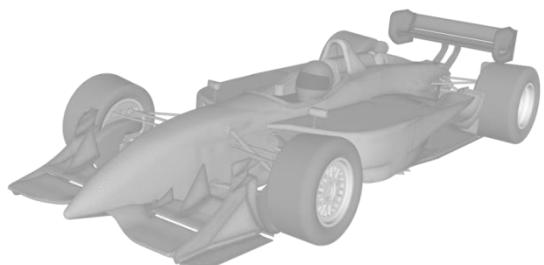
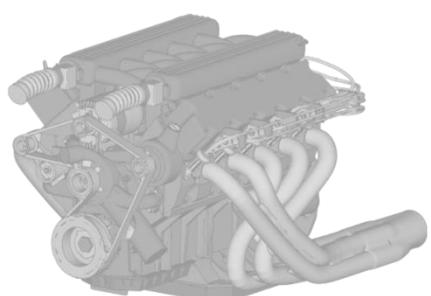
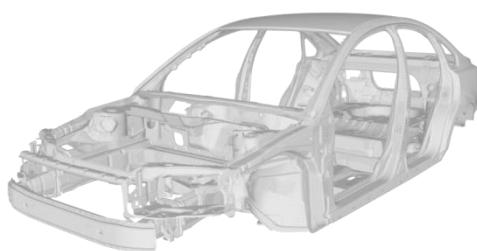


# ANSA

v 17.0.x

## Release Notes



$\beta$  **BETA**

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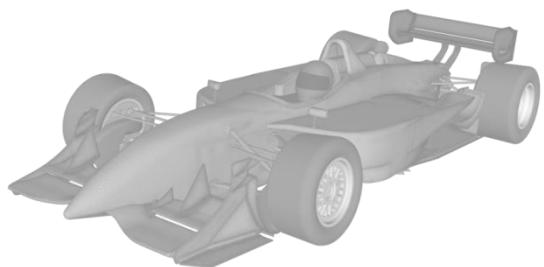
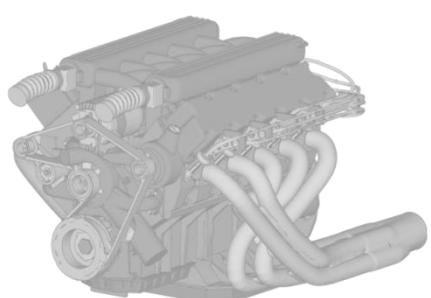
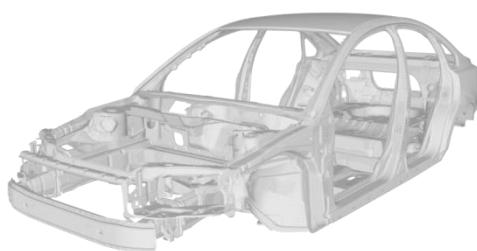
<http://www.beta-cae.com>

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# ANSA

v 17.0.2

## Release Notes



$\beta$  **BETA**

## 1. Introduction

This document contains all the information about problems fixed during development of ANSA from version 17.0.1 to **version 17.0.2**.

### **NOTES:**

- ANSA databases saved by ANSA v17.0.2 **can** be opened with v17.x.x but **not** with v16.x.x or previous versions.

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## 2. Enhancements in v17.0.2

### General

<b>ANSA.defaults</b>	<p>- User Attributes can now be written in <i>ANSA.defaults</i> in a generic way so as to support the definition of any ANSA type.</p> <p>Example:  <u>old way:</u>  <b>ANSAPART_ATTRIBUTE</b> = Name="My Part Attribute", Type="TEXT"</p> <p><u>new way:</u>  <b>USER_ATTRIBUTE</b> = Entity Type="<b>ANSAPART</b>", Deck="NASTRAN", Name="My Part Attribute", Type="TEXT"</p> <p>now, more ANSA types supported:  <b>USER_ATTRIBUTE</b> = Entity Type="<b>PSHELL</b>", Deck="NASTRAN", Name="My PSHELL Attribute", Type="TEXT"  <b>USER_ATTRIBUTE</b> = Entity Type="<b>MAT1</b>", Deck="NASTRAN", Name="My MAT1 Attribute", Type="TEXT"  <b>USER_ATTRIBUTE</b> = Entity Type="<b>FACE</b>", Deck="NASTRAN", Name="My Face Attribute", Type="TEXT"</p> <p>- The List of attributes has been modified so as to show attributes of more ANSA types in the same window.</p> <p style="text-align: right;">[Incident: ANSA-48791, ANSA-39355]</p>
<b>Scripting</b>	<p>The "CreateMeasurement" script function can now measure the distance between a node and a solid facet.</p> <p style="text-align: right;">[Incident: ANSA-42153]</p>

### Model Browser

<b>Parts</b>	<p><i>Actions &gt; Transform</i></p> <p>When a new instance of a part is created through "Transform" functions with the option "auto-offset" for PID handling, a "PID offset" is assigned to the new instance. In this way, the different PIDs will be maintained after synchronization of the instances.</p> <p style="text-align: right;">[Incident: ANSA-49431]</p>
	<p><i>Replace</i></p> <p>Upon replacing a part, the incoming part is now added to a chain of multiple instances, only if the outgoing part was already part of such chain. Thus, generation of erroneous chains of instances in case the incoming part has the same module id with some other part of the model is now avoided.</p> <p style="text-align: right;">[Incident: ANSA-49667]</p>

## Compare

<b>Compare Tool</b>	<i>Compare [Two Models]</i> The fringe bar of the Fringe Plot view mode would not appear in case the Smart Navigation tool was activated.
	The defined "Advanced Filters" would not be applied correctly in the Compare Report window. [Incident: ANSA-50730]

## Data Management

A subsystem that is saved with filetype=ANSA, now gets a filename equal to its name.

[Incident: ANSA-38956]

## Tools

<b>Plugins</b>	<i>Mapping&gt;SOL200 FE Update</i> New option to reapply the connections that need update, if they depend on property thickness.
	[Incident: ANSA-49836]

## Topo

<b>Faces</b>	<i>Mid.Surface [Check Middle Surface]</i> Improvements in the sensitivity of the algorithm, resulted in corresponding numbers between identified and existing errors along the bounds.
	[Incident: ANSA-49507]

## Shell Mesh

<b>Elements</b>	<i>Point Cloud</i> Significant improvement in time, for cases with millions of Points.
	[Incident: ANSA-50729]

<b>Scripting</b>	<p><i>Mesh.RefineElements():</i> The following options have been added to argument "REFINEMENT_MESH_TYPE": "MIXED 1 TO 3" and "QUAD 1 TO 3"</p>	[Incident: ANSA-50128]
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## Volume Mesh

<b>CFD layout</b>	<p><i>User Script Buttons &gt; TOOLS_MESH [AdvancedLayerParameters]</i> Parameter "Max top_cap warping angle" has been added in <i>AdvancedLayerParameters</i>, allowing the automating split of warped hexa layers to two pentas, in order to provide a better top cap for pyramid meshing. Parameter is suggested to be used with an angle value of 40 degrees.</p>	[Incident: ANSA-45787]
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## Connections & Assembly

<b>Assembly</b>	<p><i>Convert [FE to Cnctr Pts]</i> FE can, now, be converted to Spotweld Point with Solid Nugget representation type.</p>	[Incident: ANSA-48501]
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## DECKs

<b>Input/ Output</b>	The units of VRLM in input/output can be controlled through Settings> ANSA defaults. The script functions have been updated as well.	[Incident: ANSA_38459]
<b>Results Mapping</b>	Sequence name, Layer name, and Layer group fields are now imported with the results mapper when laminate information is loaded from Simulayt .Layup files.	[Incident: ANSA-49952]

## Safety

Extra set of curves are generated by the pedestrian tool (EU Phase protocol) called: EC2\_Headform\_Boundary\_Lines or EC2\_Legform\_Boundary\_Lines, that can be used for scripting purposes.

[Incident: ANSA-47499]

## NASTRAN

<b>B.C. SETs</b>	<b>*LOAD</b> The default value in the Scale Factor field was 0. Now it is 1.  [Incident: ANSA-49911]
	<b>THERMAL</b> Now, "Solution Type" column is available in the Thermal Loadsets list and thus, it can be massively modified.  [Incident: ANSA-50026]
	<b>THERMAL [Applied Heat]</b> Upon creation of a thermal loadset, a new load collector ('LOAD') is created, which by default is set to current and is used for all subsequently created thermal loads.  [Incident: ANSA-49909]
	<b>THERMAL [Convection]</b> Upon creation of a TEMP_SET (with option "Ambient" activated), 0 can be set as the default value in the 'DEFAULT' field of the TEMP_SET card.  [Incident: ANSA-49916]
	<b>ELEMENTs</b> <b>UTIL [Renumber]</b> "Select RBE2s" option is now available in "Renumber Parameters" window in order to include also the RBE2 entities together with SHELLs, thus, reproducing the behavior prior to version 17.0.0.  [Incident: ANSA-48713]

## NVH Console

<b>Assembly</b>	<b>Loadcase Manager &gt; Edit Configuration</b> The "Reset" button for System Modes (SOL 103) and System FRF analysis has been added in Edit Configuration Window in order to allow the reset of solver files.  [Incident: ANSA-49800]

## PAM-CRASH

<b>ELEMENT ENT</b>	A drop-down menu (SHELL6, SHELL8) has been added for 'type' field in the edit card of second order elements.  [Incident: ANSA-49479]
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## Abaqus

<b>Step Manager</b>	"INC" parameter now becomes disabled when selecting an *ABAQUS, EXPLICIT analysis.
	[Incident: ANSA-49487]

<b>Scripting</b>	<i>CreateEntity()</i> / <i>SetEntityCardValues()</i> Now, the ELSET/INTERACTION field of *CHANGE FRICTION entity card has been given the name "by", thus it can be fully defined through the script function.
	[Incident: ANSA-50291]

## RADIOSS

<b>Deck Info</b>	Deck info now takes into account any defined spring property fields of damping factor, loadcurves slope, and the ILENG field.
	[Incident: ANSA-49789]

<b>ELEMENTs</b>	<i>UTIL [Renumber]</i> "Select RBE2s" option is now available in "Renumber Parameters" window in order to include also the RBE2 entities together with SHELLs, thus, reproducing the behavior prior to version 17.0.0.
	[Incident: ANSA-48713]

## THESEUS-FE

<b>ELEMENTs</b>	<i>UTIL [Renumber]</i> "Select RBE2s" option is now available in "Renumber Parameters" window in order to include also the RBE2 entities together with SHELLs, thus, reproducing the behavior prior to version 17.0.0.
	[Incident: ANSA-48713]

## MORPH

<b>Boxes</b>	<i>New [Points]</i> Instead of a straight line for the 4th edge of a Hexahedral box, where no selection has been made, Box Creation is now estimated from the shape and control point distribution of the 3 points specified. This is also applied if 2 hatches sharing a common edge have been used.
	[Incident: ANSA-44141]

<b>Box Morphing</b>	<p><i>Offset</i></p> <p>Option "Allow interior faces selection" is now available in the options list.</p>
<b>Direct Morphing</b>	<p><i>Create [Bead]</i></p> <p>Mesh results in case of strict specifications upon creation of beads have now been substantially improved.</p>

## HEXA BLOCK

<b>Modification</b>	<p><i>Offset</i></p> <p>Option "Allow interior faces selection" is now available in the options list.</p>
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## Scripting

<b>Data Management</b>	<p>The option "auto_offset" for the "pid_offset" argument has been added in the following python script transformation functions:</p> <ul style="list-style-type: none"> <li>-TranslatePart()</li> <li>-RotatePart()</li> <li>-ScalePart()</li> <li>-SymmetryPart()</li> <li>-MirrorPartPoint()</li> <li>-MirrorPartAxis()</li> <li>-MirrorPartPlane()</li> <li>-TransformPart()</li> </ul>
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[Incident: ANSA-49725]

### 3. Known Problems resolved in v17.0.2

#### General

<b>Scripting</b>	<i>CurvesFromEntities()</i> The CurvesFromEntities() script function would work only if a list[0] item was used, as an argument, thus, only for the visible entities.
	[Incident: ANSA-50092]
	<i>CreateShellsFromSolidFacets()</i> The function should accept only Solid elements as object , not solid facets. [Incident: ANSA-50808]

<b>ANSA TRANSL</b>	The ExecutePythonScript() function was causing issues when used inside the CAD_Translate() function.
	[Incident: ANSA-50977]

#### CAD to ANSA Translators

Files referenced in a PLMXML file would fail to be located from the stand-alone translator in case their paths begun with a drive letter.

[Incident: ANSA-49681]

The translator's GUI would not pass the arguments of the "Extra options" field to the translator.

[Incident: ANSA-50821]

#### GUI

<b>Visibility</b>	In cases where Film elements were applied on Sets with Solid facets, Film data could not be drawn in Fringe plot.
	[Incident: ANSA-50032]

#### Model Browser

<b>Subsystems</b>	The contents of Connections and Interfaces were erroneously displayed in the Contents Info tab.
	[Incident: ANSA-49645]

<b>Loadcase Manager</b>	NASTRAN DMIGs entities, not used from the simulation model, were output in Simulation Run.
	[Incident: ANSA-50568]

## Compare

<b>Compare Wizard</b>	Comparison of two models under specific ANSA defaults would lead to unexpected termination.  [Incident: ANSA-49604]
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## Connections & Assembly

<b>Seamlines</b>	<p><b>SOLID WELD</b></p> <ul style="list-style-type: none"> <li>Applying “Edit Solid Weld” in case of a SOLID WELD with blank connectivity, would lead to unexpected termination.  [Incident: ANSA-49829]</li> <li>Upon applying “Edit Solid Weld”, all modifications were cancelled in case of self-intersections in the weld.  [Incident: ANSA-50224]</li> <li>Upon realization with option “Keep Parts” for the Inner Walls, an unexpected termination occurred when the “Cancel” button was pressed in the Refinement Area window.  [Incident: ANSA-49723]</li> </ul>
<b>Bolts</b>	Upon failure of bolt realization, its property would be deleted in case it was not used by another entity.  [Incident: ANSA-50540]
<b>Convert</b>	<p><b>FE to Bolt</b></p> <p>Function failed to set search distance when a single sheet spider attached to a hole.  [Incident: ANSA-49985]</p>
<b>Connectors / GEBS</b>	Setting up a library item used in Connector/ GEB by using the “From File representation” option through A_Parameters would fail.  [Incident: ANSA-50246]

## Topo

<b>Curves</b>	<p><b>Surf Int</b></p> <p>Occasionally, a curve would not be generated along the intersection of spherical surfaces.  [Incident: ANSA-50225]</p>
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<b>Faces</b>	<i>Dach&gt;Dach</i> Champer areas would occasionally not be treated as expected. [Incident: ANSA-48690]
	<i>Extend [Target]</i> Applied between faces with marginal distance, would occasionally lead to unexpected termination. [Incident: ANSA-49189]
<b>Scripting</b>	<i>base.CurvesConnectMulti()</i> Cases where function application resulted in unexpected termination. [Incident: ANSA-49608]
	<i>IsolateSimilarGroups()</i> Function application would lead to unexpected termination. [Incident: ANSA-49819]

## Shell Mesh

<b>Grids</b>	<i>Thickness [Calculate]</i> Cases of erroneous thickness calculation on the bounds of the model, in Windows OS. [Incident: ANSA-41786]
<b>Mesh Generation</b>	Batch Mesh scenario with CFD algorithm and proximity enabled, would occasionally lead to unexpected termination. [Incident: ANSA-48611]

## Volume Mesh

<b>Volumes</b>	<i>Layers</i> Case of negative hexa elements generation from quad surface mesh with proximity. [Incident: ANSA-45386]
	<i>Define [Auto Detect]</i> <ul style="list-style-type: none"> <li>• Specific case of erroneous volume identification. [Incident: ANSA-50836]</li> <li>• Not all erroneous entities were detected and listed at the Volume Check List. • [Incident: ANSA-49712]</li> </ul>

<b>Unstructured Mesh</b>	During creation of Unstructured Volume Mesh, some solid elements could erroneously be missing  [Incident: ANSA-49303]
<b>Structured Mesh</b>	<i>Layers [Global Layer Parameters]</i> “Minimum Layer Aspect” parameter would be ignored, occasionally leading to excessive layer squeezing at proximities.  [Incident: ANSA-45610]
<b>Tools</b>	<i>Cavity [Wrap]</i> Activation of "Snap to structure nodes" option in Cavity Wizard would fail to work.  [Incident: ANSA-49576]
<b>CFD layout</b>	<i>User Script Buttons &gt; TOOLS_MESH [AdvancedLayerParameters]</i> Layers oversqueezing for proximity in areas where fewer number of layers were generated, as defined in AdvancedLayerParameters.  [Incident: ANSA-50745, ANSA-48730]

## Batch Meshing

<b>Mesh Parameters</b>	<i>Features&gt; Chamfers</i> Treatment: Sharpen applied on Chamfers, would occasionally not return the expected results.  [Incident: ANSA-48690]
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## Topo

<b>Scripting</b>	<i>base.SurfaceExtrudeExtrude()</i> Script function would ignore the part assignment argument.  [Incident: ANSA-49958]
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## DECKs

<b>Input</b>	<i>MEDINA</i> When Creating Templates From Medina Connector Properties, the resulted scenarios in the template manager would not be correctly grouped together per solver deck. The settings of the connections would not follow the solver deck used in the Medina file.  [Incident: ANSA-50016]
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<b>Input</b>	<p><i>Renumber</i></p> <p>Special Numbering rules per type assigned on an include would be lost when reading the include as a separate(main) file.</p>
	[Incident: ANSA-50258]
<b>Output</b>	<p><i>CGR</i></p> <p>Exporting would not save a .cgr file, when defining a DM path in the respective CGR Output window.</p>
<b>Checks</b>	[Incident: ANSA-48881]
	<p><i>Checks Manager</i></p> <p>In case “Enable checks list” option (in Windows &gt; Settings &gt; ANSA defaults &gt; Checks Manager Options) was deactivated, an existing error would fail to be detected from Checks &gt; Joints.</p>
	[Incident: ANSA-50831]
<b>AUXILIARIES</b>	<p><i>A_POINT/ LC_POINT</i></p> <ul style="list-style-type: none"> <li>• In case of search failure, the A/LC_POINT would lose the Interface Point on 'Apply', detaching the BC entities from the old interface node.</li> </ul>
	[Incident: ANSA-49728]
	<ul style="list-style-type: none"> <li>• A/ LCPoints defined on coordinates, would not be applied when the position was in the interior of a solid element's volume.</li> </ul>
	[Incident: ANSA-49801]
<i>LAMINATE</i>	<p>List dialogue's Layer tab now supports the '\$' notation for the previous value of a field when modifying the THETA (PHI) column values for many layers.</p>
	[Incident: ANSA-49950]
	<p><i>TRANSFRM</i></p> <p>Middle Mouse button in TRANSFORM edit card would fail to behave as the OK button.</p>
	[Incident: ANSA-50677]
<b>Laminates</b>	<p><i>Drape</i></p> <p>Draping algorithm would occasionally produce improper material orientation result in corners.</p>
	[Incident: ANSA-50059]
<b>Results Mapping</b>	<p>Case where previewing a <i>.Layup</i> file in the RESULTS MAPPER, resulted in unexpected termination</p>
	[Incident: ANSA-50842]

<b>Scripting</b>	<p><i>base.CreateNumberingRule()</i></p> <ul style="list-style-type: none"> <li>Script function would not work in case the numbering rule was defined on SETs.</li> </ul> <p>[Incident: ANSA-50169]</p> <ul style="list-style-type: none"> <li>Special numbering rules for Properties, that were not PSHELL, would not be created.</li> </ul> <p>[Incident: ANSA-50499]</p>
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**CFD DECKS**

Upon deleting properties through the Property list, properties with FROZEN\_DELETE were also deleted (when option "Delete Included Entities" was activated).

[Incident: ANSA-48389]

**Safety**

The angle degrees of the BSRL line (advanced settings of Protocol EuroNCAP v8.x) were measured from the vertical plane instead of the horizontal. Differences were noticeable when the default angle was modified. For example a 47 degree value would result to a 43 degree according to the regulation).

[Incident: ANSA-50506]

**NASTRAN**

<b>Deck Info</b>	Improved algorithm for the Mass calculation related to NSM. There were cases due to the definition of NSM on a "Range of Ids" which caused wrong mass calculation.  [Incident: ANSA-49954, ANSA-50870]
<b>Input</b>	Thickness of segments of inserted PBxSECT items, was not read properly.  [Incident: ANSA-50223]
	During import of NASTRAN PBxSECT, unused NPOINT entities were created for POINTs utilized by the PBxSECT entry.  [Incident: ANSA-50222]
	Field "TYPE" for RBE2GS elements was not correctly read from input file.  [Incident: ANSA-50077]
<b>Output</b>	Nastran Header sets would be written in EXECUTIVE CONTROL section instead of CASE CONTROL section.  [Incident: ANSA-49031]
<b>B.C. SETs</b>	<b>HEADER</b>  Autofill text was not updated with the values defined in ANSA.defaults .  [Incident: ANSA-49969]

<b>B.C. SETs</b>	<b><i>THERMAL</i></b> Upon converting TETRAs' order (from second to first order – and vice versa), auxiliary elements of type CHBDYG (used in Thermal loads) would not be updated accordingly.  [Incident: ANSA-49873]
	<b><i>FILE LOADCASE</i></b> Consecutive outputs of a simulation run from Model Browser was duplicating entities of the FILE LOADCASE (if any).  [Incident: ANSA-50267]
<b>Task Manager</b>	<b><i>SOL200</i></b> Upon deleting the Keywords DVPREL, DCONSTR, DOPTPRM, DLINK, DSCREEN and MODTRAK in Task Manager, they were also deleted from the ANSA database.  [Incident: ANSA-49328]
<b>NVH Console</b>	
<b>Output</b>	Cases where some includes were excluded upon output of SOL103, SOL108 and SOL111 solver files.  [Incident: ANSA-49797]
<b>Assembly</b>	<b><i>Loadcase Manager</i></b> <ul style="list-style-type: none"> <li>Cases where upon variant modification, the obsolete lock state would appear on components.</li> </ul> [Incident: ANSA-48675] <ul style="list-style-type: none"> <li>Values set in ERP edit card, launched from the Loadcase Manager, where not kept correctly.</li> </ul> [Incident: ANSA-50370]

**LS-DYNA**

Since v16.2.0, in case the paths defined in \*INCLUDE\_PATH ended with "/", an erroneous include file name was written out, missing its first character.

[Incident: ANSA-50712]

Initial velocities that referenced a coordinate system, were transformed twice by the \*INCLUDE\_TRANSFORM keyword, resulting in incorrect velocity vector and values.

[Incident: ANSA-50114]

<b>Input</b>	Entities referring to curves, would not be updated upon input and offset of the ID of the referenced *DEFINE_CURVE.
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<b>Output</b>	Output version in the 'Output Parameters' would not respect the one from the ANSA.defaults or a specific (different) definition from a Control card. The same would apply if the output was executed through script and the version argument was not defined.
	[Incident: ANSA-50075]
<b>AUXILIARIES</b>	<p><i>BOX [New]</i> Erroneous placement of box, when activating the "LOCAL" option in the *DEFINE_BOX card.</p> <p><i>DFRMBLE [DEFORMABLE_TO_RIGID]</i> Upon concluding the procedure to Create the keyword, an unexpected termination could occur.</p>
	[Incident: ANSA-49556]  [Incident: ANSA-50289]
<b>Checks</b>	<p><i>Contacts</i> Erroneous radius used during check would result in erroneous calculation of BEAM penetration.</p>
	[Incident: ANSA-50407]

## Abaqus

<b>Checks</b>	<p><i>Contacts</i> TIE contact definitions would be erroneously identified as problematic, when their <i>NO_THICKNESS</i> option was not defined and <i>POS_TOLER</i> was.</p>
	[Incident: ANSA-50413]
<b>Input</b>	<p>MPCs with ids &gt; 99999999, would not be read in ANSA during input.</p>
	[Incident: ANSA-50186]
<b>Output</b>	<p>The Distribution Table, for the Material Orientation of the solid laminate elements could be Output only as COORD3D.</p> <p><i>LAMINATES</i> The *ORIENTATION of the table was output incorrectly as the initial definition was <i>OFFSET TO NODES</i> and the final output was <i>COORDINATES</i>.</p>
	[Incident: ANSA-50265]  [Incident: ANSA-50270]

## RADIOSS

<b>Settings</b>	<p><i>Settings&gt;ANSA Defaults</i></p> <p>When option 'Output Radioss Engine' was enabled in <i>Settings&gt;ANSA Defaults</i>, it would not be reflected in the Radioss' Output Parameters. The corresponding option would remain disabled.</p>
<b>Output</b>	<p>Output version in the 'Output Parameters' would not respect the one from the ANSA.defaults or a specific (different) definition from a Control card. The same would apply if the output was executed through script and the version argument was not defined.</p>
<b>AUXILIARIES</b>	<p><i>SECTION&gt;[Assistant]</i></p> <p>When a GEB_OR was created by the Section&gt;Assistant, its status was not set as 'OK'.</p>

## PERMAS

<b>Input</b>	MPCs with ids > 99999999, would not be read in ANSA during input.
	[Incident: ANSA-50186]

## RadTherm

<b>Input</b>	<i>Thickness</i> and <i>Insulated</i> fields from .tdf files would lose their original values during input in ANSA.
	[Incident: ANSA-50111]

## TAU

<b>Output</b>	Occasionally, upon existence of actuator disk(s) in the model, exported meshes would not be read from TAU solver.
	[Incident: ANSA-48302]

## KINETICS

<b>General</b>	For Flex bodies the modal damping ratio would not be taken into account correctly, in cases where the model units were not in SI.
	[Incident: ANSA-50377]

<b>Forces</b>	Cases where the result component "Total_Force_at_Location" of a marker would be incorrect.  [Incident: ANSA-50440]
<b>Motions</b>	Motion entities would not be read correctly upon file (*.cmd) import, as motion would apply to different DOF from the one referred in the *.cmd file.  [Incident: ANSA-50615]

## MORPH

<b>Box Morphing</b>	Upon box morphing of cross sections (cross curves of a cross section), they would not be automatically re-calculated.  [Incident: ANSA-50232]
	Cases where feature angle selection tool would fail to make complete selections over adjacent box faces.  [Incident: ANSA-50447]
<b>Direct Morphing</b>	<i>DFM [Surface Fit]</i> Removing all "Inner Feature Lines" would lead to unexpected termination.  [Incident: ANSA-50742]

## HEXA BLOCK

<b>Association</b>	<i>Edges [Project to edges]</i> Option "Connect nodes to CONS" would fail to work after O-Grid creation.  [Incident: ANSA-50350]
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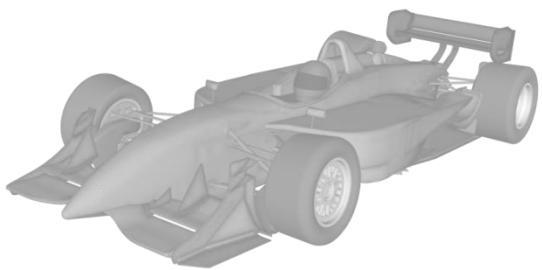
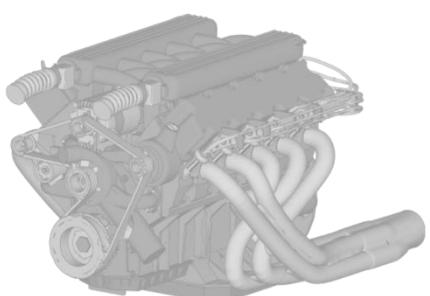
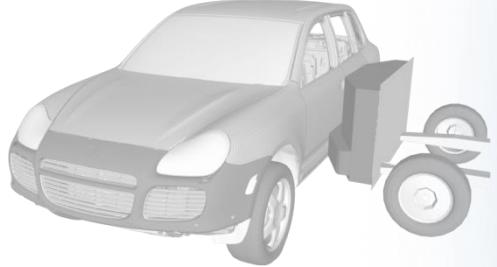
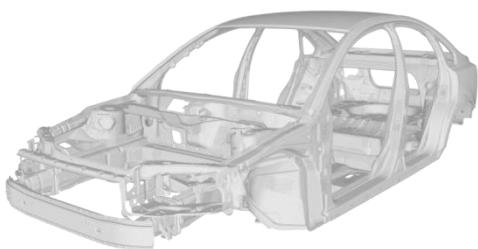
## Task Manager

<b>SOL200</b>	Task The HEADER Autofill function (double-click on item) would ignore the target(min/max) of the Objective function.  [Incident: ANSA-49696]
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# ANSA

v 17.0.1

## Release Notes



$\beta$  **BETA**

## 1. Introduction

This document contains all the information about problems fixed during development of ANSA from version 17.0.0 to **version 17.0.1**.

### **NOTES:**

- ANSA databases saved by ANSA v17.0.1 **can** be opened with v17.x.x but **not** with v16.x.x or previous versions.

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## 2. Enhancements in v17.0.1

### CAD Import / Export

<b>Settings</b>	<p><i>Translators&gt;Resolution/Tolerances/Units</i></p> <p>Default value of <i>Distortion angle</i> has changed from 0 to 20 for improved visual result of CAD translation through distortion-based nodal distribution.</p>
	[Incident: ANSA-47910]

### Model Browser

<b>Loadcase Manager</b>	<p>Option to Copy/Paste a Loadcase has been added in its context menu options, under "Actions" group of options.</p>
	[Incident: ANSA-48292]
	<p>SUPPORT keyword is supported in <i>Loadcase Manager</i> as Boundary Condition.</p>
	[Incident: ANSA-48647]
<b>Subsystems</b>	<p>Now, transformations (Move, Copy) of Subsystems are supported and are provided through context menu options: <i>Actions&gt; Transform&gt; Copy/ Move</i>.</p>
	[Incident: ANSA-46736]
<b>CAD to ANSA</b>	<p>When a group is found in the DM, it is reloaded together with its parts from the DM.</p>
	[Incident: ANSA-46953]

### Compare

<b>Multi Model</b>	<p>More than one Models can now be selected in the Models' list, in order to apply the available context menu functions (Show/Show only/Hide etc).</p>
	[Incident: ANSA-46028]

### Shell Mesh

<b>Scripting</b>	<p><i>Mesh.ProjectPerimeterOnShells()</i></p> <p>Following arguments have been added:</p> <ul style="list-style-type: none"> <li>“apply_fill_gap_on_results”: determines whether apply gap will be applied between the projected and the resulting edges and</li> <li>“open_closed_perimeter_hole”: determines whether a hole will be opened when a closed perimeter is projected have been added.</li> </ul>
	[Incident: ANSA-48119]

## Volume Mesh

<b>Unstructured Mesh</b>	Important improvements in the quality of generated pyramids have been implemented. [Incident: ANSA-48901]
<b>Scripting</b>	<p><i>Mesh.ProjectPerimeterOnShells()</i></p> <p>Following arguments have been added:</p> <p>“apply_fill_gap_on_results”: determines whether apply gap will be applied between the projected and the resulting edges an</p> <p>[Incident: ANSA-48119]</p>

## Data Management

<b>DM</b>	<p><i>Sync Representation</i>: It is now possible to set the desired treatment for the conflicting ids of properties, materials and sets. This is possible through the Windows&gt;Settings&gt;DM.</p> <p>[Incident: 65745]</p>
<b>Product Tree Editor</b>	<p><i>CAD to ANSA</i>  It is now possible to set the desired path where the CAD to ANSA .log file will be stored.  This is defined with the “Report directory” option added in the “CAD to ANSA – Settings” window.  The “Report directory” option has been added to the “CAD to ANSA - Settings” window to define the directory where the CAD to ANSA .log files will be stored.</p> <p>[Incident: 62809]</p>

## Connections & Assembly

<b>Convert</b>	Converting series of RBE2 elements to Seamline connections, the proper FE Representation settings (FE-rep type, step length, search distance, etc.) are automatically assigned to the generated connections. [Incident: ANSA-49118]
<b>Seamlines</b>	<p><b>Y-JOINT-SHELL</b></p> <p>In case of seamwelds where the gap between the connected parts varies considerably, the specified height value can now be applied in areas of the weld where the gap is smaller than the height value.</p> <p>[Incident: ANSA-49156]</p>

<b>Seamlines</b>	<p><b>SOLID WELD</b></p> <p>“Erase FE” is now available in case of “Inner Walls = Parts” option.</p> <p>For the rest “Inner Walls” options, “Erase FE” would not completely erase the FE Representation, since the original boundaries of the parts can not be restored. “Undo” can be used instead.</p>
<b>Connector</b>	<p>A new built-in representation for connectors has been supported for RADIOSS deck. The representation is named “RADIOSS SPRING” and it generates a spring element of specified PID. In case the given PID corresponds to a spring of type 8, a zero-length spring is generated.</p>

## Topo

<b>Faces</b>	<p><b>Extend [Target]</b></p> <p>The function is now improved, providing better results in cases of concave cons.</p>
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## DECKs

<b>AUXILIARIES</b>	<p><b>CONTACT [Flanges]</b></p> <p>“Exclude Shells / Solid Facets connected to Connections” option now excludes also shell elements connected to RBE2 entities.</p>
<b>Scripting</b>	<p>The option “Draw interior of solid mesh” in Utilities&gt;Quality_Criteria&gt;Presentation_Parameters, is now controlled through the functions <code>base.F11PresParamsOptionsSet()</code> and <code>base.F11PresParamsOptionsGet()</code>.</p>
	<p><b>GetReferenceLibraryEntity()</b></p> <p>New script function to get entities from the Reference Library, has been introduced.</p>
<b>Output</b>	<p><b>CGNS</b></p> <p>For structured CGNS output, BCs are now written in PointRange instead of PointList.</p>

**CFD DECKS**

<b>AUXILIARIES</b>	<p><i>BC TOOL</i></p> <p>The memory usage is now significantly reduced.</p>
	[Incident: ANSA-47323]

**NASTRAN**

<b>Includes Manager</b>	<p>Entries <i>BCONPRP</i>, <i>BCONPRG</i>, <i>BCBDPRP</i> and <i>BCR/GID</i> can now be added into an include file.</p>
	[Incident: ANSA-48800]
<b>AUXILIARIES</b>	<p><i>TRANSFRM</i></p> <p>For external SUPERELEMENTs (SE) which are imported in separate include in ANSA, transformation can be applied through the corresponding transformation to the respective include component.</p> <p>Transformation is defined using the SELOC Nastran keyword.</p>
	[Incident: ANSA-44118]
<b>CONTACT</b>	<p>The "ID" field of the CONTACT edit card has been renamed to "BCID", since it could not be modified due to name conflict with the default "Id" field.</p>
	[Incident: ANSA-48114, ANSA-45772]
<b>BCONTACT</b>	<ul style="list-style-type: none"> <li>• New context menu option: "Associated Contacts" on BCONTACTs list. It displays Contacts that implicitly or explicitly refer to selected BCONTACT.</li> </ul>
	[Incident: ANSA-49032]
	<ul style="list-style-type: none"> <li>• In BCONTACTs list, Id field is replaced by Sid field. Sid field of the list is synchronized with the Sid field of the edit card (that can have 0 as value)</li> </ul>
	[Incident: ANSA-45964]
<b>Output</b>	<p>ANSA manage output of display files with reference. These files are passed to output file in ANSA comments like:</p> <pre>\$ANSA_DISPLAY_INCLUDE;NAME;DISPLAY_INCLUDE_FROM_FILE_2;DISPLAY_SET;DISPLAY_SET_F \$ROM_FILE_2;</pre> <p>These are treated as includes but with special features.</p> <p>mETA is also able to read this command and import the aforementioned display include.</p>
	[Incident: ANSA-45383]

## NVH Console

### Assembly

#### *Loadcase Manager*

The *Responses* tab has been improved:

1. Mass modification is now allowed on selected responses with respect to any column
2. The names of the subcase types have changed:
  - manual -> combined
  - tr.fun -> individual
  - p. mob -> driv.point
3. For the Extra post-processing requests:
  - Option to run System mode participations per request (provided that the system mode results in Nastran format are available)
  - Top peaks and Threshold are now affecting also Participations (both component and System modes)
  - Option to run mode participations for the whole frequency range
  - New option "Freq Range" for conditional requests - If specified, it defines the frequency range in which the Top Peaks will be searched for each individual request
4. Energy request has been added as a conditional request for each main request

[Incident: ANSA-48625]

## LS-Dyna

### Output

#### *Output in XML format*

Characters \* and \$, are excluded when exporting in XML format.

