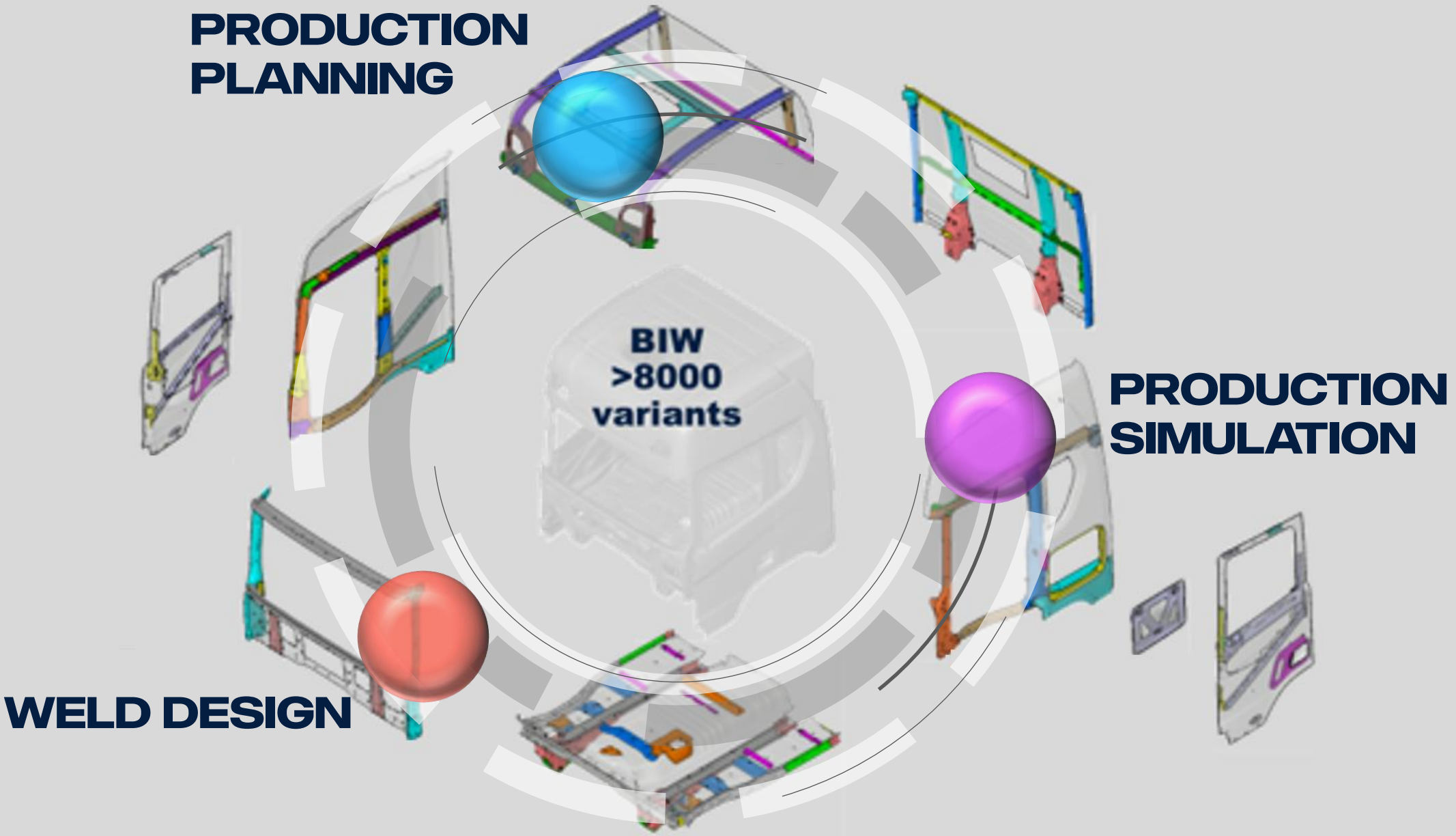
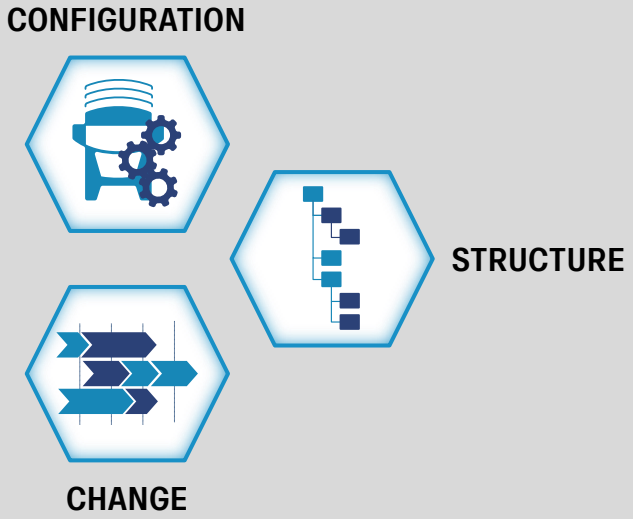
INTERMEDIATE BIW

