

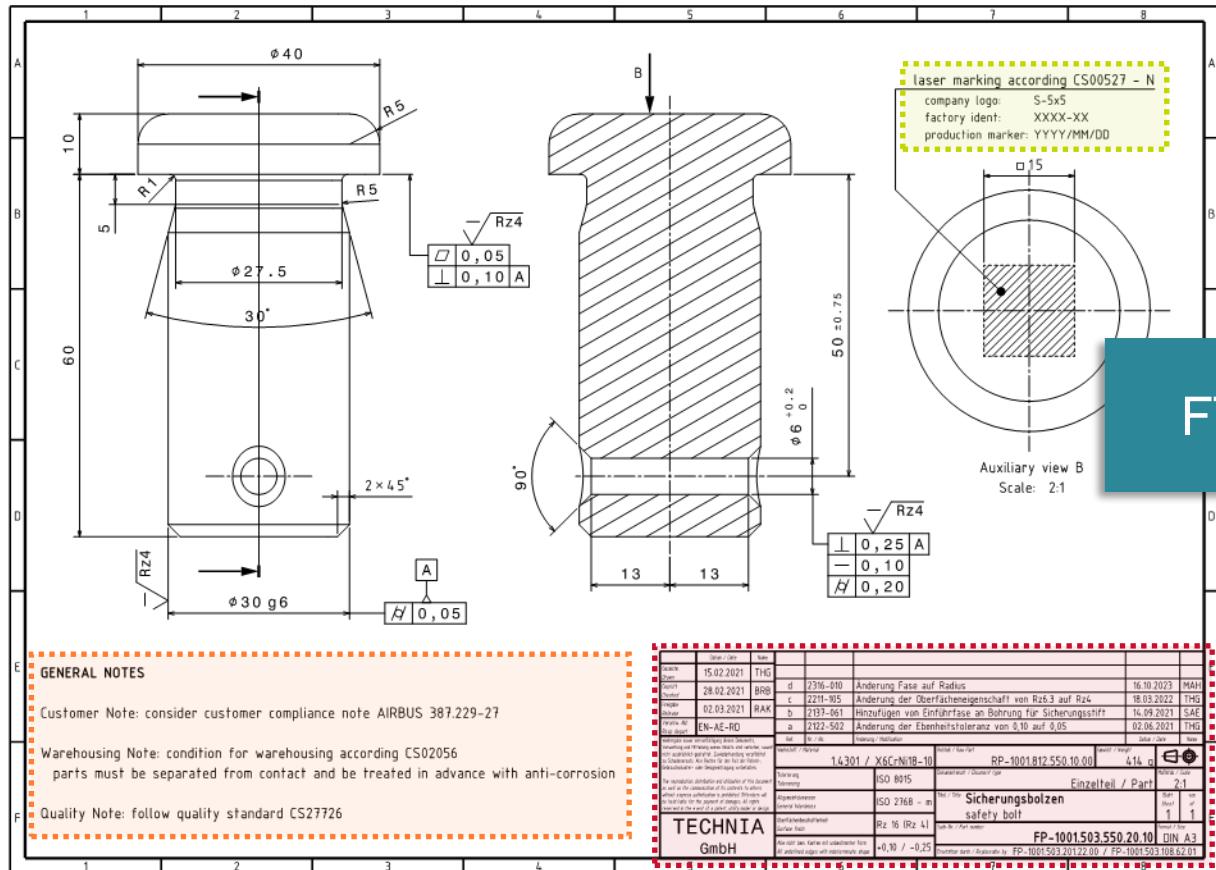
Consistent definition and provisioning of information inside a PLM-System

Ralf Kirchheim / Thomas Giffels – 27.06.2024

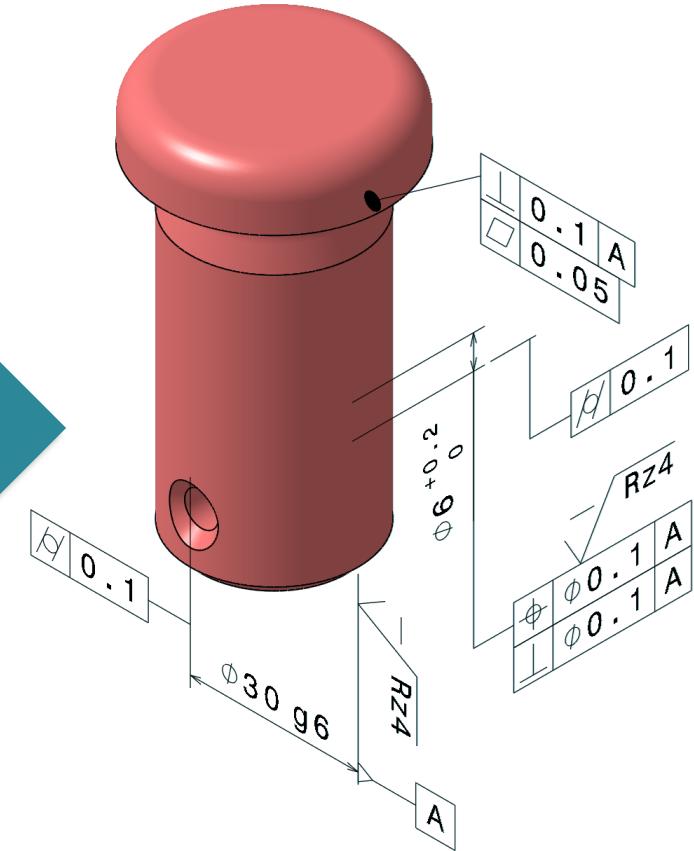


THE “DRAWING TO FTA” INFORMATION GAP

3D Master Approach



FTA transition



Additional Drawing Content

The image shows a technical drawing title block with several fields highlighted by red circles and numbers:

- 2**: Gezeichnet / Drawn: 15.02.2021, Name: THG
- 3**: Geprüft / Checked: 28.02.2021, Name: BPR
- 4**: Freigabe / Release: 02.03.2021, Name: RAN
- 1**: Verantw. Abt. / Resp. depart.: EN-AE-RD
- 3**: Material: 1.4301 / X6CrNi18-10
- 4**: Part Number: RP-1001.812.550.10.00
- 3**: Tolerance: ISO 8015
- 1**: Title / Title: Sicherungsbolzen / safety bolt
- 4**: Surface Finish: Rz 16 (Rz 4)
- 3**: General Tolerance: ISO 2768 - m
- 1**: Part Number: FP-1001.503.550.20.10
- 4**: Surface Finish: +0,10 / -0,25
- 3**: Allgemeintoleranzen / General tolerances
- 1**: Sach-Nr. / Part number: DIN A3
- 4**: Ersetzbar durch / Replaceable by: FP-1001.503.201.22.00 / FP-1001.503.108.62.01
- 1**: Einzelteil / Part: 2:1
- 1**: Maßstab / Scale: 2:1
- 1**: Blatt / Sheet: 1
- 1**: von / of: 1
- 1**: Name: E
- 1**: Name: F

TECHNIA GmbH

5 6 7 8

- Common drawing title block information
 - 1. General part related information
 - Part/Product naming
 - Part/Product numbering
 - 2. Change and release information
 - General release information (*Drawn / Checked / Release*)
 - Change history information
 - 3. Object specification information
 - Object material and coating/plating
 - Object weight
 - General tolerance application
 - 4. Object process information
 - Raw part reference
 - Replaceability definition

Additional Drawing Content

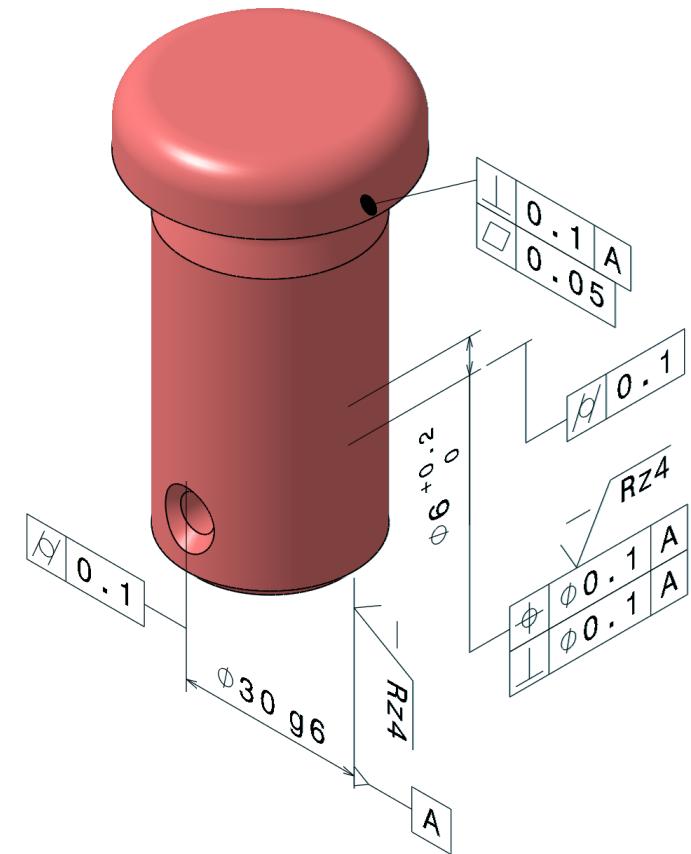
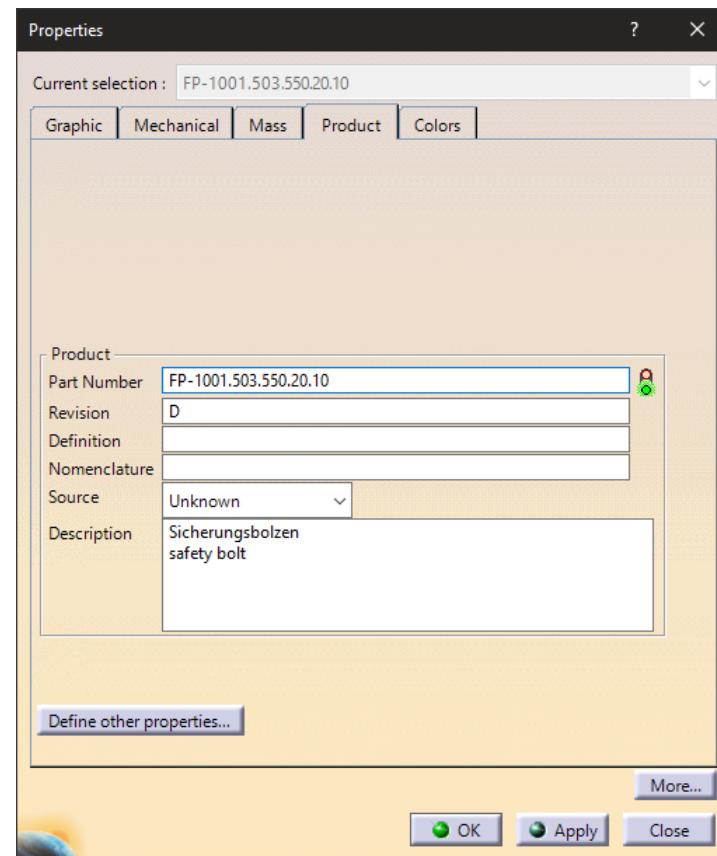
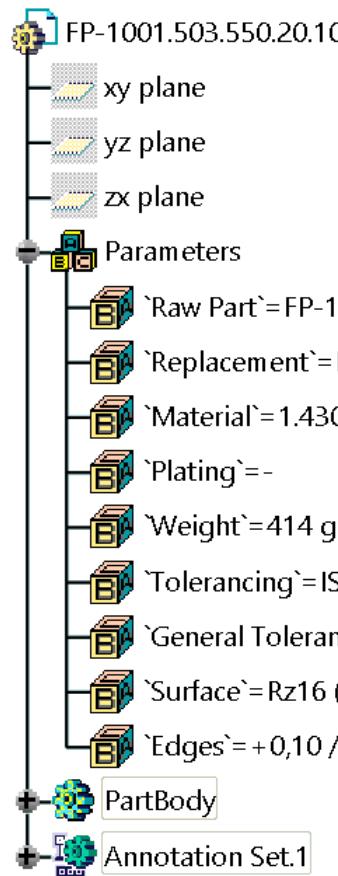
Assembly BOM

Part Family

Assembly Configuration

Mapping Approach

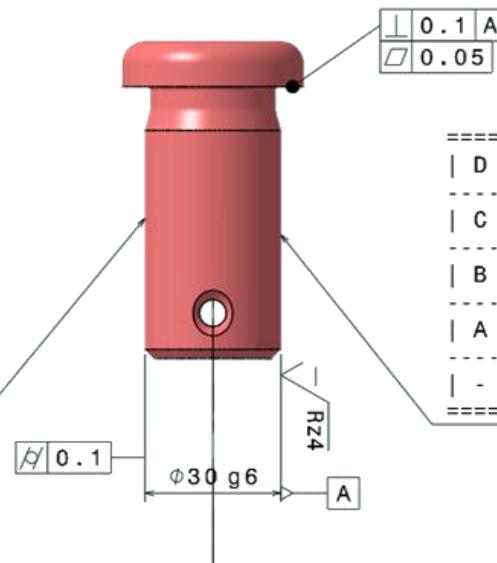
- Model inflicted parameter title block and notes approach



Mapping Approach

- Model inflicted FTA title block approach

Name	safety bolt
Number	FP-1001.503.550.20.10
Raw Part	RP-1001.812.550.10.00
Replacement	FP-1001.503.201.22.00
Material	1.4301 / X5CrNi18-10
Plating	-
Weight	414 g
Tolerancing	ISO 8015
General Tol	ISO 2768 - m
Surface	Rz16 (Rz4)
Edges	+0.10 / -0.25

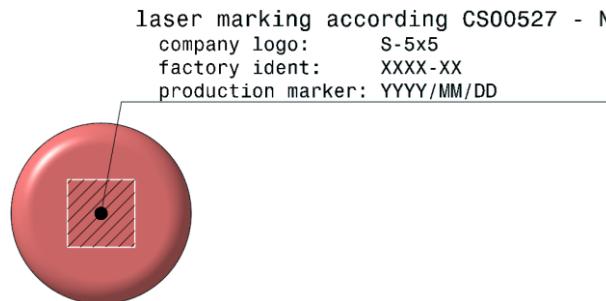


D	2316-010 change chamfer to fillet	16.10.2023 MAH
C	2211-105 change surface roughness to Rz4	18.03.2022 THG
B	2137-061 adding drillhole for security pin	14.09.2021 SAE
A	2122-502 change flatness tolerance to 0.05	02.06.2021 THG
-	2112-050 --- initial release ---	15.02.2021 THG

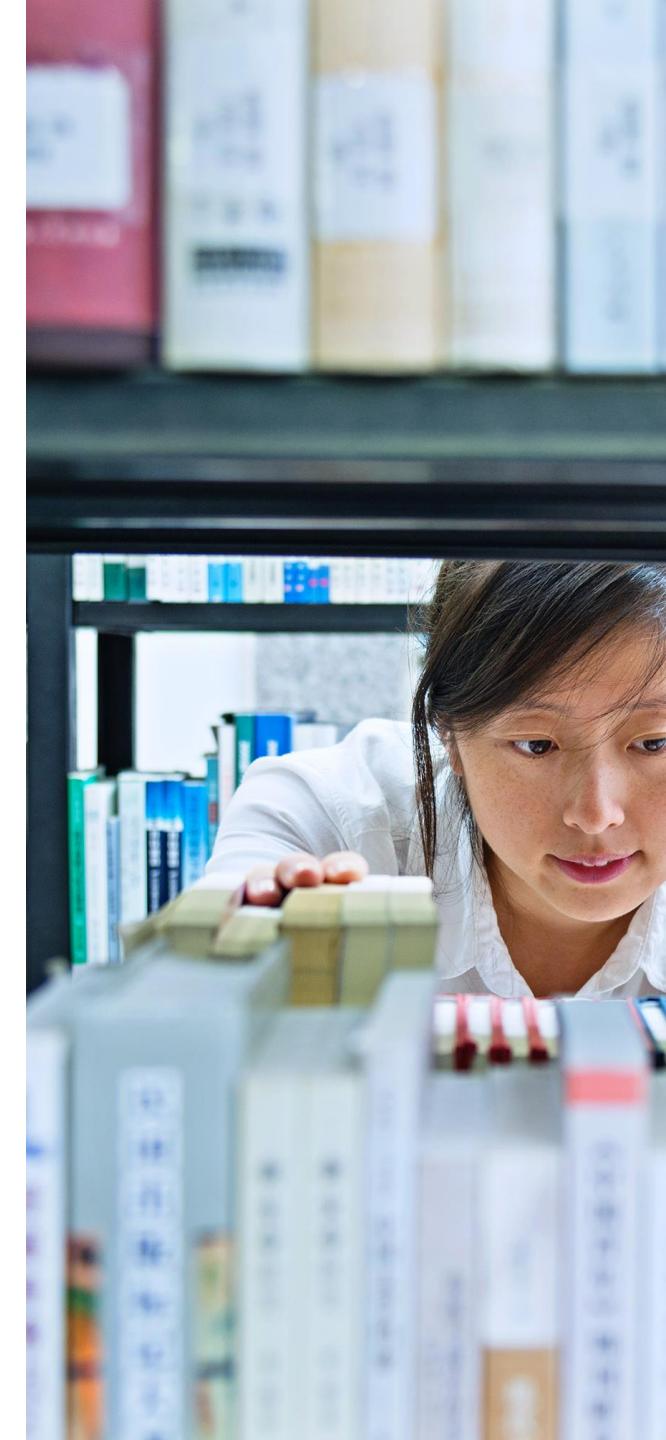
Drawing itself is no holistic approach

- Issue – limited reusability of title block and notes information
 - These approaches do not offer any value gain compared to the classic drawing implementation as there is no “intelligence” contained inside the consigned information.

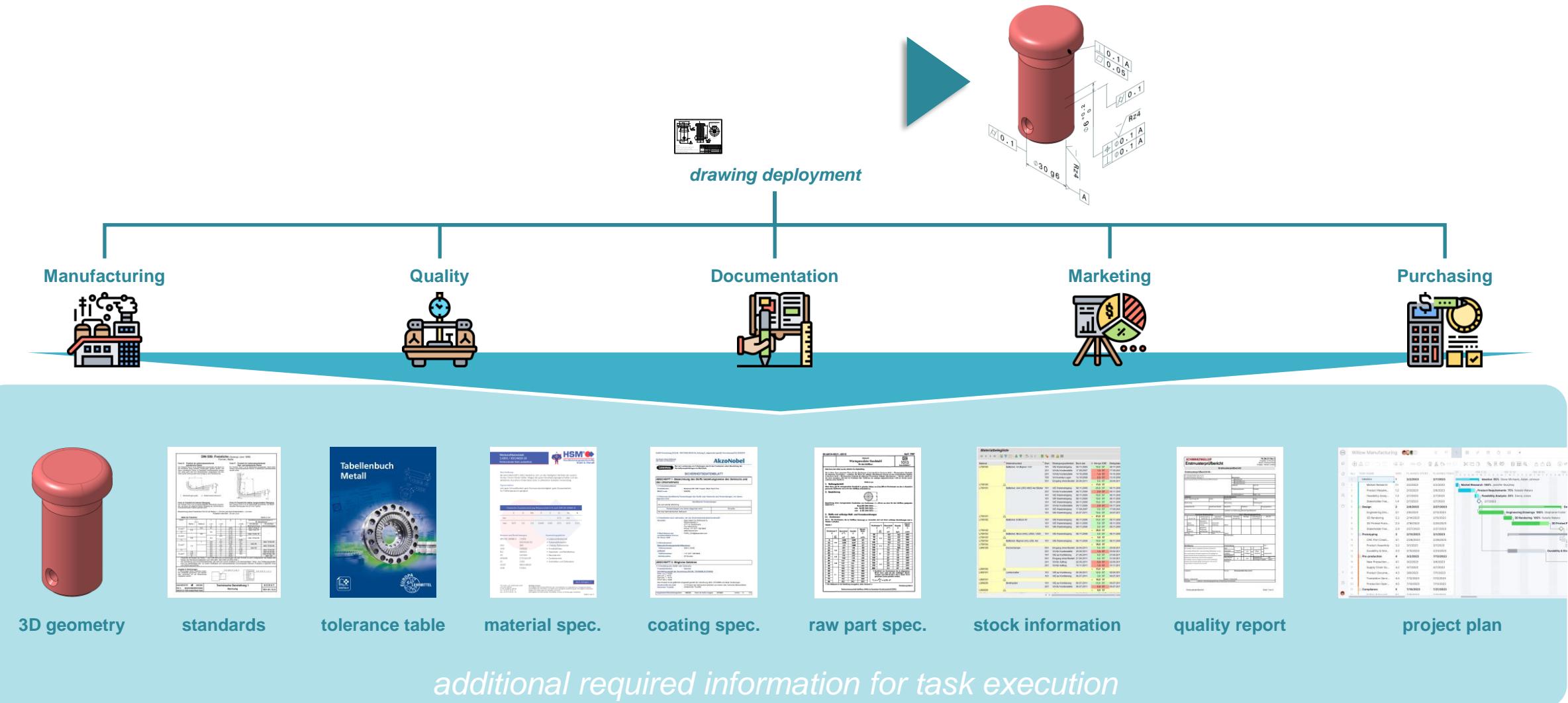
- Example:



- Issue:** the laser marking note is still a simple text entry without any added value for downstream consumers as they must search and collect referenced documents to execute tasks.
- Improvement:** desired approach does provide all task related additional documents without search effort in a simple and intuitive process.

