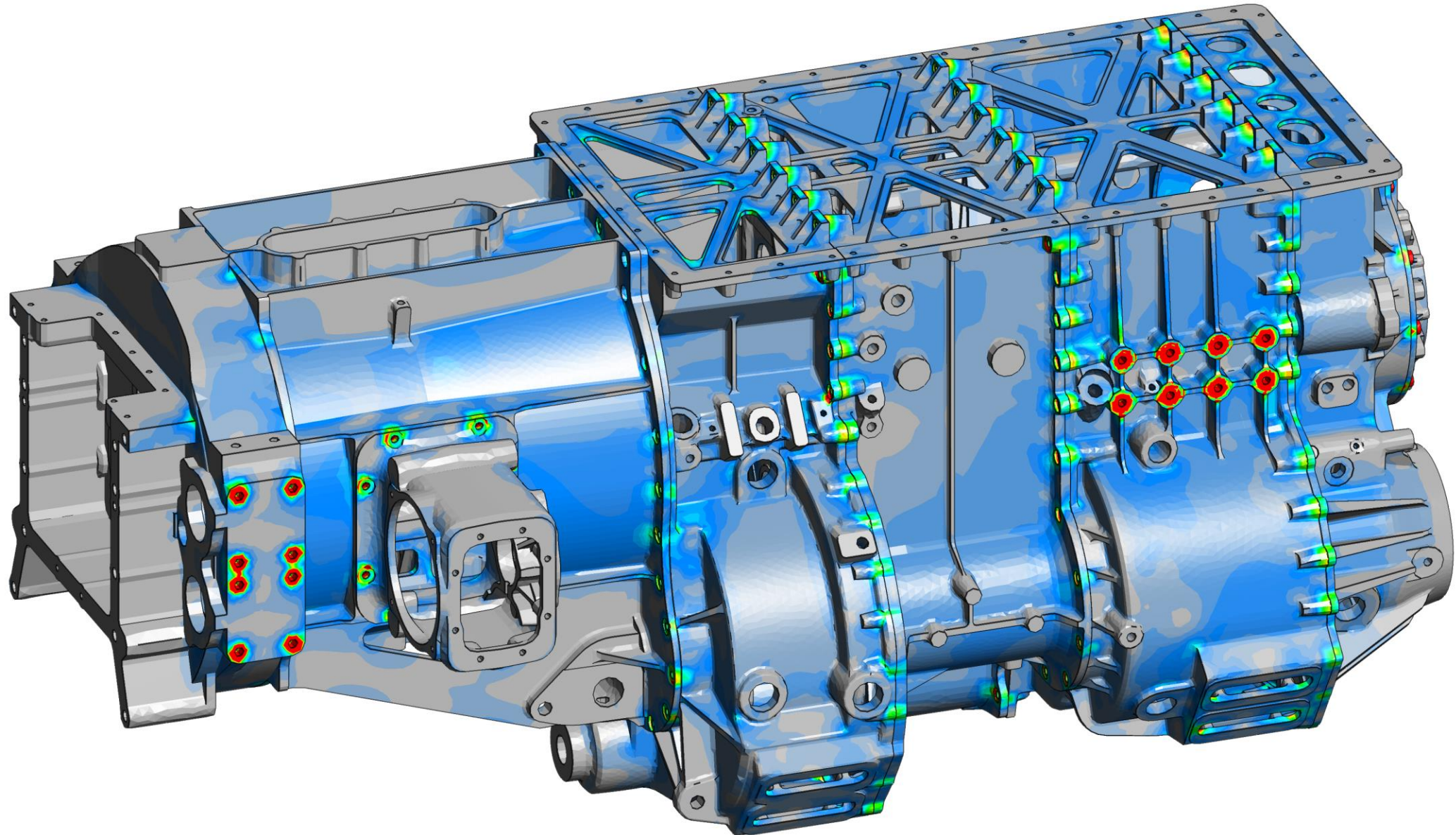
of what you...



can create...



In Simcenter Femap



Intrinsic links between entity types

- E.g., Points on curves, surfaces on solids, nodes on elements
- Think of building blocks (subatomic particles, atoms, molecules, etc.)

