GAIA-X - the European Digital Ecosystem Future

Francesco Bonfiglio

Chief Executive Officer - Gaia-X AISBL

gaia-x

A look into the European Data Strategy

EU new paradigm for cloud - Ambition & Coordination

Feb. 2020

European Strategy for Data aims to build a single market for data

May 2020

Recovery and Resilience Facility

20% Digital

EU Flagship "Scale-up"

Oct. 2020

Member States Declaration for European cloud

March 2021

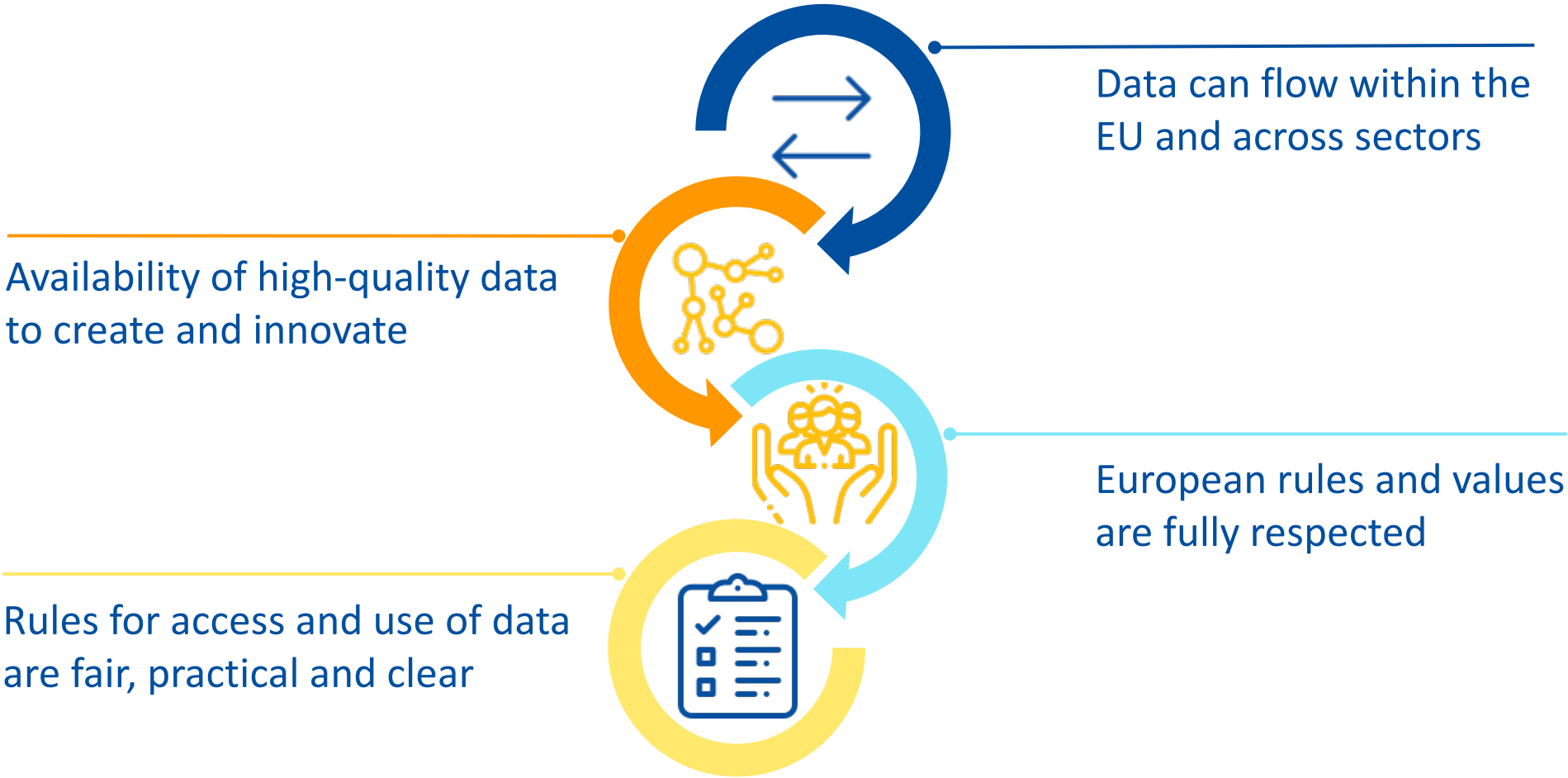
Digital Decade Strategy sets targets on edge and cloud for 2030

May 2021

Updated EU Industrial strategy evidences strategic dependencies

European Strategy for Data

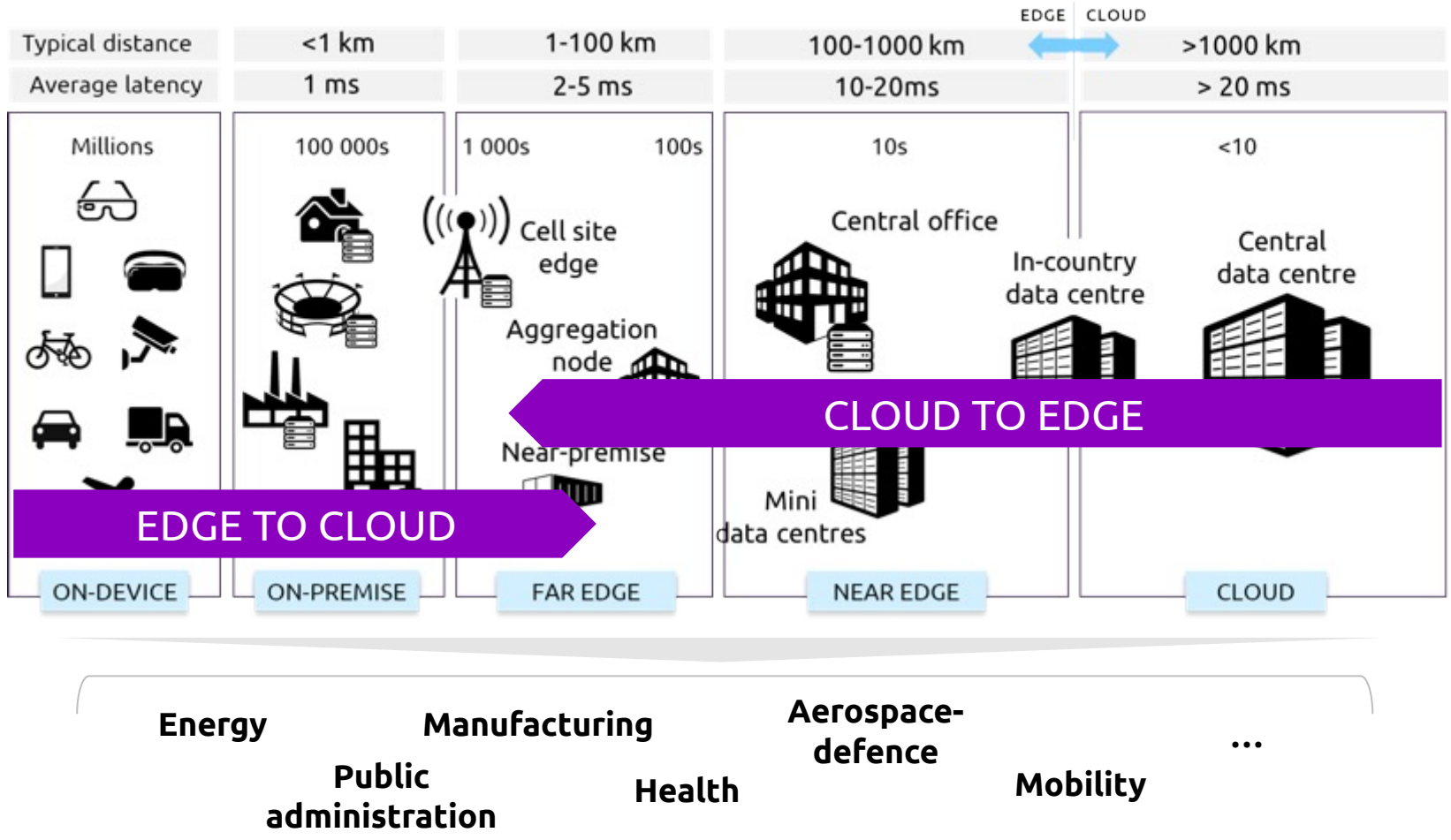
A common European data space, a single market for data



Source: European Commission

Digital Decade objective - computing continuum by 2030

- ✓ **>10.000 edge nodes by 2030**
- ✓ **75% of cloud and of uptake by EU enterprises in 2030**



Source: European Commission

How does Gaia-X fit into the European Data Strategy

Gaia-X Vs European Data Strategy

gaia-x

EUROPEAN ALLIANCE FOR INDUSTRIAL DATA EDGE AND CLOUD

European Data Strategy (2022)

CLOUD
Cloud Rulebook
EU Cloud market places
Member States Declaration

DATA
New legislation (Data Act, DGA, DMA, DSA, SA, AIA, etc.)

