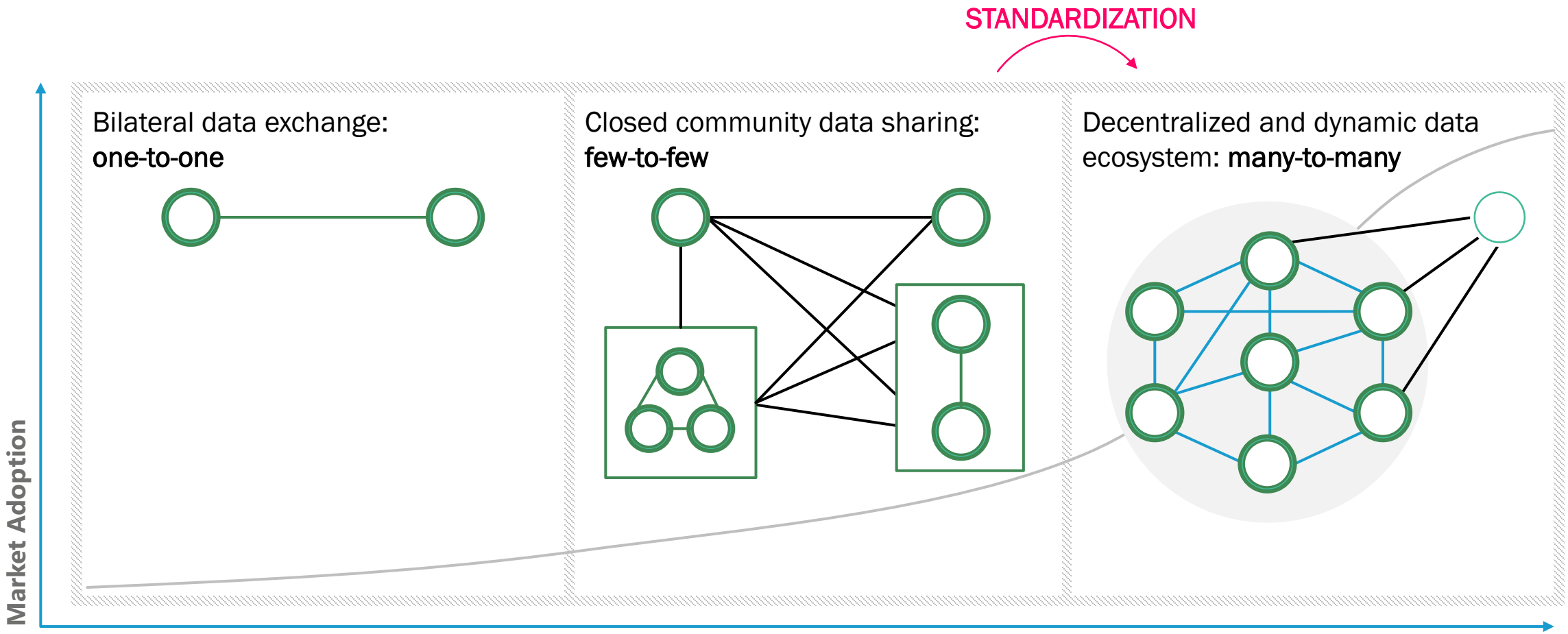
Gaia-X & GXDCH

Paving the Way for Secure and Federated Data Usage

Creative Valley Utrecht, September 25th 2024

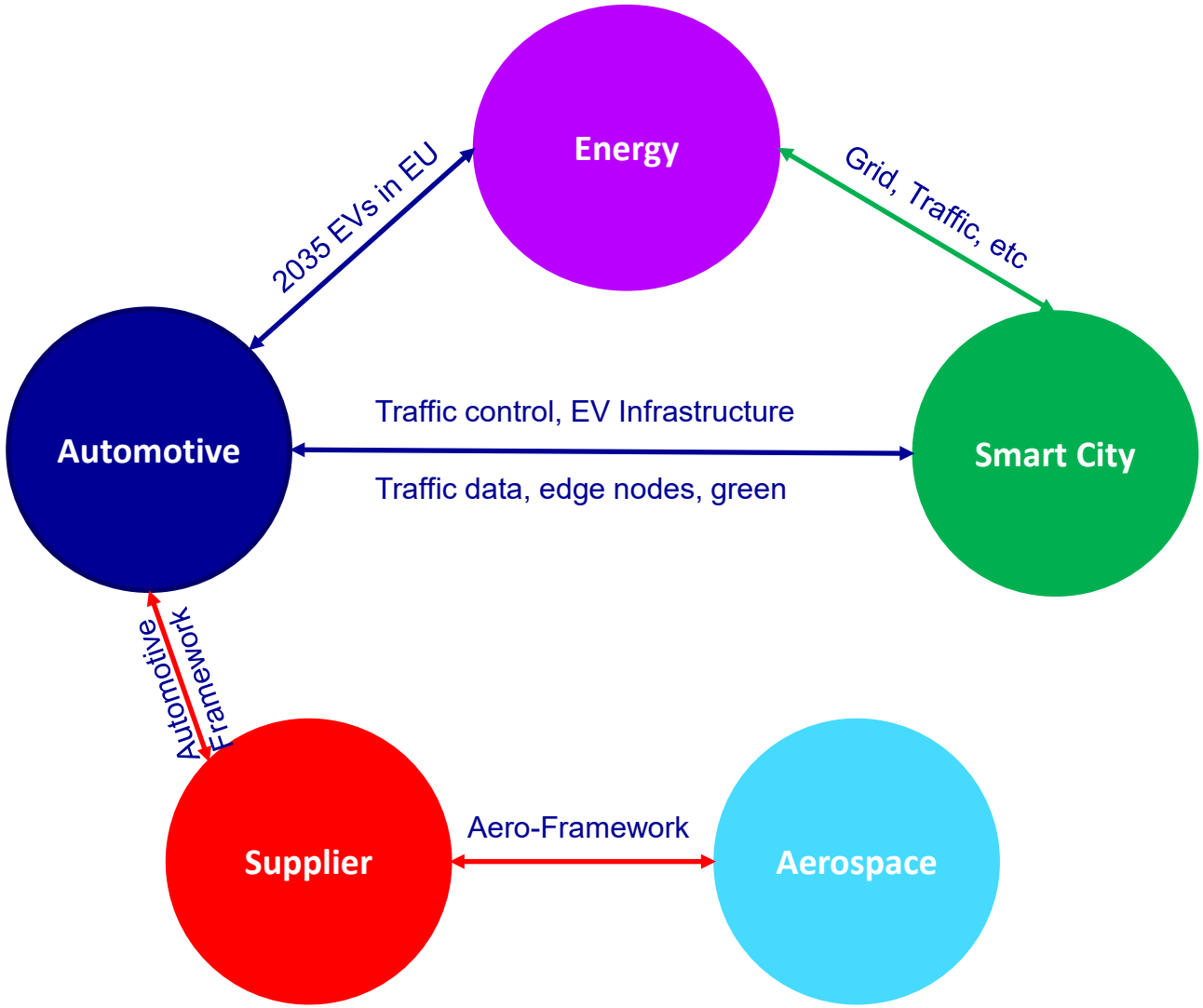
Frederik Tengg | Release Manager
Gaia-X European Association for Data and Cloud

