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Safety Model-Build Process using TC-ANSA Integration

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OVERVIEW OF THE TC-ANSA INTEGRATION

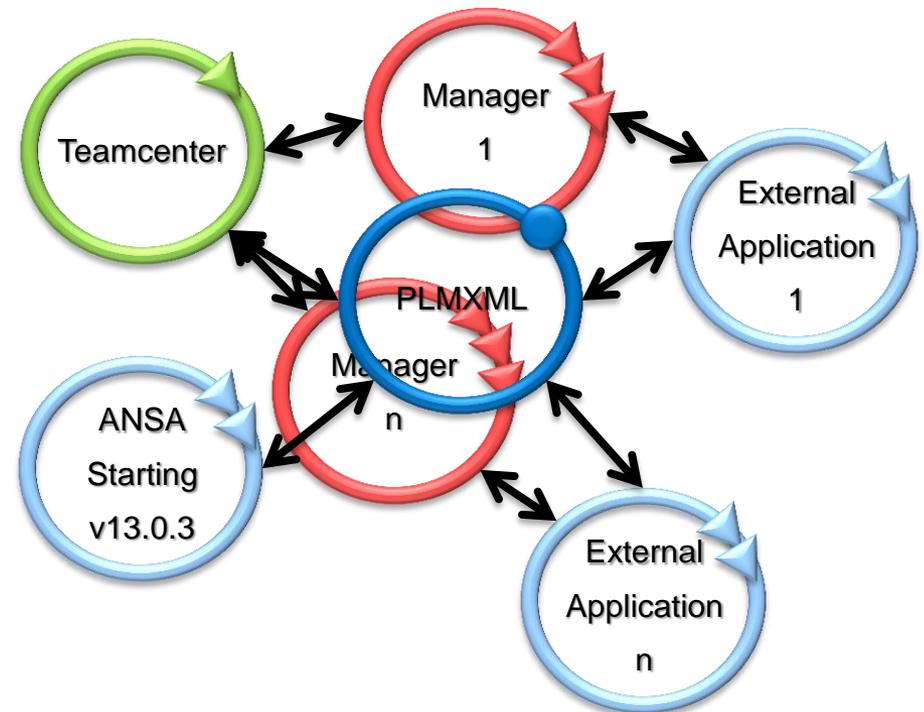
Overview of the TC-ANSA Integration

PLMXML Format

- The communication between Teamcenter and external applications (e.g. pre-processor, solver, scripts, etc...) is done via the PLMXML format.

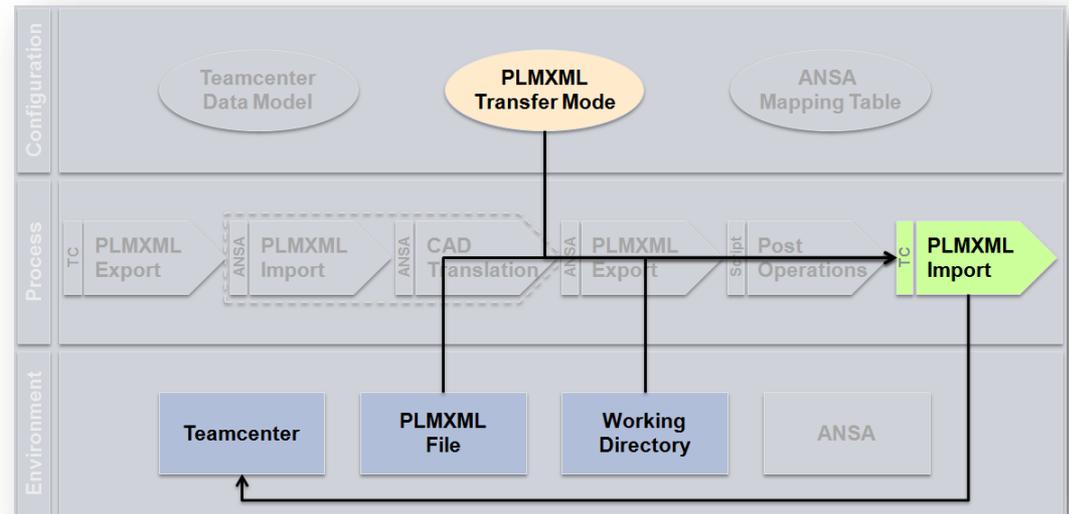
Advantages

- Same format is used independently of the external application used
- Teamcenter and external applications can be released independently
- Constant PLMXML format
- No customization of Teamcenter



Overview of the TC-ANSA Integration Solution Elements

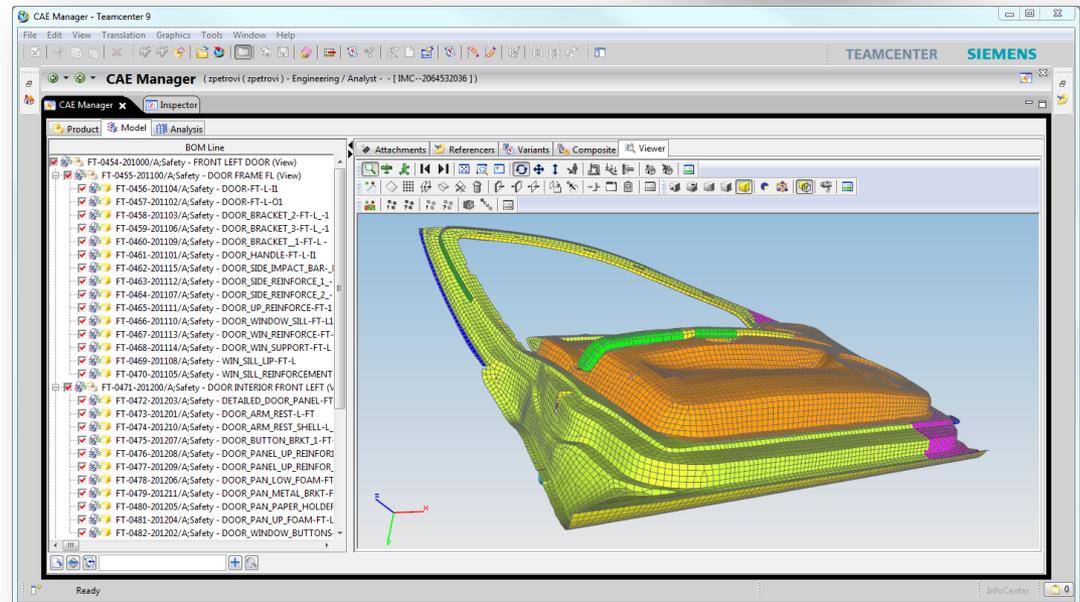
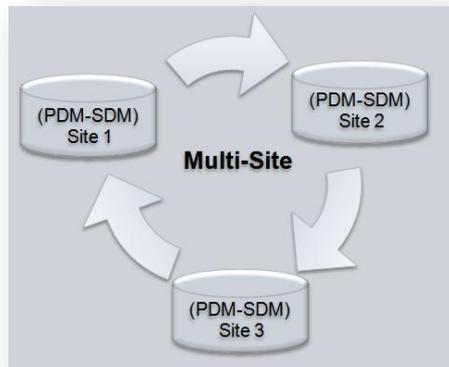
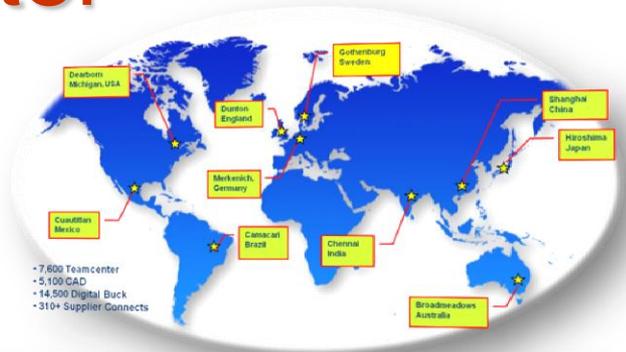
- The process can be fully automated, or the user can start manually each process independently either from Teamcenter or from the working directory.
- The same process is applied for all use cases (e.g. batch meshing, CAD translation, mesh assembly, connections,...)
- The ANSA-PLMXML Import and ANSA-CAD Translation processes are one unique process step.
- The ANSA Mapping Table contains the data model mapping definition.



Overview of the TC-ANSA Integration

Tasks realized in Teamcenter

- Create & configure CAE Structure
- Maintain relationships to the source data
- Manage CAE Engineering Properties
- Control read & write accesses
- Enable reuse of data
- Support data exchange (e.g. multi-site, suppliers)
- ...



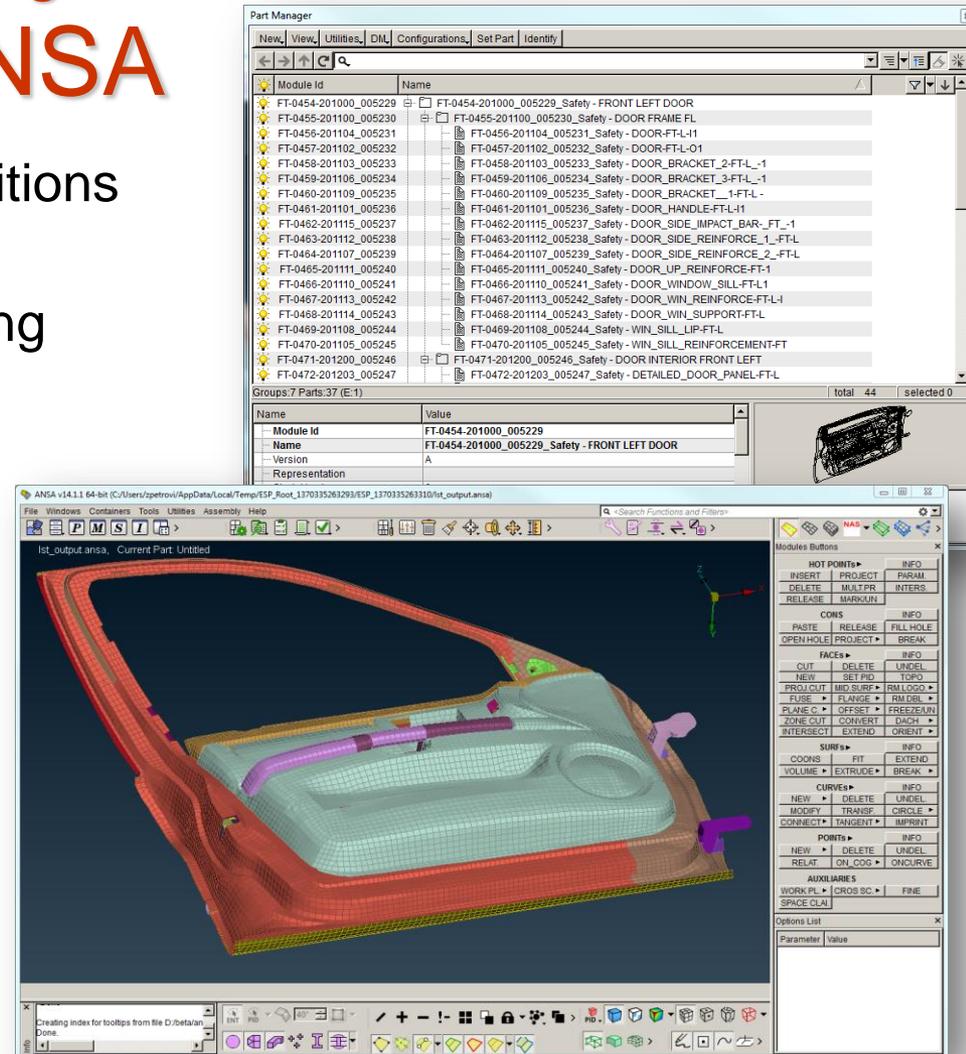
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Overview of the TC-ANSA Integration

Tasks realized in ANSA

- Import CAE Structure, apply positions and process instances
- Apply & manage CAE Engineering Properties
- Translate CAD geometries (directly processed during PLMXML import)
- Create and modify meshes
- Define & realize connections
- **Tasks not realized in ANSA**
 - Changes in CAE Structure

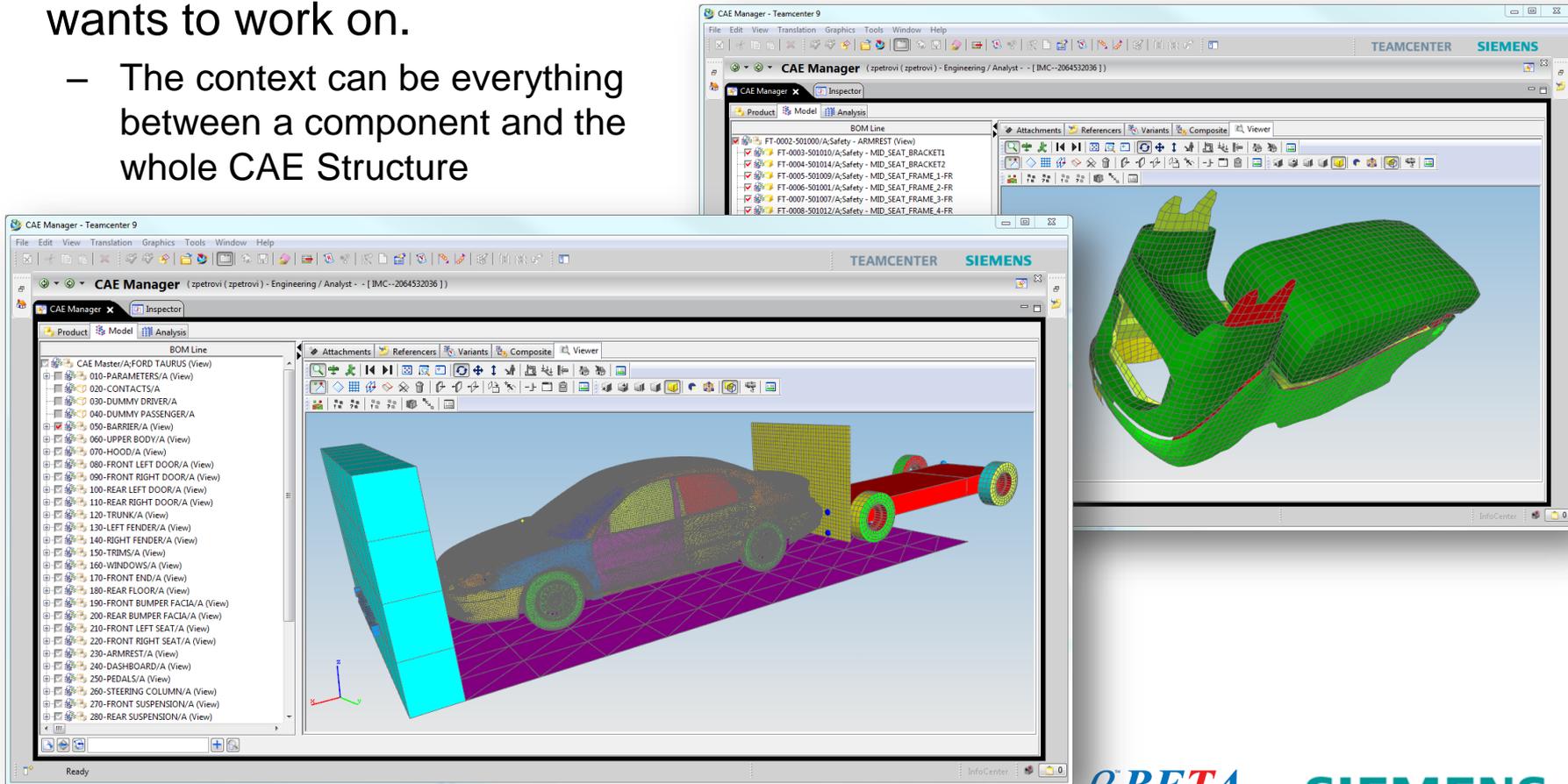


MODEL BUILD USE CASE

Model Build Use Case

Load Context in Teamcenter

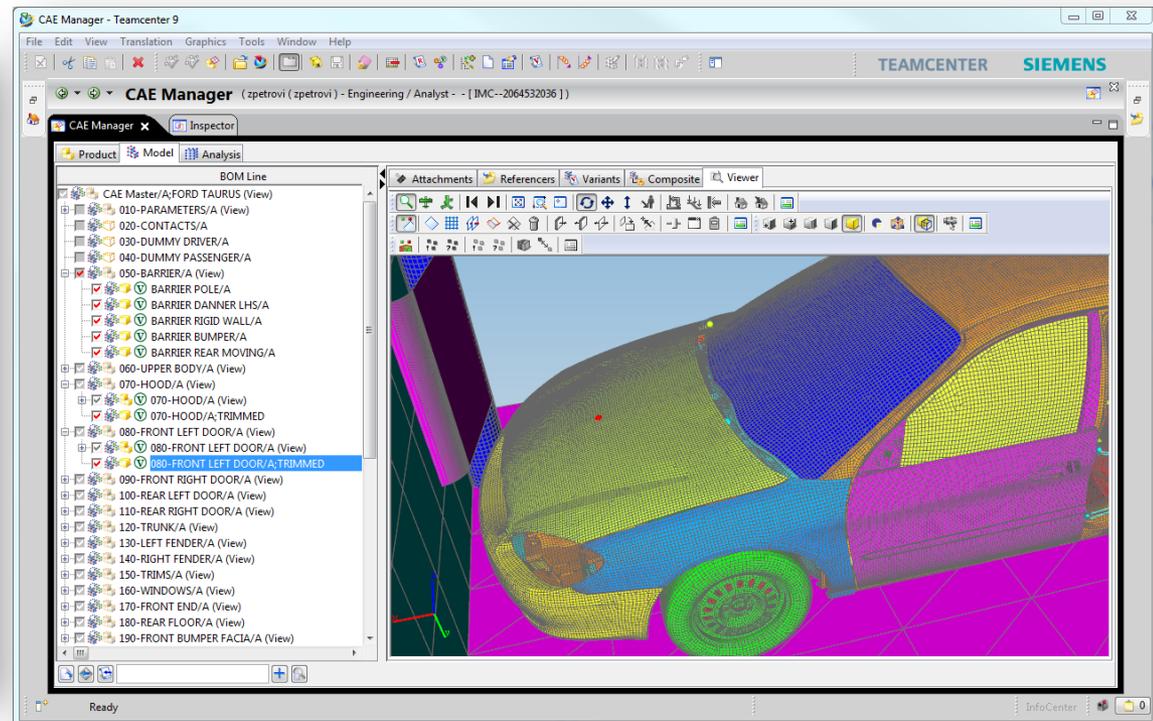
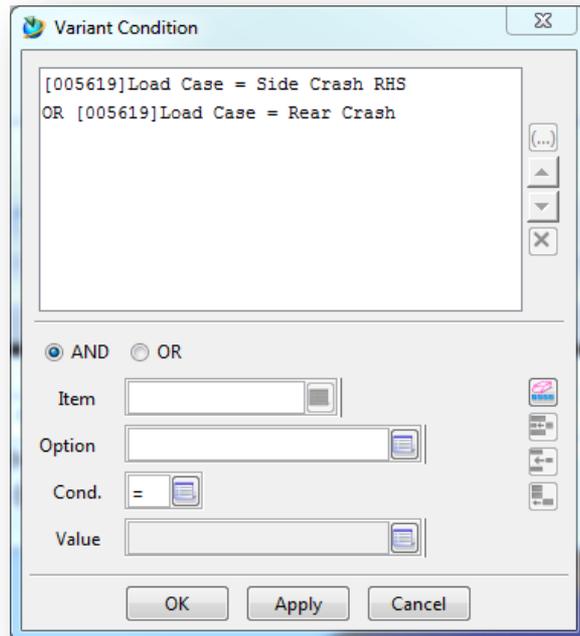
- Before sending the data to ANSA, the user loads first the context he wants to work on.
 - The context can be everything between a component and the whole CAE Structure



Model Build Use Case

Configure Context in Teamcenter

- The CAE Structure can be configured using Variant and Revision Rules
- The Variant Rule helps the user to get the right components were as the Revision Rule is used to choose the correct version of them.