HIGH IMPACT PROJECT
on data and cloud
MS co-investments

EUROPEAN COMMON DATA SPACES

IPCEI-CIS

GAIA-X CLOUD

TRANSPARENT
SOVEREIGN
INTEROPERABLE

gaia-x

GAIA-X DATA SPACES

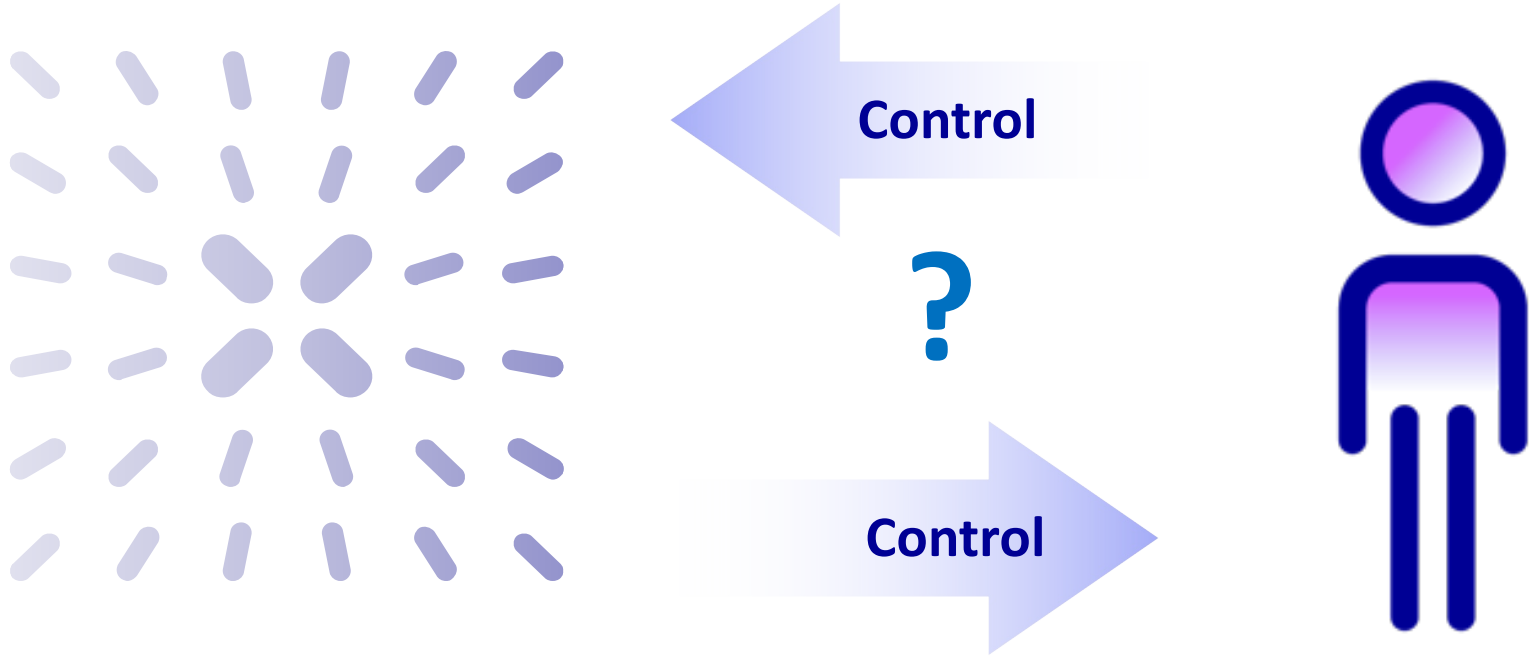
USE CASES
DATA CONNECTORS
INTEROPERABILITY

Why Gaia-X?

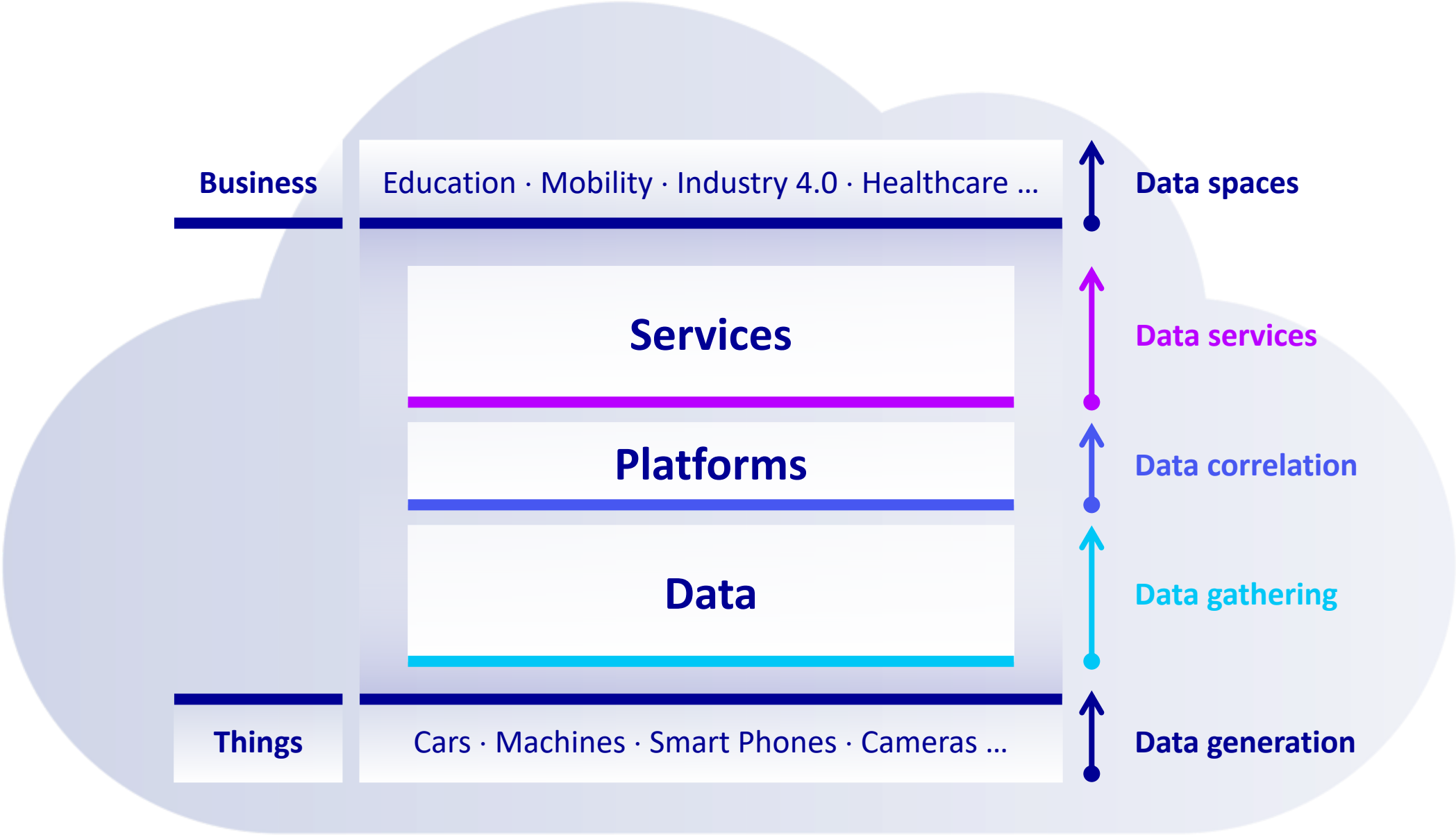
Who is impacted by this disruption?

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

Are we in Control of, or Controlled by Technology?...



