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Gaia-X SUMMIT 2024

EMPOWERING GLOBAL DATA SPACES

SHAPING TOMORROW'S CLOUD INFRASTRUCTURE

Helsinki, Finland | 14 & 15 November

In partnership with gaia-x Hub Finland

Welcome & Opening

09:30 – 09:50

Catherine Jestin, BoD Chairwoman, Gaia-X; Executive Vice President Digital and Information Management, Airbus

Ulrich Ahle, Chief Executive Officer, Gaia-X

Ville Sirviö, BoD Member, Gaia-X; Coordinator, Gaia-X Hub Finland; CEO, Nordic Institute for Interoperability Solutions (NIIS)

Lulu Ranne, Minister of Transport and Communications, Finland

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Catherine Jestin

Gaia-X BoD Chairwoman; Executive Vice President Digital and Information Management, Airbus

Ulrich Ahle

Gaia-X CEO

Welcome to Helsinki, Finland!

Ville Sirviö

CEO, Nordic Institute for Interoperability Solutions (NIIS)

Gaia-X Hub Finland

#GaiaXSummit24

Data spaces in Finland

- Finland has a vibrant data space community for its size, with **over 30 data space projects in 15 different sectors** involving over a hundred organisations.
- Compared to the rest of Europe, Finland is undoubtedly **one of the most advanced data space countries**, even though Finnish data space projects are mainly at an early stage.
- *State of Data Spaces in Finland* is a comprehensive study published by Sitra in conjunction with the launch of the **Data Spaces Alliance Finland**. The study examines the current state of Finnish data space initiatives and encourages cross-organisational cooperation in the data business.

Gaia-X Hub Finland

- **Launch event in June 2021** by
  - the Finnish Innovation Fund Sitra
  - VTT Technical Research Centre of Finland
  - Ministry of Economic Affairs and Employment of Finland
  - Ministry of Finance
  - Ministry of Transport and Communications and Business Finland.
- Coordinated by the **Finnish Innovation Fund Sitra** until 2024
- Coordinated by the **Nordic Institute for Interoperability Solutions (NIIS)** since 2024

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Gaia-X Hub Finland

- **Inform**: act as a one stop shop for Gaia-X updates and information
- **Federate**: bring together interested companies and ecosystems
  - Agriculture
  - Circular Economy
  - Location
  - Health
  - Mobility
  - Public Sector Data Space
- **Stimulate**: energise and advance the conversation
- **Enable**: organise knowledge-sharing and “how to” events
- **Accelerate**: stimulate and co-finance pilot projects or trials

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Data Spaces Alliance Finland

- A community of organisations interested in building, utilising and benefiting from **data spaces in Finland**
- strives to accelerate the growth and maturity of the Finnish data space initiatives to **boost the Finnish data economy**
- Established in April 2024 with **23 members**:
  - 1001 Lakes, Business Finland, CSC, DataSpace Europe, Fintraffic, Headai, IOXIO, Kela, Ministry of transport and communications, Loihde, National land survey of Finland, MyData Global, Nokia, Nordic Institute for Interoperability Solutions (NIIS), Platform of Trust, Siili Solutions, Sitra, SIX Mobile Work Machines, Smart City Innovation Cluster (SCIC), Struggle Creative, Technology Industries Finland, TIEKE and VTT.

dataspacesalliance.fi

X-Road 8 ”Spaceship”

- X-Road® is open-source software that provides **unified and secure data exchange between organisations** in a collaborative ecosystem.
- **X-Road 8 ”Spaceship”** nurtures the proven ecosystem model and security while it takes X-Road to the next level by providing a solid, **Gaia-X-compliant data space infrastructure**. 🚀
- Implemented in **25 countries** worldwide with **end-user base of 550M people.**
- Co-developed between **Estonia, Finland and Iceland**, and the global user **community from 150+ countries**.

x-road.global/spaceship

Thank you!

linkedin.com/in/villesirvio
ville.sirvio@niis.org

Welcoming words

Lulu Ranne

Minister of Transport and Communications, Finland

Ministry of Transport and Communications, Finland

Gaia-X SUMMIT 2024

AGENDA TECH THEATER

EMPOWERING GLOBAL DATA SPACES

SHAPING TOMORROW'S CLOUD INFRASTRUCTURE

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Day 1 - 14 November

09:50 - 10:20	Gaia-X 101: Technical Fundamentals about Gaia-X
14:00 - 15:00	Navigating the Loire release
16:00 - 16:45	Securely sharing credentials with OID4VC

Keynotes: Fostering global collaboration - a new paradigm for data and digital ecosystems

09:50 – 10:20

Dr Robert Habeck, Federal Minister for Economic Affairs and Climate Action, Germany (Video message)

Marc Ferracci, Minister Delegate for Industry, France (Video Message)

Pearse O'Donohue, Director, Future Networks Directorate, DG CNECT, European Commission

Benjamin Brake, Director General, Digital and Data Policy, German Federal Ministry of Digital Affairs and Transport

Keynotes: Fostering global collaboration - a new paradigm for data and digital ecosystems

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Dr Robert Habeck

Federal Minister for Economic Affairs and Climate Action, Germany (Video message)


bmwk.de Bundesministerium
Federal Ministry
Federal Ministry for Economic
Economic Affairs and
Economic Affairs and Climate Action

Keynotes: Fostering global collaboration - a new paradigm for data and digital ecosystems

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Marc Ferracci

Minister Delegate for Industry, France (Video message)

Keynotes: Fostering global collaboration - a new paradigm for data and digital ecosystems

Pearse O’Donohue

Director, Future Networks Directorate, DG CNECT,
European Commission

Keynotes: Fostering global collaboration - a new paradigm for data and digital ecosystems

Benjamin Brake

Director General, Digital and Data Policy, **German Federal Ministry of Digital Affairs and Transport**

A Vision for the Digital Infrastructure of Tomorrow

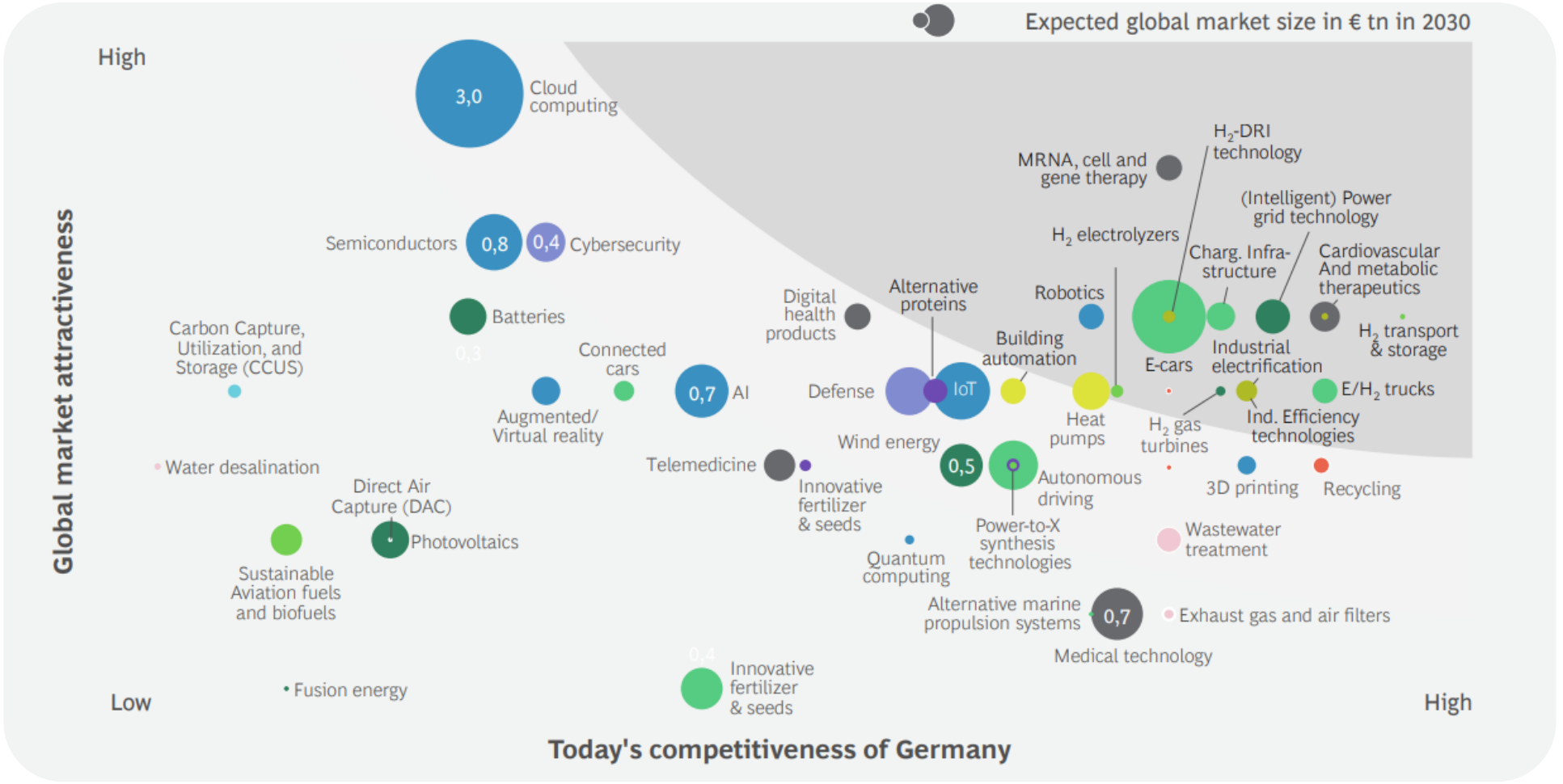
Ernst Stöckl-Pukall

Head of Division “Digitalisation, Industrie 4.0”

Federal Ministry for Economic Affairs and Climate Action

Perspective on global Market Attractiveness

(German case)



Challenges: How to master Digital Sovereignty?

→ The urgent need for a sovereign Cloud-Edge Infrastructure

How to get sufficient computer/cloud capacities and capabilities?
e.g. for AI or European industries?

Today: massive new investments by hyperscalers in Europe (e.g. Germany) to meet AI related fast increasing demand

Risk: lock-in effects, political, economical, and technological dependencies increase, market share of non-European companies will rise further

→ **Reality check**: European companies can hardly compete

Lessons learned – and the Solution

1. Impossibility to copy the existing business models of hyperscalers
2. A federated, decentralised Digital Infrastructure can create Digital Sovereignty required for trusted data usage and innovation
3. Industrial data ecosystems are developing fast (Catena-X, Manufacturing-X, EONA-X, etc.)
4. For the next-generation Digital Infrastructure we need to create a similar momentum

⟶ Solution: **8ra initiative**
creating the first ever multi-provider Cloud-Edge Continuum

Good news: We have already started!

IPCEI-CIS and the Vision of “**8ra**”

Building the Foundation for the next-generation Cloud-Edge Infrastructure

IPCEI-CIS (Cloud Infrastructure Services)

- is one of the largest EU projects to secure future Digital Sovereignty,
- is a highly integrated project, and
- will develop the foundation for a sustainable Cloud-Edge Continuum **8ra** (registered trademark).

→ 8ra CLOUD-EDGE CONTINUUM **will build something new!**

Leap frogging!

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Initiative (IPCEI-CIS) Partners

12 member states committed

Overall **110** national projects

∞ **7.8 billion** EUR total investment

19 projects approved by EU Commission

∞ **1.2 billion** EUR in public funding

∞ **1.4 billion** EUR in private investments

Vision of a Digital Infrastructure for Tomorrow

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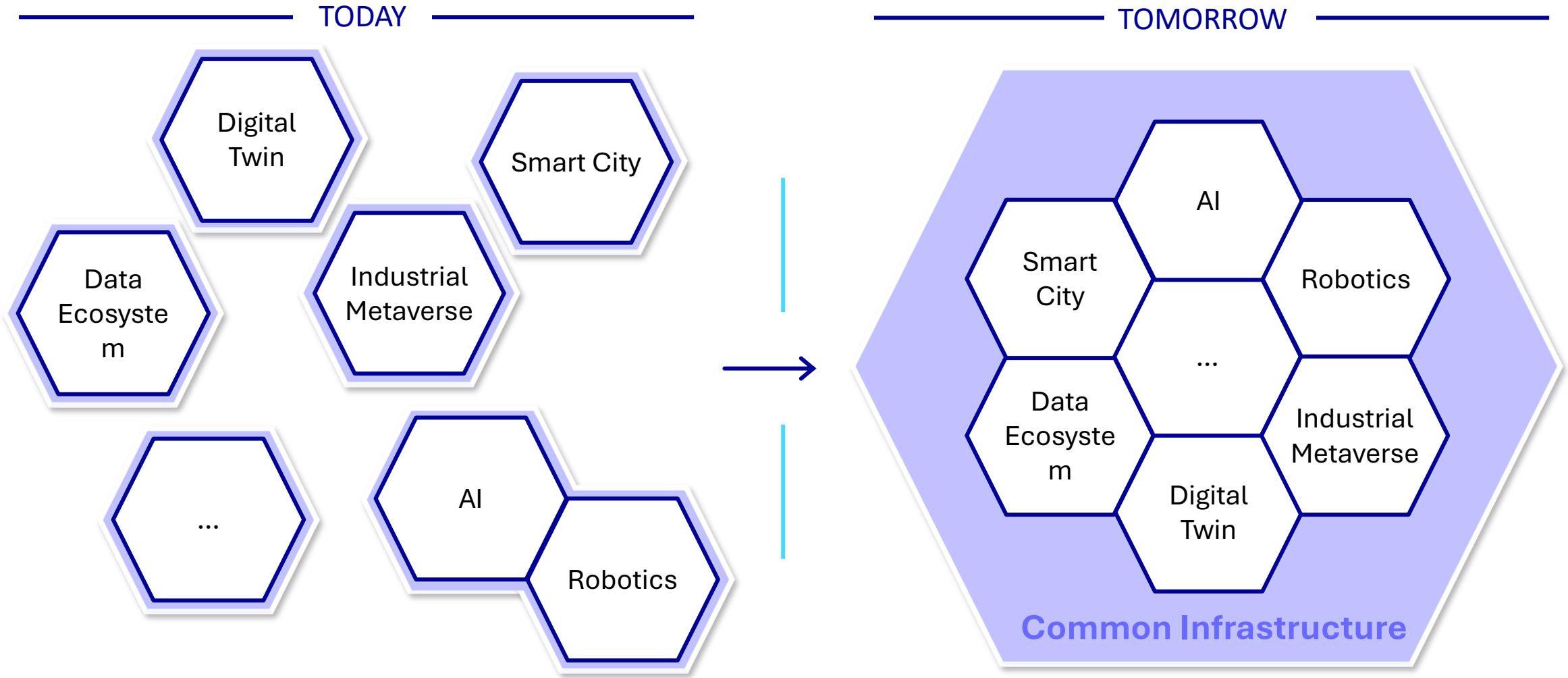

The 8ra Initiative

will enable the seamless integration of Cloud-Edge Computing in Distributed Networks

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1. By developing a **common reference architecture** that serves as a blueprint/de facto standard for setting up and operating a combined cloud and edge system.

