

Gaia-X Mission, Milestones, & Deliverables 2022

Francesco Bonfiglio 7 April 2022



Gaia-X Vs European Data Strategy

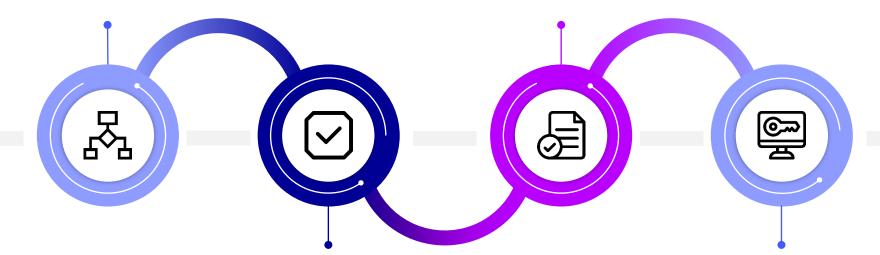
European Strategy For Data

gaia-x

A Common European Data Space, A Single Market For Data

Data can flow within the EU and across sectors

European rules and values are fully respected



Availability of high-quality data to create and innovate

Rules for access and use of data are fair, practical and clear

Digital Decade Objective

Computing Continuum By 2030







>10.000 edge nodes by **2030**



75% of cloud uptake by EU enterprises in 2030

Cloud

In-Country **Data Centre**

Typical Distance

Average Latency



<1 km

1 ms

100,000s

On-Premise

1-100 km

2-5 ms

1000s 100s Cell Site Aggregation Node Near-premise

Near Edge

Edge 100-1000 km

10-20ms

>1000 km

>20 ms

<10

Central Data

Centre

Cloud

10s

Central Office

Mini Data Centres

Far Edge

Aerospace- defence

Mobility

Source: European Commission

Energy

Public administration

Manufacturing

Health

Gaia-X vs. European Data Strategy





EUROPEAN **ALLIANCE FOR INDUSTRIAL** DATA EDGE AND CLOUD

European Data Strategy (2020)

CLOUD

Cloud Rulebook **EU Cloud market places Member States Declaration**

DATA

New legislation (Digital Governance Act, Digital Market Act, Digital Service Act)

HIGH IMPACT PROJECT on data and cloud MS co-investments



DATA SPACES

Gaia-X CLOUD

IPCEI-CIS

Gaia-X Data Spaces

TRANSPARENT SOVEREIGN INTEROPERABLE



USE CASES DATA CONNECTORS **INTEROPERABILITY**

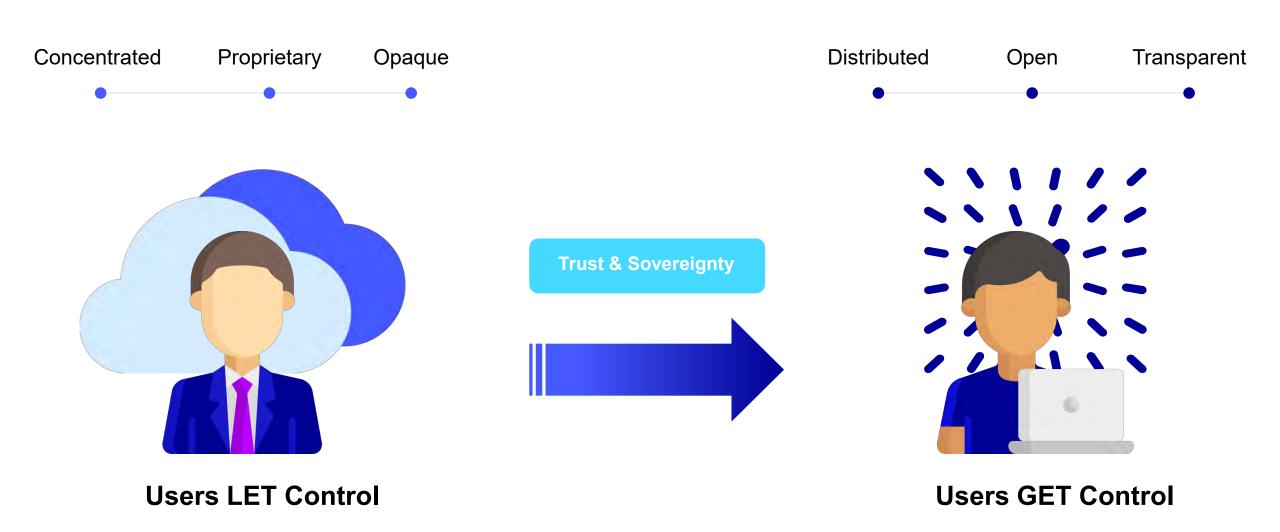


What is Gaia-X?

Our story in short

Our Reason - From traditional Cloud to Gaia-X





Our X Model

Connecting Data & Infrastructures Ecosystems





Advanced Smart Services

(Cross-) Sector Innovations/ Market places/ Applications



Data Spaces

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



Gaia-X Federation Services

Federated & distributed for interoperability, Trust & Sovereignty services



Portability, Interoperability & interconnectivity

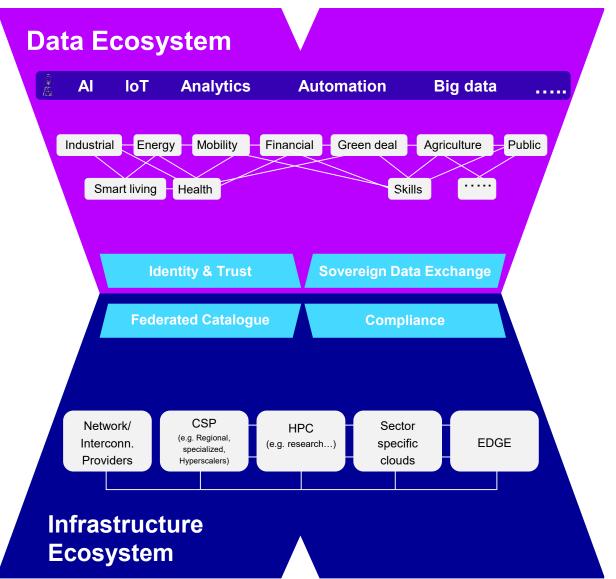
Technical: Architecture of Standards

Commercial: Policies



Compliance

Legal: Regulations



What We Are – What Is Gaia-x What It Does



What Gaia-X Is Or Is Not



Gaia-X Is

- > A single point of definition of Gaia-X architecture & rules
- > Making available an open implementation to all
- > A qualification authority for Gaia-X compliance



Gaia-X Is
Not

- A formal standardisation body
- > A SW or HW product or cloud platform
- > A runtime implementation of any Gaia-X service



Gaia-X vs.
Association

- Gaia-X project is driven by the Association
- > Gaia-X architecture is developed by the Association members
- > Gaia-X services will not be operated by the Association

(*) AISBL is an independent single point of truth in the determination of a Gaia-X compliancy, but the Association itself will not host or run directly any service. Qualification and compliance will be verified through decentralized mechanisms of digital trust and consensus distributed across the network of Gaia-X nodes (i.e. AISBL stands to Gaia-X like a Registrar to the Internet)

What We Do – Gaia-X Three Deliverable Types



The Gaia-X Deliverables



Specify

- > Architecture Document
- > Trust Framework
- > Policies and Rules, Label Framework Documents



Develop

- > OSS framework for community work
- > Reference implementation of Federation Services
- > Reference implementation of self regulation Services



Qualify

- > Service qualification Process
- > Service qualification Labeling
- > Service qualification Ledger