The demand for Data Spaces



Source: Data Spaces Business Alliance

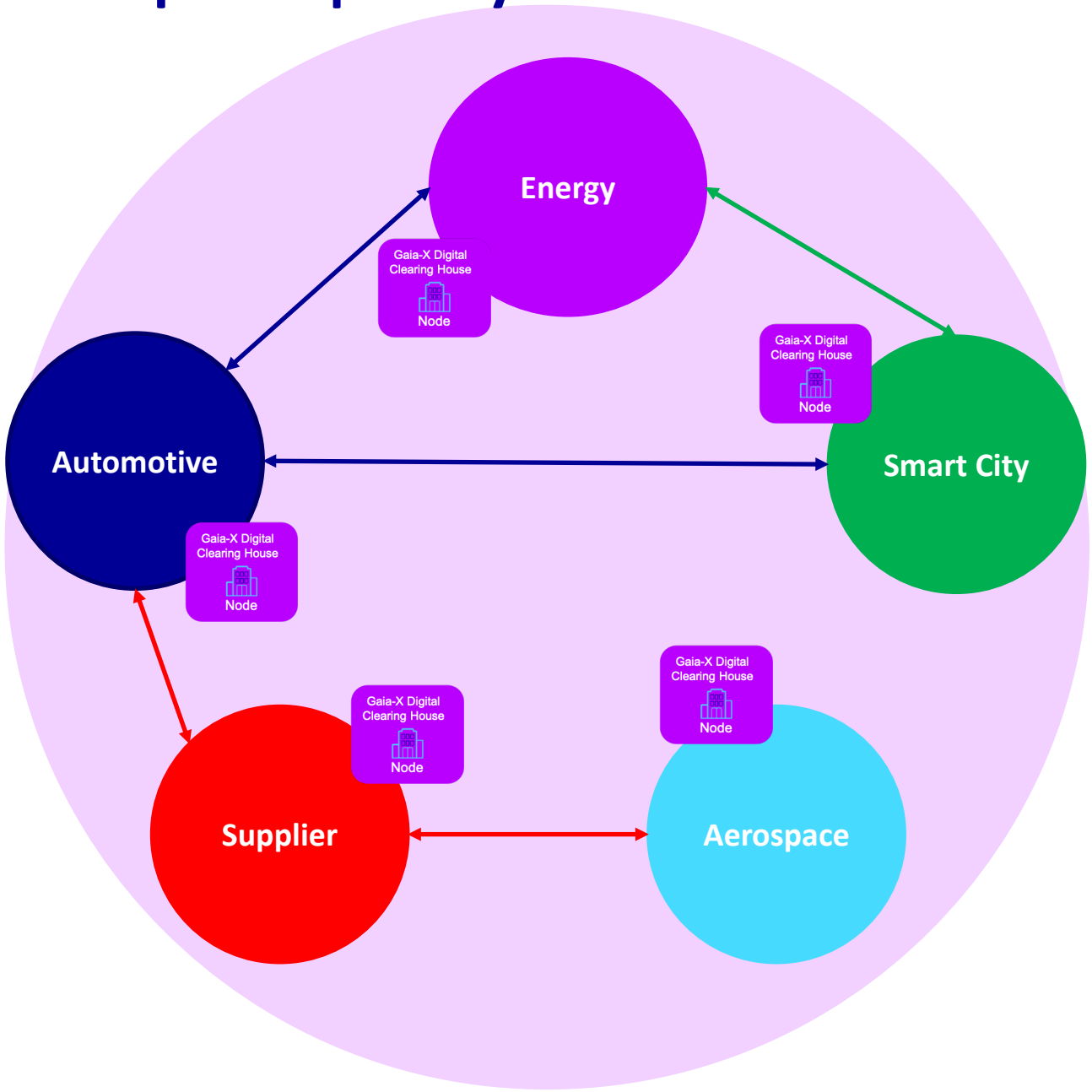
Data Spaces | Ecosystems – the problem in-between



Limits of current Dataspace Projects

- Each Data Space has an internal Trust (organizational, contractual and/or technical)
- Different Data Spaces do not automatically trust these internal trusts
- Dataspaces might have multiple customer Dataspaces
- A neutral, external Trust Framework is needed to enable X-Dataspace exchange

Data Spaces | Ecosystems – The solution GXDCH



Why the Gaia-X Trust Framework

- All Dataspaces can exchange data directly
- All Dataspaces can use the same Trust Framework outside their boundaries
- All Dataspaces can still deploy their internal trust mechanisms
- All Dataspaces can build hybrid models
- New ecosystems can be connected or created

DPP a cross different Industries?