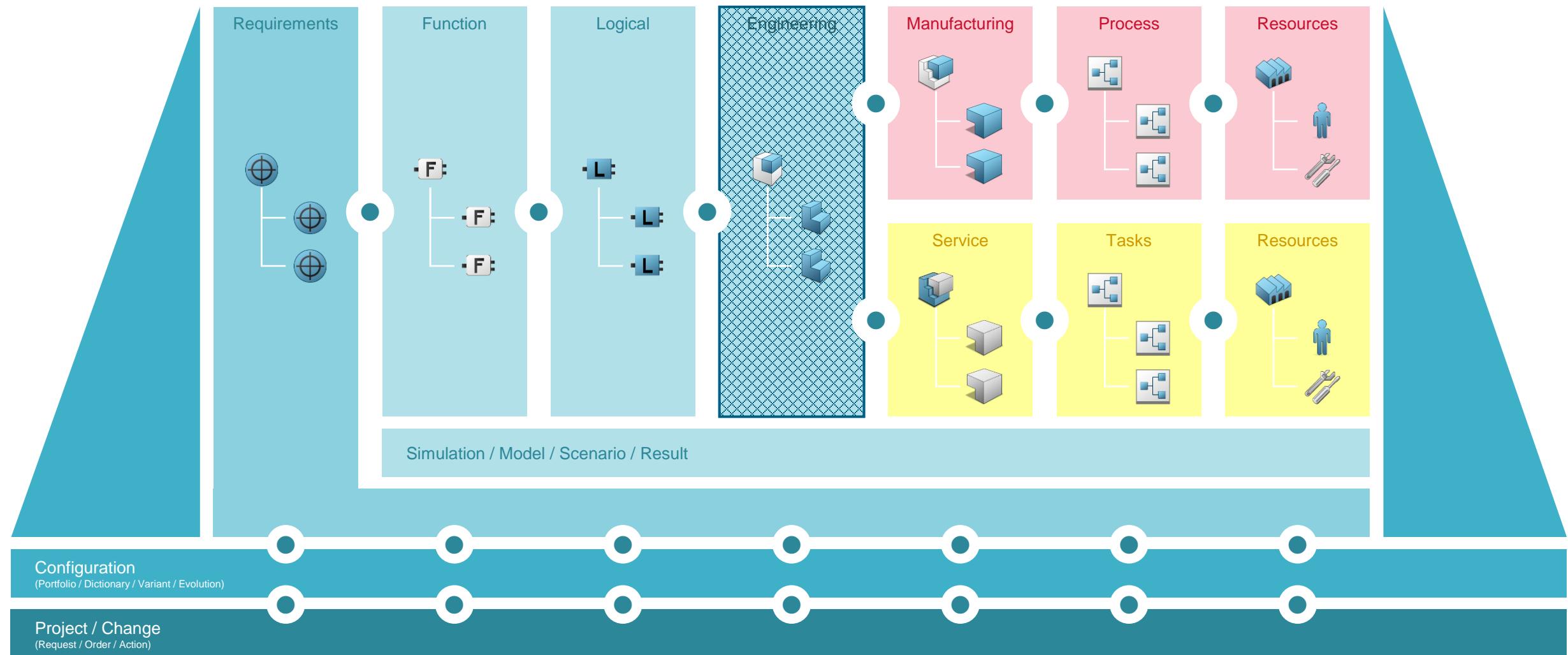


Drawing itself is no holistic approach



3DEXPERIENCE UNIFIED PRODUCT STRUCTURE

UPS – Unified Product Structure

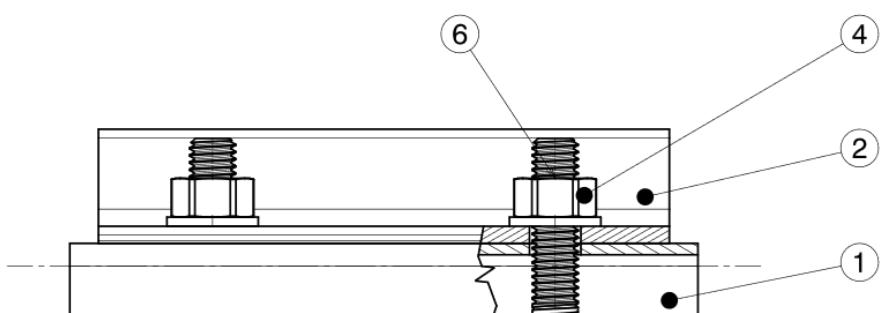


PRODUCT STRUCTURE

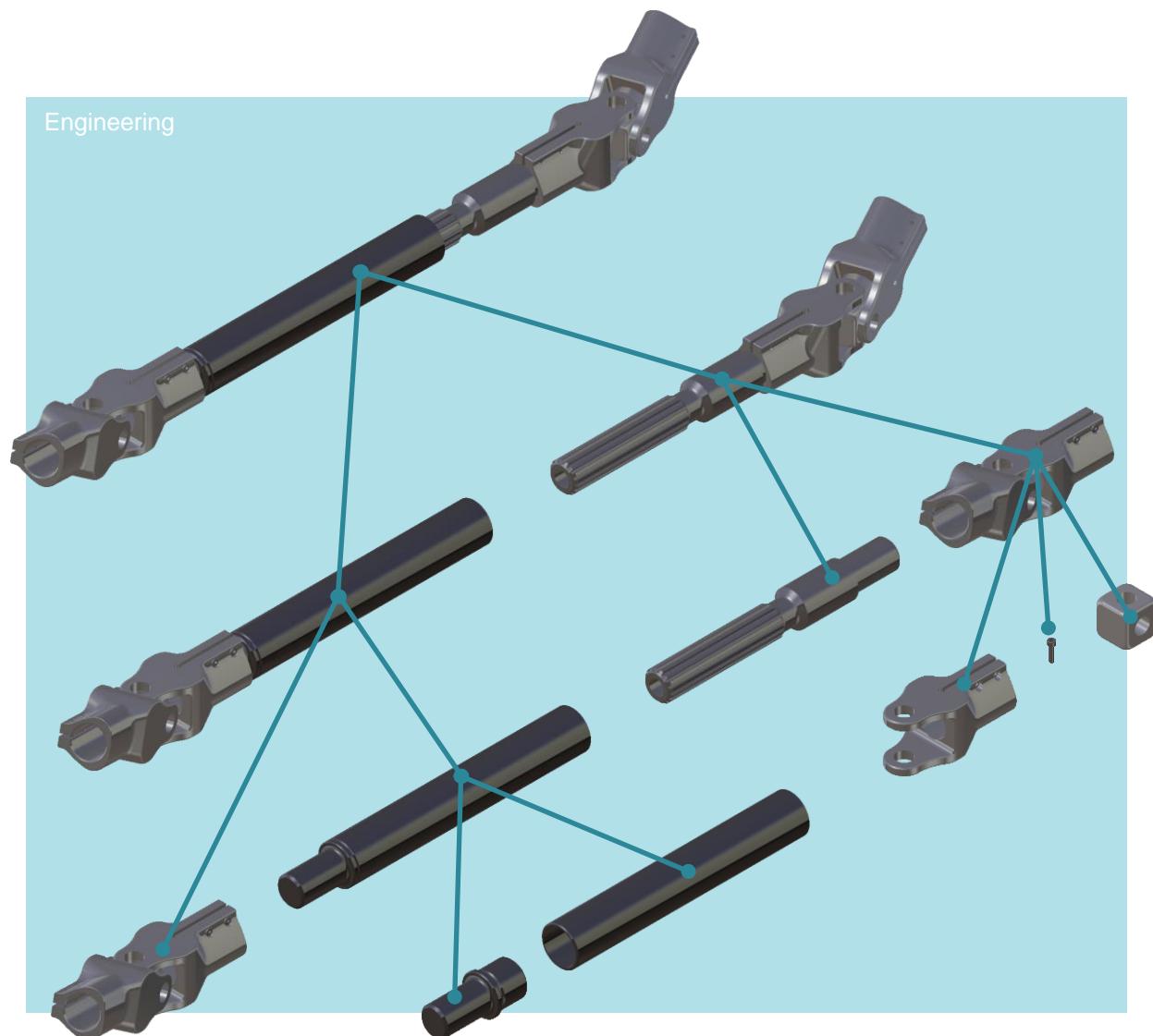
Product Structure

- BOM Structure

Pos	Menge	Teilenummer	Benennung
1	1	1002.040.001.00.00	Rechteckprofil 40x20x2
2	1	1003.037.001.02.01	L-Profil 30x20x3
3	2	2040.107.020.09.12	Sechskantschraube M8x40
4	2	2047.205.018.06.07	Sechskantmutter M8
5	4	2032.105.016.00.72	Unterlegscheibe D8,4
6	10 g	7106.001.025.00.00	Schraubensicherung Loctite



The diagram shows an exploded view of a mechanical assembly. Callouts from the Bill of Materials (BOM) point to specific parts in the assembly. Callout 1 points to a long cylindrical part. Callout 2 points to a smaller cylindrical part. Callout 3 points to a spring and washer assembly. Callout 4 points to a hex head screw. Callout 5 points to a hex nut. Callout 6 points to a lock washer. The detail view shows a cross-section of the spring and washer assembly.



PLM-Representation

ENOVA - Engineering Release - Gelenkwelle Zusammenbau CATIA 3DX

Maturity State : Freigegeben Make obsolete Owner : Thomas GIFFEL

2 Items

	Thumbnail	Title	Enterprise Ite...	Revision	Quantity	Title (Instance)	Is Last Version	Maturity State	Owner	Lock
1		Gelenkwelle Wellenseite	None	A	1	Gelenkwelle ...	✓	In Arbeit	Thomas ...	
2		Welle mit Zahnprofil	None	A	1	Welle mit Zah...	✗	In Arbeit	Thomas ...	
3		Zusammenbau Gelenk	None	A	1	Zusammenba...	✓	In Arbeit	Thomas ...	
4		Gelenk Klammer	None	A	2	Gelenk Klam...	✓	In Arbeit	Thomas ...	
5		Kreuzverbinder	None	A	1	Kreuzverbinder.1	✓	In Arbeit	Thomas ...	
6		Zylinderschrauben ISO ...	None	A	4	Zylinderschra...	✓	In Arbeit	Thomas ...	
7		Gelenkwelle Nabenseite	None	A	1	Gelenkwelle N...	✓	In Arbeit	Thomas ...	
8		Schweisskonstruktion Nabe	None	A	1	Schweisskons...	✓	In Arbeit	Thomas ...	
9		Nabe mit Zahnprofil	None	A	1	Nabe mit Zah...	✓	In Arbeit	Thomas ...	
10		Anschweißbolzen	None	A	1	Anschweißbo...	✓	In Arbeit	Thomas ...	
11		Zusammenbau Gelenk	None	A	1	Zusammenba...	✓	In Arbeit	Thomas ...	
12		Gelenk Klammer	None	A	2	Gelenk Klam...	✓	In Arbeit	Thomas ...	
13		Kreuzverbinder	None	A	1	Kreuzverbinder.1	✓	In Arbeit	Thomas ...	
14		Zylinderschrauben ISO ...	None	A	4	Zylinderschra...	✓	In Arbeit	Thomas ...	

3DPlay

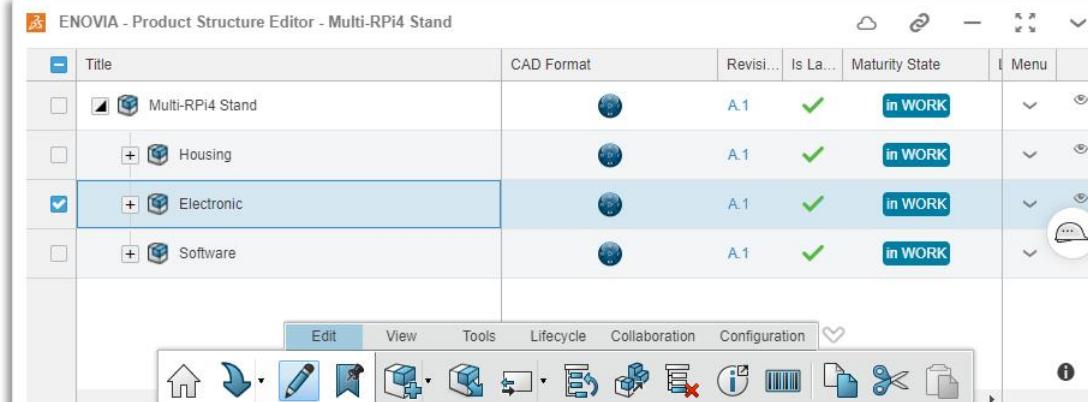
Gelenkwelle Wellenseite

View Tools

x y z

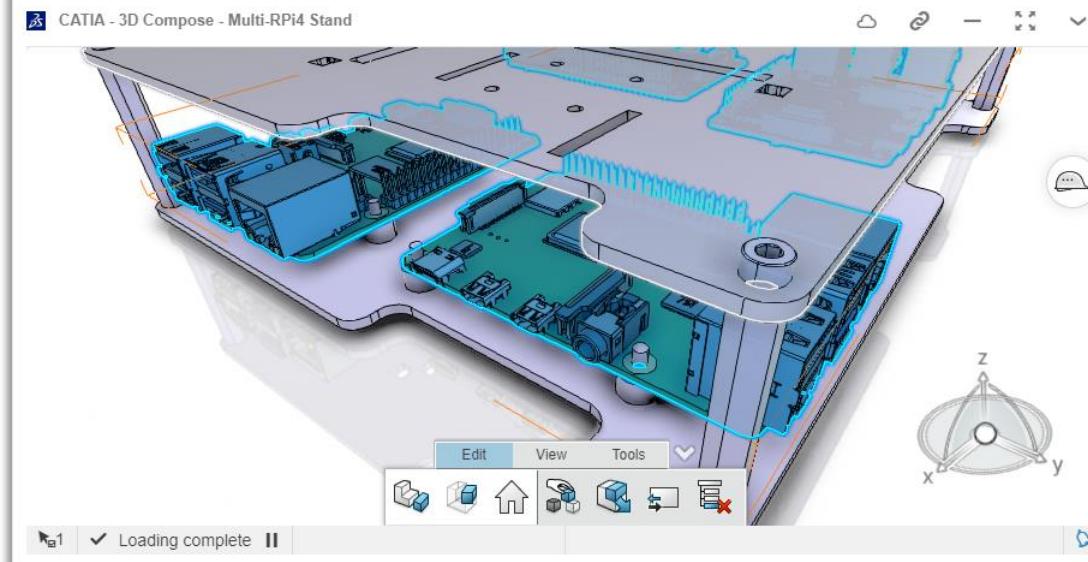
PLM-Representation

ENOVIA - Product Structure Editor - Multi-RPi4 Stand



Title	CAD Format	Revisi...	Is La...	Maturity State
Multi-RPi4 Stand		A.1	✓	in WORK
Housing		A.1	✓	in WORK
Electronic		A.1	✓	in WORK
Software		A.1	✓	in WORK

CATIA - 3D Compose - Multi-RPi4 Stand



>Loading complete

ENOVIA - Engineering Release - Multi-RPi4 Stand

Multi-RPi4 Stand A.1

Enterprise Item Number : None
Maturity State : **in WORK** Freeze
Owner : Thomas GIFFELS

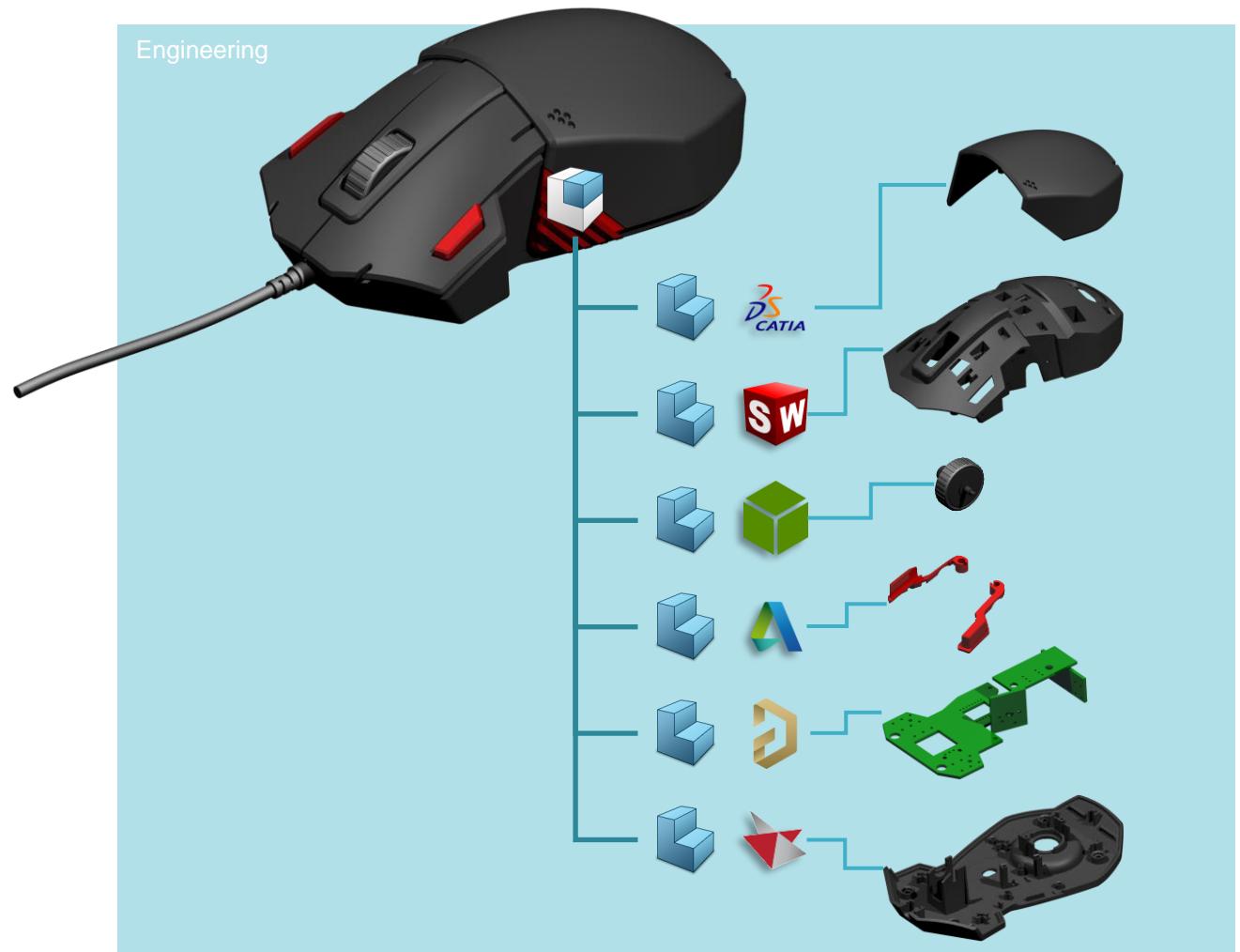
Modification Date : 6/25/2024 2:34:22 PM
Type : Physical Product
No description

2 Items

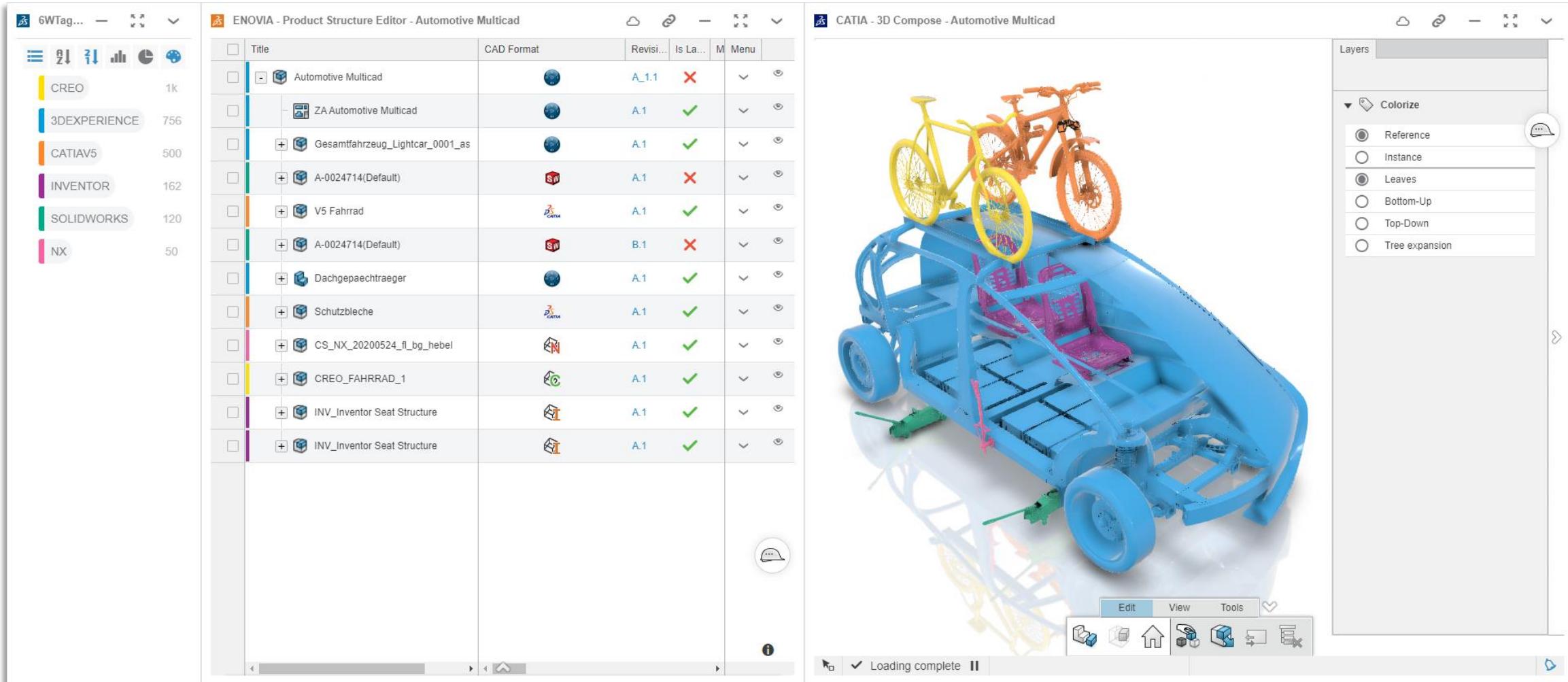
Title	Enterprise Ite...	Revision	Structure Level	Title (Instance)	Is Last Version	Maturity State	Owner
Housing	None	A.1	1	Product2.1	✓	in WORK	Thomas GIFFELS
Electronic	None	A.1	1	Product3.1	✓	in WORK	Thomas GIFFELS
Raspberry Pi 4 Model B	None	A.1	2	Raspberry Pi ...	✓	in WORK	Thomas GIFFELS
2X USB3.0 PORTS, RPi...	None	A.1	3	NAUO12	✓	in WORK	Thomas GIFFELS
VIA VL805 PCIe USB 3...	None	A.1	3	NAUO16	✓	in WORK	Thomas GIFFELS
Gigabit Ethernet Port, R...	None	A.1	3	NAUO8	✓	in WORK	Thomas GIFFELS
PCB, RPi4ModelB_1	None	A.1	3	NAUO1	✓	in WORK	Thomas GIFFELS
Broadcom BCM2711B0 ...	None	A.1	3	NAUO2	✓	in WORK	Thomas GIFFELS
SD Card Slot, RPi4Mod...	None	A.1	3	NAUO15	✓	in WORK	Thomas GIFFELS
2.54 mm DUPONT MAL...	None	A.1	3	NAUO4	✓	in WORK	Thomas GIFFELS
Microphone Plug, RPi4...	None	A.1	3	NAUO6	✓	in WORK	Thomas GIFFELS
2X USB2.0 PORTS, RPi...	None	A.1	3	NAUO17	✓	in WORK	Thomas GIFFELS
Broadcom BCM54213P...	None	A.1	3	NAUO18	✓	in WORK	Thomas GIFFELS
Cypress CYW43455 Wi...	None	A.1	3	NAUO14	✓	in WORK	Thomas GIFFELS