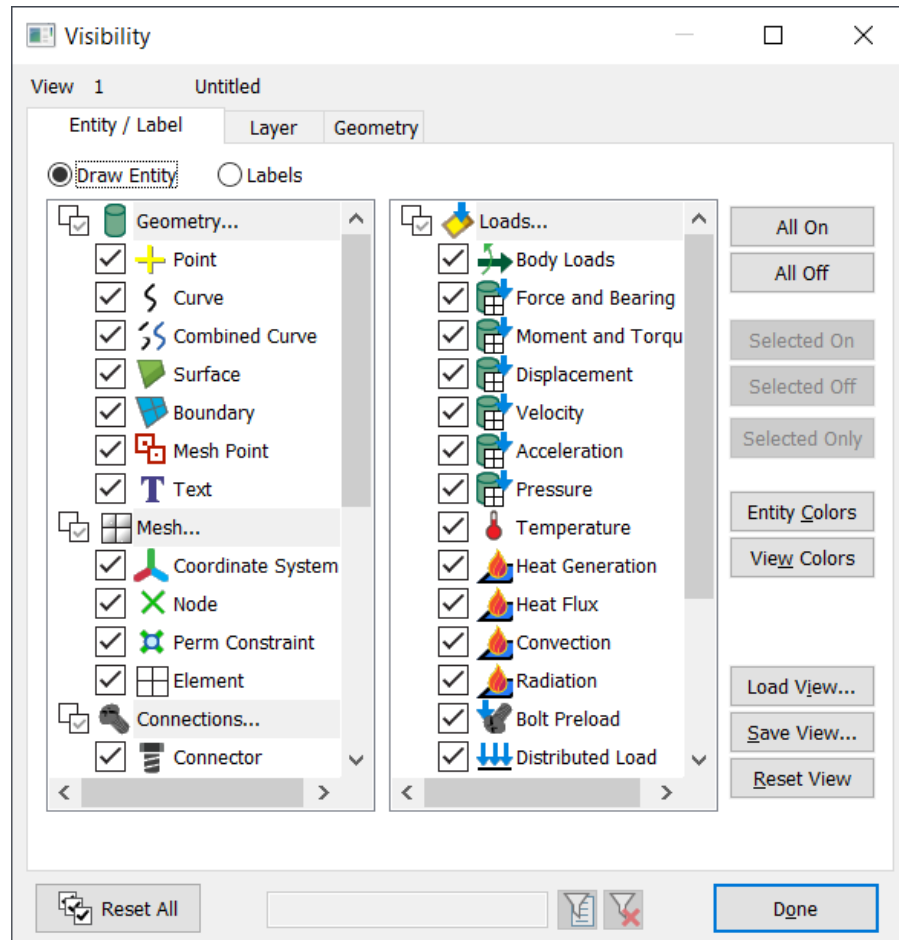
Granular control (pros/cons)

- This lets you organize the model and views precisely how you want
- This means you must pay attention when selecting entities

Geometry–Mesh associativity

- Not a mandatory link in Femap...
- But incredibly useful!
- Nobody wants to pick hundreds of nodes, one-by-one...

