

Winning with sustainability: End-to-end solution from T-Systems and iPoint

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Product Carbon Footprint: The new reality for automotive suppliers

The automotive industry is at a turning point, where **digital transformation and sustainability** are now inseparable drivers of competitiveness. For suppliers, this means balancing operational efficiency and compliance with the urgent demand to reduce environmental impact. At the centre of this shift is the **Product Carbon Footprint (PCF)**—a metric that measures and aims to reduce CO₂ emissions across a product’s entire lifecycle, from raw materials and production to logistics and end-of-life. What once focused on material compliance has evolved into a **broad sustainability imperative**.

This change is driven by policy frameworks such as the [EU Green Deal](#), [CO2 neutrality by 2050](#), [EU Digital Product Passport](#), and the [EU Battery Regulation](#), which require transparent and

verifiable carbon data throughout the supply chain. Compliance today is no longer just about quality and safety—it **demands climate accountability**.

The urgency is clear: regulators, OEMs, and customers all expect **reliable PCF reporting**. Suppliers unable to provide consistent, trustworthy data risk losing market access or being excluded from sourcing decisions. However, transparency is difficult to achieve—**data silos, competitive concerns, and inconsistent standards** fragment the landscape. Multi-tier and global value chains add further complexity, making reliable **end-to-end PCF reporting** a challenge that suppliers cannot solve alone.

To overcome these barriers, the industry is moving from costly **one-to-one integrations and expert PCF Calculation tools only** toward scalable, collaborative data ecosystems, with guiding standards allowing non-expert tools and simplification. Standardization groups such as [Catena-X](#) are spearheading this development. This “**1-for-all**” approach allows suppliers to exchange data once and share it across multiple partners, allowing affordable and simplified applications, reducing complexity, increasing efficiency, and enabling even small and mid-sized companies to actively contribute to sustainable automotive operations.

First step: Ford & Flex – Proving the path to successful PCF exchange

The importance of standardized PCF exchange becomes clear when theory meets practice. Ford Motor Company and its tier-1 supplier Flex have shown how transparent data exchange through Catena-X can turn sustainability ambitions into measurable outcomes. Their collaboration demonstrates the potential of multi-tier, multi-vendor interoperability for automotive supply chains.

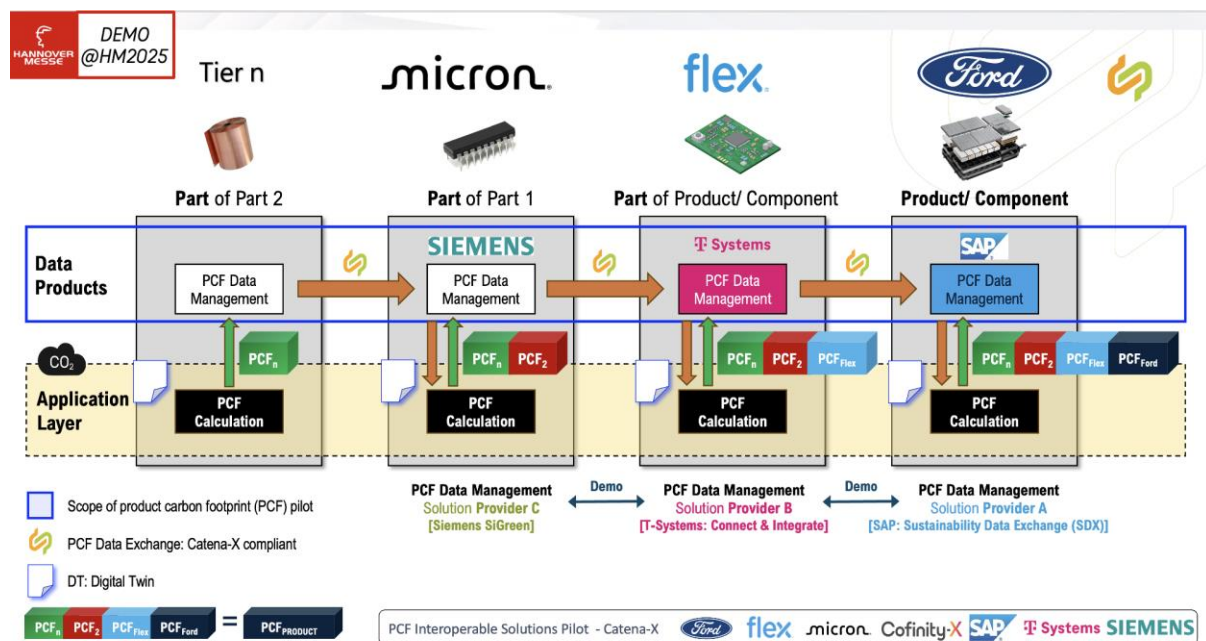
2024 CES Las Vegas: The world premiere of the Ford–Flex primary Scope-3 PCF data chain took place using Catena-X technology in a T-Systems Catena-X sandbox. At CES 2024, Ford and Flex connected live, exchanging verified PCF values for a specific component. The connection—described as a “data dial tone”—was enabled by the Catena-X-certified Connect & Integrate solution, including the PCF exchange feature. This first live connection marked the beginning of an end-to-end sustainable data chain, demonstrating the practical application of dataspace technology to meet regulatory and market requirements for carbon transparency. (Read more: [CES 2024 insights](#) | [Details on Scope 3 pilot](#) | [Video by IBM \(2 min\)](#) | [Video by IBM \(12 min\)](#))

2024 Hannover Messe: Following the CES 2024 premiere, the Ford–Flex Scope-3 PCF data chain was expanded to include Murata, demonstrating multi-tier capability within the Catena-X ecosystem using the Tractus-X tech stack. The joint team from Ford, Flex, IBM, and T-Systems showcased secure and standardized Scope-3 data exchange across multiple suppliers, reinforcing the practical scalability of the end-to-end sustainable data chain. (Read more: [Hannover Messe 2024 insights](#))

