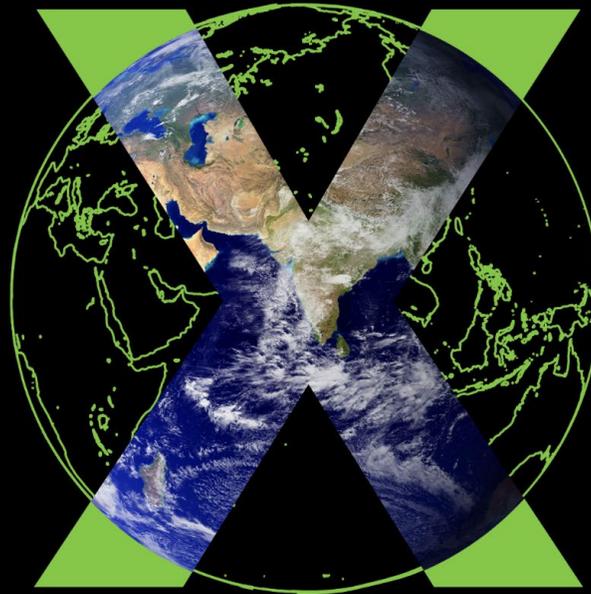


Navigating Data Spaces: Technology & Governance



Thursday 23 November 2023

#dataspaces

www.gaiax.fi

HOUSEKEEPING

- If you are **not** presenting, please **turn off your camera** and **mute your microphone**.
- **Please, raise your hand** if you have a comment or a question, they will be addressed in the Q&A. You can also ask questions or share your comments via chat.
- Sit back and **enjoy** – lovely to have you here!



Programme

13-15 EET
(12-14 CET)

13:00

Welcome

Antti 'Jogi' Poikola, Senior Lead, Gaia-X Finland, Sitra

Towards a Holistic EU Data Governance

Oliver Dion, Co-founder, Onecub and aNewGovernance

Operationalising a data space: Case Catena-X

Matthias Buchhorn-Roth, Operationalising the automotive data space for Catena-X, Cofinity-X

Governance and Technology together

Antti 'Jogi' Poikola, Senior Lead, Gaia-X Finland, Sitra

Oliver Dion, Co-founder, Onecub and aNewGovernance

Matthias Buchhorn-Roth, Cofinity-X

Questions & Answers

Event ends



Antti Poikola

Senior Lead,
Gaia-X Finland,
Sitra



Olivier Dion

Co-founder,
Onecub and
aNewGovernance



**Matthias
Buchhorn-Roth**

Operationalising
the automotive
data space for
Catena-X,
Cofinity-X



Navigating Data Spaces – Governance and Technology

Antti 'Jogi' Poikola

Lead Architect

antti.poikola@sitra.fi

 [linkedin.com/in/poikola](https://www.linkedin.com/in/poikola)

Slides: <https://bit.ly/ds-gov-tech>

SITRA

How to
create **governance
framework** for our
data space?



Beata
Chief Executive
Officer



Leo
Chief Legal
Officer

How to set up
the **technical
infrastructures** for
our data space?

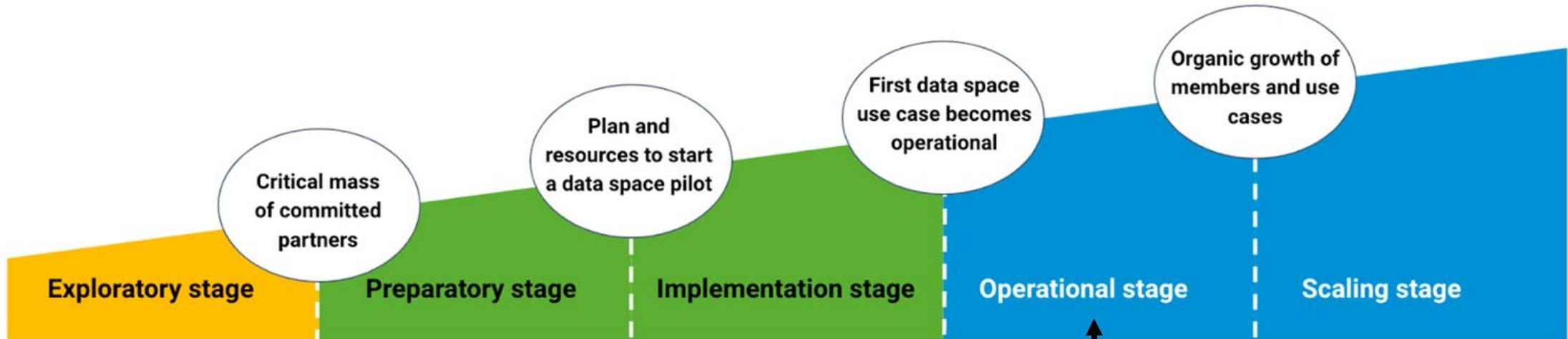


Tessa
Chief Technical
Officer



Oscar
Chief Operating
Officer

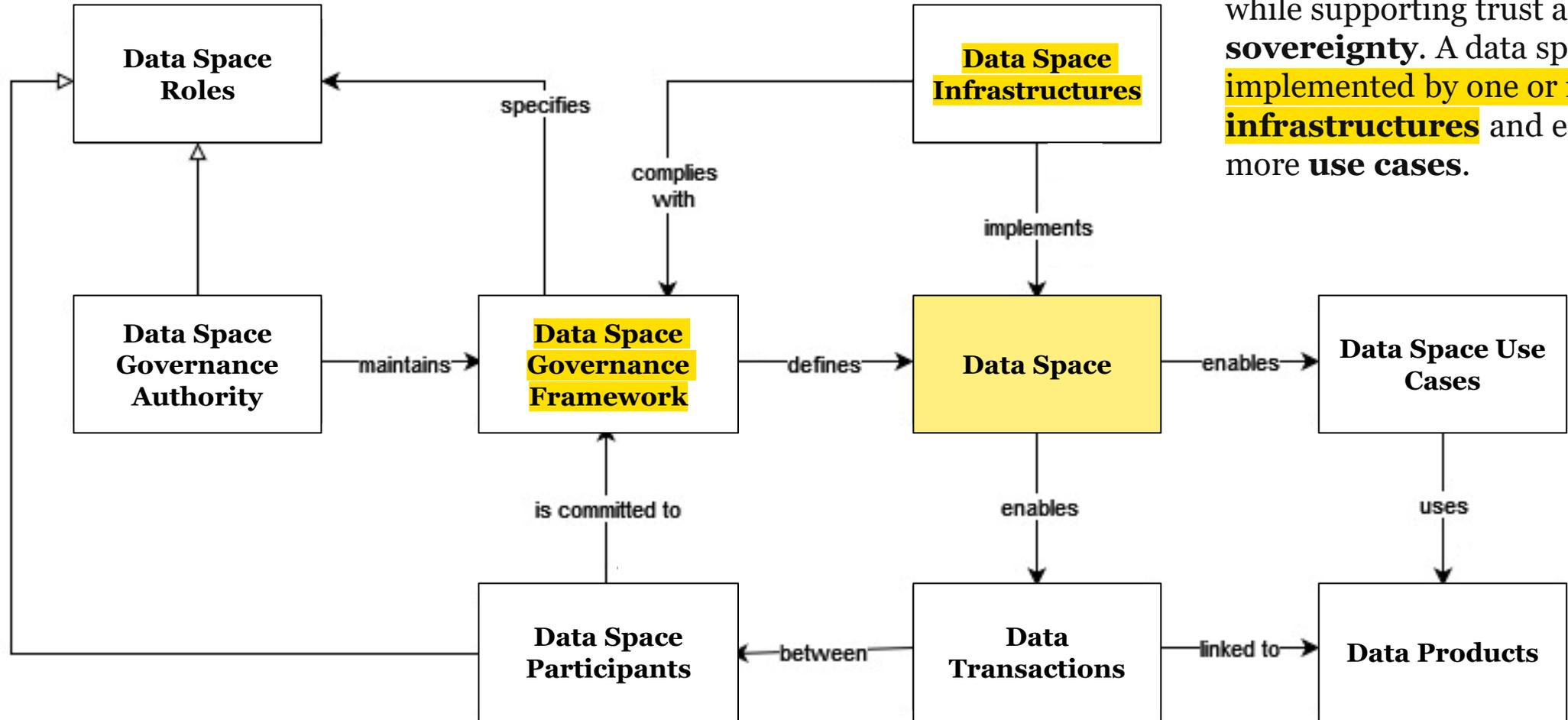
Jobs of Thessa and Leo



The **development stage** that starts when a **data space initiative** has a tested implementation of **infrastructure(s)** and **governance framework**, and the first **use case** becomes operational (data flowing between **data providers** and **data recipients** and use case providing the intended value).

