



THE FIRST OPEN AND COLLABORATIVE DATA ECOSYSTEM

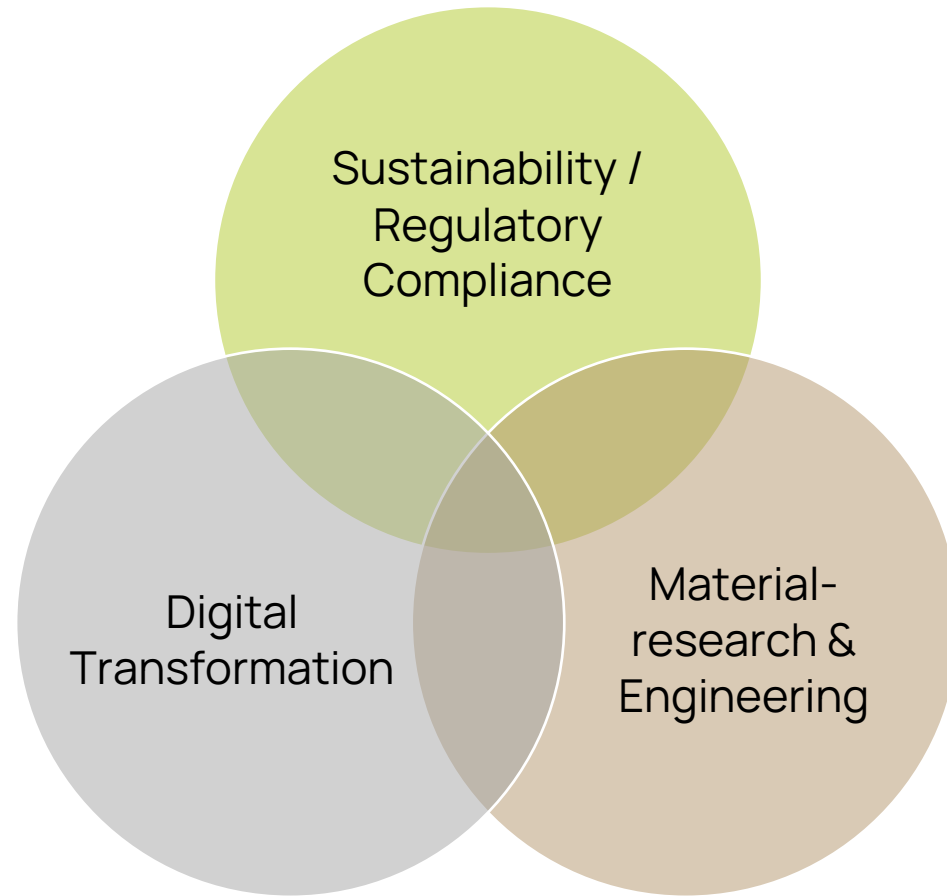
November 10th 2022

ADRIAN VON MÜHLENEN

Specialist Digital Material Passport Catena-X



Adrian – Who do I want to have been?*



*Inspired by “music for a gust” broadcasted Sunday, March 13th with the Philosopher, Journalist and Author Svenja Flaßpöhler, SRF 2 Kultur

Our Motivation



RESILIENCY



“Today’s peer-to-peer supply chain network doesn’t do the job”

EXECUTIVE AWARENESS

SUSTAINABILITY AND REGULATORY REQUIREMENTS



“Flow of data across the entire value chain requires new collaboration models”

DATA ECOSYSTEM

GEOPOLITICS AND INNOVATION



“Sharing data is a matter of trust and sovereignty”

EUROPEAN VALUES GAIA-X

ECONOMICS



“Network adoption and interoperability is a team effort”

INDUSTRY DATA SPACE



Lighthouse Project for the Automotive Industry

We build data-driven value chains

We make applications interoperable

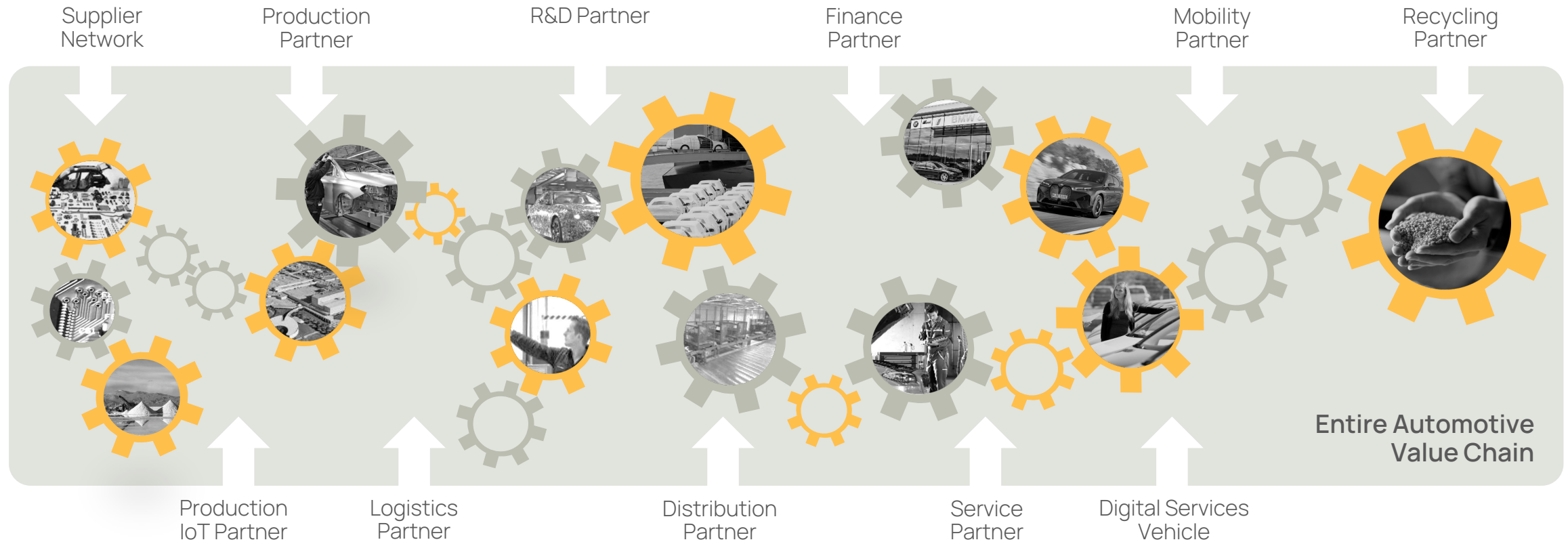
We focus on time to value (e.g. onboarding)

We guide and support our user groups

We are the
fitness program
for the automotive industry & tap into
new value pools



We Create the First Data-Driven Value Chain Incorporating all Participants and Steps





What Does it Mean, to Be...