Dataspace Governance Authority and Trust Framework

Example International travel

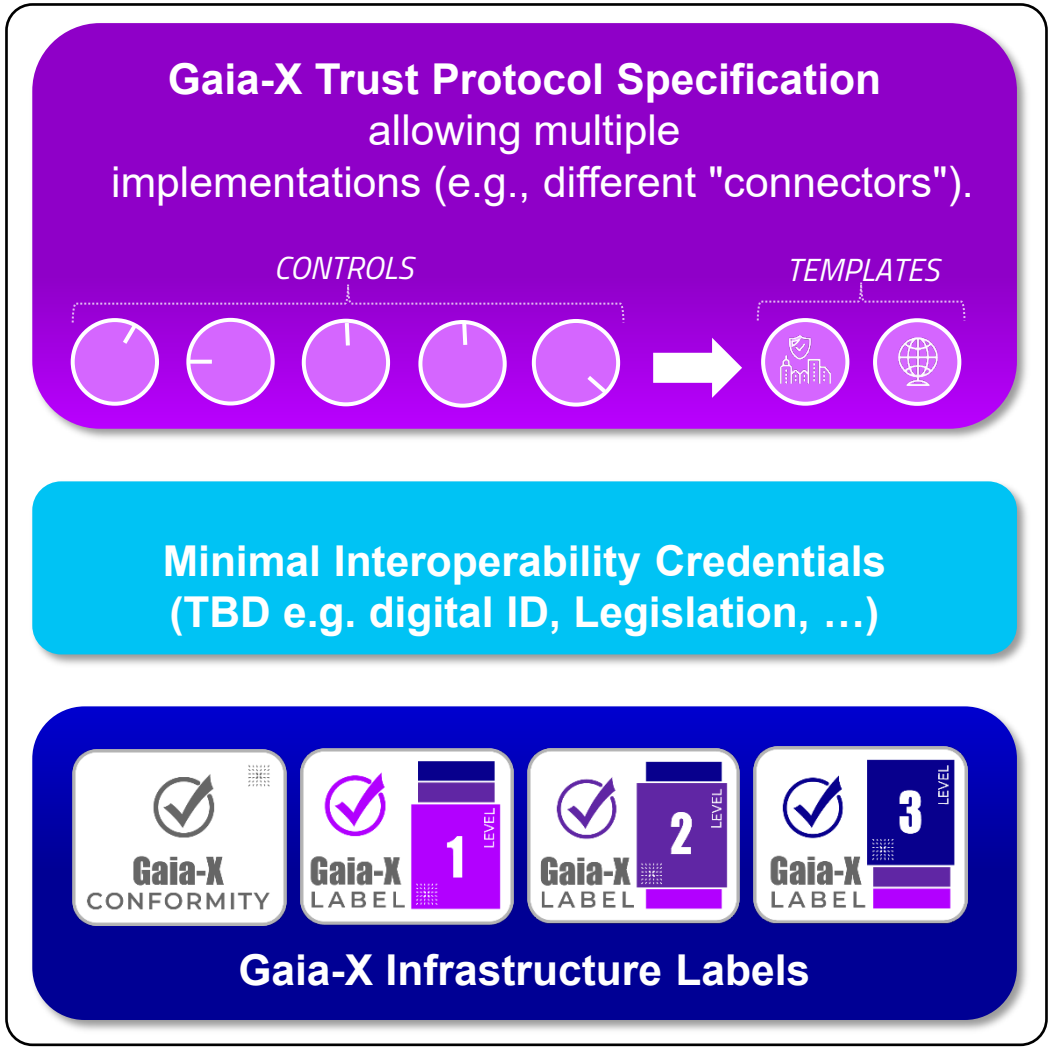
1. Countries agree on travel “policies”
2. Countries agree on requirements for passports/IDs
3. Each country has its own process and authorities to issue passports/IDs
4. Each country defines what citizens can do with their IDs (digital public services)

