

The logo for T Systems, featuring a stylized 'T' icon followed by the word 'Systems' in a serif font.

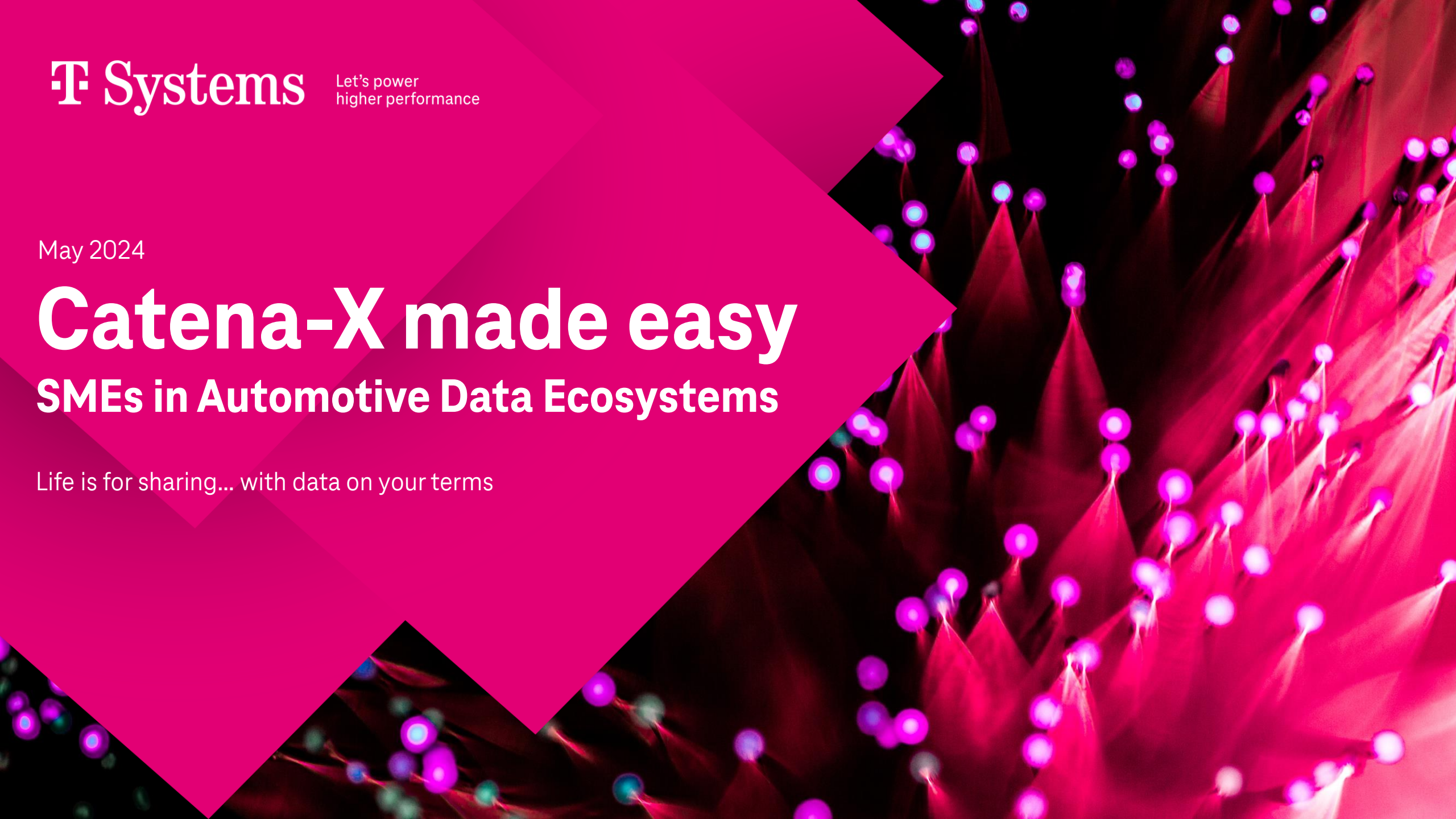
Let's power  
higher performance

May 2024

# Catena-X made easy

## SMEs in Automotive Data Ecosystems

Life is for sharing... with data on your terms





# I'm Nina Popanton

**Business Development Executive**  
Telekom Data Intelligence Hub

- Academic background in Development Research
- Extensive experience in strategy and communications within capital markets and innovative sectors.
- Previously Team Lead of the Data Intelligence Initiative (DIO), with a focus on establishing data spaces and implementing use cases in Austria and Europe.



# I'm Roland Wiesmüller

Senior Sales Manager  
Data & AI

- Broad background in IT- and telecommunications technologies, approaching digitalization from a value creation and holistic perspective
- Driving Industry 4.0 initiatives and innovations
- Extensive experience in Strategy-, Business Modell- and Go to Market development and -implementation
- Previously Principal Consultant with Capgemini and Head of Business Solutions with Nokia/Nokia Siemens with focus on Central East Europe

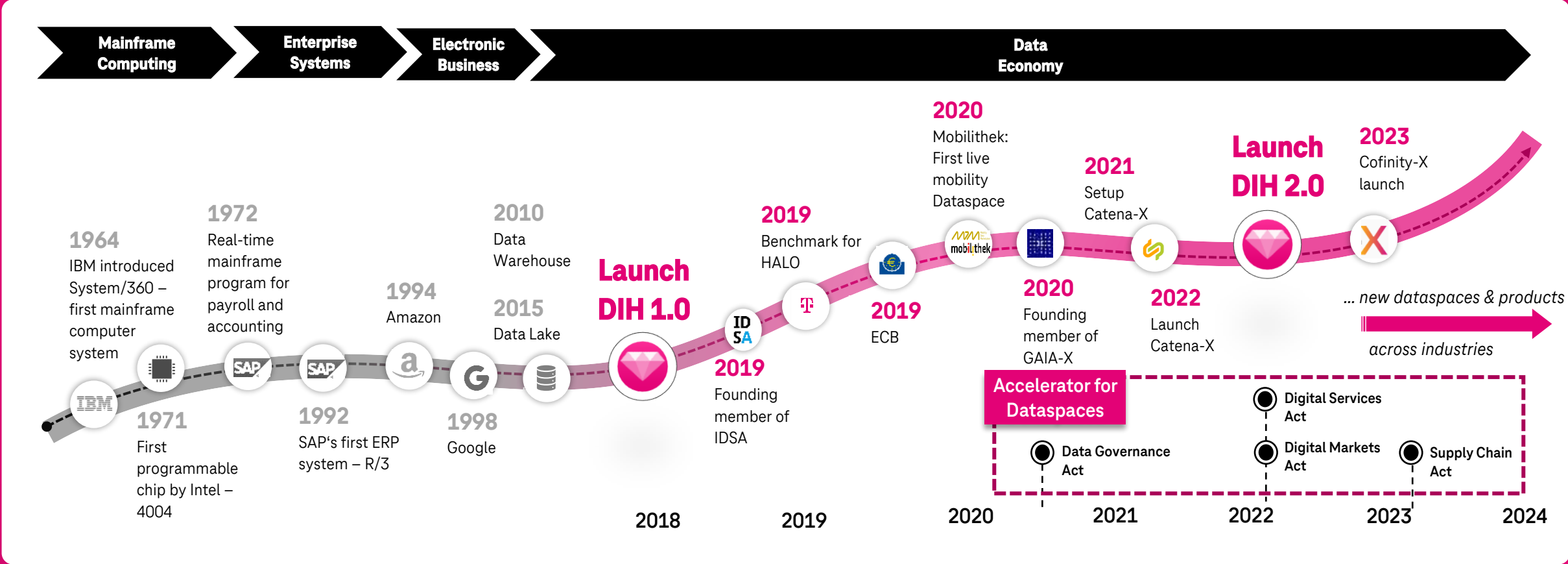


# What you will hear from us...

- 01 Challenges & changes for SMEs in industry**
- 02 Dataspaces as new approach for data**
- 03 Catena-X as Automotive's answer**
- 04 PCF use case example**
- 05 Start your data-driven success journey**

# T-Systems Data Intelligence Hub

## The path towards a data-driven economy



**Data-as-a-product: the NextGen business model enabled by Dataspaces!**

# Modern business requires innovative approaches



## New Legal Requirements



New regulations demand transparency and sharing of data while upholding data privacy and digital sovereignty.

[Data Governance Act 2020](#)

[German Supply Chain due diligence Act w.e.f 2023](#) [Data Act 2022](#)



## Sustainability



Environmental and social responsibility enables businesses to act more sustainably without losing added value.

