Process Automation

DEP MeshWorks | Application Sheet

Process automation in DEP MeshWorks eliminates repetitive tasks, enhancing productivity and significantly reducing simulation lead time.

Importing the various designs of Seat → Positioning the Foot blocker and Dummy → Creating Seat Belt and Setting the loads & constraints → Generating the Analysis results

Work Flow - Driven by MeshWorks

Challenges Faced in Seat and Dummy Positioning

Passenger vehicle designs exhibit substantial variation worldwide, and each design must undergo crash analysis involving the use of dummies. This creates a significant challenge, as each vehicle configuration may require a uniquely adapted dummy, making the process highly time-consuming and expensive. Additionally, setting up seat structures, foot blockers, seat belts, and boundary conditions for each individual design adds further complexity and effort to the task. These factors collectively contribute to delays and increased costs in preparing vehicle models for analysis.

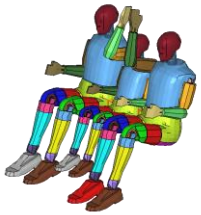
The Solution

DEP MeshWorks offers Seat Modeling Automation, which allows users to import various seat designs and configure the foot blocker position efficiently. A single dummy model can be adapted for different seat designs by simulating seat foam compression, eliminating the need to create a new dummy for each design. Seat belts can also be created directly within the process automation (PA) framework. The tool further enables automated setup of loads and boundary conditions, streamlining the entire workflow from seat import to analysis result generation within the Seat Modeling Automation environment.

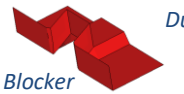
Value

- The specialized process automations available in DEP MeshWorks help users save a significant amount of time.
- The process automation function in DEP MeshWorks provides a visual and easy method to create process automators without requiring any scripting knowledge, which in turn reduces the time needed for PA creation.
- Many specific user needs are addressed through pre-packaged process automators.
- With this institutionalized process automation approach, customers can keep their proprietary functions in-house without the need for sharing.

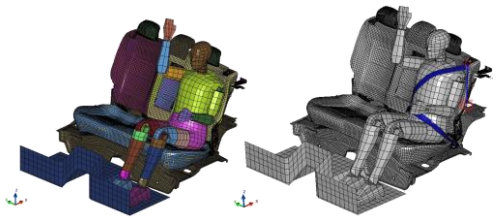
Seats Structure



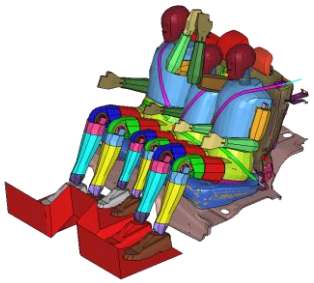
Dummy



Foot Blocker



Seat Belt Creation



Final Model