Model Build Use Case

Configure Context in Teamcenter

- The CAE Structure can be configured using Variant and Revision Rules
- The Variant Rule helps the user to get the right components were as the Revision Rule is used to chose the correct version of them.

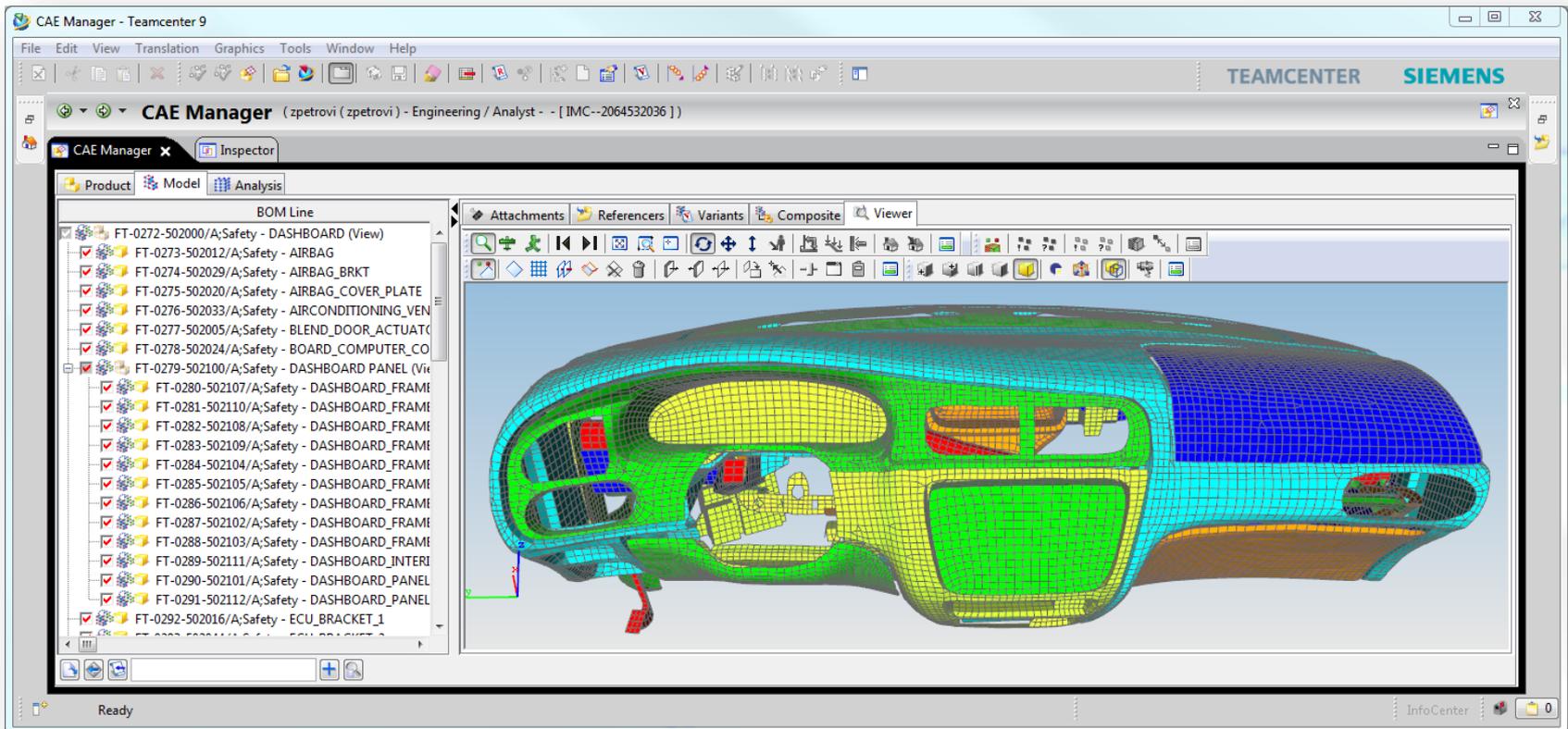
The image displays three overlapping screenshots from the Siemens Teamcenter software interface:

- Top Left:** A 'Variant Rule' dialog box. It contains a table with columns: Item, Option /, Description, Value, and State. The table lists four entries for item '005619': 'Barrier' (Value: 'Rigid Wall'), 'CAE Module Content' (Value: 'no'), 'Connections' (Value: 'Both'), and 'Load Case' (Value: 'Front Crash'). A dropdown menu is open for the 'Load Case' row, showing options: 'Front Crash', 'Rear Crash', 'Side Crash LHS', and 'Side Crash RHS'. Buttons at the bottom include 'Clear', 'Copy', 'Load', 'Reload', 'Save As...', 'OK', 'Apply', and 'Cancel'.
- Bottom Left:** A 'View / Set Current Revision Rule' dialog box. It has two panes: 'Rules' and 'Details'. The 'Rules' pane shows a list of rules, with 'CAE Released' selected. The 'Details' pane shows the rule's configuration: 'Precise' and 'Has Status(Any Release Status, Configured Using Released Data Working())'. Buttons at the bottom include 'OK', 'Apply', 'Copy', and 'Close'.
- Right:** The main CAE Manager interface. It shows a 'BOM Line' tree on the left with various components like '010-PARAMETERS/A', '020-CONTACTS/A', etc. The main view shows a 3D mesh model of a car body. A blue callout box points to a specific component in the BOM tree, stating: 'The item not fulfilling the Variant Rule are hidden from the CAE Structure'.

Model Build Use Case

Define Working Context in Teamcenter

- The number of items to be sent to ANSA can even be reduced by selecting only the data required for the meshing task.

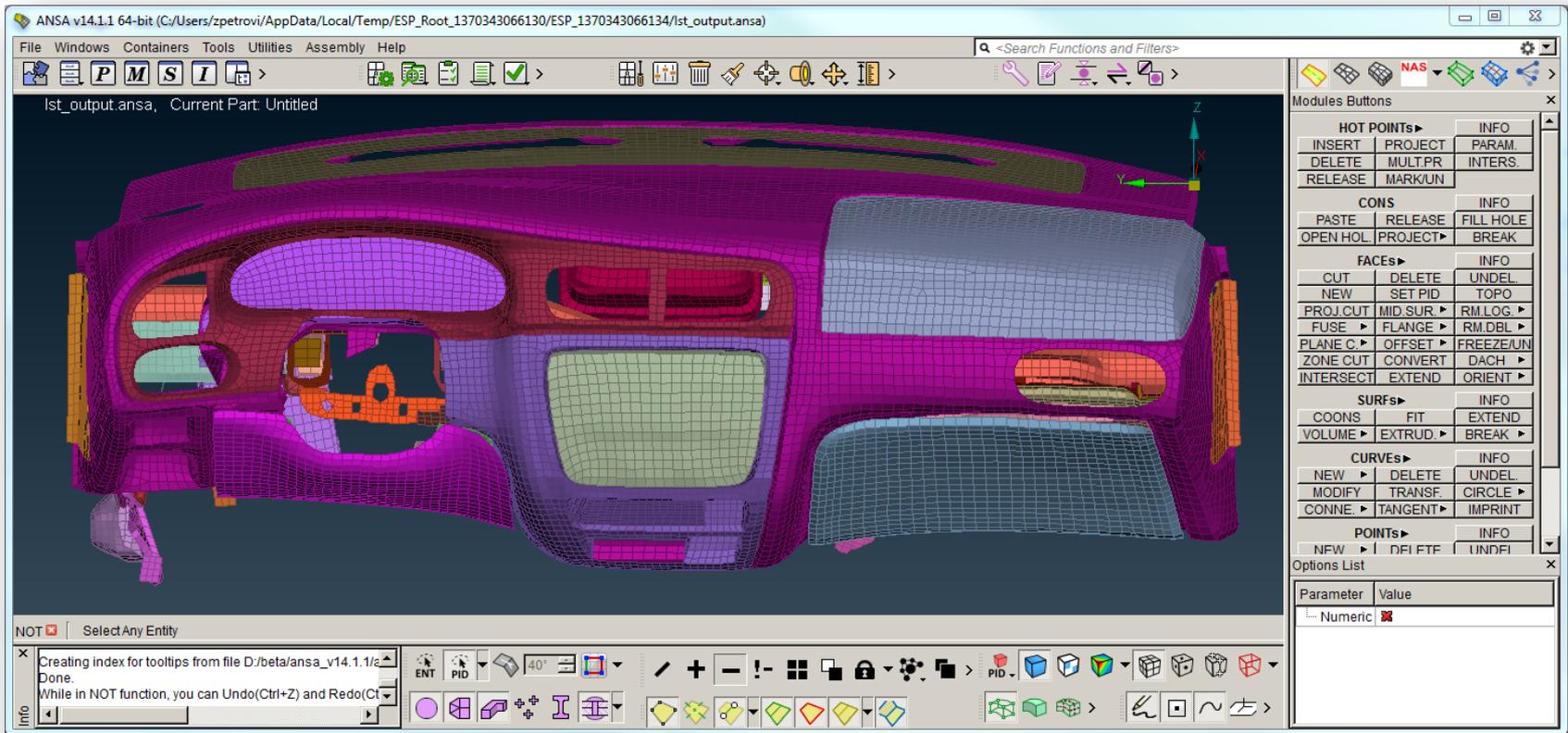


Without Selection

Model Build Use Case

Define Working Context in Teamcenter

- The number of items to be sent to ANSA can even be reduced by selecting only the data required for the meshing task.

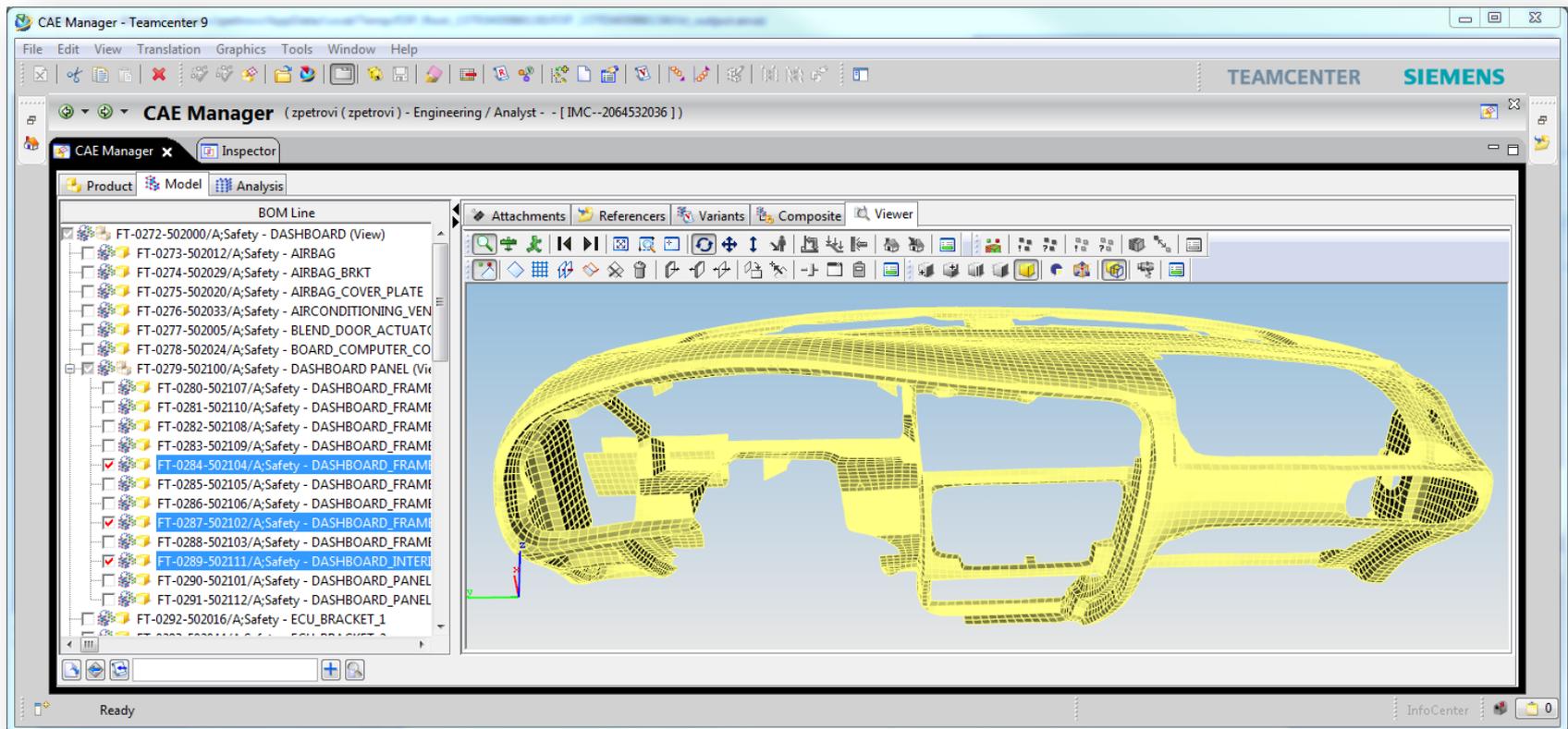


Without Selection

Model Build Use Case

Define Working Context in Teamcenter

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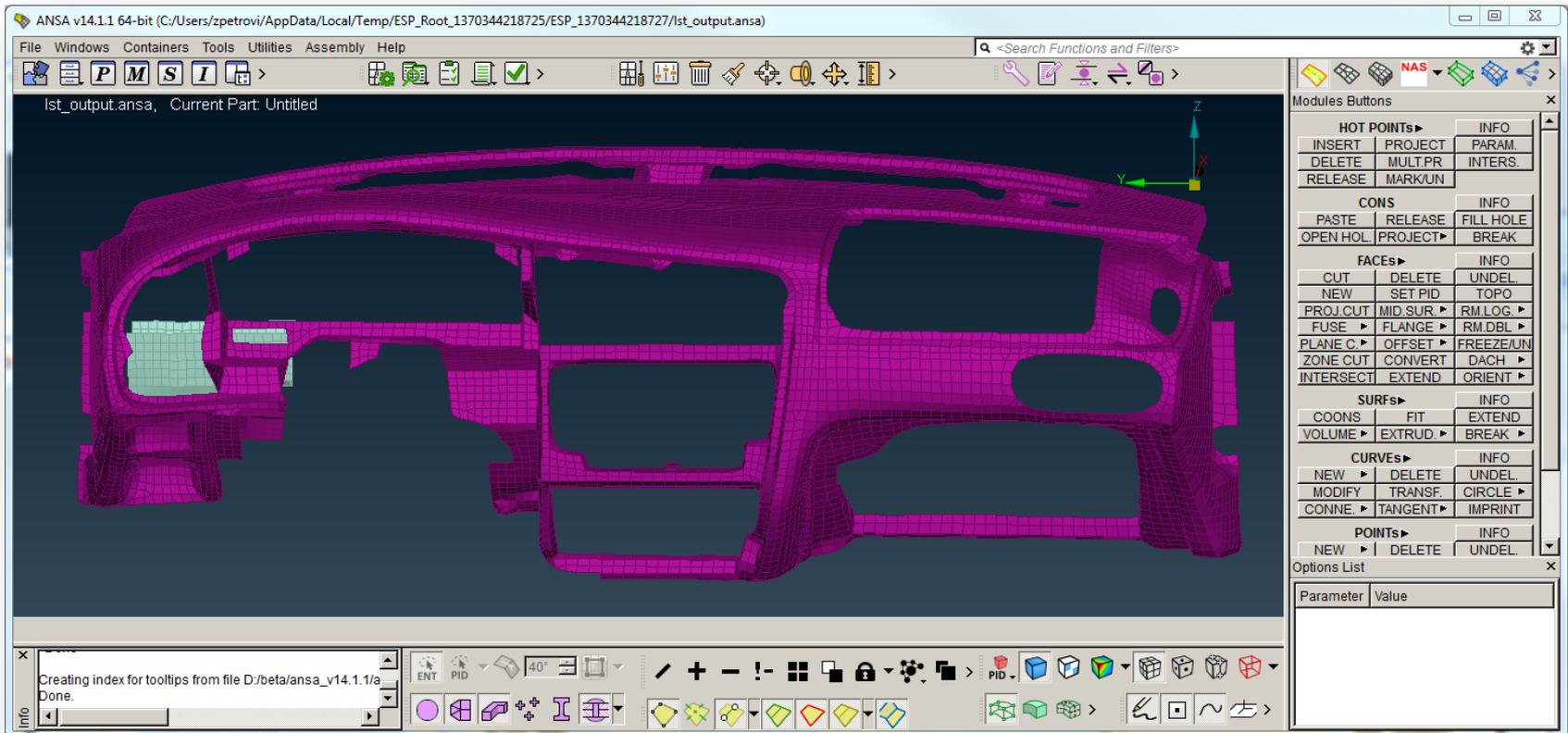


With Selection

Model Build Use Case

Define Working Context in Teamcenter

- The number of items to be sent to ANSA can even be reduced by selecting only the data required for the meshing task.