[Incident: ANSA-47752]

## Abaqus

### AUXILIARIES

#### *CONTACT*

TIE contact template is no more ignored by Contact Flange and is assigned normally to detected contacts.

[Incident: ANSA-20166]

## PERMAS

### Input

PERMAS UCI command "READ DIR" is now supported.

[Incident: ANSA-42201]

<b>ELEMENTs</b>	<p><i>UTIL [Change Type]</i></p> <p>Now, it is possible to select MPC_RIGID_SET entities in order to change them into MPC_RIGID.</p>
	[Incident: ANSA-47821]

## Fluent

<b>ANSA.defaults</b>	<p>Now, the “File Format” output parameter’s options: Ascii / Binary, can be saved in the ANSA.defaults file.</p>
	[Incident: ANSA-41182]

## Tools

<b>Plugins</b>	<p><i>Test/ Impact Device Positioning</i></p> <p>Now, LS-DYNA coordinate systems of type *DEFINE_COORDINATE_SYSTEM are supported.</p>
	[Incident: ANSA-46291]

## MORPH

<b>Boxes</b>	<p><i>Offset</i></p> <p>An offset of 2D Morph Boxes can be created with use of the Faces option.</p>
	[Incident: 65816, ANSA-44729]

### 3. Known Problems resolved in v17.0.1

#### General

<b>ANSA.defaults</b>	Cases where lines from ANSA.defaults files of previous versions, would be read as errors.  [Incident: ANSA-46800]
<b>Utilities</b>	<p><i>File Input Analytics</i></p> <ul style="list-style-type: none"> <li>The html log file would not show the id of entities that failed to be created, when saved and opened in a browser outside ANSA.</li> <li>The html log file occasionally would fail to report in the "filename" column of the model summary the include in which an error occurred.</li> </ul> [Incident: ANSA-48572, ANSA-48573]
<b>File Manager</b>	Directory names which were modified by changing only the capital case of the letters, would produce a duplicate folder with the old name in the file manager window of ANSA. This occurred only on Windows OS.  [Incident: ANSA-49129]

#### CAD Import / Export

<b>Import</b>	Opening neutral files in ANSA while the "File associations" for Neutral files was set to "ANSA" was not taking into consideration the <i>Tolerances</i> and <i>Resolution</i> values that were set in the Translators>Resolution/Tolerances/Units settings tab.  [Incident: ANSA-49146]
	The Resolution value for Curves in the <i>Translators</i> settings tab would not be taken into consideration when opening/translating a CAD file.  [Incident: ANSA-49281]
	<i>Translators VDA</i> Specific case where from a certain *.vda file, an ANSA database with geometry errors (eg. collapsed CONS and Triple CONS) would occur.  [Incident: ANSA-49365]
<b>Scripting</b>	The "report_dir" argument would not be considered in the <i>base.CadToAnsa()</i> function.  [Incident: ANSA-46166]

#### GUI

<b>Toolbar</b>	A custom toolbar containing a whole group from the "User Script" menu (Windows>User Script Buttons) would appear as an empty toolbar when ANSA was relaunched.  [Incident: ANSA-48969]
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<b>Read</b>	Specific cases where reading different GUI settings, would render the Undo/Redo actions non functional.  [Incident: ANSA-48284]
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## Model Browser

<b>General</b>	Modifying the visibility by using the light bulb icon, would affect the selected list view items.  [Incident: ANSA-48408]
	Activating the <i>Actions&gt;Numbering Rules&gt;General</i> in the right-click menu, the "Source with expression" field would automatically be filled with an invalid expression.  [Incident: ANSA-49028]
<b>Parts Management</b>	Interfaces of Subsystems were collected from the top level include and not recursively from its children includes.  [Incident: ANSA-48111]
	<i>Replace Part</i>  The option to Delete Internal/External connections would not work when the connections were assigned to separate Parts than the referenced ones.  [Incident: ANSA-49267]
<b>Utilities</b>	<i>Pid to Part</i>  Rigid elements (e.g. Nastran RBE2s, RBE3s) would not be placed under the auto created new Part named "RIGIDs".  [Incident: ANSA-48820]
<b>Loadcase Manager</b>	Cases where a subsystem, although it was not selected on a simulation model, it was output in a simulation run.  [Incident: ANSA-48298]
	"C" field of an SPC contained in a Loadcase, would not be filled properly during Loadcase output.  [Incident: ANSA-48020]
	DOFs of a USET would not be properly output during Loadcase output.  [Incident: ANSA-48125]
	Option to Copy/Paste a Loadcase has been added in its context menu options, in Model Browser, under "Actions" group of options.  [Incident: ANSA-48292]
	Special case where exporting Simulation Runs with referenced loads coming from files would lead to unexpected termination.  [Incident: ANSA-49017]

<b>Loadcase Manager</b>	<p><i>Output</i></p> <ul style="list-style-type: none"> <li>Entities which were included in the simulation model, would not be written when exporting a Simulation Run. [Incident: ANSA-49188]</li> <li>Occasionally NASTRAN Header would not be written correctly when saving a Simulation Run or exporting in NASTRAN file through Model Browser . [Incident: ANSA-48103]</li> <li>Erroneous definition of Nastran PFPANEL keyword when exported from within LoadCase Manager. [Incident: ANSA-49178]</li> <li>Exporting a Simulation Run, resulted in entities not included in the simulation model of the respective simulation run, to be included in the output file. [Incident: ANSA-45364]</li> <li>In SOL111 solution type, in cases where we have just one subcase which was defined from file, the FREQUENCY reference would not be output in the NASTRAN HEADER. [Incident: ANSA-49533]</li> </ul>
<b>Configurations</b>	<p>Activating a configuration would lead to an unexpected termination. [Incident: ANSA-49394]</p>
<b>Scripting</b>	<p>The function <i>RemoveEmptyPartsGroups()</i> would delete configurations too. [Incident: ANSA-48618]</p>

## Compare

SPCs defined on sets would not update, when replacing related part through Compare Tool.

[Incident: ANSA-47420]

Connected entities would not be updated after replacement through Apply Actions of Compare Tool.

[Incident: ANSA-47422, ANSA-47423, ANSA-47425, ANSA-47426, ANSA-47427, ANSA-47581]

Upon execution of the "Apply similarities/differences" function on FE models without faces/macros, an unexpected termination would occur.

[Incident: ANSA-49565]

<b>Build Variants</b>	<p>Upon function execution an unexpected termination occurred. [Incident: ANSA-49391]</p>
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## Data Management

When a Part was saved in DM with File Type: Nastran, the property information was not written in the main file.

[Incident: ANSA-48041]

Downloading a Subsystem from DM by selecting the “Overwrite current model” option from the pop-up menu, would lead to unexpected termination.

[Incident: ANSA-48799]

The Properties/Materials/Sets conflicts options from Windows>Settings>DM would be transferred to the corresponding options of File>Merge.

[Incident: ANSA-48916]

The usage of the "Go fix" button when conflicts were detected during the Saving in DM process, damaged the file which could not be opened again.

[Incident: ANSA-48758]

The function `base.IsDMRootConnectionValid()` would operate with case sensitive mode.

[Incident: ANSA-49067]

### Change Representation

When the user changed the representation of a part which contained only a Connector entity, with a part which contained geometry, the Connector entity would remain.

[Incident: ANSA-48024]

## Connections & Assembly

### Robscans

Applying *Realize* while a non existing PSOLID ID was defined, resulted in unexpected termination.

[Incident: ANSA-48334]

### Checks

#### *Connections*

The memory handling would not operate normally, causing increasing of memory usage.

[Incident: ANSA-46160]

### Input

Connections would not be created when reading Hypermesh Master Connector file in cases that the connectivity was given through the part name.

[Incident: ANSA-49296]

### Scripting

#### *Post Realization*

Cases where if `base.SetEntityCardValues` was called inside a Post Realization function, an unexpected termination might occur.

[Incident: ANSA-48113]

<b>Scripting</b>	Files with no extension like "ANSA_TRANSL" would not be available for selection as user functions in Windows>Settings>Connections window.  [Incident: ANSA-48629]
<b>FE Representations</b>	
<b>SOLID-WELD</b>	Extending the weld beyond the flanges limits, would lead to unexpected termination  [Incident: ANSA-49011]
	When the cross section dimensions (height, depth) were smaller than 1mm, the weld endings would fail.  [Incident: ANSA-48260]
	When the step length was large, this would lead to unexpected termination.  [Incident: ANSA-48227]
<b>Y-JOINT-SHELL</b>	Using the option "root generation=Extend Flange", occasionally the connection would fail to generate the FE representation.  [Incident: ANSA-48291]
<b>PRESTRESSED ABAQUS BOLT</b>	Occasionally the bolt length would cause failure of the FE representation generation.  [Incident: ANSA-48083]
<b>DYNA SPOT WELDs</b>	Special case where generating the FE representation (Realize) using the Contact option would lead to unexpected termination.  [Incident: ANSA-48602]

**Topo**

<b>Faces</b>	<p><i>Topo</i></p> <p>The function would behave inconsistently when the operation was repeated.</p> <p>[Incident: ANSA-48601]</p>
	<p><i>Mid.Surface [Skin]</i></p> <p>Only the Nodes of the problematic location would be colored and not all the CONs, as the proper behavior should be.</p> <p>[Incident: ANSA-49238]</p>
<b>Scripting</b>	<p><i>base.ConsProject(), base.FacesProject()</i></p> <p>When parameter: "split_original" was set to <i>True</i> and parameters: "connect_with_faces", "paste" and "produce_curves" were set to <i>False</i>, the source curves would not split.</p> <p>[Incident: ANSA-48500]</p>

## Shell Mesh

<b>Hot Points</b>	<p><i>Project</i></p> <p>Applying with option "Remesh macros" active, would lead to unexpected termination when a grid from inside a Macro-area would be selected.</p> <p>[Incident: ANSA-47000]</p>
<b>Grids</b>	<p><i>Thickness&gt;Set Advanced</i></p> <ul style="list-style-type: none"> <li>• Interpolation method would fail if the "Freeze thickness at single bound" option was activated.</li> <li>• Using the option "Based on axis" would lead to unexpected termination in case that less than 3 points were selected and user clicked "Apply".</li> </ul> <p>[Incident: ANSA-48703, ANSA-48702]</p>
<b>Scripting</b>	<p><i>CreateEntity()</i></p> <p>Script function was not able to create second order shells.</p> <p>[Incident: ANSA-49374]</p>

## Volume Mesh

<b>Volumes</b>	<p><i>Define [Auto Detect]</i></p> <p>Auto-detect would not assign generated volumes to existing parts, properly, when respective option was used.</p> <p>[Incident: ANSA-48427]</p>
<b>Unstructured Mesh</b>	<p><i>Tetra Rapid</i></p> <p>Specific cases where negative volume elements might occur.</p> <p>[Incident: ANSA-44796]</p>
	<p>Cases where mesh generation might result in creation of collapsed Tetra and Pyramid elements.</p> <p>[Incident: ANSA-41856]</p>
	<p><i>Hexa Poly</i></p> <p>Occasionally negative elements would be generated.</p> <p>[Incident: ANSA-21573, ANSA-29378]</p>

<b>Structured Mesh</b>	<p><i>Layers</i></p> <ul style="list-style-type: none"> <li>Occasionally, layers would connect to side walls with different mesh than layers' or would not connect at all.</li> <li>Sometimes a gap would be left between layers and walls in some regions, after connect.</li> <li>When very high layers were connected to symmetry plane, some quads would split into trias.</li> <li>Sometimes layers would not connect correctly to side Macros.</li> </ul> <p>[Incident: ANSA-46372, ANSA-45614, ANSA-48145, ANSA-48209, ANSA-48439]</p>
<b>Structured Mesh</b>	<p><i>Map</i></p> <p>Existence of degenerated shell mesh element would led to unexpected termination when function applied.</p> <p>[Incident: ANSA-48349]</p>
<b>Improve</b>	<p><i>Reconstruct</i></p> <p>When the mesh contained regions with topological errors (e.g. intersecting elements), the function would stop without reconstructing any element.</p> <p>[Incident: 28953]</p>

## Batch Meshing

<b>Features</b>	<p><i>Holes</i></p> <p>Occasionally, identical oval holes would not have the same resulting mesh.</p> <p>[Incident: ANSA-48997]</p>
<b>Volume Scenario</b>	<p><i>Contents</i></p> <p>Auto-detect would not assign generated volumes to existing parts, properly, when respective option was used.</p> <p>[Incident: ANSA-48427]</p>

## DECKs

<b>Output</b>	<p>Exporting Include files through the List, the include Rules would not be written correctly.</p> <p>[Incident: ANSA-48683]</p>
	<p>Renumber rules with increment value higher than 1 (increment &gt; 1) would not be applied normally. This occurred with LAMINATE Properties and Materials.</p> <p>[Incident: ANSA-47053]</p>

<b>Output</b>	<b>CGR</b> Exporting would not save a .cgr file, when defining a DM path in the respective CGR Output window.  [Incident: ANSA-48881]
	Occasionally exporting MPC definitions (PERMAS, Abaqus) would not be written.  [Incident: ANSA-48360]
<b>General</b>	<b>Ansa Defaults file</b> The following paths would not read windows environment variables:  DM_ROOT_CURRENT (Settings>ANSA defaults>DM Parameters>DM Root Settings>DM_ROOT_CURRENT) DM_ROOT_PATH (DM>Set DM Paths) DM_configurations_folder (Settings>ANSA defaults>DM Parameters>DM Browser Settings>DM_configurations_folder) entities_reference_library_path (Settings>DECKS>Entities reference library) post_realization_fn_path (Settings>Connections>General>Post Realization Function) Default_Templates_File (Settings>ANSA defaults>Checks Manager Options>Default_Templates_File)  [Incident: ANSA-48211]
	<b>Windows&gt;Settings&gt;ANSA.Defaults</b> When a windows environment variable was used for an assigned directory, the folder icon button would not open in that directory but in the working instead.  [Incident: ANSA-49362]
<b>GRIDs</b>	<b>PASTE</b> Cases where function application, associated with FRAME entities, led to unexpected termination.  [Incident: ANSA-48430]
<b>ELEMENTs</b>	<b>Two Nodes</b> “Tolerance” field in “ELEMENTS' DEFINITION PARAMETERS” window, would not take into account values less than 1, regardless of units or general tolerances.  [Incident: ANSA-48905]
<b>AUXILIARIES</b>	<b>CONTACT [Flanges]</b> When selecting “Reject” during <i>Inspection</i> procedure, the previous Contact Pair would remain visible in the Graphic Area.  [Incident: ANSA-48168]
	<b>CONTACT [Assistant]</b> Sets that were created when typing a question mark (?) in the “Set Id” field of the “Use existing set” mode, would not remain in the database if they were not used inside the contact assistant.  [Incident: ANSA-45647]

<b>AUXILIARIES</b>	<p><i>A_POINT / LC_POINT</i></p> <ul style="list-style-type: none"> <li>Connectivity would not be assigned on A/ LC points, that were defined on isolated (eg. via “Show Only” option) Grids.</li> </ul> <p>[Incident: ANSA-49168]</p> <ul style="list-style-type: none"> <li>Interface nodes of A/ LC points could be selected as reference nodes for newly created A/ LC points.</li> </ul> <p>[Incident: ANSA-49175]</p> <ul style="list-style-type: none"> <li>After deleting an A/LC point, its Interface node would not be deleted.</li> </ul> <p>[Incident: ANSA-49504]</p>
<b>GEBs / CONNECTORS</b>	The "file_name" of connector entities and GEBs (representation>FromFile) can now be expressed as a relative path by using environment variables.  [Incident: ANSA-48373]
	Connectors with rigid interface and no representation would fail to be applied in case their realization would create a rigid dependency error. Now this restriction has been removed. The connectors are realized and the rigid dependency error can be removed through the fix of the respective Model Check.  [Incident: ANSA-48066]
	GEBs: Pressing the keyboard button F1 in the field "Press F1 key to select area" of the Mapped Area search type, would lead to unexpected termination.  [Incident: ANSA-47737]
<b>Reference Library</b>	Reference library would ignore entities that have BC Gui edit cards, like NLMOPTS.  [Incident: ANSA-48115]
<b>Renumber</b>	Any action done would not be stored in the Undo list for later use.  [Incident: ANSA-48736]
	Occasionally, the options <i>Offset&gt;Selected</i> and <i>Edit&gt;Add Rule&gt;Selected</i> would lead to unexpected termination.  [Incident: ANSA-48694]
<b>Checks</b>	<i>Penetration&gt;Intersections</i> Cases were the automatic fix (move away) produced unchecked faces.  [Incident: ANSA-44064]
	<i>Duplicate Elements</i> Duplicate RBE2 elements were not detected.  [Incident: ANSA-48819]
<b>Includes</b>	Pressing the “Update” button located in Transform option of an include (right-click window) would lead to unexpected termination.  [Incident: ANSA-49084]

<b>Scripting</b>	<p><i>base.ChangeElemType()</i></p> <ul style="list-style-type: none"> <li>• Misspelling the argument for the target element type would lead to unexpected termination.</li> </ul> <p>[Incident: ANSA-48722]</p> <ul style="list-style-type: none"> <li>• Function would not work on lists of elements, as expected.</li> </ul> <p>[Incident: ANSA-48557]</p>
	<p>The function <i>base.F11PresParamsOptionsSet()</i> would not return 0 or 1, upon failure or success as expected, but wrong, arbitrary values.</p> <p>[Incident: ANSA-48556]</p>
	<p><i>base.BranchEntity()</i></p> <p>Giving ids of non existing nodes in the database as argument would lead to unexpected termination.</p> <p>[Incident: 48367]</p>
	<p>The function <i>base.CollectNewModelEntities()</i> would occasionally lead to unexpected termination or incorrect behavior.</p> <p>[Incident: ANSA-47805]</p>
	<p><i>base.SynchronizeMaterials()</i></p> <p>When 0 was given as <i>target_decks</i> argument's value, so as to consider all decks as target, synchronization wasn't performed to all decks.</p> <p>[Incident: ANSA-48842]</p>
	<p><i>UpdateMatsFromMDBBy()</i></p> <p>Beta script function would not update the materials "by_name" in cases that the matched materials had different ids.</p> <p>[Incident: ANSA-49008]</p>

## Safety

<b>Interior</b>	<p><i>FMVSS201U</i></p> <ul style="list-style-type: none"> <li>• Positioning of the headform for a target point required excessive amount of time.</li> </ul> <p>[Incident: ANSA-48614]</p> <ul style="list-style-type: none"> <li>• FMVSS201U tool would not follow the regulation about considering or not the 'Sun Roof' SET in the calculations of Targets.</li> </ul> <p>[Incident: ANSA-49264]</p>
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## NASTRAN

<b>Input</b>	Cross Sections related to NASTRAN PBxSECT keywords, could not be read and therefore, inserted properly in ANSA.  [Incident: ANSA-48634]
<b>Output</b>	Exporting a simulation run through the Model Browser, some components of the subsystems would be missing.  [Incident: ANSA-49180]
	Cases where outputting a simulation run that the load had been created in Loadcase Manager and RVDOF and/or USETs were requested, resulted in unexpected termination.  [Incident: ANSA-49287]
	Keywords <i>RVDOF</i> and <i>USET</i> , defined in <i>Loadcase manager's Parameters</i> , would not be output when the option <i>Boundary Conditions dofs</i> (BCDOFs) was taken in consideration for their definition.  [Incident: ANSA-49023]
	Header Sets would not be exported at all, if they were out of Includes and no header existed.  [Incident: ANSA-29831]
<b>B.C. SETs</b>	<p><i>HEADER&gt;Utilities&gt;Check</i></p> <p>Commands were identified as duplicate despite the fact that they were belonging to different STEPS of the same SUBCASE.</p> <p>[Incident: ANSA-48116]</p>
	<p><i>HEADER</i></p> <ul style="list-style-type: none"> <li>Pressing the "?" in the subcase list in order to modify a line, would lead to unexpected termination. This occurred only on Windows OS.</li> <li>Invalid output requests referencing nodal sets instead of element sets (E.g. ELFORCE requested on nodal set) would result in invalid offset set IDs used in the solver file output.</li> </ul> <p>[Incident: ANSA-48491, ANSA-48798]</p> <ul style="list-style-type: none"> <li>Setting options were missing from the card of EKE keyword in HEADER.</li> </ul> <p>[Incident: ANSA-48648]</p> <ul style="list-style-type: none"> <li>SETs would be in wrong position in Nastran Header, if Include statements were specified in the Parameters of the Loadcase Manager</li> </ul> <p>[Incident: ANSA-48917]</p>
<b>Task Manager</b>	<p><i>SOL200 Task</i></p> <p>The HEADER Autofil function (double-click on item) would ignore the Objective function.</p> <p>[Incident: ANSA-49276]</p>

## LS-DYNA

<b>Input</b>	When an LS-DYNA file in M00 format was input, the M00 .xml hierarchy would not be read correctly.  [Incident: ANSA-47956]
	Reading a main include file with references to other includes while having activated the Subsystem view mode resulted in unexpected termination.  [Incident: ANSA-49220]
<b>CONSTRAINED</b>	<i>JOINTs&gt;Assistant</i>  The assistant for the creation of *CONSTRAINED_JOINT would not allow selection of solid rigid bodies.  [Incident: ANSA-48891]
<b>Tools</b>	<i>Checks&gt;Contacts</i>  Procedure would not respect all thickness flags when checking beams.  [Incident: ANSA-48987]

## PAM-CRASH

<b>NODES</b>	<i>PASTE</i>  Cases where function application, associated with FRAME entities, led to unexpected termination.  [Incident: ANSA-48430]
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## Abaqus

<b>Input</b>	A *Pre-tension Section would not be read when it referenced an element from a Set which was inside an *Instance/*Part or a Node which was inside an *Instance/*Part.  [Incident: ANSA-49198]
	Cases where a Set/Surface belonging to an assembly and containing a set that was part of an instance, was unable to find the nested Set during input.  [Incident: 61870, ANSA-49002]
<b>Output</b>	When a *BOUNDARY would be of type FIXED, the Amplitude would by mistake be exported too.  [Incident: ANSA-49041]
<b>LOAD CASE</b>	LOAD CASEs were allowed to have identical names, which Abaqus would not accept.  [Incident: ANSA-46328]

<b>AUXILIARIES</b>	<p><i>Contacts&gt;PRTENS&gt;Assistant</i></p> <p>When a STEP was deleted it would occasionally lead to unexpected termination.</p>
	[Incident: ANSA-49252]

## RADIOSS

<b>Output</b>	<p>Although multiple /Refsta files might have been merged in Ansa, only one would be printed during output.</p>
	[Incident: ANSA-48776]
	<p>Exporting Groups with contents of solid element facets, would result to empty Groups.</p>
	[Incident: ANSA-49169]
<b>General</b>	<p>Creating an /EREF keyword either from the database Browser or through the Search Engine would result in wrong entity.</p>
	[Incident: ANSA-48650]
<b>AUXILIARIES</b>	<p><b>MONVOL</b></p> <p>The SURF ORIENT field of the /MONVOL edit card would lead to confusion as the surface orientation is controlled from the referenced group. Now, this field is removed.</p>
	[Incident: ANSA-47169]
	<p><b>Section [Assistant]</b></p> <p>Upon defining the cutting plane, the Section Assistant tool would not keep the selected node ids to be used for the N1,N2,N3 fields of the /Sect card.</p>
	[Incident: ANSA-49498]

## OpenFOAM

<b>Output</b>	<p>The sign of the separation Vector keyword (AMI interface) would occasionally be opposite.</p>
	[Incident: ANSA-48538]

## KINETICS

<b>Input</b>	<p>Upon input in .cmd format, expressions of VTORQUE forces would not be read.</p>
	[Incident: ANSA-49406]
<b>Output</b>	<p>Exporting ADAMS model (.cmd files) would result to incorrect file when Kin_Graphics entities of type polyline were present.</p>
	[Incident: ANSA-49044]

<b>General</b>	The ABS function of the Expression Builder would cause error during start of simulation. [Incident: ANSA-49342]
<b>Bodies</b>	Cases where bodies would not move when initial velocity was applied on them through the KIN_BODY card. [Incident: ANSA-48743]
	<i>Flex&gt;Convert&gt;Import wizard</i> When the "Align with Body's COG" button was pressed, the orientation of the old and the new(incoming) body would not be aligned successfully. [Incident: ANSA-49215]
<b>Checks</b>	<i>Kinetics</i> The automatic fix of Rackpin joint would not be applied as expected. [Incident: ANSA-49058]

## MORPH

<b>Direct Morphing</b>	<i>Constraints [Path Follower]</i> <ul style="list-style-type: none"> <li>• Removing path from an already defined constraint was not prevented.</li> <li>• Constraint nodes could not be selected.</li> </ul> [Incident: ANSA-48017]
	<i>Constraints&gt;Flanges</i> Entities which belonged to Contact definitions could not be modified. [Incident: ANSA-48109]
	<i>Create</i> The function would automatically mesh visible unmeshed geometry without any warning or confirmation. [Incident: ANSA-48552]
	<i>DFM</i> <ul style="list-style-type: none"> <li>• Feature Angle selection tool with selection settings: "Geometry" and "Nodes", would not be applied on Geometry Mesh.</li> <li>• Upon morphing meshed geometry with 2nd order elements through script, an unexpected termination occurred.</li> <li>• During the definition of a DFM, unexpected bound suggestion would occur.</li> </ul> [Incident: ANSA-48044, ANSA-49019, ANSA-48295]
<b>Checks</b>	<i>Geometry</i> Occasionally, irregular cuts would be performed on the geometry. [Incident: ANSA-48910]

<b>Boxes</b>	<p><i>Load [Visible]</i></p> <p>Linked Boxes would not be loaded with elements.</p>	[Incident: ANSA-49700]
<b>Scripting</b>	<p><i>morph.MorphLoad()</i></p> <p>The argument 'entities_to_load' would ignore coordinate systems.</p>	[Incident: ANSA-48859]
	<p>The function <i>morph.CreateStamp()</i> would produce some irregular results when a circular stamp was selected.</p>	[Incident: ANSA-49209]

## HEXA BLOCK

<b>General</b>	<p>Picking CONs or Box Edges with double click while being in no-shadow mode (Ctrl+Shift) would not be possible.</p>	[Incident: ANSA-48568]
<b>Boxes</b>	<p><i>O-Grid</i></p> <p>Rare cases where the offset direction of the O-Grid Boxes could be the opposite of the direction declared by the user.</p>	[Incident: ANSA-49537]

## OPTIMIZATION

<b>TOSCA</b>	<p><i>SIZING</i></p> <p>The provided options for the “type” field of the Eigenfrequency Objective Function item would be wrong.</p>	[Incident: ANSA-48896]
<b>Optimization Task</b>	<p>The performance of DOE was ceasing to respond, in case of de-activated (or not selected) Design Variables.</p>	[Incident: ANSA-49542]
<b>Scripting</b>	<p><i>Task Manager &gt; Optimization task</i></p> <p>The selected script function would not be stored in a User Script item when the script was not set as the default one in Script Manager.</p>	[Incident: ANSA-48464]

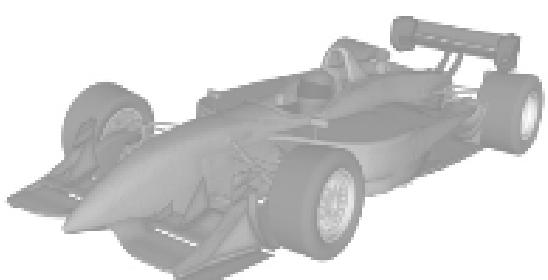
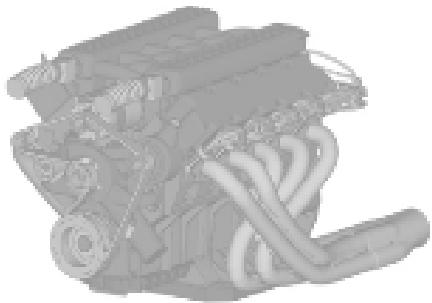
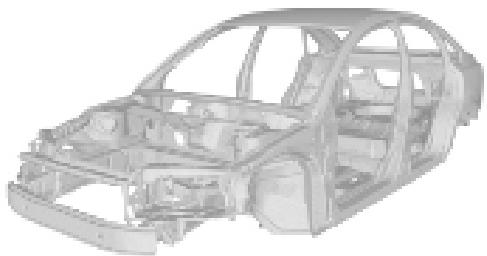
## Scripting

<b>Geometry</b>	The functions <code>base.GeoTransform()</code> & <code>base.GeoTranslate()</code> would lead to unexpected termination when transforming solids/faces which belonged to non-selected volumes.  [Incident: ANSA-44221]
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# ANSABeta

v.17.0.0

Release Notes



$\beta$  **BETA**  
CAE Systems SA

## 1. Introduction

This document contains all the information about problems fixed during development of ANSA from version 16.2.0 to **version 17.0.0**.

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### NOTES:

- ANSA databases saved by ANSA v17.0.0 **cannot** be opened by v16.x.x or previous versions.
- New documents:
  - Optimization: ANSA/mETA for Optistruct

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### Release History:

v17.0.0      2016.07.15

v16.2.0      2016.04.28

v16.1.2      2016.04.22

v16.1.1      2016.03.04

v16.1.0      2015.11.18

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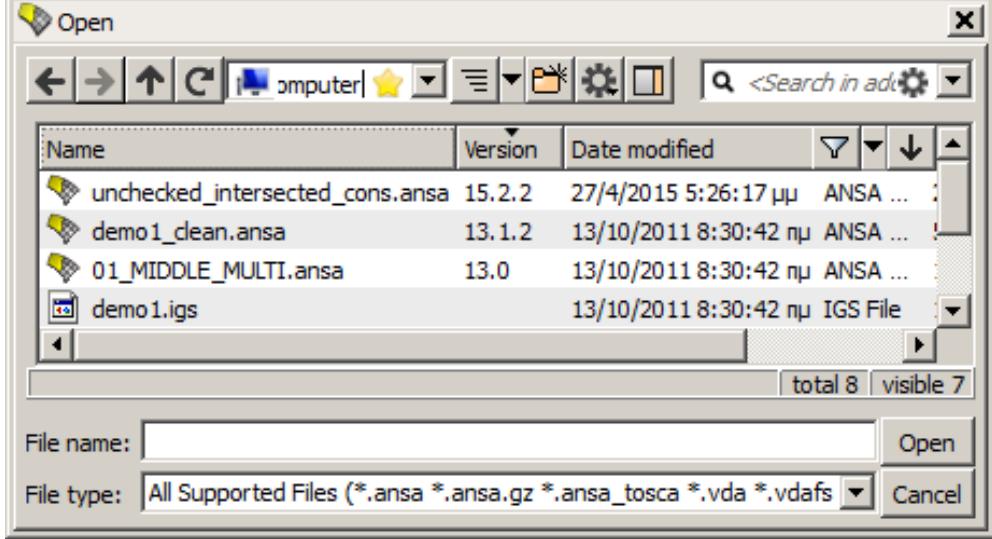
#### Copyright notes:

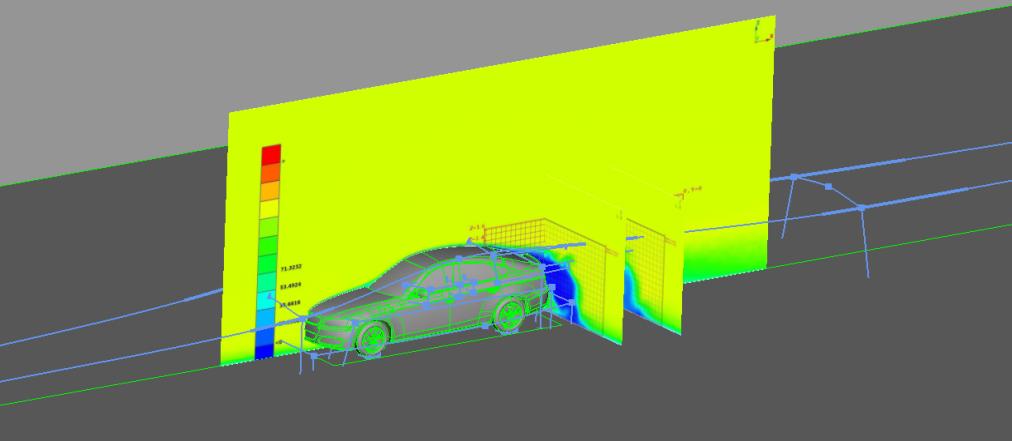
All other company and product names mentioned in the software and its documentation are property, trademarks or registered trademarks of their respective owners.

