gaia-x

Vision & Strategy

Francesco Bonfiglio, CEO Gaia-X

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1. Executive Summary

1.1 Introduction

This document provides a high-level overview of the core elements of the Gaia-X initiative. It goes through the vision and mission of Gaia-X, key questions, the core values, and the benefit it produces for the different types of stakeholders that are involved. It then expands on the mission, the scope, the key deliverables, and the strategic plan of the project.

This paper is written by Francesco Bonfiglio, CEO of Gaia-X, presents a one stop shop of a single read of the many and articulated concepts and elements that Gaia-X represents and develops. All these are then articulated and elaborated in detail in the various tables and deliverables of the association described through its documents and presentations that can be easily skimmed here.

Additional documents and references to case studies, real projects and examples that explain and realise Gaia-X have already been released and are available here. Future releases of this paper will add to these and future references.

1.2 Gaia-X key questions

1.2.1 What is Gaia-X

Gaia-X is an initiative to develop an open software layer of control, governance, and the implementation of a common set of policies and rules to be applied to any existing cloud/ edge technology stack to obtain transparency, sovereignty and interoperability across data and services. This can be deployed with any cloud player that implements this open SW layer in conjunction with the associated policies and rules.

1.2.2 Which is Gaia-X Vision

We envision a strong, inclusive cloud backbone in Europe to promote a thriving digital economy with open innovation. Gaia-X will be the framework for collaboration and trusted technology deployment with the goal of scale through federation. This will further boost a single EU market that allows any player to digitally operate within the EU with minimal friction. Digital Platforms are becoming the digital twin of physical environmental, economic, political, and societal ecosystems. The ability to ensure that fundamental principles of freedom, transparency, and sovereignty are respected, will determine the future of Europe and of any civil society.

1.2.3 Which is the Gaia-X Mission

Together we create an open, transparent, and secure federated digital ecosystem, where data and services respond to common rules and can be freely and securely built, collated, and shared.

Gaia-X is committed to deliver the specifications, the code stack, and the labels that underpin a digital backbone at scale. These are developed in a joint endeavour with the Gaia-X Association Members, to be executed on a 5-year roadmap – and on-going development with strong feedback loops from real-world deployments.

Together, we create an open, transparent, and secure federated digital ecosystem, where data and services can be freely and securely built, collated, and shared, while operating according to common standards, policies, and rules.

1.2.4 What is Gaia-X

Gaia-X Association for Cloud and Data AISBL, is a not-for-profit international association open to all members of all types. Representatives from business, politics, academics, and science from Europe and around the globe are working together to bring the vision to life.

1.2.5 Why Gaia-X

The digital economy is enabled by shared data spaces and trusted Cloud-based services. Multiple stakeholders ranging from innovative start-ups, to established small and medium enterprises to large corporations- all need an equal playing field to benefit from the economies of scale and scope that can be achieved through an EU-wide collaboration.

Moreover, each stakeholder will contribute to the accumulated benefit of the data spaces and their AI applications. Gaia-X aims to specify and create a transparent and trustable framework to substantially accelerate the move to the cloud of European data, thus enabling the creation of European Data Spaces, necessary for a new digital economy.

Examples of data spaces are being developed in several on-going Gaia-X lighthouse projects. One of them, Catena-X, is joining the top European car manufacturers, who decided to exchange their data to realise ten critical use cases, from ESG traceability to production and supply chain optimisation, that will leverage the power of collective data across the full chain of suppliers and OEM.

By exchanging data along the full value chain, every single participant in the federation gains insight into their impact on the final product that no individual could ever have on its own. In this specific example, the creation of such data space is going to disrupt the automotive market, in Europe and beyond.

1.3 Gaia-X Ten Core Values

1.3.1 Open

Gaia-X is a new paradigm of open cloud and data services, based on the highest level of openness and transparency. The concept of 'Openness' translates into two key elements: open specifications, and open-source code made available to all to implement Gaia-X compliant services. Gaia-X provides for an open layer of control and governance to give objective visibility and control over a set of service characteristics, independent from the provider technology.

1.3.2 Transparent

Transparency allows users to examine each service characteristics and be ensured that they have been verified by the Gaia-X technology framework (or by accredited third parties when technology does not allow for direct verification) in terms of correspondence to the claims. Through transparency, Gaia-X allows users to make educated decisions when selecting the characteristics of the services they want to consume (buy or use), in a trustworthy environment.

1.3.3 Sovereign

Sovereignty is the ability to exercise self-determination. It can translate into several meanings - political, economic, digital, and technical. Gaia-X does not provide any political or economic interpretation of sovereignty, but instead provides a framework to configure sovereignty from a digital and technical perspective.

