Catena-X:
Ecosystem with use cases

Catena-X Automotive Network e.V.
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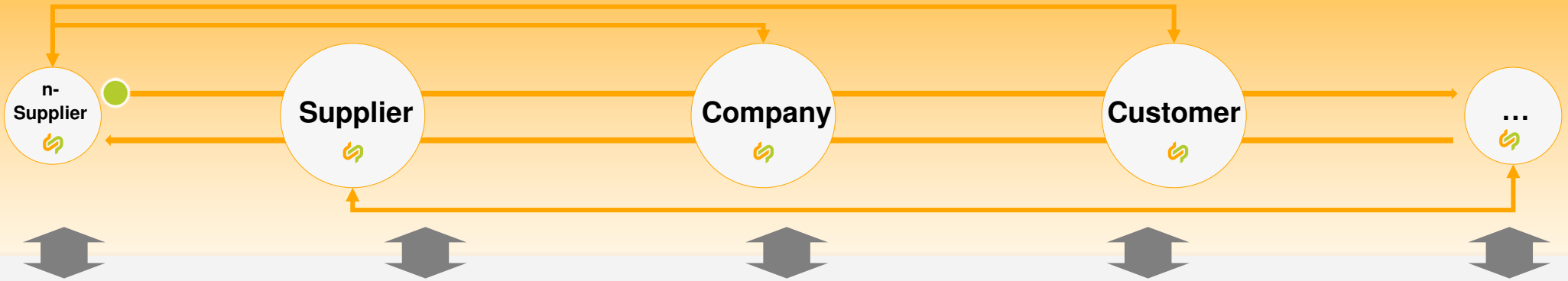
01 Catena-X Ecosystem

Catena-X Ecosystem

Data flow

(exemplary)



Necessary players for building and running the eco-system

Developer Area: Eclipse Tractus-X

develops KITs
Open Source Software

Operating Company

Onboarding Service Providers
Registration…

Core Service Providers

Market place
offer App solutions
- Traceability
- Product carbon Footprint
- Digital Product Pass
- Quality
- and many more…

Digital Clearing House GAIA-X compliance

Business App Providers design & offer commercial apps

Certification Bodies certifies app solutions

Enablement Service Providers
support Connector, Digital Twin (AAS…), Knowledge Agents…

