Catena-X 101 - the fundamental building blocks of a live data space

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transfer-x knowledge network

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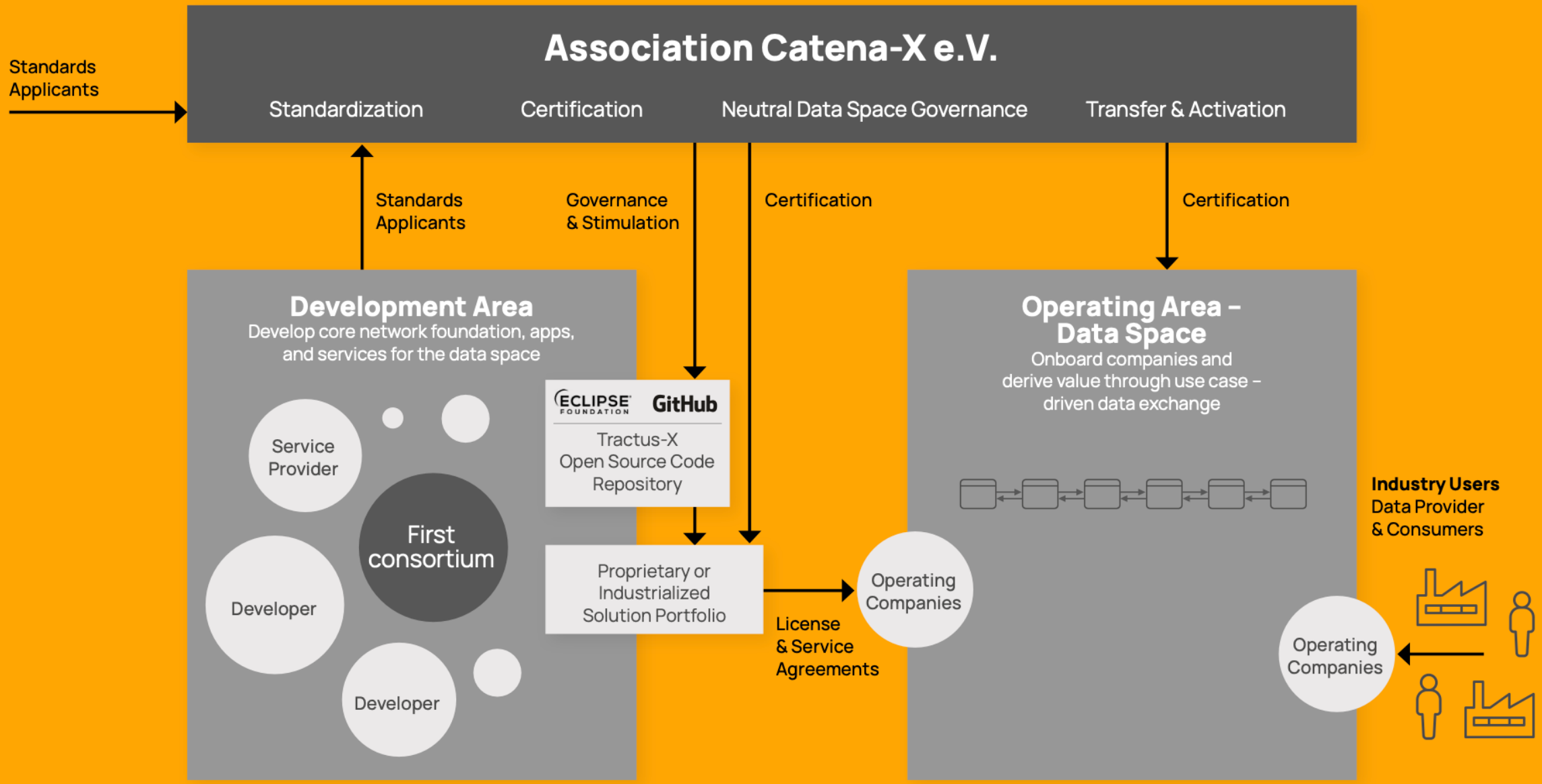
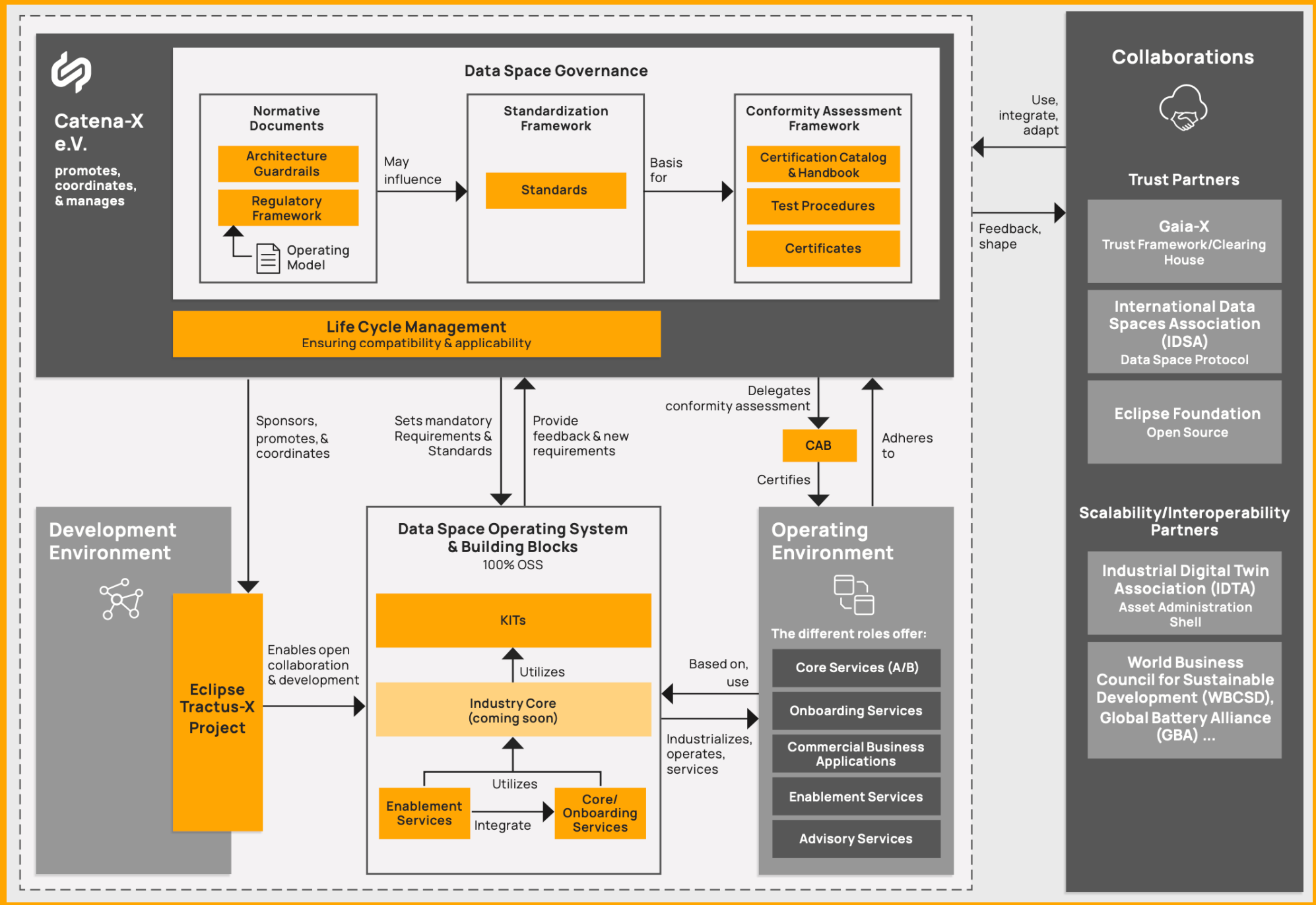
What are conceptual foundations of a live data space?