2. By providing a **free and open source software** that offers the necessary infrastructure-related capabilities to build the base layers of the cloud-edge stack.

3. By creating a **common technological basis** for interoperable, secure, highly efficient, automated, and interconnected services.

4. By developing a set of **advanced cloud-edge services** that can be seamlessly **deployed and operated across vendor networks**.

8ra will generate a Massive Impact by…

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…enabling unprecedented **low-latency** applications, e.g. for the domains of manufacturing, process industry and mobility/autonomous driving,

…**eliminating lock-in effects** and vastly improve the resilience of enterprise software architectures, and

…**leveraging available computing resources** by allowing flexible use of facilities.

→ 8ra CLOUD·EDGE CONTINUUM **will be the engine for the Industrial Metaverse.**

Necessity of a common 8ra Governance

A common 8ra Governance
is the foundation for broad acceptance and adaptation

Actions:

- Communicate the vision/implementation roadmap and attract investment
- Integrate and leverage existing communities, e.g.
  - Open source and developer communities
  - User communities (e.g. industrial and public sector)
- Orchestrate and operate innovative 8ra end-to-end solutions

→ **Make it simple to scale**

Seize the Opportunity

Let‘s build a strong 8ra Community!

We establish a **highly committed** 8ra Community.

We get companies **beyond** **IPCEI Partners** involved.

→ **You are invited to join this process!**

Outlook for the 8ra Initiative

Joint-European-Forum on IPCEI: proposals for next projects

IPCEI-AI: IPCEI on decentralised and federated Infrastructure for Artificial Intelligence and Services

IPCEI-ECI: IPCEI on deploying large-scale decentralised and federated Edge Computing Infrastructure and Services

→ **The technological basis for IPCEI-AI and IPCEI-ECI are the technologies developed within the 8ra Initiative**

The way forward – full commitment is key

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8ra CLOUD·EDGE CONTINUUM

- Develop 8ra as a key European Digital Policy Initiative
- Organise full stakeholder support across Europe – priority for 8ra
- Establish a strong basis for complementary IPCEIs
- Show potential for innovation and economic growth
- Facilitate investment and early market acceptance (much more than R&D)

Main Conclusions

Digital Sovereignty – now is the time to go all-in!

Highest level of political support required – incoming EU-Commission?

High level of commitment of companies required – suppliers and users!

We have a unique opportunity – let’s think big!

Thank you!

Ernst Stoeckl-Pukall, buero-iva3@bmwk.bund.de
Federal Ministry for Economic Affairs and Climate Action
Hannoversche Str. 28-30, 10115 Berlin, Germany

Networking Coffee & Expo Area

10:30 – 11:15

The Gaia-X Journey 2024 & Roadmap 2025

11:15 – 11:35

Ulrich Ahle, Chief Executive Officer, Gaia-X

Klaus Ottradovetz, Chair, Gaia-X Technical Committee

The Gaia-X Journey 2024 & Roadmap 2025

Ulrich Ahle

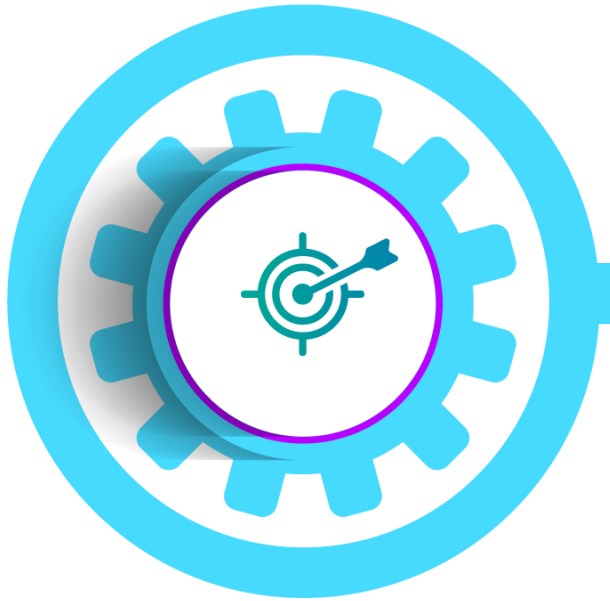
Klaus Ottradovetz

CEO

Chairman of the Technical Committee
Gaia-X

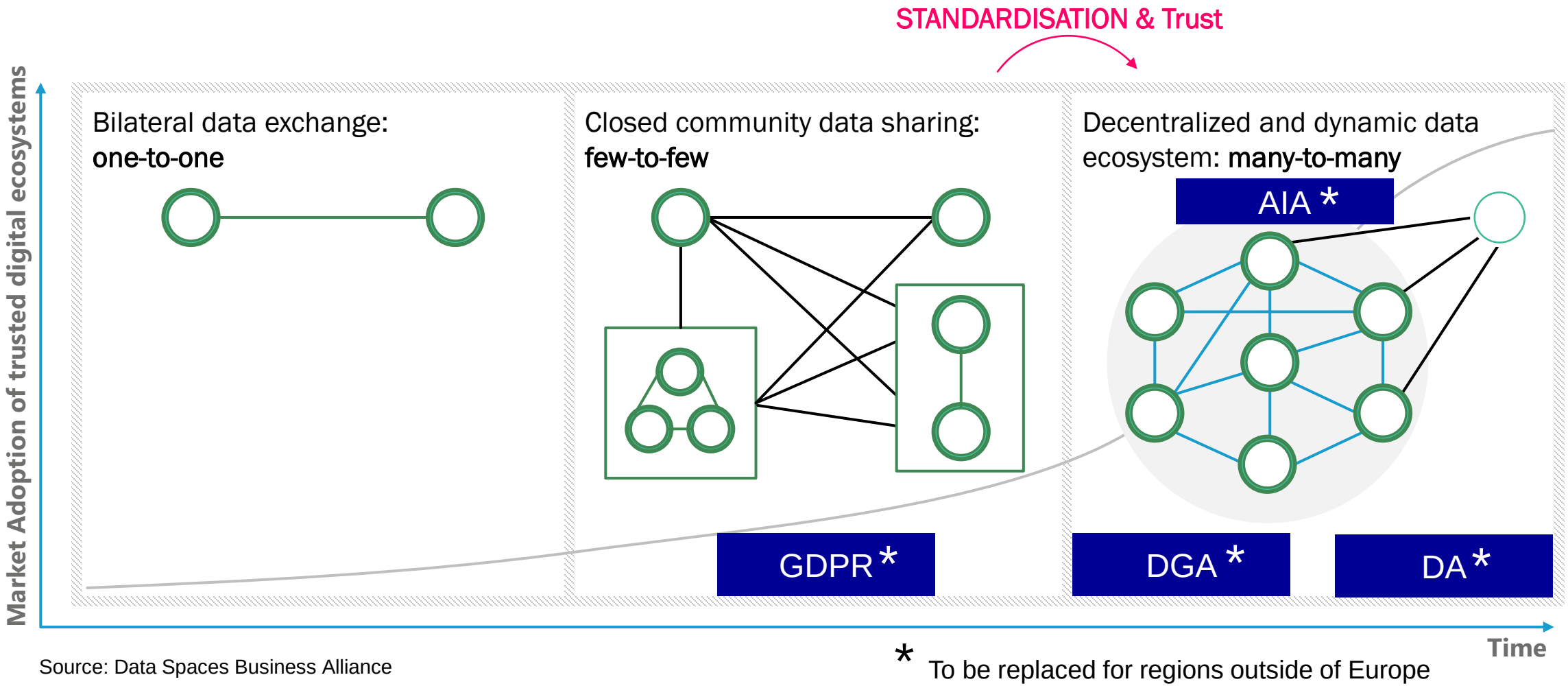
Gaia-X Vision

VISION



Enable trusted decentralised digital ecosystems

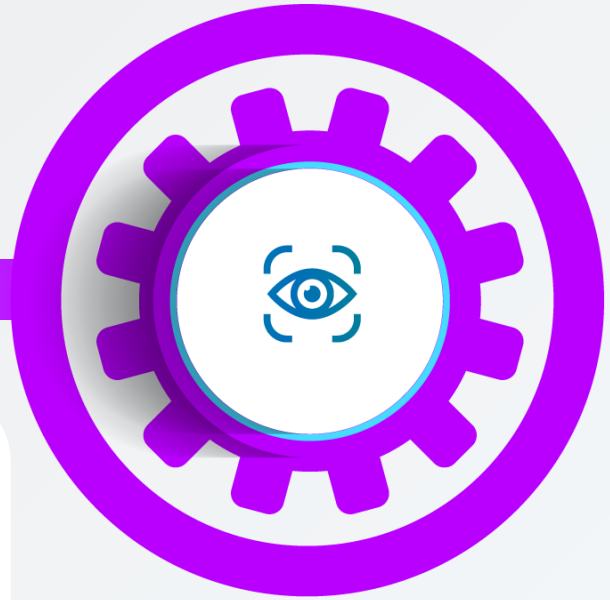
The demand for Data Spaces



Source: Data Spaces Business Alliance

* To be replaced for regions outside of Europe

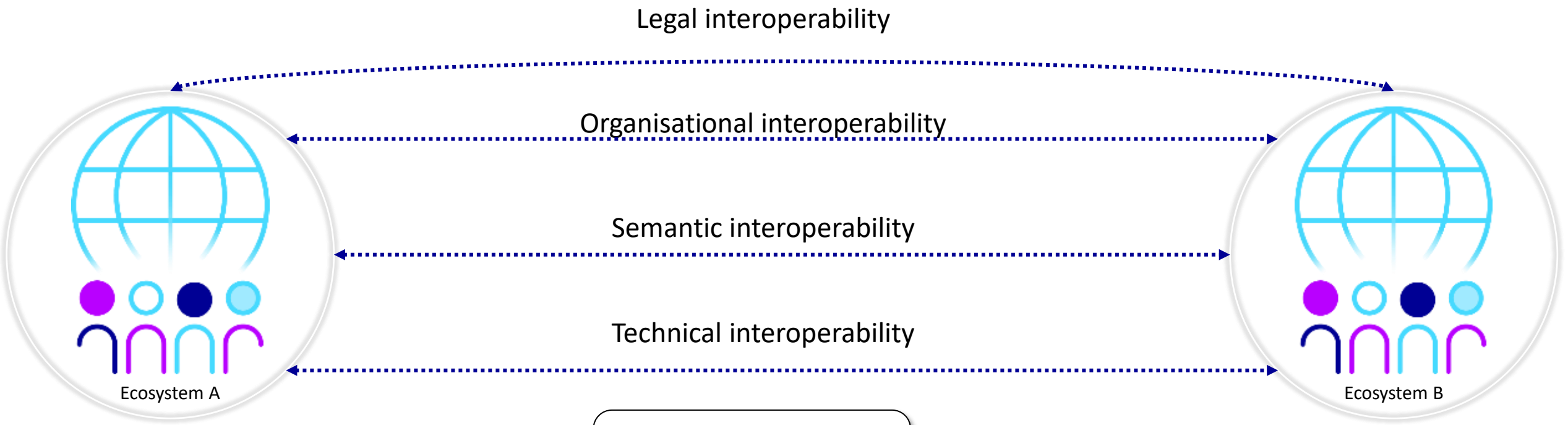
Gaia-X Mission



MISSION

Creating the de facto standard to enable federated and trusted data and infrastructure ecosystems, by developing a set of specifications, rules, policies, and a verification framework

Interoperability layers



Layers from the European Interoperability Framework.

interoperable europe

Gaia-X Compliance document.

This document is **technology agnostic**.

Gaia-X Technical Compatibility reference

Those documents are **rule agnostic.**

Interoperability layers

Gaia-X Compliance document.

This document is **technology agnostic**.

Legal interoperability

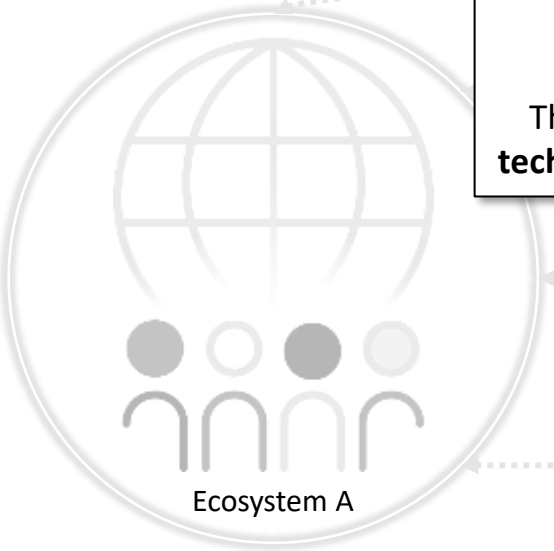
Organisational interoperability

Semantic interoperability

Technical interoperability

Gaia-X Technical Compatibility reference

Those documents are **rule agnostic**.