Data Space

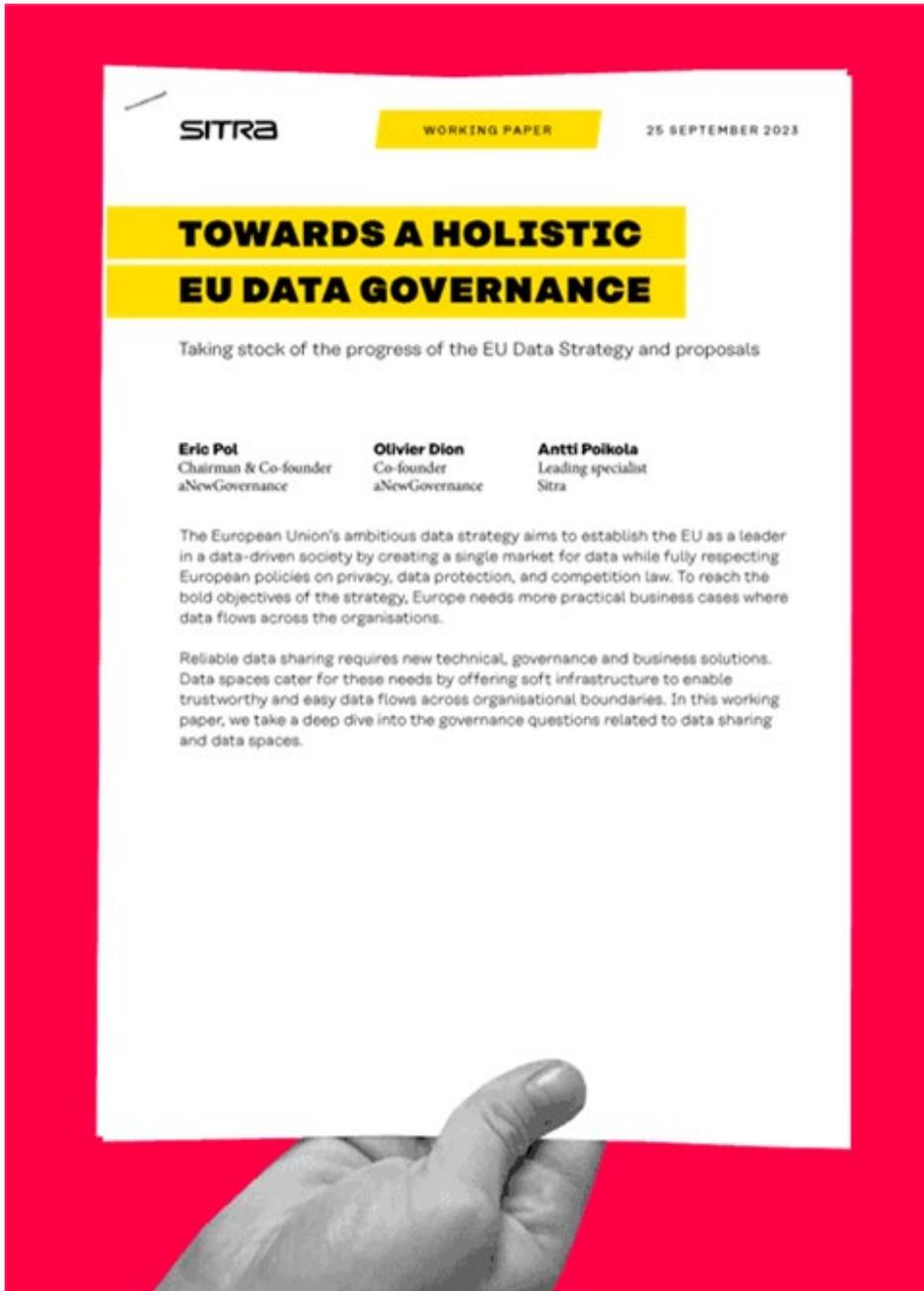
A distributed system defined by a **governance framework** that enables secure and trustworthy **data transactions** between **participants** while supporting trust and **data sovereignty**. A data space is **implemented by one or more infrastructures** and enables one or more **use cases**.



Source: [Conceptual Model of Data Spaces](#)

Data Space Rulebook and Infrastructure

Data space governance framework	The set of principles, standards, policies (rules/regulations), agreements and practices that apply to the governance, management, and operations (including business and technology aspects) of a data space as well as to the enforcement thereof, and the resolution of any conflicts.
Data space rulebook	The documentation of the data space governance framework for operational use. The rulebook can be expressed in human-readable and machine-readable formats.
Data space infrastructure	A technical, legal, procedural and organisational set of components and services that together enable actual data transactions to be performed in the context of one or more data spaces .



<https://www.sitra.fi/en/publications/technology-landscape-of-data-spaces>



<https://www.sitra.fi/en/publications/towards-a-holistic-eu-data-governance>

TOWARDS A HOLISTIC EU DATA GOVERNANCE

Taking stock of the progress of the EU Data Strategy and proposals

Eric Pol
Chairman & Co-founder
aNewGovernance

Olivier Dion
Co-founder
aNewGovernance

Antti Poikola
Leading specialist
Sitra

The European Union's ambitious data strategy aims to establish the EU as a leader in a data-driven society by creating a single market for data while fully respecting European policies on privacy, data protection, and competition law. To reach the bold objectives of the strategy, Europe needs more practical business cases where data flows across the organisations.

Reliable data sharing requires new technical, governance and business solutions. Data spaces cater for these needs by offering soft infrastructure to enable trustworthy and easy data flows across organisational boundaries. In this working paper, we take a deep dive into the governance questions related to data sharing and data spaces.

Rules for data sharing will be developed on many levels at the same time

New EU data laws

Regulatory framework for data sharing

EU level bodies

How to ensure that data sharing governance will deliver the expected results?

Member states

How to implement data sharing governance on a national level?

Data space initiatives

How to specify a governance model for a data space?

TOWARDS A HOLISTIC EU DATA GOVERNANCE

Taking stock of the progress of the EU Data Strategy and proposals

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European level recommendations

Policy recommendation 1: rolebook

Policy recommendation 2: Regulators' super club

Policy recommendation 3: EU-level data governance forum

Policy recommendation 4: Regulatory dependency mapping

Member state level recommendations

Policy recommendation 5: National legislative coordination

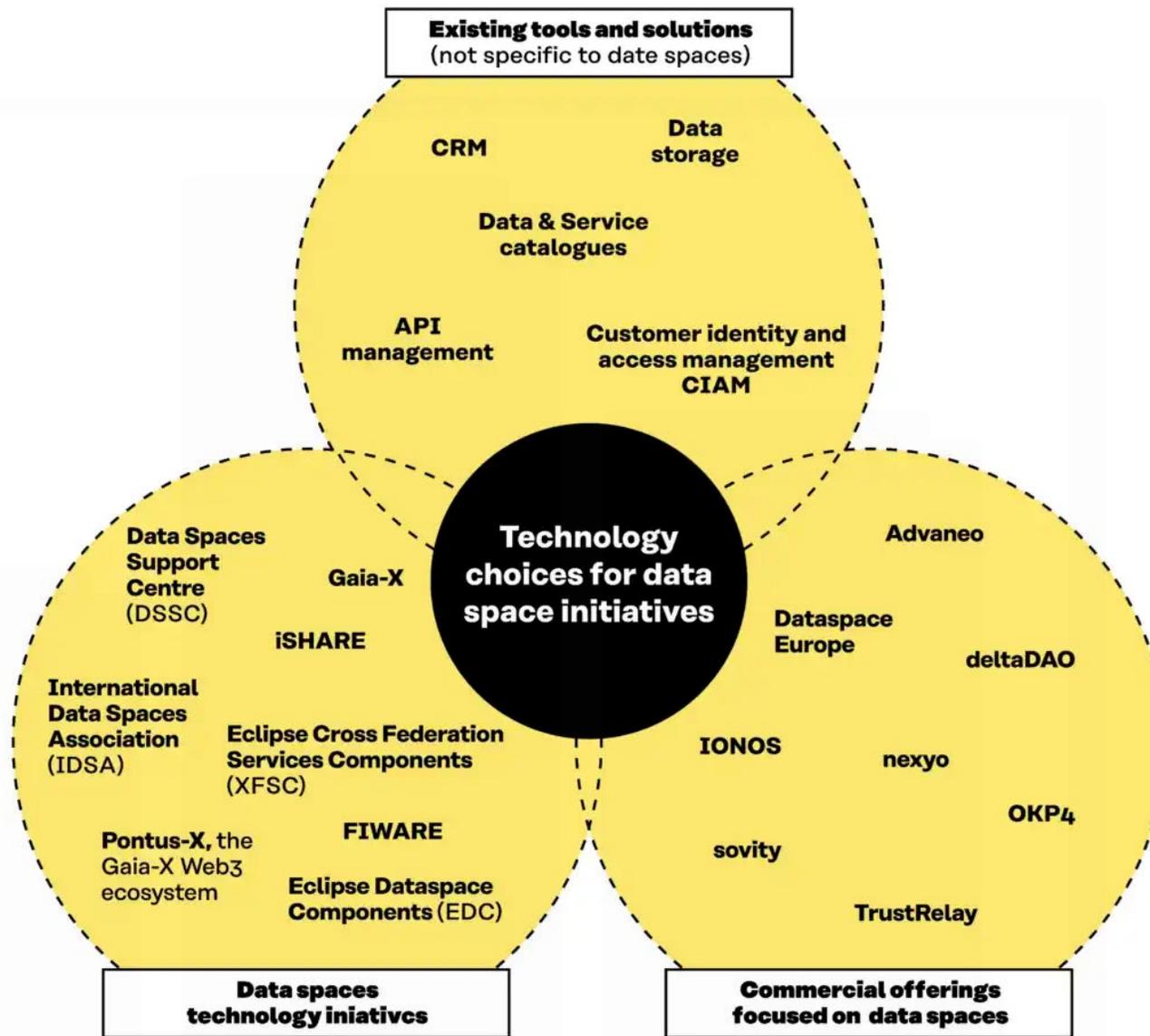
Policy recommendation 6: Strengthen dialogue

Policy recommendation 7: National data space hubs

Data space level recommendations

Policy recommendation 8: Data space rulebooks

Policy recommendation 9: Common terminology



THE TECHNOLOGY LANDSCAPE OF DATA SPACES

Antti Poikola
Leading Specialist
Sitra

P J Laszkowicz
Advisor
Futarice

Ville Takanen
Head of Tech Advisory
Futarice

Teemu Toivonen
Principal Consultant Data & AI
Futarice

Data spaces are soft digital infrastructures that enable reliable and easy data sharing across organisational boundaries. In this emerging domain implementation technologies and architectures are evolving rapidly. This working paper provides a snapshot of the fast-moving technology landscape and recommendations to support data space builders. There are three main directions that data space builders can look to when making technology choices: existing tools and solutions (not specific to data spaces), data space technology initiatives, and commercial offerings focused on data spaces. It is recommended that data space builders test initial use cases with existing mature tools before committing to data space-specific solutions. However, working closely with one or more data space technology initiatives will allow the data space builder to better understand the development of the domain.

