Gaia-X – Balancing Data Economies and Mobilising Data Intelligence

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Who is more impacted by this disruption?

All are impacted! The new Digital Economy is pervasive and driven by Data Spaces, the digitalization of the value chains, in economical, social, political, and natural ecosystems.
European Strategy For Data
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

Source: European Commission
Digital Decade - computing continuum by 2030

- >10,000 edge nodes by 2030
- 75% of cloud and of uptake by EU enterprises in 2030

<table>
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<th>Typical distance</th>
<th>&lt;1 km</th>
<th>1-100 km</th>
<th>100-1000 km</th>
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<td>Average latency</td>
<td>1 ms</td>
<td>2-5 ms</td>
<td>10-20 ms</td>
<td>&gt;20 ms</td>
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- Energy
- Manufacturing
- Aerospace-defence
- Public administration
- Health
- Mobility

Cloud to Edge

- Central office
- In-country data centre
- Central data centre

Edge to Cloud

- On-device
- On-premise
- Far edge
- Near edge
- Cloud
Gaia-X vs. European Data Strategy

**EU Data Strategy**

- **Cloud**: Cloud Rulebook
  - Co-Investments in cloud-to-edge services, cloud federation and marketplaces
  - Member States Declaration

- **Data**: New legislation (Data Act & Data Governance Act)
  - Co-investments in common European data Spaces

**Coordination**

- Common European data spaces
  - Data Spaces Support Centre
  - Coordination and governance

**SMART MIDDELWARE**

- Federation & interoperability standards
  - Complementing & integrating private and public initiatives, e.g.:
    - Use cases; technical architecture

**Gaia-X Cloud**

- Transparent
- Controllable
- Interoperable

**Gaia-X DATA SPACES**

- Use Cases
- Data Connectors
- Interoperability
Why Gaia-X?
Moving from #DataGathering to #DataSpaces...

... Industry 4.0
Data Gathering

Multiple Interfaces
Segregated Data
Limited Accessibility
Enabling Technology

What's the difference?

TRUST

Industry X ...
Data Spaces

Federated Participants
Seamless Data
Full Accessibility
Controllable Technology
Are our Ecosystems ready?

No!
Disjoint Data & Infrastructures Ecosystems

Data
Untapped, fragmented, disjoint, no secure exchange mechanism

infrastructures
Segregated, non-reversible, non-interoperable, closed architectures, private standards
So, are we in control of Technology?...

No!
Lack of Transparency, Control & Interoperability
Where Do We Stand?

The European Contribution to the Platform Economy
Platform Economy – Market Capitalisation Value Distribution of Companies

- **U.S. (20)**: 74%
  - Adyen, Delivery Hero, Mail.ru, SAP, Scout24, Spotify, Wirecard, Yandex, Zalando

- **Europe (9)**: 4%
  - Europe (9)

- **Asia (16)**: 21%
  - Asia (16)

- **Africa (1)**: 1%
  - Africa (1)

n = number of platform companies listed on the stock market on 17 November 2019 | Source: Gartner (August 2020)
Cloud market trends

- Globally

- In Europe
Cloud market trends in Europe

### Supply
- EU cloud market grows threefold (over EUR 23bn for 2020)
- EU CSPs’ share still declines (from 26% in ‘17 to <16% in ’20)
- 3 US CSPs hold 66% of the total market share
- The biggest EU provider has 2% of the EU market

### Demand
- 36% of EU enterprises use “basic” cloud services
- Large legacy and on premises footprint (>70% of data/apps)
- Strong dependency from ‘proprietary’ models (lock-in)
- Demand for switchable services with more user control
Gaia-X, an urgent move for a European Future!

**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 is Gaia-X?

Our story in short
Gaia-X – Regain Control on Technology

Users LET Control

Distributed
Open
Transparent

Users GET Control

Concentrated
Proprietary
Opaque

Trust & Sovereignty
Gaia-X – Connect Disjoint Ecosystems

**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.
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 Labelling
- Service qualification

Specs
Code
Labels
Gaia-X Framework – Initial Conceptual View

Gaia-X Framework

COMPLIANCE
TRUST...
- REGISTRY...
- LABELLS...
- COMPLIANCE...

DATA EXCHANGE
ACCESS...
- LOGGING...
- POLICIES...

USAGE...
- CONTRACT...

FEDERATION
IDENTITY...
- AUTHENTICATION...
- CREDENTIALS...

