Sixth Eclipse Tractus-X Community Days

Leading Eclipse Tractus-X into a Global Future

July 02–03, 2026
STUTTGART

ARENA2036 Catena-X Your Automotive Network ECLIPSE Tractus-X™ Where we build dataspaces! ECLIPSE FOUNDATION

SUPPORTED BY: LKS Next

Current Challenges in Tractus-X Onboarding

We need to increase our visibility

- Limited visibility of Eclipse Tractus-X beyond the core community
- Benefits cannot be properly assessed by new projects
- Potential contributors are not reached

We need to strengthen collaboration with other initiatives

- We need to point out the advantages of our strong community
- New initiatives often develop their own components instead of building on Eclipse Tractus-X
- Eclipse Tractus-X needs to foster openness and dialogue with new initiatives

We need to reduce the Time-to-Contribution

- Knowledge is scattered across multiple repositories
- The onboarding journey is complex and difficult to navigate
- Many developers newer contribute

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Our Approach to Improve Tractus-X Onboarding

Professionalize Communication and Outreach

- Increase the visibility of Eclipse Tractus-X through targeted communication
- Provide audience-specific information and quick-start guides.
- Engage new projects and industries proactively

Build Stronger Ecosystem Collaboration

- Establish continuous, bidirectional communication with external initiatives
- Organize community events, hackathons and plugfests
- Foster long-term partnerships across industrial ecosystems

Accelerate the Onboarding Journey

- Provide structured onboarding paths from first contact to first contribution
- Offer hands-on training and practical learning materials
- Provide sandboxes and mentoring for rapid onboarding

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Scaling How We Build Tractus-X

From a successful Automotive community to a scalable Open Source ecosystem

RELEASE PROCESSES WORK WELL WITHIN AUTOMOTIVE

A cross-industry release & governance model enabling Manufacturing-X and other initiatives to contribute through a common framework!

KNOWLEDGE EXISTS—BUT IS DIFFICULT TO DISCOVER, MAINTAIN AND REUSE

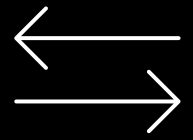
A professional documentation ecosystem with editorial processes, quality standards and structured knowledge backflow into Tractus-X

COMMUNITY GROWTH DEPENDS ON EXPERIENCED INDIVIDUALS

A scalable Community Operating Model with mentoring, coaching, Project Lead enablement, GitHub curation and community-driven quality management

Making it easy for every project to become part of Tractus-X.

Long-Term Viability



Interoperability

- New and different identity standards
- Reuse across domains

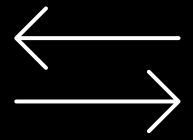
Regulatory Requirements

- Cyber Resilience Act
- KRITIS (Critical Infrastructure)
- Network and Information Security Directive 2
- Anti-Trust Concerns

Maintenance of Components

- Open-source data space
- Knowledge attrition

Long-Term Viability



Cross-Domain Ready Architecture

- Align standards across working groups and domains
- Enhance & pilot architecture

Operationalize Compliance

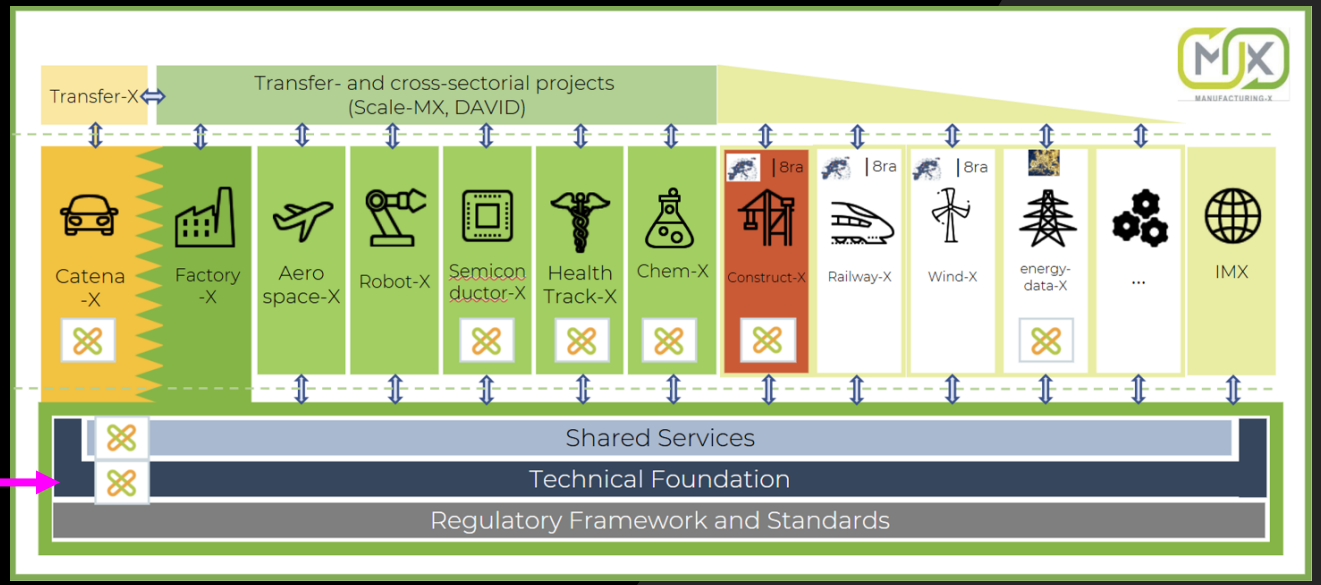
- Clarify requirements
- Ease & operationalize compliance