## 2. What's new in v17.0.0

### Enhancements – New Options – New Features

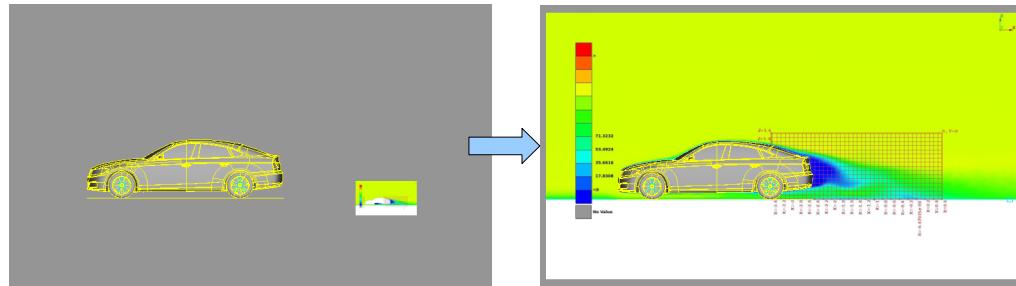
#### General

File Manager	<p><i>Open</i></p> <p>Column "Version" is now available in the File browser, displaying the ANSA version that a file was saved by.</p>  <p>[Incident: 51478]</p> <p>It is now possible to view and open the contents of compressed .zip files and folders.</p> <p>[Incident: 44597]</p>
Merge/Input	<p><i>Parameters</i></p> <p>The Model Action ("Overwrite current model", "Merge model with current model" etc) is now saved in the ANSA.defaults.</p> <p>[Incident: 46248]</p>
ANSA Defaults	<p>New script functions are now supported in order to get and set user defined values:</p> <pre>base.BCSettings GetUserDefinedValue base.BCSettings SetUserDefinedValue base.BCSettings UserDefinedKeywordExists</pre> <p>[Incident: ANSA-43655]</p> <p>Saving the Defaults file using the Save Settings As (Windows&gt;Settings), it is now possible to exclude unnecessary information of system specific settings, using the relevant option provided. Specifically, this excludes:</p> <ul style="list-style-type: none"> <li>• Any variable that involves a system path</li> <li>• OpenCL settings</li> <li>• "ATTRIBUTES TO KEEP" variable</li> </ul> <p>[Incident: 54703]</p>

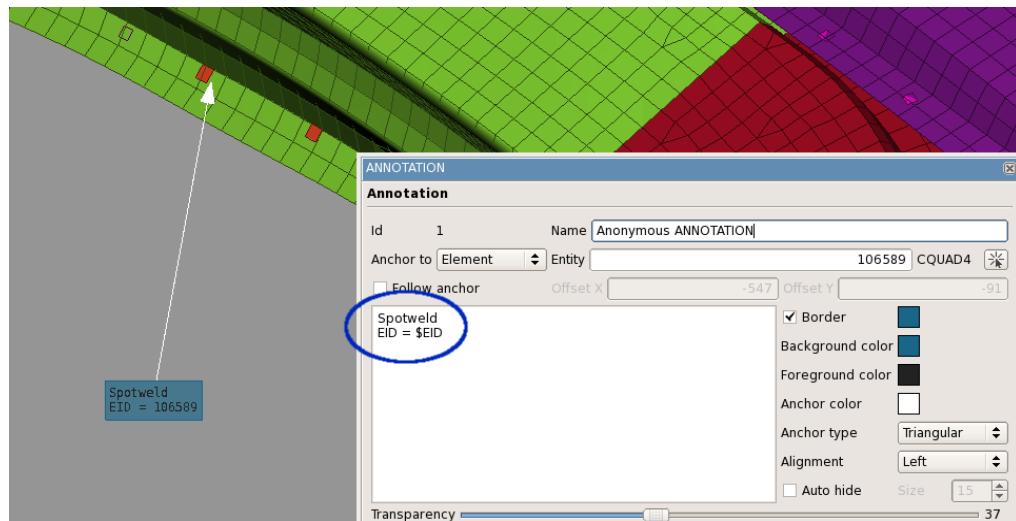
<b>Presentation Parameters</b>	<p><i>Utilities&gt;Quality Criteria</i></p> <p>It is now possible to display and control the size of the shell elements' normal vectors. The option is controlled through the 'Presentation Parameters' tab of F11 window.</p> <p style="text-align: right;">[Incident: ANSA-42009]</p>
<b>Isolate</b>	<p>The script function <code>base.IsolateFlangesProximity()</code> is supported.</p> <p style="text-align: right;">[Incident: ANSA-45135]</p>
	<p><i>Skin</i></p> <p>When no leaks are found, an informative text is now printed in the ANSA Info window.</p> <p style="text-align: right;">[Incident: 63395]</p>
<b>Utilities</b>	<p><i>Cut Plane</i></p> <p>New efficient method for Planes' creation in four steps:</p> <ol style="list-style-type: none"> <li>1) Select Utilities &gt; Cut Plane &gt; New &gt; DefaultXY/YZ/ZX</li> <li>2) Select origin of Cut Plane from the drawing area</li> <li>3) Select Part or press middle mouse button to continue</li> <li>4) Edit the Cut Plane card and confirm</li> </ol> <p style="text-align: right;">[Incident: ANSA-44792]</p>
	<p><i>Image 3D Utility</i></p> <p>New function is supported to insert and position images in 3D space, to make comparisons with 2d drawings or to visualize post-processing results in order to make changes in the grid.</p>  <ul style="list-style-type: none"> <li>• Images are always inserted on the 0,0,0 point and lay on the XY plane.</li> <li>• Through the 3D Image <i>Edit</i> card the position and the orientation can be modified.</li> </ul>

**Utilities**

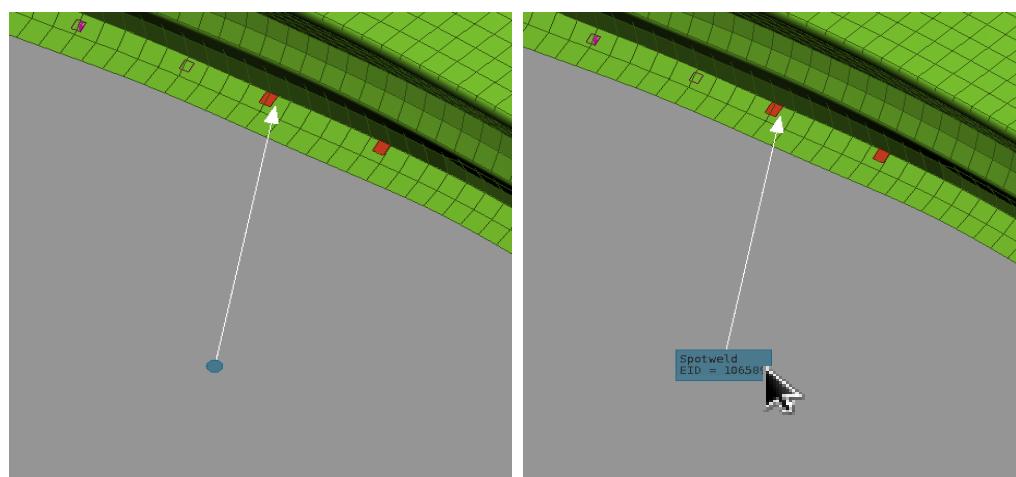
- Fit Image:** This option fits the image on the model, matching the couple of points picked from the image and these from the model. The image is moving on its current plane orientation.

**Annotations**

- The text now supports the option to add a value of the referenced entity e.g., the element ID. This is achieved using the "\$" symbol.



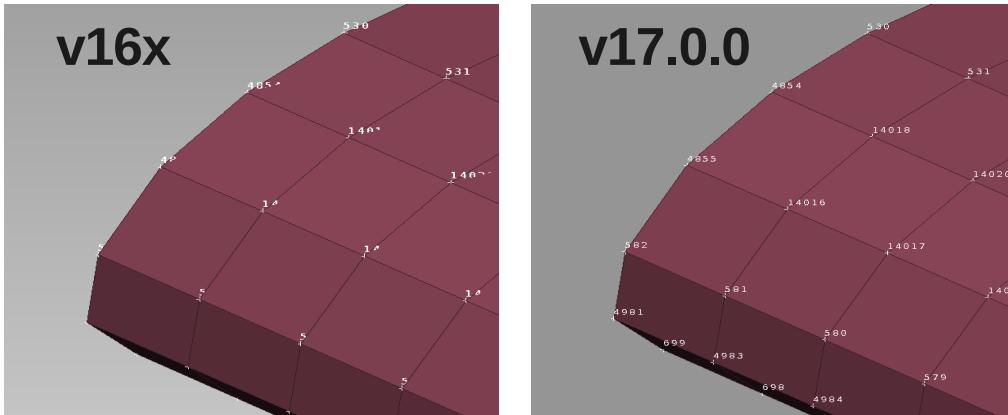
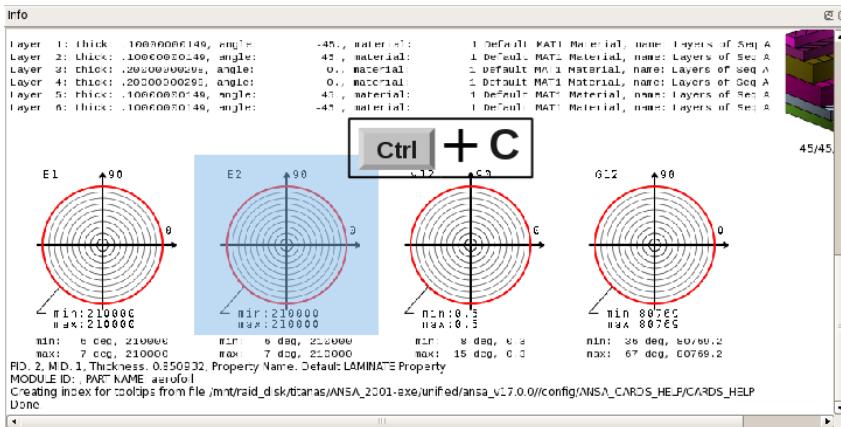
- The option *Auto Hide* can help to make the visibility lighter by minimizing the annotations. When the cursor is hovering over the annotation, it is then expanded.



- Snapshot*

The option to reverse colors of background/foreground is now provided.

[Incident: ANSA-45491, 63617]

<b>Cut Plane</b>	The “Mouse button operations” settings in Windows>Settings>GUI Settings, are now synchronized with the Cut Planes move operations.  [Incident: ANSA-43892]
<b>Display</b>	The display of Ids and Names of Nodes/Elements is now enhanced: <ul style="list-style-type: none"> <li>The ids/names are now shown dynamically i.e., according to which elements are visible at current view angle.</li> <li>The labels are shown in smarter way so that they do not get hidden.</li> <li>The names now remain shown even when switching to dynamic view mode (Ctrl+Shift). This feature respects also the previous rule i.e., dynamic show of ids/names according to the current view angle.</li> </ul>  <p>[Incident: 50904, 51294]</p>
<b>ANSA Info</b>	The images can now be copied for further use in another application.   <p>[Incident: 43291]</p>
<b>GUI Settings</b>	The selection mode used for a function (e.g. Recons with PID selection mode) can now be saved for this specific function in the xml file (through Windows>Settings).  [Incident: 57762]

## CAD Import / Export

A new Settings card ("Resolution/Tolerances/Units") has been added in the Settings of Translators. From now on the Resolution and Tolerances values that will be used for any translation process will be different from the Resolution and Tolerances values used in ANSA. So, whenever the Resolution/Tolerances values require to be different from ANSA's, they have to be set before the translation.

For the translation process through a script it is necessary to use the `base.SetANSADefaultsValues()` function with the new keywords:

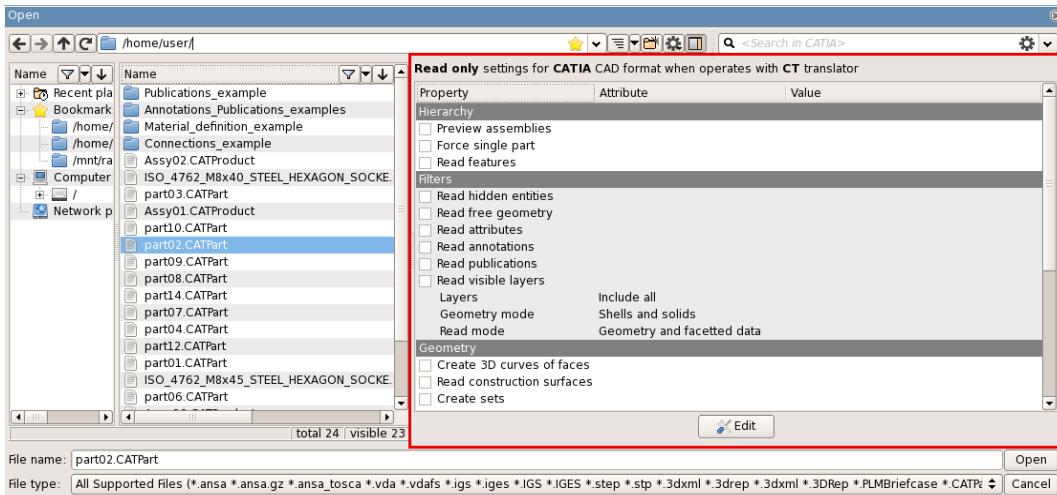
`TRANSL_NTOLERANCE`  
`TRANSL_CTOLERANCE`  
`TRANSL_TOLERANCE_MODE`

`TRANSL_CURVES_RESOLUTION`  
`TRANSL_PERIMETER_LENGTH`  
`TRANSL_DISTORTION_DISTANCE`  
`TRANSL_DISTORTION_ANGLE`

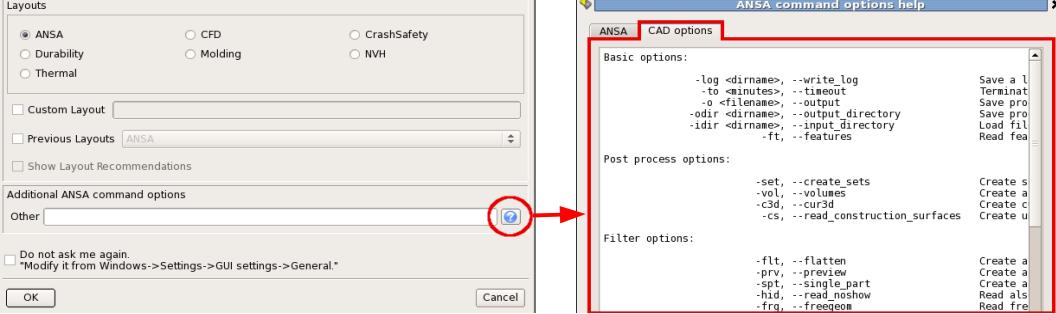
[Incident: ANSA-46821]

The stand-alone CAD to ANSA translator can now read PLMXML files, automatically extract and translate all the CAD files which are referenced in it.

[Incident: ANSA-45759]

<b>General</b>	<p>A new CT library is incorporated, which adds support for the following CAD releases :</p> <ul style="list-style-type: none"> <li>· Catia V5-6R2016 a.k.a V5 R26</li> <li>· Inventor 2016</li> <li>· SolidWorks 2016</li> <li>· Parasolid files 28</li> </ul>
<b>File Manager</b>	<p><i>File&gt;Open</i></p> <p>A preview of the current translation options for the selected files is now possible. The file type is automatically recognized and the relevant translator settings are previewed and they can be directly modified.</p> 

[Incident: 64123]

<b>File Manager</b>	<p>ANSA Launcher:</p> <p>The corresponding command line arguments for all translation options can now be found in a separate tab named "CAD options" in the "ANSA command options help" window.</p>  <p>[Incident: ANSA-45627]</p>
<b>CATIA</b>	<p>"Read publications" now exists as a separate option for the CATIA CAD format. This new option depends on the "Read features" option. In case the "Read publications" option is activated, then the "Read features" option will also be enabled automatically.</p> <p>[Incident: 55282]</p>
<b>JT</b>	<p>CAD attributes are transferred to model browser in every translation. These attributes represent the properties of the jt file.</p> <p>[Incident: ANSA-45526]</p> <p>When outputting JT files (File&gt;Output&gt;JT), the part attributes are written in the JT file. This is available when the option "with hierarchy" is selected.</p> <p>[Incident: ANSA-45741]</p> <p>Now, PMIs (Product Manufacturing Information) Spotwelds and Notes, which may exist in JT files are supported. Connection points will be automatically created in ANSA, according to the PMI Spotwelds and 3D Points, according to the PMI Notes. All PMI data are stored as user attributes in the respective ANSA entities.</p> <p>[Incident: 57343, ANSA_36671]</p>
<b>Neutral files</b>	<p>When the option <i>Create Sets</i> is used, simpler sets' hierarchy is now created. This applies for IGES and STEP files.</p> <p>[Incident: ANSA-45905]</p>
<b>Scripting</b>	<p>Support of a new function <i>base.SaveFileAsCGR(filename)</i> for exporting to cgr format. It outputs the visible entities to a *.cgr file. The units of the *.cgr file are the same as the units of ansa at the time of the output.</p> <p>[Incident: ANSA-44732]</p> <p>It is now possible to make the <i>def CAD_Translate()</i> run for CAD files which are opened through the <i>base.Open()</i> and <i>utils.Merge()</i> functions. This is possible by using the new function <i>ansa.betascript.Propagate()</i>.</p> <p>[Incident: ANSA-45216]</p>

## CAD to ANSA Translators

New option for translation units is now available. It can be found under Tools>Preferences>Settings>Resolution/Tolerances/Units.

[Incident: ANSA-45903]

New settings card is supported under Tools>Preferences>Settings>[Translators defaults]. It lists all the keywords which exist in the translators.defaults file for each translation option. Hence now there is a match of the translation option as displayed in the application to the corresponding keyword as it is written in the translators.defaults file.

[Incident: ANSA-46100]

The printing messages have now been improved in order to be easier distinguished according to their type:

- Regular messages are printed in the default color (black).
- Warnings are now printed in orange color.
- Errors are now printed in red color.

[Incident: ANSA-43426]

The CAD format selection combo box has been removed. All supported CAD formats can now be loaded simultaneously in the list of files to be translated. The corresponding translation options of each CAD format will open in tabs automatically.

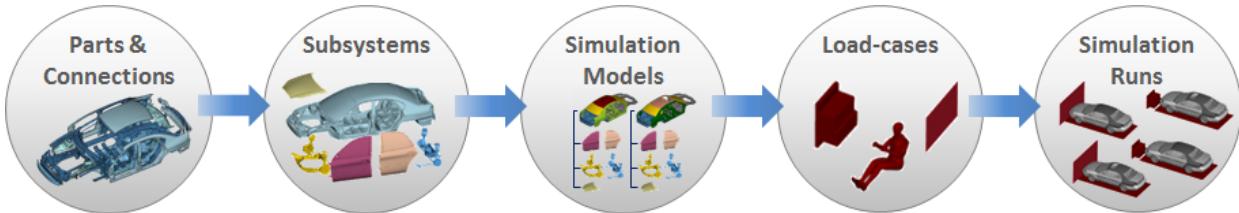
[Incident: ANSA-45533]

## GUI

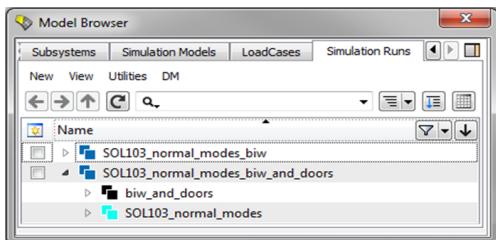
<b>Scripting</b>	<p>The functions to maximize/minimize/restore the windows are now supported:</p> <p>guitk.BCMDIMainWindowShowMinimized() guitk.BCMDIMainWindowShowMaximized() guitk.BCMDIMainWindowShowRestored()</p>
	<p>[Incident: 19090]</p>

## Model Browser

Significant enhancements now enable the comprehensive model organization, starting from part and going down to solver run. The new integrated environment supports the creation and configuration of all the entities required for the set-up of Simulation Runs through an intuitive and concise GUI. The introduction of these new entities comes with full support for data management in both file-based and SPDRM-based implementations.



New data types have been added in the Model Browser to facilitate the set-up of solver runs (main files). These entities are the Simulation Model, the Load-case, and the Simulation Run.



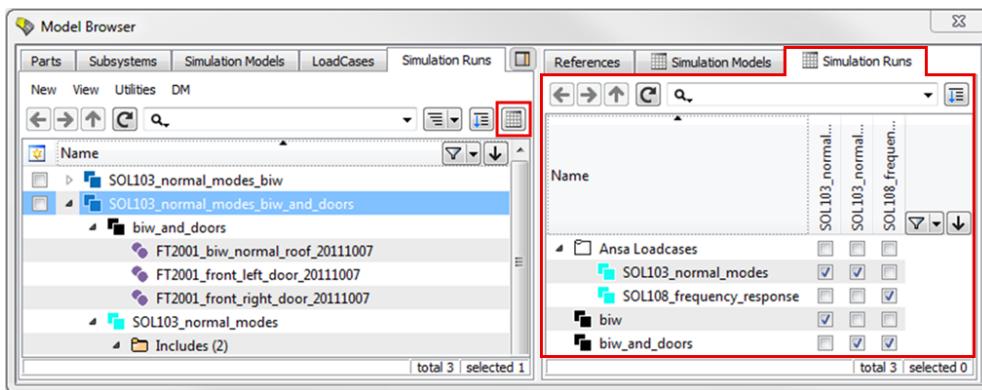
The *Simulation Run* represents the main input file which is sent to the solver. The model is represented by the Simulation Model and the load-case info by the Load-case item.

The *Load-case* describes the loading scenario. Depending on case, the loading scenario may consist of the header file, control cards, materials, barriers, dummies, etc., which are defined as include files.

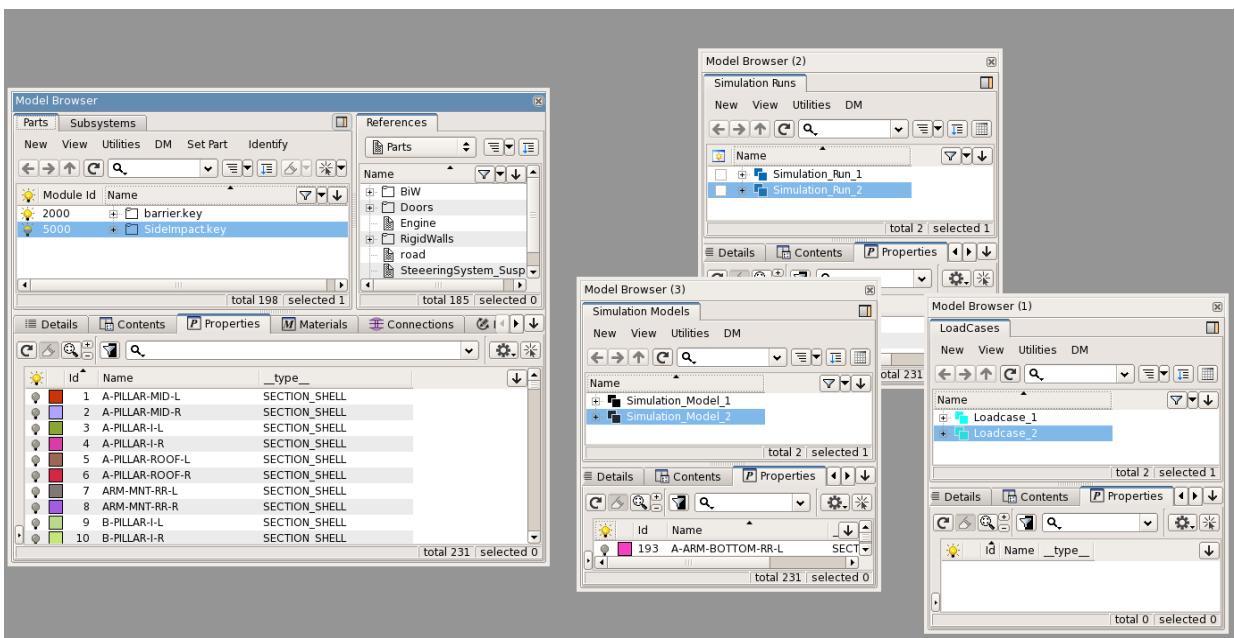
The *Simulation Model* is a collection of Subsystems and it describes the model which will be studied.

The Simulation Models, the Load-cases, and the Simulation Runs, can be set-up:

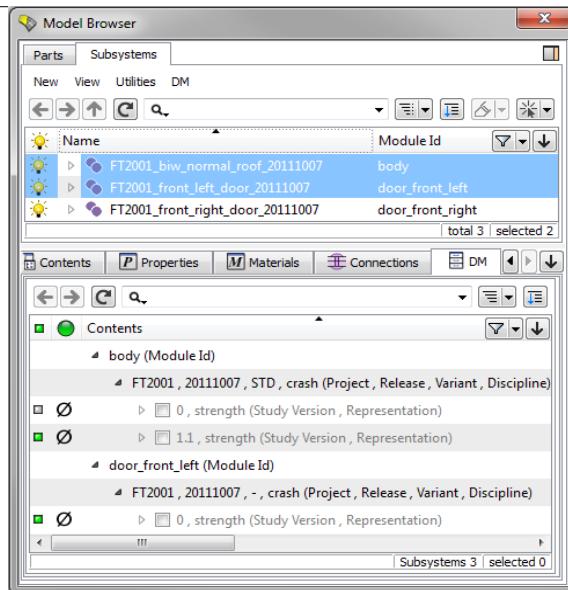
- With drag-and-drop operation
- Through a configuration matrix



Moreover, it is possible to see two or more tabs of the Model Browser at the same time, through the option "Untab" in the context menu of the existing tabs. In this way, it is possible to review different Model Browser entities at the same time.



Additionally, the DM tab has been introduced to present all the versions of the selected items, which are stored in DM.

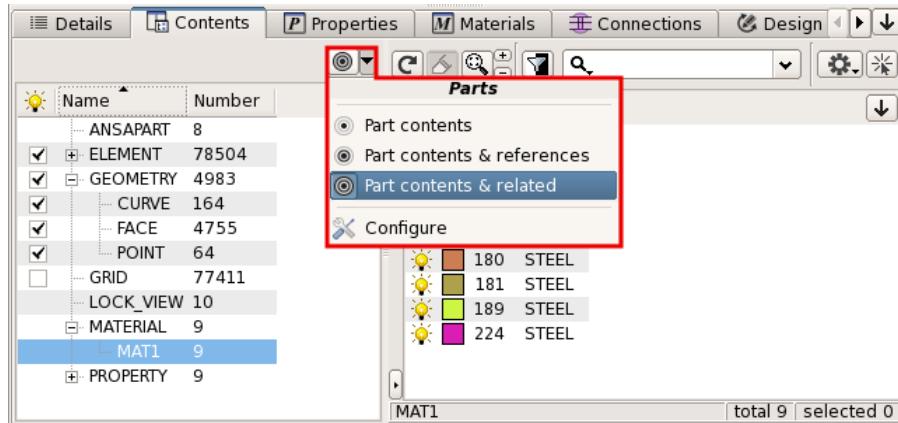


[Incident: ANSA-46693]

The "Contents" tab has been enhanced with the addition of the "mode" menu, which allows the control of the entities that should be collected as part contents. Three default modes are available for parts:

- Part contents: Shows strictly the entities that are assigned to the part
- Part contents & references: Shows the entities that are assigned to the part plus their properties and materials

- Part contents & related: Shows the entities that are assigned to the part plus their properties, materials and related connections, sets, and the entities that use them. This was the default view mode in prior versions.



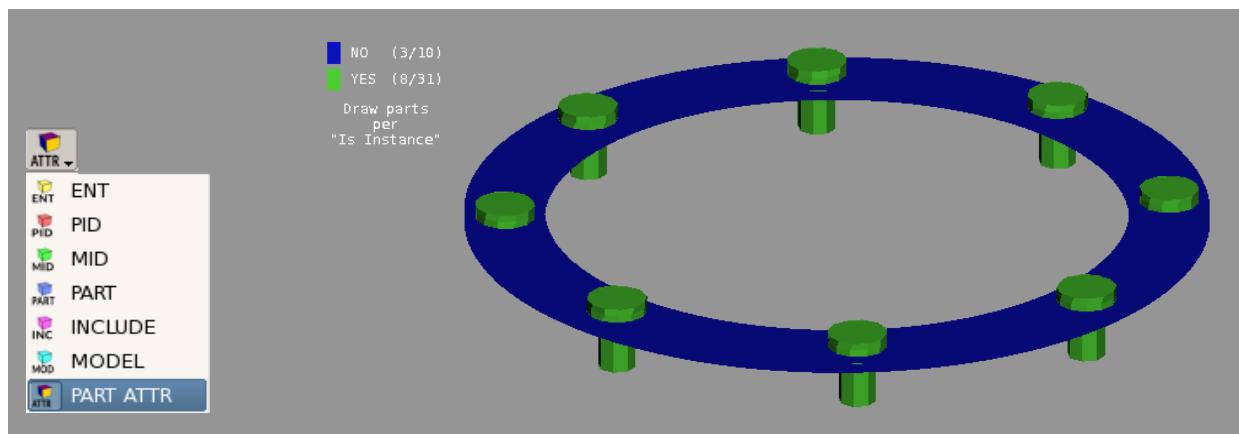
Two additional modes are available for sub-systems, that are only used in case the sub-systems contain includes:

- Include contents: Shows strictly the contents of the include
- Include contents & related: Shows the entities that are assigned to the include plus related entities like properties, materials, connections, sets and the entities that use them.

It is possible to control the default mode that will be used in the "Contents" tab for both parts and sub-systems. Additionally, the user can now exclude entity types from the ones collected by default.

[Incident: ANSA-47795]

It is now possible to draw the parts of the model colored by the value of any part attribute. This way, the parts of the model can be colored for example according to whether they are multi-instances or not, or according to their part version. This functionality is activated either directly from the "Details" tab of the Model Browser by selecting the "Draw per attribute" option of the context menu on any attribute, or through the Utilities>Draw per attribute function.



[Incident: 58127, 65788]

<b>Modify</b>	<p><b>ANSAPART list</b></p> <p>Modifying ANSAPARTs entities with values given in their cross references is now possible. For example, add the property name to the part's name using the following syntax:</p> <p>Name: \$._"_.@PID@-&gt;@Name@</p>
	[Incident: 55746]

<b>Replace</b>	It is now possible to replace a Part with an FE model file through the “Replace>with Input file” option of the context menu in Model Browser list. [Incident: ANSA-39146]
<b>Actions</b>	<i>Copy to Model&gt; [available models]</i> It is now possible to copy Groups or Parts from one model to another, through the related option in the context menu of the selected Group/Part in active model's <i>Model Browser List</i> . UNDO and REDO can be used to cancel and repeat the actions accordingly. [Incident: ANSA-39505]
<b>Numbering Rules</b>	<i>Per Type</i> Now, special rules for Properties, Material and Nodes of the Part can be created through context menu's “Actions>Numbering Rules>Per Type” function. [Incident: 53179]
<b>Scripting</b>	<i>base.InteractiveGroupingOfPartsBasedOnAttribute(): New script function for the interactive assignment of user-attribute values to ANSA parts.</i>

## Compare

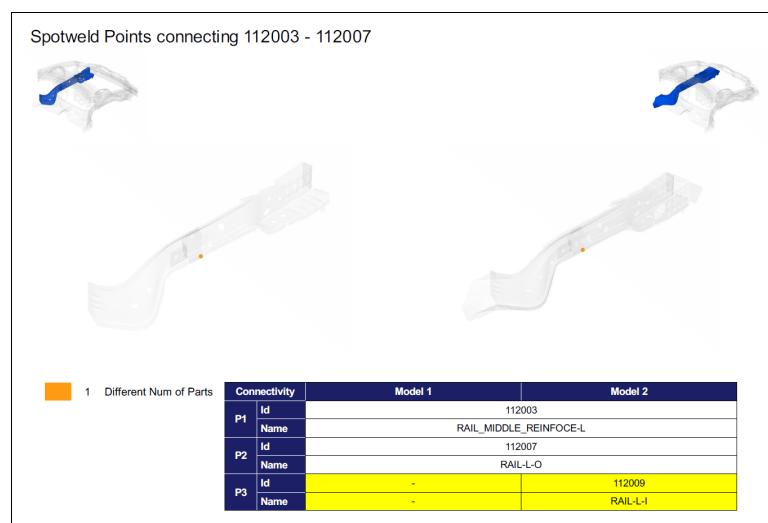
### Compare Tool

The Comparison Report, which presents the differences identified though the Compare Tool, has been enhanced to include the differences found in connections.

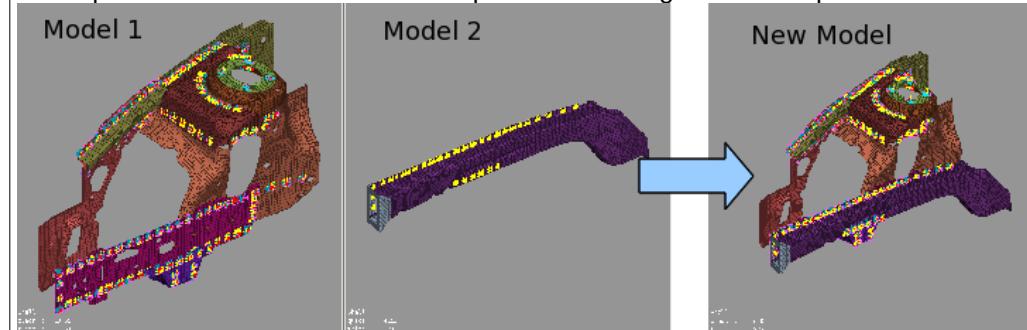
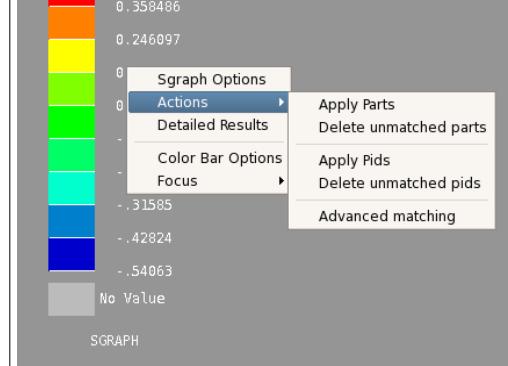
The identified differences in connections can be presented in the Comparison Report of PPTX and PDF file type.