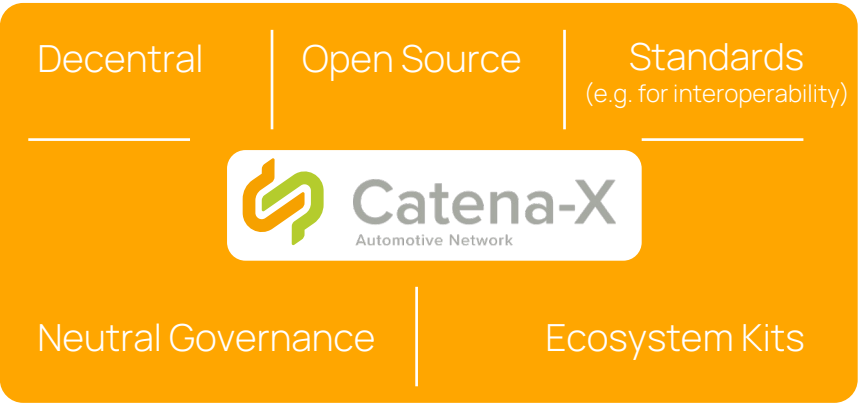
THE FIRST
OPEN

&

COLLABORATIVE
DATA ECOSYSTEM

Technology & Architecture

The network foundation is build upon shared services and GAIA-X / IDSA principals - **We all can take ownership**



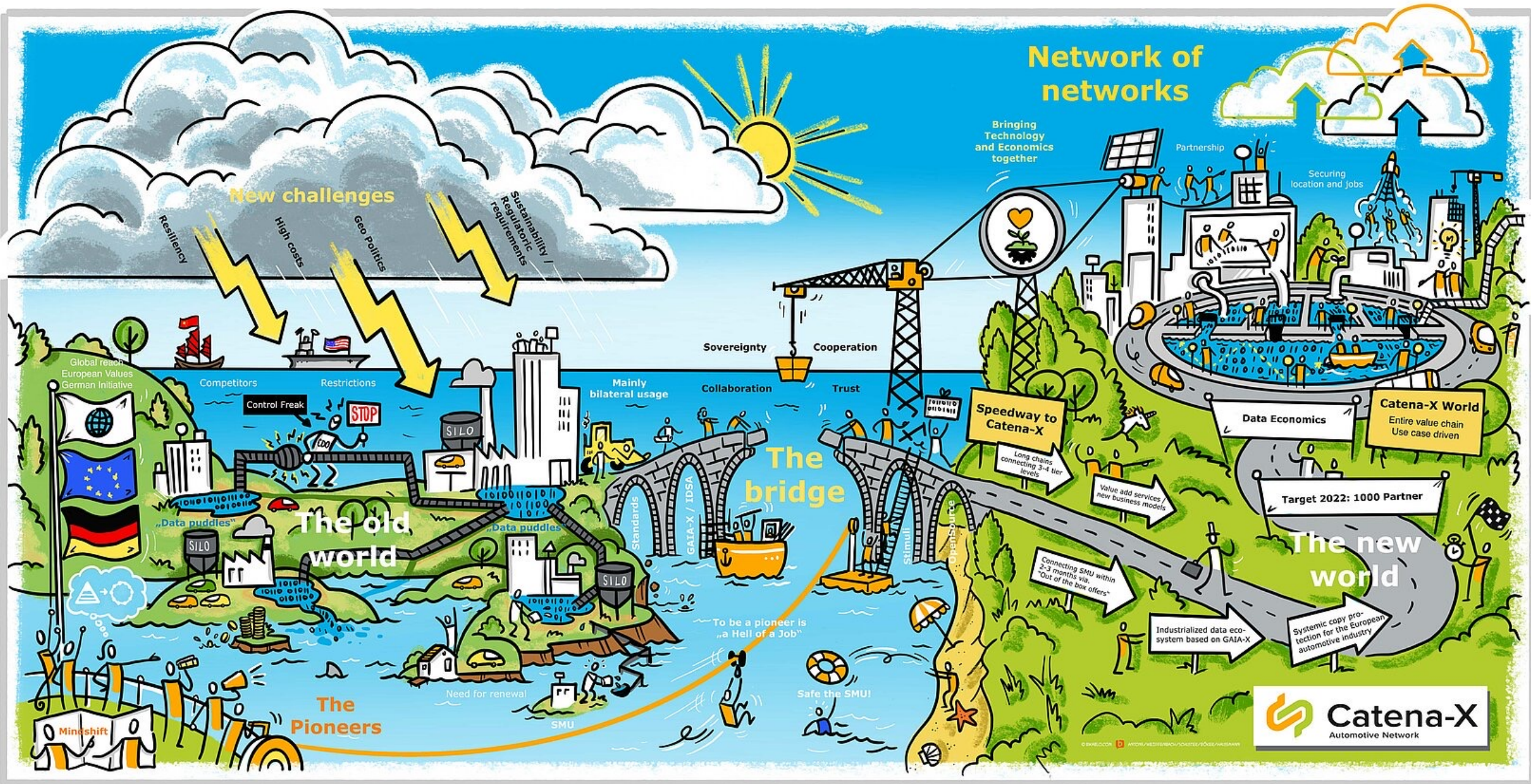
and many more

Working Model

All industry players join forces to build, operate and utilize the data ecosystem - **Right from the start**

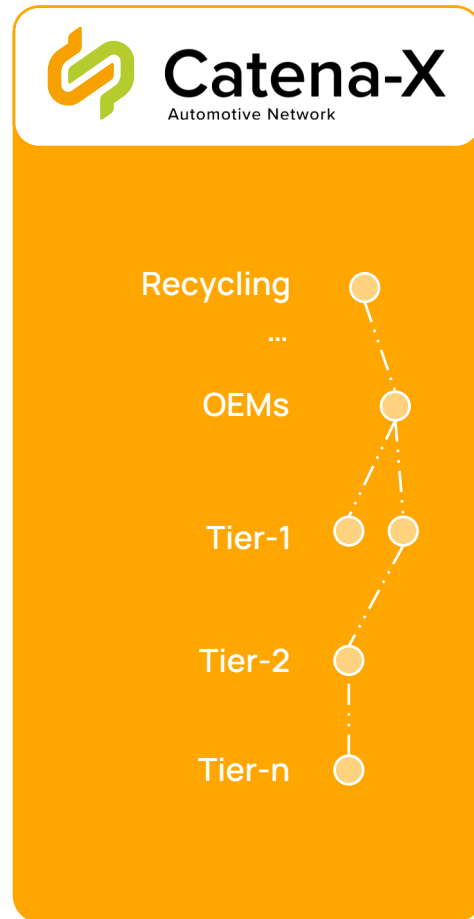


and many more

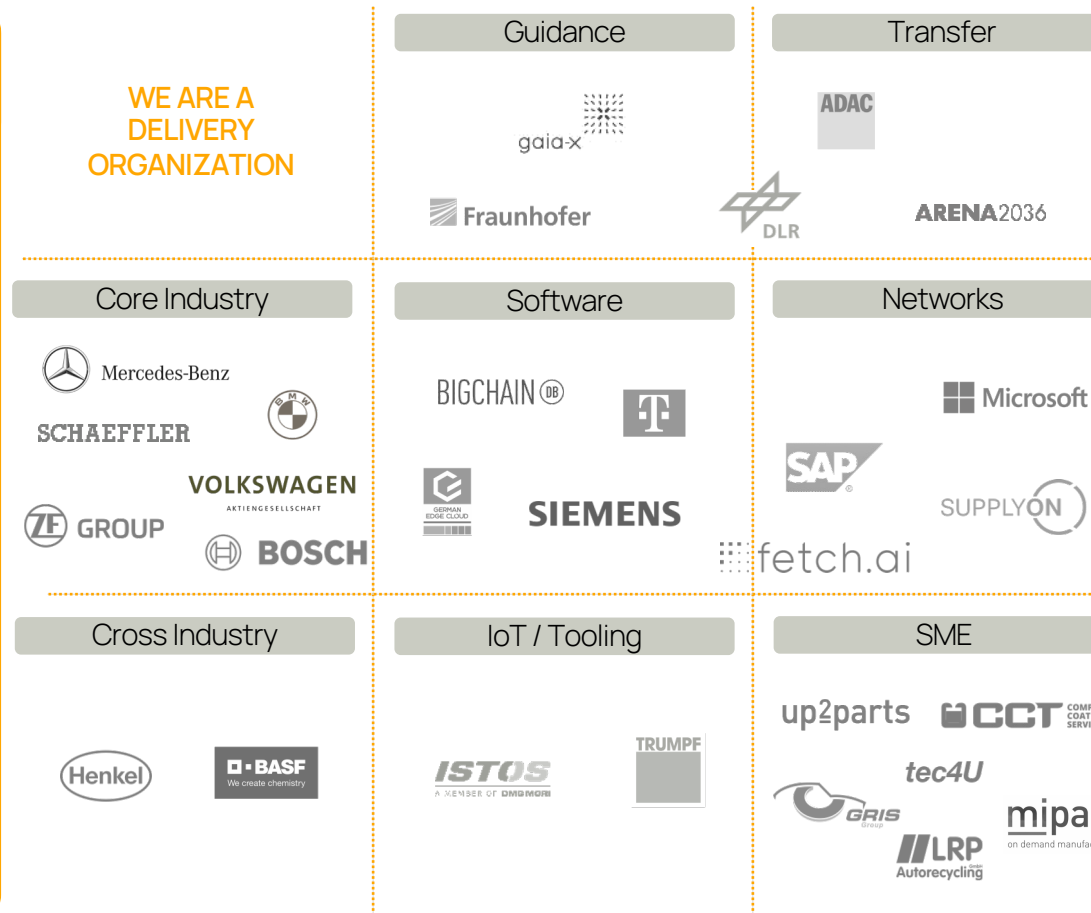




Who Is the Team to Kickstart the Ecosystem?