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

Implementation of Sovereignty Controls

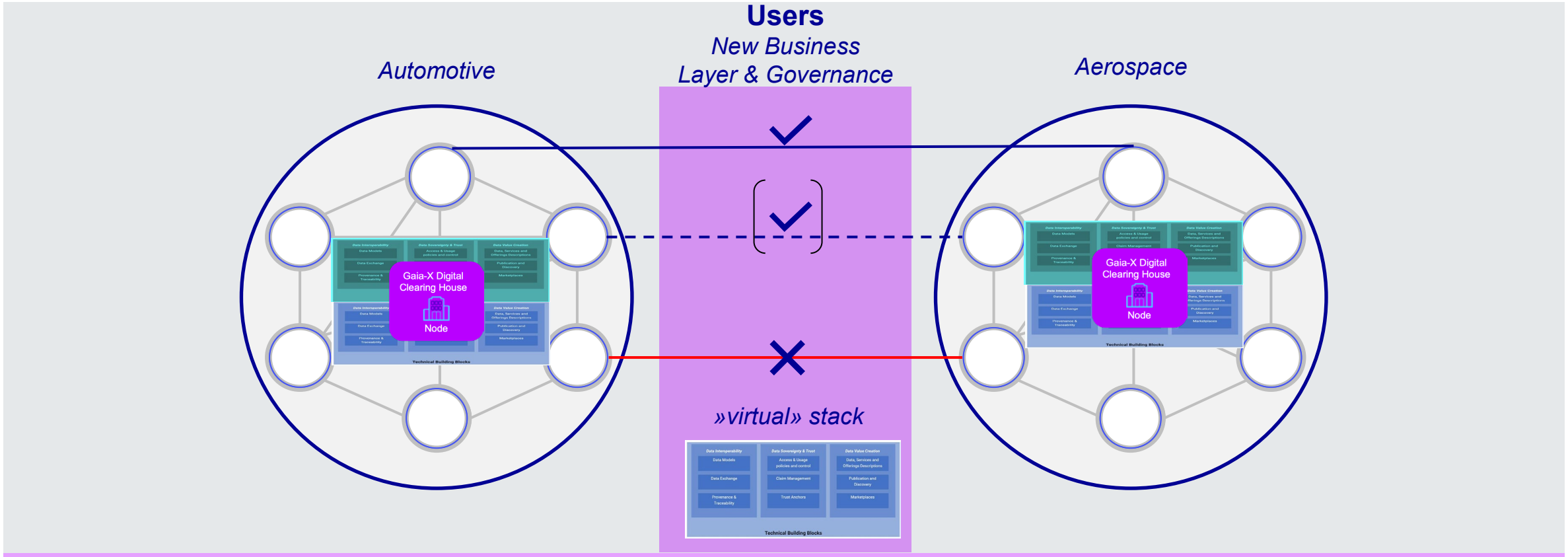


- There are no “per-use-case” data usage policies enforced today
- Industries need to have a choice (no monopoly, no lock in) and control of their policies
- Open standard as basis for interoperability (ODRL)
- Connectors, which can read and securely enforce agreed policies are essential (regardless where the policies are coming from (DS or GXDCH)

- MIC will be defined next based on requirements by Lighthouse projects and Ecosystems

- Optional **Infrastructure compliance Levels (**will be available in **Loire,** November 2024)
- Use cases and the market decide on the level of sovereignty

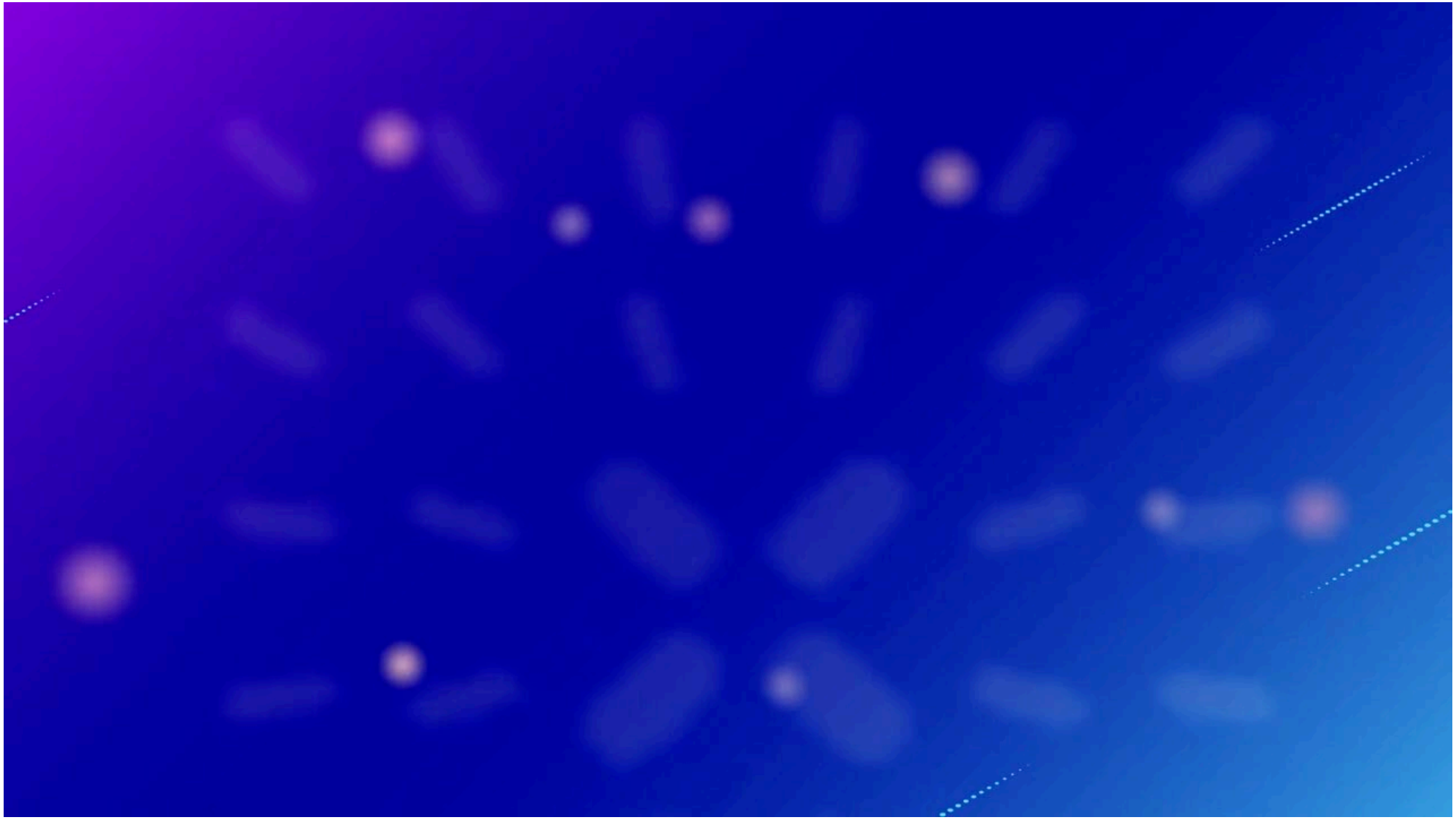
Selective data usage enablement between Dataspaces