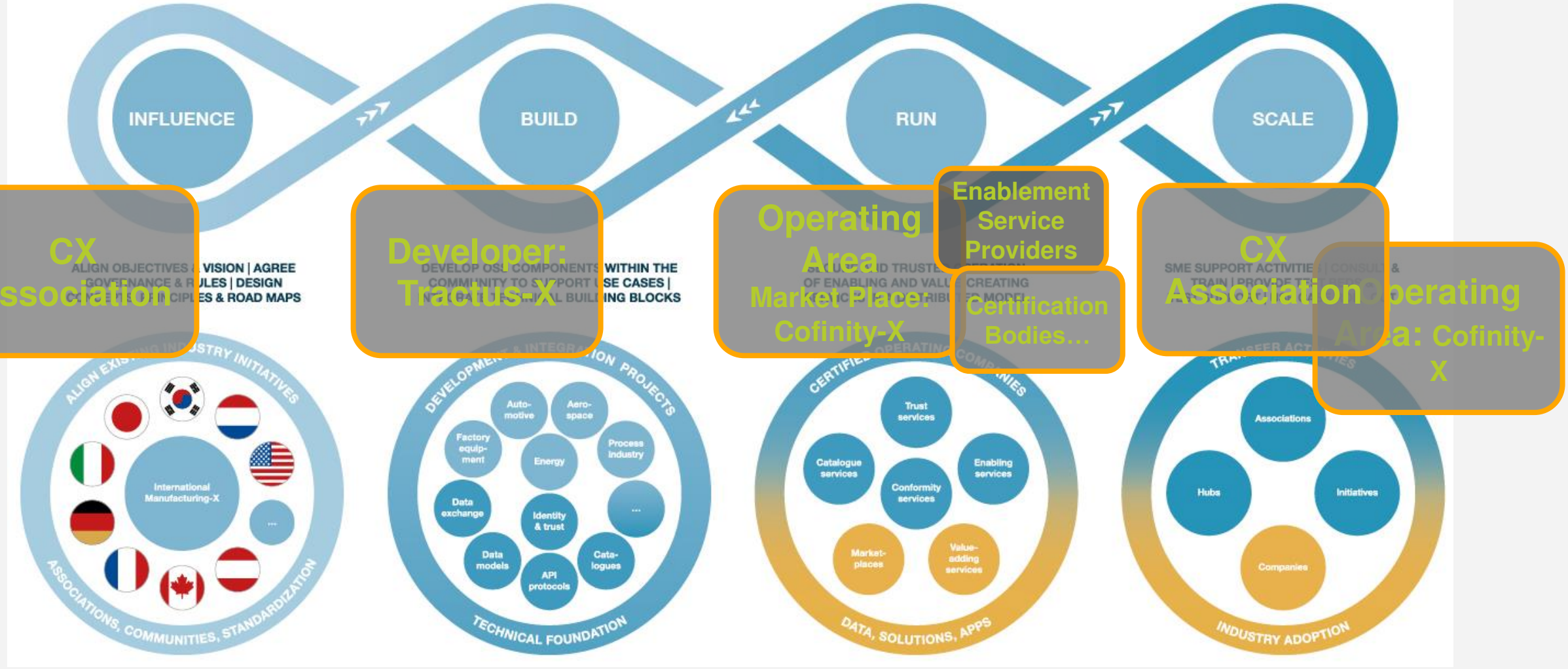
Association

Collaboration, member space and NEUTRAL GOVERNANCE

develops Standards I manage Releases I define Policies; Rules I monitor Eco-system I creating international Hubs…

M-X Data Ecosystems

Catena-X roles are alive since Oct. 2023



CX Association

Developer: Tractus-X

Operating Area Market Place: Cofinity-X

Enablement Service Providers

Certification Bodies…

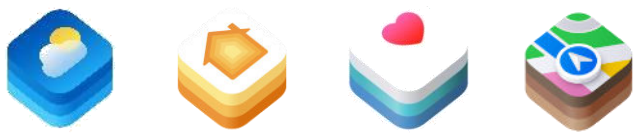
CX Association

Operating Area: Cofinity-X

02 Catena-X use cases

Stimulating and growing an ecosystem

What do Apple and Catena-X have in common: KITs!



Catena-X

Your Automotive Network

How does Catena-X create business value?

By offering multiple use cases that address day to day challenges

Quick wins and short term enabler

Traceability

- Trace components and subcomponents along the whole value chain.
- Narrow down quality issues significantly faster.

Quality Management

- Receive quality performance data from the customer.
- Root cause analysis and collaborative data evaluation.

Regulatory must haves within the next 2 years

Product Carbon Footprint

- Enablement of uniform CO2 Reporting
- Compliance with PCF regulations

Circular Economy / Product Passport

- Product information in one place (e.g., material composition & origin)
- Compliance with battery regulations

ESG Monitoring (LkSG)

- Facilitating ESG data reporting transparencey
- Compliance with supply chain due diligence regulations

Process improvement enabler

Business Partner Data Management

- Harmonized, complete & quality-checked data
- Reduction of data maintenance costs & improved data actuality

Demand & Capacity Management

- Improved planning reliability & accuracy
- Early detection of problems & ability to avoid capacity bottlenecks reducing costs

Digital Behavior Twin

- Model-based product design & innovative collaboration
- Access to solutions and evaluation procedures fir SMEs

...

Further use cases in development

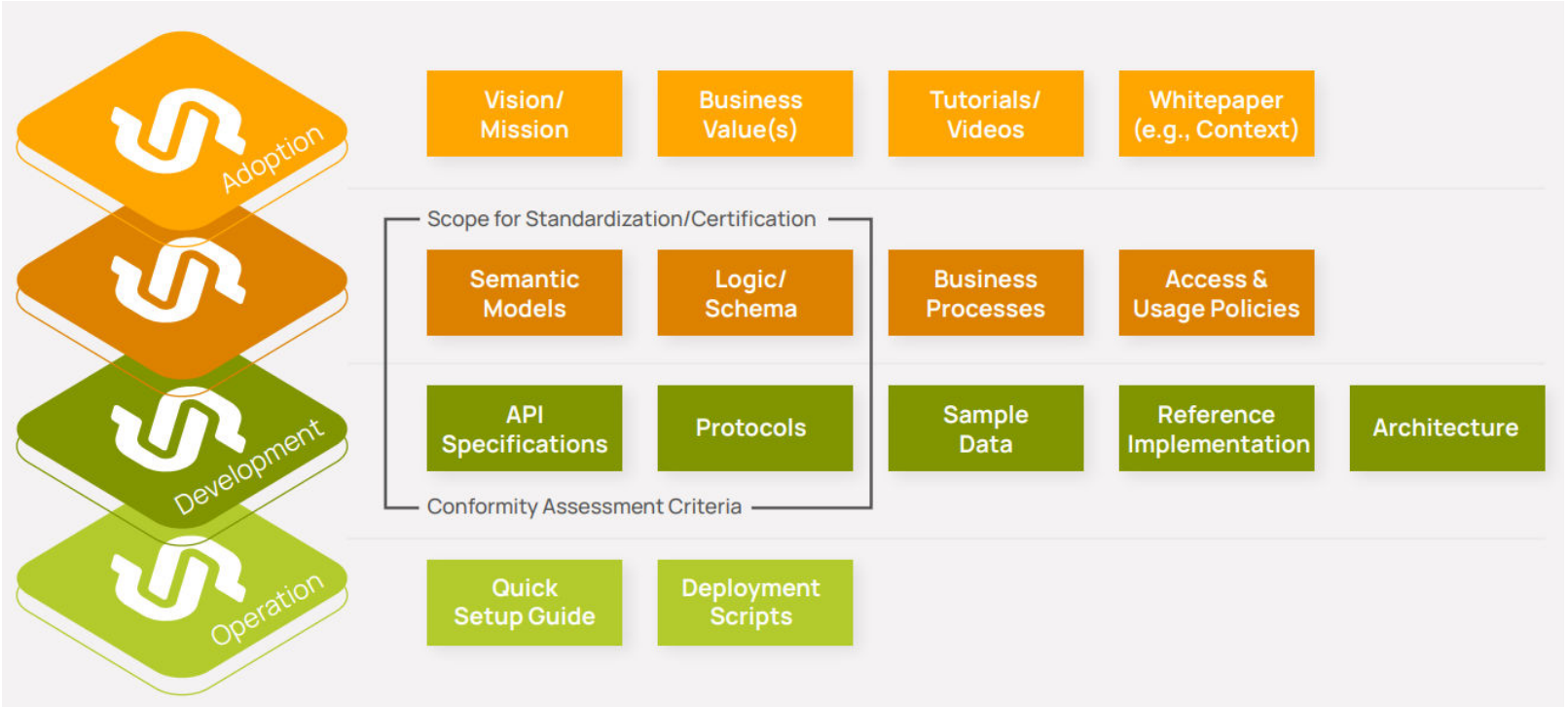
KITs = Keep it together = Ecosystem Builders