[European Climate Law \(Green Deal\) – CO2 neutrality by 2050](#)



## New Business Innovation



Highly competitive markets require innovative strategies to reduce costs and create new data-driven business models. Visibility and data sharing become more important than ever.

[Data-driven business models in connected car and beyond](#)

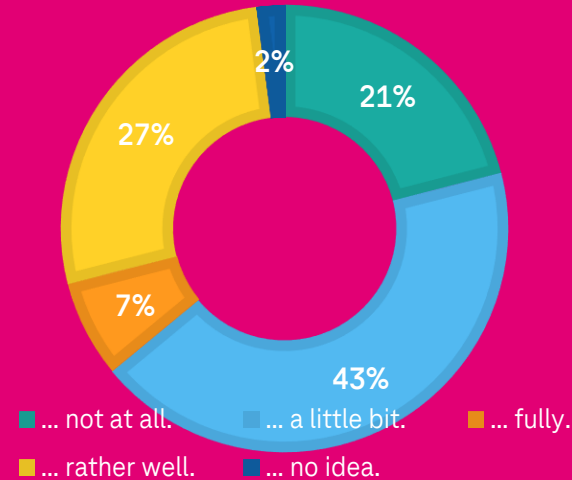


# Navigating the challenges of digitalization.

Particularly complex for SMEs. Potential is left behind.

- Lack of awareness
- Trust in IT solutions
- Increasing regulations  
(Green Deal, Supply Chain Act)
- Perceived complexity
- Compatibility issues
- Cost & ROI considerations
- Resources and skills

We use the potential of our available data...



Which are the reasons why you don't offer data yet? (in %)

- 56 Data security does not allow for data exchange.
- 47 Concerned that data is used against our wish.
- 35 Insecurity if data sharing is legally possible.
- 26 Data is not directly compatible.
- 17 Concerned that hostile states could use our data.
- 15 Concerned that business secrets are accidentally shared.
- 13 Do not want to strengthen competitors.
- 13 Economically not appealing.
- 7 No suitable partner identified.
- 6 Problems to find consent with possible partners.

Resource: Bitkom Research 2023

# Environment Social Governance (ESG) for SMEs

## ▪ 2024:

Unternehmen von öffentlichem Interesse  
> 500 Beschäftigte

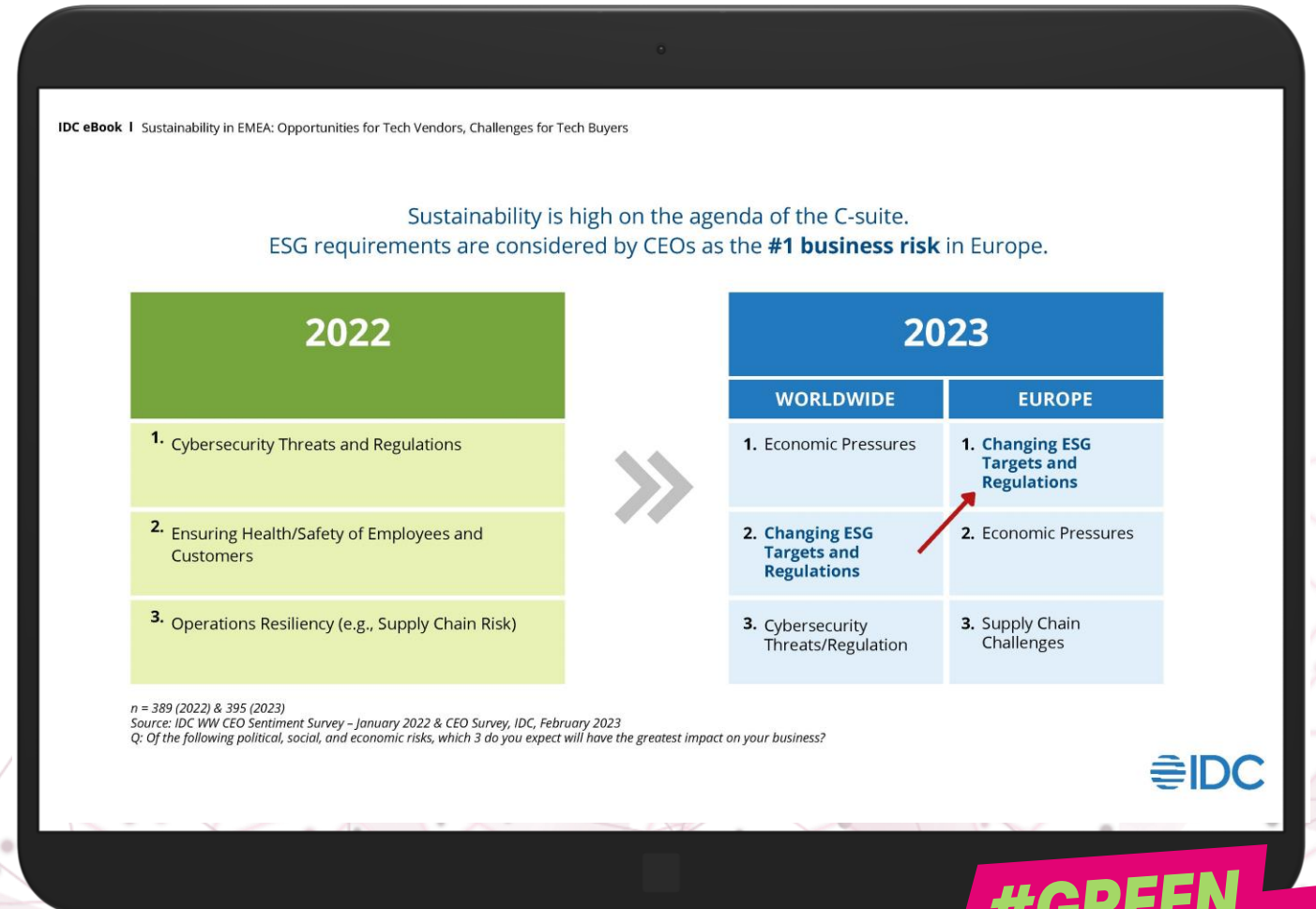
## ▪ 2025:

Alle anderen bilanzrechtlich großen  
Unternehmen. Mindestens zwei von drei  
Kriterien müssen erfüllt sein:

- ✓ Beschäftigte > 250
- ✓ Bilanzsumme > 20 Mio. Euro
- ✓ Nettoumsatzerlöse > 40 Mio. Euro