Cloud enables data economy



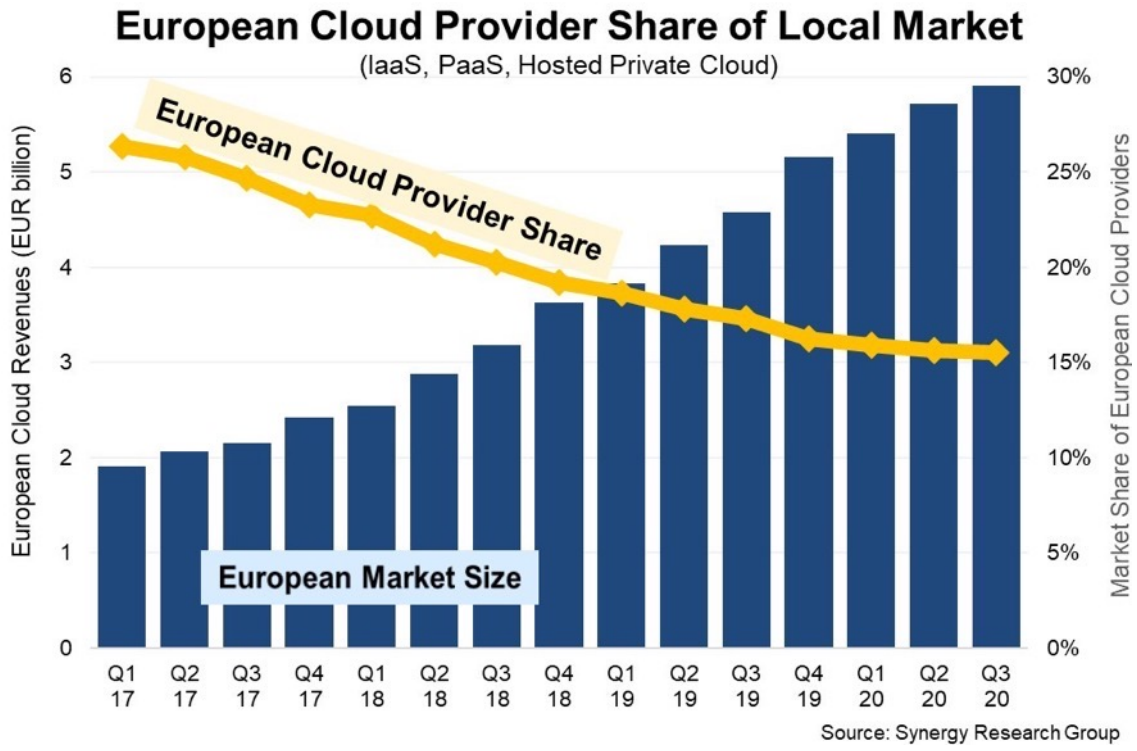
Cloud market trends in Europe

Supply:

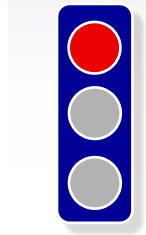
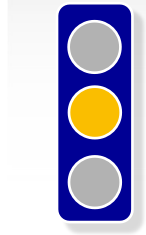
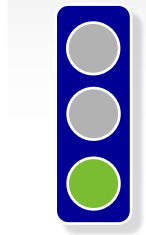
- EU cloud market grows threefold (over EUR 23 bn for 2020)
- EU CSP share still declines (from 26% in ‘17 to <16% in ‘20)
- 3 US CSP hold 66% of the total market share.
- The biggest EU provider has 2% of the EU market.

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



What are we talking about?

Data business	Fast facts	Situation
Data platforms	100B$ TAM (33% AWS) in 2019	
Data services	829B€ EU data economy by 2025	
Data access	40B Smart devices by 2025 (+13%YoY)	

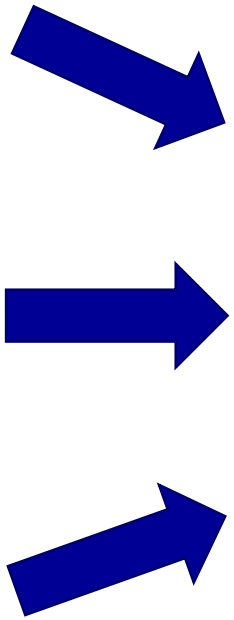
Sources: European Commission (2020); Statista (2019; IoT Analytics (2018) | NB: Following depiction and interpretation of German Data by B. Otto

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%
- Market 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



Federated Ecosystems

Common Data-Spaces

Trusted Platforms

What is Gaia-X?

Our story in short

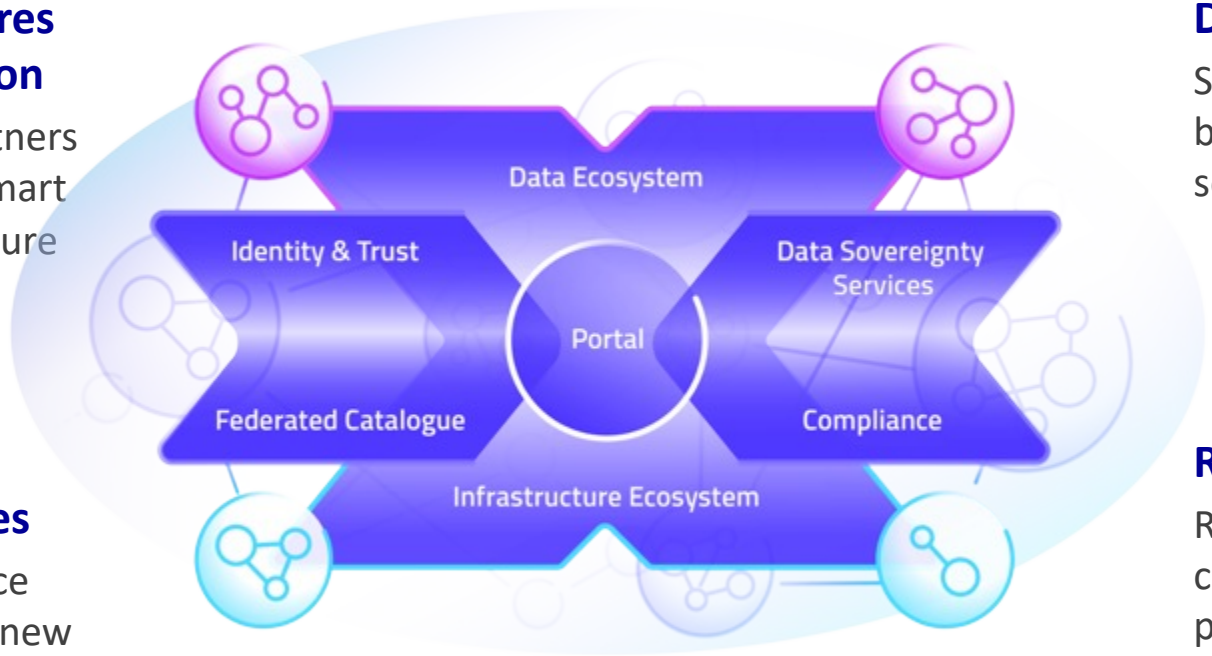
Our Mission – What we aim to

Creation of digital infrastructures and an ecosystem for innovation

Trusted environment between partners and interoperable links between smart service applications and infrastructure services.

Increasing transparency and attractiveness of digital services

Reduce barriers to compliant service usage; enable the development of new services and products.



Data sovereignty

Strengthen the digital sovereignty of business, science, government and society.

Reduction of dependencies

Reduce private and business consumers' dependency of single providers; control over location and regulatory environment of stored data; reduce sector-specific dependencies.