1.3.4 Fair

Fair and FAIR: Findable, Accessible, Interoperable, Reusable. Gaia-X creates a fair, competitive environment, a level playing field, by enabling a new generation of cloud and data services, putting the transparency and the control of data at the centre, regardless of the underlying technology stack. In this way, fair market competition can be achieved.

Gaia-X promotes principles of Data Ethics and freedom of choice in technology, reducing the elements that create strong dependencies from proprietary, black-boxed technologies.

1.3.5 Independent

Gaia-X AISBL is a totally independent organisation funded by the fees of its associates and not beholden to anyone player, whether private or governmental. The broad and representative membership of the association ensures the Gaia-X L represents the voice of its stakeholders. Regional Hubs in EU countries coordinate the in-country initiatives and collaborate with each other and the AISBL.

1.3.6 Inclusive

Gaia-X is open to all members of any type and any country within or outside Europe, at a national, international or global level - willing to join its mission. The association is ruled by strict principles that cannot be altered. The Board of directors is only elected from European headquartered organisations.

The Gaia-X foundation does not create any market offering. The association develops the Gaia-X framework and promotes the creation of Gaia-X compliant services in the market. Service providers and service users determine the opportunity to build and use Gaia-X services adopting the common rules and framework provided by Gaia-X.

This allows for a clear mission in line with the interests and principles of the European economy and civil society. It avoids competition conflict and welcomes the contribution from anyone across the world to buy into the adoption of common rules and concur to the successful implementation of a new generation of digital trust.

1.3.7 Free

The open-source code and specifications of Gaia-X are provided for free. The Gaia-X Federation Services constitute a toolkit that can be used to implement Gaia-X Federations. Gaia-X Decentralised Services will determine the compliance of a service provided to the Gaia-X standards.

No extra costs are implied. In this manner, the Gaia-X adoption barriers for the market are reduced to a mere minimum and only depend on the willingness of providers to adhere to the Gaia-X model.

1.3.8 Federated

Gaia-X promotes and implements the concept of Federations. Through Federations, service providers can join up their infrastructures in a trusted manner, to offer a distributed cloud model. Through Federations, data owners (users) can exchange and utilise their data with commonly agreed upon rules and control on whom and for what to grant access.

Through Federations, Gaia-X promotes the creation of common Data Spaces, collaboration across multiple business actors to build value by exchanging data. In Data Space business model, the value is obtained through the exchange of data across participants, instead of the traditional model based on the maximisation of protection and exploitation of each own data. We believe in 'Innovation by Federation' to enable 'Data Space Driven Business Models'.

1.3.9 Innovative

Gaia-X is an ecosystem of innovation where emerging concepts, like Decentralised Architectures, Distributed Consensus, Digital Ledgers, Verifiable Credentials, Compute to Data and other emerging technologies in the world of digital trust and data ethics are leading edge.

The Gaia-X endeavour is an on-going project that will adapt and evolve over time taking into consideration the best of breed technologies and ensuring a level of competitiveness through innovation for Europe in the global market.

1.3.10 Evolutionary

Gaia-X embraces the principle of continuous improvement and evolution based on objective validation and feedback loops.
With this mindset, we define the problem to be solved (the What) in our association Committees and Working Group and promote the creation of OSS projects engaging teams of developers and specialists to prototype, validate and implement the solution (the How). The continuous interaction across the problem and solution teams is the basis of agile development and continuous improvement.

We do not conceive Gaia-X as a one-shot project. It will evolve and expand proportionally to the needs to be satisfied and the capability to define problems and deliver solutions in a feedback loop model. The intent is to avoid self-validation, reduce dependency on limited competencies, and unleash the power of open innovation through a collective intelligence process basis.

1.4 What's in it for me

1.4.1 Overview

Gaia-X satisfies the needs and expectations of different stakeholders. Here we give an overview of the benefits for each specific stakeholder depending on their specific challenges.

In line with the association's 'evolutionary' core value, we seek a continuous engagement with the stakeholder community to collect their feedback and adjust our objectives and operations in a direction that will truly represent and satisfy their emerging needs.

1.4.2 How to engage stakeholders

The organisation structure provides for several entry points to collect all stakeholder types and their contribution. The Gaia-X Committees and underlying Working Group capture the three main views of the world that Gaia-X wants to address:

- the business view (through the Data Space Business Committee)
- the technical View (through the Technical Committee), and
- the regulation and compliance view (through the Policy Rules Committee and Labelling Working Group).

Every member can participate in all the working tables with one or more representatives, but only one person per Working Group is admitted providing a fair and balanced voice to all players regardless of their size.

The association is open to members from all over the world. The election of the Board of Directors (BoD) is only limited to European members' representatives, to ensure the correct representation of European core values and principles.

National (or regional) hubs are encouraged and supported by the association, to create localised working tables, collecting all members from that area, and act as a think tank to create Data Space projects and provide feedback on specific needs back to the association.

