

# CADdoctor Top Use Cases

Design Software by Elysium

# Data Optimization for CAE Analysis

## Challenge

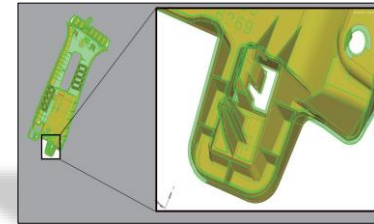
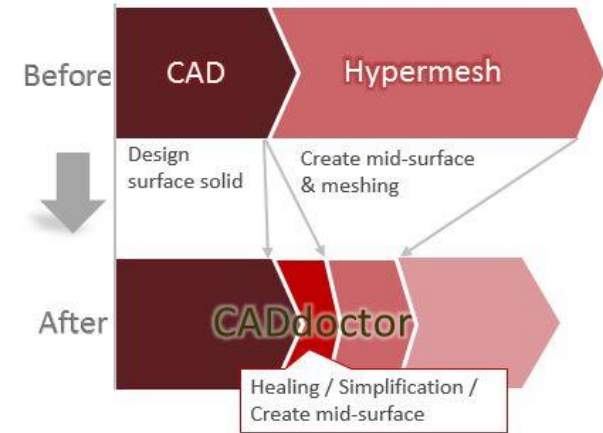
- Mesh quality of CAE data was poor, adding more work to the process of data preparation for CAE

## Solution

- Heal bad geometry with CADdoctor technology
- Simplify features and create mid-surface suitable for meshing and CAE

## Benefits

- Reduced their CAE data preparation time by 40%
- Higher quality of meshing was possible in HyperMesh



Mid-surface automatic extraction  
(CADdoctor)

# Data Healing for PDQ (Product Data Quality)

## Challenge

- Quality of CAD data is poor for succeeding in downstream workflows
- Trying to work with multiple formats from external parties causes issues

## Solution

- Heal bad geometry with CADdoctor technology
- Tolerance/topology adjustment for each target system

## Benefits

- Easier data handling in downstream workflows, regardless of the format

 **ELYSIUM CADdoctor**



**TROESTER**

EXCELLENCE IN EXTRUSION.

“Without using CADdoctor it would require utmost efforts to be able to process external CAD data with our CAD system.”

Martin Wosnitza, IT-department  
TROESTER GmbH & Co. KG

# Enveloping in Virtual Prototyping

## Challenge

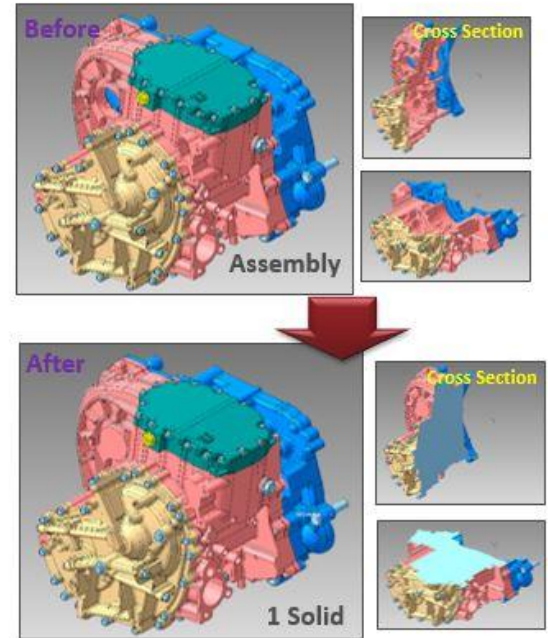
- Importing data to use for virtual prototyping was taking too long
- Performance degrades when moving or scaling up/down a heavy model

## Solution

- CADdoctor's enveloping function reduces the data size by solid enveloping and deleting inner parts

## Benefits

- Smooth, stress-free investigation of assembly performance
- Effective for IP protection when data is exchanged with suppliers



# Reducing Time for Creating FEA Models

## Challenge

- Capacity increase leads to a need for reduced preprocessing time in simulations
- Create better mesh through geometry simplification

## Solution

- Use CADdoctor *Translation* and *Simplification* platforms to reduce time in creating simpler models
- The creation of a CAD free of fillets chamfers, ribs and bosses, is much better for HyperMesh to handle in the creation of 2d and 3D mesh.

## Benefits

- Meshing a model with the help of the CADdoctor will create higher quality mesh with fewer elements for engineers to repair.



“Creating mesh directly on a model you received from your customer is simply not enough, you must simplify and clean your model, fast and easy! And in this gap the CADdoctor comes for help”

Konstantin Arhiptsov, Simulation department  
Arkal Automotive