Ecosystem A

Ecosystem B

Layers from the European Interoperability Framework.

interoperable europe

Gaia-X – Technical Committee: OSS & Services

Gaia-X Compliance document.

This document is **technology agnostic**.

Gaia-X Digital Clearing House

https://compliance.gaia-x.eu/

Gaia-X Technical Compatibility reference

Those documents are **rule agnostic**.

- **Fully Open-Source Software**
- **Worldwide adoption ready**
  - Decentralised data layer for the Gaia-X Registry scalability and information consistency. (ex: EU <-> JP)
  - Support for European and non-European national Trust Service Providers.

Focus on end user services!

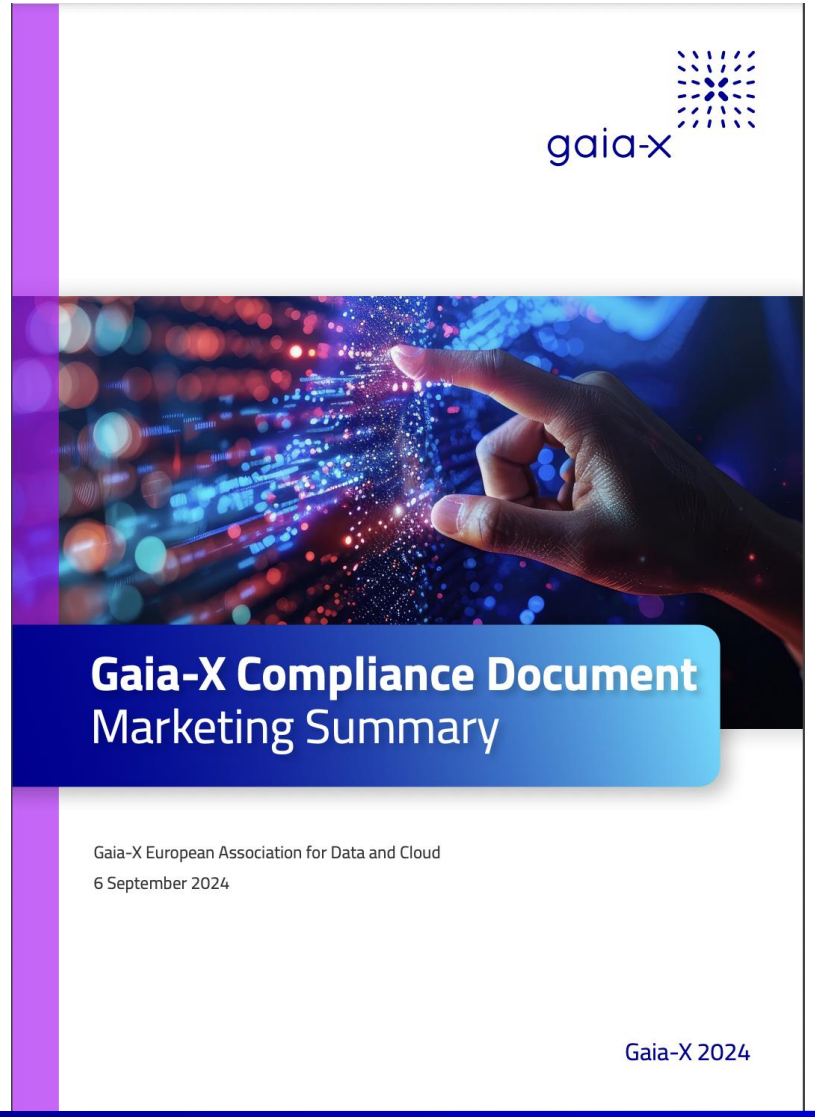
Automated Compliance by Gaia-X Compliance Document

- **62 Criteria** are paving the way for an **Automated Compliance in Europe**
- **Compliance documents for regions outside of Europe with other legislations to be developed by the regions**

	CONFORMITY	LEVEL 1	LEVEL 2	LEVEL 3
Declaration of Service or Product	✓	✓	✓	✓
Signed with verified method (e.g. eIDAS)	✓	✓	✓	✓
Automated validation by GXDCH	✓	✓	✓	✓
Automated verification by GXDCH*	✓	✓	+	+
Data Exchange Policies	✓	✓	✓	✓
Certified Label Logo		✓	✓	✓
Data protection by EU legislation		✓	✓	✓
Manual verification by CAB			✓	✓
Provider Headquarter within EU				✓

*not all criteria can be automated, "+" means automated verification if the evidence issuer (Standard & CAB)

The Gaia-X Compliance Document



The battle for immunity from extraterritorial legislation

- SREN Law France
  (Sécurité et Régulation de l'Espace Numérique - Security and Regulation of the Digital Space)
- Source: LinkedIn

Gaia-X Digital Clearing House Providers

In production

signed in deployment.

pipeline

October 8, 2024

NTT DATA and Gaia-X Expand Global Reach with Deployment of Gaia-X Digital Clearing House in Japan

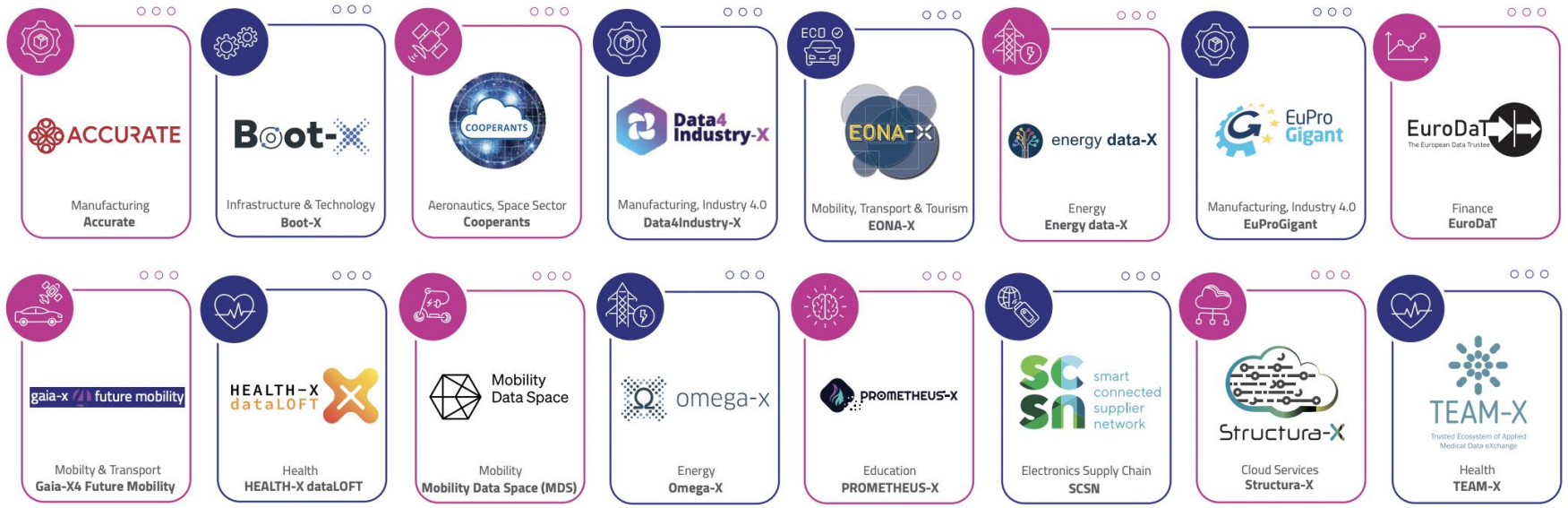
NTT DATA is pleased to announce the successful deployment of a testbed for a Gaia-X Digital Clearing House in Japan.

... The deployment in Japan is part of a data space test bed project led by the University of Tokyo, with active participation from industry giants including Toshiba, SoftBank Corp., NTT DATA, and NTT Communications. ...

Gaia-X Endorsed Projects out of +150 Data Space implementations

Lighthouse Data Spaces

Lighthouse Projects



These Data Spaces are demanding a new entrepreneurial role (Federator, Orchestrator, …)

Public Funding for Data Space & Cloud Infrastructure in Europe

Source	Programme	€	comment
Germany	National Funding	435 M	Data Ecosystems: Gaia-X Funding Competition (11 Projects), Manufacturing-X, Catena-X, Gaia-X 4 Future Mobility, EuProGigant, Energy data-X, GXFS-DE
Spain	National Funding	202 M	150 M for Industrial Data Spaces Open Call, 50 M for Tourism Data Spaces Open Call, 1 M for Gaia-X "Data Economy Association" Hub, 0.9 M for sovereign data technologies DEV project
France	National Funding	124 M	40 M Data4industry-X , 70 M for new call for tender, 14 M GFXS-FR
Luxembourg	National Funding	20 M	National funding for Gaia-X projects
Austria	National Fundning	23 M	Data space Technologies, Digital Product Passport, Production, Mobility, Energy and Healthcare
Denmark	National Funding	5 M	Gaia-X Hub
Flanders	Regional Funding	32 M	Flemish Smart Data Space, Athumi (Flemish Data Utility Company)
The Netherlands	National Funding	217 M	69 M Health-RI (health data sharing for secondary usage), 85 M DMI (Dutch Metropolitan Innovations ecosystem), 51 M DIL/BDI (Digital Infrastructure Logistics/Basis Data Infrastructure), 12 M CoE-DSC (Center of Excellence for Data Sharing and Cloud)
Finland	Sitra	3 M	Sitra invested 2,6 M of which EUR 625.000 was used to co-finance 5 pilot projects related to data spaces. The co-financing rate covered by Sitra per project was 70%, the rest 30% was covered by project consortia members.
EU	Digital Europe Work Programme 2021- 2024	657 M	300 M for topics supporting the deployment of the cloud-to-edge infrastructure and services, including the Testing and Experimentation Facility for Edge-AI; 357 M for topics deploying the sectorial data spaces and the related support activities, including the High Value Data Sets and Digital Product Passport. **This set of calls includes the DSSC (14 M) and the procurement for Simpl (106 M).**
EU	EU4Health	280 M	Implementation of European Health Data Space
EU	Horizon Europe	100 M	Energy Data Spaces and R&I projects
EU	Digital Europe Work Programme 2021- 2024	240 M	Destination Earth initiative
SUBTOTAL		**2,338 M**	**Public investment for interoperable Data spaces based on European Values**
France, Germany, Hungary, Italy, the Netherlands, Poland, Spain	IPCEI-CIS	1,200 M	The Member States will provide up to €1.2 billion in public funding, which is expected to unlock additional €1.4 billion in private investments.
SUBTOTAL		**1,200 M**	**Public investment for a federated Cloud infrastructure**
TOTAL		**3,538 M**	**Public investment for a data driven European economy**

BDVA, FIWARE, GAIA-X und IDSA created the Data Spaces Business Alliance partnering with the Data Spaces Support Centre

- **One Architecture**
- **One Voice**
- **One hundred Hubs**
- **One thousand Members**

Data Spaces Business Alliance

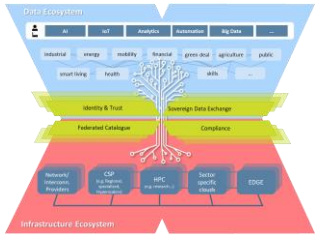
Unleashing the Data Economy

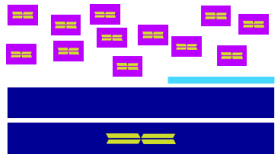
BDV BIG DATA VALUE ASSOCIATION FIWARE FOUNDATION gaia-x INTERNATIONAL DATA SPACES ASSOCIATION

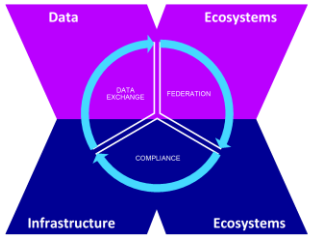
gaia-x

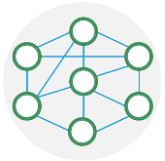
- **IDSA and Gaia-X** provide a complementary set of concepts, architectures, protocols and software solutions based on the use of common global standards supporting the creation of digital ecosystems (in general) and Data Spaces
  - **Gaia-X provides a decentralized digital trust framework**
  - **IDSA provides the Data Space protocol and the specific design concepts for data spaces**
- **ISO/IEC AWI 20151** will provide a global standard describing **Data Space concepts and characteristics**
- The **Joint Data Space Positioning Paper describes** how the integration of IDSA and Gaia-X provides a blueprint for the realization of ISO/IEC 20151 (and Data Spaces in general) and provides guidance to the technical realization in both organizations.