Standards Applicants
Association Catena-X e.V.
Standardization
Certification
Neutral Data Space Governance
Transfer & Activation
Standards Applicants
Governance & Stimulation
Certification
Certification
Development Area
Develop core network foundation, apps, and services for the data space
Service Provider
First consortium
Developer
Developer
ECLIPSE FOUNDATION
GitHub
Tractus-X Open Source Code Repository
Proprietary or Industrialized Solution Portfolio
License & Service Agreements
Operating Companies
Operating Area – Data Space
Onboard companies and derive value through use case – driven data exchange
Industry Users
Data Provider & Consumers
Operating Companies

What’s required to operate them?


Catena-X e.V.
promotes, coordinates, & manages
Data Space Governance
Normative Documents
Architecture Guardrails
Regulatory Framework
Operating Model
May influence
Standardization Framework
Standards
Basis for
Conformity Assessment Framework
Certification Catalog & Handbook
Test Procedures
Certificates
Life Cycle Management
Ensuring compatibility & applicability
Use, integrate, adapt
Feedback, shape
Collaborations
Trust Partners
Gaia-X
Trust Framework/Clearing House
International Data Spaces Association (IDSA)
Data Space Protocol
Eclipse Foundation
Open Source
Scalability/Interoperability Partners
Industrial Digital Twin Association (IDTA)
Asset Administration Shell
World Business Council for Sustainable Development (WBCSD), Global Battery Alliance (GBA) ...
Sponsors, promotes, & coordinates
Sets mandatory Requirements & Standards
Provide feedback & new requirements
Delegates conformity assessment
CAB
Certifies
Adheres to
Development Environment
Eclipse Tractus-X Project
Enables open collaboration & development
Data Space Operating System & Building Blocks
100% OSS
KITs
Utilizes
Industry Core (coming soon)
Utilizes
Enablement Services
Integrate
Core/ Onboarding Services
Based on, use
Industrializes, operates, services
Operating Environment
The different roles offer:
Core Services (A/B)
Onboarding Services
Commercial Business Applications
Enablement Services
Advisory Services

Is there a version for newcomers?