Business Benefits

Secure investment, safe cost, accelerate Go2Market, reduce transaction cost, easy integration

Gaia-X Digital Clearing House (VIDEO LINK)



Gaia-X Digital Clearing House

GXDCH Components*


Gaia-X Registry (compulsory)


Gaia-X Compliance (compulsory)


Notary (compulsory)


Wizard (optional)


Catalogue (optional)


Credential Event Service (Optional**)

Gaia-X Digital Clearing Houses Signed

- T-systems
- Aruba
- Aire Networks
- OVH
- Exaion
- Arsys
- deltaDAO
- Orange
- Pfalzkom

Pipeline

- Proximus
- A1.digital
- KPN
- …

* Current list, may expand in future releases
** CES will become mandatory in Loire (next release)
*** not all criteria can be automated, “+” means automated verification if the evidence issuer (Standard & CAB)

Gaia-X 24.06 (Loire)

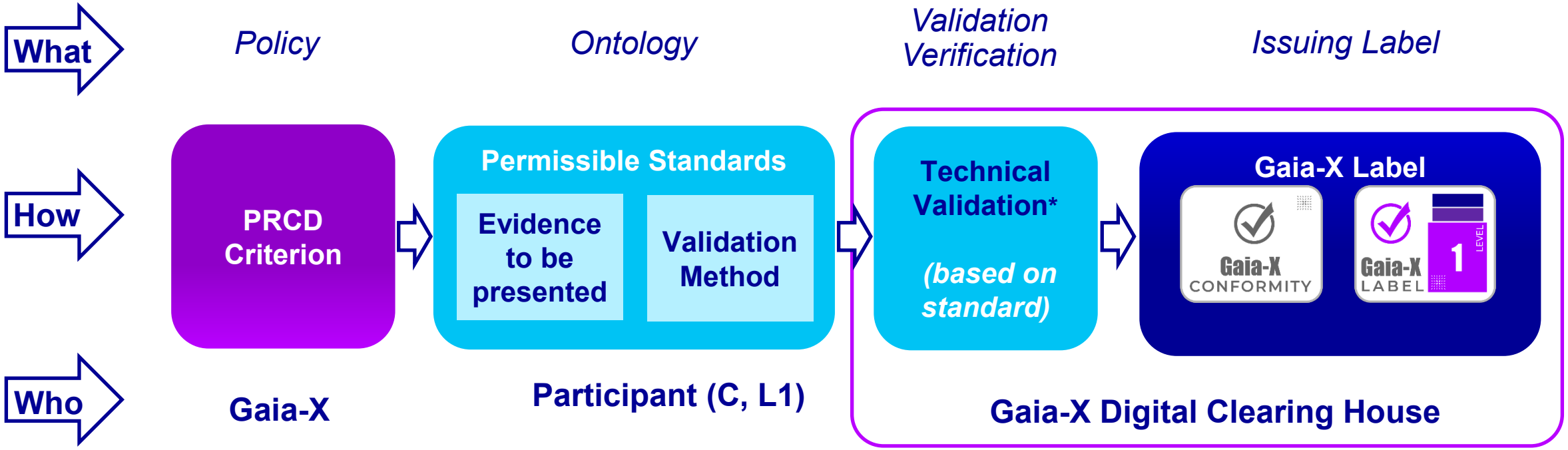
- In Tagus, Level 1 is based on a single self-declaration to "obey" the rules.
- In Loire, Level 1 is based on individual validation and where possible verification of the 62 criteria, significantly increasing veracity.