Our Reason - From traditional Cloud to Gaia-X

- Concentrated
- Proprietary
- Opaque

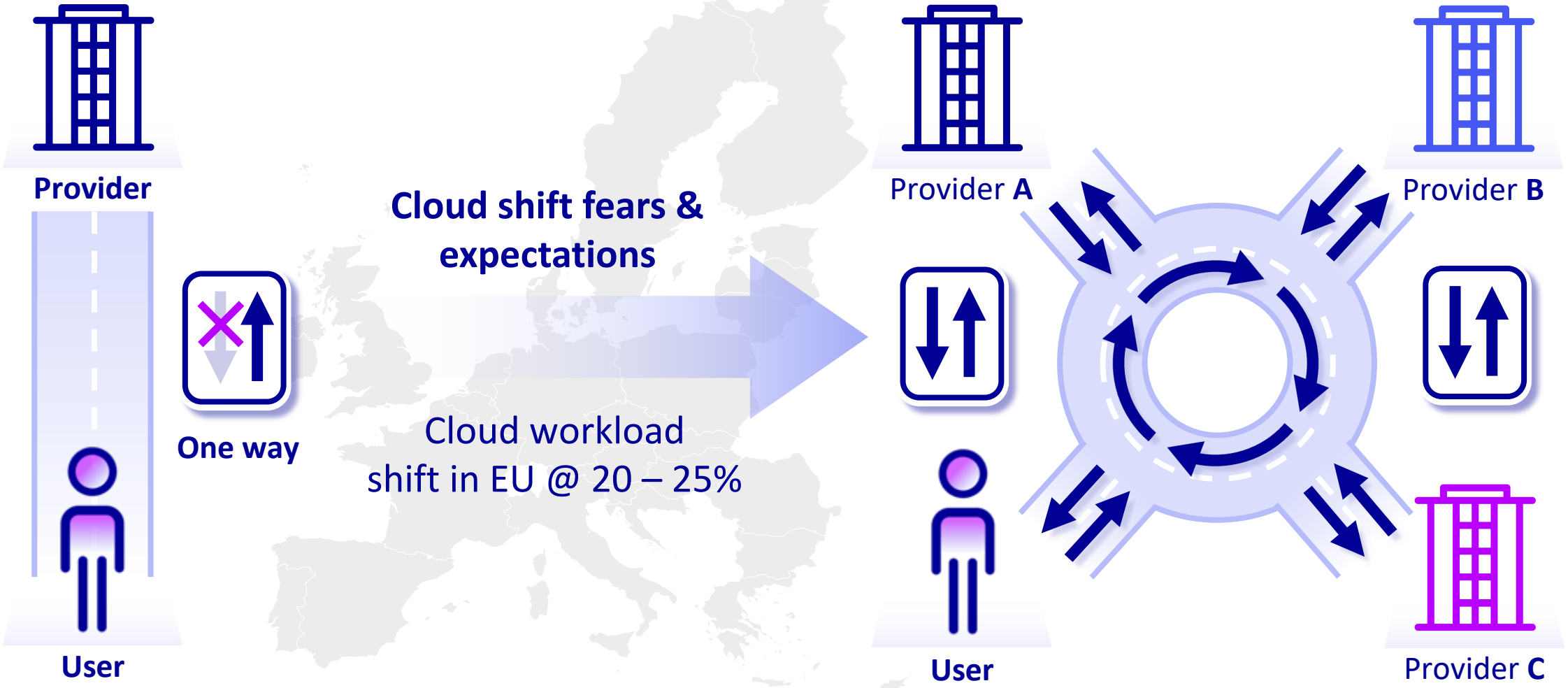
Users **LET** Control

Trust & Sovereignty

- Distributed
- Open
- Transparent

Users **GET** Control

From one-way to free & sovereign



Our X Model – Connecting Data and Infrastructures ecosystems

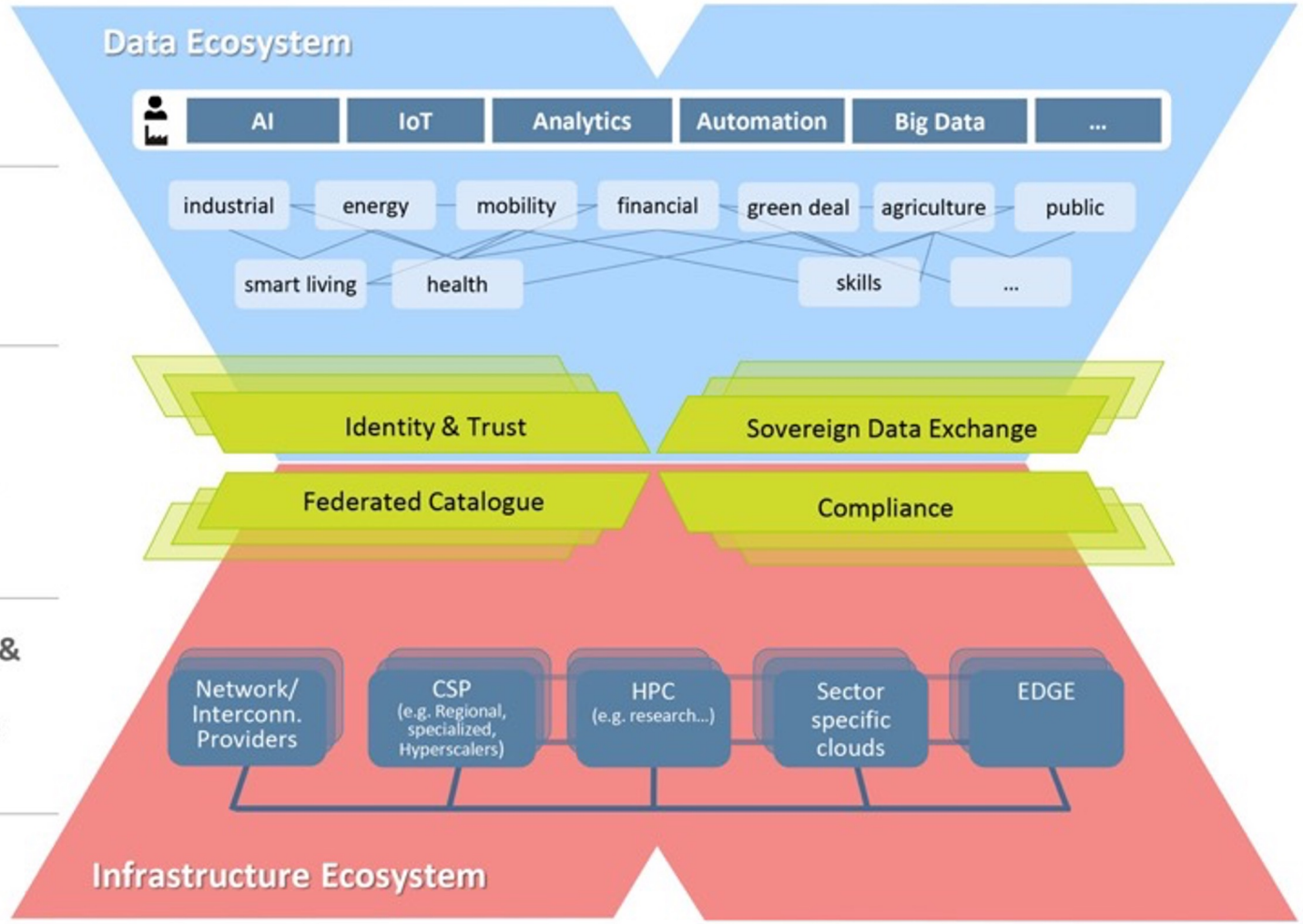
Advanced Smart Services
(Cross-) Sector Innovations / Market places / Applications

Data Spaces
Interoperable & portable (Cross-) Sector data-sets and services

GAIA-X Federation services
Federated & distributed for interoperability Trust & Sovereignty services

Portability, Interoperability & Interconnectivity
Technical: Architecture of Standards
Commercial: Policies

Compliance
Legal: Regulation & Policies



What We Are – What is Gaia-X what it does

What Gaia-X is or is not

1 Gaia-X AISBL is

- A single point of definition of Gaia-X architecture & rules
- Making available an open implementation to all
- A qualification authority for Gaia-X compliance

2 Gaia-X AISBL is not

- A formal standardization body
- A sw or hw product or cloud platform
- A runtime implementation of any Gaia-X service

3 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

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

What We Do – Gaia-X three deliverable types

The Gaia-X association will produce three main types of deliverables

1	Specify	– Technical architecture document – Architecture of standards – Policies & rules	Specs
2	Develop	– OSS framework for community work – Reference implementation of federation services – Reference implementation of self regulation services	Code
3	Qualify	– Service qualification process – Service qualification labelling – Service qualification ledger	Labels

Gaia-X Roadmap

Worth to be mentioned

5 years outlook

DELIVERED!