Recommendation 1: Support actors with multiple roles in data spaces

Recommendation 2: Test business cases against existing mature solutions

Recommendation 3: Monitor the market and provide feedback

Recommendation 4: Pay attention to user experience



Thank you!

Antti 'Jogi' Poikola

Lead Architect

antti.poikola@sitra.fi

Twitter: [@apoikola](https://twitter.com/apoikola)

Why should **you** care?

Data spaces solve systemic challenges that go beyond a single company

- ✓ Build international competitiveness
- ✓ Digitalisation of the value & supply chain
- ✓ Meet Environment, Social, and Governance (ESG) requirements
- ✓ Reduce the cost of compliance

DATA
FEST
IVAL
2024

April 2024 in Helsinki

Show, tell, and learn about business models, technologies & regulations for data spaces and data economy

Sign up [here](#)

SITRA



**RISE TO
SHINE!**





aNewGovernance

SITRA

Recommendations for a holistic data governance

Olivier Dion
aNewGovernance &
Onecub

regulation | innovation

why balance is key



create digital ecosystems that users never need to leave.

Apple and Google target digital ID market. To access sensitive services like banking and healthcare seamlessly.

Decentralisation through 3 governance levels

The EU Data Governance Pyramid

Rules for data sharing will be developed on many levels at the same time

New EU data laws

Regulatory framework for data sharing



EU level bodies

How to ensure that data sharing governance will deliver the expected results?

Member states

How to implement data sharing governance on a national level?

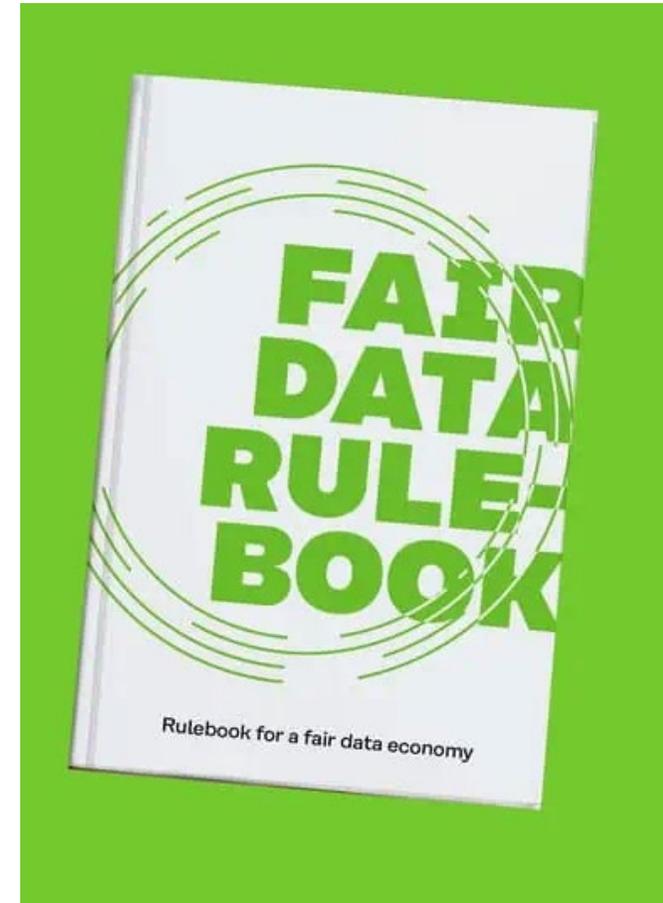
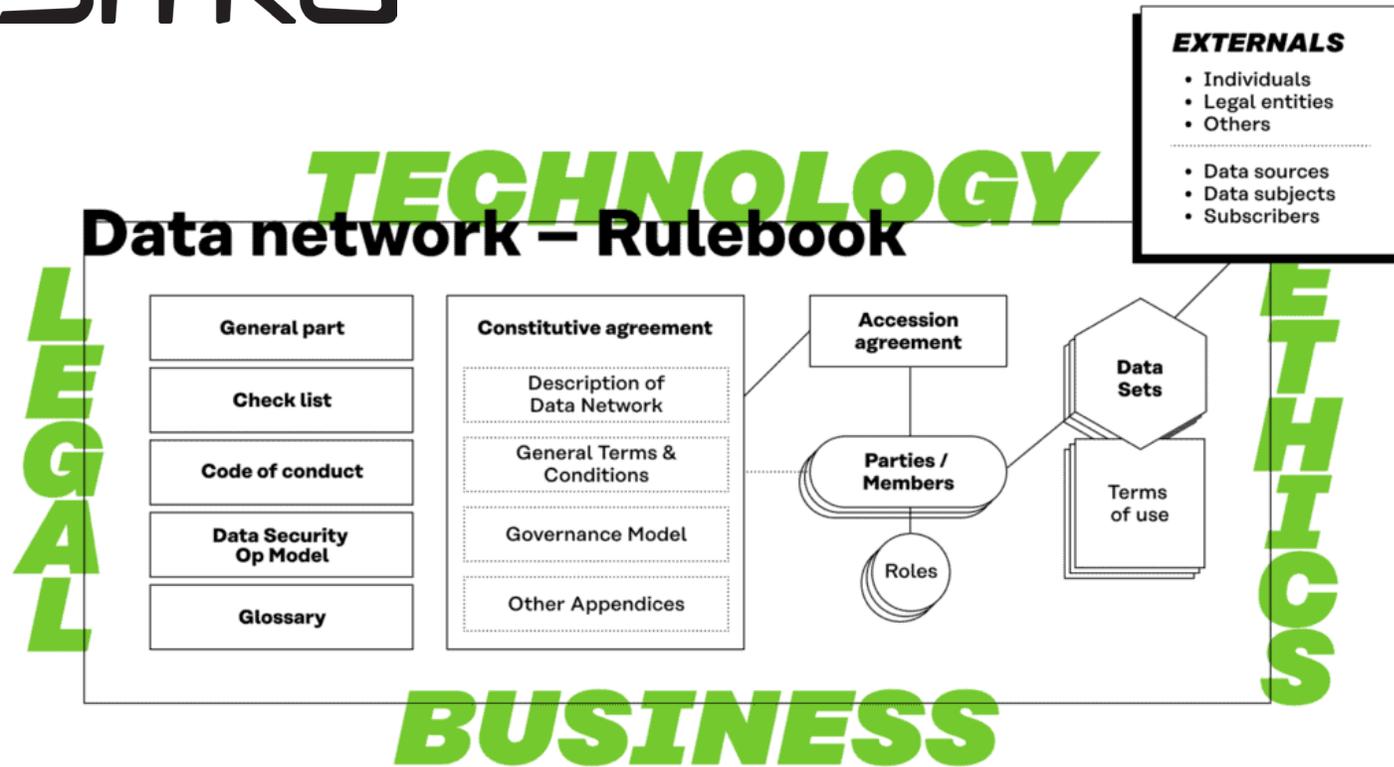
Data space initiatives

How to specify a governance model for a data space?

How is
a Data Space
governed?

The Data Spaces Rulebooks

SITRA



What kind of
rules in a Rulebook?

Hard and Soft Law

EU Regulations	MS regulations	Technological standards	Sectoral standards	Internal business rules	Etc.
GDPR	Cloud	Gaia-X	Sectoral	Local business	
DGA / DA	Data	IDSA	guidelines and	agreements	
DMA / DSA	AI	FIWARE	code of conduct	between Data Space	
AI Act	Sectoral	eIDAS		members	
IE Act	regulations	SOLID			
EHDS					