The connections are displayed per connectivity and they are colored by the type of difference. The Module Id and Name of the connected parts are presented in a table while the location of these parts (in both models) is displayed at the top of the slide.

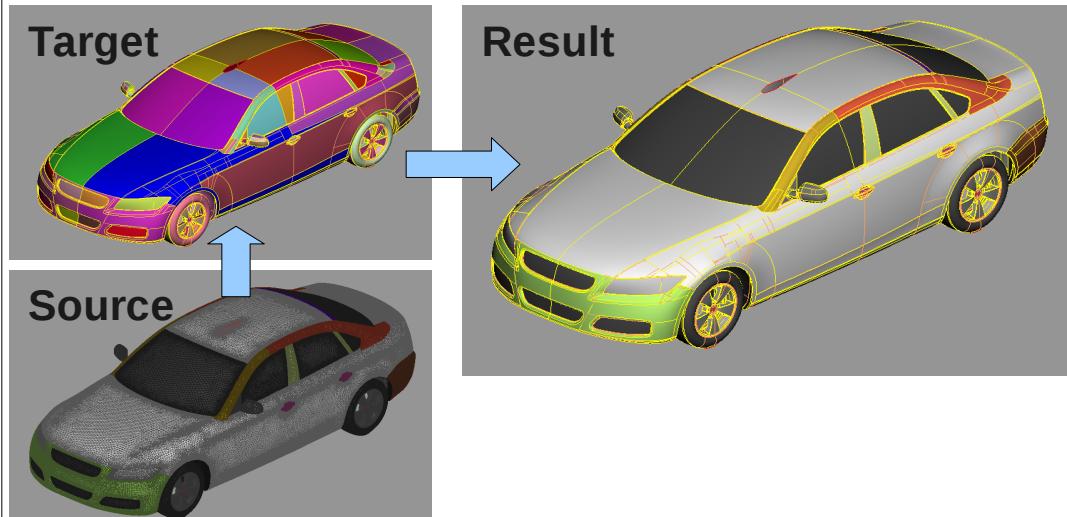
The differences in the number of connected parts or in the position of connections are reported per connection.



These options can be controlled through the “custom\_options.config” file. A sample of this configuration file can be found in the installation directory under the ..//scripts/General/ custom\_options.config path. This file can be edited by the user, and it should be placed in the .BETA/ANSA/version\_17.0.0/ directory in order to be considered by the script which is used for the creation of report.

<b>Multi Model</b>	<p>Models Manager: New option "Copy Colors" in the context menu of the right-mouse button on the selected model, through which the user can copy Pids/Mids/Ansaparts/Includes/All colors from model to the selected model(s), based on the same Ids.</p> <p>[Incident: 63457]</p>
	<p>The option to automatically activate the model of the active window. This option is controlled through Windows&gt;Settings&gt;General Settings.</p> <p>[Incident: ANSA-46196]</p>
	<p>The function to merge 2 models in one is now supported. The "Merge" button can be found in the Models window.</p> <p>The option to create a new model or update an existing one is also provided.</p>  <p>[Incident: 62145]</p>
	<p>It is now possible to copy ANSA Parts/Groups between Models. This option is available on the right-click menu of a Part/Group (Model Browser), Action&gt;Copy to Model.</p> <p>The operation is available also through scripting, using the function <code>CopyPartsToAnsaModel()</code>.</p> <p>[Incident: 65368]</p>
	<p>Every time a model is Input/Open and the same PID, MID or INCLUDE names exist, it will acquire the same color, easing the virtual model comparison.</p> <p>[Incident: ANSA-45142]</p> <p><b>Separation Graph</b></p> <p>The option "Actions" which maps Parts/Pids of one model to another is now supported. It is located in the context menu (right-mouse button) of the SGGRAPH fringebar .</p>  <p>Inside this option, it is possible to apply or delete unmatched Parts/Pids.</p>

The main setting for the matching operation is the field “Matching threshold”. When matching is over this value then the Parts/PIDs are considered as matched.

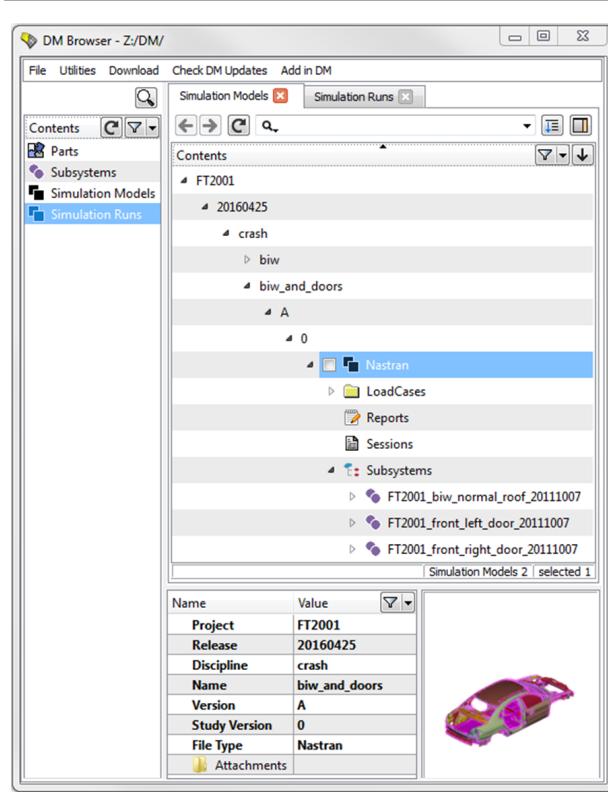


[Incident:ANSA-43838]

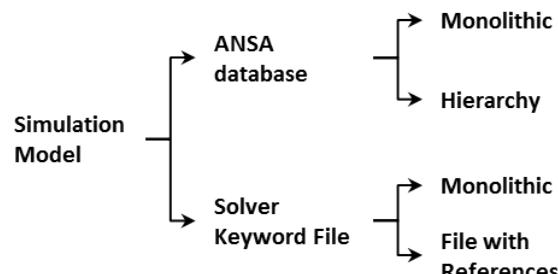
## Data Management

The DM has been enhanced to support a comprehensive model organization and management, starting from part and going down to key results. This integration has been accomplished through the introduction of *Simulation Model* and *Simulation Run* entities which can be stored in DM.

The Simulation Models and the Simulation Runs are classified in the respective containers on the left side of the DM Browser window.



The Simulation Model is the assembly of Subsystems which describes the analysis model. This item can be stored in ANSA or solver keyword file format. In both cases, the Simulation Model can be saved either as monolithic file or as file with references to the original Subsystems in DM.

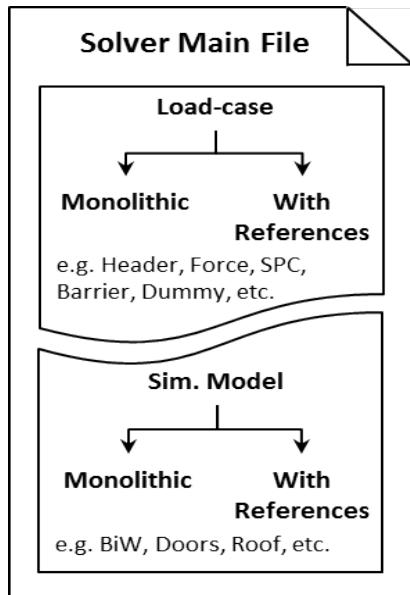


A solver keyword file with references is essentially a file which contains “INCLUDE” keywords.

Additionally, the Simulation Model comes with build-in version control.

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The Simulation Run represents the solver main file. This entity is a combination of a model with load-case information. The Load-case item represents the load-case info and the Simulation Model describes the model.



During the output of a Simulation Run, the user can control the exact layout of the main file by specifying the layout of the Load-case and the Simulation Model sections separately. A Load-case consisting of several includes can be written out as a monolithic block of text or as a block with references to the original includes on the disk. The same approach is followed for the Simulation Model as well.

The hierarchy and all the related data such as key-results and sessions are organized under the respective Simulation Models and Simulation Runs.

The output file name of entities is now clearly composed as follows:

- for Parts and Subsystems: <Name>\_<Representation>
- for Simulation Models, Load-cases and Simulation Runs: <Name>

Additionally, the output file name could be customized through a user-defined rule in the dm\_structure.xml file. For example:

```
<Rule name="_rule_for_output_file_name_" generated_value="[Module Id]_[Version]" />
```

[Incident: ANSA-45546]

It is now possible to define in the data model a different set of properties/attributes for each supported type of model entities; Parts, Includes, and Components.

[Incident: 55853]

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## Scripting

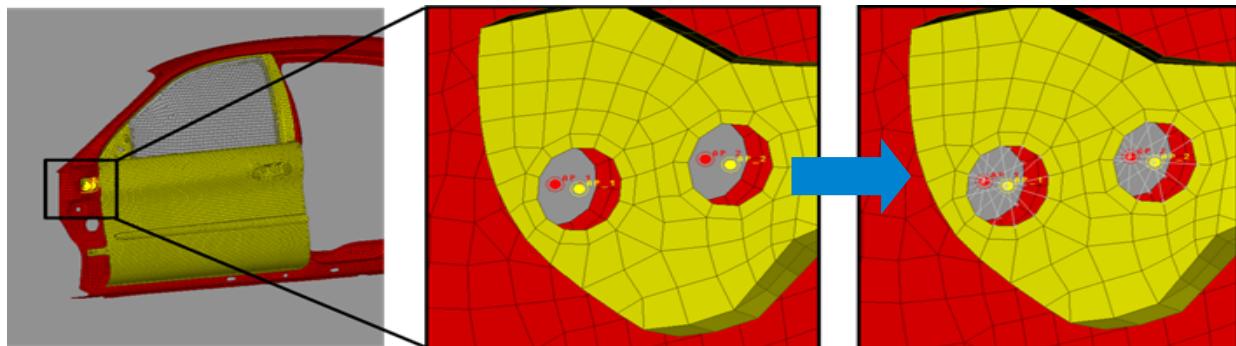
Support of the function base.GetDMObjectAllValues which gets all the values of a DM Object by its handle (server) id.

[Incident: ANSA-44769]

## Connections & Assembly

New entity types *Assembly Point* and *Load Case Point* have been introduced.

The Assembly Points are used to mark the position of connection points for Sub-System assembly, whereas the Load Case Points are used to mark the position of boundary conditions. These entities can be used in combination with Connectors and GEBs respectively.



Both entities can use a search pattern, similar to GEBs, or directly refer to a specific Node as a pointer (i.e. independent of its id). The Assembly Points can be referenced by Connectors and the Load Case Points can be used for the definition of boundary conditions even without the existence of model entities.

Additionally, the *Assembly Set* and *Load Case Set* are also supported. These entities have similar functionality to GEBs and they are used to group model entities according to a specific search pattern.

The Assembly Sets and Load Case Sets can be used by other GEBs.

All mentioned entities can be found through the Database Browser, in the right-click menu.

In addition, Assembly Points can be automatically created for BOLT and BOLT\_ON\_SOLID FE-representations if the relevant option is active.

[Incident: ANSA-44488, ANSA-46997, ANSA-45833]

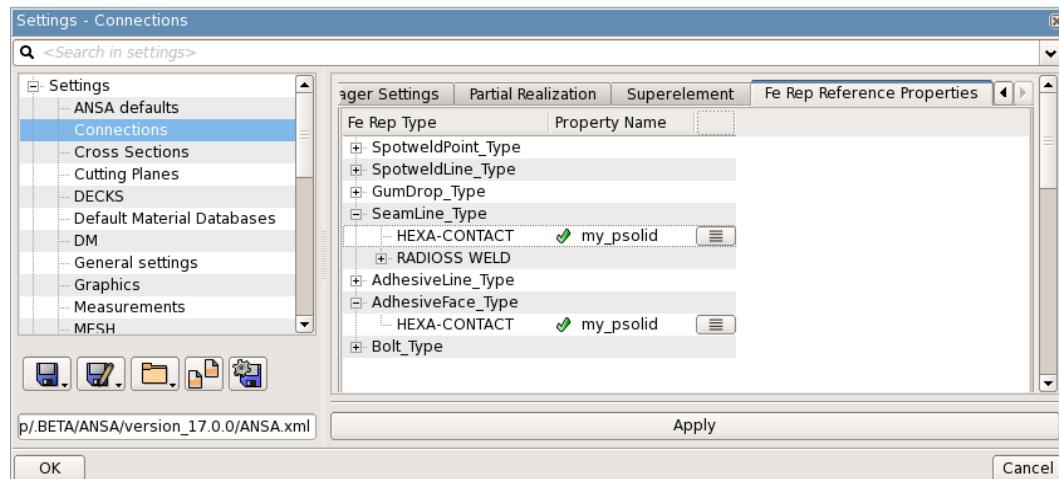
The option “Freeze Hole Zones” in Mesh Parameters is now respected when Realize button is activated.

[Incident: ANSA-46732]

### Library Properties

The new possibility of loading reference library entities can be utilized for the properties of specified FE representations as well. For more information see section Decks>General.

The default properties that are generated upon realization of each FE Representation type can be specified through the Fe Rep Reference Properties tab in Windows > Settings > Connections.

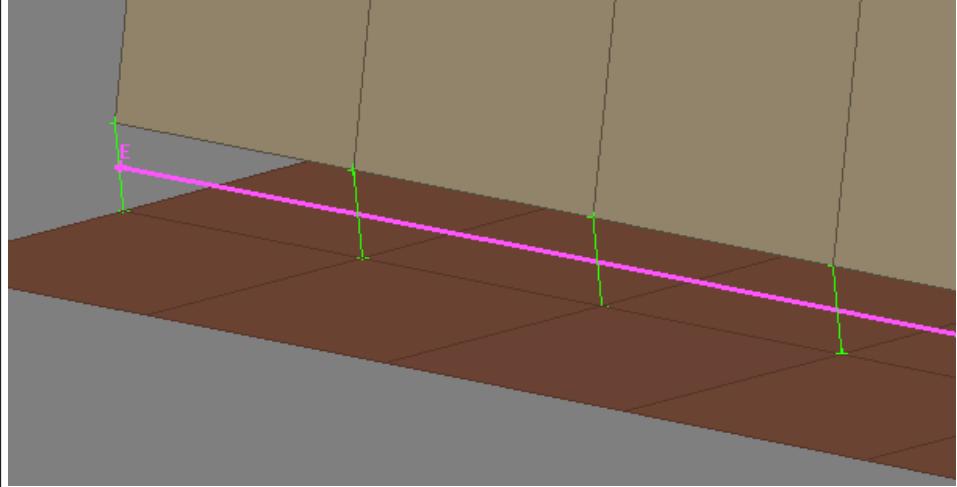


[Incident: ANSA-45196, ANSA-46223]

<b>SPOT WELDs</b>	<p><i>Femfat&gt;Rivet</i></p> <p>It is now possible to define the constant for Steel_to_Aluminium_Young_modulus_separation_value in the ANSA Default settings (Windows&gt;Settings).</p> <p>This is useful when working in different units than the default ones.</p>																																																																						
	[Incident: ANSA-45818]																																																																						
<b>Seamlines</b>	<p>The reconstruction process considers now the current value of Mesh Parameters&gt;Perimeters&gt;Recognize Perimeters from Sets.</p> <p>Disabling the above setting can lead to better mesh result in some cases.</p>																																																																						
	[Incident: 55559, ANSA-46662]																																																																						
<b>SEAM WELDS</b>	<p>The angle between Baseside and Baseoffide zones is now improved so that is perpendicular.</p>																																																																						
	[Incident: ANSA-44226]																																																																						
<b>Checks</b>	<p>A new column with the violation value is now provided. Sorting the list according to this column is also possible.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Type</th> <th>Message Code</th> <th>Entity</th> <th>ID</th> <th>Description</th> <th>Auto Fix</th> <th>Violation value</th> </tr> </thead> <tbody> <tr> <td>Error</td> <td>E3843</td> <td>GumDrop_Type</td> <td>100568</td> <td>Bad maximum distance between outer parts</td> <td>Yes</td> <td>7.243146</td> </tr> <tr> <td>Error</td> <td>E3843</td> <td>GumDrop_Type</td> <td>100569</td> <td>Bad maximum distance between outer parts</td> <td>Yes</td> <td>6.929019</td> </tr> <tr> <td>Error</td> <td>E3843</td> <td>SeamLine_Type</td> <td>100572</td> <td>Bad maximum distance between outer parts</td> <td>Yes</td> <td>8.028114</td> </tr> <tr> <td>Error</td> <td>E3843</td> <td>SpotweldPoint_Type</td> <td>100007</td> <td>Bad maximum distance between outer parts</td> <td>Yes</td> <td>3.091269</td> </tr> <tr> <td>Error</td> <td>E3843</td> <td>SpotweldPoint_Type</td> <td>100008</td> <td>Bad maximum distance between outer parts</td> <td>Yes</td> <td>3.094792</td> </tr> <tr> <td>Error</td> <td>E3843</td> <td>SpotweldPoint_Type</td> <td>100009</td> <td>Bad maximum distance between outer parts</td> <td>Yes</td> <td>3.087729</td> </tr> <tr> <td>Error</td> <td>E3846</td> <td>AdhesiveLine_Type</td> <td>100006</td> <td>Bad connecting flanges angle</td> <td>Yes</td> <td>41.688088</td> </tr> <tr> <td>Error</td> <td>E3846</td> <td>SpotweldPoint_Type</td> <td>100120</td> <td>Bad connecting flanges angle</td> <td>Yes</td> <td>7.954054</td> </tr> <tr> <td>Error</td> <td>E3846</td> <td>SpotweldPoint_Type</td> <td>100435</td> <td>Bad connecting flanges angle</td> <td>Yes</td> <td>16.489029</td> </tr> </tbody> </table>	Type	Message Code	Entity	ID	Description	Auto Fix	Violation value	Error	E3843	GumDrop_Type	100568	Bad maximum distance between outer parts	Yes	7.243146	Error	E3843	GumDrop_Type	100569	Bad maximum distance between outer parts	Yes	6.929019	Error	E3843	SeamLine_Type	100572	Bad maximum distance between outer parts	Yes	8.028114	Error	E3843	SpotweldPoint_Type	100007	Bad maximum distance between outer parts	Yes	3.091269	Error	E3843	SpotweldPoint_Type	100008	Bad maximum distance between outer parts	Yes	3.094792	Error	E3843	SpotweldPoint_Type	100009	Bad maximum distance between outer parts	Yes	3.087729	Error	E3846	AdhesiveLine_Type	100006	Bad connecting flanges angle	Yes	41.688088	Error	E3846	SpotweldPoint_Type	100120	Bad connecting flanges angle	Yes	7.954054	Error	E3846	SpotweldPoint_Type	100435	Bad connecting flanges angle	Yes	16.489029
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	[Incident: 65395]																																																																						
<b>Convert</b>	<p><i>FE to Connection Points</i></p> <p>Converting representations consisted of 1-D elements like RBE2, CBARs etc. now also transfers the settings to the FE Representation section.</p>																																																																						
	[Incident: ANSA-45339]																																																																						
	<p><i>FE to Adhesive</i></p> <p>The number of stripes is now also recognized and inserted in the relevant field of the FE-Representation settings card.</p>																																																																						
	[Incident: ANSA-46273]																																																																						
<b>Erase FE</b>	<p><i>Seamlines</i></p> <p>Applying Erase FE, now removes CIDs assigned to FE-Rep nodes, for seamlines that realization incorporates Reconstruct.</p>																																																																						
	[Incident: 48471, ANSA-30449]																																																																						
<b>Connectivity</b>	<p><i>Auto-connect</i></p> <p><i>Now, a warning appears in ANSA Info, in case the Connectivity&gt;Auto-Connect&gt;Find nearest parts procedure finds less parts than the specified number.</i></p>																																																																						
	[Incident: ANSA-47370]																																																																						

<b>Scripting</b>	Introduction of <code>base.GroupConnectionsByConnectivity</code> . It groups connections per connectivity. The function returns a dictionary with key the connectivity string and value a list of the group's connections.  [Incident: ANSA-47147]
	The script function selection window in Windows>Settings>Connections is now enhanced. It is now possible to browse through the functions of the selected script file without loading the file first.  [Incident: 64590]

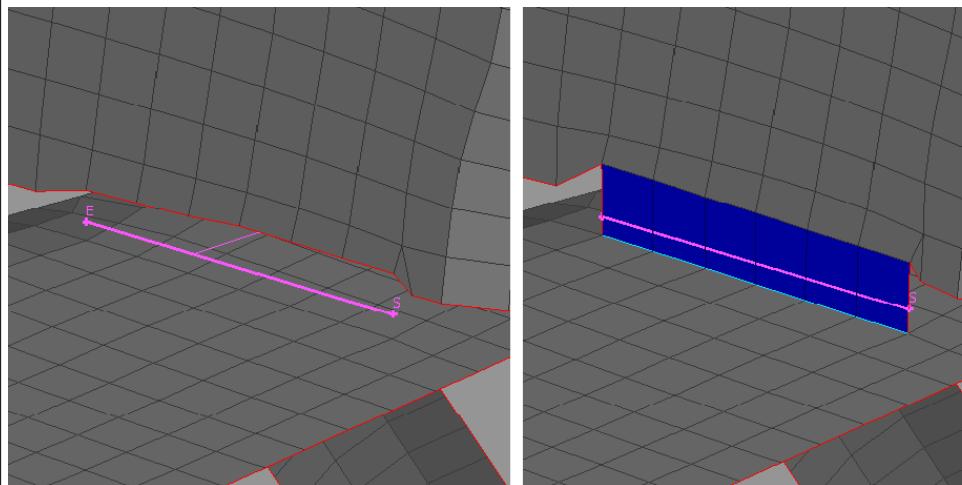
## FE Representations

<b>RADIOSS WELD</b>	The representation is now available for <i>Seam lines</i> and <i>Adhesive Lines</i> .   [Incident: 8541, ANSA-44812, ANSA-45182]
	For <i>Spotwelds</i> , <i>Spotweld lines</i> , <i>Seamwelds</i> and <i>Gumdrops</i> : <ul style="list-style-type: none"> <li>new setting: <i>Scheme</i> with options <i>CONTACT</i> and <i>PASTED_NODES</i>, defines how the spring nodes are connected to the Parts' mesh.</li> <li>the '<i>Flange treatment</i>' section with the option '<i>Quad Around Projection Point</i>' has been added. The option '<i>Quad Size</i>' must be smaller than the <i>step length</i>.</li> </ul> [Incident: ANSA-45004 , ANSA-45037, ANSA-46036]
	For <i>Seam lines</i> , now, the option "TYPE" under "Body" section, is provided, in order to select between "SPR_BEAM13" and "SPR_GENE 8" body types.  [Incident: ANSA-46371]
	Support of the option <i>Interface&gt;Create Rigid Body</i> , which creates a rigid body at the end of each spring.  [Incident: ANSA-45180]

**Y-JOINT-SHELL**

A uniform weld height is now forced in cases that the secondary sheet has a variable distance from the base sheet.

Note, that the height value inserted in the option *Weld Shape>Height* has to be greater than the actual gap height.

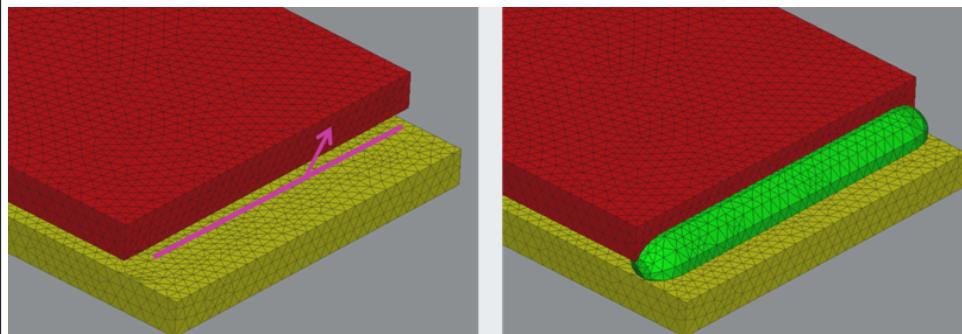


[Incident: 57637]

**SOLID-WELD**

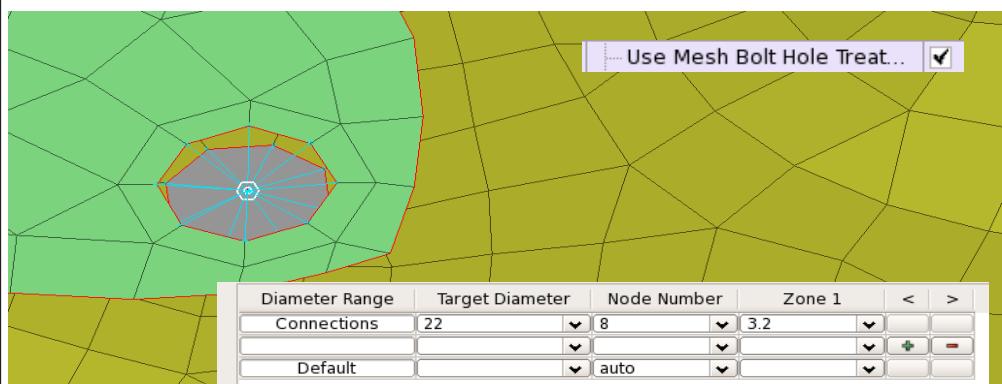
New Representation type is now available for Seam Lines.

This type enables the creation of a solid model of the weld. The mesh of the connected parts is reconstructed in order to attach to the weld.

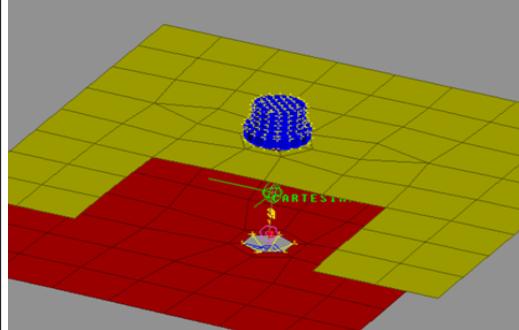
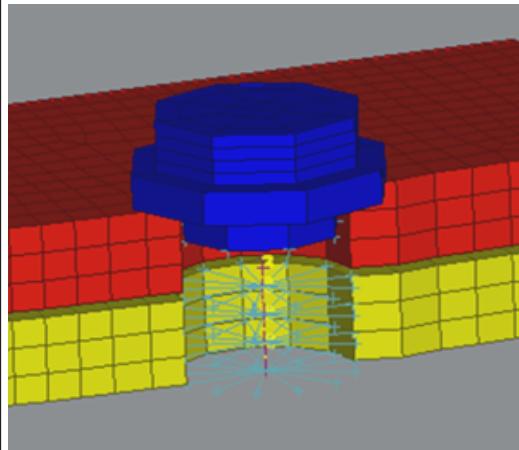
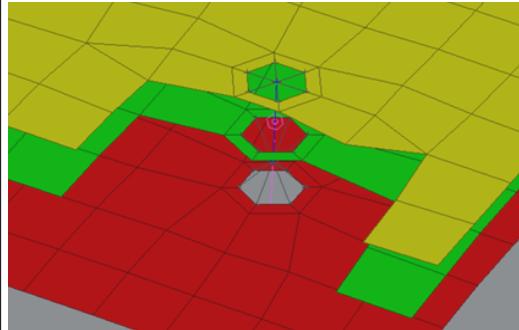
**BOLT**

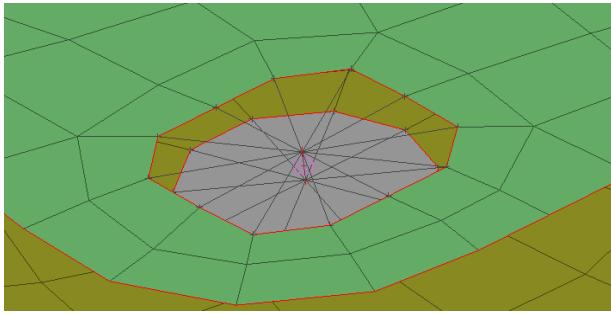
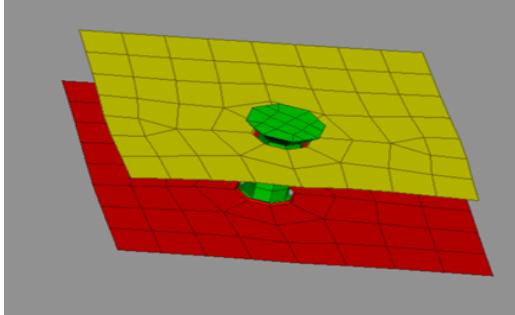
It is now possible to use the existing mesh parameters in case of reconstruction performed during bolt realization.

This behavior is controlled by the “*Use Mesh Bolt Treatment*” option in the FE Representation settings of BOLT.



[Incident: ANSA-47276]

<b>SOLID_BOLT</b>	The options for <i>Generic Search&gt;Zone3+Zone4</i> are now also provided. [Incident: ANSA-47274]
<b>PRESTRESSED ABAQUS BOLT</b>	New FE Representation type is now available for Bolts. This type creates a model of the Bolt that consists of ABAQUS SURFACE elements and line elements. The Bolt model may involve ABAQUS CONNECTOR elements that are used to apply pretension and allow failure. 
<b>HYBRID BOLT</b>	New FE Representation type is now available for Bolts. This type creates a model of the bolt that consists of solid and line elements. The Bolt head and the Bolt body are modeled using solid elements whereas the Bolt thread is modeled using line elements. 
<b>RADIOSS BOLT</b>	New FE Representation type is now available for Bolts. This type creates a RADIOSS Spring between the first connected flange and the rest of the connected parts. An RBODY element joins the rest of the connected parts. 

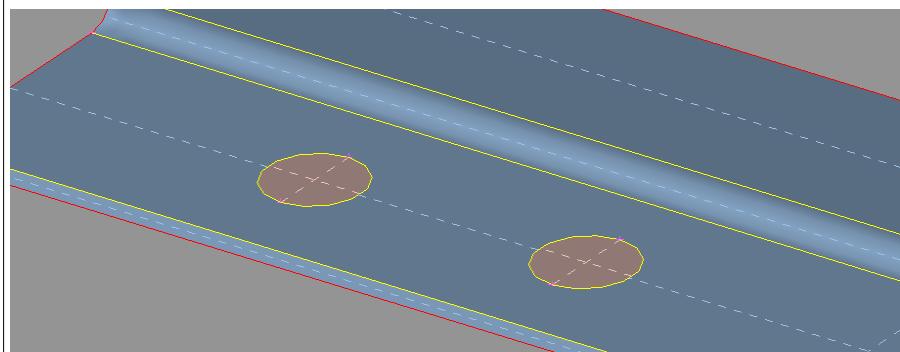
<b>RADIOSS BOLT</b>	<p>New FE-Representation for Bolts is supported with the Body type options of SPR_GENE 8 and SPR_BEAM 13.</p>  <p>[Incident: ANSA-44887, ANSA-44886]</p>				
<b>SPR-RIVET</b>	<p>New FE Representation type is now available for Spotwelds.</p> <p>This type creates a model of a Rivet that consists of Shell elements and it models the self-piercing rivets for Crash Analysis.</p>  <p>[Incident: 65743]</p>				
<b>OVERLAP-SHELL</b> <b>Y-JOINT-SHELL</b>	<p>It is now supported the options to which the "factorized" min/max sheet thicknesses can be used as width and weld thickness.</p> <p>These options are: Weld thickness definitions and Weld thickness factor.</p> <table border="1" data-bbox="476 1291 1214 1358"> <thead> <tr> <th><b>Weld thickness definition</b></th> <th><b>Use thinnest sheet thickness</b></th> </tr> </thead> <tbody> <tr> <td>Weld thickness factor</td> <td>1</td> </tr> </tbody> </table> <p>[Incident: 48481]</p>	<b>Weld thickness definition</b>	<b>Use thinnest sheet thickness</b>	Weld thickness factor	1
<b>Weld thickness definition</b>	<b>Use thinnest sheet thickness</b>				
Weld thickness factor	1				
<b>SUPERELEMENT</b>	<p>It is now possible to assign different set node id per op2 file. This is controlled through Windows&gt;Settings&gt;Connections, under the Superelement tab. In addition this option can be saved as default option in the ANSA Defaults file.</p> <p>[Incident: ANSA-46378]</p>				

## Topo

### CONs

#### *Open Hole*

It is now possible to assign new property for the faces/FE elements that define the inner area of the created hole.



[Incident: ANSA-44930]

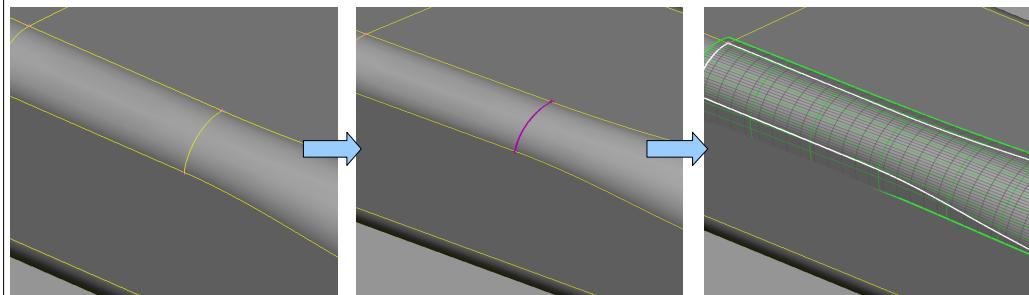
### Faces

#### *Modify*

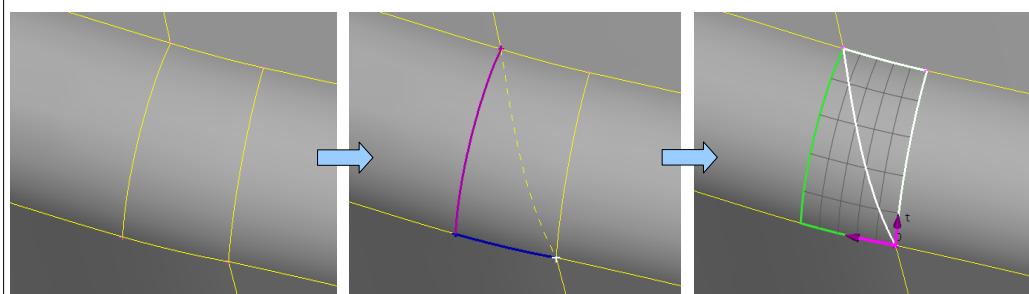
Support of a function to modify faces and the underlying surfaces, resulting to better description of the area.