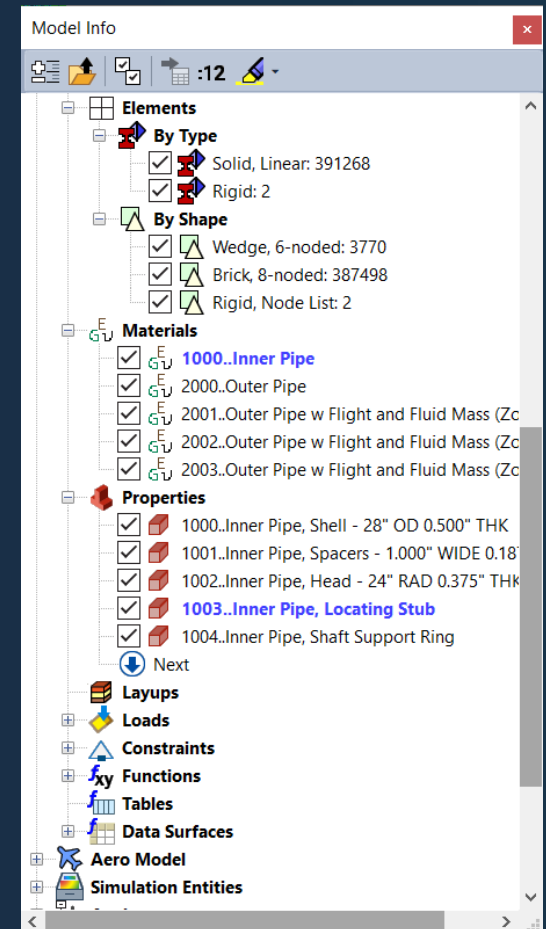
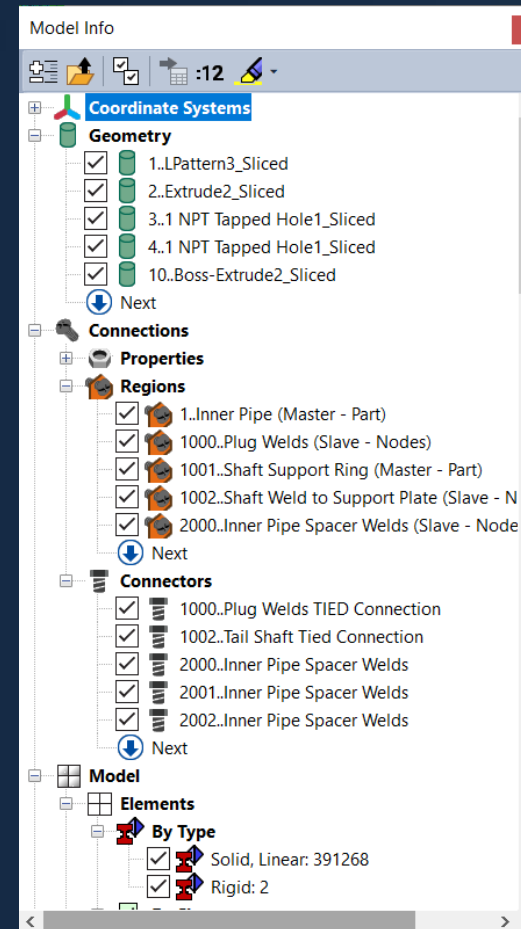
Displaying Types of Entities



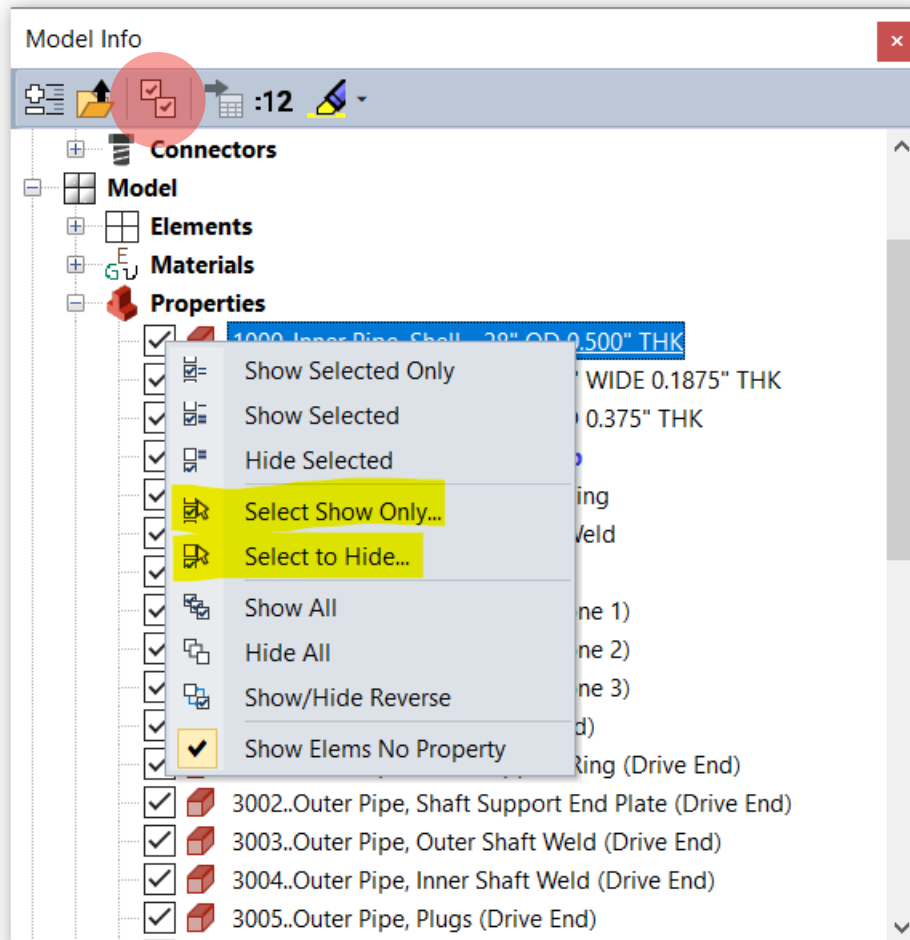
- Start simple with “*Entity Display*” toolbar
- For more control, use the “*Visibility*” dialogue box
 - Ctrl-Q is the shortcut