2024 AIAG IMDS Detroit: Catena-X’s North American hub was inaugurated, and the Ford–Flex PCF data chain was migrated live from the T-Systems CX Sandbox to the Cofinity-X production environment, demonstrating business readiness and scalability. Ford and Flex, alongside

Cofinity-X, SAP, and T-Systems, exchanged verified Scope-3 PCF data across multiple supply chain tiers. The live demonstration highlighted seamless, browser-based data exchange with drag-and-drop simplicity, proving that scalable PCF tracking and multi-tier interoperability can be achieved without complex system integration. (Read more: [AIAG IMDS 2024 insights](#) | [Flex LinkedIn post](#))

2025 Hannover Messe: Micron joined the Ford–Flex PCF data chain, demonstrating seamless multi-vendor interoperability, as each company used a different PCF application. This event highlighted the flexibility of Catena-X and Cofinity-X operating environments for connecting diverse partners across a shared dataspace. The demonstration reinforced how dataspace technology enables secure, standardized data exchange, laying the foundation for scalable community and industry-cluster ecosystems. (Read more: [Hannover Messe 2025](#))



This evolution highlights how Catena-X enables automated, transparent, and reliable PCF data exchange, supported by T-Systems' Catena-X-certified Connect & Integrate solution and the first Catena-X-certified sandbox environment. The Ford–Flex case provides a clear path for suppliers and OEMs to scale sustainable operations across global supply chains, made possible through T-Systems' role as part of the Catena-X core software development team (2021–2024) and contributions to the Tractus-X open-source reference implementation.

Learn more: Video [Ford, Flex & T-Systems on stage at Digital X 2024](#) | [Catena-X success story](#)

Second step: Calculate the PCF

IPOINT Product Sustainability Software is a modular solution for calculating and analyzing the environmental impact of products, particularly Product Carbon Footprint, with regard to CO₂ emissions across the supply chain. It is tailored to the requirements of the automotive industry, Catena-X PCF Rulebook certified and supports both OEMs and suppliers. The results calculated are transmitted throughout the supply chain with the help of the PCF exchange Network.

Our features, your advantage

As a founding member of Catena-X, with Catena-X certifications across both our portfolio and as part of the Catena-X core software team, we recommend the following **stepwise approach** to effectively leverage data across the automotive supply chain:

- **Catena-X connectivity:** Secure and standardized data exchange with suppliers and partners.
- **Backend integration:** Connect with backend systems to provide the data required by Catena-X data models.
- **Application:** Enable to create and further to automate PCF or if needed LCA using Material Data and merging it with Scope 1 and 2 data. You can combine primary Scope 3 data through the Catena-X system.

Together, **T-Systems and iPoint** deliver an **end-to-end solution** ensuring interoperability, compliance, and traceability across the supply chain, addressing challenges faced by global automotive suppliers and OEMs.

Catena-X connectivity & exchange excellence

Establishing **standardized, sovereign data exchange** is the first step to managing sustainability and product data at scale. Secure, automated, and interoperable connectivity ensures that suppliers, OEMs, and partners can exchange information reliably, while preserving **data sovereignty** and compliance with industry standards.

We provide [Connect & Integrate](#), a unified approach covering all Catena-X use cases as well as OEM-specific requirements, reducing complexity and enabling **seamless scaling from SMEs to large enterprises**. Built by the original **Catena-X core software team** ([“5-Star” performance](#)) and operating on **Deutsche Telekom’s trusted global network**, the solution is proven in practice. For example, **Flex was named Ford Motor Company’s 2025 Sustainability Supplier of the Year** for PCF data management powered by Connect & Integrate ([Flex-Ford award](#), [TSI-Flex testimonial](#)). With hundreds of active subscriptions and large-scale deployments worldwide, we expanded our first native installations in **China in September 2025**, covering one of the world’s largest automotive markets.

Key features:

- **Proven performance:** 120+ production deployments, 300,000+ transactions, near-100% success rate.
- **Cloud-agnostic & sovereign:** Operates on AWS, Azure, Google Cloud, Open Telekom Cloud, or on-premises; fully compliant with GAIA-X, Catena-X, and IDSA.
- **Large-file & protocol support:** Optional OFTP2 for transfers up to 10 GB, including CAD, and compliance documentation.
- **Governance by design:** Data Governance Kit, Semantic Integration Assistant, EDC Discovery, and Digital Twin Registry automate onboarding and compliance.
- **API-driven architecture:** Open, bidirectional connectors for seamless integration with legacy and modern IT systems.

- **Broad Catena-X certifications:** Advisory, Enablement, Onboarding, Sandbox Provider, Business Application PCF, Company Certificate Management.

Our platform ensures **end-to-end PCF automation**, from data requests and validation to verified exchange, turning sustainability data into **actionable business value**.

Backend integration

Once Catena-X connectivity is established, **backend integration** ensures exchanged data flows seamlessly into enterprise systems—providing a foundation for automation, governance, and sustainability management.

We bring **20+ years of vendor-neutral system integration experience**, complemented by proprietary PLM integration products that support **data migration, synchronization, and analytics**. Out-of-the-box adapters cover ERP solutions (SAP S/4HANA) and PLM platforms (ARAS, Contact CIM Database, Dassault 3DEXPERIENCE, PTC Windchill, Siemens Teamcenter).

Key features:

- **Vendor-neutral expertise:** Proven system integration across industries.
- **PLM & ERP integration products:** Tools for migration, synchronization, and analytics.
- **Out-of-the-box adapters:** Ready-made connectors for leading platforms.
- **Semantic consistency:** Mapping, conversion, and harmonization ensure high-quality data.
- **Enterprise-ready deployment:** Supports IT, factory-floor systems, data warehouses, and lakes—cloud or on-premises.
- **Flexible technical options:** Delta mechanisms, metadata/document transfer, and full security compliance.