A GAB (Governmental Advisory Board) is set up to group the representatives from the Governmental Institutions from participating countries, to collect and harmonise their needs and expectations and steer and drive the work of regional hubs in the same direction.

SME (Small Medium Enterprise), Large Enterprises, Technology Users and Providers have equal access to all tables and to the BoD election process to ensure a balanced representation of all parties.

Members participating in the Gaia-X endeavour share their knowledge and cannot derive profits for their own company from any of the activities or deliverables of the association, which are shared across all members.

This structure allows for the best level of inclusion and protection from any discrimination of any type, including size, nationality, member type and any vested conflict of interest to lead or hijack the association purpose.

1.4.3 Association Members

All Association Members can be active actors in developing Gaia-X. Each member can participate in all working groups with a maximum of one individual per working group. Individuals in the workgroups much are qualified to bring the right level of expertise. Each one can accept new members applying the specific internal rules of participation, the election of group leaders, rotation, and voting. Each group produces deliverables according to a plan defined by the group and aligned to the plan of the relevant committee (Policy Rules Committee, Technical Committee, Data Space Business Committee), which all share the common roadmap and objectives.

1.4.4 Users

Technology Users from industries, like Financial Services, Energy, Manufacturing, Automotive, Healthcare, Transportation/ Mobility, Education, Agriculture, can define their expectations and requirements for a trusted cloud and data infrastructure.

Trust is necessary to overcome the concerns and constraints that now prevent users from large-scale adoption of cloud technology. Cloud adoption in Europe is around 25% of their workloads (for data and applications), which is far behind the US and China.

Innovators can tap into the opportunities offered by open, trusted data spaces and cloud services. Governments can create national, sovereign solutions that can be federated with other EU entities.

1.4.5 Technology Providers

Technology Providers (System Integrators, Consultancy Firms, Cloud Service Providers, Product Vendors, etc.) work together with Users to define and implement the requirements for this new generation of interoperable, transparent, and sovereign cloud and data infrastructures.

1.4.6 Users and Providers

Together, Users and Providers, work on the definition of the Data Space projects and the federation of users and providers, thus creating value for all participants and cooperating to exchange, aggregate, and analyse data.

Through these Data Spaces, each participant obtains more value by sharing their data with others instead of keeping it for themselves. This is necessary for all value chains, where each single chain player can obtain a great advantage in sales, costs, and quality, by leveraging information from all other participants in the value chain. We actively support the Open-Source community in the development of the Gaia-X stack.

1.4.7 Start-ups & SME (Small-Medium Enterprises)

SMEs and Start-ups in Gaia-X are a very important stakeholder group for Gaia-X. have the same role and equal opportunities as large Enterprises. They can participate in all Working Groups to define Data Spaces, within the Regional Hubs.

In a similar direction with big players, SMEs and Start-ups are presented with a high level of visibility and fully enable them to propose ideas that are evaluated with the same level of attention. The mix of Users and Providers gives SMEs and Start-ups the possibility to connect with bigger players to create partnerships and participate in value chains and consortia.

The intimate relation between Regional Hubs and local Governments gives SMEs a voice at the table where project proposals based on Gaia-X are designed to leverage the RRF (Resilience and Recovery Funds). The international breadth of Gaia-X provides a cross-national visibility and the opportunity to connect and develop ideas across Regional Hubs and countries, partnering with the best companies in the world.

With Gaia-X, European SMEs and start-ups have an opportunity to augment the value of their products and services. Being Gaia-X compliant thus protects and enhances their competitiveness in the European market. We expect that a new cohort of ventures and venture capital will emerge around the data-space enabled ecosystems.

1.4.8 Government Institutions

Government Institutions and Ministries involved with Digital Transformation and implementation of secure and trusted National clouds could find in Gaia-X a new framework of rules, policies and labels that can certify the compliance levels required by their specific qualifications.

Economic Development and Industrial related Ministries can boost cloud adoption across Europe, a necessary element to develop an economy of data, by linking Gaia-X compliance to subsidies and procurement.

Receiving and evaluating Gaia-X based projects through the Regional Hubs, Governments are provided with the guarantee that submitted proposals already match market demand (thus producing market value) and that RRF are not dispersed in multiple disjointed digital initiatives.

1.4.9 Research Institutions and Associations

Universities, researchers, and R&I institutes can leverage Gaia-X to create a fruitful ecosystem, where providers and users can leverage their expertise, ideas, and services to move from concept to market quickly.

The collaboration between market players, governments, and researchers, accelerate the data and knowledge transfer and boosts the development of a European Innovation Ecosystem. Several Associations involved in digital sovereignty, data spaces and cloud can find in Gaia-X a common denominator and a place where experiences, assets and resources can be joined to move from theory to business cases.