With Selection

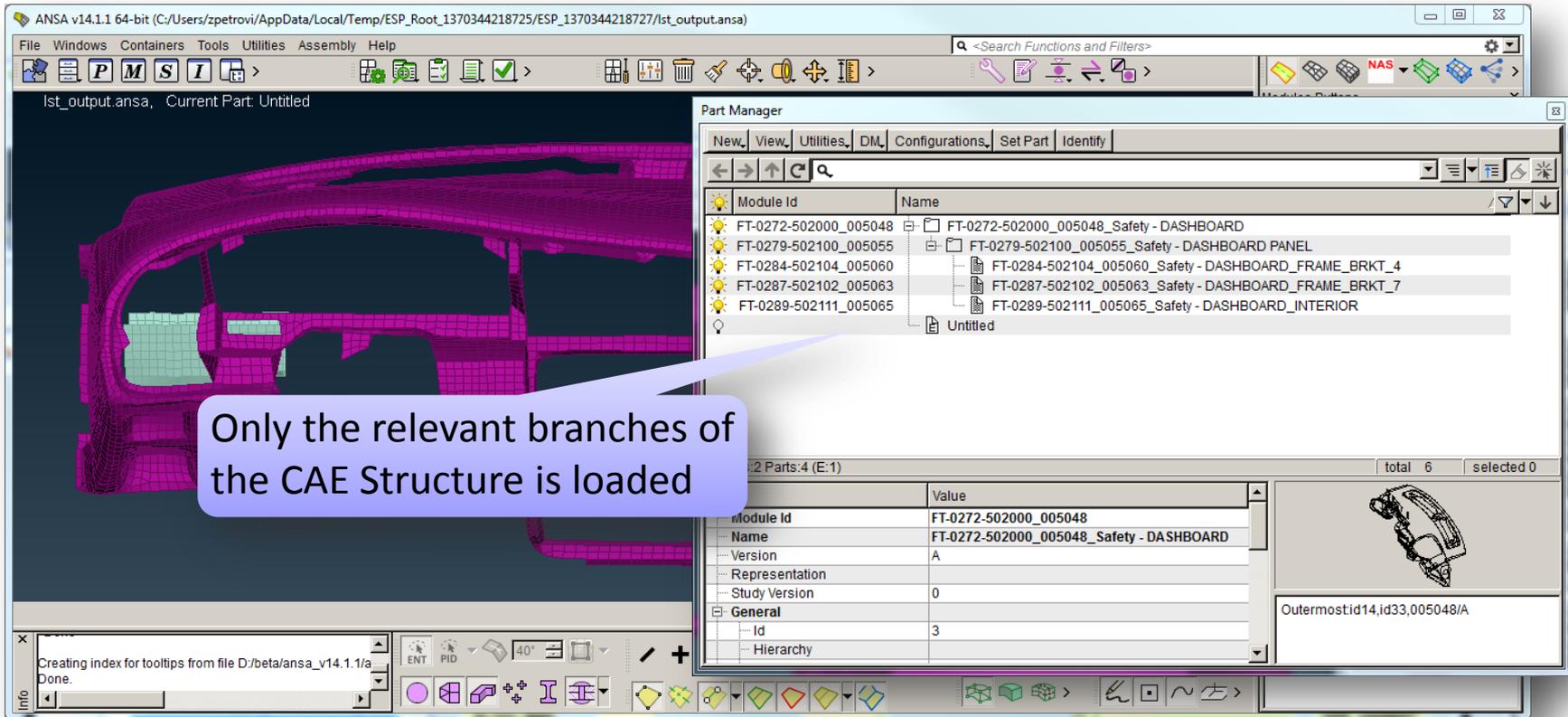
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Model Build Use Case

Define Working Context in Teamcenter

- The number of items to be sent to ANSA can even be reduced by selecting only the data required for the meshing task.



With Selection

Model Build Use Case

Define Working Context in Teamcenter

- In Teamcenter, the item selection can also be automated

Teamcenter 10

The screenshot displays the Teamcenter 10 interface with two main windows. The top window shows a BOM tree for 'DSC394A1084900000101/2;1-BODY STRUCTURE REAR'. The bottom window shows an 'Analysis' view for '000116-Safety - BODY STRUCTURE REAR'.

BOM Line	Item Type	Rule configured by	Item Rev Status	Find
✓ DSC394A1084900000101/2;1-BODY STRUCTURE REAR ...	F_DesignSolution		Working ()	
✗ DIC394A17C913-0000101/7;1-PLATE REAR BUMPER ...	F_DesignInstance		Working ()	
✗ 4MS1-A17C913-A/6;1-PLATE REAR BUMPER ANC...	F_FordDesignRep		Working ()	
✓ GO4MS1-A17C913-A/97;1-PLATE REAR BUM...	F_FordDesignRep		Working ()	
✗ LD4MS1-A17C913-A/91;1-PLATE REAR BUM...	F_FordDesignRep		Working ()	
✗ W703879-S/3;1-BLT M08x1.25x20.0 SPL PIL ...	F_FordDesignRep		Working ()	
✗ DIC394A17C914-0000101/1;1-PLATE REAR BUMPER ...	F_DesignInstance		Working ()	
✗ 4MS1-A17C914-A/1;1-PLATE REAR BUMPER ANC...	F_FordDesignRep		Working ()	
✓ GO4MS1-A17C913-A/97;1-PLATE REAR BUM...	F_FordDesignRep		Working ()	
✓ GO4MS1-A17C914-A/98;1-PLATE REAR BUM...	F_FordDesignRep		Working ()	
✗ LD4MS1-A17C914-A/92;1-PLATE REAR BUM...	F_FordDesignRep		Working ()	
✗ W703879-S/3;1-BLT M08x1.25x20.0 SPL PIL ...	F_FordDesignRep		Working ()	
✗ DIC394A220K50-0000101/2;1-RNF L/C DR LK STRIK...	F_DesignInstance		Working ()	
✓ GO4MS1-A220K50-A/100;1-RNF L/C DR LK STRIK...	F_FordDesignRep		Working ()	
✗ DIC394A40308-0000201/8;1-REINF BACK PANEL LO...	F_DesignInstance		Working ()	

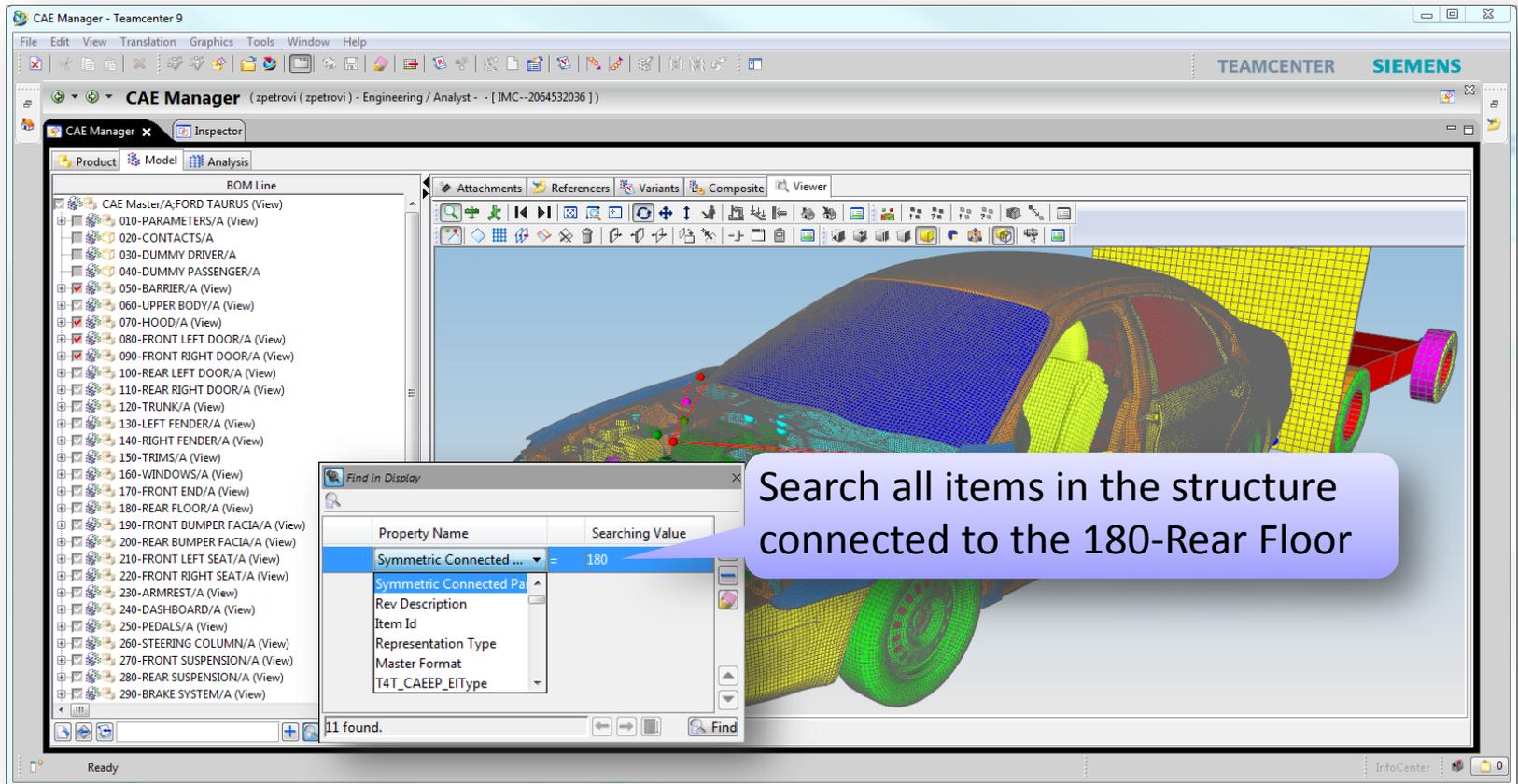
BOM Line	Item Type	Rule configured by	Item Rev Status	Find No.
✓ DSC394A1084900000101/A;Safety - BODY STRUCTUR...	CAEModel		Working ()	10
✓ GO4MS1-A17C913-A/A;Safety - PLATE REAR BU...	CAEModel		Working ()	20
✓ GO4MS1-A17C914-A/A;Safety - PLATE REAR BU...	CAEModel		Working ()	30
✓ GO4MS1-A220K50-A/A;Safety - RNF L/C DR LK S...	CAEModel		Working ()	40
✓ GO4MS1-A40308-B/A;Safety - REINF BACK PNL L...	CAEModel		Working ()	50
✓ FDR6V41S40324A01/A;Safety - PNL LWR BK	CAEModel		Working ()	60

Example 1: selection from related CAE Items/Product Items

Model Build Use Case

Define Working Context in Teamcenter

- In Teamcenter, the item selection can also be automated

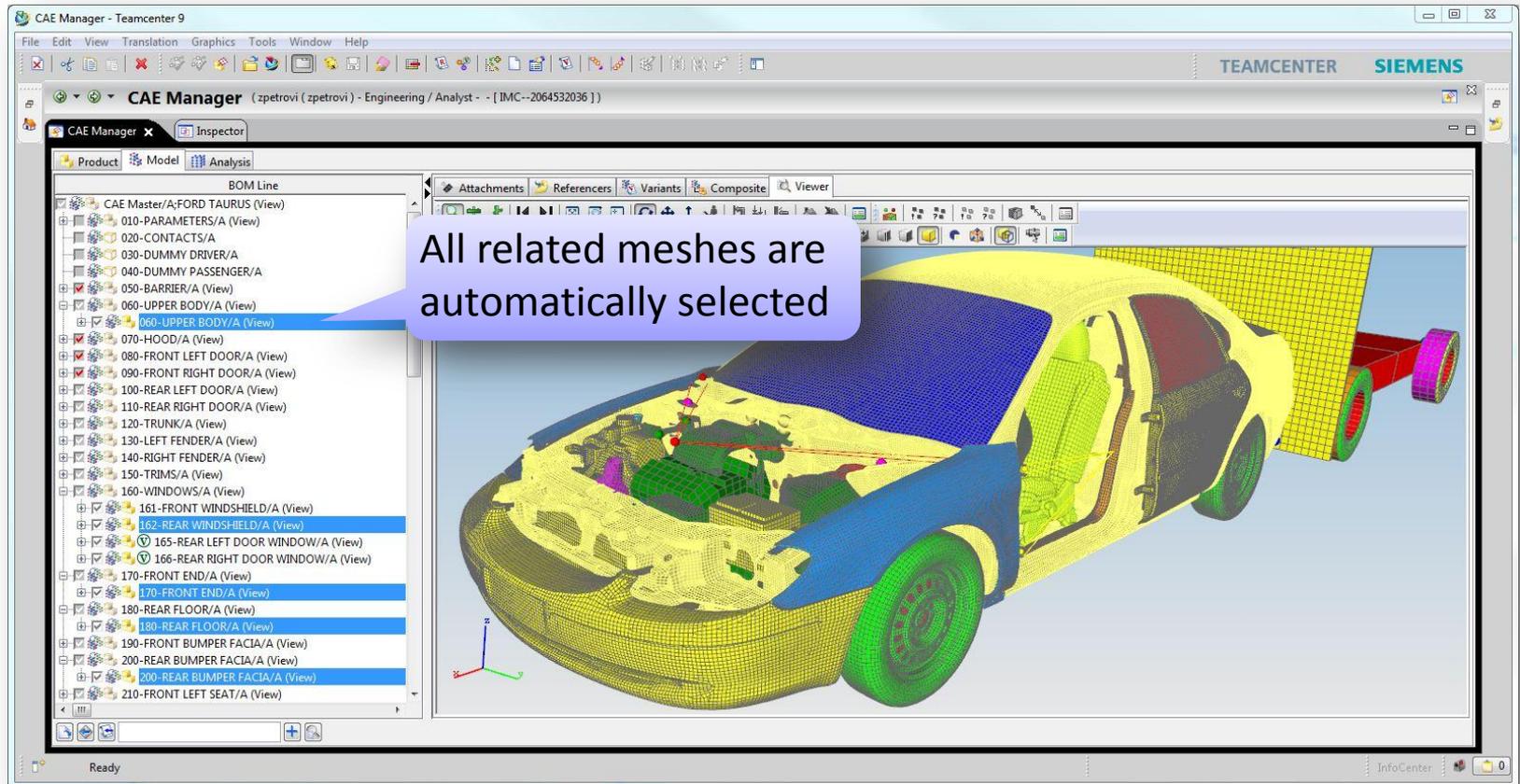


Example 3: selection based on attribute values (e.g. connected parts)

Model Build Use Case

Define Working Context in Teamcenter

- In Teamcenter, the item selection can also be automated

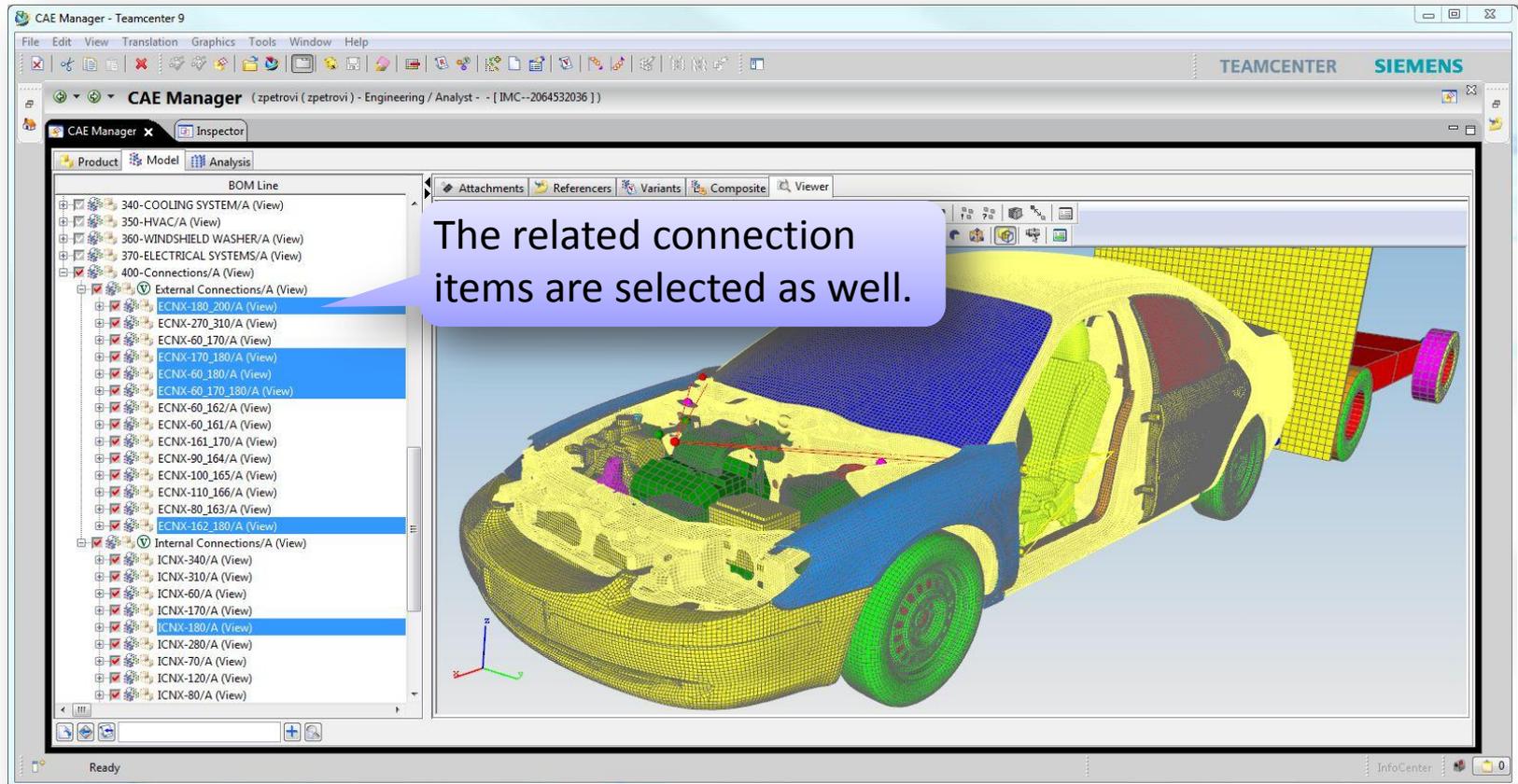


Example 3: selection based on attribute values (e.g. connected parts)