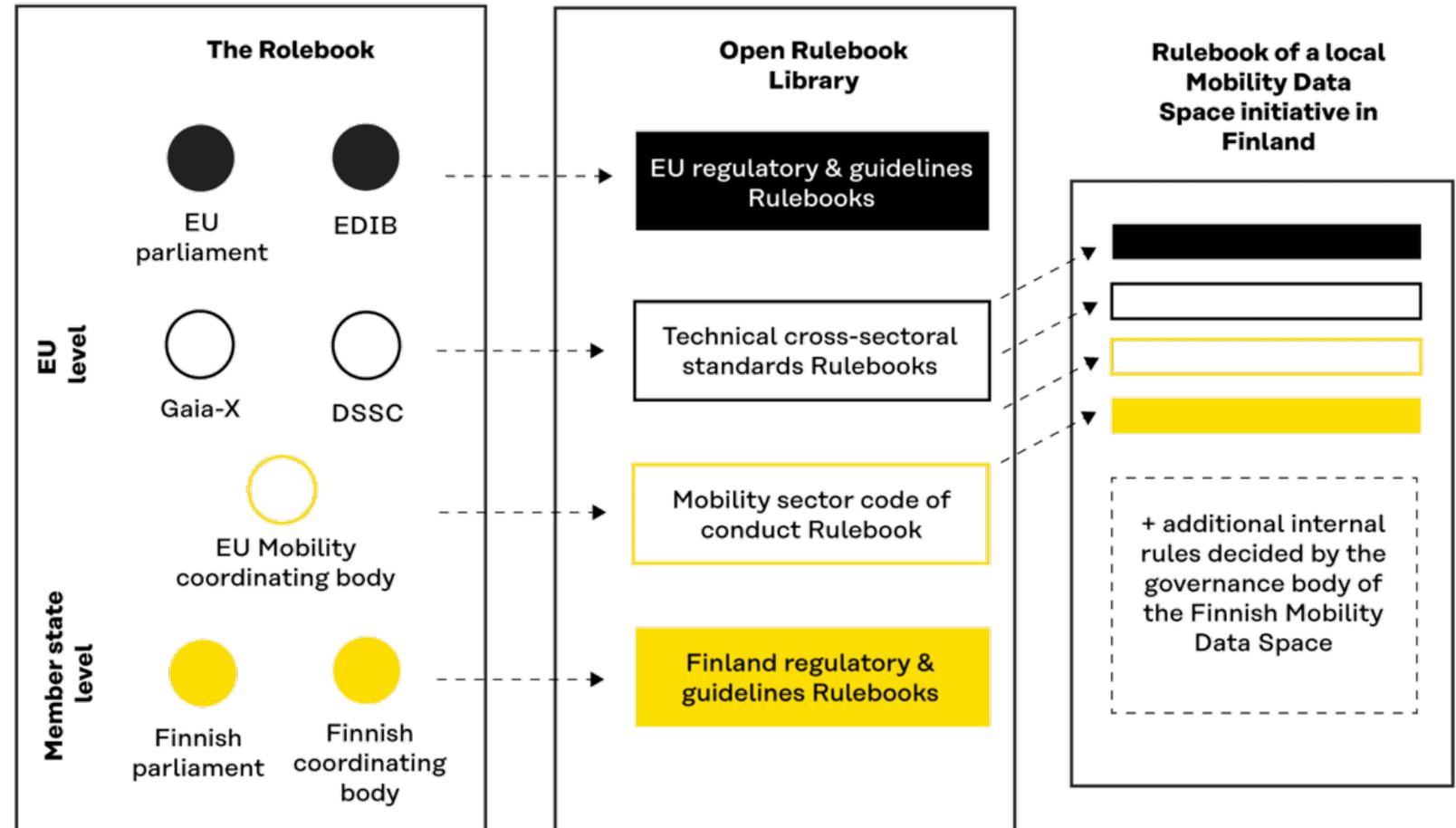
How to know
who decides for what?

The data-sharing Rolebook

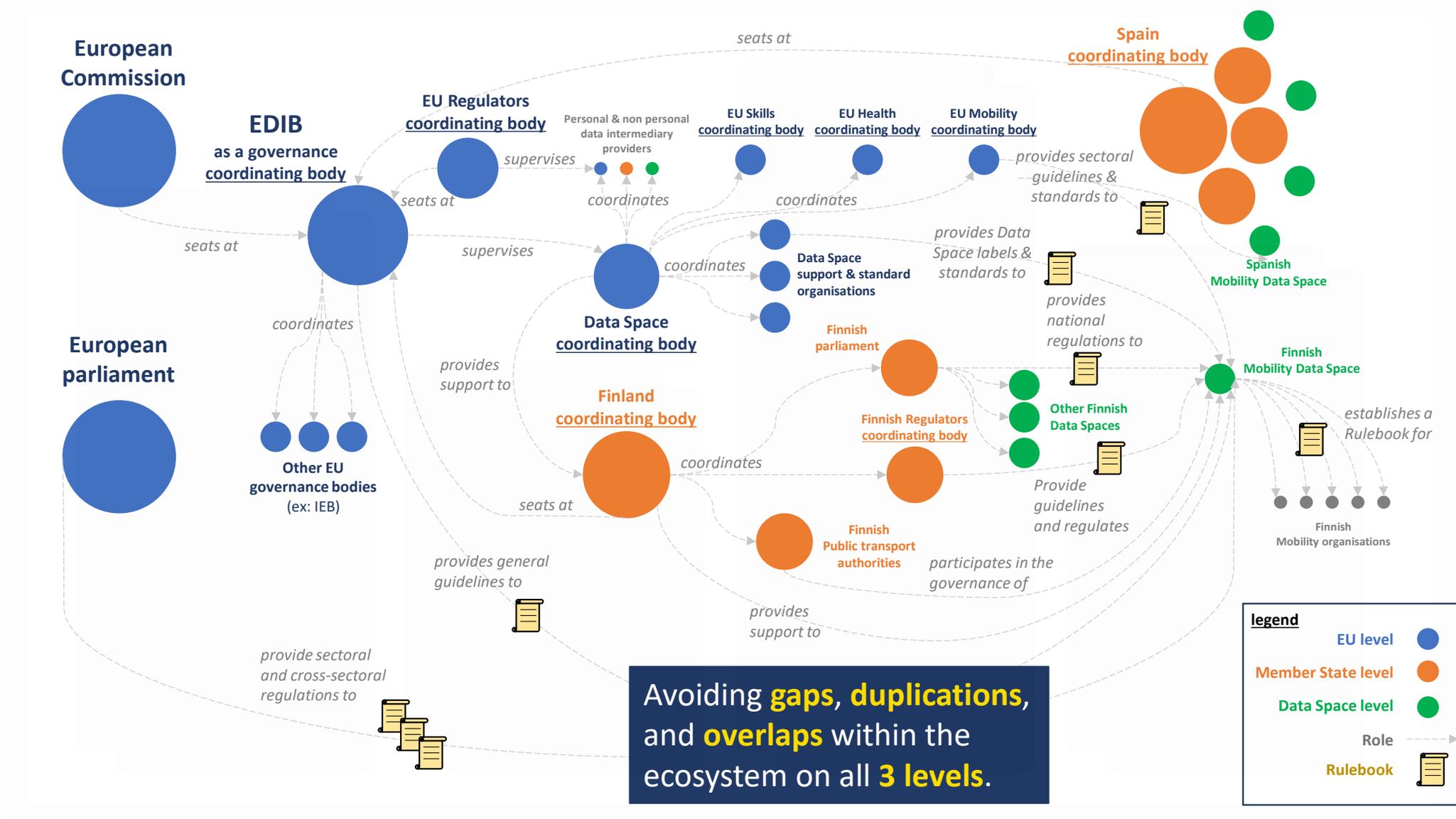
DEFINITION

The Rolebook is an **open, transparent, and dynamic registry** of roles and bodies involved in data sharing.

The Rolebook would comprehensively document **'Who does what'** and **'Who decides what'** and establish an interconnected network of data-sharing decision-making entities.



A Rolebook x Rulebooks network



Key recommendations by governance level

EU level

Challenge: Many stakeholders at the European level and in the member states, and also within the data space initiatives **struggle to understand the roles and responsibilities of all the different bodies involved in EU data governance** now and in the future.

Policy recommendation: Create a Rolebook

Member State

Challenge: Member states are **under intense pressure to implement all the regulations of the EU data and digital strategies**. If member state authorities do not coordinate the division of responsibilities and tasks, there is a risk of fragmented and sub-optimal results.

Policy recommendation: National legislative coordination

Data Spaces

Challenge: Data space initiatives **struggle to create internal governance and rulebooks.**

Policy recommendation: Data space rulebooks & universal rule language



aNewGovernance

Olivier Dion
Cofounder
aNewGovernance & Onecub

olivier@onecub.fr
+33 6 73 42 80 18

Internationalization

Catena-X connects the world. We've already got Europe covered. And we're busy working to include America, China, and the rest of the world in our network. Radical collaboration has no borders!

Operating Environment

Operating companies are the foundation of our network, and the first one is up and running. Milestone? Check. But we want more, and there will be other operating companies coming.

We're live!