Blueprint & foundation of each Business Solution

Standards

- Formal Documents
- Normative Clauses
- Specific Process

KITs



Publicly available under: https://eclipse-tractusx.github.io/

Reference Implementations

Use Cases: Applying Catena-X Technology and Principles to EU Relevant Regulations

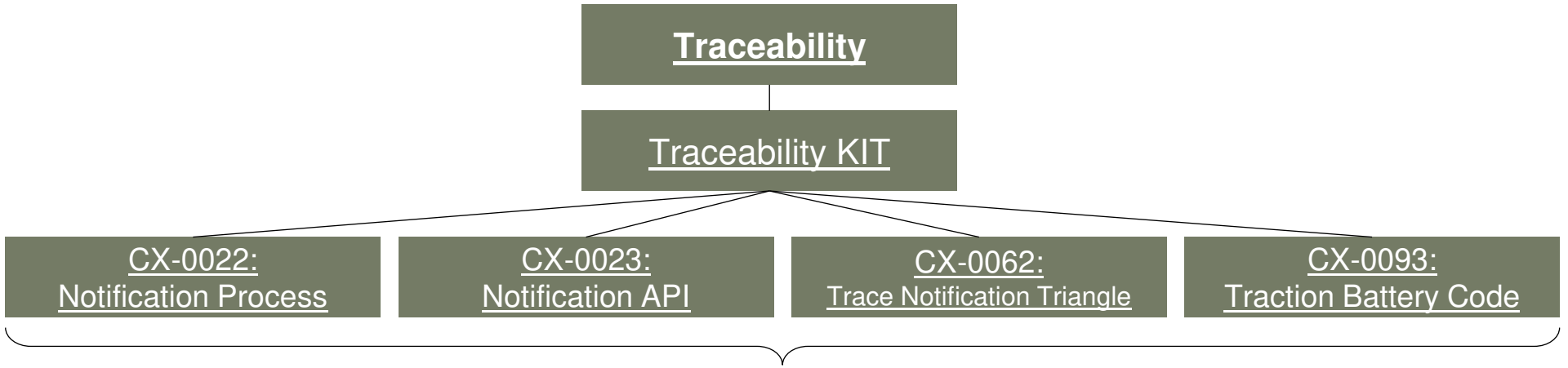
Traceability

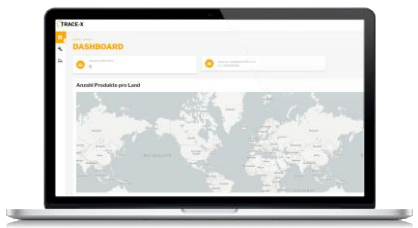
Use Case

KITs

Standards (CX-0000)

Reference Implementations





TRACE-X Open Source

SAP Business Network Material Traceability

GEC ONCITE DPS

SIEMENS Trusted Traceability

Use Cases: Applying Catena-X Technology and Principles to EU Relevant Regulations