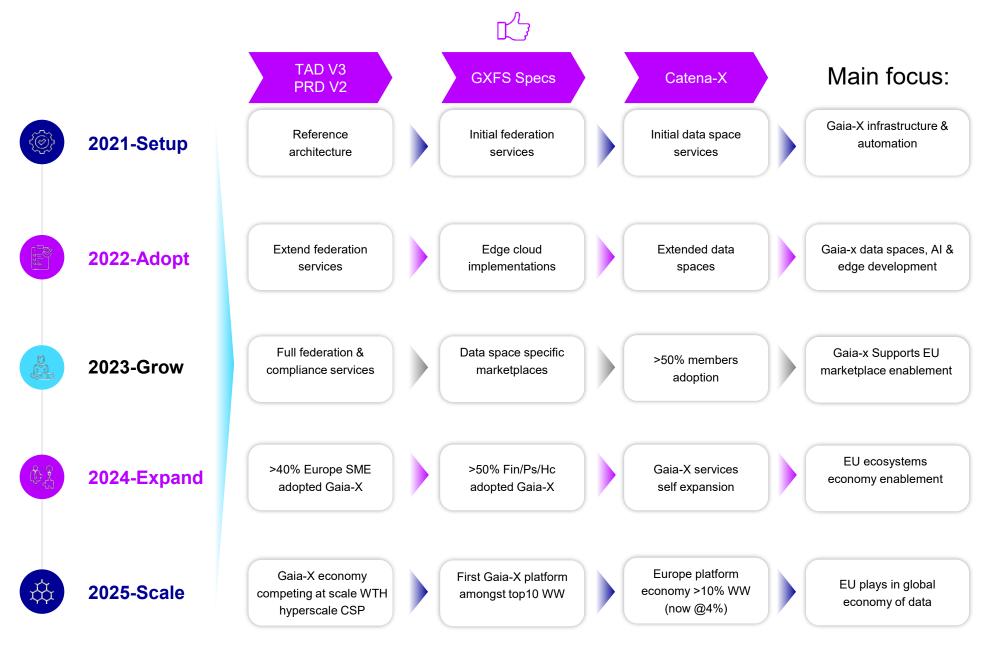




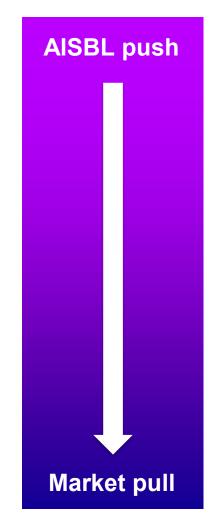
5Y Outlook

Status overview of the Gaia-X endeavor

The 5 Years Outlook







The 5 Years Outlook



TAD V3 PRD V2

GXFS Specs

Main focus:

gaia-x

AISBL push

2021-Setup

Reference architecture

Initial federation services

Initial data space services

Catena-X

Gaia-X infrastructure & automation

- TAD 3.0,4.0
- PRD 1.0
- LABEL SP 1.0
- GXFS SP. 1.0

- **GXFS DEV**
- CCMC START
- CSP-X START
- DS POC

- CATENA-X
- (1-3) START
- (5-10) PIPE

Gaia-x data spaces, AI & edge development

Gaia-x Supports EU marketplace enablement

WHAT'S NEEDED:

- Lighthouse projects initial drops
- START 1st INFRASTRUCTURE FEDERATION PROJECT
- Poc/mvp of decentralized compliance
- 1-3 pilots on compliance/label framework

EU ecosystems economy enablement

EU plays in global economy of data

Market pull



Where we are

Status overview of the Gaia-X endeavor

The most representative alliance of organisations in Europe





More than 330 companies and organisations



3 out of 4 organisations are private companies, **about half of which are SMEs***



Organisations from different industries, such as Mobility, Energy, Manufacturing, Finance etc.



Large Companies



SMEs



Start-Ups



Universities



R&D



Associations



Public Sector

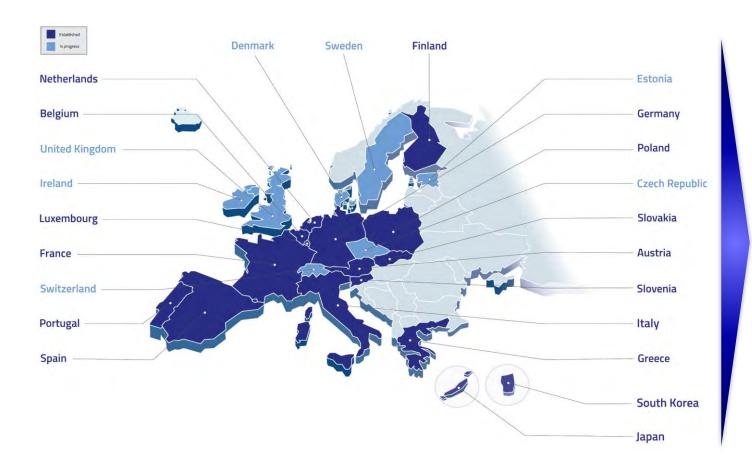


Mentioned explicitly in the **European Data Strategy** and proactively addressing key issues. Exchange between Gaia-X and the **European Commission** to identify synergies between Gaia-X and initiatives and programs such as the **European Cloud Federation**, **CEF 2** and **Digital Europe**.

Gaia-X Hubs & Gov Endorsement

gaia-x

14 EU Hubs, 2 International, 2 more on the way...



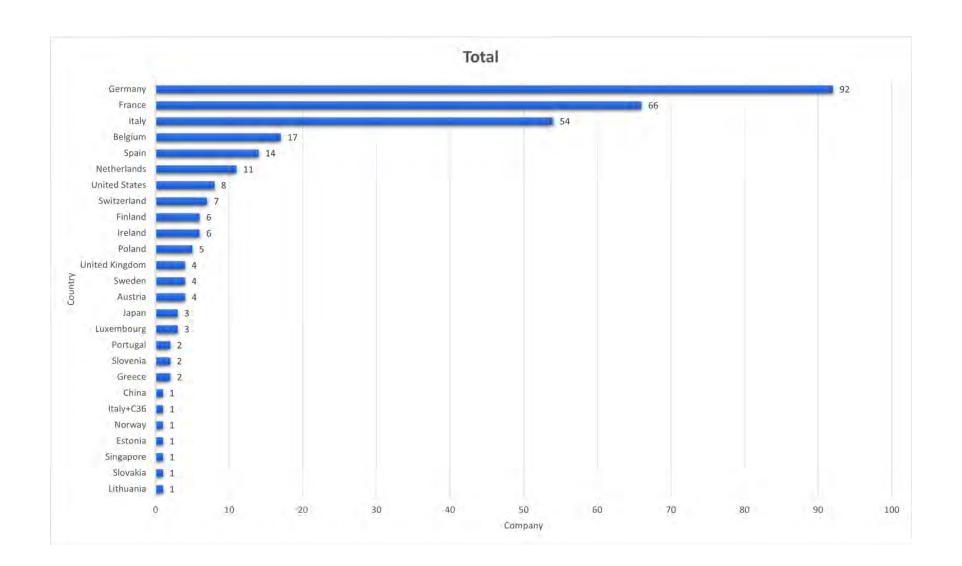
Gaia-X Board of Government Representatives

- GERMANY DANIELA BRÖNSTRUP, Director General Digital and Innovation Policy, German Federal Ministry for Economic Affairs and Climate Action
- FRANCE MATTHIEU WEIL, Head of Digital Economy Department, Ministry of Economy, France
- ITALY STEFANO FIRPO, Head of Cabinet of the Minister for Technological Innovation and Digital Transition
- SPAIN ALBERTO PALOMO, Chief Data Officer, Government of Spain
- NETHERLANDS JOS DE GROOT, Director Digital Economy
- PORTUGAL ANDRÉ DE ARAGÃO AZEVEDO, Secretary of State for the Digital Transition, Republic of Portugal
- **BELGIUM JACK HAMANDE**, Director General Digital Transformation at FPS Policy and Support
- LUXEMBOURG MARIO GROTZ, Director General for Industry, Technology and Research at Ministry of Economy
- FINLAND ILONA LUNDSTRÖM, Director General at Ministry of Employment and the Economy
- POLAND ROBERTO KROPLEWSKI, Governmental Advisory Board Member (Chancellery of the Polish Ministry)
- GREECE –MARIA MAVRIDAKI, Legal Officer, European Commission
- SLOVENIA NENA DOKUZOV, Head of Project Group for New Economy and Blockchain Technologies at Ministry of Economic Development and Technology, UNECE expert and Head of Delegation for Slovenia
- SLOVAKIA JURAJ PANKUV, Advisor, Ministry of Investment, Regional Development and Informatization of the Slovak Republic

...more to come...