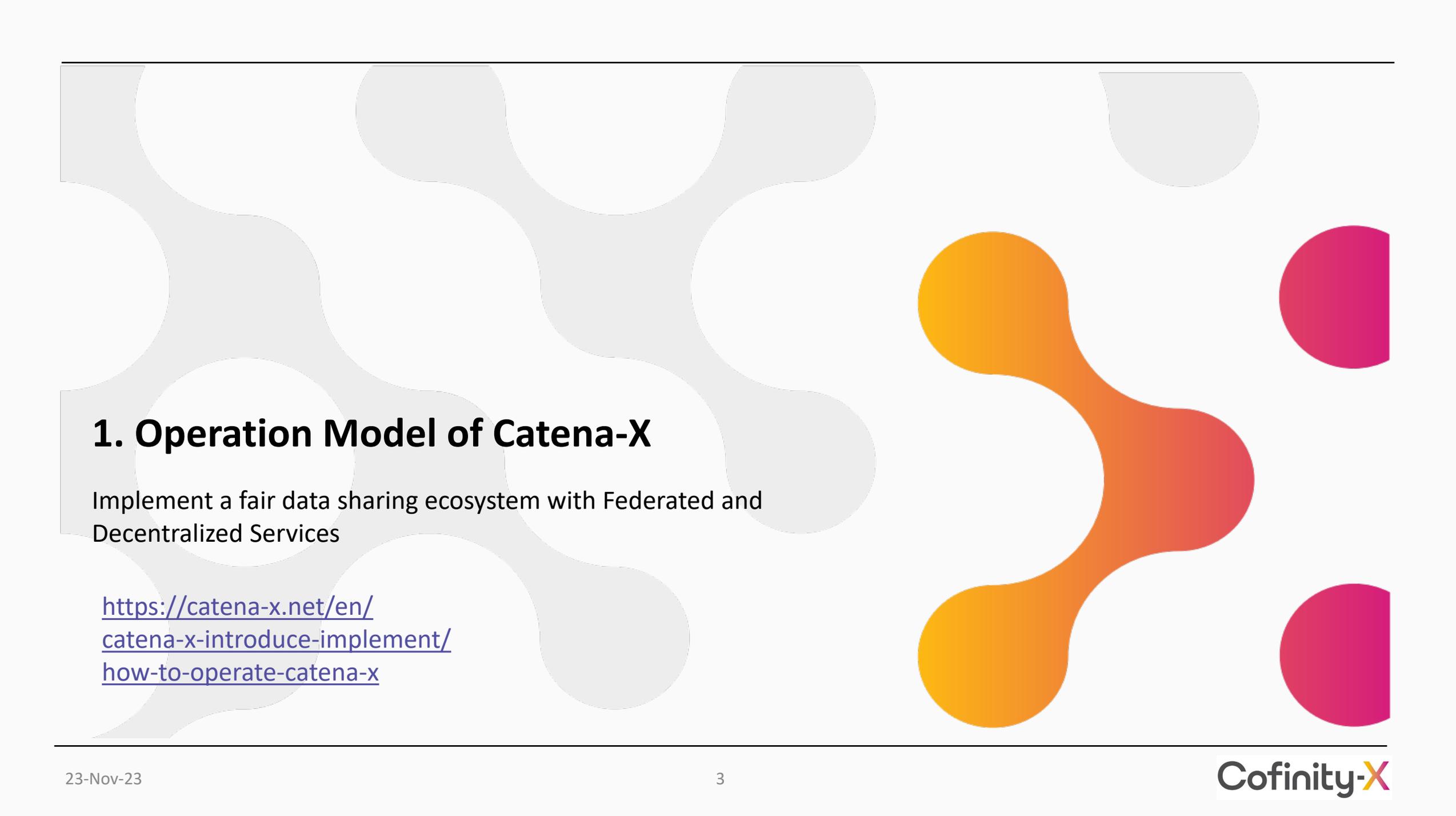
Our vision is becoming reality:
We're live!
But we're not standing still –
the next features are already
in the pipeline.

Co-creation

Our Association partners as well as the open-source community are divers and are co-creating our network. We've already established several expert groups that are continuing to develop the Catena-X Core, Standards, and Use Cases. Join us to contribute your know-how and make it better for all of us!

Open-Source

Our open-source Tractus-X community is growing steadily. And you're invited to join our Open-Source Planning Sessions.



1. Operation Model of Catena-X

Implement a fair data sharing ecosystem with Federated and Decentralized Services

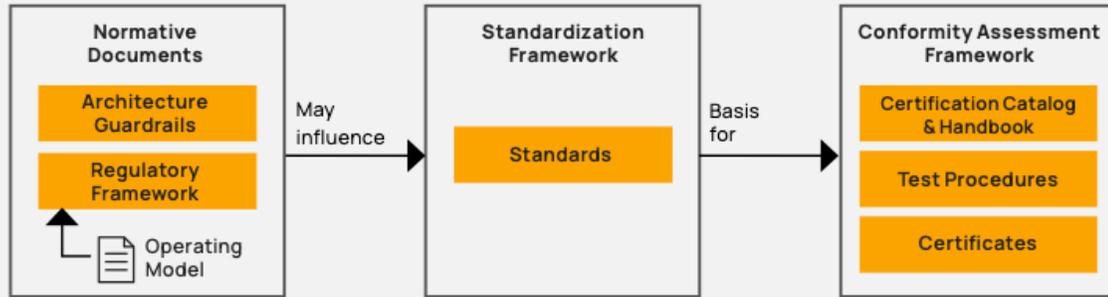
[https://catena-x.net/en/
catena-x-introduce-implement/
how-to-operate-catena-x](https://catena-x.net/en/catena-x-introduce-implement/how-to-operate-catena-x)



Catena-X e.V.

promotes, coordinates, & manages

Data Space Governance



Life Cycle Management
Ensuring compatibility & applicability

Development Environment

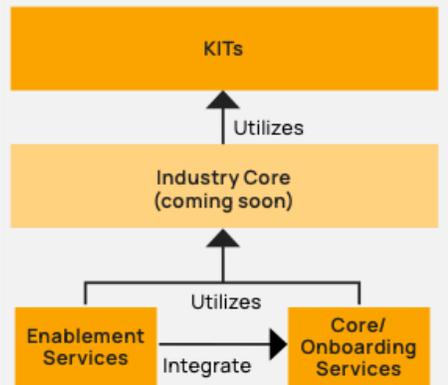


Eclipse Tractus-X Project

Enables open collaboration & development

Data Space Operating System & Building Blocks

100% OSS



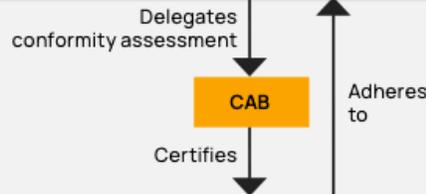
Operating Environment



The different roles offer:

- Core Services (A/B)
- Onboarding Services
- Commercial Business Applications
- Enablement Services
- Advisory Services

Based on, use
Industrializes, operates, services



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) ...

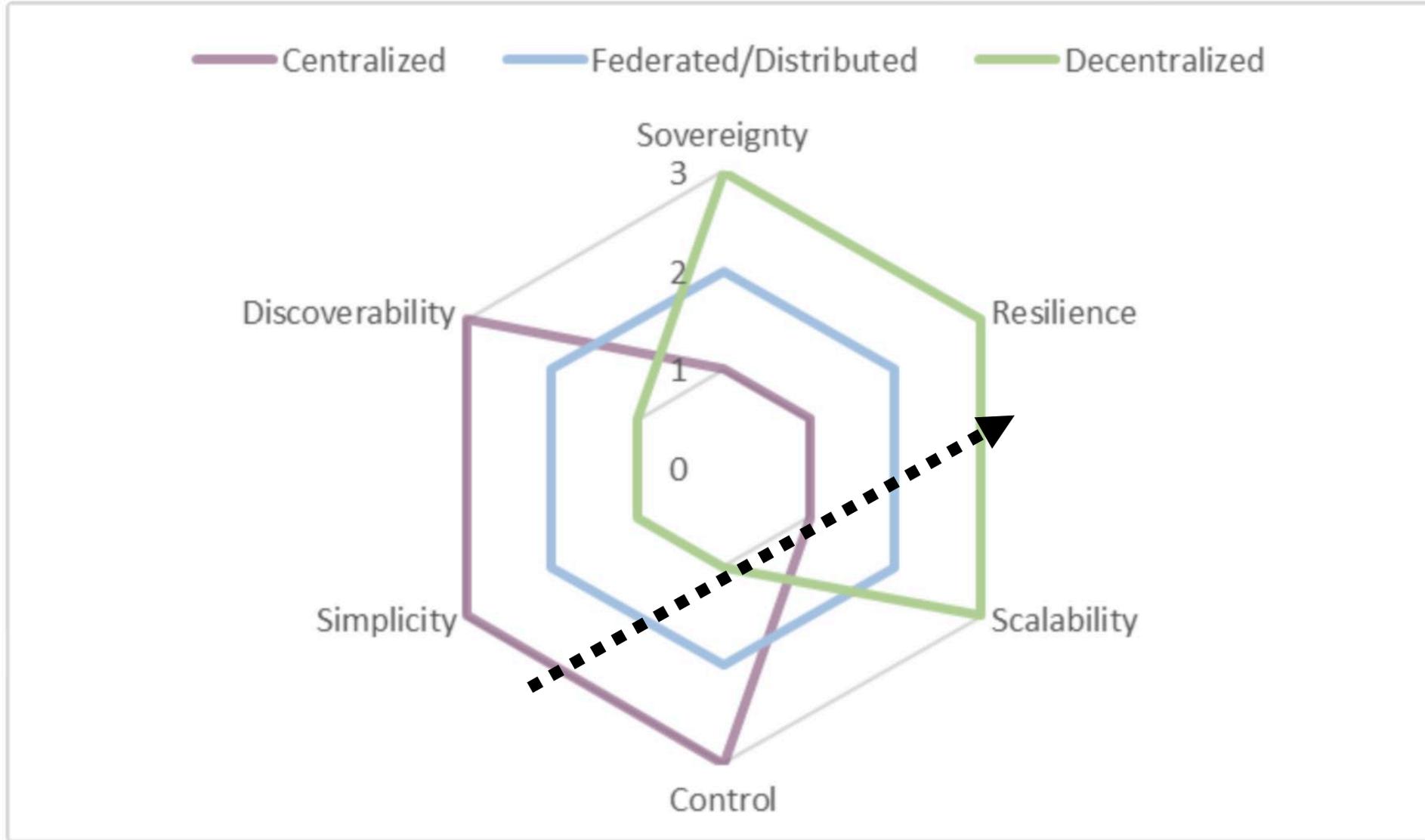
Use, integrate, adapt

Feedback, shape

The Catena-X Data Space

- [Eclipse Dataspace Components](#)
- [Eclipse Tractus-X](#)
- [Eclipse Dataspace WG](#)

Catena-X
data space
is evolving



Service Map (Deployment View)