PART OF STARLING PROJECT

SCANIA


PRODUCTION PLANNING
BIW >8000 variants
PRODUCTION SIMULATION
WELD DESIGN

Configuration Model is manually defined in 3Dexperience, based on information existing in OAS



Weld product structure is manually created in 3Dexperience based on OAS and ENOVIA input *(part version import through FBDI)*

Part Periods *(Time Effectivity)* valid for BiW is manually created in 3Dexperience based on “Master Schedule” *(Scania introduction schedule for Cab)*

OBJECTIVES

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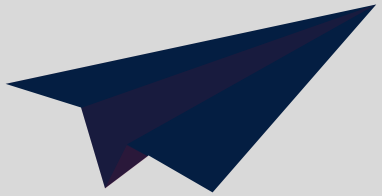
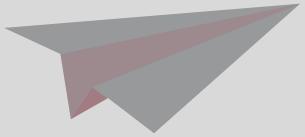
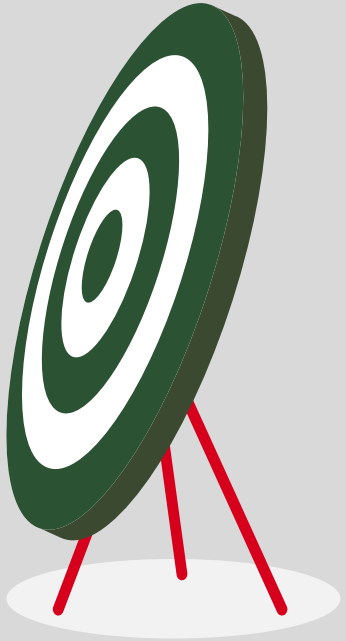
01. Support business

Improve virtual capabilities.







SCANIA

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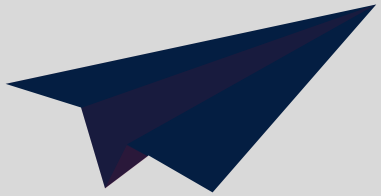
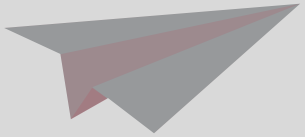
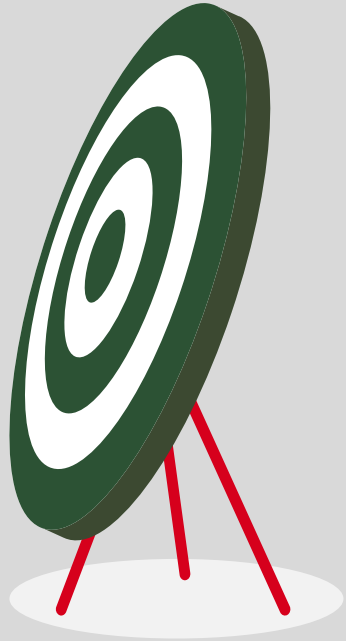
Improve virtual capabilities.