Battery Digital Product Pass

Industrial problems

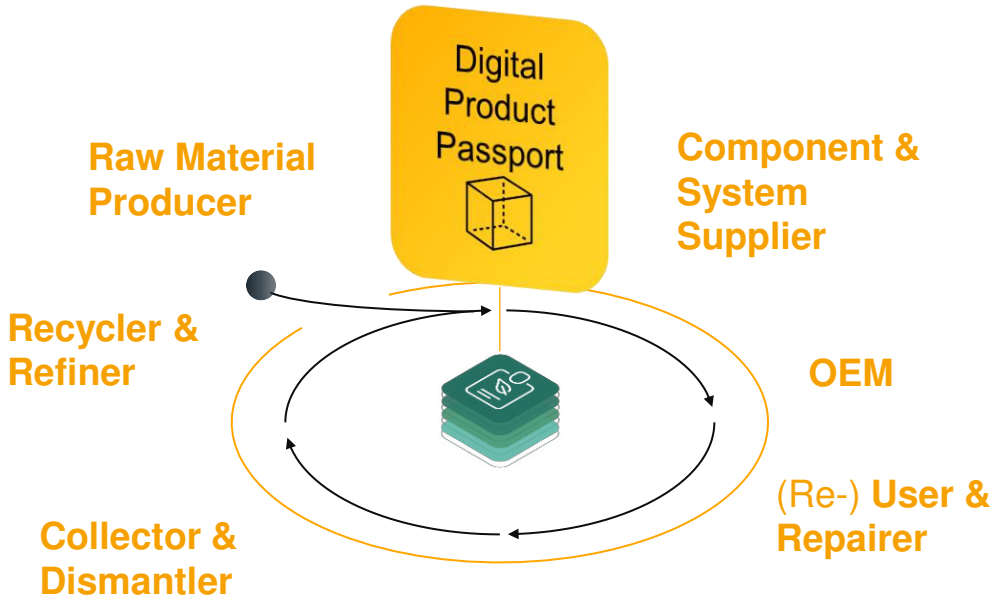
Information is largely unavailable due to a lack of standardized protocols and technologies

Unable to implement circular economy strategies due to lack of transparency and data availability

Solution
Digital Product Passport (DPP)

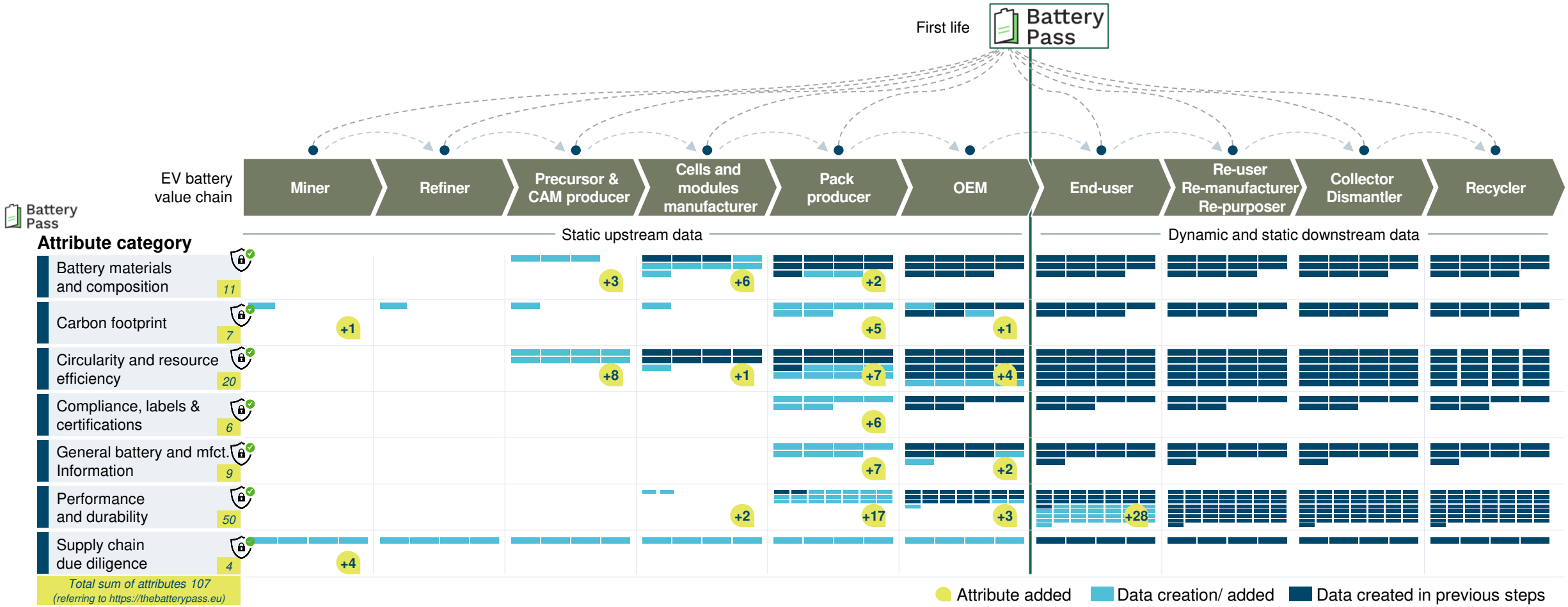
A concise **electronic record** detailing a **product's lifecycle**, **materials**, and **environmental impact** for transparency and traceability, that ..