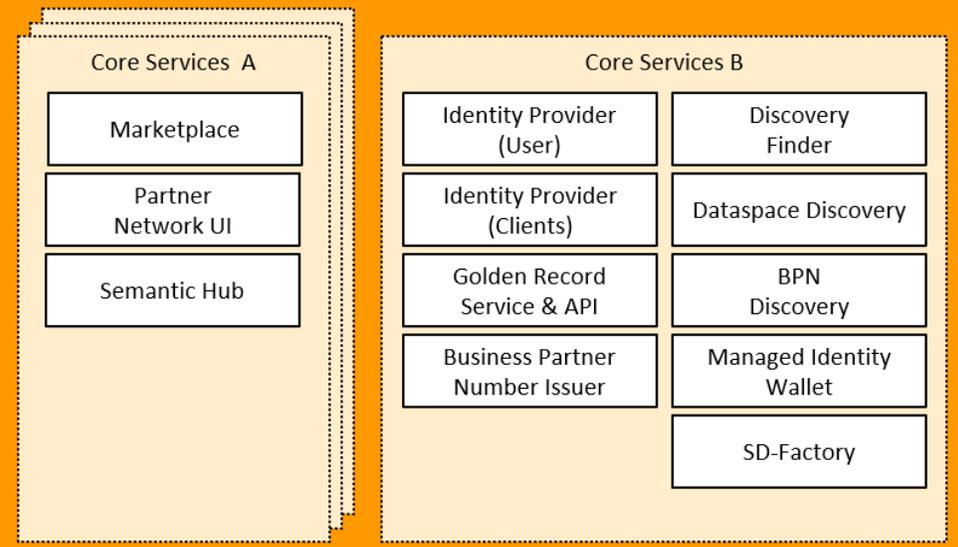
Use Cases



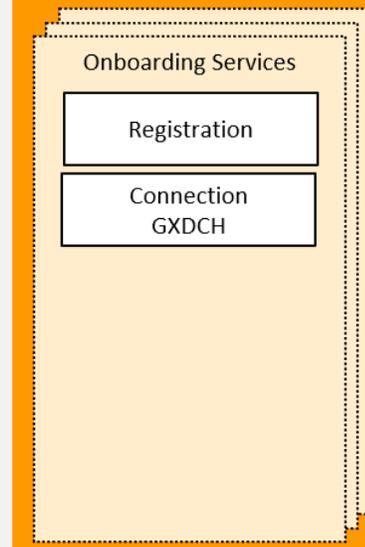
Catena-X Operating System (cxOS)

KITs

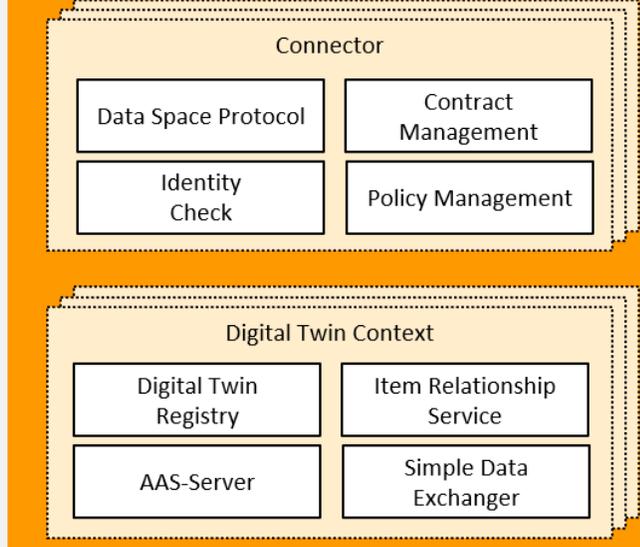
Core Services



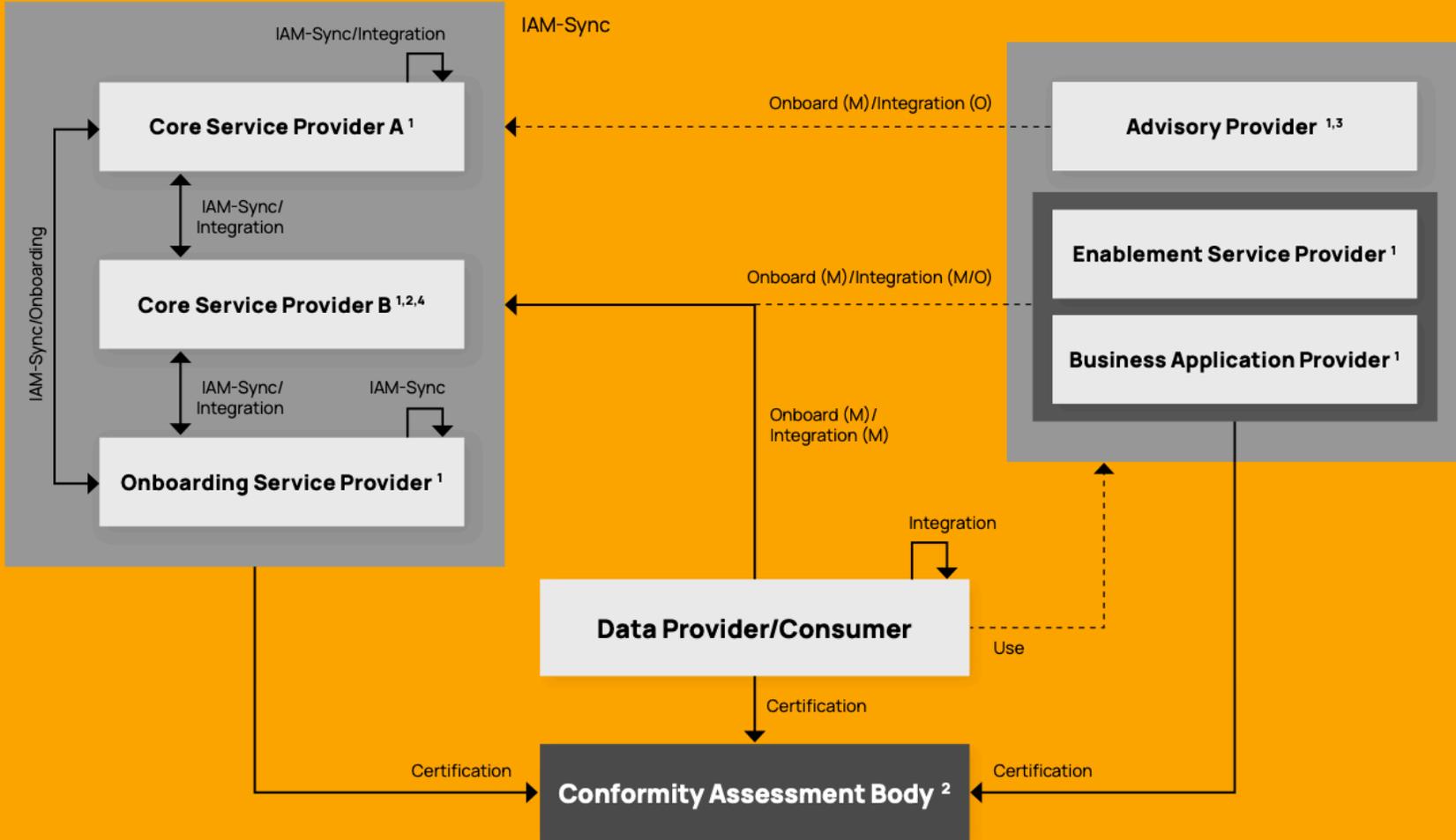
Onboarding Services



Enablement Services



Catena-X Association



- 1 Receives Catena-X label after certification
- 2 Nominated by Catena-X Association
- 3 Qualification by Catena-X Association
- 4 Issuer defined by Catena-X Association