Product Structure

- Hybrid Product Structures



PLM-Representation

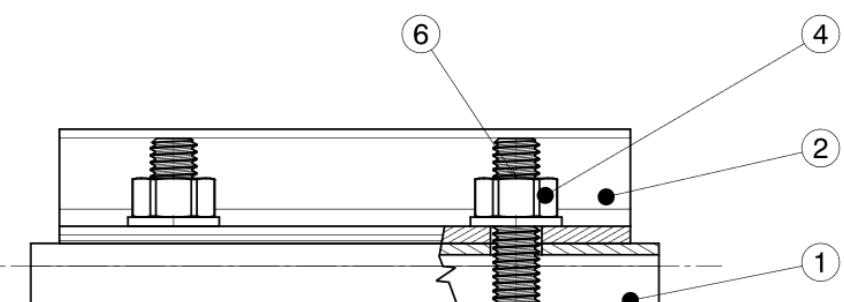


Product Structure

- Quantity of Material

Pos	Menge	Teilenummer	Benennung
1	1	1002.040.001.00.00	Rechteckprofil 40x20x2
2	1	1003.037.001.02.01	L-Profil 30x20x3
3	2	2040.107.020.09.12	Sechskantschraube M8x40
4	2	2047.205.018.06.07	Sechskantmutter M8
5	4	2032.105.016.00.72	Unterlegscheibe D8,4
6	10 g	7106.001.025.00.00	Schraubensicherung Loctite

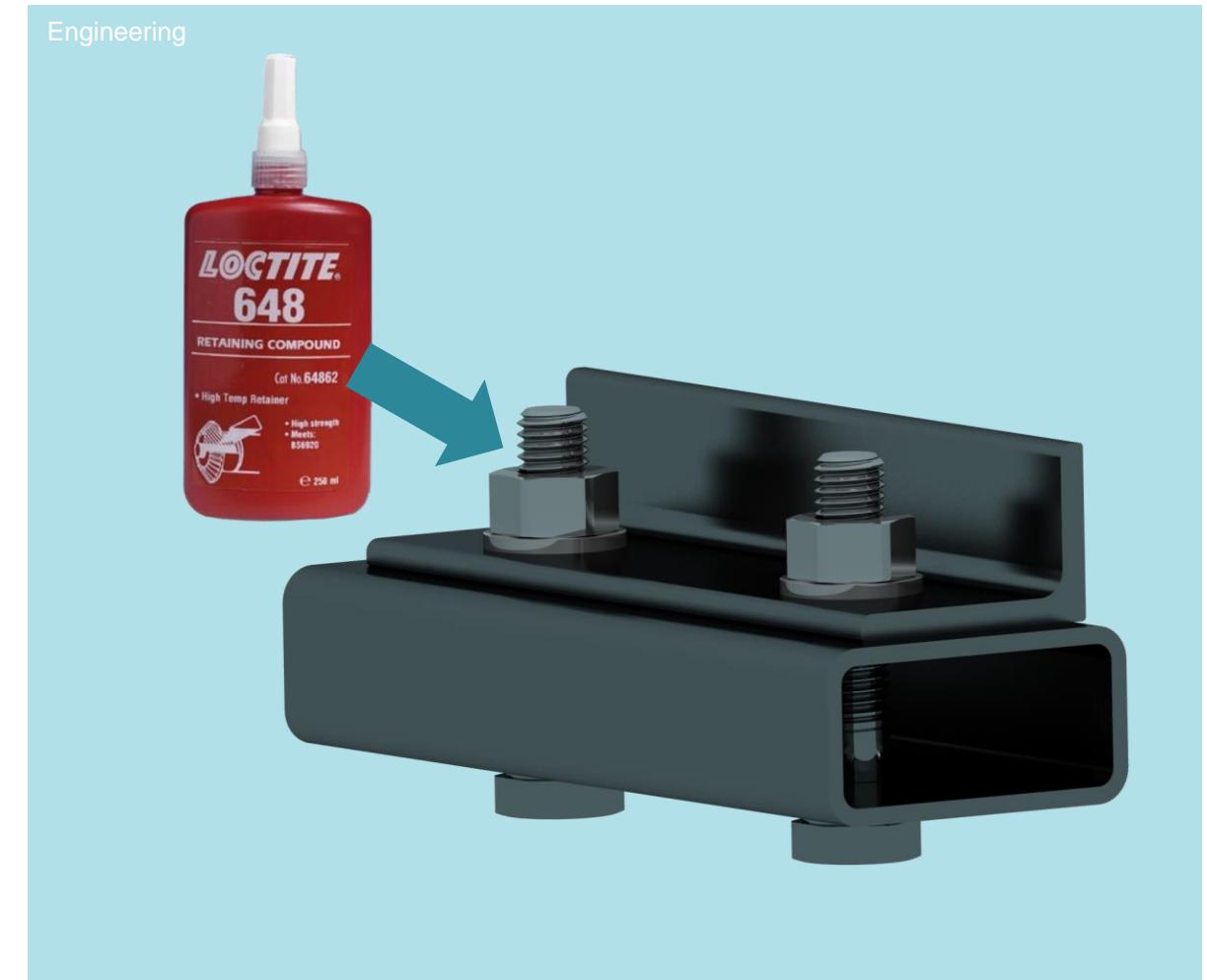
B



A

B

C



PLM-Representation

The image displays two PLM application interfaces side-by-side, illustrating the integration of material selection and part representation.

ENOVIA - Engineering Release - 0207.501.553.02.00:

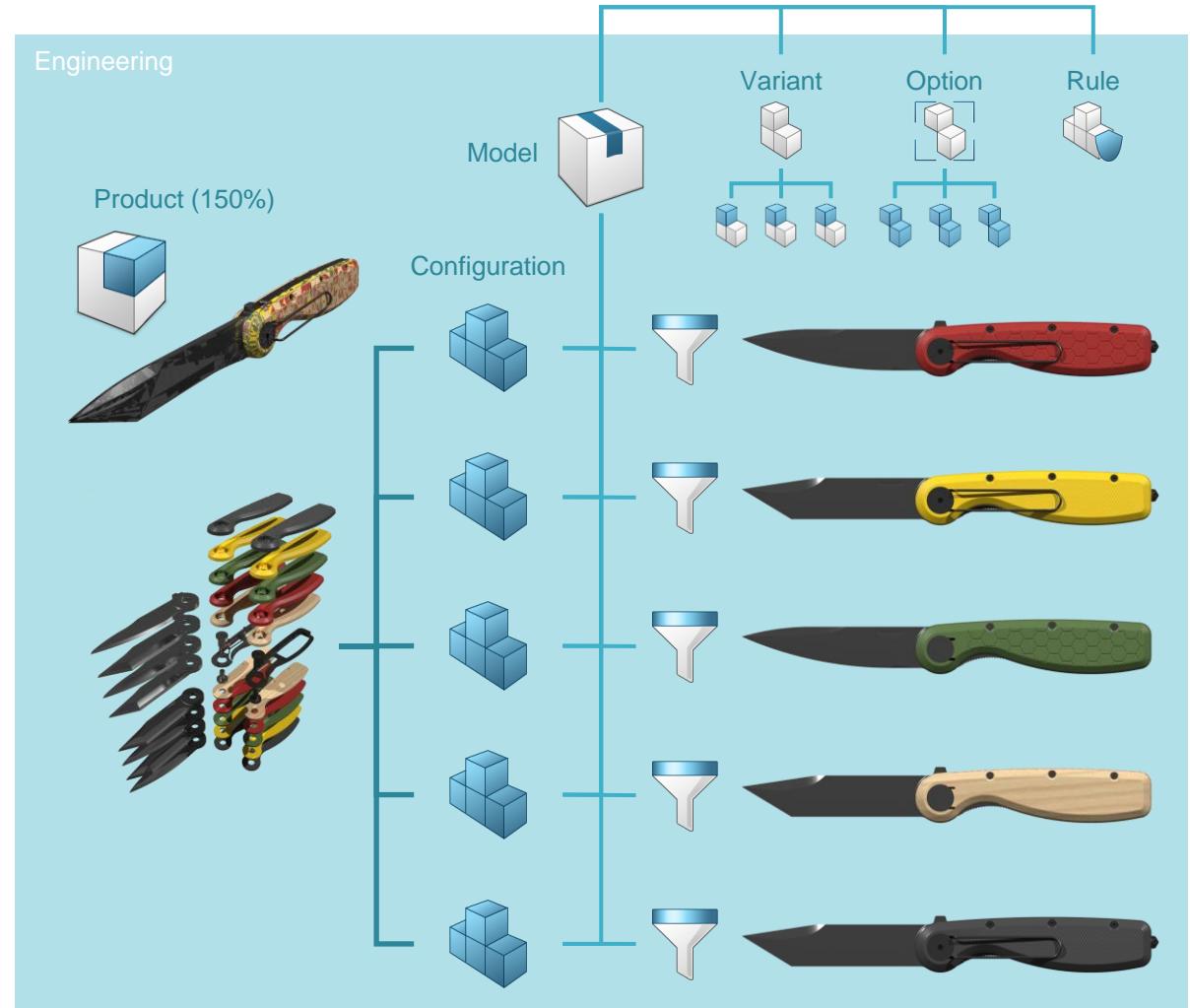
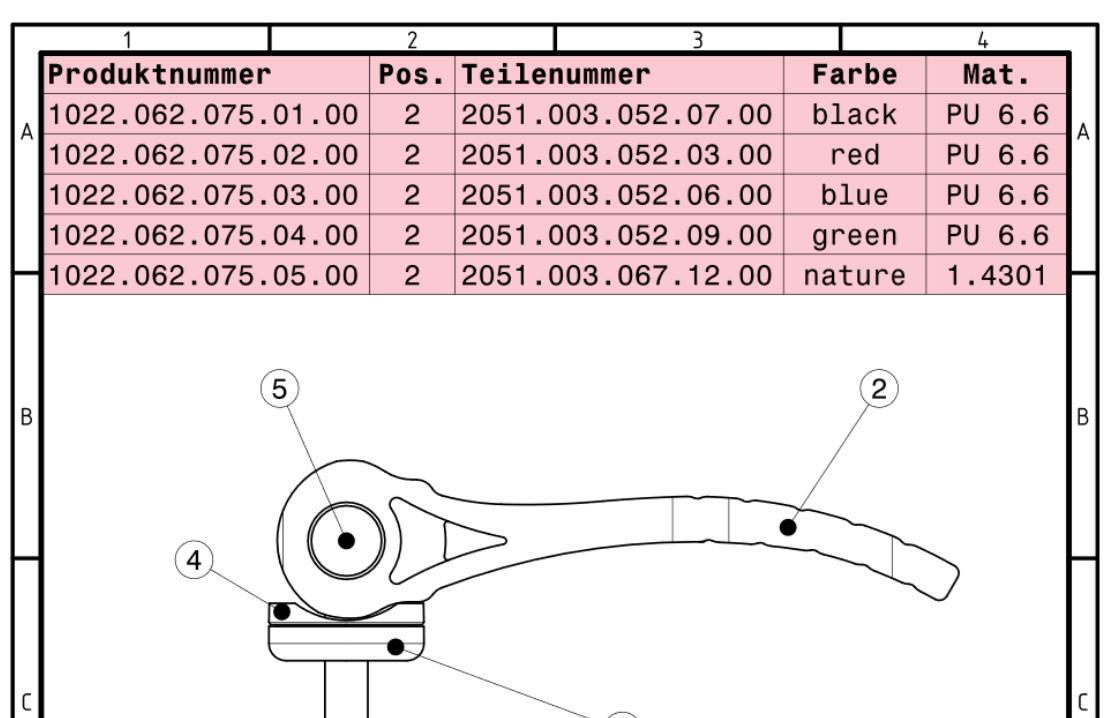
- Item Details:** 0207.501.553.02.00 A.1
Enterprise Item Number: None
Modification Date: 6/25/2024 3:33:18 PM
Maturity State: in WORK Freeze
Type: Physical Product
Owner: Thomas GIFFELS
- Item List:** 6 Items
- Table:** Shows components and their details:
 - 1 Durapot 861 (Thumbnail, Title, Title (Instance), Volume, Mass (g), Core Material, Revision)
 - 2 O-Ring (Thumbnail, Title, Title (Instance), Volume, Mass (g), Core Material, Revision)
 - 3 NAUO5 (Thumbnail, Title, Title (Instance), Volume, Mass (g), Core Material, Revision)
 - 4 Plastic Housing (Thumbnail, Title, Title (Instance), Volume, Mass (g), Core Material, Revision)
 - 5 Metal Inlay (Thumbnail, Title, Title (Instance), Volume, Mass (g), Core Material, Revision)
 - 6 Electronic Insert (Thumbnail, Title, Title (Instance), Volume, Mass (g), Core Material, Revision)
- Quantity Selection Dialog:** Choose quantity of Teroson MS 660 A.1
Volume: 10 mm³

3DPlay:

- Search Results:** 1 of 1 Results | Camshaft Sensor
- Part View:** 3D model of a Camshaft Sensor, showing a yellow core and a grey cover.
- Material Details:** Teroson MS 660
Core Material | A.1 | In Arbeit | Thomas GIFFELS

Product Structure

- Configured Structures



PLM-Representation

Filter-1

Filter specification

Filter applies to GIFT_0001-00-00-00 - A

Configuration

Model Configurable Pocket Knife

Evolution

Current View

Variants and Options

Product Configuration

GIFT_0001-C001-A

Target Market{EU} Accessoire{Glass Breaker,Pocket Clip} Grip Material{Polymer} Grip Style{Modern} Grip Color{Yellow} Blade Style{Tanto} Blade Surface{Blacked} Blade Mechanism{Manual}

Consider all options for Variants and Options not selected

Change

Change Action

Apply Save Save As

ENOVIA - Model Definition - Pocket Knife Configurable A

Pocket Knife Configurable A Owner : Thomas GIFFELS Maturity State : In Work

Variability Rules Product Configurations Specifications Manufacturing Plans

8 Product Configurations

GIFT_0001-C001 A Frozen Thomas GIFFELS Rescue Knife - Blacked - Tanto	GIFT_0001-C002 A Frozen Thomas GIFFELS Firefighter Knife - Steel - Drop
GIFT_0001-C003 A Frozen Thomas GIFFELS Special Edition - Blacked - Drop	GIFT_0001-C004 A Frozen Thomas GIFFELS Stealth Knife - Blacked - Tanto
GIFT_0001-C005 A Frozen Thomas GIFFELS Military Knife - Blacked - Tanto	645465 AA In Work Thomas GIFFELS
564654465465 AA In Work Thomas GIFFELS	564645654456 AA In Work Thomas GIFFELS

ENOVIA - Product Structure Explore - GIFT_0001-00-00-00

Title	Title	Po...	Revision	Menu
GIFT_0001-00-00-00		A		
GIFT_0001-01-00-00	GIFT_0001-01-00-01	A.1		
GIFT_0001-02-00-00	GIFT_0001-02-00-01	A.1		
GIFT_0001-02-01-00	GIFT_0001-02-01-00-01	A.1		
GIFT_0001-02-02-00	GIFT_0001-02-02-00-01	A.1		
GIFT_0001-02-03-00	GIFT_0001-02-03-00-01	A.1		
GIFT_0001-02-04-00	GIFT_0001-02-04-00-01	A.1		
GIFT_0001-02-05-00	GIFT_0001-02-05-00-01	A.1		

12 objects

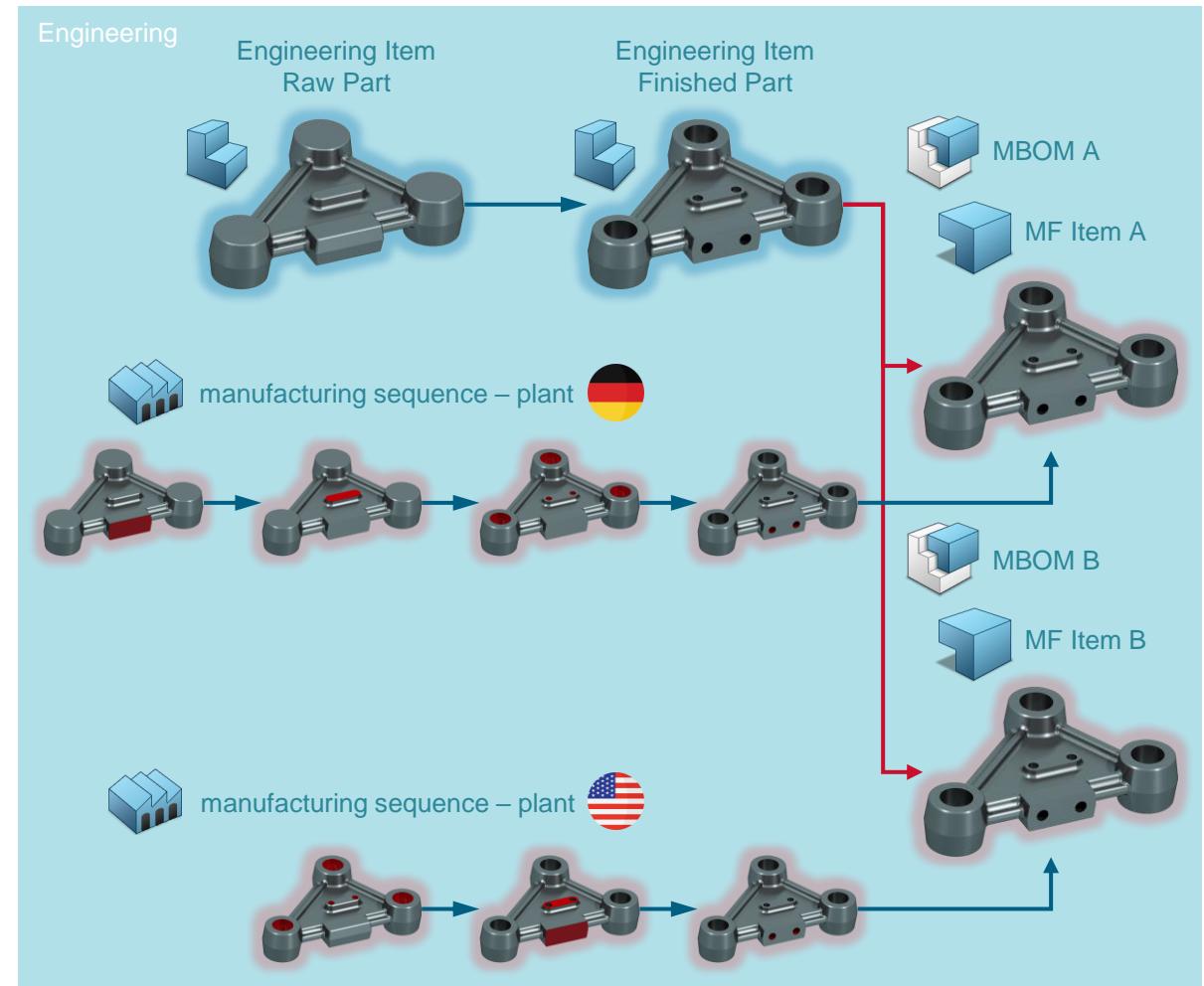
ENOVIA - 3D Navigate - GIFT_0001-00-00-00

View Tools

3D Model of a Pocket Knife

Product Structure

- Manufacturing Responsibility



PLM-Representation

The image displays the DELMIA PLM interface, showing three main windows: 3D Viewer, Manufacturing Items Management, and 3DOperations Viewer.

DELMIA - 3D Viewer: Shows a 3D model of a knife. The interface includes a toolbar with View, Tools, and a search icon. A 3D coordinate system (x, y, z) is visible on the right.

DELMIA - 3DOperations Viewer: Shows a list of operations and their details. The table includes columns for Instance Title, Revision, and Description. It lists items like MF_GIFT_0001-00-00, MF_GIFT_0001-01-00, and Gelenkwelle Zusammenbau.

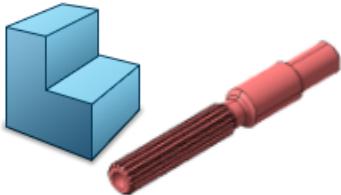
DELMIA - Manufacturing Items Management: Shows a hierarchical tree of manufacturing items. The tree includes categories like Engineering Items, Manufacturing Items, and Revision. It lists items like GIFT_0001-00-00, MF_GIFT_0001-00-00, and various grip components.

