



**Groundbreaking
Simulation Solutions**

physics on screen

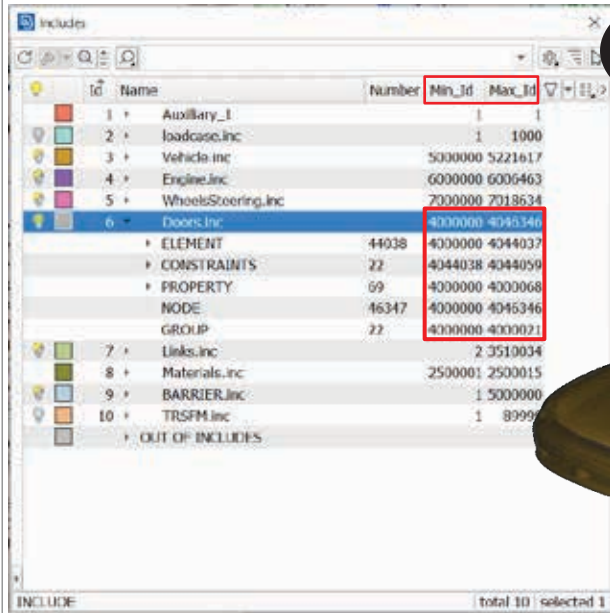


Latest & future developments in Crash and Safety

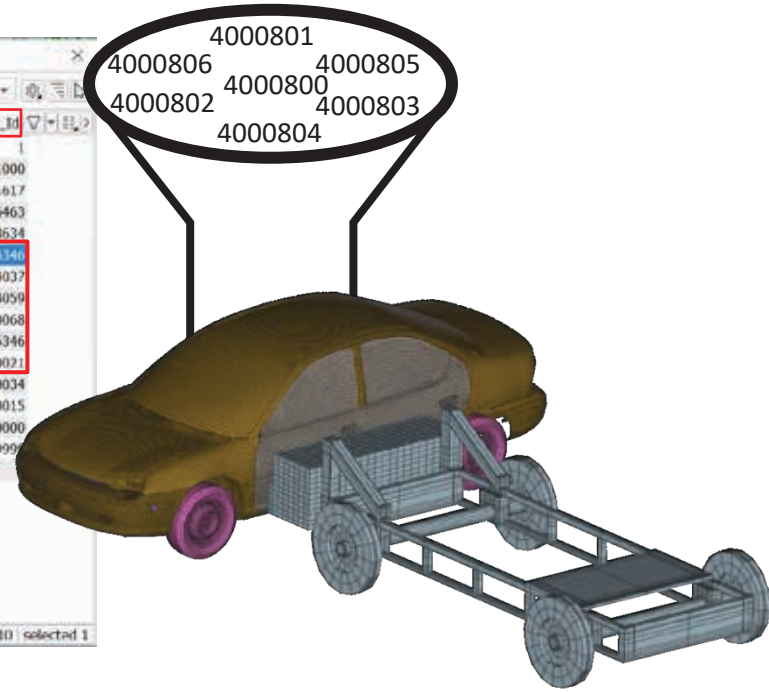
physics on screen

Model setup

Auto ID Assignment, Numbering Rules Application



Id	Name	Number	Min_Id	Max_Id
1	Auxiliary_1	1	1	1
2	loadcase.inc	1	1000	
3	Vehicle.inc	5000000	5221617	
4	Engine.inc	6000000	6009463	
5	WheelsSteering.inc	7000000	7018624	
6	Doors.inc	4000000	4046346	
	ELEMENT	44038	4000000	4044037
	CONSTRAINTS	22	4044038	4044059
	PROPERTY	69	4000000	4000068
	NODE	46347	4000000	4046346
	GROUP	22	4000000	4000021
7	Links.inc	2	3510034	
8	Materials.inc	2500001	2500015	
9	BARRIER.inc	1	5000000	
10	TRSPM.inc	1	8999	
	OUT OF INCLUDES			



What's next

- Include ranges taken into account
- Automatic application of numbering rules

Model Merge Preview



*Do I have any conflicts?
Which entities have conflicts?
How am I going to treat them?*

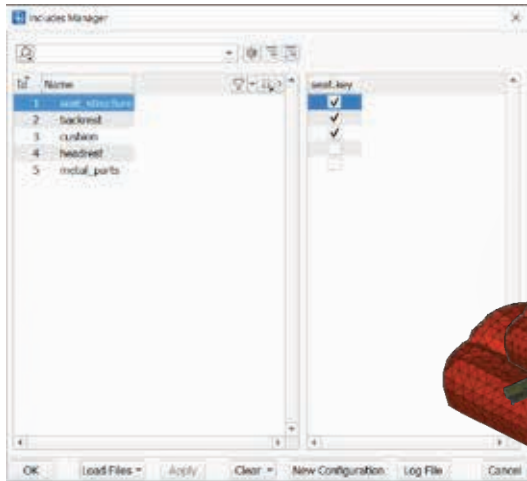
Latest features

- Load models
- Merge them
- Identify conflicts before merge
- Apply offsets

What's next

- Applicable during File>Input

*INCLUDE based Model Handling



*Can I handle the ID conflicts?
Can find only the modified Include?
Can I export only the updates?*

Latest features

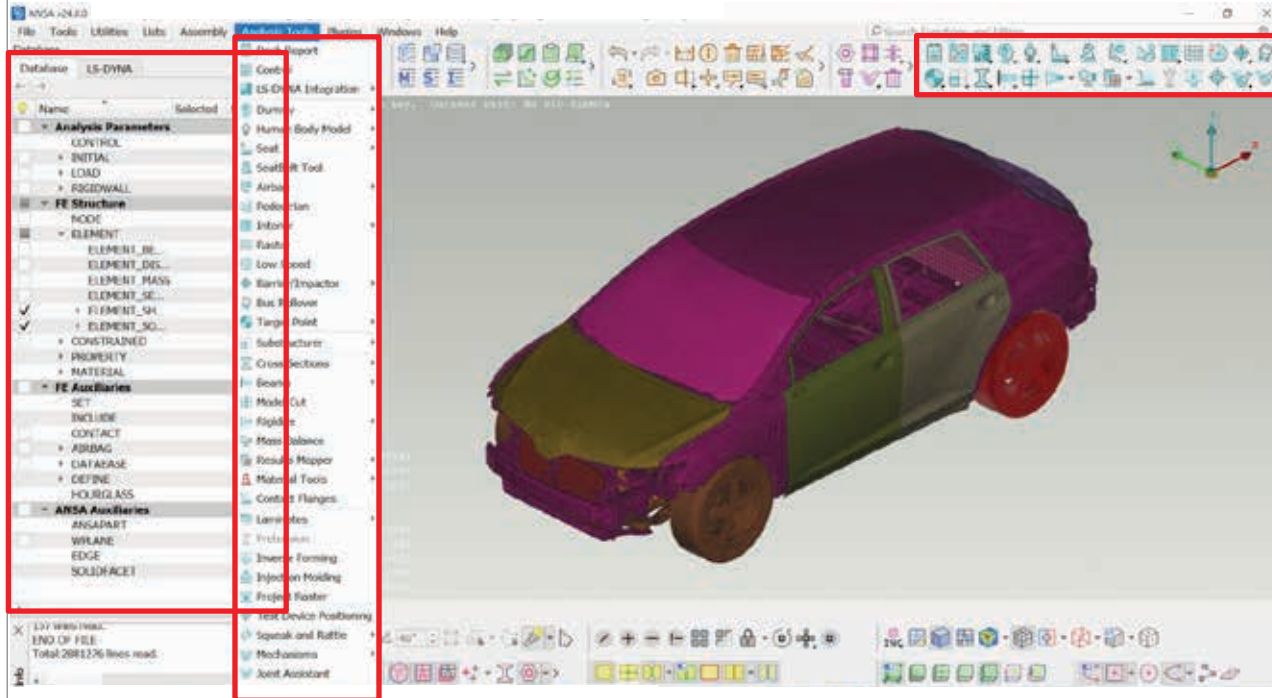
- Preview Include structure
- Load individual includes

What's next

- Identify and solve conflicts during load
- Where and what changes
- Export only the changes
- Keep the original structure of a file