WE ARE A
DELIVERY
ORGANIZATION



Timeframe/project outcome
08/2021 – 07/2024

10x
Use Cases with direct
value contribution

1st
Gaia-X / IDSA compliant
operating system

2-4 months
Time to value
onboarding partner



The First Use Cases to Kickstart the Network

10 business-critical end-to-end use cases

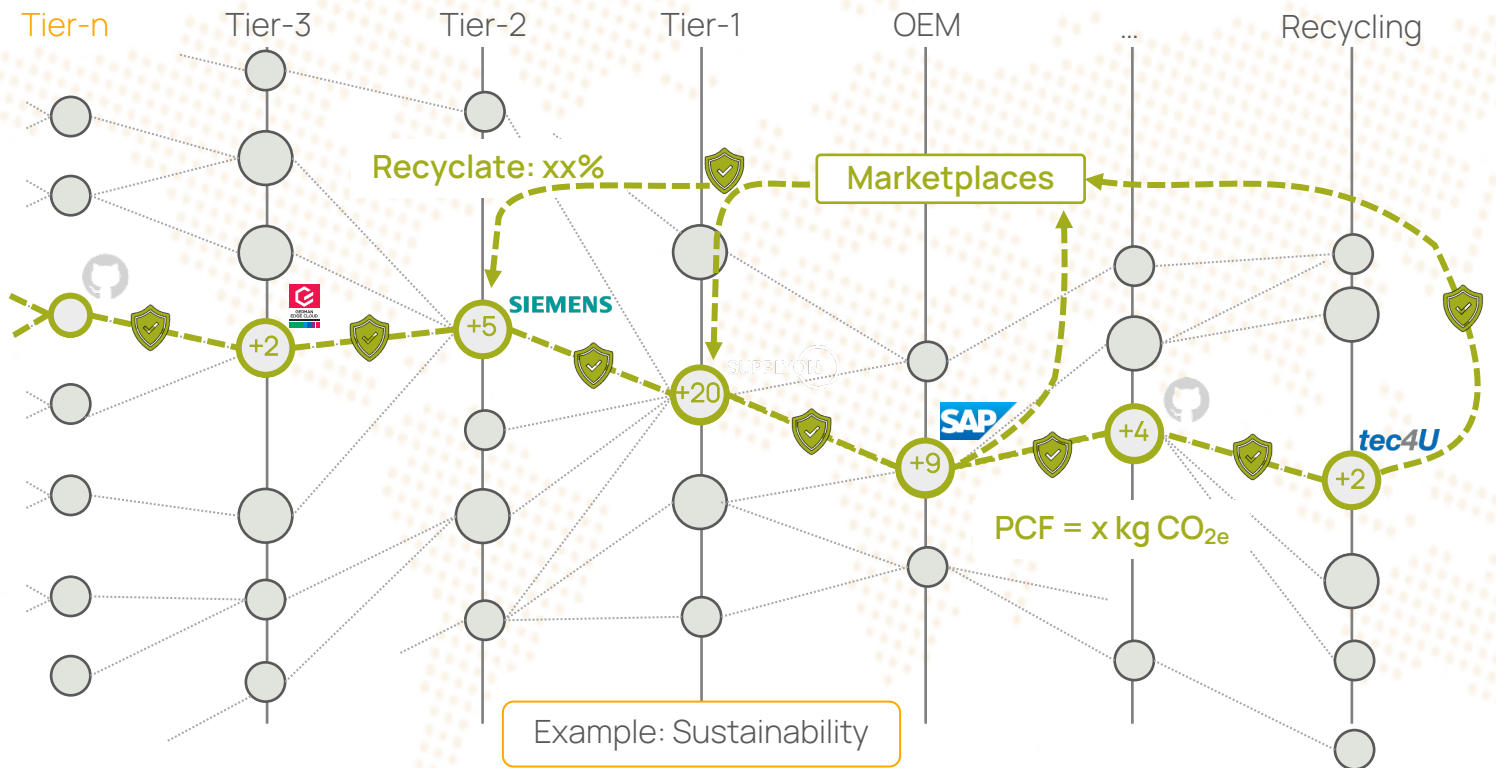




The Catena-X Data Ecosystem

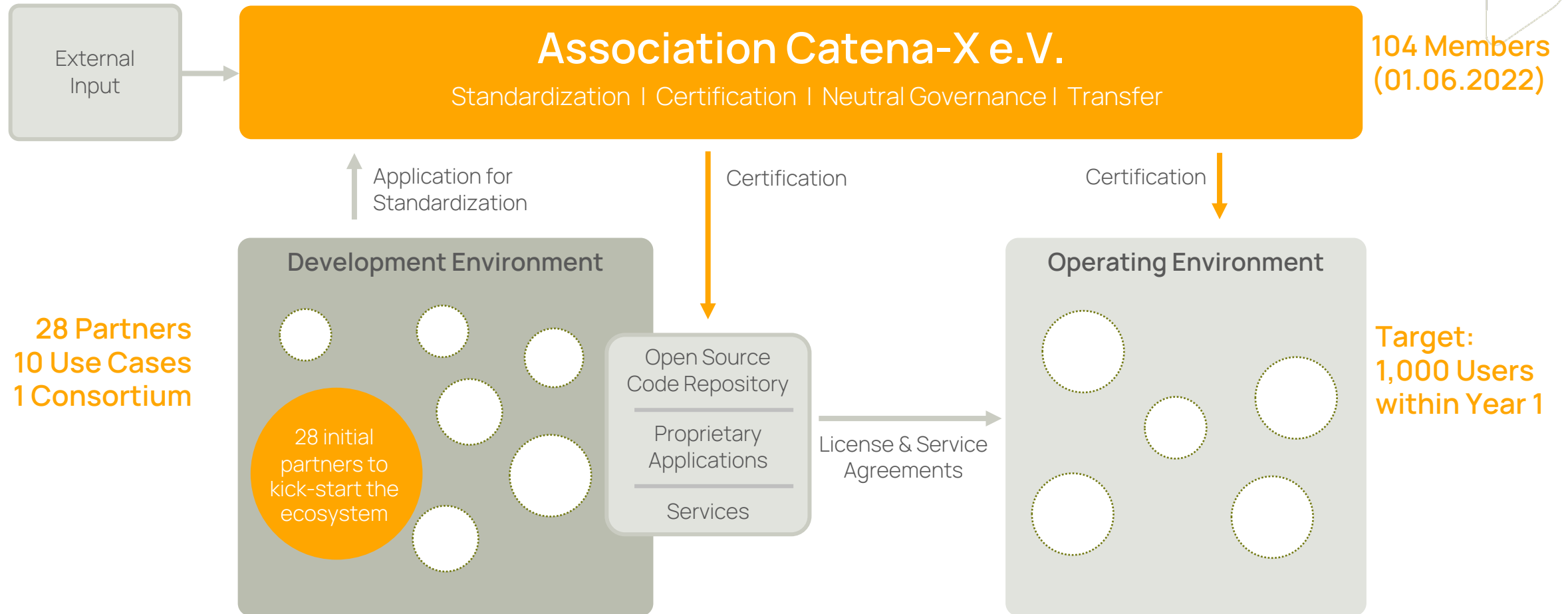
Build a **global data space** that can host our industry