Backend integration bridges **connectivity and applications**, transforming raw data into **reliable inputs for automation, compliance, and measurable sustainability results**.

Apps

The **IPOINT Product Sustainability Apps** are built on trust and reliability, backed by over 25 years of experience in **material compliance and carbon reporting**. As a **Catena-X certified solution provider** with a **leading founder role in the IMDS system** and as a **core contributor to the Catena-X data logic**, iPoint brings deep expertise in implementing industry data standards. The apps provide **certified PCF calculations across Scopes 1, 2, and 3**, fully aligned with the **Catena-X Rulebook**, ensuring the highest levels of accuracy and transparency.

Built by experts for experts, they are intuitive and accessible for procurement, quality, and engineering teams alike. No matter the **maturity level of your carbon reporting**, iPoint

supports organizations with its products—from **initial calculations to full automation**—ensuring scalable and future-proof sustainability management. With **seamless integration into ERP and IMDS systems**, the iPoint Apps fit smoothly into existing processes, delivering a consistent and trustworthy data foundation across the entire value chain.

Best of breed solution by leading partners

T-Systems and iPoint combine decades of expertise to provide a **seamless, end-to-end PCF solution** for complex automotive supply chains. The platform is **easy to operate, scalable, and efficient**, enabling transparent carbon tracking, secure data exchange, and streamlined supplier onboarding—from SMEs to global enterprises.

iPoint	T-Systems
<ul style="list-style-type: none"> ○ 25+ years of experience in material compliance and carbon reporting ○ Founding role in the IMDS system and core contributor to Catena-X data logic ○ Certified PCF calculation across Scope 1, 2 and 3, fully aligned with the Catena-X Rulebook ○ Built for experts—usable by procurement, quality, and engineering ○ Seamless integration with ERP and IMDS systems 	<ul style="list-style-type: none"> ○ Dataspace pioneer since 2018 with 75+ dataspace projects ○ N°1 automotive IT service provider in DACH for 12 consecutive years ○ Founding member of Catena-X, Gaia-X & Manufacturing-X, and board member of International Data Spaces Association (IDSA) ○ Fully managed service provider with secure, trusted infrastructure operated by Deutsche Telekom AG ○ IDSA and Catena-X certified – cloud-agnostic, plug-and-play solution enables scalable data exchange and integration

Clickdummy step-by-step

Sustainability manager perspective

Let's explore how the sustainability manager processes PCF requests and calculations using Connect & Integrate product.

The screenshot shows the 'Connect & Integrate' homepage. The left sidebar contains a navigation menu with items: Home, Prepare, Provide, Consume, Govern, Applications (with a sub-item 'PCF exchange'), Configure, and Monitor. The main content area has a header 'Connect & Integrate' and a sub-header 'Need help getting started?'. Below this are five cards: 'Assets' (1), 'My policies' (27), 'Provided contract agreements' (100+), 'Consumed contract agreements' (100+), and 'Your connectors' (1). To the right is a 'Your use cases' section with 'Traceability' and 'PassportDemo' as active filters, and 'Sustainability & CO2-Footprint' as a selected use case. Below this is a 'Help' section with a link 'Get to know your Connect & Integrate'. A second section 'Need help in finding the right plan, more info, technical questions?' contains three cards: 'Integrator documentation' (with a 'Browse >' button), 'Tutorials' (with a 'Browse >' button), and 'Glossary' (with a 'Browse >' button). The footer shows 'Application version 1.5.1'.

From the Connect & Integrate homepage, navigate to the PCF exchange application.

The screenshot shows the 'PCF Exchange' application page. The left sidebar is the same as the previous page, but the 'Applications' menu item is highlighted, and 'PCF exchange' is the active sub-item. The main content area has a header 'PCF Exchange' and a sub-header 'Welcome to the easy to use end-to-end Product Carbon Footprint (PCF) exchange solution in Catena-X.'. Below this are six cards: 'Create PCF offer' (with a description), 'Discover & request pcf data' (with a description), 'PCF data requests' (with a description), 'PCF Calculator' (with a description and a 'Coming soon' tag), 'PCF data exchange history' (with a description), and 'Recent PCF data requests' (with a list of requests and a 'View all requests >' link). Below these cards is a 'How does it work?' section with a description. The footer shows 'Application version 1.5.1'.

Click on "PCF data requests"

DATA INTELLIGENCE HUB

Applications > PCF exchange > PCF data requests

Search

?

🔔

Sustainability Manager

Home

Prepare

Provide

Consume

Govern

Applications

PCF exchange

Configure

Monitor

PCF data requests

Refresh

Use the area to manage your PCF data requests from partners.

Search by your business partner number or a company name

Customer Part ID

Start typing

Enter Customer Part Id

Search

Reset filters

Incoming requests

Outgoing requests

Customer Part ID	Product Name	Company	Status	Due in	Requested date	Last updated	Actions
PWT-8943B	NOT FOUND	Company A	Open	3 days	Oct 08, 2025	Oct 08, 2025	...
U113	Wiring Harness	Company B	Replied	1 day	Oct 06, 2025		<div>Request BOM</div> <div>Send PCF Response</div> <div>View details</div>
U116	Brake Calipers	Company C	Replied	0 days	Sep 10, 2025		
U115	Dashboard Panel	Company D	Replied	0 days	Sep 9, 2025	Sep 20, 2025	...
U11	Brake Calipers	Company E	Replied	0 days	Sep 7, 2025	Sep 20, 2025	...
U115	Wiring Harness	Company F	Replied	0 days	Sep 7, 2025	Sep 20, 2025	...

