



gaia-x

## GAIA-X ROADSHOW LJUBLJANA

GZS, 07. 09. 2023



DRIVING  
DIGITAL  
SLOVENIA.

[www.gzs.si/zit](http://www.gzs.si/zit)

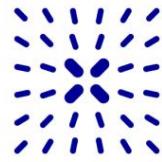


## Agenda - Keynotes

TIME	TOPICS
9.00-9.30	Welcome coffee & registration
9.30-9.40	<b>Opening remarks</b> mag. Nenad Šutanovac, Director of the ICT Association of Slovenia, Chamber of Commerce and Industry of Slovenia
9.40-10.10	<b>Keynote: Gaia-X State of Play</b> Francesco Bonfiglio, Gaia-X CEO
10.10-10.40	<b>EUProGigant project &amp; Use Case: Ideal Component Matching</b> Roman Gehrer, Research Assistant, TU Wien

... DRIVING DIGITAL SLOVENIA...

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SEPTEMBER  
2023

# Gaia-X ROADSHOW

EUROPEAN TOUR 2023

BE PART OF THE A  
MOVEMENT



PIERRE GRONLIER  
CTO



FRANCESCO BONFIGLIO  
CEO



ROLAND FADRANY  
COO

LJUBLJANA  
SLOVENIA

7 SEPTEMBER

gaia-x  
Hub Slovenia

FOR MORE INFORMATION  
[www.gaia-x.eu](http://www.gaia-x.eu)

# Gaia-X State of the Union



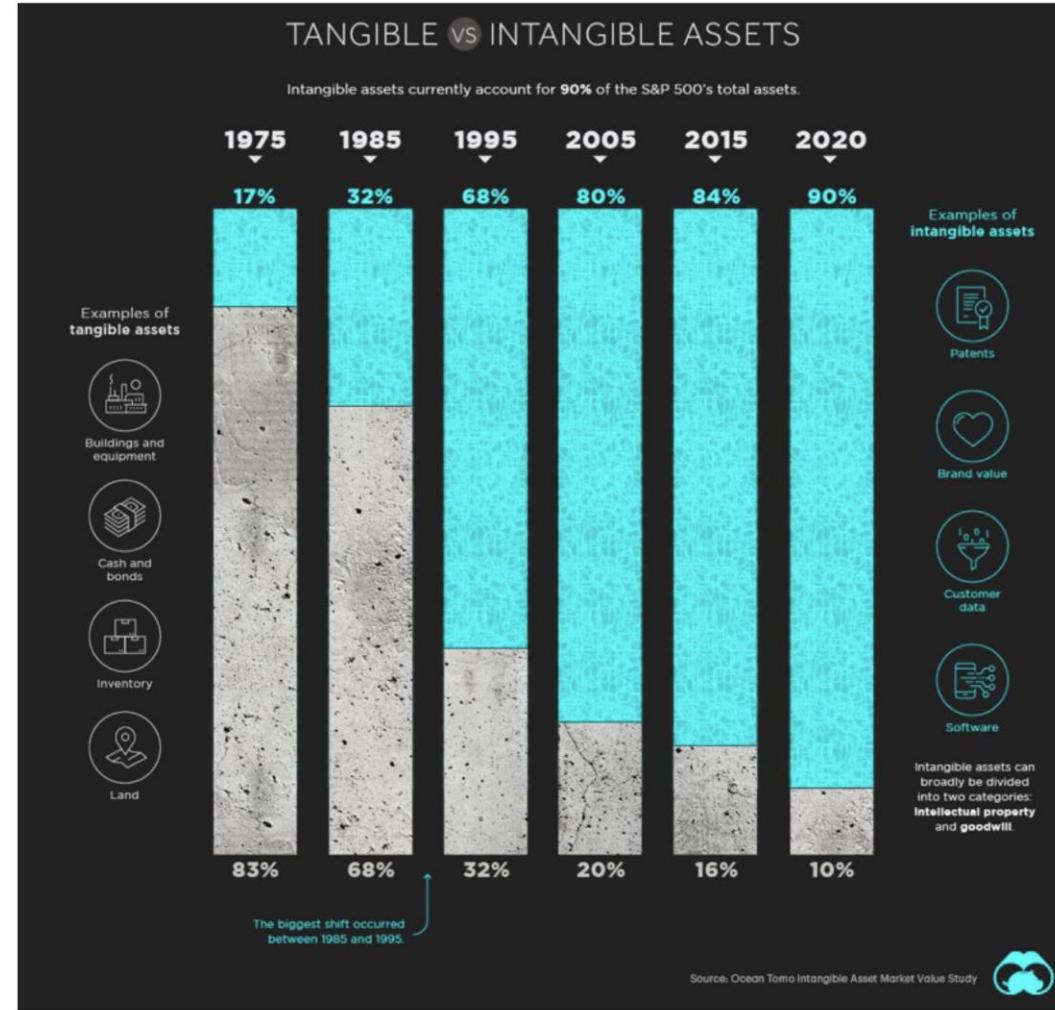
The Future of European  
Digital Ecosystems

Francesco Bonfiglio  
CEO Gaia-X

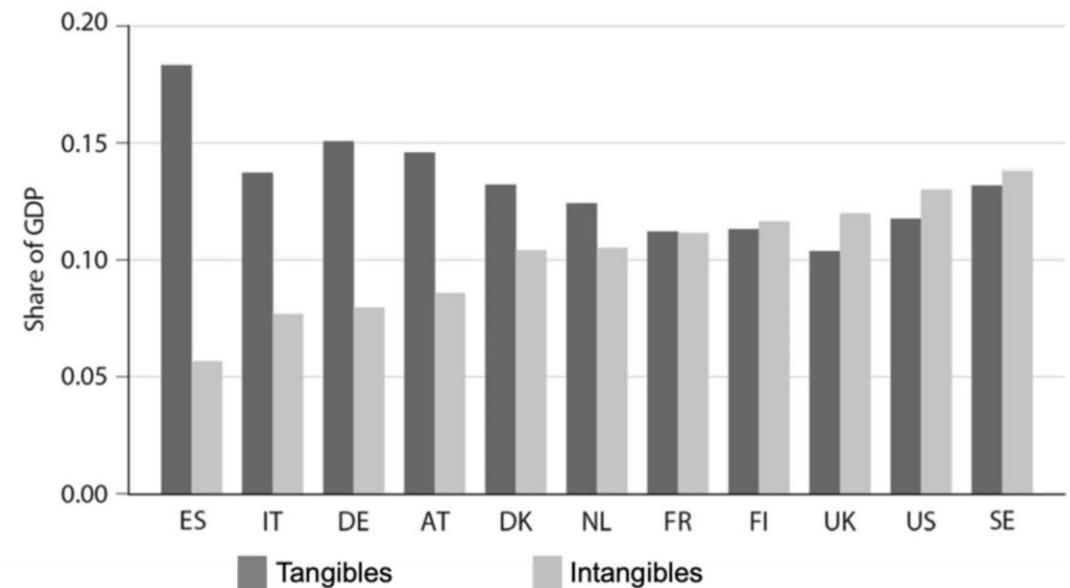
# Data Economy: Is it Real?



# Data Economy is factual - Intangible Economy, from zero to hero!



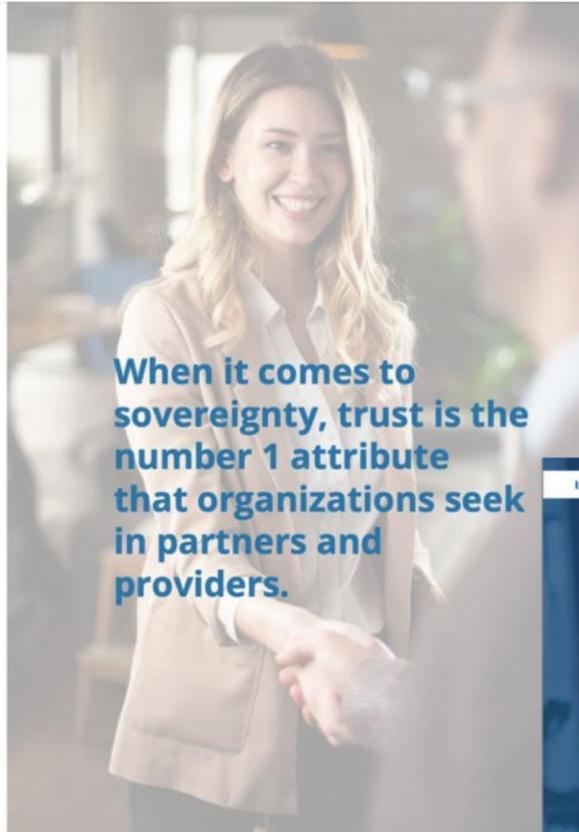
Year	Value of Intangibles in S&P 500
1975	\$122 Billion
1985	\$428 Billion
1995	\$3.12 Trillion
2005	\$9.28 Trillion
2018	\$21.03 Trillion



# Is Digital Sovereignty a real priority?



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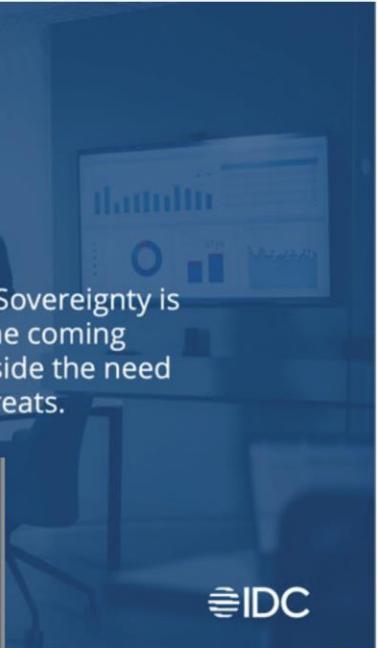


**When it comes to sovereignty, trust is the number 1 attribute that organizations seek in partners and providers.**

The image shows two side-by-side screenshots of IDC eBooks. The top screenshot displays a slide with a blue gradient background showing people in an office. The text reads: "86% of CEOs globally say Digital Sovereignty is their highest priority over the coming years, and that ranks alongside the need to address cybersecurity threats." The bottom screenshot shows a slide titled "Business Benefits" with four bullet points:

- 71%** agree that implementing digital sovereignty prevents unfair competition in digital markets and encourages rules-based partner cooperation within ecosystems.
- 78%** believe it improves their ability to shape digital transformation efforts in a self-determined way.
- 76%** of organizations around the world say digital sovereignty enhances customer, government, and stakeholder trust in their operations and businesses, and can therefore open access to new global markets.
- 44%** of organizations globally believe the top business benefit of using sovereign cloud solutions is a stronger security posture.

IDC

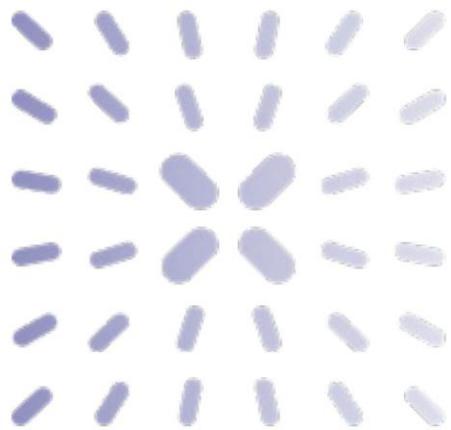


# Data Economy is driven by Dataspaces



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**Data Economy is real, and is the result of the shift from  
'Product or Service' centric, to 'Data' centric value  
chains in any sector**



**All impacted!** Data Economy is the result of  
**Value Chains Digitalization**, achieved through the creation of  
**Common Data Spaces** in industrial, social, and natural ecosystems



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# So what is the problem?



# 2025 Predictions - Gaia-X, an urgent move for a European Future!



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## EU Digital Market 2025

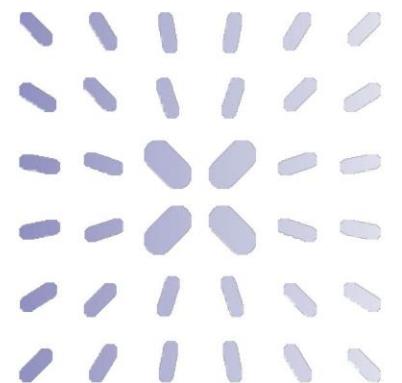
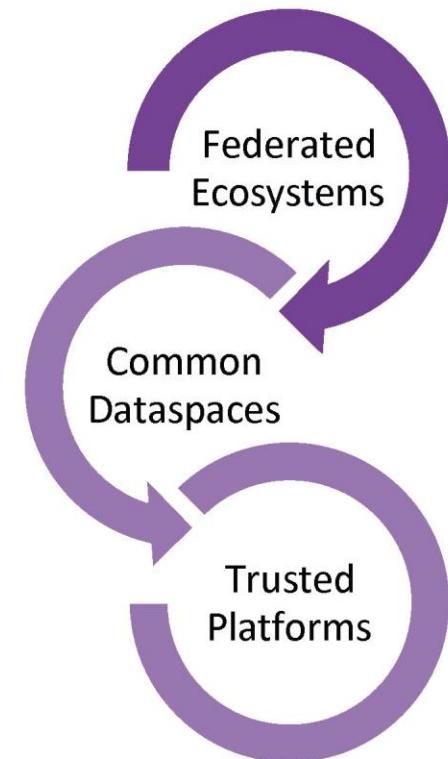
- EU CSP Providers Market Share = <10%
- EU TAM on Data Platforms = 8-10% EU GDP
- EU Economy Footprint Largely SME = >80%

## EU Economy 2025

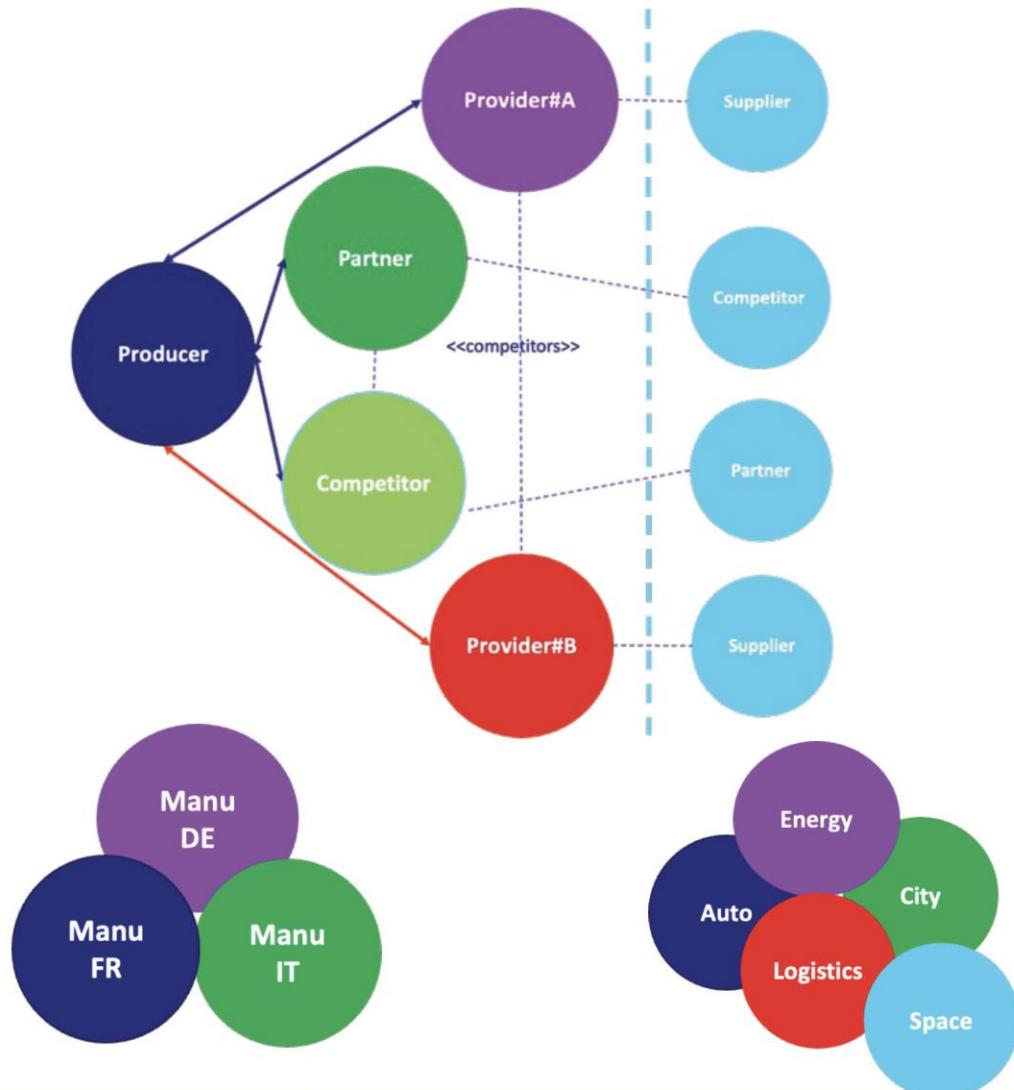
- Public Services dependency on Digital Platforms = >70%
- Product/Service Value Dependent on Data = 50-70%
- Disjoint Data across Value Chains = >70%