Displaying *Specific* Entities

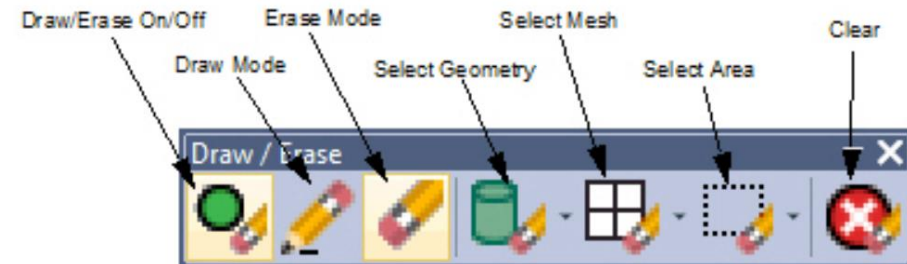
- The “*Visibility*” dialogue box has options for this
 - Explore the tabs up top
 - And the buttons on the left
- The “*Model Info*” pane has view control
 - Left-click the check boxes to blank
 - Right-click for advanced options



Easy On-Screen Picking

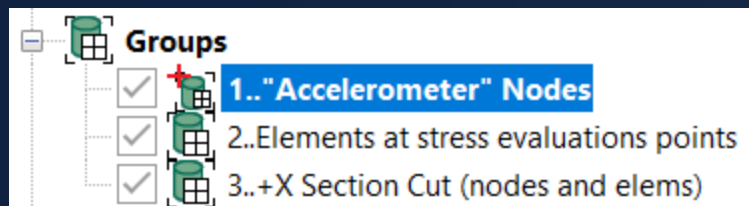


- “Model Info” right-click options
 - Select Show Only...
 - Select to Hide...
- The “Draw / Erase” toolbar is same same, but different...
 - Independent of blanking
 - Respects geometry-mesh associativity
 - Dynamic on/off and draw/erase functionality



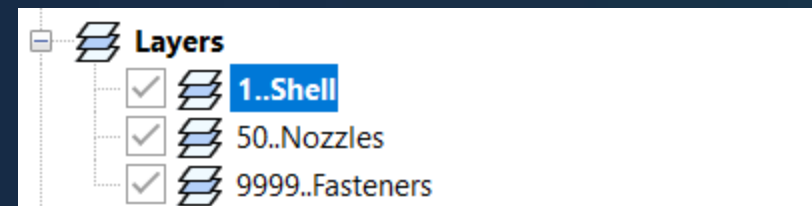
Groups

- Flexible – entities can be in multiple groups, or none at all
- Applications in controlling analyses and post processing
- Good for clustering entities (geometry and mesh) in Femap