The table in the "Incoming requests" displays all the PCF requests for which we need to respond. When a new PCF request comes in, the status of the request is tagged as "Open". The sustainability manager checks if the Customer Part ID maps to the BOM. Entries without a map are displayed as "Not found". Use the action menu to request BOM.

DATA INTELLIGENCE HUB

Applications > PCF exchange > PCF data requests

Search

?

🔔

Sustainability Manager

Request BOM

1

Request BOM

Request BOM

Customer Part ID: PWT-8943B

BOM Name: NOT FOUND

Search

Name	Role	Email
<input checked="" type="radio"/> Max Weber	BOM Manager	max.weber@example.com
<input type="radio"/> Uwe Koch	Sustainability Manager	uwe.koch@example.com
<input type="radio"/> Lars Hahn	BOM Manager	lars.hahn@example.com
<input type="radio"/> Eva Jung	Sustainability Manager	eva.jung@example.com
<input type="radio"/> Otto Scholz	BOM Manager	otto.scholz@example.com
<input type="radio"/> Nina Beck	Sustainability Manager	nina.beck@example.com
<input type="radio"/> Paul Graf	BOM Manager	paul.graf@example.com
<input type="radio"/> Erik Vogt	Sustainability Manager	erik.vogt@example.com

Write a message (max 200 characters)

Hi Max,
Could you please map the customer part ID to the BOM? This will allow me to proceed with the PCF Calculation process.
Thanks,
Eva Jung
[Sustainability Manager]

Request

Select the BOM manager, add a note and click "Request".

DATA INTELLIGENCE HUB

Applications > PCF exchange > PCF data requests

Search ? Sustainability Manager

Home

Prepare

Provide

Consume

Govern

Applications

PCF exchange

Configure

Monitor

PCF data requests

Use the area to manage your PCF data requests from partners.

Search by your business partner number or a company name [?] Customer Part Id [?]

Start typing Enter Customer Part Id Search Reset filters

Incoming requests

Outgoing requests

Customer Part ID	Product Name	Company	Status	Due in	Requested date	Last updated	Actions
PWT-8943B	Powertrain	Company A	Qualified	3 days	Oct 08, 2025	Oct 08, 2025	...
U113	Wiring Harness	Company B	Replied	1 day	Oct 06, 2025	Oct 06, 2025	...
U116	Brake Calipers	Company C	Replied	0 days	Sep 10, 2025	Sep 20, 2025	...
U115	Dashboard Panel	Company D	Replied	0 days	Sep 9, 2025	Sep 20, 2025	...
U11	Brake Calipers	Company E	Replied	0 days	Sep 7, 2025	Sep 20, 2025	...
U115	Wiring Harness	Company F	Replied	0 days	Sep 7, 2025	Sep 20, 2025	...

Once the BOM manager maps the ID, the status updates to "Qualified". The sustainability manager can now initiate the PCF calculation.

DATA INTELLIGENCE HUB

Applications > PCF exchange > PCF data requests

Search ? Sustainability Manager

Home

Prepare

Provide

Consume

Govern

Applications

PCF exchange

Configure

Monitor

PCF data requests

Use the area to manage your PCF data requests from partners.

Search by your business partner number or a company name [?] Customer Part Id [?]

Start typing Enter Customer Part Id Search Reset filters

Incoming requests

Outgoing requests

Customer Part ID	Product Name	Company	Status	Due in	Requested date	Last updated	Actions
PWT-8943B	Powertrain	Company A	Qualified	3 days	Oct 08, 2025	Oct 08, 2025	...
U113	Wiring Harness	Company B	Replied	1 day	Oct 06, 2025	Oct 06, 2025	Request BOM Send PCF Response View details
U116	Brake Calipers	Company C	Replied	0 days	Sep 10, 2025	Sep 20, 2025	...
U115	Dashboard Panel	Company D	Replied	0 days	Sep 9, 2025	Sep 20, 2025	...
U11	Brake Calipers	Company E	Replied	0 days	Sep 7, 2025	Sep 20, 2025	...
U115	Wiring Harness	Company F	Replied	0 days	Sep 7, 2025	Sep 20, 2025	...

In the action menu, click "Send PCF Response". In the preview BOM step you can verify data consistency. If the primary PCF data is missing from the supplier, you can request it directly.

DATA INTELLIGENCE HUB Applications > PCF exchange > PCF data requests

Send PCF Response > Preview BOM

Preview BOM

Customer Part ID: PWT-8943B Product Name: Powertrain

Modify the data of this BOM template to meet the requirements of this PCF request.

Internal Part Number	Description	Supplier	Supplier Identifier	Supplier BPNL	Supplier Share (%)	Used Quantity
PT-001-CU	Copper coil	Supplier A	HRB 144602	BPNL0000L48UA	100	5 kg
PT-002-AL	Motor housing	Supplier B	HRB 85657	BPNL0000L65UZ	80	20 kg
PT-002-AL	Motor housing	Supplier C	DE123456789	BPNL0000L25XD	20	20 kg
PT-003-SI	Silicon chips	Supplier D	DE987654321	BPNL0000L76TJ	100	0.1 kg
PT-004-ST	Mounting brackets	Supplier E	HRB 50000	BPNL0000L11LO	100	2 kg
N/A	Assembly	In-house	HRB 12345	BPNL0000L34KF	100	1 unit
N/A	Transportation	Logistics provider	HRA 789	BPNL0000L98TP	100	150 km

Request PCF

Back Next

Application version 1.5.1 U115 Wiring Harness Company F Replied 0 days Sep 7, 2025 Sep 20, 2025

Simply click on the "Request PCF" button in the row where the data is missing.