Create the first **data driven value chain**; incorporating all participants via **interoperable** and trusted solutions



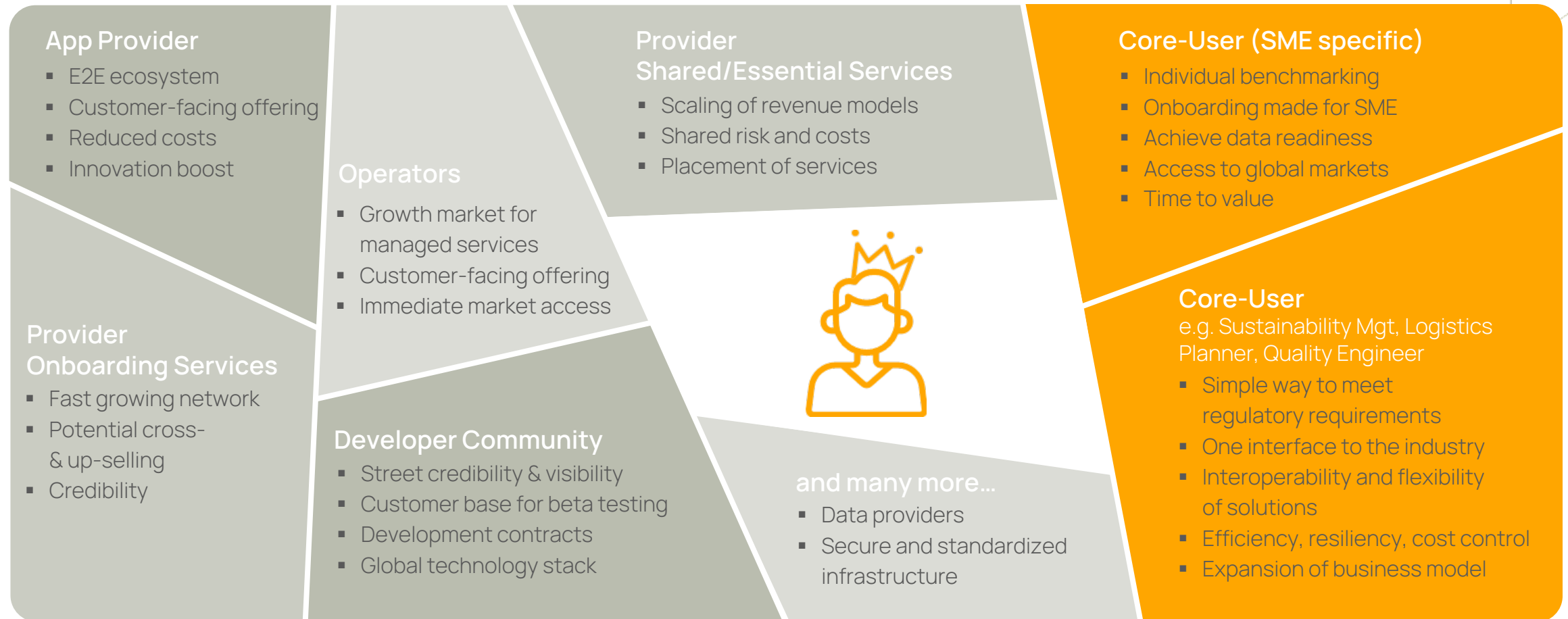


It Takes an Open and Balanced Approach to Build and Run a Global Data Ecosystem for Our Industry



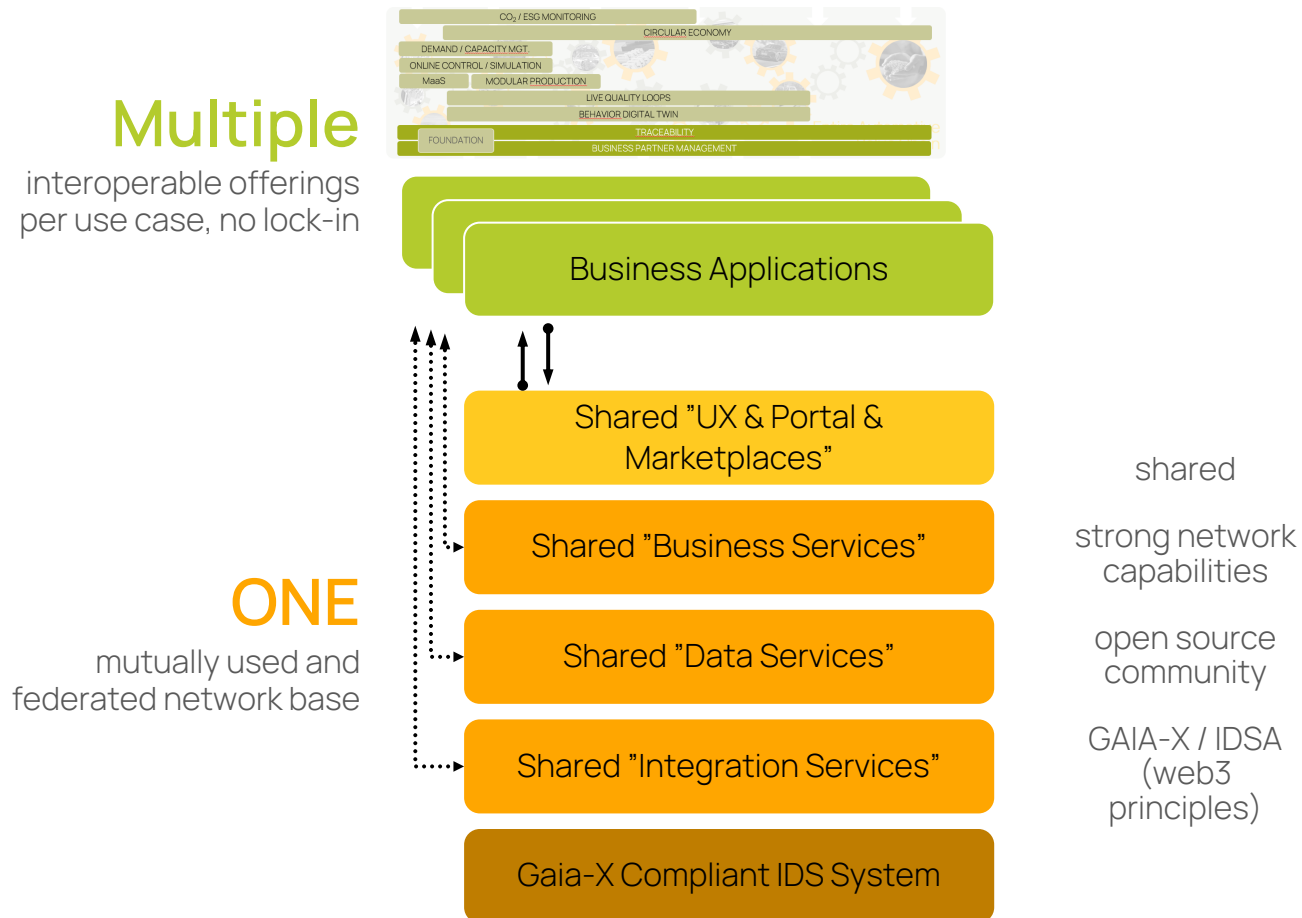


What's in It for Me?