1.4.10 Industry and Trade Associations

Industry and Trade Associations can provide their associates a one-stop shop in Gaia-X, where everybody can contribute to proposing and developing Data Spaces. The needs of different trade associations and vertical segments can steer the definition of requirements for Gaia-X to respond to their specific needs and expectations. Industrial, Standard and Trade bodies can also become 'Gaia-X label Owners', defining specific labels that apply to their sectors and that can be coded and issued by the Gaia-X Labelling Framework. This will translate specific vertical expectations into credentials that can be technically verified by the Gaia-X technology.

1.4.11 Non-European Vs European Actors

All members benefit from Gaia-X. European Users are guaranteed a level of trust provided by Gaia-X, so that they can increase their level of adoption of the cloud, making educated and well-informed based on the transparency provided. European Providers are guaranteed to obtain equal opportunity to compete with non-EU providers based on their ability to provide the Gaia-X required level of transparency, sovereignty, and interoperability through their services, mainly based on open or commercial technologies.

Non-European Users seek and achieve the same advantages as European ones from the Gaia-X approach, which promotes principles, like transparency, control, and freedom of choice, that are universal and not specific to European Users only.

Non-European Providers gain the opportunity to adapt their services and technologies, proprietary or not, making them compliant to Gaia-X, matching the expectation of European Users and thus preserving their ability to operate and prosper in the European market.

1.4.12 Open-Source Ecosystem

Gaia-X has three main deliverables: Specification, Code and Labels. The Code of Gaia-X is developed through OSS (Open-Source Software), leveraging the power of the OSS community. All members and potentially non-members will be able to join OSS projects contributing to the development of the foundational component of the Gaia-X framework.

The scope of the OSS projects will clearly state the constraint to be adopted and the problem to be solved. The OSS components of Gaia-X will constitute a toolkit available to all who want to implement a Gaia-X service, and will reduce the entry barrier to those players, in particular SMEs, that cannot afford their realisation in house.

The OSS community is crucial for the success of Gaia-X, and the developers will find in this project the opportunity to contribute to something unique and unprecedented, developing the elements at the basis of any new digital platform in Europe and beyond.

1.4.13 Venture Capital Ecosystem

The innovation ecosystem that Gaia-X wants to trigger will enable new opportunities for VC and investors. But not limited to the ecosystem of Start-ups and SME, that, through a federation approach, will be able to gain access to a broader visibility in the market and a scalability of services not available until now in Europe.

The ‘innovation by Federation’ principle described above will therefore constitute an interesting new and differentiated market for investors in Europe and outside, increasing the competitivity of European players and reducing the need for them to search for capitals in markets outside Europe.

1.4.14 Civil Society

Gaia-X was born in the industrial sector to drive Data Space driven business models. Nonetheless, the principles of Gaia-X are universally accepted values that belong to and move people’s hearts-from transparency to freedom of choice, security, and sovereign control. These principles are fundamental in Data Ethics, and the awareness and demand from civil society and citizens are growing.

As an example, common Data Spaces around the healthcare, the education system, the transportation, are awaited. Post-pandemic, now more than ever, data spaces are expected by citizens, given that they are forced into a new normal, without necessarily being able to revert into a physical, secure, trusted, integrated, and easy way to access services, both from a public administration and a private sector perspective.

Gaia-X will mark a new era of Data Ethics awareness in the mindset of people that will accelerate our efforts in developing a new generation of platforms and services that adhere to the common principles and values adopted.

2 Gaia-X Mission Elaborated

2.1 Introduction

Gaia-X represents the next generation of data infrastructure: an open, transparent, and secure digital ecosystem, where data and services are available, collated, and shared in an environment of trust.

The architecture of Gaia-X is based on the principles of decentralisation and federation. Gaia-X allows many individual platforms to follow a common standard – the Gaia-X standard to work together.

We are developing policies, specifications, stacks, and labels based on the values of openness, transparency, and trust. So, what emerges is not a cloud, but a networked system that links many clouds and data service providers together, as it may be seen below.

2.2 Association Funding Principles

The Association is funded exclusively through its member fees. No subsidies are received from public administrations of local countries or the European Union/Commission, nor any other governmental source.

In addition, the Association's purpose is to monitor funding opportunities (through public or private tenders) to develop and deploy the Gaia-X compliant platforms and create new Data Spaces and Services implementing the Gaia-X model.

As the Association is not an operator and will not develop Gaia-X Services directly, the AISBL will endorse the creation of consortia that participate in public or privately funded projects- the deliverables of which will be Gaia-X Services. In this way, without direct investment, the Association can pursue the objective to create and expand Gaia-X Services that enable Data Spaces in the European Market.

With such principles, no single member or external entities can ever make the association dependent on them, whether a public entity with subsidies or grants, or any private company funding, or any private of the vested interest of any of the participating members.