DATA INTELLIGENCE HUB Applications > PCF exchange > PCF data requests

Send PCF Response > Preview BOM

Preview BOM

Customer Part ID: PWT-8943B Product Name: Powertrain

Modify the data of this BOM template to meet the requirements of this PCF request.

Request PCF

Manufacturer part ID* PT-003-SI

BPNL* BPNL0000L76TJ

Message* Can you please send the data today?

☒ By submitting the request, I understand that the contract will be negotiated on the data offer as per the policies set by the data provider.

Cancel Submit

Back Next

Application version 1.5.1 U115 Wiring Harness Company F Replied 0 days Sep 7, 2025 Sep 20, 2025

This action opens a pop up with pre-filled information. You can customize the messages needed and click "Submit" to send the request to the supplier. We will revisit this request later in the process.

The screenshot shows the 'Calculate PCF' step within the 'DATA INTELLIGENCE HUB' interface. The breadcrumb trail is 'Applications > PCF exchange > PCF data requests'. The left sidebar shows a progress bar with three steps: '1 Preview BOM' (completed), '2 Calculate PCF' (active), and '3 Initiate Response'. The main content area is titled 'Calculate PCF' and displays 'Customer Part ID: PWT-8943B' and 'Product Name: Powertrain'. Below this, it states: 'This step pushes the BOM data to the iPoint environment for PCF calculations.' The iPoint logo is shown with the text 'Product Sustainability Software for Environmental Data Management'. A pink button labeled 'Push to iPoint PS' is visible. At the bottom right are 'Back' and 'Next' buttons. The footer bar includes 'Application version 1.5.1', 'U115', 'Wiring Harness', 'Company F', a 'Replied' status, '0 days', and dates 'Sep 7, 2025' and 'Sep 20, 2025'.

In the Calculate PCF step, utilize the iPoint Product Sustainability (PS) service to perform the PCF calculation. Push the bond data to iPoint PS. Upon successful data transfer, a confirmation message will appear and the calculation process will proceed in the background. For entries where primary PCF data is unavailable, secondary PCF data will automatically be used to complete the calculation.

The screenshot shows the 'Initiate Response' step within the 'DATA INTELLIGENCE HUB' interface. The breadcrumb trail is 'Applications > PCF exchange > PCF data requests'. The left sidebar shows a progress bar with three steps: '1 Preview BOM' (completed), '2 Calculate PCF' (completed), and '3 Initiate Response' (active). The main content area is titled 'Initiate Response' and displays 'Customer Part ID: PWT-8943B' and 'Product Name: Powertrain'. Below this, it states: 'Choose appropriate behaviour(s) for response initiation.' There is a checked checkbox for 'Send / Update response automatically once PCF calculations are available.' At the bottom right are 'Back' and 'Submit' buttons. The footer bar is identical to the previous screenshot, showing 'Application version 1.5.1', 'U115', 'Wiring Harness', 'Company F', a 'Replied' status, '0 days', and dates 'Sep 7, 2025' and 'Sep 20, 2025'.

In the "Initiate Response" step, you have the option to automatically respond to the request. As soon as the PCF calculation results are ready. Click "Submit" to initiate the process.

The screenshot shows the 'PCF data requests' page in the 'DATA INTELLIGENCE HUB'. The left sidebar contains navigation links: Home, Prepare, Provide, Consume, Govern, Applications (with 'PCF exchange' selected), Configure, and Monitor. The main header shows the breadcrumb 'Applications > PCF exchange > PCF data requests'. A green notification banner at the top right states 'Initiated response successfully! Response will be sent soon!' with a 'Refresh' button. Below the header, there's a search bar for business partner numbers or company names, and a 'Customer Part Id' field. The main content area has two tabs: 'Incoming requests' (active) and 'Outgoing requests'. The 'Incoming requests' table lists several items with columns for Customer Part ID, Product Name, Company, Status, Due in, Requested date, Last updated, and Actions. The first row shows 'PWT-8943B' with status 'Calculating'. Other rows show 'U113', 'U116', 'U115', 'U11', and 'U115' with status 'Replied'. A footer note indicates 'Application version 1.5.1'.

Customer Part ID	Product Name	Company	Status	Due in	Requested date	Last updated	Actions
PWT-8943B	Powertrain	Company A	Calculating	3 days	Oct 08, 2025	Oct 08, 2025	...
U113	Wiring Harness	Company B	Replied	1 day	Oct 06, 2025	Oct 06, 2025	...
U116	Brake Calipers	Company C	Replied	0 days	Sep 10, 2025	Sep 20, 2025	...
U115	Dashboard Panel	Company D	Replied	0 days	Sep 9, 2025	Sep 20, 2025	...
U11	Brake Calipers	Company E	Replied	0 days	Sep 7, 2025	Sep 20, 2025	...
U115	Wiring Harness	Company F	Replied	0 days	Sep 7, 2025	Sep 20, 2025	...

The status of the table changes to "Calculating" to indicate the status of the PCF calculation. The status changes to "Replied" after the PCF value is calculated and sent to the customer.