Architecture for Interoperability and Sovereignty



Overview

Five Catena-X Core Network Assets

- | | | | | |
|--|---|---|---|--|
| 1
Boost to Digital Readiness
Time to value promise via holistic onboarding services, made for SME | 2
Community of Trusted Members
Industry data space with shared values, principals and neutral governance | 3
Largest Library of Digital Twins
Comprehensive data sets across all partners united by e.g. shared semantics | 4
Active Data Chains
Joined digital twins and members, incl. building- & governance-services | 5
SDKs & Services for an Open EcoSystem
Boost collaboration & utilization. Breeding ground for innovation |
|--|---|---|---|--|

Highlight: **Eclipse Data Space Connector** **EDC**

Pioneering approach to unify all needs

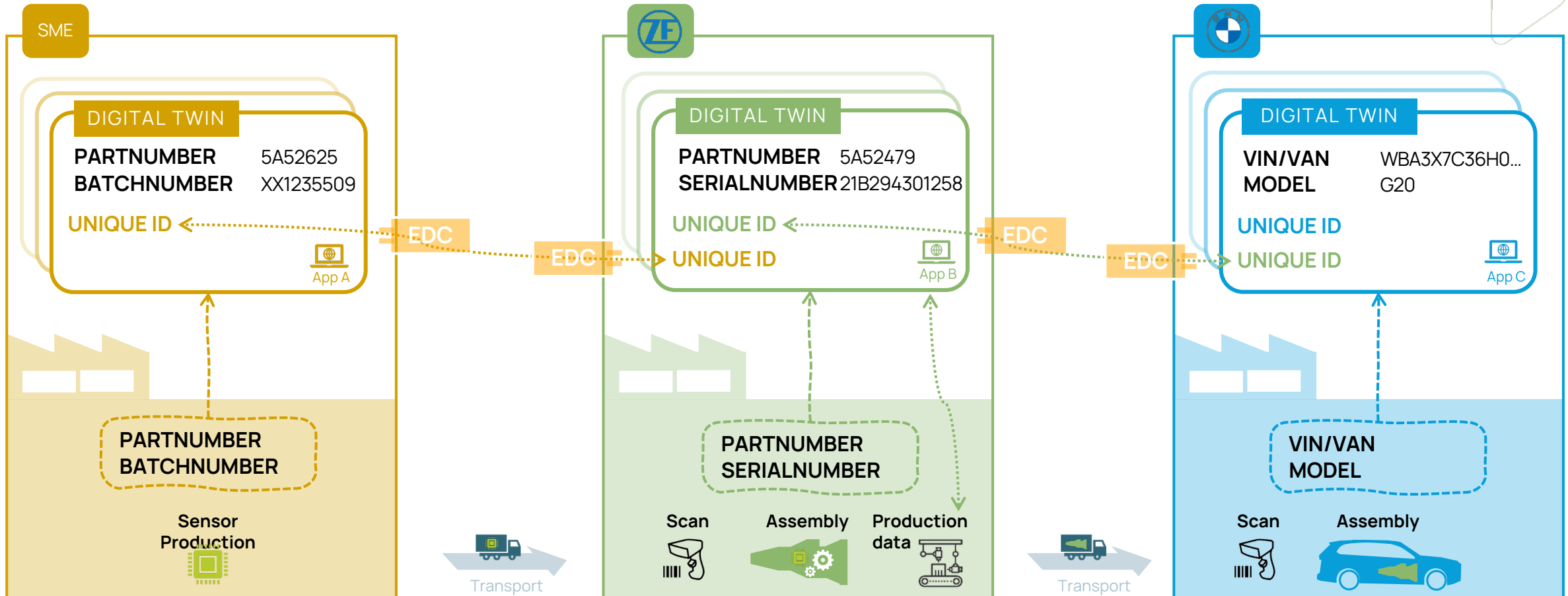
From SME to large corporations and providers of services & apps

Incubation Room for innovation & new business models → SDK & Open Source



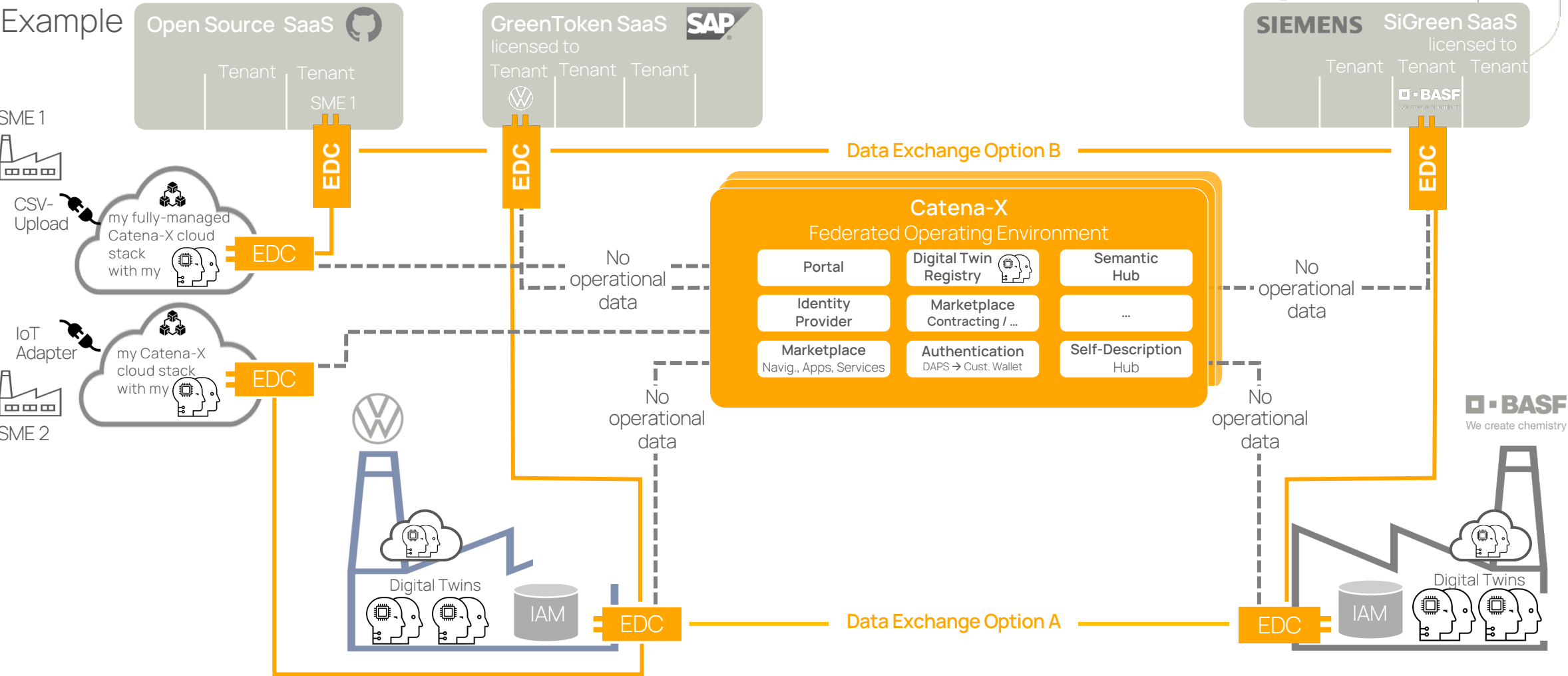
How Catena-X Works (1/2)

Common semantics and interoperable apps build decentralized data chains.



