

Catena-X

Overview and current state

2024 / Mar. / 18



Innovation through Collaboration





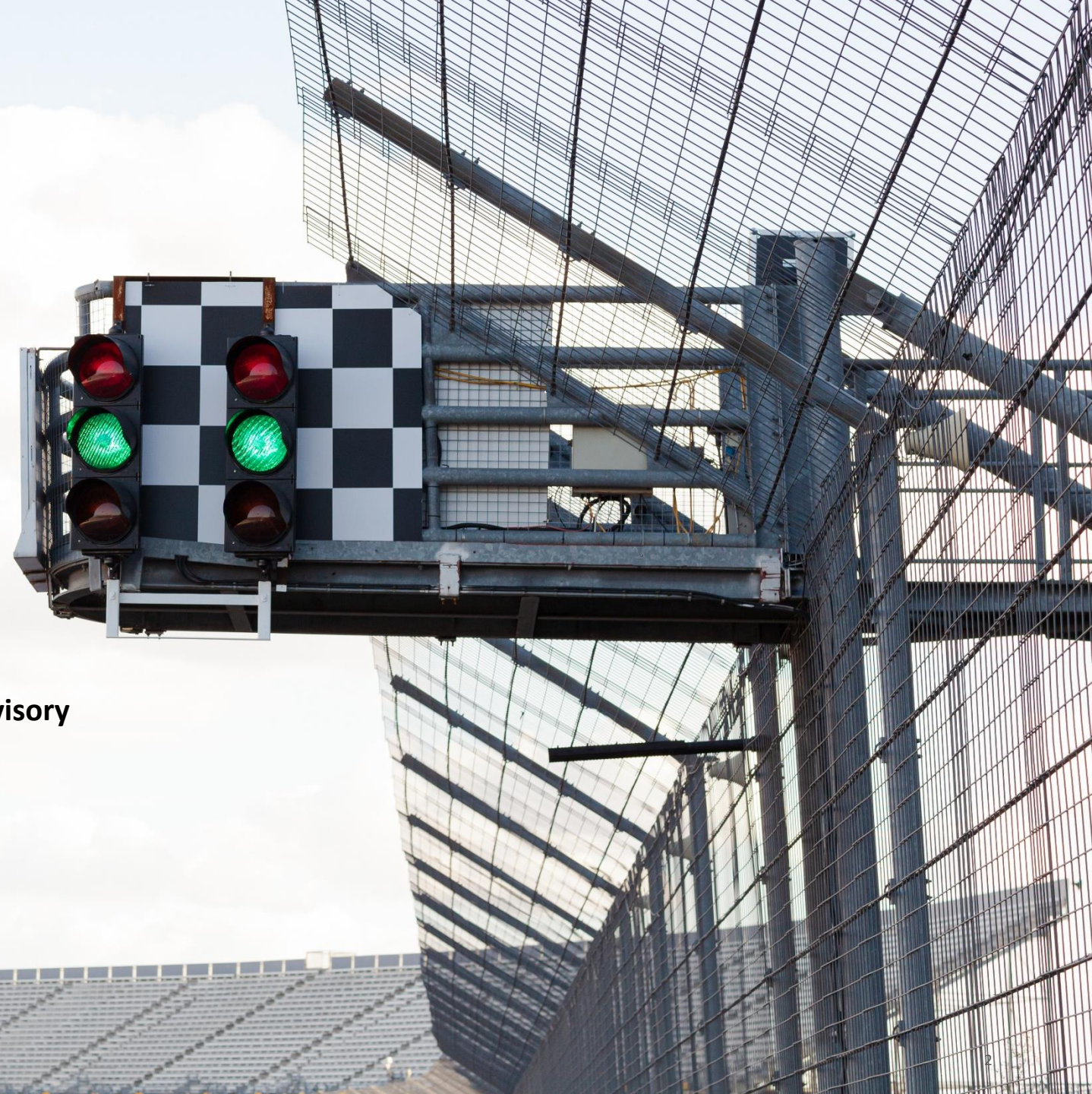
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Catena-X in a nutshell

Catena [origin latin]

Meaning: *chain; chain-links*

Catena-X started in **2021** as a initiative of a few key automotive partners **to break through the traditional peer to peer limitations** of today's business processes.

Catena-X Mission Tackle the industries most pressing business challenges by pioneering **data driven value chains** and offering the first **open & collaborative data ecosystem**.

We simply call this **Radical Collaboration**



Some of the most pressing issues of our industry are

TRUSTED SUSTAINABILITY / ESG



“Put targets into action with real PCF data to de-carbonize the value chain”

RESILIENT SUPPLY- & VALUE CHAINS



“Ensure material flow and availability across multiple value chain steps”