## ▪ 2026:

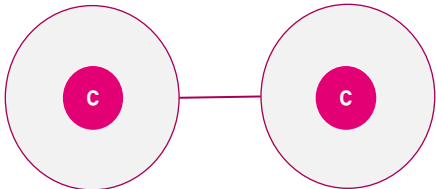
Kapitalmarktorientierte KMU






# New approach for sharing | Data Ecosystems

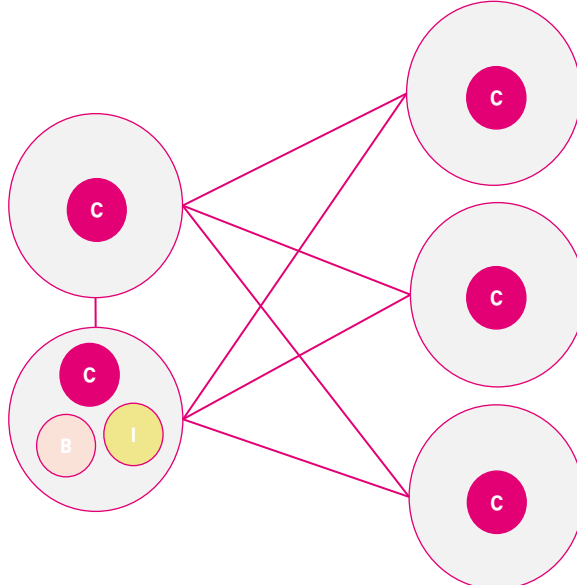
I „One to One“




Bilateral Data Exchange



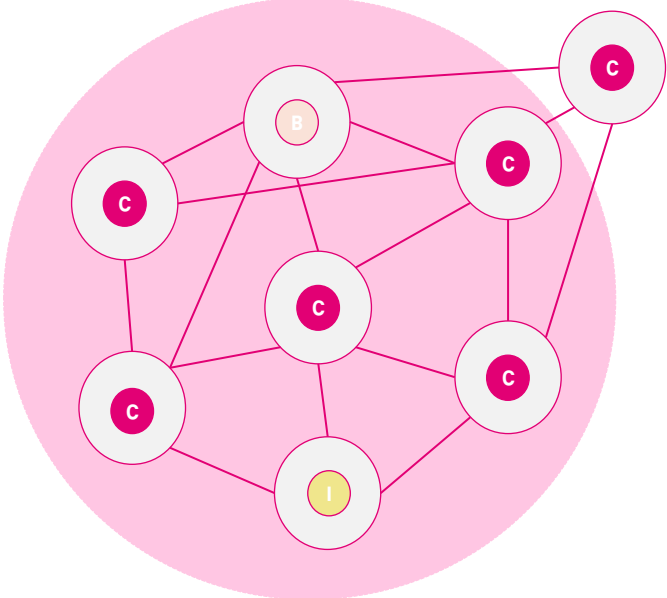
II „Few to Few“




Closed Community Data Sharing



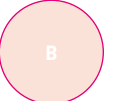


III „Many to Many“



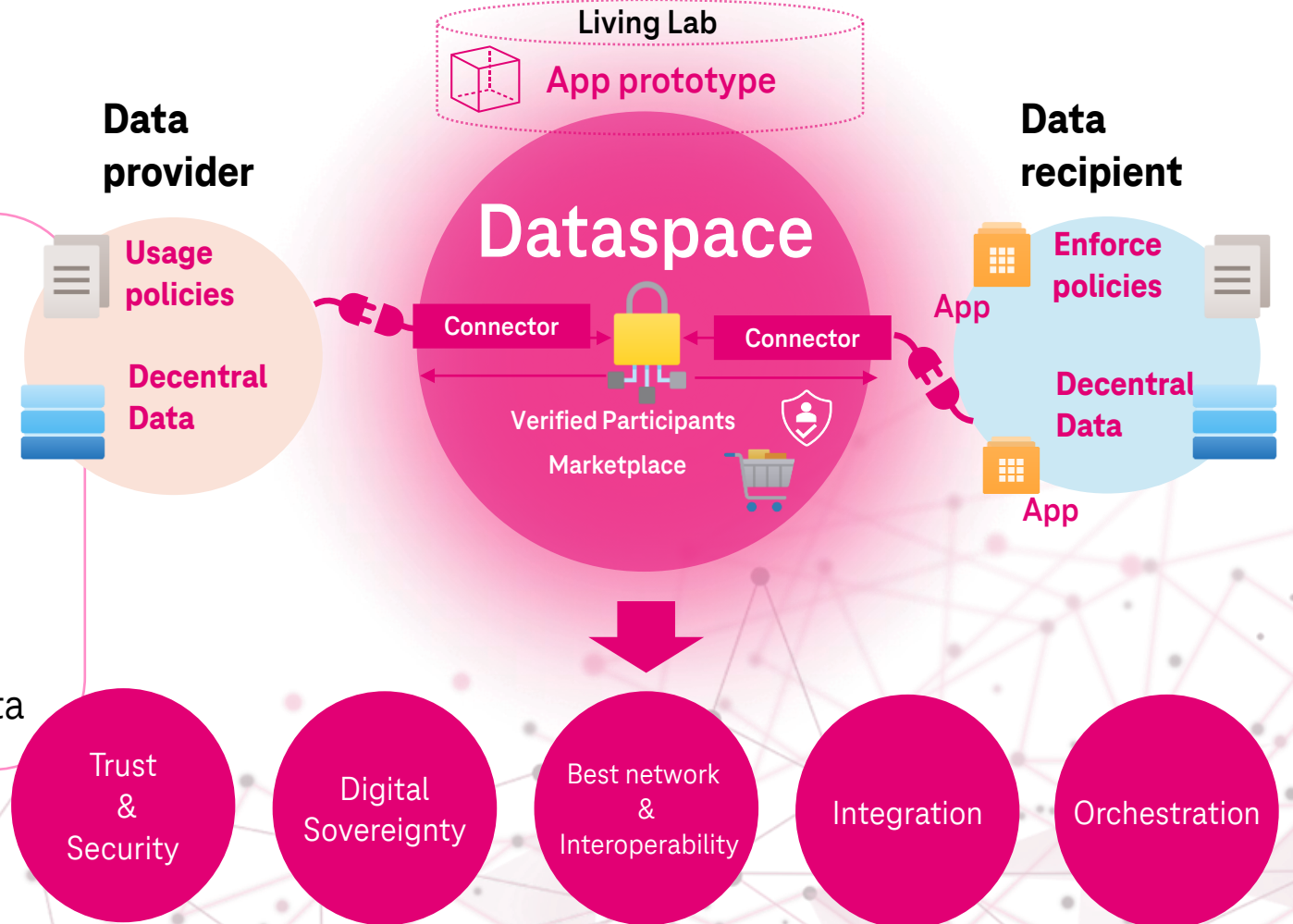
Open & Collaborative Data Ecosystem



   Examples for companies

# Why Dataspaces | Unlock value of your data

- **Decentralized infrastructure**  
for trustworthy data sharing in ecosystems
- **Data sharing and exchange**  
with full data sovereignty for your business
- **A better digital culture**  
where users follow the new rules, ethical use of data



# 03 T-Systems Portfolio – Data Spaces

## Interact & Govern

Manage your actions with an easy-to-use UI / UX

### Build

Develop Business Applications

### Integrate

Standard (SME)

Customized (Large Companies)

### Connect

Access to Ecosystem

### Data Ecosystem

LivingLab (your own)

Existing Ecosystem

## Advise

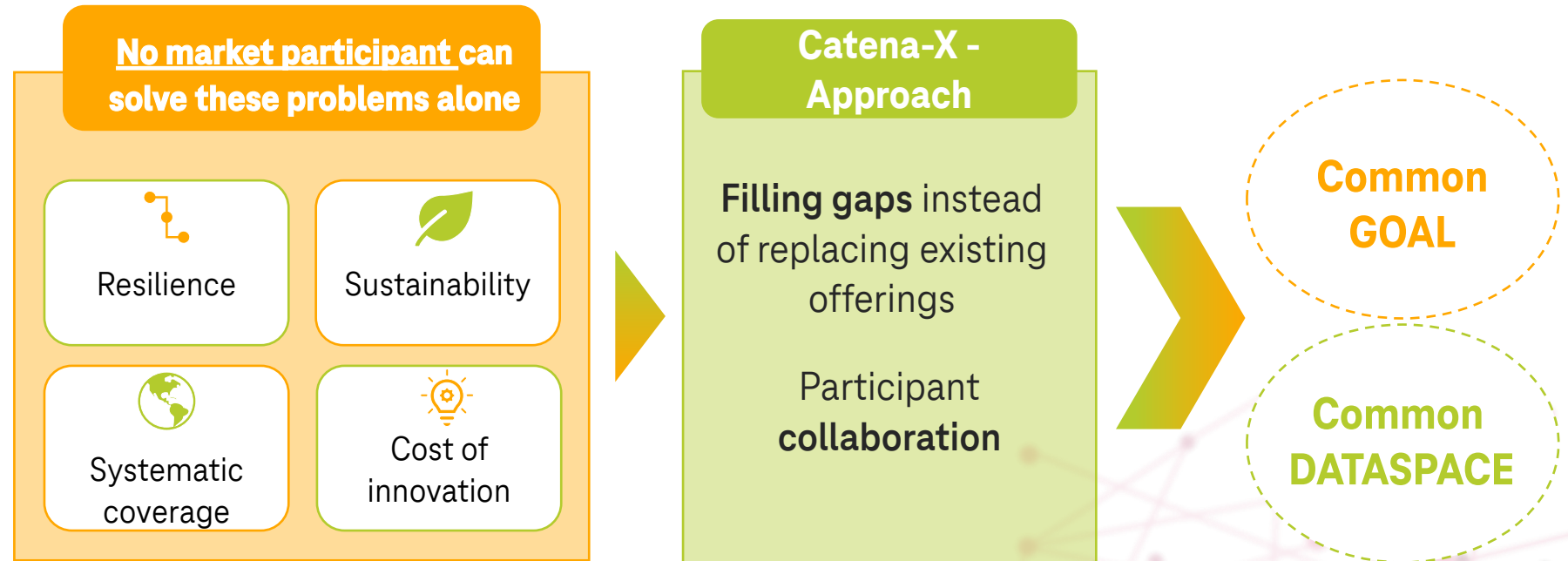
Implementation

Strategy

# Catena-X paves the way | First open & collaborative data ecosystem.



Radical collaboration for the global automotive industry



## The Solution

Sovereign, multi-level data exchange and use case collaboration across the entire value chain:

- Solving the **whole problem**
- **Flow of information** for all participants
- **Scaling** across the industry and beyond

## The Benefits

- **Sovereignty:** stay in control of your data
- **Value:** strengthen your company through use cases
- **Minimize costs:** consolidate IT interfaces, share services and exploit synergies
- **Innovation:** develop new value pools and acquire competitive advantages

# More than 170 automotive players are already engaged in Catena-X



"We want to interconnect companies across industries with Catena-X. Through **seamless data networking**, from small and medium-sized enterprises to original equipment manufacturers (OEMs), we can **achieve significant progress in the sustainability of our products and the resilience of our supply chains.**" (O. Zipse, CEO BMW)

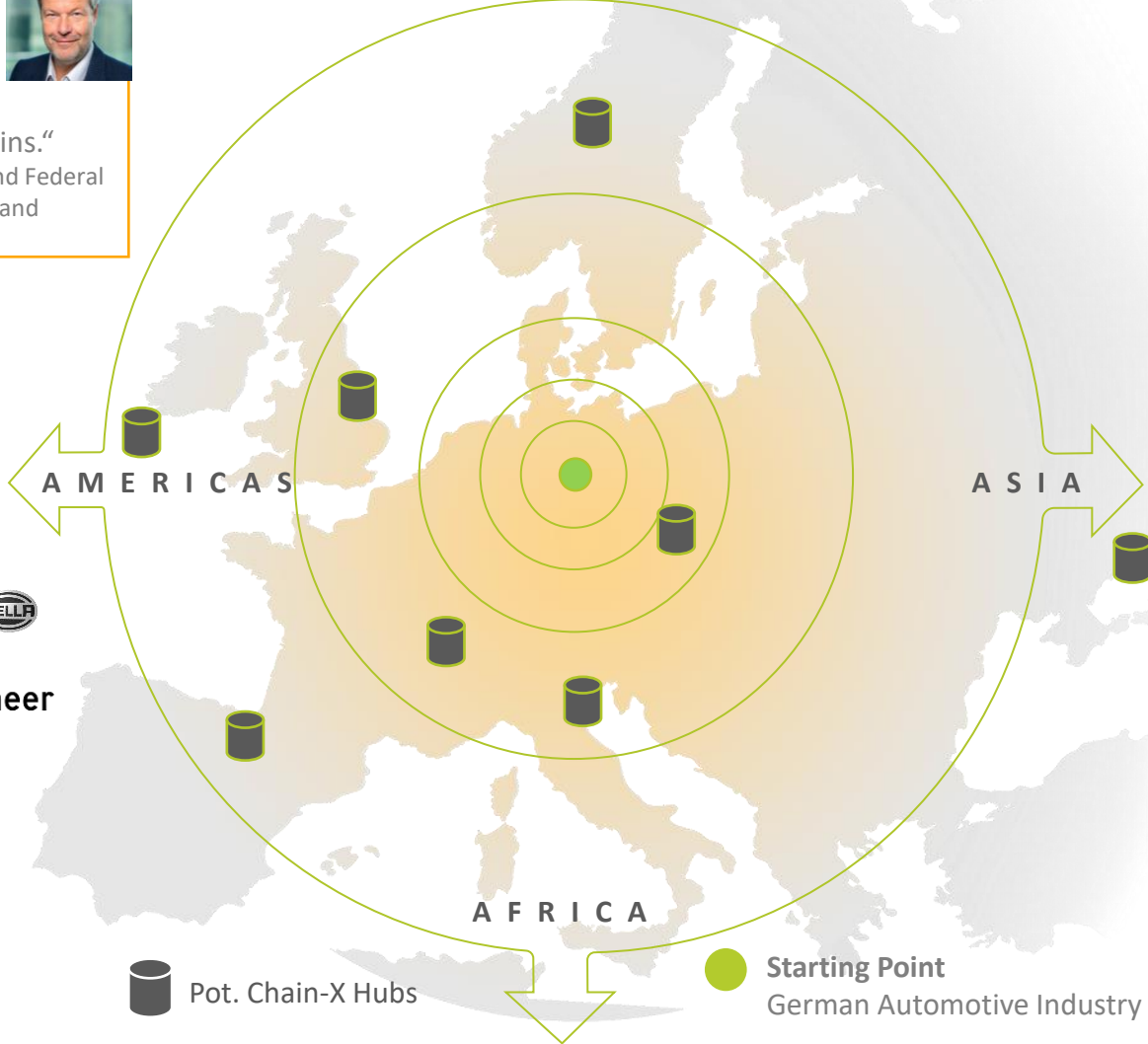


"Catena-X is the **industrial policy flagship project** for the digitization of supply chains." (R. Habeck, Vice Chancellor and Federal Minister for Economic Affairs and Climate Action)

## Members

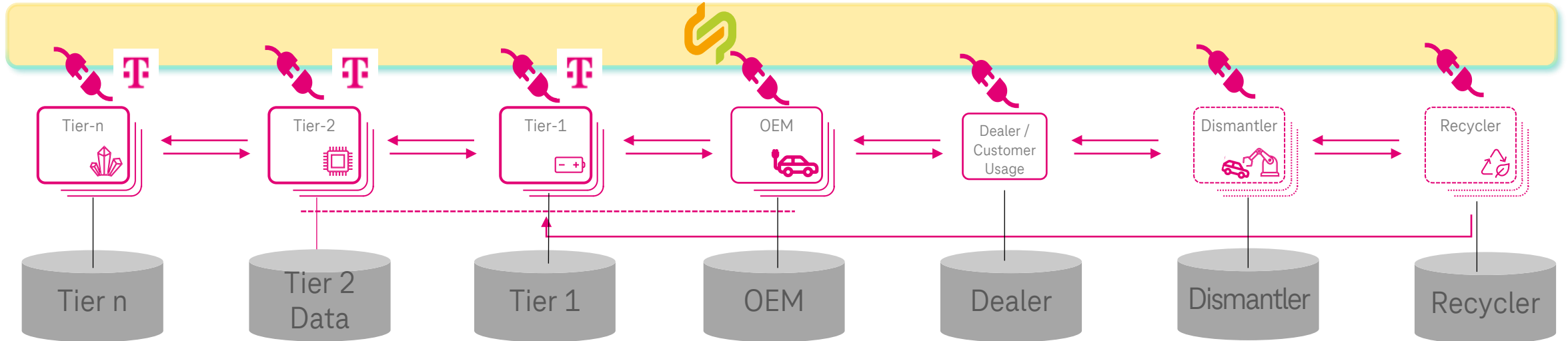


The complete member list is available here: [www.catena-x.net](http://www.catena-x.net)



# Catena-X | Standards and data products for automotive

T-Systems connects & integrates your infrastructure seamlessly.