CATALOG...
- CORE CATALOG...
## Gaia-X Timeline

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<td>TechSpec IAM, DEX, FED</td>
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### Gaia-X OSS (Community)

<table>
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<tr>
<th>Gaia-X Releases</th>
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<tr>
<td>&quot;consistent deliverables&quot;</td>
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- **Gaia-X v 0.x**
- **Gaia-X v 0.y**
- **Gaia-X v 1.0**

## Gaia-X Toolbox

- **New releases and components to be planned in**
- **Gaia-X Release Planning and Gaia-X OSS community processes**
- incl. contributions from PoC, Hackathons, Evaluations & Concepts
### Gaia-X Timeline to Product (Gaia-X Compliance Service)

<table>
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<th>Activity</th>
<th>Description</th>
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<tr>
<td>GA -</td>
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The **Gaia-X Clearing House** available soon!

**BETA - Q422**

(Lighthouse Projects only)

**GA - Q123**
Gaia-X Operational Model

FROM DEFINITION TO VALIDATION

Data Spaces Business Committee
<<define/revise reqs>>
<<feedback>>
<<identify/drive>>

Technical Committee
<<validate>>
<<define/revise reqs>>
<<feedback>>

Gaia-X LAB
<<define/revise reqs>>
<<feedback>>
<<develop>>

Gaia-X MVP (MVG)
<<identify>>

Ext Business Projects
<<deploy>>

OSS Gaia-X Projects
<<complement>>

Ext Framework Projects
<<deliver>>

Gaia-X Market Services
<<use>>

Gaia-X Framework
<<define/refine>>
<<validate>>
<<define/revise reqs>>

Policy & Rules Committee

Ext Business Projects

Gaia-X Market Services

Gaia-X Framework

Gaia-X standard presentation
Gaia-X Data Space Lighthouse Projects started in 2021

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

agdatahub
Agriculture
https://agdatahub.eu/en/

Structura-X
Manufacturing, Industry 4.0
https://bit.ly/3aJYgZ

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

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

Mobility Data Space
Mobility
https://mobility-dataspace.eu/
The 5 Years Outlook

**2021-Setup**
- TC/PRC Specs
  - Reference architecture
- GXFS DE+FR
  - Extend federation services
- Structura-X
  - Edge cloud implementations
- 8 Lighthouse Projects PanEU

**Main focus:**
- Gaia-X infrastructure & automation

**2022-Adopt**
- WXIP
- GXFS
  - Initial federation services
- Structura-X
  - Edge cloud implementations
- Catena-X
  - Extended data spaces

**Main focus:**
- Gaia-x data spaces, AI & edge development

**2023-Grow**
- Full federation & compliance services
- Data space specific marketplaces
- >50% members adoption

**Main focus:**
- Gaia-x Supports EU marketplace enablement

**2024-Expand**
- >40% Europe SME adopted Gaia-X
- >50% Fin/Ps/Hc adopted Gaia-X
- Gaia-X services self expansion
- EU ecosystems economy enablement

**2025-Scale**
- Gaia-X economy competing at scale WTH hyperscale CSP
- First Gaia-X platform amongst top10 WW
- Europe platform economy >10% WW (now @4%)
- EU plays in global economy of data

**AISBL push**

**Market pull**

**Main focus:**

The Gaia-X network expands!

- 360+ Members
- 17 Hubs
- 25 Countries
- 19 Working Groups
- 563 Active on DCP
- 1800+ Contributors
The Most representative alliance of organizations in Europe

More than 348 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.

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.
HUB Network Expansion

Gaia-X Internationalization Strategy:

- **AISBL Is ‘International’ by Statues**
  - Non-EU Members are welcome
  - DG-COMP asseveration
  - EU Principles are protected

- **Gaia-X Framework is Adaptable**
  - Sovereignty is a need for EU as well as non-EU
  - Regulations cannot be superimposed
  - The Trust Framework is adaptable by design

- **Digital is a Global Business**
  - Gaia-X wants to give EU an opportunity in the global market
  - Dataspaces and value chains are borderless by definition
  - Control Vs Protectionism is the key

- **Non-EU Hubs are welcome**
  - When committed to adoption of Gaia-X principles
  - When expand Gaia-X adoption and members
  - They testimony the Gaia-X global value

Inauguration in 2022
- Austria
- Hungary
- Japan
- USA
Follow us on:

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


https://www.youtube.com/channel/UCB5WMc2FrxKzfd7XI0DoMw
Thank you!

Francesco Bonfiglio, CEO Gaia-X Association
3 November 2022