COMPLIANT / ADAPTABLE PLM



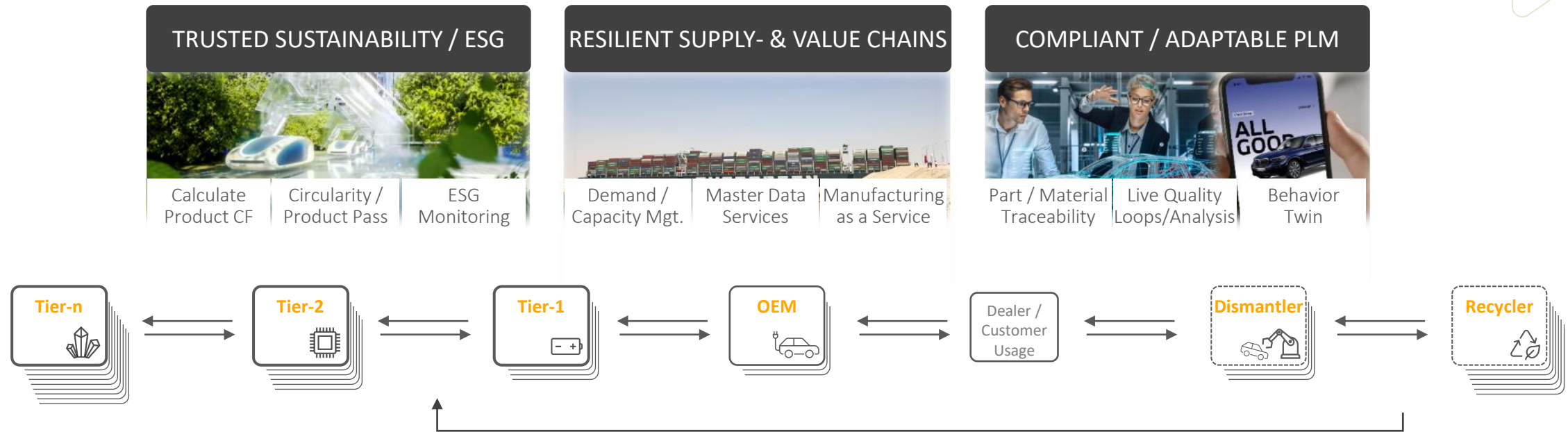
“Monitor field- / production environments, detect anomalies and contain affected parts”

and “close the loops for circularity”



Catena-X breaks through today's peer to peer limitations

Tackle the industries most pressing business challenges by pioneering data driven value chains and offering the first open & collaborative data ecosystem.

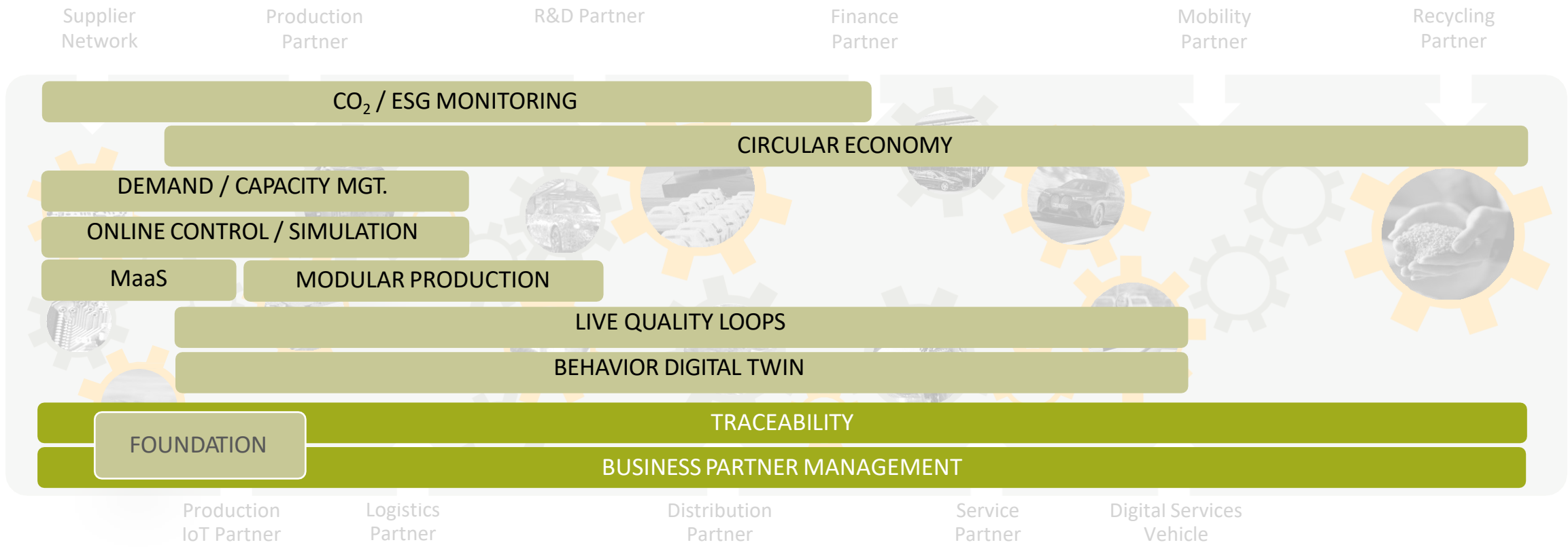


Phase I of Catena-X (10 Use Cases by Q1/2024) lays the foundation for a scalable network; for many more Use Cases to come



