



Spotlight on Digital Transformation
Global Summit 2026

***Engineering-Driven Product
Sustainability & Regulatory
Compliance in Windchill with Makersite
and Assent***

Rafal Witkowski
Wolfgang Rüdell





**ENGINEERING-DRIVEN
PRODUCT
SUSTAINABILITY
& REGULATORY
COMPLIANCE
IN WINDCHILL
WITH MAKERSITE
AND ASSENT**

- 
1. Introduction
 2. PLM and Sustainability & Compliance
 3. Engineering Data Foundation for Sustainability & Compliance in Windchill
 4. Product Impact Analysis with Makersite
 5. Compliance Assessment with Assent Compliance
 6. Conclusion and Outlook

ABOUT THE SPEAKERS



Wolfgang Rüdell

Spend my professional live in optimizing engineering activities to:

- Solve complex business problems with clever and simple solutions.
- Empower people to deliver outstanding results.
- Implement innovative and new ideas
- Be open minded to use new ideas in my live

www.linkedin.com/in/wolfgang-ruedell



Rafal Witkowski

Helping discrete manufacturing companies for 20+ years to solve complex engineering challenges

- Software engineering & technical architect background
- Strong focus on PLM and enterprise integrations
- Leadership mindset: empowering people and teams
- Passion outside work: watersports, music

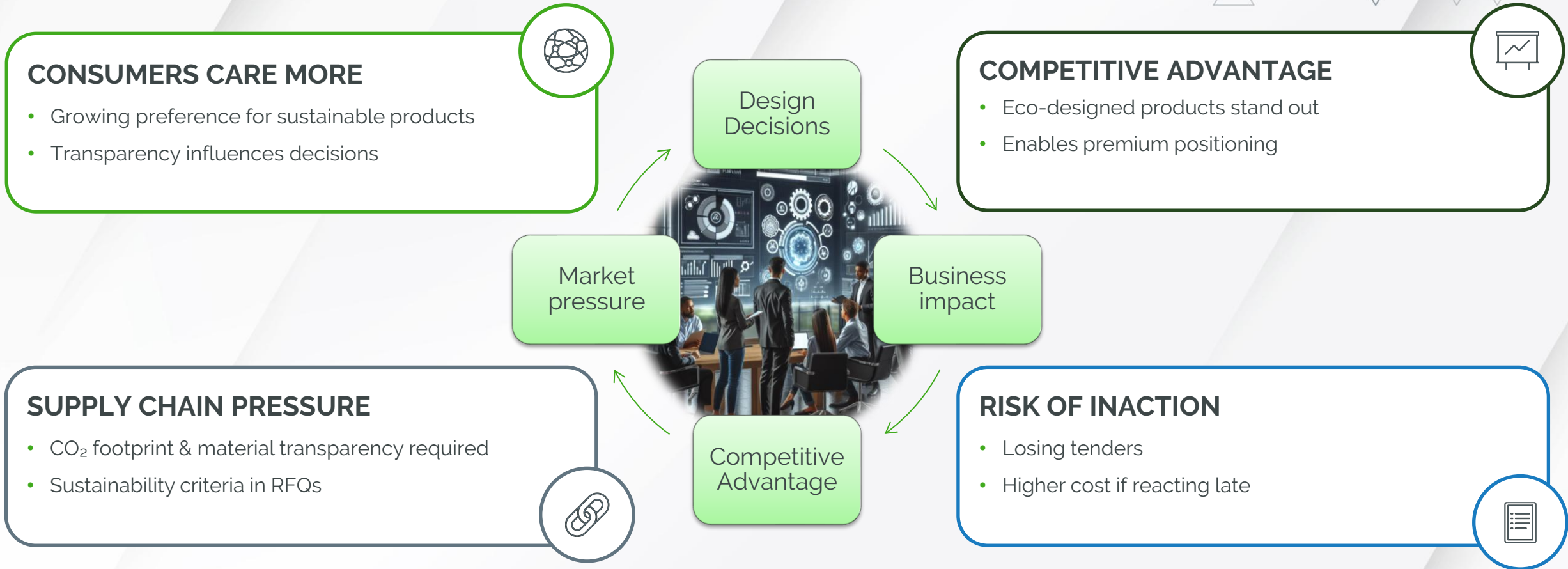
<https://www.linkedin.com/in/rafalwitkowski>

INDUSTRIAL SUSTAINABILITY CHALLENGES - REGULATORY PRESSURE



- Mandatory environmental **regulations** and **compliance obligations**
- **Product-level environmental footprint reporting** (CSRD, ISSB)
- Alignment of **engineering decisions** with **SBTi & Net-Zero targets**
- **Digital Product Passport (DPP)** required under **ESPR**