02. Reduce customization & maintenance

Decommission existing V5 solution *(heavily customized)*



01. Support business

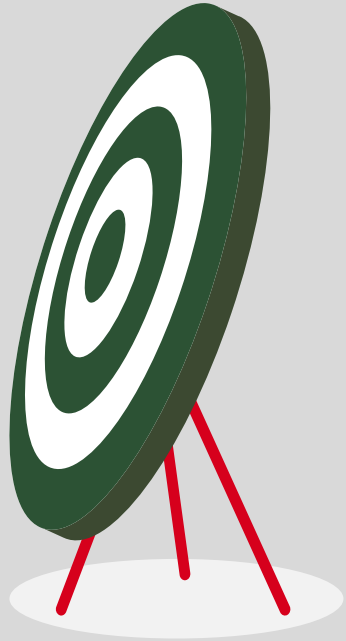
Improve virtual capabilities.

02. Reduce customization & maintenance

Decommission existing V5 solution *(large customizations)*

03. Prepare for forthcoming projects

Changes in both product and process



SCANIA

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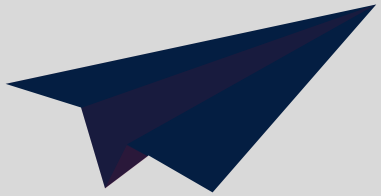
Improve virtual capabilities.



02. Reduce customization & maintenance

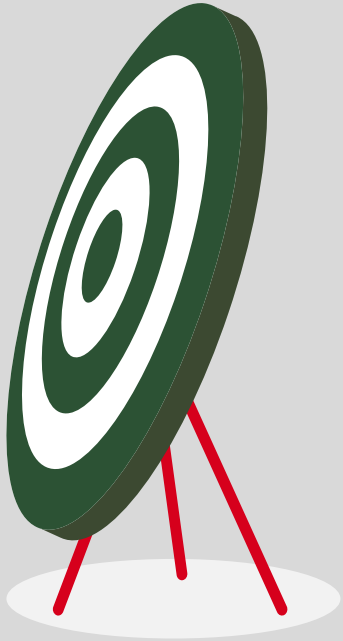
Decommission existing V5 solution *(large customizations)*