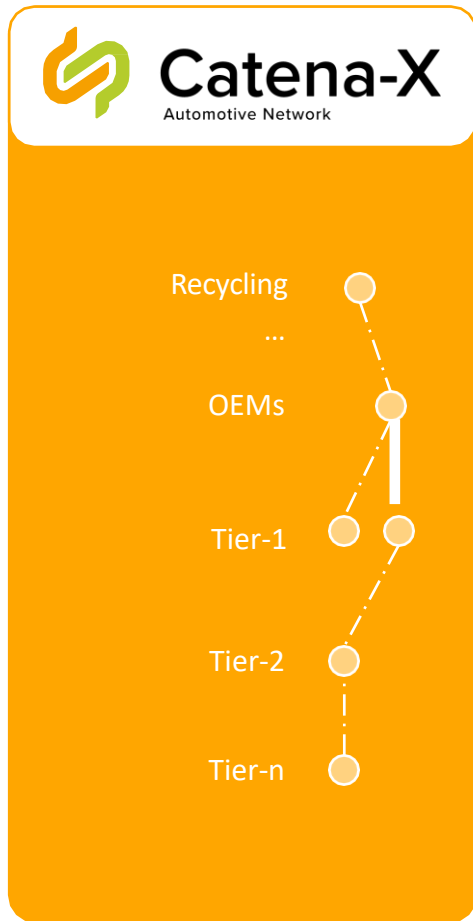
The First Use Cases to Kickstart the Network

10 business-critical end-to-end use case processes

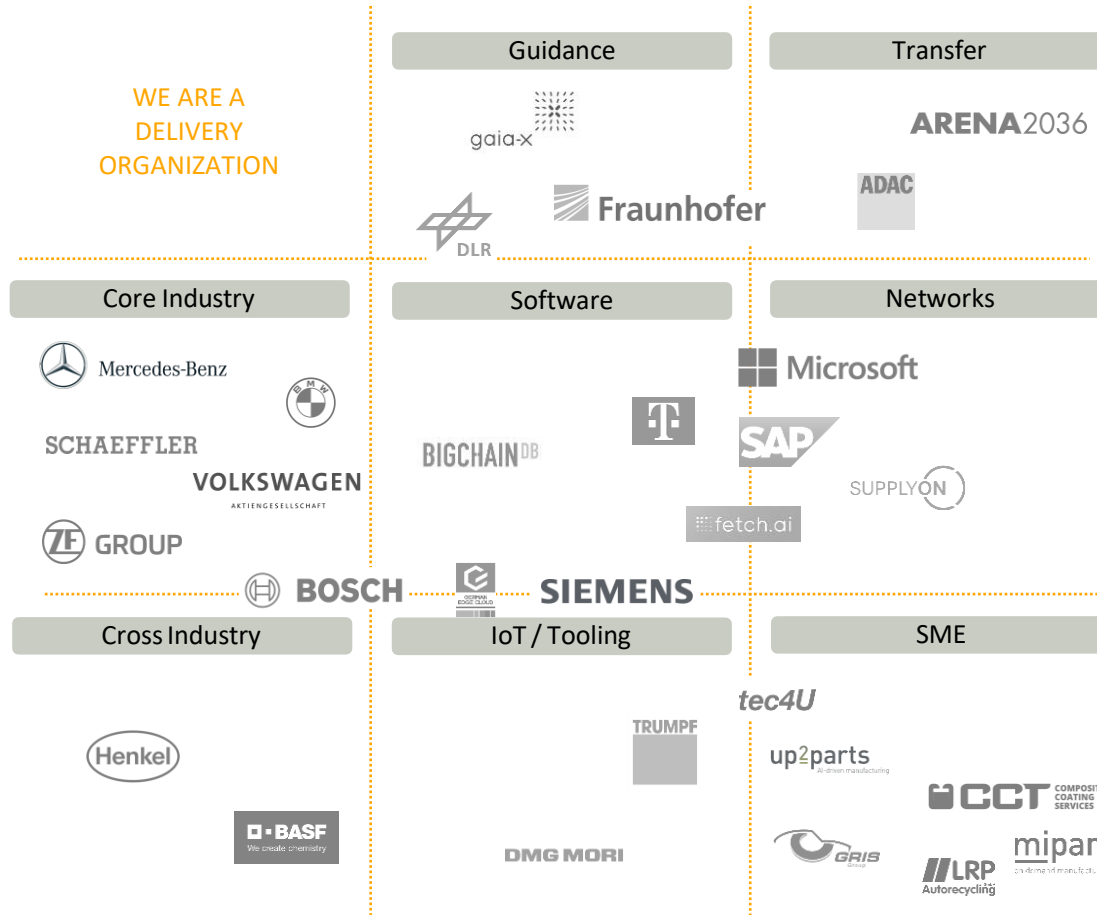




Industry Consortium – Kickstarter Team



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

Association

We grew within just two years from 6 to ...