	TAD V3	GXFS SPECS	CATENA X	Main focus:
2021-Setup	Reference architecture	Initial federation services	Initial data space services	Gaia-X infrastructure & automation
2022-Adopt	Extend federation services	Edge cloud implementations	Extended data spaces	Gaia-x data spaces, AI and edge development
2023-Grow	Full federation and compliance services	Data space specific marketplaces	>50% members adoption	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

Year#2 – 2022 Adopt Gaia-X

FS=Federation Services
DS=Decentralized Services

1. FS BETA
2. TF BETA

1. (1-3) CSP-X
2. (1-2) MKTP

1. (1-3) RUN
2. (2-5) START

2022-Adopt → Extend federation services → Edge cloud implementations → Extended data spaces

Main focus:

Gaia-X infrastructure & automation

Gaia-x data spaces, AI and edge development

Gaia-x Supports EU marketplace enablement

EU ecosystems economy enablement

EU plays in global economy of data

AISBL push

Market pull

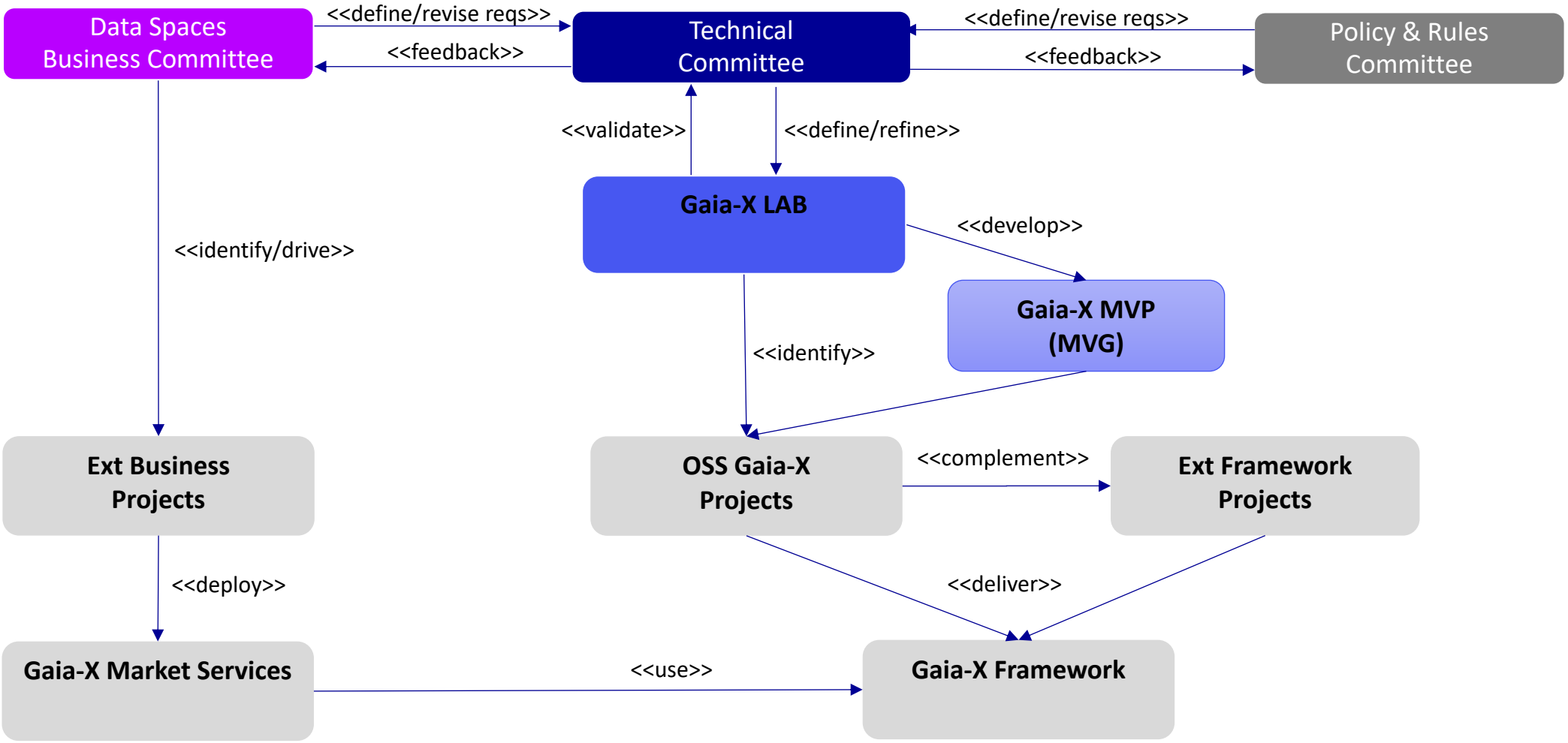
ON TRACK: 4 OUT OF 5 STARTED

TARGET:

- LAB/OSS PROJECTS FOR FS & TF (Trust Framework)
- DEVELOP THE TF and LABELS
- START THE FIRST CSP FEDERATION PROJECT
- START NEW DATA SPACE PROJECTS
- DEPLOY FIRST DATA SPACE SERVICES

