

Gaia-X Labelling Framework

Preface

This document is the result of intensive work within the Gaia-X Association on the labels' concept. It is of high importance for all our members to highlight the founding principles we rely on, and it is derived from the requirements defined by the respective committees: *Technical Committee, Policy Rules Committee and Data Spaces and Business Committee*.

The association will update this document every 3 months to detail the concepts and the implementation principles. The labels themselves, including their structure are not expected to be updated more than once a year. The association is convinced that the labels described in this document will provide great customer value to all the services carrying the Gaia-X labels.

1. Introduction

Gaia-X has been launched in 2019, driven by the need to advance the development of a sustainable and innovative data economy in Europe, based upon the founding values of the European Union. The development of a trusted, sovereign digital infrastructure for Europe remains our stated goal, in line with the Gaia-X leading principles from its very beginning. ([Gaia-X, 2019](#)).

These principles include:

1. Data protection based on European values
2. Openness and transparency
3. Authenticity and trust
4. Sovereignty and self-determination
5. Free market access and European value creation
6. Modularity and interoperability
7. User-friendliness

The main objectives of Gaia-X can be summarised as follows:

- Build a new ecosystem for European innovation
- Create a compelling environment to develop new European digital services
- Enable the creation of common European data spaces in a trustworthy environment
- Reduce the dependency from non-sovereign and non-European technologies.

Since its launch, the Gaia-X goal is the development of a framework to build a new trustworthy digital infrastructure for Europe. The key principles to be achieved are:

- **Transparency:** to inspect-ability of service's characteristics to gain trust
- **Sovereignty:** to control-ability of service, to gain ownership of its behavior, and
- **Interoperability:** to gain freedom of choice across providers and services

The immediate implication for Gaia-X is to embed these key principles into a compelling framework that enables customers and end-users to make educated decisions for a trusted data infrastructure, matching their needs and limitations.

The Compliance and Labelling framework described herein, constitutes a mandatory component of the Gaia-X Architecture that is devoted to the control and governance of the Gaia-X services.

The Compliance and Labelling concept are tightly connected but disjoint, to make Gaia-X independent from the decisions made by its users.

Gaia-X will in fact verify the compliance of a service attributes according to those specified for a specific label, but will let external authorities (Governmental, Industrial Specific, Standardisation Bodies, etc.) the ability to define domain specific Labels.

In this way, the Gaia-X Compliance and Labelling Framework can flexibly accommodate the specific and evolving requirements that any entity will define to obtain their desired level of trust. However, Gaia-X will ensure that any Label fulfills the minimum level of compliance for any service.

2. Why Labels

As Gaia-X provides a higher and unprecedented level of trust in digital platforms, we need to make this trust an easy to understand and adopted principle. For this reason, Gaia-X developed a Compliance and Labelling technological Framework automating all the tests and verifications needed to give a service a specific Label.

Labels are thus a means to achieve the desired level of trust without having to inspect lengthy and difficulty to find service credentials. A single Label can collect several compliance criteria, whereby each can imply one or several verifiable credentials. Therefore, labels make it easy to group all such criteria and hide the complexity of their verification behind the compliance and labelling Framework.

As an example, the market will search for Gaia-X labels that have been defined by specific entities to identify what 'safe' or 'secure' or 'trusted' can mean in a specific regulated market, without having to bother on what that means in technical terms.

The difference between compliance and label is therefore hidden within the compliance and labelling Gaia-X framework and allows for ease of use and high trust.

In addition, the ecosystem of label owners and issuers to be produced, will make the Gaia-X Labels an easy and innovative way to seek, find and use services implicitly compliant to any specific needs without having to study in detail norms, regulations, and complex compliance rules.

3. Compliance and Labels

Gaia-X adopts a labeling scheme, alongside a compliance scheme, to ensure a common level of data protection, transparency, security, portability and flexibility, European control.

Gaia-X Compliance is thereby defined as “the process of going through and validating the set of automatically enforceable rules to achieve the minimum level of Self-Description compatibility in terms of file format and syntax, cryptographic signature validation, attribute value consistency and attribute value verification” ([Technical Architecture Document - TAD, 21.09](#)). In that sense, Gaia-X Compliance ensures that the required level of information for users to take educated decisions is available, and that such information is verified or verifiable. Gaia-X Compliance specifies conditions for a Provider, as well as for the Service Offerings proposed by such a Provider.

Gaia-X Labels, on the other hand are issued for Service Offerings only and ensure that a predefined set of policy and technology requirements are met (PRD, 21.04). From a technical perspective, Labels are the result of the combination of verified “Self-Description compliant attributes, that individually would be insufficient to support business or regulatory decisions.” (TAD, 21.09).

The generic Compliance as well as the specific Labels are assessed and assured based on a process described later in this document.

4. The value of labels

While Gaia-X Compliance focuses on the generic and automatically enforceable rules, Gaia-X Labels guarantee that Service Offerings meet a specific set of respective requirements with regards to the main objectives: data protection, transparency, security, portability and flexibility, European control. Labelling therefore increases trust in services with regards to the implementation of European values and standards.

Gaia-X Labels provide additional benefits that serve the overall Gaia-X objectives:

- **EXPRESS VALUE TO THE BUSINESS** – Labels express the value provided by a Gaia-X service
- **BRING EXPLANATION AND TRANSPARENCY** – Labels make intrinsic features transparent
- **ENABLE TRUSTED DECISIONS** – Labels help to enforce contractual terms between customers and providers, facilitating adoption

- **COMPETITIVENESS** – Labels promote visibility and distinctiveness to encourage market competition
- **BUILD MOMENTUM** – Labels create awareness and broaden the participation of players to Gaia-X.