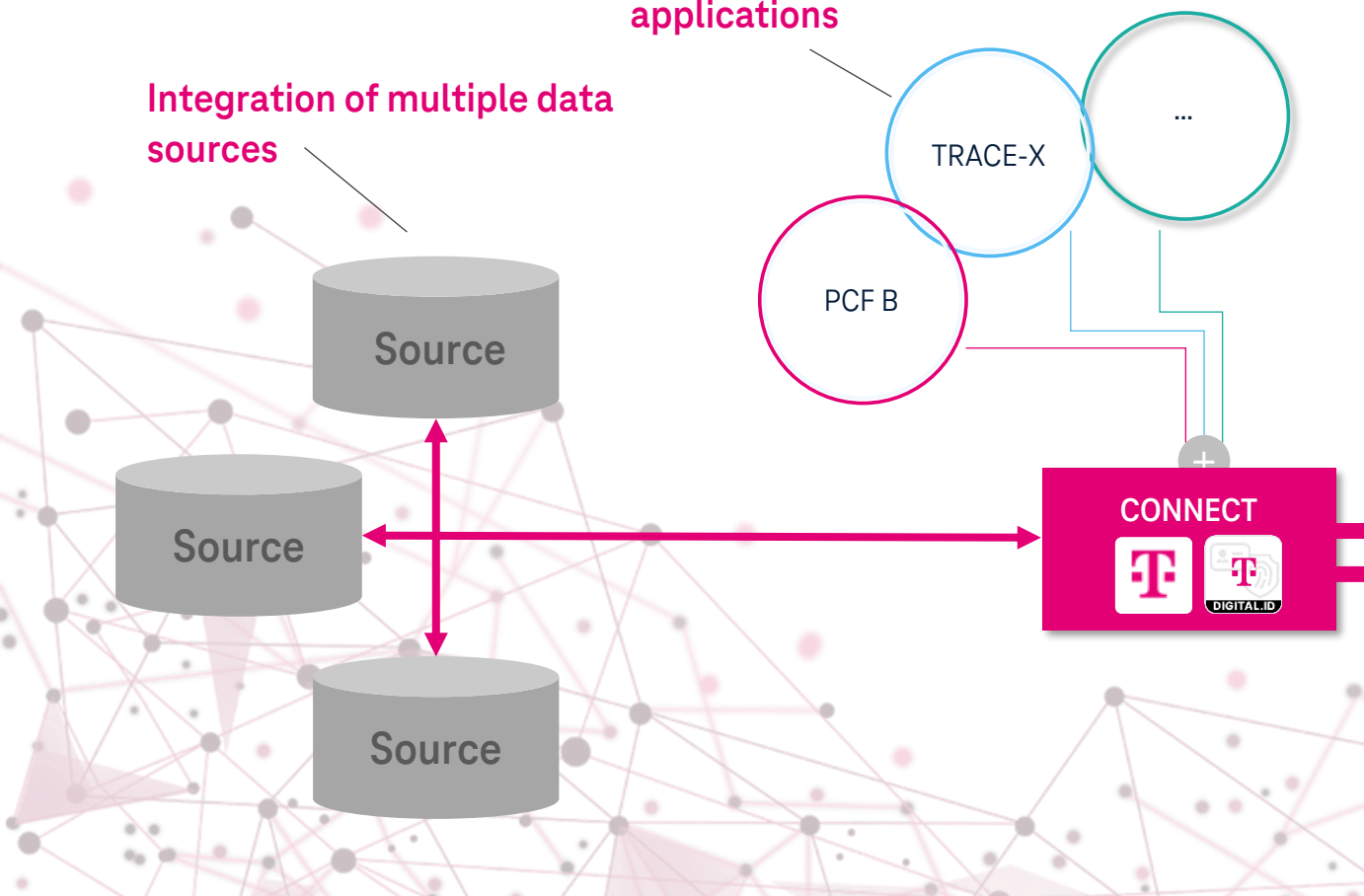
# How to connect with partners.

Data sharing at your own terms.

Integration of multiple data sources

Integration of multiple applications

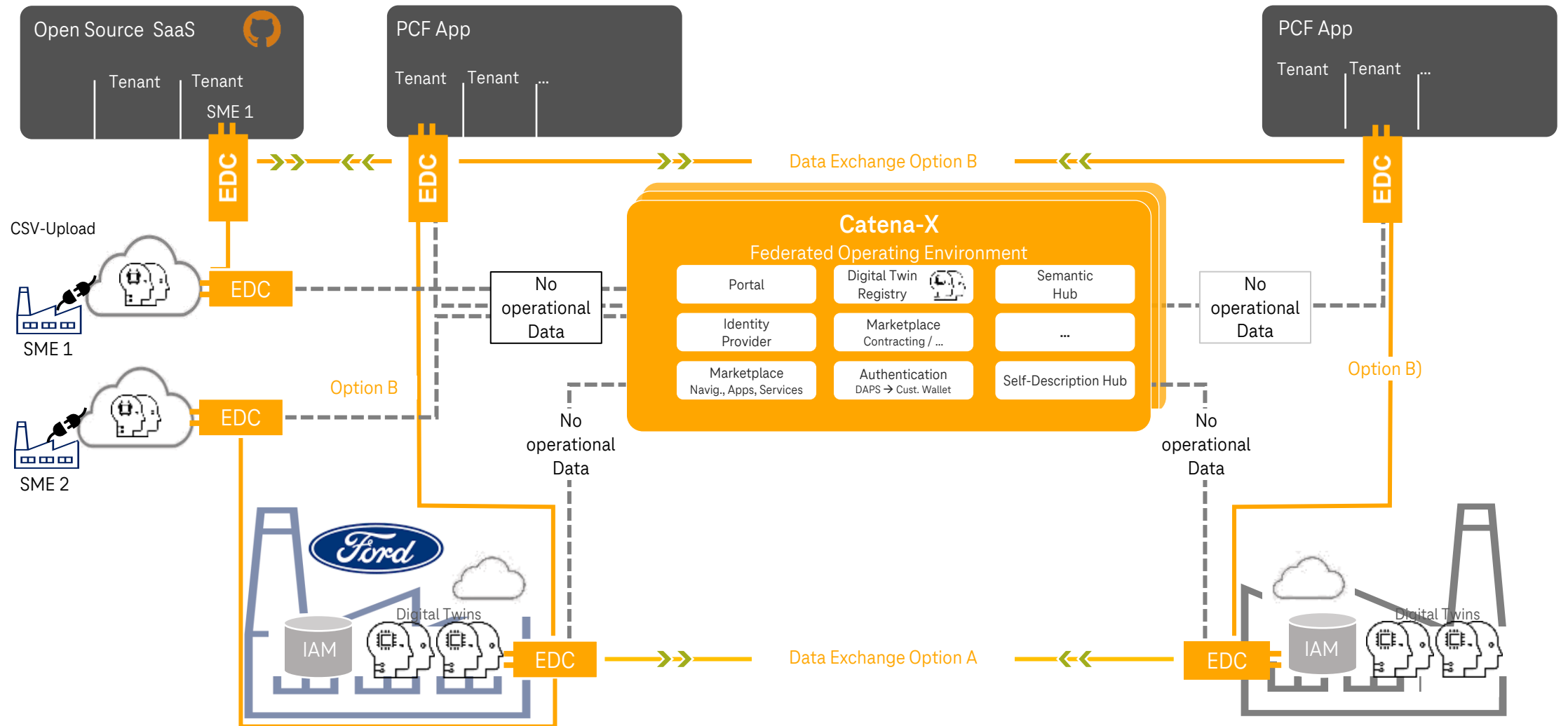
Trusted & interoperable Data Exchange



### Minimize your efforts & risks with T-Systems:

- PLUG & PLAY** | Connect and integrate fast to Catena-X on any cloud
- ONE4ALL** | Participate in all use cases
- SECURE** | Data usage control and confirmed identities (eIDAS conform)
- CERTIFIED** | Catena-X, IDSA and Gaia-X compliant
- AFFORDABLE** | Data chains for all company sizes

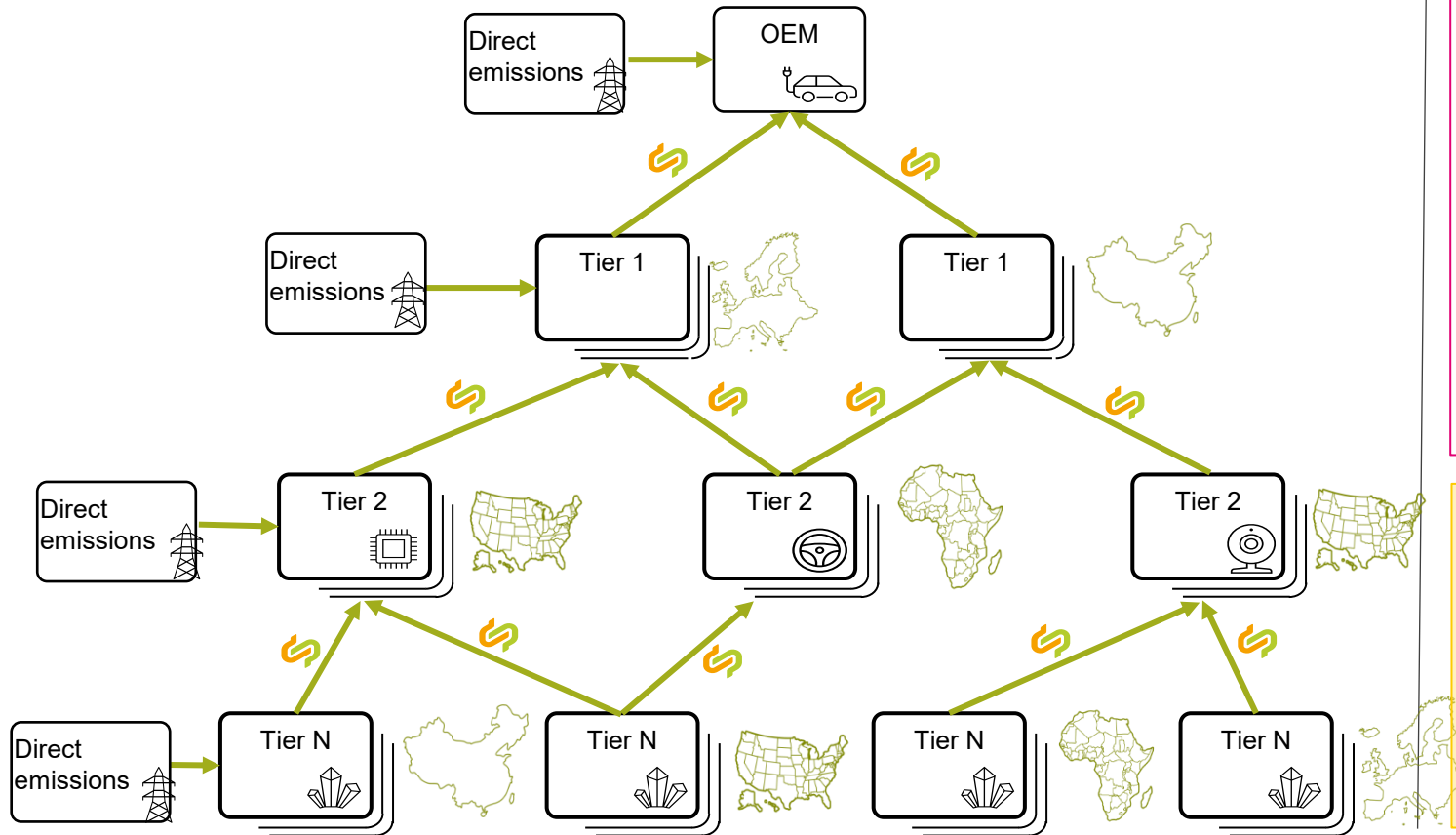
# How it works... | Catena-X – architecture overview.