-----> Optional —————> Mandatory

Roles Responsibilities Relationships

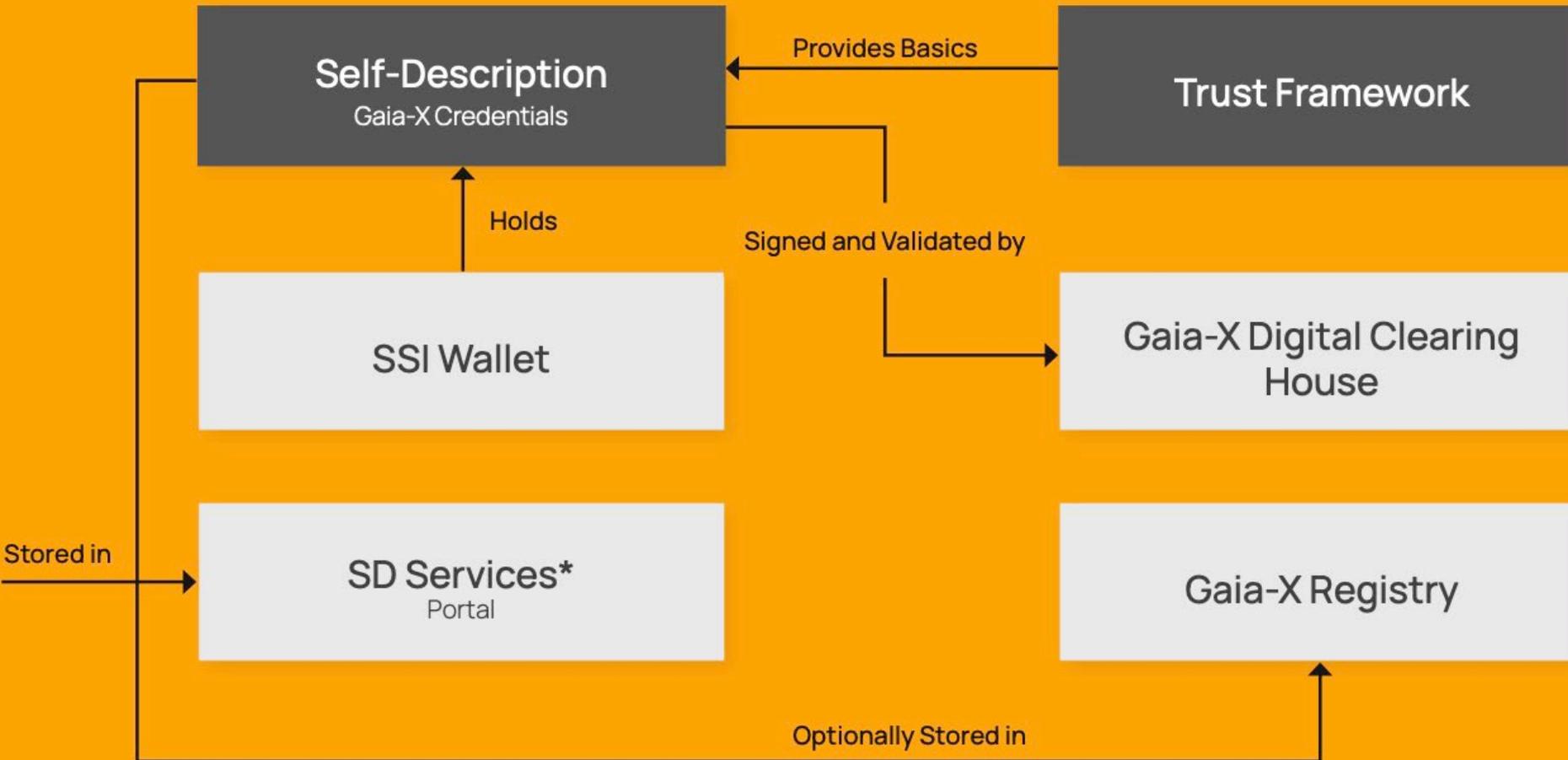
2. Dataspace Governance

GAIA-X Trust Framework and Digital Clearing House

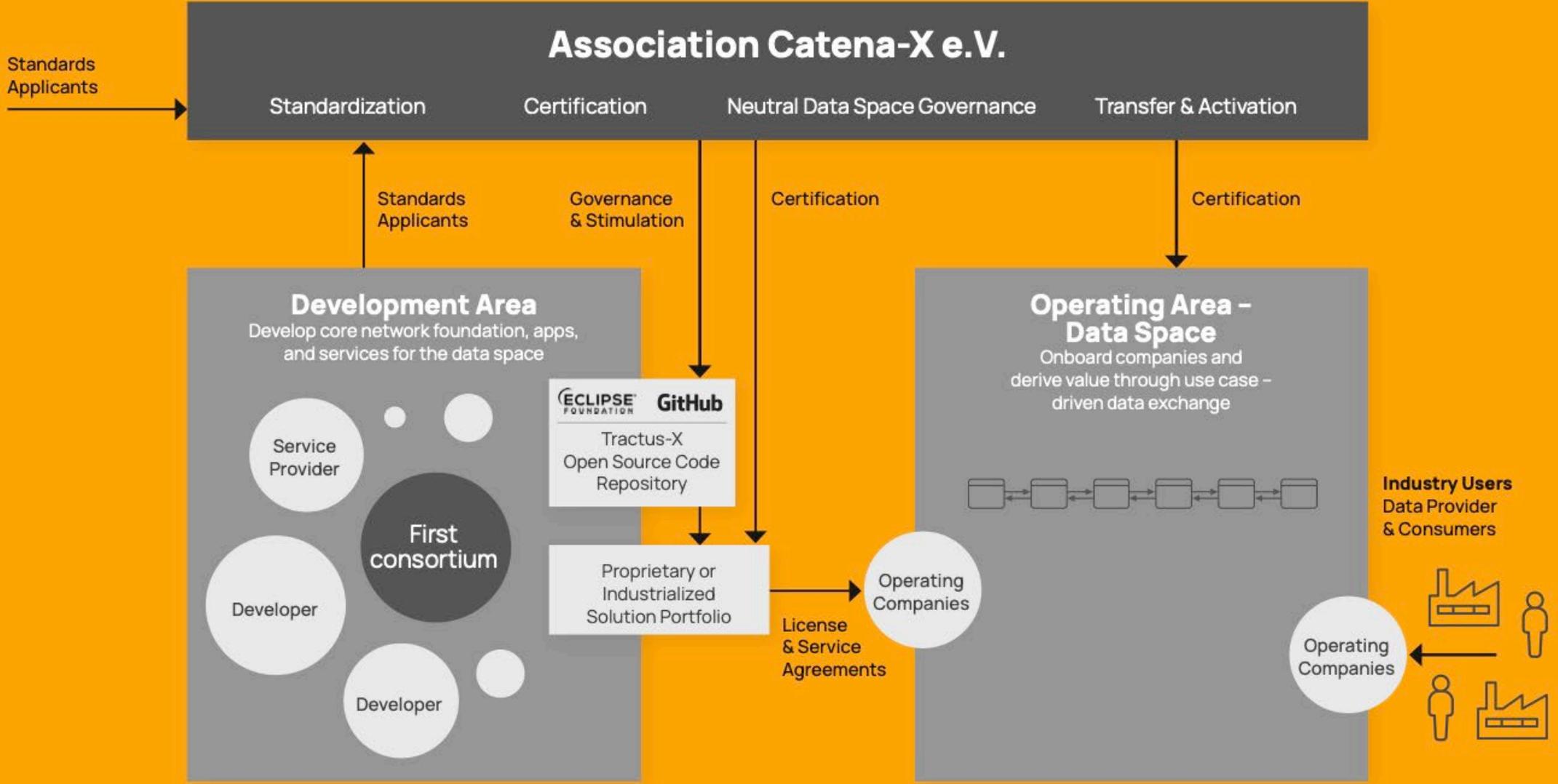
https://catena-x.net/fileadmin/online_media/231006_Whitepaper_DataSpaceGovernance.pdf



Catena-X and Gaia-X components and their interplay



*Company Registration Service and Connector Administration Service

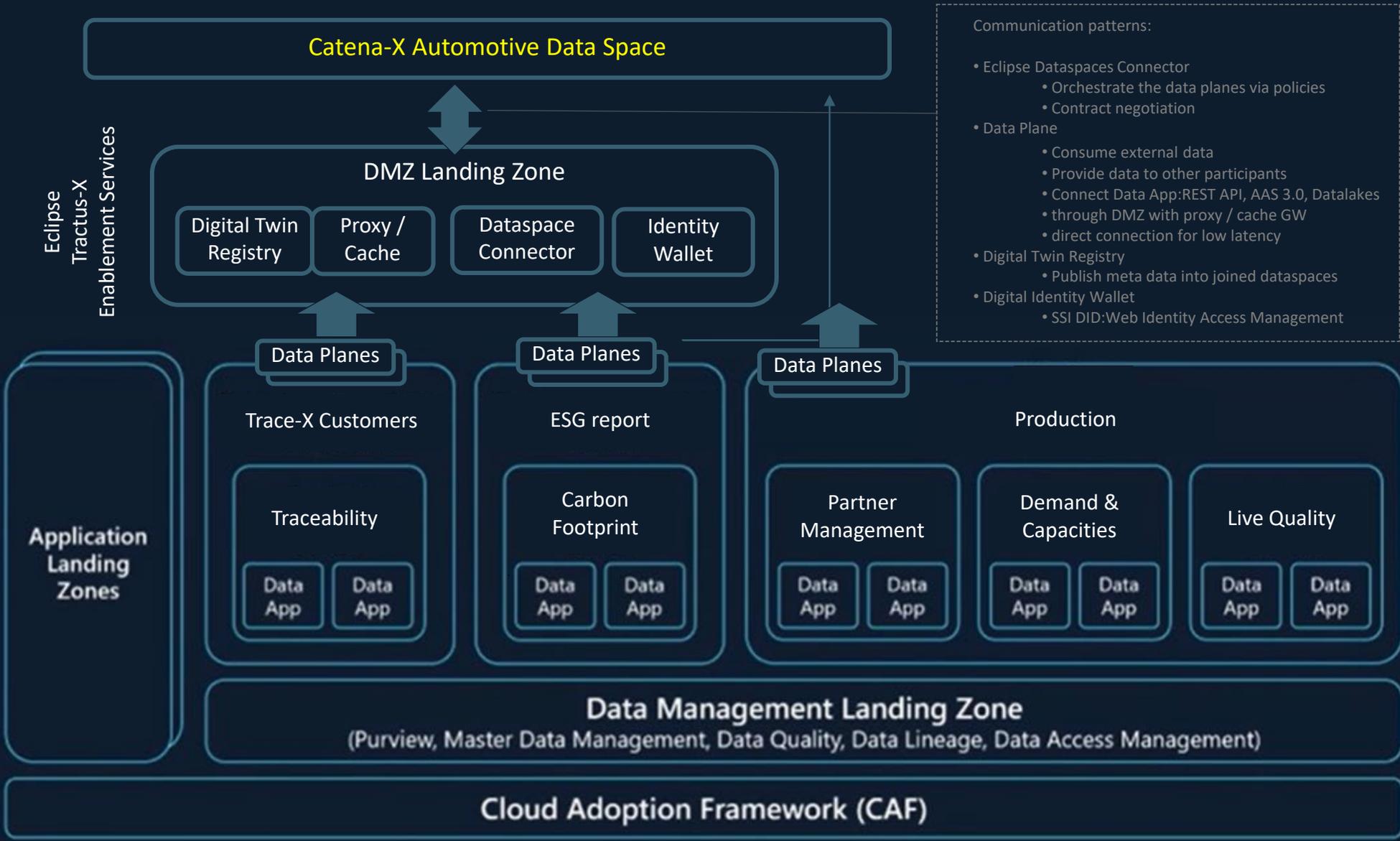


The slide features a decorative background with large, overlapping organic shapes. On the left, there are grey shapes with white circular cutouts. On the right, there are orange and red shapes with white circular cutouts, and two solid magenta circles. A thin black horizontal line runs across the top and bottom of the slide.