Model Build Use Case

Define Working Context in Teamcenter

- In Teamcenter, the item selection can also be automated

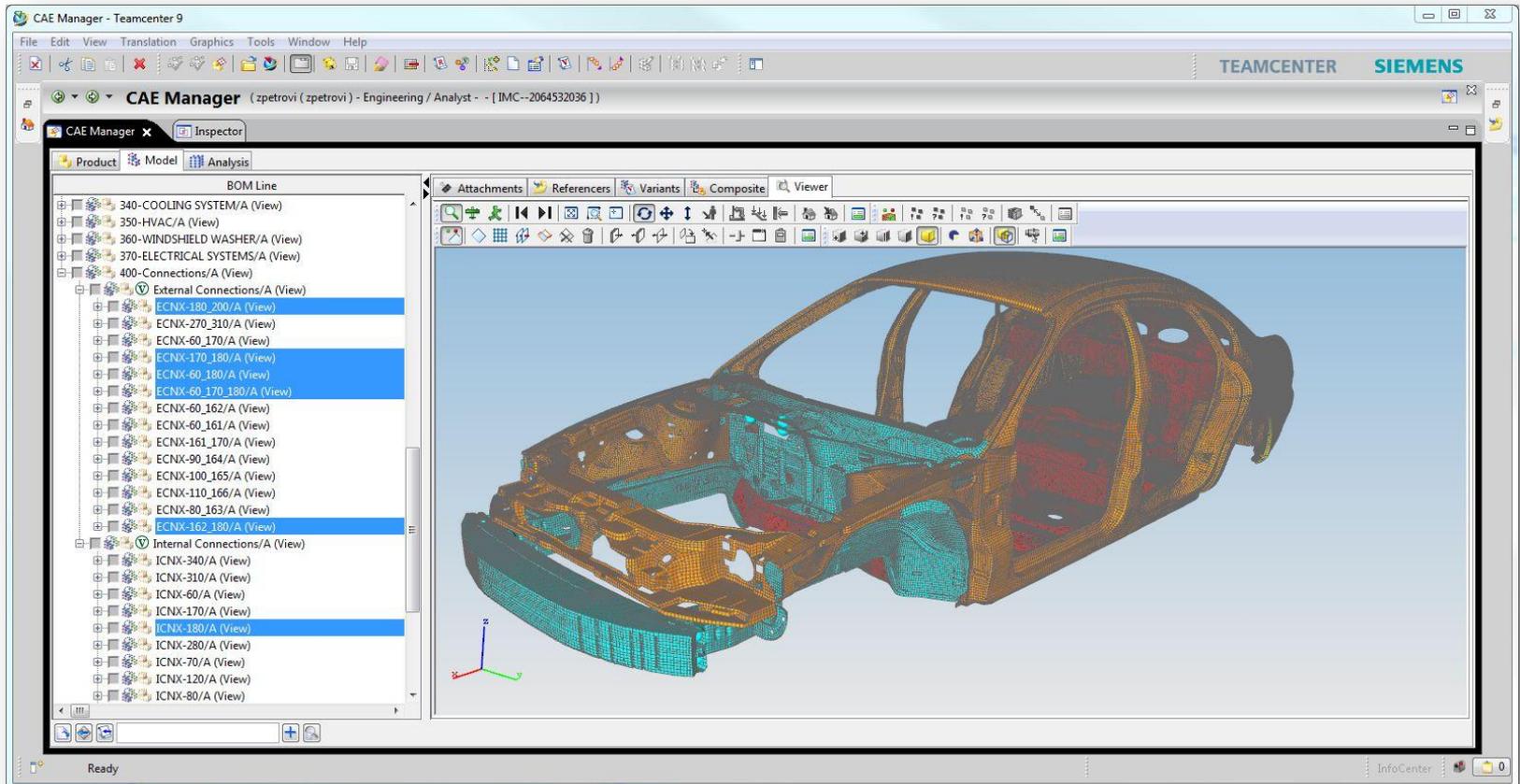


Example 3: selection based on attribute values (e.g. connected parts)

Model Build Use Case

Define Working Context in Teamcenter

- In Teamcenter, the item selection can also be automated

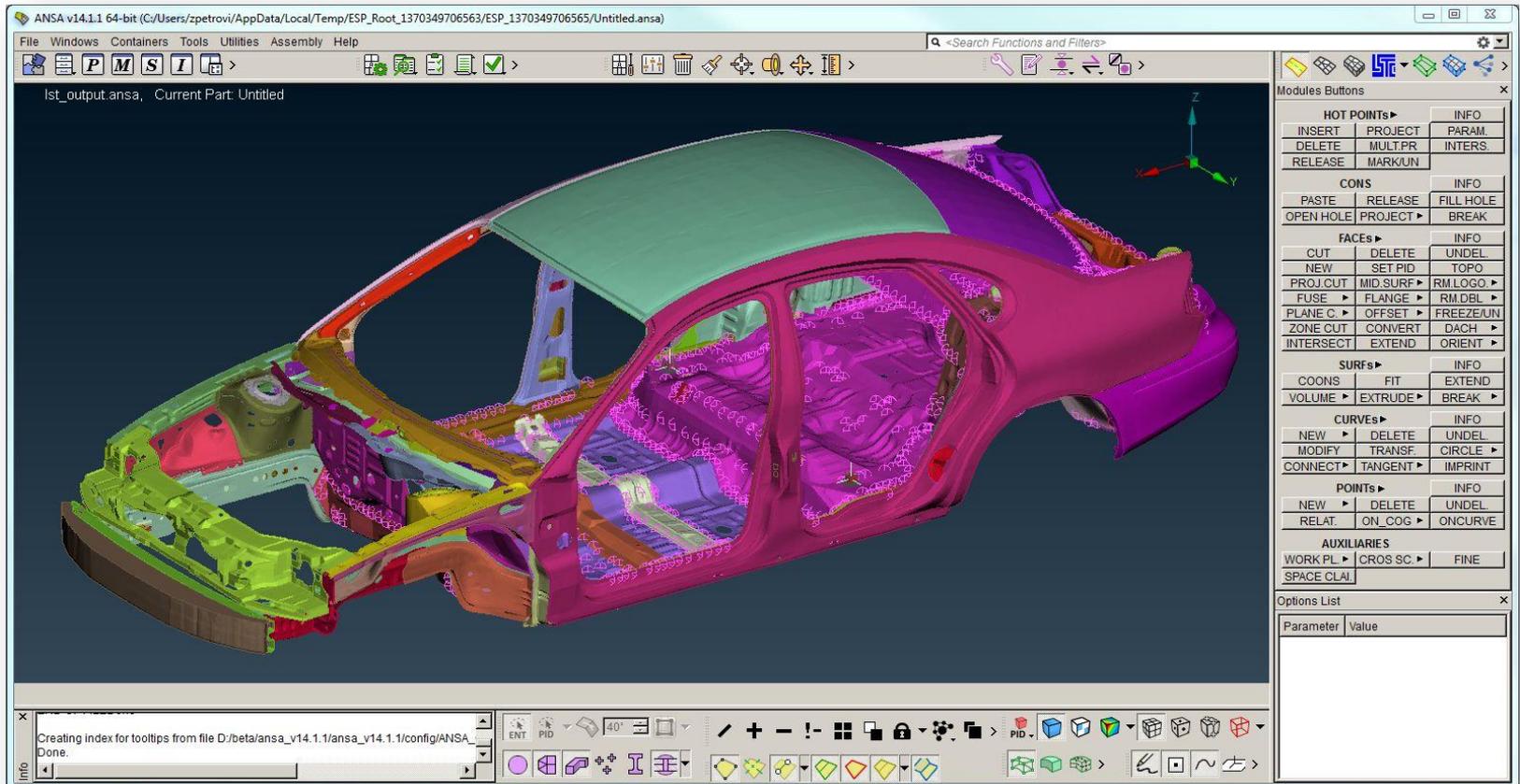


Example 3: selection based on attribute values (e.g. connected parts)

Model Build Use Case

Define Working Context in Teamcenter

- In Teamcenter, the item selection can also be automated

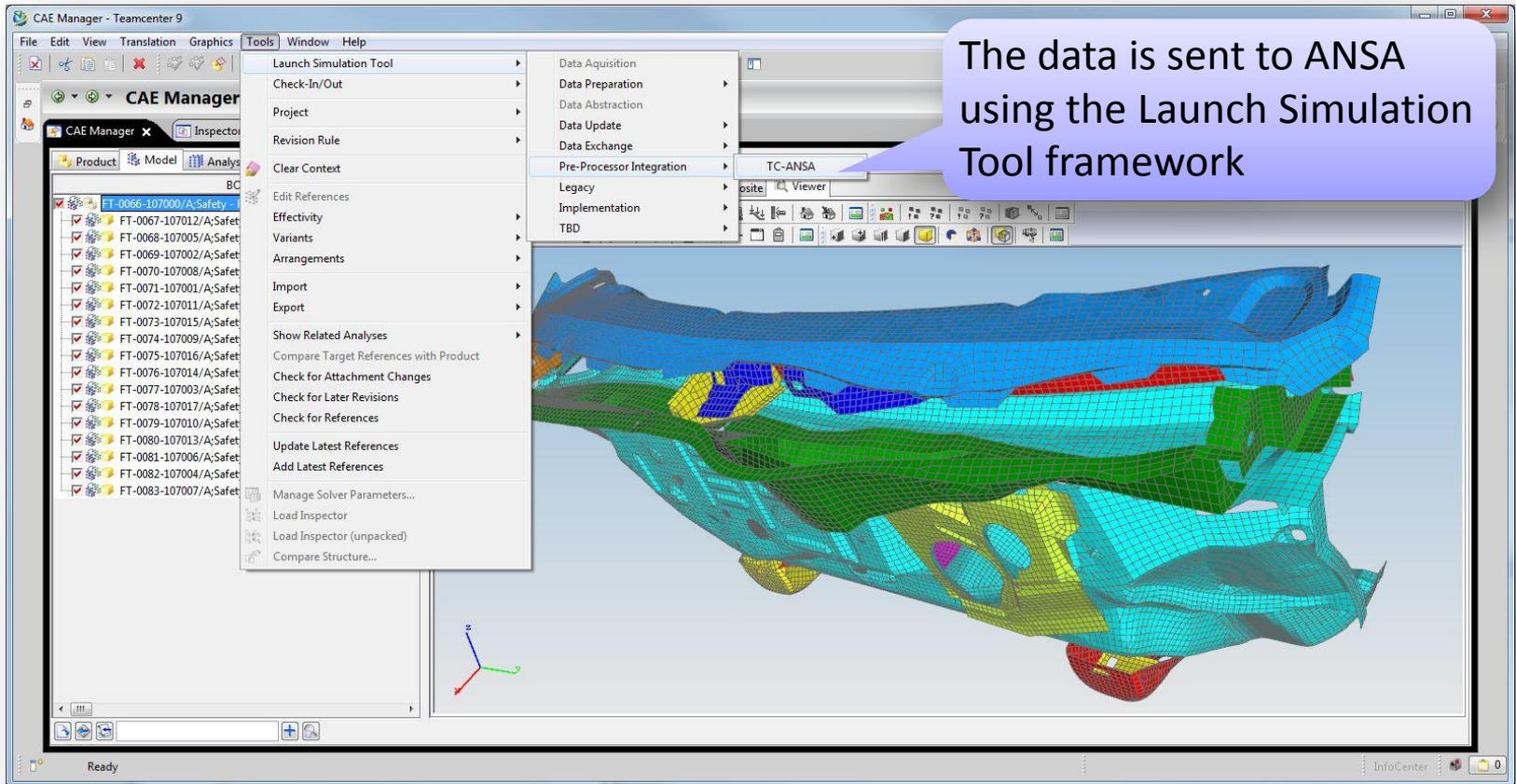


Example 3: selection based on attribute values (e.g. connected parts)

Model Build Use Case

Send Context to ANSA

- The data can be sent to ANSA synchronously or asynchronously

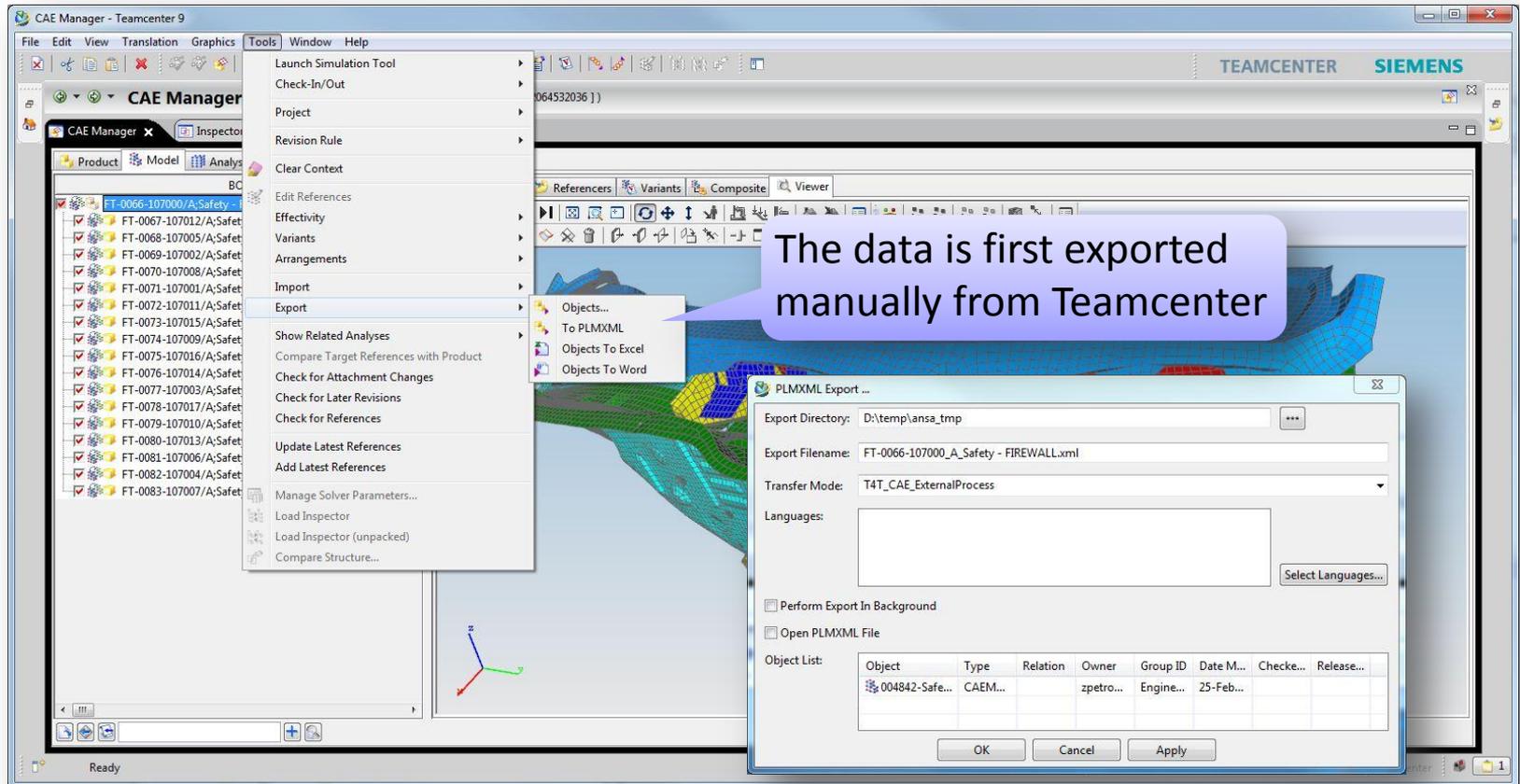


Synchronous method: Launch Simulation Tool framework

Model Build Use Case

Send Context to ANSA

- The data can be sent to ANSA synchronously or asynchronously

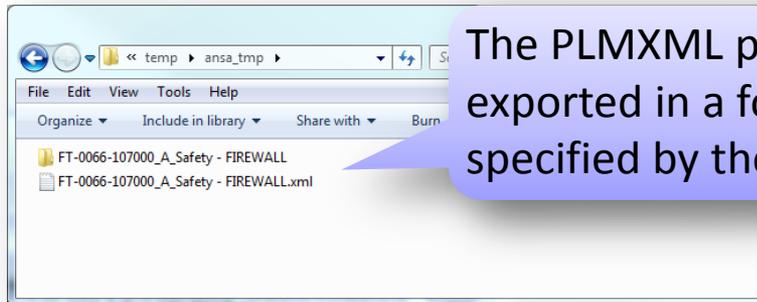


Asynchronous method

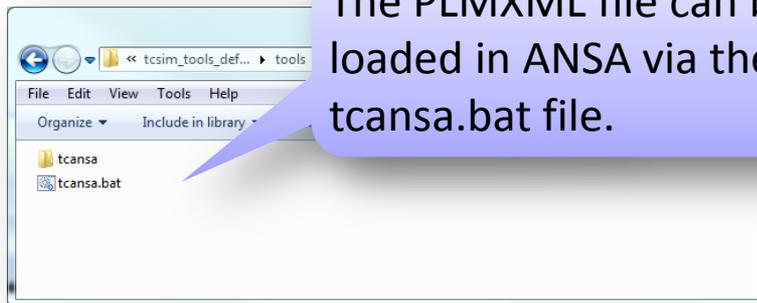
Model Build Use Case

Send Context to ANSA

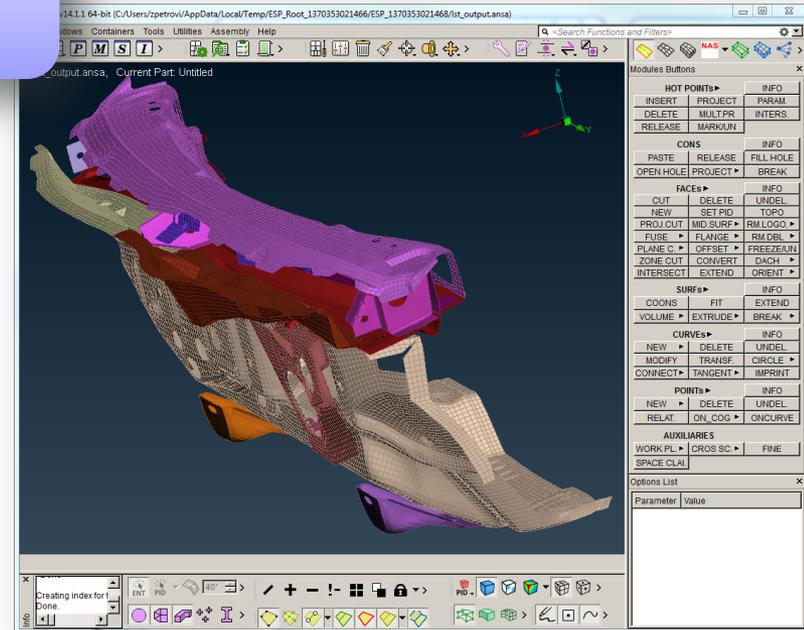
- The data can be sent to ANSA synchronously or asynchronously



The PLMXML package is exported in a folder specified by the user



The PLMXML file can be loaded in ANSA via the tcsansa.bat file.