170

global partners

as of Dec. 2023

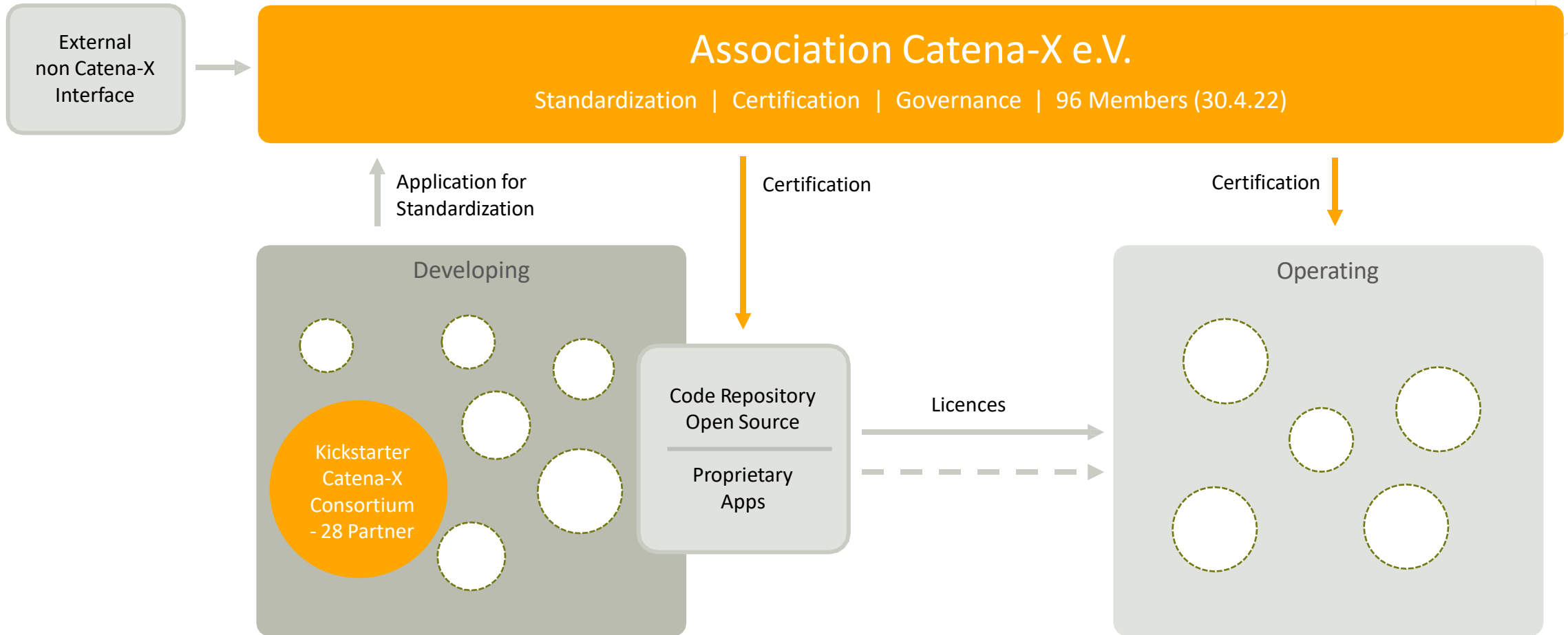
Where **innovation** and **collaboration** meet.

Join us to get the most out of the Catena-X partner ecosystem.

[Contact Us](#)

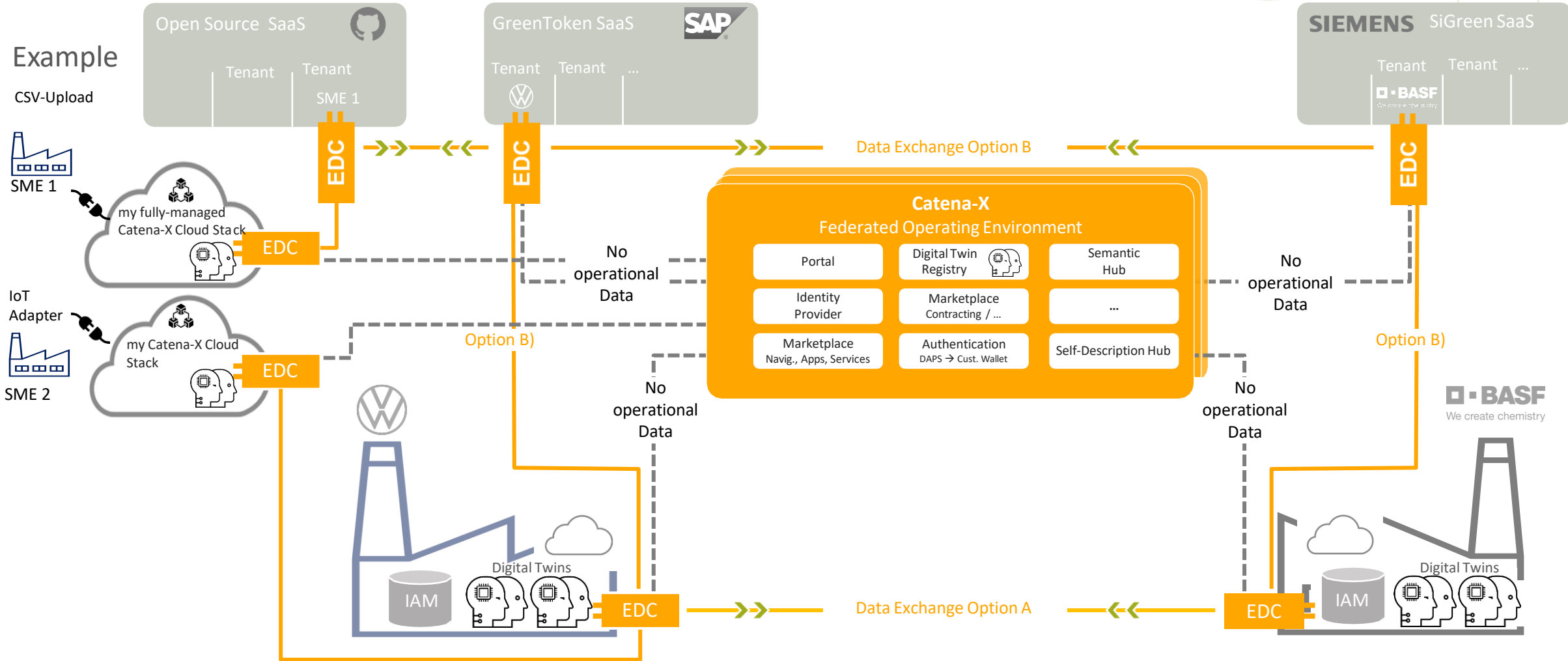
Collaboration needs to
speak one language