3. Onboarding

Setup an secure and scaleable data architecture in your company and the role of the onboarding and advisory partners

Implement data landing zones with **Data Mesh** and **Data Spaces**



4. Uses Cases

For interoperable business applications Catena-X consolidates all essential code and non-code artefacts for a use case into [KIT's](#)

https://catena-x.net/fileadmin/online_media/231006_Whitepaper_KITs.pdf

Never Let a Good Crisis Go to Waste (W. Churchill)

Navigate your Supply-Chain with Catena-X, operated by Cofinity-X

RESILIENCY



SUSTAINABILITY AND REGULATORY REQUIREMENTS



GEOPOLITICS AND INNOVATION



ECONOMICS



- Perfect storm for suppliers, overwhelming their capabilities, capacity, budget
- Collaboration models need to be inter-operable and capture the entire value chain
- Sharing data is a matter of trust, sovereignty, and standards

Tractus-X KITs



Behaviour Twin Kit RuL Kit

Provide and get RuL values.



Business Partner Kit

Get high-quality data business partner data records including the unique identifier.



Connector Kit

The EDC as a connector implements a framework agreement for sovereign, cross-organizational data exchange.



DCM Kit

Demand and Capacity Management Kit for quick build of solutions for companies of any size to engage a collaborative capacity management in the Catena-X dataspace.

MaaS KIT

This is a preview for the manufacturing as a service kit. This will be published soon.



Data Chain Kit

Data Chain Kit is made for apps and services to access connected data distributed between organizations.



Digital Twin

Digital Twins enable data-level interoperability - even between parties previously unknown to each other.



Eco Pass

Leverage the transparency of digital product passports to strengthen sustainability & compliance.

PURIS KIT

This is a preview for the predictive unit real-time information system kit. This will be published soon.

MP KIT

This is a preview for the manufacturing as a service kit. This will be published soon.



Online Simulation

Gain increased supply chain transparency through collaborative simulation across all stakeholders.



Quality

Quality KIT enables data provider and consumer to exchange and analyse existing data across company boundaries.



Traceability

Trace parts and materials across the entire value chain to enable data driven use cases over all n-tier levels.



Agents Kit

Scalable & Efficient
Semantic Dataspace Federation
Generate Knowledge from Data

MORE COMING SOON..

There will be more Kits coming in the next months. Stay tuned.

Cofinity-X provides new products and services in an regular release cycle

October 2023

- Core Services & first commercial offers
- Golden Record Service

December 2023

- Trace-X Application
- EDC & Simple Data Exchange as a Service

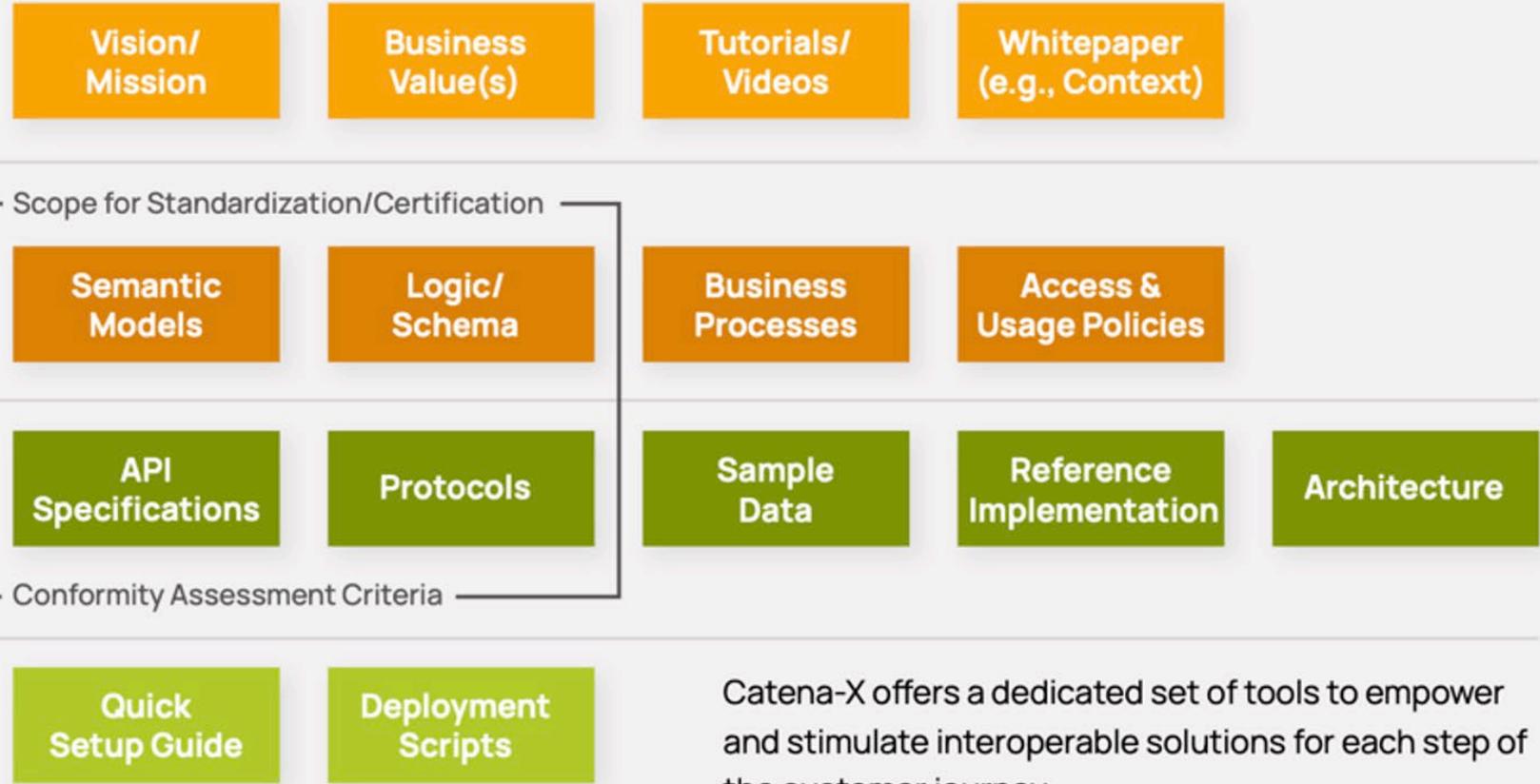
February 2024

- Value Added Services (GPDM)
- Digital Twin Registry as a Service



Eclipse Tractus-X

Open-Source-Community is developing applications for the Automotive ecosystem.



<https://eclipse-tractusx.github.io>

Cofinity-X Marketplace

Cofinity-X Search for apps, users, partners...

- HOME
- MARKETPLACE
 - App Marketplace**
 - Service Marketplace
 - Marketplace Management
- DATA MANAGEMENT
 - Semantic Hub
 - Digital Twins
- USER MANAGEMENT
 - App Access Management
 - Identity User Management
 - Technical User Management
- PARTNER NETWORK
- APP MANAGEMENT
 - App Maintenance
 - App Subscription MGT
- SERVICE MANAGEMENT
 - Service Maintenance
 - Service Subscription Mgt
- APPLICATION REQUESTS
- BUSINESS PARTNER INVITE

App Marketplace

Solutions for Automotive Digital

Grow the network and invite your business partners!

• • □

App Overview Showing 17 results

Search app name

Filters

- All
- Traceability
- Sustainability
- Modular Production
- Business Partner Management
- Technical Enablement
- Business Value
- Organizational Enablement
- Circular Economy
- Quality Management

Traceability

SAP Business Network Material ...

SAP

enables the exchange of relationship information by tracing serial numbers, batches, and components across organizations.

German Edge Cloud GmbH

ONCITE Digital Production Syst...

With the ONCITE Digital Production System (ONCITE DPS) you ensure that you get the data streams and processes digitized.

Cofinity-X

Trace-X

Open Source developed Traceability application.

Cofinity-X

[linkedin.com/in/mbuchhorn/](https://www.linkedin.com/in/mbuchhorn/)

Let's **connect**
and start a
great **journey**
together.



The image shows a LinkedIn profile card for Matthias (Buchhorn) Buchhorn-Roth. The background of the card is a dark blue and purple abstract pattern with the text "Cofinity-X" and "Where innovation and collaboration meet". On the left, there is a circular profile picture of Matthias, with a purple overlay containing the text "#HIRING". Below the profile picture, the name "Matthias (Buchhorn) Buchhorn-Roth" is displayed with a speaker icon and "(He/Him)". The bio text reads: "operate a secure dataspace for the Catena-X global automotive supply chain network to address pressing challenges like carbon emissions, circular economy, master data management, fraud prevention". To the right of the bio, there are two organization logos: "Cofinity-X" and "Berufsakademie Berlin".

Cofinity-X
Where innovation and collaboration meet

Matthias (Buchhorn) Buchhorn-Roth (He/Him)
operate a secure dataspace for the Catena-X global automotive supply chain network to address pressing challenges like carbon emissions, circular economy, master data management, fraud prevention

Cofinity-X
Berufsakademie Berlin