2.3 Who is behind Gaia-X

Representatives from business, politics, academics, and science from Europe and around the globe are working together, hand in hand, to create a federated and secure data infrastructure ecosystem. Companies and citizens will collate and share data in such a way as to keep control. They should decide what happens to their data, where it is stored, and always retain their data sovereignty.

As in natural ecosystems, different organisations take on specific tasks in Gaia-X, defining the technical and regulatory requirements and representing member organisations from all over Europe and the globe to engage them and promote international cooperation.

The Gaia-X Hubs act as the voice of user ecosystems on a national level. Their main objectives are to bundle national initiatives, develop ecosystems, and provide a central point of engagement to interested parties in their respective countries. They collaborate with other Hubs and the AISBL.

A strong alliance of companies and organisations has joined

2.4 The demand in practice

Today, many enterprises repeatedly build individual interfaces for data exchange with each individual customer. This is tedious and costly. With Gaia-X, common data-exchange mechanisms are made available and comply with the common needs of trust.
Data sets are geographically distributed, and many users do not want or cannot move data from where they are. The current Cloud offerings are concentrated on a few players offering a hyper-scaled model. With Gaia-X, federations of Cloud nodes will be created. This allows for scaling through federation, while supporting necessary geographical distribution.

The leading Digital Platforms use proprietary, non-interoperable technologies that present concerns of control and lock-in. Gaia-X will provide natively interoperable mechanisms and will verify the real level of interoperability.

Today's cloud adoption in Europe is around 25%. This means most of our data and applications are running on-premises. The mission of Gaia-X is to create a real alternative that removes the roadblock of lack of trust and freedom of choice for cloud adoption. This gives Europe a chance to create sovereign boundaries on already existing investments in IT and digital transformation. It will also accelerate the development of new solutions in a safe and trusted environment for a flourishing European digital economy. Much of the new value will be created on data spaces for exchange, aggregation, and analysis, that require trusted cloud infrastructure.

2.5 Gaia-X Scope

The Gaia-X Association is an independent single point of truth in the determination of Gaia-X compliance, but the Association itself will not host or directly run any service. Qualification and compliance will be verified through decentralised 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).

- **Gaia-X Association is:**
  - a single point of definition of Gaia-X architecture, specifications, policies & rules, and labels
  - making available an open implementation to all
  - a qualification authority for Gaia-X compliance.
- **Gaia-X Association 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. AISBL:**
  - Gaia-X project is driven by the AISBL association
  - Gaia-X architecture is developed by the AISBL members
  - Gaia-X services will not be operated by the AISBL.

What we are? The do‘s and dont‘s of Gaia-X

What Gaia-X is or is not

1 Gaia-X Association is

- Gaia-X architecture & rules
- Open implementation
- Qualification authority for Gaia-X compliance

2 Gaia-X Association is not

- Formal standardisation body
- Software or hardware product or cloud platform
- Runtime implementation of any Gaia-X service

3 Gaia-X vs Gaia-X 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)

2.6 Gaia-X Deliverables

The Gaia-X association has grown in 2021 to more than 300 members (starting with 22 in 2020), focusing on **three types of deliverables** in scope:

- **Specify** (Architecture specifications):
  - Technical architecture document – the Gaia-X logical and operational model
  - Architecture of standards – the collection of all applicable standards to any Gaia-X service
  - Policies & rules – common policies and rules applicable to any Gaia-X service

- **Develop** (Open-source software code):
  - OSS framework for community work – environment to develop the Gaia-X components
  - Reference implementation of federation services – provided OSS to all
  - Reference implementation of self-regulation services – rules the compliance and labelling

- **Qualify** (Instruments of qualification):
  - Service qualification process – how to request for compliance qualification
  - Service qualification labelling – how to obtain a label
  - Service qualification ledger – immutable register of compliance and labelling

What we do? Gaia-X in scope activities

The Gaia-X association has more than 310 members and focuses on three outcomes

1 Specify (Architecture specifications)

- Architecture and functionality of Gaia-X
- Conformity requirements and criteria
- Applicable standards