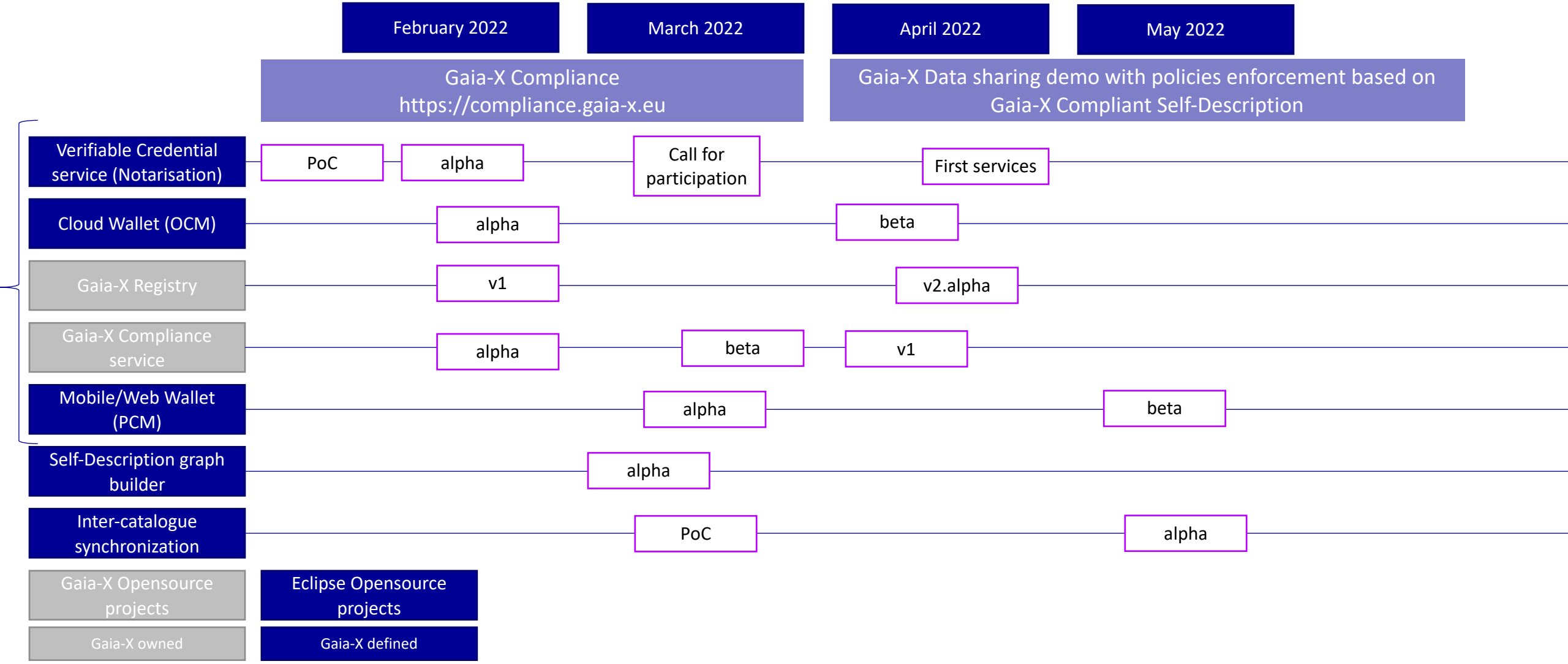
Gaia-X New Operational Model 2022

FROM DEFINITION TO VALIDATION



Gaia-X Framework – Internal Projects

DEVELOPMENT STARTED



Gaia-X Data Space Lighthouse Projects started in 2021

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

https://mobility-dataspace.eu/
Mobility

https://catena-x.net/en/
Automotive Supply Chain

https://agdatahub.eu/en/
Agriculture

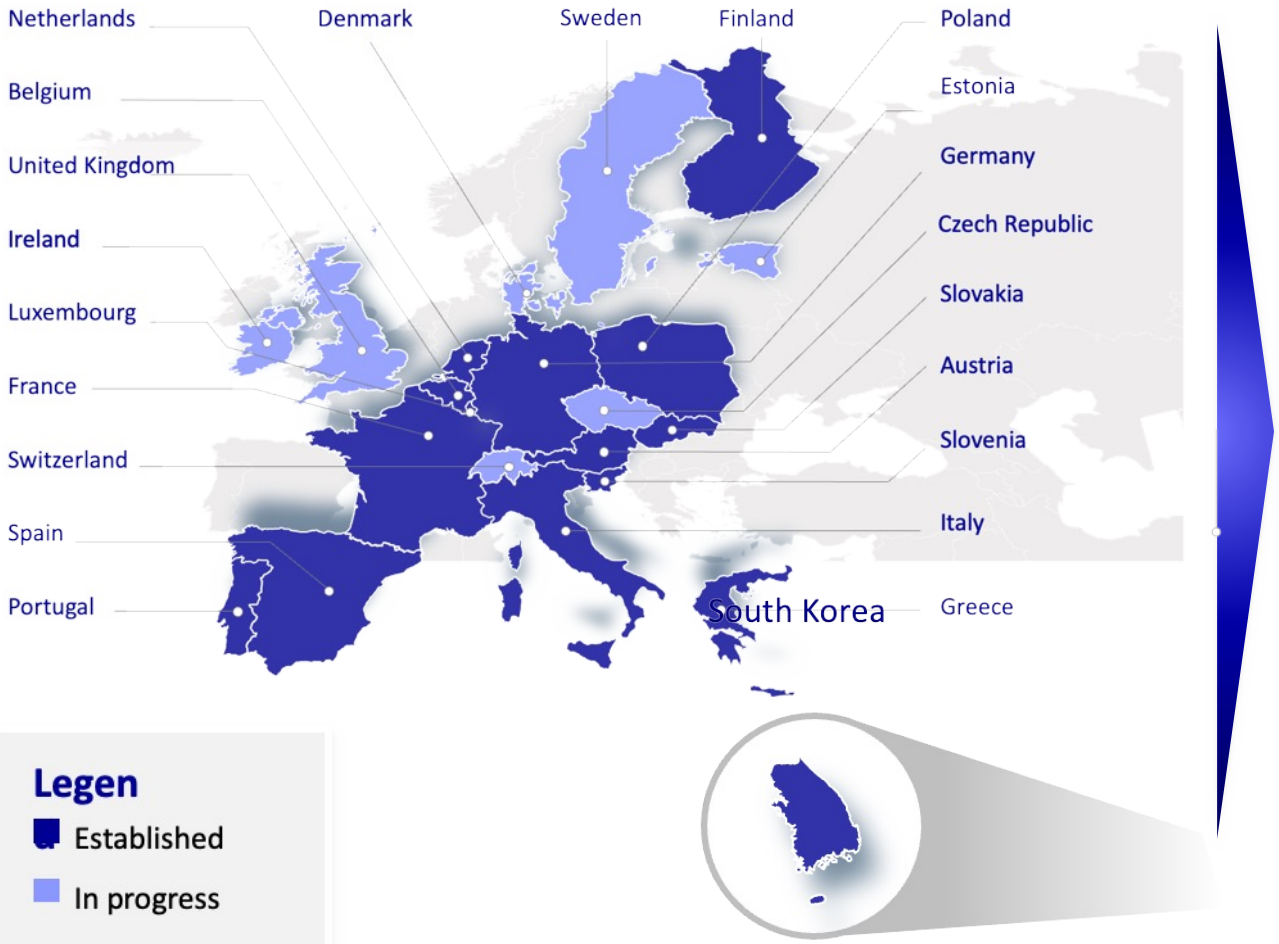
https://www.gaia-x.eu/news/structura-x-lighthouse-project-european-cloud-infrastructure-launched-concrete-implementation
Provider

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

Gaia-X Data Spaces

Gaia-X Hubs & Gov Endorsement

15 hubs, 1 International one (more on the way…)



INTERNATIONAL COOPERATION

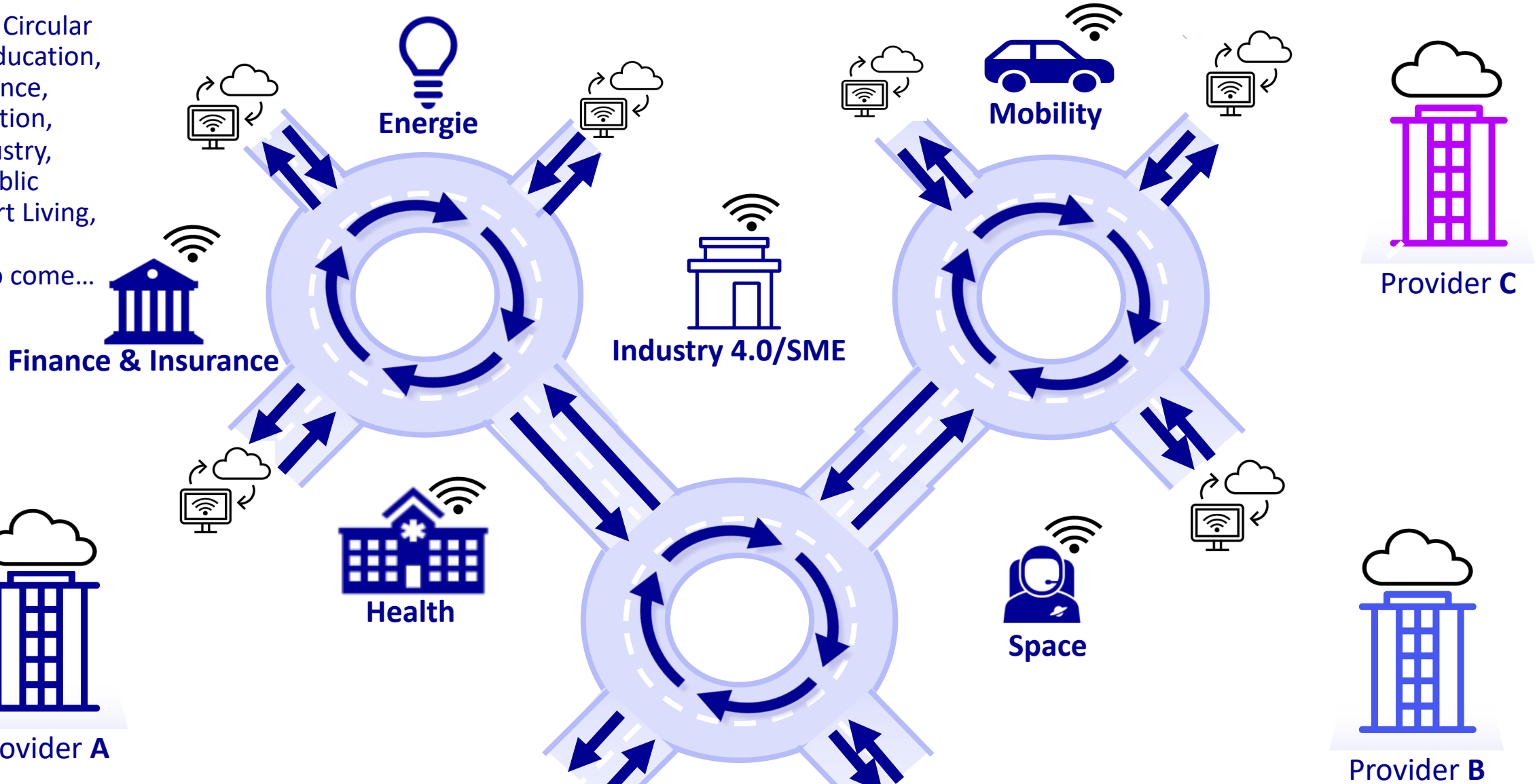
Gaia-X Board of Government Representatives