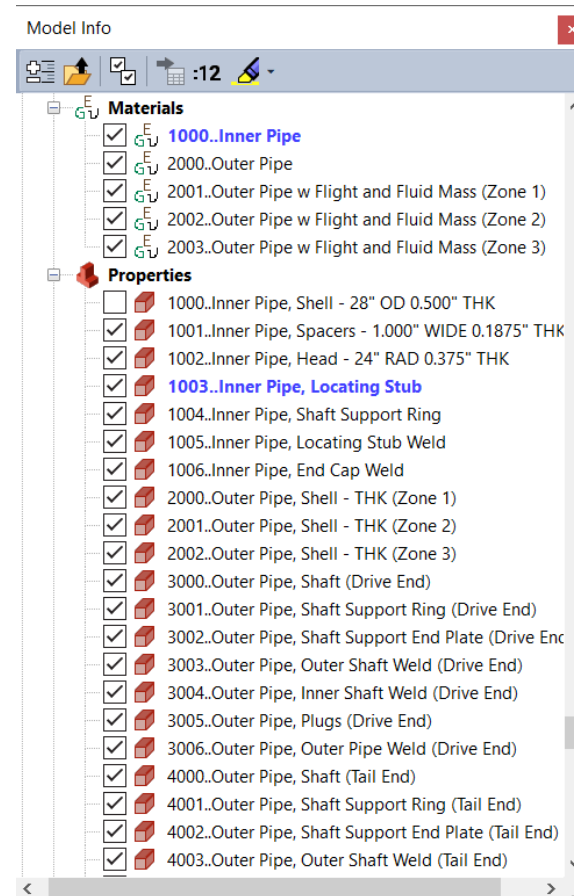
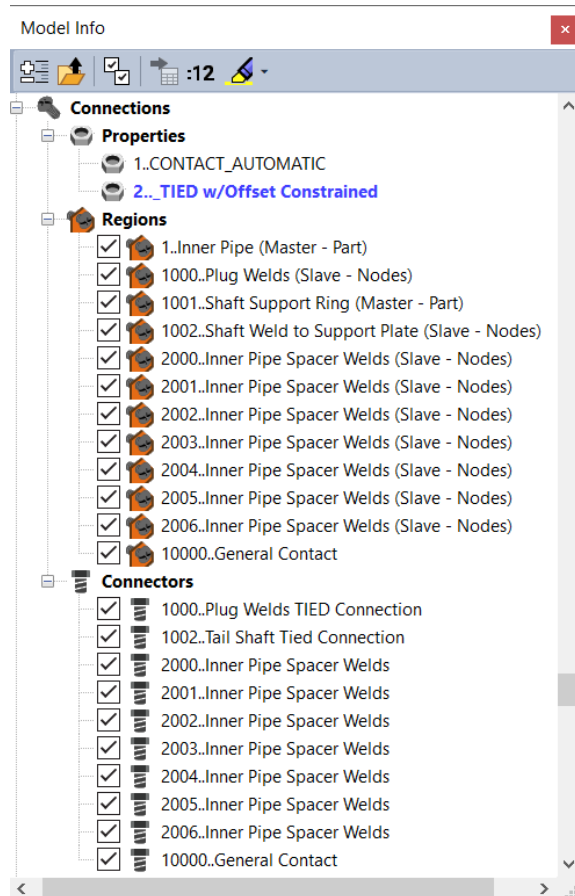


Layers

- Complete – entities must only be in one layer
- More 'durable' than groups but requires thoughtful organization
- Good for subdividing the model (geometry and mesh) in Femap