Model exploration

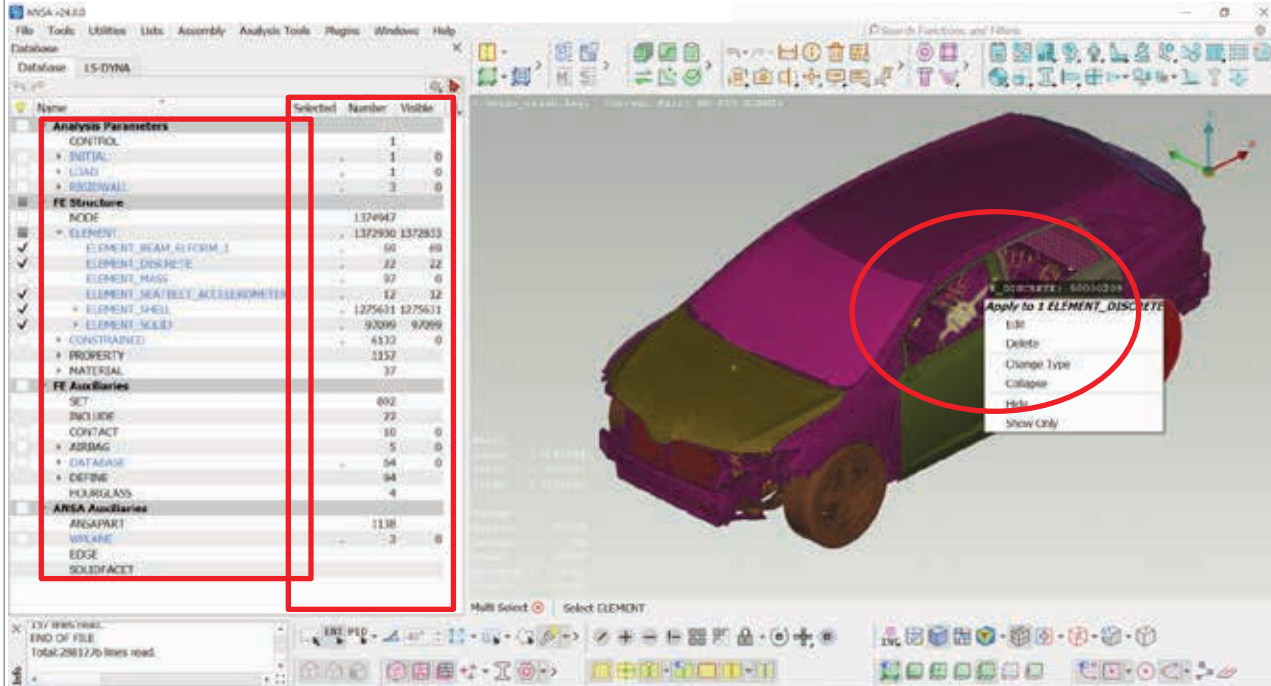
Crash and Safety UI



Latest features

- Ribbons
- Module buttons
- Analysis tools

DB-Browser updates



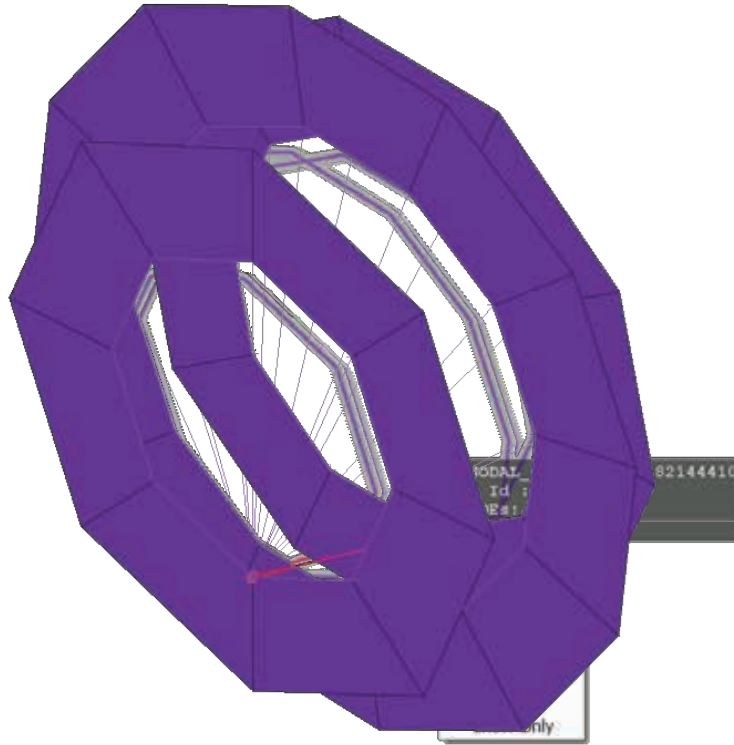
Latest features

- Categories of entities
- Enhanced selection
- Direct access
- Context menu

What's next

- Add Recent functionality option

Highlight – Draw – Info



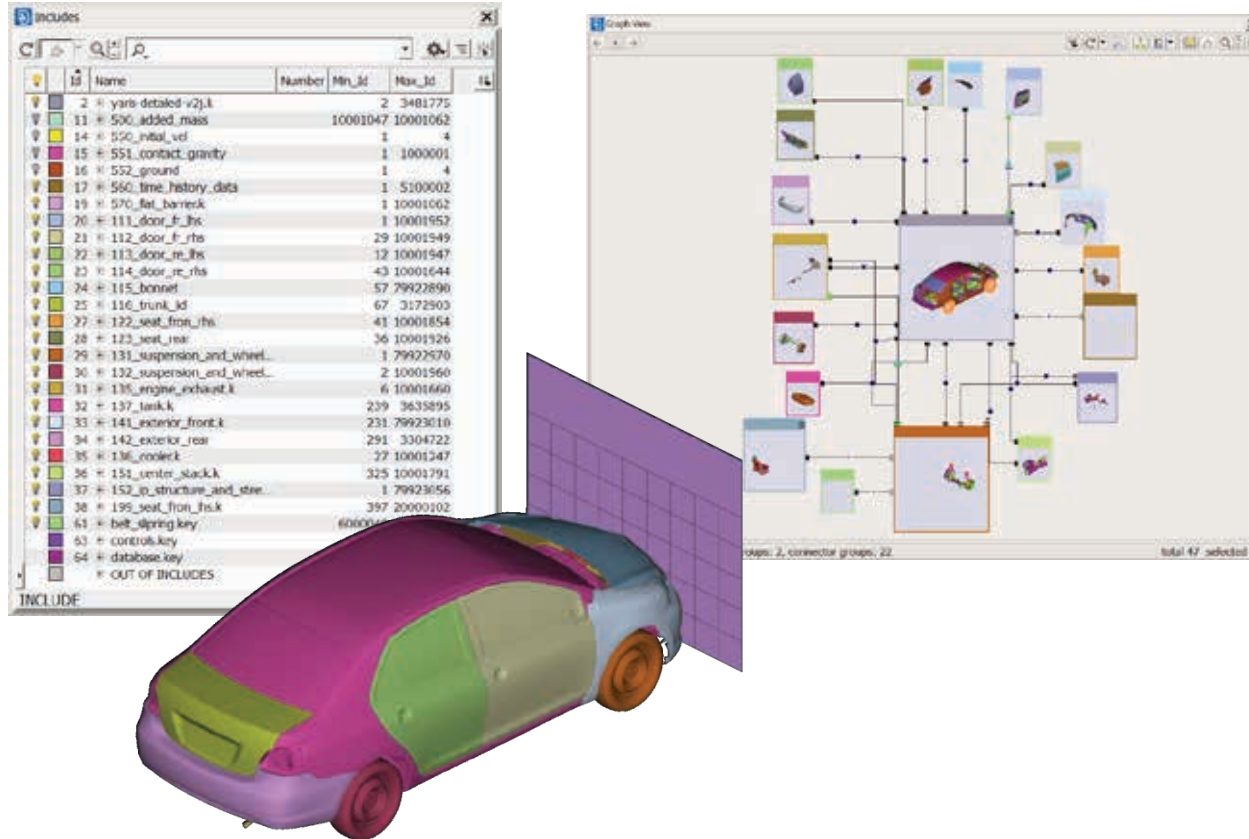
Latest features

- Updated drawing in RBE2s, CNRBs
- Draw per case depending on the connectivity
- Highlight of the entity info
- Context menu

What's next

- Draw Names/Ids per type/entity (GL)
- Change color – Ids/Names
- Change dimension – Line elements
- Masses drawing