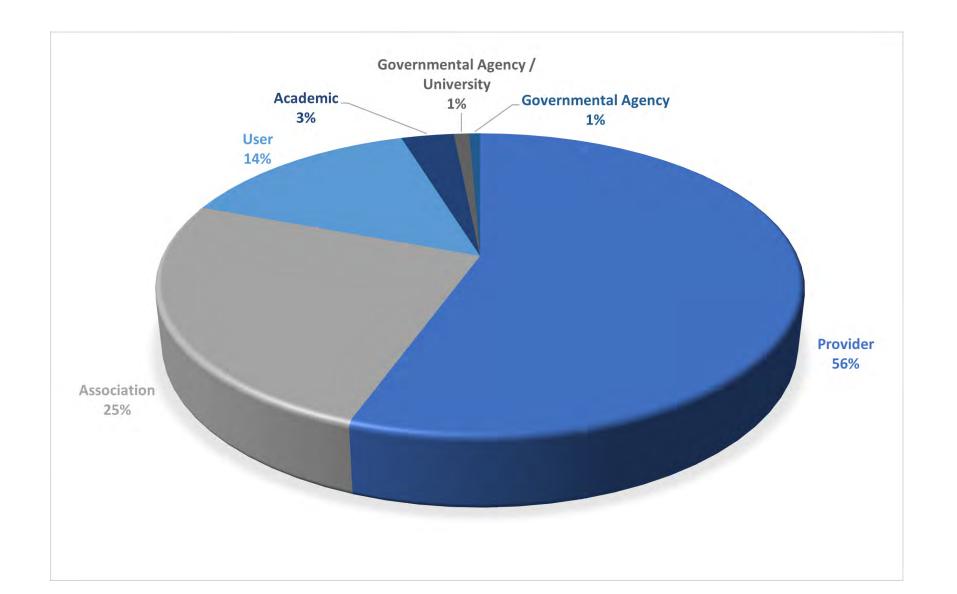
Gaia-X Member Distribution





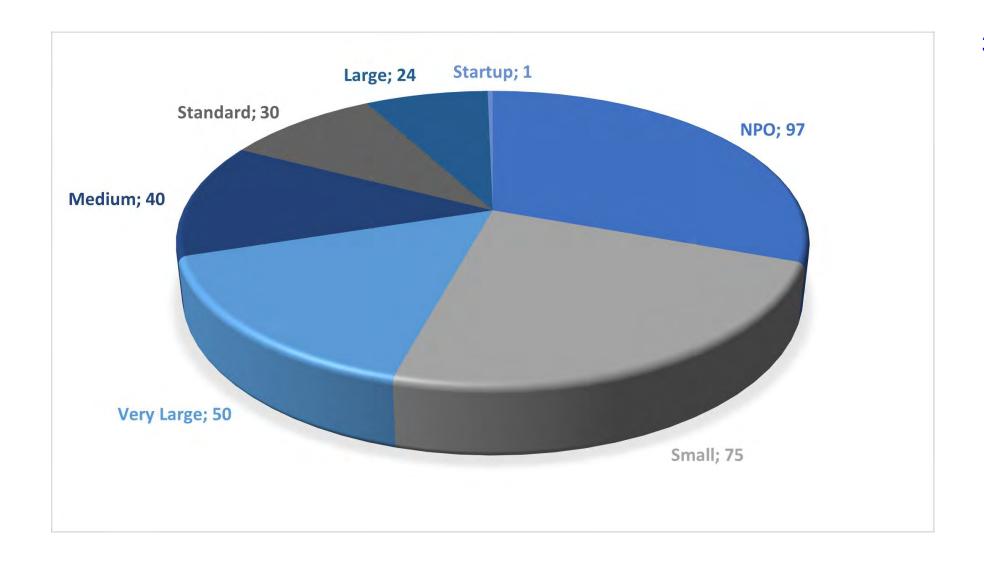
Gaia-X Member Type





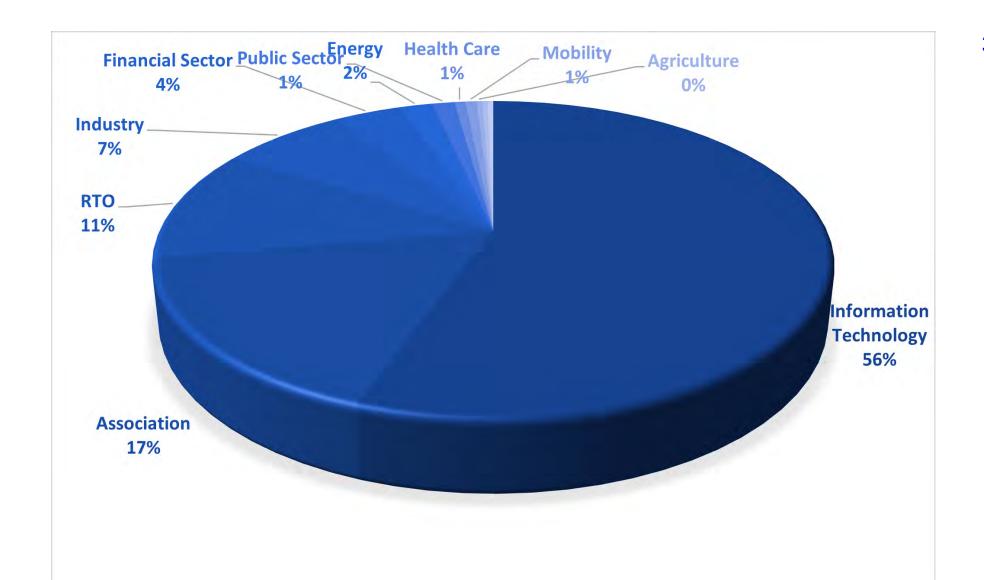
Gaia-X Member Size





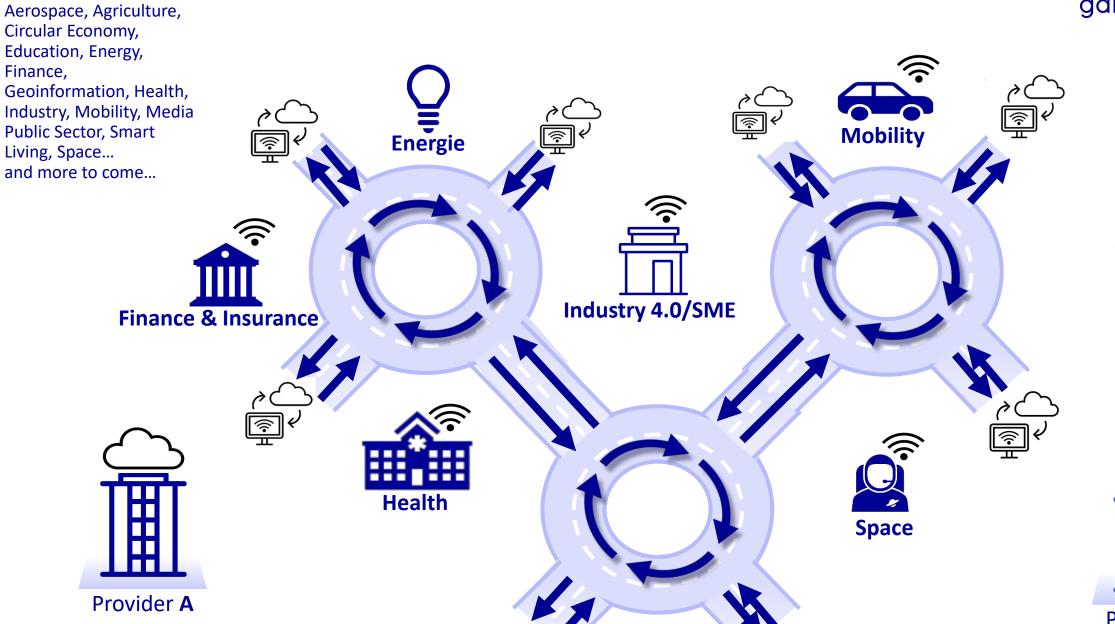
Gaia-X Member Vertical





Developing Data Spaces

14 Data Spaces



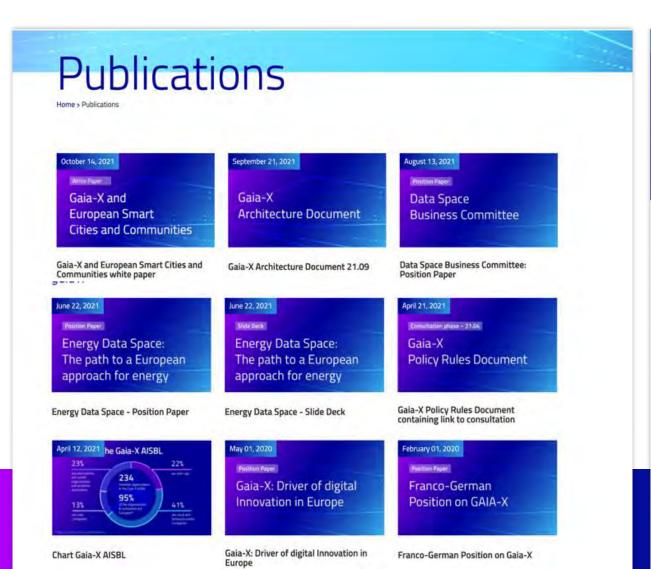


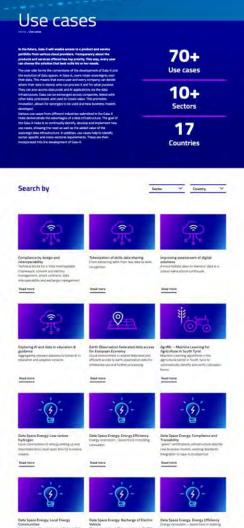


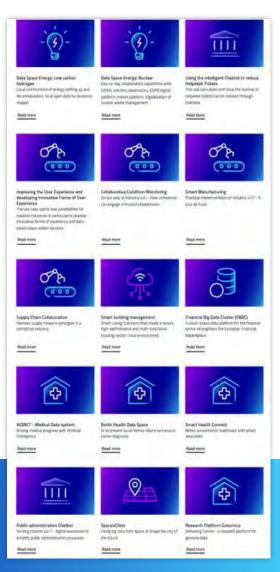


Gaia-X Data Space Publications









Gaia-X Data Space Lighthouse Projects started in 2021





Catena-X https://catena-x.net/en/ Automotive Supply Chain



https://agdatahub.eu/en/ Agriculture



https://euprogigant.com/en/ Manufacturing, Industry 4.0





https://www.gaia-