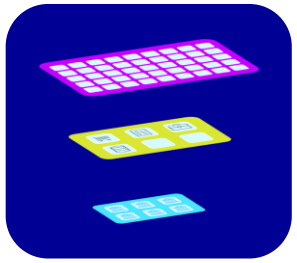
TC Roadmap - From incubation to global, industrial scale











2020 — 2025 — 2030

> 150 Data space projects (17 Lighthouses)

Gaia-X Digital Clearinghouses

OSS Initiatives

1 Lighthouse (Structura-X), IPCEI-CIS

Simpl Open

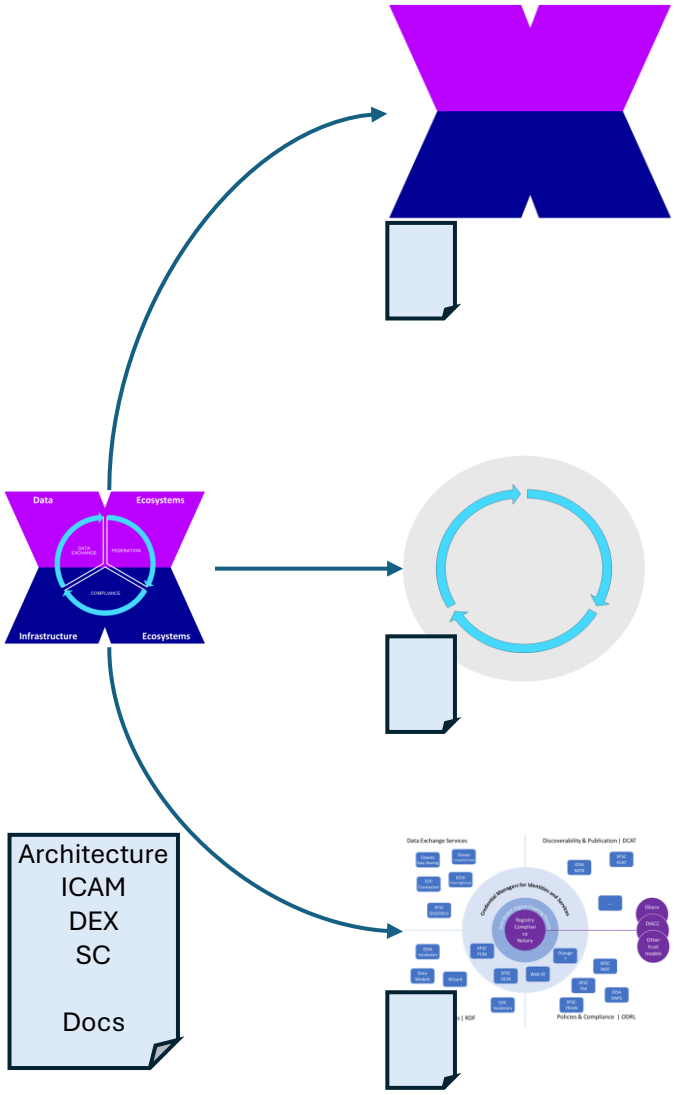
Update of regulation, standards, initiatives, commercialization & globalization

Create **integrated Roadmap** /w stakeholder groups

- Interoperability and federation of ecosystem
- Decentralized governance and operations
- supporting global use cases
- Support sustainable commercial operating and monetarization models

Aligned release planning

Proposed updates to TC deliverables



(technical) **Systems Architecture** of Digital Ecosystems

- Common Ontology, defined guiding standards and interfaces ,e.g.
  - ISO/IEC AWI 20251 “Dataspace concepts and characteristics”
  - CEN/CENELEC “Trusted Data Transactions”, IEEE 3800 Data Trading…
- Clear “Landscape” of cooperation with other associations, e.g.
  - Joint IDSA/Gaia-X positioning paper, eIDAS Trust Framework, EID and Wallet implementations, iShare, DSSC, TM Forum…

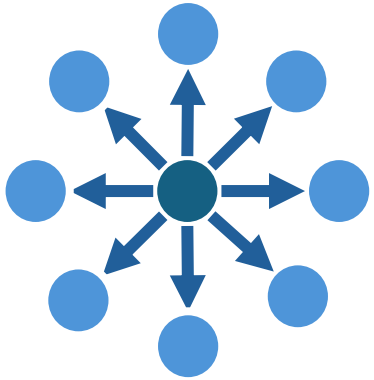
Trust Framework Architecture Specification

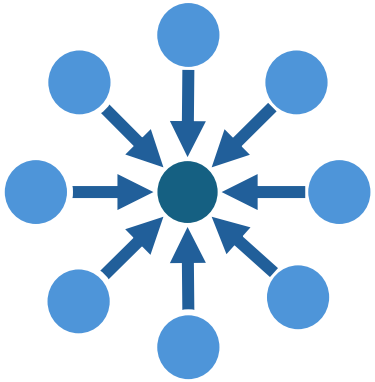
- Joint road mapping /w identified stakeholders of associated standards, associations and software implementations
- Interfaces, Protocols, (decentralized) operations in formal processes (e.g. Eclipse)

OSS (and commercial software) Landscape

- Maintenance of a list of compliant OSS (and commercial) solutions which complement the Trust Framework to provide complete system solutions (e.g. XFSC, FIWARE, Pontus-X, Simpl, DSSC Toolbox, Dawex,…

Technical Committee - From incubation to scale

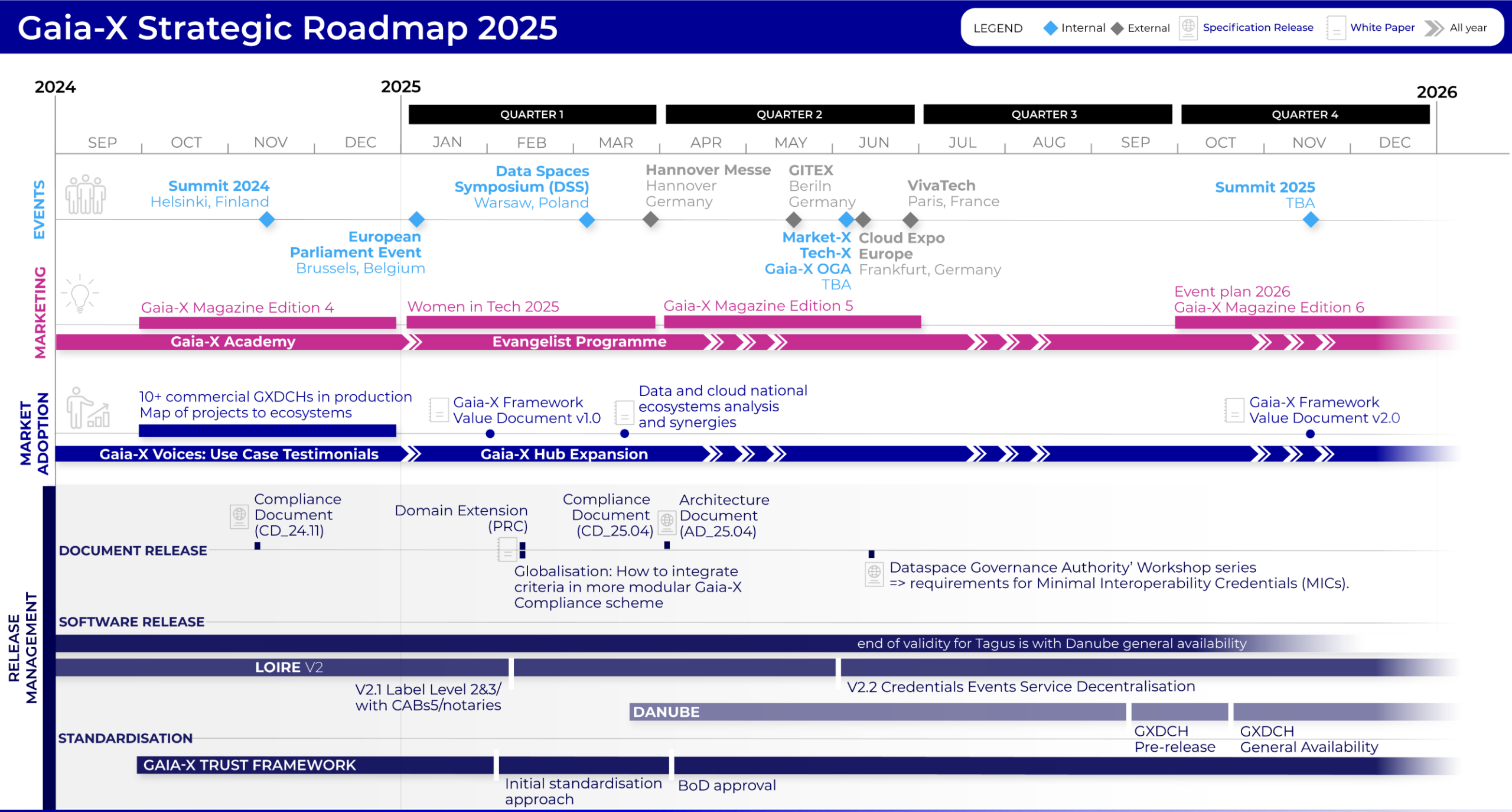




- Increase focus on taking an "**outside-in**" view from the impacted stakeholder groups
  - Productive projects, OSS initiatives, Associations, Regulation and standard bodies
- Creation of "Landscape views" of ecosystem systems architecture, software (OSS) solutions
- Address globalization ("federated trust"), decentralization, support for operational and commercial models
- Update of the "way of working" and structure of working groups and deliverables (process starting)
- First update (as in 2025 strategic roadmap) in 25.04 deliverables

Call for contribution for joint, outside-in road mapping and community contribution

Gaia-X Strategic Roadmap 2025



#GaiaXSummit24

Thank you!