The Catena-X System Approach





How Catena-X Works – GAIA-X Ready Architecture

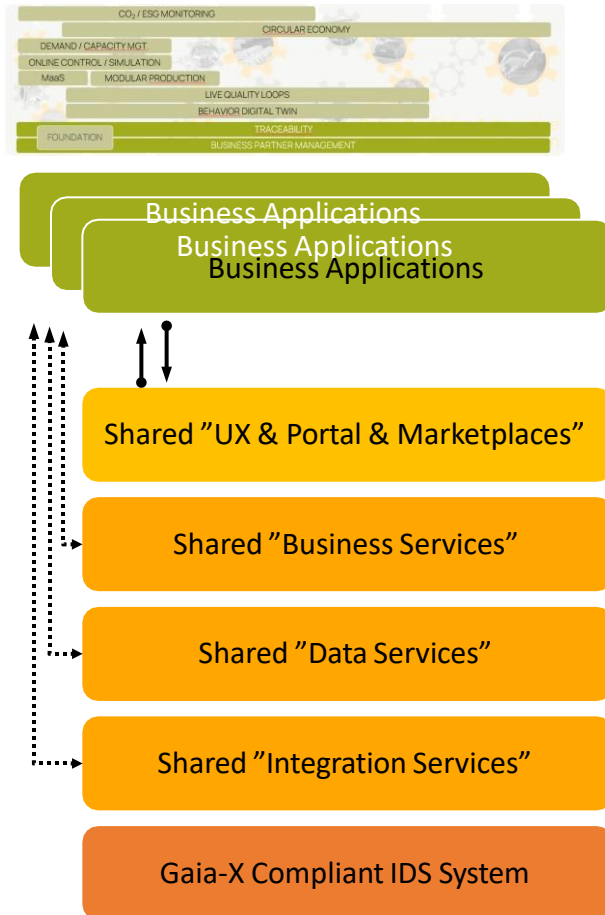




Architecture for Interoperability and Sovereignty

Multiple

interoperable offerings per use case, no lock-in



ONE

mutually used and federated network base

Shared
strong network capabilities
open source community
GAIA-X / IDSA (web3 principles)

Overview

Five Catena-X Core Network Assets

- 1 Path to Digital Readiness**
Time to value promise: Swift & one-Stop onboarding
- 2 Community of Trusted Members**
One Industry Data Space with shared values and principals
- 3 Largest Library of Digital Twins**
Comprehensive data sets across all partners united by shared semantics
- 4 Active Data Chains**
Joined Digital Twins and Members, incl. building- & governance-services
- 5 Development Kit & Services for an Open & Collaborative EcoSystem**
Boost collaboration & utilization which is SME ready by design

Highlight: Eclipse Data Space Connector



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



Marketplace CO₂

Initial portfolio of apps to calculate and exchange PCF is available.

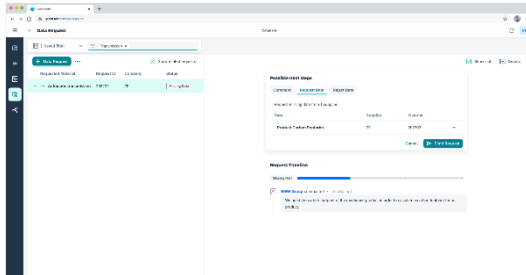
CO₂ - Exchange-Apps (interoperable)

CO₂ - Calculation-Apps (interoperable)