x.eu/news/structura-



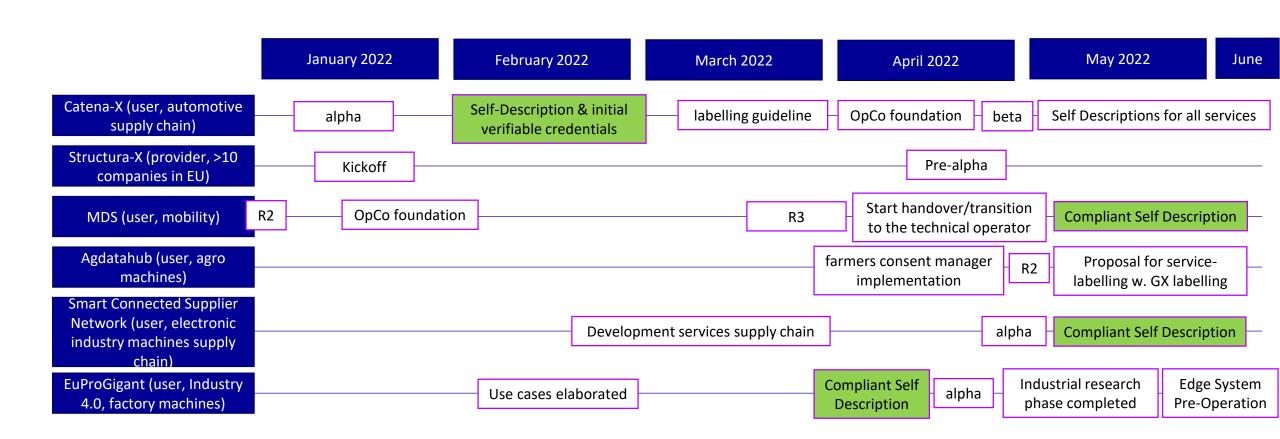
https://mobilitydataspace.eu/ Mobility



https://smart-connected.nl/en
Electronics Supply Chain

External Lighthouse Projects Roadmap





Release Plan Legend:

alpha – internal release, 20-50% function/test, TRL6-9 beta – internal release, 60-80% function/test, customer pilot – TRL6-9 R1, R2, R3... GA(Generally Available) – 100% function/test, production ready (TRL8 min)



Gaia-X Infrastructure Federation Projects



European cloud service providers launched an initiative to create a **Gaia-X compliant, federated infrastructure ecosystem.** The Structura-X project complements existing industry-specific lighthouse initiatives