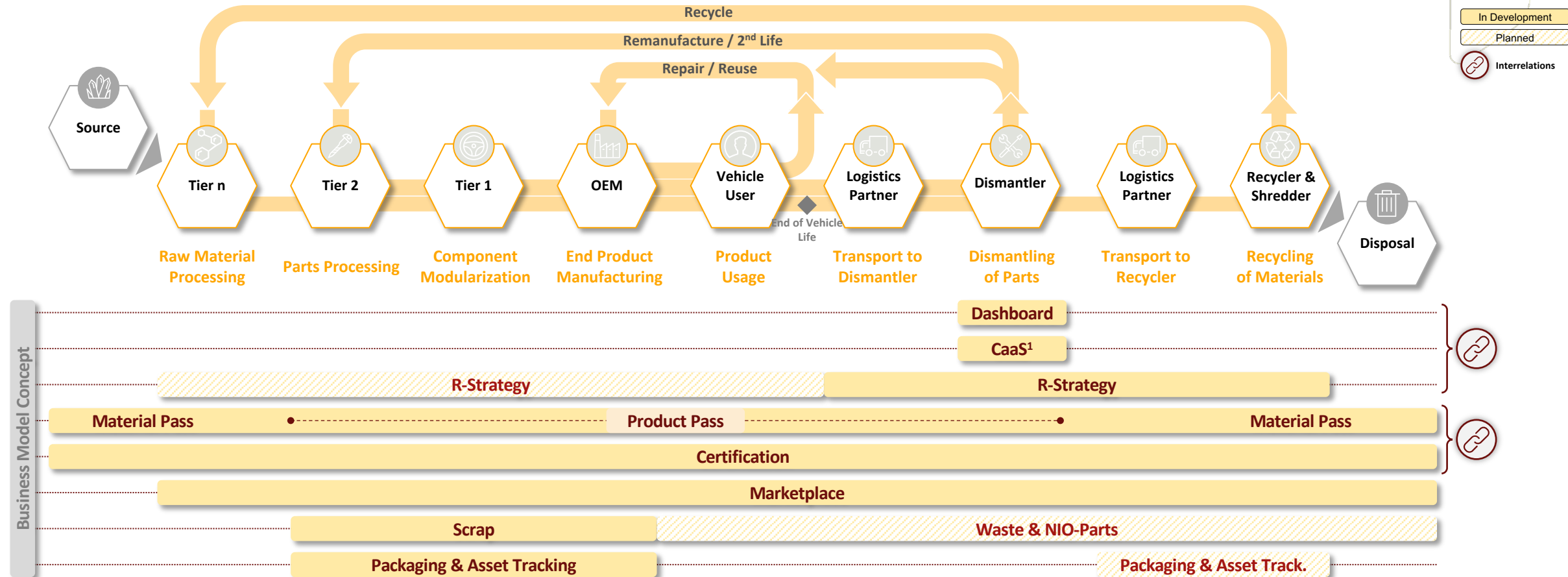


How Catena-X Works (2/2)





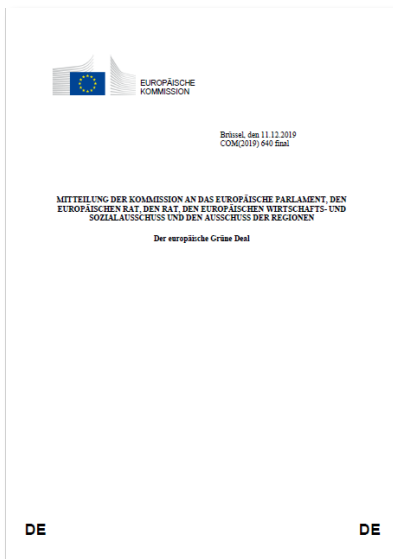
“Rethinking the loop” - value cycle in which products and materials will be recirculated.





Why Material Passport? Triggered by EU Regulation “Ecodesign for Sustainable Product Regulation” (ESPR)

Green Deal 2019



CEAP 2020

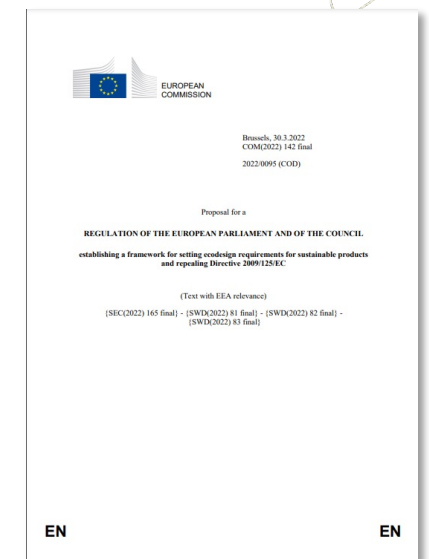


Battery Regulation 2021



**Battery Passport
to be implemented
2026**

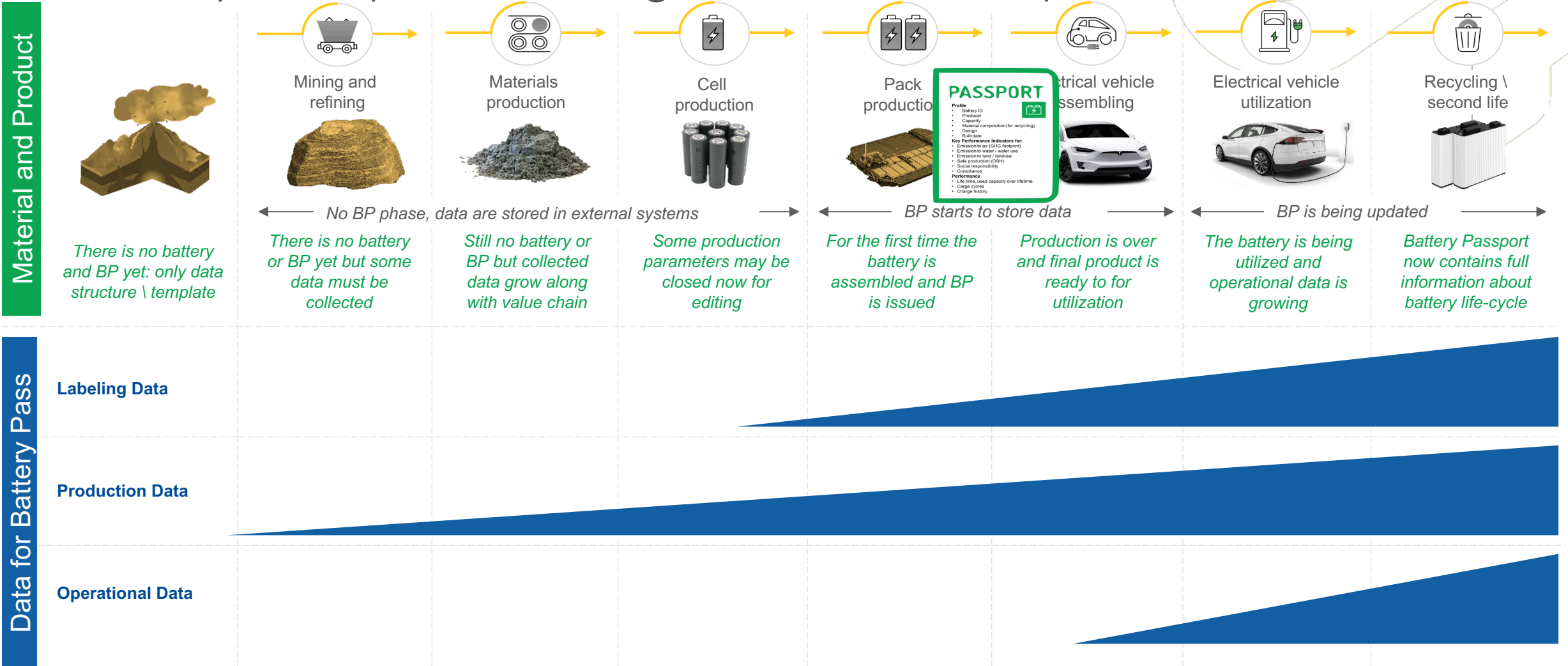
Proposal ESPR 2022



**General
description and
requirements DPP**



Battery Passport as a Digital Twin concept (courteously from GBA)