Klaus Ottradovetz
Ulrich Ahle

Gaia-X Compliance & Label

11:35 – 12:00

Roland Fadrany, Chief Operating Officer, Gaia-X

Christoph Strnadl, Chief Technology Officer, Gaia-X

Gaia-X Compliance & Label

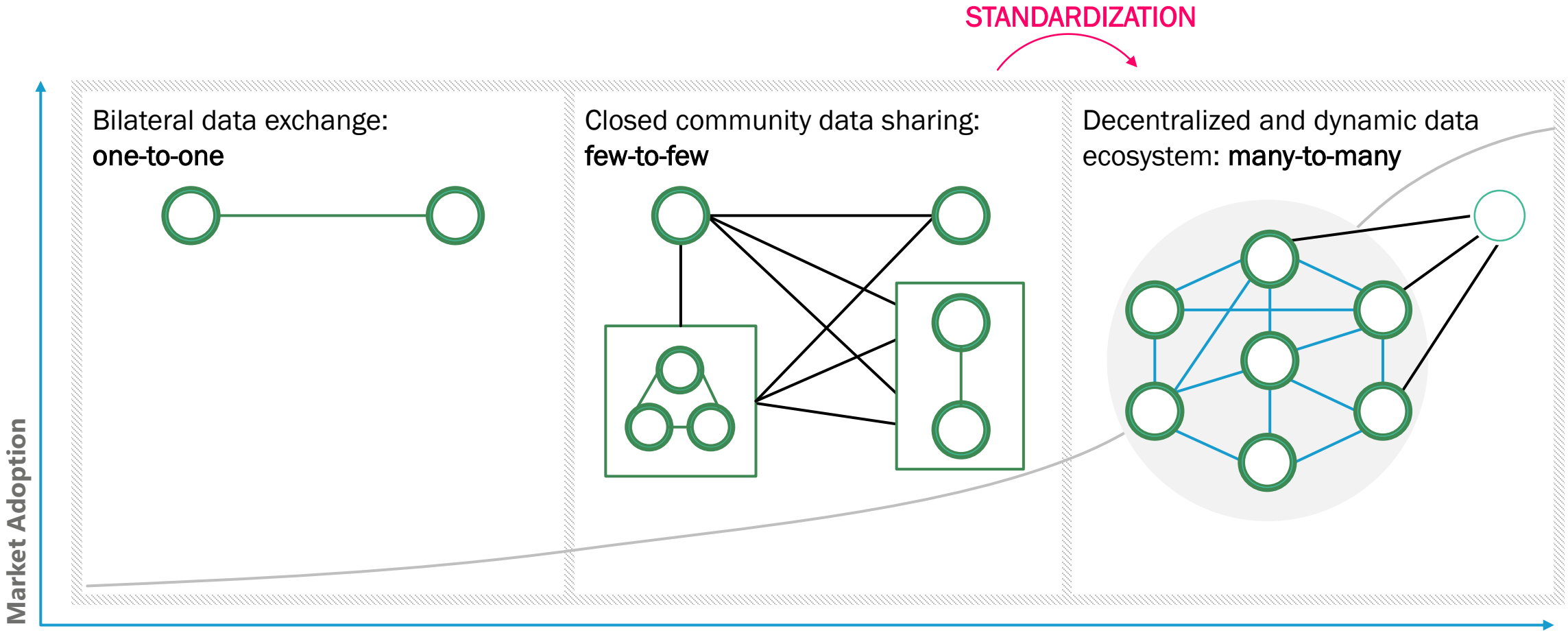
Business Perspective

Roland Fadrany

COO

Gaia-X AISBL

The Demand for Data Spaces



Source: Data Spaces Business Alliance

Dataspace Governance Authority & Trust Framework

Example International travel

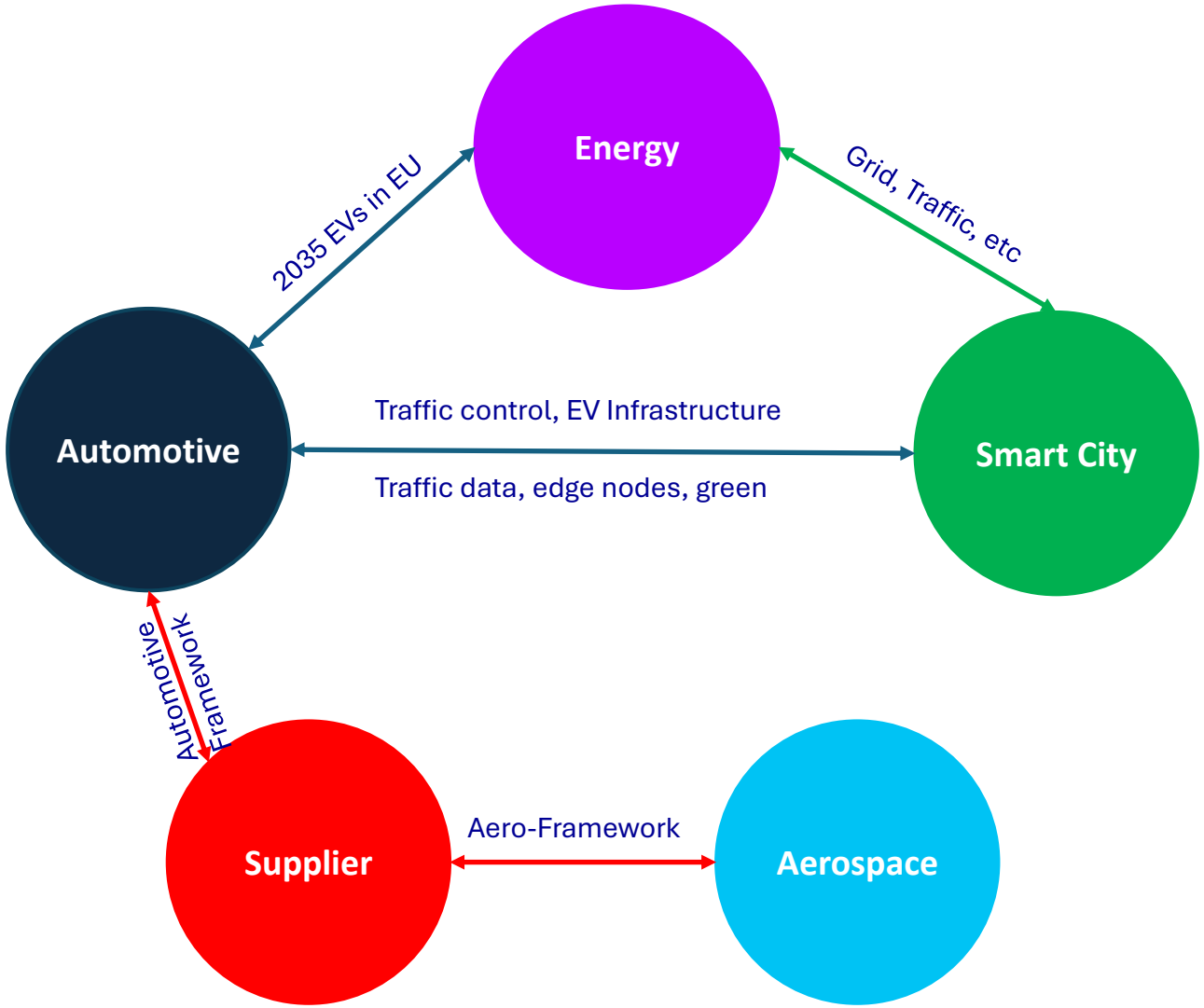
1. Countries agree on travel “policies”
2. Countries agree on requirements for passports/IDs
3. Each country has its own process and authorities to issue passports/IDs
4. Each country defines what citizens can do with their IDs (digital public services)

Enable the Data Space Governance Authorities (DSGA) to describe and manage their Data Space compliance with their own rules /scheme / ontology / trust anchors, leveraging the technologies of the Gaia-X Trust Framework

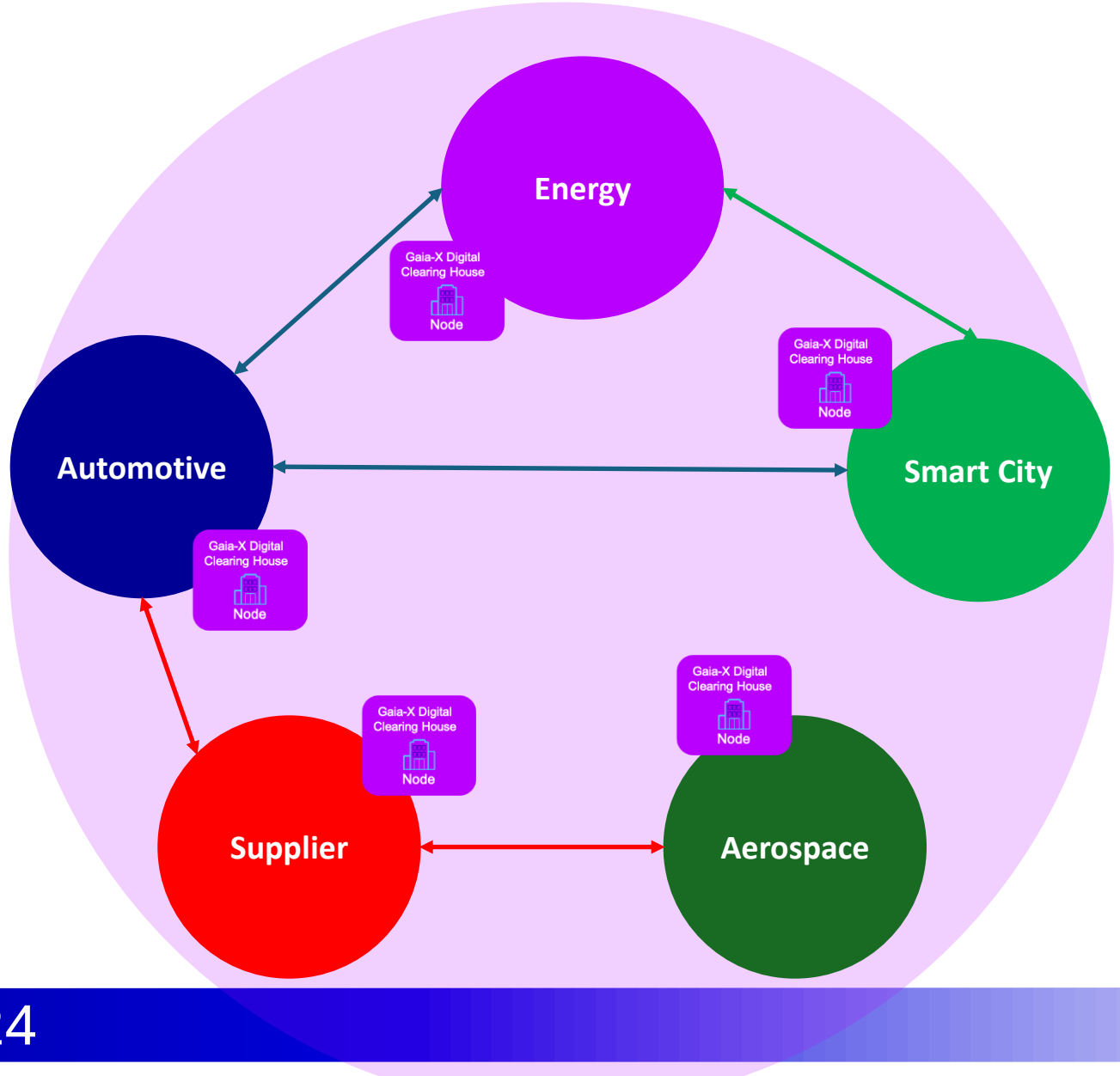
Gaia-X & Dataspaces

1. Gaia-X (members) agree on a trust framework
2. Gaia-X (members) agree on architecture and standards
3. Dataspaces establish their “onboarding” processes and DGA
4. Dataspaces define all rules inside the dataspace

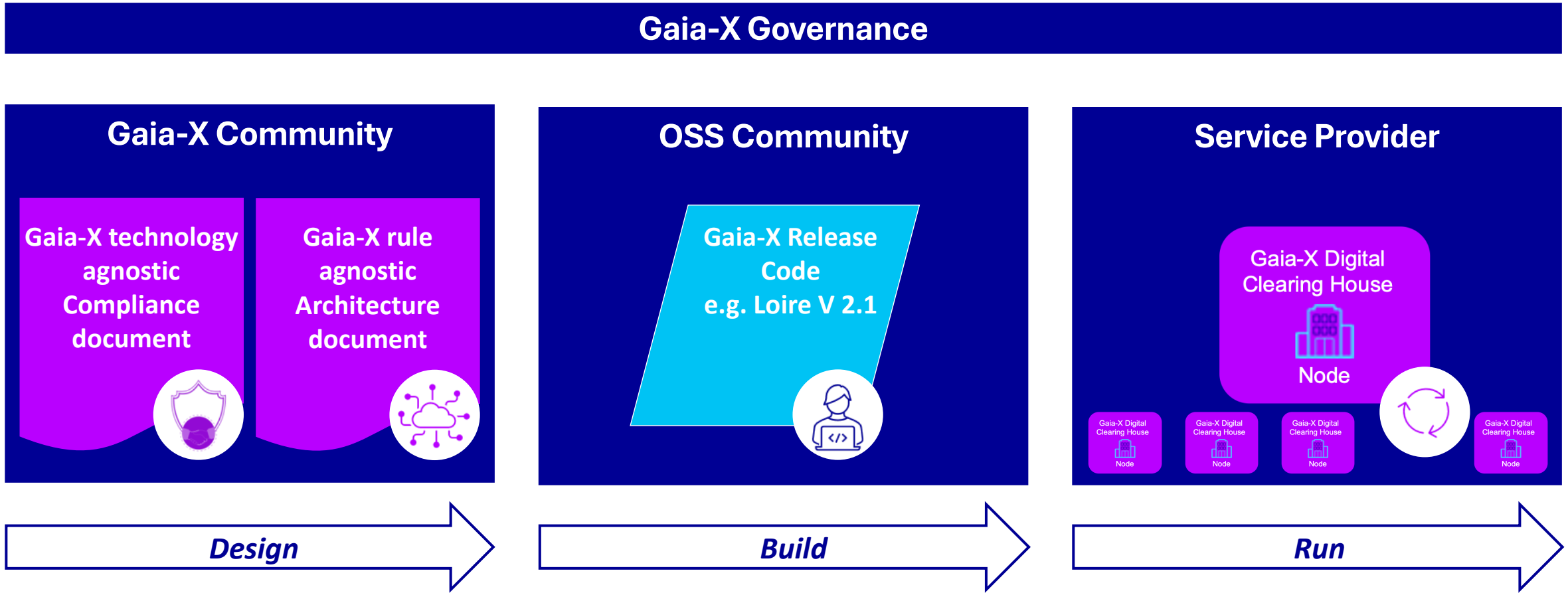
Data Spaces | Ecosystems – the problem in-between



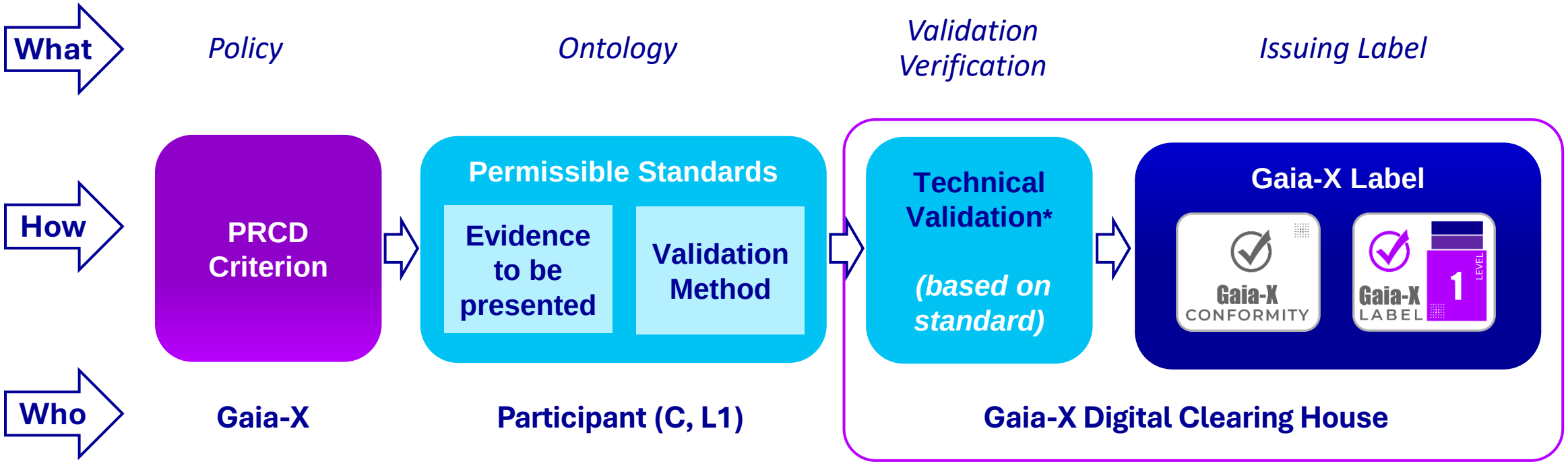
Solution | Gaia-X Trust Framework & Digital Clearing Houses