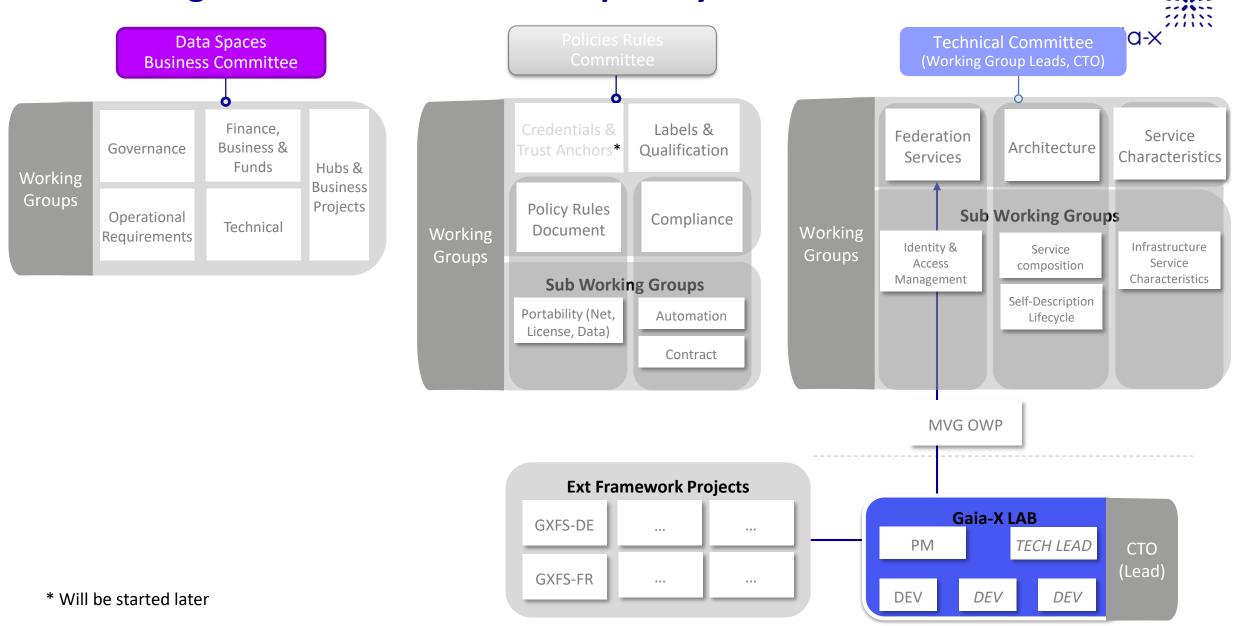




Development Model

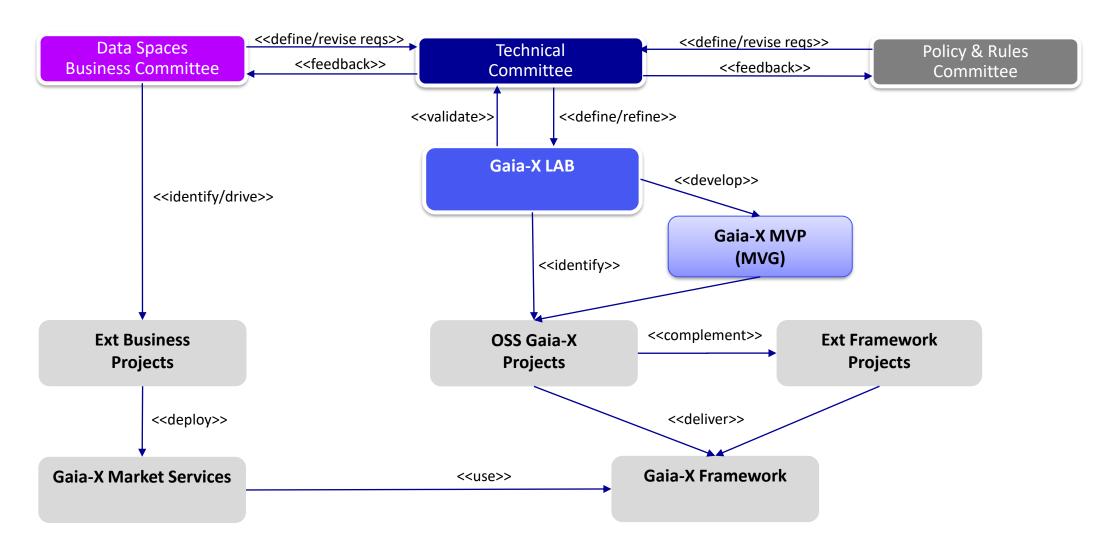
Status overview of the Gaia-X endeavor

Gaia-X organisation 2022 – the adoption year



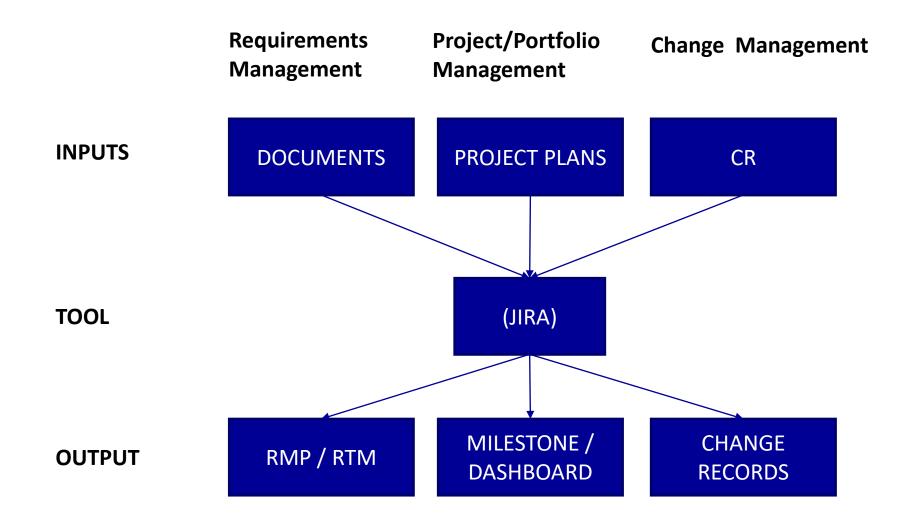
Gaia-X Operational Model 2022





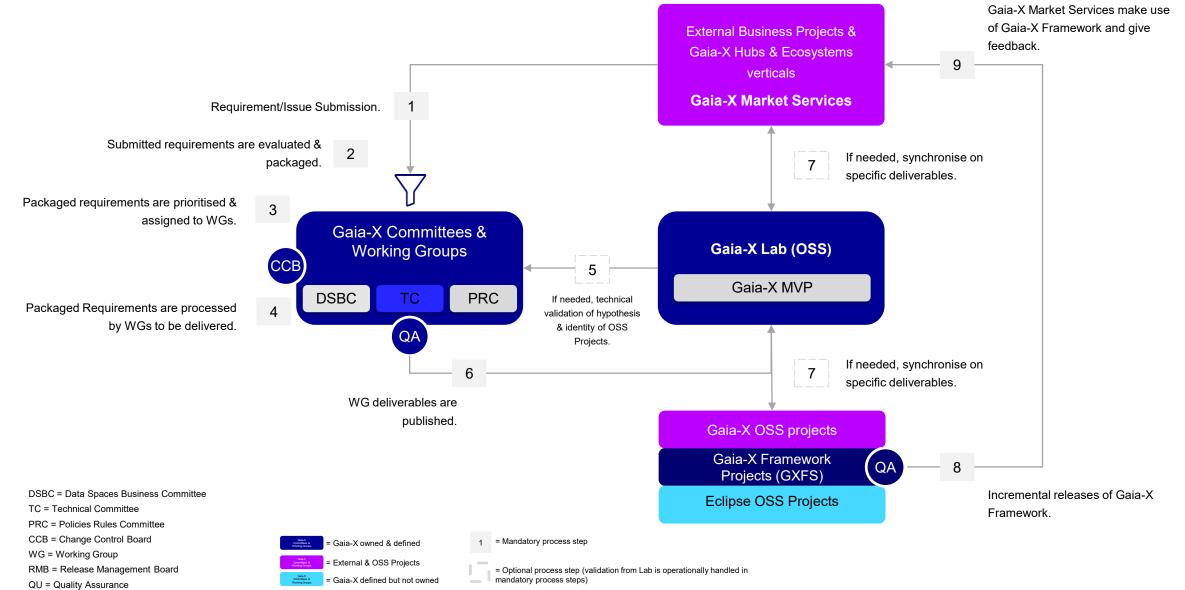
Gaia-X - Streamlined and aligned process