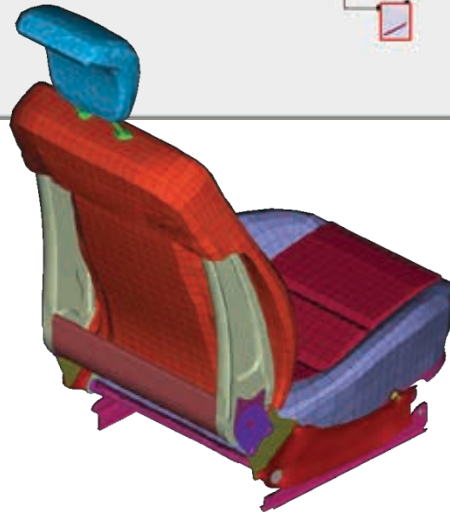
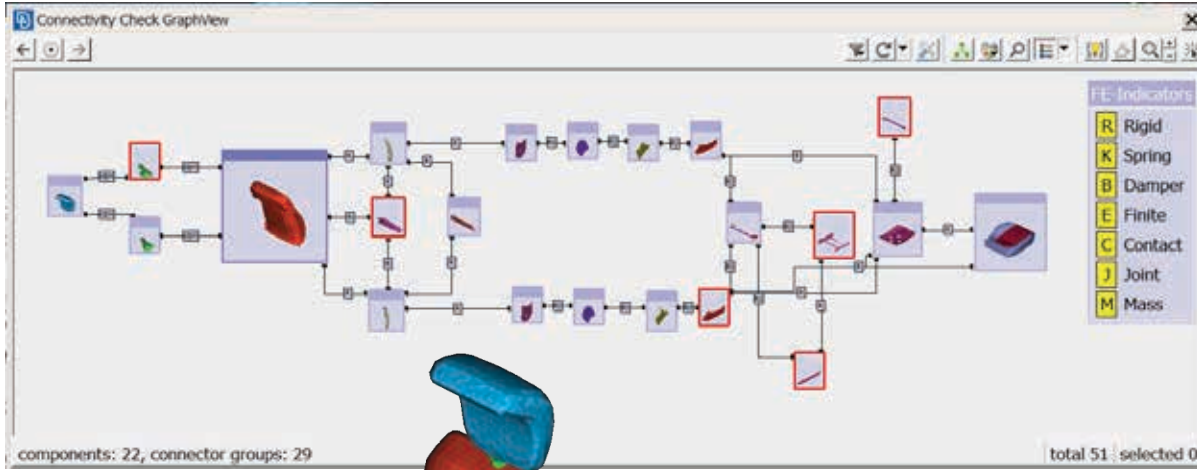
Model Connectivity - Graph View



Latest features

- Handling of connectivity information between components and includes.

Model Connectivity - Graph View



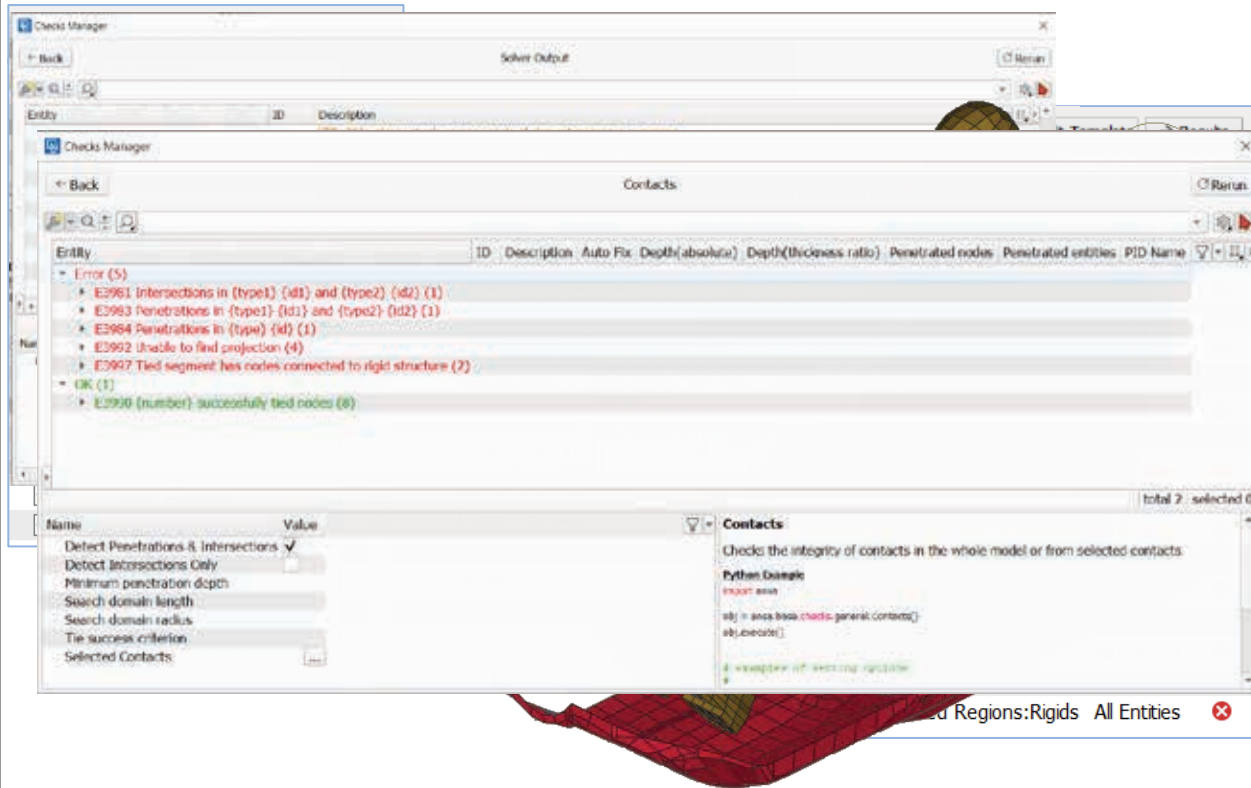
Latest features

- Connectivity Graph

What's next

- Create connections
- Embed checks functionality
- Connectivity - Neighbor

Checks - General



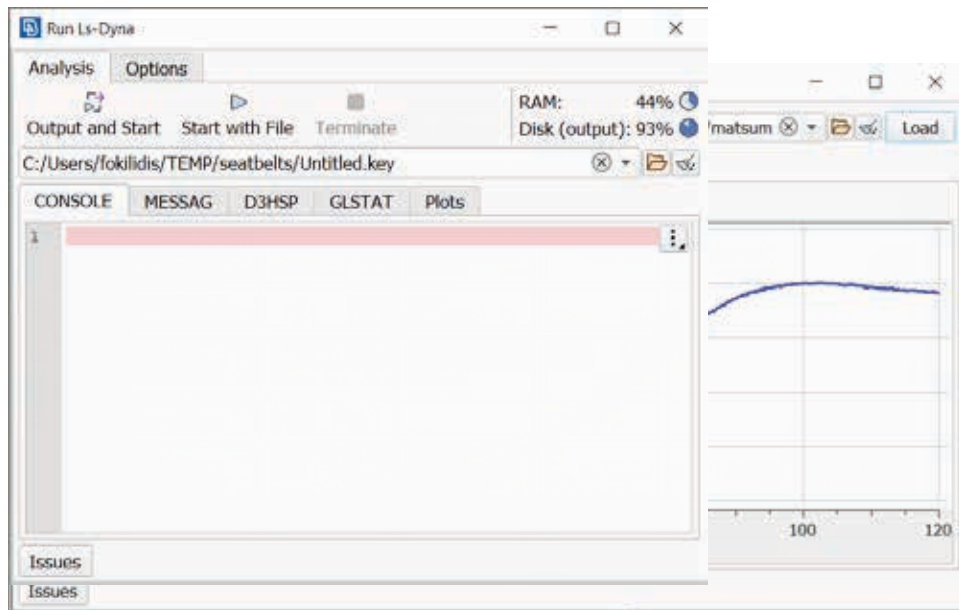
Latest features

- Additional checks for all Crash solvers
- Solver output check for crash solvers
- Group errors per type or entity
- Performance improvement

What's next

- Interface refresh
- Report generation (pdf, pptx)

Job submitter



Latest features

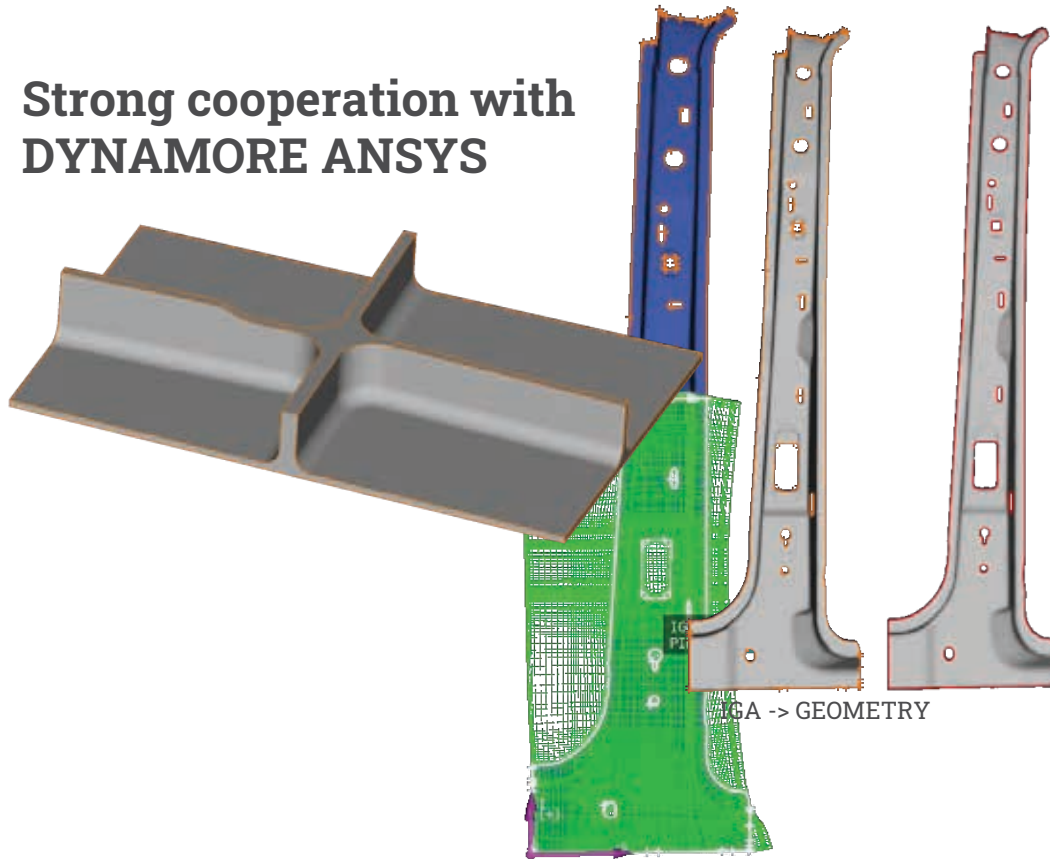
- Submit a job from ANSA
- LS-DYNA, PAMCRASH, ABAQUS
- Job monitoring
- Error handling

