The Future of European Digital Ecosystems

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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.
Moving from #DataGathering to #DataSpaces...

... Industry 4.0
Data Gathering

- Multiple Interfaces
- Segregated Data
- Limited Accessibility
- Enabling Technology

Industry X ...
Data Spaces

- Federated Participants
- Seamless Data
- Full Accessibility
- Controllable Technology

What’s the difference?

TRUST
So, are we in control of Technology?...

No!
Lack of Transparency, Control & Interoperability
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
Gaia-X – Regain Control on Technology

Users LET Control

Trust & Sovereignty

Users GET Control

Concentrated  Proprietary  Opaque  Distributed  Open  Transparent
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.
Gaia-X Vs European Data Strategy

Common EU Data Spaces
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

Computing Continuum Fabric for Data Spaces

<table>
<thead>
<tr>
<th>Typical distance</th>
<th>&lt;1 km</th>
<th>1-100 km</th>
<th>100-1000 km</th>
<th>&gt;1000 km</th>
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<tbody>
<tr>
<td>Average latency</td>
<td>1 ms</td>
<td>2-5 ms</td>
<td>10-20 ms</td>
<td>&gt; 20 ms</td>
</tr>
</tbody>
</table>

Gaia-X Data Infrastructures
- Transparent
- Controllable
- Interoperable

Enable Use Cases And Market Adoption

Source: European Commission
Gaia-X Framework – Initial Conceptual View

Gaia-X Framework

COMPLIANCE
- TRUST...
  - REGISTRY...
  - COMPLIANCE...
- LABELLING...
  - LABELS...
- ...

DATA EXCHANGE
- ACCESS...
  - LOGGING...
  - POLICIES...
- USAGE...
  - CONTRACT...
- ...

FEDERATION
- IDENTITY...
  - AUTHENTICATION...
  - CORE CATALOG...
- CATALOG...
  - CREDENTIALS...
  - ...

TRUST...
LABELLING...
ACCESS...
USAGE...
IDENTITY...
CATALOG...
The GXDCH:  
- Are nodes of verification of Gaia-X rules.  
- Are places to obtain Gaia-X compliance & become part of the Gaia-X ecosystem.  
- Are multiple nodes operated by market operators, acting as a Gaia-X Federator  
- Run services (compulsory and optional) part of the Gaia-X Framework, and necessary achieve compliance and support the onboarding of any Gaia-X adopter.  
- Integrate with external TA (Trust Anchors) to verify identity (e.g. eIDAS), CAB (Conformance Assessment Bodies) asseverating conformance to existing standard, and other TDS (Trusted Data Sources)

**How to?**
- How to be Gaia-X compliant?  
- How to be in the Gaia-X catalog?  
- How to build my own catalog?  
- How to build my federation?  
- How to join a federation?  
- …
Gaia-X 5 Years Outlook 2022

**Main focus:**
- Gaia-X infrastructure & automation
- Gaia-X data spaces, AI & edge development
- Gaia-X Supports EU marketplace enablement
- EU ecosystems economy enablement
- EU plays in global economy of data

**2021-Setup**
- Reference architecture
- TF, PRLD, MVP, HACKATHONS, GXFS FR

**2022-Adopt**
- Extend federation services
- WIP - Q1: GAIA-X DIGITAL CLEARING HOUSE

**2023-Grow**
- Full federation & compliance services
- WIP - Q1: COMMON CATALOG

**2024-Expand**
- >40% Europe SME adopted Gaia-X
- >50% Fin/Ps/Hc adopted Gaia-X

**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%)

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The Gaia-x network expands!

- 360 Members
- 16 Verticals
- 25 Countries
- 19 Committees & Working Groups
- 250+ Committees & Working Groups Participants
- 500+ Verticals Participants
- 20 Hubs
- 2000+ Hubs Participants

ONE MISSION
Gaia-X - The European Union for Data Economy!
Thank you!

Gaia-X Association