## EU Sovereignty in 2025:

- No Political Sovereignty w/o Digital Sovereignty
- No Economy Drive w/o Digital Sovereignty
- No Sovereignty with 'Private' or 'Autocratic' Platforms



# What's is the Dataspace Magic Sauce? 'Trust'



## The Business Problem:

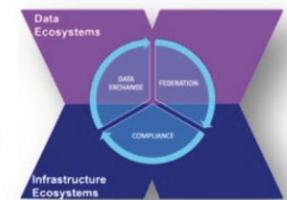
- Identify business use cases
- Sell inside your organization
- Identify potential federation participants
- Build consensus
- Find common business outcomes/interests
- Offer reciprocal and balanced outcomes

## The Technical Problem:

- Trusted participants identity
- Trusted federation services credentials
- Trusted federation access and usage mechanisms
- Trusted federation extensibility mechanisms
- Trusted data-infrastructures
- Trusted federation governance
- Trusted federator role
- Have one-stop-place for trust services

## The Solution

**Common Trust Framework**



**Common Trust Engine**

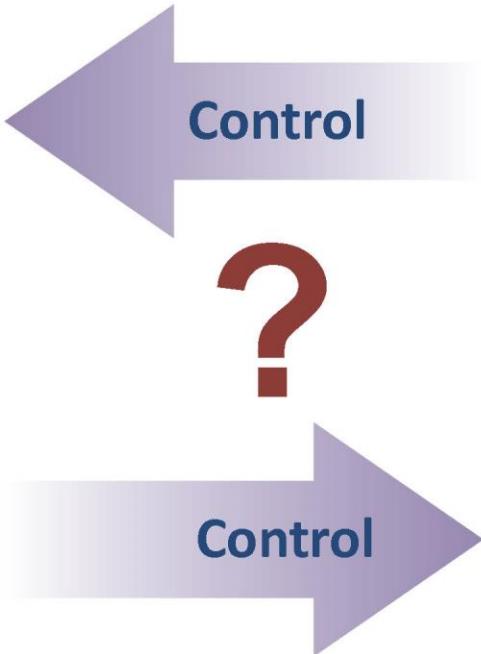
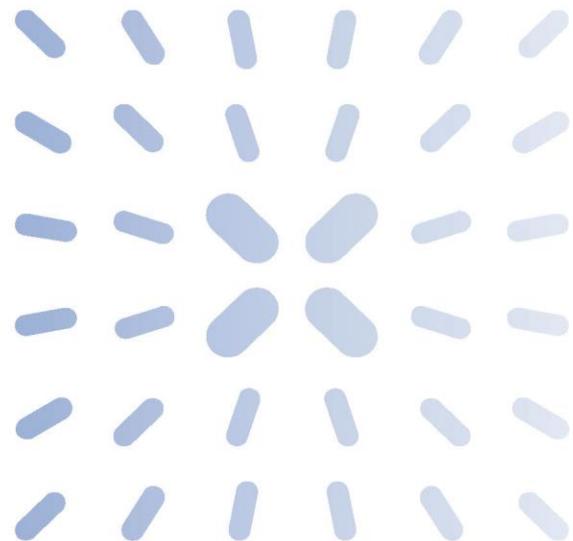
# So, are we in control of Technology?...



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No!

Lack of Transparency,  
Control & Interoperability



# Are our Ecosystems ready?



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No!

Disjoint Data &  
Infrastructures Ecosystems



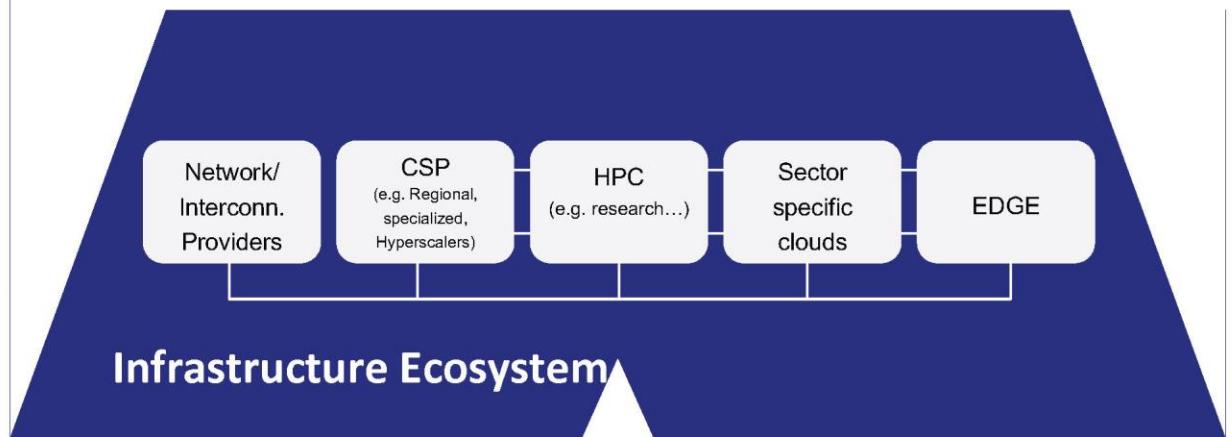
## Data

Untapped, fragmented, disjoint, no  
secure exchange mechanism



## infrastructures

Segregated, non-reversible, non-interoperable, closed  
architectures, private standards



# Gaia-X – Regain Control on Technology



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Concentrated      Proprietary      Opaque



Distributed      Open      Transparent



**Users LET Control**



**Users GET Control**

# Gaia-X – Connect Disjoint Ecosystems



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## Advanced Services

New (Cross-) Sector Innovations / Applications build from service composition.



## Data Spaces / Federations

Interoperable & portable (Cross-) Sector data-sets and services.



## Data Exchange

Anchored contract rules for access and data usage.



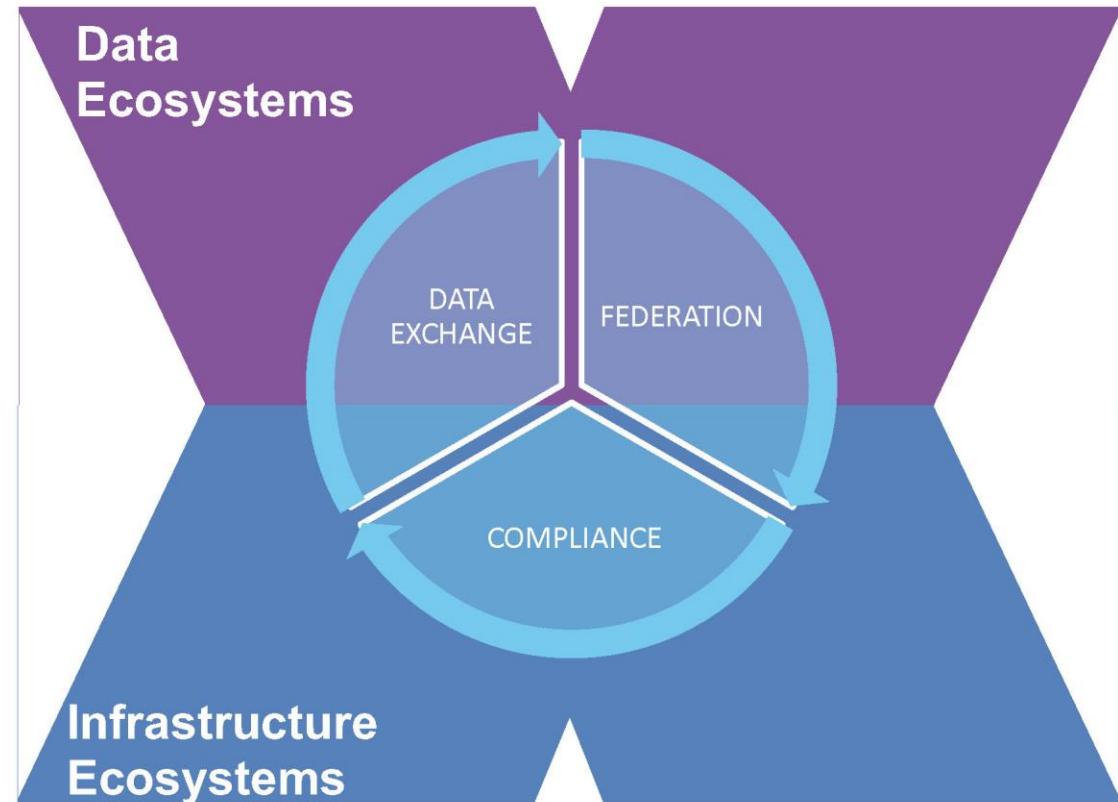
## Gaia-X Compliance

Decentralized services to enable objective and measurable trust.



## Label framework

Gaia-X and ecosystem specific Labels to ease market adoption through autonomy and self-determination.

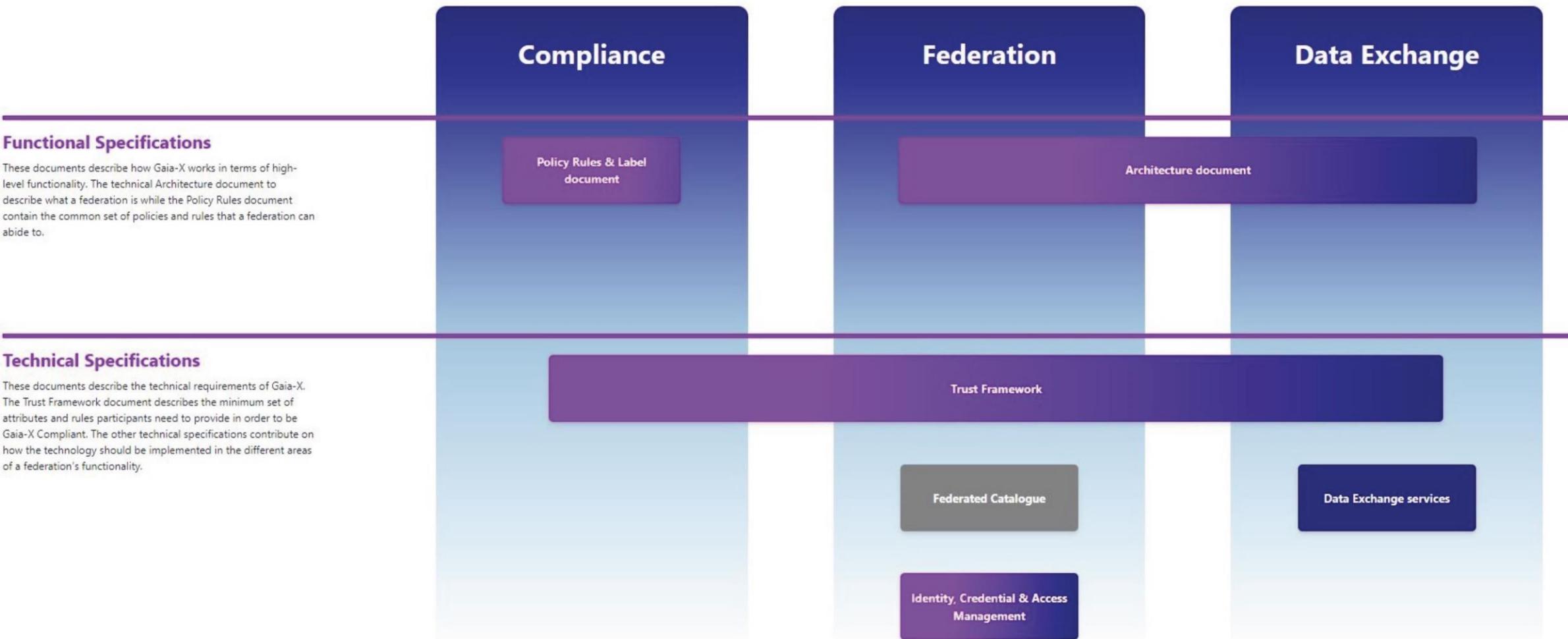




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# Gaia-X: What we do

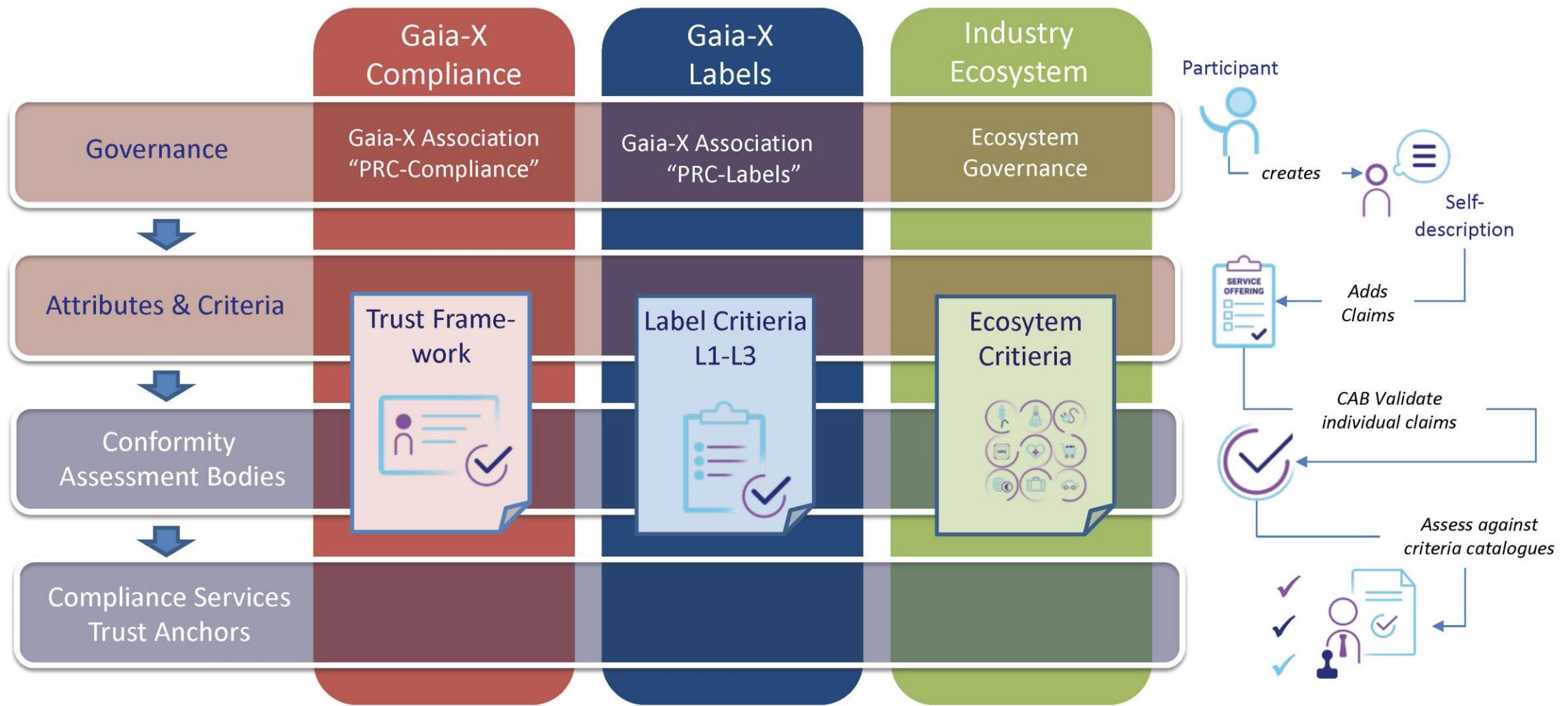




# Gaia-X - Compliance Enable Trust



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# GXDCH (Gaia-X Digital Clearing House) – What is it



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## HOW TO?