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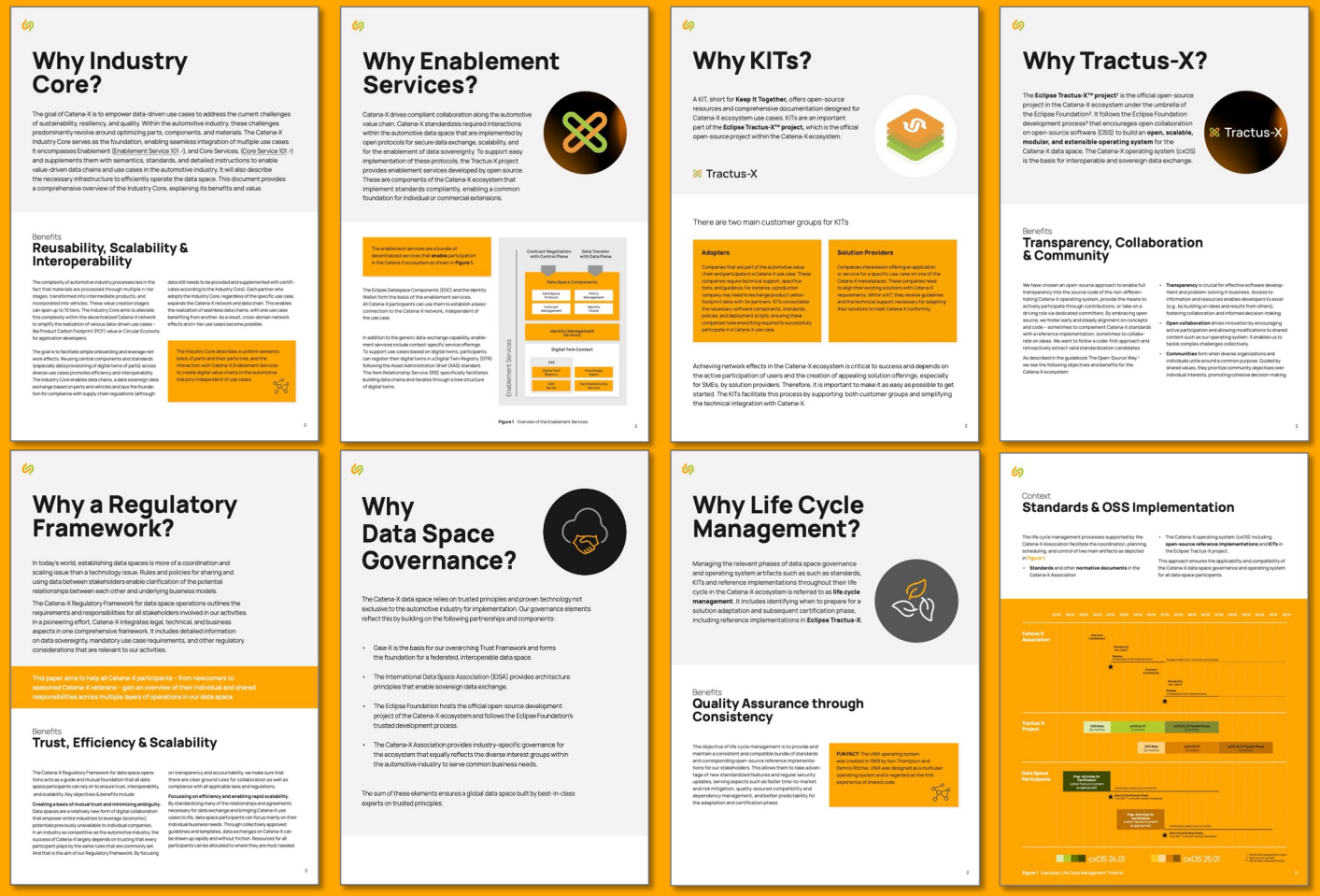
aufgrund eines Beschlusses
des Deutschen Bundestages

Catena-X
Automotive Network

101

"showing the most basic knowledge about a subject"



Example 1

KITs 101

Why KITs?

To build an ecosystem of interoperable business applications, Catena-X consolidates all essential code and non-code artefacts for a use case into a KIT (Keep It Together). This comprises standards, open source developer resources and technical documentation that ensure Catena-X principles such as trust, sovereignty, and interoperability. The KIT structure is standardized to accelerate the adoption by solution providers.

Tractus-X

Our KITs Toolbox

Vision/ Mission

Business Value(s)

Tutorials/ Videos

Whitepaper (e.g., Context)