# Catena-X captures PCF along the supply chain.

Through the collection & aggregation of primary data from all partners.



## Why is collaboration beneficial for everyone:

- **Comparability** of calculation standards worldwide
- Acceptance and **verification**
- **Data quality**, regional specificity
- Compatibility of **technical standards and data models**
- Coordinated governance

## Why may this be relevant for you

- New **EU regulations** request the availability of Product Carbon Footprint
- SMEs are part of **multiple value chains** and must report on their carbon emissions
- If your customer would require it, **would you be able to connect to an open data ecosystems?**

# Data chain | data exchange focus



flex

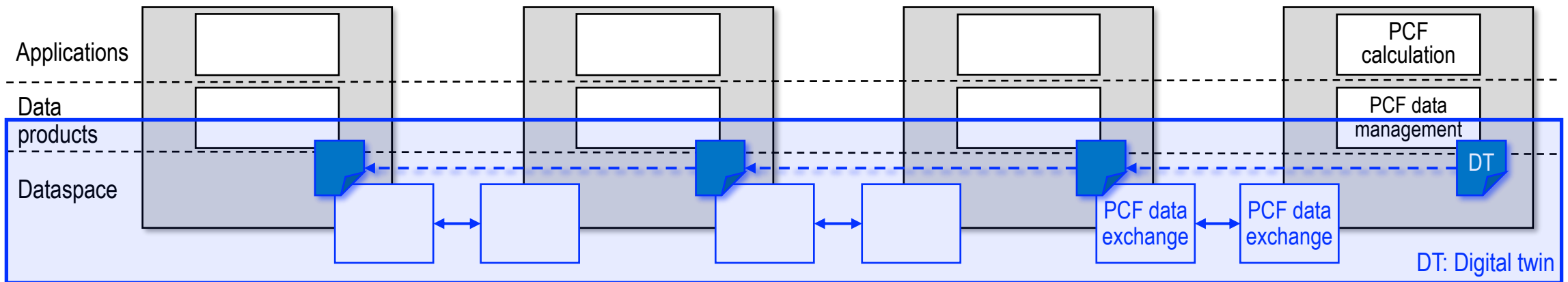


Tier n

Tier 2

Part 1

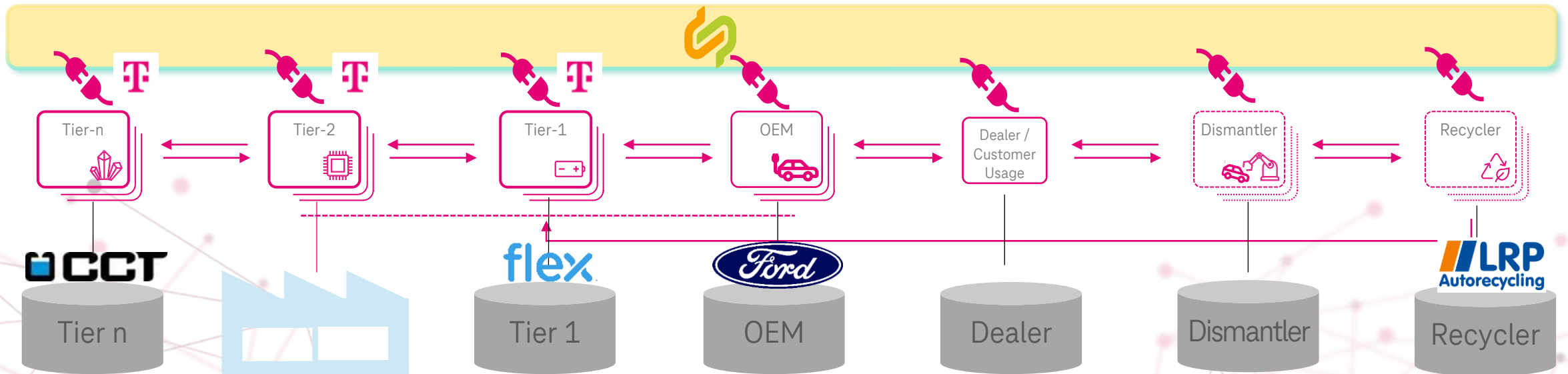
PRODUCT



© 2022 Catena-X or a Catena-X affiliate company

# Automotive: Catena-X creates standards and data products.

The entry barrier for SMEs to profit from digitalization is lowered.



## T-Systems connects you effortlessly to Catena-X:

- A collaborative, federated **data ecosystem**.
- **One portal for all**, thus forming **digital value and data chains**.
- Trusted, sovereign data exchange.
- **Shared standards & Use Cases** (e.g., CO<sub>2</sub> regulation, Traceability & Quality Management, Product Pass, Circular Economy).
- Towards a **data-driven production and supply chain management**.

# Interesting use cases for SMEs towards Industry 4.0

**CX USE CASES**

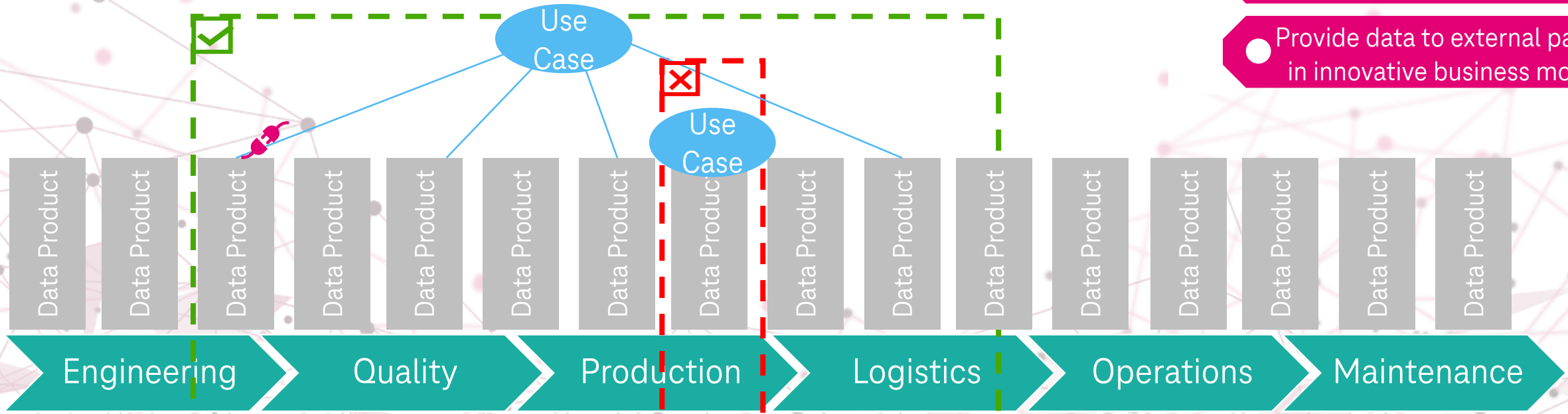
- Traceability
- Sustainability
- Product pass
- Circular economy



**INTERNAL & OTHER USE CASES**

- Product portal
- Production planning
- Storage optimization
- Quality & root cause analysis
- Predictive maintenance ...