	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				✓

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

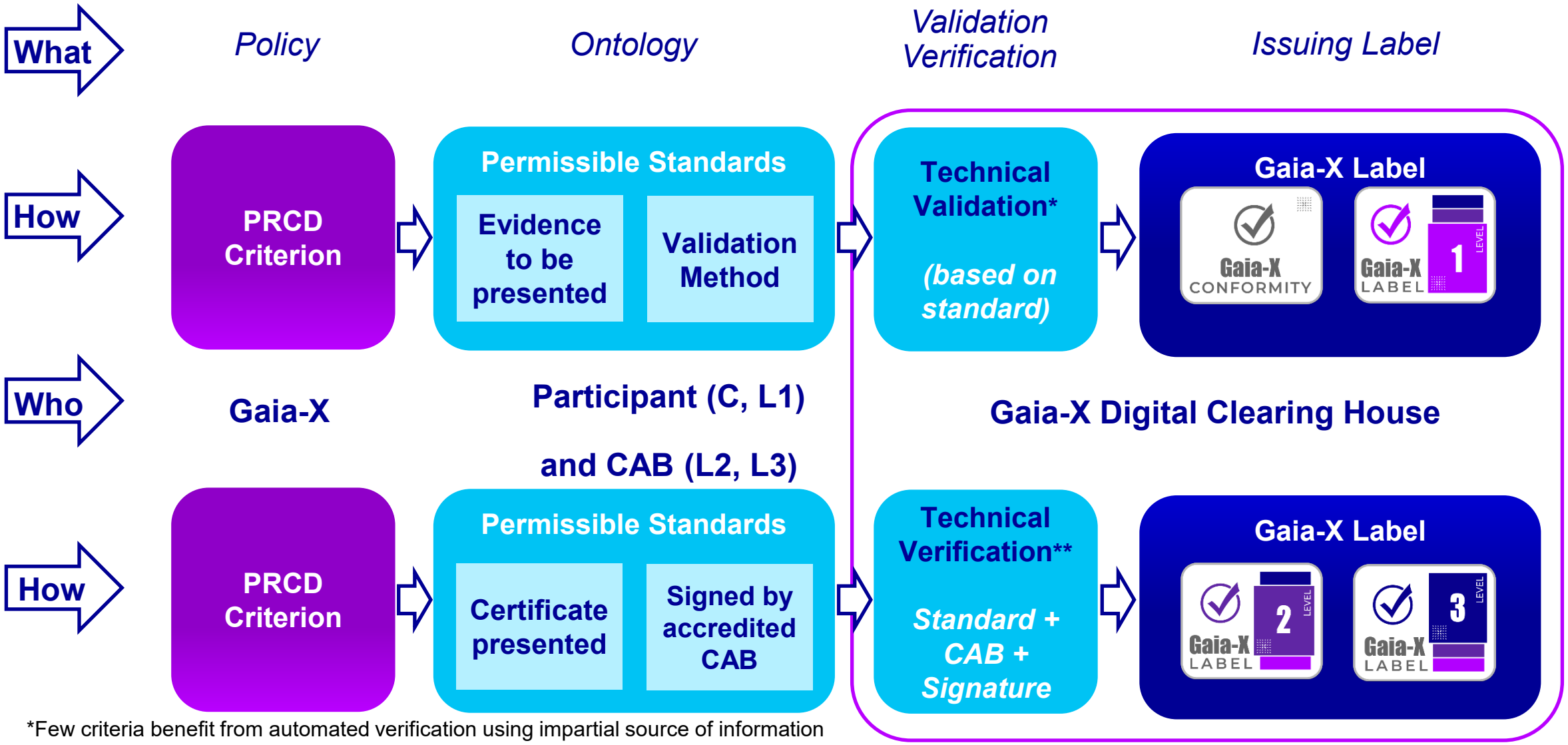
- Loire will, in later minor releases, also enable Level 2 & Level 3 through external CABs and verification of the certificates (permissible standard + accredited CAB+valid signature)

Implementation of technical validation & verification



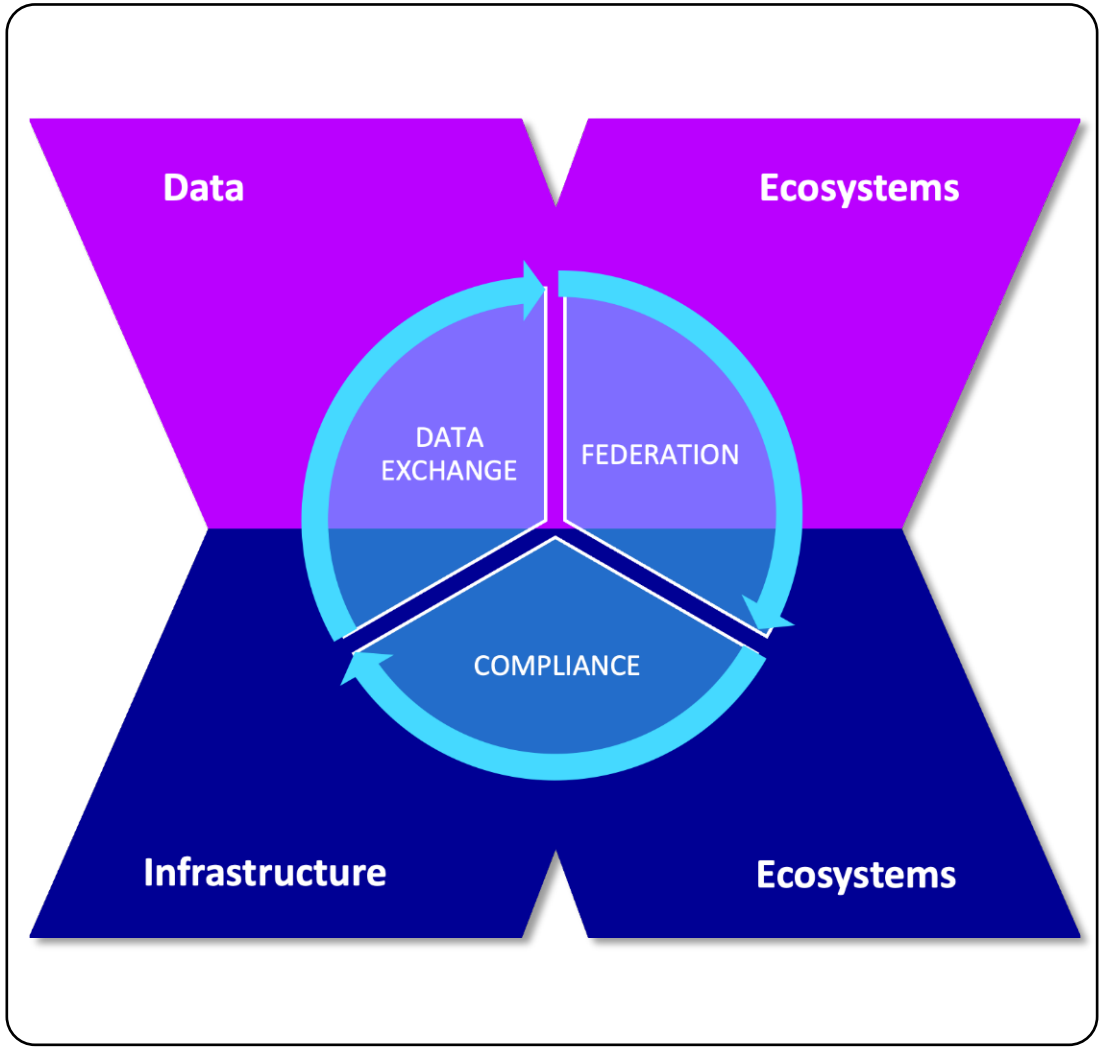
*Few criteria benefit from automated verification using impartial source of information