Scope for Standardization/Certification

Semantic Models

Logic/ Schema

Business Processes

Access & Usage Policies

API Specifications

Protocols

Sample Data

Reference Implementation

Architecture

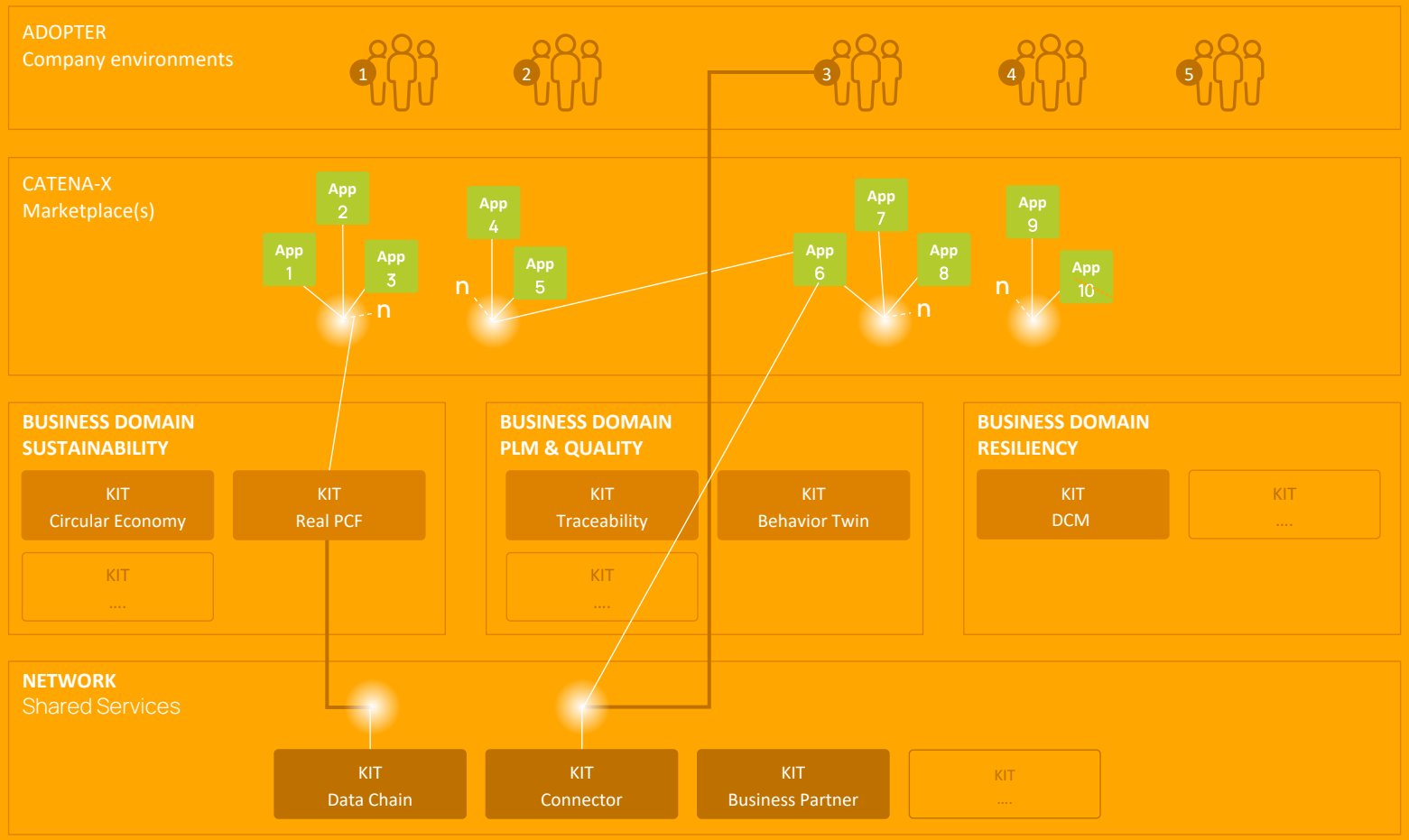
Conformity Assessment Criteria

Quick Setup Guide

Deployment Scripts

Catena-X offers a dedicated set of tools to empower and stimulate interoperable solutions for each step of the customer journey.

KITs in action



Example 2

Data Space Governance 101

Why Data Space Governance?

Providing a reliable, trustworthy, and transparent ecosystem is at the very heart of the Catena-X value proposition, because trust is the foundation of any successful supply chain collaboration. Secondly, stipulating scalability within Catena-X and outside of its own data space boundaries is our goal. Scalability attracts further participants and drives adoption of Catena-X way beyond its original scope. The Catena-X data space governance manifests these declared goals via strategic partnerships with neutral, independent partners.