The modifications take place on double connectivity CONs (yellow). There are three ways to use it:

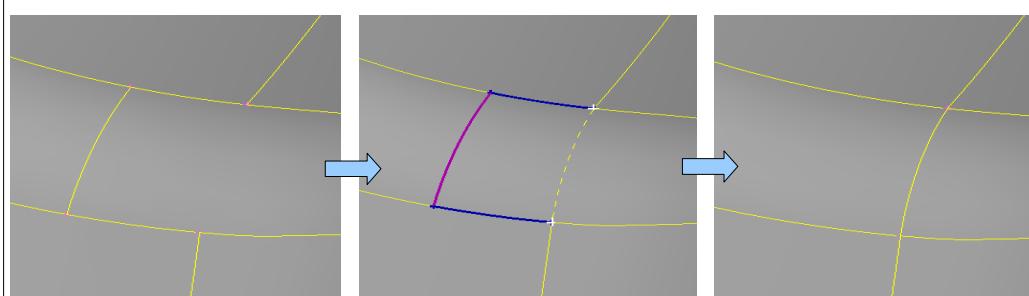
- Pick a CONs to join the adjacent faces



- Pick a combination of a CONs and a Node



- Pick a CONs and two points



**Faces***Mid.Surf>Skin*

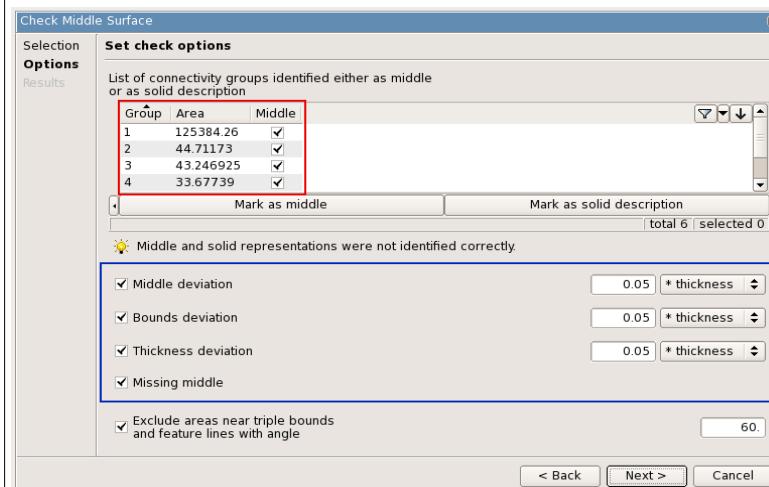
When the function fails due to maximum thickness, the calculated thickness is printed in ANSA info window.

[Incident: ANSA-45738]

*Mid.Surface>Check Middle Surface*

The comparison between the solid description geometry (faces or FE mesh) and the middle surface mesh has been further enhanced:

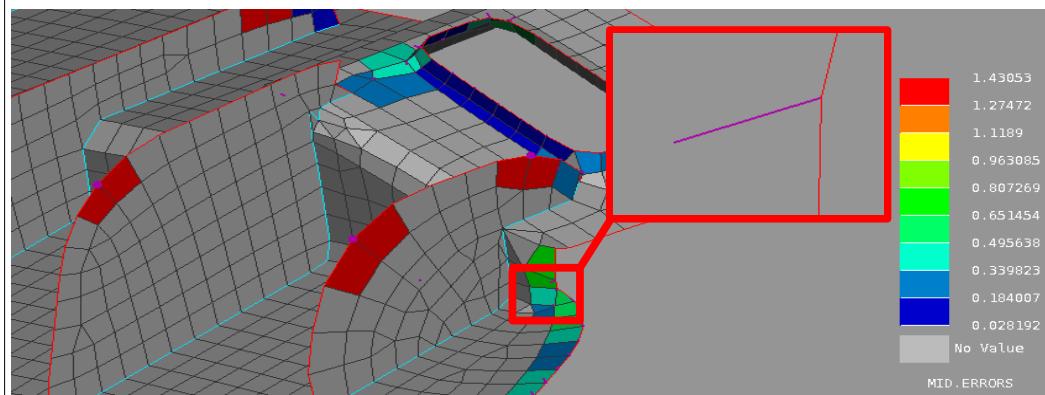
- Wizard-like windows to easily guide the process
- List with the detected solid and middle parts. Manual change is possible
- Definition of the desired deviation tolerances



At the next step the problematic areas are listed in 4 categories.

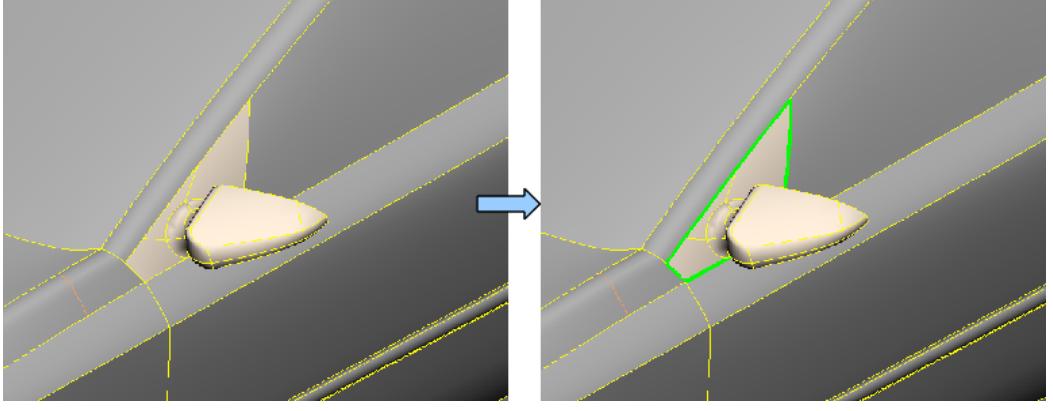
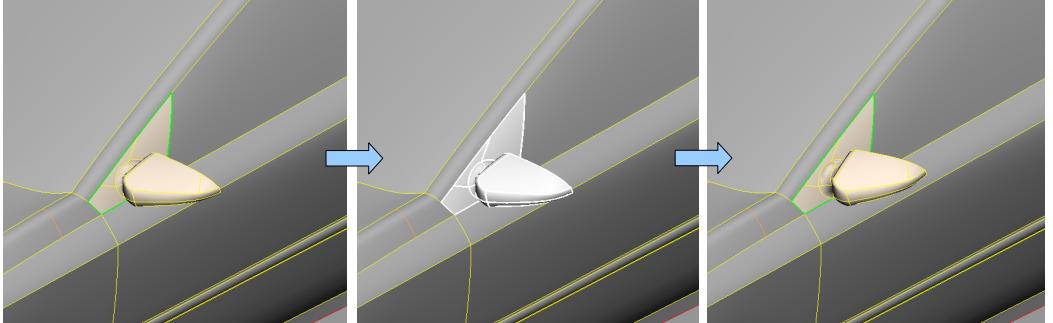
The errors can be handled through the list and visualized with both the Fringe bar and the indication lines (in purple) on the relevant nodes.

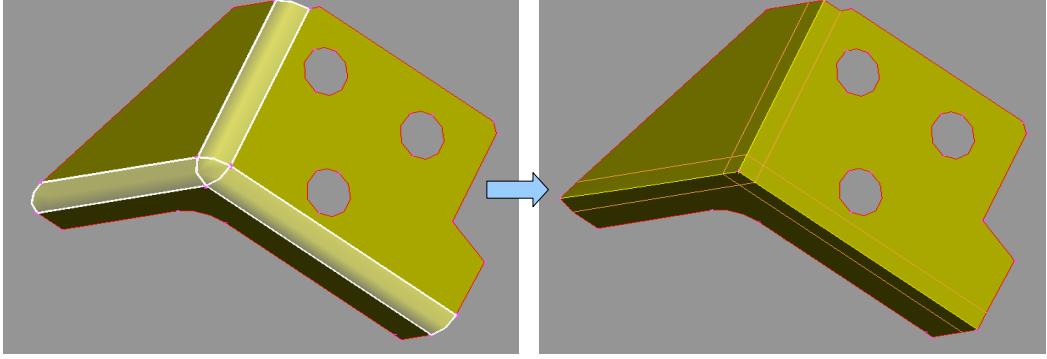
A fix is provided and a direct change can be visualized on the parts. A Reset is also available.



A special tab under Volume name is available in order to give an estimation of the overall accuracy of the middle model. It compares the volume of the middle surface elements and the computation value of the volume of the solid description model.

[Incident: 51101]

<b>Faces</b>	<p><b>Create IB</b></p> <p>New function to store connectivity information between faces/macros and the mesh laying on them. For this, the Interface Boundaries entities are created.</p> <p>The IBs can be created on CONs/Perimeters by selecting either faces/macros or CONs/Perimeters:</p> <ul style="list-style-type: none"> <li>• The option “Filter selected items” filters the selected CONs according to the active option.</li> <li>• “User selection” creates IB for every selected item.</li> </ul> <p>Replacing parts of a model can be assisted by the Data Management system in combination with the IBs.</p> 
	<p><b>Replace</b></p> <p>Support of a function which replaces selected faces/macros with ANSA parts.</p> <p>The Interface Boundaries entities can also be used to improve accuracy and reduce compatibility problems.</p> 
	<p><b>Mid.Surface&gt;Calculate Thickness</b></p> <p>A progress bar is now provided while function is working.</p> <p>[Incident: 64545]</p>

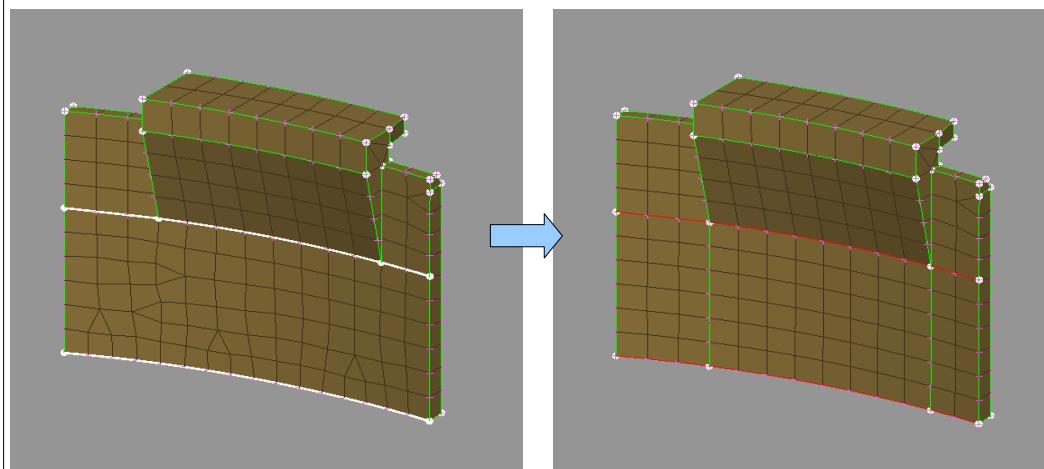
<b>Faces</b>	<p><i>Dach&gt;Dach</i> The treatment on corners is now improved.</p>  <p>[Incident: 24140]</p>
<b>Scripting</b>	<p>Support of the function <i>base.FlangesCompatible</i>, equivalent to <i>Faces&gt;Flanges&gt;Compatible</i>.</p> <p>[Incident: ANSA-45683]</p>
	<p>The function <i>base.PlaneCutMulti</i> is now supported. It reflects to the <i>Faces&gt;Plane Cut&gt;Multiple</i> GUI function.</p> <p>[Incident: ANSA-47719]</p>
	<p>The function <i>base.ConsProject</i> is supported which hosts all options available through the relevant GUI function.</p> <p>[Incident: 57123]</p>
	<p>Support of the function <i>FlangesCornerMark()</i>, which corresponds to the GUI function <i>Faces&gt;Flanges&gt;CornerMark</i>.</p> <p>[Incident: 47846]</p>
	<p>Support of the function <i>FlangesSimplify()</i>, which corresponds to the GUI function <i>Functionality Faces&gt;Flanges&gt;Simplify</i>.</p> <p>[Incident: ANSA-47848]</p>
	<p>The new function <i>base.ConsProject()</i> hosts now all options for CONs projection. In addition, it makes no more necessary the existing functions <i>base.ConsProjectNormal()</i> and <i>base.ConsProjectUser()</i>.</p> <p>[Incident: ANSA-48107]</p>

## Shell Mesh

### Perimeters

#### *Align*

The option to cut the macroareas between the original and the projected hot points after align function is applied, is now provided.



[Incident: 63433]

### Macros

#### *Create IB*

See section Topo>Faces.

#### *Orient>Auto*

See section Topo>Faces

### Shell Mesh

#### *Volumize>Composites*

When the option “Fill ply drop-offs” is checked, the option to set pid of the created drop-off elements is now also provided.

[Incident: ANSA-45908]

#### *Fill>Holes*

The Planar method has been added for the Feature Line Holes option.

[Incident: ANSA-44576]

#### *Intersect>Intersect [Fuse Panels]*

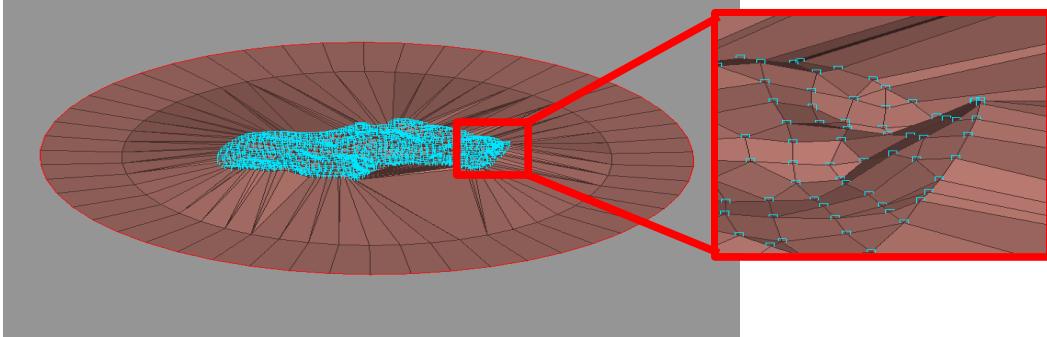
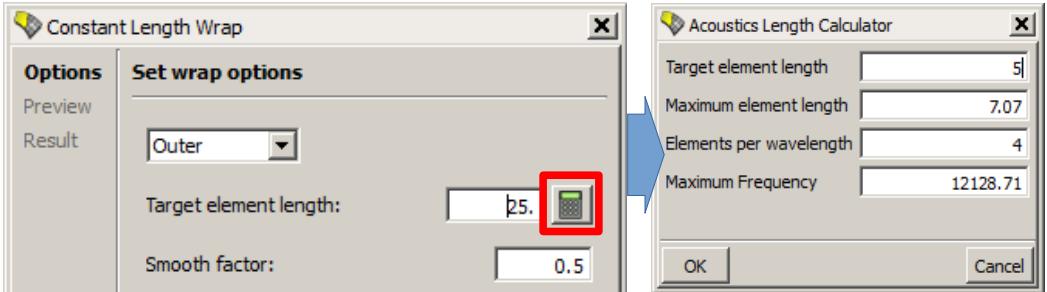
The options to fuse on “User Defined” direction or to “Project” are now also provided.

[Incident: ANSA-43793]

#### *Fill*

The new elements created to fill the gaps now acquire nodal thickness information.

[Incident: 31276]

<b>Elements</b>	<p><i>Point Cloud&gt;Terrain</i></p> <p>Special function is supported to extract mesh out of a points cloud which represent the terrain features.</p> <p>The mesh base is a circular area laying on the XY global plane.</p>  <p>[Incident: ANSA-46792]</p>
	<p><i>Wrap [Constant Length]</i></p> <ul style="list-style-type: none"> <li>Now, the 'Acoustics Length Calculator' can be used to calculate the 'Target element length', based on the frequency (or the number of wave lengths into the desired element length). This option is useful in case the wrap is intended for acoustic analysis cases.</li> </ul>  <p>[Incident: 65521, ANSA-42466]</p> <ul style="list-style-type: none"> <li>Now, a new option "Create new properties" is available, to assign wrap result to new PIDs that correspond to the original model's PID allocation.</li> </ul> <p>[Incident: ANSA-47615]</p>
<b>Scripting</b>	<p>Support of the function <i>mesh.PointCloudMesh</i> which creates shell mesh elements on a cloud of points or grids.</p> <p>[Incident: ANSA-46045]</p> <p>The function <i>base.VolumesDetect</i> now provides also the option to include solid facets for the detection.</p> <p>[Incident: 64485]</p> <p>A script function <i>mesh.ConstantWrap</i> that creates Constant Element Wrap meshes is supported. The arguments correspond to the entities to be wrapped, the type of the wrap, the target element length, the inner volume to be wrapped, the smooth factor, the mode of wrap and the assigned PIDs.</p> <p>[Incident: 64320]</p>

## Volume Mesh

### Volumes

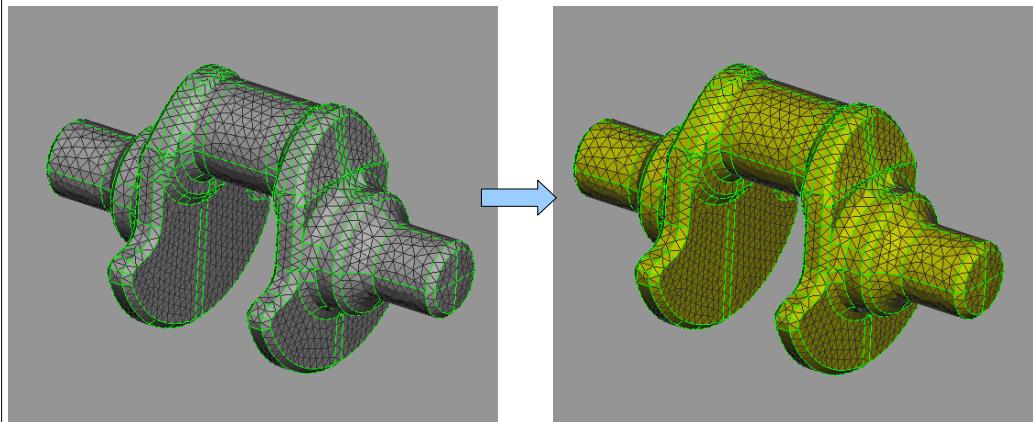
#### *Define>Auto Detect*

- The option to detect volumes based either on the whole database or on the visible entities is now provided. This protects from missing volume definitions due to hidden entities.
- When duplicate elements or intersections or high proximity is detected, a window pops-up listing all these problematic locations. Then, this list can be handled in order to isolate, focus etc. on these locations.

[Incident: 62534, ANSA-45314]

#### *Orient*

New function which orients the selected unmeshed volumes so that their positive side points to the inside.

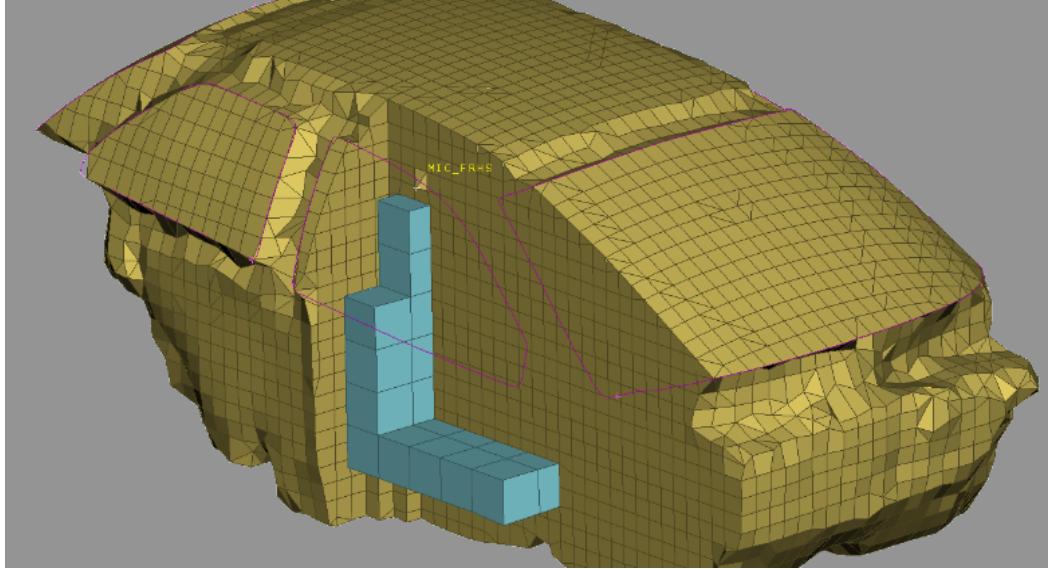


[Incident: 65796]

### Unstructured Mesh

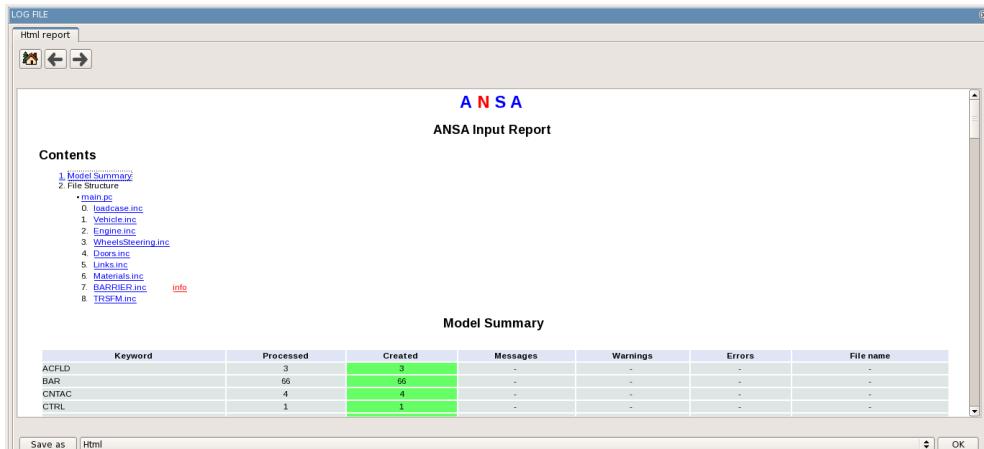
The “*FLUENT Aspect ratio*” criterion for the mesh generation now follows the most updated formula.

[Incident: 48056]

<b>Tools</b>	<p><b>Cavity&gt;Hexa Dominant</b></p> <p>Feature lines are now also available for cavity mesh generator. User given feature lines in a SET can be 3D curves, Edges and perimeters.</p> <p>Automatic detection of feature lines based on user given feature line angle is also possible.</p>  <p>[Incident: 60338]</p>
	<p><b>Cavity&gt;Wrap</b></p> <ul style="list-style-type: none"> <li>Dents in the Cavity wrap mesh are avoided when the used feature lines in a SET are not "blocked" from the wrap by any structural part. Moreover for the same reason, the use of the automation to fill gaps may require inspection near the feature lines.</li> <li>Feature lines as Edges, 3D curves and perimeters are considered even if they are assigned to a part and the part only is included into a SET. So it is not needed to have the above feature lines itself in a SET.</li> </ul> <p>[Incident: 62370, 62022]</p>
<b>Scripting</b>	<p>Support of the functions for the Cavity tool:</p> <p><code>mesh.CavityVolumeHexaDominant, mesh.CavityVolumeHexaInterior, mesh.CavityVolumeTetra, mesh.CavityWrap</code></p> <p>[Incident: 48849]</p>

## DECKs

<b>Input / Output</b>	<p>The CGNS polyhedral elements are now also supported.</p> <p>[Incident: 62034]</p>
	<p>Support of the option to export .cgr files. The relevant script function is also supported.</p> <p>[Incident: ANSA-44666]</p>

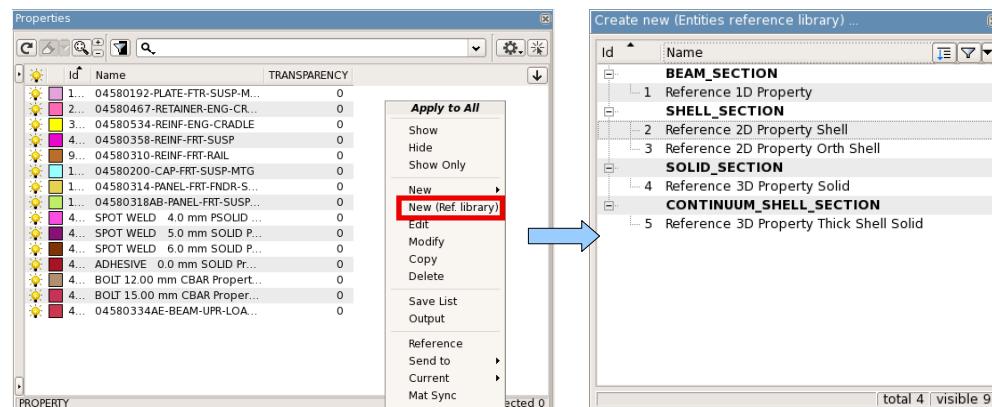
<b>Input / Output</b>	Exporting in compressed .gz format is now accelerated due to work in multi-thread. [Incident: 65495]
	In case of an error during <i>output</i> a pop up window appears stating the cause of the error. [Incident: 39542]
	It is now possible to keep the 'User Attributes of Properties and Materials, from a solver file. This is possible through the ANSA Comments mechanism. [Incident: ANSA-46872]
<b>Input</b>	<p><i>ANSA_Input.log</i> file is now also available in HTML format providing easier browsing.</p> <ul style="list-style-type: none"> <li>Log data are grouped per Include file and are accessible via links in an index list at the beginning of the HTML report.</li> <li>This feature is controlled from the “<i>Settings&gt;General Settings&gt;Create File Input Analytics</i>” option (by default enabled).</li> <li>The page is accessible at any time from <i>Utilities&gt;File Input Analytics</i>.</li> </ul>  <p>[Incident: 10845, 43083, 8725, 29007, 56778, 63339]</p>
<i>I-deas</i>	
<p>Now, input of files of type “unv82” is supported.</p> <p>[Incident: ANSA-44266]</p>	
<p><i>File Input analytics:</i></p> <p>The ids of the elements which reference missing nodes are now also printed.</p> <div style="border: 1px solid black; padding: 10px;"> <p><b>Messages collected for "CQUAD4"</b></p> <ul style="list-style-type: none"> <li>• [edit] ID :[3] SHELL error: the referenced node with id:4 does not exist</li> <li>• [edit] ID :[4] SHELL error: the referenced node with id:8 does not exist</li> </ul> </div> <p>[Incident: 49015]</p>	

<b>Input</b>	<p>A new check box ensures that incoming materials will be synchronized to the current solver deck.</p> <p>This option is "Perform Material Synchronization" and it is controlled through the Input Parameters window&gt;Advanced tab.</p> <p>[Incident: ANSA-44010]</p>
<b>Output</b>	<p><b>ATFX</b></p> <p>Support of model output in atfx format. Entities that are output are:</p> <ul style="list-style-type: none"> <li>• nodes</li> <li>• shell (triangles, quads must be converted to triangles)</li> <li>• node names</li> <li>• coordinate systems</li> <li>• sets</li> </ul> <p>[Incident: 65433]</p>
	<p><i>I-deas</i></p> <p>Output of files of type '<i>unv82</i>' is supported.</p> <p>[Incident: ANSA-42278]</p>
<b>General</b>	<p>The model handling has been significantly accelerated for spc-like entities (ANSYS&gt;CONSTRAINED&gt;D and Abaqus&gt;BOUNDARY).</p> <p>[Incident: 64586]</p>
	<p>Significant model handling improvement due to faster redraw of 1D elements (RBE2, RBE3, MPC, CBUSH, CELAS, etc.).</p> <p>[Incident: 58364, 31510, 62115, 64850, ANSA-44087]</p>
	<p><i>File&gt;Merge</i></p> <p>Support of the option 'Merge Parameters' in Settings &gt; ANSA.defaults, under the <i>InputParam</i> keyword:</p> <ol style="list-style-type: none"> <li>1) The settings for Properties, Materials, Sets Id conflicts.</li> <li>2) Paste Cons by Name.</li> </ol> <p>[Incident: 40543]</p>
	<p><i>Reference Library</i></p> <p>New possibility has been introduced to load a reference database which will be used as a library for creating entities with specific pre-defined values.</p> <p>The database is loaded along with the ANSA defaults file. Through Windows&gt;Settings&gt;Decks it is possible to specify this database location.</p> <p><input checked="" type="checkbox"/> Entities reference library <input type="text" value="/home/User/props_database\ansa"/></p>

**General**

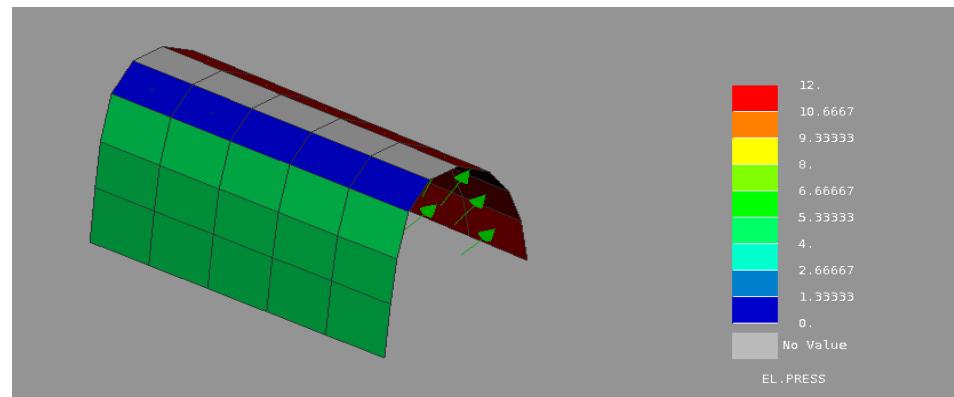
*It is necessary that the database contains entities with unique names in order to be searchable.*

*Apply, save the settings (ANSA defaults file) and re-launch Ansa with these saved defaults in order to access the option 'New (Rf. Library)'.*



[Incident: 64952]

Elements with no value can now be drawn with a unique color in fringe bar in order to distinguish from elements with 0 value. This is available for most of the fringe options.



[Incident: ANSA-44080]

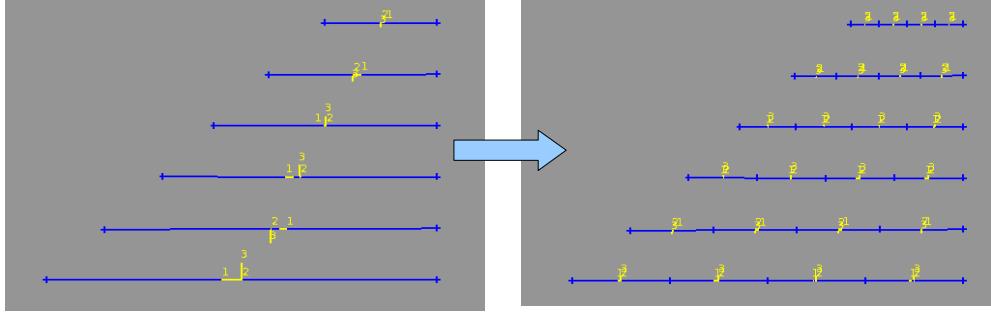
After nodes' selection, the "Set DOF" window is now displayed. This applies for:

PamCrash > LOAD > TR3DBC  
LsDyna > BOUNDARY\_PRESCRIBED  
Radioss > IMPVELDISP

[Incident: 62481]

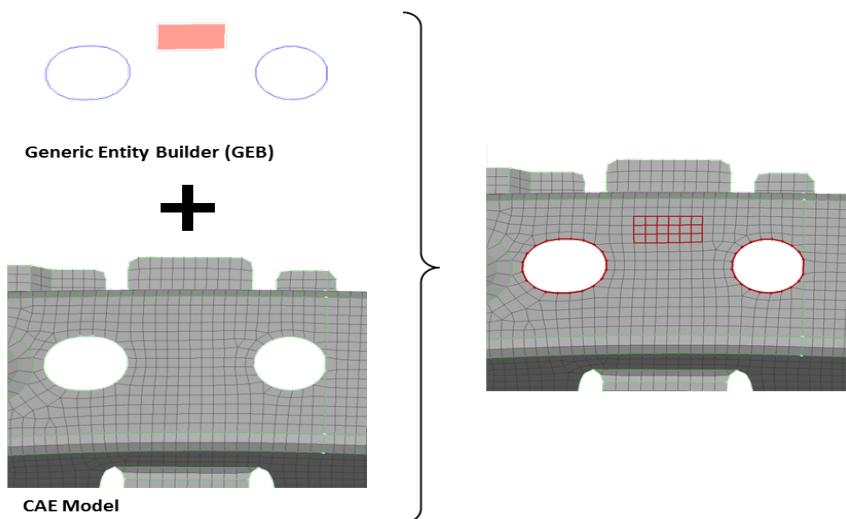
When the "Comment" field is modified, a warning message is displayed when trying to exit without saving the card changes.

[Incident: 32630]

<b>Coords</b>	<p><i>Hierarchy</i></p> <p>The drag-and-drop operation is now supported. This enables to change the reference of a coordinate according to another one by updating the Ai, Bi, Ci values (without changing its physical position).</p> <p>[Incident: 24175, 58381]</p>
<b>Elements/Constraints</b>	<p>It is now possible to use the same ids for elements and constraint entities. The NASTRAN RBE2 elements obey on this rule too.</p> <p>This gives the benefit to avoid warnings and renumberings when inputting a solver file.</p> <p>[Incident: 51985]</p>
<b>Elements</b>	<p><i>RBE3, KINEMATIC COUPLING:</i></p> <ul style="list-style-type: none"> <li>• The master dofs value (REFC) can be controlled from the ANSA.defaults file.</li> <li>• The weight factors value (WTi) is provided in the wizard.</li> </ul> <p>[Incident: 8546]</p>
	<p><i>UTIL&gt;Remesh 1D elements</i></p> <p>Support of the option to split by inserting as input value the target number of elements per each original element.</p>  <p>[Incident: 56683]</p>
	<p><i>UTIL&gt;Mass Balance</i></p> <p>It is now possible to name the resulting mass entities, using the option 'Name created masses' found in the Actions tab.</p> <p>[Incident: ANSA-45246]</p>
<b>Auxiliaries</b>	<p><i>GEBs</i></p> <ul style="list-style-type: none"> <li>• The Autodetect option now works also for the <i>UseDefinedArea</i> search pattern.</li> <li>• When "search = Holes" and fewer number of holes than the requested are found, a warning is written in the ANSA Info window.</li> </ul> <p>[Incident: ANSA-46486, ANSA-45760]</p>
	<p><i>CONTACT</i></p> <p>The contact name is now automatically updated when "Flip" operation is applied through the contacts list or the Contact&gt;Flanges function, by flipping the SETs name too.</p> <p>[Incident: ANSA-46844]</p>

**Auxiliaries****GEBs**

A fully customizable search method has been introduced to facilitate the assembly and the application of initial conditions on the analysis model. The *User Defined Area* search method provides increased accuracy as the application area can be specified from surfaces, points, line segments, and any combination of them.