2 Develop (Open-source software code)

- Open implementation of federation services
- Open-source community

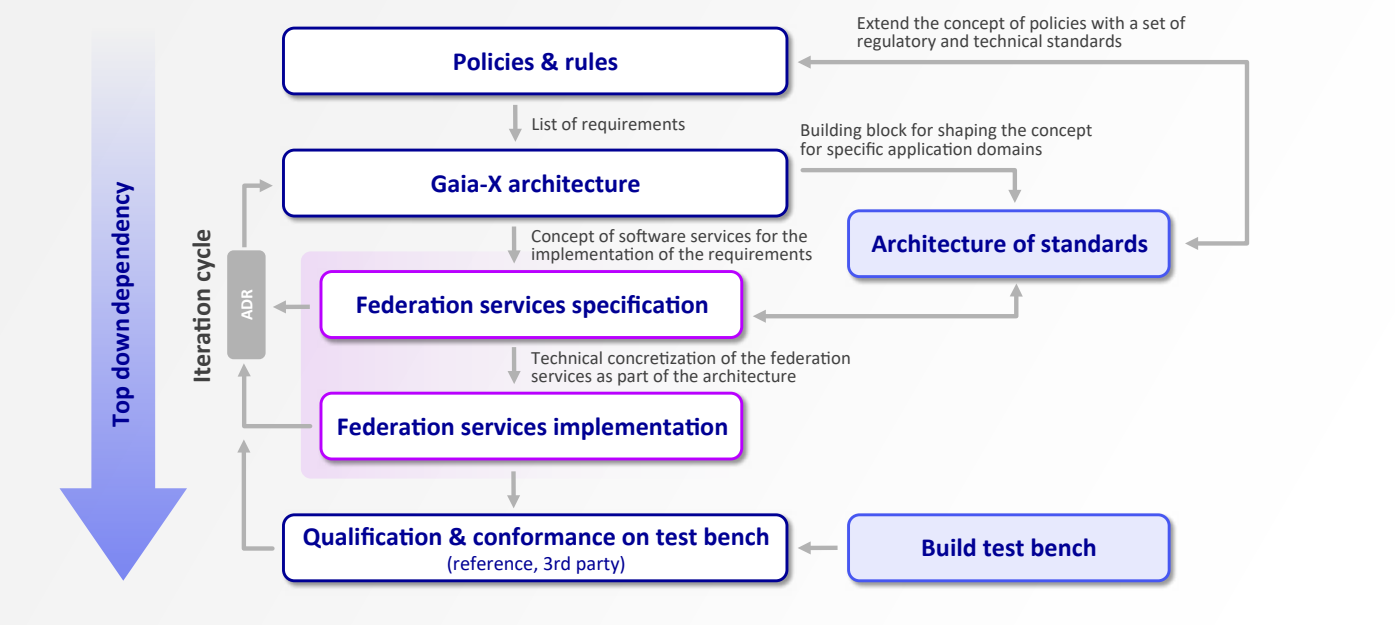
3 Qualify (Instruments of qualification)

- Labelling and qualification criteria**
- Qualification to third parties
- Process and technology for qualification

2.7 Gaia-X Delivery Process

The Gaia-X groups work on several aspects of the Gaia-X rules and architecture. Requirement's cascade into an architecture document from which the Federation Services are specified, designed, and implemented and verified, at runtime, through the qualification services.

How we do it? Gaia-X delivery process



2.8 Gaia-X Labels

2.8.1 Why Labelling

Labelling in the context of Gaia-X defines the **process of assigning pre-defined categories** to Gaia-X services and infrastructures. The labelling increases **trust** in the services provided by the Gaia-X community, reflecting European values and standards. In addition, the labelling provides a **guide** for users and providers.

Without labelling, there is a risk that the services offered differ in their quality or design (which is possible, since all criteria do not always have to be met for certain applications) without this being apparent to the user or provider. This would impact the trust in those services.

The **Gaia-X labelling** provides the following benefits:

- **Express Value to the Business** – Labels should express the value provided by a Gaia-X service.
- **Bring Explanation and Transparency** – Labels make the intrinsic features 'readable' (e.g., Interoperability, security, sovereignty…).
- **Enable Trusted Decisions** – Labels enable trusted contracts between customers and providers easing adoption.
- **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 endeavour.

2.8.2 Label Levels

Gaia-X Labelling framework allows providers to implement labels as described above in an open way. Out of the box, Gaia-X defines three Labels (Level 1: Basic, Level 2: Intermediate and Level 3: High) that define certain sets of compliance criteria and levels.

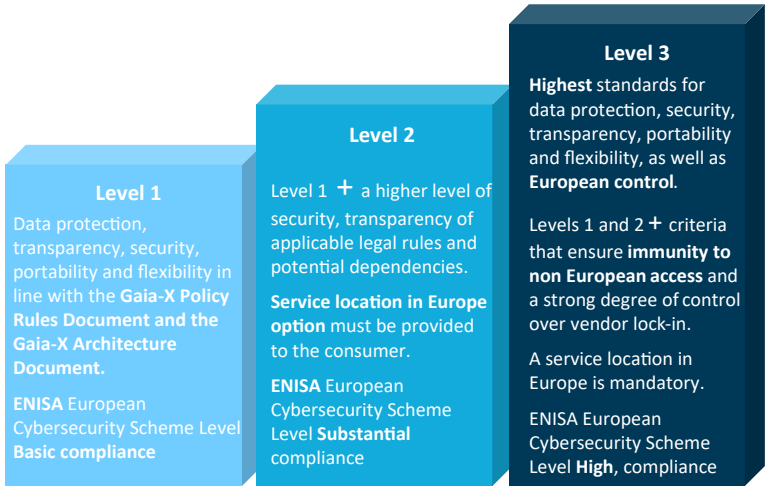
These three Labels are Owned and Issued by Gaia-X, but anyone can become a Label Owner and submit to Gaia-X AISBL (or an entity approved and certified by it) as a Label Issuer.