This document will focus further on Gaia-X Labels, while the concept of Gaia-X Compliance is further described in detail in the [Gaia-X Architecture Document](#).

5. Labelling principles

Gaia-X Labels reflect the essence of our objectives and concepts. They represent the results of decisions and deliverables introduced by the various Gaia-X committees, and approved by the Board of Directors:



Hence, the following key principles for labelling are either directly adopted or derived from our main documents, the Gaia-X Architecture Document, the Gaia-X Policy Rules Document ((PRD 21.11) to be decided on 13th of December 2021, as well as the Gaia-X Principles for Data Spaces (DS 2022) to be released later within the next year, possibly Q2.

- **NO PROVIDER-WIDE SCOPE** – Gaia-X Labels are issued to a specific Service Offering, not to Service Providers or other entities or assets.
- **NO PROVIDER CONTROL** – Gaia-X Service Providers cannot alter or control labels themselves
- **FEDERATION OF VERIFICATION** – Gaia-X labels are issued and verified by decentralised consensus. Whenever possible, Gaia-X will reuse existing certifications for the underlying service attributes, hence reducing the cost and complexity of embracing Gaia-X labelling especially for existing, already certified, services
- **ONE SHARED COMPLIANCE FRAMEWORK** – Gaia-X Association is the single authority for compliance and for labelling framework definitions
- **COMPOSABILITY** – Gaia-X Labels are logical groupings of composable service attributes
- **SCALABILITY** – New Gaia-X Labels can be created to fit new needs, in particular using extension profiles for country and domain specific requirements. The Gaia-X Association Board of Directors remains the only authority, which authorises labels carried by the Gaia-X Association, to safeguard consistency and the impact of labels.

6. Label Owners & Issuers

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

- **Label Owners** – are entities that decide to define a specific Label for their business. These can be Service Providers, Service Users or Governmental Authorities, Standardisation Authorities, Trade Associations, Industrial Associations, etc. The decision to define a Gaia-X Label is made based on the potential use and benefit of it. So, a Banking Association can decide to define a Label specific to Banks, to ensure all cloud adopted by their associates can fulfill specific requirements. In this example, the Banking Association defines the name of the Label and specifies the requirements to be verified (e.g., Territorial Jurisdiction, service location, required certifications, etc.). The Label Owner engages the Gaia-X Association to develop the Label and issue it and must receive the agreement of the AISBL formally.

- **Label Issuers** – are entities, defined by the Gaia-X Association to implement and issue a Label. The implementation of a Label consists in the decomposition of all Label requirements into Verifiable Credentials that are then encoded in the Compliance and Labelling Framework, so that they can be verified automatically where possible. The issuer of a Label can be Gaia-X or another Issuer verified and accepted by the AISBL.

Any Labels defined through the Gaia-X Compliance and Labelling Framework is registered in a Label Catalog accessible to all. In this way we expect new labels to be created by trusted entities that represent specific business domains. This will help users to easily identify the Labels that best suits their need, trusting both, the Label Issuer brand and authority, as well as the Gaia-X Compliance and Labelling Framework technology behind, that provides for immutable, incorruptible automatic verification of that Label.

Besides externally defined Labels, Gaia-X will define three basic level of compliance criteria clusters, that correspond to the basic Labels of Gaia-X.

7. Gaia-X Basic Labels

Gaia-X acknowledges varying requirements for specific scenarios and of consumers in different countries and industries. These will be defined by external entities as described earlier. However, the Gaia-X Compliance and Labelling Framework defines by default three clusters of compliance criteria that can be identified as Basic Labels.

- **Label Level 1** – Data protection, transparency, security, portability, and flexibility are guaranteed in line with the rules defined in the Gaia-X Policy Rules Document and the basic set of technical requirements derived from the Gaia-X Architecture Document. For cybersecurity, with the minimum requirement being to meet ENISA's European Cybersecurity Scheme- Basic Level.
- **Label Level 2** – This advanced Label Level 2 extends the basic requirements from Level 1 and reflects a higher level of security, transparency of applicable legal rules and potential dependencies. The option of a service location in Europe must be provided to the consumer. Regarding cybersecurity, the minimum requirement will be to meet ENISA European Cybersecurity Scheme- Substantial Level.
- **Label Level 3** – This level targets the highest standards for data protection, security, transparency, portability, and flexibility, as well as European control. It extends the requirements of Levels 1 and 2, with 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. For cybersecurity, the minimum requirement will be to meet ENISA's European Cybersecurity Scheme- High Level.

At the same time, Gaia-X acknowledges varying requirements for specific scenarios and of consumers in different countries and industries. These can be achieved using extensive profiles on top of these three basic levels.

All the criteria that define the different levels are defined in detail in the **Gaia-X Labelling Criteria Catalogue**. This catalogue is composed of different attributes which are split in different categories (data protection, transparency, security, portability and flexibility, European control). The current catalogue can be changed until the end of December 2021 and then will be changed once a year

Bibliography

Gaia-X. (2019). Project GAIA-X- A Federated Data Infrastructure as the Cradle of a Vibrant European Ecosystem.

PRD. (21.11). Gaia-X Policy Rules Document

TAD. (21.09). Gaia-X Architecture Document

To be added: Gaia-X Principles for Data Spaces. To be released in Q2, January 2022

To be added: Gaia-X Labelling Criteria Catalogue. Labelling criteria workshop on 24.11.2021- to be published by the end of January 2022.