What's next

- Submit a job on HPC

IGA

**Strong cooperation with
DYNAMORE ANSYS**



Latest features

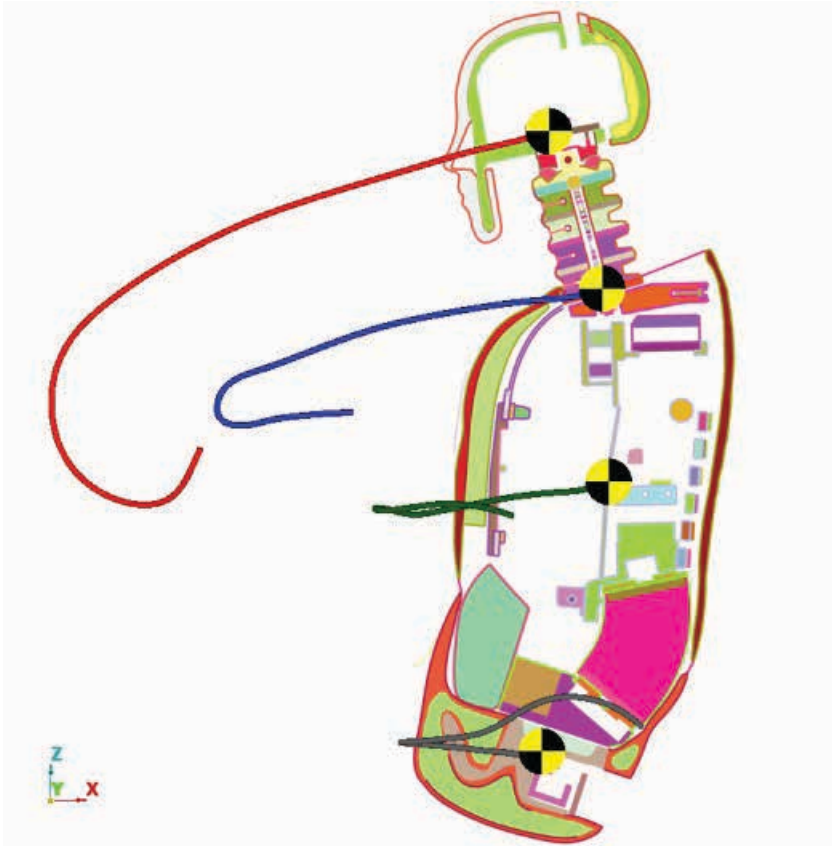
- *IGA_3D_BEZIER_XYZ
- Conversion of IGA patch to geometry

What's next

- Create BEXT IGA shell patches
- Support of multiple thickness in an IGA patch
- Enhance the IGA checks
- Improved visualization

General post-processing

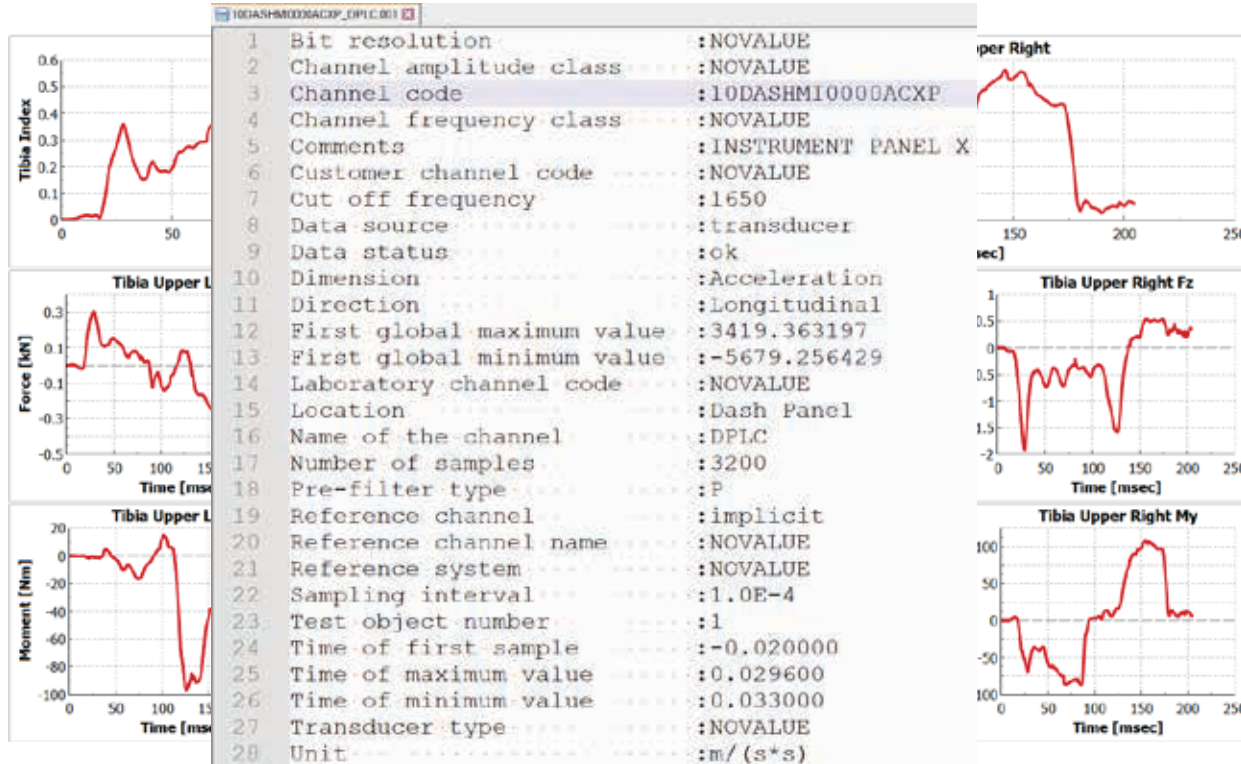
3D Model & Results' handling



Latest features

- Reading of IGA
- Improved handling of INITIAL STRESS/STRAIN results
- Automatic Subtraction of Initial results
- Better handling of LS-DYNA INTFOR results
- Improvement in reading of PAMCRASH ERFH5 files
- Markers creation

2D plot



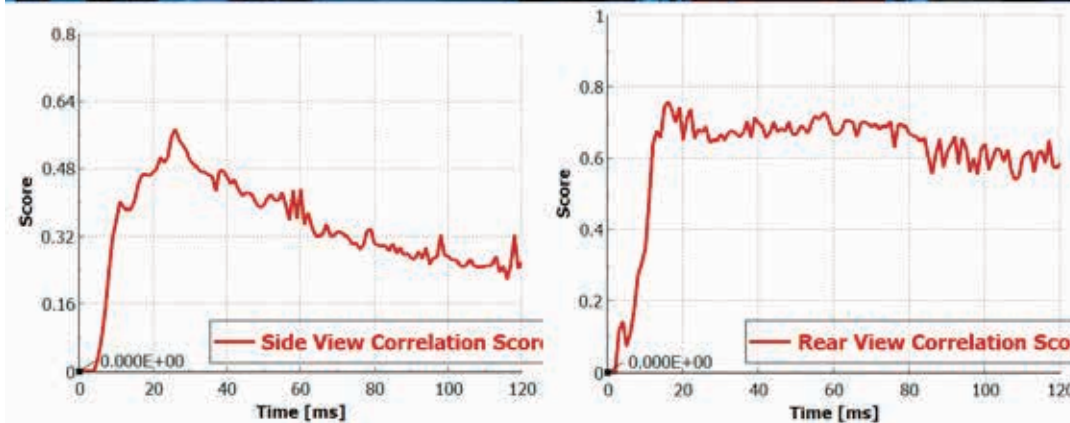
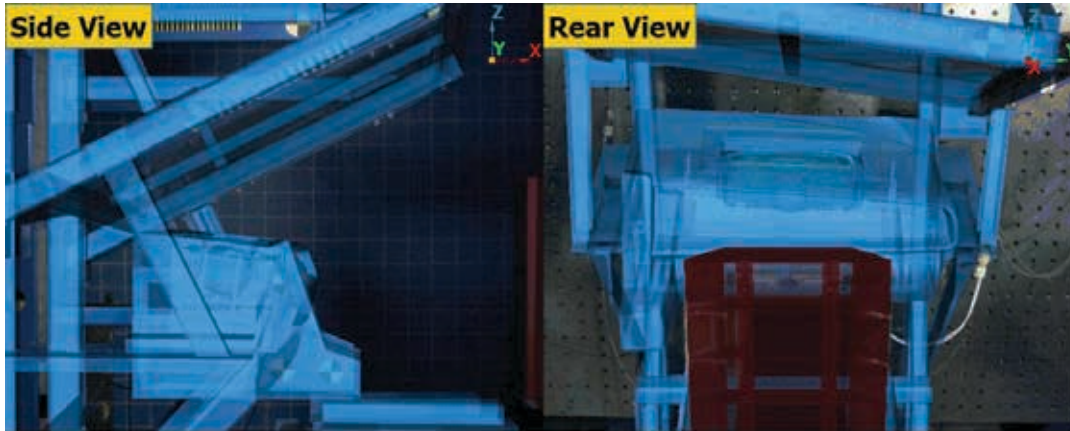
Latest features