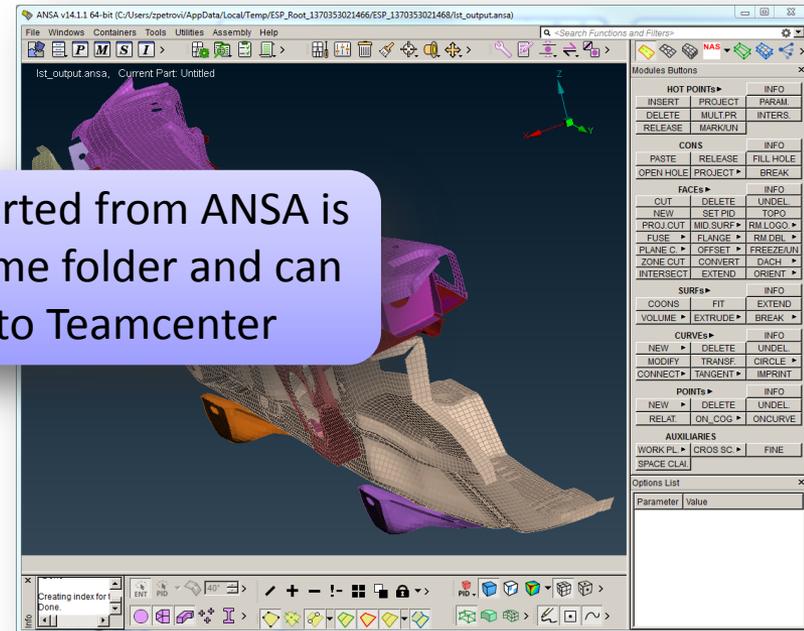
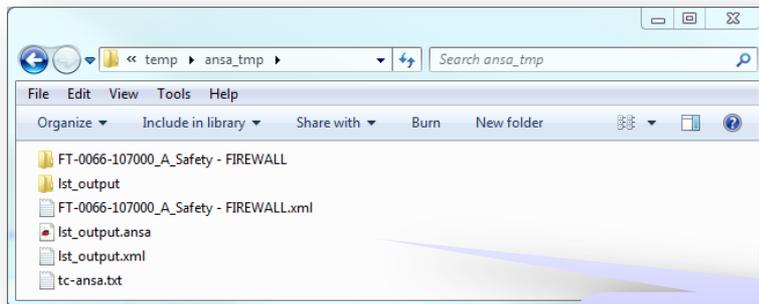


Asynchronous method

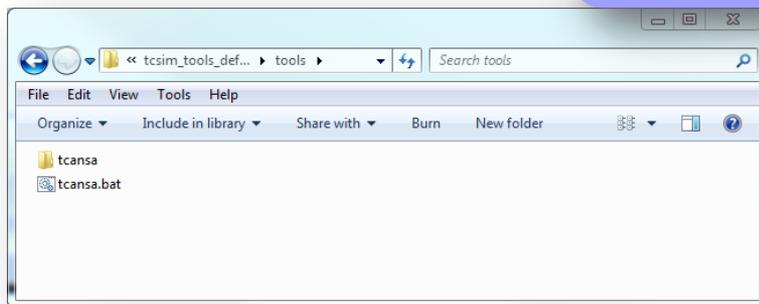
Model Build Use Case

Send Context to ANSA

- The data can be sent to ANSA synchronously or asynchronously



The PLMXML exported from ANSA is available in the same folder and can be imported back to Teamcenter



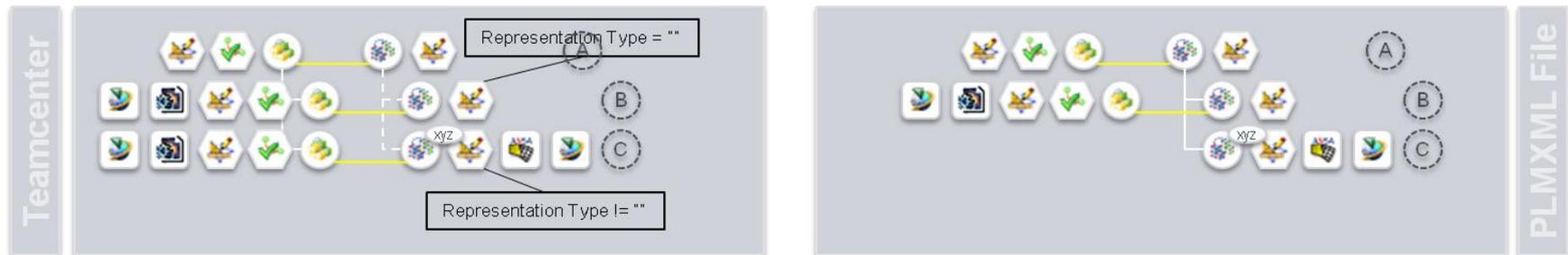
Asynchronous method

Model Build Use Case

Send Context to ANSA

- The PLMXML transfer mode used to export the PLMXML file out of Teamcenter is also trying to reduce the amount of data to be provided to ANSA based on two attributes.

Case 1: “export only the CAD datasets if the CAE Model revision contains no representation”



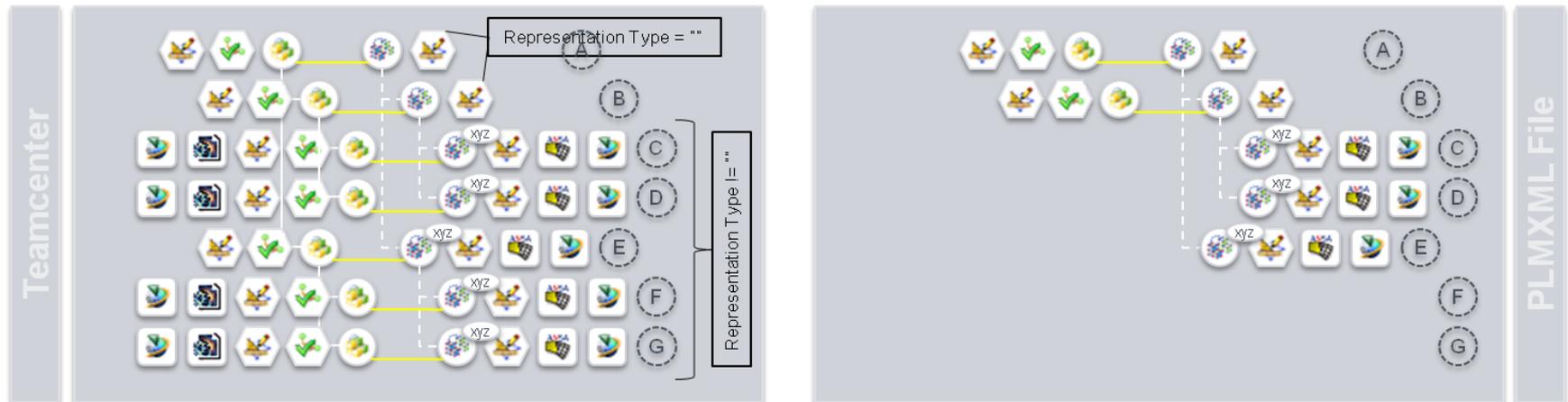
Representation Type attribute

Model Build Use Case

Send Context to ANSA

- The PLMXML transfer mode used to export the PLMXML file out of Teamcenter is also trying to reduce the amount of data to be provided to ANSA based on two attributes.

Case 2: “stop parsing a CAE structure branch once a representation is found”



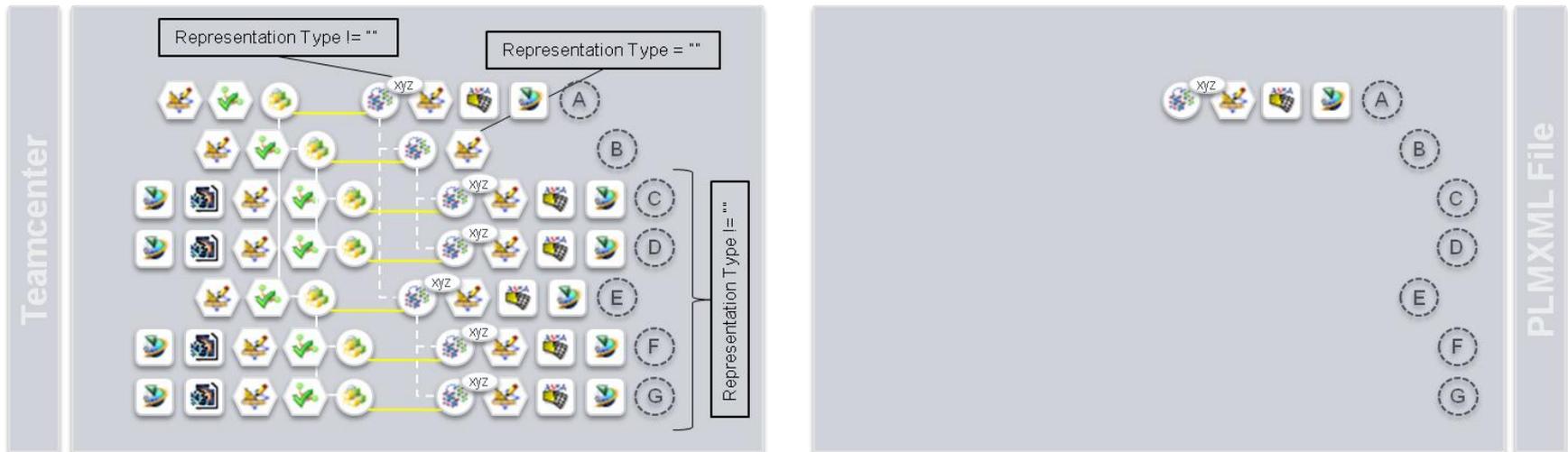
Representation Type attribute

Model Build Use Case

Send Context to ANSA

- The PLMXML transfer mode used to export the PLMXML file out of Teamcenter is also trying to reduce the amount of data to be provided to ANSA based on two attributes.

Case 3: “stop parsing a CAE structure branch once a representation is found”



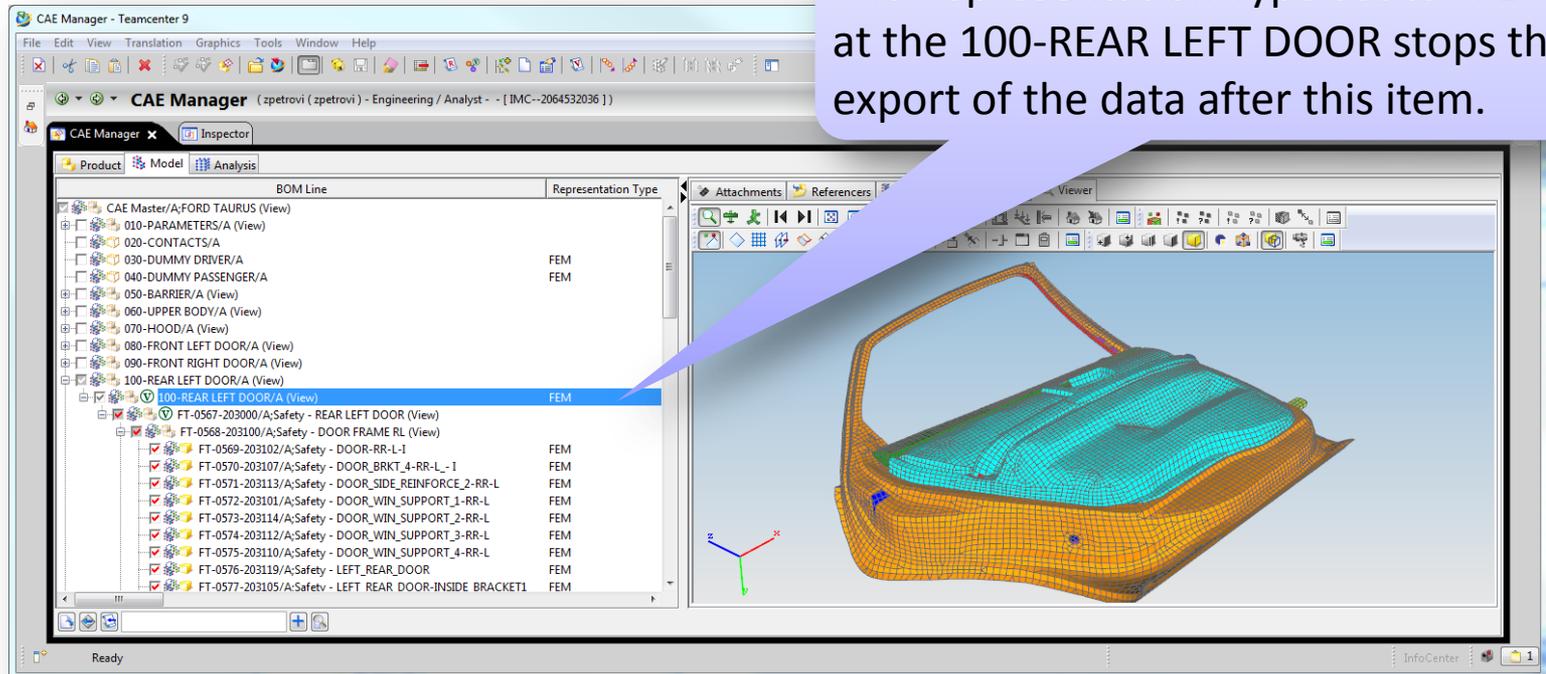
Representation Type attribute

Model Build Use Case

Send Context to ANSA

- The PLMXML transfer mode used to export the PLMXML file out of Teamcenter is also trying to reduce the amount of data to be provided to ANSA based on two attributes.

The Representation Type set to “FEM” at the 100-REAR LEFT DOOR stops the export of the data after this item.



Representation Type attribute

Model Build Use Case

Send Context to ANSA

- The PLMXML transfer mode used to export the PLMXML file out of Teamcenter is also trying to reduce the amount of data to be provided to ANSA based on two attributes.
 - The user can modify manually the value of the Representation Type attribute to influence the PLMXML export process (e.g. re-mesh a component).
 - ANSA assigns the Representation Type value to the CAE Model item revisions during the ANSA-PLMXML export.

Representation Type attribute

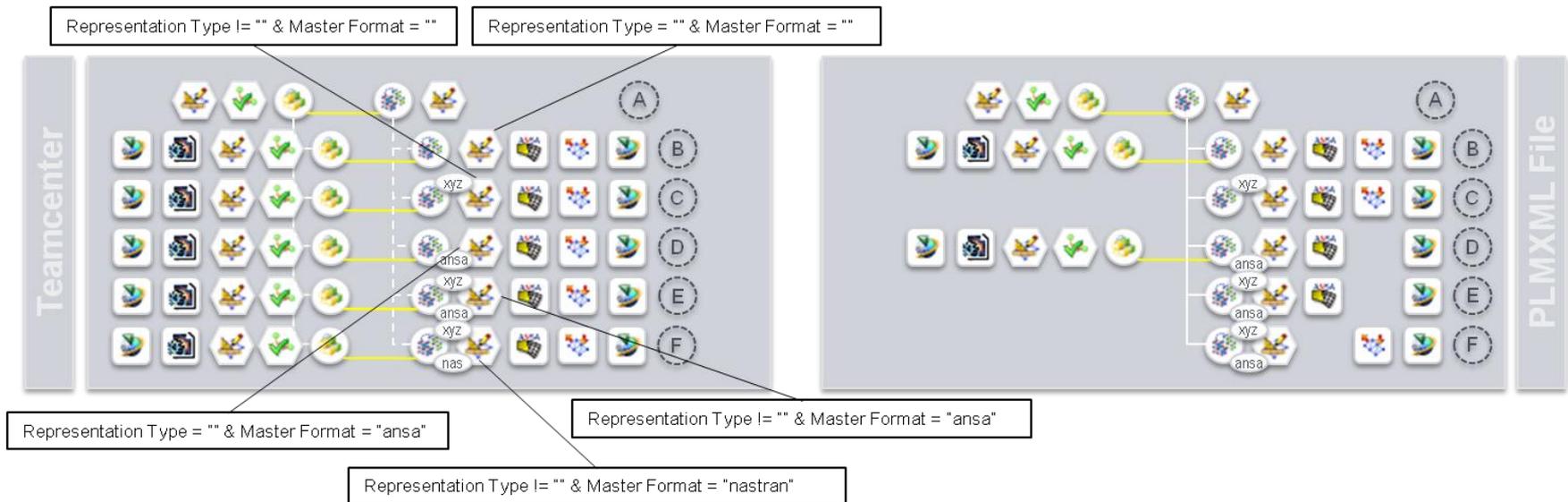


Model Build Use Case

Send Context to ANSA

- The PLMXML transfer mode used to export the PLMXML file out of Teamcenter is also trying to reduce the amount of data to be provided to ANSA based on two attributes.

Case 1: “export only specified representation formats”



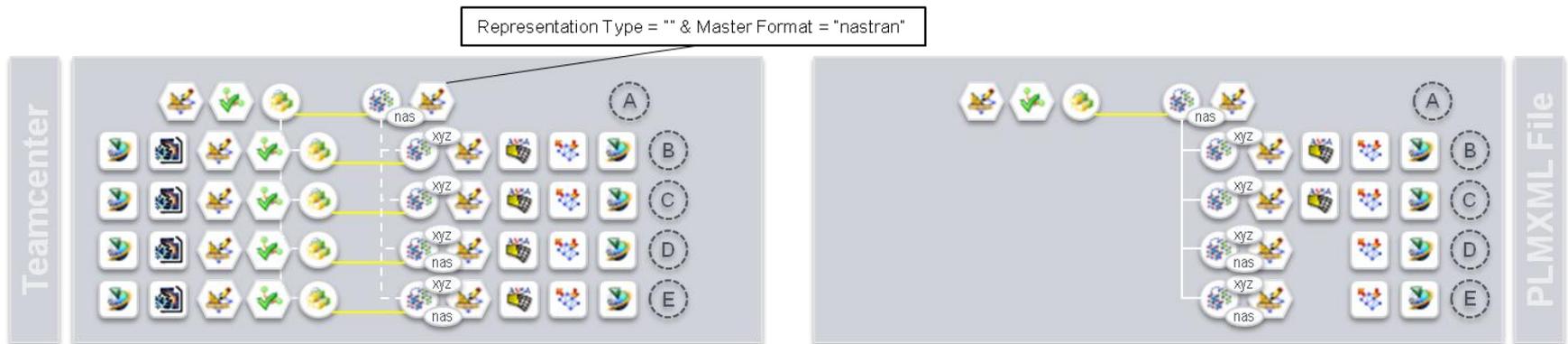
Master Format attribute

Model Build Use Case

Send Context to ANSA

- The PLMXML transfer mode used to export the PLMXML file out of Teamcenter is also trying to reduce the amount of data to be provided to ANSA based on two attributes.

Case 2: “assemble a specific format”



Master Format attribute

Model Build Use Case

Send Context to ANSA

- The PLMXML transfer mode used to export the PLMXML file out of Teamcenter is also trying to reduce the amount of data to be provided to ANSA based on two attributes.
 - The Master Format attribute is also used at the top context level to tell ANSA which format to assemble. If no value is applied, ANSA will assemble ANSA files.
 - The Master Format values of the item revision below the top context level doesn't influence the decision of the format to be assemble. It is used to filter the dataset to export and tells ANSA in which format to export the mesh representations of the children items.