Gaia-X Requirements process



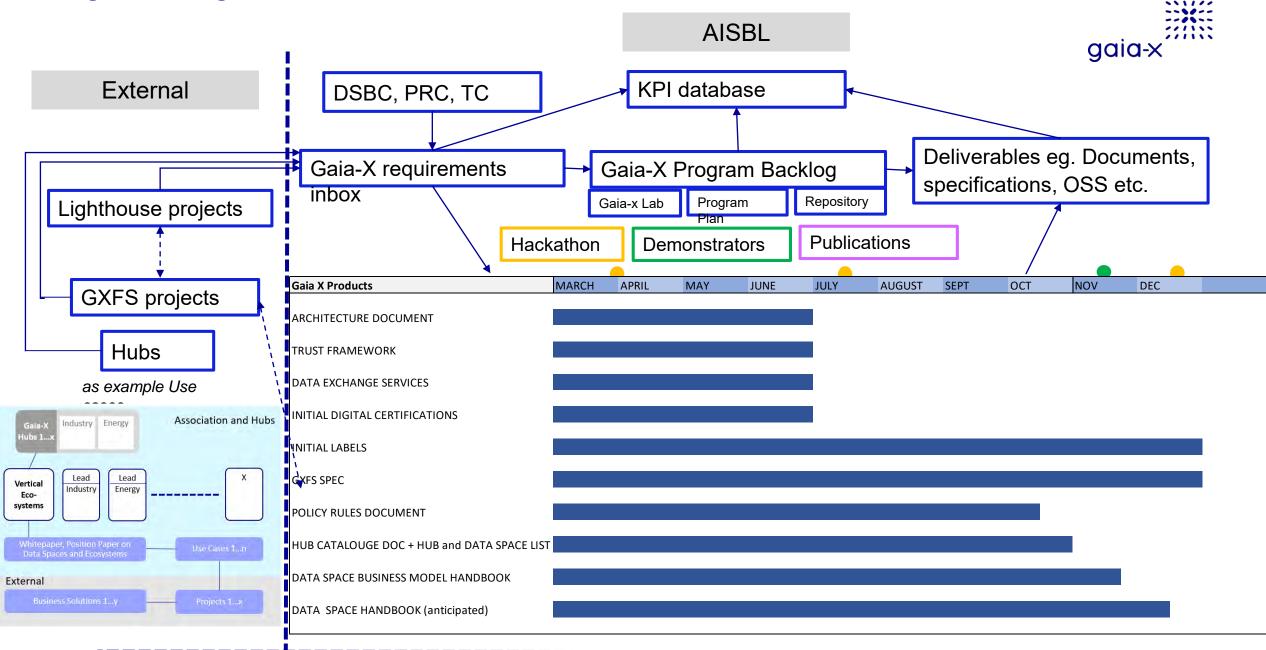




Technical Roadmap

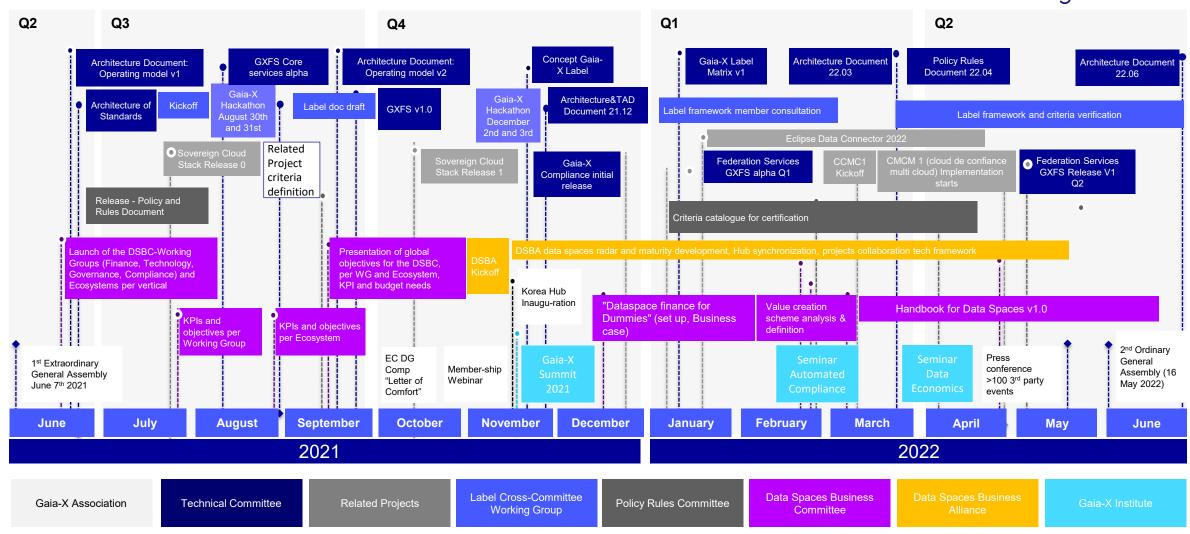
Status overview of the Gaia-X endeavor

Program high-level view



The Gaia-X Timeline







Labeling Overview

Status overview of the Gaia-X endeavor

Why Labeling?

Label Values



Enable Trusted Decisions:

Labels enable trusted contracts between customers and providers easing adoption

Bring Explanation And Transparency:

Labels make the intrinsic features 'readable' (e.g., Interoperability, security, sovereignty...)

Express Value To The Business:

Labels should express the value provided by a Gaia-X service



Competitiveness:

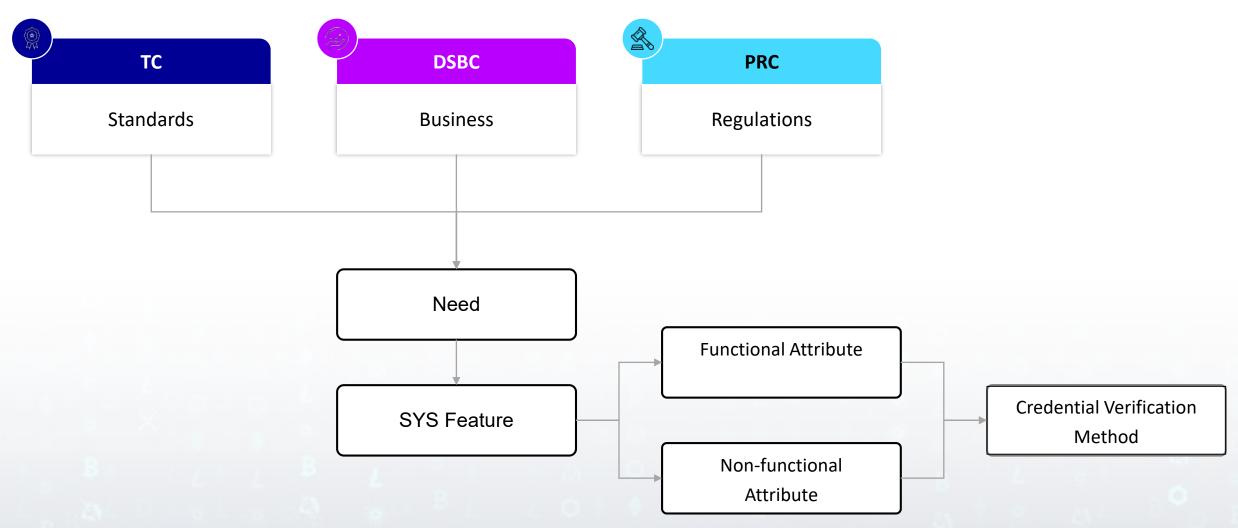
Labels promote visibility and distinctiveness to trigger market competitiveness

Build Momentum:

Labels create awareness and broaden the participation of players to the Gaia-X endeavor

How to verify compliance?





What is Gaia-X Trust?

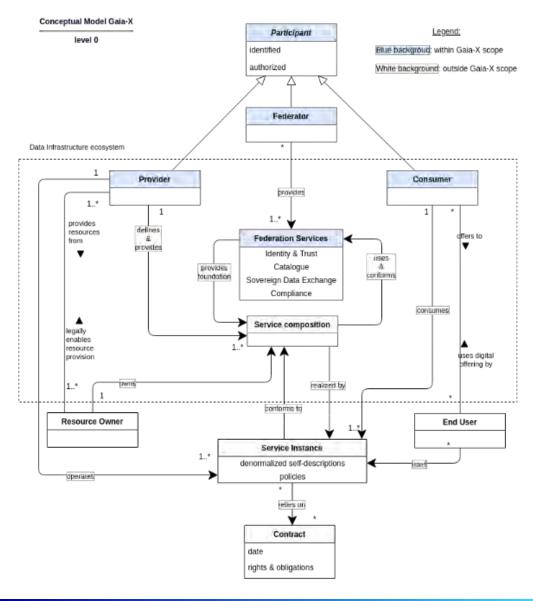
Definition: The Trust Framework is the set of rules that define the minimum baseline to be part of the Gaia-X Ecosystem. Those rules ensure a common governance and the basic levels of interoperability across individual ecosystems while letting the users in full control of their choices.