This search method facilitates:

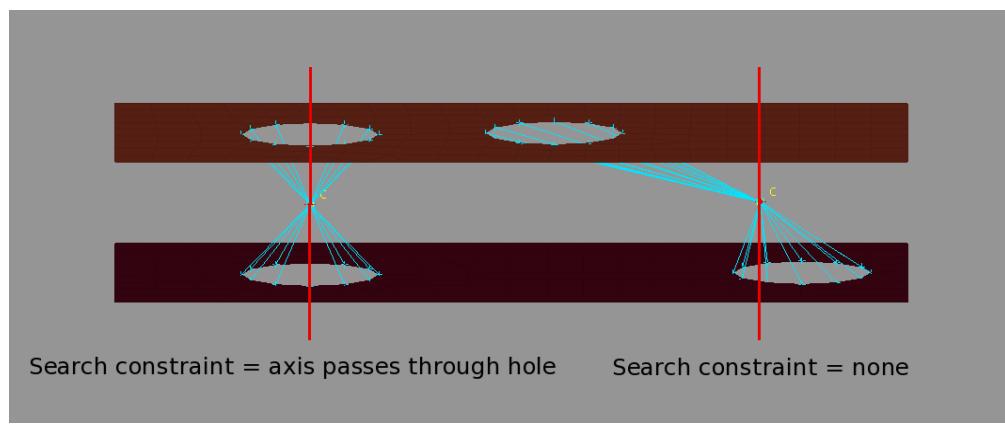
- The creation of GEBs in cases where the search domain is difficult to be defined, and
- Once the search area is defined it is possible to transfer the GEBs from one model to another, auto-detect for new connectivity and re-apply the GEBs at the exact same position.
- The relevant script function *AutoDetectConnectivityForGEBs()* is now also supported.

[Incident: ANSA-44497, ANSA-45758]

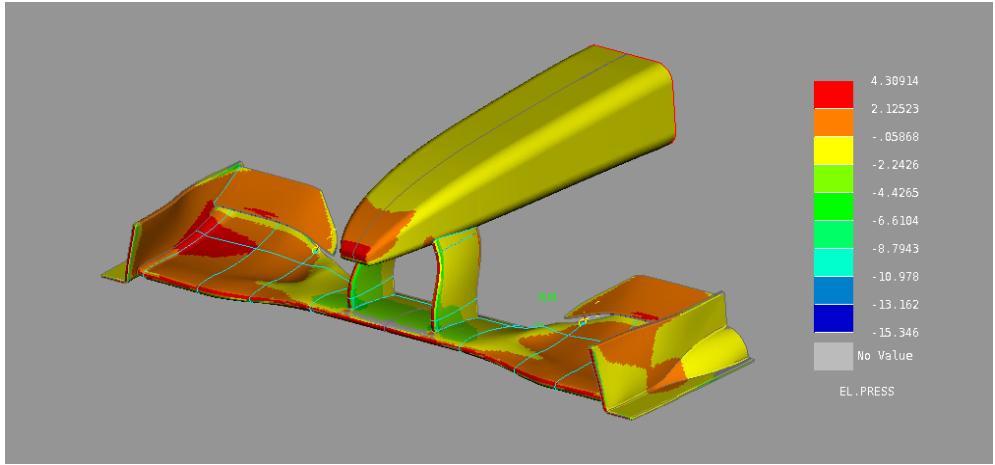
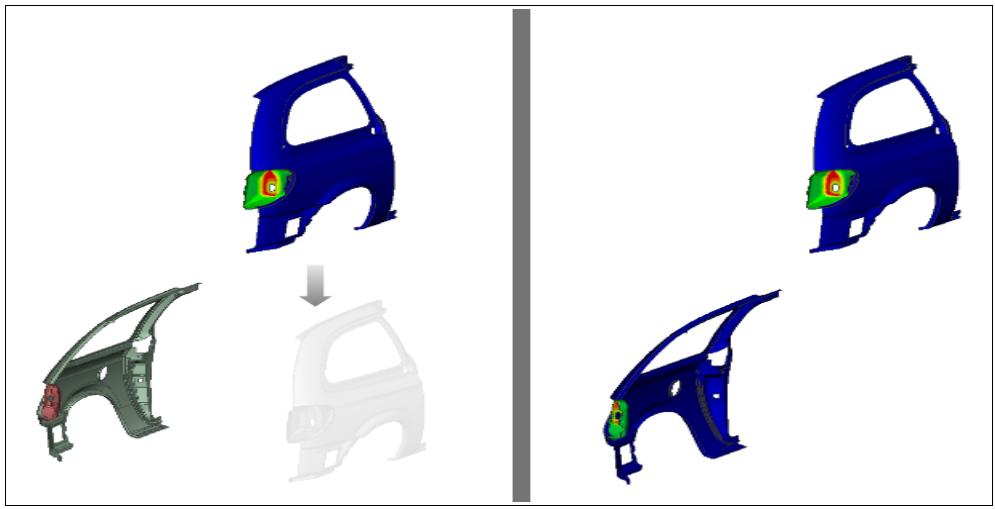
**GEBs / CONNECTORS**

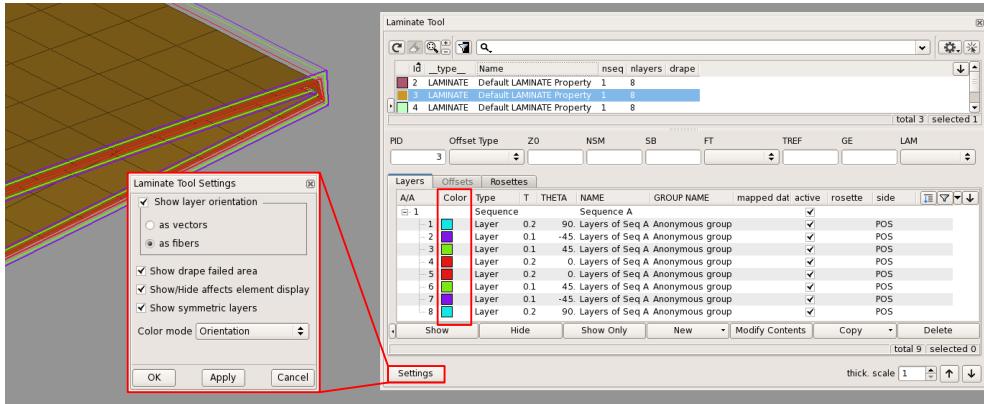
A new constraint option is now available for the methods *HoleOnDirection*, *TubeOnDirection* and *CircularFeatureOnDirection*.

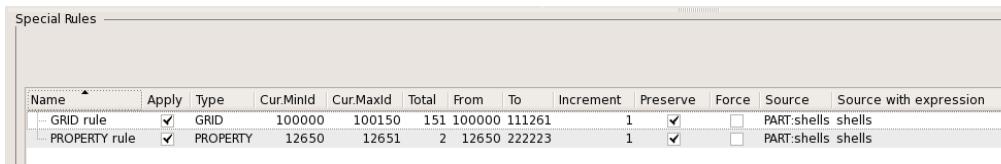
It filters the searching entities whether they intersect defined axis or not so that they can be excluded or included from the search1/search2 entities.

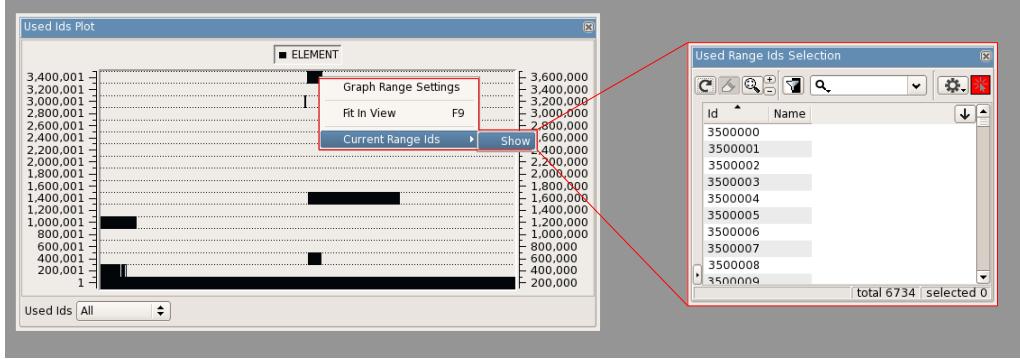


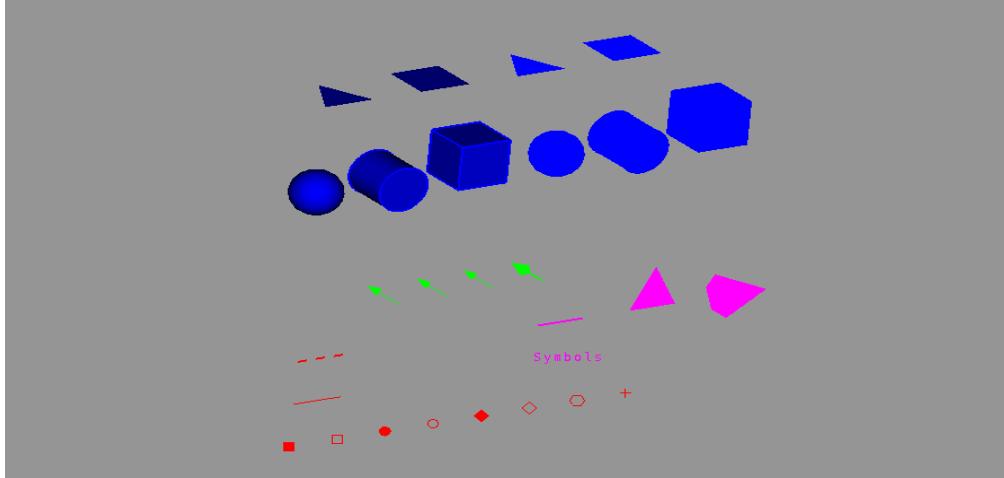
[Incident: 14559, ANSA-45973]

<b>Auxiliaries</b>	<p><i>Res Mapping</i></p> <ul style="list-style-type: none"> <li>Support of an option to also apply Symmetry Copy to the source model (Align tab). This way it is possible to map results from a half model to a full (symmetrical) model.</li> </ul> 
	<ul style="list-style-type: none"> <li>The option to execute alignment before the symmetry is now also provided for the "Apply symmetry on source". This option is active when the "Align source mesh with target" is enabled too.</li> </ul>  <p>[Incident: 65100, 64934]</p>
<b>Checks</b>	<p><i>GEB Status</i></p> <p>New option has been introduced to detect GEBs with status not OK. Fix option is provided to re-apply GEB.</p> <p>[Incident: ANSA-44030]</p> <p><i>Templates</i></p> <p>It is now possible to have a check function more than once in a template, with different options.</p> <p>[Incident: ANSA-42372]</p>

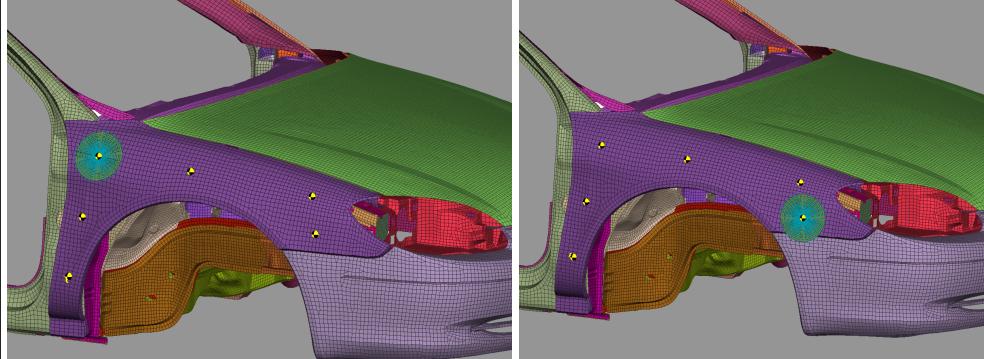
<b>Checks</b>	<p><i>Penetrations, Contacts</i></p> <p>New columns in the <i>Property Thickness</i>, <i>User Thickness</i> and <i>Contact</i> check results provide information about:</p> <ul style="list-style-type: none"> <li>• <i>Depth(absolute)</i> of penetration,</li> <li>• <i>Depth(thickness ratio)</i> in respect to the minimum allowed shell distance according to their thickness and</li> <li>• number of <i>penetrated nodes</i>.</li> </ul> <p>[Incident: ANSA-32881]</p>
	<p><i>Penetration&gt;Reposition Flanges</i></p> <p>New option that takes into account Property Thickness via factor, in order to fix the gap is now provided.</p> <p>[Incident: 63798]</p>
<b>D.info</b>	<p>It is now possible to define a name prefix of the two .txt files that will be exported, while saving the report.</p> <p>In addition, the regional settings (i.e., language) of the operating system is now followed by the exported text files.</p> <p>[Incident: ANSA-47771]</p>
<b>Results Mapping</b>	<p>Now AutoForm *.stp files for handling stamping data are supported and can be read by selecting the "M-XCHANGE" format in "Source" field of "Map Results" window.</p> <p>[Incident: ANSA-42467]</p>
<b>Laminates</b>	<p>Color Mode options is supported for the drawing of layers according to Material, Thickness, Orientation and combinations of the above.</p> <p>They are accessed either from (i) the context menu of the Color column header or (ii) from the Settings.</p> <p>The old type of drawing of layers corresponds to the "Layer" mode.</p>  <p>"Per-Ply" Solid Laminates and TSHELL Laminates: When in MID draw mode, the solid bricks are now colored based on the material of the corresponding layer.</p> <p>[Incident: 55178, ANSA-45425, ANSA-45424]</p> <p>When the option "Fill ply drop-offs" is checked, the option to set pid of the created drop-off elements is now also provided.</p> <p>[Incident: ANSA-45908]</p>

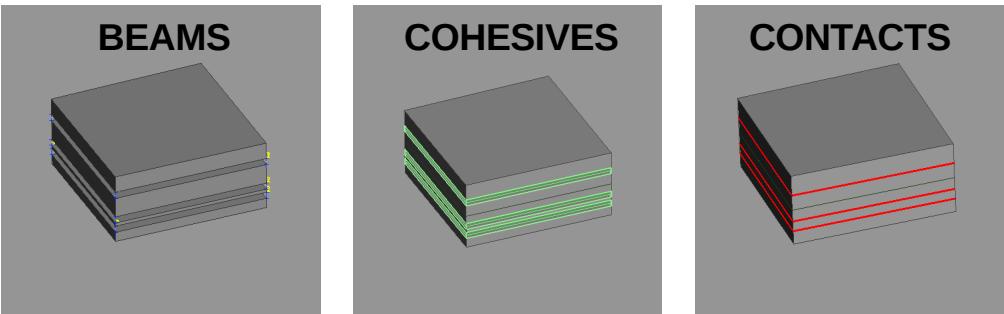
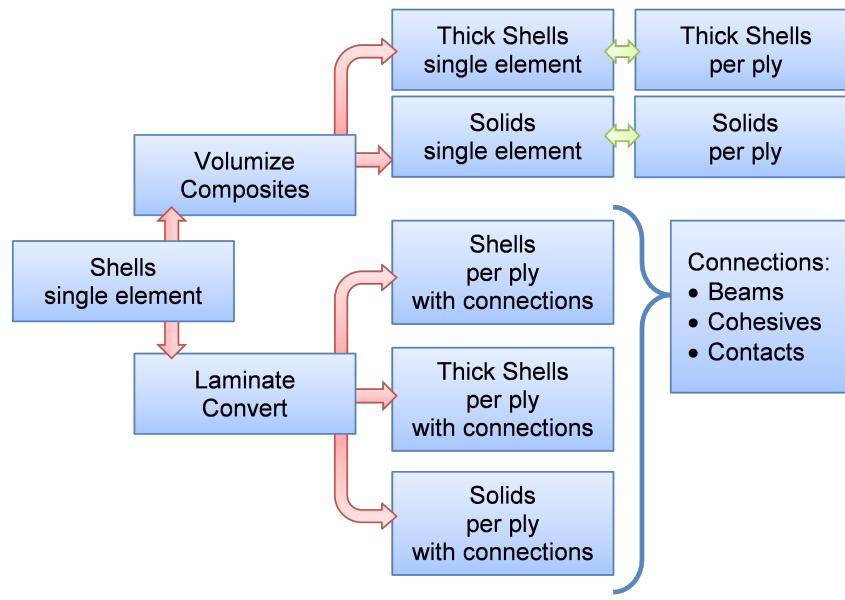
<b>Laminates</b>	<p>When creating a New layer (without having selected any layer in the list), the elements of the laminate aren't pre-selected any more.</p> <p>[Incident: 63042]</p>																																							
	<p><i>Generate Report</i></p> <ul style="list-style-type: none"> <li>The Ply name is now also appended in the image name and the respective WRL file in order to enrich the reported information.</li> <li>New option to Create IGES file for each layer curves has been added.</li> </ul> <p>[Incident: 62964, 63459]</p>																																							
	<p>Layer coloring for laminate properties is now stored in ANSA comments during output and can be retrieved during input.</p> <p>[Incident: ANSA-47392]</p>																																							
	<p>Exporting the _BETA suffix for all shell elements referenced by a laminate property when the option mat.orient, is set to PSI (even if PSI=0).</p> <p>[Incident: 26898]</p>																																							
<b>SETs</b>	<p><i>Merge&gt;Contents</i></p> <p>The option to delete the merged sets is now also provided. If yes is selected, the referenced entities are updated by the new merged set id.</p> <p>The relevant script function <code>base.MergeSets</code> is also supported.</p> <p>[Incident: ANSA-44866]</p>																																							
<b>Stamping Results</b>	<p><i>Convert stamp data across solvers</i></p> <p>Stamp data originating from a stamping analysis can now be converted to the crash parts used in crashworthiness.</p> <p>The conversion of stamping data has been introduced with the use of the following functions/options:</p> <ul style="list-style-type: none"> <li>a Stamping Conversion mode in the Results Mapping tool</li> <li>support of adaptive mesh keywords, where appropriate</li> <li>read and write MIF format files through <code>base.InputMIFFormVa</code> and <code>base.OutputMIFForm</code> script functions.</li> <li>creation of mesh interpolation keywords on stamping meshes, through <code>base.AddConstrainedAdaptivity</code> script function.</li> <li>new option in Result Mapping tool in order to use Pamcrash 2K definition for Local Element Frame.</li> </ul> <p>[Incident: ANSA-47330]</p>																																							
<b>Renumber</b>	<p>Special renumbering rules for Properties, Materials and Nodes can now be created through the right-click options of a Part in Model Browser: <i>Actions&gt;Numbering Rules&gt;Per Type</i> and through the script function <code>base.CreateNumberingRule()</code>.</p> <p>These special rules are shown also in Renumber tool and can be applied through it.</p>  <table border="1" data-bbox="445 1888 1425 1971"> <thead> <tr> <th>Name</th> <th>Apply</th> <th>Type</th> <th>Cur.MinId</th> <th>Cur.MaxId</th> <th>Total</th> <th>From</th> <th>To</th> <th>Increment</th> <th>Preserve</th> <th>Force</th> <th>Source</th> <th>Source with expression</th> </tr> </thead> <tbody> <tr> <td>GRID rule</td> <td><input checked="" type="checkbox"/></td> <td>GRID</td> <td>100000</td> <td>100150</td> <td>151</td> <td>100000</td> <td>111261</td> <td>1</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td>PART-shells shells</td> <td></td> </tr> <tr> <td>PROPERTY rule</td> <td><input checked="" type="checkbox"/></td> <td>PROPERTY</td> <td>12650</td> <td>12651</td> <td>2</td> <td>12650</td> <td>222223</td> <td>1</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td>PART-shells shells</td> <td></td> </tr> </tbody> </table> <p>[Incident: 65320]</p>	Name	Apply	Type	Cur.MinId	Cur.MaxId	Total	From	To	Increment	Preserve	Force	Source	Source with expression	GRID rule	<input checked="" type="checkbox"/>	GRID	100000	100150	151	100000	111261	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	PART-shells shells		PROPERTY rule	<input checked="" type="checkbox"/>	PROPERTY	12650	12651	2	12650	222223	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	PART-shells shells	
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<b>Renumber</b>	<p><b>Used Ids Plot:</b> New option is now provided (Current Range Ids&gt;Show) to open a list with the entities ids from the picked range of the plot. From that list it is possible to control the visibility of the entities using the Show/Hide/Show Only options.</p>  <p>[Incident: 54204]</p>
<b>Materials</b>	<p>Entities referenced by Materials can now be deleted, when deleting Materials from the Materials List. This is possible by activating "Delete referenced Material Entities" in "Delete Options" confirmation window.</p> <p>[Incident: 12446]</p>
<b>Scripting</b>	<p>The function to merge SETs <code>base.MergeSets</code> is supported.</p> <p>[Incident: ANSA-44866]</p> <p><b>GatherElements()</b> Now, the function can, also, collect Solid Facets.</p> <p>[Incident: ANSA-37428]</p> <p><b>ControlListItemsNum()</b> New function that returns the total number of items of a Control list.</p> <p>[Incident: ANSA-46389]</p> <p><b>ControlInfoListItem()</b> Now, function collects also, PID and SID values of a Control list item.</p> <p>[Incident: ANSA-46389]</p>
	<p>The <code>SetViewButton()</code> script function supports draw modes per STEP id (i.e. temperature or pressure applied on specific step).</p> <p>[Incident: ANSA-45931]</p>
	<p>The <code>F11PresParamsOptionsGet()</code> and <code>F11PresParamsOptionsSet()</code> functions support new optional arguments: "Coords", "Loads", "SPCs", "Line width"</p> <p>[Incident: 65838]</p>
	<p>User checks are marked with bold letters so that can be easily identified in Checks Manager</p> <p>[Incident: 43807]</p>
	<p>New functions are supported for reading/writing ANSA defaults files: <code>BCSettingsReadFile</code>, <code>BCSettingsWriteFile</code>, <code>BCSettingsWriteGroup</code>.</p> <p>[Incident: ANSA-44852]</p>

<b>Scripting</b>	<p>Significant performance improvement in the execution speed of the function <i>ChangeElemType()</i>.</p> <p>[Incident: ANSA-44984]</p>
	<p>The function <i>connections.ConvertConnectivity()</i> now works also for GEBs, CONNECTORS, A_POINTS and LC_POINTS.</p> <p>[Incident: ANSA-45761]</p>
	<p>Support of the functions <i>BCWizardRemovePage()</i> and <i>BCWizardInsertPage()</i> to be able to skip some pages not required for wizard-based windows.</p> <p>[Incident: ANSA-45763]</p>
	<p>Support of the Python object <i>ansa.base.Canvas</i> and function <i>ansa.base.CanvasList</i> to draw simple artifact objects such as points, lines, crosses, arrows, triangles, quads, spheres, cubes, cylinders, cones and labels.</p>  <p>[Incident: ANSA-44513]</p>
	<p>The python function <i>base.SetEntityCardValues</i> can now assign curves to tables, using the labels "<u>__table_curves</u>", "<u>__table_values</u>".</p> <p>E.g, a curve can be added to a table with the following lines:</p> <pre>table = base.GetEntity(constants.LSDYNA, "DEFINE_TABLE", 1) ret = base.GetEntityCardValues(constants.LSDYNA, table, ["ITEMS", "x"]) items = ret["ITEMS"] items.append(base.GetEntity(constants.LSDYNA, "DEFINE_CURVE", 9)) x_vals = ret["x"] x_vals.append(6) ret = base.SetEntityCardValues(constants.LSDYNA, table, {"__table_curves":items, "__table_values":x_vals} )</pre> <p>[Incident: 64945]</p>

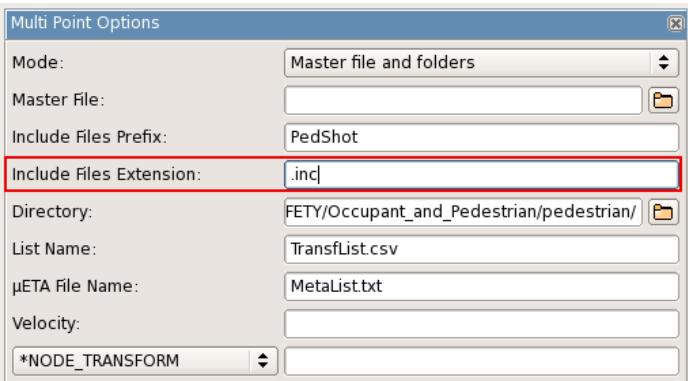
## Tools

<b>Brake Squeal</b>	<p>New tool is available as plugin. Its purpose is to facilitate the set up of DOE analysis for the Eigenmodes calculation of the model using different values for pressure, friction, velocity, temperature and different directions of motion and then offer functionality for the combined analysis of all simulations in µETA.</p> <p>Before start using it, it is necessary to prepare the model to be ready for output. In addition, the parameters for the DOE study (Pressure, Friction, Velocity, Temperature, Direction) must exist as A_PARAMETER in the database.</p>
<b>Test/Impact Device Positioning</b>	<p>New plugin is now available to automatically induce an enforced displacement load at various predefined target points, through a test device.</p> <p>Through this tool, it is possible to:</p> <ul style="list-style-type: none"> <li>• Auto positioning of a <i>Test Device</i> onto multiple Target Points.</li> <li>• Save various positions while <i>Test Device</i> can move directly at last saved position.</li> <li>• Output options related to target points, considering the complete model, a defined SET item or even via transformation cards (NMAP, *NODE_TRANSFORM, TRSFIM).</li> </ul> 
<b>Mapping&gt; SOL200 FE Update</b>	<p>New option for updating any Material and Property field from NASTRAN SOL200 optimization results files (.pch).</p> <p>[Incident: ANSA-45648]</p>

<b>Laminate Convert</b>	<p>New tool that performs various conversions of shell and solid laminates. Generates plies of elements (shells, solids or tshells), connected either node-to-node or with interface entities (contacts, beams or cohesives).</p>  <p>The solver decks where the tool is available are NASTRAN, Abaqus and LS-DYNA. The available transformation types are in combination to the functionality available through the Volumize composites function:</p>  <pre> graph TD     Shells[Shells single element] --&gt; Laminate[Laminate Convert]     Laminate --&gt; ThickShellsSingle[Thick Shells single element]     Laminate --&gt; SolidsSingle[Solids single element]     ThickShellsSingle &lt;--&gt; SolidsSingle     ThickShellsSingle --&gt; ThickShellsPly[Thick Shells per ply]     ThickShellsPly &lt;--&gt; SolidsPly[Solids per ply]     ThickShellsPly --&gt; ThickShellsPlyConn[Shells per ply with connections]     ThickShellsPlyConn &lt;--&gt; ThickShellsPly     ThickShellsPlyConn --&gt; ThickShellsPlyConnConn[Thick Shells per ply with connections]     ThickShellsPlyConnConn &lt;--&gt; ThickShellsPlyConn     ThickShellsPlyConnConn --&gt; SolidsPlyConn[Solids per ply with connections]     ThickShellsPlyConnConn &lt;--&gt; SolidsPlyConn     ThickShellsPlyConnConn --&gt; Connections[Connections: • Beams • Cohesives • Contacts]     Volumize[Volumize Composites] &lt;--&gt; ThickShellsSingle     Volumize &lt;--&gt; SolidsSingle   </pre> <p>[Incident: 61041, 49097, 51356, 61105, 61106, 61110, 62963, 65639]</p>
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## Safety

<b>Pedestrian/Interior</b>	<p><i>Positioning</i></p> <p>New option "Use ID sequence for creating files" has been added in the "Multi Point Options" window to take into account the target points ids for the writing sequence of the target points to files.</p> <p>[Incident: 37285]</p>
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<b>Pedestrian</b>	<p>It is now possible to set the desired file extension such as <code>.inc</code>, in the new field “Includes File Extension” at Positioning&gt;Options.</p> 
	[Incident: 63960]

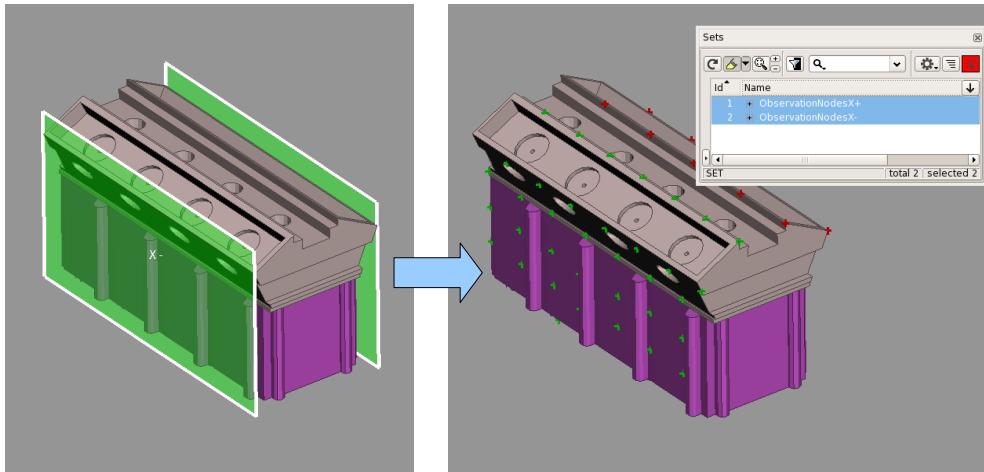
  

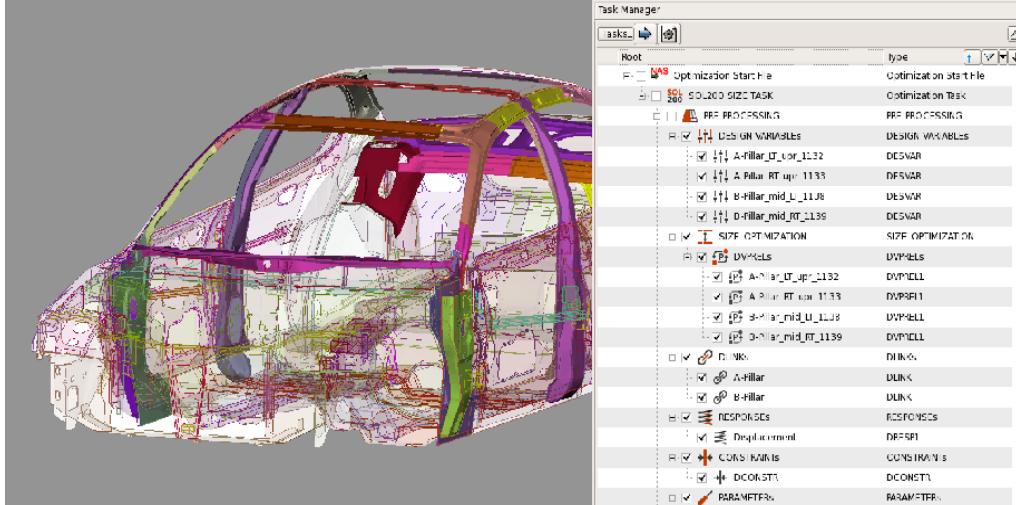
<b>Seatbelt</b>	<p>The focus functions (NOT, OR, etc.) now work also for Slipring entities.</p>
	[Incident: 47749]

## NASTRAN

<b>Input/Output</b>	<p>Capability to input/output files in compressed <code>.gzip</code> format is now available.</p>
	[Incident: ANSA-42433]
<b>General</b>	<p><i>Fringe plot</i> Temperatures are now drawn per subcase, using the EL TEMP option.</p>
	[Incident: 43187]
	<p>It is now possible to set default values for cards used by SOL400. This can be achieved by two ways:</p> <ul style="list-style-type: none"> <li>• Create ANSA database with all default cards to be set as a setting in Windows&gt;Settings&gt;DECKS&gt;Entities reference library. Then a new option will appear at each list New (Ref. Library). For more information see section Decks&gt;General&gt;reference Library.</li> <li>• Through ANSA defaults settings in Windows&gt;Settings&gt;ANSA Defaults.</li> </ul>
	[Incident: 61355]
	<p>It is now possible to store Header Parameter values in the current Defaults file, under the category “Header Keywords” (Windows&gt;Settings&gt;Settings&gt;ANSA defaults).</p> <p>These values can be retrieved in the currently edited header by using:</p> <ol style="list-style-type: none"> <li>1. Autofill option</li> <li>2. Double click the header commands list</li> <li>3. Modify fields of the subcase list</li> </ol>
	[Incident: 40620]