Engineering Items	Manufacturabl...	Revision	Description
GIFT_0001-00-00	✓	A	Configurable Knif
GIFT_0001-01-00	✗	A.1	Configurable Knif
GIFT_0001-01-00-01	✓	A.1	Lock Pin - Steel
GIFT_0001-01-00-01	✓	A.1	Lock Pin - Steel
GIFT_0001-02-00-00	✗	A.1	Configurable Knif
GIFT_0001-02-01-00	✗	A.1	Blade
GIFT_0001-02-02-00	✗	A.1	Grip Side A
GIFT_0001-02-03-00	✗	A.1	Grip Side B
GIFT_0001-02-04-00	✗	A.1	Mechanics
GIFT_0001-02-05-00	✗	A.1	Fixture
GIFT_0001-03-00-00	✗	A.1	Configurable Knif
GIFT_0001-03-00-10	✓	A.1	Glas Breaker - St
GIFT_0001-03-00-11	✓	A.1	Glas Breaker - Bl
GIFT_0001-03-00-20	✓	A.1	Pocket Clip - Steel
GIFT_0001-03-00-21	✓	A.1	Pocket Clip - Black
GIFT_0001-C001	—	A.1	
GIFT_0001-C002	—	A.1	
GIFT_0001-C003	—	A.1	
Gelenkwelle Zusammenbau CATI...	✓	B.2	
Gelenkwelle Wellenseite	✓	A	

Manufacturing Items	Revision	Description
MF_GIFT_0001-00-00	A.1	Top Grip + Blade + Bottom
MF_GIFT_0001-10-00-00	A.1	Blade + Bottom Grip
MF_GIFT_0001-03-00-00	A.1	Bottom Grip
MF_GIFT_0001-02-04-30	A.1	Grip Spring - Steel
MF_GIFT_0001-02-04-31	A.1	Grip Spring - Black
MF_GIFT_0001-02-04-40	A.1	Grip Spacer - Steel
MF_GIFT_0001-02-04-41	A.1	Grip Spacer - Black
MF_GIFT_0001-04-00-00	A.1	Grip Screws Kit
MF_GIFT_0001-02-05-01	A.1	Screw DIN 968 M 1,6 x 5
MF_GIFT_0001-02-05-01	A.1	Screw DIN 968 M 1,6 x 5
MF_GIFT_0001-02-05-01	A.1	Screw DIN 968 M 1,6 x 5
MF_GIFT_0001-02-05-02	A.1	Screw DIN 968 M 1,6 x 5
MF_GIFT_0001-02-05-02	A.1	Screw DIN 968 M 1,6 x 5
MF_GIFT_0001-02-05-02	A.1	Screw DIN 968 M 1,6 x 5
MF_GIFT_0001-02-03-10	A.1	Grip Side B - Standard - P
MF_GIFT_0001-02-03-11	A.1	Grip Side B - Standard - P
MF_GIFT_0001-02-03-12	A.1	Grip Side B - Standard - P
MF_GIFT_0001-02-03-13	A.1	Grip Side B - Standard - P
MF_GIFT_0001-02-03-14	A.1	Grip Side B - Standard - W
MF_GIFT_0001-02-03-20	A.1	Grip Side B - Modern
MF_GIFT_0001-02-03-24	A.1	Grip Side B - Modern

OBJECT DEFINITION BY DIRECT REFERENCES

Physical Product informational extension



Welle mit Zahnprofil A

Thomas GIFFELS 5/8/2024, 3:40:49 PM



Properties

Welle mit Zahnprofil A
Thomas GIFFELS 5/8/2024, 2:20:26 PM

Type	Physical Product
Title	Welle mit Zahnr...
Name	prt-C5-00007499
Revision	A
Review Comment	
Description	
Creation Date	6/19/2023, 4:42:07 PM
Created From	prt-TC-0052-1211-A.1
Design Range	Normal Range
Collaborative Policy	Engineering Definition
Modification Date	5/8/2024, 2:20:26 PM
Maturity State	Proposed
Owner	Thomas GIFFELS
Organization	TECHNIA Customer Success
Collaborative Space	Demo Model
Locked By	
Manufacturable/Procitable	True
Name	prt-C5-00007499
Description	
Konstruktionsphase	

Revisions

Welle mit Zahnprofil A
Thomas GIFFELS 5/8/2024, 2:20:26 PM

Type	Physical Product
Title	Welle mit Zahnr...
Name	prt-C5-00007499
Revision	A
Review Comment	
Description	
Creation Date	6/19/2023, 4:42:07 PM
Created From	prt-TC-0052-1211-A.1
Design Range	Normal Range
Collaborative Policy	Engineering Definition
Modification Date	5/8/2024, 2:20:26 PM
Maturity State	Proposed
Owner	Thomas GIFFELS
Organization	TECHNIA Customer Success
Collaborative Space	Demo Model
Locked By	
Manufacturable/Procitable	True
Name	prt-C5-00007499
Description	
Konstruktionsphase	

Specifications

Welle mit Zahnprofil A
Thomas GIFFELS 5/8/2024, 2:24:49 PM

Graph	▼
Title	Welle mit Zahnr...
Rev. L	C.1
Maturity State	In Arbeit
Items	Welle mit Zahnr...
Welle mit Zahnr...	C.1
Welle mit Zahnr...	B.3
Welle mit Zahnr...	B.2
Welle mit Zahnr...	B.1
Welle mit Zahnr...	A

Attachments

Welle mit Zahnprofil A
Thomas GIFFELS 5/8/2024, 2:24:49 PM

File	Enthaltend Zahnr...
Document	1 May 8, 2024, 2:40 PM
Thomas GIFFELS	In Work
File	Simulation Zahnr...
Document	1 May 8, 2024, 2:40 PM
Thomas GIFFELS	In Work
File	Montage Zahnr...
Document	1 May 8, 2024, 2:40 PM
Thomas GIFFELS	In Work

Alternative

Welle mit Zahnprofil A
Thomas GIFFELS 5/8/2024, 2:31:21 PM

Selected usage: (1) Physical Product Instance Welle mit Zahnr...

File	Enthaltend Zahnr...
Document	1 May 8, 2024, 2:40 PM
Thomas GIFFELS	In Work
File	Zeichnung Zahnr...
Document	1 May 8, 2024, 2:40 PM
Thomas GIFFELS	In Work
File	Spezifikation Zahnr...
Document	1 May 8, 2024, 2:40 PM
Thomas GIFFELS	In Work

Make From

Welle mit Zahnprofil A
Thomas GIFFELS 5/8/2024, 3:40:49 PM

File	Welle Ritzal
Actions	Search
Enter...	Quantity
Quantity	1

Material

Welle mit Zahnprofil A
Thomas GIFFELS 5/8/2024, 3:40:49 PM

Core Material (1)

Title	Welle mit Zahnr...
Main/Buy	Outsourced
Revision	A.1

Covering Material (0)

Covering Material (Instance) (0)

Apply

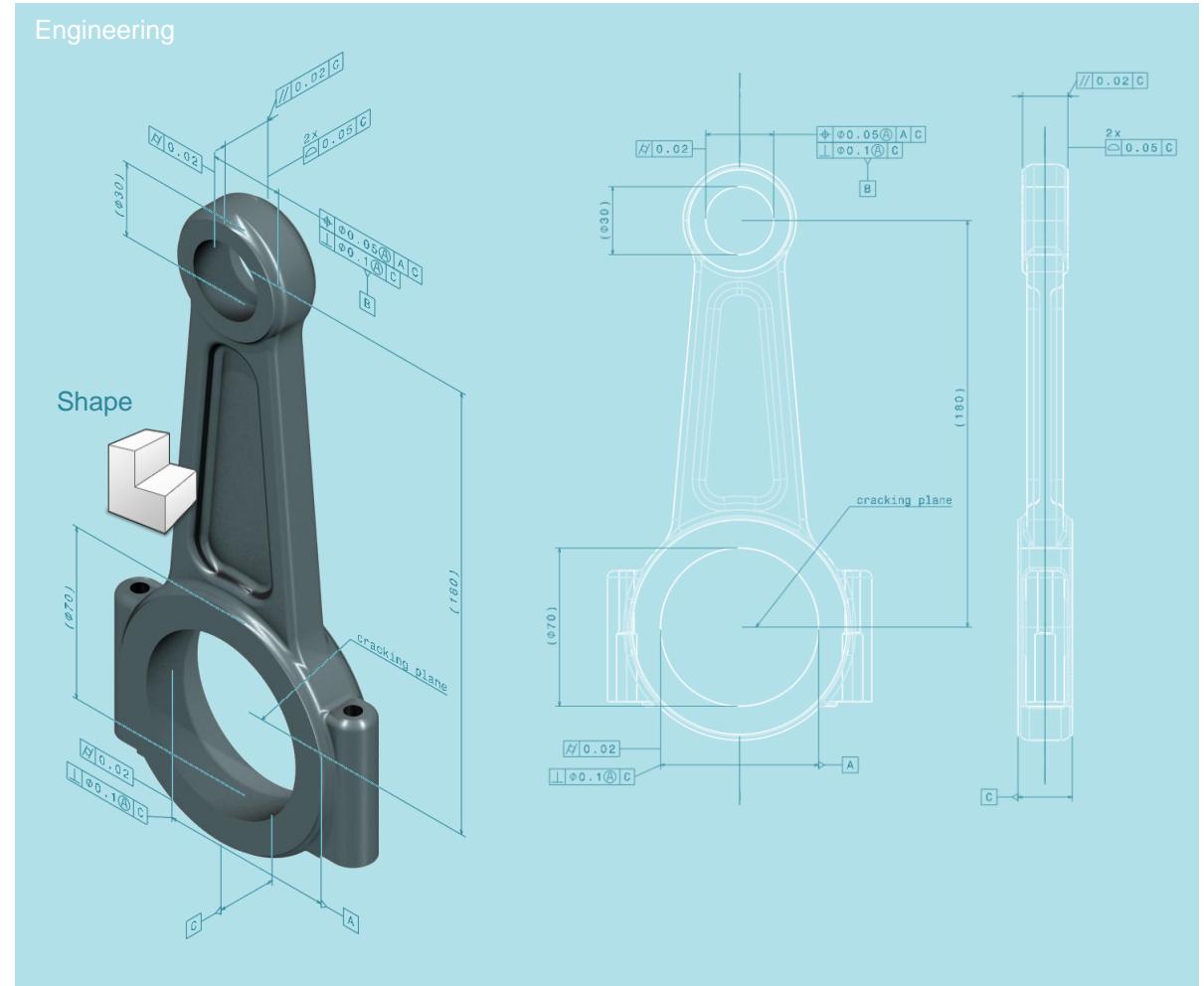
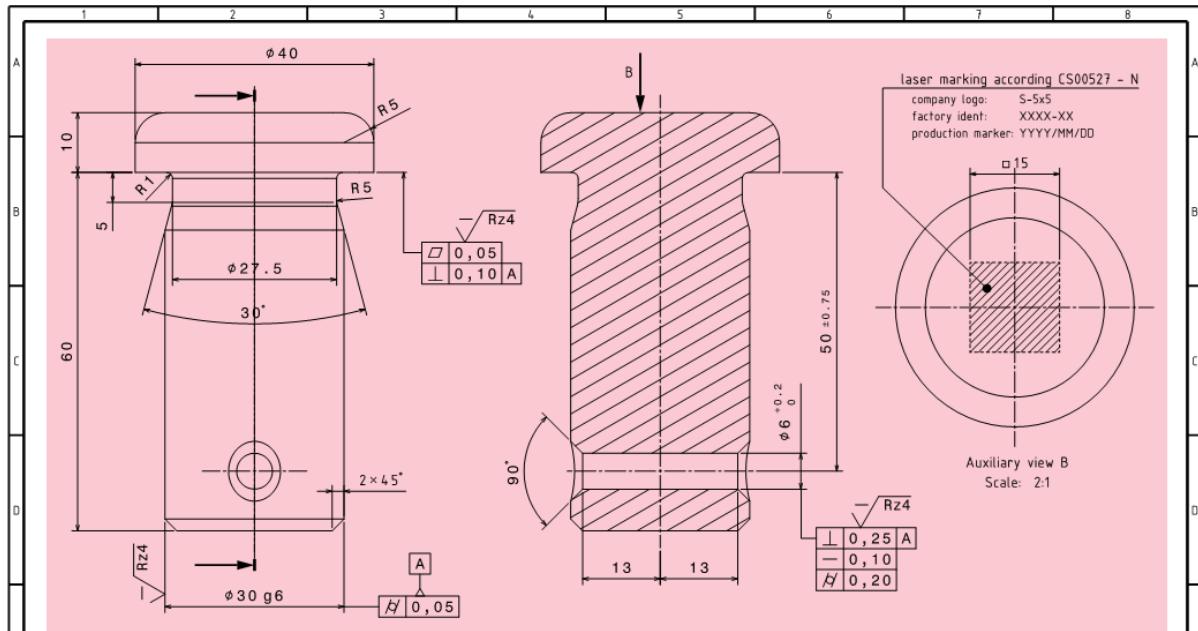
Manufacturing

Welle mit Zahnprofil A
Thomas GIFFELS 5/8/2024, 3:40:49 PM

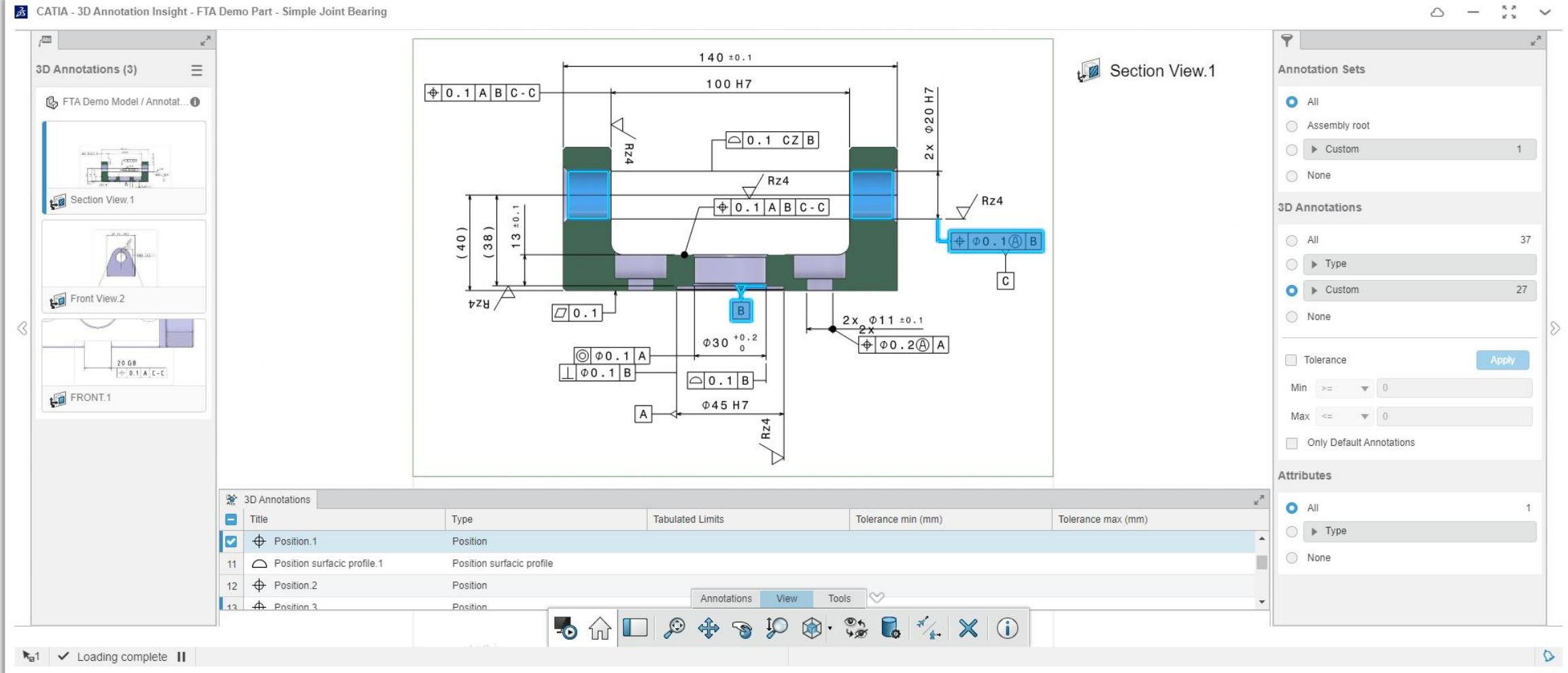
Title	Welle mit Zahnr...
Main/Buy	Buy
Outsourced	A.1
Revision	1

Physical Product geometrical representation

- 3D Geometrical Representation



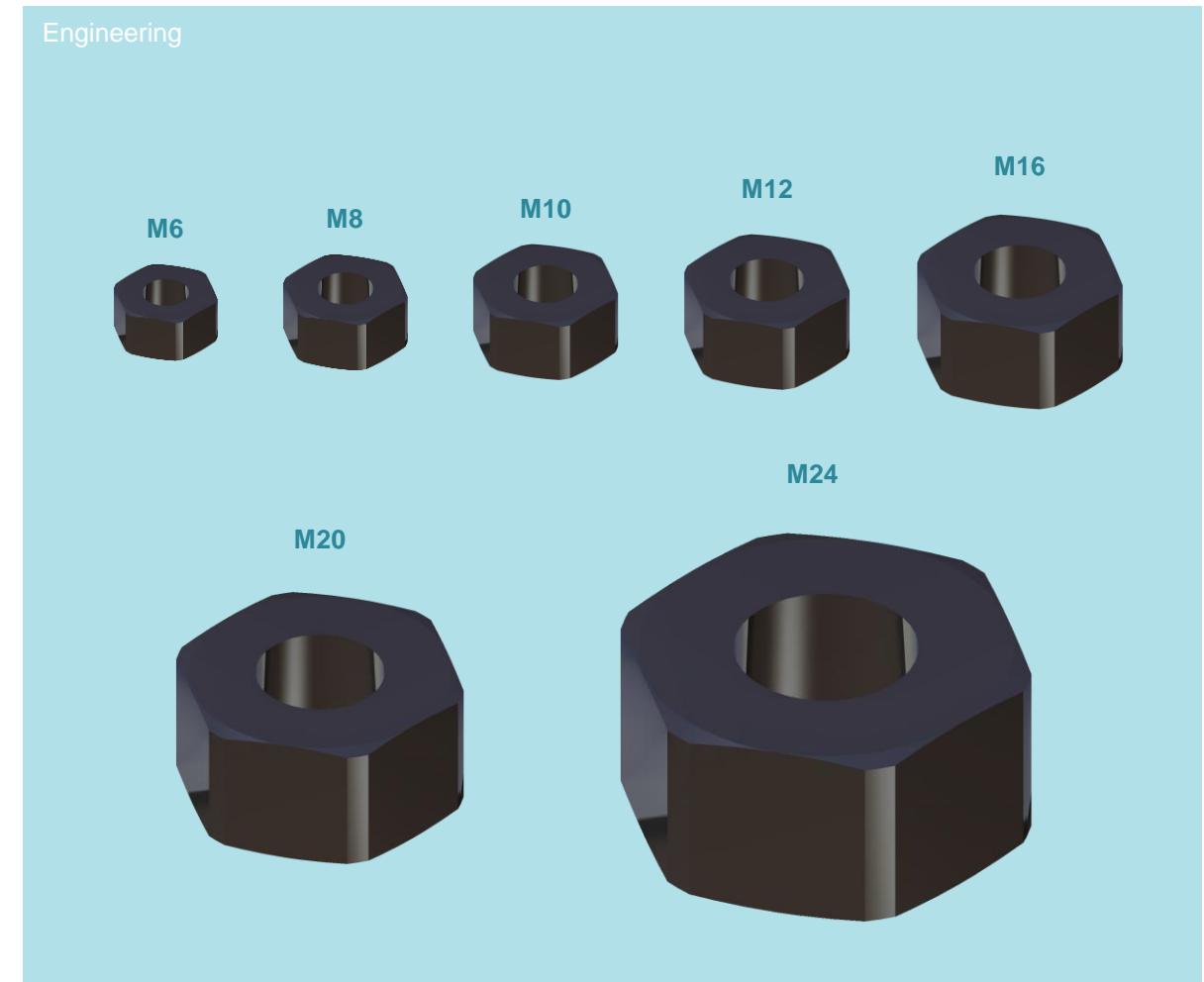
PLM-Representation



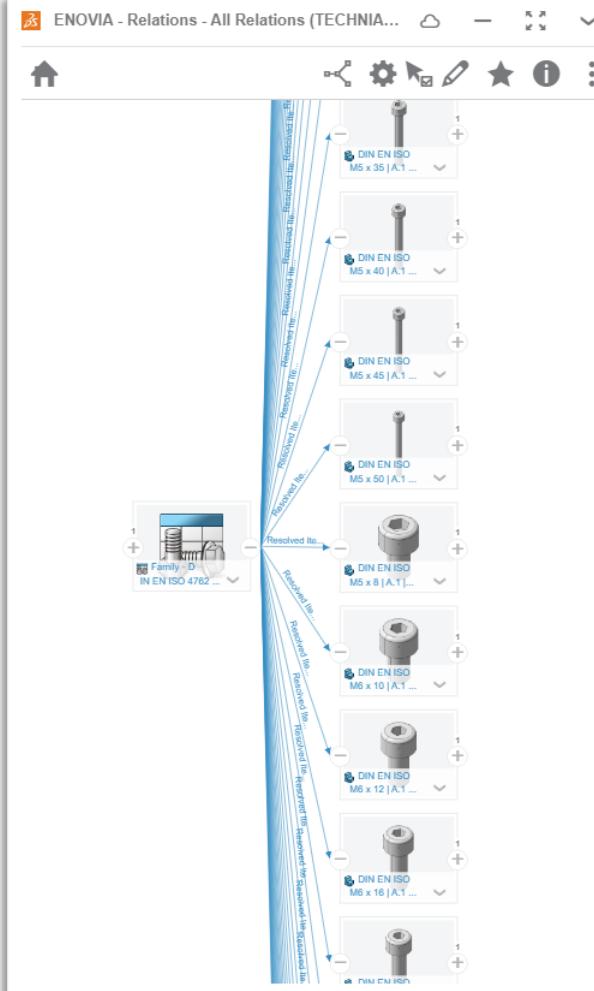
Physical Product informational extension