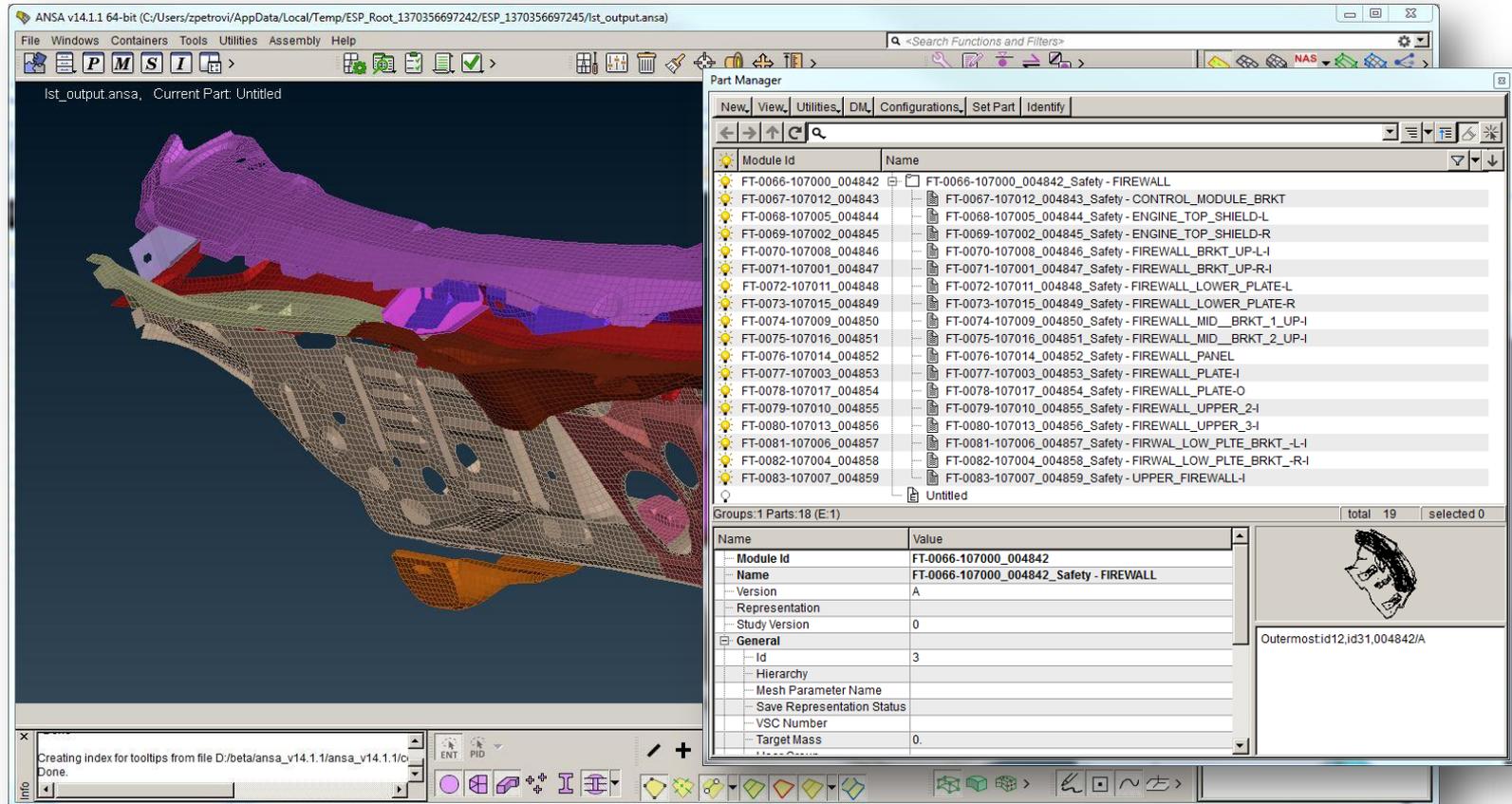
Master Format attribute



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Model Build Use Case Working in ANSA

- In ANSA the user can process to the following tasks:



Review the CAE Structure content

Model Build Use Case Working in ANSA

- In ANSA the user can process to the following tasks:

The screenshot shows the ANSA v14.1.1 64-bit interface. The Properties window is open, displaying a table of properties. The Materials window is also open, displaying a table of materials. A callout box points to the Properties window with the following text:

The CAE Engineering Properties are loaded from Teamcenter. All the changes will be propagate back to Teamcenter via PLMXML.

Id	Name	T	MID1	MID	_type_
54	FT-0080-107013_004856...	0.85	3		PSHELL
55	FT-0079-107010_004855...	0.85	7		PSHELL
56	FT-0070-107008_004846...	1.45	7		PSHELL
57	FT-0071-107001_004847...	1.37	7		PSHELL
58	FT-0074-107009_004850...	1.	7		PSHELL
59	FT-0075-107016_004851...	0.87	7		PSHELL
60	FT-0083-107007_004859...	0.65	5		PSHELL
61	FT-0076-107014_004852...	0.75	5		PSHELL
62	FT-0078-107017_004854...	1.3	7		PSHELL
63	FT-0077-107003_004853...	0.5	6		PSHELL
64	FT-0067-107012_004843...	2.08	7		PSHELL
67	FT-0072-107011_004848...	1.9	11		PSHELL
68	FT-0081-107006_004857...	3.5	7		PSHELL
70	FT-0073-107015_004849...	1.9	11		PSHELL
71	FT-0082-107004_004858...	3.5	7		PSHELL
774	FT-0069-107002_004845...	2.5	13		PSHELL
775	FT-0068-107005_004844...	2.5	12		PSHELL

Id	Name	DEFINED	E	RHO	_type_
3	EP_E210e3_Ro7890_sigy...	<input type="checkbox"/>	210000.	7.89E-9	MAT1
5	EP_E210e3_Ro7890_sigy...	<input type="checkbox"/>	210000.	7.89E-9	MAT1
6	EP_E210e3_Ro7890_sigy...	<input type="checkbox"/>	210000.	7.89E-9	MAT1
7	EP_E210e3_Ro7890_sigy...	<input type="checkbox"/>	210000.	7.89E-9	MAT1
11	EP_E210e3_Ro7890_sigy...	<input type="checkbox"/>	210000.	7.89E-9	MAT1
12	EP_E210e3_Ro7890_sigy...	<input type="checkbox"/>	210000.	7.89E-9	MAT1
13	EP_E2800_Ro1200_sigy45	<input type="checkbox"/>	2800.	1.2E-9	MAT1

Modify the CAE Engineering Properties

Model Build Use Case Working in ANSA

- In ANSA the user can process to the following tasks:

The meshing scenarios are automatically loaded based on the CAE Engineering Properties attribute values in Teamcenter

The screenshot displays the ANSA v14.1.1 64-bit interface. The main window shows a 3D model of a mechanical part. Overlaid on this are several dialog boxes:

- Batch Mesh Manager:** A table showing meshing scenarios. The 'Safety_Standard' and 'Default_Session' scenarios are listed with a status of 'Completed'.
- CAE Engineering Properties (Left):** A dialog box with the 'Discipline' set to 'Safety' and 'Material' set to 'EP_E2800_Ro1200_sigy45'. Other fields include 'Reuse Flag', 'Idealized Part', 'Representation Type' (FEM), 'Master Format', 'Quantity', and 'Structure Code'.
- CAE Engineering Properties (Right):** A dialog box with the 'Mesh Quality' set to 'Standard'. Other fields include 'Mesh Flag', 'Mesh Quality Check', 'Element', 'Node', 'Symmetric Connected Part', 'PID' (774), 'MID' (13), and 'Symmetric Connected Part'.

The 'Batch Mesh Manager' table contains the following data:

Name	Contents	Mesh Parameters	Quality Criteria	Status
<input checked="" type="checkbox"/> Safety_Standard	17			Completed
<input checked="" type="checkbox"/> Default_Session	17	Safety	Safety	Completed

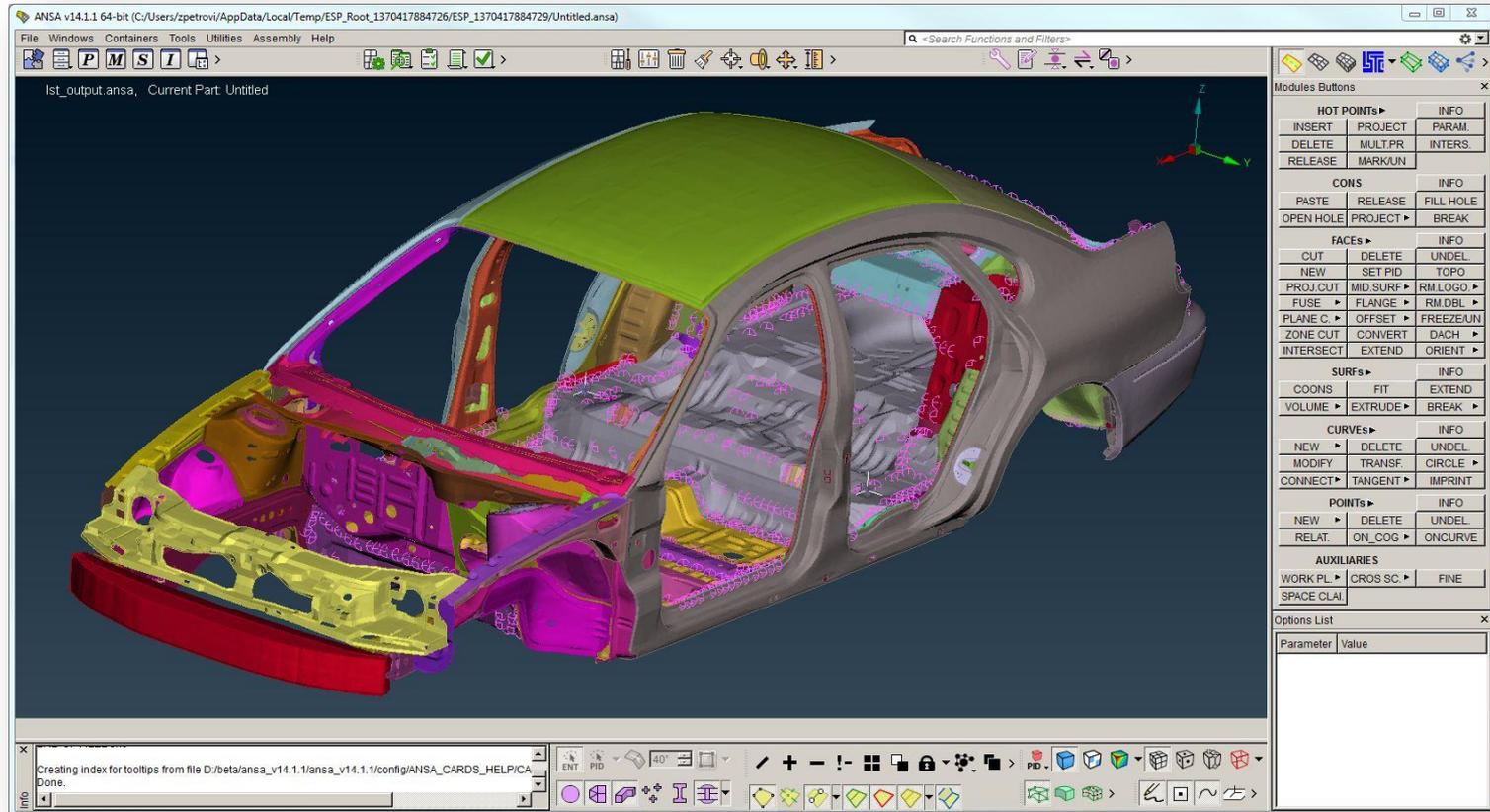
Run Batch Mesh

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Model Build Use Case Working in ANSA

- In ANSA the user can process to the following tasks:



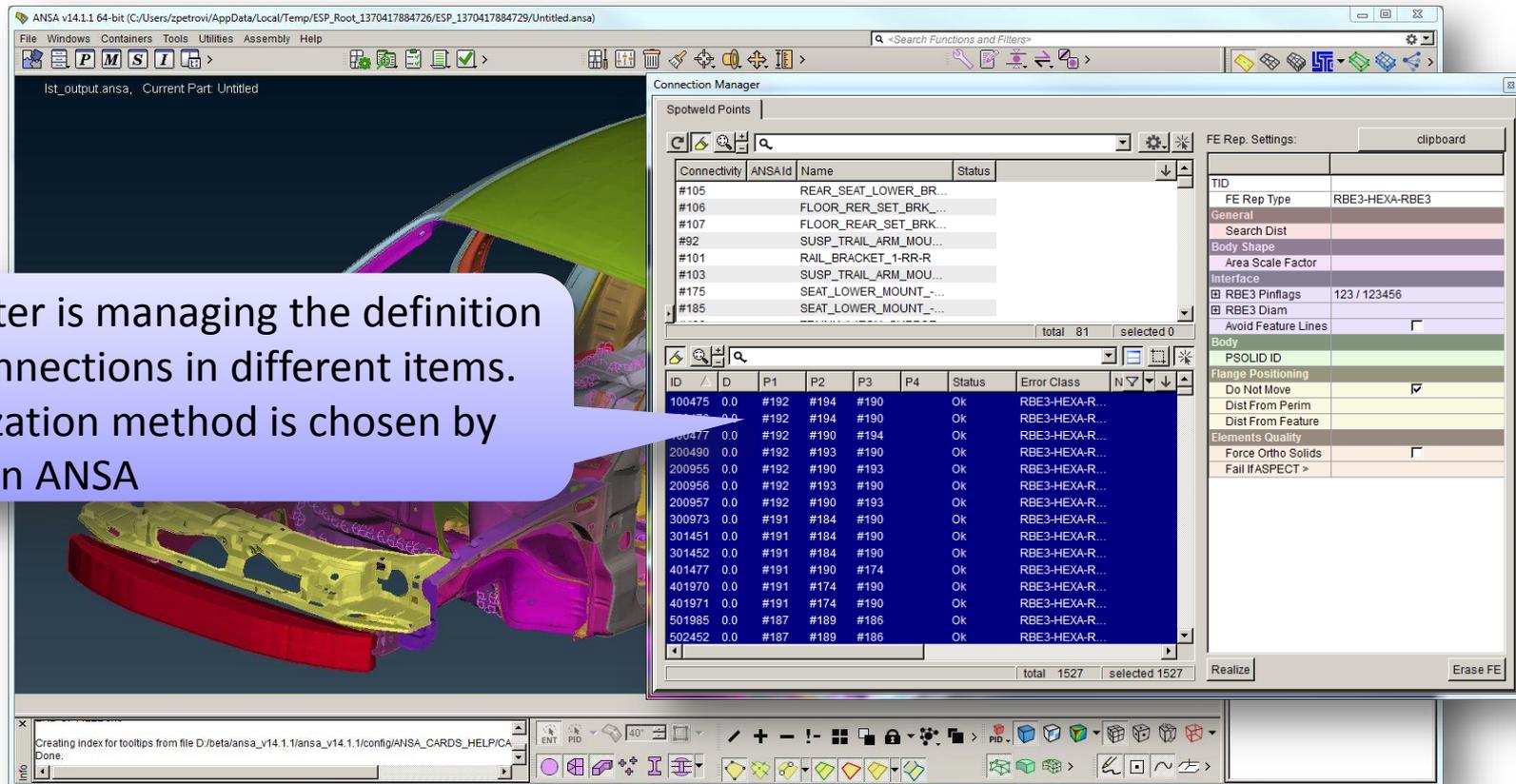
Create / Modify / Realize Connections

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Model Build Use Case Working in ANSA

- In ANSA the user can process to the following tasks:



Teamcenter is managing the definition of the connections in different items. The realization method is chosen by the user in ANSA

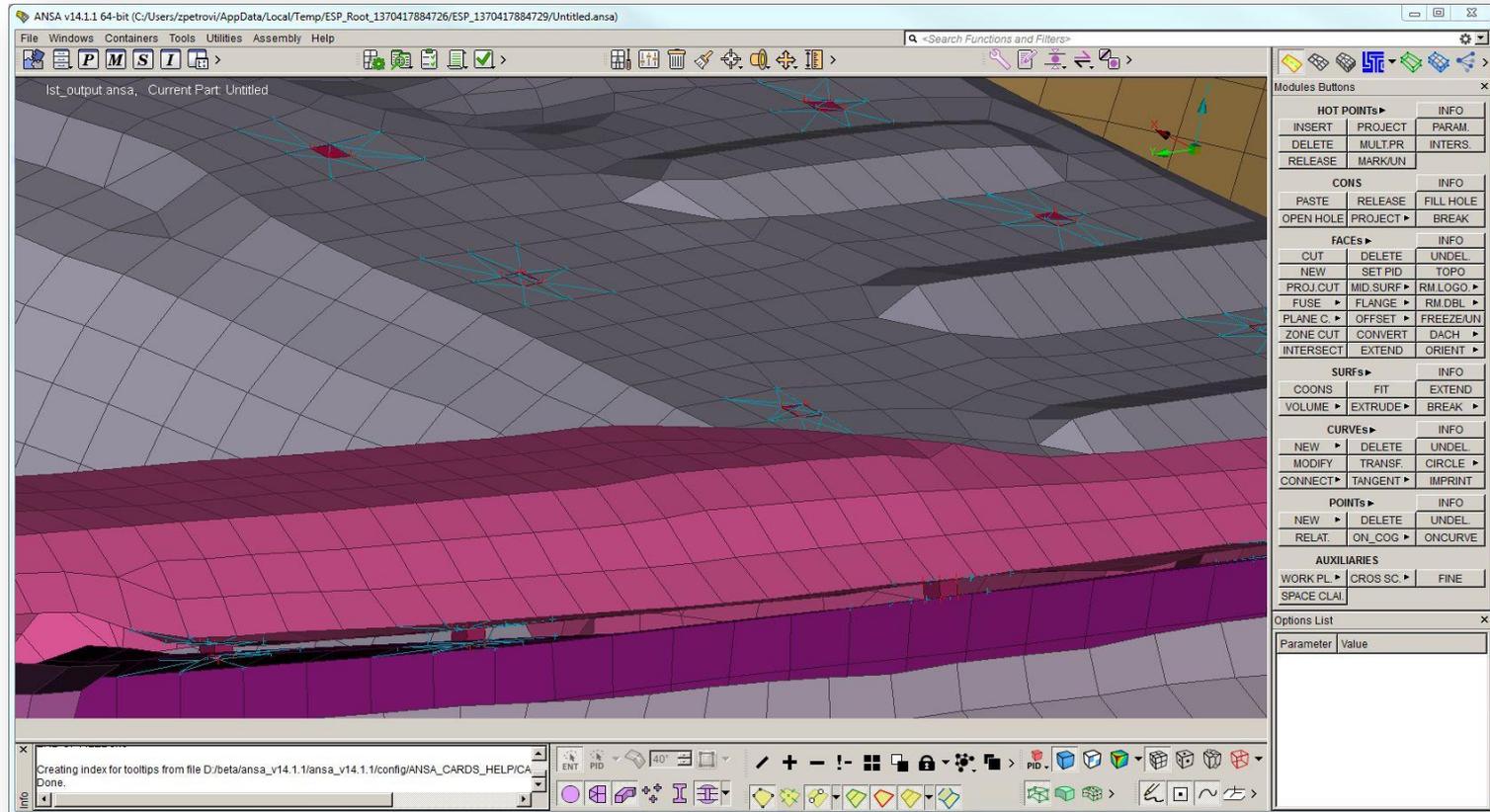
Create / Modify / Realize Connections

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Model Build Use Case Working in ANSA

- In ANSA the user can process to the following tasks:



Create / Modify / Realize Connections

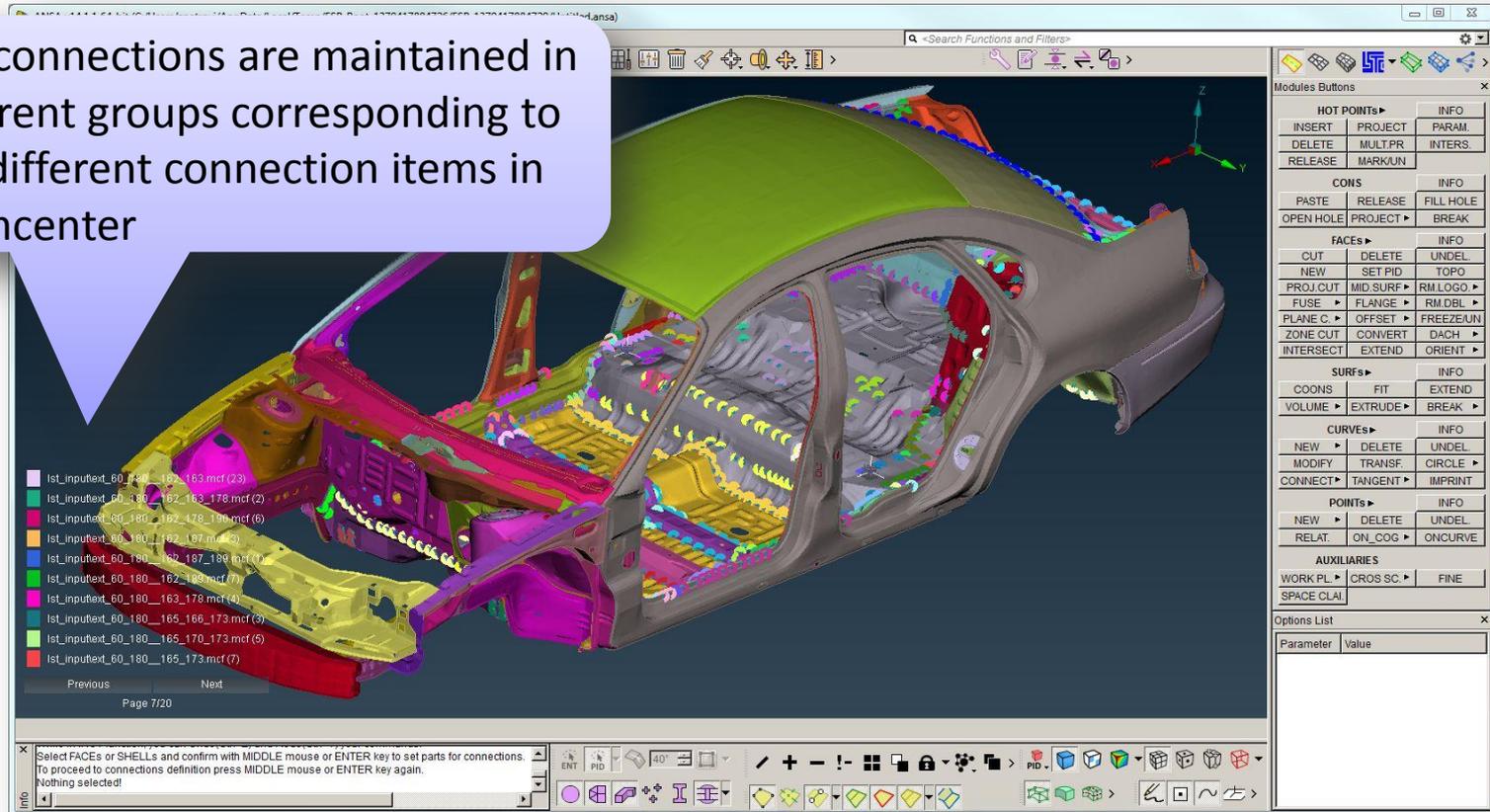
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Model Build Use Case Working in ANSA

- In ANSA the user can process to the following tasks:

The connections are maintained in different groups corresponding to the different connection items in Teamcenter



Create / Modify / Realize Connections

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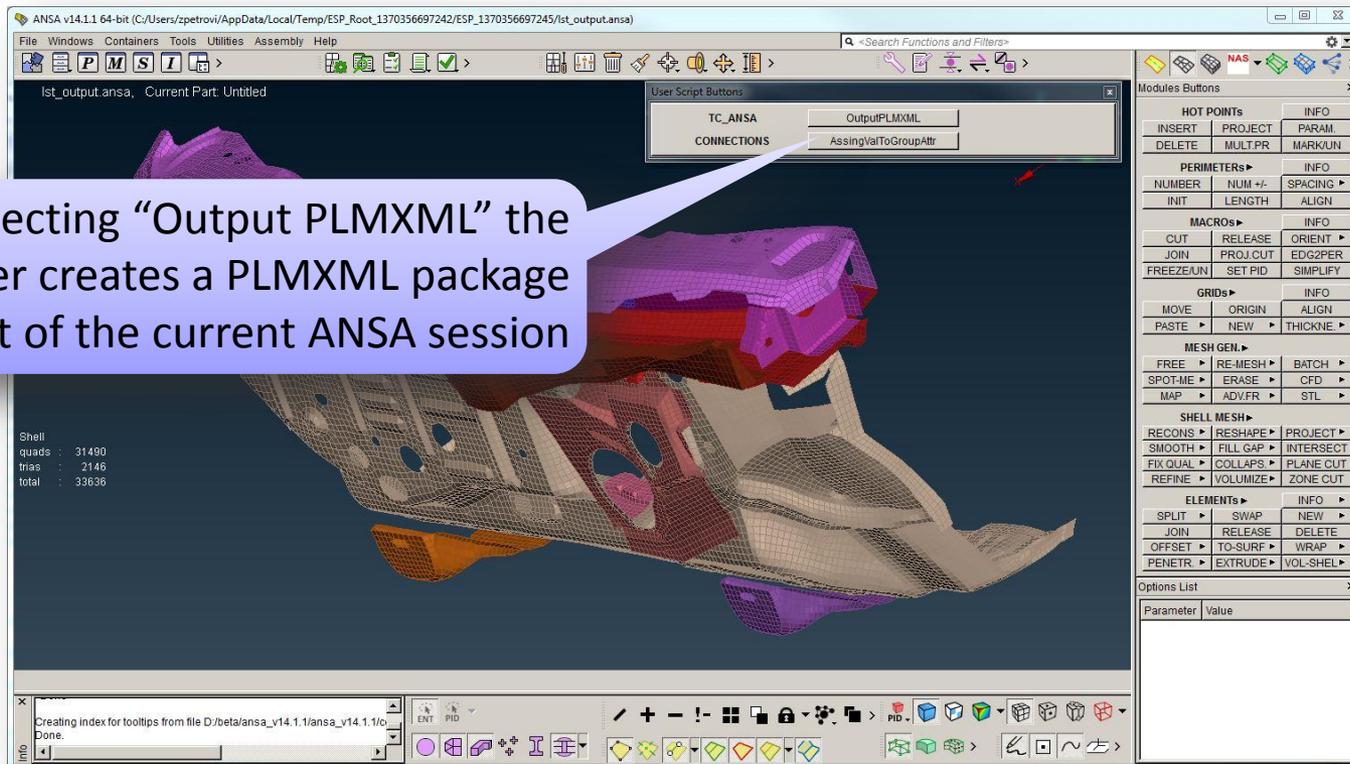
SIEMENS

Model Build Use Case

Working in ANSA

- Once the work is done, the user can provide the changes back to Teamcenter by creating a PLMXML package out of the ANSA session.

By selecting "Output PLMXML" the user creates a PLMXML package out of the current ANSA session



Model Build Use Case Back in Teamcenter

- The PLMXML package created by ANSA has uploaded the updated meshes and CAE Engineering Properties.

The screenshot shows the CAE Manager - Teamcenter 9 interface. The main window displays a table with the following columns: BOM Line, Discipline, Representation Type, Material, Thickness, PID, MID, Mesh Quality, Mesh Quality Check, and Symmetric. The table lists various parts under the 'Safety' discipline, including components like FIREWALL, CONTROL_MODULE, ENGINE_TOP_SHIELD, and FIREWALL_BRKT. The 'Mesh Quality Check' column contains failure messages such as 'failed 8,26% (MAXLENGTH-17)', 'failed 32,58% (MAXLENGTH-507)', and 'failed 11,92% (MAXLENGTH-98)'. A blue callout bubble with the text 'A mesh quality report is also created' points to the 'Mesh Quality Check' column.

BOM Line	Discipline	Representation Type	Material	Thickness	PID	MID	Mesh Quality	Mesh Quality Check	Symmetric
FT-0066-107000/A;Safety - FIREWALL (View)	Safety						Standard		
FT-0067-107012/A;Safety - CONTROL_MODULE_BR...	Safety	FEM	EP_E210e3_Ro7890_sigy300	2.08	64	7	Standard	failed 8,26% (MAXLENGTH-17)	
FT-0068-107005/A;Safety - ENGINE_TOP_SHIELD-L	Safety	FEM	EP_E210e3_Ro7890_sigy140	2.5	775	12	Standard	failed 32,58% (MAXLENGTH-507)	
FT-0069-107002/A;Safety - ENGINE_TOP_SHIELD-R	Safety	FEM	EP_E2800_Ro1200_sigy45	2.5	774	13	Standard	failed 35,32% (MAXLENGTH-408)	
FT-0070-107008/A;Safety - FIREWALL_BRKT_UP-L-I	Safety	FEM	EP_E210e3_Ro7890_sigy300	1.45	56	7	Standard	failed 2,35% (MAXLENGTH-4)	
FT-0071-107001/A;Safety - FIREWALL_BRKT_UP-R-I	Safety	FEM	EP_E210e3_Ro7890_sigy300	1.37	57	7	Standard	failed 5,00% (MAXLENGTH-12)	
FT-0072-107011/A;Safety - FIREWALL_LOWER_PLAT...	Safety	FEM	EP_E210e3_Ro7890_sigy410	1.9	67	11	Standard	failed 14,47% (MAXLENGTH-66)	
FT-0073-107015/A;Safety - FIREWALL_LOWER_PLAT...	Safety	FEM	EP_E210e3_Ro7890_sigy410	1.9	70	11	Standard	failed 14,47% (MAXLENGTH-66)	
FT-0074-107009/A;Safety - FIREWALL_MID_BRKT_1...	Safety	FEM	EP_E210e3_Ro7890_sigy300	1	58	7	Standard	failed 2,82% (MAXLENGTH-7)	
FT-0075-107016/A;Safety - FIREWALL_MID_BRKT_2...	Safety	FEM	EP_E210e3_Ro7890_sigy300	0.87	59	7	Standard	failed 14,80% (MAXLENGTH-75)	
FT-0076-107014/A;Safety - FIREWALL_PANEL	Safety	FEM	EP_E210e3_Ro7890_sigy270	0.75	61	5	Standard	failed 20,55% (MAXLENGTH-2772)	
FT-0077-107003/A;Safety - FIREWALL_PLATE-I	Safety	FEM	EP_E210e3_Ro7890_sigy340	0.5	63	6	Standard	failed 48,65% (MAXLENGTH-491)	
FT-0078-107017/A;Safety - FIREWALL_PLATE-O	Safety	FEM	EP_E210e3_Ro7890_sigy300	1.3	62	7	Standard	failed 11,92% (MAXLENGTH-98)	
FT-0079-107010/A;Safety - FIREWALL_UPPER_2-I	Safety	FEM	EP_E210e3_Ro7890_sigy300	0.85	55	7	Standard	failed 5,08% (MAXLENGTH-116)	
FT-0080-107013/A;Safety - FIREWALL_UPPER_3-I	Safety	FEM	EP_E210e3_Ro7890_sigy240	0.65	54	3	Standard	failed 17,10% (MAXLENGTH-535)	
FT-0081-107006/A;Safety - FIRWAL_LOW_PLTE_BRK...	Safety	FEM	EP_E210e3_Ro7890_sigy300	3.5	68	7	Standard	failed 0,82% (WARP-1)	
FT-0082-107004/A;Safety - FIRWAL_LOW_PLTE_BRK...	Safety	FEM	EP_E210e3_Ro7890_sigy300	3.5	71	7	Standard	failed 0,82% (WARP-1)	
FT-0083-107007/A;Safety - UPPER_FIREWALL-I	Safety	FEM	EP_E210e3_Ro7890_sigy270	0.65	60	5	Standard	failed 11,35% (MAXLENGTH-1805)	

CAE Engineering Properties



Model Build Use Case

Back in Teamcenter

- The PLMXML package created by ANSA has uploaded the updated meshes and CAE Engineering Properties.

CAE Manager - Teamcenter 9

File Edit View Translation Tools Window Help

TEAMCENTER SIEMENS

CAE Manager (zpetrovi (zpetrovi) - Engineering / Analyst - - [IMC--2064532036])

Inspector

BOM Line	Discipline	Representation Type
FT-0066-107000/A;Safety - FIREWALL (View)	Safety	
FT-0067-107012/A;Safety - CONTROL_MODULE_BRKT	Safety	FEM
FT-0068-107005/A;Safety - ENGINE_TOP_SHIELD-L	Safety	FEM
FT-0069-107002/A;Safety - ENGINE_TOP_SHIELD-R	Safety	FEM
FT-0070-107008/A;Safety - FIREWALL_BRKT_UP-L-I		FEM
FT-0071-107001/A;Safety - FIREWALL_BRKT_UP-R-I		FEM
FT-0072-107011/A;Safety - FIREWALL_LOWER_PLATE-L		FEM
FT-0073-107015/A;Safety - FIREWALL_LOWER_PLATE-R		FEM
FT-0074-107009/A;Safety - FIREWALL_MID_BRKT_1_UP-I		FEM

Line	Description	Relation	
FT-0066-107000/A;Safety - FIREWALL	Safety - FIREWALL		CAEMode
FT-0066-107000/A;1-FIREWALL		CAE Target Relation...	ItemRevis
FT-0066-107000/A		Specifications	CAE Engin
view			
004842/A		Specifications	ANSA
tc-ansa.txt	Created by: TC-ANSA	Specifications	Text

If no Representation Type is set at the top context level, a monolithic file of the assembly is created by ANSA. The format of the monolithic is defined by the Master Format attribute

A report file is also imported

Monolithic File

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SUBSTITUTE IN CONTEXT USE CASE

Substitute in Context Use Case

Load Context in Teamcenter

- This use case consists to update component meshes in an existing monolithic file. Like in the previous use case, the user loads first the context he wants to work on.

The Representation Type = "FEM" indicates the existence of a monolithic file.

The Master Format specifies the format of the monolithic file (e.g. LS-DYNA)

The screenshot displays the CAE Manager software interface. The main window shows a BOM tree with columns for BOM Line, Discipline, Representation Type, and Master Format. The top row is highlighted in blue, showing '070-HOOD/A (View)' with Discipline 'Safety', Representation Type 'FEM', and Master Format 'LSDYNA'. Below it, a tree structure lists various sub-components like 'HOOD_EXT', 'HINGES HOOD', and 'HINGES HOOD BODY_SIDE'. To the right, the 'Attachments' panel shows a list of attachments for the selected '070-HOOD/A' context, with the top entry '070-HOOD/A' circled in red. The bottom status bar indicates 'Ready'.

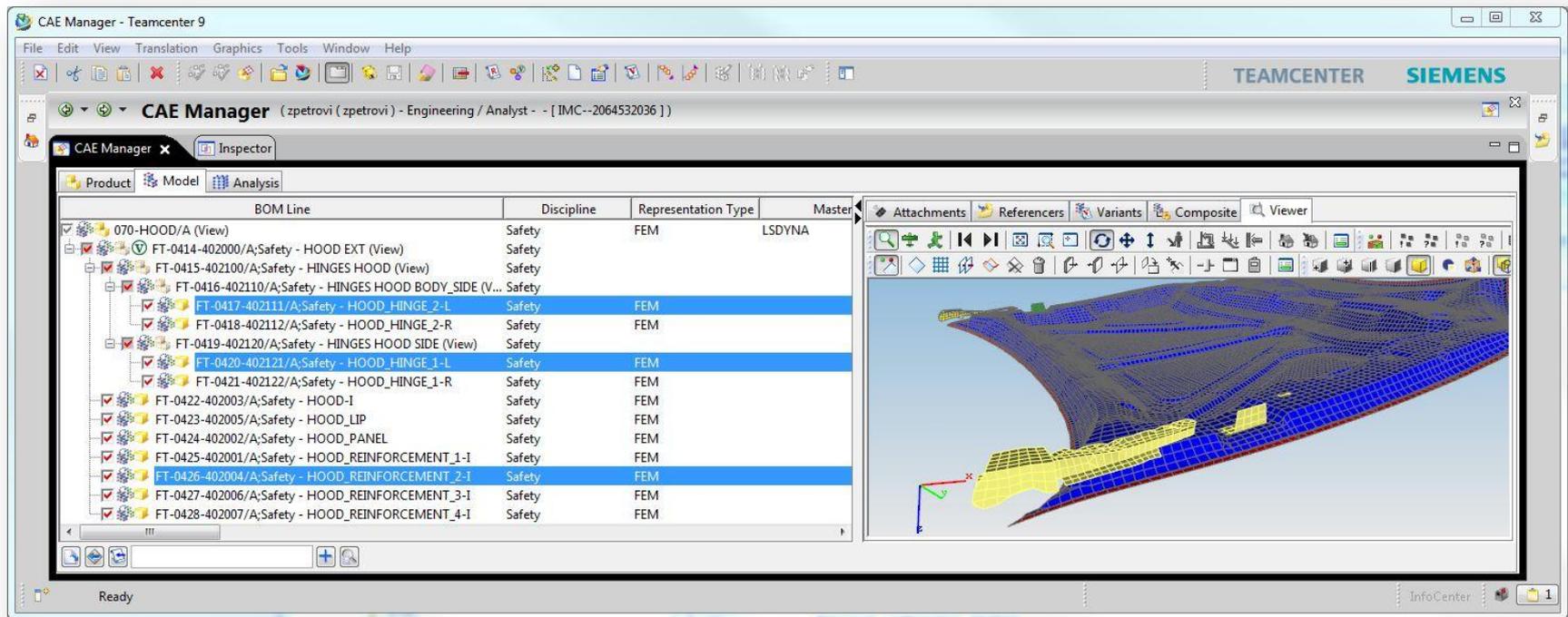
BOM Line	Discipline	Representation Type	Master Format
070-HOOD/A (View)	Safety	FEM	LSDYNA
FT-0414-402000/A;Safety - HOOD_EXT (View)	Safety		
FT-0415-402100/A;Safety - HINGES HOOD (View)	Safety		
FT-0416-402110/A;Safety - HINGES HOOD BODY_SIDE (View)	Safety		
FT-0417-402111/A;Safety - HOOD_HINGE_2-L	Safety	FEM	
FT-0418-402112/A;Safety - HOOD_HINGE_2-R	Safety	FEM	
FT-0419-402120/A;Safety - HINGES HOOD SIDE (View)	Safety		
FT-0420-402121/A;Safety - HOOD_HINGE_1-L	Safety	FEM	
FT-0421-402122/A;Safety - HOOD_HINGE_1-R	Safety	FEM	
FT-0422-402003/A;Safety - HOOD-I	Safety	FEM	
FT-0423-402005/A;Safety - HOOD_LIP	Safety	FEM	
FT-0424-402002/A;Safety - HOOD_PANEL	Safety	FEM	
FT-0425-402001/A;Safety - HOOD_REINFORCEMENT_1-I	Safety	FEM	
FT-0426-402004/A;Safety - HOOD_REINFORCEMENT_2-I	Safety	FEM	
FT-0427-402006/A;Safety - HOOD_REINFORCEMENT_3-I	Safety	FEM	
FT-0428-402007/A;Safety - HOOD_REINFORCEMENT_4-I	Safety	FEM	