- .. serves as a **centralized repository of information**
- .. offers **insights into the entire supply chain of the product**
- .. tracks the **lifecycle of the product** from production to disposal,



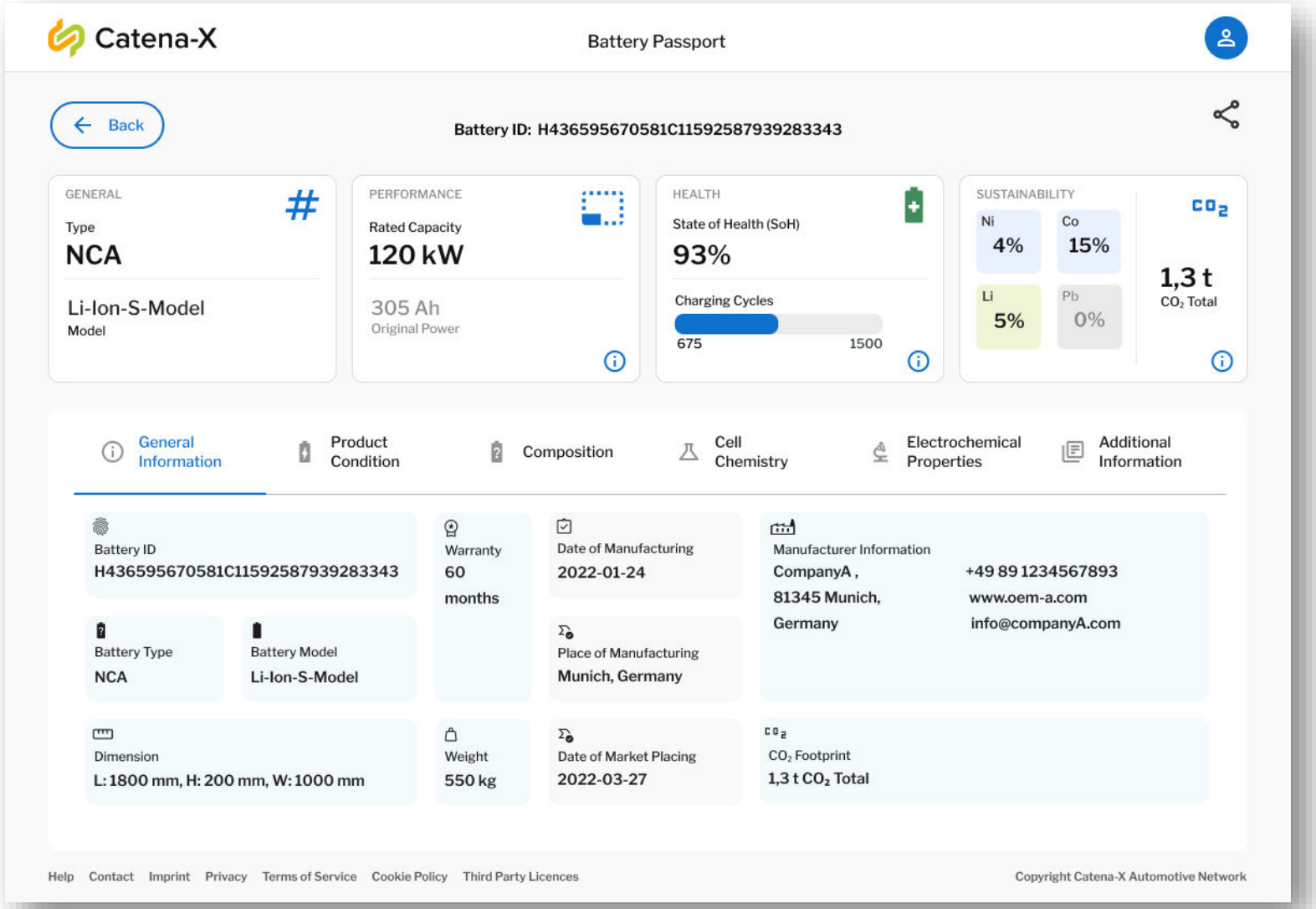
Use Case: Battery Passport (simplified)

Multi-Tier exchange of sensitive, verified and massive amounts of data sets a new baseline to re-think the status quo.