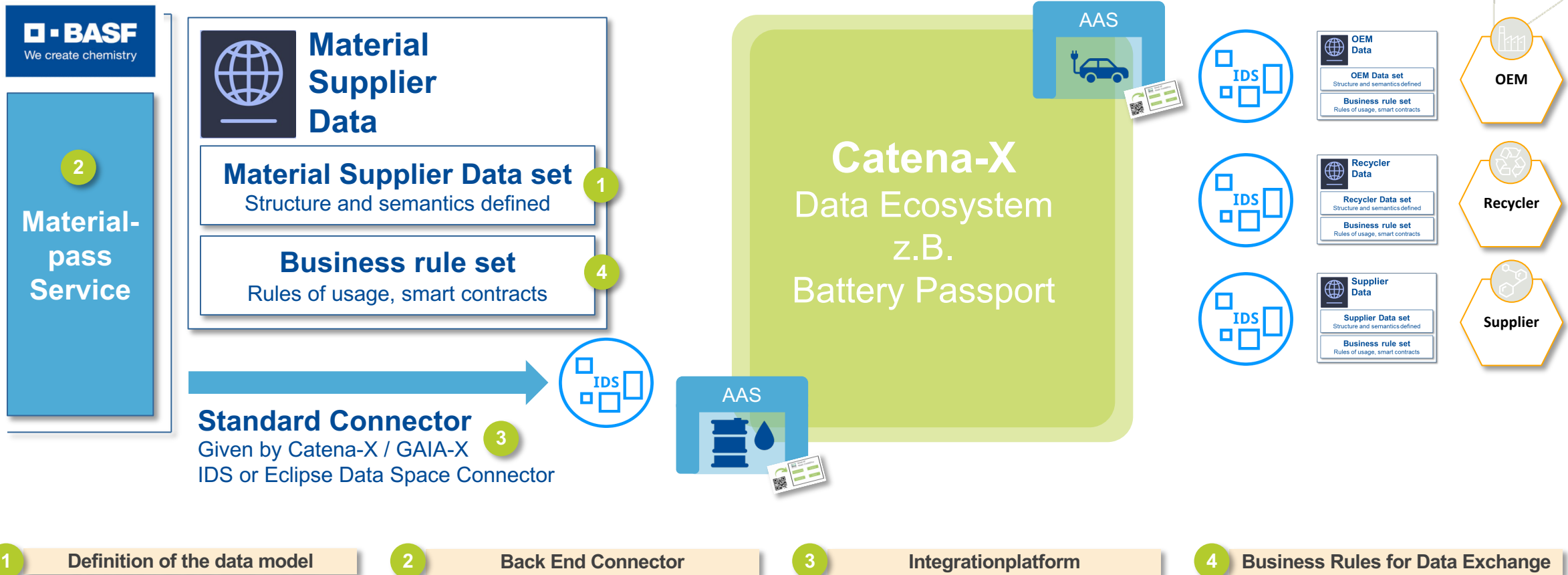


It is not the question whether but when the digital product passport (DPP) must be implemented

- "The Green Deal", especially the ESPR (Proposal for Ecodesign for Sustainable Product Regulation)
- Directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC
 - To be implemented by January 1st 2026
 - Required for any high voltage storage with a capacity $> 2 \text{ kW/h}$
 - Social and ethical KPIs
 - Sustainability KPIs
 - Recycling KPIs
 - Dynamic / Static Data?
 - Behavior Twins?

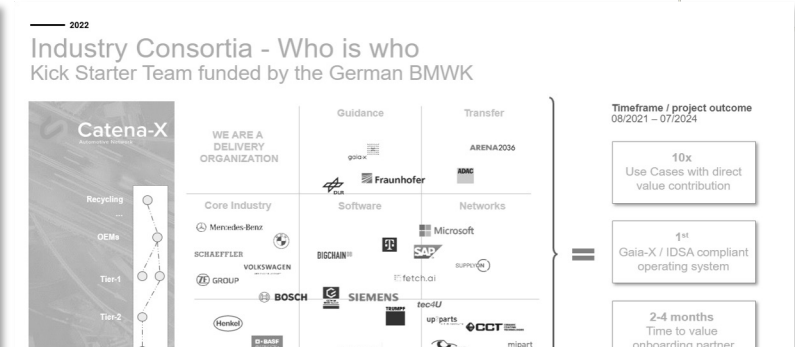


The Material Pass provides Information to Data Ecosystems – provide end-to-end transparency





The Global Battery Alliance, the Battery Pass made with Germany and Catena-X go hand in hand



Global Battery Alliance

- Global Battery Alliance (GBA) is the pre-competitive multi-stakeholder partnership of 100+ businesses, governments, academics, industry actors, international and non-governmental organizations, to ensure that battery production not only supports green energy, but also safeguards human rights and promotes health and environmental sustainability.
- GBA flagship program “Battery Passport” is associated member of Battery Pass and collaborates in joint workgroups on the common mission.

Social consensus

Battery Pass mwG

- Develop cross-industry content and technical standards for digital battery passports and demonstrate them in a pilot project
- Seamless documentation of battery life from production to use, reuse, recycling
- Enables sustainable and circular management of traction batteries
- The battery pass data can be accessed and updated via appropriate infrastructures.

Speed Boat

Catena-X

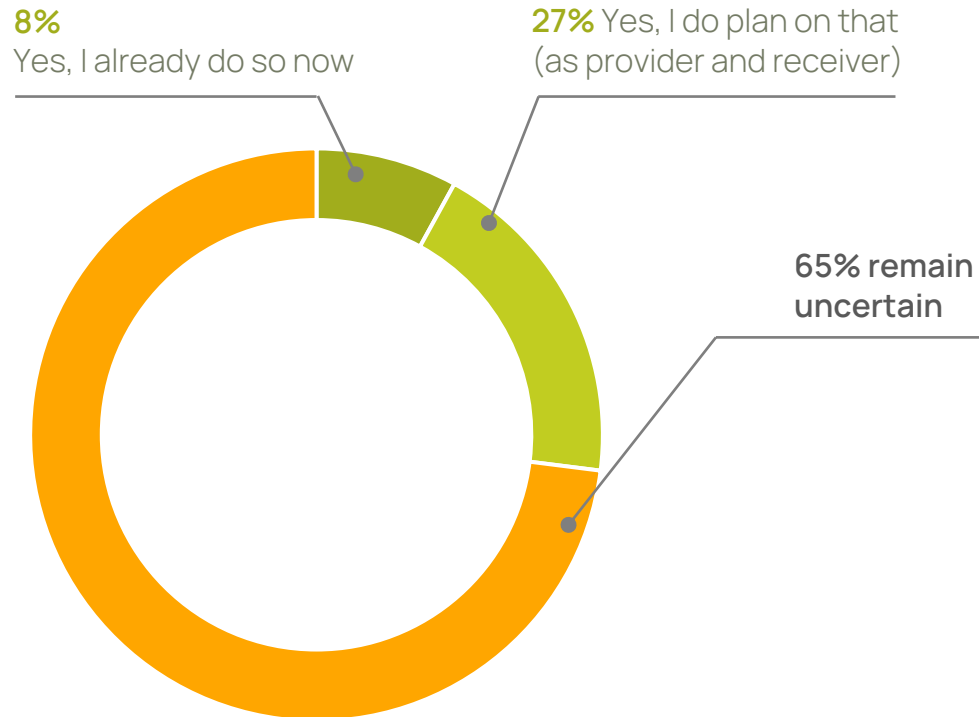
- An expandable ecosystem in which automotive manufacturers and suppliers, dealer associations and equipment suppliers, as well as providers of applications, platforms and infrastructure, can participate equally
- The association aims to create a uniform infrastructure for exchanging information and data along the entire automotive value chain.
- Global Battery Alliance and Battery Pass aim to develop a battery passport. Catena-X creates an important basis for this with its material passport.

