

Autonomous Data Cleaning Tool

Want to enhance quality of the surface mesh while dramatically reducing time?

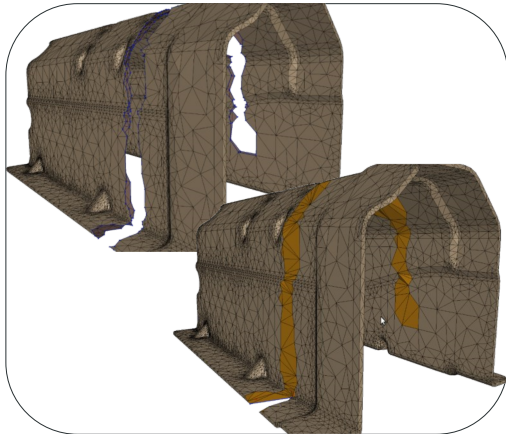


Fig. 1: Repair of non-manifold geometries

Most software developing companies today provide their own pre-processing toolboxes and claim to have fully automated solutions that cover workflows within the same product. While this would be ideal, it is rarely the case. Time and labor is being invested where it does not have to be. Users are left spending lots of time preparing input geometry suitable for the subsequent simulations. Research has even revealed that more than 50% of total time (including pre-processing, simulation and postprocessing) is used for data cleaning and volumetric meshing. More often than not, meshing experts are also needed to handle all the problems accordingly. ESS software is the exception. With ESS Software solutions understands that manual work is neither efficient nor necessary. With the ESS toolbox, you have autonomous solutions that are accurate, cost and time efficient.

The ESS Solution

MERGE is a toolbox with many functions that make working with complex geometries easy. Each tool can be used either independently or in connection with other tools. This ensures complex workflows that are executed fully automatically. The three main assets of MERGE in Data Cleaning are Repair (Illustration 1), Beltmerge Connection (Illustration 2), and Feature Line Detection (Illustration 3). ESS developed the fully automatic workflow to best process Data Cleaning for multipart geometries starting from CAD into any native format. ESS is focused on providing clean and connected meshes and important feature lines. By using the embedded feature lines, the 3D mesh is nicely enhanced, all the while saving manual time.

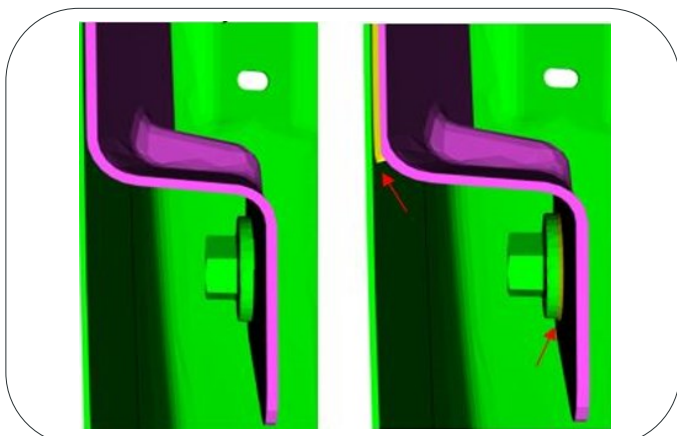


Fig. 2: Left initial, Right inclusive homogenous belts to connect

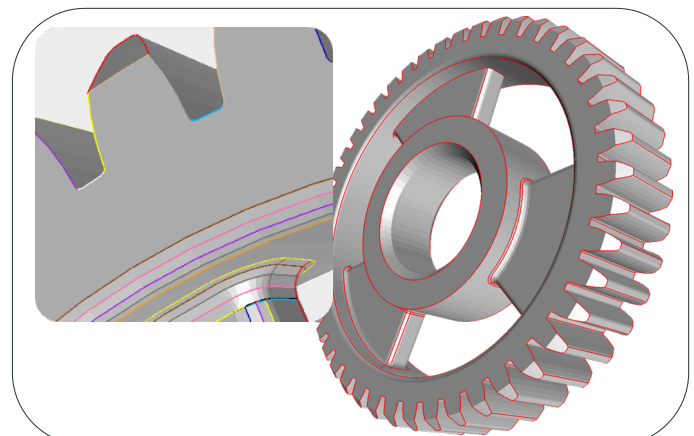


Fig. 3: Important Feature-Lines on curved geometries