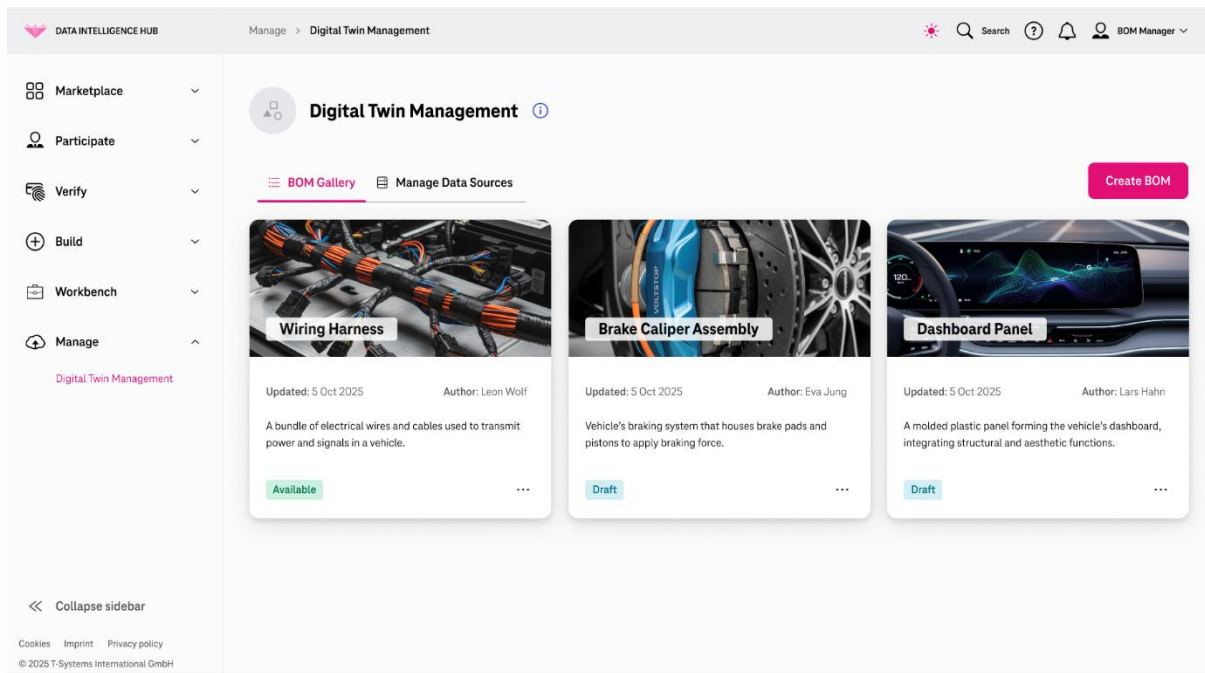
This screenshot shows the 'Outgoing requests' tab in the 'PCF data requests' interface. The layout is similar to the previous one, but the 'Outgoing requests' tab is active. The table lists requests with columns for Internal Part ID, Company, Requested date, Due in, Status, Last updated time, and Actions. The first row shows 'PT-003-SI' with status 'Requested'. The other three rows show 'HA010030002', 'R0001212502', and 'R0009146704', all with status 'Replied'. Each row has a 'View details' button. A pagination bar at the bottom shows '1-6/100'. The footer note indicates 'Application version 1.5.1'.

Internal Part ID	Company	Requested date	Due in	Status	Last updated time	Actions
PT-003-SI	Supplier D	Oct 08, 2025	3 days	Requested	Oct 08, 2025 4:12 PM	View details
HA010030002	Supplier X	Sep 20, 2025	1 days	Replied	Sep 20, 2025 4:12 PM	View details
R0001212502	Supplier Y	Sep 10, 2025	0 days	Replied	Sep 20, 2025 4:12 PM	View details
R0009146704	Supplier Z	Sep 9, 2025	0 days	Replied	Sep 20, 2025 4:12 PM	View details

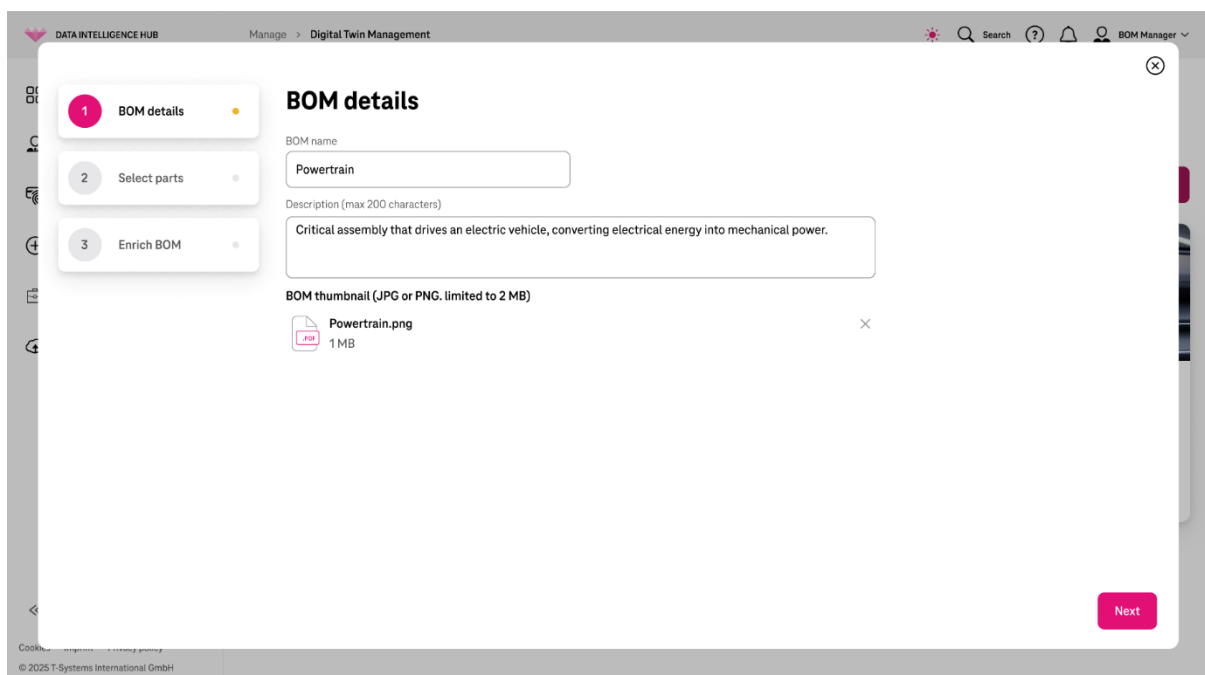
The "Outgoing requests" tab shows the request we have sent. Once the supplier responds, the status will update to "Replied". At this point, you can review the response and choose to either reject it or mark it as "Validated".