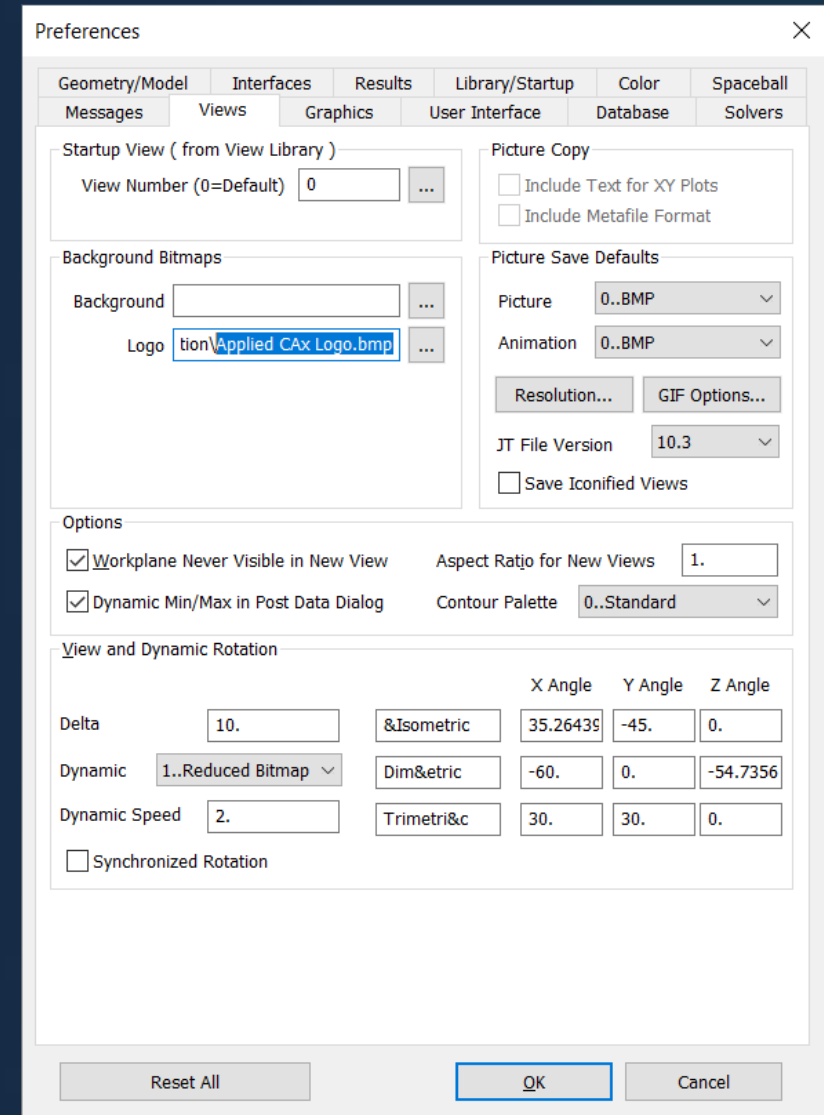
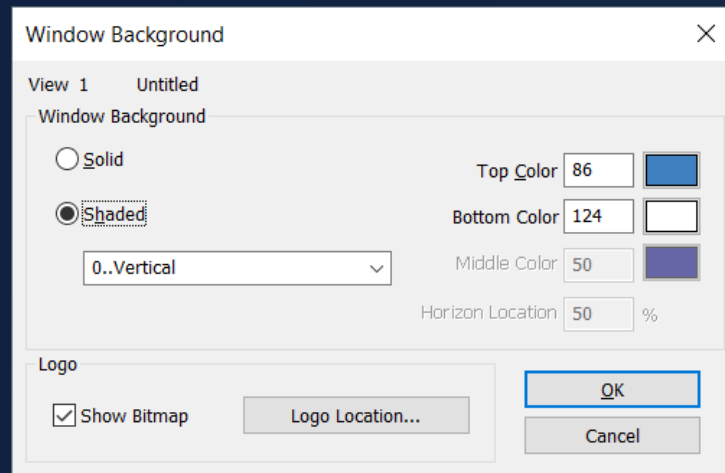
Numbering Schemes