Use Case Dashboard-Example

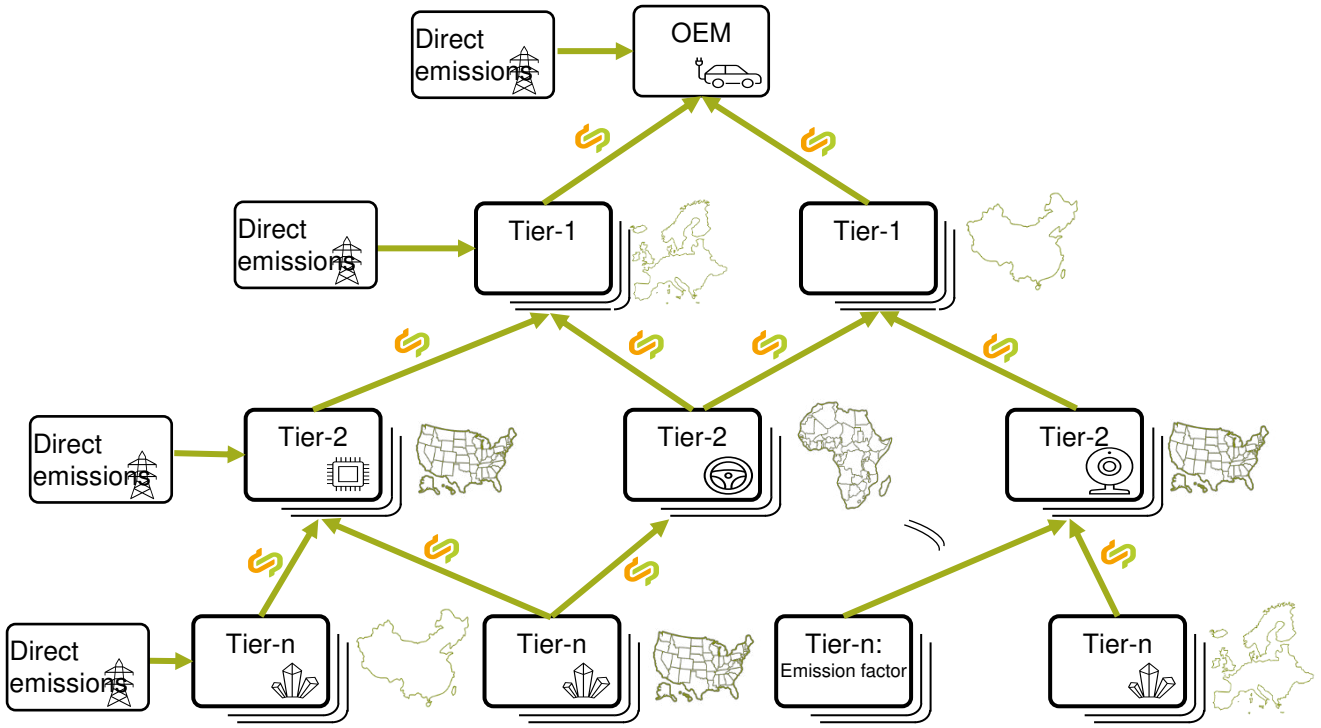
Product Passport (DPP)



Use Cases: Applying Catena-X Technology and Principles to EU Relevant Regulations

Product Carbon Footprint (PCF)

Solution for e.g. EU Corporate Sustainability Reporting Directive (CSRD): Catena-X captures PCF along the supply chain by recording and aggregating primary data from every partner involved.



- **Comparability** of calculation standards
  - Methodology
  - Fall-back data in ramp-up
- **Credibility** of standards: consultation with relevant outside stakeholders
- **Trust:** system for verification (worldwide)
- **Interoperability** of technical standards and data models
- **Governance:** evolution of standards and data models

Use Cases: Applying Catena-X Technology and Principles to EU Relevant Regulations

Product Carbon Footprint (PCF)

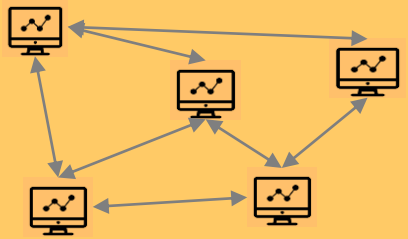
Catena-X has to solve methodological, technical and processual questions in parallel

PCF Methodology

How do I measure, model and calculate?

PCF Data

How do I document, transfer and receive values?



Audit and Verification

How do I trust values I receive and how do I create trust in my results?

Closing Remarks

Working together to master our challenges

RESILIENCE IN SUPPLY CHAINS	SUSTAINABILITY AND REGULATORY REQUIREMENTE	GEO POLITICS AND INNOVATION	ECONOMIC EFFICIENCY
			
“Today’s peer to peer networks don’t do the job”	“Collaboration models needed to capture the entire value chain”	“Sharing data is a matter of trust and sovereignty”	“Network adoption and inter-operability takes more than ONE”
EXECUTIVE AWARENESS	DATA ECOSYSTEM	EUROPEAN VALUES GAIA-X	INDUSTRY APPROACH

Questions?
Get in touch with us!