BEYOND COMPLIANCE: SUSTAINABILITY AS A MARKET DRIVER

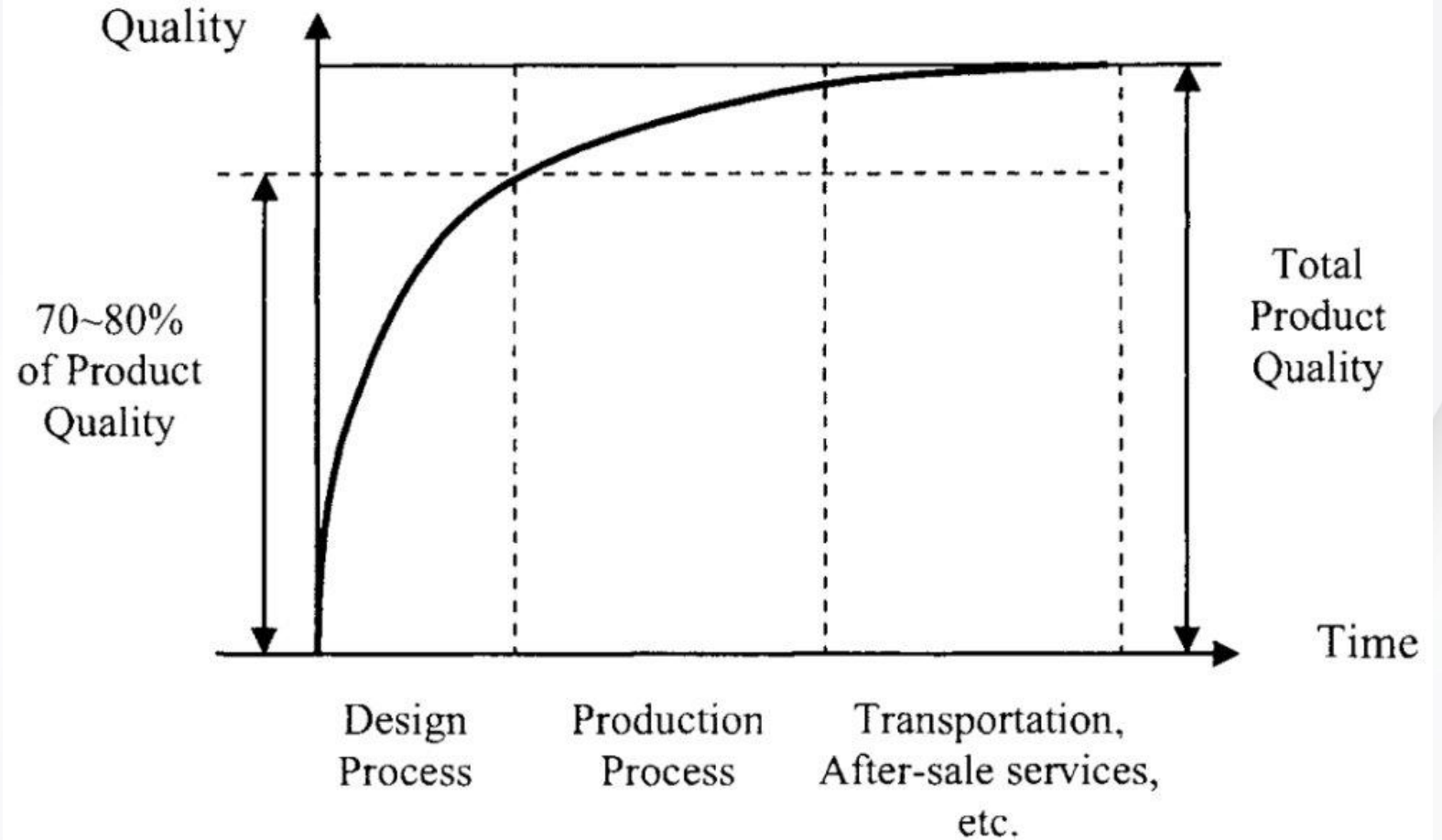


Sustainability is no longer just compliance — it impacts revenue, market access and competitiveness.

Sources. McKinsey (Up to 80% of product's environmental impact is defined in the design phase)
Gartner (86% of organizations say ecosystem partnerships are very or extremely valuable for achieving sustainability goals)

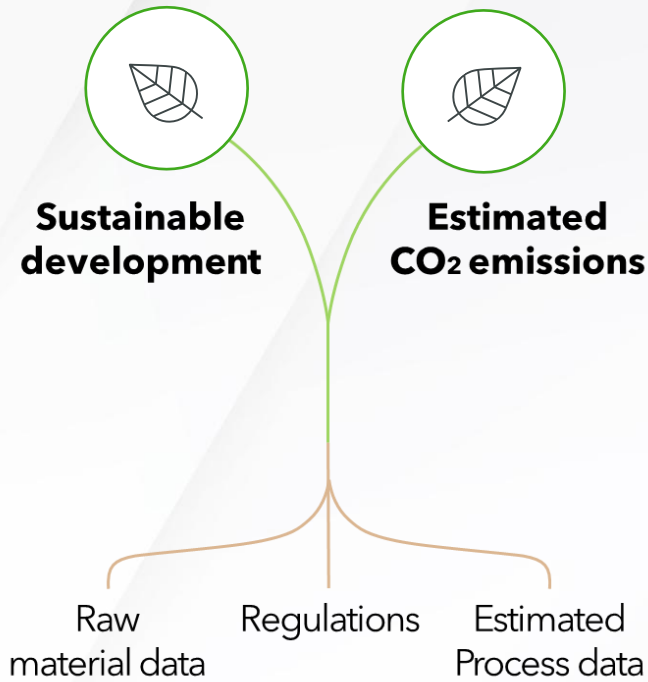
SUSTAINABILITY IS A PRODUCT DATA PROBLEM – DECIDED AT DESIGN TIME

- Design decisions offer the largest CO₂ reduction potential (~**30%**)
- Most environmental impact is locked in early (**up to 80%**)
- ESPR and **Digital Product Passports** require transparent, product-level GHG data



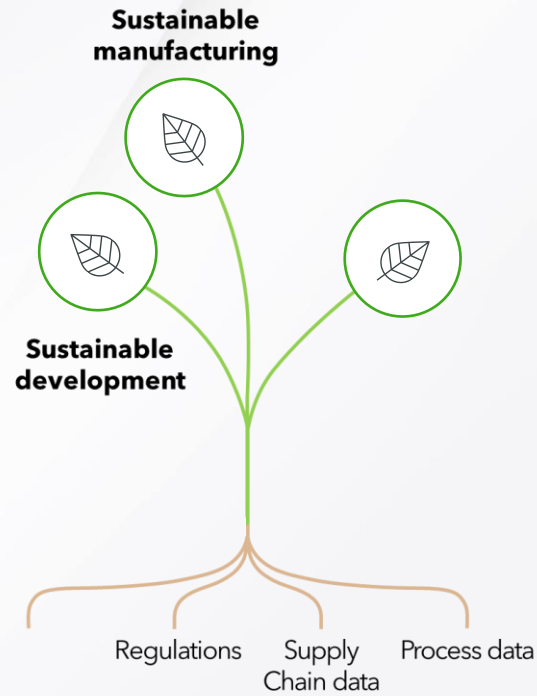
CO₂ FOOTPRINT INFORMATION AND PRODUCT LIFE CYCLE

Design Phase



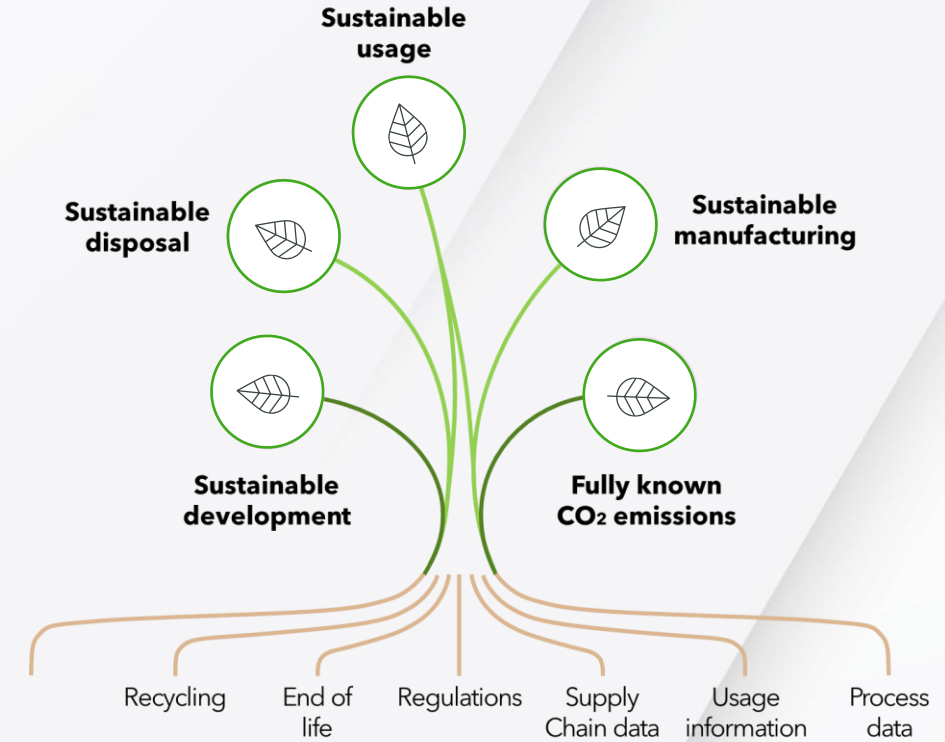
Estimates

Start of production



As Build values

Product in use



As maintained values

EMBEDDING SUSTAINABILITY & COMPLIANCE INTO ENGINEERING



Engineering Data Foundation for
Sustainability & Compliance

- **Product life cycle management**
- **Part management**
 - **Engineering Material**
 - Classification
 - Supplier
 - Alternates
 - Made from
- **Reporting**
 - **BOM Roll-up**
- Product change management
- CAD Data management
- Document management
- **BOM management**
 - As designed
 - As planned