To ensure Trust (transparency, controllability) the Gaia-X process is:

- Automated by Gaia-X specific components part of decentralised technology framework
- Versioned, i.e., bound to a specific version in time of the Compliance rules set
- Applied to the self-description file of all entities implied in the Gaia-X conceptual model (*)
- Aimed to verify the existence and veracity of the attributes and not judging their value
 - (*) as defined as part of the Gaia-X Conceptual model described in the Gaia-X Architecture document







What is a Gaia-X Label?



The Gaia-X Compliance & Labelling Framework identifies can serve both, Label Owners & Label Issuers:



Label Owners

Entities that decide to define a specific label for their business.

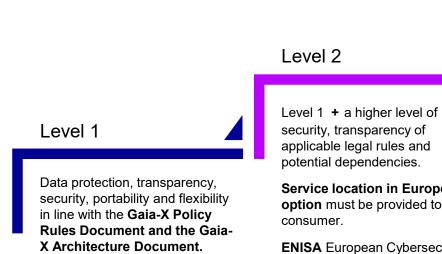


Label Issuers

Entities, defined by the Gaia-X AISBL, that can implement and issue a label.

Basis labels issued by AISBL

- Gaia-X will verify the compliance of a service attributes according to those specified for a specific label, but will let external authorities (Governmental, Industrial Specific, Standardization Bodies, etc.) the ability to define domain specific Labels.
- Besides externally defined Labels, Gaia-X will define three basic level of compliance criteria clusters.



ENISA European Cybersecurity Scheme Level Basic compliance

security, transparency of applicable legal rules and potential dependencies.

Service location in Europe option must be provided to the

ENISA European Cybersecurity Scheme Level Substantial compliance

Level 3

Highest standards for data protection, security, transparency, portability and flexibility, as well as European control.

Levels 1 and 2 + criteria that ensure immunity to non-European access and a strong degree of control over vendor lock-in.

A service location in Europe is mandatory.

ENISA European Cybersecurity Scheme Level High, compliance

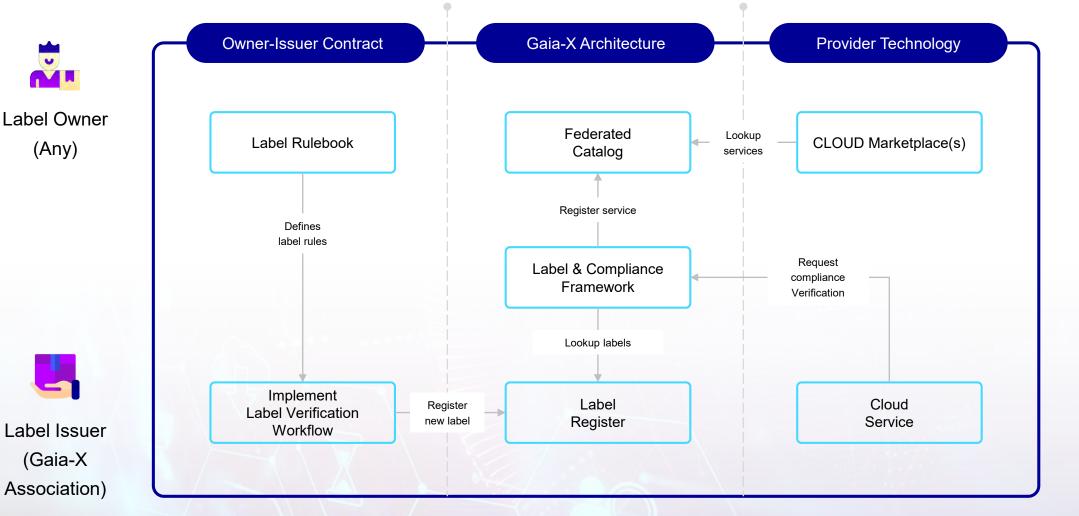
Gaia-X Label Functional Model (simplified logical view)





Label Owner (Any)

(Gaia-X





Consumer (Any)



Provider (Any)



Community Engagement

Status overview of the Gaia-X endeavor

Editorial Calendar of activities





Please check the weekly update on https://www.gaia-x.eu/news/editorial-calendar

Communication Material

https://gaia-x.eu/news/communication-material



Set standards:

Be part of an open discussion about the standards Gaia-X should be based on and ensure accessibility for all users

Communication Material

	Open Al
Gaia-X Factsheet	+
Gaia-X Standard Presentation	+
Gaia-X Communication Briefing	+
Gaia-X Milestones	+
Gaia-X Infographic	+
Gaia-X Media Kit	+
Boiler Plate - About Gaia-X Association	+
Gaia-X Federation Services (GXFS) - Executive Summary	+
Gaia-X Hubs	-+
Gaia-X Committees	+
Gaia-X Membership	+
Gaia-X Logo	+
Gaia-X Design Guidelines	+
Gaia-X Hubs Online Styleguide	+

announcement through our social media

European and national levels. Get

support from Gaia-X Projects and

partners and get all relevant details

on the calls of your interest, ranging

from basic requirements to evaluation

roposals Office to find the best

release and reinforce quotes from the two

ining over two weeks following the release s throughout the year; alongside Gaia-X; eces alongside Gaia-X;

criteria

ig advantage of a dedicated communication aign during that event.



Gaia-X at a glimpse





What is this White Paper about? This White Paper explains the Gaia-X Federation Services' concept from a broader Gaia-X project angle. It introduces the reader to the Gaia-X project; elaborates why Federation Services are key to deliver Gaia-X's ambitions and provides an overview of different Federation Services for a non-technical audience.

What is Gaia-X and why does it matter? Gaia-X is a European project aiming to promote innovation through data sharing. By addressing the lack of trust in the current data landscape, Gaia-X will tap into the potential of linking up different industries and new data pools. Gaia-X develops a framework whereby actors will agree on certain rules and values that create trust among all actors based on the values of data sovereignty, privacy, security, technology neutrality and interoperability. In a community-driven process - companies, individuals and other actors can join Gaia-X.

What is GXFS? Gaia-X Federation Services are the implementation toolbox and minimum technic requirements and services to kickstart Gaia-X. The Federation Services empower the Federations to become operational and work together in an efficient and secure manner.





What are Gaia-X Hubs? Gata-X is the next generation of digital data infrastructure: a trustworthy data ecosystem across Europe and beyond base sale A to the feet general on original oran intracrotion and extensioning base completen across continued and expension contributions on the European values of openense transparency, and sometime framework in the feet general values of openense to on sational levels to nutriure a dynamic, grassroots ecosystem. This will help to identify referent user requirements and to conceptualize use cases. For companies, stakeholders, iniciatives, associations and public sector bodies.

national Gala-X Hubs are the central contact points for participating in and developing the Gala-X project.

What is the role of Gaia-X Hubs?

Gaia-X Hubs - Join a thriving

network across Europe

Gaia-X at a glimpse

90%

829 BN

Hubs facilitate and support the creation of European Data Spaces. They are regional economy proxies to intercept digital transformation strategy directives and faunding opportunities to implement Gala-X services. Hubs focus on developing data spaces that are relevant or specific to the local region and also interact with other regions to build cross-national data spaces that



How are Gaia-X Hubs organised?