- Part families

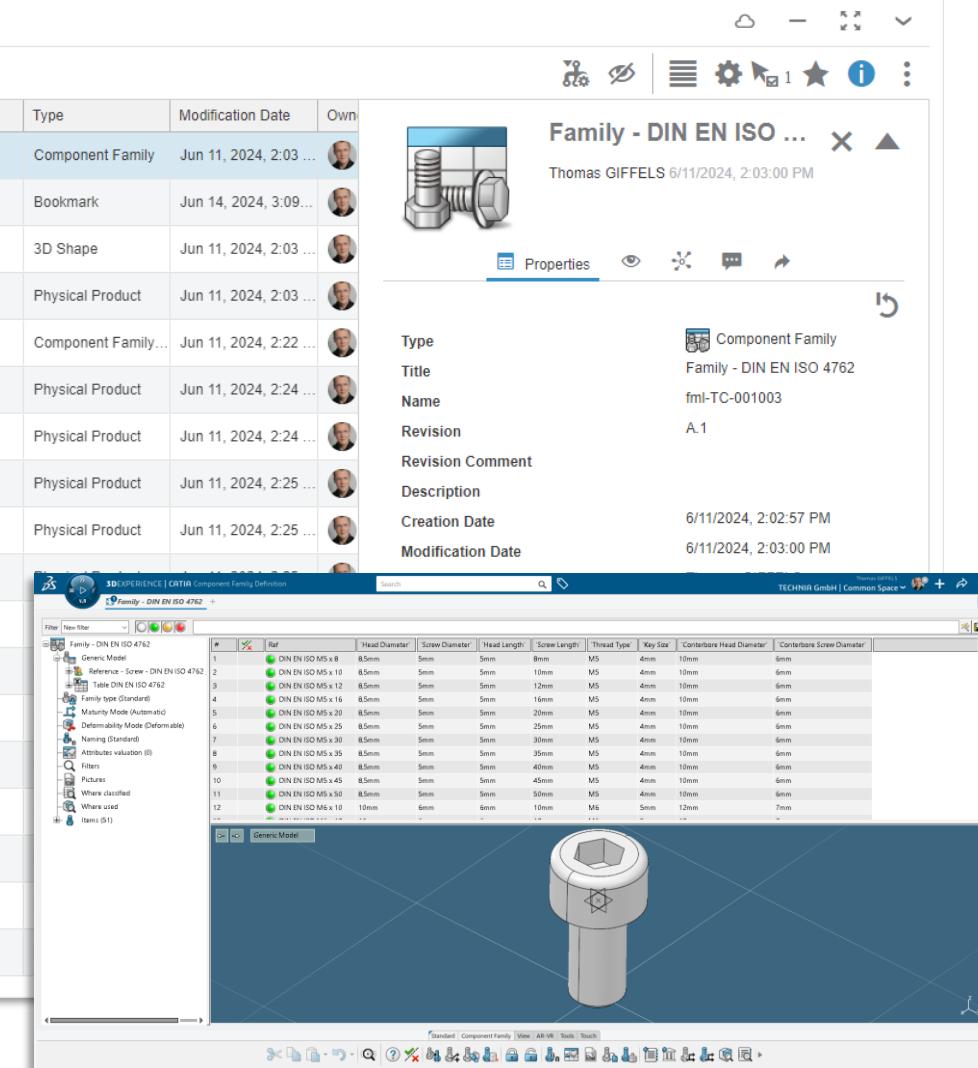
1	2	3	4		
Teilenummer	Benennung	M	e	s	m
1001.005.020.01.01	DIN EN 24032 - M6	6	11,1	10	5,2
1001.005.020.02.01	DIN EN 24032 - M8	8	14,4	13	6,8
1001.005.020.03.01	DIN EN 24032 - M10	10	17,8	16	8,4
1001.005.020.04.01	DIN EN 24032 - M12	12	20,0	18	10,8
1001.005.020.05.01	DIN EN 24032 - M16	16	26,8	24	14,8
1001.005.020.06.01	DIN EN 24032 - M20	20	33,0	30	18,0
1001.005.020.07.01	DIN EN 24032 - M24	24	39,6	36	21,5
1001.005.020.08.01	DIN EN 24032 - M30	30	50,9	46	25,6
1001.005.020.09.01	DIN EN 24032 - M36	36	60,8	55	31,0
1001.005.020.10.01	DIN EN 24032 - M42	42	71,3	65	34,0



PLM-Representation



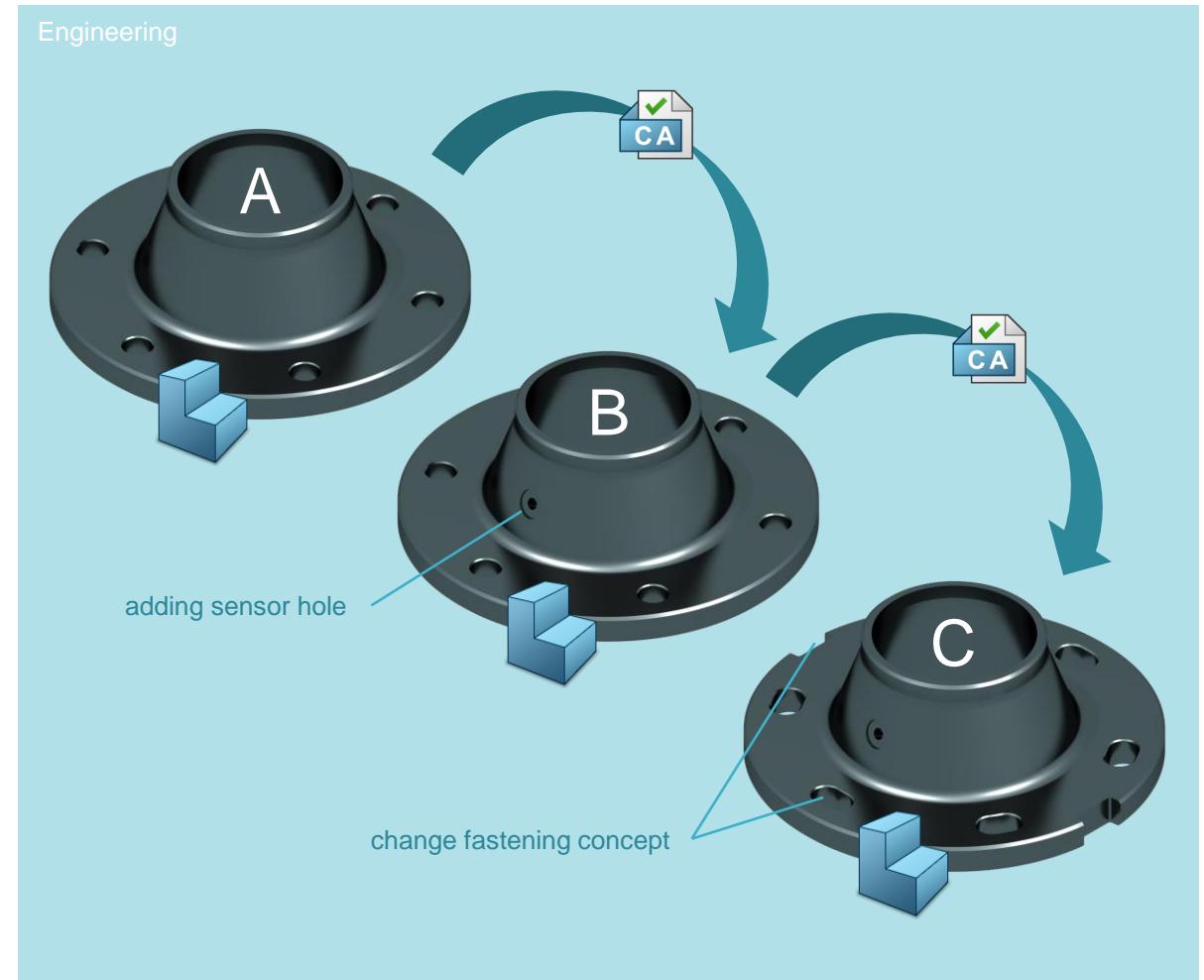
ENOVIA - Relations - All Relations (TECHNIA GmbH)					
Title		3 1/2	Relation	2 1/2	Revision
					Maturity State
<input checked="" type="checkbox"/>	<input type="checkbox"/>  Family - DIN EN ISO 4762			A.1	In Arbeit
<input type="checkbox"/>	 Component Family		Bookmarks	1	In Work
<input type="checkbox"/>	 3D Shape00438781		Engineering D...	A.1	RELEASED
<input type="checkbox"/>	 Reference - Screw - DIN...		Generic Model	A.1	RELEASED
<input type="checkbox"/>	 bb193158_b868_66683...		Representations	A.1	In Arbeit
<input type="checkbox"/>	 DIN EN ISO M10 x 16		Resolved Item	A.1	RELEASED
<input type="checkbox"/>	 DIN EN ISO M10 x 20		Resolved Item	A.1	RELEASED
<input type="checkbox"/>	 DIN EN ISO M10 x 25		Resolved Item	A.1	RELEASED
<input type="checkbox"/>	 DIN EN ISO M10 x 30		Resolved Item	A.1	RELEASED
<input type="checkbox"/>	 DIN EN ISO M10 x 35		Resolved Item	A.1	RELEASED
<input type="checkbox"/>	 DIN EN ISO M10 x 40		Resolved Item	A.1	RELEASED
<input type="checkbox"/>	 DIN EN ISO M10 x 45		Resolved Item	A.1	RELEASED
<input type="checkbox"/>	 DIN EN ISO M10 x 50		Resolved Item	A.1	RELEASED
<input type="checkbox"/>	 DIN EN ISO M10 x 55		Resolved Item	A.1	RELEASED
<input type="checkbox"/>	 DIN EN ISO M10 x 60		Resolved Item	A.1	RELEASED
<input type="checkbox"/>	 DIN EN ISO M10 x 65		Resolved Item	A.1	RELEASED
<input type="checkbox"/>	 DIN EN ISO M10 x 70		Resolved Item	A.1	RELEASED
<input type="checkbox"/>	 DIN EN ISO M10 x 80		Resolved Item	A.1	RELEASED



Physical Product informational extension

- Change History

	Datum / Date	Name					
Gezeichnet Drawn	15.02.2021	THG					
Geprüft Checked	28.02.2021	BRB	d	2316-010	Änderung Fase auf Radius	16.10.2023	MAH
Freigabe Release	02.03.2021	RAK	c	2211-105	Änderung der Oberflächeneigenschaft von Rz6,3 auf Rz4	18.03.2022	THG
Verantw. Abt. Respo. depart.	EN-AE-RD		b	2137-061	Hinzufügen von Einführfase an Bohrung für Sicherungsstift	14.09.2021	SAE
			a	2122-502	Änderung der Ebenheitstoleranz von 0,10 auf 0,05	02.06.2021	THG
Ref.	Nr. / No.		Änderung / Modification		Datum / Date		
Werkstoff / Material	1.4301 / X6CrNi18-10	Roheit / Raw Part	RP-1001.812.550.10.00	Gewicht / Weight	414 g		
Tolerierung Tolerancing	ISO 8015	Dokumentenart / Document type		Maßstab / Scale			
Allgemeintoleranzen General Tolerances	ISO 2768 - m	Einzelteil / Part	2:1				
Oberflächenbeschaffenheit Surface finish	Rz 16 (Rz 4)	Titel / Title	Sicherungsbolzen safety bolt	Blatt / Sheet	1	von / of	1
Allte nicht ben. Kanten mit unbestimmter Form All undefined edges with indeterminate shape	+0,10 / -0,25	Part-Nr. / Part number	FP-1001.503.550.20.10	Format / Size			
Ersetzbar durch / Replaceable by	FP-1001.503.201.22.00 / FP-1001.503.108.62.01						
5	6	7	8				



PLM-Representation

ENOVIA - Compare

Structure

Left	Right
0029.600.027.00.01 A.1	0029.600.027.00.01 D.1
0029.600.027.00.01	0029.600.027.00.01

Properties

Revision: A.1

3D View

ENOVIA - Collaborative Lifecycle

Flowchart:

```
graph LR; Privat --> InArbeit; InArbeit --> Eingeforen; Eingeforen --> Freigegeben; Freigegeben --> Veraltet; Freigegeben --> Eingeforen; Eingeforen --> InArbeit; Freigegeben --> MakeObsolete
```

Graph

Title	Maturity State	Revision Comment
0029.600.027.00.01 D.1	Freigegeben	adding chamfer
0029.600.027.00.01 C.1	Freigegeben	
0029.600.027.00.01 A.1	Eingeforen	adding tube spacing square
0029.600.027.00.01 A.1	Eingeforen	adding tube spacing round
0029.600.027.00.01 B.1	Freigegeben	adding contact surfaces
0029.600.027.00.01 A.1	Freigegeben	

ENOVIA - Change Execution

CA-CS-00000029

0029.600.027.00.01

Maturity State: Draft

Owner: Thomas GIFFELS

Collaborative Space: Common Space

Members

- Thomas GIFFELS (Owner)
- Ralf Kirchheim (Approver)
- Sait Ekici (Assignee)
- Bruce BROCKMANN (Informed User)

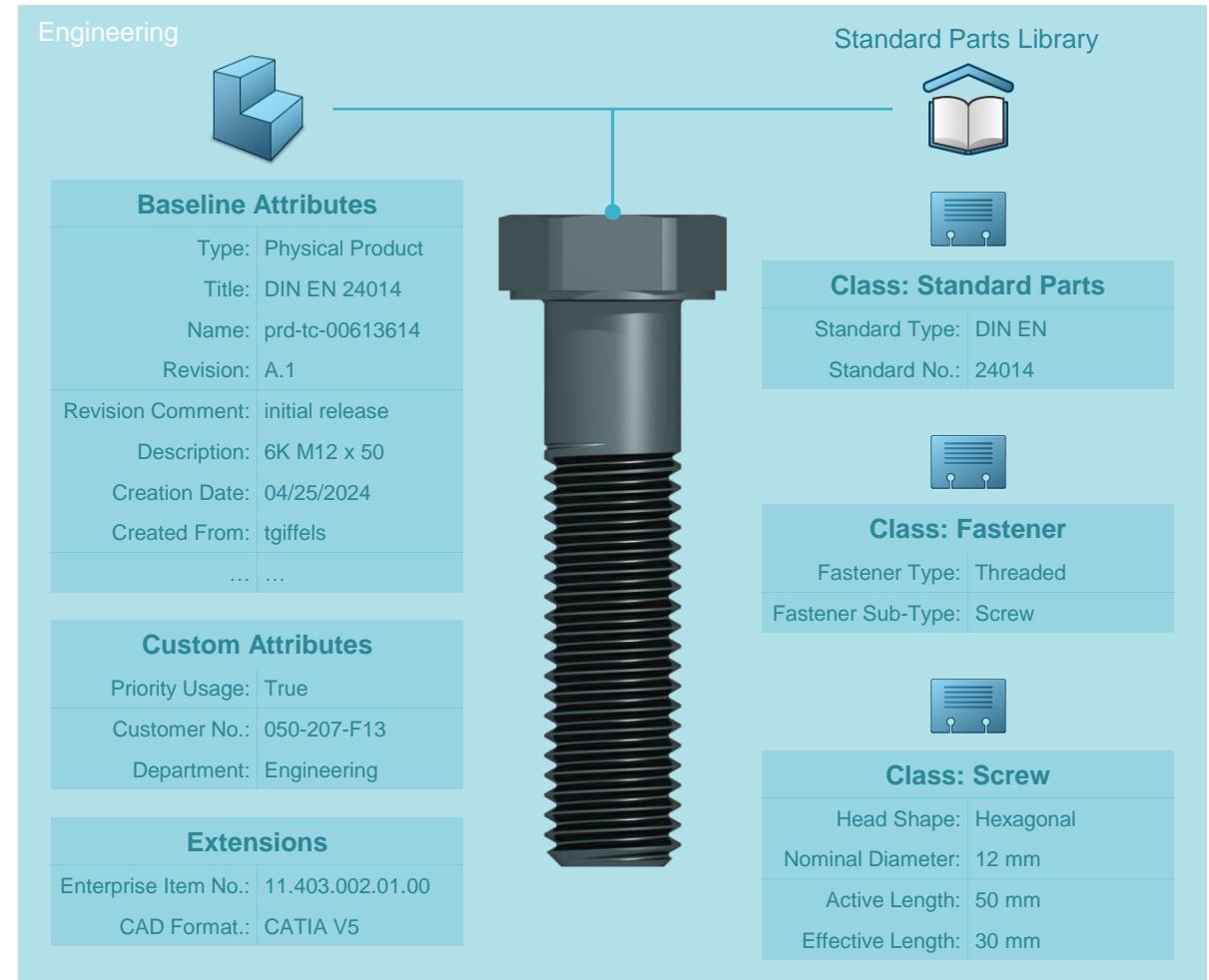
Total Items: 4 Selected Items: 1

Physical Product informational extension

- Attribute and Classification

GENERAL NOTES			
Customer Note: consider customer compliance note AIRBUS 387.229-27			
Warehousing Note: condition for warehousing according CS02056 parts must be separated from contact and be treated in advance with anti-corrosion			
Quality Note: follow quality standard CS27726			
1	2	3	4

Gezeichnet, Drawn	Datum / Date	Name				
15.02.2021	THG					
Geprüft, Checked	28.02.2021	BRB				
Freigabe/ Release	02.03.2021	RAK				
Verantw. Abt. Resp. depart.	EN-AE-RD					
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TECHNIA GmbH						
5	6		7	8		



PLM-Representation

ENOVA - Information - Sechskantmutter - DIN 936 - M6

Sechskantmutter - DIN 936 - M6 A.1

Thomas GIFFELS 4/28/2023, 2:41:26 PM

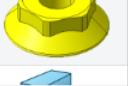


Properties

Owner	Thomas GIFFELS
Organization	TECHNIA GmbH
Collaborative Space	Common Space
Locked By	
Manufacturable/Procurable	True
CS Sait	
Weight	0 g
Freigabedatum	
Freigabename	
Intended Application	empty
LCA Request Status	
TCCAttr	
TestAttr	
V5_Identifier	
Normteile	
DIN Standard	DIN 936
ISO Standard	ISO 8675
Muttern	
Nominal Diameter	6 mm
Nominal Length	2.9 mm
Tool Shape	External Hex

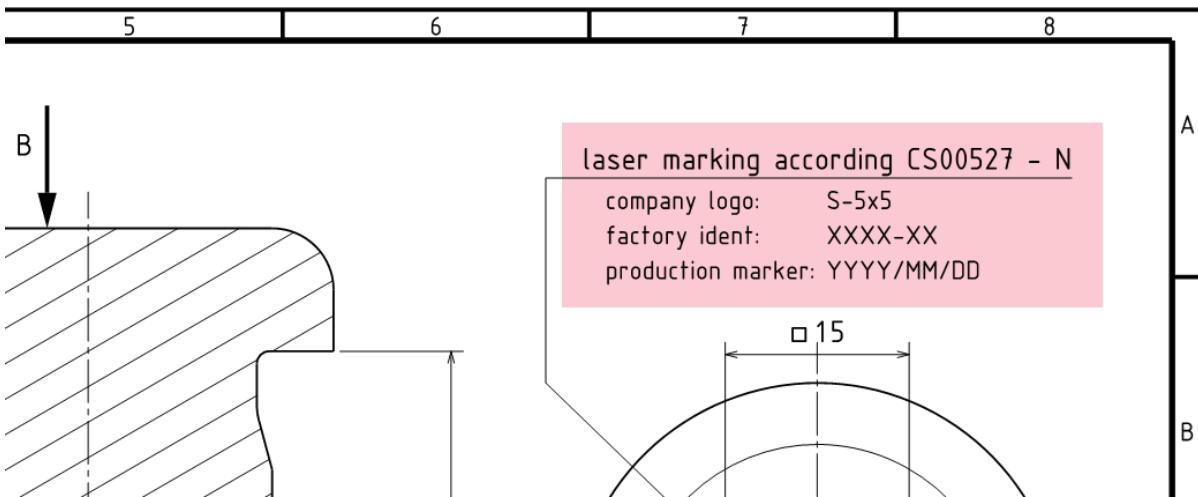
ENOVA - IP Classify & Reuse - Common Space - Muttern (TECHNIA GmbH)

CS Demo Classifications > Bauteilgruppe > Normteile > Muttern

Title	Thumbnail	Revision	Maturity State	Type	Description	Owner
Sechskantmutter - DIN 936 - M6		A.1	in WORK	Physical Product	Thomas GIFFELS	
Sechskantmutter - DIN 936 - M5		A.1	in WORK	Physical Product	Thomas GIFFELS	
Sechskantmutter - DIN 936 - M8		A.1	in WORK	Physical Product	Thomas GIFFELS	
Sechskantmutter - DIN 936 - M10		A.1	in WORK	Physical Product	Thomas GIFFELS	
Sechskantmutter - DIN 6923 - M10		A.1	in WORK	Physical Product	Thomas GIFFELS	
Sechskantmutter - DIN 6923 - M8		A.1	in WORK	Physical Product	Thomas GIFFELS	
Sechskantmutter - DIN 6923 - M6		A.1	in WORK	Physical Product	Thomas GIFFELS	
Sechskantmutter - DIN 6923 - M5		A.1	in WORK	Physical Product	Thomas GIFFELS	

Physical Product informational extension

- Specification and Attachment



PLM-Representation

The image displays a screenshot of a Product Lifecycle Management (PLM) system interface. On the left, a 3D model of a tool, specifically a 'Schubstangenspanner mini Form B' (Pushrod Clamp mini Form B), is shown in blue wireframe. The model is mounted on a coordinate system with axes X, Y, and Z. Below the 3D view is a toolbar with icons for Edit, View, Tools, and various selection and modification tools. A status bar at the bottom left indicates 'Loading complete'.