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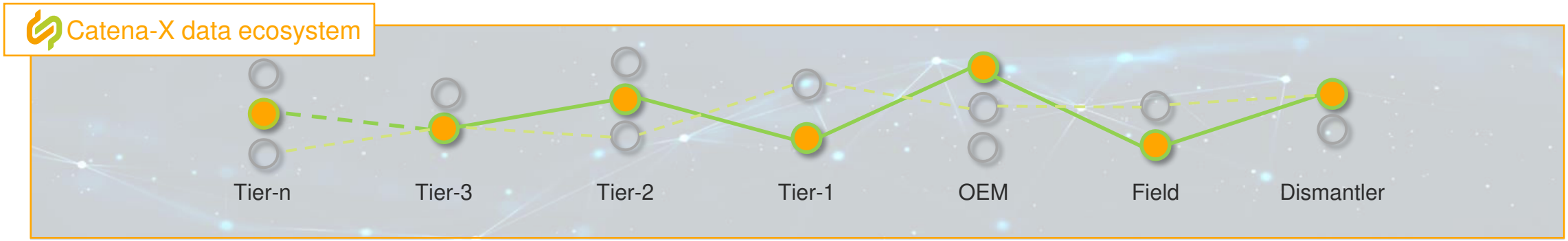
Overview Catena-X Eco-System

Principles

Catena-X seeks to develop an open, collaborative ecosystem for data exchange along the value chain with strong principles.



#DataSovereignty

Decide about the use of your data

#DataSecurity

Data exchange via secure connector

#Interoperability

Common standards allow different systems to work together

#FreedomOfContract

Collaborate with partners of choice only

#GovernanceFramework

Unified policies, authorizations and monitoring

Catena-X is not a database to store and collect data but an open ecosystem to share data in a better way – standardized, secure and simple.

Use Case „Circularity“

Circular Economy

Fast Facts

100 billion
tons of material resources consumed annually

< 9%
of resources are recycled or reused

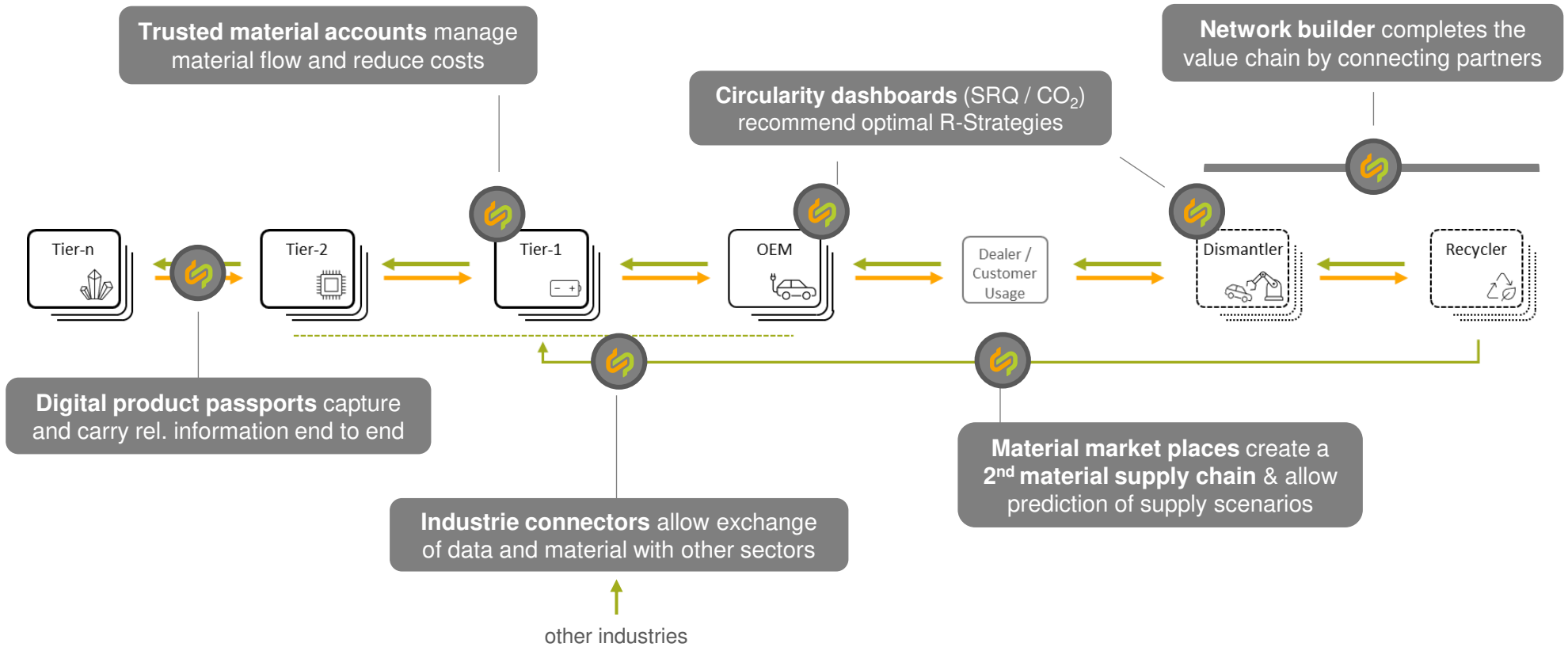
~ 30%
secondary material ratio per vehicle