- Spanning multiple product lifecycle phases.
- Spanning multiple locations and organizations.
- Show data across multiple dimensions.
- Provide data to external parties in innovative business models.



# Digital value streams | What's in for SMEs in Catena-X?

## What you have now:

1. Increasing data & security regulations (Supply Chain Act, Data Act).
2. High **technical diversity** (Excel, email, proprietary systems, ...). Many interfaces. Unnecessary costs.
3. Constantly **increasing data exchange**.
4. **Mistrust** into data exchange. **Lacking visibility** on data or **unusable data**.
5. **Few standards** or best practices.




## What you want:

 Increase product quality

 Speed & efficiency, less costs

 Transparency in product & process flows

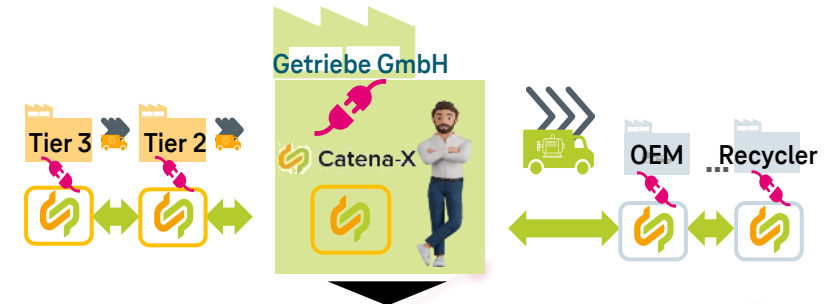
 Supplychain resilience

 Legal compliance (e.g., CO<sub>2</sub>)

 Innovation & business growth

   Data integration across product lifecycle

## Your digital transformation with CX:



## We connect you to Catena-X

- A collaborative, federated **data ecosystem**.
  - **One portal for all**, thus forming **digital value and data chains**.
  - **Shared standards** (e.g., for CO<sub>2</sub> regulation).
- ➔ **Reuse of technology** : transform your company sustainably towards a **data-driven production and supply chain management**.

# Austrian Manufacturing Innovation Data Space



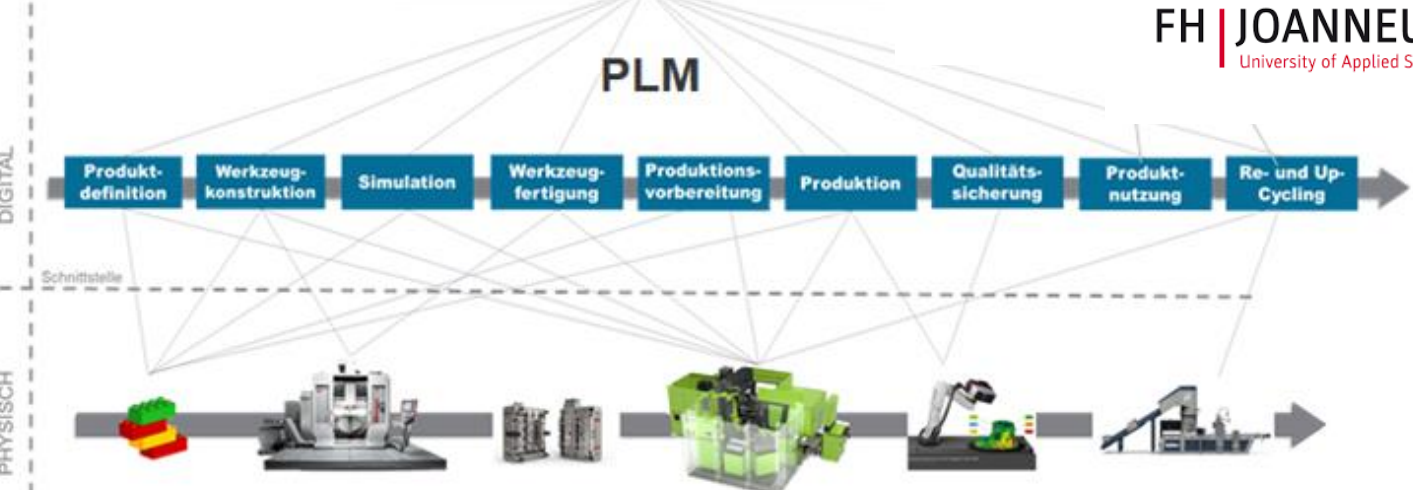
Austrian Manufacturing Innovation Data Space  
AMIDS



gaia-x  
TU Wien JYU TU Graz



PLM



DATA INTELLIGENCE HUB

# T-Systems, your one-stop-shop partner for dataspaces.

We get you onboard of Catena-X easily.



## Market Leader

**#1**

Service IT provider in DACH

**#1**

In the IT German Automotive sector for over 10 years

**#1**

Pioneer in Dataspace technology

**#1**

Sovereign Cloud partner for Europe



## Footprint

**>5000**

Automotive projects in 2023

**65%**

of the top 20 OEMs purchase our services

**11**

Successful PoCs since Catena-X Go Live in September 2023



& others



## Expertise

**Connect**

...and exchange data in Catena-X.

**Integrate**

...your backend systems.

**Build**

...business apps in our sandbox.

**Managed Service**

...easy-to-use portal.

**Verified IDs**

...built-in participant validation.

**Advisory**

... get started. Do it.

# We are pioneers in Dataspaces since 2018!

2018 -

**INTERNATIONAL DATA SPACES ASSOCIATION**



130+ members: IDS architecture, rule book, certification, adoption ... [read more](#)

Co-founded Mobility Community, co-editor of *Next Mobility* anthology

2019 - 2021



By the German Federal Government, 6 working groups ... [read more](#)

Contributor: Identified tech/ data policy requirements for *Next Mobility*

2020 - 2021



“Test-driving” *Next Mobility* in real-life: 10 projects, 32 partners ... [read more](#)

Built minimal viable IDS dataspace to enable novel intermodal travel planning demo app

2020 -



German National Access Point for Mobility Data ... [read more](#)

Building IDS platform 2.0 GoLive: Summer 2022 First Data Space in Germany

2020 -



Mobility Data Space

Public IDS dataspace, 20+ use cases ... [read more](#)

Contributor of use cases, consulting on operations

2020 -

**DaWID**

Federal Ministry of Education & Research

Human digital twin and data monetarization with sovereignty ... [read more](#)

Partner: Build IDS dataspace, broker, end user cockpit

2021 -



Founding partner Launched by German, French governments Chairman of board and COO

2021 -



Top auto companies, 8 pioneers, 150 companies: BMW, Daimler, VW ... [read more](#)  
Consortium Partner, Epic Owner...: Design, build Gaia-X/ IDS dataspace & service ecosystem

2022 -



Data Space Ecosystem powering one of the world's largest data collections initiatives focused on collecting data samples from Earth's surface as well as the atmosphere... [read more](#)

2023 -



Building a minimal viable dataspace for the rail industry. Technology lead.

2024 -



Cloud-to-edge federations empowering EU data spaces in terms of dataspace interoperability.

04/2024 -

Manufacturing-X & Aerospace-X:



Consortium Member, Epic Owners for Dataspace infrastructure and Data integration.

Telekom Data Intelligence Hub and Smart Mobility

Mobility microsite: <https://dih.telekom.com/en/data-move-people>



THANK YOU!

A man in a black suit is holding up a large white sign that says "THANK YOU!". The sign is set against a pink background with a faint network diagram. The text "THANK YOU!" is written in large, bold, white capital letters. The man is positioned behind the sign, holding it up with both hands. The background is a solid pink color with a faint, light-colored network diagram consisting of nodes and connecting lines.

# Next step | Contact us!



...start your Dataspace journey with us!

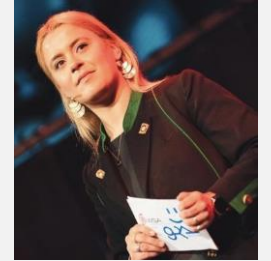


Visit our website!