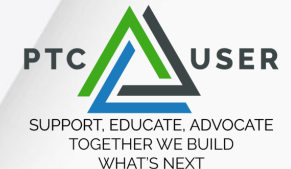
- **UC1 — Sustainability example
(Windchill + Makersite)**

- Automated Product Impact
Analysis



- **UC2 - Compliance example
(Windchill + Assent)**

- Streamlined Compliance
Assessment

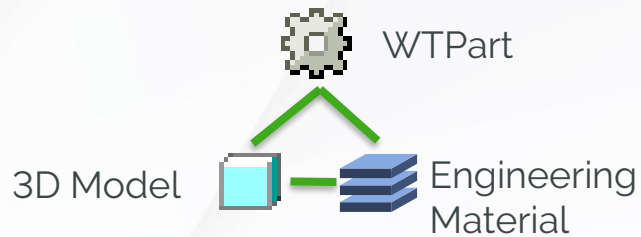
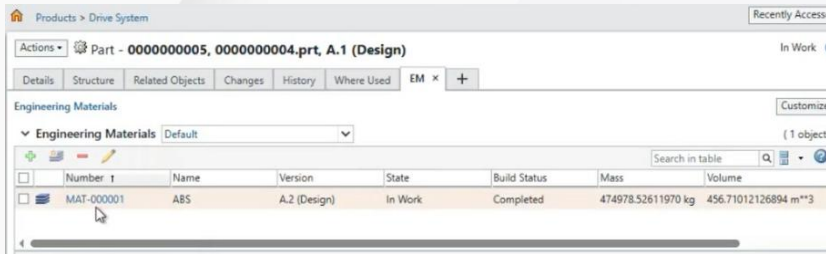




Engineering Data Foundation for Sustainability & Compliance in Windchill

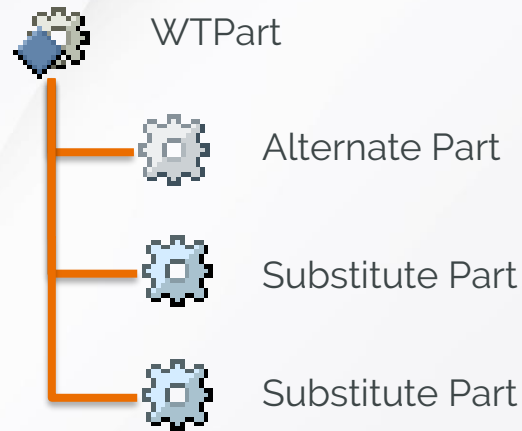
WINDCHILL AND CO₂ FOOTPRINTS

Engineering Material



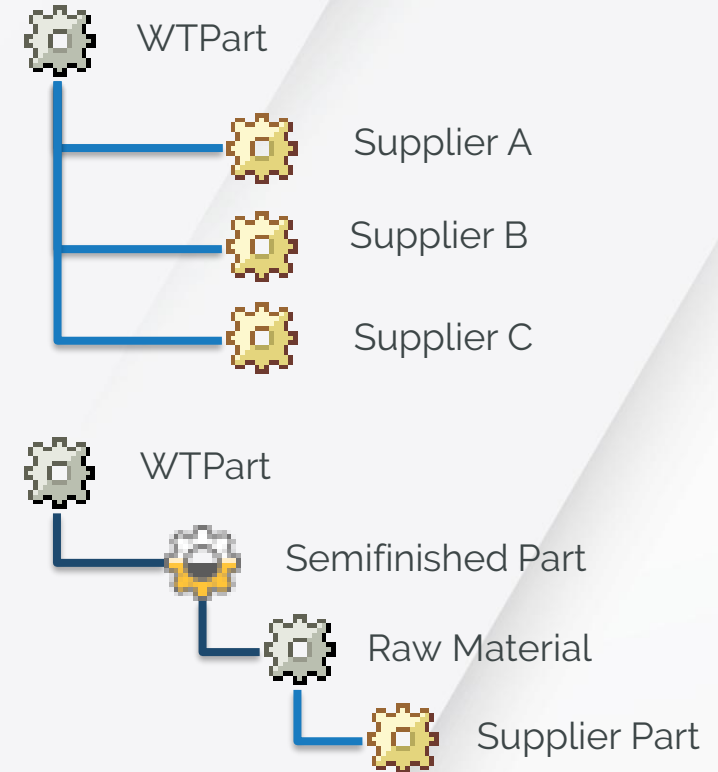
- **Mass** calculated based on **model geometry**.
- Estimated **CO₂ coefficient** managed at **material level**.
- Estimated **CO₂ of component** calculated based on Mass and Material CO₂ footprint.

Alternate / Substitute management



- Estimated **CO₂ coefficient** managed for **each part**.
- Estimated **CO₂ of component** including supply chain information.

Supplier parts management

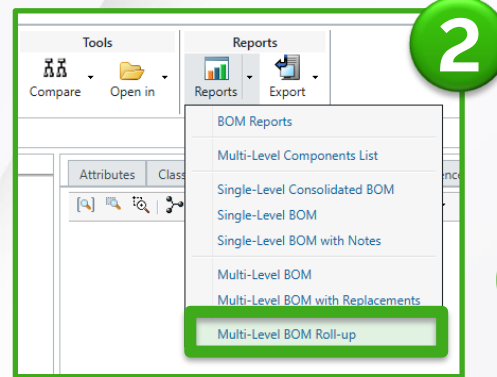


BOM ROLL-UP REPORTING - EMBODIED CARBON FOOTPRINT CALCULATION

1

Identity	Quantity	Unit	Build Status	CAD Mass	CO2Coeff	CO2e
WCD5000718, 01-71000.asm, A.1 (Design)						
01-71000.asm, A.1						
WCD5000326, 01-71100.prt, A.5 (Design)	1	each	Completed	30.385732720992 kg		36. kg
01-71100.prt, A.3						
MAT-000013, steel, A.2 (Design)					1.2	
WCD5000394, 01-72500.asm, A.4 (Design)	1	each	Completed			
01-72500.asm, A.3						
WCD5000138, 01-72520.prt, A.7 (Design)	1	each	Completed	1.3997663544293E-1 kg		0.17 kg
01-72520.prt, A.4						
MAT-000013, steel, A.2 (Design)					1.2	
WCD5000191, 01-72510.prt, A.8 (Design)	1	each	Completed	2.7615330526448E-1 kg		0.33 kg
01-72510.prt, A.3						
MAT-000013, steel, A.2 (Design)					1.2	
WCD5000260, 01-72530.prt, A.7 (Design)	15	each	Completed	1.4189526818422E-3 kg		0.0282 kg
01-72530.prt, A.5						
MAT-000101, Aluminum_wrought, A.2 (Design)						
					19.9	

CO₂ footprint for component calculated based on CO₂ co-efficiency defined at Engineering Material level and CAD mass calculated from geometry.