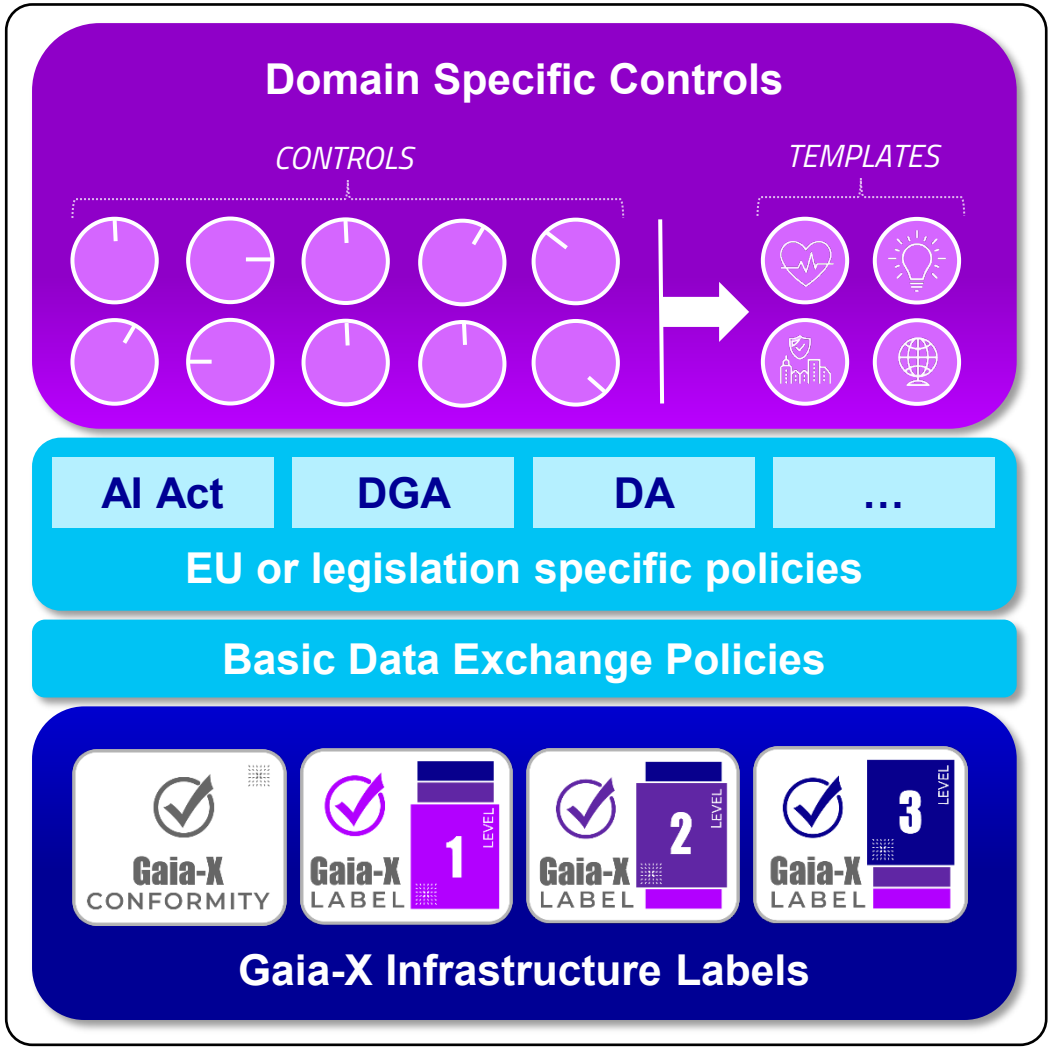
Implementation of technical validation & verification



*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

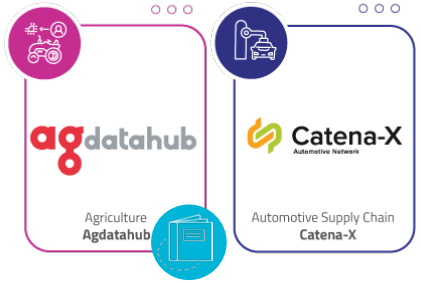
Implementation of Sovereignty Controls (Labels)