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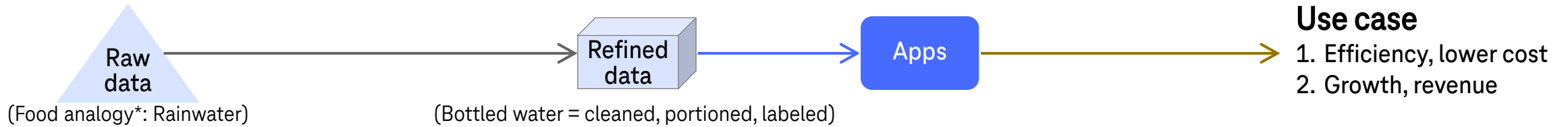
**Back Up**

**T Systems**

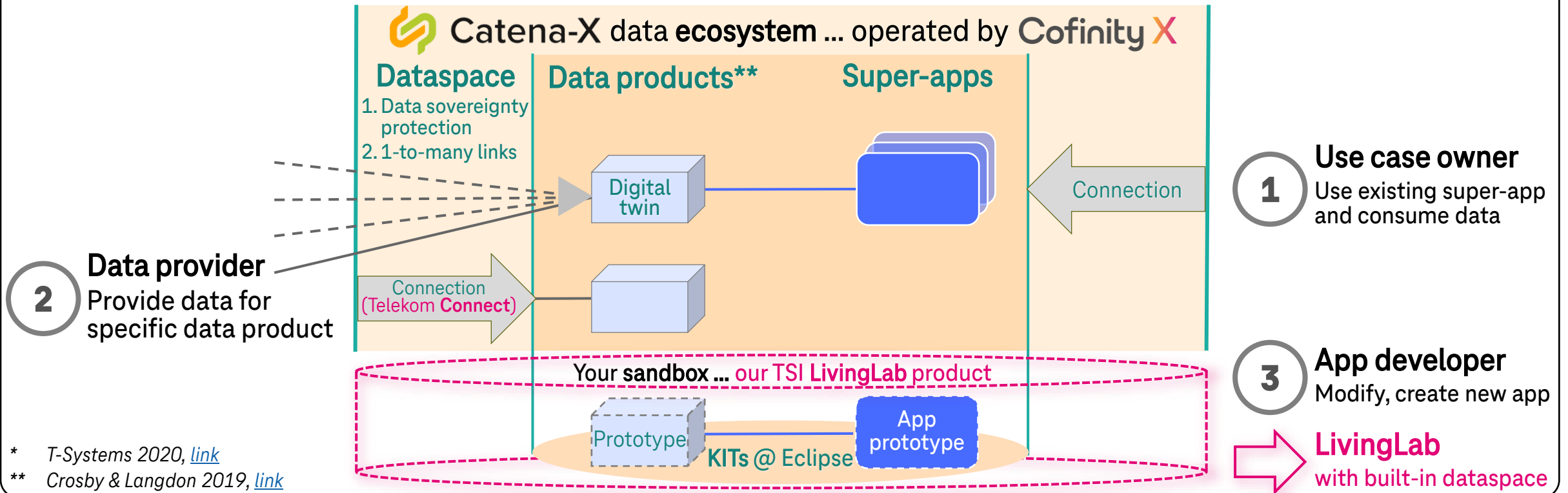
Let's power  
higher performance

# How it works... | Business value from data.

## Traditional data consumption and monetization in use cases



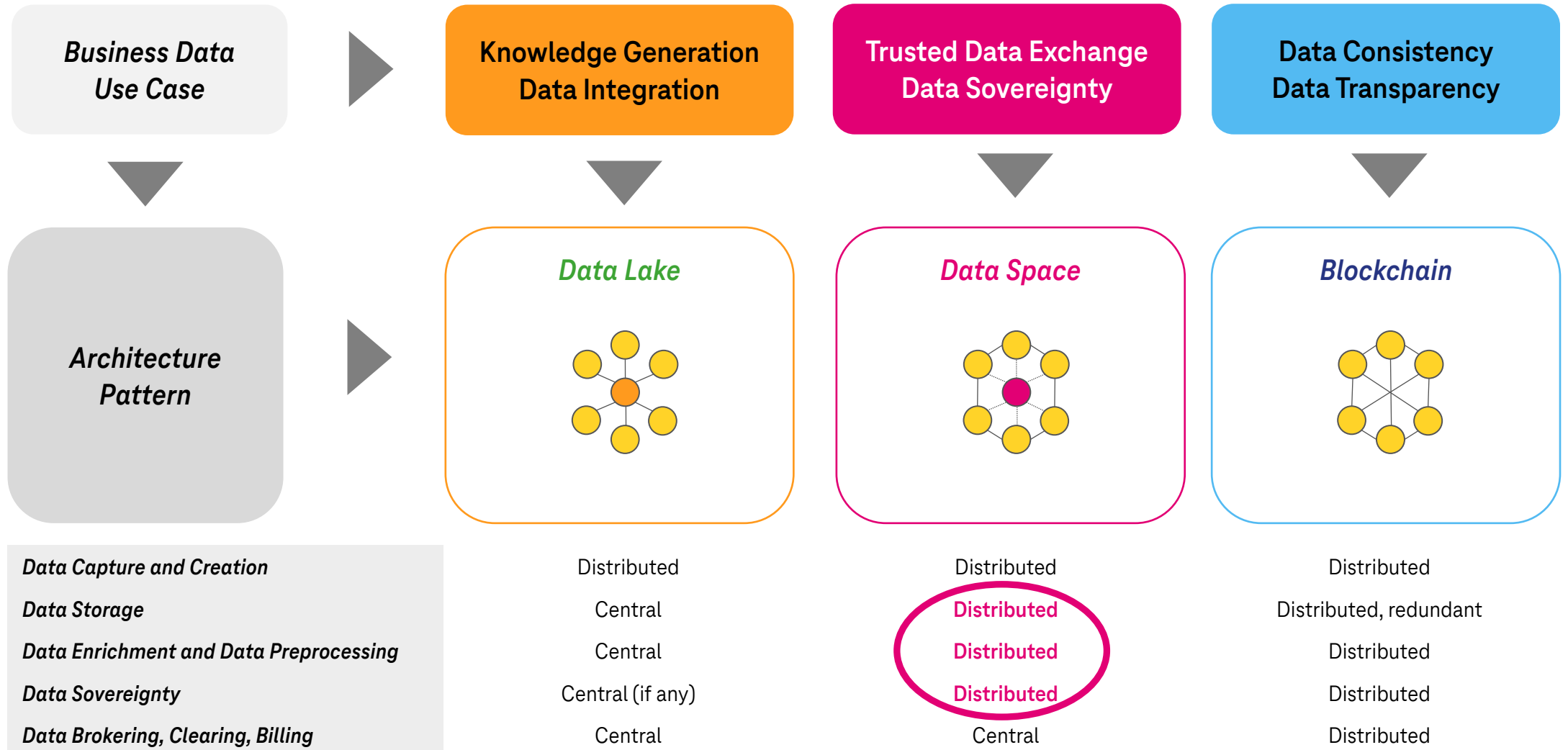
## Catena-X: Data ecosystem with dataspace, super-apps, and corresponding data products



\* T-Systems 2020, [link](#)

\*\* Crosby & Langdon 2019, [link](#)

# Data Architecture | What's different with Dataspaces?



# What's in for SMEs in Catena-X?

3 Testimonials.



## High technical diversity.

“ I have to deal with diverse customer standards. One customer sends me excels to fill in by mail, the second gives me access to his supplier portal and the third delivers a company PC so I can log into his system. It's very time-consuming.” (Tier 2, Sensor Solutions)

## Constantly increasing data exchange (e.g., PCF).

“ I have to report my CO<sub>2</sub> emissions. It takes me 4 weeks and 2 people to create the carbon footprint of 2 products alone.” (Tier 2, Electronics)



## Data integration across product lifecycle.

“ Tracing components and parts during production has **reduced** reaction times and **process costs by 38%**” (Tier 3, Electronics)\*



## Your benefits from Catena-X:



Increased product quality



Speed & Efficiency, less costs



Transparency in product & process flows



More resilient supply chains (prediction, alerting)



Legal compliance (e.g., CO<sub>2</sub>)



Innovation & business growth

# A Dataspace for the Rail Industry

## Overview

Between actors in nearly all modern industries, data sharing is increasing. Throughout Europe, governments are investing in new infrastructures to better share and manage data in critical sectors such as transportation. Together with T-Systems, Knorr-Bremse is driving the implementation of new principles for data traffic in the mobility sector, based on the standards of the International Data Spaces Association (IDSA).

## Goal

The creation of data federation services, components and artifacts, for building a trusted, reliable, and cybersecure federated dataspace for the rail ecosystem.

## Partners

EU funded project with 28 consortium partners throughout Europe.



**Dataspace Insights | Knorr-Bremse AG | T-Systems**

<https://www.youtube.com/watch?v=XI8F xvHrG8A&t=15s>