CO₂ footprint and CAD mass rolled up to assembly level

3

Multi-Level BOM Roll-up

Target Part: WCD5000718, 01-71000.asm, A.1 (Design)
 Product: Drive System
 Executed By: wcaadmin
 Time Of Execution: 10/10/2025 09:15 UTC

* Attribute for Calculation: CAD Mass: 30.823146951927 kg CO2e: 36.9230 kg

Number	Version	Name	State	Line Number	Find Number	Reference Designator	Quantity	CAD Mass	CAD Mass Calculation	CO2e	CO2e Calculation
0	A.1 (Design)	01-71000.asm	In Work					30.823146951927 kg	30.823146951927 kg	36.9230 kg	36.9230 kg
1	A.5 (Design)	01-71100.prt	In Work				1 each	30.385732720992 kg	30.385732720992 kg	36. kg	36 kg
1	A.4 (Design)	01-72500.asm	In Work				1 each	4.3741423093504E-1 kg	4.3741423093504E-1 kg	0.9230 kg	0.9230 kg
2	A.7 (Design)	01-72520.prt	In Work				1 each	1.3997663544293E-1 kg	1.3997663544293E-1 kg	0.17 kg	0.17 kg
2	A.8 (Design)	01-72510.prt	In Work				1 each	2.7615330526448E-1 kg	2.7615330526448E-1 kg	0.33 kg	0.33 kg
2	A.7 (Design)	01-72530.prt	In Work				15 each	1.4189526818422E-3 kg	2.1284290227633E-2 kg	0.0282 kg	0.4230 kg

DEMO 1A. WIDCHILL SUSTAINABILITY CAPABILITIES

Engineering Material

The screenshot displays the Windchill Engineering Material library interface. The main window shows a list of materials with columns for Number, Name, Version, and State. The list includes various materials such as ABS, air, Al-Cu_alloy_wrought_HS, Al-Mg-Si_alloy_wrought, Al-Si-Cu_alloy_cast, ai2014, ai6061, Alumina, Aluminum_nitride, Aluminum_wrought, Bamboo, Boron_carbide, Borosilicate_glass, brass, Brass_cast, Brass_wrought, bronze, Bronze_cast, carbon_dioxide, Cast_iron_ductile, Cast_iron_gray, Cast_iron_malleable, and Cast_iron_module.

Number	Name	Version	State
MAT-000001	ABS	A.2 (Design)	In Work
MAT-000077	air	A.1 (Design)	In Work
MAT-000041	Al-Cu_alloy_wrought_HS	A.1 (Design)	In Work
MAT-000078	Al-Mg-Si_alloy_wrought	A.1 (Design)	In Work
MAT-000088	Al-Si-Cu_alloy_cast	A.1 (Design)	In Work
MAT-000099	ai2014	A.1 (Design)	In Work
MAT-000005	ai6061	A.1 (Design)	In Work
MAT-000102	Alumina	A.1 (Design)	In Work
MAT-000052	Aluminum_nitride	A.1 (Design)	In Work
MAT-000101	Aluminum_wrought	A.2 (Design)	In Work
MAT-000015	Bamboo	A.1 (Design)	In Work
MAT-000049	Boron_carbide	A.1 (Design)	In Work
MAT-000010	Borosilicate_glass	A.1 (Design)	In Work
MAT-000089	brass	A.1 (Design)	In Work
MAT-000043	Brass_cast	A.1 (Design)	In Work
MAT-000142	Brass_wrought	A.1 (Design)	In Work
MAT-000093	bronze	A.1 (Design)	In Work
MAT-000035	Bronze_cast	A.1 (Design)	In Work
MAT-000106	carbon_dioxide	A.1 (Design)	In Work
MAT-000079	Cast_iron_ductile	A.1 (Design)	In Work
MAT-000086	Cast_iron_gray	A.1 (Design)	In Work
MAT-000042	Cast_iron_malleable	A.1 (Design)	In Work
MAT-000110	Cast_iron_module	A.1 (Design)	In Work

DEMO 1B. WIDCHILL SUSTAINABILITY CAPABILITIES

BOM Roll-up Reporting

Quantity	Unit	Build Status	CAD Ma...	CO2Coeff	CO2e	IsCertifi...	IsExportControlled
1	each	Completed	30.385732	36. kg	Yes	Yes	
1	each	Completed	1.3997663	0.17 kg	Yes	Yes	
1	each	Completed	2.7615330	0.33 kg	No	No	
15	each	Completed	1.4189326	0.0282 kg	Yes	Yes	

Part Attributes

- Number: WCD5000718
- Name: 01-71000.asm
- Version: A.1 (Design)
- State: **In Work** - Released - Canceled
- Status: Checked in
- Modified By: Site, Administrator
- Last Modified: 2025-10-02 15:30 GMT+00:00
- CO2Max:
- CO2Min:
- Mass:
- IsCertified:
- IsExportControlled:
- IsHighPressureRated:
- IsSubmersible:
- CO2Coeff:
- CO2CoeffAlt:
- CADMassAlt:
- CO2e:
- CAD Mass:
- MinCADMass:



Product Impact Analysis with Windchill and Makersite

WINDCHILL AND MAKERSITE INTEGRATION



Products > Snowmobile, OEM

Structure Node - V0049109, ENGINE & DRIVETRAIN SYSTEM-000000402, OEM, 1.2 (Design)

Identity	Material Used	Component W...	Density	Volumetric Inf...	Supplier Name	Supplier Location	MPN
V0049109, ENGINE & DRIVETRAIN SYSTEM-000000402, OEM, 1.2 (Design)							
0112445, STANDARD COOLING SYSTEM, OEM, 1.2 (Design)							
0113306, STANDARD OIL SYSTEM, OEM, 1.4 (Design)							
1022101_SW, GUARD CLUTCH, OEM, 1.2 (Design)	Aluminum	0.4 kg					
1240094, CAP, OIL TANK, OEM, 1.2 (Design)	Plastic	0.2 kg					
2521361, ASM-OIL BOTTLE, OEM, 1.2 (Design)							
4015642, REGULATOR-DC LED, OEM, 1.2 (Design)	Aluminum	3 kg					
7519112, SCR-TXTH-M6X1, OEM, 1.2 (Design)	Rubber	0.8 kg					
7547339, NUT-M6X1, OEM, 1.9 (Design)	Steel	0.3 kg			Continental AG	Continental-Plaza 1	
7555655, WSHR-6AX18.0X1, OEM, 1.5 (Design)	Aluminum	0.07 kg					
0113307, STANDARD INTAKE SYSTEM, OEM, 1.2 (Design)							
0113334, 600 Cleanfire® ENGINE, OEM, A.3 (Design)							
0000387, ENGINE CONTROL UNIT SOFTWARE, OEM, A.1 (Design)							
0000407, ENGINE CONTROL UNIT, OEM, A.2 (Design)	Aluminum	1.06 kg					
1202640_SW, EV HOUSING SW Model, OEM, 1.1 (Design)							
1204331_SW, RECOIL 600/800, OEM, 1.3 (Design)	Composite	1 kg					
1204723_SW_SIMP, CRANKCASE,800 AS, OEM, 1.5 (Design)	Aluminum	6.5 kg					
1205058_BODY, ADAPTOR-THROTTLE BODY,INTSTUFF, OEM, 1.2 (Design)	Aluminum	0.4 kg					
1205059_SW, REED VALVE,VFORCE, OEM, 1.3 (Design)	Plastic	0.4 kg					
1205241_2, ASM-THROTTLE BODY,48MM,16, OEM, 1.3 (Design)	Composite		0.3 kg/mm**3	400 mm**3			
1205241, ASM-THROTTLE BODY,48MM,16, OEM, 1.4 (Design)	Composite		0.4 kg/mm**3	390 mm**3			

Search Makersite

Analyze Compose Discuss

Climate Change - Total By Makersite

GLO: Structure Node ENGINE & DRIVETRAIN SYSTEM-...

Structure Node ENGINE & DRIVETRAIN SYSTEM-000001411 [Production Model Init 000001541] > 850 Patriot™ ENGINE > SPARK PLUG 85111000 From Niterra North America, Inc.