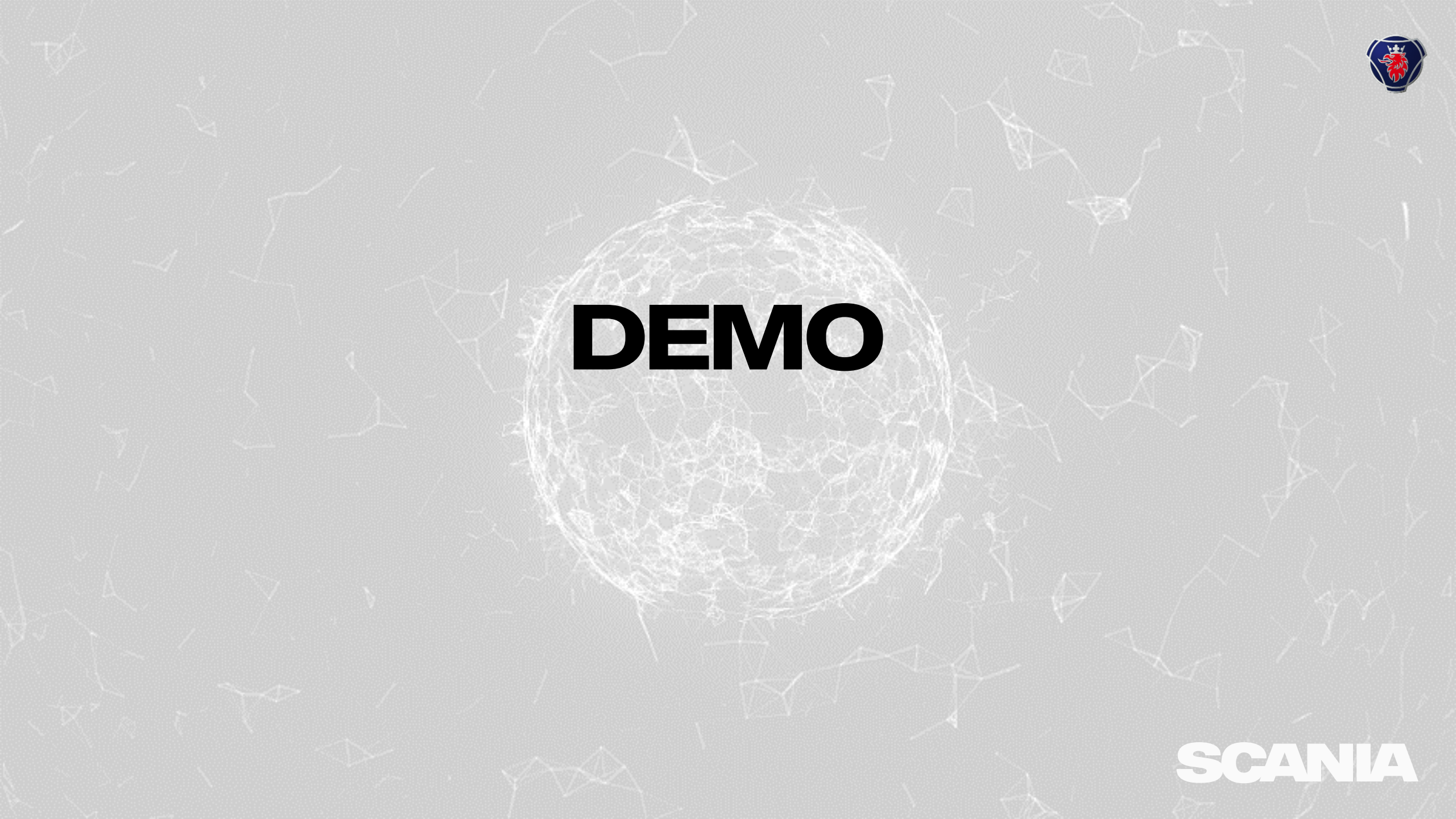
03. Prepare for forthcoming projects

Next 5 years will include major activities within BiW design and production.

04. Steppingstone for To-Be solution

Within the boundaries of BiW design and planning, build knowledge and competence to create a world class to-be solution *(connected to all production starling disciplines)*




DEMO
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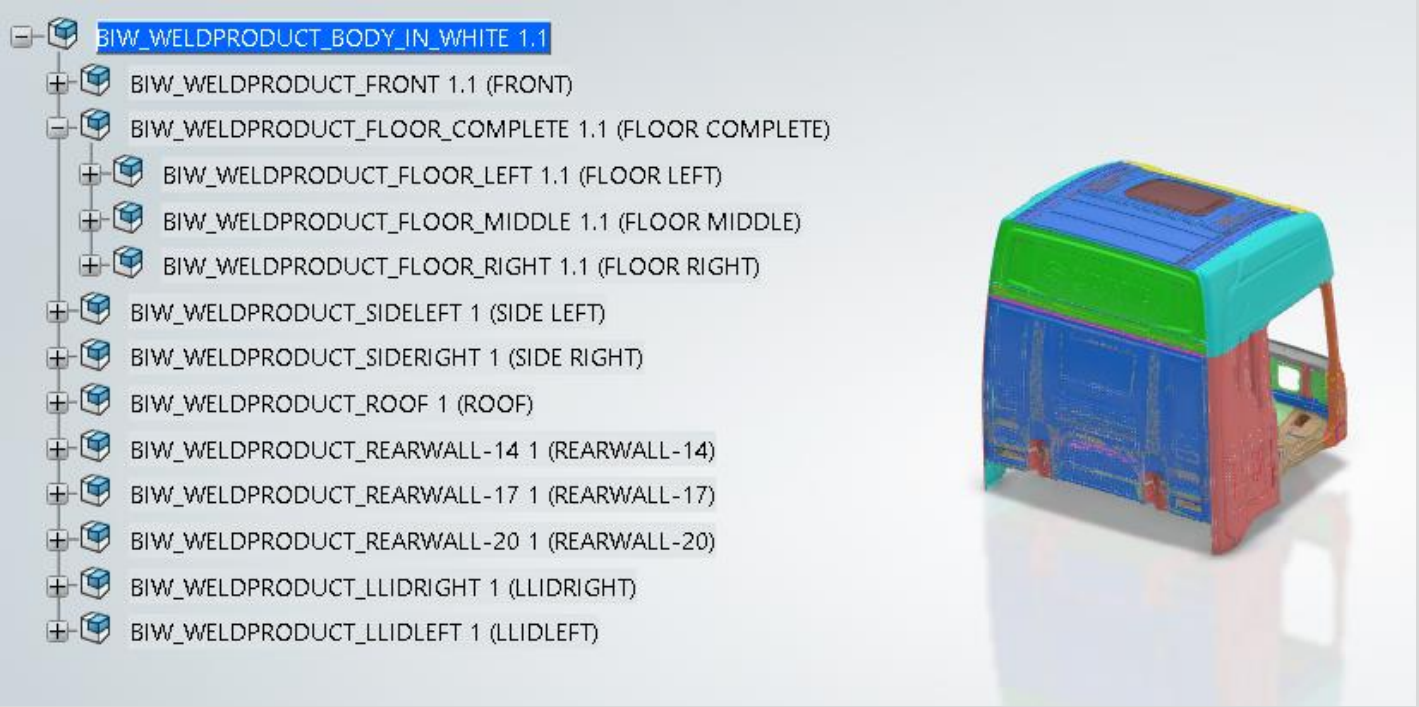
- **Part version import**
  - *All part version for the parts valid for CAB BODY is imported*
    - *Approx.. 400-part number*
    - *Approx.. 1200 instances*
  - *In migration only those parts that is valid for “today” will be connected to weld structure*
    - *The history will start with the migration*