- how to be Gaia-X compliant?
- how to be in the Gaia-X catalog?
- how to build my own catalog?
- how to build my federation?
- how to join a federation?

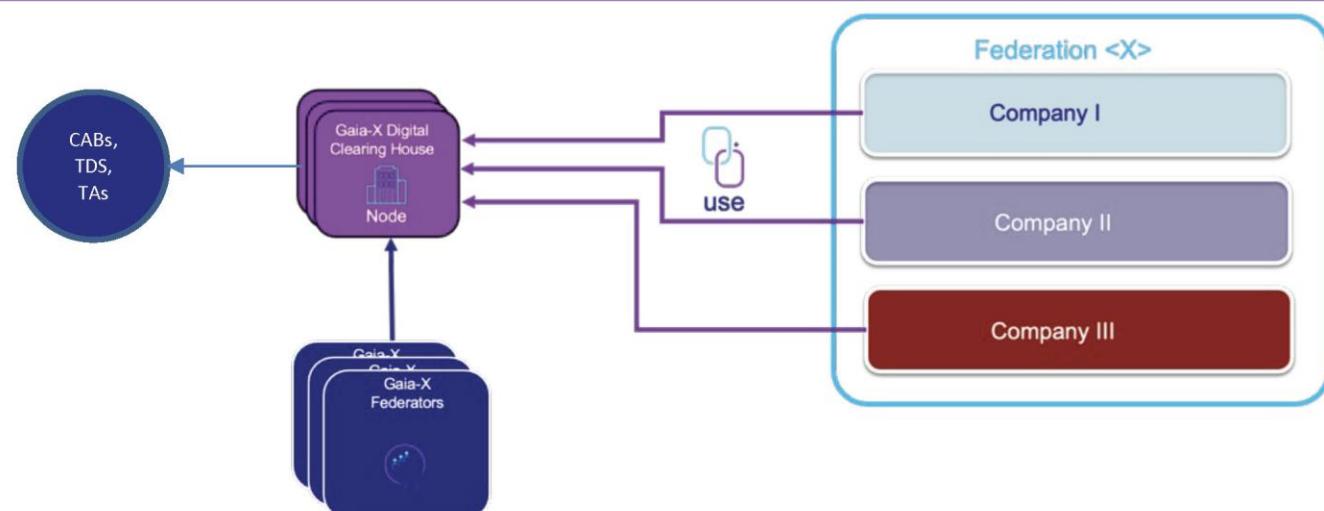
...

### THE GXDCH:

- Are nodes of verification of Gaia-X rules.
- Are places to obtain Gaia-X compliance & become part of the Gaia-X ecosystem.
- Are multiple nodes operated by market operators, acting as a Gaia-X Federator
- Run services (compulsory and optional) part of the Gaia-X

Framework, and necessary achieve compliance and support the onboarding of any Gaia-X adopter.

- Integrate with external TA (Trust Anchors) to verify identity (e.g. eIDAS), CAB (Conformance Assessment Bodies) asseverating conformance to existing standard, and other TDS (Trusted Data Sources)



# Operationalizing Gaia-X – the GXDCH (Digital Clearing House)



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## The Gaia-X Problem

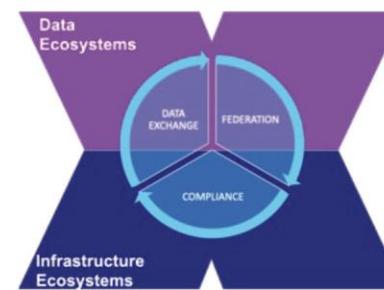
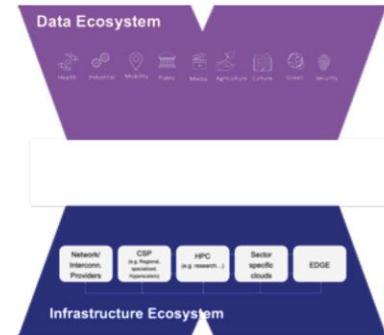
Disjoint data ecosystems and disjoint infrastructure ecosystems for lack of a common standard for trustworthy data infrastructures

## The Gaia-X Solution

Definition of a common framework providing Compliance, Federation, and Data Exchange based on commonly agreed upon rules

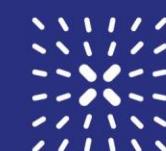
## The Gaia-x Operationalization

Create a network of nodes of execution to run the services defined by the Gaia-X Framework and make them available for usage to the market

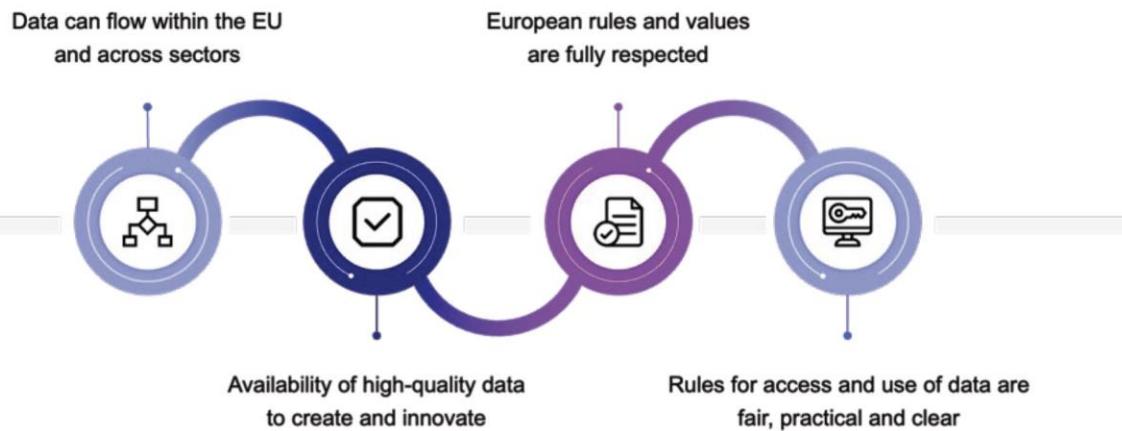


**The GXDCH is a network access-points to the services defined by the Gaia-X Framework (Compliance, Federation, Data Exchange) and necessary to become part of the Gaia-X Ecosystem**

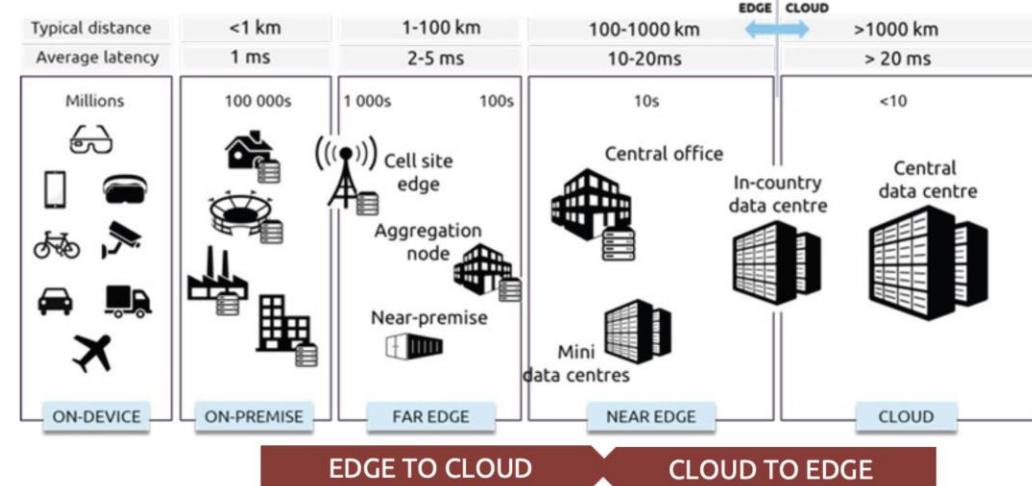
# Gaia-X Vs European Data Strategy



## Common EU Data Spaces A Single Market For Data



## Computing Continuum Fabric for Data Spaces





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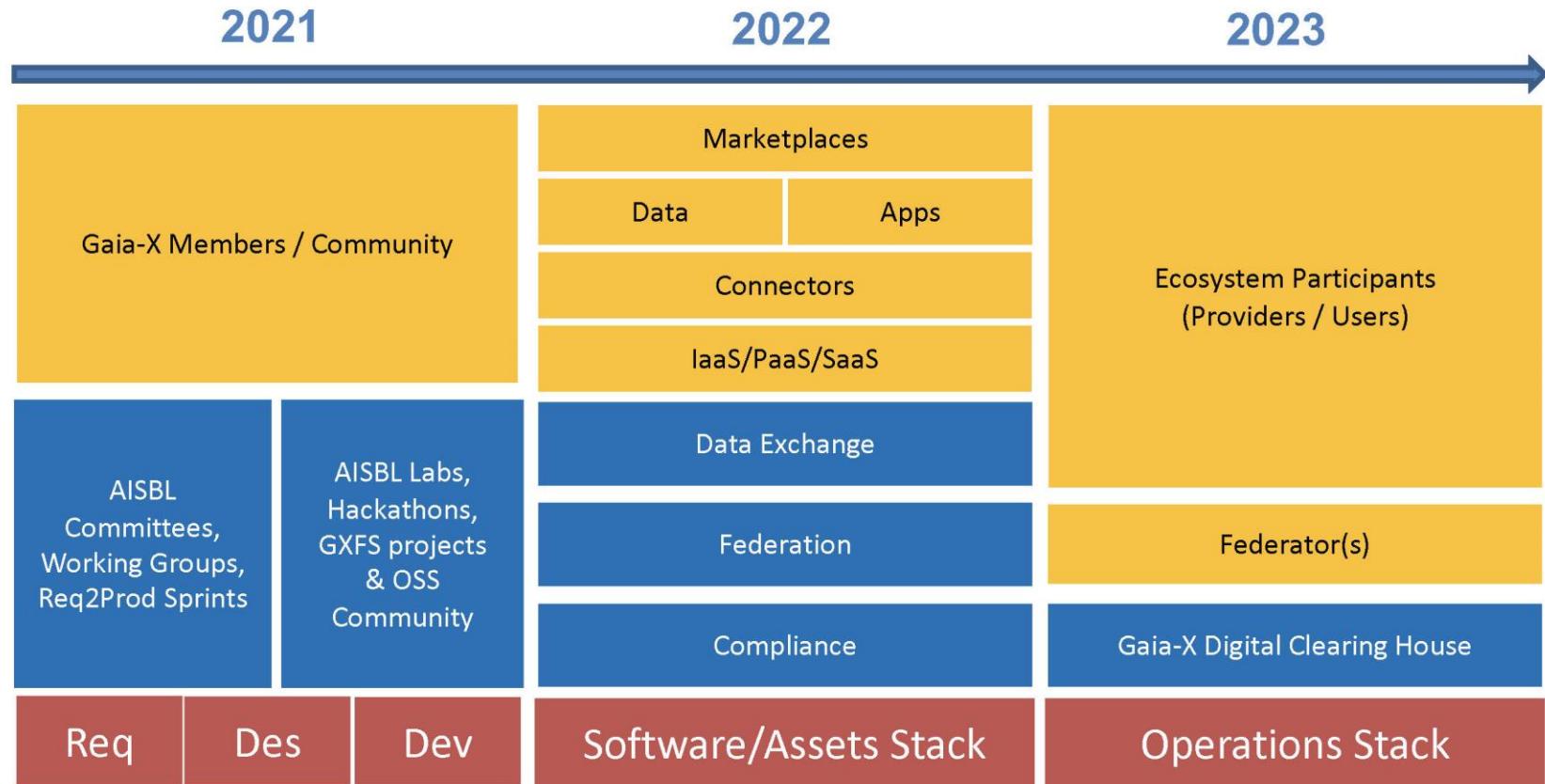
# Gaia-X State of Play



# Gaia-X Framework – From Vision 2 Operations



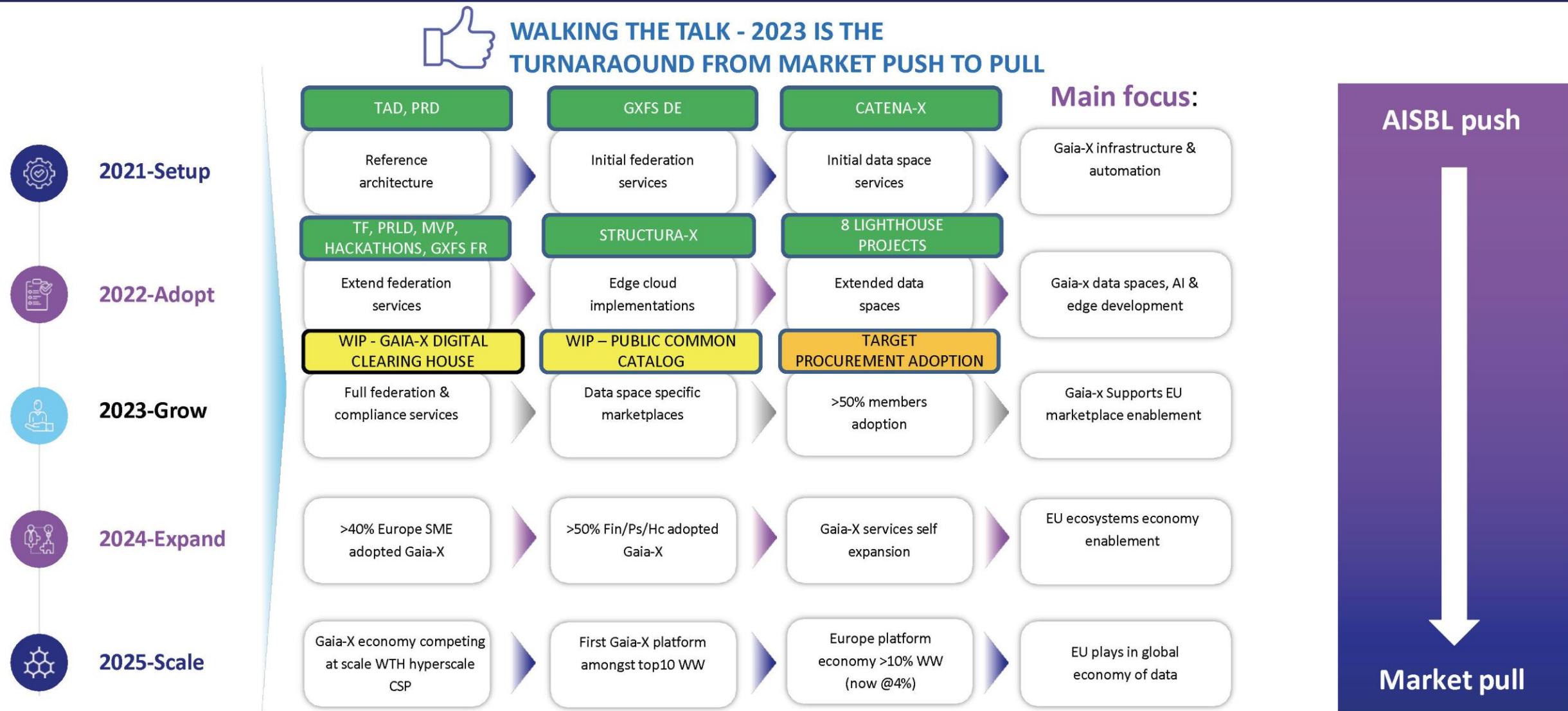
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Others

# Gaia-X 5 Years Outlook 2022





# Gaia-X make it happen through projects

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FROM USE-CASES TO BUSINESS-CASES, SHOWING  
DATASPACE IN ACTION IN THE REAL MARKET



Agriculture



<https://catena-x.net/en/>

Automotive Supply  
Chain



ELINOR-X  
THE URBAN DATA COOPERATIVE

Urban Data  
Cooperative



Mobility, Transport &  
Tourism



Energy



<https://euprogigant.com/en/>

Manufacturing,  
Industry 4.0



<https://mobility-dataspace.eu/>

Mobility



<https://smart-connected.nl/en>

Electronics Supply  
Chain



<https://bit.ly/3aJYgZL>

Cloud Services

GAIA-X 4 Future Mobility

Mobility,  
Transport

# Gaia-X Demo Catalog ([webcatalog.gaia-x.community/catalog](http://webcatalog.gaia-x.community/catalog))



**READY TO PROVIDE GAIA-X COMPLIANT DATA INFRASTRUCTURE SERVICES**

The page displays a grid of service cards, each representing a different provider's offering:

- Cloud Datacenter ★★★ Label 3**  
GIGAS HOSTING SA | Compute, Container, Data Analytics, Data Base, Networking, Storage, Virtual Machine, VPN, Webhosting | SAAS | Ireland - Dublin  
Cloud Datacenter is a service offered by GIGAS  
ISO 27001, ENS, SAP : cloud and infrastructure | See more
- Cloud Backup ★★★ Label 3**  
ARUBA S.P.A. | Backup | SAAS | Poland - Warsaw  
Cloud Backup is a service offered by ARUBA  
SOC type I, ISO 27001, ISO 27017, CISPE Data Protection CoC, ISO 9001, ISO 27018 | See more
- Cloud Backup ★★★ Label 3**  
ARUBA S.P.A. | Backup | SAAS | United Kingdom - London  
Cloud Backup is a service offered by ARUBA  
SOC type I, ISO 27001, ISO 27017, CISPE Data Protection CoC, ISO 9001, ISO 27018 | See more
- Cloud VPS ★★★ Label 3**  
ARUBA S.P.A. | Compute, Virtual Machine, IAAS | Italy - Arezzo  
Cloud VPS is a service offered by ARUBA  
SOC type I, ISO 27001, ISO 27017, CISPE Data Protection CoC, ISO 9001, ISO 27018 | See more
- Veeam Enterprise ★★★ Label 3**  
OVH CLOUD | Backup, Logs, Authentication | IAAS | France - Roubaix  
Veeam Enterprise is a service offered by OVH CLOUD  
ISO 27001, ISO 27017, ISO 27701, CISPE Data Protection CoC, ISO 27018 | See more
- Veeam for VMware ★★★ Label 3**  
OVH CLOUD | Backup, Logs, Authentication | IAAS | France - Roubaix  
Veeam for VMware is a service offered by OVH CLOUD  
ISO 27001, SecNumCloud, ISO 27017, ISO 27701, HDS-FR, ISO 27018 | See more

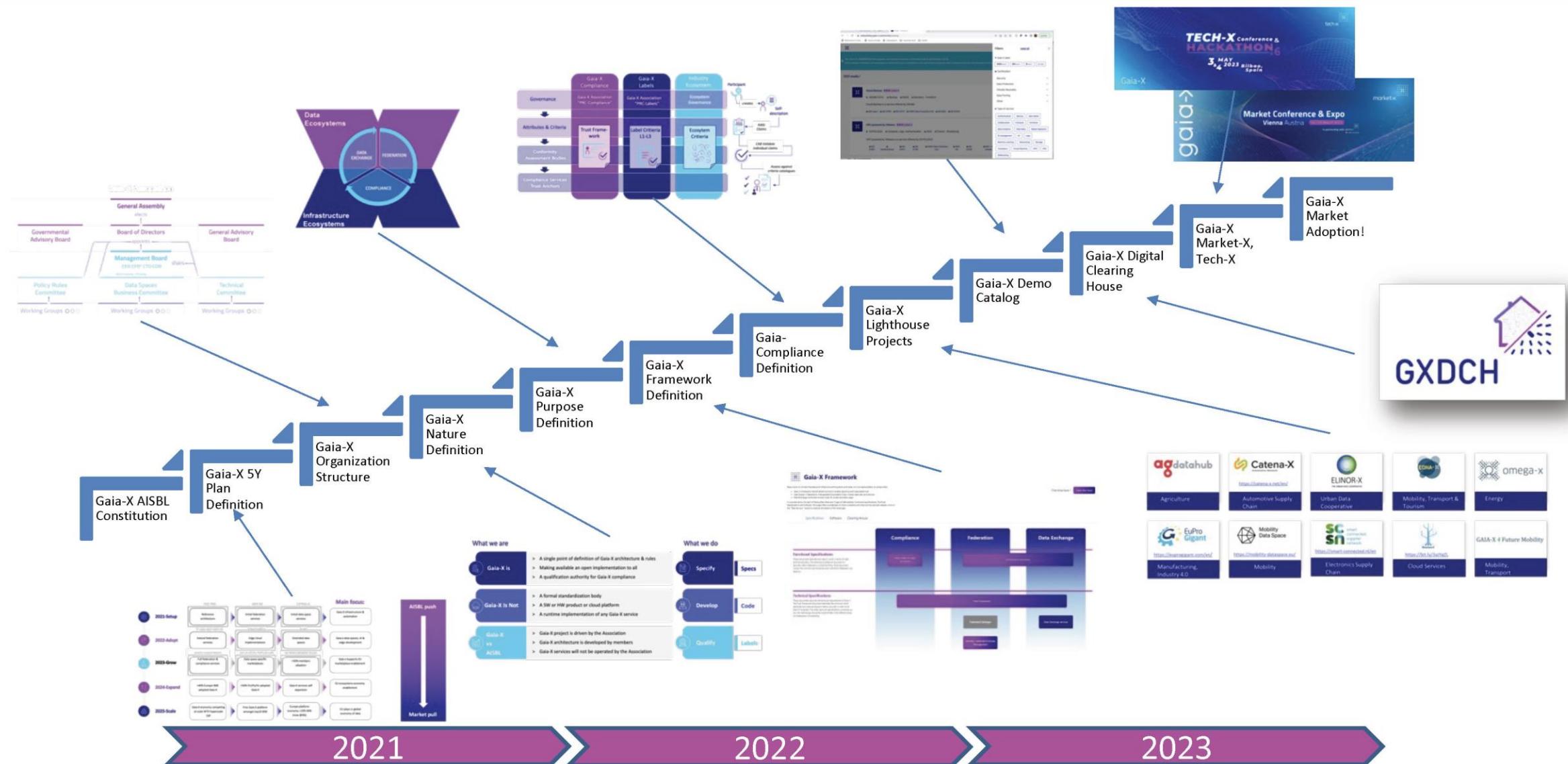
**Filters** [reset.all](#)

- Gaia X label**  
★★★ Level 3, ★★★ Level 2, ★★ Level 1, No label
- Certification**  
Security, Data Protection, Climate Neutrality, Data Porting, Other
- Type of service**  
Authentication, Backup, Bare Metal, Collaboration, Compute, Container, Data Analytics, Data Base, Digital Signature, ID management, IoT, Logs, Machine Learning, Networking, Storage, Translation, Virtual Machine, VPN, VPS, Webhosting
- Layer**  
IAAS, PAAS, SAAS
- Location**  
Australia, Belgium, Canada, Czech Republic, France, Germany, Ireland, Italy, Netherlands, Poland, Portugal, Republic of Singapore, Spain, Sweden, United Kingdom, United States

# Gaia-X Demo Catalog ([webcatalog.gaia-x.community/catalog](http://webcatalog.gaia-x.community/catalog))



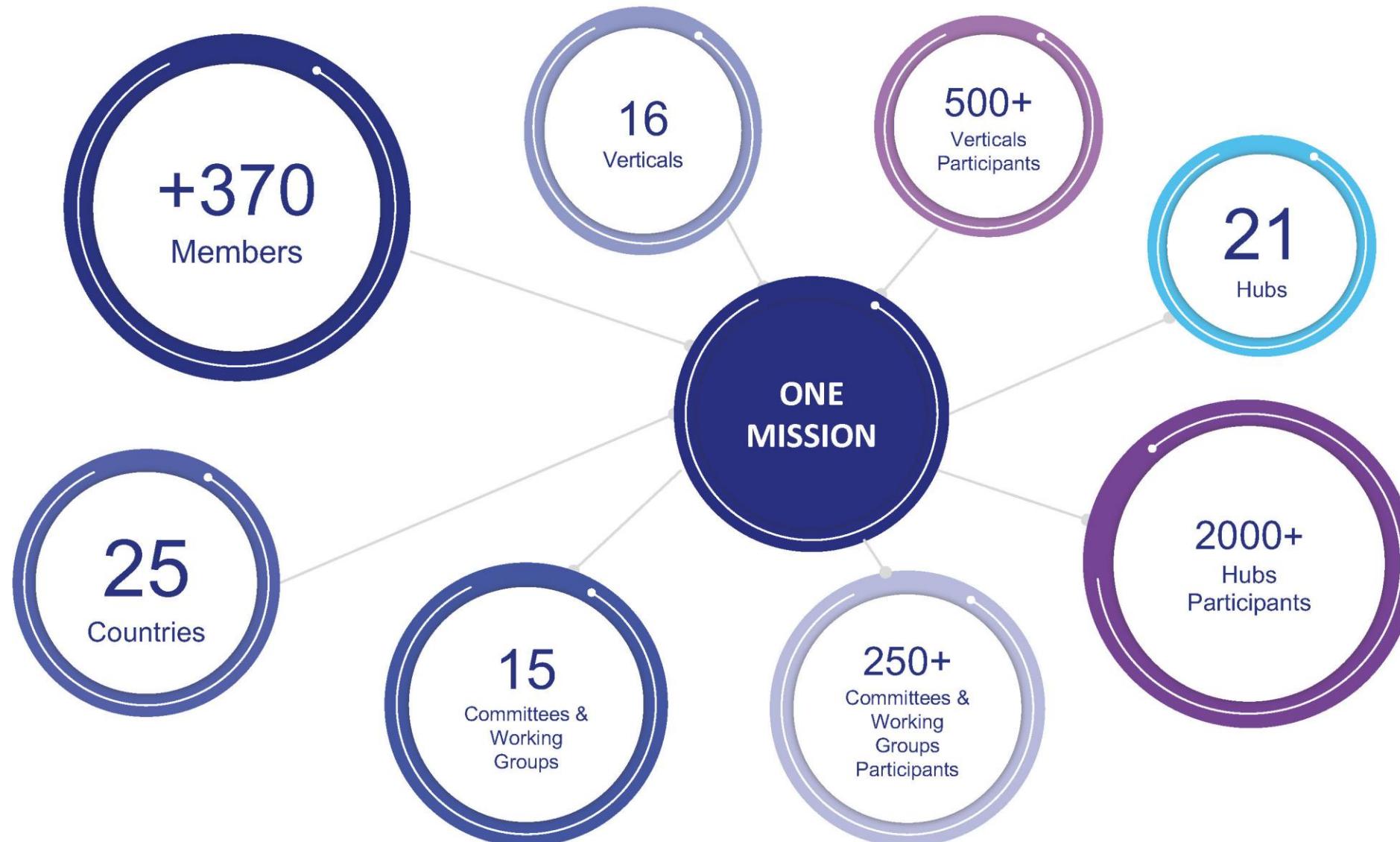
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# The Gaia-x network expands!

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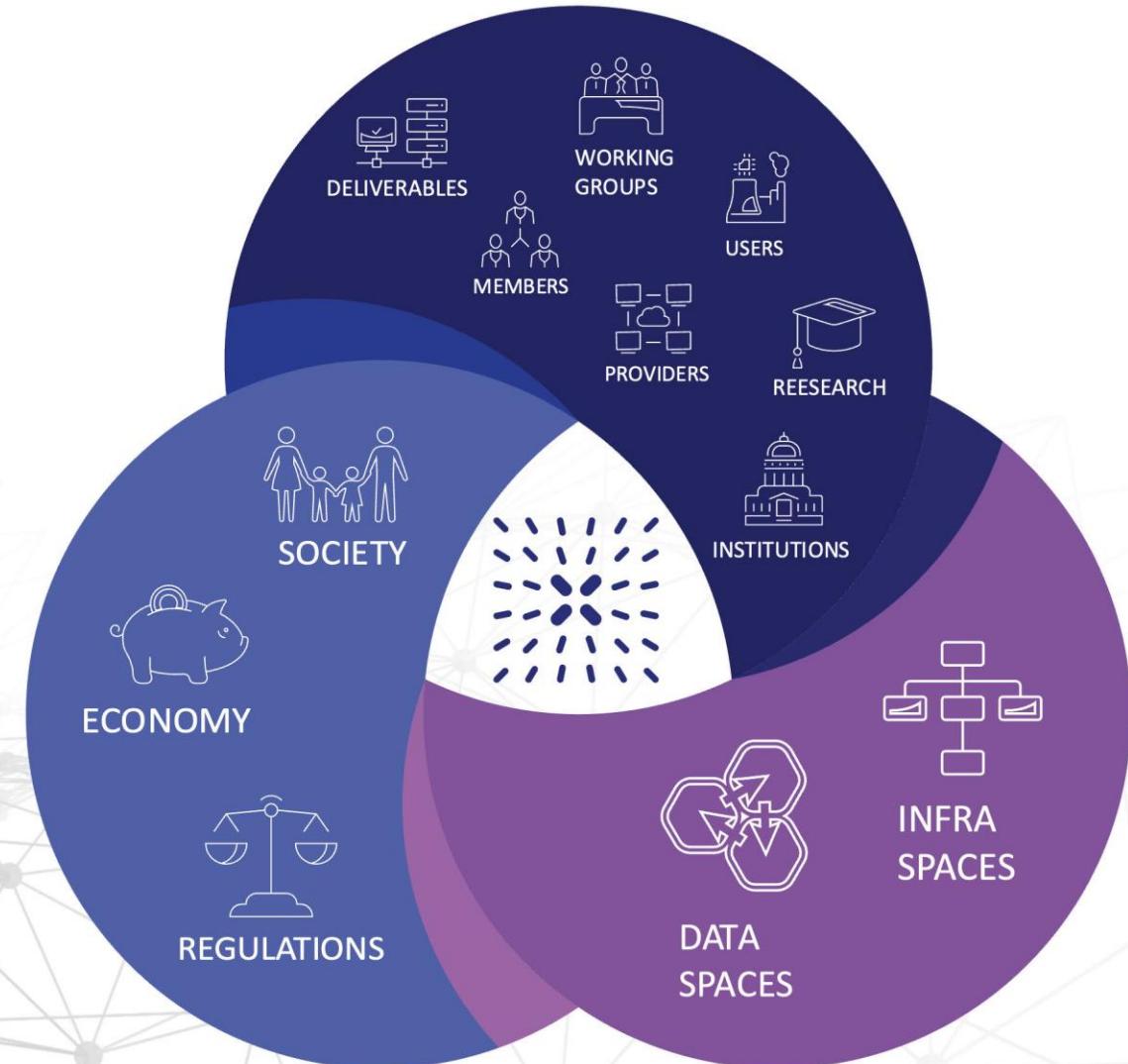
# Market Adoption in Figures

Date	Members	Lighthouses	Hubs	Verticals	Demo Catalog	GXDCH
Summit21	304	0	14	0	0	0
Summit22	347	8	20	16	800	0
Market-X Tech-X Summit23	376	11	21	16	1573	2

# Gaia-X - The European Union for Data Economy!



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# Why should you join?

Check [here](#)



## Contribute

to a pioneering project that will establish digital sovereignty for Europe.

## Shape

how data will be stored, shared, and used in future.

## Develop

new data-driven business models and data spaces.

## Strengthen

ties to the expert communities in your industry.

# How to join?

Check [here](#)

## Follow us on:



@gaiax\_aisbl



<https://www.linkedin.com/company/gaia-x-aisbl>



<https://www.facebook.com/Gaia-X-Association-for-Data-and-Cloud-111692924764099>



<https://www.youtube.com/channel/UCB5WMc2FrKzfd7XIODoMw>



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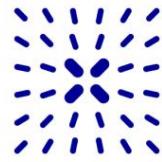
# Thank you!

-

Gaia-X Association

... DRIVING DIGITAL SLOVENIA...

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SEPTEMBER  
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# Gaia-X ROADSHOW

EUROPEAN TOUR 2023

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SLOVENIA

7 SEPTEMBER



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Hub Slovenia

FOR MORE INFORMATION  
[www.gaia-x.eu](http://www.gaia-x.eu)

# EuProGigant | European Productionsgiganet

The lighthouse project for GAIA-X  
in the production environment

Smart and sovereign use of data for  
production

Roman Gehrer, TU Wien

[www.euprogigant.com](http://www.euprogigant.com)



EuPro  
**Gigant**

# EuProGigant is...



... a binational research project carried out by an Austrian-German project consortium to  
**build a multi-location, digital data and learning ecosystem in manufacturing.**

4 years

The project runs from 1 March 2021 until 28 February 2025.