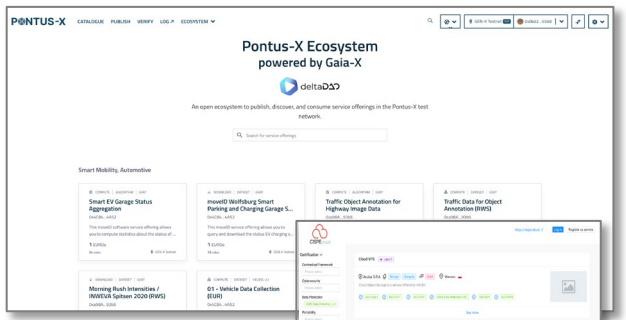
Gaia-X Lighthouse Projects

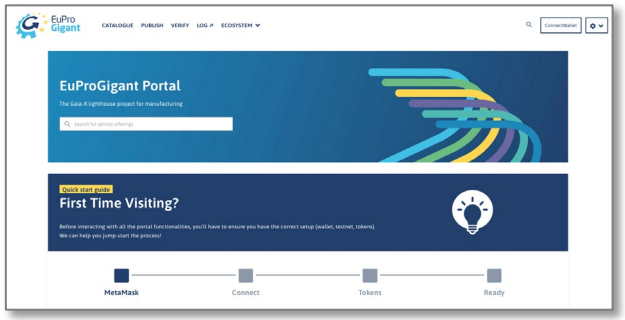
Lighthouse Data Spaces

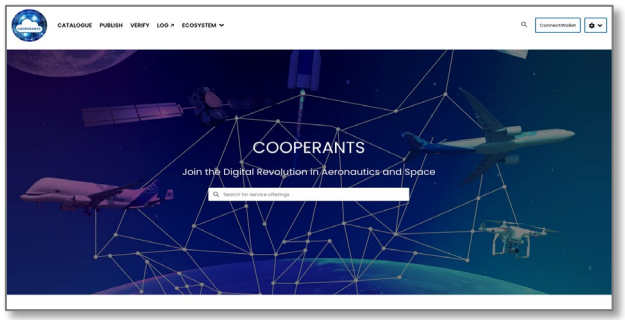


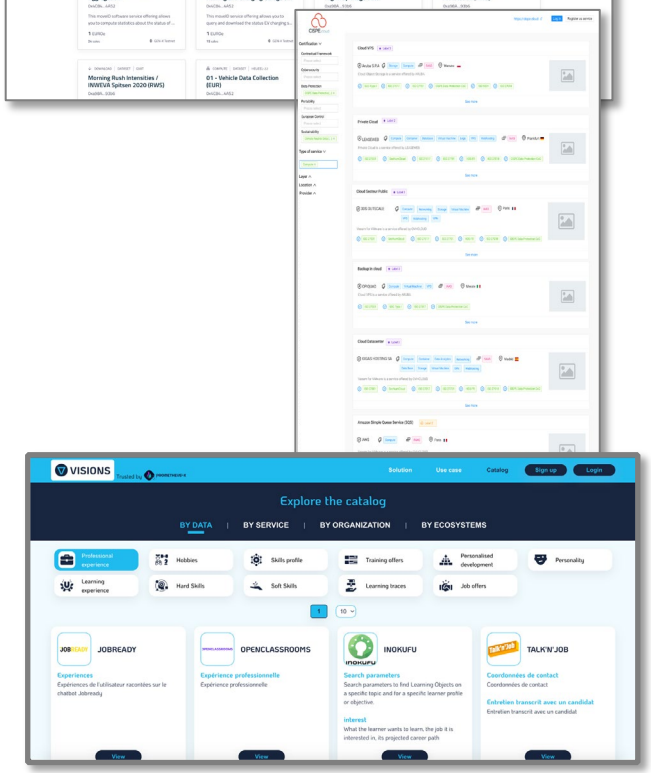
Lighthouse Projects

8 Federated Catalogues enabled by CES

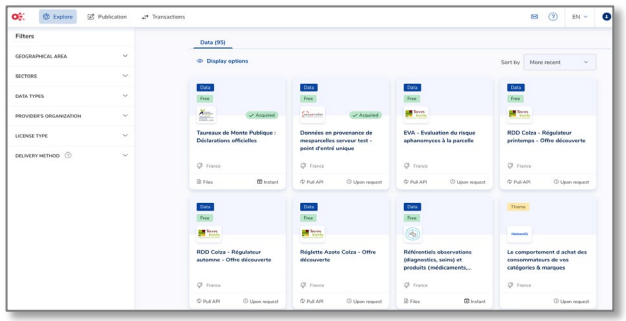


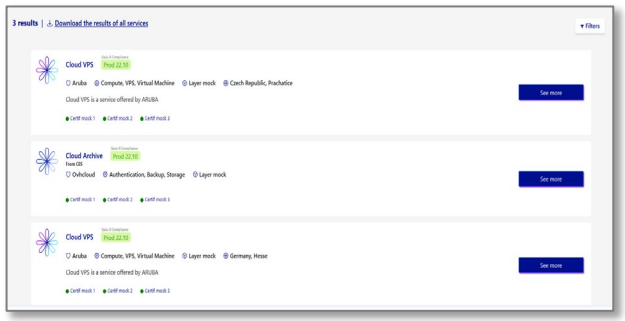


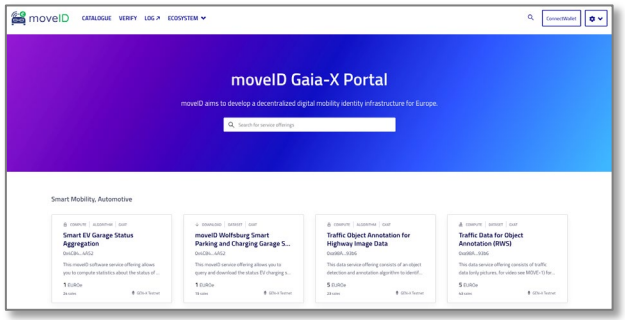




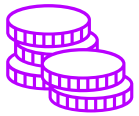
Gaia-X Digital Clearing House Node







Ecosystem between projects and Gaia-X

Project		Gaia-X
Use cases		Gaia-X Architecture & Trust Framework
Industry Regulations		Labels & Data Exchange policies enforcement
Short term ROI		Protect long term ROI
Operations		Digital Clearing Houses
Interoperability among business partners		Gaia-X Ecosystem and interoperability