SIEMENS



SAP



FRED



IHK ecocockpit



SAP



In pipeline



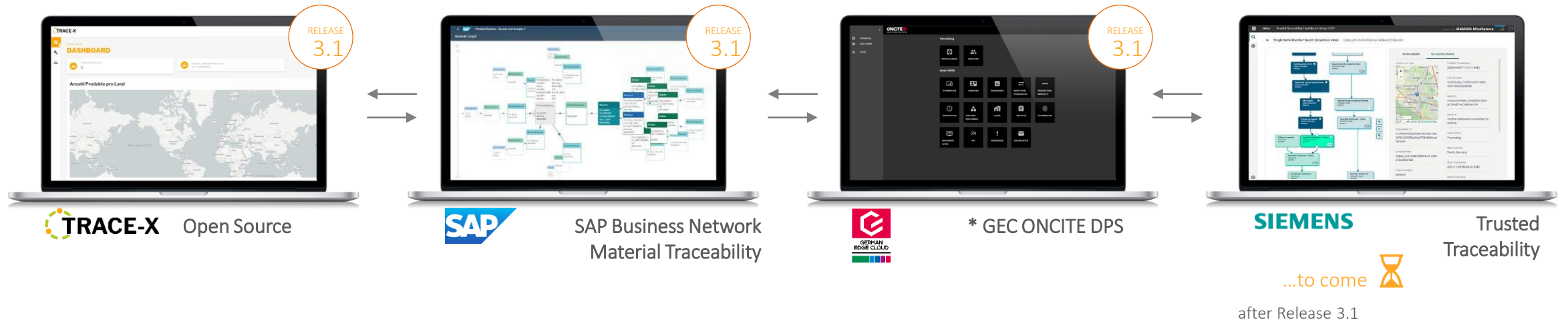
In pipeline





Marketplace Traceability

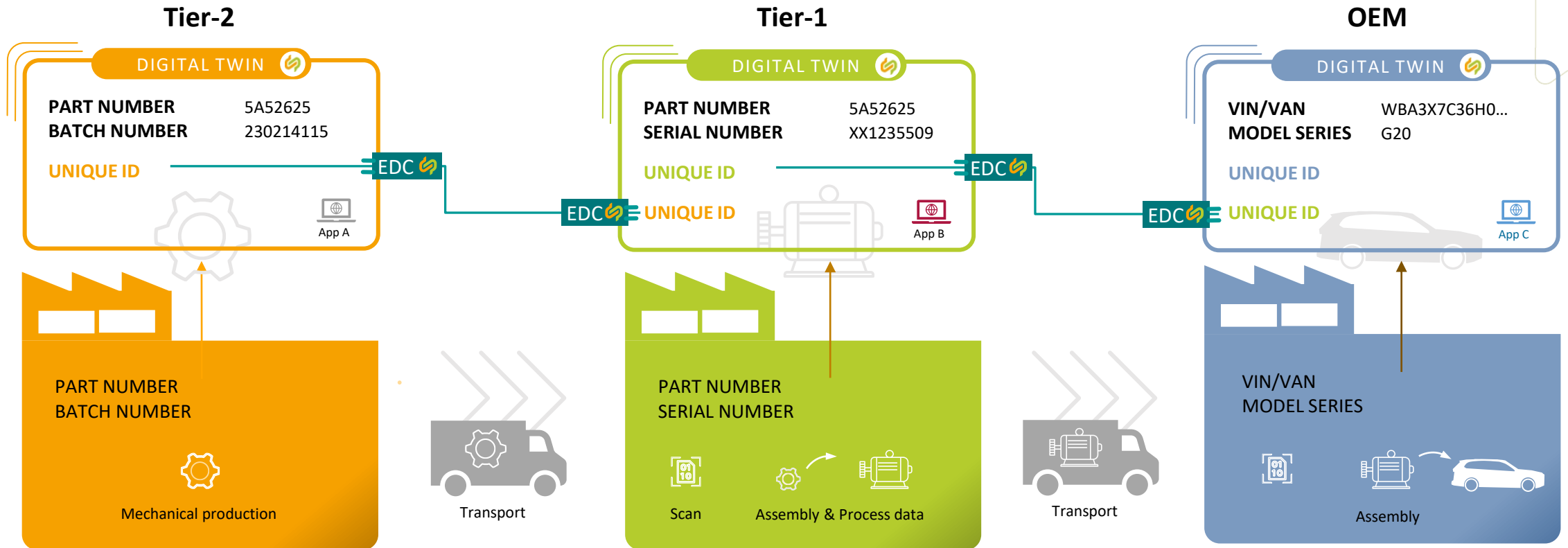
Initial strong portfolio of apps to enable and manage traceability of parts.





Traceability – How it works.

Building data chains without lengthy discussions on standards, IT changes or process adaptations.

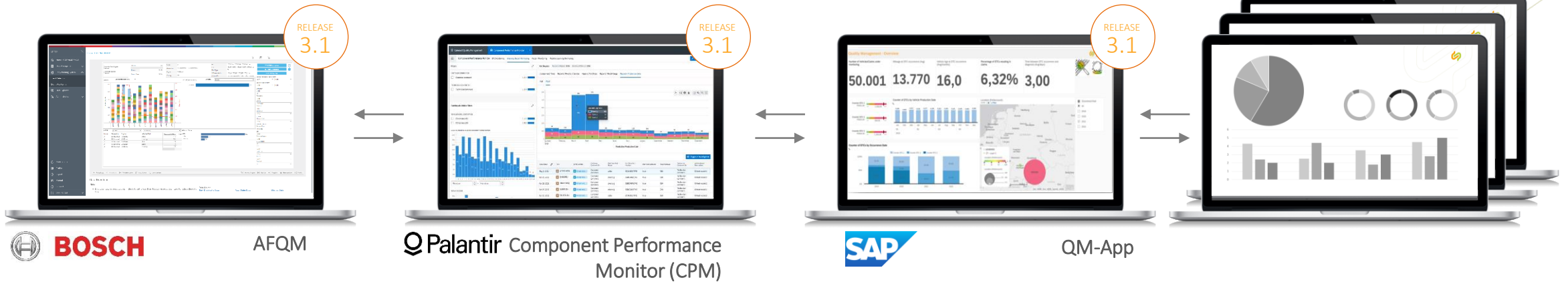


Data Chains and Digital Twins are key enabler and network builder for many other core use cases like circularity, CO₂ and LKSP / ESS.