The Gaia-X Compliance and Labelling Framework identifies can serve both, Label Owners and 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.

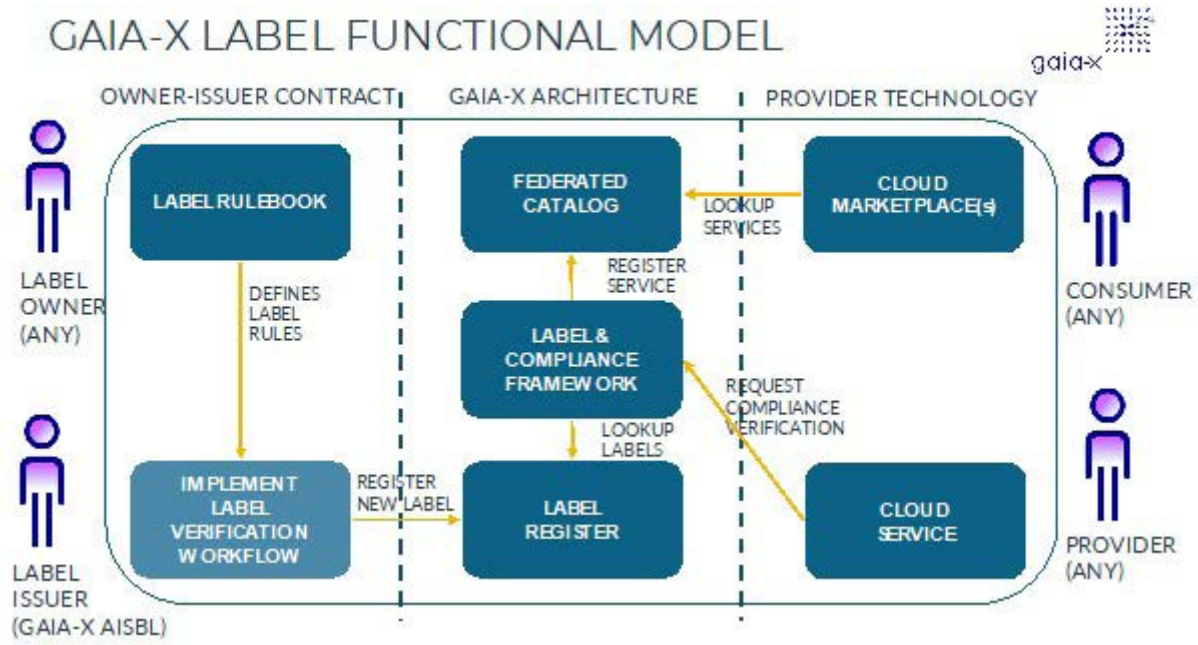
Basis labels issued by AISBL

- 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**,



2.8.3 Label Functional Model

The scheme below logically depicts the key roles involved in the process of generating, verifying, and making use of a Label:

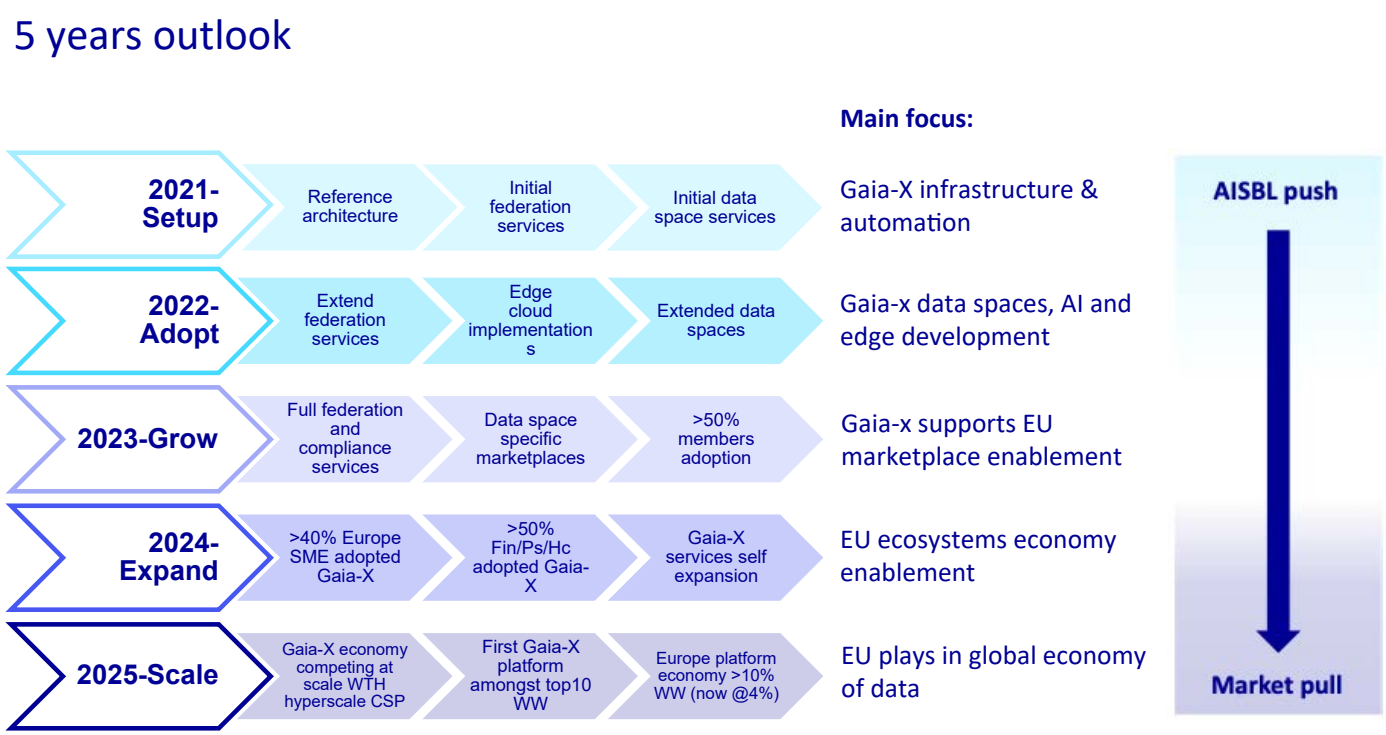


3 Gaia-X Strategic Plan and Outlook

The Gaia-X project delivers specific results for trusted data spaces and cloud adoption in the EU market thereby increasing the business value for stakeholders. These will be achieved by executing on a 5-year roadmap, with feedback and verification points on expected outcomes. The related objective is to support the EC European Data Strategy 2020 through the creation of a new federated Data Infrastructure providing across existing nodes, trust, and technological sovereignty, and enabling the federated proliferation of Data Spaces through a secure and distributed data exchange.

The first half of the five years outlook will see the AISBL trailblazing, 'pushing', the concepts and deliverables into the market, whilst we expect the second half to be characterised by a 'market pull', asking for always richer marketplaces of Gaia-X compliant services recognising the value and competitiveness of them.

The final objective is to increase and retain the European value in Digital Economy and make European players competitive in the global market.



Year#1 is the **setup year**, where we develop the initial description of the architecture, of the core services (federation services in particular) and start the initial project that will target the creation of Gaia-X services in the market (Data Space lighthouse projects).

Year#2 is the **adoption year**, where we aim to further develop the core components of the Gaia-X architecture, to enable the first Data Space services can be run in the market. We start the first federation of infrastructures to build the baseline where these services can run. And we start new Data Space projects to start developing Gaia-X marketplaces.

Year#3 is the **growth year**, where we expect to have the full implementation of the federation and labelling related services. A series of marketplaces will be available and in market, and we expect 50% of our members to be delivering or adopting Gaia-X services in the market. In this way the third year of our roadmap marks the turnaround between the initial phase where the AISBL pushed for the realisation of Gaia-X concepts, into the future phase where we see a market traction that will demand more service creation and adoption.

Year#4 is the **expansion year**, where we expect the EU, SMB, to make extensive use of Gaia-X services to regain control and competitivity of the European economy of data. We want some critical sectors, like Finance, Public Sector and Healthcare to offer a substantial set of Gaia-X services to create an impact in the market and civil society, and we expect a self-expansion of Gaia-X services in many different domains, from industrial to public sectors.

Year#5 is the **scaling year,** with a new market developed around it that can compete in the global markets and a substantial increase in the market share of European companies in the Digital Economy, to increase from the current levels (5% according to 2020 statistics) to higher and substantial percentage in Europe and WW. The turnaround will be possible thanks to a levelling of the playfield, and a substantial inversion of the flow of investments in digital, currently going mainly to the outside of Europe, into a more competitive and appealing offering available inside Europe.

Gaia-X is an evolutionary project that wants to trigger a positive disruption in the market, without using a protectionist and exclusive approach, but instead the opposite, offering the opportunity to all to offer a new generation of transparent and controllable services that obey to common rules of sovereignty and interoperability. This will create a competitive advantage for smaller players that now can offer more transparency and flexibility but suffer of fragmentation and a major lack of critical mass and visibility, whilst forcing large dominant player to step off a lock-in model and embrace a more open, transparent, and flexible offering to the market.

Gaia-X was born in Europe, for Europe, but also crossing borders and beyond. And it's here to stay!

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