4854 Results

	Title	Type	Description
1	1310597	Physical Product	NUT PLATE
2	1310597	Physical Product	NUT PLATE
3	1310597	Physical Product	NUT PLATE
4	1310597	Physical Product	NUT PLATE
5	1310597	Physical Product	NUT PLATE
6	1310597	Physical Product	NUT PLATE
7	1310597	Physical Product	NUT PLATE
8	1310597	Physical Product	NUT PLATE

- **Weld Product Structure**
  - *One generic structure with all components*
    - *12 Components*
    - *2 “assembly” components*
  - *Instantiated part version with variant and time effectivity*
  - *Positioned in CAB ZERO*



In picture Doors missing and Rear Wall have ben divided in 3 separate components to manage the different lengths

	Title	Name	Type
1	Configuration Model BiW	MV-00000001	Model Version
2	Period 2016.07.4	MV-00000001	Model Version
3	Period 2016.10.1	MV-00000001	Model Version
4	Period 2016.12.4	MV-00000001	Model Version
5	Period 2017.01.3	MV-00000001	Model Version
6	Period 2017.06.4	MV-00000001	Model Version
7	Period 2017.09.2	MV-00000001	Model Version
8	Period 2017.10.1	MV-00000001	Model Version
9	Period 2018.01.4	MV-00000001	Model Version
10	Period 2018.03.4	MV-00000001	Model Version
11	Period 2018.04.2	MV-00000001	Model Version
12	Period 2018.07.4	MV-00000001	Model Version
13	Period 2018.09.4	MV-00000001	Model Version
14	Period 2018.10.2	MV-00000001	Model Version
15	Period 2019.02.2	MV-00000001	Model Version
16	Period 2019.09.2	MV-00000001	Model Version
17	Period 2019.11.2	MV-00000001	Model Version
18	Period 2019.11.4	MV-00000001	Model Version
19	Period 2020.05.2	MV-00000001	Model Version
20	Period 2020.09.4	MV-00000001	Model Version

- **Configuration Model**
  - *Scania for Intermediate BiW have decided to use model version as time effectivity mimicking our product introduction process. No explicit dates is set on any structure*
  - *Only part periods that are valid for BiW will be added*
  - *Make it possible to add and remove variant values at specific part periods if needed*

