

## TECOSIM: Reverse engineering of CT-scanned objects

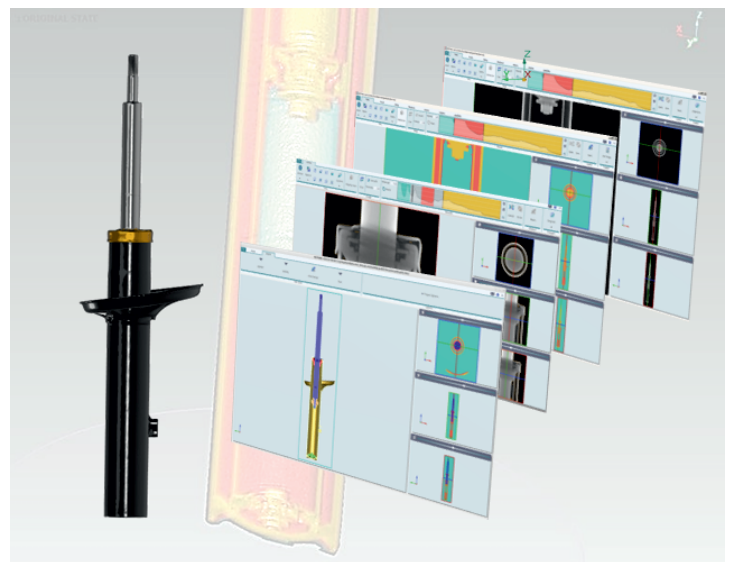
### Challenge

- Produce an FE-model from a CT-scan of a shock absorber part, towards further use for CAE-purposes.
- Perform a per part as well as per material segmentation.
- Increased difficulty factor, due to the existence of the hydraulic fluid.

### Approach

For this process, RETOMO/ANSA/META have been deployed.

- With the aid of RETOMO we performed the per part/per material segmentation at image level and produced the FE-meshes.
- The ANSA pre-processor has been used to remove artifacts & mesh noise.
- The META post-processor was deployed for reporting the reverse engineered parts, taking advantage of presentation features such as explosion, photorealism, annotation and the animation editor.



### Results - Benefits

- RETOMO handles the big datasets in modest computers, generating simplified but accurate meshes for further processing in ANSA.
- With META the user may directly load the RETOMO segmented volume and perform inspection using VR.

*"It's the combination of RETOMO/ANSA/META that facilitates a complete reverse engineering process, from handling CT-Data until reporting the redesigned objects."*

*Dipl.-Ing. S. Baum  
Branch Manager*

*TECOSIM Technische Simulation GmbH*