<b>General</b>	<p>The options to create the Display Model are now provided in the right-click menu of a Subsystem.</p> <p>In addition, the Display Model Subsystem is now paired with the original Subsystem.</p> <p style="text-align: right;">[Incident: ANSA-45382]</p>
<b>B.C.SETs</b>	<p><i>HEADER</i></p> <ul style="list-style-type: none"> <li>Support of the DRATIO for SWLDPRM in the Bulk Data Parameters. [Incident: ANSA-47255]</li> <li>The following Parameters are now supported: NOGPF, DBALL, POSTEXT, MECHFIX, VMOPT, SKINOUT, SPARSEDR, SPCMODEP, MPCMODEP, OP2MODEP, UNITOUT, RHO, COUPASET, SNORM, KDAMPFL, AMLSNCPC, FFRS, OUGDS, OUGMS, OUGKS [Incident: ANSA-43816]</li> <li>DSAPRT case control command is now supported. [Incident: ANSA-42429]</li> <li>Now, parameter "FOLLOWK" is supported. [Incident: 61355]</li> <li>Now, erasing the value of a subcase command in the "<i>Subcase List</i>", results in erasing the whole respective line from the "<i>Text Edit</i>" window.</li> <li>It is now possible to set defaults for the header commands' options through the ANSA.defaults file (Windows&gt;Settings). For example when setting in the Header DISPLACEMENT, automatically take: DISPLACEMENT (SORT1, PRINT, REAL).</li> <li>The Utilities&gt;Check option now detects also duplicated commands on the same subcase.</li> </ul> <p style="text-align: right;">[Incident: 61347, ANSA-46972]</p>
	<p><i>HEADER&gt;Loadcase Manager</i></p> <p>SPCFORCES and FORCES (ELFORCES) are now supported as output requests. [Incident: 47661]</p>
	<p><i>THERMAL</i></p> <ul style="list-style-type: none"> <li>The name of the Thermal Loadcase is now transferred also to the corresponding LOAD_SET and SPCADD.</li> <li>It is now possible to insert/remove entities directly from the screen. This is achieved using the 'Modify Region' button which replaced the 'Insert' one.</li> </ul> <p style="text-align: right;">[Incident: ANSA-47568, ANSA-47561]</p>
	<p><i>THERMAL&gt;List</i></p> <p>The column "Type" can now be added so as to be able to sort according to the thermal type. [Incident: ANSA-47563]</p>

<b>BCs</b>	<p><b>MFLUID</b></p> <p>Now, MFLUID entities are supported, defining the properties of an incompressible fluid volume for the purpose of generating a virtual mass matrix.</p> <p>[Incident: 26042, 65656]</p>
<b>AUXILIARIES</b>	<p><b>DISP.MOD [Feature Lines]</b></p> <p>The option “<i>Plotel target length</i>” has been added in the Options List providing the ability to specify the length of the created plotel elements.</p> <p>[Incident: ANSA-44284]</p>
	<p><b>OBSERVATION NODES</b></p> <p>Support of a function to mark nodes and add them in SETs.</p> <p>First, a wrapping box is created on the model where a user-defined number of points is equally distributed on the selected planes. Then these points are mapped on the model and according to the given tolerance the nearby nodes are considered as the most relevant and they are added in a SET.</p> <p>In addition, it is possible to automatically create Load Case points (LC_Points) on these nodes.</p>  <p>[Incident: 65638]</p>
	<p><b>DIS.MODEL&gt;Feature Lines</b></p> <p>It is now possible to define a target plotel length through the provided field in options list window.</p> <p>[Incident: 4538]</p>
<b>Checks</b>	<p><b>Common Nodes</b></p> <p>Nodes of CWELD legs, referencing different connectivity (Pi fields), are now also identified.</p> <p>[Incident: 65593]</p>
<b>SETs</b>	<p><b>TYPE</b></p> <p>ELIST set type is now supported.</p> <p>[Incident: 53420, 65656]</p>

<b>Properties</b>	<p><b>PBCOMP</b></p> <p>The PBCOMP beam property is now supported and can be defined through the 'TYPE' field in the PBEAM card.</p>
	[Incident: 65656]
<b>OPTISTRUCT</b>	<p><b>OPTISTRUCT&gt;DRESPi [DRESP3]</b></p> <p>DRESP3 Card is now supported.</p>
	[Incident: ANSA-41401]
<b>SOL200</b>	<p>A new, user friendly interface for Size &amp; Topometry analysis is now supported. It is integrated under the global Task Manager Tool, providing a handy environment for the interactive set up of SOL 200 keywords. The procedure produces a ready to run SOL 200 file and the solver is called internally. The results can be viewed in META POST processor, which is called through the same Tool.</p> <p>Finally, the model is updated with the new-optimized Design Variables values and is sent for a validation run.</p> 
	[Incident: ANSA-45388, 53524]
<b>Scripting</b>	<p>Support of the functions to handle Damping Patches:</p> <pre>base.DampingPatchLayerDelete() base.DampingPatchLayerInfo() base.DampingPatchLayerModify() base.DampingPatchLayerNew()</pre>
	[Incident: ANSA-45501]

## Abaqus

<b>Input</b>	<p>When quad elements are defined with the same id for two nodes, a tria is imported instead.</p>
	[Incident: ANSA-45422]
	<p>Nodes and Elements defined using the *INPUT parameter can now be imported.</p>
	[Incident: 26458]

<b>Output</b>	Material orientation is now also exported for non-composite properties. [Incident: 53514]
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<b>LOADS</b>	<p><b>DECURRENT</b></p> <p>The *DECURRENT keyword is now supported as a button in the LOADs button group.</p> <p>It is used to input distributed current densities in coupled thermal-electrical and coupled thermal-electrical-structural analyses or to input volume current densities in an eddy current and magnetostatic analyses.</p>
	[Incident: 64037]
<b>INIT.CONDITIONS</b>	<p><b>FIELD</b></p> <p>The fields up to 21 are now supported.</p>
	[Incident: ANSA-45608]
<b>AUXILIARIES</b>	<p><b>CONTACT [Flanges]</b></p> <p>Analytical surfaces can also be recognized.</p>
	[Incident: ANSA-43792]
	<p><b>STEP</b></p> <p>The handling of Load Cases has been improved:</p> <ul style="list-style-type: none"> <li>– The order can change with drag-and-drop operation</li> <li>– The name can be modified through the Database Browser list</li> <li>– They appear in the output file with the order they are in Step Manager.</li> </ul>
	[Incident: ANSA-46200]
	<p><b>STEP</b></p> <p>*MAGNETOSTATIC is now supported .</p> <p>This option is used to indicate that the step should be analyzed as a magnetostatic load step.</p> <p>*ELECTROMAGNETIC is now supported .</p> <p>This option is used to calculate the low-frequency electromagnetic response of a system.</p> <p>*COUPLED TEMPERATURE-DISPLACEMENT, ELECTRICAL option is added.</p>
	[Incident: 64037]
	<p><b>STEP</b></p> <p>New analyses types:</p> <p>*DYNAMIC TEMPERATURE-DISPLACEMENT</p> <p>This option is used to indicate that a dynamic coupled thermal-stress analysis is to be performed using explicit integration.</p>
	[Incident: 63105]

<b>AUXILIARIES</b>	<p><b>PRTENS [Assistant]</b></p> <p>The default parameters have been changed so as to create a *CLOAD in STEP 1 and a fixed *BOUNDARY in STEP 2.</p> <p>When a fixed *BOUNDARY is defined for STEP 2, the CLOADs are reset (OP=NEW) in this step.</p> <p>[Incident: ANSA-45378]</p>
<b>Properties</b>	<p>Element types for displacement, electric potential and temperature field are now supported through the Q3D_ option of the TYPE, optional1 and optional2 fields of SOLID_SECTION properties card.</p> <p>Supported element types are:</p> <p>Q3D4 Q3D6 Q3D8 Q3D8H Q3D8R Q3D8RH Q3D10M Q3D10MH Q3D20 Q3D20H Q3D20R Q3D20RH.</p> <p>[Incident: 64037]</p>
<b>Materials</b>	<p>*JOULE HEAT FRACTION is now supported.</p> <p>This option is used to specify the fraction of dissipated electrical energy released as heat in coupled thermal-electrical and coupled thermal-electrical-structural problems.</p> <p>*ELECTRICAL CONDUCTIVITY is now supported.</p> <p>This option is used to define electrical conductivity for coupled thermal-electrical and coupled thermal-electrical-structural elements in coupled thermal-electrical and coupled thermal-electrical-structural analyses. This option is also used to define electrical conductivity for electromagnetic elements in eddy current analysis.</p> <p>[Incident: 64037]</p>

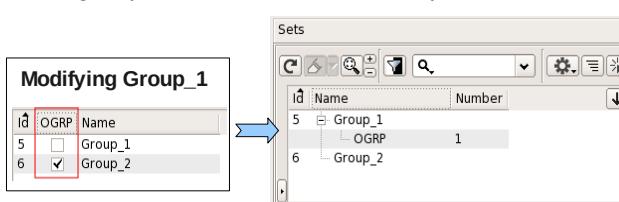
## LS-DYNA

<b>Input</b>	<p>When the node definition is missing from the NODEID field of PART_INERTIA, a new node with this id is created.</p> <p>[Incident: 58939]</p>
	<p>The Input log message is now improved to inform also if a value is not supported by the solver and not simply as unsupported.</p> <p>[Incident: ANSA-45208]</p>

<b>General</b>	<p><i>Fringe plot</i></p> <p>It is now supported the drawing of <i>EL TEMP2</i> option for:  <b>LOAD_THERMAL_VARIABLE_ELEMENT_SHELL</b>,  <b>LOAD_THERMAL_VARIABLE_ELEMENT_SOLID</b>,  <b>LOAD_THERMAL_VARIABLE_ELEMENT_TSHELL</b></p> <p>The <b>INITAL_TEMPERATURE</b> and <b>LOAD_THERMAL_VARIABLE</b>/  <b>LOAD_THERMAL_VARIABLE_NODE</b> can also be drawn using the options <b>INIT TEMP</b> and <b>LOAD TEMP</b> accordingly.</p> <p>[Incident: 65431, ANSA-44057]</p>
	<p>New options are now provided to discard CONTROL and DATABASE entities that do not have any item enabled.</p> <p>[Incident: 17655]</p>
<b>Database Browser</b>	<p><i>NODE List&gt; Reference</i></p> <p>It is now possible to report any nodes used by <b>AIRBAG_REFERENCE_GEOMETRY</b> keyword.</p> <p>[Incident: ANSA-47083]</p>
<b>CONSTRAINED</b>	<p><i>CONSTRAINED&gt;ND_R_BODY&gt;Branch</i></p> <p>The performance in execution of the function has been improved.</p> <p>[Incident: ANSA-44195]</p>
	<p><i>ADAPTIVITY</i></p> <p>Support of the keyword <b>*CONSTRAINED_ADAPTIVITY</b> under new button.</p> <p>[Incident: 65561]</p>
<b>AUXILIARIES</b>	<p><i>CONTACTs</i></p> <p>The <b>IGAP</b> field is now a text field in order to accept negative values too.</p> <p>[Incident: ANSA-45091]</p>
	<p><i>MAT_*</i></p> <p>Support of the <b>*MAT_ADD_AIRBAG_POROSITY_LEAKAGE</b>, <b>*MAT_ADD_FATIGUE</b> and <b>*MAT_ADD_PERMEABILITY</b>.</p> <p>[Incident: 65496, 65491, 56492]</p>
	<p><i>GEB_BC</i></p> <p>The Pretension “representation” option is now supported. It is generated using the <b>*INITIAL_STRESS_SECTION</b> keyword.</p> <p>[Incident: 35642]</p>
<b>Laminates</b>	<p>Shell elements referenced by a Laminate property and their material orientation is set to PSI, they are now exported as <b>*ELEMENT_SHELL_BETA</b> regardless the angle value.</p> <p>[Incident: 62307]</p>

<b>Properties</b>	Support of the Cohesive Elements under the property card of type SECTION_COHESIVE and ELFORMs 19, 20, 21 and 22. [Incident: 62881, ANSA-40424]
	The TMID field is now also supported for SECTION_DISCRETE properties. [Incident: ANSA-45710]
<b>Materials</b>	<ul style="list-style-type: none"> <li>Support of the Optional Card 6 for *MAT36 [MAT36 MAT_3-PARAMETER_BARLAT]</li> <li>The *MAT_243 is now supported</li> </ul> <p>[Incident: ANSA-45311, ANSA-45326]</p>
	Support of the MAT270 MAT_CWM for Thermal Analysis. [Incident: ANSA-44864]
	Support of the *MAT_SPOTWELD_DAIMLER. In addition, it is now possible to choose to be output either as *MAT_SPOTWELD_DAIMLER or as *MAT_SPOTWELD_DAIMLERCHRYSLER. [Incident: ANSA-45059]

## PAM-CRASH

<b>General</b>	Speed up in rotation of RBODY / MTOCO entities. [Incident: ANSA-46679]
<b>AUXILIARIES</b>	<p><b>CONTROL</b>  The option OUTPUT_FILE_FORMAT under OCTRL/_ is now supported.  In addition, the DSYOUTPUT and THPOUTPUT have been renamed to CONTOUR_PLOT and TIME_HISTORY accordingly.</p> <p>[Incident: ANSA-45495, ANSA-46588]</p>
	<p><b>SET</b>  The OGRP keyword is now supported for input/output.  It is also possible to create a new one by modifying an existing group and choose to add a group as contents. Then the option to be as OGRP is provided.</p>  <p>[Incident: 52409]</p>

<b>Properties</b>	TSHELL element type is supported. Can be defined through the PART ATYPE option. PART ATYPE=TSHEL can use only Material 161 or 162, which are also supported now.  [Incident: 11945, 62676, 22463]
<b>Materials</b>	Material 126 now supports also the options ALPHA, IELIM and ICC.  [Incident: ANSA-46657]

## RADIOSS

<b>Input/Output</b>	Support of the /Eref keyword.  [Incident: 64169]
<b>Input</b>	During input, if the /UNIT keyword values of the merging file are different from these in the Database, the input log message is printed: "Warning: imported UNIT(s):"MASS" "TIME" "LENGTH" are different from current", regardless of the selected 'Header' radio button in 'General' tab of 'Input Parameters' window.  [Incident: ANSA-44595]
	REFSTA: The syntax of v9 and on for v51 is now supported.  [Incident: ANS-45269]
<b>Output</b>	/REFSTA related file can be output through the "Output REFSTA Files" option, in the "Miscellaneous" tab of "Output Parameters" window.  [Incident: ANSA-45260]
<b>ELEMENTs</b>	<i>Joint Assistant</i> A new Assistant function is provided for the creation of joint entities consisting of springs and/or rigid bodies. It is divided in following sub assistants: <ul style="list-style-type: none"><li>• Generic Rigid Connection</li><li>• Generic Damper Connection</li><li>• Generic Spring Connection</li><li>• Generic Spring-Pulley Connection</li><li>• Generic Kinematic Connection</li><li>• Generic Elasto-Kinematic Connection</li></ul> [Incident: ANSA-44992, ANSA-44993]
<b>AUXILIARIES</b>	<i>Res.Map</i> The field Thick of /INISHE/EPSP_F is now handled during results mapping.  [Incident: 61245]
	<i>Engine</i> Support of the /OUTP keyword.  [Incident: ANSA-44398]

<b>AUXILIARIES</b>	<p><b>TRANSFORM</b> The /TRANSFORM keyword can be applied on “Submodel” too.</p> <p>[Incident: ANSA-47548]</p>
	<p><b>INTERFC</b></p> <ul style="list-style-type: none"> <li>The contact /Inter/Type21 is updated based on Radioss 12 and Radioss 13.</li> <li>The blank option is now supported for the interface fields: Ignore, Spotflag, ibag, irs, irm, ifric, h, istf, ithe, igap, icurv, iadm, iform, itied, rupt, isym, iedge</li> </ul> <p>[Incident: ANSA-45429, ANSA-47373]</p>
	<p><b>GAUGE</b> The /GAUGE keyword is now supported as new button.</p> <p>[Incident: ANSA-46803]</p>
	<p><b>SENSOR</b> Support of the keyword /SENSOR/GAUGE.</p> <p>[Incident: 31752]</p>
	<p><b>SUBSET</b> Support of /SURF/SUBSET with contents of negative ids. The orientation can be modified by the “Oriented” column at the SUBSET list, while modifying the contents of a Group.</p> <p>[Incident: 60957]</p>
	<p><b>FUNCT</b> Support of the keyword /MOVE_FUNCT. The related fields are available in the Funct card and are properly output separately, as /MOVE_FUNCT.</p> <p>[Incident: 52074]</p>
<b>Safety</b>	<p>The Positioning for the <i>Pedestrian</i> and <i>Interior</i> tools now support also the option to write /TRANSFORM keywords on /SUBMODEL.</p> <p>[Incident: ANSA-47548]</p>
<b>Properties</b>	<p>The complete definition of /PART keyword is now supported with the inclusion of “subset_ID” and “Thick” fields.</p> <p>[Incident: ANSA-38853]</p>
	<p>Support of the Radioss 13 fields Isect, NITR, L1, L2 of /PROP/TYPE18(INT_BEAM)</p> <p>[Incident: ANSA-46643]</p>
	<p>Support of the field <i>Idrill</i> for shell properties /PROP/TYPE1 (SHELL) and /PROP/TYPE9 (SH_ORTH).</p> <p>[Incident: ANSA-46306]</p>
	<p>The following definitions are updated:  /PROP/TYPE6 (SOL_ORTH) with Istrain, Icpred (updated)  /PROP/TYPE14 (SOLID) with Icpred (upd.), Irot (upd.), In, mn, Ismstr (upd.)  /PROP/TYPE21 (TSH_ORTH) with dn  /PROP/TYPE28 (NSTRAND) with Y_SCAL, X_SCAL</p> <p>[Incident: ANSA-46638]</p>

<b>AUXILIARIES</b>	<p><b>CONTROL&gt;[CONTROL]&gt;REFSTA</b></p> <p>The /Refsta related file can now be Input, updated and deleted through the respective “INSERT FILE”, “MODIFY FILE”, “DELETE FILE” buttons.</p> <p>[Incident: ANSA-45260]</p>
<b>SAFETY</b>	<p>Seatbelt&gt;Parameters:</p> <p>Generic type: 1D Seatbelt</p> <p>Element Type:'Cylindrical joint' is now supported for the Main Part.</p> <p>Generic type: 1D &amp; 2D Seatbelts</p> <p>New Element Types: "Pulley", "Spring 4", "Spring 4 &amp; Pulley", "Spring 13" are now supported for main Part-1D as also Starting and Ending Parts. "Spring 4 &amp; Pulley" option, creates an element type Spring 4 followed by a Pulley.</p> <p>Generic type: 2D Seatbelt</p> <p>New option “Connecting Elem” supports the creation of Springs type 13 instead of only rigid bodies as Starting/Ending Parts.</p> <p>[Incident: ANSA-45666, ANSA-45677, ANSA-45679, ANSA-45894, ANSA-46349]</p>
<b>Scripting</b>	<p>New function <i>AddToRdsSubset()</i> is supported which adds properties or Subsets to a given Subset.</p> <p>[Incident: ANSA-46264]</p>

## ANSYS

<b>ELEMENTs</b>	<p><i>Joint Assistant</i></p> <p>The default selection method is changed to feature area selection.</p> <p>[Incident: ANSA-44615]</p>
<b>AUXILIARIES</b>	<p><i>CONTACT&gt;Assistant</i></p> <p>Pilot option is now added as Contact Type in Contact Assistant.</p> <p>[Incident: 62844]</p>

## PERMAS

<b>SYSTEM</b>	<p><b>PARAMETER&gt;NAME</b></p> <p>New Parameter to set PERMAS System name.</p> <p>[Incident: ANSA-45713]</p>
	<p><b>\$NSTRMASS</b></p> <p>The keyword is now supported.</p> <p>[Incident: ANSA-33201]</p>

<b>LOADING</b>	<p><i>ELSTATE</i></p> <p>Now the \$ELSTATE TEMP keyword is supported.</p>
	[Incident: ANSA-42569]

## FLUENT

<b>Input</b>	<p>When importing, it is now possible to select whether to read the internal BCs in ANSA as properties or not.</p>
	[Incident: 64157]

## OpenFOAM

<b>Input/Output</b>	<p>The version 3.0.x is now also supported.</p>
	[Incident: 65839]
<b>Checks</b>	<p><i>OpenFoam CheckMesh</i></p> <p>A new option for mesh deviation from SymmetryPlane boundary condition is now also supported.</p>
	[Incident: 45825]
<b>Properties</b>	<p>It is now possible to define either Symmetry or SymmetryPlane boundary conditions in shell property cards.</p>
	[Incident: ANSA-45819]

## Moldex3D

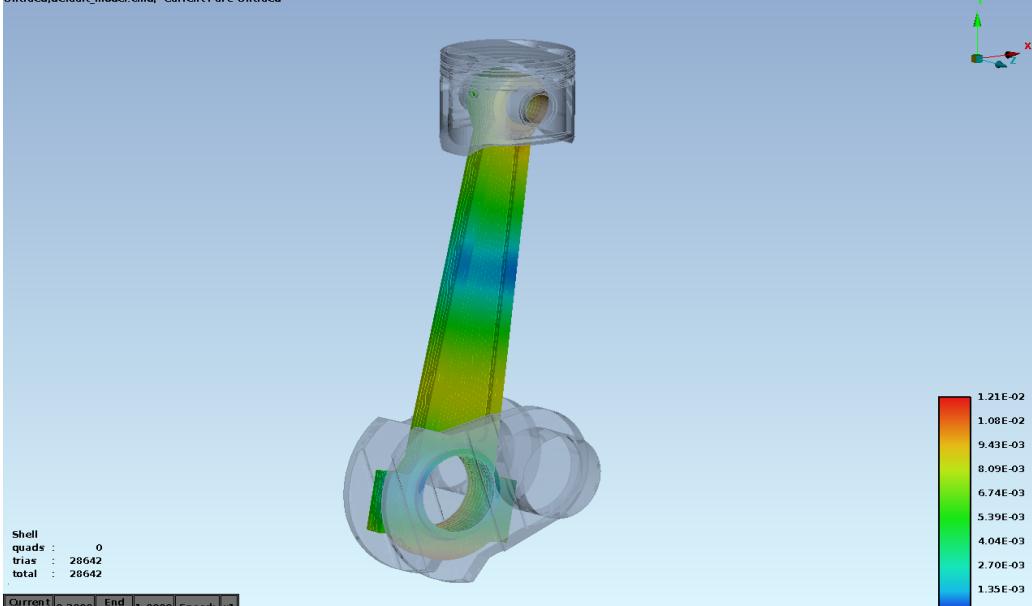
<b>Output</b>	<p>In case the file extension of the specified output file is not consistent with the selected output format (i.e if the given extension is not *.msh for Moldex3D/Shell or *.mfe for Moldex3D/Solid), output fails and a warning window pops up.</p>
	[Incident: 37627]

## CROSS SECTION

<b>Input/output</b>	<p>Cross Section entities are now stored as Comments and they can be retrieved when importing the solver file.</p> <p>Note that Cross Section library items are currently excluded from this process.</p> <p>For accuracy reasons it is important to set the same Tolerance values (at Windows&gt;Settings&gt;Settings) for the incoming solver file with the values set while the file was exported.</p>
	[Incident: 56046]

<b>Connections</b>	<i>Cn.Flanges</i> The algorithm is now improved, providing better results.
	[Incident: 65783]
<i>Connect</i>	Previously applied selections are now maintained for next application.
	[Incident: 64055]

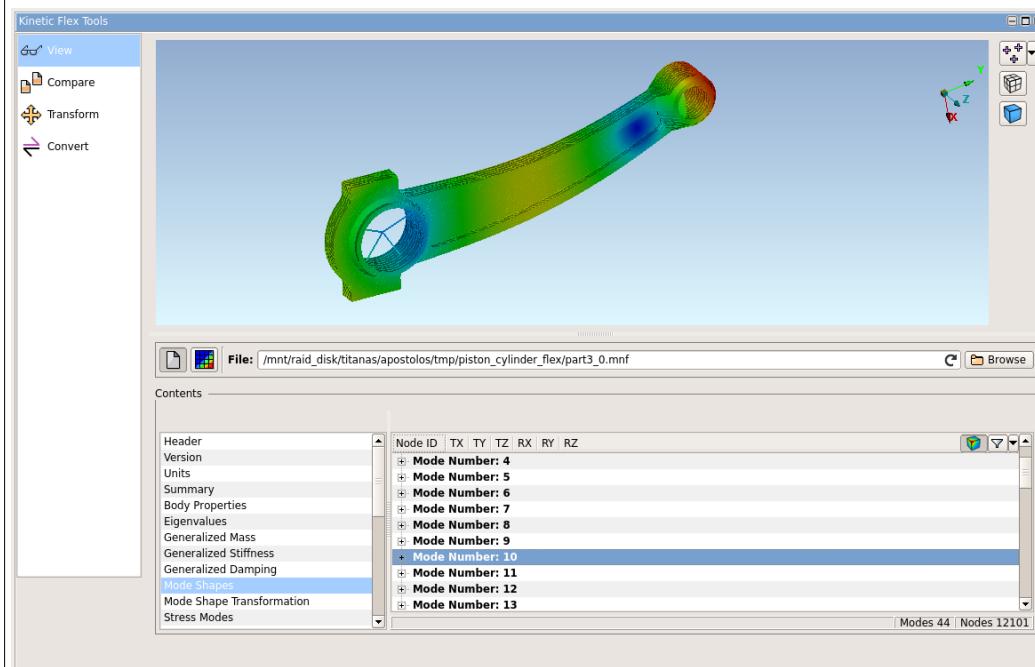
## KINETICS

<b>Bodies</b>	<p><i>Flex</i></p> <p>Flex Bodies are now supported to bring a more realistic behavior in simulations. New wizard is introduced for the definition of flex bodies where it is possible to:</p> <ul style="list-style-type: none"> <li>• Define new flex bodies by importing modal reduced files (.mnf, .mtx, .flx)</li> <li>• Convert existing bodies to flex by importing modal reduced files (.mnf, .mtx, .flx),</li> </ul> <p>With the wizard type interface, important tasks like the positioning of the flex body, its connectivity with other entities of the model and the submission of modal initial conditions, are performed clearly.</p>  <p style="text-align: right;">[Incident: 53527]</p>
	<p><i>Joints&gt;Complex</i></p> <p>The option "floating_orient" for PointToCurve joints (depending on snap_to_curve option) has been added. When activated, apart from the forward direction of the body of the PointToCurve joint that always need to be tangent to the curve, additionally the lateral direction will always stay perpendicular to the curve and on the curve's plane</p> <p style="text-align: right;">[Incident: ANSA-46658]</p>
	<p>From now on, the KIN_RBODY entities will be referred as KIN_BODY within all the Kinetic entities cards.</p> <p style="text-align: right;">[Incident: 46929]</p>

**AUXILIARIES***Flex Tools*

New interface tool is supported for the exploration of modal reduced files (.mnf, .mtx, .flx). This enables to:

- view the full contents of modal reduced files and visualize their mode shapes.
- compare two different modal reduced files
- transform a modal reduced file (translate, rotate, symmetry, transform) and output it as a new file
- convert a modal reduced file by changing its file format, units and invariants



[Incident: ANSA-46202]

*Data / Equation*

New entities of KIN\_DATA and KIN\_EQUATION are supported.

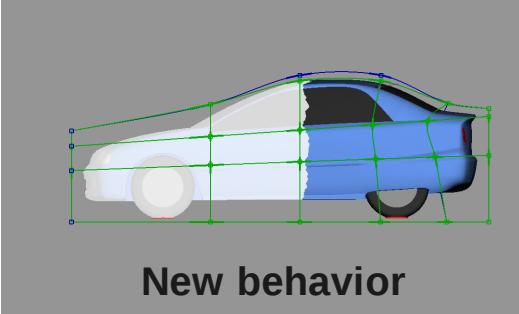
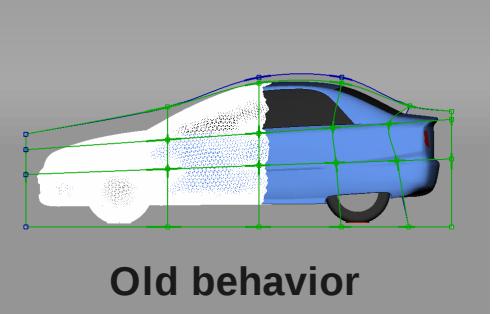
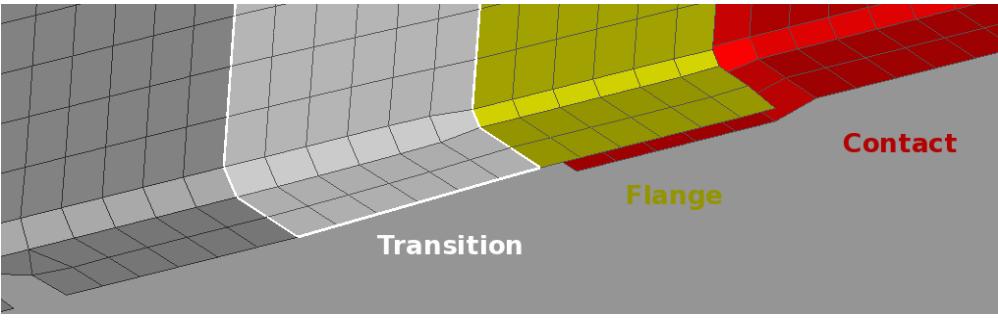
Using the KIN\_DATA it is possible to define arrays and matrices.

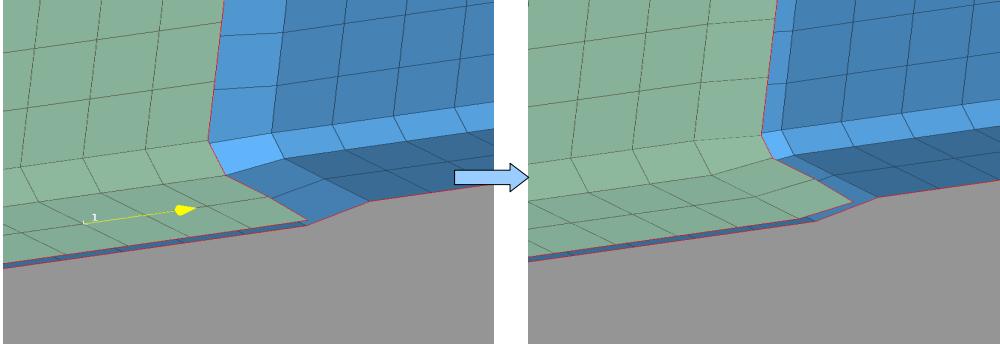
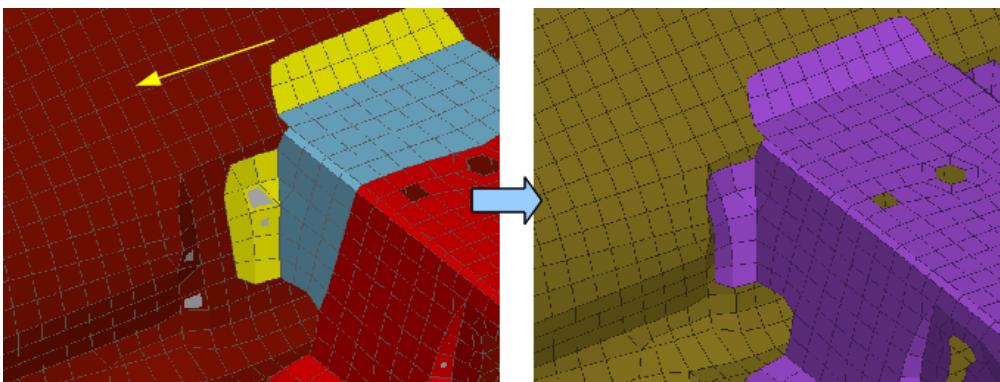
With KIN\_EQUATION it is possible to define differential equations, linear state-space equations and transfer functions.

Using both entities it is possible to include simple controllers on their models.