Gaia-X Trust Framework - From policies to production

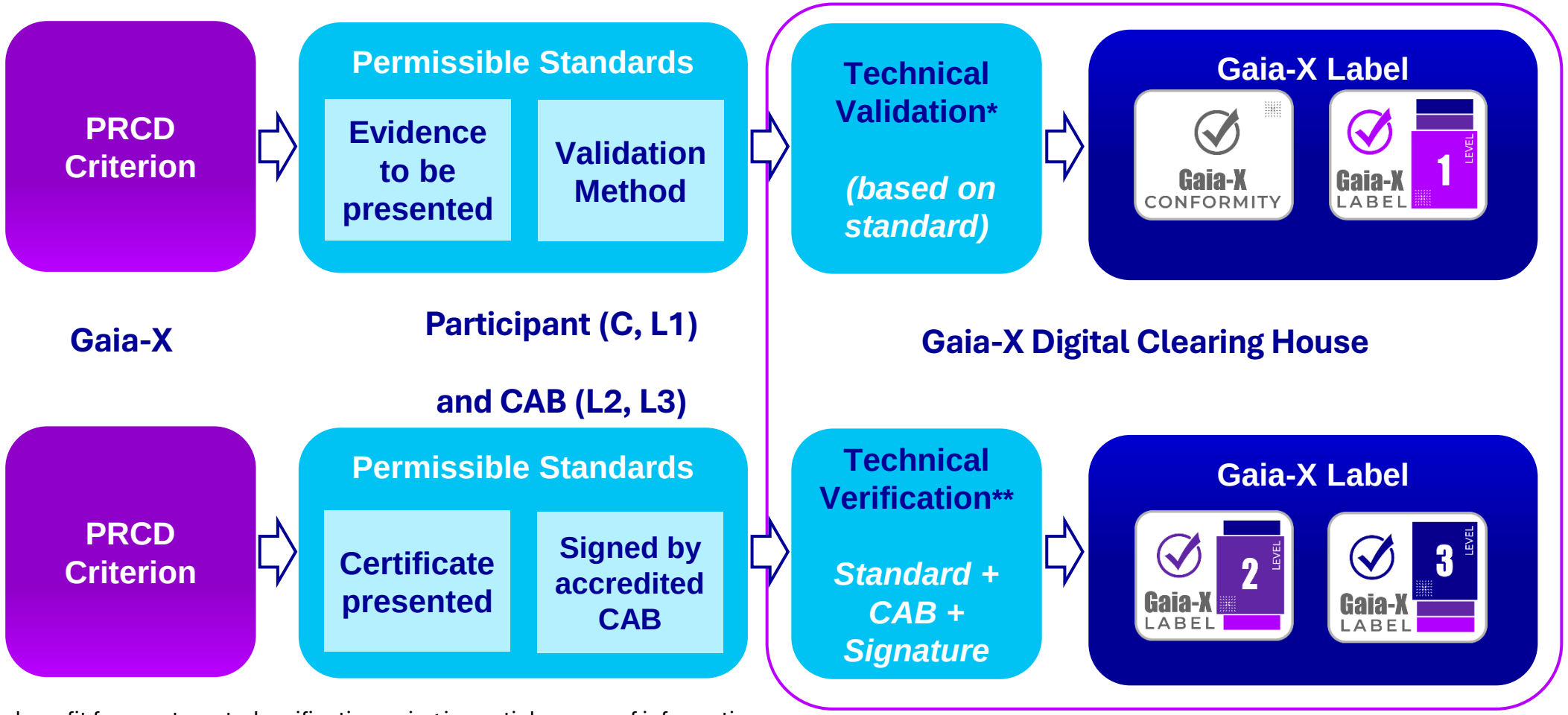


Implementation of technical validation & verification



*Few criteria benefit from automated verification using impartial source of information

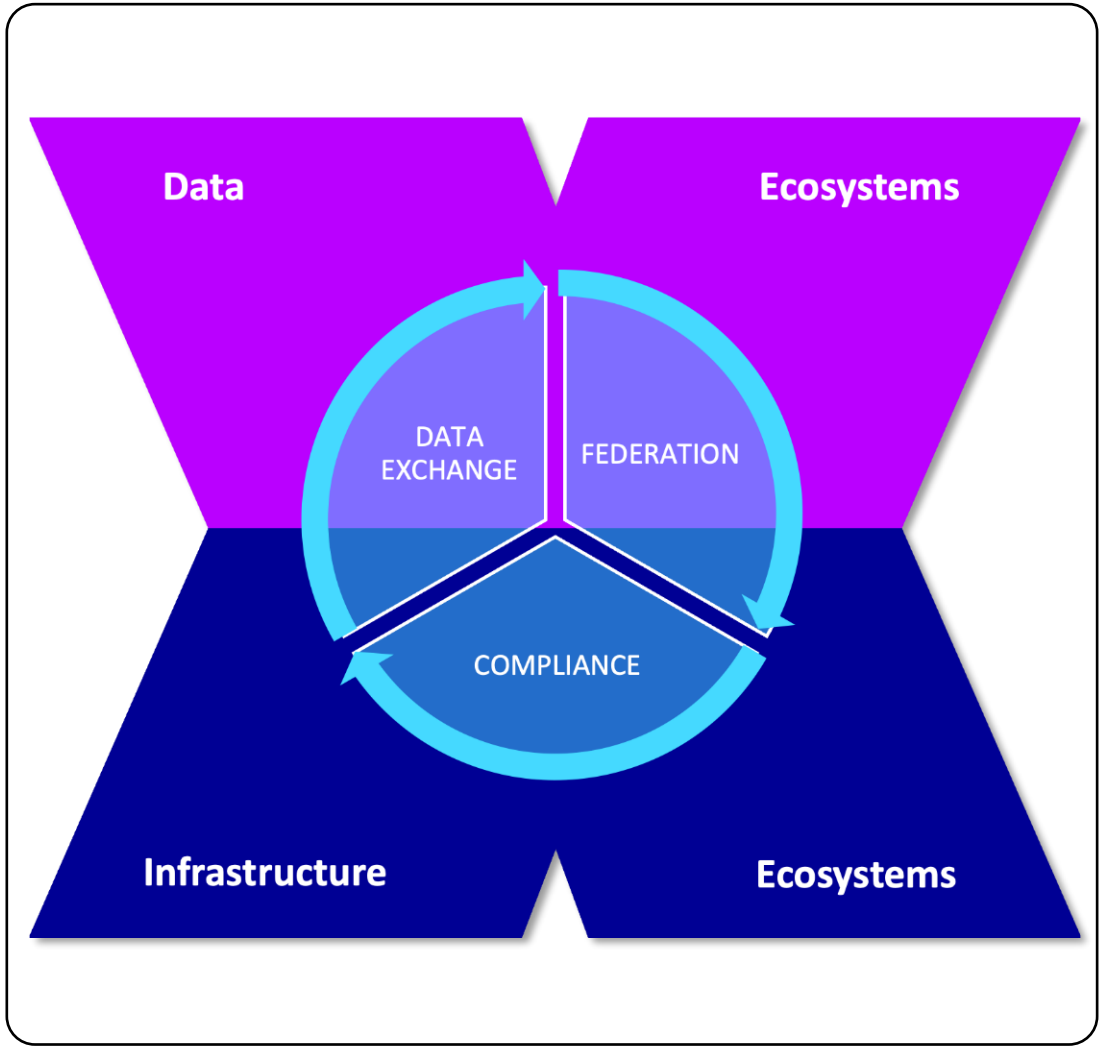
Implementation of technical validation & verification



*Few criteria benefit from automated verification using impartial source of information

**Few criteria in the 2nd flow are not yet covered by CAB and are following the 1st flow

Implementation of Sovereignty Controls



Gaia-X Trust Protocol Specification
allowing multiple
implementations (e.g., different "connectors").

CONTROLS *TEMPLATES*

Minimal Interoperability Credentials (MIC)
(TBD e.g. digital ID, Legislation, …)

Gaia-X CONFORMITY | Gaia-X LABEL LEVEL 1 | Gaia-X LABEL LEVEL 2 | Gaia-X LABEL LEVEL 3

Gaia-X Infrastructure Labels

Gaia-X Compliance & Label

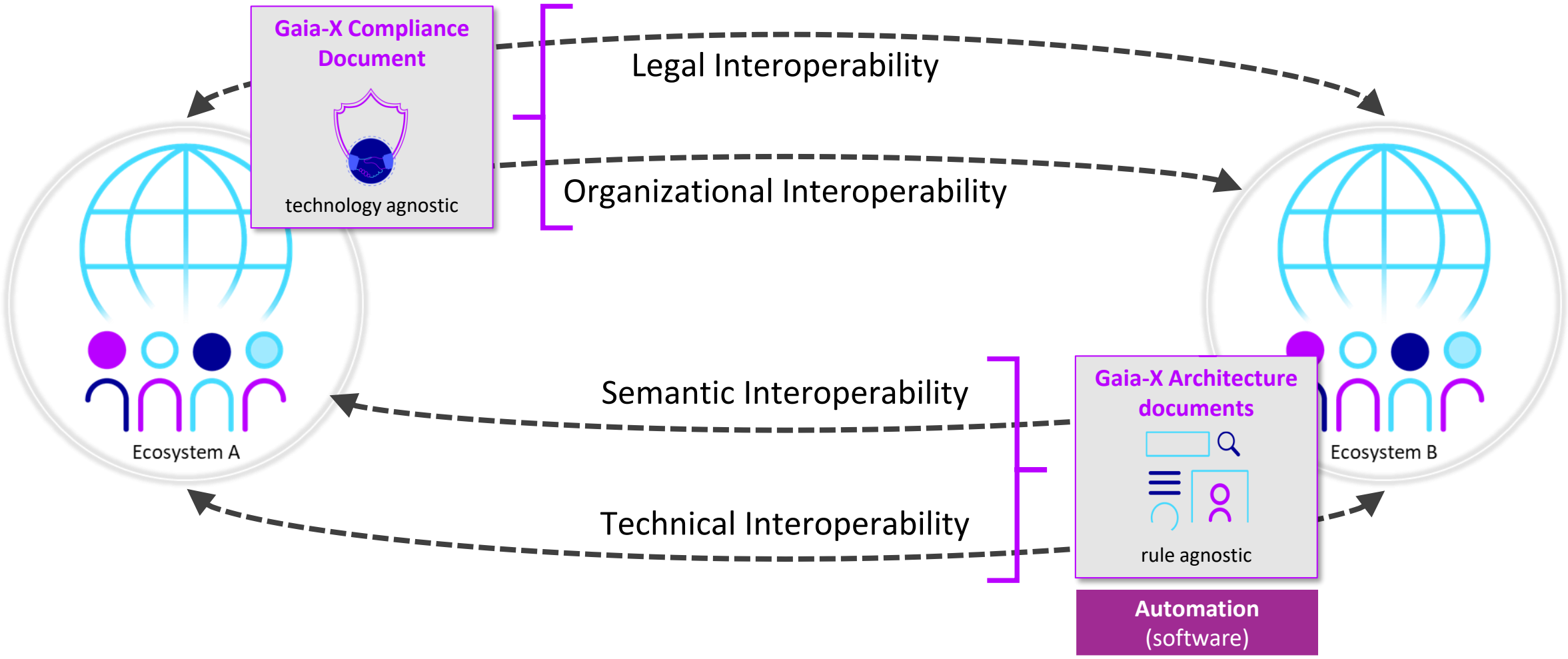
Technical Perspective

Christoph F. Strnadl

CTO

Gaia-X AISBL

Gaia-X Trust Framework: Two-Pronged Approach



Gaia-X Trust Automation (1): The Rules

Labels: consolidated groupings of compliance rules for Services

- Gaia-X **Standard Compliance**: Basic compliance with European values
- Gaia-X **Label Level 1**: Compliance with EU data protection rules
- Gaia-X **Label Level 2**: Enhanced cybersecurity and EEA-exclusive data processing
- Gaia-X **Label Level 3**: Highest level of data protection, ensuring no external access outside of EEA

	STANDARD COMPLIANCE	LEVEL 1	LEVEL 2	LEVEL 3
Declaration of Service or Product	✓	✓	✓	✓
Signed with verified method (e.g. eIDAS)	✓	✓	✓	✓
Automated validation by GXDCH	✓	✓	✓	✓
Automated verification by GXDCH*	✓	✓	+	+
Data Exchange Policies	✓	✓	✓	✓
Certified Label Logo		✓	✓	✓
Data protection by EU legislation		✓	✓	✓
Manual verification by CAB			✓	✓
Provider Headquarter within EU				✓

Criterion P2.1.2: The Provider shall define the roles and responsibilities of each party.

Standard Compliance	Label Level 1	Label Level 2	Label Level 3
declaration	declaration	certification	certification

Declaration: Using the Gaia-X ontology, evidences about the provisions covering the criterion, either copied from the legally binding document or in a structured machine-readable format (DSL), shall be provided. The evidence shall detail:

- roles and related responsibilities of the Provider and the Customer for the protection of personal data;
- responsibilities of the Provider and the Customer with respect to security measures.

Permissible Standards:

- SecNumCloud: 6.1.e, 19.1
- CISPE (GDPR, Infrastructure & IaaS): 4.3, 5.1
- EU Cloud CoC (GDPR, XaaS): 5.1.C
- In case of a Code of Conduct (Art. 40 GDPR): assessment by an accredited monitoring body for the respective Code of Conduct, Art. 41 GDPR. Assessment process as defined by the respective Code of Conduct / accredited monitoring body.
- In case of a Certification (Art. 42 GDPR): assessment by an accredited Certification Body for the respective Certification (Art. 43 GDPR). Assessment process as defined by the respective Certification / accredited certification body.

Gaia-X Trust Automation (2): The Translation

PRC (Policy & Rules Committee): PDF

Criterion P1.2.5: The Provider shall declare the general location of any processing of Customer Data, allowing the Customer to determine the applicable jurisdiction and to comply with Customer's requirements in the context of its business and operational context.

Standard Compliance	Label Level 1	Label Level 2	Label Level 3
declaration	declaration	declaration	declaration

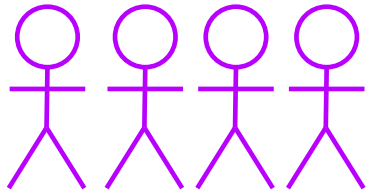
Declaration: The declaration shall include the following details:

1. resources and dependencies of the Service Offering, using the Gaia-X Ontology.
2. country and administrative area of physical resources.
3. management access location

Permissible Standards:

- CISPE (GDPR, Infrastructure & IaaS): 4.4
- CSA CCM: DSP-19

Gaia-X CTO Team: GitLab



Translation is a team effort

- Legal background (VP Compliance)
- Business Analyst (Tech Project Manager)
- Tech Lead
- Software Engineer

Class in **Gaia-X Ontology**

Checks that the `ServiceOffering` has at least one `Resource` containing a `location` with an `administrativeAreaCode`.