- Redesign of Curve Functions
- User defined Plot Layouts
- Export of curves in ISOMME format keeping the header

What's next

- Customizable menus
- Support of tdm/tdms format

Video post processing



Latest features

- Video Correlation analysis

What's next

- Calculate correlation between videos of tests
- Extract 3d trajectories by combining videos of different cameras

Solvers

Crash/Impact Solvers support

- LS-DYNA R13
- PAMCRASH 2023
- ABAQUS 2023
- RADIOSS till 2021
- IMPETUS 7.0.1

Latest features

Safety

Human Body Models



Latest features

- More variants
- Pelvic/Lumbar ratio
- Separate vertebrae
- Positioning file

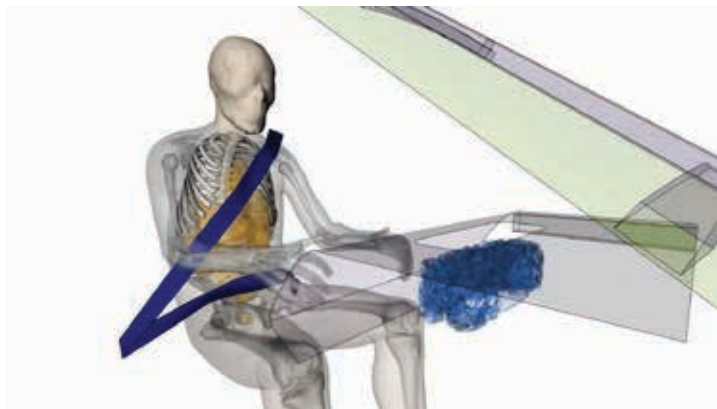
Human Body Models



What's next

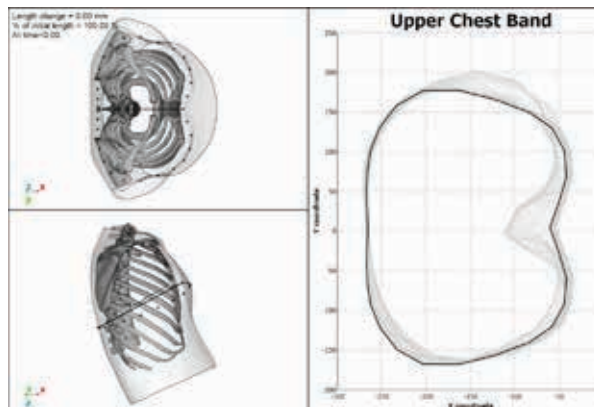
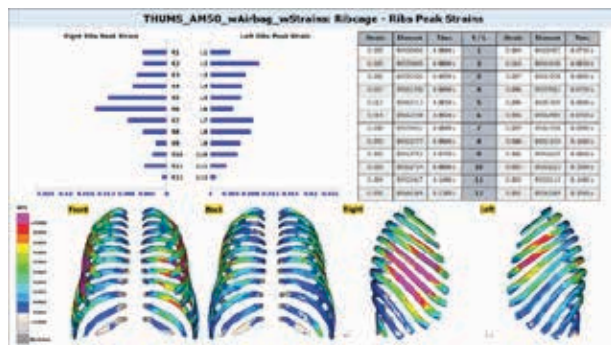
- Increase biofidelity
- Match point cloud
- Finger adjustment
- Contact detection
- Library of postures

Human Body Models



Latest features

- GHBMC, SAFER and THUMS models



What's next

- Rib Fracture Risk calculation for GHBMC and THUMS
- GHBMC Simplified models

Occupant Injury Criteria

EU-NCAP MPDB Rating of H3-50 at position 1
Run: HH3-50M_Sled_baseline

Body Region	Points
Head	4
Neck	1.24
Chest	3.09
Right Knee-Femur	4
Left Knee-Femur	4
Right Lower Leg	3.27
Left Lower Leg	3.6

NCAP Region	Points
Head-Neck	1.24
Chest	3.09
Knee-Femur	4
Lower Leg	3.27
Total Points	11.6
Final Points	5.8



*ADP v3.2.1 Shoulder Belt Force (if available) module is considered

EU-NCAP Rating of Q10 at position 1
Run: HUMANETICS_DYNA_V1.6_S3_Frontal

NCAP Region	Points
Head	4
Neck	2
Chest	2
Total	8

*COP v7.2.2 without modifiers



US-NCAP Rating of H3-50 at position 1
Run: HH3-50M_Sled_baseline



Measurement	Value	Unit	Probability
Head	HIC15	113.0	-
Neck	Fz-	-0.03	kN
Neck	Fz+	1.568	kN
Neck	Nij	0.582	-
Neck			0.111
Chest	Deflection	26.55	mm
Femur	Fz	-0.95	kN
Total			0.133
RR			0.687
Star Rating		star	4



Latest features

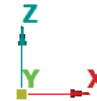
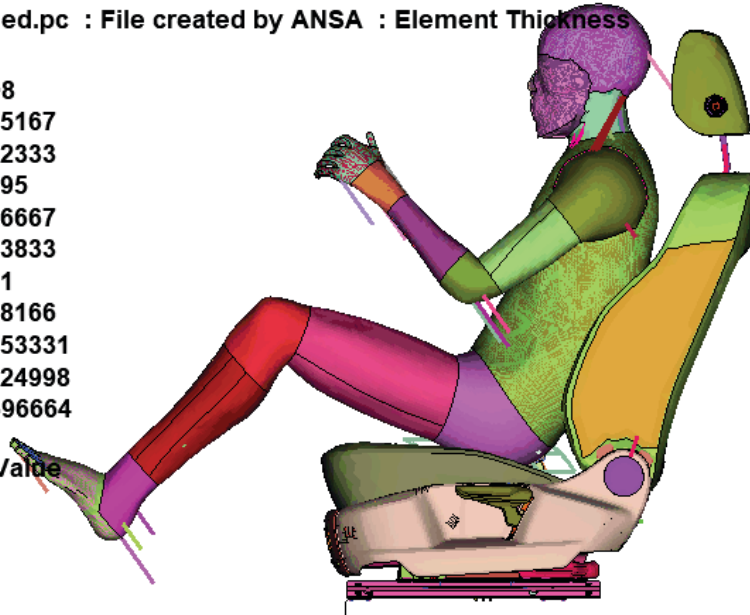
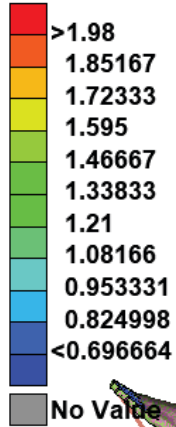
- GHBMC models
- More ATDs (Q1.5) and newer versions
- More Ratings and Regulations