To ensure that these fundamental principles are adhered to, the Catena-X initiative works with independent governance units:

- **Identity:** Gaia-X partnership for establishment of an overarching Trust Framework.
- **Data Exchange:** International Data Space Association (IDSA) partnership for industry-agnostic foundation of sovereign data exchange.
- **Development:** Eclipse Foundation partnership for proven software development processes, best practices, and management of repositories in open source.
- **Industry-specific logic:** Catena-X Association partnership for driving standards on common business needs of the automotive industry.

gaia-x

IDSA

ECLIPSE® FOUNDATION

Catena-X Automotive Network

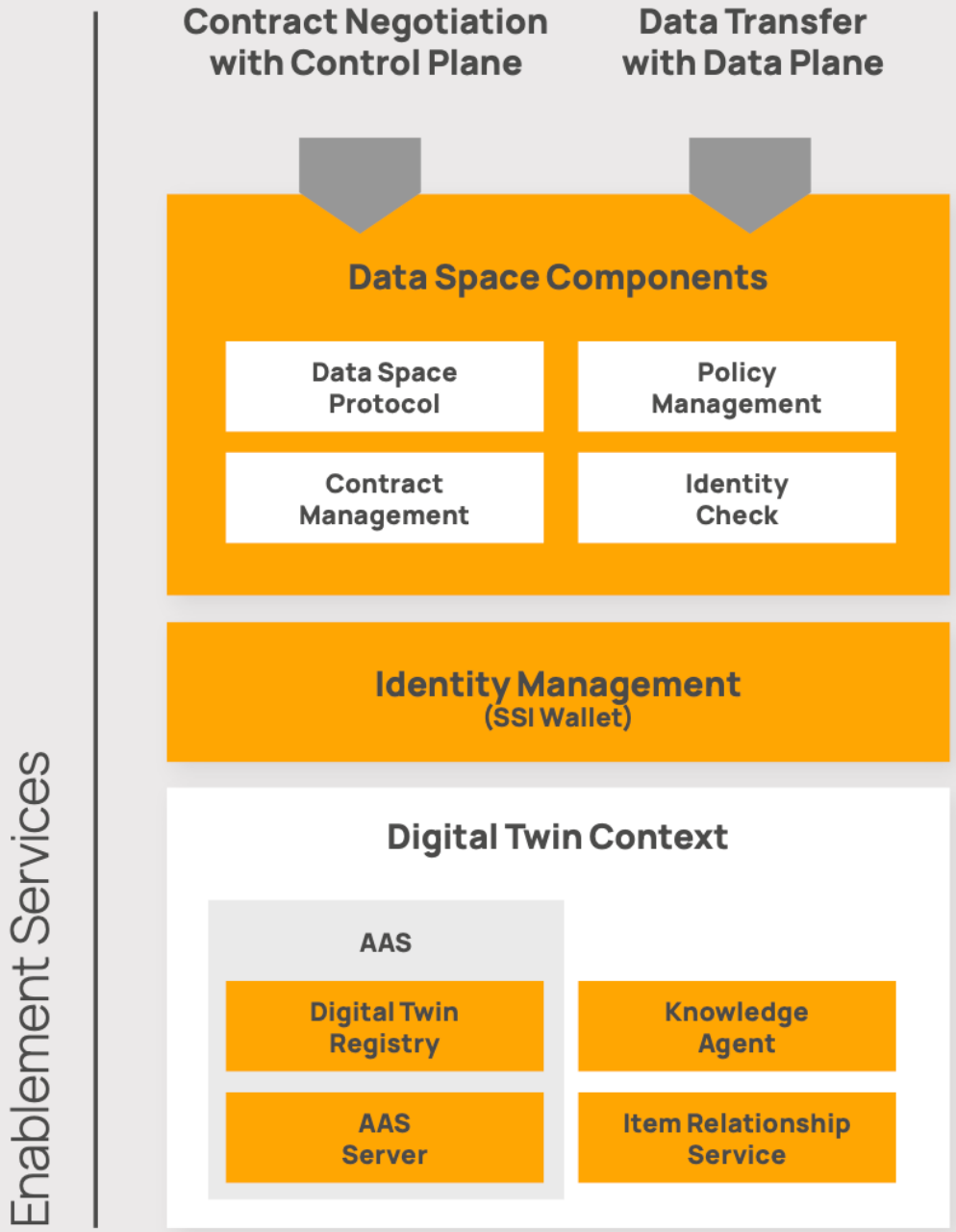
Example 3

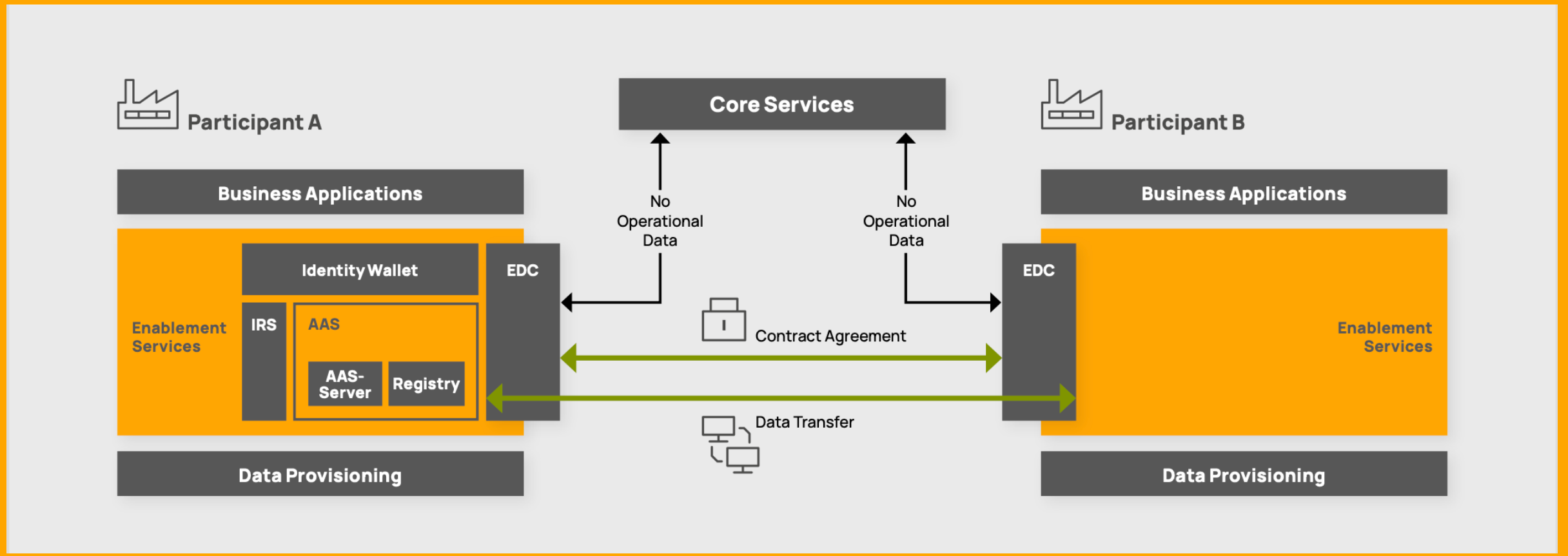
Enablement Services 101

Why Enablement Services?

To access a data space like Catena-X, a participant needs standardized connectivity method to ensure interoperability, trust and a compliant usage of common interaction patterns. Therefore the Enablement Services combine the three aspects of Identity Management, Data Exchange via a Connector and access to compatible Digital Twins. These Enablement Services need to be deployed decentrally under the responsibility of each participant and are ensuring harmonized connectivity, trusted identity, and a common language on business

The enablement services are a bundle of decentralized services that **enable** participation in the Catena-X ecosystem as shown in **Figure 1.**




Participant A
Core Services
Participant B
Business Applications
No Operational Data
No Operational Data
Business Applications
Identity Wallet
EDC
EDC
Enablement Services
IRS
AAS
AAS-Server
Registry
Contract Agreement
Enablement Services
Data Transfer
Data Provisioning
Data Provisioning

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