1. **GERMANY** – DANIELA BRÖNSTRUP, Director General Digital and Innovation Policy, German Federal Ministry for Economic Affairs and Climate Action
2. **FRANCE** – MATTHIEU WEIL, Head of Digital Economy Department, Ministry of Economy, France
3. **ITALY** – STEFANO FIRPO, Head of Cabinet of the Minister for Technological Innovation and Digital Transition
4. **SPAIN** – ALBERTO PALOMO, Chief Data Officer, Government of Spain
5. **NETHERLANDS** – JOS DE GROOT, Director Digital Economy
6. **PORTUGAL** – ANDRÉ DE ARAGÃO AZEVEDO, Secretary of State for the Digital Transition, Republic of Portugal
7. **BELGIUM** – JACK HAMANDE, Director General Digital Transformation at FPS Policy and Support
8. **LUXEMBOURG** – MARIO GROTZ, Director General for Industry, Technology and Research at Ministry of Economy
9. **FINLAND** – ILONA LUNDSTRÖM, Director General at Ministry of Employment and the Economy
10. **POLAND** – ROBERTO KROPLEWSKI, Governmental Advisory Board Member (Chancellery of the Polish Ministry)
11. **GREECE** –MARIA MAVRIDAKI, Legal Officer, European Commission
12. **SLOVENIA** – NENA DOKUZOV, Head of Project Group for New Economy and Blockchain Technologies at Ministry of Economic Development and Technology, UNECE expert and Head of Delegation for Slovenia
13. **SLOVAKIA** – JURAJ PANKUV, Advisor, Ministry of Investment, Regional Development and Informatization of the Slovak Republic

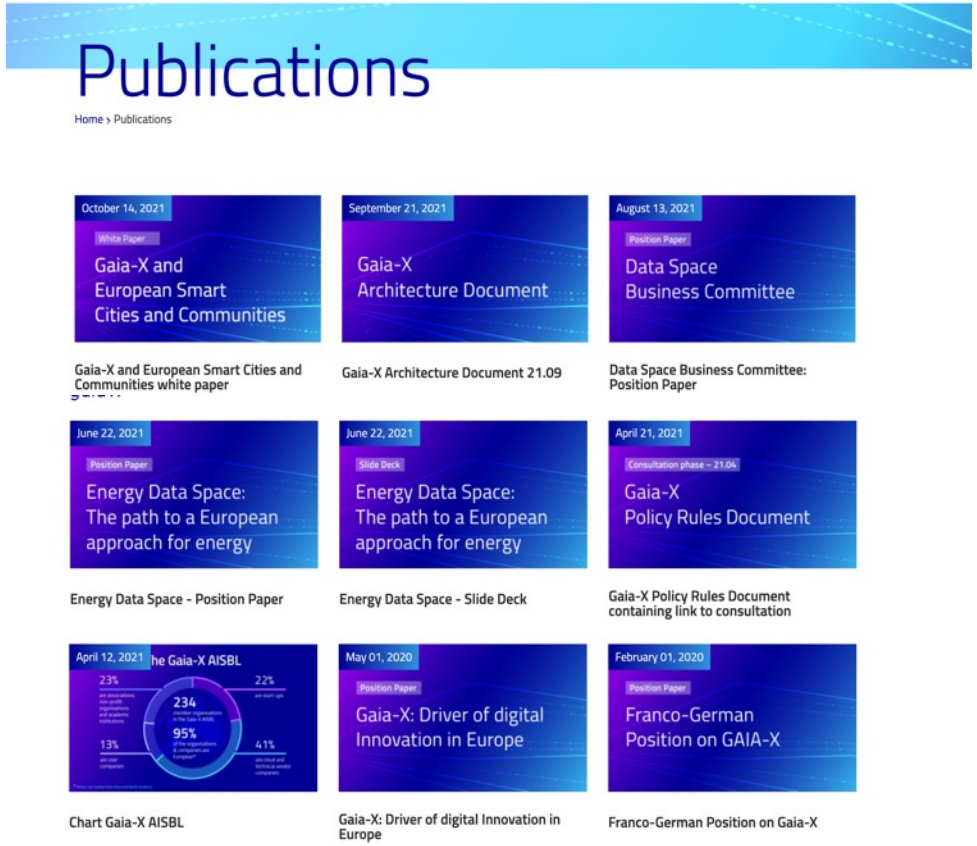
…more to come…

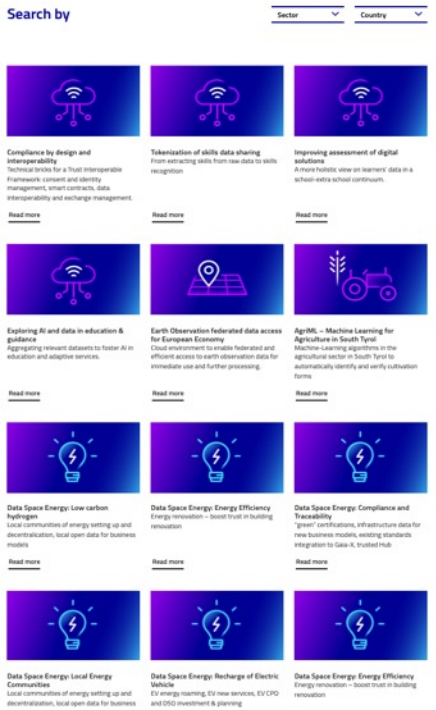
Developing Data Spaces

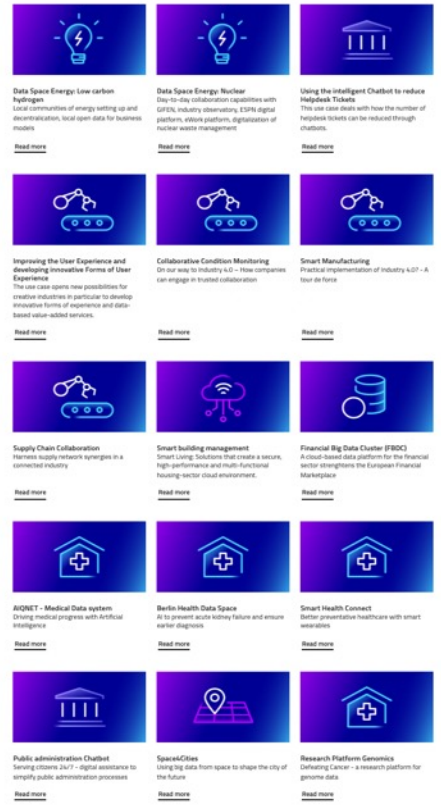
13 Data Spaces
Aerospace,
Agriculture, Circular Economy, Education, Energy, Finance, Geoinformation, Health, Industry, Mobility, Public Sector, Smart Living, Space…
and more to come…



Gaia-X Data Space Publications







…and more to come…

Data for EU – Calls for proposals

MATCH GAIA-X DATA SPACES

gaia-x

- Green Deal
- Smart communities
- Agriculture
- Mobility
- Health
- Skills
- Manufacturing
- Public Administrations
- Financial
- Tourism
- Language
- Cultural Heritage
- Media
- Data Spaces Support Centre
- Public Sector Open Data

Call 1	Deadline for submission 22 February 2022
Call 2	Opening February/March 2022
Call 3	Opening Q3 2022

Gaia-X Community Engagement

The Most representative alliance of organizations in Europe

LARGELY REPRESENTATIVE

More than 330 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.

- Large Companies
- SMEs
- Start-Ups
- Universities
- R&D
- Associations
- Public Sector

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**.

Why should you join?

Contribute

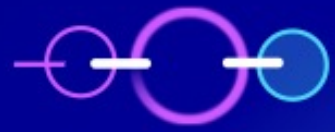
to a pioneering project that will establish digital sovereignty for Europe.

Shape

how data will be stored, shared, and used in future.

Develop

new data-driven business models and data spaces.



Strengthen

ties to the expert communities in your industry.