BOM manager perspective

Let's now explore how the BOM manager creates a bill of materials that aligns with the Catena-X standard and maps to customer parts.



To create the BOM, navigate to the Digital Twin Management section in the Data Intelligence Hub portal. Click the "Create BOM" button to begin.



In the BOM details step, provide the required information.

The screenshot shows the 'Select parts' step in the BOM Manager interface. On the left, a sidebar contains three steps: '1 BOM details', '2 Select parts' (highlighted), and '3 Enrich BOM'. The main area is titled 'Select parts' and includes a 'Data source' dropdown set to 'All data sources'. Below this is a search bar with the text 'PT'. A table lists five parts, each with a checked checkbox in the first column. The table has columns: Internal Part Number, Description, Supplier, Supplier Identifier, Bulk Quantity, Used Quantity, and Used Weight (kg). At the bottom right, there are 'Back' and 'Next' buttons.

Internal Part Number	Description	Supplier	Supplier Identifier	Bulk Quantity	Used Quantity	Used Weight (kg)
PT-001-CU	Copper coil	Supplier A	HRB 144602	100 kg roll	5 kg	5
PT-002-AL	Motor housing	Supplier B	HRB 85657	200 kg batch	20 kg	20
PT-002-AL	Motor housing	Supplier C	DE123456789	100 kg batch	20 kg	20
PT-003-SI	Silicon chips	Supplier D	DE987654321	1000 units (0.01 k...	10 units	NA
PT-004-ST	Mounting brackets	Supplier E	HRB 50000	50 kg batch	2 kg	2

Next, in the "Select parts" step, choose the data source from which you want to add the parts to the BOM. For a comprehensive search, select all data sources.

Pick the parts that will be included in the BOM.

The screenshot shows the 'Enrich BOM' step in the BOM Manager interface. The sidebar now highlights '3 Enrich BOM'. The main area is titled 'Enrich BOM' and includes a sub-header: 'Enhance the BOM by adding new columns and rows, updating existing values, and incorporating additional details.' Below this is a table with eight columns: Internal Part Number, Description, Supplier, Supplier Identifier, Supplier Share (%), Used Quantity, Used Weight (kg), and a final column with letters (C, A, A, S, S, N, T). The table contains six rows of data. At the bottom right, there are 'Back' and 'Create BOM' buttons.

Internal Part Number	Description	Supplier	Supplier Identifier	Supplier Share (%)	Used Quantity	Used Weight (kg)	
PT-001-CU	Copper coil	Supplier A	HRB 144602	100	5 kg	5	C
PT-002-AL	Motor housing	Supplier B	HRB 85657	80	20 kg	20	A
PT-002-AL	Motor housing	Supplier C	DE123456789	20	20 kg	20	A
PT-003-SI	Silicon chips	Supplier D	DE987654321	100	0.1 kg	0.1	S
PT-004-ST	Mounting brackets	Supplier E	HRB 50000	100	2 kg	2	S
N/A	Assembly	In-house	HRB 12345	100	1 unit	N/A	N
N/A	Transportation	Logistics provider	HRA 789	100	150 km	50	T

In the "Enrich BOM" step, enhance the BOM to comply with the Catena-X data model. Once all steps are complete, click "Create BOM" to finalize the process. The

BOM that we just created will appear as a tile in the BOM gallery.

Trusted by industry leaders

References

T-Systems' solutions are already powering real-world sustainability use cases across the automotive value chain. Customers are leveraging the platform for PCF data exchange, traceability, and regulatory compliance within the Catena-X ecosystem.

Flex Automotive: Product Carbon Footprint (PCF) in Catena-X

Flex Automotive, part of the global **Flex Group**, is a leading **end-to-end manufacturing partner** serving major brands across industries. With operations in over 30 countries, Flex delivers advanced design, engineering, and supply chain capabilities that enable customers to build and manage sustainable products at scale.

To meet growing **CO₂ transparency and compliance demands**, Flex partnered with **T-Systems** to implement a **Catena-X-certified Product Carbon Footprint (PCF)** solution. Through the **Connect & Integrate** platform and the **PCF Exchange App**, Flex successfully established the first **live cross-organizational data chain** for secure, standardized Scope 3 emissions data exchange. The project enabled **rapid deployment without complex integration**, showcased at the **2024 IMDS-AIAG Conference**, and now serves as a **scalable blueprint** for future use cases such as the **battery passport**.

"Flex is proud to have participated in launching the first live, cross-organizational data chain for secure scope-3 CO₂ emissions data sharing, enabling Product Carbon Footprint calculations based on Catena-X standards and certified products. T-Systems, a Deutsche Telekom subsidiary like T-Mobile, played a pivotal role by delivering CX-certified onboarding services and its innovative 'data phone' and data exchange solutions, just in time for AIAG's announcement as the Catena-X North America hub."

Nicole Stevenson
Vice President Business Strategy & Marketing, Flex Automotive Business

Read more: [Customer reference](#)

WITTE Automotive: Traceability & PCF data exchange in Catena-X

WITTE Automotive is a global technology leader in **mechatronic locking and actuating systems**, supplying all major automotive brands. Founded in 1899, the company combines mechanics, electrics, and electronics to deliver innovative solutions for vehicle doors, hoods, tailgates, and interiors — driving continuous progress in automotive safety and comfort.