€ 10.6 Mio.

The total budget is 10.6 MM €, of which 6.8 MM € is funded.

23 Project partners

Large corporations, SMEs and start-ups from 13 locations in Austria and Germany.

# Gaia-X Lighthouse Projects



EuProGigant enables a fair, inclusive & transparent ecosystem



Manufacturing, Industry 4.0



The European Production Giganten (EuProGigant): It is an Austrian-German lighthouse research project "for calamity avoiding self-orchestration of value chain and learning ecosystems" working on central questions related to the smart and sovereign use of data in manufacturing. Scheduled for the latter half of 2022, the project aims to deliver on machine connection and machine-oriented data processing using Gaia-X compliant edge architecture, thus creating resilience in the value creation ecosystem.

Automotive Supply Chain



Catena-X: It is one of the first industrial lighthouse projects of Gaia-X. It aims to create a secure and standardised data-based ecosystem for businesses ranging from OEMs, 1st Tier and to small & medium enterprises in the entire automotive value-chain. A joint task force with Gaia-X ended in November 2021, resulting in full technical compliance of the proposed Catena-X architecture with Gaia-X principles.

Mobility



**Mobility Data Space (MDS):** The specific lighthouse project focuses on the future of the mobility sector that involves vehicle manufacturers to ride-share services, public transport operators as well as navigation software companies, research institutes, bike-sharing companies, and many more. One of the project's key goals is to facilitate Gaia-X compliant data exchange to enable competition around innovative, environmentally sustainable, and user-friendly mobility – on equal and fair terms based on shared European values. The project is scheduled for implementation in the latter half of 2022.

# European Data Spaces

Rich data pool  
(accessibility varies)

Free data flow  
across sectors &  
countries

Full respect of  
GDPR

Horizontal  
framework for  
data  
governance &  
data access



→ Tools for sharing data  
→ Standards & Interoperability

→ Sector-specific regulations  
→ IT capacities

Source: EU Commission, *A European strategy for data*, 19.02.2020

# What the project has in mind

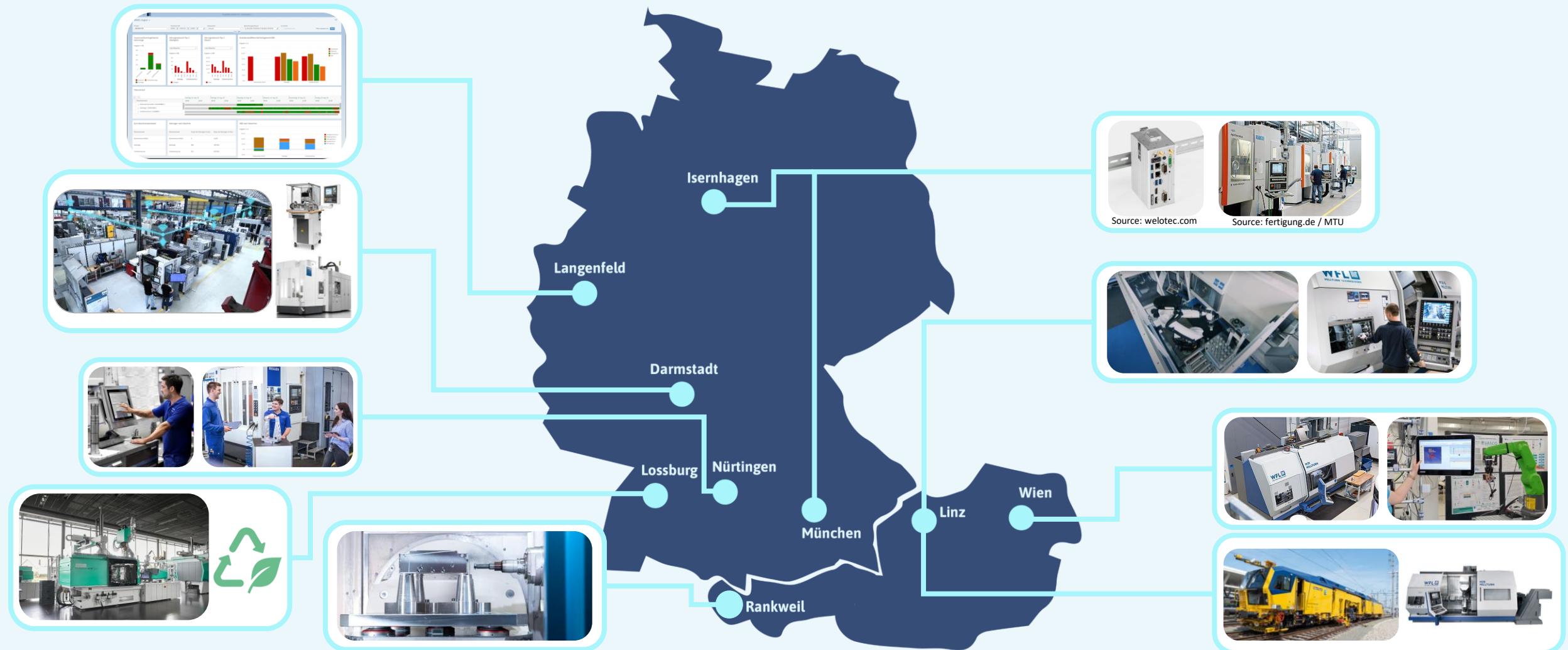
## The project goals

- Identify, extract and organise **production-relevant data**.
- Increase **flexibility and efficiency** in production by processing production-relevant data
- Ensure **security and availability** of production-relevant data
- Represent cross-border **value chains**

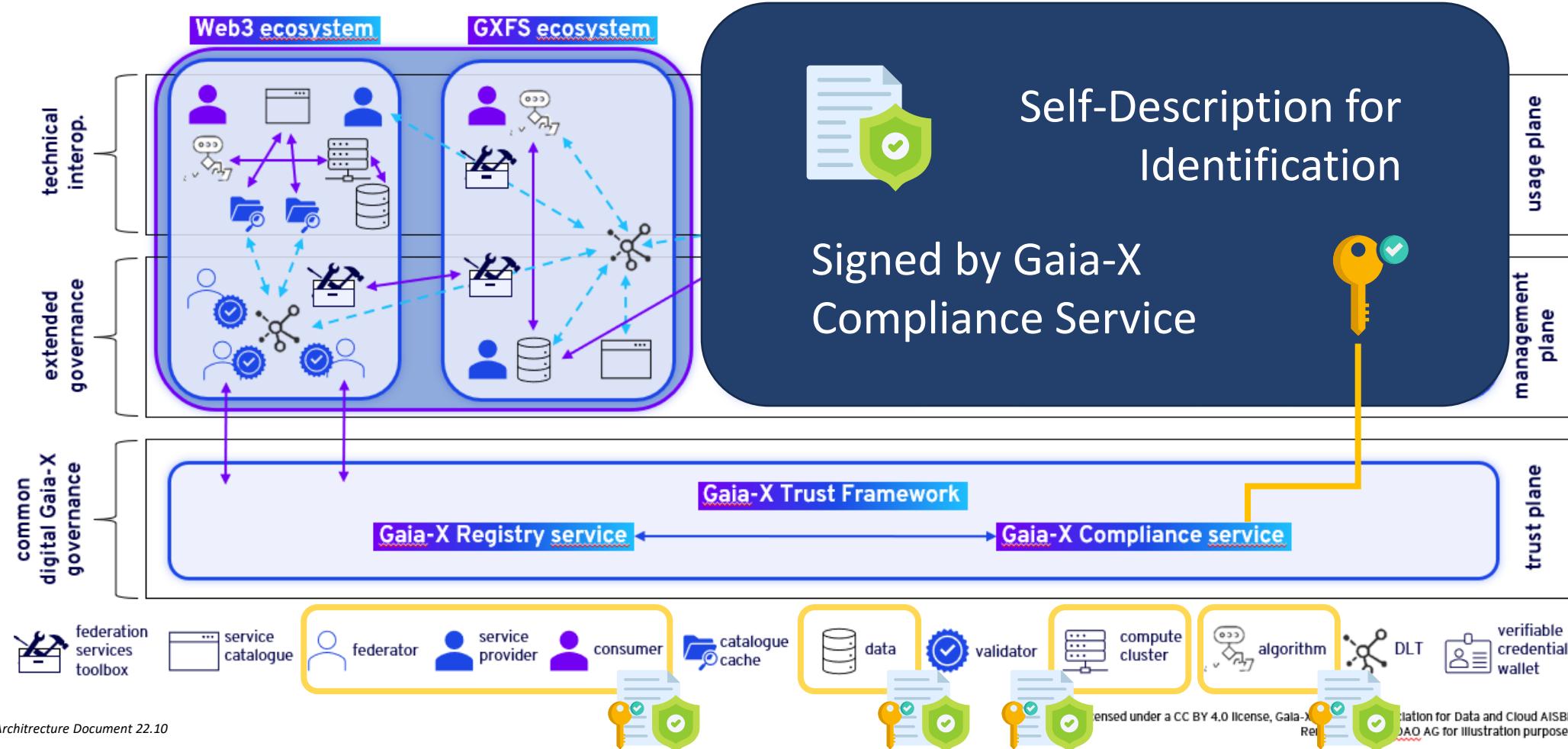
## The impact



# Projectpartners



# Interoperability through self-description



# Use cases

 Bundesministerium  
Klimaschutz, Umwelt,  
Energie, Mobilität,  
Innovation und Technologie

Gefördert durch:



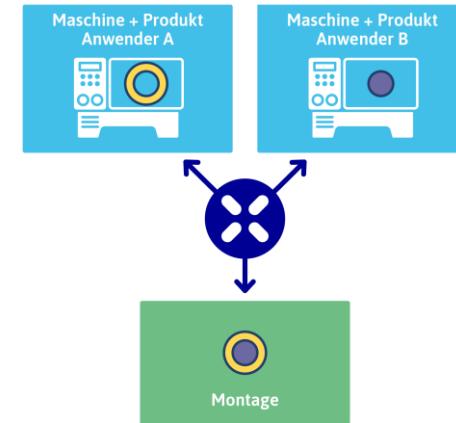
aufgrund eines Beschlusses  
des Deutschen Bundestages



# Overview

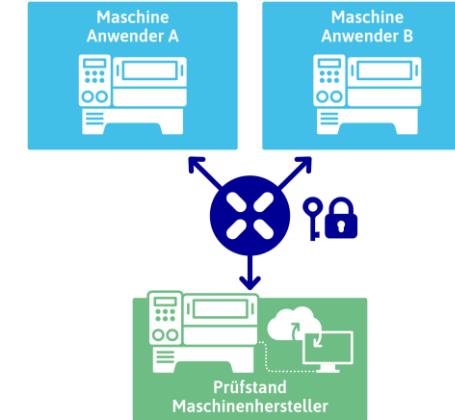
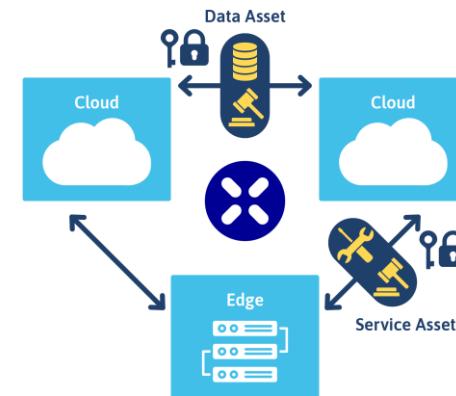
## Ideal component matching

How can Gaia-X concepts be instrumentalised in order to manufacture and assemble in a resource-optimised way?



## CO2 footprint in product creation

How can estimates of energy consumption and CO2 footprint already be provided in the design phase through portable data and interoperable software tools? and used to reduce CO2 emissions?



## Validation platform

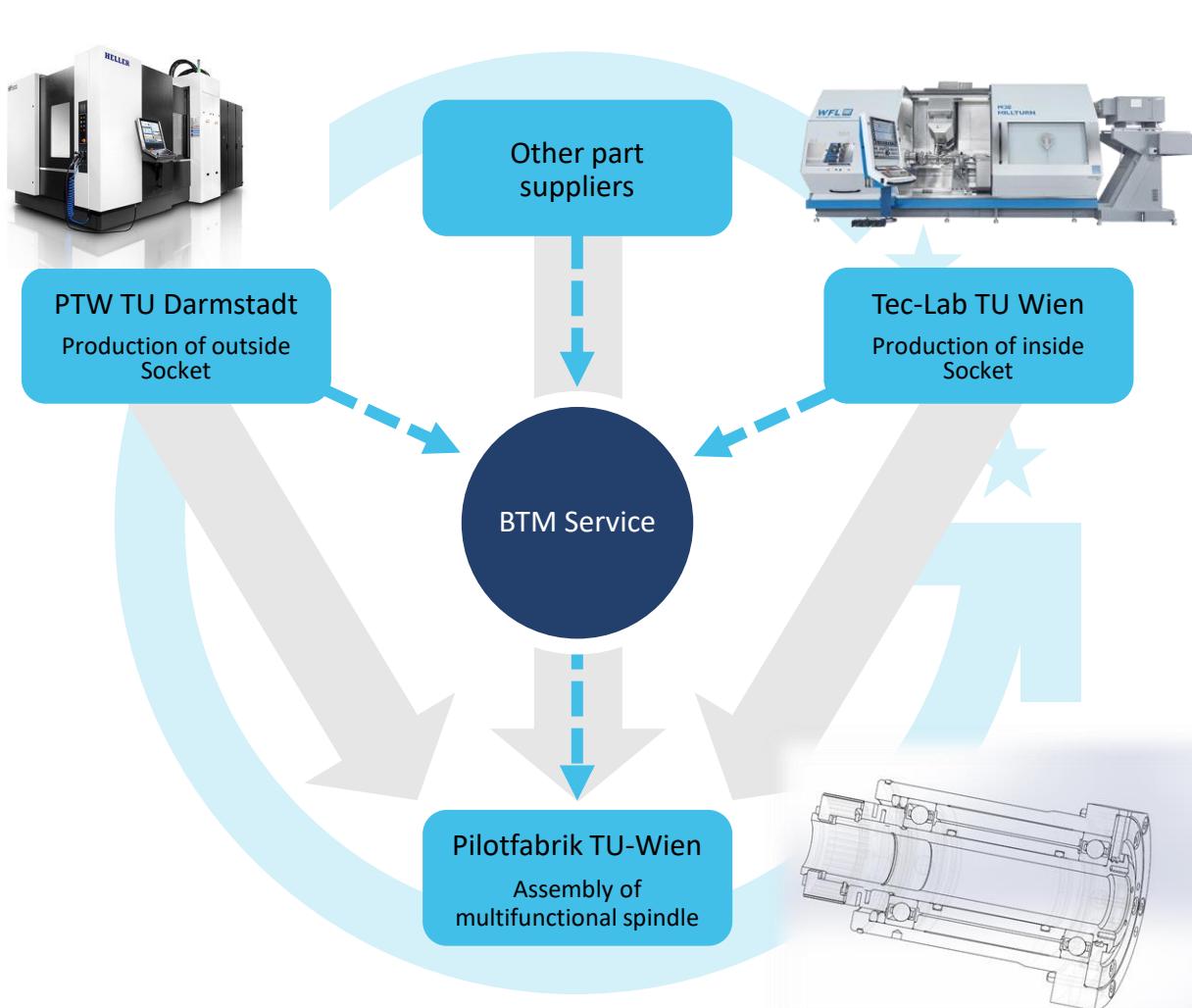
How can small companies monitor machines and assemblies without having to provide a large database?