What's next

- EuroNCAP VTC

Marionette Pre-Simulation

0:Untitled.pc : File created by ANSA : Element Thickness



< Back Next > Cancel

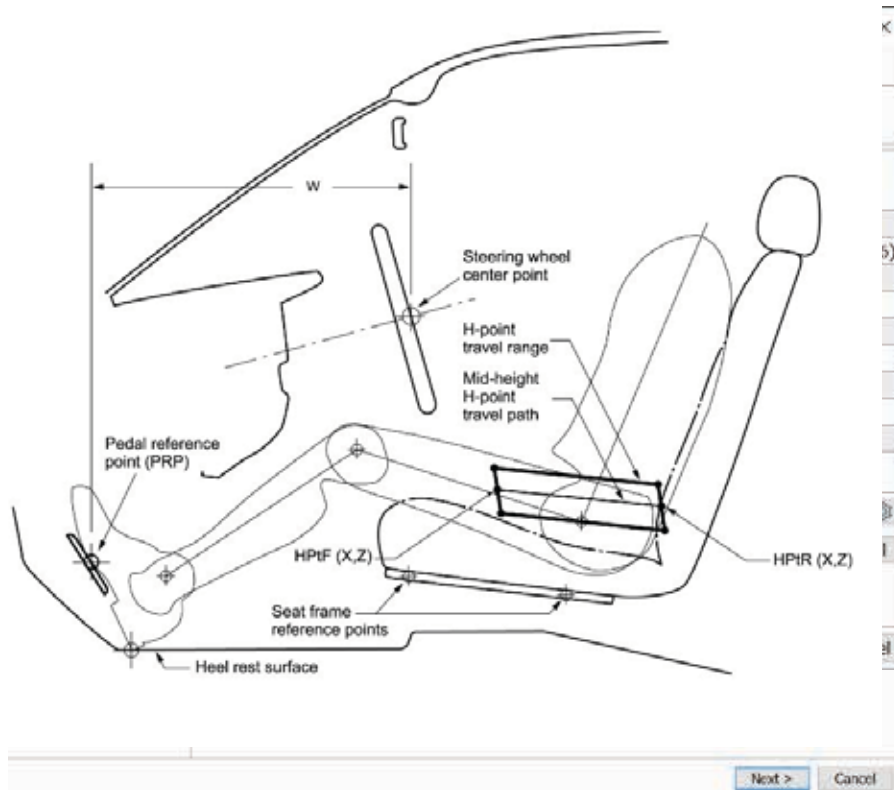
Latest features

- Multi-stages
- HBMs support
- Gravity

What's next

- Pam-Crash Multi-stages

Seat Positioning



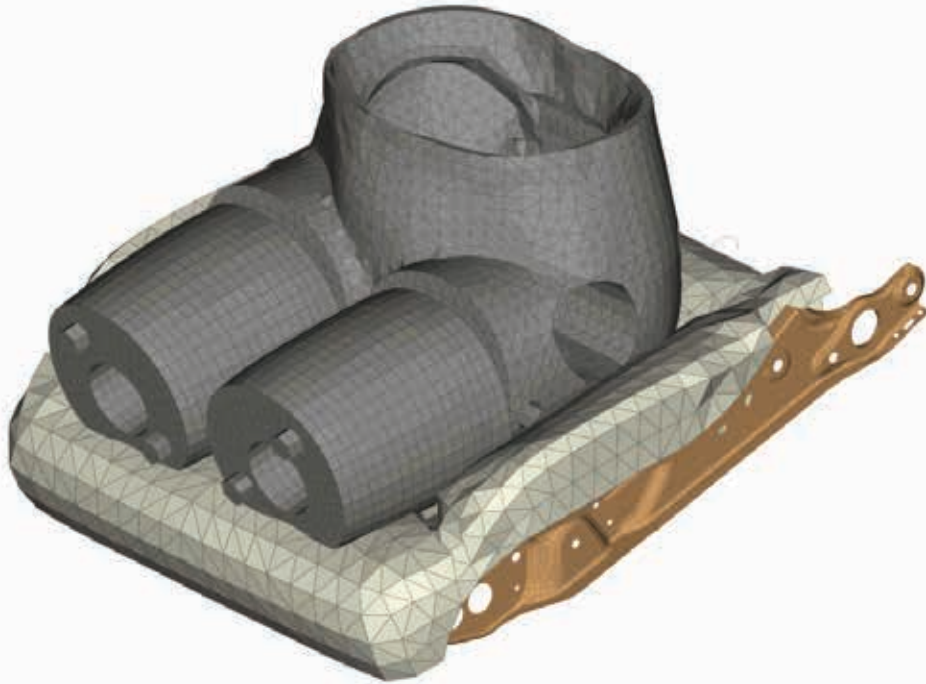
Latest features

- Protocols/Regulations
- Enhanced MP
- Restrained DOFs

What's next

- IIHS/UMTRI

Seat Depenetration



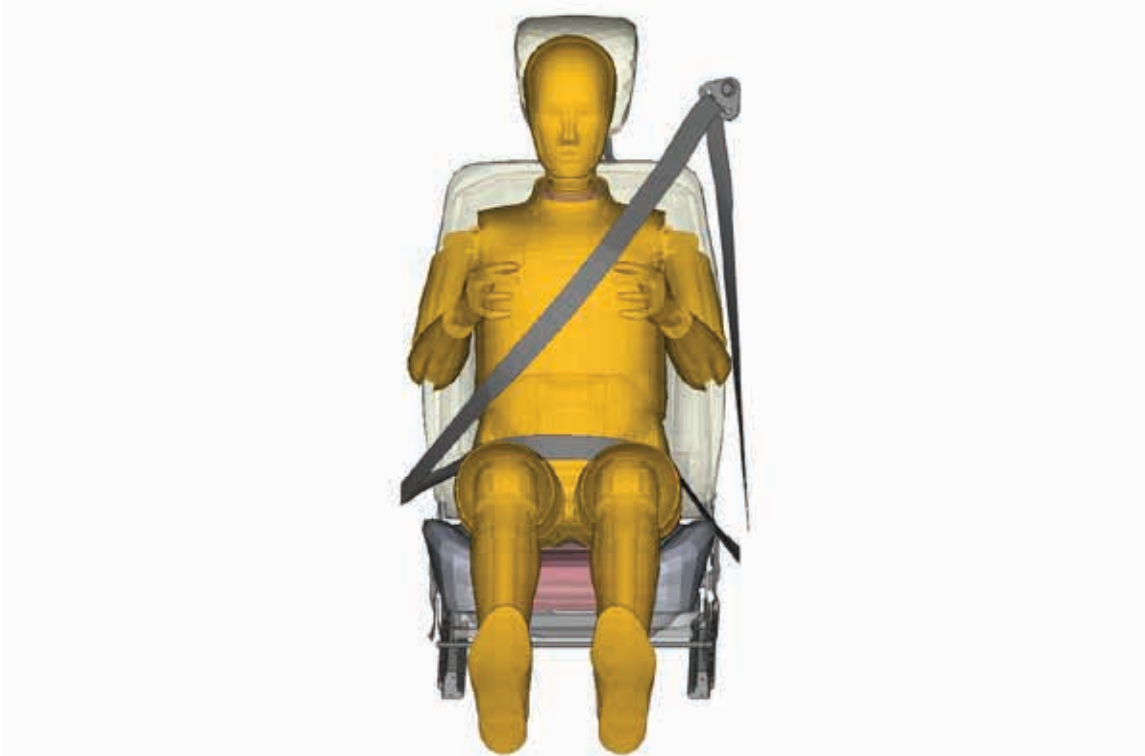
Latest features

- Morph-based method

What's next

- Deform of HBM/ATD

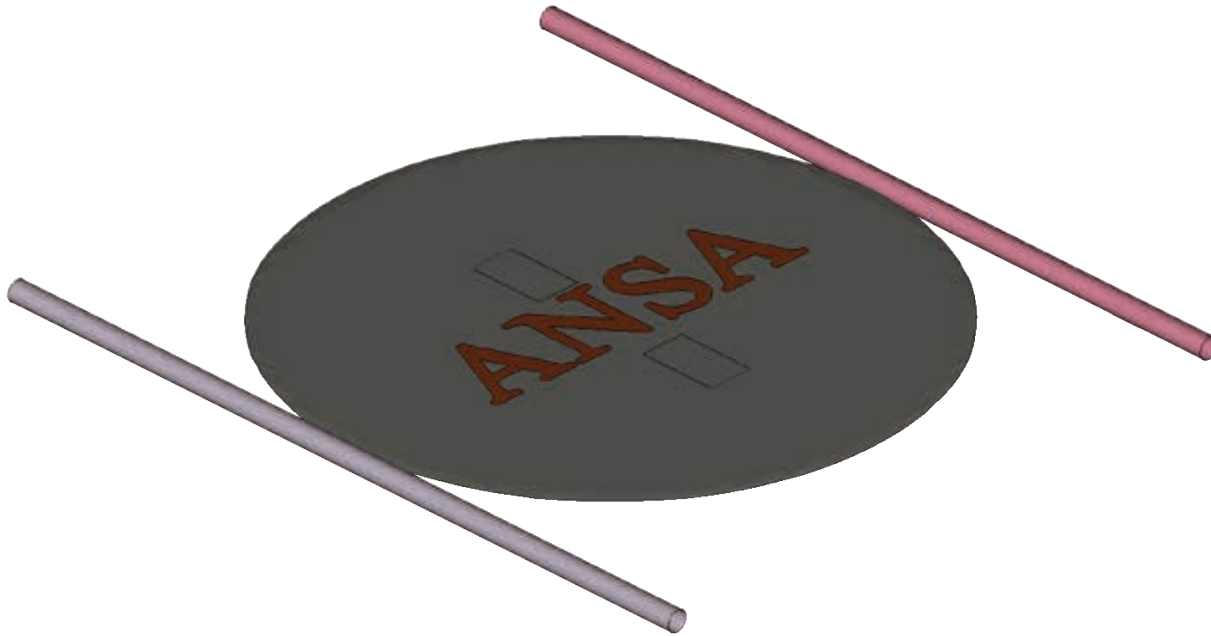
Seatbelt



Latest features

- Automatic 3D Slipping
- Interactive Move
- Faster Creation

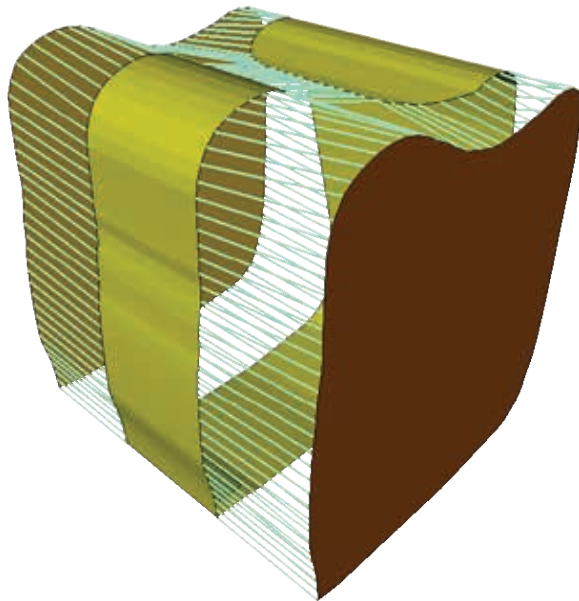
Airbag folding



Latest features

- Library of tools
- Easy definition of tools movement/preview
- Updated definition in loads/boundaries