Group Low Impact Nodes Back To Default Layout

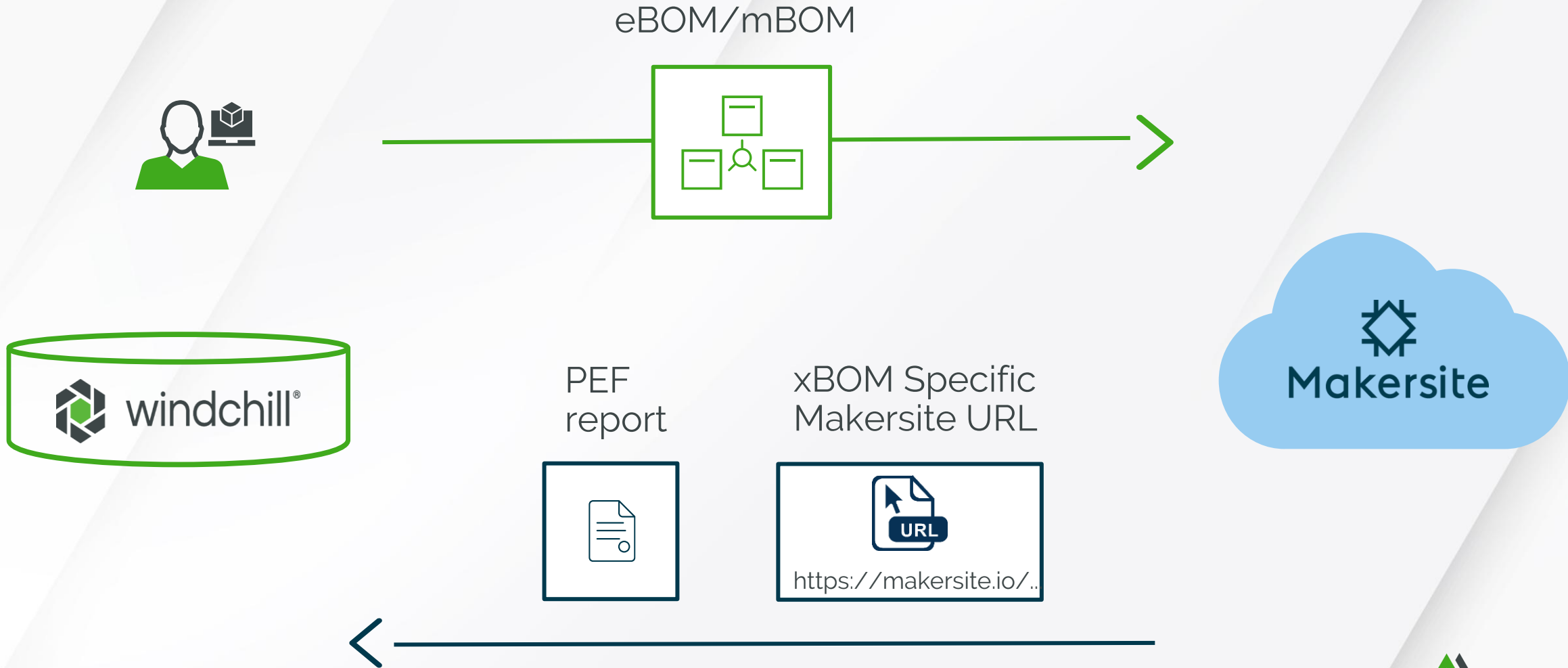
Network diagram showing components and their relationships:

- GLO:market for aluminium, primary, ingot | aluminu... CYL-85MM,SDI MONOBLOCK, NEW EV (Aluminu...
- GLO:market for aluminium, primary, ingot | aluminu... CRANKCASE,800 AS (Aluminum)
- GLO:market for aluminium, primary, ingot | aluminu... WELD-MANIFOLD 800 (Aluminum)
- GLO:market for synthetic rubber | synthetic rubber CLAMP-VINYL COATED (Rubber)
- GLO:market for synthetic rubber | synthetic rubber FUEL RAILS AS (Rubber)
- GLO:market for aluminium, primary, ingot | aluminu... SHEAVE-MOVEABLE MACH. MID (Aluminum)
- GLO:market for aluminium, primary, ingot | aluminu... ENGINE CONTROL UNIT (Aluminum)
- GLO:market for aluminium, primary, ingot | aluminu... SCR-10X5/8-HILO PN-T25.TRX-M (Aluminum)
- GLO:market for aluminium, primary, ingot | aluminu... CLIP-1/4 TURN 8MM (Aluminum)
- GLO:market for aluminium, primary, ingot | aluminu... SCR-TX TRUSS-#14X3/4, HILO B (Aluminum)
- GLO:ASM-SILENCER WICAILS ASM-SILENCER WICAILS
- GLO:market for aluminium, primary, ingot | aluminu... CLIP-"U",M6,0X1 (Aluminum)
- GLO:market for aluminium, primary, ingot | aluminu... SCR-M6X1 (Aluminum)
- GLO:market for synthetic rubber | synthetic rubber SCR-TXTH-M6X1 (Rubber)
- GLO:market for aluminium, primary, ingot | aluminu... BRKT-PLENUM SUPPORT (Aluminum)
- GLO:ASM-TUBE INTAKE ASM-TUBE INTAKE
- GLO:market for aluminium, primary, ingot | aluminu... ADAPTOR-THROTTLE BODY,INTSTUFF (Aluminu...
- GLO:market for polyethylene, high density, granulat... PLENUM-UPPER (HOPE)
- GLO:market for aluminium, primary, ingot | aluminu... RIVET-3/16 X,(Aluminum) from Hyundai Motor

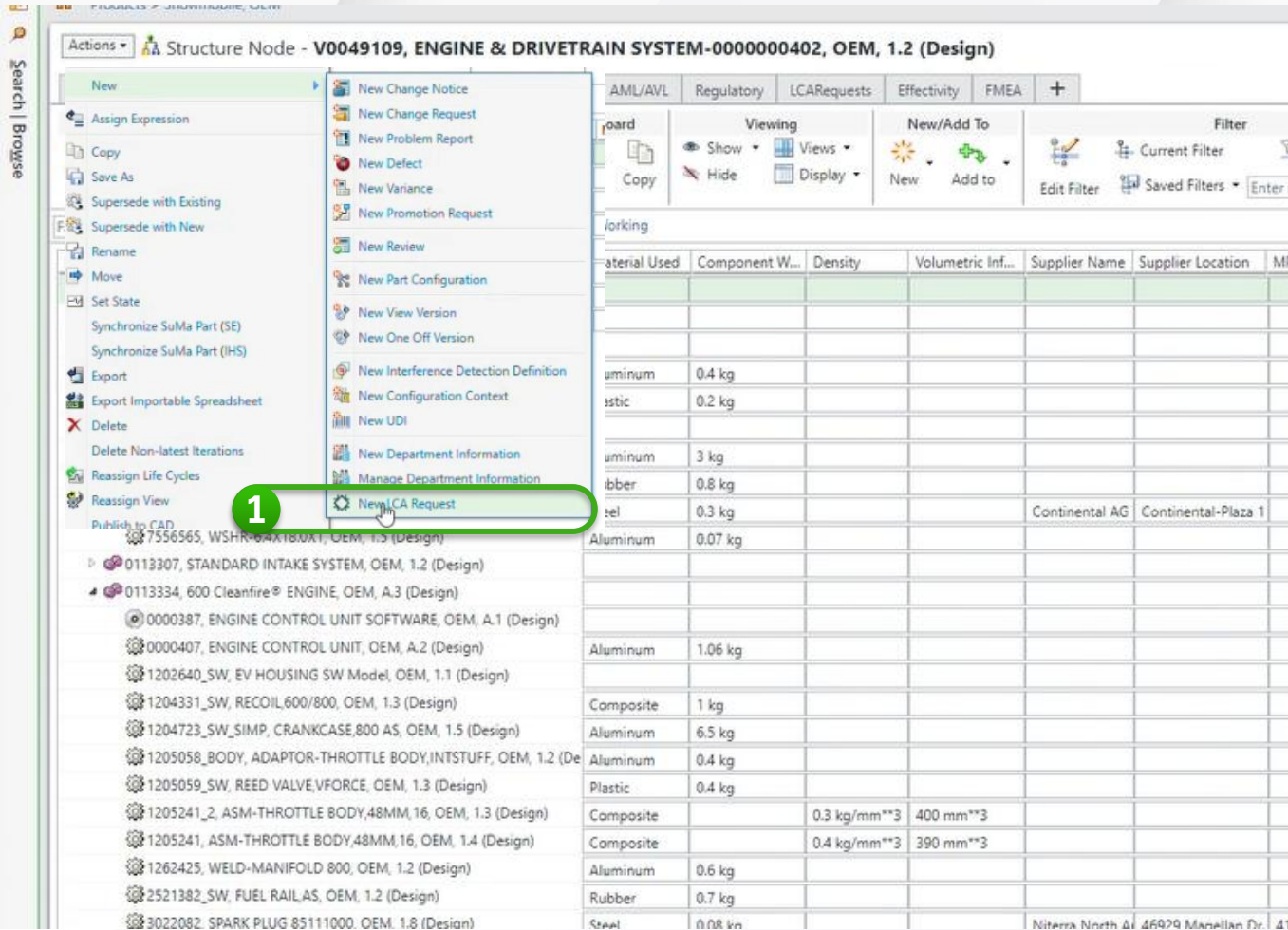
Summary nodes:

- [32 others] GLO:850 Patriot™ ENGINE
- 850 Patriot™ ENGINE
- [2 others] GLO:STANDARD INTAKE SYSTEM
- STANDARD INTAKE SYSTEM

WINDCHILL AND MAKERSITE - HIGH LEVEL FLOW



SOLUTION HIGHLIGHTS



Key Aspects:

- Triggered by **New LCARequest** action on Part (not applicable for configurable parts)
- LCARequest** (sub-type of Managed Baseline) - was introduced to represent request for LCA and facilitate sending a BOM to Makersite.
- Workflow Driven** - LCA publication is driven by Windchill workflow for monitoring
- PEF PDF and Makersite URL** - stored as attributes on LCA Request associated to root part of the publication

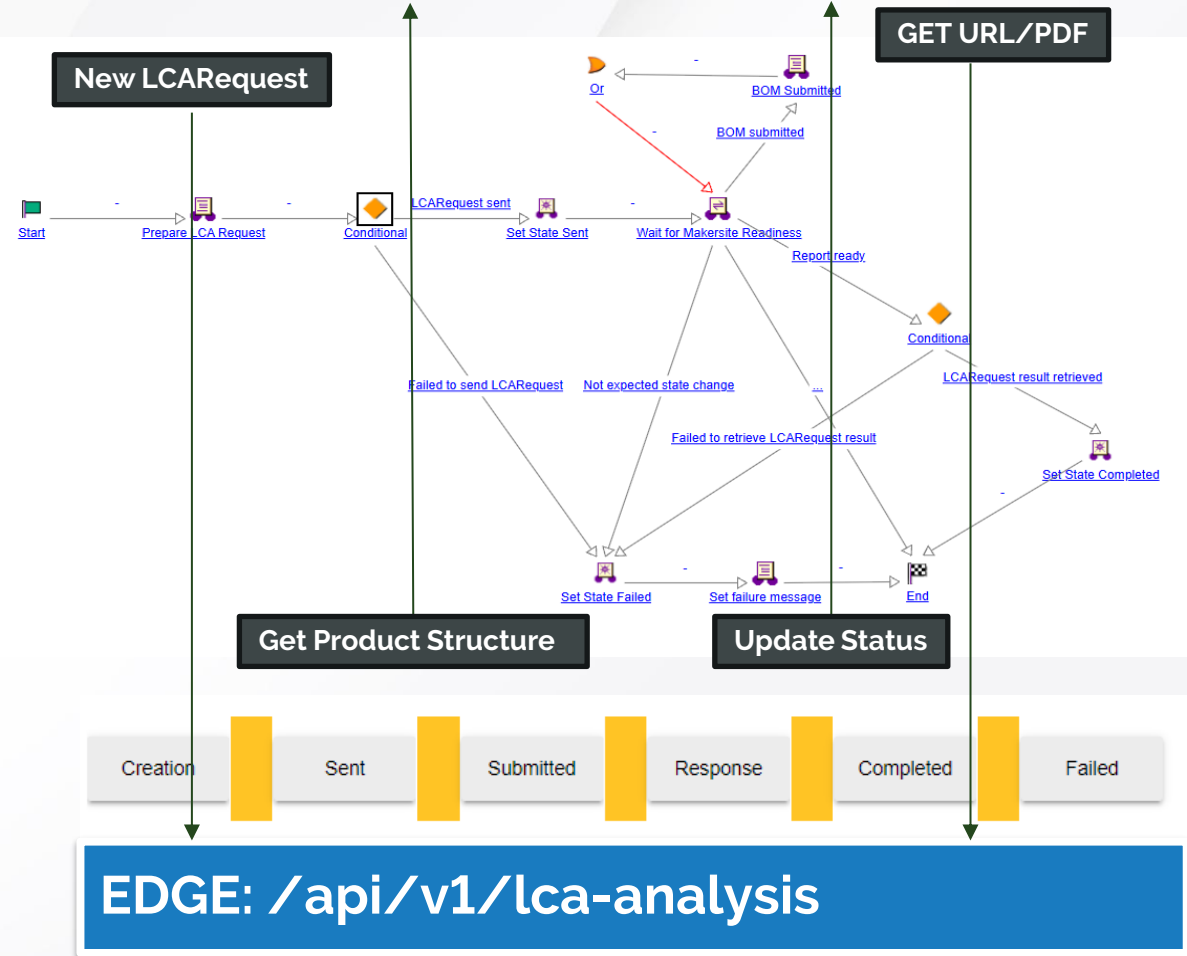
Product Data:

Required	Ideally Sourced
Part Name	MPN
Part Number	Component Weight
Level of BOM	Material Used (for BOM leaves)
Quantity	Volume + Density (in case there is no weight)
Unit (eg kg, pcs etc)	Supplier Name and Location

WINDCHILL AND MAKERSITE - INTEGRATION ARCHITECTURE



WRS: odata/v1/LifeCycleAssessment



- **Event-Driven:**
 - Lightweight push (POST/PUT) messaging
 - Heavyweight on pull (GET)
- **LifeCycleAssessment WRS**
 - Encapsulated ProductStructure served for LCA
- **Windchill Workflow**
 - Background execution
 - Basic monitoring in Windchill



DEMO 2. WIDCHILL AND MAKERSITE

Windchill and Makersite Integration

The screenshot displays the Windchill software interface. The top navigation bar includes the Windchill logo, user name 'rafal', and a session ID 'PP-241218094352'. The main content area shows a product structure tree for 'Products > Snowmobile, OEM'. The selected node is 'Structure Node - V0049332, ENGINE & DRIVETRAIN SYSTEM-0000000006, OEM, 1.8 (Design)'. Below the tree is a table with columns: Identity, State, Material Used, Component Weight, Density, Volumetric Information, Supplier Name, and Supplier Location. The table lists several sub-components, all in a 'Released' state.