The central part of the interface is a document browser titled 'NORELEM 05159-B A.1' with a creation date of 'Thomas GIFFELS 6/24/2024, 2:36:47 PM'. It lists three documents:

- 05159-B - Neutralformat STEP (Document | 0 | Jun 24, 2024, 2:39 PM) - Status: In Work
- NORELEM 05159-B - Datenblatt (Document | 0 | Jun 24, 2024, 2:39 PM) - Status: In Work
- NORELEM 05159-B - Zeichnung (Document | 0 | Jun 24, 2024, 2:39 PM) - Status: In Work

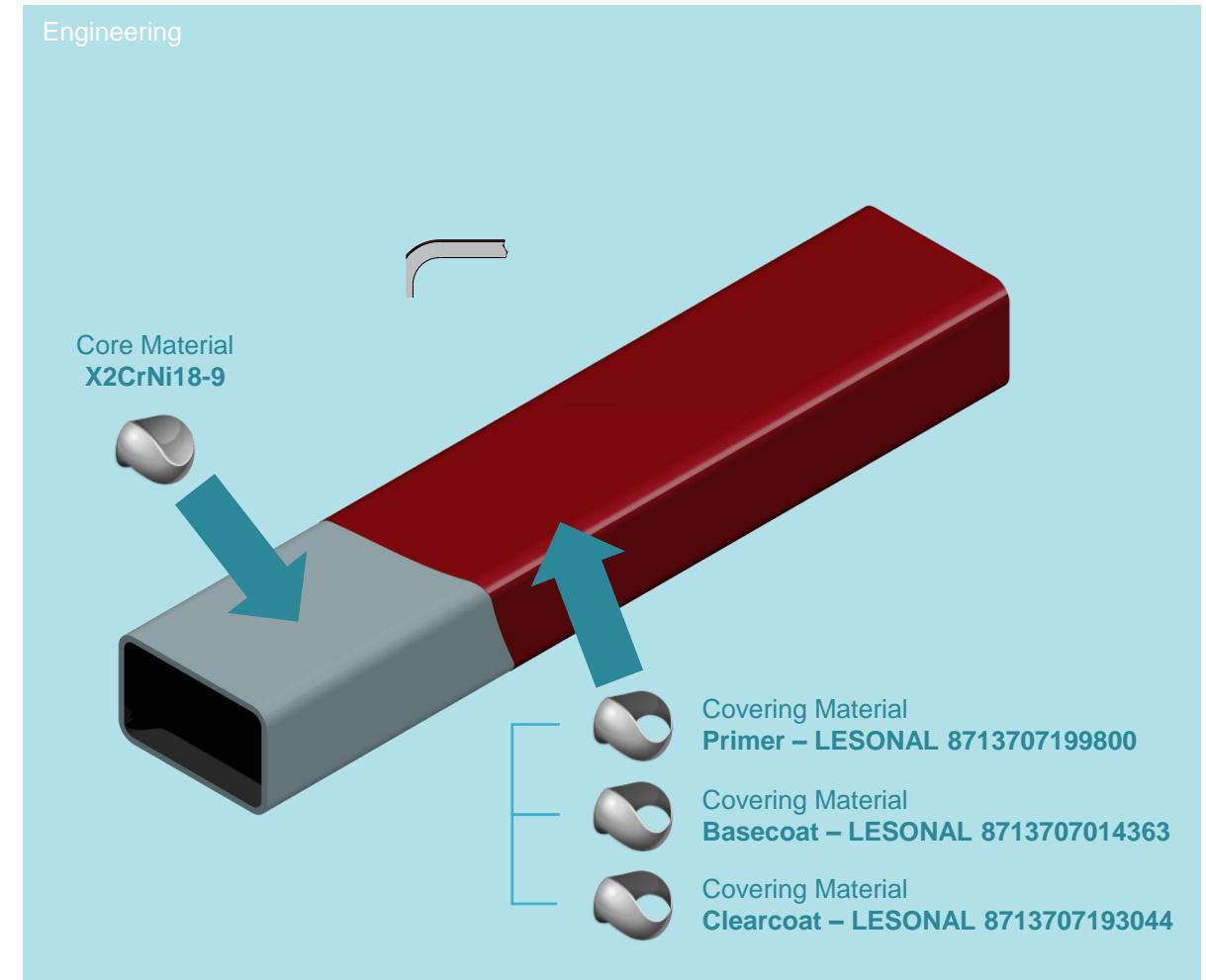
On the right, there are two 3DPlay windows. The top one shows a detailed view of the tool with a red handle and a metal body. It includes a description, material information (Steel), and execution details (zinc-plated and passivated, plastic handle). A note states that the clamps have a very low profile and can be used in both closed and open positions. The bottom 3DPlay window shows a table of technical specifications:

BEST (Bestellnummer)	05159-20050
POS (Position Hebel)	Hebel offen
FORM (B
S (Hub / mm)	16
F2 (Haltekraft F2 / N)	500
F1 (Spannkraft F1 / N)	500
GEW (Gewicht ca. / kg)	0.0548
BS (Beschreibung)	Infotext
ROHS (RoHS)	Yes
ZIN (Zollzinenummer)	82057000
EAN (EAN-Nr. norelem)	4059495773735
EOL (End of life)	31.12.2099
STDLZ (Standardlieferzeit)	98% Warenverfügbarkeit. Nahezu alle Artikel aus dem Sortiment sind lagerhaltig verfügbar und werden nach Auftragseingang umgehend aus dem Zentrallager versendet. Nicht lagernde Artikel werden in der Regel zeitnah beschafft. Alle Verfügbarkeiten werden im Shop

Physical Product informational extension

- Material Assignment

	Datum / Date	Name			
Gezeichnet Drawn	15.02.2021	THG			
Geprüft Checked	28.02.2021	BRB	d 2316-010 Änderung Fase auf Radius	16.10.2023	MAH
Freigabe Release	02.03.2021	RAK	c 2211-105 Änderung der Oberflächeneigenschaft von Rz6.3 auf Rz4	18.03.2022	THG
Verantw. Abt. Responsible department	EN-AE-RD		b 2137-061 Hinzufügen von Einführfase an Bohrung für Sicherungsstift	14.09.2021	SAE
			a 2122-502 Änderung der Ebenheitstoleranz von 0,10 auf 0,05	02.06.2021	THG
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TECHNIA GmbH			Werkstoff / Material	1.4301 / X6CrNi18-10	Rohteil / Raw Part
					RP-1001.812.550.10.00
			Tolerierung Tolerancing	ISO 8015	Dokumentenart / Document type
			Allgemeintoleranzen General Tolerances	ISO 2768 - m	Einzelteil / Part
			Oberflächenbeschaffenheit Surface finish	Rz 16 (Rz 4)	Maßstab / Scale
			Alle nicht ben. Kanten mit unbestimmter Form All undefined edges with indeterminate shape	+0,10 / -0,25	2:1
			Satz-Nr. / Part number	FP-1001.503.550.20.10	Blatt Sheet
					von of
					1 1
			Ersetzbar durch / Replaceable by	FP-1001.503.201.22.00 / FP-1001.503.108.62.01	Format / Size
5	6	7	8		DIN A3



PLM-Representation

The image displays three screenshots of a PLM (Product Lifecycle Management) system interface, specifically ENOVIA, showing the representation of a bearing assembly.

Left Screenshot (ENOVIA - Engineering Release - Gelenkwelle Nabenseite): This screenshot shows a list of components in the assembly. The assembly is named "Gelenkwelle Nabenseite A". It includes a Schweisskonstruktion Nabe, Nabe mit Zahnprofil, Anschweißbolzen, Zusammenbau Gelenk, Gelenk Klammer, Gelenk Klammer, Kreuzverbinder, and several Zylinderschrauben ISO 14571. The table provides details like core material (e.g., X5CrNi18-10 A), covering material (e.g., NIDUR-P8 A.1, COSMOLACK - RAL 5010 A.1), and modification date (e.g., 6/19/2023 4:42:11 PM).

Thumbnail	Title	Ent...	Re...	Core Material	Covering Material	Covering Material (Instance)	Title (Inst...
1	Schweisskonstruktion Nabe	None	A	None	None	None	Schweiss...
2	Nabe mit Zahnprofil	None	A	X5CrNi18-10 A	NIDUR-P8 A.1	COSMOLACK - RAL 5010 A.1	Nabe mit...
3	Anschweißbolzen	None	A	X5CrNi18-10 A	None	None	Anschwei...
4	Zusammenbau Gelenk	None	A	None	None	None	Zusamm...
5	Gelenk Klammer	None	A	X5CrNiMo17-12-2 A	None	None	Gelenk K...
6	Gelenk Klammer	None	A	X5CrNiMo17-12-2 A	None	None	Gelenk K...
7	Kreuzverbinder	None	A	X5CrNiMo17-12-2 A	None	None	Kreuzver...
8	Zylinderschrauben ISO 145...	None	A	X5CrNi18-10 A	None	None	Zylinders...
9	Zylinderschrauben ISO 145...	None	A	X5CrNi18-10 A	None	None	Zylinders...
10	Zylinderschrauben ISO 145...	None	A	X5CrNi18-10 A	None	None	Zylinders...
11	Zylinderschrauben ISO 145...	None	A	X5CrNi18-10 A	None	None	Zylinders...

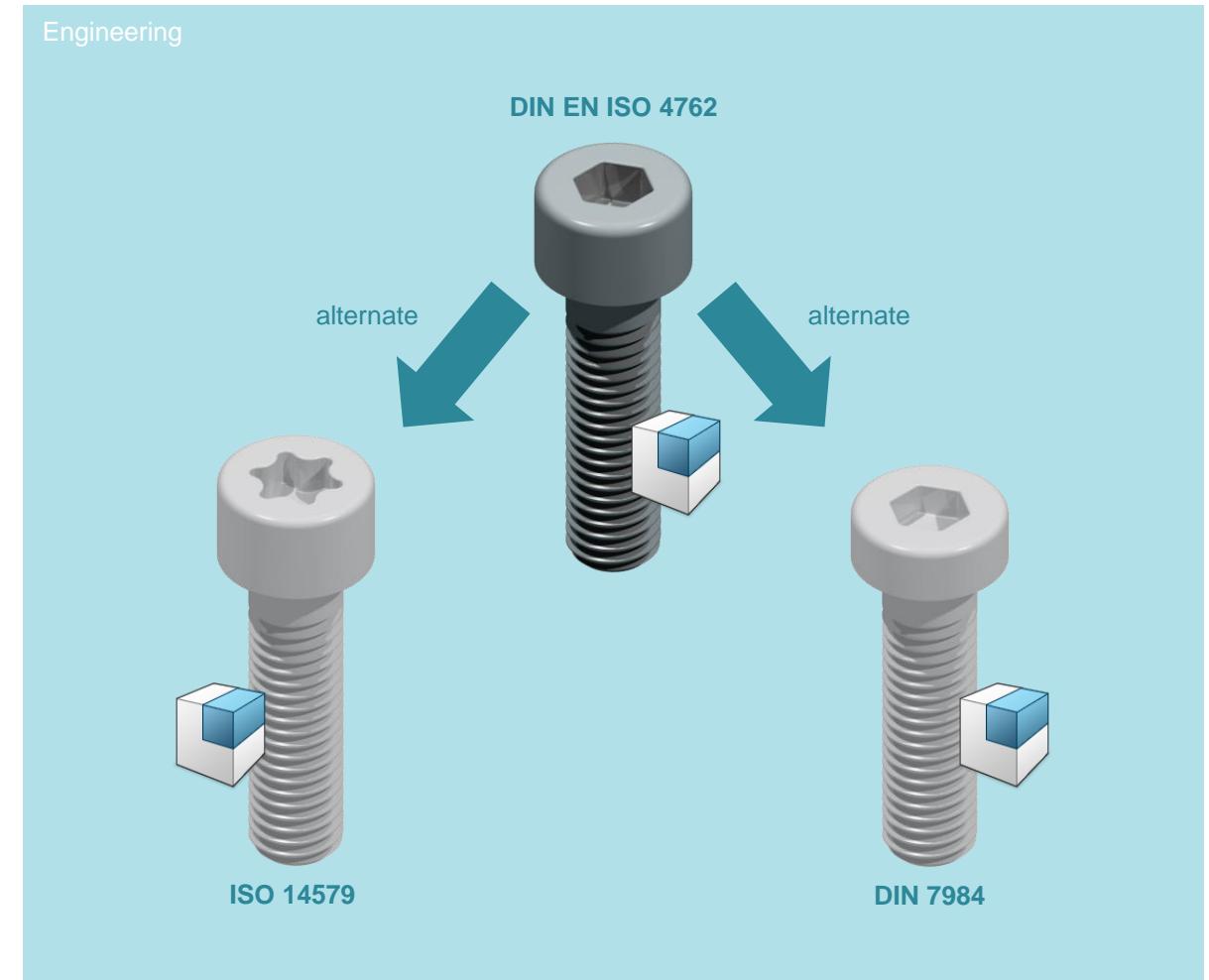
Middle Screenshot (3DPlay): This screenshot shows the "Nabe mit Zahnprofil A" component in detail. It displays the core material (X5CrNi18-10), covering material (NIDUR-P8), and covering material instance (COSMOLACK - RAL 5010). The component is shown in a 3D perspective view with a blue color scheme.

Right Screenshot (3DPlay): This screenshot shows the "Gelenkwelle Nabenseite" assembly in 3D. The assembly is shown in a 3D perspective view with a purple color scheme. A specific part of the assembly is highlighted with a blue circle, indicating a focus or selection.

Physical Product informational extension

- Alternate Usage

	Datum / Date	Name			
Gezeichnet / Drawn	15.02.2021	THG			
Geprüft / Checked	28.02.2021	BRB	d 2316-010	Änderung Fase auf Radius	16.10.2023 MAH
Freigabe / Release	02.03.2021	RAK	c 2211-105	Änderung der Oberflächeneigenschaft von Rz6.3 auf Rz4	18.03.2022 THG
Verantw. Abt. / Resp. depart.	EN-AE-RD		b 2137-061	Hinzufügen von Einführfase an Bohrung für Sicherungsstift	14.09.2021 SAE
			a 2122-502	Änderung der Ebenheitstoleranz von 0,10 auf 0,05	02.06.2021 THG
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TECHNIA GmbH					
5	6		7	8	



PLM-Representation

ENOVA - Engineering Release - 6309.207.050.02.00

6309.207.050.02.00 A.1

Maturity State : **Freigegeben** Make obsolete Type : Physical Product
Owner : Thomas GIFFELS
Modification Date : 6/24/2024 4:01:52 PM

4 Items

Title	Enterprise Ite...
0029.600.027.00.01	None
0526.309.005.00.00	None
1025.509.075.00.22	None
1025.509.075.00.22	None

Information - Interchangeability for 1025.509...

Interchangeability for 1025.509...

Thomas GIFFELS 6/24/2024, 4:08:14 PM

Properties Change Alternate

Type : Alternate Reference
Name : alt-ref-10651719238093932
Revision : A
Description :
Creation Date : 6/24/2024, 4:08:14 PM
Modification Date : 6/24/2024, 4:08:14 PM
Owner : Thomas GIFFELS
Organization : TECHNIA Customer Success
Collaborative Space : Common Space
Maturity State : Proposed

1025.509.075.00.22 A.1

Thomas GIFFELS 6/24/2024, 3:44:22 PM

Selected usage : (1 Physical Product Instance) Physical Product00059145.1

1032.205.113.05.01 A.1
Maturity State: Released
Proposed for selected usage
All usages under 6309.207.050.02.00 A.1

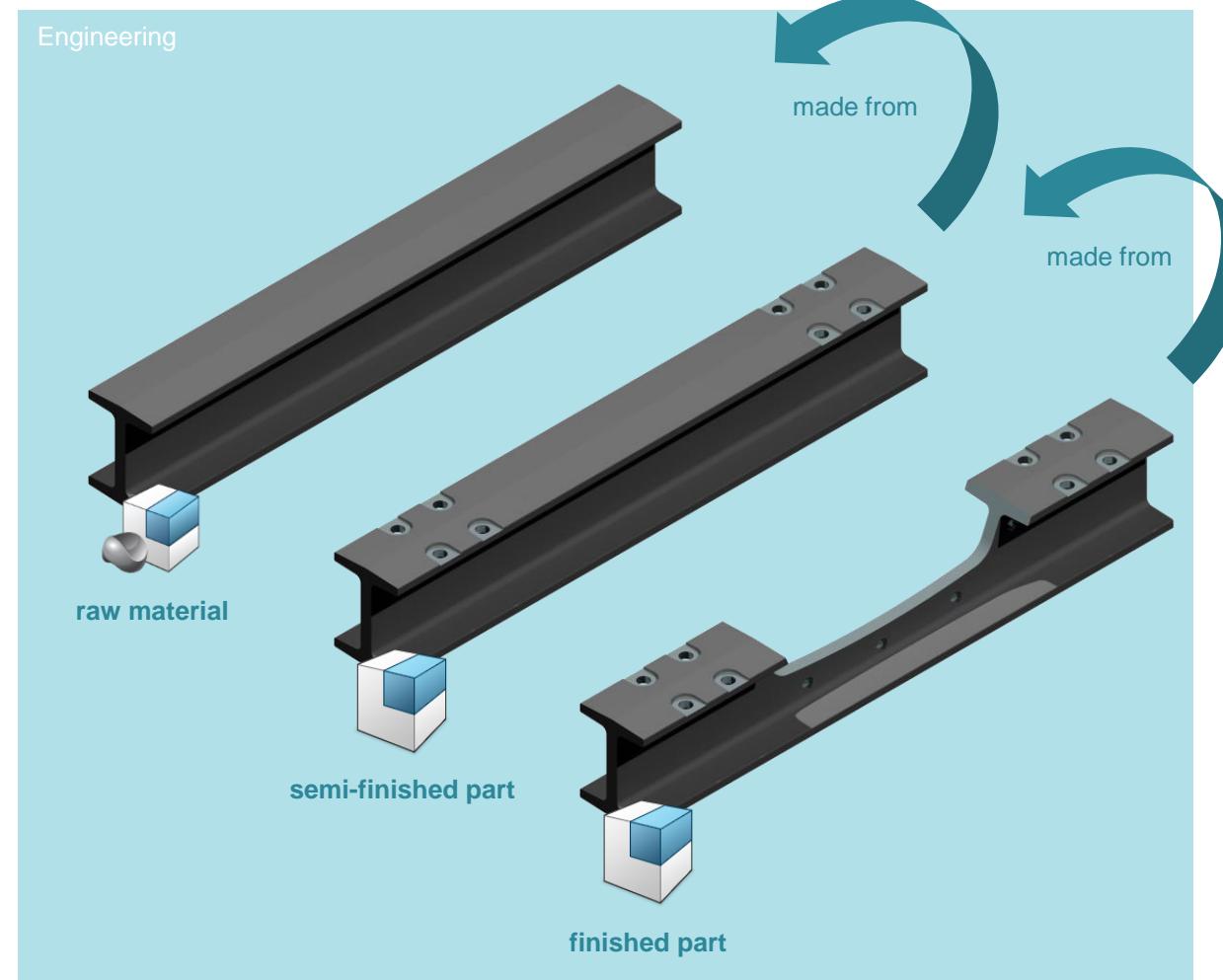
1076.204.030.00.16 A.1
Maturity State: Released
Proposed for selected usage
Usage Physical Product00059145.1



Physical Product informational extension

- Made From

	Datum / Date	Name				
Gezeichnet Drawn	15.02.2021	THG				
Geprüft Checked	28.02.2021	BRB	d 2316-010	Änderung Fase auf Radius	16.10.2023	MAH
Freigabe Release	02.03.2021	RAK	c 2211-105	Änderung der Oberflächeneigenschaft von Rz6.3 auf Rz4	18.03.2022	THG
Verantw. Abt. Responsible department	EN-AE-RD		b 2137-061	Hinzufügen von Einführfase an Bohrung für Sicherungsstift	14.09.2021	SAE
			a 2122-502	Änderung der Ebenheitstoleranz von 0,10 auf 0,05	02.06.2021	THG
Ref.	Nr. / No.	Änderung / Modification		Datum / Date	Name	
Werkstoff / Material	1.4301 / X6CrNi18-10	Rohteil / Raw Part	RP-1001.812.550.10.00	Gewicht / Weight	414 g	
Tolerierung Tolerancing	ISO 8015	Dokumentenart / Document type		Maßstab / Scale		
Allgemeintoleranzen General tolerances	ISO 2768 - m	Titel / Title	Sicherungsbolzen safety bolt	Blatt / Sheet	1	von of
Oberflächenbeschaffenheit Surface finish	Rz 16 (Rz 4)	Part-Nr. / Part number	FP-1001.503.550.20.10	Format / Size	DIN A3	
Allte nicht ben. Kanten mit unbestimmter Form All undefined edges with indeterminate shape	+0,10 / -0,25	Ersetzbar durch / Replaceable by	FP-1001.503.201.22.00 / FP-1001.503.108.62.01			
TECHNIA GmbH	5	6	7	8		



PLM-Representation

ENOVA - Specification Management

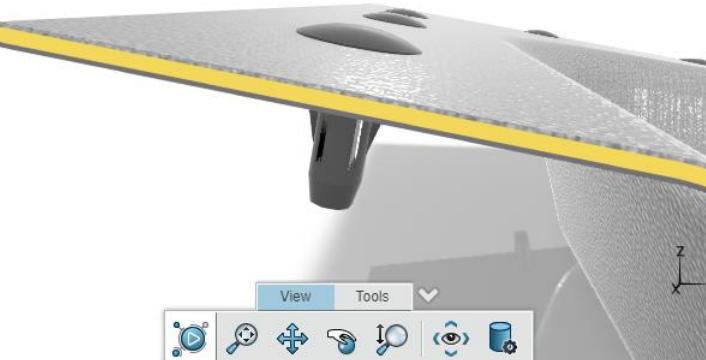
In-Process Items

1 Item

	Title	Actions	Enterprise Ite...	Type	Name
1	Carrier	...		Raw Material	RM-C
2	Foam	...		Raw Material	RM-C
3	Cotton	...		Raw Material	RM-C
4	2501.030.207.05.00	...		Physical Product	prd-C
5	0375.605.102.00.02	...		Physical Product	prd-C

3DPlay

2501.030.207.05.00



ENOVA - Engineering Release - 2501.030.207.05.00

2501.030.207.05.00 A.1

Maturity State: In Arbeit Freeze Type: Physical Product
Owner: Thomas GIFFELS
Modification Date: 6/24/2024 4:55:45 PM

7 Items

Thumbnail	Title	Made From
	0539.201.050.00.00	Carrier A.1 (200.0 cm ²), Foam A.1 (200.0 cm ²), Cotto...
	0375.605.102.00.02	None