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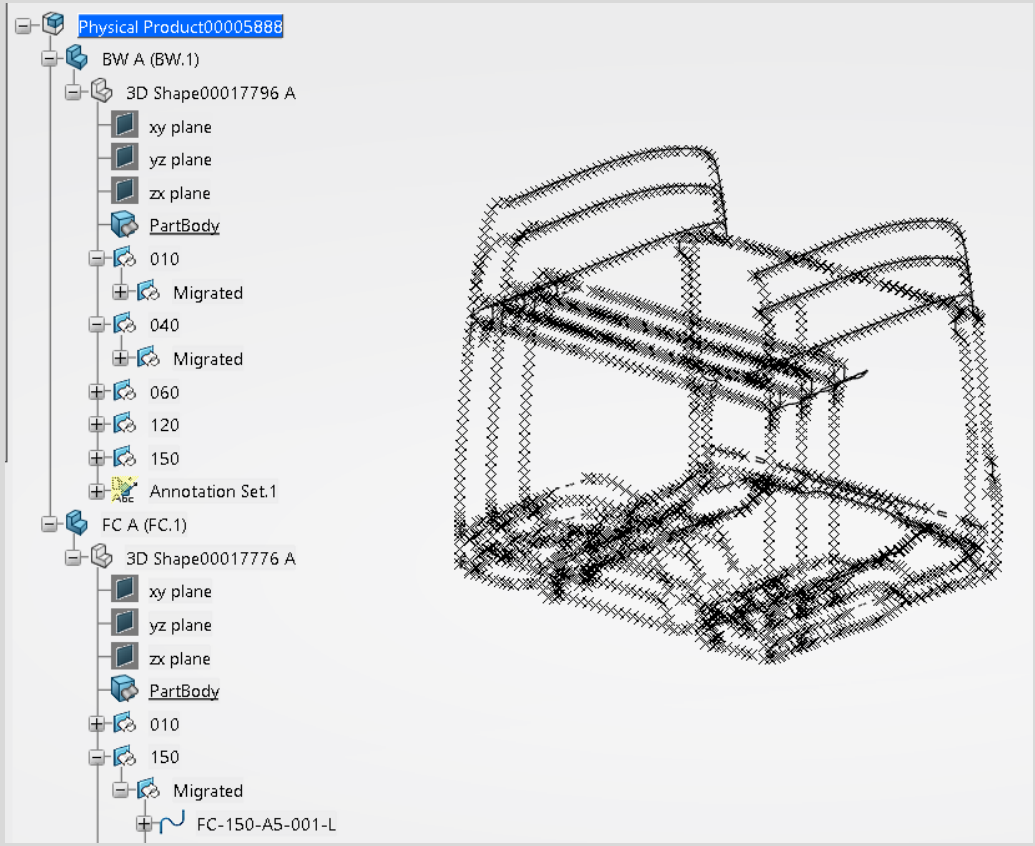
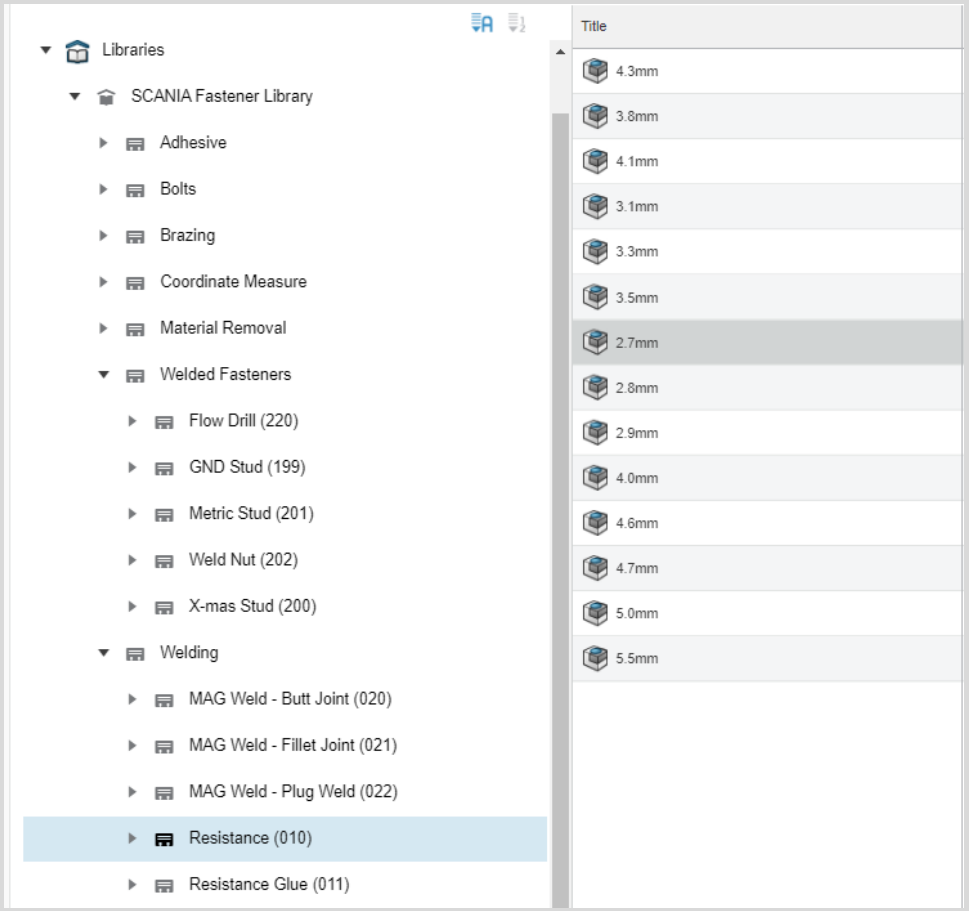
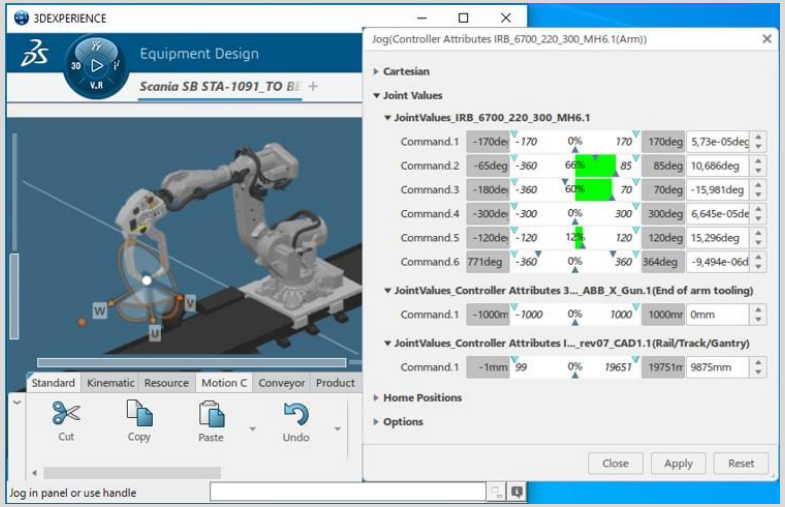
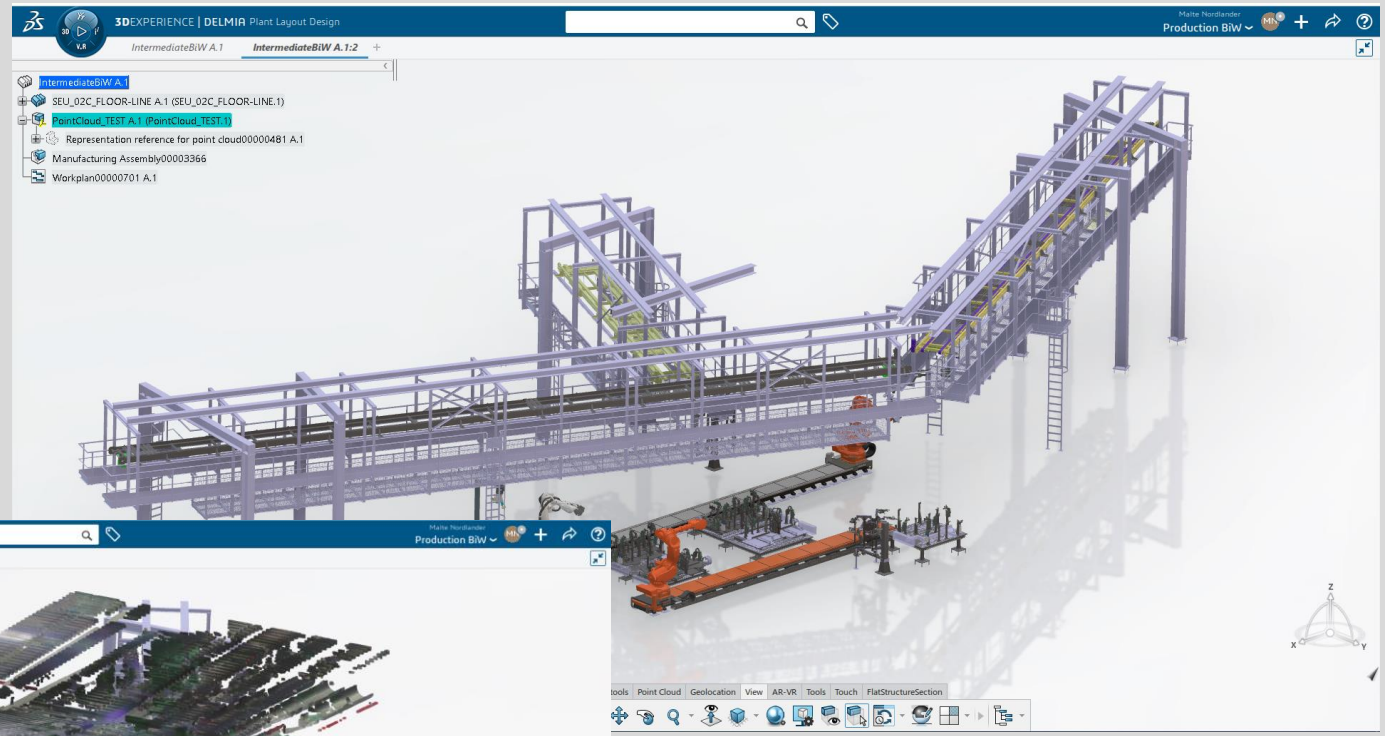
- **Skeleton part for design purposes**
  - *One per component divided into geometrical sets making it possible to differencing between weld process types*
  - *Include point and curves connected to weld fasteners*
  - *In migration a geometrical set named “migrated” is created and for any coming changes the points/curves related to that change will be placed in other geometrical set making it possible to in point/curve cloud separate between different stages of development e.g., concept, in work etc.*