Identity	State	Material Used	Component Weight	Density	Volumetric Information	Supplier Name	Supplier Location	MF
V0049332, ENGINE & DRIVETRAIN SYSTEM-0000000006, OEM, 1.8 (Design)	Design							
0103333, Patriot 9R™ ENGINE, OEM, 1.13 (Design)	Design							
0112445, STANDARD COOLING SYSTEM, OEM, 1.2 (Design)	Released							
0113306, STANDARD OIL SYSTEM, OEM, 1.4 (Design)	Released							
0113307, STANDARD INTAKE SYSTEM, OEM, 1.2 (Design)	Released							
0114019, STANDARD DRIVETRAIN, OEM, 1.2 (Design)	Released							
0114025, STANDARD FUEL SYSTEM, OEM, A.9 (Design)	Released							
0114032, STANDARD EXHAUST SYSTEM, OEM, 1.8 (Design)	Released							





Compliance Assessment with Assent Compliance

COMPLIANCE ASSESSMENT WITH WINDCHILL AND ASSENT COMPLIANCE



Compliance Data Report

Target Part: WM-2005, Washing Machine_2025-03-13, TTPSC, 6.37 (Design)
 Product: Washing Machine
 Executed By: wcaadmin
 Time Of Execution: 2025-09-24 14:14 UTC
 Sourcing Context: Default
 Filter Properties

Assent Compliance

Number	Name	Version	Replacement Type	Supplier	Sourcing status	CA Prop65 - Manufacturer	Recycled Content
0	WM-2005 Washing Machine_2025-03-13 6.37 (Design)						
1	000000040 Stainless Steel Drum_5	1.4 (Design)					
1	008MI Stainless Steel Drum			MetalCraft Industries	Approved		
1	000000039 Drum Assembly_5	1.31 (Design)					
2	000000000 Stainless Steel Drum_5	1.4 (Design)					
2	008MI Stainless Steel Drum			MetalCraft Industries	Approved		
2	000000000 Drum Paddles_5	1.7 (Design)					
2	000000000 Water Seal_5	1.8 (Design)					
2	000000000 Drum Bearing_5	2.11 (Design)					
2	60633 Drum Bearing			BearingPro Ltd.	Preferred		
2	70744 Drum Bearing			RotateRight Compono Do Not Use			
1	000000053 Control Panel Assembly_6	2.23 (Design)					
2	000000000 Panel Housing_6	2.9 (Design)					
2	000000000 Display Module_6	1.8 (Design)					
2	30425 Display Module			VisualTech Displays	Approved		
2	40427 Display Module			ScreenMasters Co.	Approved		
2	000000000 Electronic Control Board_6	1.11 (Design)					
2	10124 Electronic Control Board 2			ElectroParts Inc.	Preferred		
2	20239 Electronic Control Board			CircuitHub Electronics	Approved		
2	30312 Electronic Control Board			TechBoard Solutions	Approved		
2	000000000 Control Knobs_6	2.7 (Design)					

- **WT Parts:** Individual components that make up products.
- **Subassemblies:** A single part or group of parts
- **Supplier Parts:** Specific parts associated with suppliers..
- **Suppliers:** Information regarding the suppliers of the parts.

Product Details
 Washing Machine_2025-03-13 -- PN WM-2005.v6.37 (Design)-P

Product Name: Washing Machine_2025-03-13
 Status: Active
 Product Number: WM-2005.v6.37 (Design)-P
 External Product Number: N/A
 Risk: N/A

Product Details

Tree View

Item	Quantity	Weight	CA Prop65 - Manufacturer - 012025	EU Persistent Origin - 02024	EU REACH SVHC - 012005
WM-2005.v6.37 (Design) - Washing Machine_2025-03-13	1 each		▲	○	○
000000040.v1.4 (Design) - Stainless Steel Drum_5	1 each		○	○	○
000000053.v2.23 (Design) - Control Panel Assembly_6	1 each		▲	○	○
000000035.v2.7 (Design) - Control Knobs_6	1 each		○	○	○
000000052.v2.9 (Design) - Panel Housing_6	1 each		○	○	○
000000055.v1.8 (Design) - Display Module_6	1 each		▲	○	○
30425.v1 - Display Module.v6.3	1 each		○	○	○
40427.v1 - Display Module.v6.1	1 each		○	○	○
000000048.v1.11 (Design) - Electronic Control Board_6	1 each		○	○	○
000000039.v1.31 (Design) - Drum Assembly_5	1 each		○	○	○

Legend

CA Prop65 - Manufacturer, EU Persistent Origin, EU REACH SVHC, EU RoHS Directive, Full Material Disclosure, More

- **Regulation Statuses:** Compliance and regulatory information related to parts and manufacturers

WINDCHILL AND ASSENT COMPLIANCE - IN ACTION

The screenshot displays the Windchill software interface for a part titled "Part - WM-2000S, Washing Machine_2025-03-13, TTPSC, 6.37 (Design)". The interface includes a top navigation bar with tabs for Details, Structure, Related Objects, Changes, History, Where Used, AML/AVL, Process, and Assent Compliance. Below this is a toolbar with sections for Editing (Insert Existing, Remove, Insert New, Edit), Check Out/In (Check Out, Check In, My Checkouts, Revise), Clipboard (Paste, Copy), and Viewing (Show, Hide, Views, Display). A search bar labeled "Find in Structure" is present above a tree view of the part's structure. The tree view shows a hierarchy of components, including Drum Assembly, Drum Bearing, Water Seal, Stainless Steel Drum, Drum Paddles, and Control Panel Assembly, each with its own sub-components. On the left side, a vertical menu is open, listing various actions such as Revise, New, Copy, Save As, Supersede with Existing, Supersede with New, Rename, Move, Set State, Export, Export Importable Spreadsheet, Delete, Delete Non-latest Iterations, Reassign Life Cycles, Reset Team, Reassign View, Publish to CAD, Publish AR Experience, and Assent Compliance Check. The "Assent Compliance Check" option is highlighted with a green circle and the number "1".

Sync structure between Windchill and Assent Compliance manually using **Assent Compliance Check** action or configure automated **state change triggered sync**.

WINDCHILL AND ASSENT COMPLIANCE - IN ACTION

Actions ▾ Part - WM-2000S, Washing Machine_2025-03-13, TTPSC, 6.37 (Design)

Details Structure Related Objects Changes History Where Used AML/AVL Process ▾ **Assent Compliance** 2

Described by Compliance Status Documents

▼ Described by Compliance Status Documents

+ 📄 - | Actions ▾

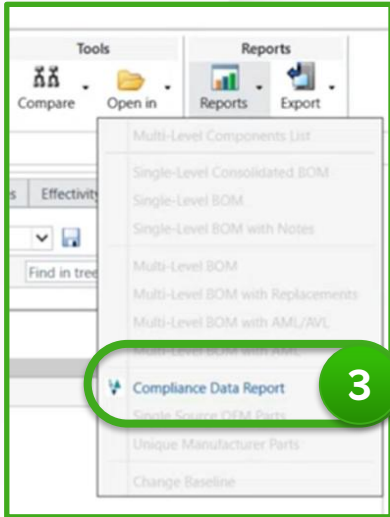
<input type="checkbox"/>	Human Trafficking and Slavery	CA Prop65 - Manufacturer	Recycled Content	EU Persistent Organic Pollutants	Supplier
<input type="checkbox"/>					

<

(0 objects selected)

Access compliance status information of part via **Assent Compliance** tab.