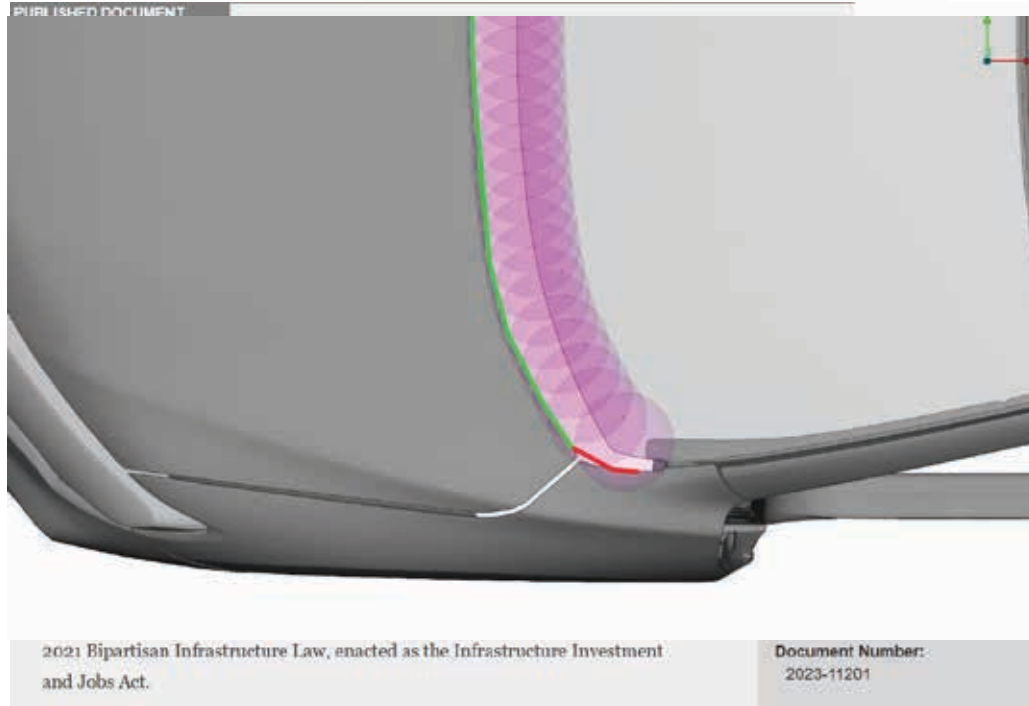
Passenger Airbag Modelling



Latest features

- Updated orient functionality
- Box creations preview
- Multiple nodes selection

Pedestrian Protection



Latest features

- Protocols/Regulations
- Separate Lines
- Modify BRRL

What's next

- UN-R127 Amend. No 3 and No 4
- NHTSA NCAP RFC 2025

Pedestrian Protection

values

The screenshot shows the 'Pedestrian' software interface. The main settings panel includes a dropdown menu for 'EU Phase 1' with 'EuroNCAP v9.x' and 'C-ASI 2022' highlighted in red boxes. Below this are fields for 'Target Points Filter' (set to 'Off'), 'Load bonnet' (empty), 'Bonnet model id' (set to '1'), and 'Raster EU Phase 1 / 2' (selected). There are also fields for 'Load Raster' and 'Raster model id'. A secondary panel titled 'Annotations on Raster' has 'Separate limits for 1/3 area annotations' unchecked, with 'Limits for 1/3 area' set to '1700/2000' and 'Limits for 2/3 area' set to '800/1000'. At the bottom, 'Sensitivity Analysis' is checked, and 'Band limits +/-' is set to '50'. A legend on the right shows a color scale from green to yellow, with values ranging from '<0' to '>0.0293429'. The legend also includes 'No Value' for grey and blue colors.

Legend values:

- >0.0293429
- 0.0264086
- >0.0234743
- 0.02054
- 0.0176058
- 0.0146715
- <1000
- 0.0117372
- 0.00880288
- 0.00586858
- 0.00293429
- <0
- No Value
- No Value

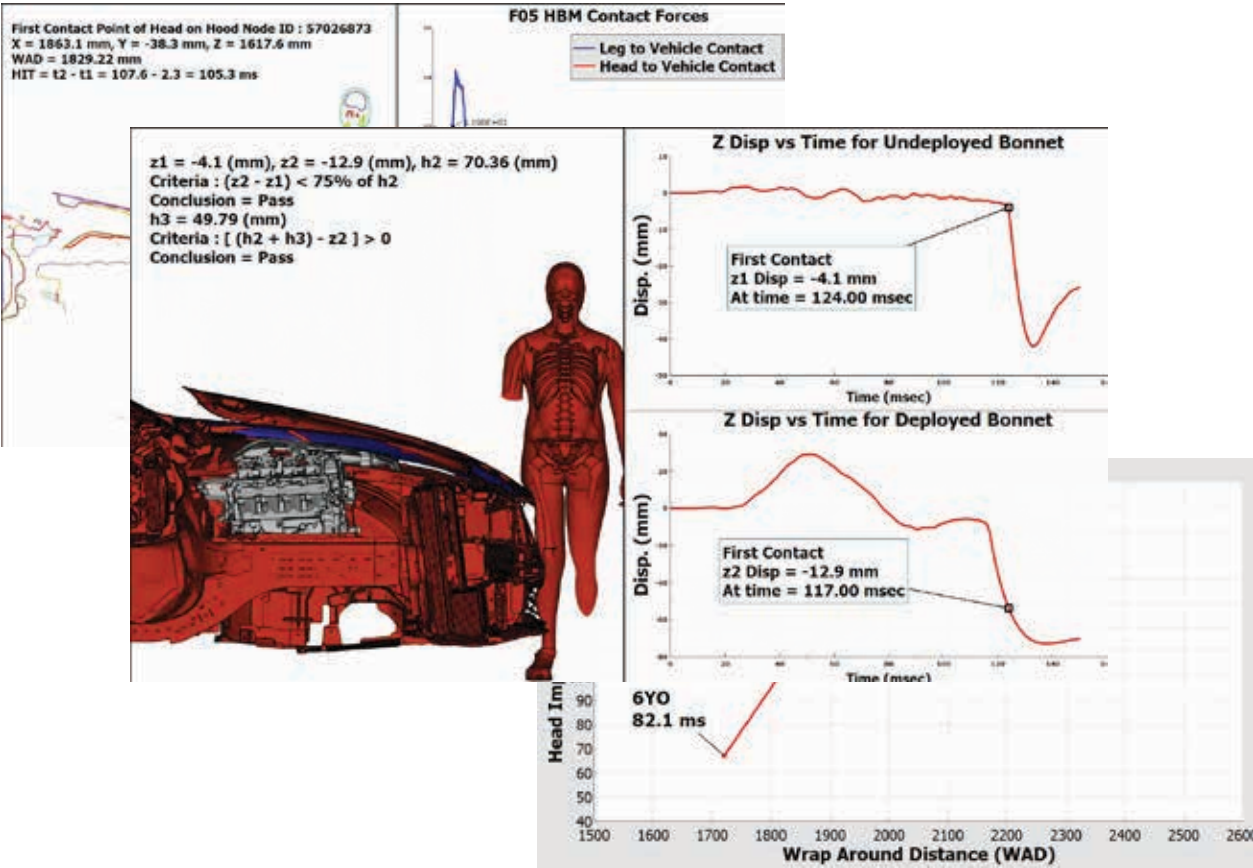
Latest features

- Band & Area Sensitivity Analysis for GTR-9
- Protocols/Regulations

What's next

- Evaluation of windscreen fracture behavior

Pedestrian Protection



Deployable Bonnets

- Evaluate Timing of Deployment System
- Assessment of Bonnet Deflection due to Body Loading