Maintenance of Components

- Raise awareness of threats
- Improve knowledge sharing via documentation & training

Why now IDSA in the game?
Well, we have always been there…

INTERNATIONAL DATA SPACES ASSOCIATION



Not only the technical foundation and regulatory framework…

An agnostic baseline for global data spaces

IDSA's efforts of the last 10 years: a holistic perspective on data spaces

INTERNATIONAL DATA SPACES ASSOCIATION

Common governance framework

- describes the **technical, operational, and legal agreements** to enable the IDS ecosystem to be fully working in a real-world scenario.
- outlines **a common governance framework** that all players need to abide to, for a smoothly running future data economy.
- is **industry-agnostic**, and applicable in all verticals as a **horizontal standard**.

Fundamental principles

- 10 fundamental principles of trusted data sharing
- It is both a call to action and a vision for a future in which trusted data sharing through international data space concepts is the norm, empowering organizations to responsibly harness the full potential of their data.
- By adhering to these principles, we believe data spaces will catalyze the next wave of innovation, unlocking vast opportunities for organizations, communities, and society as a whole.

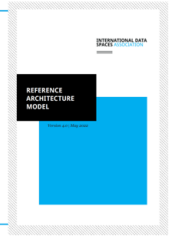
Solutions

IDSA: our mission for data spaces:

- **Holistic challenge** – from technical complexities, via legal uncertainties to undiscovered business benefits.
- We need to **make life easy**:
  - Giving guidance, support and best practices.
  - Crafting a common data spaces framework.
  - Stimulating market-ready, usable solutions that just work.

Technology- and policy-agnostic architecture patterns

- is a practitioner-oriented guide to designing and implementing **architectures for data spaces**
- The RAM is both, an introduction to software architecture and a **handbook of well-established best practices**
- The IDS RAM describes **how data spaces should be built**, the blueprint for maintaining data sovereignty in data driven business ecosystems.



Minimum interoperability

ISO IEC

Dataspace Protocol

Let’s bring global flavors and standards to code:

Standardization overview

Europe & International Landscape

INTERNATIONAL DATA SPACES ASSOCIATION

A practical reference mapping data space standardisation from concepts and gaps to international standards, European regulation and global developments.

1 PURPOSE AND SCOPE

- Why standards are essential for operational data spaces
- Key areas: trust, discovery, semantics, contracts and conformity assessment
- What is inside and outside IDSA’s standardisation scope

2 INTERNATIONAL STANDARDS

- ISO/IEC 20151: data space concepts
- ISO/IEC 26450 DSP
- ISO/IEC 26451 DCP
- ISO/IEC TS 10866:2024 organizational autonomy
- ISO/IEC 19941: Interoperability
- IEEE 3800 on data trading
- IEEE P1988.

3 EUROPEAN STANDARDISATION

- European Trusted Data Framework and Standardisation Request M/614
- CEN-CENELEC JTC 25 work on TDT, data governance and maturity models
- Links with the Data Act, DGA and AI Act

4 GLOBAL LANDSCAPE & NEXT STEPS

- Developments in Australia, Japan, China, the US and other jurisdictions
- Gaps: metadata governance, trust frameworks, data quality, usage policies and interoperability
- Future work: trust frameworks, use cases and broader adoption

READER TAKEAWAY

A comprehensive overview of the data spaces standardisation landscape in Europe and internationally

How IDSA connects industry implementation, compliance tooling and formal standardisation to support trusted, interoperable and scalable data spaces.