To meet new **sustainability and traceability regulations**, WITTE needed to securely exchange **traceability and PCF data** with OEMs and suppliers across complex supply chains. Together with **T-Systems**, WITTE leveraged the **Catena-X Sandbox** to simulate secure, sovereign data sharing using the **Connect & Integrate** solution. The collaboration enabled smooth onboarding to the **Cofinity-X production environment**, ensuring standardized and automated PCF and

traceability data exchange. As a result, WITTE gained more accurate carbon insights, streamlined reporting, and a competitive edge through early Catena-X adoption.

"Thanks to T-Systems, we were able to establish a secure sandbox environment for experimenting with Catena-X. This early adoption has positioned us as innovators within the automotive industry, giving us a significant advantage as we move towards full automation of data provision and regulatory compliance."

Michael Tworek

Head of Digital Innovation, WITTE Automotive GmbH

Read more: [Customer reference](#)

TÜV Süd: Battery Pass verification via Catena-X

TÜV SÜD is a global leader in safety, testing, and certification services, supporting manufacturers and regulators in ensuring compliance, quality, and sustainability across industries. With more than 25,000 employees in over 50 countries, TÜV SÜD enables technical progress and protects people and the environment under its guiding principle *"More value. More trust."*

In partnership with **T-Systems**, TÜV SÜD conducted a **Catena-X proof of concept** to establish standardized and trustworthy verification of **Battery Passport data**. The initiative addressed challenges in securely linking **digital twins** to verifiable data and testing the use of **digital signatures** and **W3C-compliant verifiable credentials**. Supported by **T-Systems' Catena-X Sandbox environment**, the project demonstrated the technical feasibility of **automated, scalable verification** — paving the way for transparent and compliant data exchange aligned with upcoming **EU Battery Regulation** requirements.

"TÜV SÜD is a leading global provider of safety and sustainability solutions, offering comprehensive testing, inspection, certification and consulting services to add value and inspire confidence across all industries. T-Systems provided the Build & Operate environment (Catena-X Sandbox) that enables TÜV SÜD to research and develop innovative solutions for more value and more trust in battery passports from the Catena-X network. This partnership helped TÜV SÜD to identify concrete approaches and business value for its ecosystem partners."

Thomas Christl

Innovation Program Lead - Data Management & Business Models, TÜV SÜD Auto Service GmbH

Read more: [Customer reference](#)

ADIS: Traceability & PCF in Catena-X

ADIS is a Czech-based **Tier-1 automotive supplier** specializing in **high-precision plastic injection-molded components** for major OEMs. With more than 25 years of expertise, ADIS is

recognized for its innovation, quality, and just-in-time manufacturing, supporting global supply chains with reliable, sustainable production.

To meet growing **traceability and carbon reporting requirements**, ADIS needed a **Catena-X-compliant, cost-effective, and scalable** data exchange solution. With **T-Systems' Connect & Integrate**, ADIS achieved a seamless and secure data flow — first through the **Catena-X Sandbox** and then into **Pre-Production** for real-world deployment. This collaboration enabled ADIS to automate PCF and traceability data sharing, align with evolving industry standards, and strengthen cooperation with partners such as **WITTE Automotive**. The result: faster compliance readiness, improved data quality, and sustainable competitive advantage.

“With T-Systems' expertise and the 'Connect & Integrate' solution, we achieved a fast and seamless integration into the Catena-X network. The ability to test in a sandbox environment before transitioning to Pre-Production (PreProd) allowed us to efficiently implement a Catena-X-compliant data exchange.

This partnership has provided us with a scalable and future-proof solution, ensuring smooth collaboration with our industry partners.”

*Jindrich Popov
Project Manager, ADIS*

Read more: [Customer reference](#)

DENSO: Driving sustainable innovation with EcoPass certification

DENSO, one of the world's largest automotive suppliers headquartered in Japan, is a global leader in mobility innovation, developing advanced technologies for electrification, connectivity, and sustainability. As part of its commitment to a more circular and transparent value chain, DENSO became the **first Japan-headquartered company to receive the Catena-X EcoPass certification**—a milestone that validates secure and standardized data collaboration across the automotive ecosystem.

Supported by **T-Systems**, DENSO implemented **Connect & Integrate**, a certified Catena-X SaaS solution enabling seamless, sovereign data exchange through **Eclipse Dataspace Components (EDC)**. This architecture underpins DENSO's development of a **Digital Product Passport (DPP)** for battery systems, designed to meet the **European Battery Regulation** requirements entering into force in 2027. The initiative ensures **traceability, CO₂ transparency, and regulatory compliance**—strengthening DENSO's leadership in sustainable innovation and setting a benchmark for global automotive suppliers.

Read more: [Customer reference](#)

To explore more success stories and customer testimonials, [watch our reference videos](#).

Testimonials

“As a clearing house for Gaia-X and Catena-X, T-Systems is one of the first clearing houses available on the market, not only for Catena-X, but also for other partners. We found the right partner to give the right people in the dataspace to credit - who you are, are you rightfully or wrongfully in there - and to make sure that we are Gaia-X compliant.”

*Oliver Ganser
Chief Executive Officer, Catena-X Association and Industry Consortium*

“T-Systems is a founding member of Catena-X and Cofinity-X, a certified onboarding partner, and a reseller of our services. With deep technical expertise, strong connections within the Catena-X ecosystem, and active co-development, T-Systems provides fast, competent, and sustainable support for companies on their journey into the data economy. Together, we have established efficient and automated onboarding processes that continuously evolve – ensuring maximum scalability, high user-friendliness, and successful market adoption across all target groups, from SMEs to large enterprises.”

*Thomas Rösch
Chief Executive Officer, Cofinity-X*

Book your personal demo

Book a **personal demo** with our experts to discover how T-Systems and iPoint can help you connect your data, automate your PCF exchange, and transform compliance into competitive advantage.

<https://www.ipoint-systems.com/book-a-demo/>

<https://dih.telekom.com/en/contact>