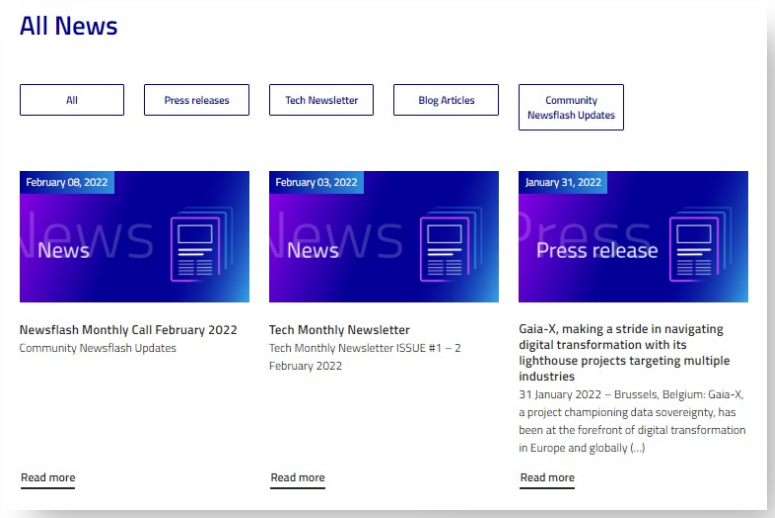
MEDIA MATERIAL

Media Kit

https://gaia-x.eu/news/press-room

News section

https://gaia-x.eu/news

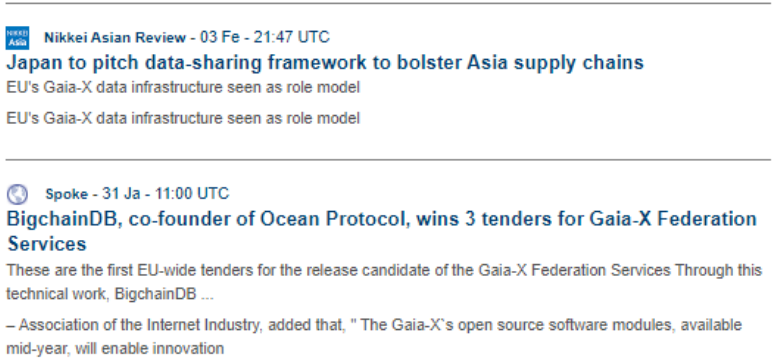


Weekly Press Reviews

https://gaia-x.eu/press-review

Press Clips

https://gaia-x.eu/press-review

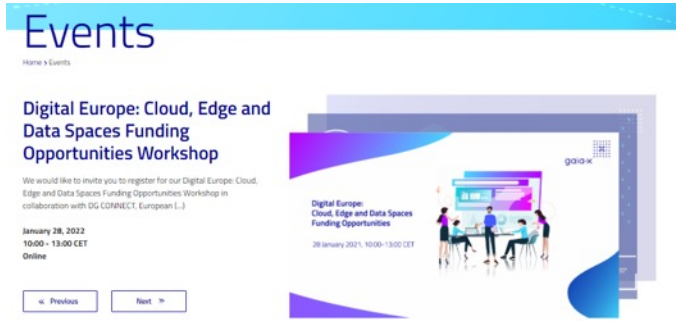


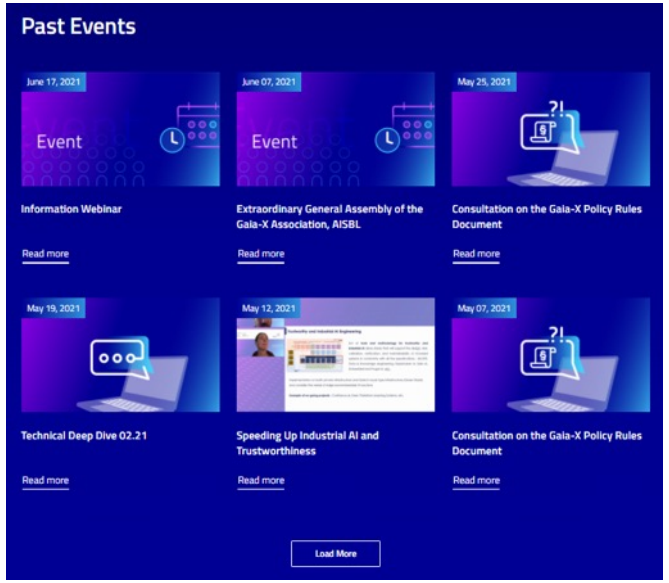
Press Releases

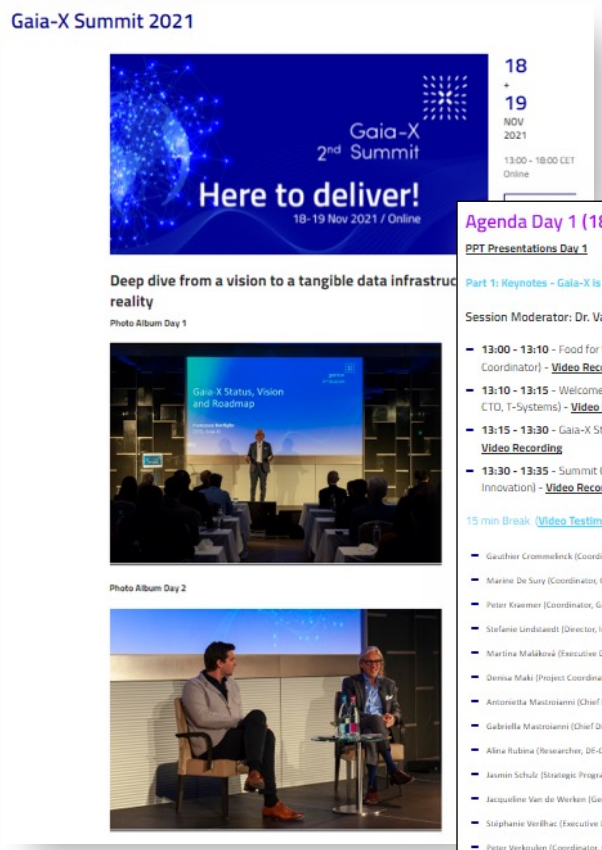
https://gaia-x.eu/news

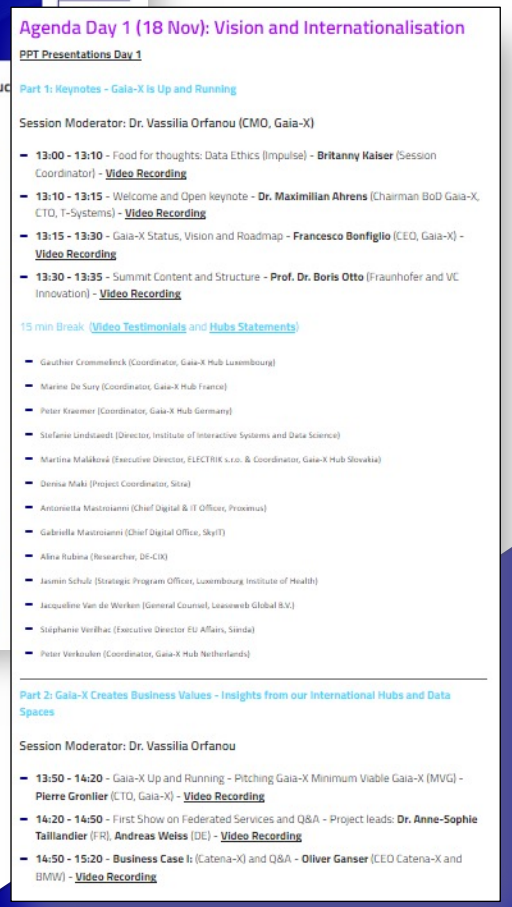
Events

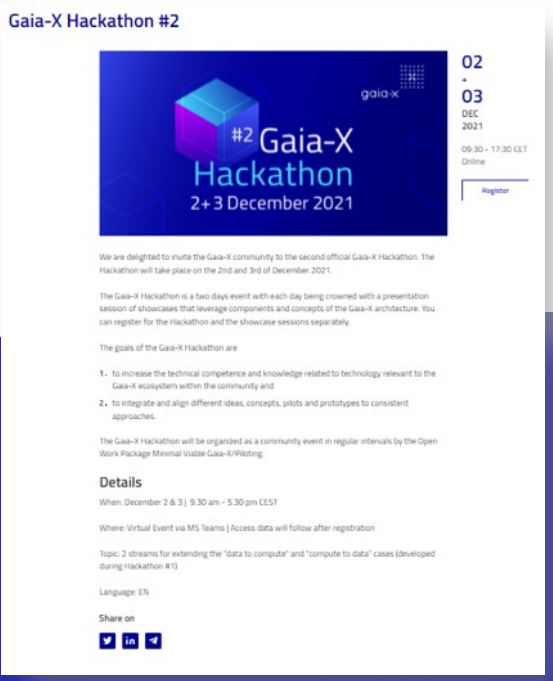
https://gaia-x.eu/events











Follow us on:

@gaiax_aisbl

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

https://www.facebook.com/Gaia-X-Association-for-Data-and-Cloud-111692924764099

https://www.youtube.com/channel/UCB5WMc2FfrxKzfd7XIODoMw

Thank you!

Gaia-X Association