Marketplace Quality

Initial strong portfolio of apps to enable and manage quality of parts / vehicles.



- Connect Data from Production and Field across multi tier levels
- Enabling Early Warning / Quality Alerts across multiple partners
- Precise Containment of affected parts / vehicles

Radical Collaboration

Time to value within just 24 months after start

- 170 global partner joined the initiative
- 110+ Mio EUR spend on R&D
- Anti-Trust & Compliance - clearance
- 10+ Strategic Partnerships - entered
- 1st Catena-X de-central Operating System - released
- 1st Catena-X Operating Model incl. Policies – released
- 1st ever GAIA-X compliant data space - confirmed
- 1st set of Catena-X Standards (43) & Business KITs – released
- 1st Operating Company (Cofinity-X) – established
- N° 1 Contributor within Eclipse Foundation – Open Source
- 2 local Catena-X Hubs – established; 3 more are planned for 2023 (NA, Asia)
- 1st Beta Operations - started 04/2023
- 1st Companies exchanged operational Digital Twins via Catena-X - 04/2023
- Productive goLive – done 10/2023





A point of view reflect on current movement in Japan and Europe

日欧の現状動向を踏まえての考察

[Current state]

Different networks are born for the same purpose.

Centralization or De-centralization, freedom or control, platform or applications.

It's natural because

- Purpose-driven innovation start from vertical integration. The horizontal integration and standard architecture is later born.
(ex.PC)
- Background is different : Industrial structure, Ethnicity

【現況】

同じ目的でも違うものが生まれている。 集中と分散 自由と統制 基盤とアプリケーション

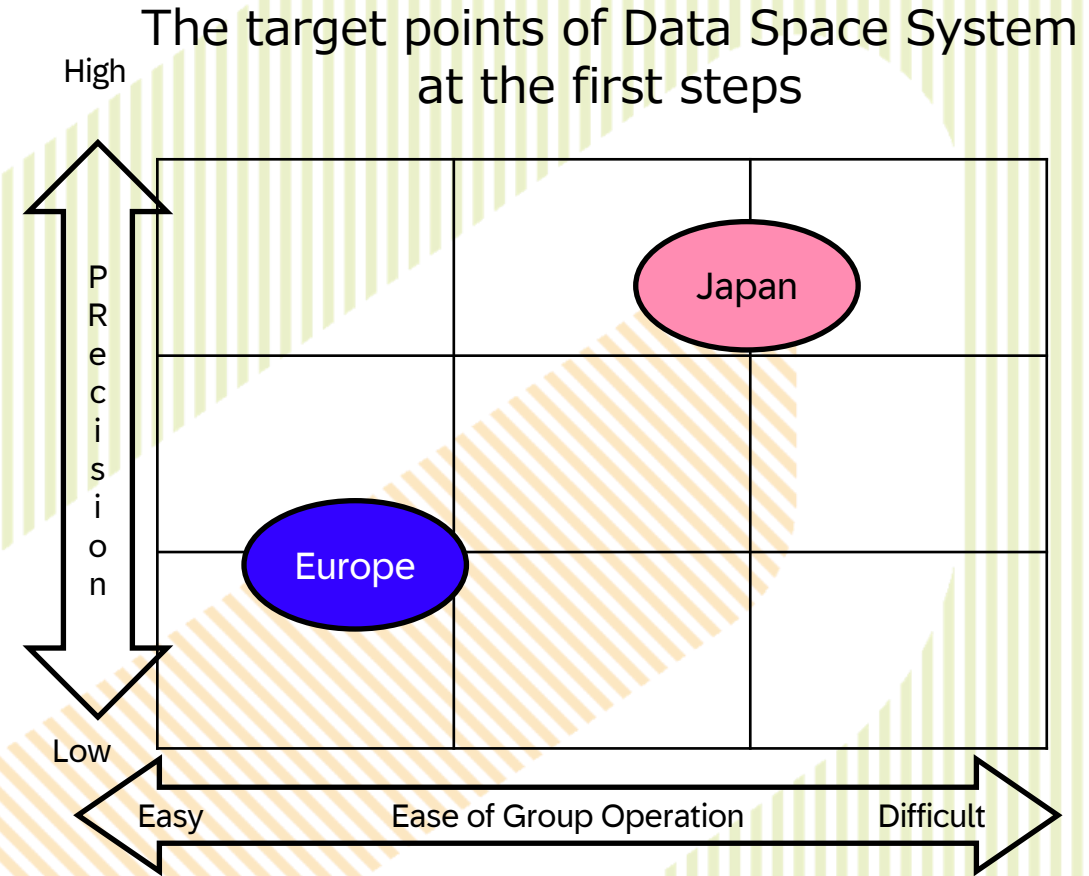
違って当然。

目的志向型のイノベーションは垂直統合。水平連携・標準アーキテクチャは後に生まれる。(パソコン)