Implemented by ServiceOfferingHasAResourceWithAddressFilter

implementing function in **Gaia-X Compliance Service**

Gaia-X Trust Automation (3): The Code

Gaia-X CTO Team: GitLab (text)

Checks that the `ServiceOffering` has at least one `Resource` containing a `location` with an `administrativeAreaCode`.

Implemented by ServiceOfferingHasAResourceWithAddressFilter

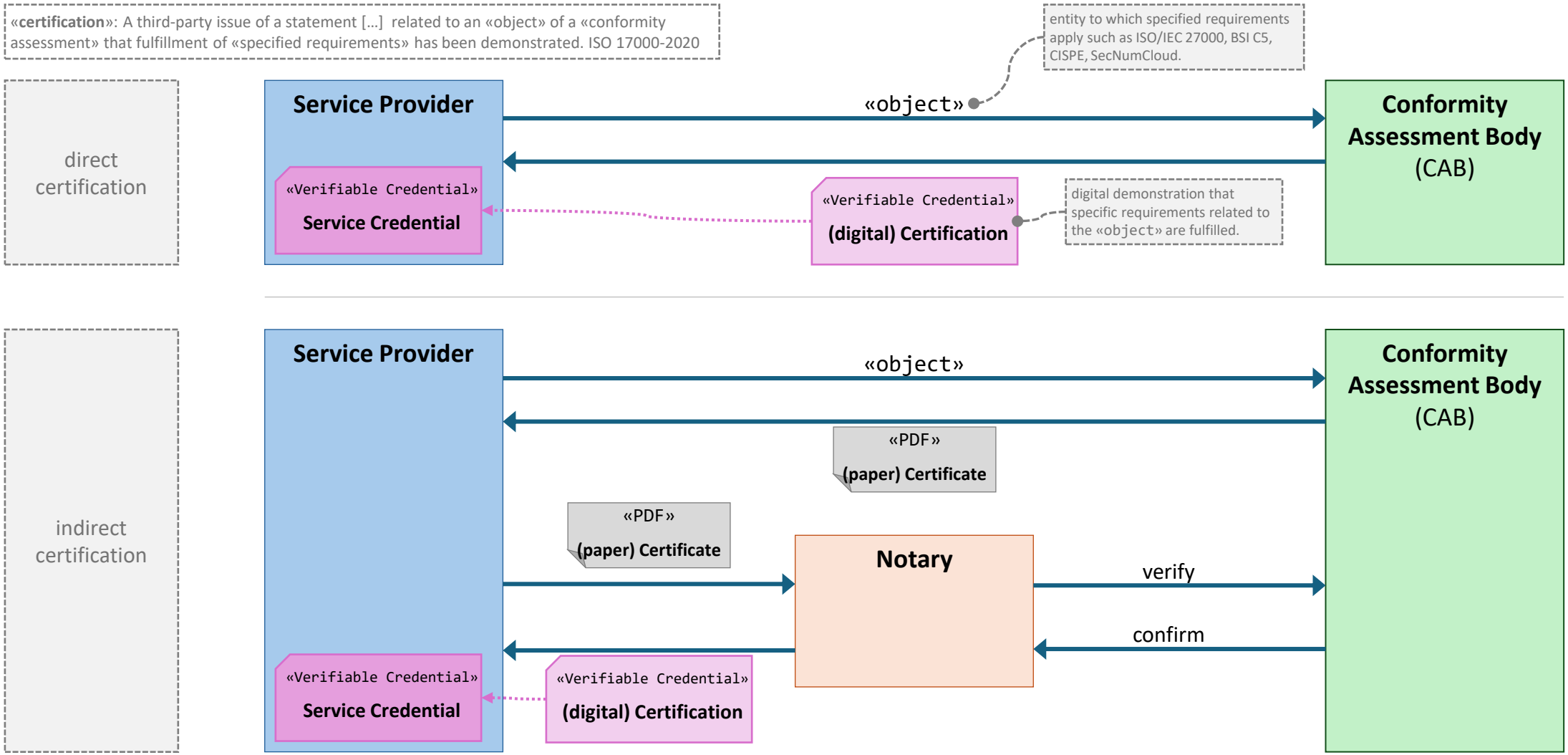
Gaia-X CTO Team: GitLab (code)

```
export class ServiceOfferingHasAResourceWithAddressFilter implements ValidationFilter {
  private readonly logger: Logger = new Logger(ServiceOfferingHasAResourceWithAddressFilter.name)

  async doFilter(vpUUID: string, _verifiablePresentation: VerifiablePresentation, driver: Driver): Promise<FilterValidationResult> {
    this.logger.debug(`Checking that service offerings have a resource with an address for VPUUID ${vpUUID}...`)

    const query = `MATCH (location)
     <-[:_https_w3id_org_gaia_x_development_location_]-(resource)
     <-[:_https_www_w3_org_2018_credentials_credentialSubject_]-(resourceVC)
     -[:_http_www_w3_org_1999_02_22_rdf_syntax_ns_type_]->(resourceType)
     WHERE location.vpID="${vpUUID}" AND resource.vpID="${vpUUID}"
     AND (resourceType.value=~"<https://w3id.org/gaia-x/.*#PhysicalResource>" OR resourceType.value=~"<https://w3id.org/gaia-x/.*#Datacenter>"
     CALL {
       WITH resource
       MATCH (resource)
       <-[:_https_w3id_org_gaia_x_development_aggregationOfResources_]-(serviceOffering)
       <-[:_https_www_w3_org_2018_credentials_credentialSubject_]-()
       -[:_http_www_w3_org_1999_02_22_rdf_syntax_ns_type_]->(serviceOfferingType)
       WHERE serviceOffering.vpID="${vpUUID}" AND serviceOfferingType.value=~"<https://w3id.org/gaia-x/.*#ServiceOffering>"
       RETURN DISTINCT serviceOffering
      }
    RETURN serviceOffering.value as ID,COUNT(*) as anyExisting`
    const session = driver.session()
    try {
      const results = await session.executeRead(tx => tx.run(query))
      let hasAddress = false
      if (results.records.length > 0) {
        hasAddress = results.records
          .flatMap(record => {
            return record.get('anyExisting')?.toNumber() > 0 || false
          })
          .reduce((previousValue, currentValue) => previousValue && currentValue)
      }
```

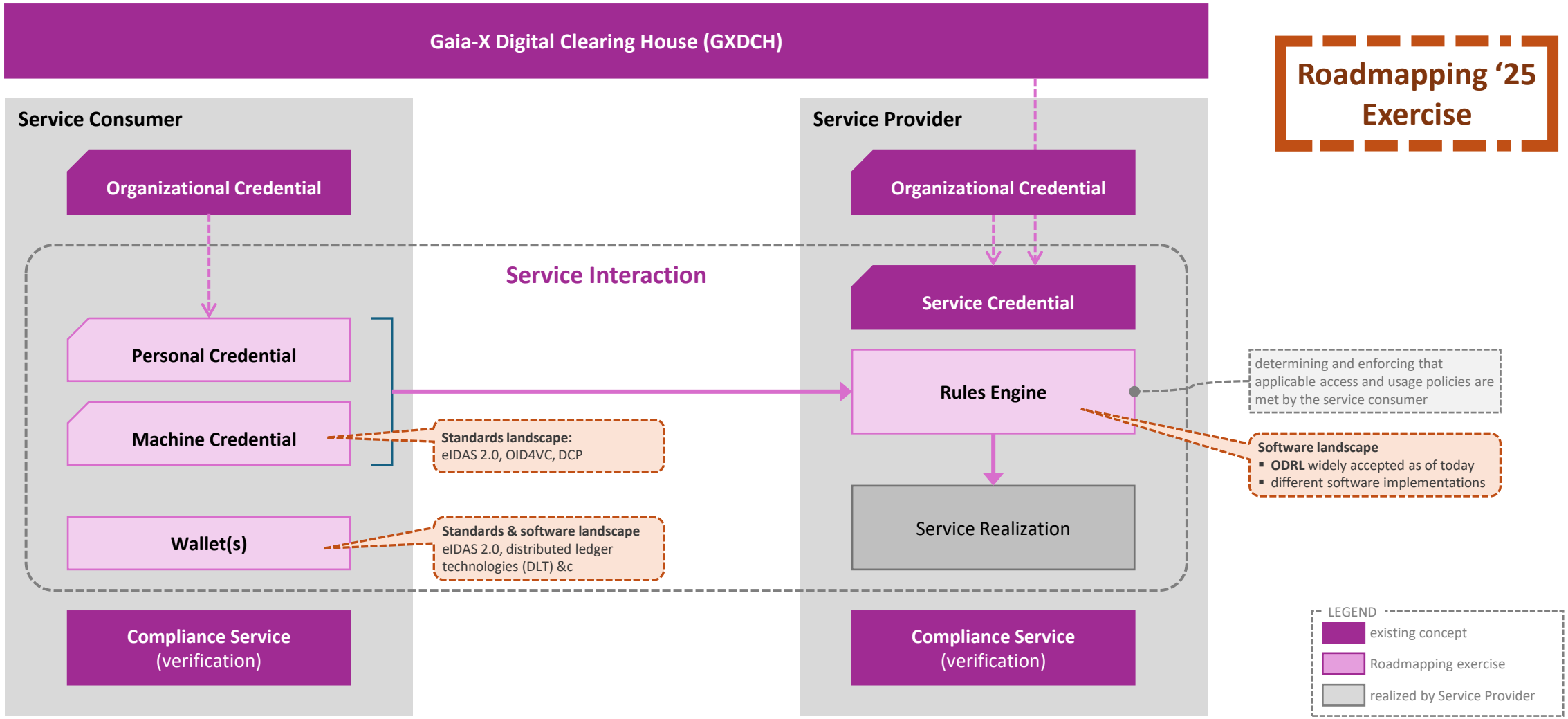
Gaia-X Compliance Service

Gaia-X Label Level 2 & 3: Certification Automation

«**certification**»: A third-party issue of a statement […] related to an «object» of a «conformity assessment» that fulfillment of «specified requirements» has been demonstrated. ISO 17000-2020



Adoption: Service Interactions



Data Space Application and Gaia-X

Challenge	Gaia-X solution
Trust between parties, or participants	Digital Clearing Houses
Access to High Quality Data	Gaia-X Architecture & Trust Framework
Need for a trustworthy Ecosystem	Gaia-X Ecosystem and interoperability
Global legislation challenge	Labels & Data Exchange policies enforcement

Let‘s make data sovereignty real!

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Gaia-X AISBL

Gaia-X Trust Framework: How to build interoperable data-infrastructure ecosystems

Catherine Simonnin

Tech lead Trust

Orange

Frédéric Bellaiche

VP Technology & Research

Dawex

Sven Löffler

Head of Dataspaces & Data Products

T-Systems International

Can you remind us the different layers of interoperability ?

Interoperability layers

Gaia-X is not about legal enforcement

Legal interoperability

Gaia-X Compliance document.

Organisational interoperability

This document is **technology agnostic**.

Semantic interoperability

Technical interoperability

Gaia-X Architecture documents.

Those documents are **rule agnostic**.

Ecosystem A

Ecosystem B

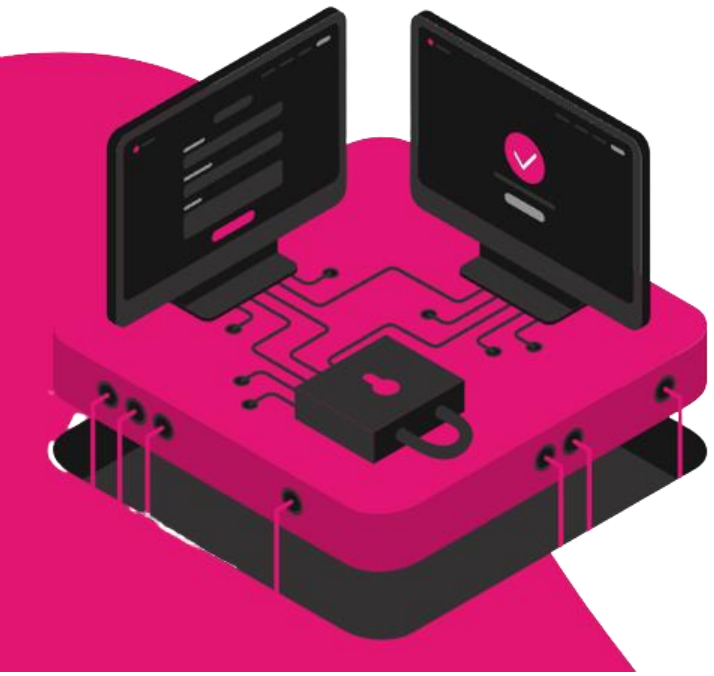
Layers from the European Interoperability Framework.

interoperable europe

Gaia-X technical compatibility.

What are the Trust Anchors (TA) for your domain ?