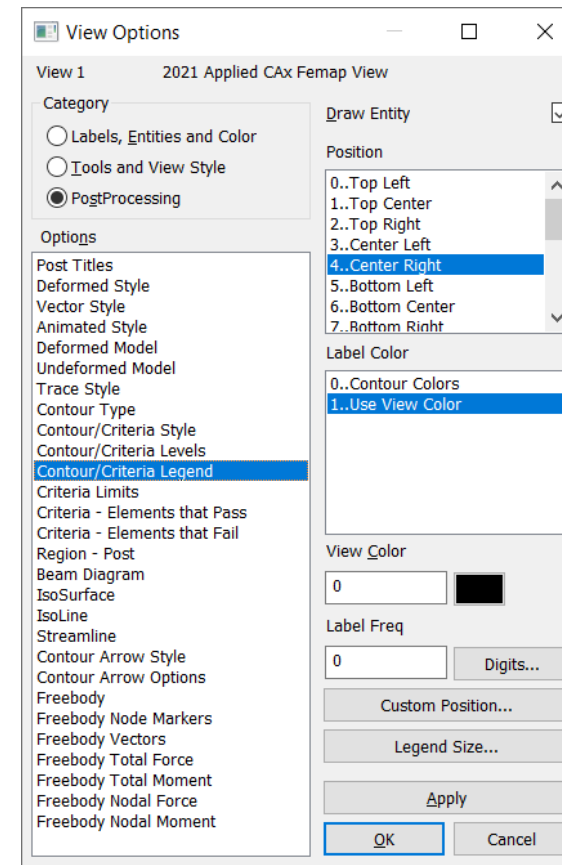
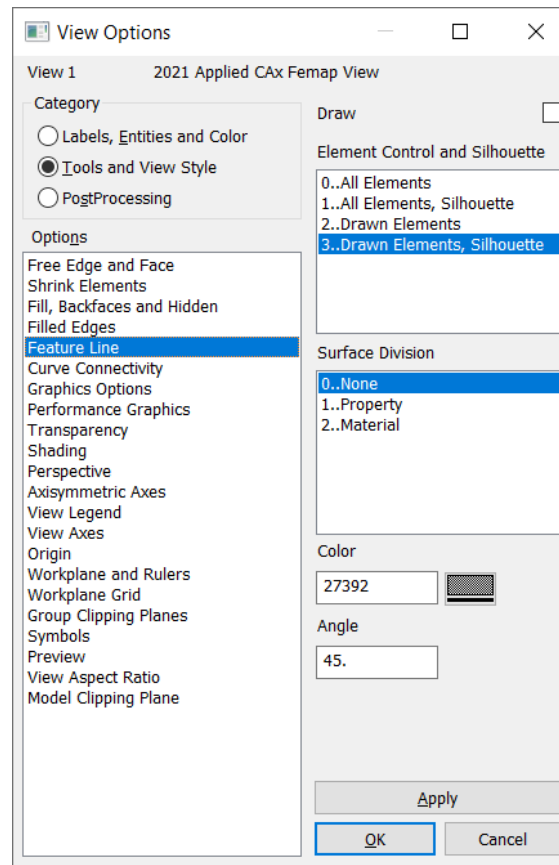
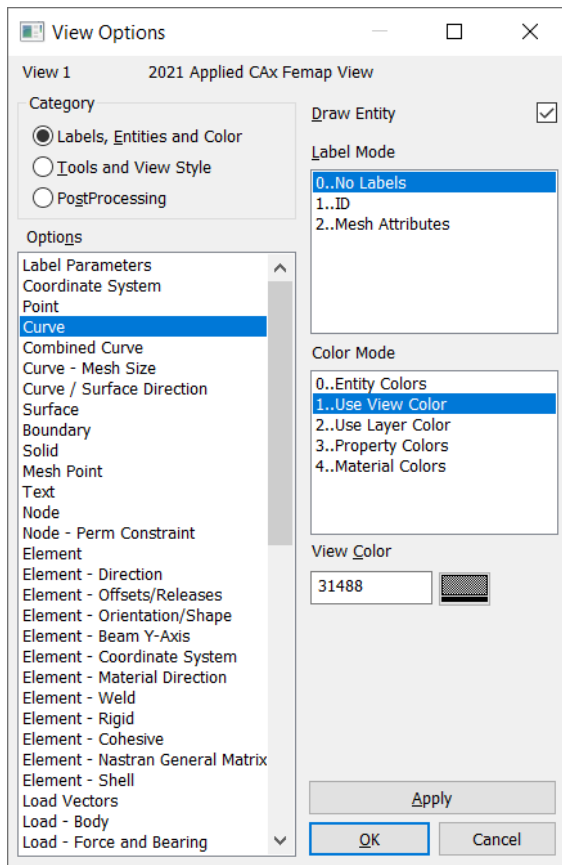
- The OG Model Organization Tool
- If all Groups and Layers were lost, it's easy to navigate a well-numbered model
- It also makes the other organization tools easier to use

Backgrounds and Logos

- Pick you colors (for gradient)
- And your style (shaded or solid)
- Use *.bmp images for logos



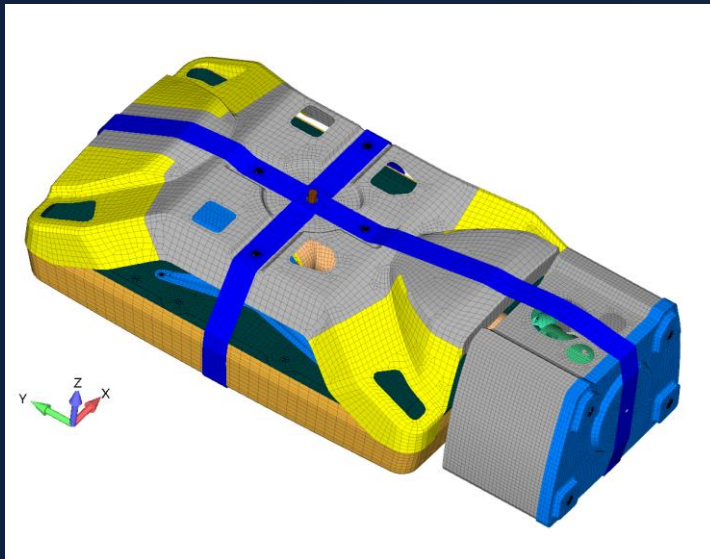
View Options (F6)