## Mobile processing machine

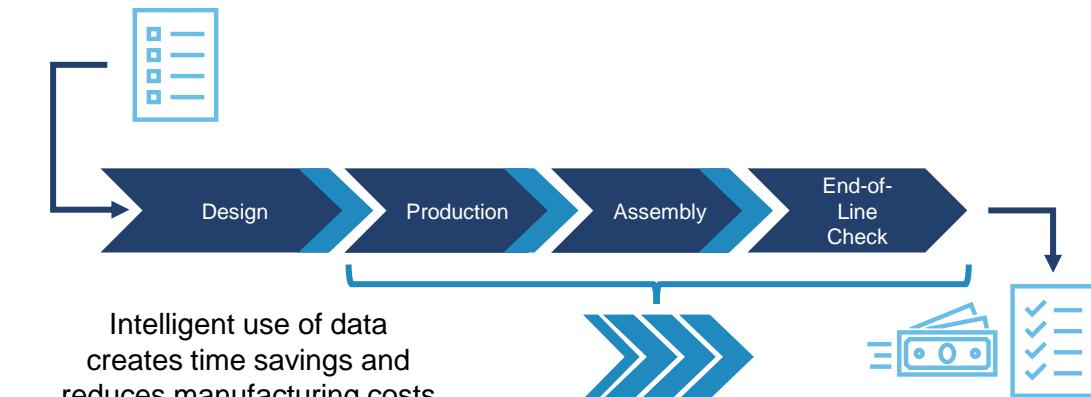
How do the EuProGigant/GAIA-X concepts work when the workpiece does not come to the machine but vice versa and how does the synchronisation of large amounts of data succeed for the autonomous planning of maintenance processes on the track infrastructure?

# Ideal component matching



Intelligent use of measurement data along the value chain creates ...

- Reduced production costs
- Time saving
- Increased quality



# Validation platform

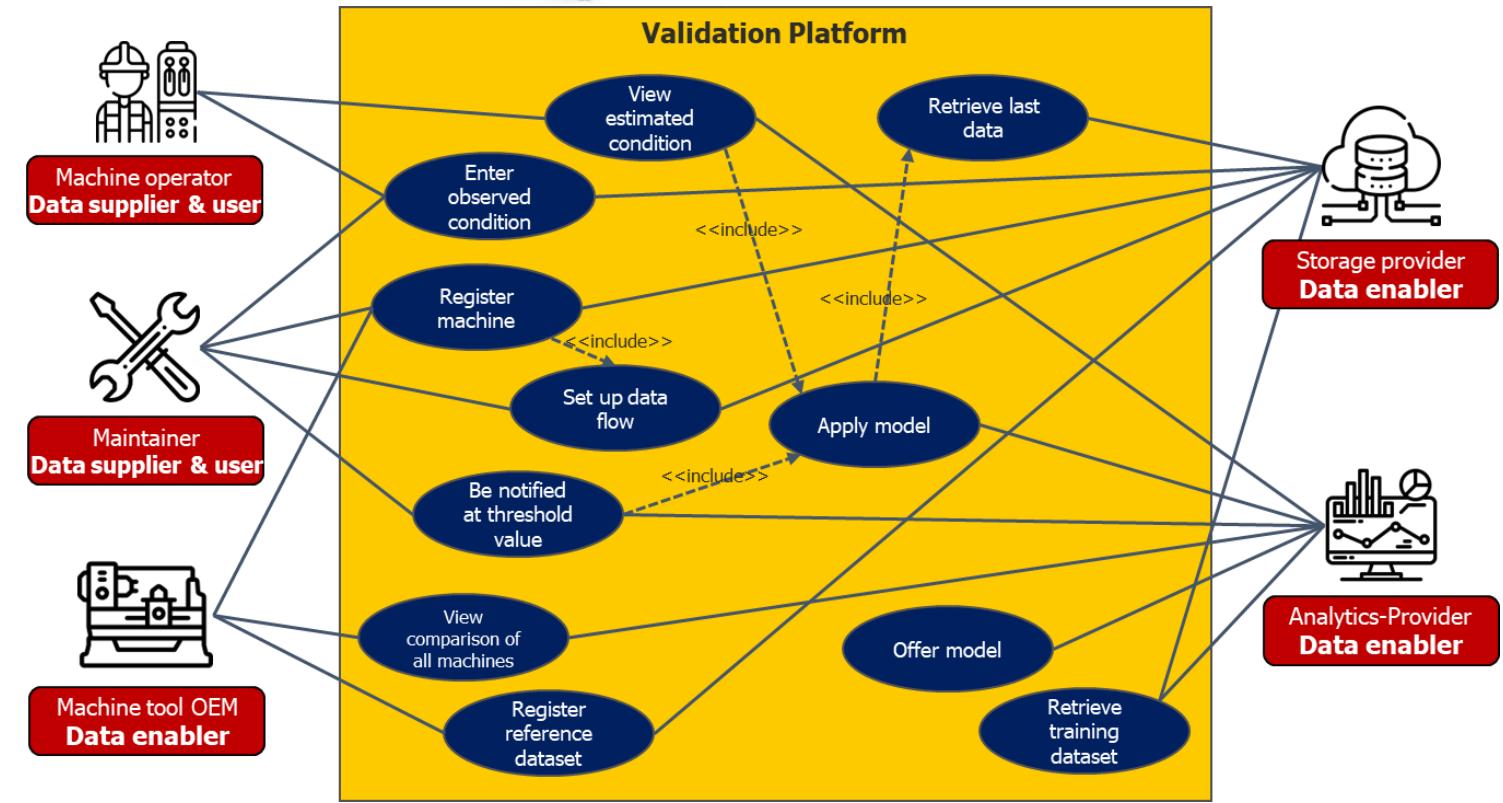
## Problem:

Monitoring of machines and assemblies without big databases.



## Objectives:

- Shared testbeds and machine data for condition monitoring
- Faster "ramp-up" for condition monitoring applications
- Better prognosis bases on a larger data basis.



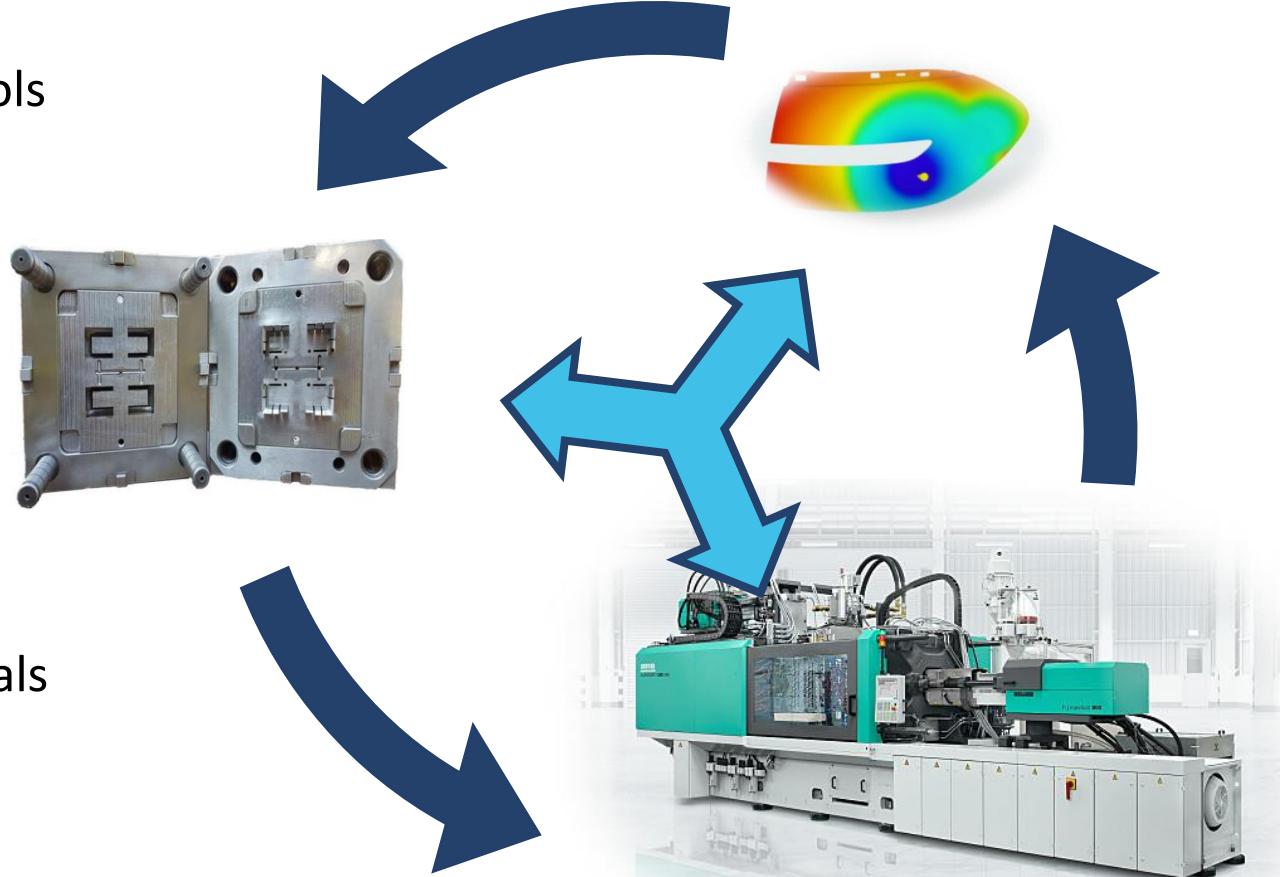
# CO<sub>2</sub>-footprint in product creation

## Problems:

How can the connection of data and software tools along the process chain help to reduce the CO<sub>2</sub>-footprint?

## Objectives:

- **Raise awareness** for crucial factors to reduce the CO<sub>2</sub>-footprint.
- **Estimate** the CO<sub>2</sub>-footprint for products in development.
- **Support** at CO<sub>2</sub>-optimized selection of materials and production processes.



ARBURG Spritzgießmaschine, Spritzgussform, Spritzgussimulation (Quelle: SIMCON)

# Mobile processing machines

Question: How to use EuProGigant/GAIA-X concepts when the processing machine has to move to the workpiece?

## Objectives:

- Data flow on unreliable networks.
- Synchronisation of data from different sources across networks.

## Use Cases:

- Data offering
- Time synchronisation



Plasser & Theurer Messwagen EM100VT



# Gaia-X demonstrators

Validating platform

 Bundesministerium  
Klimaschutz, Umwelt,  
Energie, Mobilität,  
Innovation und Technologie

Gefördert durch:



aufgrund eines Beschlusses  
des Deutschen Bundestages



# Gaia-X in action on the EuProGigant portal



The EuProGigant Portal is the Gaia-X lighthouse project for manufacturing. It features a "First Time Visiting?" section with a quick start guide and a lightbulb icon. Below this, there are sections for Datasets and Algorithms, each with a "GO TO DATASETS" or "GO TO ALGORITHMS" button. A "These partners work with us" section lists partners like ARBURG, KUKA, MANUFACTURING, and CONCIRCLE. A "Funded By" section shows logos for FFG, DLR Projektträger, and Federal Ministry for Economic Affairs and Climate Action. A "Supported by" section includes the Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology.

The user profile page shows basic statistics: Liquidity in Own Assets (0.00), Total Liquidity (0.00), and Sales (88). It also displays 6 published items. Below this is a table of published data sets and compute jobs:

DATA SET	NETWORK	CREATED	FINISHED	STATUS	ACTIONS
(free) Data - EuProGigan...	GAIA-X Testnet	about 20 hours ago	about 20 hours ago	JOB FINISHED	SHOW DETAILS
(free) Data - EuProGigan...	GAIA-X Testnet	1 day ago	1 day ago	JOB FINISHED	SHOW DETAILS
(free) Data - EuProGigan...	GAIA-X Testnet	1 day ago	1 day ago	JOB FINISHED	SHOW DETAILS
(cost-coverage) Data - E...	GAIA-X Testnet	1 day ago	1 day ago	JOB FINISHED	SHOW DETAILS
(cost-coverage) Data - E...	GAIA-X Testnet	1 day ago	1 day ago	JOB FINISHED	SHOW DETAILS
(cost-coverage) Data - E...	GAIA-X Testnet	3 days ago	3 days ago	JOB FINISHED	SHOW DETAILS
(cost-coverage) Data - E...	GAIA-X Testnet	3 days ago	3 days ago	JOB FINISHED	SHOW DETAILS
(cost-coverage) Data - E...	GAIA-X Testnet	3 days ago	3 days ago	JOB FINISHED	SHOW DETAILS
(cost-coverage) Data - E...	GAIA-X Testnet	3 days ago	3 days ago	JOB FINISHED	SHOW DETAILS
(free) Data - EuProGigan...	GAIA-X Testnet	3 days ago	3 days ago	JOB FINISHED	SHOW DETAILS

The page title is "(cost-coverage) Data - EuProGigant CNC-ProfiTrainer (Minimal Viable Hannover)". It shows a "Verified Publisher" badge and a "USE" button. The dataset is priced at 1 OCEAN (8.83 MB). A restriction note states: "Restriction: The free version of this data service offering is restricted and only available to active contributors and members of EuProGigant. This is the priced version of the data service offering, on a cost-covering basis, available for all accredited participants of Gaia-X." Below this is a "BUY COMPUTE JOB" button and a note about spending it back. The page also features a banner for the EuProGigant Portal and a photograph of industrial equipment.



<https://portal.euprogigant.io/>

# EuProGigant at der Hanover Fair



## Validation Platform

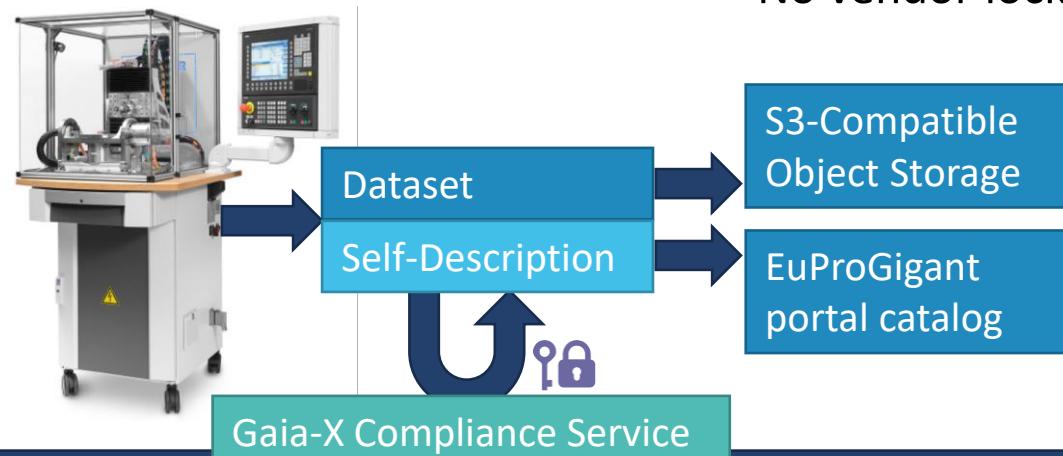
- Manufacturing of individual workpieces
- One data package per workpiece/manufacturing process with all machine data
- Offering the data package via EuProGiant portal
- Via the portal: Analysing the data with AI model

## Benefits:

- Federated catalogue through distributed ledger
- Decentralised system -> Resilience, no single point of failure
- Technical sovereignty through compute-to-data
- Transparency through tamper-proof audit trails
- No vendor lock-in

## Participants

- 2 Data providers
- 1 Analytics provider
- 1 consumer



Powered by  
deltaDAO

ocean

# Catalogue in the



**EuProGigant**

**70 results**

**Catalogue**   **Publish**

**DATA SETS**   **ALGORITHMS**   **DOWNLOAD**   **COMPUTE**   **Clear**

<b>EuProGigant-534C</b> <b>Data Part No. 534</b> 2022-11-21T12:27:18Z - EuProGiga... 0x4A80..B5d4	<b>Data Part No. 533</b> 2022-11-21T12:15:38Z - EuProGiga... 0x4A80..B5d4
Data Part No. 534 2022-11-21T12:27:18Z - Validation Platform Cloud Demonstrator This is a...	
<b>1 OCEAN</b> GEN-X Testnet	<b>1 OCEAN</b> GEN-X Testnet
<b>EuProGigant-531C</b> <b>Data Part No. 531</b> 2022-11-21T08:40:47Z - EuProGiga... 0x4A80..B5d4	<b>Data Part No. 530</b> 2022-11-21T08:28:43Z - EuProGiga... 0x4A80..B5d4
Data Part No. 531 2022-11-21T08:40:47Z - Validation Platform Cloud Demonstrator This is a...	
<b>1 OCEAN</b> GEN-X Testnet	<b>1 OCEAN</b> GEN-X Testnet
<b>EuProGigant-525E</b> <b>Data Part No. 525</b> 2022-11-18T15:24:47Z - EuProGiga... 0x4A80..B5d4	<b>Data Part No. 525</b> 2022-11-18T15:24:47Z - EuProGiga... 0x4A80..B5d4
Data Part No. 525 2022-11-18T15:24:47Z - Validation Platform Cloud Demonstrator This is a...	