0539.201.050.00.00 A.1

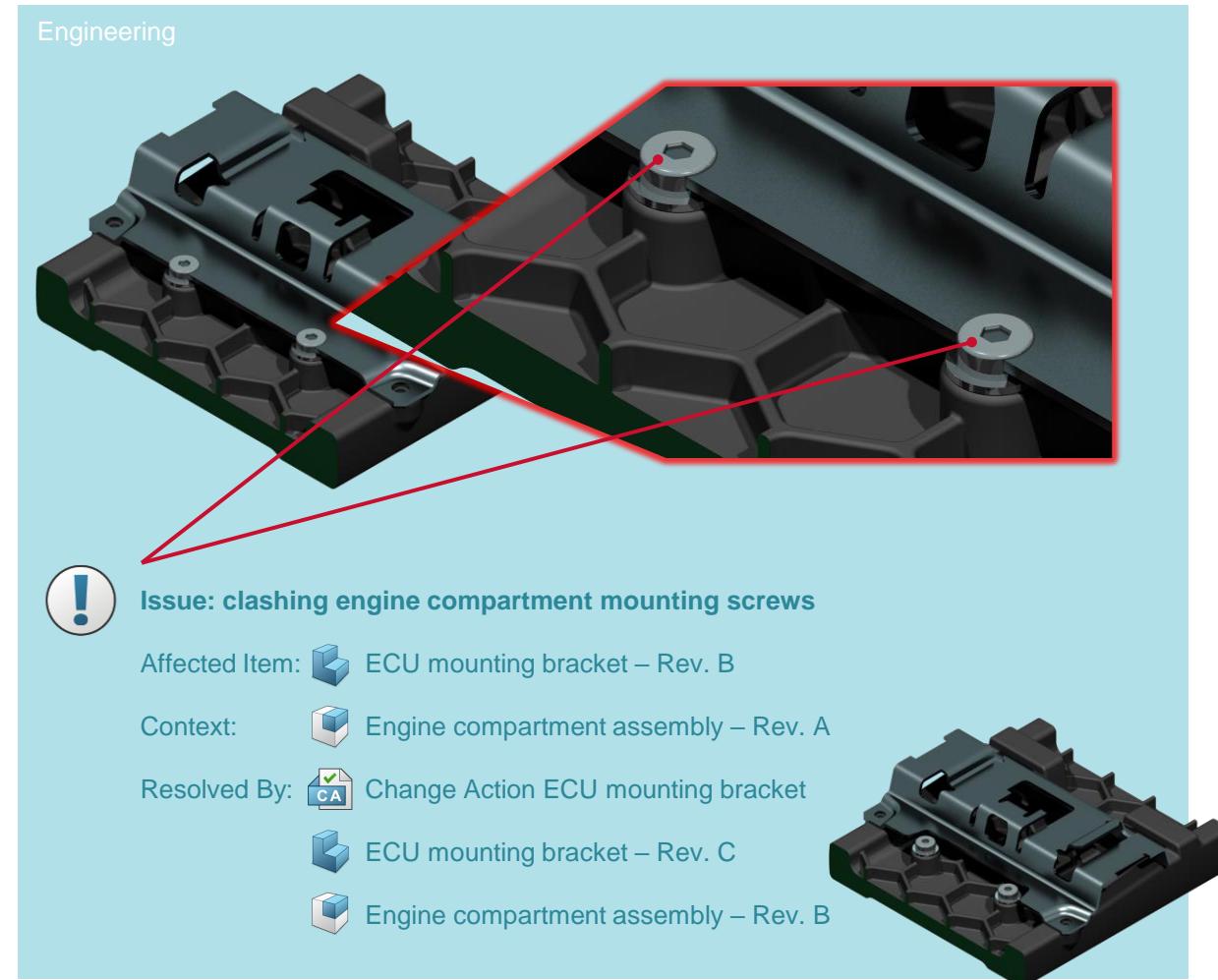
Thomas GIFFELS 6/24/2024, 5:10:53 PM

Title	Actions	Enterprise Ite...	Quantity	Material	Type
Cotton	...		200.0cm ²	Cover Cotton A.1	Raw Material
Carrier	...		200.0cm ²	Base Composite A.1	Raw Material
Foam	...		200.0cm ²	Foam A.1	Raw Material

OBJECT DEFINITION BY INDIRECT REFERENCES

Related Process information

- Issue Capturing



PLM-Representation

ENOVIA - Issue Management - My Issues (18)

My Issues

Title	Name	Maturity State	Description	Actions
+ BELUTEC Meeting	ISS-TC-0000267	Zuweisen	BELUTEC_Standbohrm...	▼
<input checked="" type="checkbox"/> Maschine muss verschoben werden	ISS-TC-0000266	Zuweisen	kollidiert mit pfeiler	▼
+ CNC Machine Center_22B5BDFA...	prd-TC-00616402	in WORK		▼
+ INVENTOR Import Plant	prd-TC-00616382	in WORK		▼
+ Handauflage blättert mit der Zeit ab	ISS-TC-0000264	Zuweisen	Schlechte Materialwahl	▼
+ Klipphaken	ISS-TC-0000263	Zuweisen	Physics Simulation0000...	▼
+ es quietsch und knarzt	ISS-TC-0000262	Zuweisen	alles irgendwie blöd	▼
+ Gehäuse wackelt	ISS-TC-0000260	Zuweisen	Schrauben zu schwach	▼
+ Gewinde überdreht	ISS-TC-0000259	Überprüfen	Kunde hat zu große Ro...	▼
+ Schloss quietscht	ISS-TC-0000258	Zuweisen	Kunde hat Tinnitus	▼
+ Hydraulikzylinder undicht	ISS-TC-0000253	Aktiv		▼
+ Schweißnaht gerissen	ISS-TC-0000252	Zuweisen		▼
+ Bewertung Alt vs. neu Daimler	ISS-TC-0000247	Erstellen	DAIMLER Metallteil Ver...	▼
+ CRAEMER - Konstruktionsabnahme nicht...	ISS-TC-0000245	Erstellen	<p>Also so richtig fertig ...	▼
+ Craemer Lösungsfund	ISS-TC-0000244	Zuweisen		▼
+ CRAEMER - Konstruktionsabnahme nicht...	ISS-TC-0000243	Erstellen	<p>Gefällt mir so nicht<...	▼
+ Formplatte hat falsches material	ISS-TC-0000239	Zuweisen		▼
+ Drehmoment auf 100Nm erhöhen	ISS-TC-0000238	Zuweisen	Undichtigkeit bei hohem...	▼
+ Drive Shaft - Cleavage Fracture	ISS-TC-0000225	Aktiv	breaking splined shaft b...	▼
+ Drive Shaft mounting Issue	ISS-TC-0000181	Aktiv	When trying to mount th...	▼

ENOVIA - Issue 3D Review - My issues (1)

Inspecting 1 issue(s)

With Context

Switch the Contents

Maschine muss verschob...

Updated 16 second(s) ago

CNC Machine Center_22B5BDFA...

kollidiert mit pfeiler

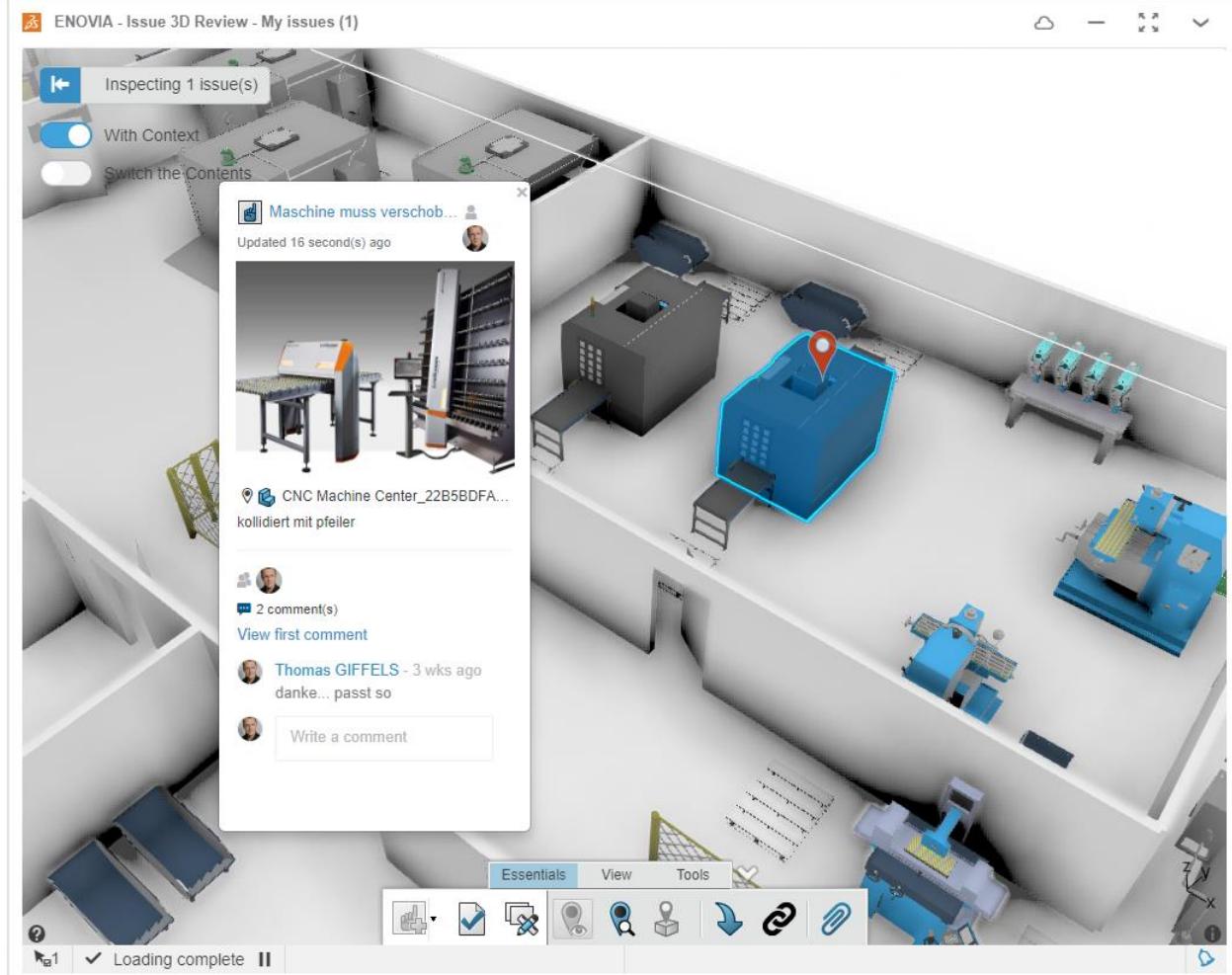
2 comment(s)

View first comment

Thomas GIFFELS - 3 wks ago

danke... passt so

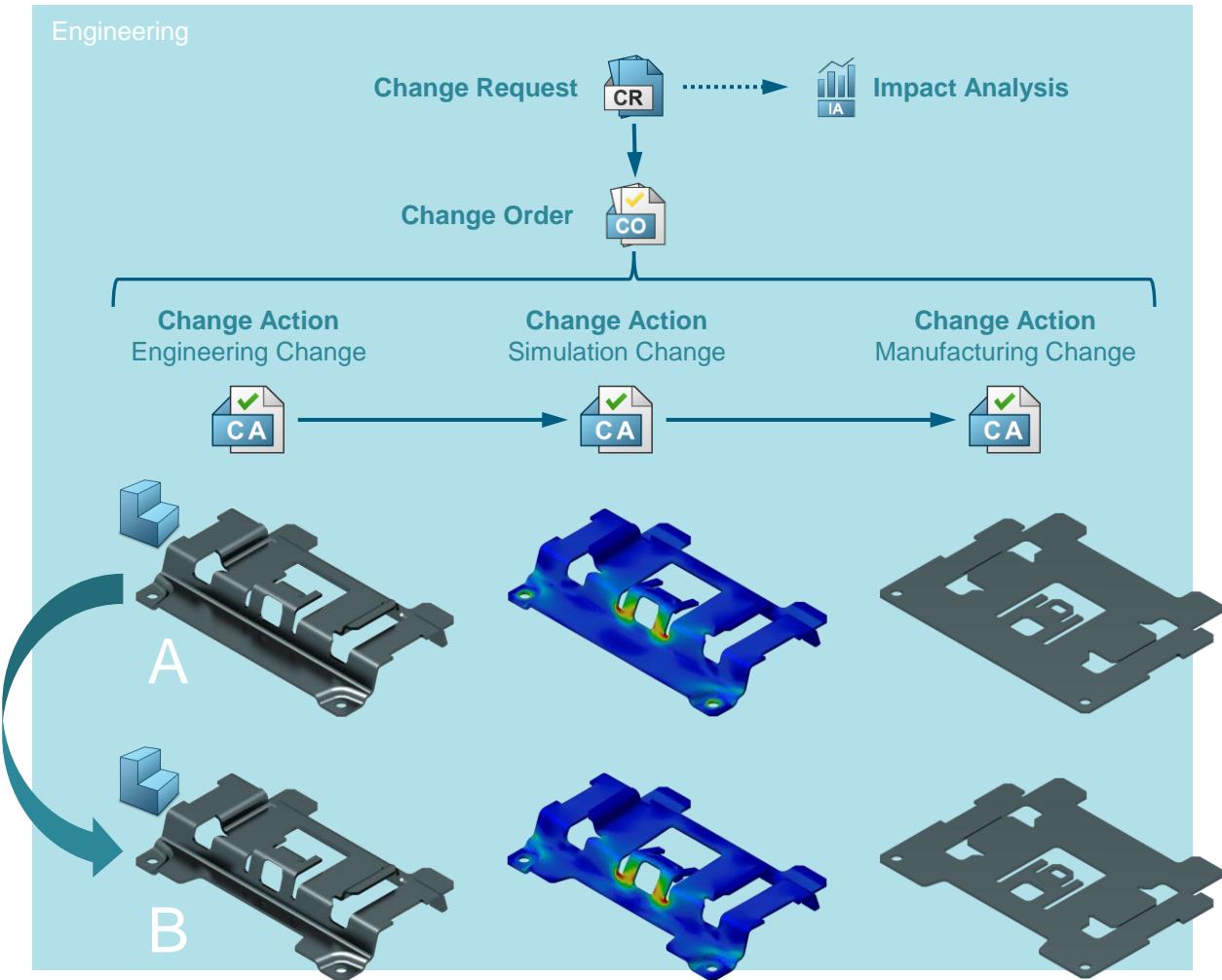
Write a comment



Essentials View Tools

Related Process information

- Change Documentation



PLM-Representation

ENOVIA - Change Governance

CR-0000183

CR - 272668-002
Maturity State: **Draft**
Owner: Thomas GIFFELS
Collaborative Space: Common Space

Affected Items

Title	Name	Revision	Maturity State	Reason for c
1 CA_01 - Gelenkwelle Nabe...	prd-TC-00425138	A.1	RELEASED	
2 CA_01 - Welle mit Zahnprofil	prd-TC-00425133	A.1	RELEASED	
3 CA_01 - Gelenkwelle Welle...	prd-TC-00425143	A.1	RELEASED	
4 CA_01 - Nabe mit Zahnprofil	prd-TC-00425142	A.1	RELEASED	
5 CA_01 - Schweisskonstrukt...	prd-TC-00425135	A.1	RELEASED	
CA_01 - Gelenkwelle Zusa...	prd-TC-00425134	A.1	RELEASED	

Total Items: 6 Selected Items: 1

ENOVIA - Relations - All Relations (TECHNIA GmbH)

Total Items: 3 Selected Items: 0

ENOVIA - Change Governance

CO-0000173

CO - 192878-050
Maturity State: **Draft**
Owner: Thomas GIFFELS
Collaborative Space: Common Space

Change Orchestration **Members** **Approvals**

Proposed Changes | 3

Change	Details
CA - 722637-002	CA-TC-00001512 Thomas ... Draft
CA - 722612-003	CA-TC-00001511 Thomas ... Draft
CA - 722569-001	CA-TC-00001510 Thomas ... Draft

Total Items: 3 Selected Items: 0

ENOVIA - Change Governance

CA-TC-00001510

CA - 722569-001
Maturity State: **Draft**
Owner: Thomas GIFFELS
Collaborative Space: Common Space

Members **Proposed Changes** **Realized Changes** **Approvals**

Proposed Changes | 3

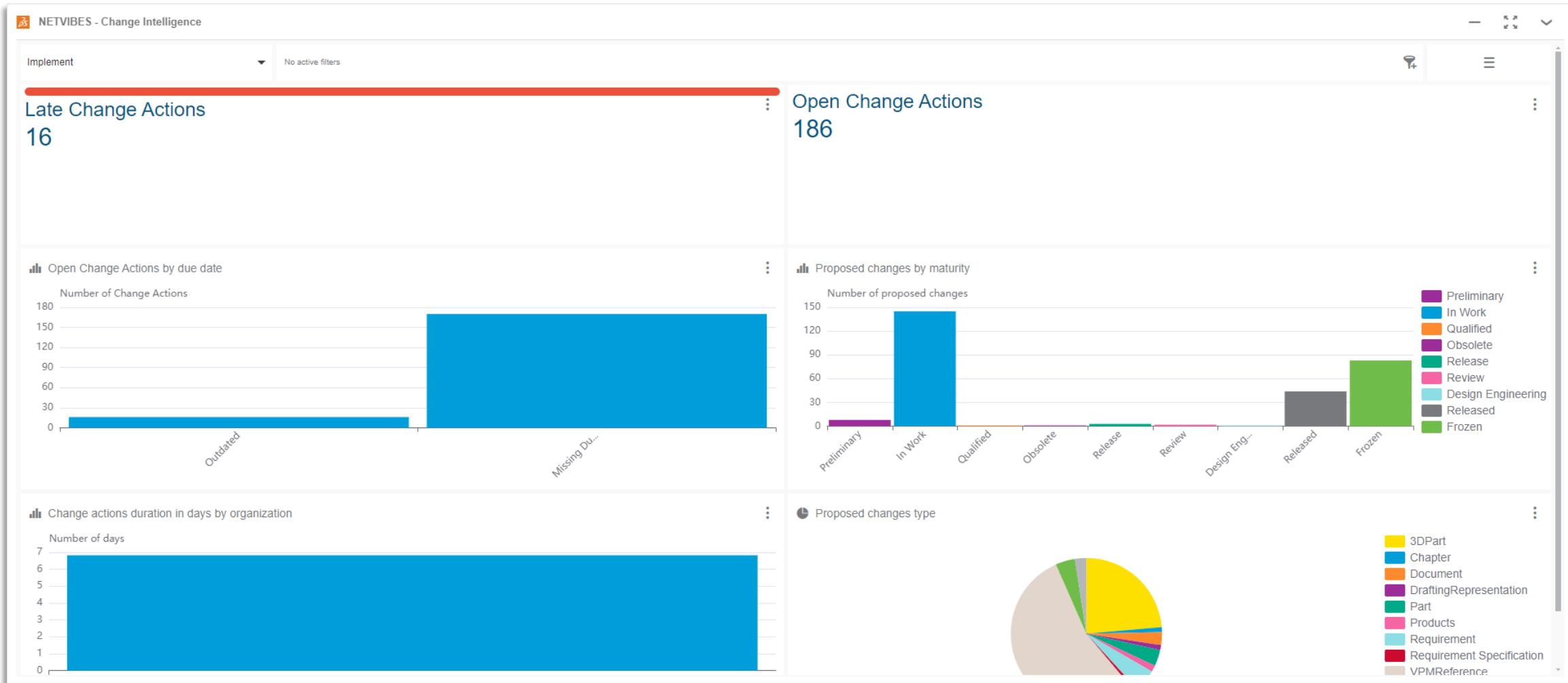
Change	Details
CA_01 - We... A.1	Name: prd-TC-00425133 Maturity State: Released Operation: Revision Collab Space: Common Space Proposal Status: Not Started
CA_01 - Gel... A.1	Name: prd-TC-00425134 Maturity State: Released Operation: Revision Collab Space: Common Space Proposal Status: Not Started
CA_01 - Na... A.1	Name: prd-TC-00425142 Maturity State: Released Operation: Revision Collab Space: Common Space Proposal Status: Not Started

Activities | 0

Activities | 0

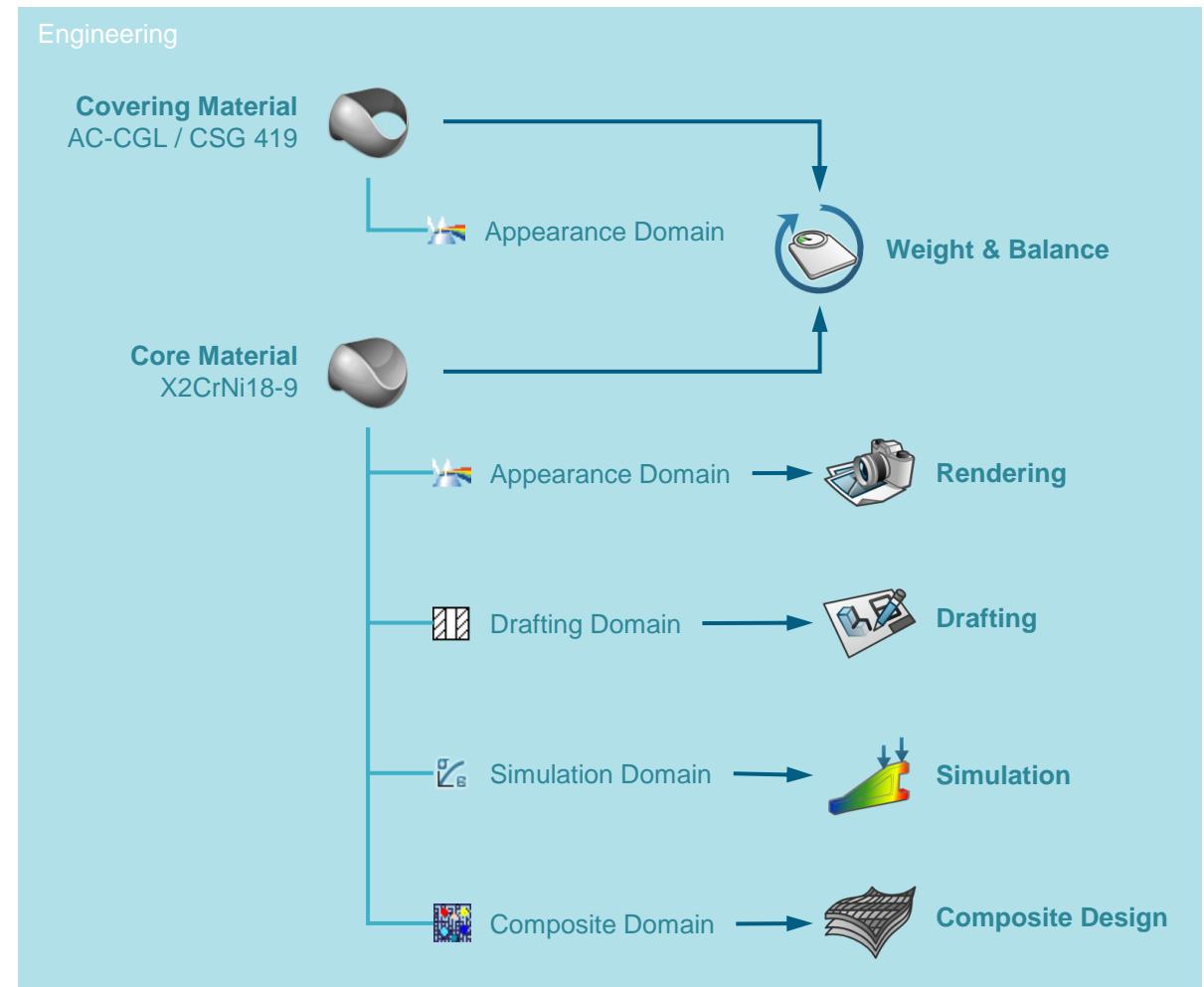
Activities | 0

PLM-Representation



Related Process information

- Material Definition



PLM-Representation

The image displays two side-by-side screenshots of a Product Lifecycle Management (PLM) application interface.