[Incident: ANSA-47816]

## MORPH

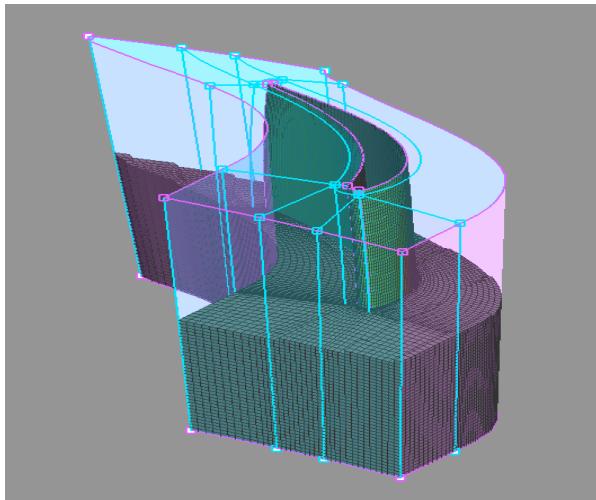
<b>Boxes</b>	<p><i>Load&gt;Visible</i> Linked boxes can now be auto-loaded along with the original ones.</p> <p>[Incident: 62548]</p>
<b>Controls</b>	<p><i>Constraints</i> The button has been relocated to <i>Direct Morphing</i> group of functions.</p>
	<p><i>Deform Map</i> The interface and functionality have been improved.</p> <p>[Incident: 61915]</p>
<b>Box Morphing</b>	<p>The <i>Highlight&gt;Select</i> option in Options List window now highlights the affected area and not every shell. This provides lighter and clearer picture of the morphed model.</p> <div style="display: flex; justify-content: space-around;">   </div> <p><b>New behavior</b>      <b>Old behavior</b></p> <p>[Incident: 45117]</p>
<b>Direct Morphing</b>	<p><i>DFM</i> It is now possible to select hot points of curves as frozen bounds.</p> <p>[Incident: 46074]</p> <p><i>Constraints&gt;Flange</i> Introduction of a new option to control the flanges when morphing takes place. The flange gap can be either preserved or acquire a specific distance value.</p> <ul style="list-style-type: none"> <li>The flanged areas are defined in respect to how the parts are going to be morphed, by providing the appropriate transition area.</li> </ul> 

<b>Direct Morphing</b>	<ul style="list-style-type: none"> <li>When the Flange is morphed through DFM or Design Change tools, the contact area retains the defined distance.</li> </ul> 
	<p><b>Design Change</b></p> <p>Introduction of a new tool to modify the (i) position of a part, while adapting to its neighbors or (ii) change the cross section of an area while the transition area absorbs the change smoothly.</p> <p>Furthermore, the Design Change provides the following capabilities:</p> <ul style="list-style-type: none"> <li>During the definition of a design change, the Constraints are automatically detected and they can be easily selected to be included (e.g. Flange constraint).</li> <li>Application of a Design Change on a symmetrical part through the Model Browser.</li> <li>Storage in a Data Management path for further implementations.</li> <li>Management of design changes in the SDM console.</li> </ul> 
<b>Scripting</b>	<p>The accuracy of the function <code>morph.MorphFacesAccordingNodes()</code> has been significantly improved.</p> <p>[Incident: ANSA-44641]</p>

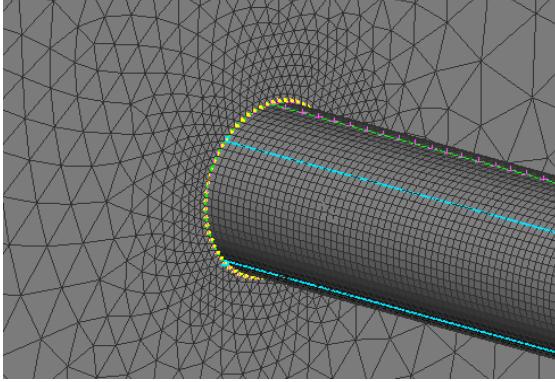
## HEXA BLOCK

It is now supported the creation of hexablock models with compatible meshes at periodic boundaries. Pre-requisites for this are:

- Use of Parent and Link faces of the underlying geometry
- Face association of Hexablock Hatches to parent and link underlying geometry



[Incident: ANSA-47320]

<b>Association</b>	<p><i>Edges&gt;Project to Edges</i></p> <p>Support of a mechanism to easily create hybrid meshes by connecting hexablock mesh with unstructured mesh on geometry. The option is called "Connect Nodes to CONS". In addition associating the Hexablock edge to the shape of the underlying CONS, this option will also automatically paste the hexablock nodes on the Perimeters of the macros ensuring full connectivity.</p> 
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[Incident: 46110]

## Task Manager

<b>TOSCA</b>	<p><b>TASK SIZING</b></p> <p>The massive generation of CLUSTER GROUPs is now possible, based on existing Sets. This is available through the context menu (right mouse button) of DV_CONSTRAINTS item.</p>
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[Incident: ANSA-46086]

## Scripting

The `utils.Messenger` class has been introduced in order to give better handling and more flexibility in printing messages. Some of the capabilities are:

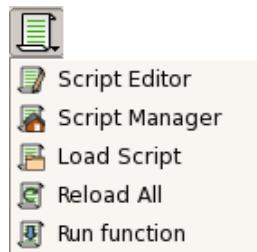
1. HTML printing
2. The ability to cut all the hard coded prints from showing in the Info window. Only the python programmer's prints, through the messenger object, will be shown.
3. The ability to direct prints to the terminal (`stdout`) only
4. The ability to collect all the prints into a buffer (python list)

More information is available under the `utils` module in “ANSA & µETA Python API” available in Help > Documentation Index

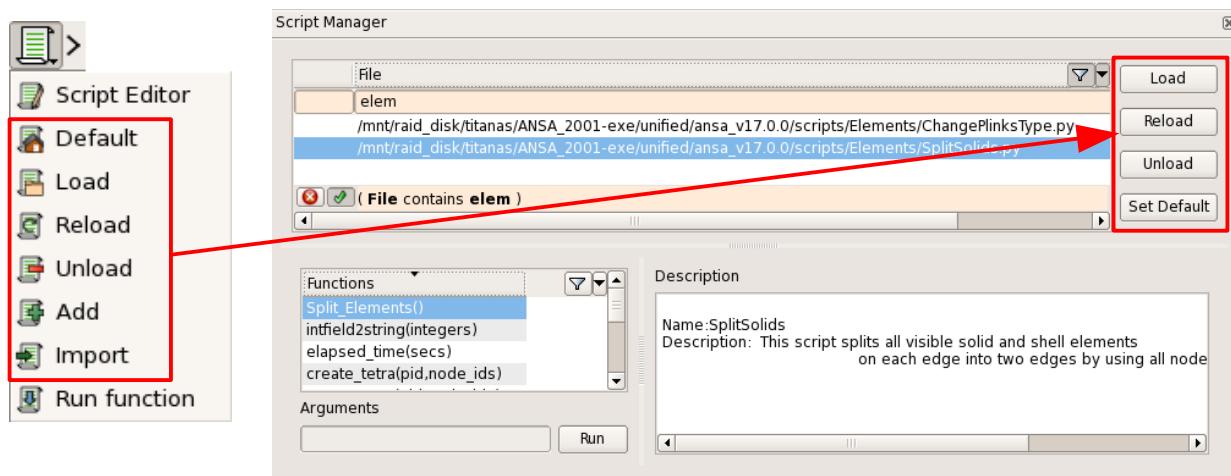
[ANSA-44027]

The buttons relevant to loading or unloading a script function have been rearranged and enhanced in order to easier manage the functions:

- Lighter Script button which now hosts also the *Script Manager*.



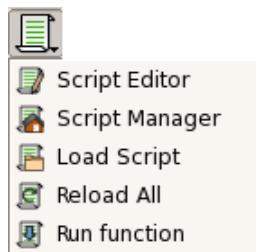
- Most of the options found in the drop-down menu of the Script button are now hosted in *Script Manager*.
- A filter option is provided for the loaded scripts.



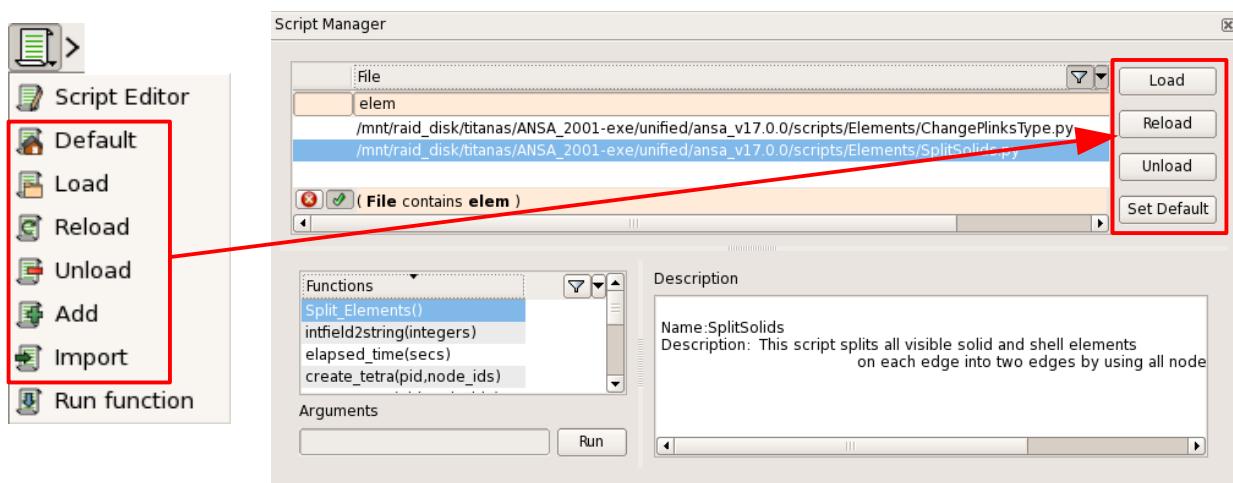
[Incident: ANSA-45798]

The buttons relevant to loading or unloading a script function have been rearranged and enhanced in order to easier manage the functions:

- Lighter *Script* button which now hosts also the *Script Manager*.



- Most of the options found in the drop-down menu of the *Script* button are now hosted in *Script Manager*.
- A filter option is provided for the loaded scripts.



[Incident: ANSA-45798]

Addition of a separate Search field in the Help Window of Script Editor, triggered via **Ctrl+F**. The words found in the script function's help window are highlighted.

[Incident: 63859]

All Python script functions processing .xlsx files, such as `XlsxCreate()` for example, now operate in `-nogui` mode as well.

[Incident: 64215, 63685]

Pressing **SHIFT+MMB** on a user script button, the Script Editor displays the corresponding code in a new tab.

[Incident: 31034]

### Constants

A new constant `ansa.guitk.constants.blank` is now supported. This constant can be used to check whether the value returned from a `BCLineEdit`, `BCLineEditInt` or `BCLineEditDouble` field is valid or blank.

[Incident: ANSA-43717]

### Plugin Manager

It is now possible to add a directory with plugins to load them. This is done through the *Available* tab.

[Incident: ANSA-46618]

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### SnapShot()

Four new arguments have been added to modify the foreground color of snapshots:

- fRed : sets the red foreground color component
- fGreen : sets the green foreground color component
- fBlue : sets the blue foreground color component
- auto\_text\_color : sets whether the foreground (text) color will be changed if it is similar to the background

[Incident: ANSA-44656]

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New object *base.DrawMode()* and function *base.DraModeList()* have been added to enable definition and listing of user defined draw modes. It affects shells, faces or solid facets.

[Incident: ANSA-44084]

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New script function *GatherFaces* for the selection of Faces, taking into account the options of Feature Angle Selection Tool. Available in python and betascript.

[Incident: ANSA-44860]

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The function to Isolate outer and inner entities of visible model is supported under the name *mesh.IsolateSkin*.

[Incident: 57481]

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The PID offset argument "AUTO\_OFFSET" is now supported for the script functions:

GeoTranslate, GeoTransform, TransformMatrix4x3, GeoRotate, GeoMirrorPlane, GeoMirrorAxis, GeoMirrorPoint, GeoSymmetry, GeoScale.

The newly created entities receive a new property with an automatically assigned PID.

[Incident: ANSA-45226]

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### 3. Known Problems resolved in v17.0.0

#### General

<b>Presentation Parameters (F11)</b>	Cases where moving the 'Detail on Demand' slider would occasionally result in not drawing CBUSH elements on the screen. [Incident: ANSA-44736]
<b>Tools</b>	Upon opening File Manager in order to select a folder, the 'Directory' field appeared as empty. [Incident: 64742, ANSA-41929]

#### CAD Translators

Translator would fail to translate both CATIA v4 and CATIA v5 files per folder through command line.

[Incident: ANSA-47192]

#### CAD Import / Export

<b>Import</b>	<p><i>Translators CATIA</i></p> <ul style="list-style-type: none"> <li>• Specific case where file translation resulted in bad topology. [Incident: 64854/ANSA-42005, 44161/ ANSA-27701, 52957/ ANSA-33533]</li> <li>• Cases of missing or disconnected faces and pasted cons after translation. [Incident: ANSA-45717, ANSA-45156, 55187/ ANSA-35102, 64874/ ANSA-42020]</li> <li>• Specific cases where a redundant large spherical face was created. [Incident: 57511, ANSA-36788]</li> <li>• Cases where a huge face was created upon translation. [Incident: 55512, ANSA-35317]</li> <li>• Translation of specific file resulted in geometry errors with redundant large surfaces. [Incident: 51521, ANSA-32543]</li> </ul>
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<b>Import</b>	<ul style="list-style-type: none"> <li>Cases where activation of "Read Feature" option would lead to unexpected termination. [Incident: 65767, ANSA-42650]</li> <li>Cases where surfaces of a model were transferred with a different length and sometimes at a different location. [Incident: 25102, ANSA-15000]</li> <li>Erroneous translation of CATIA V5-6R2012 SP4 files, especially in case of models with offset or revolution surfaces. [Incident: 43124, ANSA-27032]</li> <li>Specific case where file translation led to unexpected termination. [Incident: ANSA-44181]</li> <li>Cases where geometric features (e.g. holes) would fail to be translated. [Incident: 52590, ANSA-33260]</li> </ul>
<i>Translators SolidWorks</i>	<p>Specific case where file translation resulted in geometry errors at specific locations. [Incident: 58508, ANSA-37463]</p>
<i>Translators Pro/Engineer (PTC Creo Elements/Parametric)</i>	<p>Upon loading of a specific *.asm file, an unexpected termination of the translator occurred. [Incident: 65807, ANSA-42679]</p>
<i>Translators Parasolid</i>	<ul style="list-style-type: none"> <li>Specific case where file translation resulted in bad topology. [Incident: 65652, ANSA-42565]</li> <li>Cases where translation of specific files led the CT-based translator to unexpected termination on Windows machines. [Incident: 63975, ANSA-41368]</li> <li>Cases where translation of parasolid files led to unexpected termination. [Incident: ANSA-44440]</li> </ul>

<b>Import</b>	<p><i>Translators NX</i></p> <ul style="list-style-type: none"> <li>Specific file translation resulted in database with several geometry errors. [Incident: 29051, ANSA-17446]</li> <li>Upon reading parasolid files, problematic patches were created. [Incident: 63049, ANSA-40696]</li> <li>Specific case where upon file loading, the CT-based translator was unexpectedly terminated. [Incident: 62451, ANSA-40254]</li> </ul>
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**GUI**

<b>File Manager</b>	Cases where bookmarks were erroneously sorted. [Incident: 65512, ANSA-42460]
<b>Help Window</b>	External .pdf files could not be opened through the http addresses in ANSA Documentation Index window. [Incident: ANSA-47300]
<b>Selection Options Toolbar</b>	<p><i>Feature Selection</i></p> <p>Previously used Feature Selection options (e.g Feature Angle etc.) were disregarded upon creating a SET from an entity card field, using the "?" sign.</p> <p>[Incident: 55147, ANSA-35076]</p>
<b>Database Browser</b>	In ABAQUS Deck, the "magn" field of the CLOADS list was not properly updated after creating new CLOADS from the Module Buttons. [Incident: 44892, ANSA-28214]

**Connections & Assembly**

<b>General</b>	FE Representation was erased upon editing connectivity fields without any modification of the connectivity, though. [Incident: ANSA-47295]
<b>Assembly</b>	<p><i>Convert &gt; FE to Cnctn Pts</i></p> <p>Upon converting FE to Ansa connections in Radioss Deck, the /Subsets were not identified as connectivity entities. [Incident: ANSA-46272]</p>

<b>Assembly</b>	<p>Convert &gt; FE to Seamline/ Adhesive</p> <p>Cases where converting RADIOSS-WELD to a connection line would not work.</p> <p>[Incident: ANSA-46271]</p>
<b>Connection Manager</b>	<p>Reapplying or erasing mesh depended connections, would lead to erroneously calculated nodal thickness of connectivity parts.</p> <p>[Incident: 64880, ANSA-42025]</p>
	<p>Defined Tooltips would not be displayed.</p> <p>[Incident: ANSA-46033]</p>
	<p>Cases where the connections' list was hidden (acquiring zero height).</p> <p>[Incident: ANSA-45489]</p>
<b>Spotwelds</b>	<p>Cases where erasing the FE Representation of connections that lost their status due to mesh reconstruct after realization, resulted in problematic mesh that contained holes.</p> <p>[Incident: 57223, ANSA-36567]</p>
	<p>Specific cases where erasing the FE Representation deleted shell elements belonging to connected parts.</p> <p>[Incident: 58062, ANSA-37141]</p>
	<p>Upon erasing FE of a SPIDER2 connection created from "Convert FE to Cnctn Pts", PLOTEL elements were not deleted.</p> <p>[Incident: 48957, ANSA-30800]</p>
	<p><i>FEMFAT_SPOT</i></p> <p>Realization of rivets did not take into account the material values in order to create the Inner and Outer Nugget zones materials when PERMAS was the active deck.</p> <p>[Incident: ANSA-45643]</p>
<b>Adhesive Faces</b>	<p>Specific cases where, upon realization, distorted HEXAs were created.</p> <p>[Incident: ANSA-46660]</p>
<b>Adhesive Lines</b>	<p>Cases where for HEXA Connections with zero Height, the 'Specify Gap' field was ignored.</p> <p>[Incident: ANSA-46280]</p>
	<p><i>RBE3-HEXA-RBE3</i></p> <p>Upon realization, hexa elements of bad shape were created.</p> <p>[Incident: 64127, ANSA-41493]</p>

<b>SeamLines</b>	<p>Upon realization the elements were distorted due to bad smoothing.  [Incident: ANSA-46661, 53487/ANSA-33891]</p>
	<p>Cases where for HEXA Connections with zero Height, the 'Specify Gap' field was ignored.  [Incident: ANSA-46280]</p>
	<p><i>PENTA_CONTACT_ON_SOLIDS</i>  Specific cases where realization would lead to unexpected termination.  [Incident: ANSA-47048]</p>
	<p><i>OVERLAP-SHELL</i></p> <ul style="list-style-type: none"> <li>• Upon realization of Seamlines, closed ends were erroneously generated.  [Incident: 53492, ANSA-33895]</li> <li>• Specific cases of insufficient quality of HAZs on overlap seamwelds.  [Incident: ANSA-44810]</li> </ul>
<b>Bolts</b>	<p>Rigid body dependency was created upon realization of bolt elements in PAMCRASH and RADIOSS Decks.  [Incident: ANSA-46563]</p>
	<p><i>BOLT</i>  Bolts with more than 2 connectivity parts and body type 'SPRING' would not respect zero value for 'Body Length Factor'.  [Incident: ANSA-44744]</p>
	<p><i>SOLID BOLT</i>  Created Head Diameter of bolts was deviating from the head diameter set upon realization.  [Incident: 45434, ANSA-28618]</p>
	<p><i>BOLT ON SOLID</i>  Realization in PAM-CRASH using RBE2 head interface could lead to PAM-CRASH Dependency issues, due to the NCOG of the RBODY used by the Bolt body elements.  [Incident: ANSA-46881]</p>
<b>GEBs / Connectors</b>	<p>Connector realization created Rigid Dependency error in Radioss.  [Incident: ANSA-45828]</p>

## Model Browser

The icons of Subsystems were missing from the list, while switching to Flat view did not work properly in terms of their contents display.

[Incident: ANSA-46380]

<b>Replace Part</b>	Cases where upon replacing a part, the RBE2 elements defined by set were erroneously re-created.  [Incident: 59720, ANSA-38308]
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## Compare

<b>Compare Report</b>	Only specific identified differences were exported to the .txt files used for the creation of the Report.  [Incident: 63886, ANSA-41299]
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## Data Management

<b>General</b>	Specific case of memory build up upon switching configurations.  [Incident: ANSA-44307]
<b>DM Browser</b>	The properties and attributes of SPDRM Library Items were not displayed when ANSA was connected to SPDRM.  [Incident: 61834, ANSA-39827]
<b>CAD to ANSA</b>	Options for handling the DM Path were missing in "Select DM path" window, used to select a specific DM path for CAD to ANSA.  [Incident: 65841, ANSA-42700]
	Cases where upon translation process with number of parallel jobs=0, extra variant conditions were created.  [Incident: ANSA-47304]
<b>Scripting</b>	<i>base.SaveRepresentation()</i>  Upon saving multi-instance parts with different properties in the DM through the script function, only one of them was saved.  [Incident: 65307, ANSA-42315]

## Topo

<b>Faces</b>	<i>Delete</i>  Cases where deleting a face of a macro would delete the mesh of a frozen neighboring macro.  [Incident: 63077, ANSA-40712]
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<b>Faces</b>	<p><i>Fuse [Proximities]</i> Upon function application, Hourglass remained active while various actions (e.g. Property or Part selection) were performed.</p> <p>[Incident: 64227, ANSA-41564]</p>
	<p><i>Zone Cut</i> The function would occasionally result to inaccurate cuts.</p> <p>[Incident: 65103, ANSA-42174]</p>
	<p><i>Dach</i></p> <ul style="list-style-type: none"> <li>• Function application did not give the expected result on spherical surfaces. [Incident: 51009/ ANSA-32182, 64991/ ANSA-42101]</li> <li>• Function resulted in unsatisfying result in T-junction fillets with triangular faces. [Incident: 24053, ANSA-14346]</li> </ul>
<b>Surfaces</b>	<p><i>Extrude [Sweep / Glide]</i> Function application resulted in erroneous orientation of the faces.</p> <p>[Incident: 61646, ANSA-39687]</p>
<b>Auxiliaries</b>	<p><i>Cross Sections</i></p> <ul style="list-style-type: none"> <li>• Cases of erroneous behavior or ANSA ceasing to respond upon extraction of PbxSECT for both "Old" and "New" NASTRAN Restrictions. [Incident: 59053, ANSA-37832]</li> <li>• Calculation of Cross Sections [Cut, Multicut] or substitution of shells with Beams [Reinforcement to Beam] would ignore the Nodal Thickness of the shell elements, wherever specified, and use Property thickness instead. [Incident: 58468, ANSA-37435]</li> </ul> <p><i>Cross Sections [Multicut]</i></p> <ul style="list-style-type: none"> <li>• Cases where Geometrical Results in Cross Section items were affected, as the sequence of segments was not maintained during calculations. [Incident: ANSA-45882]</li> <li>• Cases where upon application on geometry, ANSA would cease to respond. [Incident: 25005, ANSA-14941]</li> </ul>
<b>Scripting</b>	<p><i>CreateCircle3Points()</i> The function did not add the generated curves to the current Part.</p> <p>[Incident: ANSA-47089]</p>

## Shell Mesh

<b>General</b>	EL.THICK view and "Draw shell as solid" did not have the same behavior regarding zero nodal thicknesses. [Incident: 64539, ANSA-41783]
<b>Checks</b>	<i>Penetration &gt; Intersections</i> Specific cases where Fix Intersections would lead to unexpected termination. [Incident: ANSA-43849]
	<i>Penetration &gt; Property Thickness</i> Erroneous self-penetrations (same PID) were detected when thickness was bigger than the element length. [Incident: 54882, ANSA-34888]
	<i>Mesh &gt; Mesh Quality</i> Shell max length value in Quality Criteria was not saved. [Incident: ANSA-45977]
<b>Shell Mesh</b>	<i>Intersect [Solid Description]</i> Cases where function application with option “Inflate distance” activated, led to unexpected termination. [Incident: ANSA-45557]
<b>Elements</b>	<i>Offset [Copy]</i> Function application on laminate shells did not keep layer contents. [Incident: 65706, ANSA-42602]
<b>Scripting</b>	<i>NearElements()</i> Function returned entities out of tolerance. [Incident: 17969, ANSA-10383]

## Volume Mesh

<b>Volumes</b>	<i>Define [Auto Detect]</i> <ul style="list-style-type: none"> <li>Volumes were erroneously detected or not detected at all, due to penetrated areas. [Incident: 53061/ ANSA-33604, 63283/ANSA-39800, ANSA-33775]</li> <li>Specific case where function application required an excessive amount of time. [Incident: 32470, ANSA-19988]</li> </ul>
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<b>Unstructured Mesh</b>	<i>Tetra Rapid</i>
	<ul style="list-style-type: none"> <li>Cases where meshing with Criterion "ABAQUS shape factor" resulted in elements with large aspect ratio. [Incident: 63431, ANSA-40969]</li> <li>Remeshing of many volumes required an excessive amount of time in the case of many size boxes. [Incident: 60964, ANSA-39203]</li> <li>Volume generation with "Force 2 rows in thin walls" option activated, resulted in insufficient mesh quality with flat elements or clusters of small elements (especially at thin wall areas), while process needed a significant amount of time or -in some cases- memory was overloaded. [Incident: 54485/ANSA-34584, 59936/ANSA-38452, 64739/ANSA-41926, 58977 /ANSA-37784]</li> </ul>
	<i>Hexa Interior</i>
	<p>Specific cases where volume mesh generation failed, displaying the message "Error kernel 41" and "Error kernel 5". [Incident: ANSA-45587]</p>
	<i>Hexa Poly</i>
	<p>Cases where mesh generation resulted in unconnected mesh during output. [Incident: 64473, ANSA-41739]</p>
<b>Structured Mesh</b>	<i>Extrude</i>
	<p>Specific cases where upon activation of "Use guide distribution" option and target area selection, distribution was not respected. [Incident: ANSA-44008]</p>
	<i>Extrude / Revolute</i>
	<p>Cases where collapsed solids were created along the rotation axis. [Incident: ANSA-44483]</p>
	<i>Map</i>
	<p>Function would not recall the last Feature Selection mode. [Incident: 40408, ANSA-25151]</p>
<b>Batch Mesh</b>	<i>Layers</i>
	<p>Cases where layers failed to connect to Macros. [Incident: ANSA-45324]</p>

<b>Checks</b>	<p><i>Mesh [Void Areas]</i></p> <ul style="list-style-type: none"> <li>Cases where excessive memory was required for large models. [Incident: 58736, ANSA-37620]</li> <li>The check would not be executed when called by script. [Incident: 64413, ANSA-41696]</li> <li>Cases of overlapping volume mesh due to problematic Volume auto-detection. [Incident: 63336, ANSA-40898]</li> </ul>
	<p><i>Mesh [Negative Volume]</i></p> <p>Cases where Fix would lead to unexpected termination. [Incident: ANSA-45141]</p>
<b>Tools</b>	<p><i>Hextreme</i></p> <p>Application in Windows OS would lead to unexpected termination. [Incident: 63586, ANSA-41083, ANSA-43747]</p>
	<p><i>Cavity [Hexa dominant]</i></p> <ul style="list-style-type: none"> <li>Function application with 'Buffer zones' value set to 1, led to unexpected termination. [Incident: ANSA-45994]</li> <li>Specific case where function application with 'Buffer zones' value set to 2, resulted in ANSA ceasing to respond. [Incident: 61920, ANSA-39900]</li> </ul>
<b>Scripting</b>	<p>When applying "Layers" creation by running a script, it would ignore the setting "connect2macros=off" which is read by an <code>ansa_mpar</code> file and connects the macros with the produced layers. [Incident: ANSA-46370]</p>

## Batch Meshing

<b>BM Manager</b>	<p>Specific case where surf meshing of the model led to unexpected termination. [Incident: 27078, ANSA-16187]</p>
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## DECKs

<b>Output</b>	Information "FROZEN_ID/_DELETE/_ELEMENT: YES" was not output, in case the option "names as plain comment" was activated.
	[Incident: ANSA-44406]
	Unused coordinate systems were written upon model output. [Incident: ANSA-46852]
<b>General</b>	Tooltips defined in certain General and Edit cards would not be displayed. [Incident: ANSA-46033]
<b>Checks</b>	<i>Massless Nodes</i> The check would not work in 'Model' execution mode. [Incident: 65047, ANSA-42132]
<b>Cross Sections</b>	Calculation of AX and TQ STIFFNESS, as well as shear stiffness values for K23 and K13 in ABAQUS BEAM SECTION PROPERTY, were not properly applied when referenced by a Cross Section. [Incident: ANSA-46477]
<b>Elements</b>	<i>UTIL &gt; Mass Balance</i> <ul style="list-style-type: none"> <li>The Settings and Target Parameters would not be stored. [Incident: ANSA-45245]</li> <li>Pressing the "Enter" Key would automatically exit the window. [Incident: ANSA-45244]</li> </ul>
<b>Scripting</b>	Cases where an unexpected termination occurred on some built-in library functions with object instances subclassed from ansa.base.Entity. [Incident: ANSA-44850]

## Safety

<b>Pedestrian</b>	Cases where the bumper corner calculated by the Gauge procedure (EC Proposal) had a small distance from the actual point. [Incident: 62084, ANSA-40007]
	A gap was generated between the offset of BSRL(child zone) and the BLE/WAD 1000, in EU Phase 1/2 marking. [Incident: ANSA-47498]

## NASTRAN

<b>Input</b>	<p>Specific case where upon input of file containing Cross Section data, ANSA ceased to respond.</p> <p>[Incident: 55702, ANSA-35748]</p>
	<p>Cases where upon reading .nas files of a long format output, unread lines for each PLOAD4 would occur.</p> <p>[Incident: ANSA-46097]</p>
	<p>Upon file input with PBxSECT, created PSHELLs of Cross_segments would not always get free PIDs, but occasionally would acquire existing PIDs of the model.</p> <p>[Incident: 59202, ANSA-37937]</p>
	<p>When BCONTACT=0 in Nastran Header, it was read as blank during file input.</p> <p>[Incident: ANSA-44728]</p>
<b>Output</b>	<p>PANEL and ERP PANEL keywords were not output with a name as comment.</p> <p>[Incident: ANSA-45055]</p>
<b>Database Browser</b>	<p>NLMOPTS and Header entities could not be transferred from the reference library, accessed through the context menu of database browser.</p> <p>[Incident: 61355, ANSA-46190]</p>
<b>ELEMENTs</b>	<p><i>SHELL [Orient by Edge]</i></p> <p>Cases, where applying the function resulted in inconsistent orientation of shell elements.</p> <p>[Incident: 54770, ANSA-34795]</p>
<b>B.C. SETs</b>	<p><i>THERMAL [Convection &gt; Coupled]</i></p> <p>Specific cases where if the companion region of the Convection Thermal Loadset edit card was of type "3d elem", an unexpected termination occurred.</p> <p>[Incident: ANSA-47698]</p>
<b>AUXILIARIES</b>	<p><i>CONTACT [CONTACT]</i></p> <p>Some options were missing from the context menu of entities in CONTACT window.</p> <p>[Incident: ANSA-45701]</p>

## LS-DYNA

<b>Input</b>	<p>Cases of missing trias upon input, due to the existence of a blank fourth node.</p> <p>[Incident: ANSA-45988]</p>
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<b>Output</b>	<p>Erroneous output of *ELEMENT_SHELL_BETA keyword when “Thickness” option in the Miscellaneous tab was activated.</p> <p>[Incident: 64002, ANSA-41391]</p>
	<p>Specific cases where due to previously erroneous output, input and positioning a mechanism in Primer would lead to unexpected termination.</p> <p>[Incident: 38197, ANSA-23665]</p>
	<p>Erroneous output and input of Primer comments.</p> <p>[Incident: 45530, ANSA-28677]</p>
	<p>Shells referenced by Laminate property with PSI = 0, were output as *ELEMENT_SHELL instead of *ELEMENT_SHELL_BETA.</p> <p>[Incident: 62307, 65762, ANSA-40166, ANSA-42646]</p>
<b>General</b>	<p>Incompatibility of *MAT_089 with solid properties, that resulted in error message upon assigning the material to a solid property.</p> <p>[Incident: ANSA-46948]</p>
	<p>COHESIVE penta elements were numbered discordantly than normal solid penta.</p> <p>[Incident: ANSA-46655]</p>
<b>INITIAL</b>	<p><i>STRESS [SHELL/SET]</i></p> <p>*INITIAL_STRESS_SHELL_SET entity would be created even if the selected SET did not contain SHELL elements.</p> <p>[Incident: ANSA-46336]</p>
<b>CONSTRAINED</b>	<p><i>SH2SL</i></p> <p>Selection of solid nodes that belonged to a volume, was not feasible upon *CONSTRAINED_SHELL_TO_SOLID Keyword definition.</p> <p>[Incident: ANSA-45951]</p>
<b>AUXILIARIES</b>	<p><i>DATABASE&gt; HISTORY_OPTION</i></p> <p>*DATABASE_HISTORY_BEAM could not be assigned on a beam created automatically from the Connection Manager for a CBEAM body.</p> <p>[Incident: ANSA-45567]</p>
<b>Scripting</b>	<p><i>base.CreateEntity()</i></p> <p>The function would not create 3 Node SEGMENTs.</p> <p>[Incident: ANSA-44620]</p>

## PAM-CRASH

<b>Input</b>	<p>END_SELOUT keyword was missing.</p> <p>[Incident: ANSA-46747]</p> <p>Erroneous interpretation of DIS3D keyword in cases of reading lines with length &gt; 80 characters, without a continuation character.</p> <p>[Incident: ANSA-47352]</p>
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## Abaqus

<b>Output/Input</b>	The *ORIENTATION keywords would not be the same when importing the file. [Incident: ANSA-46992]
<b>Output</b>	File output with *PARAMETERs within keywords associated with *STEP, led to unexpected termination. [Incident: ANSA-47768]
<b>General</b>	Erroneous visualization of Material orientation when cylindrical and spherical coordinate system were used. [Incident: ANSA-44762]
<b>Checks</b>	<i>Cohesive Orientation</i> If more than one area of problematic elements existed in a group of connected elements, occasionally only one of the problematic areas was reported. [Incident: ANSA-44225]

## RADIOSS

<b>Input</b>	Upon input, a group would not check its id, which could result in random (or even negative) id assignment to the specified group. [Incident: ANSA-45272]
<b>Output</b>	/CYL_JOINT definition would not be output. [Incident: ANSA-45556]
	Erroneous output format of /TH/CYL_JO definition. [Incident: ANSA-45558]
	Erroneous calculation of trailing decimals of total thickness of composites properties /Prop/Type11. [Incident: 62218/ ANSA-40104, ANSA-46167]
<b>General</b>	After offsetting the ids of /Subsets from the /Submodel card, the referenced subset_ID field of the Ansa Property card did not get updated. [Incident: ANSA-45273]

**AUXILIARIES****SECTION**

For the Cross Section definition, the value of field 'a' (alpha) could not exceed 1.

[Incident: ANSA-46164]

**SECTION [Assistant]**

Definition of the cutting plane for the section at the Define Cutting Plane step was inaccurate, while selection of fields Global X, Z or Local Inertia Axis did not result in the creation of a section.

[Incident: 58592, ANSA-37517]

**ANSYS****AUXILIARIES****CONTACT [CONTACT]**

Some options were missing from the context menu of entities in CONTACT window.

[Incident: ANSA-45701]

**PERMAS****Output**

Settings of \$FUNCTION TABLE were missing upon file output.

[Incident: ANSA-47059]

**Scripting**

*base.OutputPermas()*

Missing "output\_element\_thickness" argument for exporting files with element thickness.

[Incident: 49905, ANSA-31425]

**OpenFOAM**

Transport would erroneously change to thermophysical in incompressible cases, when Energy was enabled.

[Incident: ANSA-45078]

**OPTISTRUCT****Output**

PANEL and ERP PANEL keywords were not output with a name as comment.

[Incident: ANSA-45055]

## KINETICS

**Input/ Output** Cases where inactive bodies were erroneously input or output as active upon import or export of .cmd files, respectively.

[Incident: ANSA-46836]

**Simulation** Cases where upon stopping the simulation with error, the Undo button of the simulator would not bring the model back to its initial position.

[Incident: 55167, ANSA-35086]

**KIN\_BODY list** *Check*

Function would erroneously check the deactivated bodies of a model as well.

[Incident: ANSA-45297]

## MORPH

<b>Controls</b>	<p><i>Parameters</i></p> <ul style="list-style-type: none"> <li>DFM parameters with problematic or incomplete definition (due to erased entities) would not respond to "Show Content" option.</li> </ul> <p>[Incident: ANSA-45083]</p> <ul style="list-style-type: none"> <li>Cases where creating a parameter without a name led to unexpected termination.</li> </ul> <p>[Incident: ANSA-47921]</p>
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## Task Manager

"User scripts" grouping item was erroneously checked before all its children got checked.

[Incident: ANSA-44224]

Cases where Task items with significant duration were checked as finished before their actual termination.

[Incident: 64011, ANSA-41397]

## Scripting

*Get/ SetEntityCardValues()*

Functions did not work for DEFINED, FROZEN\_ID, FROZEN\_DELETE of DEFINE\_CURVEs and DEFINE\_TABLEs.

[Incident: 61546, ANSA-39623]

Cases where debug functionality in script editor (Python) was not working properly.

[Incident: ANSA-47891]