**USE**

**1 OCEAN**  
≈ €0.49

Select an algorithm to start a compute job

Search by title, datatoken, or DID...

**ToolCon-Algorithm - Validation Platform ↗**  
EuPG-ToolCon-E | did:op:52122F8898163840E3FA73b71e7bEc4f2a6b58B0  
1

**CO2e-Algorithm - Validation Platform ↗**  
EuPG-CO2-E | did:op:1C31F58c42F1493382ecA4498528fd08e802A3Ea4  
1

You will pay **2 OCEAN** ①

**BUY COMPUTE JOB**

For using this dataset, you will buy 1 EuProGigant-519E and immediately spend it back to the publisher and pool. Additionally, you will buy 1 EuPG-CO2-E for the algorithm and spend it back to its publisher and pool.

If you consume a service offering, your wallet address and public key will be stored permanently on-chain on the Gaia-X testnet. For more information, please refer to our [privacy policy](#).

**Algorithms**

Access the federated Gaia-X catalogue to browse, filter and consume algorithm service offerings published by EuProGigant partners.

**GO TO ALGORITHMS**

**COMPUTE**   **Clear**

**SORT**   Relevance   Published ▾

**EuPG-ToolCon-E**  
**ToolCon-Algorithm - Validation Platform**  
0x9dfb..0f3C

**ToolCon-Algorithm - Validation Platform**  
Demonstrator This is a demonstrator algorithm s...

**1 OCEAN**  
GEN-X Testnet

**EuPG-CO2-E**  
**CO2e-Algorithm - Validation Platform**  
0x9dfb..0f3C

**CO2e-Algorithm - Validation Platform**  
Demonstrator This is a demonstrator algorithm s...

**1 OCEAN**  
GEN-X Testnet

# Compute-to-Data for CO<sub>2</sub>-Equivalent



**Job finished**

Data Part No. 507 2022-11-17T15:15:47Z - EuProGigant Cloud ↗  
EuProGigant-507C | did:op:7F423eD684D0420aDF6455fE9b86415Fbf8018921

CO2e-Algorithm - Validation Platform ↗  
EuProGigant CO2 Cloud |  
did:op:3D3ABebA09077f354cf13D232bdbF1F1e97ca351

- ReportWorkpiece507.pdf
- algorithm.log

Results are stored for 30 days.

CREATED  
27 days ago

FINISHED  
27 days ago

JOB ID  
458a326472624a9bb5c46f1130faf84d

PUBLISHED	DOWNLOADS	COMPUTE JOBS			
DATA SET	NETWORK	CREATED	FINISHED	STATUS	ACTIONS
Data Part No. 507 2022...	GEN-X Testnet	15 days ago	15 days ago	JOB FINISHED	SHOW DETAILS
Data Part No. 507 2022...	GEN-X Testnet	27 days ago	27 days ago	JOB FINISHED	SHOW DETAILS
Data Part No. 533 2022...	GEN-X Testnet	about 2 months ago	about 2 months ago	JOB FINISHED	SHOW DETAILS
Data Part No. 533 2022...	GEN-X Testnet	about 2 months ago	about 2 months ago	JOB FINISHED	SHOW DETAILS
Data Part No. 532 2022...	GEN-X Testnet	2 months ago	2 months ago	JOB FINISHED	SHOW DETAILS
Data Part No. 534 2022...	GEN-X Testnet	3 months ago	3 months ago	JOB FINISHED	SHOW DETAILS

**PART REPORT**

Computed information about your part

CO2e-Algorithm – CNC-ProfiTrainer (Validation Platform Demonstrator & Gaia-X Web3 Demonstrator) November 2022 Version 2.0

Powered by  deltaDAO

**Meta information**

Manufacturing job (equals workpiece number): 507

Start time of the manufacturing job: 2022-11-17T15:14:23.785585+02:00

End time of the manufacturing job: 2022-11-17T15:15:46.352671+02:00

Duration of the program: 00:01:22.567

Tool identifier of the used tool: BB\_SF0\_01

Active program: \_N\_MVHV8\_MPFF

**CO2e-Footprint**

Estimated CO2e-footprint: 1.34 g

Contact Details

If you would like to know more about the EuProGigant related Validation Platform Demonstrator please contact us via [info@europ gigant.com](mailto:info@europ gigant.com) or visit our website <https://www.europ gigant.com>. You can also contact the Gaia-X Web3 Demonstrator powered by deltaDAO AG and Ocean Protocol. For further information please contact [contact@delta-dao.com](mailto:contact@delta-dao.com) or visit the website <https://www.delta-dao.com/>.

For more detailed description of the demonstrated use case please look at the website [EuProGigant - Experience Gaia-X](https://www.delta-dao.com/).





# Gaia-X reference

 Bundesministerium  
Klimaschutz, Umwelt,  
Energie, Mobilität,  
Innovation und Technologie

Gefördert durch:



aufgrund eines Beschlusses  
des Deutschen Bundestages



# Self-Description Verification



Data Part No. 319 2022-06-02T14:15:00 -  
EuProGigant MesseHannover

GAIA-X Testnet

This screenshot shows a data set page from the EuProGigant platform. At the top, it says "Data Part No. 319 2022-06-02T14:15:00 - EuProGigant MesseHannover". Below that is a "Service Self-Description" badge with a checkmark and the text "last check: less than a minute ago". A red box highlights this badge. The page also includes details about the dataset being published by "0x4A80...B5d4" 18 days ago, containing 335.4 KB of data, and a restriction note about availability to active contributors and members of EuProGigant.

This screenshot shows a service offering page. It features a "USE" button and a "Verified Publisher" badge. A red arrow points from the "Service Self-Description" badge on the previous page to this page. The main content includes a section to "Select an algorithm to start a compute job" with two options: "(free) Algorithm - EuProGigant CNC-ProfiTrainer (Minimal Viable Hannover)" and "(cost-coverage) Algorithm - EuProGigant CNC-ProfiTrainer (Minimal Viable Hannover)". It also shows a note about payment: "You will pay 1 OCEAN".

## Service Self-Description

```
{  
  "selfDescriptionCredential": {  
    "@context": [  
      "http://www.w3.org/ns/shacl#",  
      "http://www.w3.org/2001/XMLSchema#",  
      "http://w3id.org/gaia-x/resource#",  
      "http://w3id.org/gaia-x/participant#",  
      "http://w3id.org/gaia-x/service-offering#"  
    ],  
    "@type": [  
      "VerifiableCredential",  
      "ServiceOfferingExperimental"  
    ],  
    "id": "https://vc.ptw.tu-darmstadt.euprogigant.io/sd/gxserviceDataResourceServiceOfferingPTWTUDa_eupg.json",  
    "credentialSubject": {  
      "id": "https://vc.ptw.tu-darmstadt.euprogigant.io/sd/gxserviceDataResourceServiceOfferingPTWTUDa_eupg.json",  
      "gx-service-offering:providedBy": {  
        "@value": "https://vc.ptw.tu-darmstadt.euprogigant.io/sd/participant.json",  
        "@type": "xsd:string"  
      },  
      "gx-service-offering:name": {  
        "@value": "(cost-coverage) Data - EuProGigant CNC-ProfiTrainer (Minimal Viable Hannover)",  
        "@type": "xsd:string"  
      },  
      "gx-service-offering:description": [  
        {  
          "@value": "full text as described in did:op:1E8Ae58222F96f9235F7093C73f73e2497dC7A10",  
          "@type": "xsd:string"  
        }  
      ],  
      "gx-service-offering:tags": [  
        ...  
      ]  
    }  
  }  
}
```

# Self-Description Verification

## Latest Services

<b>Data Part No. 178 2022-05-30T07:46:22 - EuProGigant MesseHannover</b> 0x4A806a4851472F7cFd579d3FF5465F03c3c2B5d4	1 OCEAN ≈ €0.18	19/06/22, 10:33 GMT+2	DATASET
<b>(free) Data - EuProGigant CNC-ProfiTrainer (Minimal Viable Hannover)</b> 0x4A806a4851472F7cFd579d3FF5465F03c3c2B5d4	FREE	19/06/22, 10:32 GMT+2	DATASET
<b>(cost-coverage) Data - EuProGigant CNC-ProfiTrainer (Minimal Viable Hannover)</b> 0x4A806a4851472F7cFd579d3FF5465F03c3c2B5d4	1 OCEAN ≈ €0.18	19/06/22, 10:31 GMT+2	DATASET
<b>Data Part No. 319 2022-06-02T14:15:00 - EuProGigant MesseHannover</b> 0x4A806a4851472F7cFd579d3FF5465F03c3c2B5d4	1 OCEAN ≈ €0.18	19/06/22, 10:24 GMT+2	DATASET

... after real-time checking with the Compliance Service API

*** <b>Data Part No. 319 2022-06-02T14:15:00 - EuProGigant MesseHannover</b> (cost-coverage) Data - EuProGigant CNC-ProfiTrainer (Minimal Viable Hannover) Verified Self-Description	1 OCEAN ≈ €0.18	19/06/22, 10:24 GMT+2	DATASET
---	--------------------	-----------------------	---------

## Service Self-Description

```
{
  "selfDescriptionCredential": {
    "@context": [
      "http://www.w3.org/ns/shacl#",
      "http://www.w3.org/2001/XMLSchema#",
      "http://w3id.org/gaia-x/resource#",
      "http://w3id.org/gaia-x/participant#",
      "http://w3id.org/gaia-x/service-offering#"
    ],
    "@type": [
      "VerifiableCredential",
      "ServiceOfferingExperimental"
    ],
    "@id": "https://vc.ptw.tu-darmstadt.euprogigant.io/sd/gxserviceDataResourceServiceOfferingPTWTUDa_eupg.json",
    "credentialSubject": {
      "id": "https://vc.ptw.tu-darmstadt.euprogigant.io/sd/participant.json",
      "gx-service-offering:providedBy": {
        "@value": "https://vc.ptw.tu-darmstadt.euprogigant.io/sd/participant.json",
        "@type": "xsd:string"
      },
      "gx-service-offering:name": {
        "@value": "(cost-coverage) Data - EuProGigant CNC-ProfiTrainer (Minimal Viable Hannover)",
        "@type": "xsd:string"
      },
      "gx-service-offering:description": [
        {
          "@value": "full text as described in did:op:1E8Ae58222F96f9235F7093C73f73e2497dC7A10",
          "@type": "xsd:string"
        }
      ],
      "gx-service-offering:tags": [
        ...
      ]
    }
  }
}
```

# Self-Description Verification



The screenshot shows the EuProGigant Service Self-Description Verifier interface. At the top, there is a search bar with the placeholder "GAIA-X Testnet TEST", a profile dropdown, and a verify button. Below the header, the main area has two sections: "Service Self-Description" and "Service Self-Description Verifier".

**Service Self-Description Verifier:** This section contains a form for entering a DID, a text input field with the value "did:op:105d721f56D8ba1fF1847f7925e097EAAcF9F4e8", and a yellow "VERIFY" button. A green box highlights this entire section.

**Service Self-Description:** This section displays the verified self-description. It includes a summary box with the text "Verified Self-Description" and "last check: less than a minute ago", followed by a detailed JSON representation of the self-description credential. A green arrow points from the "Verified Self-Description" summary box to the detailed JSON representation.

**JSON Representation of Verified Self-Description:**

```
{
  "selfDescriptionCredential": {
    "@context": [
      "http://www.w3.org/ns/shacl#",
      "http://www.w3.org/2001/XMLSchema#",
      "http://w3id.org/gaia-x/resource#",
      "http://w3id.org/gaia-x/participant#",
      "http://w3id.org/gaia-x/service-offering#"
    ],
    "@type": [
      "VerifiableCredential",
      "ServiceOfferingExperimental"
    ],
    "@id": "https://vc.ptw.tu-darmstadt.euprogigant.io/sd/gxserviceDataResourceServiceOfferingPTWTUDa_eupg.json",
    "credentialSubject": {
      "id": "https://vc.ptw.tu-darmstadt.euprogigant.io/sd/gxserviceDataResourceServiceOfferingPTWTUDa_eupg.json",
      "gx-service-offering:providedBy": {
        "@value": "https://vc.ptw.tu-darmstadt.euprogigant.io/sd/participant.json",
        "@type": "xsd:string"
      },
      "gx-service-offering:name": {
        "@value": "(cost-coverage) Data - EuProGigant CNC-ProfiTrainer (Minimal Viable Hannover)",
        "@type": "xsd:string"
      },
      "gx-service-offering:description": [
        {
          "@value": "full text as described in did:op:1E8Ae58222F96f9235F7093C73f73e2497dC7A10",
          "@type": "xsd:string"
        }
      ],
      "gx-service-offering:tags": [
        ...
      ]
    }
  }
}
```

# Ideal component matching

 Bundesministerium  
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Innovation und Technologie

Gefördert durch:



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des Deutschen Bundestages



# Ideal component matching

## General

### Research Question:

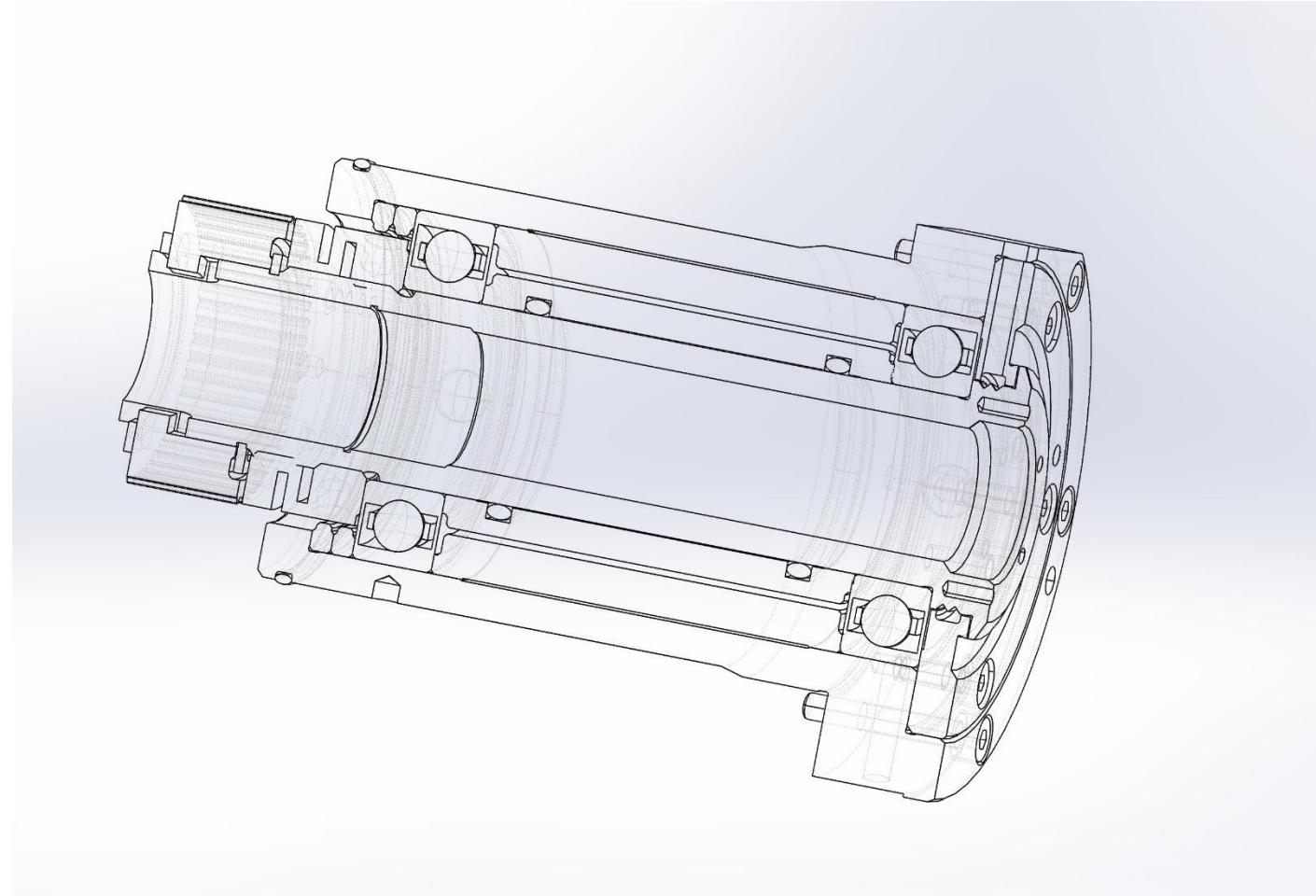
How can Gaia-X concepts be instrumentalised for resource-optimised manufacturing and assembly?

