Gaia-X Association

Nature of the Initiative	Association
Mission	To design and implement a data sharing architecture that consists of common standards for data sharing, best practices, tools, and governance mechanisms
Sector(s) addressed	Aerospace | Agriculture | Tourism | Education | Energy | Finance | Geoinformation | Health | Manufacturing | Media | Mobility | Public Sector | Smart Cities | Smart Living | Construction & Logistics
Leading organisation	Independent lead
Members (approx.)	350+
Founded (Year)	2021
Social Media Presence	LinkedIn | Twitter – X | YouTube
Relevance for Industry 4.0	Supports the creation and development of data spaces and projects, aiming to share data space knowledge; collect cross-country use-cases and enable members to network, collaborate and identify open standards related to specific domains.

Key Information	Levels	Important Links
Data Space Functional & Technical Specifications	★★★★	Website
Data Space Governance	★★★★	Framework Specifications
Data Space Demonstration	★★★★	Policy Rules
Data Space Adoption	★★★	
Connected Initiatives	AGDATAHUB / Catena-X / ELINOR-X / EONA-X / The European Production Giganet (EuProGigant) / Mobility Data Space (MDS)	

Additional Information	
Contact (Name/E-mail)	Mail: info@gaia-x.eu

What is Gaia-X?

Gaia-X represents the core of the organisation. It was founded to develop the technical framework and the Gaia-X Trust Framework. Its members, are either companies with a provider or user background of data infrastructure, IT-start-ups, research institutions or business associations that are aligning with Gaia-X to federate cloud services within the existing cloud infrastructures.

Mission & Objectives

Gaia-X aims to connect the Data and Infrastructure Ecosystems and relies on 3 conceptual pillars to achieve that:

- Compliance: for a common digital governance based on European values.
- Federation: enables interoperable & portable (Cross-) Sector data-sets and services.
- Data exchange: A mean to perform data exchange and anchor data contract negotiation results into the infrastructure.

For each of the pillars there are 3 types of deliverables: Functional specifications, Technical Specifications & Software.

Solutions & Key Assets

1. Working Groups

The specifications describe how Gaia-X works in terms of functional requirements and technical requirements. Within the framework of the 3 pillars indicated above, Gaia-X has several working groups that cover the following topics:

Data portability, Data consent for processing, Data transaction traceability
Credential management, Policy negotiation, Identities
Federated catalogue, catalogue synchronisation, Agent and Wallet,
Entity-Relation model, Compliance schema model

Then, the specifications are translated into open-source code by Gaia-X, which is made available to members and non-members through GitHub. (https://gitlab.com/gaia-x/gaia-x-community/open-source-community).

2. Projects

The complete list of projects developed by Gaia-X is available in the Gaia-X Framework. The Gaia-X Framework describes functional specifications, technical requirements, and SW assets necessary to be Gaia-X compliant.

3. Functional specifications

Within the Gaia-X Framework, we can find functional specifications for each of the pillars:
- Compliance - Policy Rules Conformity Document
- Federation and Data Exchange (architecture document)

4. Technical specifications
- Trust Framework: Set of rules that define the minimum baseline to be part of the Gaia-X Ecosystem.
- Federated Catalogue
- Identity, Credential & Access Management
- Data Exchange services

5. Software Components

In the GAIA-X Framework you can also find the different Software components in the 3 pillars (Compliance, Federation and Data Exchange) that have been developed, and that must be used to develop Gaia-X compatible solutions that connect data and infrastructure ecosystems.

6. GXDCH (Gaia-X Digital Clearing House) ensures that all participants comply with Gaia-X standards, promoting secure and transparent data exchange.