$4 Trillion
demand for battery materials up to 2050

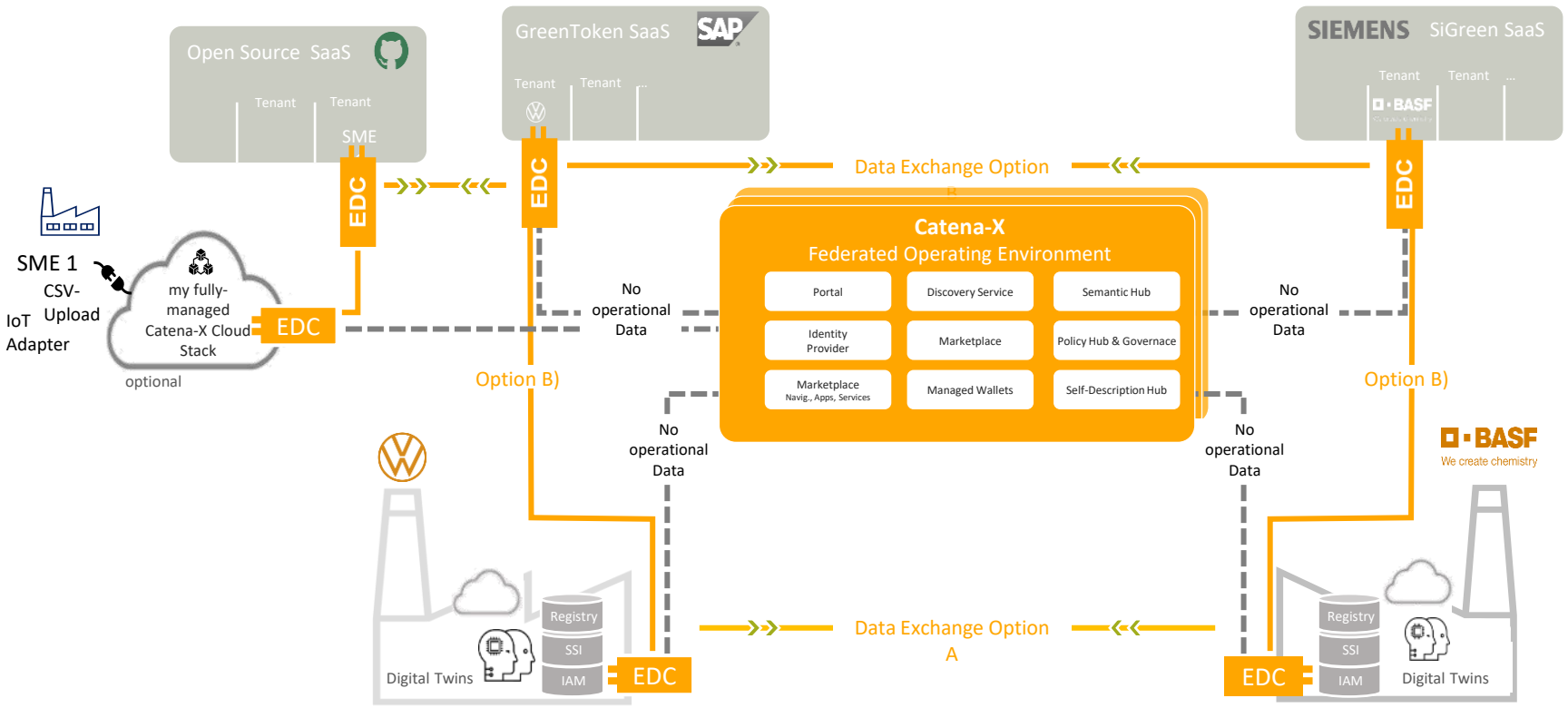
>30.000
to be connected industry partners (to close loops)

Catena-X Standards & Artifacts ( )

Connect partners, streamline flow of information and create solution portfolio to enable scalable value derivation



Eclipse Data Space Connector as a key building block.



- **Data is only shared directly between partners**. No central data storage.
- **Data sovereignty** and a strong open source foundation is a key for trust.
- The EDC can be become a **cross industry standard** for data exchange
- The EDC **integrates into the individual IT landscapes**.
- The EDC **bundles all functionality required for trustful data exchange**: Offering, finding and exchanging data, defining access policies, negotiating usage policies.