@ *https://internationaldataspaces.org/download/54823/?tmstv=1779269473*

It is an ecosystem effort…

Accelerate industrial data spaces

IDSA has woven a powerful ecosystem for data spaces success

INTERNATIONAL DATA SPACES ASSOCIATION

The Data Spaces – manufacturing and close to it

Catena-X Automotive Network · CHEM-X · SEMICONDUCTOR-X · smart connected supplier network · EONA-X · basic data infrastructure · sphinx

So much more:

www.dataspaces-radar.org

Partners in the manufacturing domain

OPC FOUNDATION

Cloud initiative goes Data Spaces

IDTA

Digital Twins go Data Spaces

Trust frameworks, data rights, cloud

iSHARE · gaia-x · CISPE.cloud

Standardization

ISO IEC · CEN CENELEC · STANDARDIZATION COUNCIL INDUSTRIE 4.0

INTERNATIONAL DATA SPACES ASSOCIATION

Coordination of data spaces success

ZVEI: SME go Data Spaces

MX International MX ecosystems go Data Spaces

DATA SPACES SUPPORT CENTRE Europe goes Data Spaces

VDMA SME go Data Spaces

ARENA2036 Tractus-X goes Data Spaces

ロボット革命・産業 IoT イニシアティブ協議会 Robot Revolution & Industrial IoT Initiative Japan goes Data Spaces

Data Spaces Operations

Many powerful service providers, no logos…

Open Source Software and features

ECLIPSE FOUNDATION · Tractus-X · ECLIPSE DATASPACE · Fraunhofer ISST

More partners and activities all over the world…

…for a joint global goal!

A global soft infrastructure for data spaces – like GSM for mobile telecommunication

National flavors and power by using global standards

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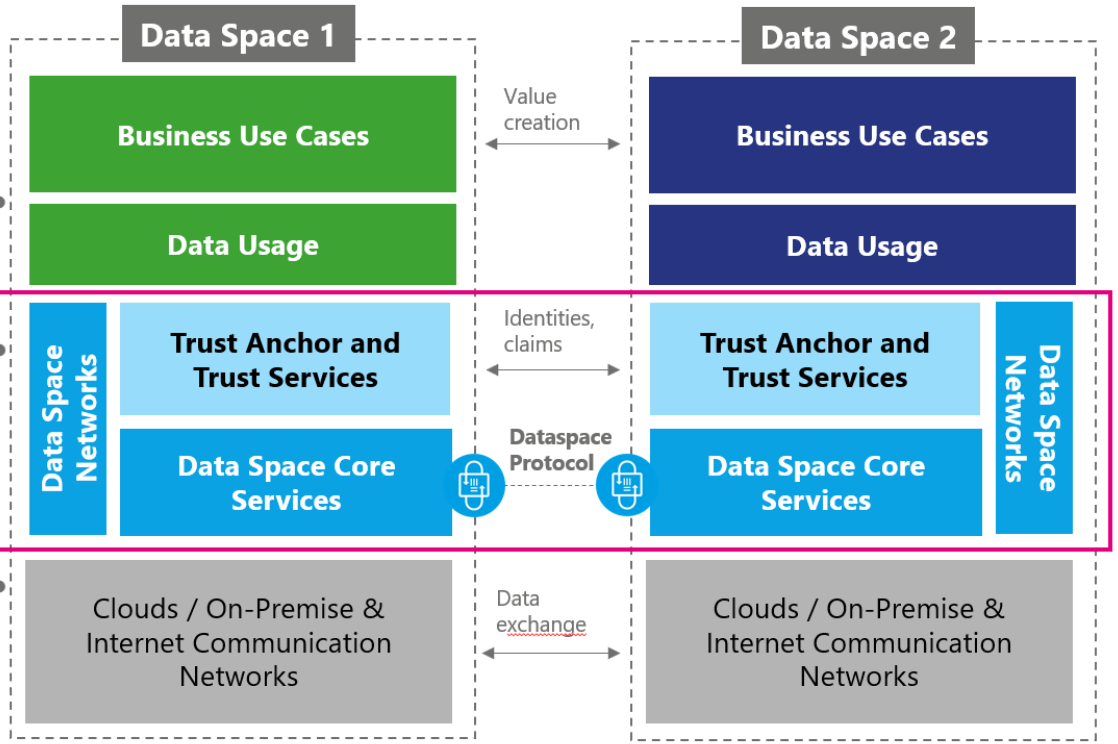
Specific data strategies and standards in different economic areas and domains