Left Screenshot: Weight and Balance

This screenshot shows a table of components and their weights. The table has columns for Title, Value, Confidence, Tolerance, Budget, and Objekt. The data is as follows:

Title	Value	Confidence	Tolerance	Budget	Objekt
Gelenkwelle Zusammenbau A.1	5.5184 kg	100%	0.0986 kg	0 kg	
Gelenkwelle Nabenseite A.1	2.8885 kg	100%	0.0689 kg	0 kg	
Zusammenbau Gelenk A.1	1.7157 kg	100%	0.0538 kg	0 kg	
Zylinderschrauben ISO ...	0.0024 kg	100%	1.19e-4 kg	0 kg	
Zylinderschrauben ISO ...	0.0024 kg	100%	1.19e-4 kg	0 kg	
Zylinderschrauben ISO ...	0.0024 kg	100%	1.19e-4 kg	0 kg	
Kreuzverbinder A.1	0.2153 kg	100%	0.0108 kg	0 kg	
Gelenk Klammer A.1	0.7455 kg	100%	0.0373 kg	0 kg	
Gelenk Klammer A.1	0.7455 kg	100%	0.0373 kg	0 kg	
Schweisskonstruktion Nabe ...	1.1728 kg	100%	0.043 kg	0 kg	
Anschweißbolzen A.1	0.4245 kg	100%	0.0212 kg	0 kg	
Nabe mit Zahnprofil A.1	0.7483 kg	100%	0.0374 kg	0 kg	
Gelenkwelle Wellenseite A.1	2.63 kg	100%	0.0706 kg	0 kg	
Zusammenbau Gelenk A.1	1.7157 kg	100%	0.0538 kg	0 kg	
Welle mit Zahnprofil A.1	0.9142 kg	100%	0.0457 kg	0 kg	

Right Screenshot: 3DEXCITE - xHighlight

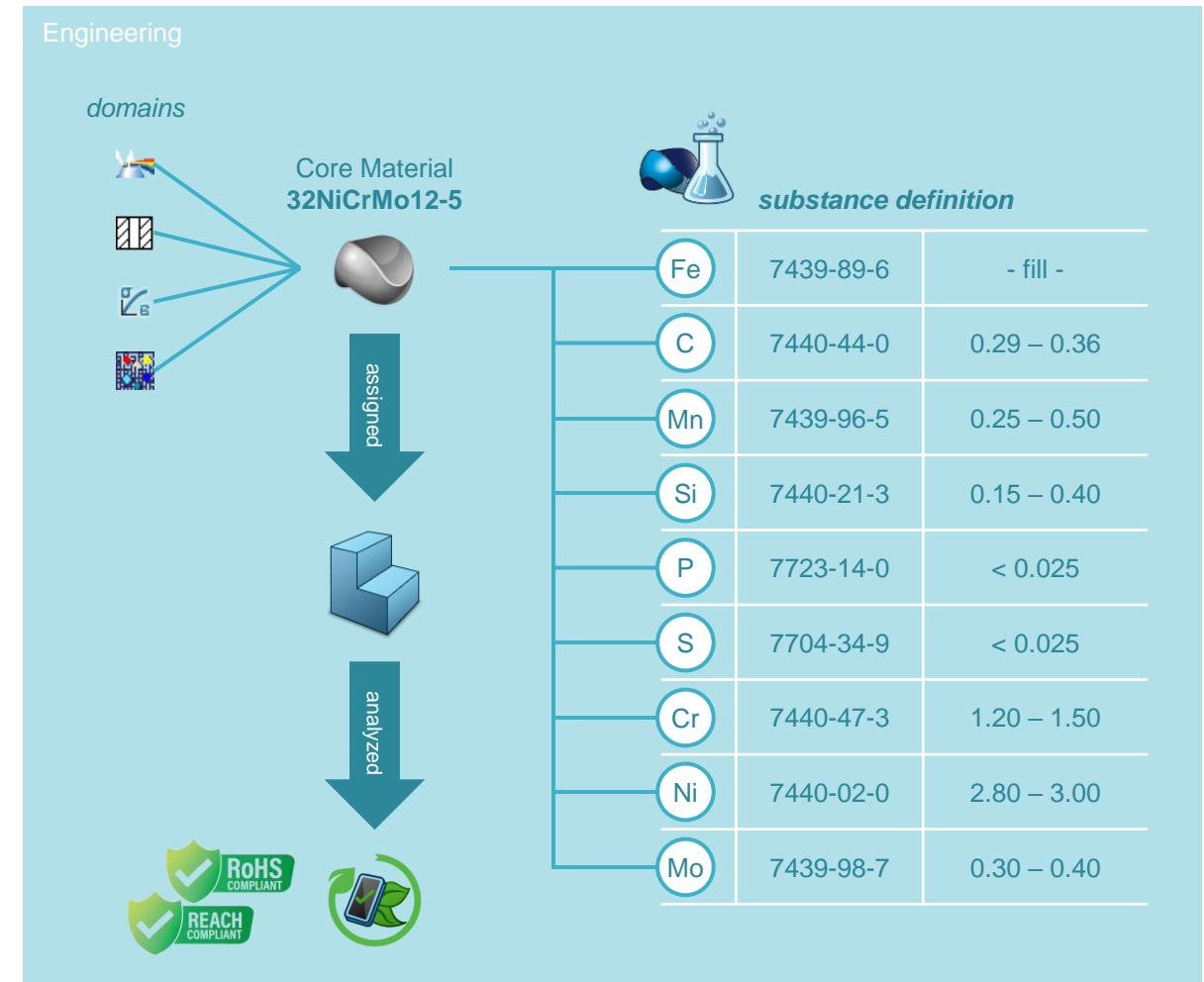
This screenshot shows a 3D model of a shaft assembly with callouts highlighting specific parts. The highlighted parts are:

- Welle mit Zahnprofil A.1 (Welle mit Zahnprofil.1)
- Gelenk Klammer A.1 (Gelenk Klammer.2)
- Nabe mit Zahnprofil A.1 (Nabe mit Zahnprofil.1)

The interface includes a toolbar at the bottom with various icons for file operations, search, and navigation.

Related Process information

- Material Substances



PLM-Representation

Material Constituency

X8CrNiS18-9 A.1
Owner: Thomas GIFFELS
Creation Date: Jul 19, 2021, 10:06 AM
Maturity State: **In Arbeit**
Modification Date: Feb 27, 2024, 10:44 AM

Substance Constituency 100%

Substance	Constituency (%)	Notes
Nickel	0.0 %	15.0 % 30.0 %
Steel manufacture, ch...	54.4000000	FILL
Chromium	25.0 %	
Manganese	5.0 %	
Cobalt	0.6 %	

Save **Substances**

Material Compliance Assessment

Materials Compliance

AD-DSL Article (Current) Compliant ✓ 1391 Matched rules	AD-DSL Process (Current) Compliant ✓ 1391 Matched rules
ELV (Current) Compliant ✓ 4 Matched rules	EU REACH Candidate List ... Compliant ✓ 235 Matched rules
EU REACH XVII (Current) Compliant ✓ 25 Matched rules	EU RoHS (Current) Compliant ✓ 10 Matched rules
GADSL Declarable (Current) Violation 6	GADSL Prohibited (Current) Compliant

3D **refresh** **grid**

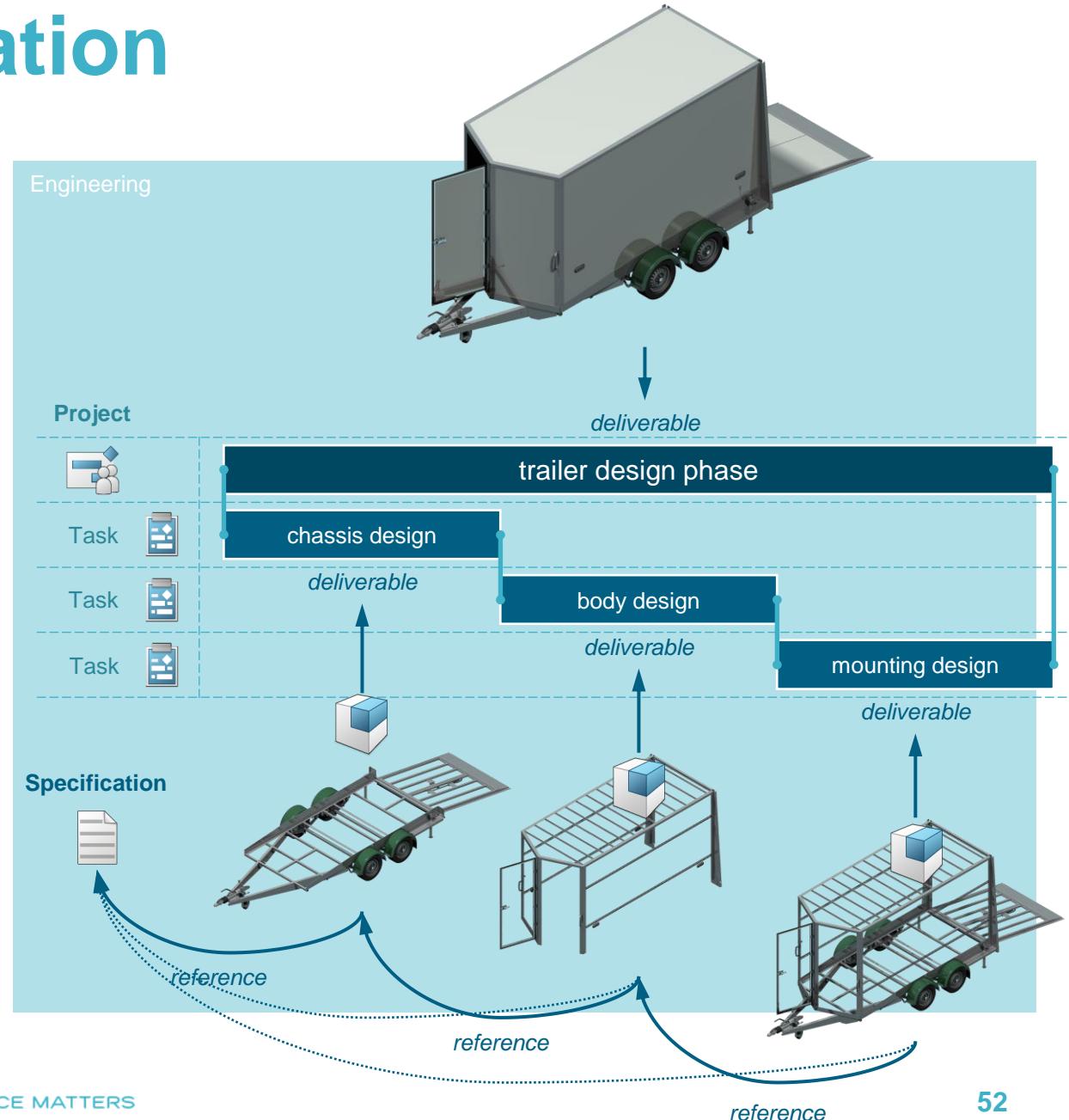
3DPlay

Material Compliance - CA_01 - Gelenkwelle Zusa...



Related Process information

- Project Management



PLM-Representation

ENOVA - Project Planning - 02826 - Marketing Event

02826 - Marketing Event

Type: Team Project
Maturity State: To Do

Schedule

02826 - Marketing Event

- 02826.10 - Event Planning
 - 02826.11 - Market Analysis
 - 02826.12 - Corporate Style
 - 02826.13 - Link Strategy
- 02826.20 - Visualization Rendering
 - 02826.21 - Collect Model Data
 - 02826.22 - Setup Environment
 - 02826.23 - Pre-Rendering
 - 02826.24 - Final-Rendering
 - 02826.25 - Data Provisioning
- 02826.30 - Web-Page Setup

June 2024

1	12	23	1	12	23
02826.1A - Strategy Approval			02826.2A - Pre-Render Acc...	02826.2B - Fir...	
02826.21 - Collect Model Data			02826.21 - Collect Model Data		
			02826.22 - Setup Environment		
			02826.23 - Pre-Rendering		
			02826.24 - Fin...		

Attachments

Drop here or type to search...

DS-CAR_TR_E-CAR VED REFERENCE_SaE

Deliverables

- 2024-06-25 12_21_13-Window
- 2024-06-25 12_21_48-Window
- 2024-06-25 12_22_13-Window
- 2024-06-25 12_22_40-Window

Created

Tuesday, June 25, 2024 (11:56 AM)

Modified

Tuesday, June 25, 2024 (12:26 PM)

Repository for File Upload

Common Space

Bookmark for file upload

Drop here or type to search...

Dependencies (2)

Close

3DPlay

DS-CAR_TR_E-CAR VED REFERENCE_SaE



View Tools

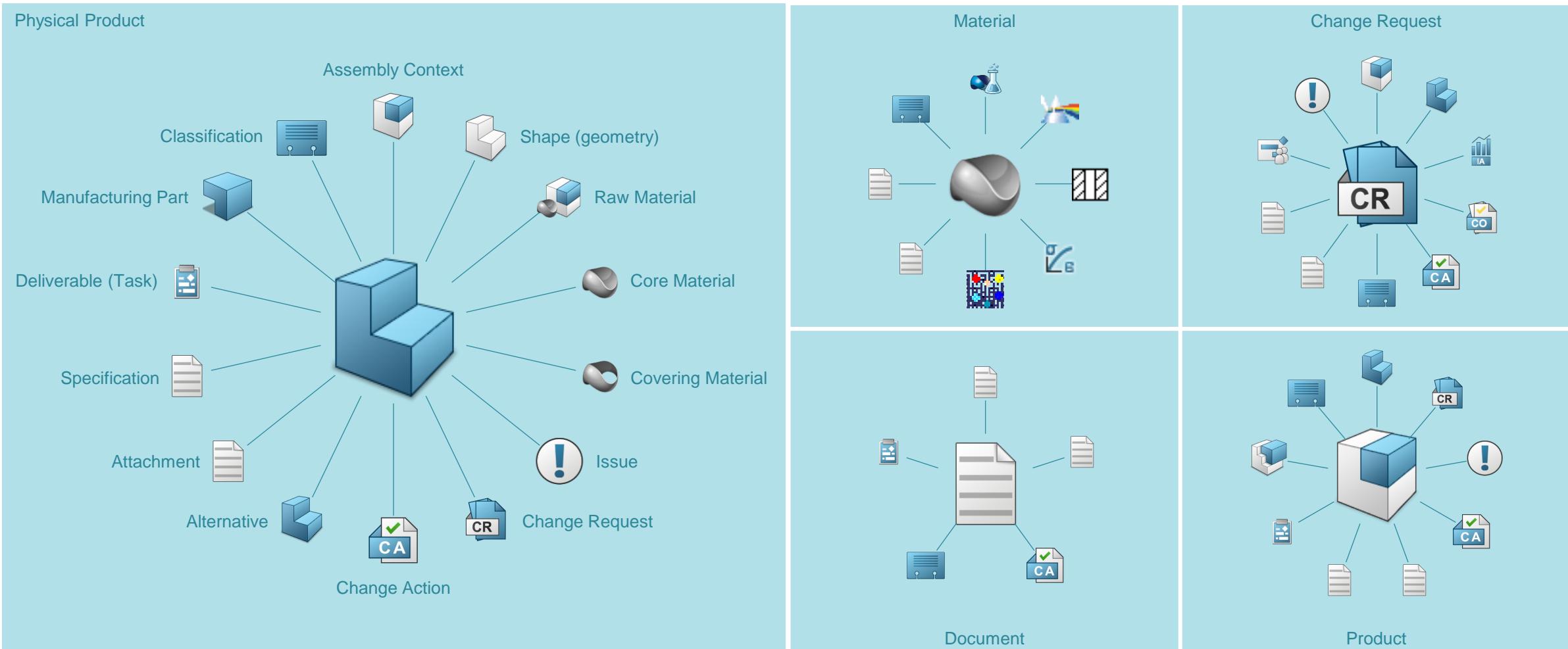
3DPlay

2024-06-25 12_22_13-Window



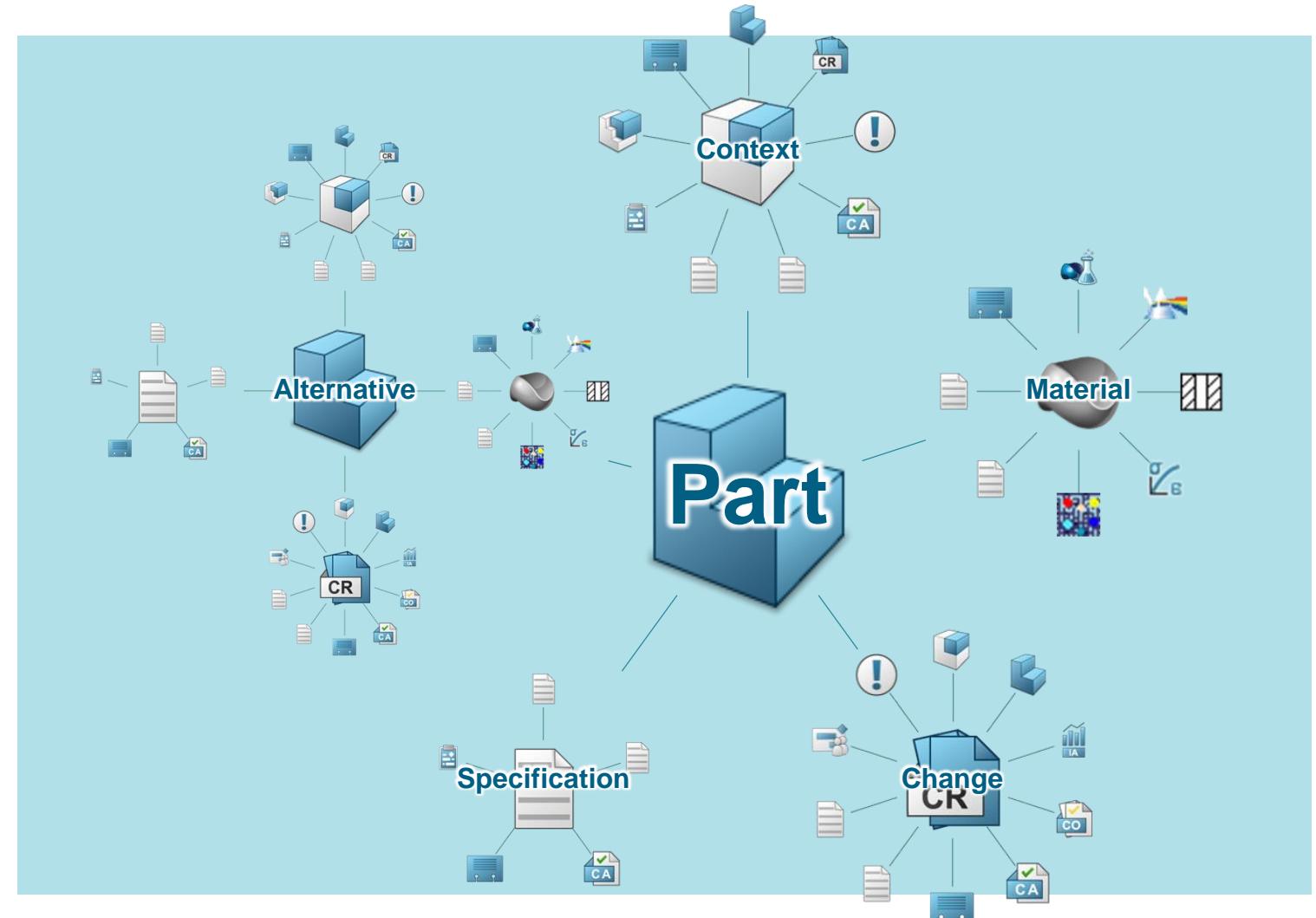
HOLISTIC APPROACH OF DATA MODEL

Holistic Data Model



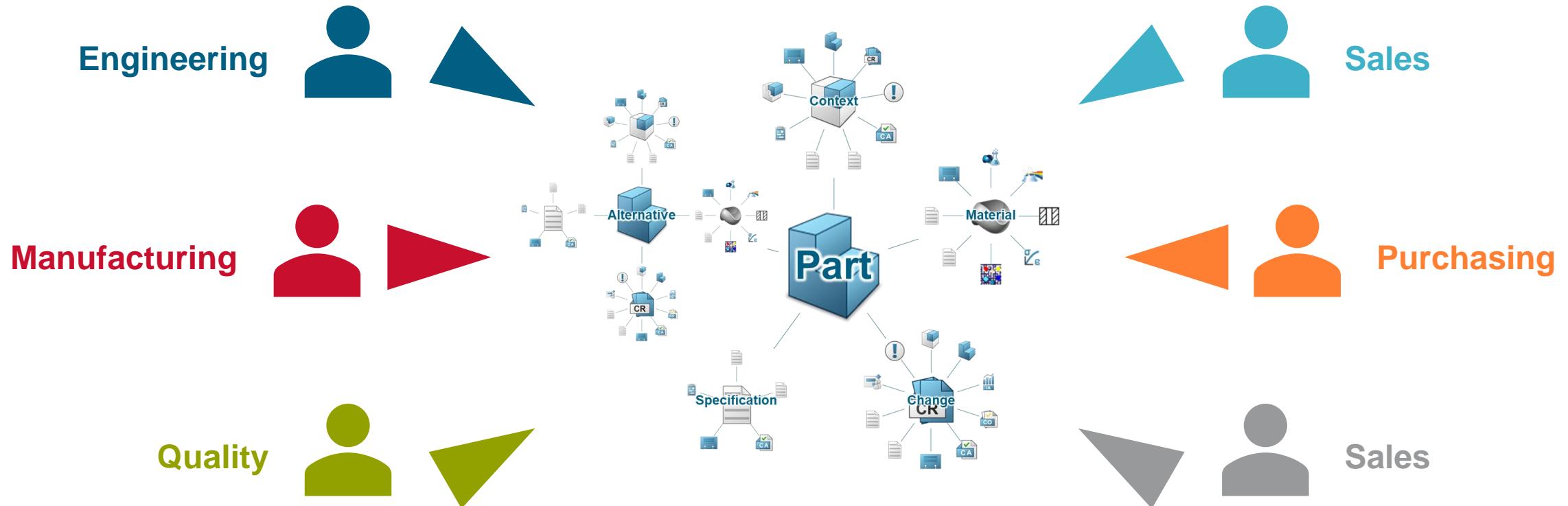
Holistic Data Model

- Holistic-Information-Net



TASK: INFORMATION DEPLOYMENT

Information Deployment



Thank you

For more info visit technia.com

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