### Goals:

- Reliable sharing of data from different participants
- Traceability
- Reduce inhibitions for cross-company cooperation

### Representative Use Case:

Manufacturing the spindle assembly of a machine tool



Spindelbaugruppe Heller Profitrainer

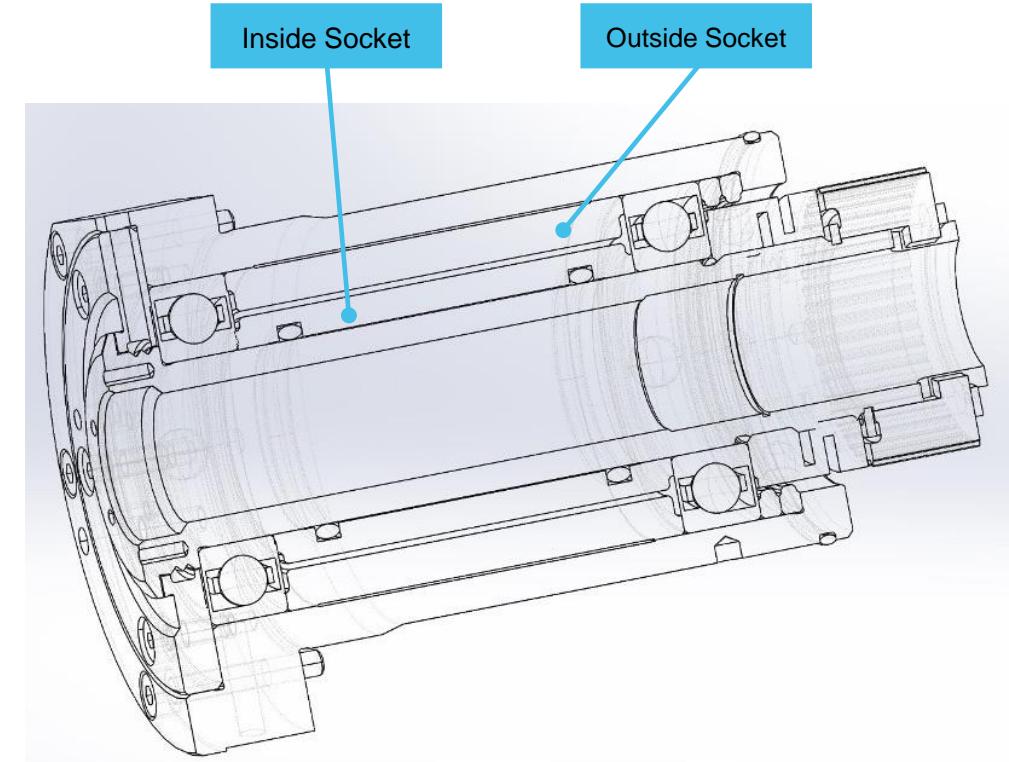
# Matching of production components

Multifunctional spindle = simplified version of a tool spindle

## Goal: Optimisation of the spindle bearing

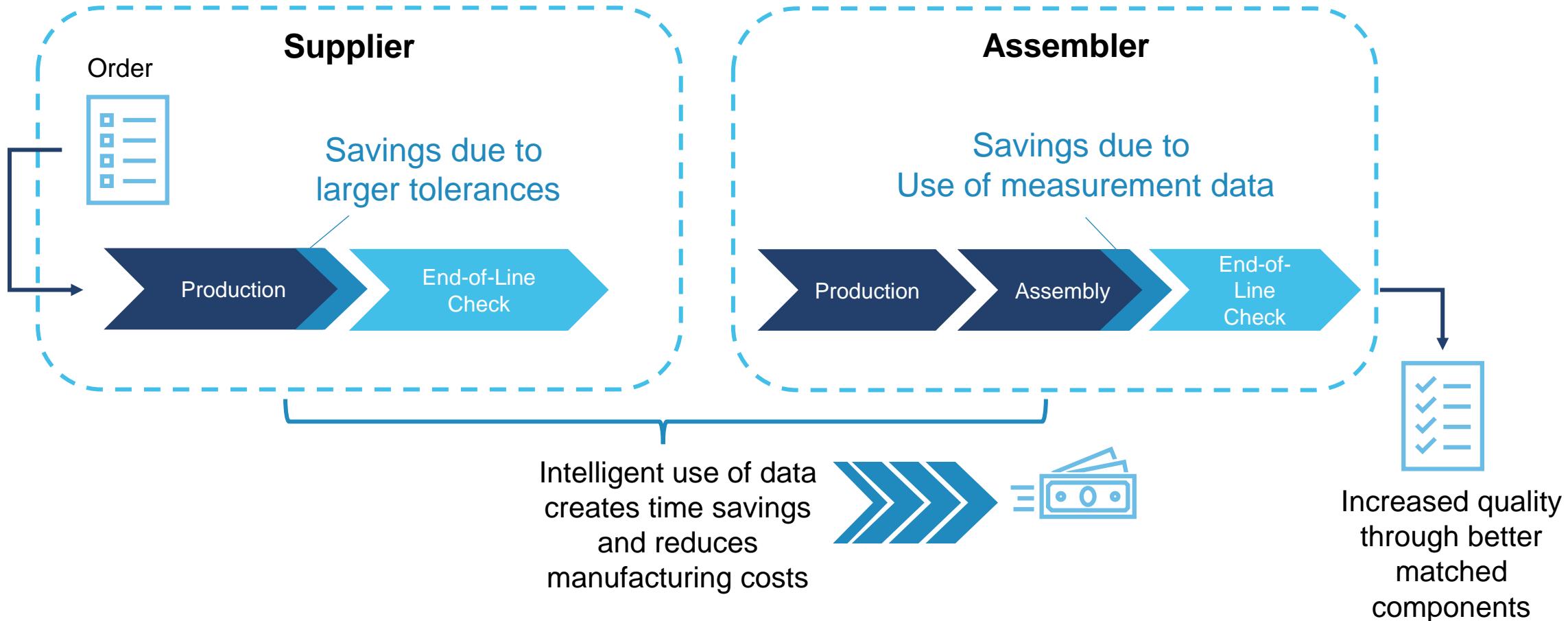
↳ by matching the length dimensions of the inner (LI) and outer (LA) bushings

$$(L_I - L_A) = 0$$

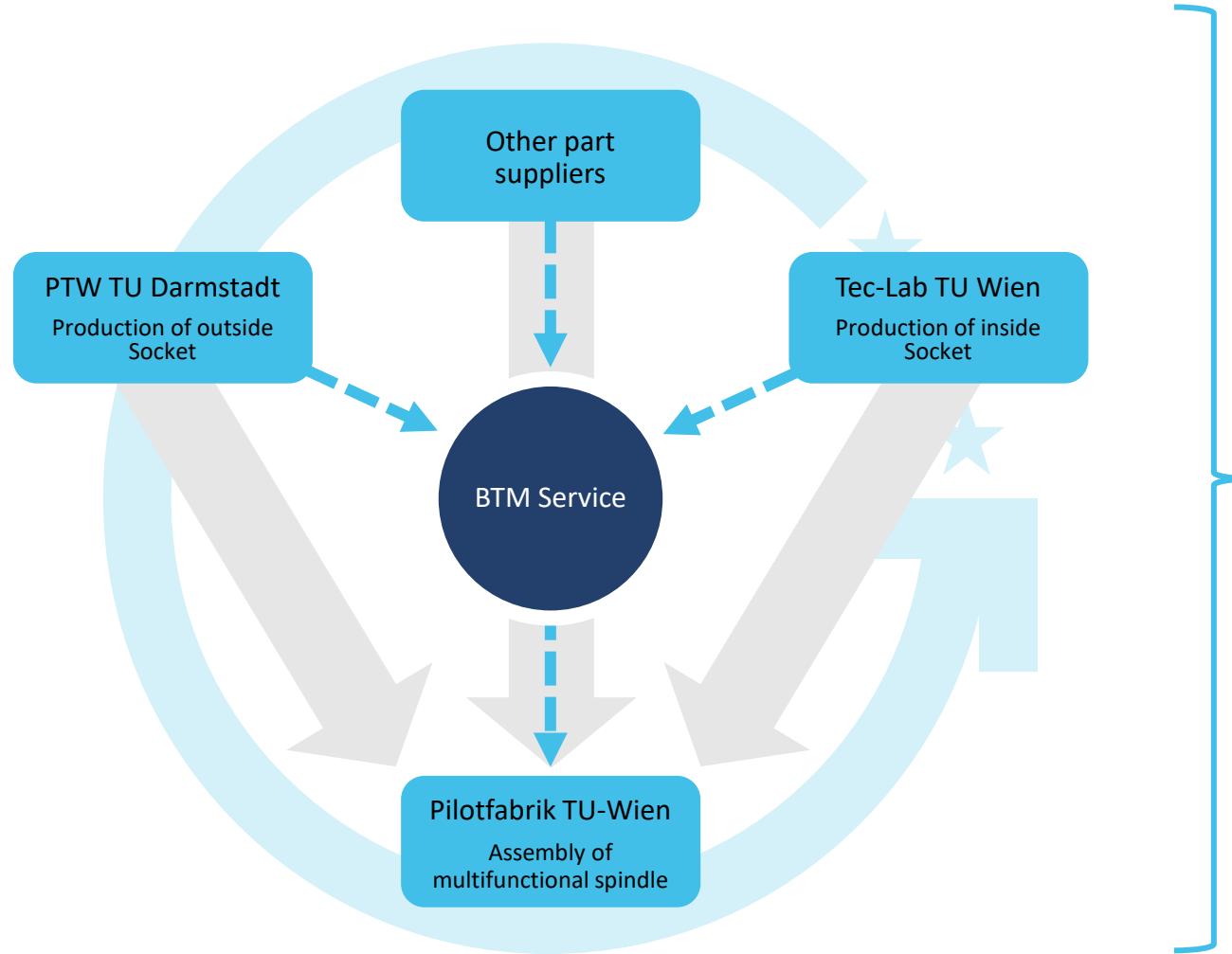


Multifunctional spindle

# Ideal component matching using the example of the multifunction spindle



# Ideal component matching



Intelligent use of measurement data along the value chain creates ...

- > Reduced production costs
- > Time saving
- > Increased quality

# Gaia-X compliant provision of data



**BTM Demonstrator Light (EuProGigant Open House Day)**

GAIA-X Testnet

ALGORITHM | Ambitious Ling Token – AMBLIN-79 ↗

Published By 0x21CF..BdaF  
about 1 month ago

This is the demonstrator light algorithm for the Component Matching Demonstrator of EuProGigant for computing of measurement data from the CNC-ProfiTrainer.

Machine + Product User A      Machine + Product User B

Assembly

Restriction: The free version of this data service offering is restricted and only available to active contributors and members of EuProGigant.

**EuProGigant Portal**  
The lighthouse project for Gaia-X in manufacturing

24 results

PUBLISH VERIFY PROFILE Reconnecting... ⚙️

DATA SETS X ALGORITHMS DOWNLOAD COMPUTE Clear

SORT Relevance Published ▾

DATA SET	NAME	DESCRIPTION	OWNER	GEN-X TESTNET	
BTM954669-11	Quality Data of IFT TU Wien Material Number 00.954669 Serial...	0x21CF..BdaF	This is a data service offering for the Component Matching Demonstrator of EuProGigant that prov...	1 OCEAN	GEN-X Testnet
BTM954669-10	Quality Data of IFT TU Wien Material Number 00.954669 Serial...	0x21CF..BdaF	This is a data service offering for the Component Matching Demonstrator of EuProGigant that prov...	1 OCEAN	GEN-X Testnet
BTM954669-9	Quality Data of IFT TU Wien Material Number 00.954669 Serial...	0x21CF..BdaF	This is a data service offering for the Component Matching Demonstrator of EuProGigant that prov...	1 OCEAN	GEN-X Testnet
BTM954669-8	Quality Data of IFT TU Wien Material Number 00.954669 Serial...	0x21CF..BdaF	This is a data service offering for the Component Matching Demonstrator of EuProGigant that prov...	1 OCEAN	GEN-X Testnet
BTM954669-7	Quality Data of IFT TU Wien Material Number 00.954669 Serial...	0x21CF..BdaF	This is a data service offering for the Component Matching Demonstrator of EuProGigant that prov...	1 OCEAN	GEN-X Testnet
BTM954669-5	Quality Data of IFT TU Wien Material Number 00.954669 Serial...	0x21CF..BdaF	This is a data service offering for the Component Matching Demonstrator of EuProGigant that prov...	1 OCEAN	GEN-X Testnet
BTM954668-11	Quality Data of PTW TUDa Material Number 00.954668 Serial Number...	0x4A80..B5d4	This is a data service offering for the Component Matching Demonstrator of EuProGigant that prov...	1 OCEAN	GEN-X Testnet
BTM954668-10	Quality Data of PTW TUDa Material Number 00.954668 Serial Number...	0x4A80..B5d4	This is a data service offering for the Component Matching Demonstrator of EuProGigant that prov...	1 OCEAN	GEN-X Testnet

Berlin



# OPEN HOUSE Day

10 & 11 October



10 - 11 October 2023



Forum Digital Technologies, 10587 Berlin



[www.euprogigant.com](http://www.euprogigant.com)





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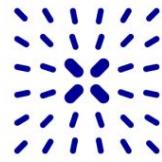


aufgrund eines Beschlusses  
des Deutschen Bundestages



... DRIVING DIGITAL SLOVENIA...

gaia-x



SEPTEMBER  
2023

# Gaia-X ROADSHOW

EUROPEAN TOUR 2023

BE PART OF THE A  
MOVEMENT



PIERRE GRONLIER  
CTO



FRANCESCO BONFIGLIO  
CEO



ROLAND FADRANY  
COO

LJUBLJANA  
SLOVENIA

7 SEPTEMBER



gaia-x

Hub Slovenia

FOR MORE INFORMATION  
[www.gaia-x.eu](http://www.gaia-x.eu)



... DRIVING DIGITAL SLOVENIA...

## Coffee Break

... DRIVING DIGITAL SLOVENIA...

gaia-x



SEPTEMBER  
2023

# Gaia-X ROADSHOW

EUROPEAN TOUR 2023

BE PART OF THE A  
MOVEMENT



PIERRE GRONLIER  
CTO



FRANCESCO BONFIGLIO  
CEO



ROLAND FADRANY  
COO

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SLOVENIA

7 SEPTEMBER

gaia-x  
Hub Slovenia

FOR MORE INFORMATION  
[www.gaia-x.eu](http://www.gaia-x.eu)



# Round table: Gaia-X State of Play and Slovenian Eco-System

Panellists:

- Francesco Bonfiglio, Gaia-X CEO
- Pierre Gronlier, Gaia-X CTO
- Alexander Kinzer, Research Assistant, TU Wien
- Boštjan Gomilšek, Director Enterprise Software Solutions, Result d.o.o.

*Moderator: Flavio Fuart, ICT Association of Slovenia, Chamber of Commerce and Industry of Slovenia*



# Agenda - Round Table

TIME	TOPICS
11.00-12.00	<p><b>Round table: Gaia-X State of Play and Slovenian Eco-System</b></p> <p>Panellists:</p> <ul style="list-style-type: none"><li>• Francesco Bonfiglio, Gaia-X CEO</li><li>• Pierre Gronlier, Gaia-X CTO</li><li>• Alexander Kinzer, Research Assistant, TU Wien</li><li>• Boštjan Gomilšek, Director Enterprise Software Solutions, Result d.o.o.</li></ul> <p><i>Moderator: Flavio Fuart, ICT Association of Slovenia, Chamber of Commerce and Industry of Slovenia</i></p>
12.00-12.15	Q & A
12.15-14.00	Networking

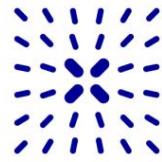


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## Q & A

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# Gaia-X ROADSHOW

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CTO



FRANCESCO BONFIGLIO  
CEO



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# Networking

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