Line	Description
070-HOOD/A	
070-HOOD/A	
070-HOOD/A	
View	

Substitute in Context Use Case

Defining Working Context in Teamcenter

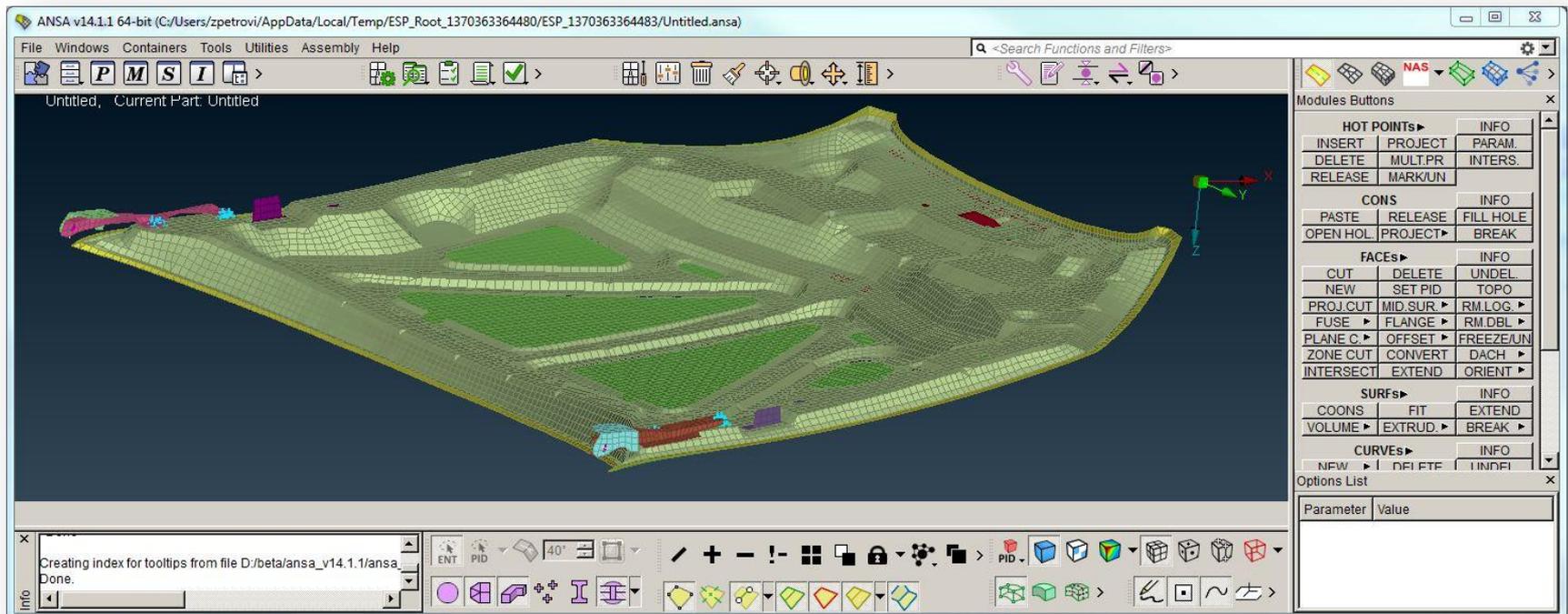
- Before sending the data to ANSA, the user selects the component he wants to replace in the monolithic file.



Substitute in Context Use Case Working in ANSA

Use case will be released in September

- During the import, the component meshes are automatically replaced in the monolithic file and the result is exposed to the user.
- The next steps are identical to the previous use case.

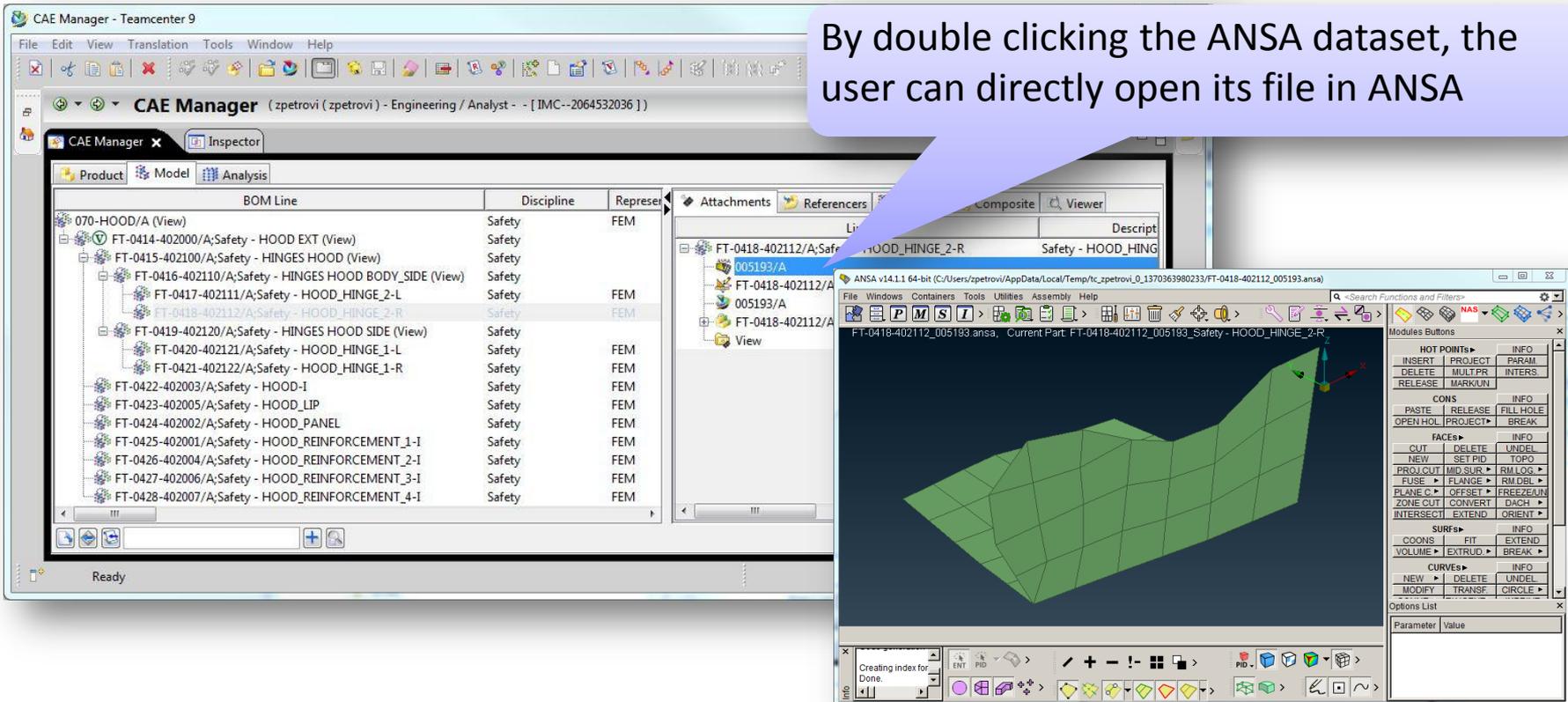


LOAD DATASET USE CASE

Load Dataset Use Case

- This use case consists to open directly an ANSA file stored in Teamcenter by double clicking its dataset.

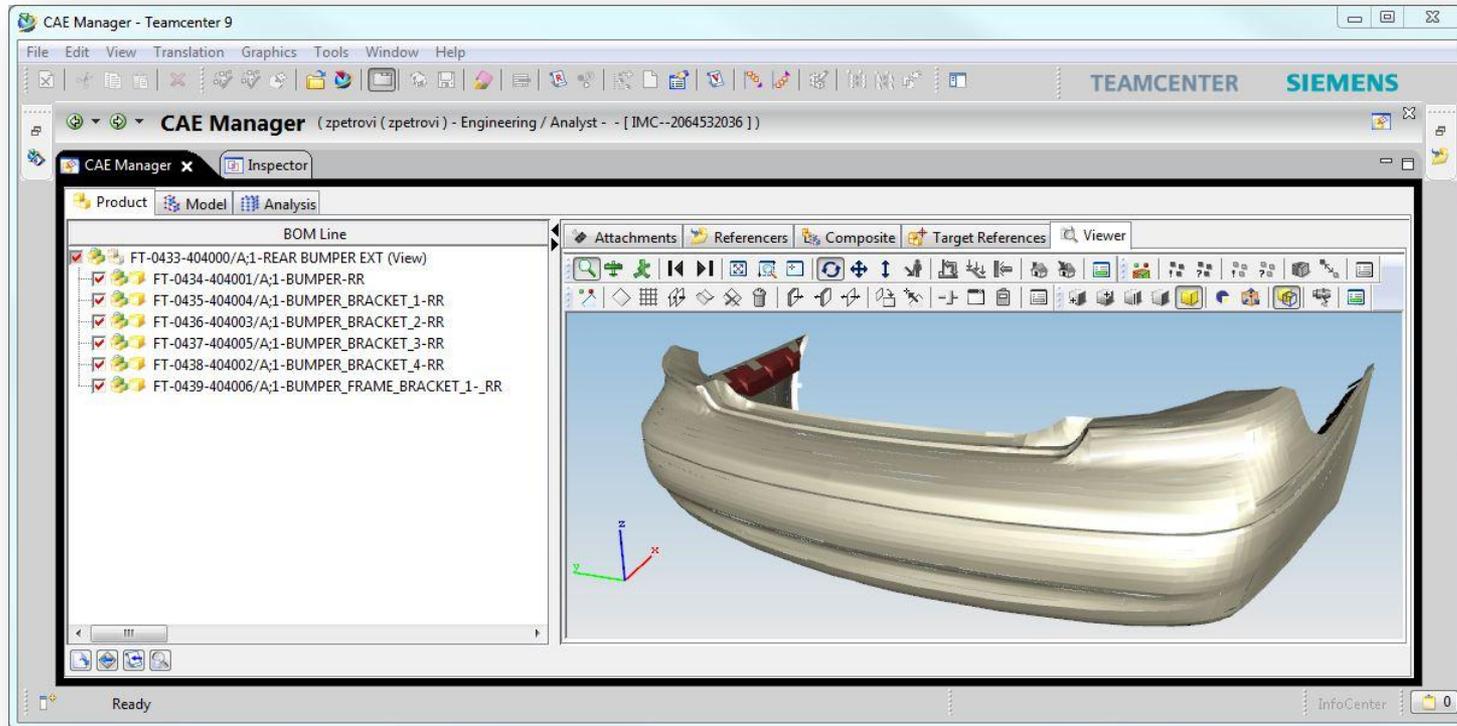
By double clicking the ANSA dataset, the user can directly open its file in ANSA



LOAD PRODUCT STRUCTURE USE CASE

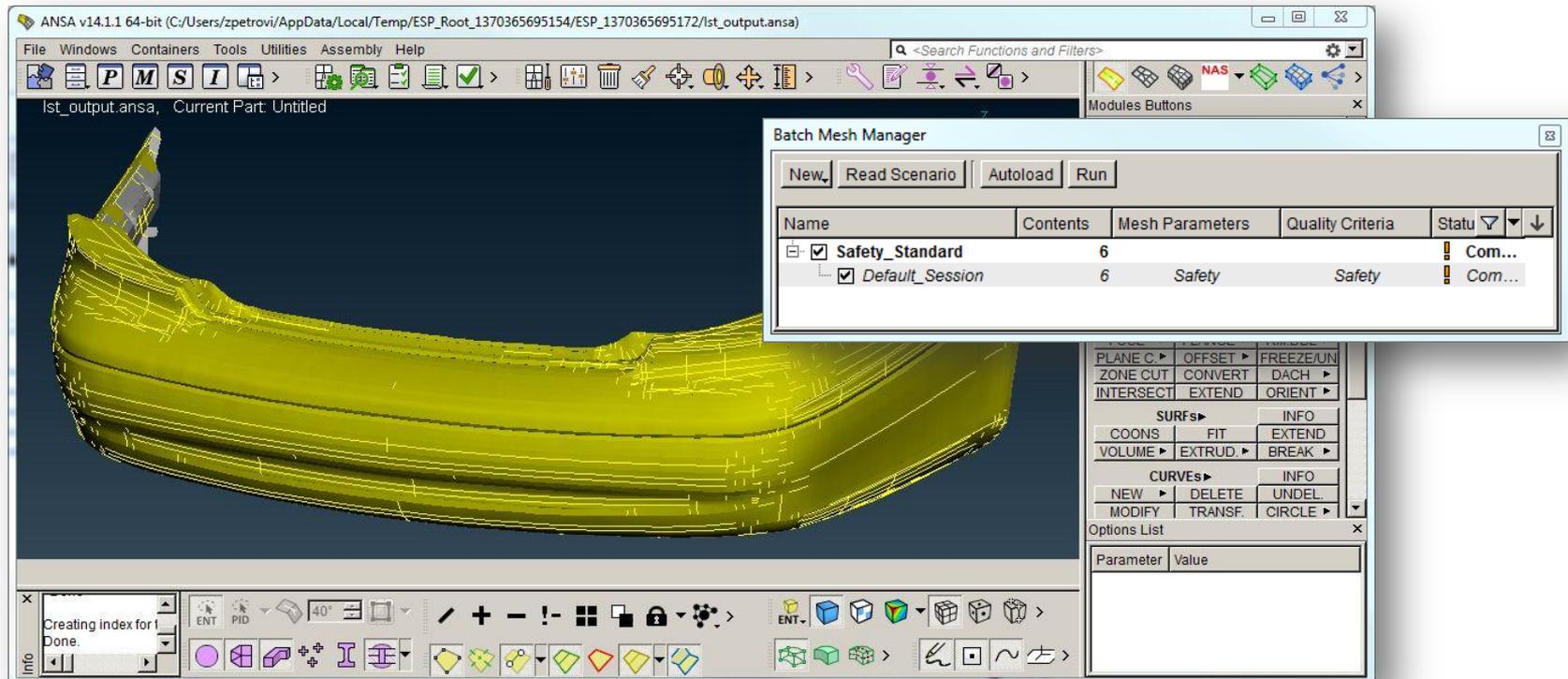
Load Product Structure Use Case

- This use case consists to open directly a Product Structure into ANSA without making use of a CAE Structure. The steps to send the data to ANSA is identical as in the first use case.



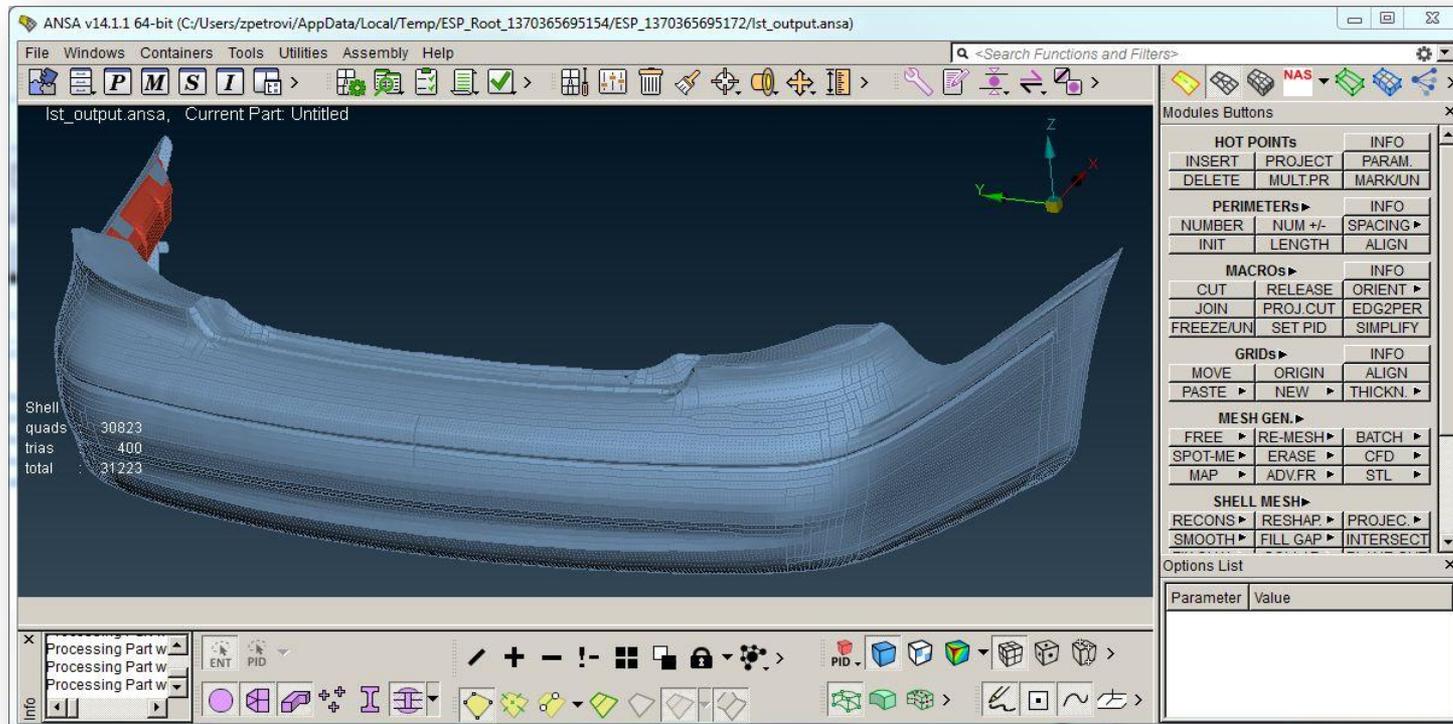
Load Product Structure Use Case

- This use case consists to open directly a Product Structure into ANSA without making use of a CAE Structure. The steps to send the data to ANSA is identical as in the first use case.



Load Product Structure Use Case

- This use case consists to open directly a Product Structure into ANSA without making use of a CAE Structure. The steps to send the data to ANSA is identical as in the first use case.



Load Product Structure Use Case

- This use case consists to open directly a Product Structure into ANSA without making use of a CAE Structure. The steps to send the data to ANSA is identical as in the first use case.
- This use case doesn't support the storage of ANSA files back to Teamcenter, as there is no CAE Structure to host them.

Thank You !