Technical Standard

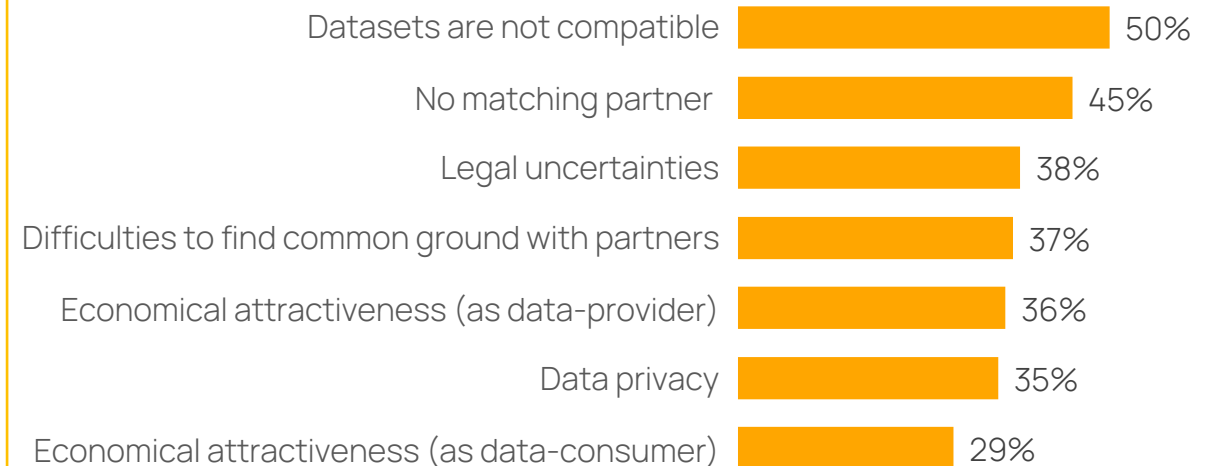


Our Industry Challenge = Catena-X Opportunity

Do you plan to exchange data with other companies within the next two years?



Biggest obstacles for B2B data-sharing



Source: Bitkom 05/2022, Datenökonomie – Wo steht die deutsche Wirtschaft?

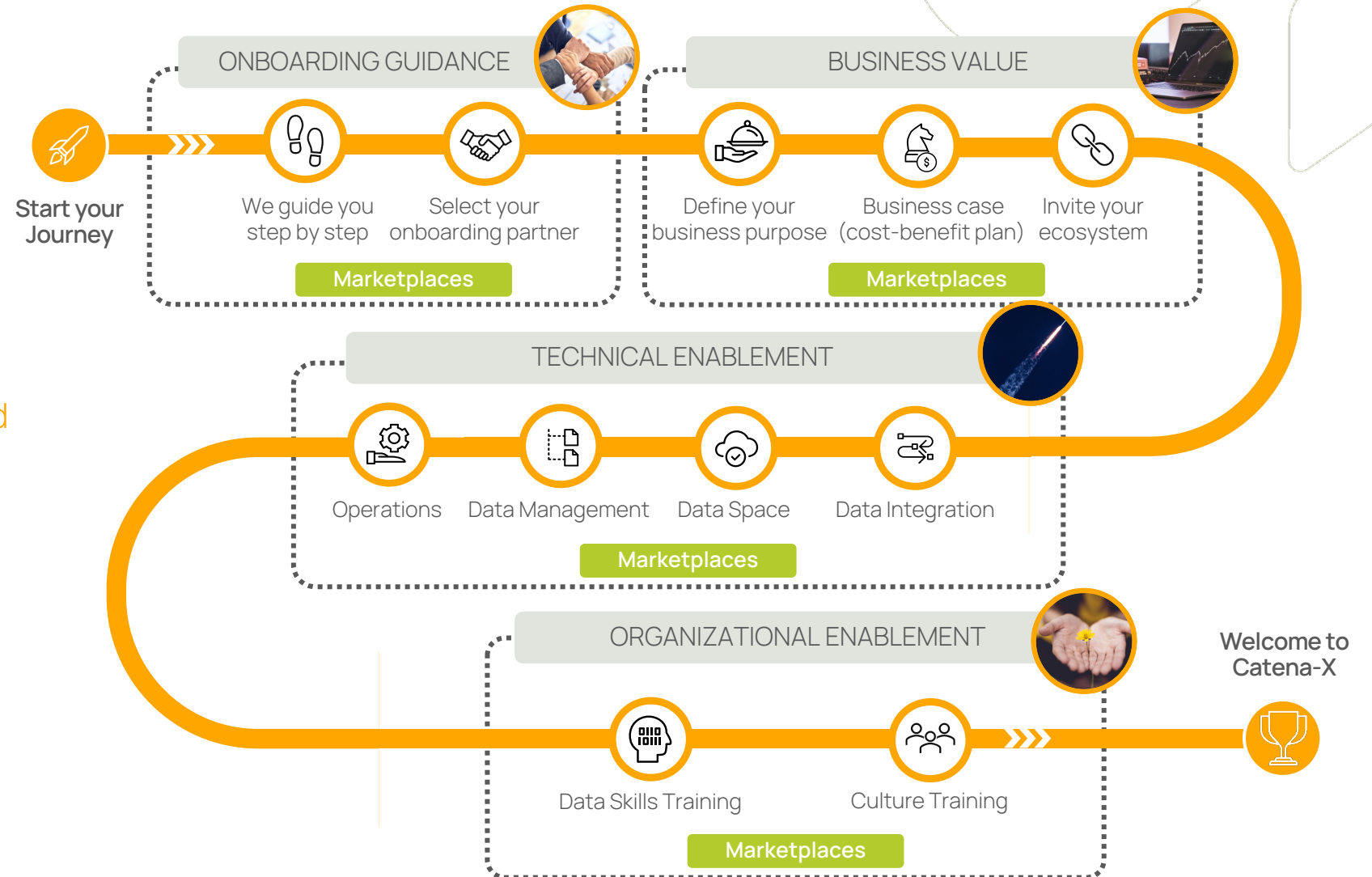


The Catena-X Promise

We take you from where you are and **guide** you until you **benefit** from the network.

Onboarding within weeks (approx. 8-12) through our standardized Catena-X process.

Dedicated offerings for **small and medium enterprises** and **large scale organizations**.





Preparing the Catena-X Market Entry Package

Onboarding Services

Ramp-up in 2nd half of 2022

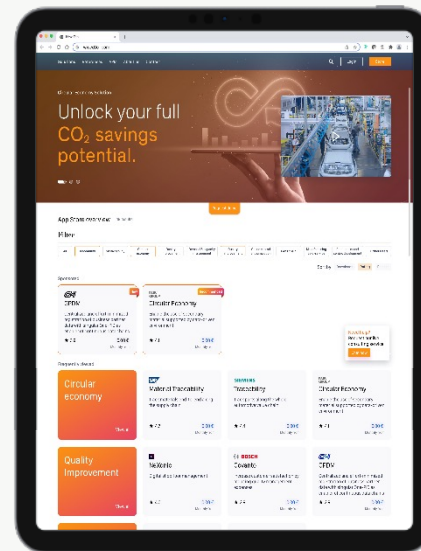
Initial Catena-X Portfolio

First minimal viable offerings for

Outlook

1st half of 2023

Target: Boost digital readiness of all industry partners



Sustainability
CO₂-Tracking

Circularity

Traceability

Business Partner
Management

N.N.

More MVPs to solve top industry problems (e.g. supply chain resiliency, quality, MaaS)

Continue feature boosts & app upgrades

Ecosystem + platform KITs

Network of Networks

Pool of global partners for

Guidance
Organizational enablement
Technical enablement
Technical operations

Portal / Marketplace
Shared CX Services
Federated Network Foundation

Proof of value hypothesis
by 1,000 users within 12
months after market entry



CATENA-X WILL CHANGE
THE WAY WE USE AND
EXCHANGE RESSOURCES
AND IT IS OUR CHANCE TO
SAVE THE PLANET

Connect with
Adrian von Mühlenen



[/adrian.von-muehlenen](#)



adrian.von-muehlenen@basf.com

Thank You!

<https://catena-x.net>