WINDCHILL AND ASSENT COMPLIANCE - IN ACTION



Compliance Data Report

Target Part: WM-20005, Washing Machine_2025-03-13, TTPSC, 6.37 (Design)
 Product: Washing Machine
 Executed By: wadmin
 Time Of Execution: 2025-09-24 14:14 UTC
 Sourcing Context: Default
 Filter Properties

Assent Compliance (21 objects)

Number	Name	Version	Replacement Type	Supplier	Sourcing status	CA Prop65 - Manufacturer	Recycled Content	Supplier Diversity	REACH Restrict (Annex XVII)	EU MDR	Human Tr
0	WM-20005 Washing Machine_2025-03-13.6.37 (Design)										
1	000000040 Stainless Steel Drum_5	1.4 (Design)									
1	008MI Stainless Steel Drum			MetalCraft Industries	Approved						
1	000000039 Drum Assembly_5	1.31 (Design)									
2	00000000 Stainless Steel Drum_5	1.4 (Design)									
2	008MI Stainless Steel Drum			MetalCraft Industries	Approved						
2	00000000 Drum Paddles_5	1.7 (Design)									
2	00000000 Water Seal_5	1.8 (Design)									
2	00000000 Drum Bearing_5	2.11 (Design)									
2	60633 Drum Bearing			BearingPro Ltd.	Preferred						
2	70744 Drum Bearing			RotateRight Compose Do Not Use							
1	000000053 Control Panel Assembly_6	2.23 (Design)									
2	00000000 Panel Housing_6	2.9 (Design)									
2	00000000 Display Module_6	1.8 (Design)									
2	30425 Display Module			VisualTech Displays	Approved						
2	40427 Display Module			ScreenMasters Co.	Approved						
2	00000000 Electronic Control Board_6	1.11 (Design)									
2	10124E Electronic Control Board 2			ElectroParts Inc.	Preferred						
2	20239 Electronic Control Board			CircuitHub Electronics	Approved						
2	30312 Electronic Control Board			TechBoard Solutions	Approved						
2	00000000 Control Knobs_6	2.7 (Design)									

Access **Compliance Data report** via Reports at **Structure tap**

WINDCHILL AND ASSENT COMPLIANCE - IN ACTION

Compliance Data Report

Target Part: WM-2000S, Washing Machine_2025-03-13, TTPSC, 6.37 (Design)
Product: Washing Machine
Executed By: wadmin
Time Of Execution: 2025-09-24 14:14 UTC
Sourcing Context: Default
Filter Properties: Assent Compliance

Number	Name	Version	Replacement Type	Supplier	Sourcing status	CA Prop65 - Manufacturer	Recycled Content
0	WM-2000S	Washing Machine_2025-03-13 6.37 (Design)				⊗	
1	0000000040	Stainless Steel Drum_5				⊖	
1	008MI	Stainless Steel Drum		MetalCraft Industries	Approved	⊖	
1	0000000039	Drum Assembly_5				⊖	
2	00000000	Stainless Steel Drum_5				⊖	
2	008MI	Stainless Steel Drum		MetalCraft Industries	Approved	⊖	
2	00000000	Drum Paddles_5				⊖	
2	00000000	Water Seal_5				⊖	
2	00000000	Drum Bearing_5				⊖	
2	60633	Drum Bearing		BearingPro Ltd.	Preferred	⊖	
2	70744	Drum Bearing		RotateRight Compone Do Not Use		⊖	
1	0000000053	Control Panel Assembly_6				⊗	
2	00000000	Panel Housing_6				⊖	
2	00000000	Display Module_6				⊗	
2	30425	Display Module		VisualTech Displays	Approved	⊖	
2	40427	Display Module		ScreenMasters Co.	Approved	⊗	
2	00000000	Electronic Control Board_6				⊖	
2	10124E	Electronic Control Board 2		ElectroParts Inc.	Preferred	⊖	
2	20239	Electronic Control Board		CircuitHub Electronics	Approved	⊖	
2	30312	Electronic Control Board		TechBoard Solutions	Approved	⊖	
2	00000000	Control Knobs_6				⊖	



Legend

Item	Quantity	Weight	CA Prop65 - Manufacturer - 01/2025	EU Persistent Organic Pollutants - 8/2024	EU REACH SVHC - (01/2025)
⊖ WM-2000S.v6.37 (Design) - Washing Machine_2025-03-13	1 each		⚠	⊖	⊖
+ 0000000040.v1.4 (Design) - Stainless Steel Drum_5	1 each		⊖	⊖	⊖
⊖ 0000000053.v2.23 (Design) - Control Panel Assembly_6	1 each		⚠	⊖	⊖
+ 0000000055.v2.7 (Design) - Control Knobs_6	1 each		⊖	⊖	⊖
+ 0000000052.v2.9 (Design) - Panel Housing_6	1 each		⊖	⊖	⊖
⊖ 0000000050.v1.8 (Design) - Display Module_6	1 each		⚠	⊖	⊖
⚙ 30425VT - Display Module.v8.3	1 each		⊖	⊖	⊖
⚙ 40427SM - Display Module.v8.1	1 each		⚠	⊖	⊖
+ 0000000048.v1.11 (Design) - Electronic Control Board_6	1 each		⊖	⊖	⊖
+ 0000000039.v1.31 (Design) - Drum Assembly_5	1 each		⊖	⊖	⊖

CA Prop65 - Manufacturer | EU Persistent Organic... | EU REACH SVHC | EU RoHS Directive | Full Material Disclosure | More ▾

Synchronized structures between Windchill and Assent Compliance with compliance statuses calculated and rolled-up in Assent and transferred to Windchill.

DEMO 3. WIDCHILL AND ASSENT COMPLIANCE

Windchill and Assent Compliance Integration

The screenshot displays the Windchill software interface, specifically the 'Assent Compliance' tab for a part named 'Part - WM-2000S, Washing Machine_2025-03-13, TTPSC, 6.37 (Design)'. The interface includes a navigation pane on the left with 'Search | Browse' and 'Navigator' options. The main area shows a tree view of the product structure under 'Identity'. The tree is expanded to show sub-components, including 'Drum Assembly_5, TTPSC, 1.31 (Design)', 'Drum Bearing_5, TTPSC, 2.11 (Design)', 'Water Seal_5, TTPSC, 1.8 (Design)', 'Stainless Steel Drum_5, TTPSC, 1.4 (Design)', 'Control Panel Assembly_6, TTPSC, 2.23 (Design)', and 'Display Module_6, TTPSC, 1.8 (Design)'. The right-hand side of the interface shows a 'Supersedes' tab with a search field and a list of objects.



CONCLUSION AND OUTLOOK

- Sustainability and compliance decisions must be made **early in the product development process**
- Design-time **product data** is the foundation for reliable footprint calculation and regulatory compliance
- **PLM (Windchill)** acts as the system of record, orchestrating sustainability and compliance across the digital thread
- Footprint and compliance intelligence must be **embedded into engineering workflows**, not handled as an after-the-fact activity
- Windchill's **open and extensible architecture** enables seamless integration with specialized LCA and compliance solutions
- Outlook: Sustainability and compliance initiatives will **increasingly require integration beyond technology — connecting systems, processes, and people**



Q&A

THANK YOU