Global standards to ensure global value creation

Interoperability – while complying with national data strategies, national standards, regulation and infrastructure

Companies (Telco operators, CSPs, SW vendors) provide the new soft infrastructure for data spaces



A strong alliance to support all the way – concepts, standards, technology, OSS, business incentives, the future

🔥 🚀 💯

INTERNATIONAL DATA SPACES ASSOCIATION · ARENA2036 · ECLIPSE FOUNDATION · Catena-X Automotive Network · Fraunhofer ISST

Data Spaces Support Centre 2

Sector orchestration, value coaching, AI continent.

DATA SPACES SUPPORT CENTRE

Data Spaces Adoption Forum

Faster deployment, distribution via CSP, onboard the millions, connector fabric manager

Data Space Adoption Forum

new

Data Spaces Accelerator

Giving evidence to data spaces success. Enable 1.000 participants to do data spaces.

Cook -ing

Accelerating Tractus-X

Empower Tractus-X for all domains as foundation for many and new data spaces.

Tractus-X

new

IPCEI AI

Data Spaces as one pillar for Industrial AI.

new

Taskforce AI and Data Spaces

Scaling Where We Build Tractus-X

From a European Open Source project to a globally contributing community

INTERNATIONAL INTEREST IS GROWING

A global governance model with Chapters, Ambassadors and transparent contribution processes for international communities

GLOBAL COLLABORATION DEPENDS ON REGIONAL PLATFORM AVAILABILITY

A resilient global collaboration infrastructure with repository mirrors, platform-independent access and multilingual collaboration tooling

INTERNATIONAL COMMUNITIES REQUIRE ACTIVE ENABLEMENT

A global contributor ecosystem built through regional communities, multilingual documentation, local events and targeted outreach

Making it possible for every developer to contribute to Tractus-X—worldwide

Building the open foundation of trusted data spaces

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Open Source Development in Industry Collaborations

May 22th 2025

Michael Plagge (Eclipse Foundation)
Michael Hahn (Catena-X e.V.)

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Developer

Let´s work together

tractus-x.com

CATENA-X KITS

provide software components, standards, policies, and deployment scripts to accelerate the adoption and development of Catena-X use cases.

The key customer of our KITs is the solution developer.

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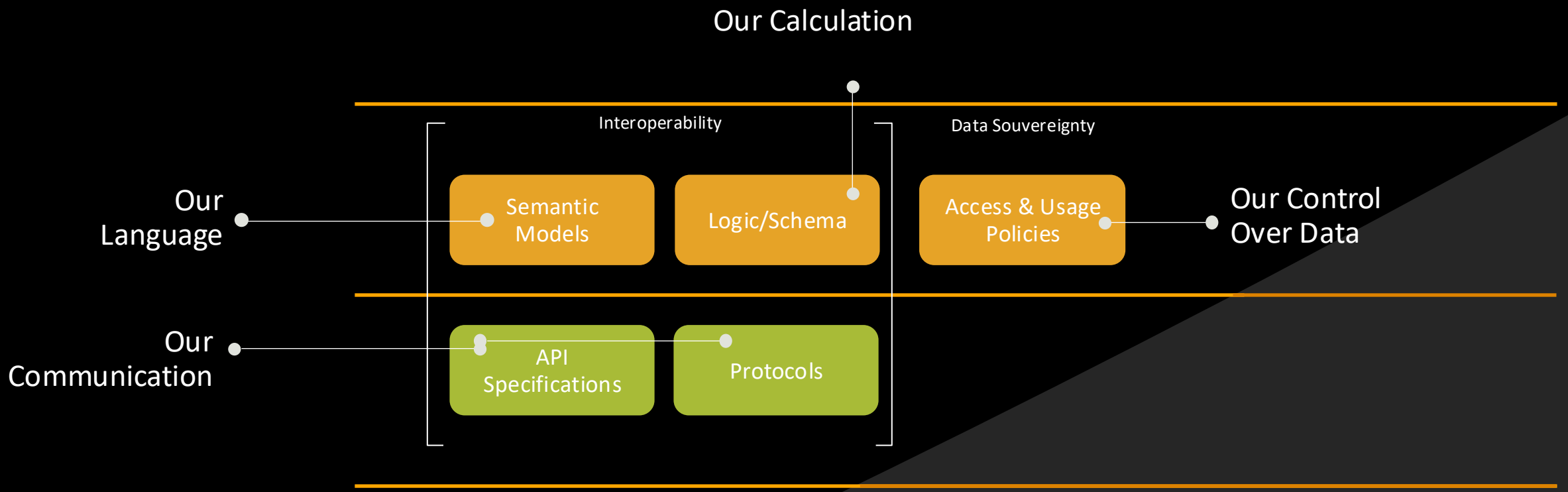
What keeps it (us) together?