Digital.ID | Certificate & signing services

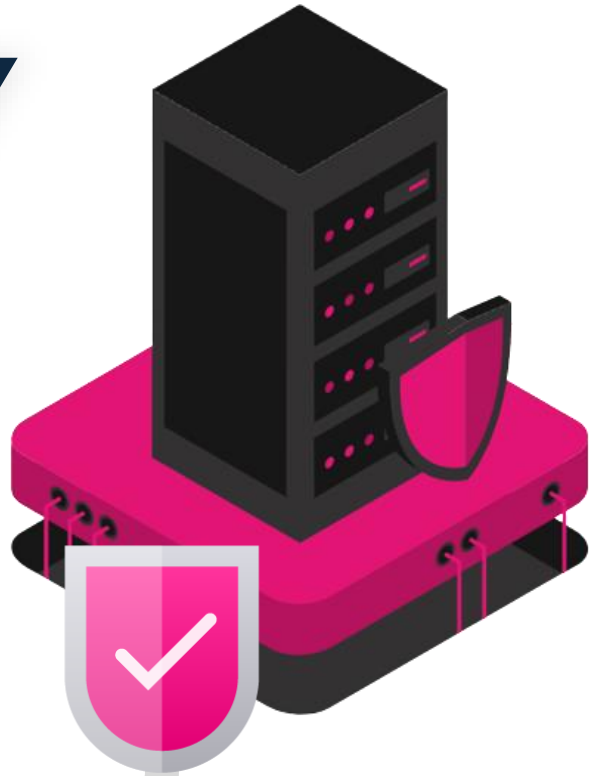


eIDAS conform certificate & signing services with PKI from our **Trust Service provider**

Usage of **eSignatures** and **eSeals** guarantee proof or origin , integrity and **higher trust level** in your ecosystem

High availability and **reliability** through Service Level Agreements (SLAs) and managed service

Integration into Digital.ID allows **user-friendly issuing** of Verifiable Credentials and **signing** process



Establishing global trust framework initiative for data spaces

Our vision

- Establish technical federation of trusts across countries (e.g. trust anchors and trust services)
- Foster interoperability among dataspace initiatives worldwide
- Ensure secure and efficient data collaboration
- Prepare to establish a governance body

Technical pilot overview

Phase 1 Prototype the trust anchor on a testbed in Japan for broad participation.

Phase 2 Integrate Tractus-X sandbox to test interconnectivity with the prototype of the trust anchor and identify technical gaps

Phase 3 Deploy cross-regional use cases with partners to assess interoperability

Phase 4 Develop tools for technical mutual recognition and international interoperability of trust services and anchors

Technical infrastructure

Use existing components and knowledge, examples are:

Gaia-X solutions
Leverage Digital.ID and Gaia-X Digital Clearing House by T-Systems and NTT

Federation expertise
Use Fujitsu & NTT's trust service and trust anchor federation knowledge and technology

Catena-X/ Tractus-X Sandbox
Use T-Systems' IDSA & Gaia-X compliant testbed at University of Tokyo

gaia-x UTokyo NTT Communications NTT DATA FUJITSU T-Systems

Can you present the Gaia-X Trust Framework ?

Interoperability frameworks and tools provided by Gaia-X

Gaia-X Compliance Document

Criteria A.C

Criteria ..

Conformity Assessment Bodies

Permissible standards

Gaia-X Architecture Documents

Founding concepts to establish the Gaia-X Ecosystem

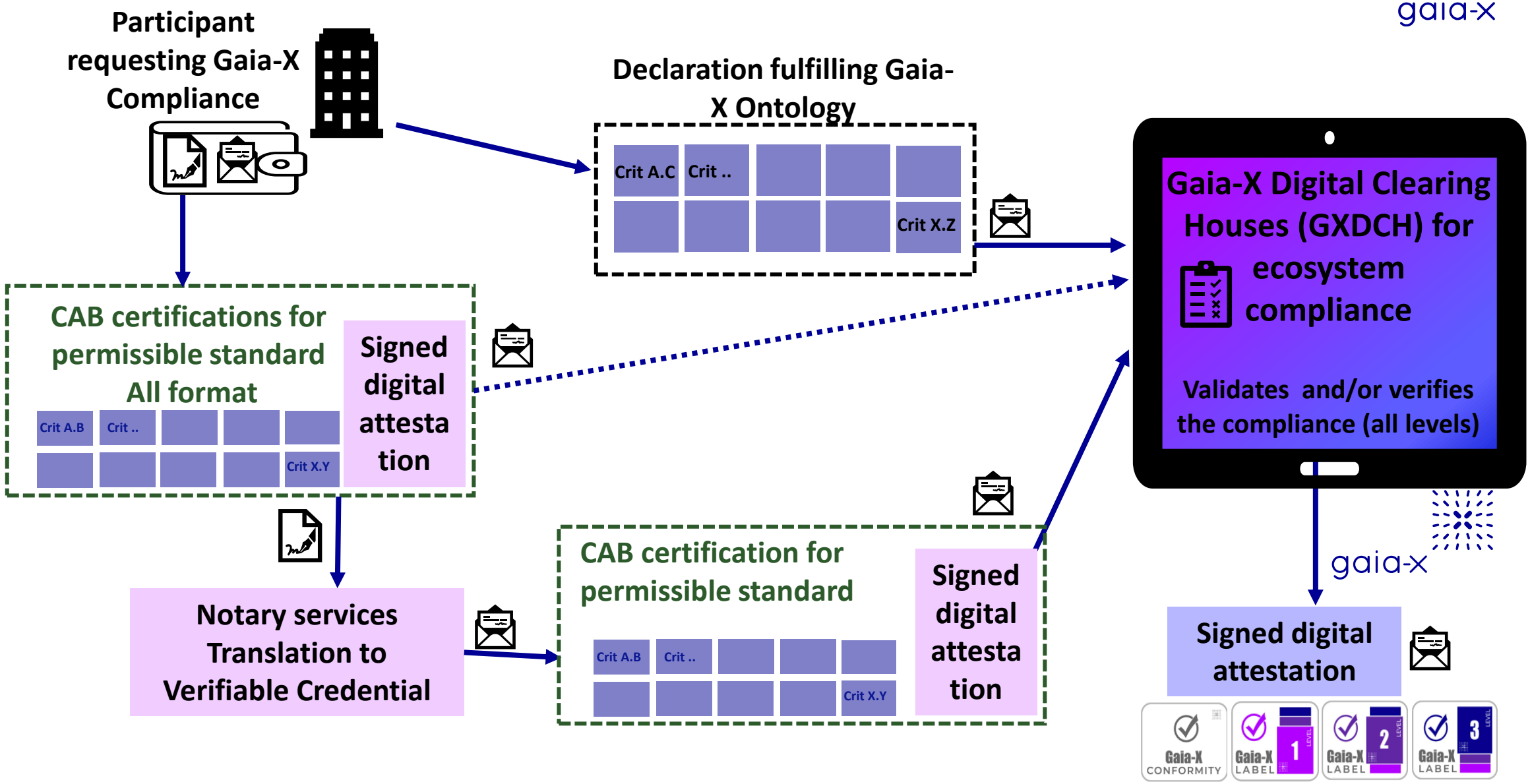
Gaia-X Digital Clearing Houses (GXDCH) a software tool for ecosystem compliance

Validates and/or verifies the compliance (all levels)

Tools & Services to operationalise automated compliance

Today, what rules and what tools Gaia-X provides to help you with the assessment for trusted data transaction and trusted service consumption ?

As a Service Provider, how can I get a Gaia-X Label ?



As a Technology/Service Provider (wallet, data platform, ICT services), what is ready today ?

Gaia-X Compliance meets Open Telekom Cloud

gaia-x

Step 1: Understanding **Gaia-X Labeling Criteria and Gaia-X Ontology**

Step 2: Mapping existing **Certifications** to **Gaia-X Criteria** and closing the gaps

Step 3: Creating **Verifiable Credentials** and digitally signing them

Step 4: **Submit for Compliance** check and **share** the results

Object Storage Service

Results

First Gaia-X Label Level 1 achievement by a trusted cloud service provider - Open Telekom Cloud
https://dih.telekom.com/.well-known/gx-compliance/24.06/open-telekom-cloud/obs

Read more!

T Systems

#GaiaXSummit24

Orange Live Identity Wallet

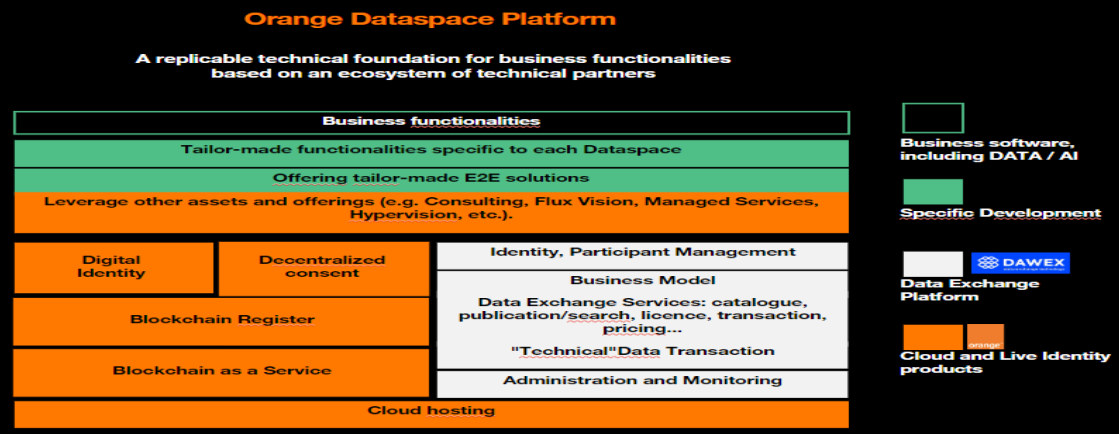
the wallet for organizations

Live Identity Wallet is a Self Sovereign Identity Wallet for Legal Person allowing to:

- Managed Verifiable Credentials
- Manage delegations
- Manage authorizations/permissions
- Exchange of messages (e.g. permission demands)

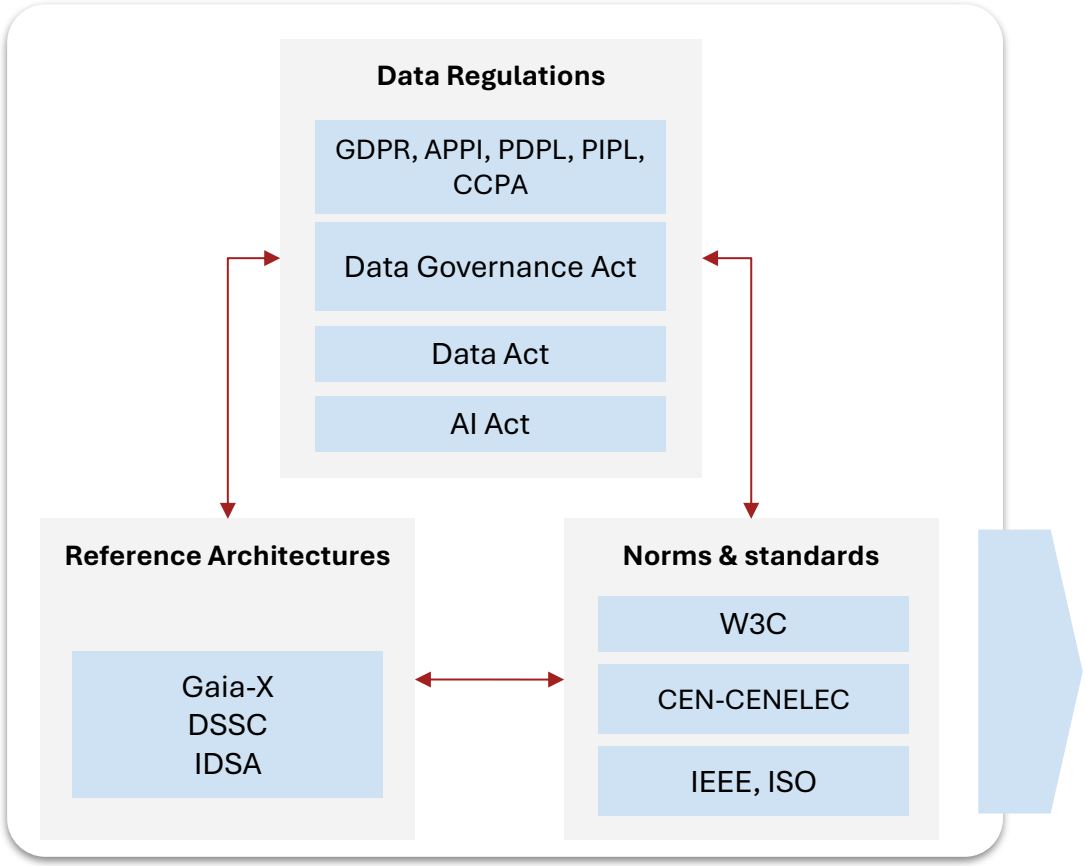
The solution

- is able to handle different ecosystems with their own governance model
- aims to be compliant with open standards, DID methods and registries



How the Gaia-X Trust Framework can influence standardisations ?

Regulations, reference architectures and standards are paving the way for generalized data exchanges



Three powerful levers to:

- Create **trust in data spaces** and **data ecosystems**
- Facilitate **interoperability**
- Ensure the highest level of **security** and **privacy** as well as **sovereignty** to all stakeholders

TRUSTED DATA TRANSACTION + **Data Space Protocol**

What challenges do you see for scaling data space, at your level, at Gaia-X level, at the EU level ?

Final words ?

Thank you!

Networking Lunch & Expo Area

12:30 – 14:00

Gaia-X Booth Programme

- 12:30 – 12:40 **Benefits of Gaia-X Membership** | Daniela Mockler, Gaia-X, Senior Members' Manager
- 12:40 – 12:50 **Communications Benefits for Gaia-X Members, Hubs, Lighthouse Projects and Ecosystems** | Jodie Emery, Gaia-X, Internal Communications Officer
- 12:50 – 13:00 **Membership and Matchmaking Platform: an update for members** | Daniela Mockler, Gaia-X, Senior Members' Manager
- 13:00 – 13:10 **Gaia-X Digital Clearing House – how to** | Frederik Tengg, Gaia-X, Release Manager
- 13:10 – 13:20 **Sprints the agile member contribution** | Przemek Halub, Gaia-X, Program Manager