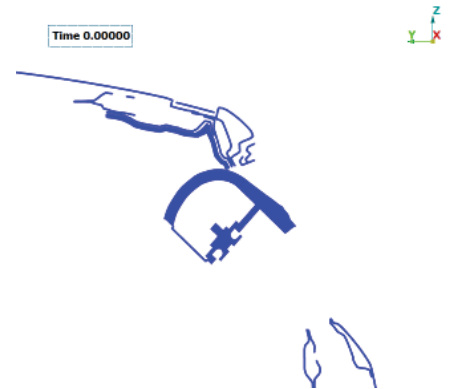
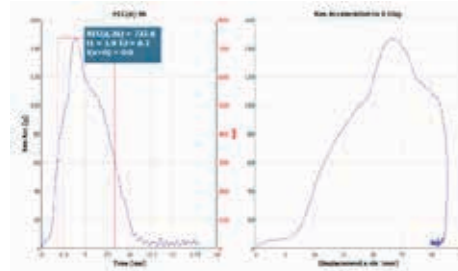
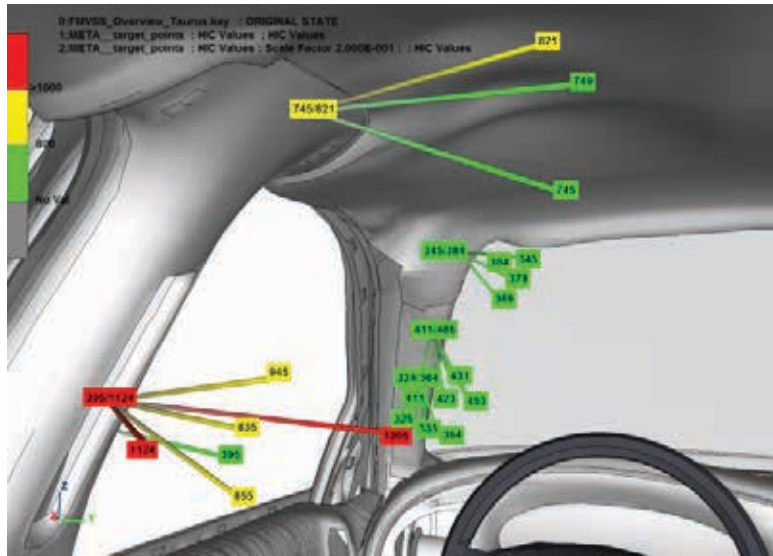
Interior-FMVSS 201U



Latest features

- Improved algorithms
- Visual utilities

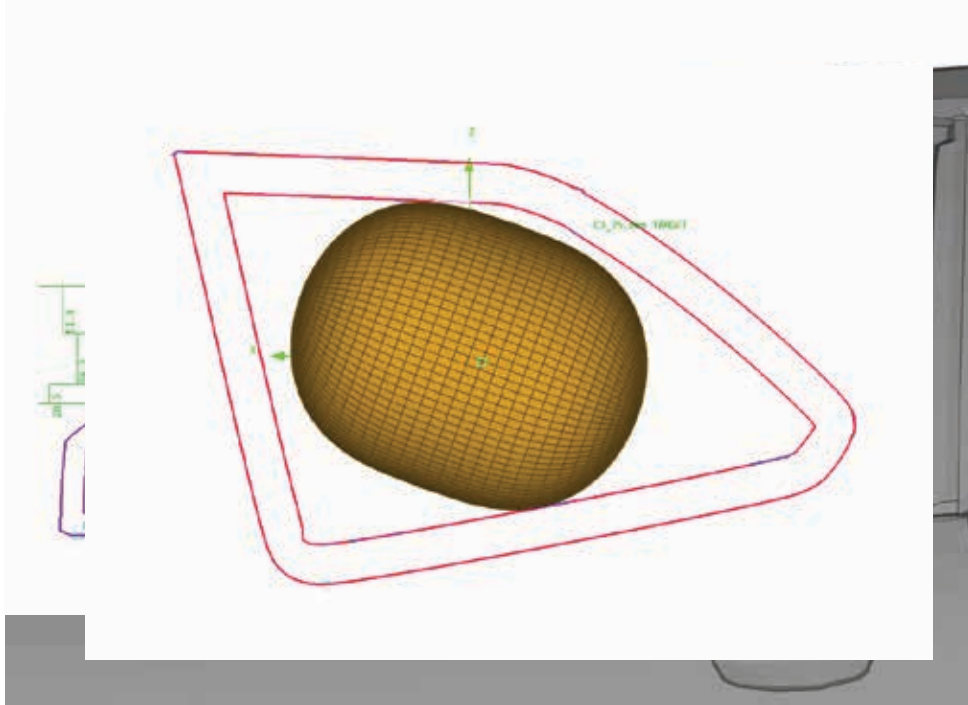
Interior-FMVSS 201U



Latest features

- Processing of specific target points, by selecting the relative overview annotations
- Test measurement data

Interior-FMVSS 226



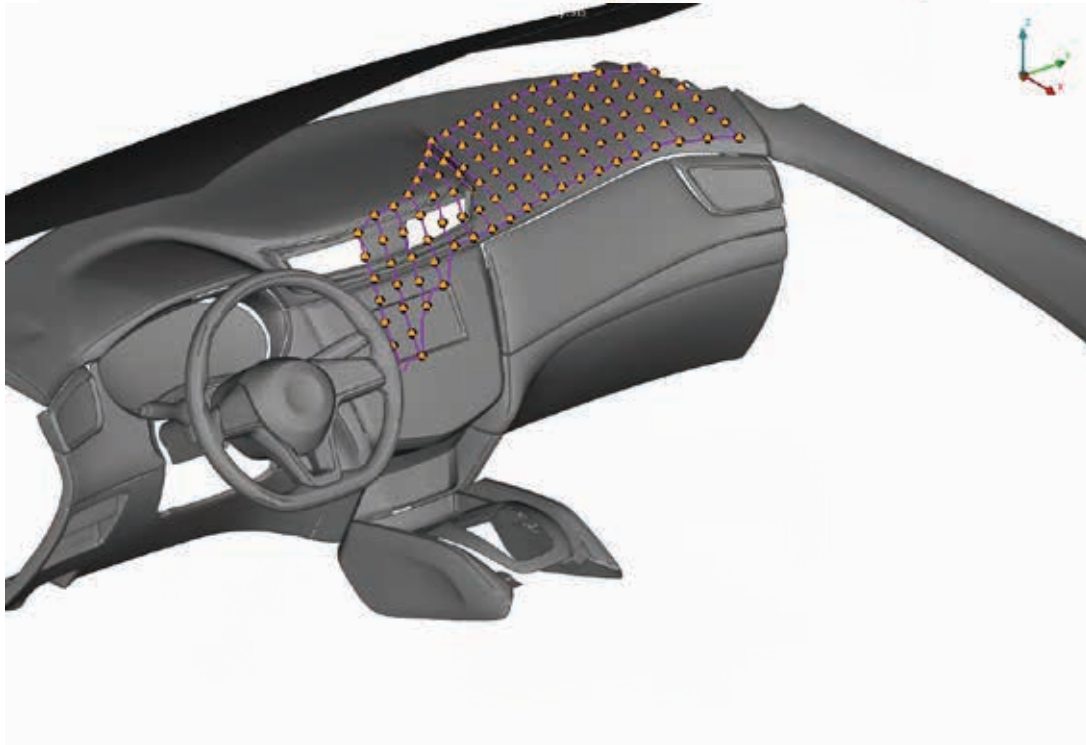
Latest features

- Improved tangency
- Report generation

What's next

- Small windows

Interior-IP/Seat Impact

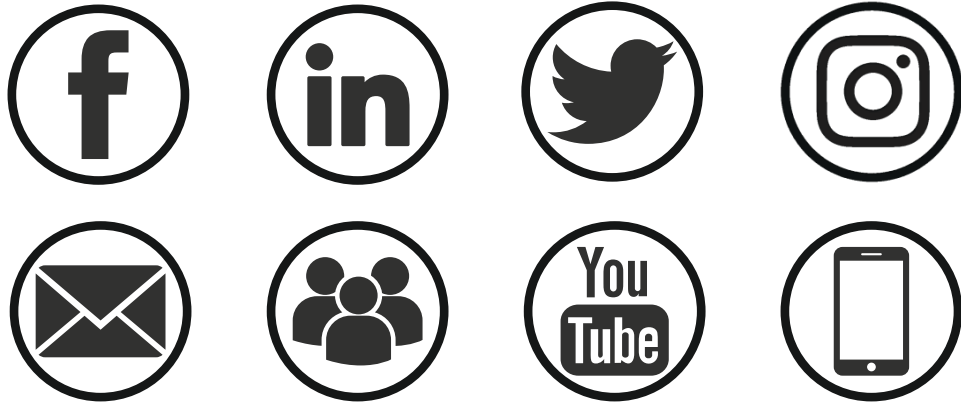


Latest features

- SAE positioning
- Convex-hull raster

What's next

- Post-Processing



Stay connected