The minimal setup for a data driven value chain

ADOPTER

- Connect to the Catena-X data space
- Boost your data readiness and governance
- Provide and consume data
- Be part of the community
- Adopt data-driven business processes

SOLUTION PROVIDER

- Create interoperable solutions
- Profit from developer resources
- Accelerate development with open source
- Be inspired by innovative solutions

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.

We’re on it! (CX)

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Traceability KIT

Vision/Mission

Business Value(s)

Tutorials/ Videos

Whitepaper (e.g., Context)

Semantic Models

- BoM as planned
- BoM as built

Access & Usage Policies

- BPN Access Policy
- Purpose-based Usage Policy

API Specifications

- Notification API

Sample Data

- As Planned Submodels Sample Data
- As Built Submodels Sample Data

Reference Implementation

- Trace-X App
- Simple Data Exchange App

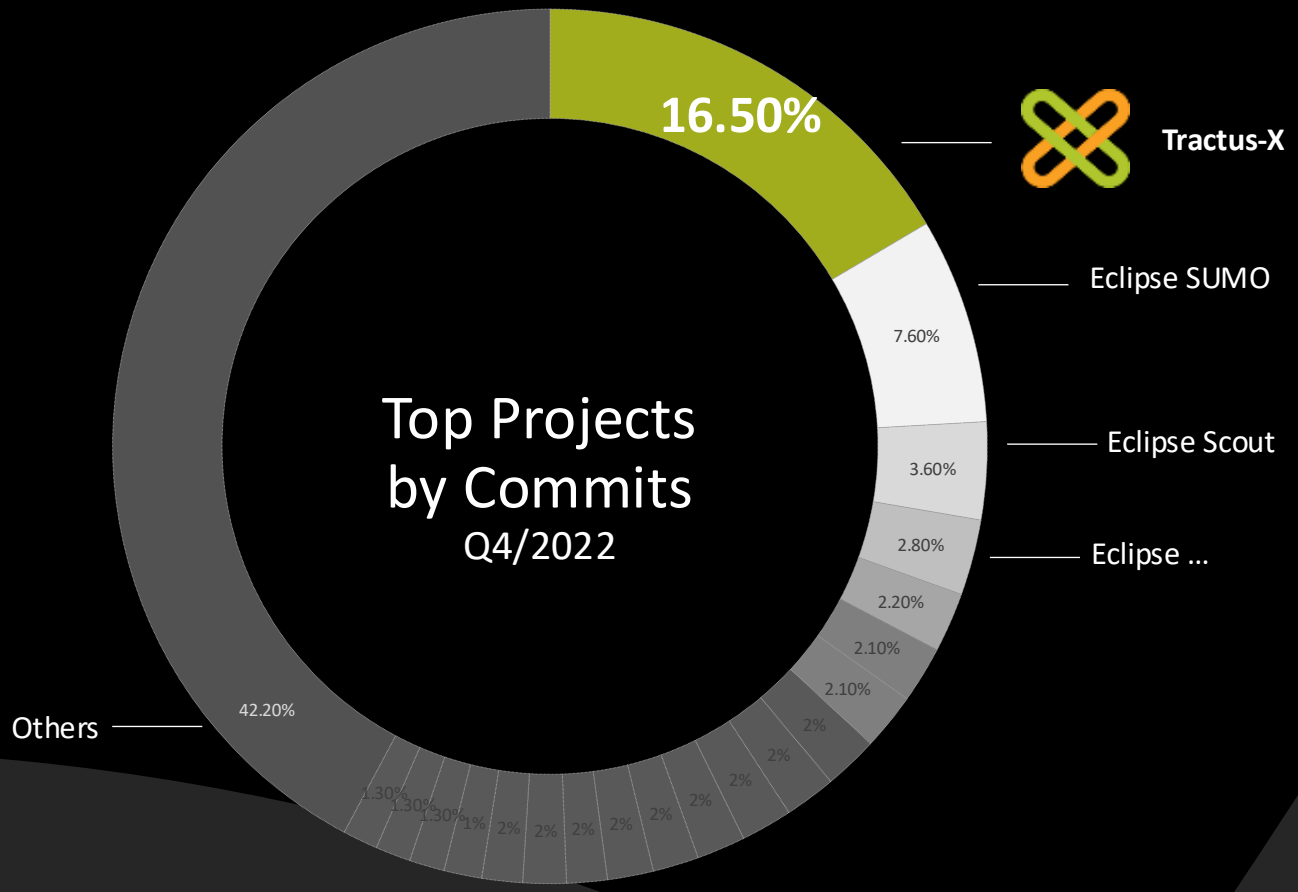
Architecture

- Building Block Architecture

Quick Setup Guide

Deployment Scripts

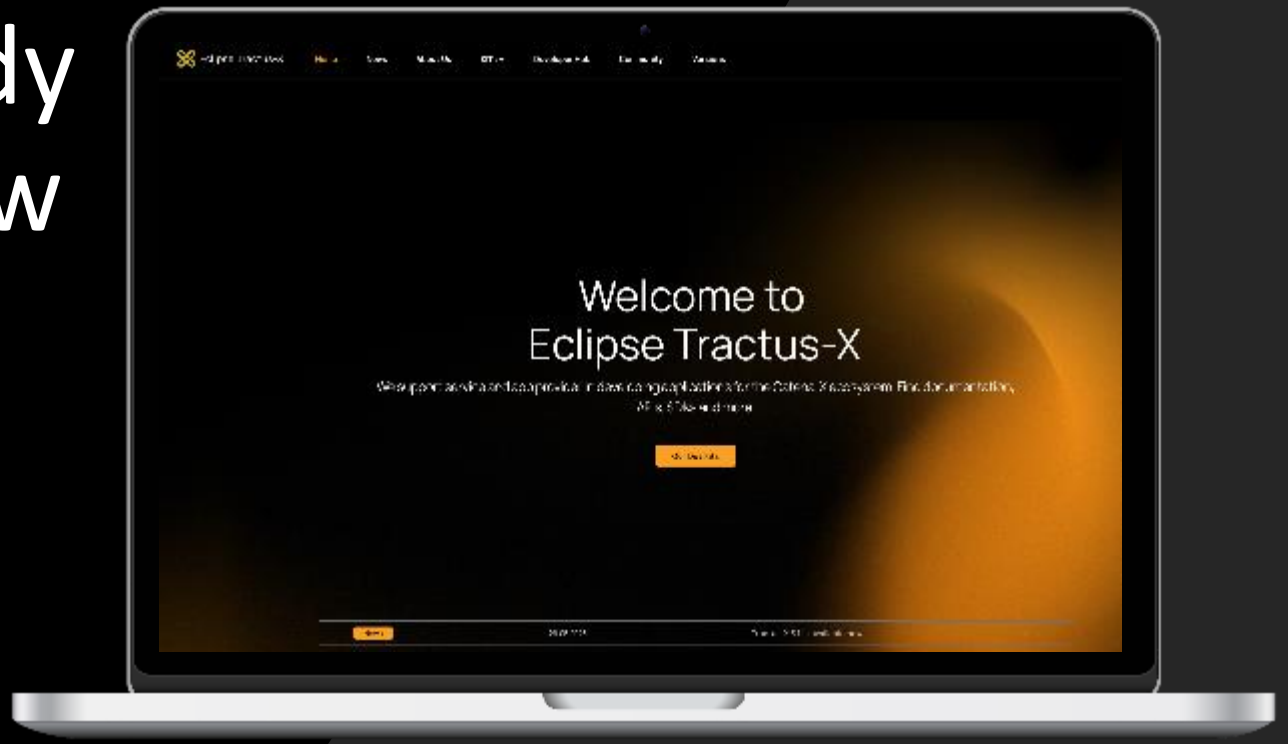
What we achieved so far?



ECLIPSE® FOUNDATION

What we achieved so far?

4 KITS already available now



And there is a lot more to come..

Catena-X KITs offering in 2023

Why are KITs so important?

INNOVATION

Kits are part of the Eclipse project Tractus-X, which is open for use and collaboration within a community of developers.

Let´s share ideas and expertise!

TRANSPARENCY & SECRUTIY

Mutually developed standards and artifacts foster trust and collaboration governed by the association.

We share the same interests.

ECOSYSTEM

Kits development is the foundation for further use cases, business applications, and services.

Collaborate & create partnerships!