- **Fastener Library**
  - *Include all Scania Weld Process Types*
  - *Each weld process type has one or several references*
  - *Each process type have a declared attribute setup that are both reference stable and added on instance*
  - *Library is managed through a collaboration space setup that make the addition of more fastener process types or references a maintenance topic. Request of business will be part of Scania 3Dex GoLive process*


3DEXPERIENCE
Equipment Design
Scania SB STA-1091_TO
Jog(Controller Attributes IRB_6700_220_300_MH6.1(Arm))
Cartesian
Joint Values
JointValues_IRB_6700_220_300_MH6.1
Command.1
Command.2
Command.3
Command.4
Command.5
Command.6
JointValues_Controller Attributes 3..._ABB_X_Gun.1(End of arm tooling)
JointValues_Controller Attributes l..._rev07_CAD1.1(Rail/Track/Gantry)
Home Positions
Options
Close
Apply
Reset
Standard
Kinematic
Resource
Motion C
Conveyor
Product
Cut
Copy
Paste
Undo
Jog in panel or use handle


3DEXPERIENCE | DELMIA Plant Layout Design
Production BiW
IntermediateBiW A.1
IntermediateBiW A.1:2
SEU_02C_FLOOR-LINE A.1 (SEU_02C_FLOOR-LINE.1)
PointCloud_TEST A.1 (PointCloud_TEST.1)
Representation reference for point cloud00000481 A.1
Manufacturing Assembly00003366
Workplan00000701 A.1


3DEXPERIENCE | DELMIA Plant Layout Design
Production BiW
IntermediateBiW A.1
IntermediateBiW A.1:2
SEU_02C_FLOOR-LINE A.1 (SEU_02C_FLOOR-LINE.1)
PointCloud_TEST A.1 (PointCloud_TEST.1)
Representation reference for point cloud00000481 A.1
Manufacturing Assembly00003366
Workplan00000701 A.1

WHAT´S NEXT

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In the horizon……

- **Improved Offline programming**
  - *Incorporate offline programming with robot studio as a part of the flow*
  - *Translators for ABB*
- **Virtual commissioning**
  - *Set up a test environment with BiW pilot plant to evaluate and test virtual commissioning capabilities*
  - *Work with Smart Factory Lab to create a standard between PLC and 3DEX*
- **External supplier collaboration**
  - *How to work with external Line builders*
- **Extended functionality**
  - *BiW surface treatment (Paint/Sealing)*
  - *Create unique hole pattern in-session based on variant hole curve definition*

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