- Label Parameters
 - font and text size
- Geometry
 - curve color
- Mesh
 - filled edges
- Post Processing
 - contour colors
- Extra
 - Perspective
 - Reflection
 - feature line

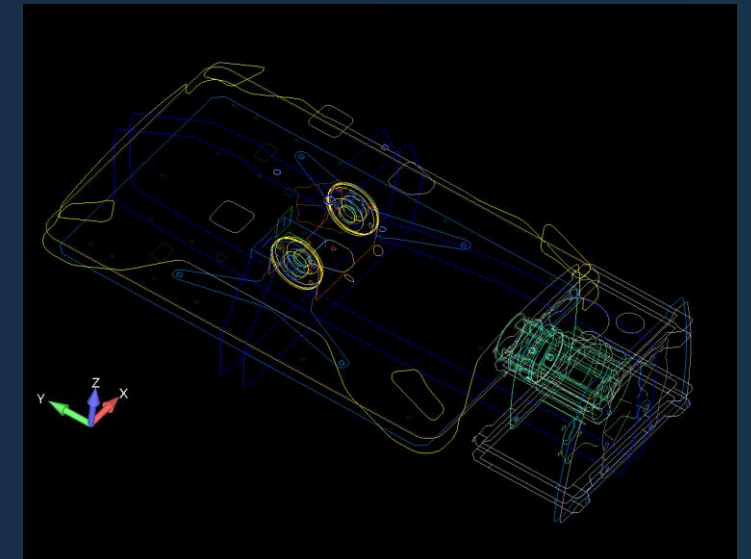
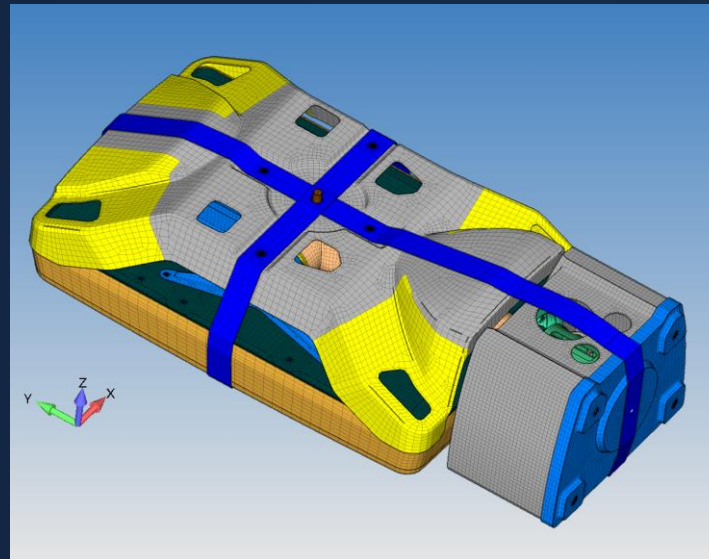
Free Edge Flip

- Changes background colors
- Switches free edge view
 - good for checking plate meshes



Feature Line

- Changes feature line options
 - All elements / shown elements
- Switches lines on/off



Applied CAx Technical Seminars

- Model Organization, Working with Views and Presentation Graphics
 - <https://appliedcax.com/resources/library-of-femap-online-seminars/femap-model-organization-working-with-views-and-presentation-graphics>
- Model Flow and Model Organization – FEMAP User Guide
 - <https://appliedcax.com/resources/library-of-femap-online-seminars/model-flow-and-model-organization-femap-user-guide>
- Simcenter Femap Best Practices: Analysis Workflows
 - <https://appliedcax.com/resources/library-of-femap-online-seminars/on-demand-webinar-simcenter-femap-best-practices-analysis-workflows>
- Simcenter Femap On-demand Webinar: Surface Modeling and Plate Meshing
 - <https://appliedcax.com/resources/library-of-femap-online-seminars/webinar-simcenter-femap-surface-modeling-and-plate-meshing>