National Casa-X Hubs pursues a bottom-up approach. They are self-organized while closely aligned with the Casa-X Association. Memorands of Understanding are striven for between Hubs and the Casa-X Association for foster this partnership. Any organisation or company that can provide une cases, expertise and resources, or which is willing to contribute to the creation of data spaces, is welcome to join a Hub. A Casa-X Hub incorporates at least one indicatification and is open for participation to company. spaces, sewcome to join a Hua. A GABA-Y Hub incorporates at least one involution sector and is open for participation in compa-nies and organizations from other countries as well, especially those that do not have GABA-Y Hubs themselves. Each Hubs is fed by a Hub co-ordinator who ensures olose contact to the GABA-Y Association. For all industry sectors involved in a national Hub, close cooperation between the GABA-Y Association is assumed. Hubs are part of an open and global GABA-Y Community. Hub participants are not necessarily members of the GABA-Y Association but are of course, encouraged to become one, so as to take part in the decision-making processes of architecture, as well as policy and rules development

developed? A range of services have been defined in the work d Catalogue, Data Sovereignty Services, Compliance and Portal. For hentication and authorisation, personal credential management, services to name only a few. Further details may be consulted is the project name of an initiative funded by the German Ministry

ner a German Parliament decision. It intends to kickstart the n Services through a joint community process. The resulting e of this funded project are owned by the Gaia-X Association.

et Industry, with its Head Office in Cologne, Germany, acts as a ition work and to award the implementation contractors, based on

Media Kit

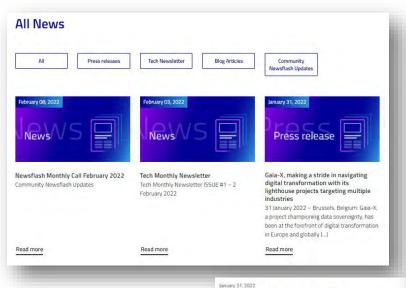
https://gaia-x.eu/news/press-room



News section

https://gaia-x.eu/news





Gaia-X, making a stride in navigating digital

Nest 'b

transformation with its

multiple industries

Europe and globally L. J.

w. Previous

Read more

Gaia-X, making a stride in navigating digital transformation with its lighthouse projects targeting multiple industries Press release 31 January 2022 - Brussels, Belgium: Gaia-X, a project championing data sowereignty, has been at the forefront of digital transformation in Europe and globally through its industrial lighthouse "Gaia-X shares a common vision with all its partners of providing a collaborative, sustainable data exchange platform to corporates - from small and medium-sized enterprises to large companies. These projects will help us bring all stakeholders into one coherent data space and enable them to snare data within the framework of trust and openness. According to a BoD fecision. Gala-X has assigned 13 criteria based on which to select the lighthouse projects" said Francesco Bonfiglio, CEO of Gala-X. 'Lighthouse projects are a great way of keeping the momentum going, and each project is an early adopter of the Gaia-X technology following a feedback loop between the committees and them. The Data Space Business Alliance presents a oint approach towards data spaces and the necessary technologies to realise the idea behind DSBA, helping to leverage Gaia-X's use cases to build a comprehensive pipeline of future The Gala-X Furnment Association for Data and Clinid AISBL rollahorates with the nartner through joint project teams in a joint Program to work on ongoing lighthouse projects. The user

group is adapting the Gaia-X framework, including technical specifications, labels, and open

Weekly Press Reviews

https://gaia-x.eu/press-review

	Open Ai
31 January - 07 February 2022	×
Gaia-X Weekly <u>Press Review</u> : 31 January – 07 February 2022	
24 January - 31 January 2022	×
Gaia-X Weekly <u>Press Review</u> : 24 January - 31 January 2022	
17 January - 24 January 2022	×
Gaia-X Weekly <u>Press Review</u> : 17 January - 24 January 2022	
10 January - 17 January 2022	×
Gala-X Weekly Press Review: 10 January - 17 January 2022	
3 January - 10 January 2022	×
Gaia-X Weekly Press Review: 3 January - 10 January 2022	
29 November 2021 – 6 December 2021	×
Gaia-X Weekly Press Review: 29 November 2021 – 6 December 2021	

Press Clips

https://gaia-x.eu/press-review

Nikkei Asian Review - 03 Fe - 21:47 UTC Japan to pitch data-sharing framework to bolster Asia supply chains EU's Gaia-X data infrastructure seen as role model EU's Gaia-X data infrastructure seen as role model

Spoke - 31 Ja - 11:00 UTC

BigchainDB, co-founder of Ocean Protocol, wins 3 tenders for Gaia-X Federation Services

These are the first EU-wide tenders for the release candidate of the Gaia-X Federation Services Through this technical work, BigchainDB.

- Association of the Internet Industry, added that, "The Gaia-X's open source software modules, available mid-year, will enable innovation



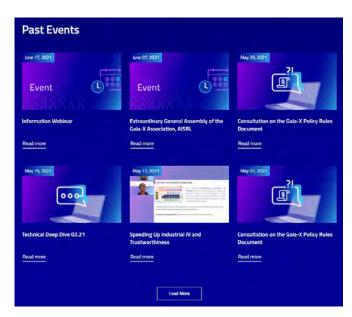
Press Releases

https://gaia-x.eu/news

Events

https://gaia-x.eu/events





Gaia-X Summit 2021



Deep dive from a vision to a tangible data infrastructure

Photo Album Day 1



Photo Album Day 2



Agenda Day 1 (18 Nov): Vision and Internationalisation

PPT Presentations Day 1

19

NOV 2021

13:00 - 18:00 CET

Register

Part 1: Reynotes - Gala-X is Up and Running

Session Moderator: Dr. Vassilia Orfanou (CMO, Gaia-X)

- 13:00 13:10 Food for thoughts: Data Ethics (Impulse) Britanny Kaiser (Session Coordinator) - Video Recording
- 13:10 13:15 Welcome and Open Revnote Dr. Maximillan Ahrens (Chairman Bod Gaia-X. CTO, T-Systems) - Video Recording
- 13:15 13:30 Gaia-X Status, Vision and Roadmap Francesco Bonfiglio (CEO, Gaia-X) -
- 13:30 13:35 Summit Content and Structure Prof. Dr. Boris Otto (Fraunhofer and VC Innovation) - Video Recording

Simili Break (Video Testimonials and Hubs Statements)

- Gauther Crommolinek (Coordinator Gass-X Hub Lusembours
- Marine De Sury (Coordinator, Gara-X Hub Frants)
- Martina Maláková (Executive Director, ELECTRIK s.co. & Coordinator, Gaia-K Hub Stovakia)
- Antomotta Mastrosami (Chief Digital & IT Officer, Proximus)
- Gabriella Mauroianni (Chief Digital Office, Skyll)
- Javenin Schulz (Strategie Program Officer, Luxembourg Institute of Health)
- Lacqueline Van de Werken (General Course), Leaseweb Global B.V.)
- Stephanie Weither (Executive Director Ft: Affairs, Senda)
- Poter Verkoulen (Coordinator, Gasa-X Hob Netherlands)

Session Moderator: Dr. Vassilia Orfanou

- 13:50 14:20 Gara-X Up and Running Pitching Gara-X Minimum Viable Gara-X (MVG) -Pierre Gronlier (CTO, Gaia-X) - Video Recording
- 14:20 14:50 First Show on Federated Services and Q&A Project leads: Dr. Anne-Sophie Taillandler (FR), Andreas Weiss (DE) - Video Recording
- 14:50 15:20 Business Case I: (Catena-X) and O&A Oliver Ganser (CED Catena-X and BMW) - Video Recording









Hackathon will take place on the 2nd and 3rd of December 2021.

The Gaia-X Hackathon is a two days event with each day being crowned with a presentation session of showcases that leverage components and concepts of the Gaia-X architecture. You can register for the Hackathon and the showcase sessions separately.

The goals of the Gala-X Hackathon are

- 1. To increase the technical competence and knowledge related to technology relevant to the Gala-X ecosystem within the community and
- 2. to integrate and align different ideas, concepts, pilots and prototypes to consistent
- The Gara-X Hackathon will be organized as a community event in regular intervals by the Open Work Package Minimal Viable Gaia-X/Piloting.

Details

When: December 2 & 3 | 9.30 am - 5.30 pm CEST

Where: Virtual Event via MS Teams | Access data will follow after registration

Topic: 2 streams for extending the "data to compute" and "compute to data" cases (developed during Hackathon #1)

Language: EN

y in 4



Why should you join?









Contribute

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



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.

Gaia-X standard presentation 07/04/2022





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- https://www.facebook.com/Gaia-X-Association-for-Data-and-Cloud-111692924764099
- https://www.youtube.com/channel/UCB5WMc2FfrxKzfd7XIODo



Be part of the Gaia-X story and create a future that is both open and fair!