産業構造 背景思想・民族性の違い。

A view of the approaches at Europe and Japan for the Battery Passport CFP data gathering

	Europe	Japan
Data Exchange	One-to-one	Same as Left
Data model	Standard data model & rule	Same as Left
Centralization and de-centralization	No central system for business data	Central system for business data with technically & operationally protect data sovereignty.
Business policies / operations for traceability	Responsibility lays at each companies based on the rulebook	Business policies/operations are unified with central system
Accuracy	Relative lower than in Japan	Relatively higher than in Europe
Operation easiness	Relatively easier	Relatively difficult
Background	Avoidance of central control	All Japan collaboration



Examination of data system coordination from observation of battery passport

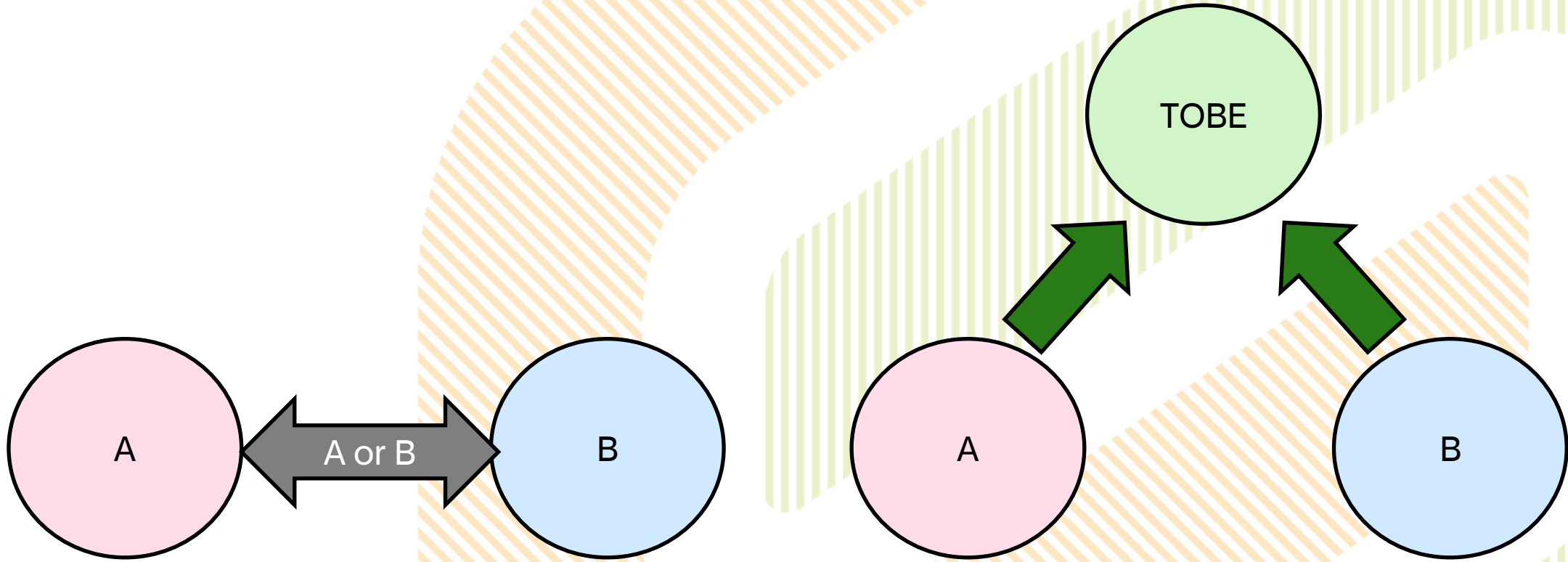
- In the data and system coordination for the realization of DFFT, there are different points and stakeholders for each layers, and it is necessary to proceed with these solutions.
- Although the business goal is all the starting points, the European Battery Code probably includes some competitive themes, making it difficult to cooperate.
- In the lower layer, there is not enough time to try to understand each other. Due to legal schedule

DFFT実現に向けたデータ・システムコーディネーションにおいては各レイヤー毎に異なる論点・ステークホルダがあり、これらの解決を図りつつ進める必要がある。

ビジネス目標は全ての出発点であるが、欧州バッテリー法規は競争テーマの色合いを多分に含んでおり対話を難しくしている。下層レイヤにおいては法規日程からも日欧という観点では十分な相互理解を尽くす時間を得る事は難しかった。

Layer	Point of View	issues
Business	Target	Competitive theme
		Collaborative Themes
Data	Standardization	Collateral for equality and fairness Elimination of bias
Business application	Freedom and Protection	Freedom of choice, interoperability, compatibility
		Protection of industry in region/country
Data Exchange Foundation	Use	Avoidance of Galapagos, integration of networks or interoperability
	Technology	Protection of industry in region/country
	Ownership	National information security, avoiding the hegemony of other countries

It appears that the Framework Design for moving AS-IS to the TO-BE with Authority and Driving Force is needed.
AS-ISをTOBEに向かわせる、オーソリティとドライビングフォースを含めたフレームワークの設計が必要



Thank you

