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eu
academy 

data.europa.eu and the European common data spaces

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 data.europa.eu The official portal
for European data



Agenda for the webinar

- Introduction
- Goals and research methodology
- Findings
- Conclusions and next steps
- Feedback and closing

1. Introduction

European Strategy for Data



EN English

Shaping Europe's digital future

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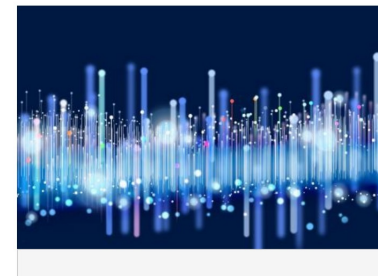
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A European Strategy for data

The strategy for data focuses on putting people first in developing technology, and defending and promoting European values and rights in the digital world.

Data is an essential resource for economic growth, competitiveness, innovation, job creation and societal progress in general.

The European strategy for data aims at creating a single market for data that will ensure Europe's global competitiveness and data sovereignty. Common European data spaces will ensure that more data becomes available for use in the economy and society, while keeping the companies and individuals who generate the data in control.



European Strategy for Data

The Commission has proposed a [Regulation on European data governance](#) as part of its data strategy. This new Regulation will play a vital role in ensuring the EU's leadership in the global data economy.

On 23 February 2022, the Commission proposed a Regulation on harmonised rules on fair access to and use of data (Data Act). [The Data Act](#) is a key pillar of the European strategy for data. Its main objective is to make Europe a leader in the data economy by harnessing the potential of the ever-increasing amount of industrial data, in order to benefit the European economy and society.

To further ensure the EU's leadership in the global data economy the European strategy for data intends to:

- adopt legislative measures on data governance, access and reuse. For example, for business-to-government data sharing for the public interest;
- make data more widely available by opening up high-value publicly held datasets across the EU and allowing their reuse for free;
- invest €2 billion in a European High Impact Project to develop data processing infrastructures, data sharing tools, architectures and governance mechanisms for thriving data sharing and to federate energy-efficient and trustworthy cloud infrastructures and related services;
- enable access to secure, fair and competitive cloud services by facilitating the set-up of a procurement marketplace for data processing services and creating clarity about the applicable regulatory framework on cloud framework of rules on cloud.

Businesses will have more data available to innovate as a result of the data strategy. The European Commission has already published a [report on Business-to-Government \(B2G\) data sharing](#). The report, coming from a high-level Expert Group, contains a set of policy, legal and funding recommendations that will contribute to making B2G data sharing in the public interest a scalable, responsible and sustainable practice in the EU.

[Press release: data strategy >](#)

[Q&A: Data Strategy >](#)

[Fact Sheet: Data Strategy >](#)

[Report: Business-to-Government data sharing >](#)

[Business-to-Government data sharing Expert Group >](#)

[Q&A: Business-to-government data sharing >](#)

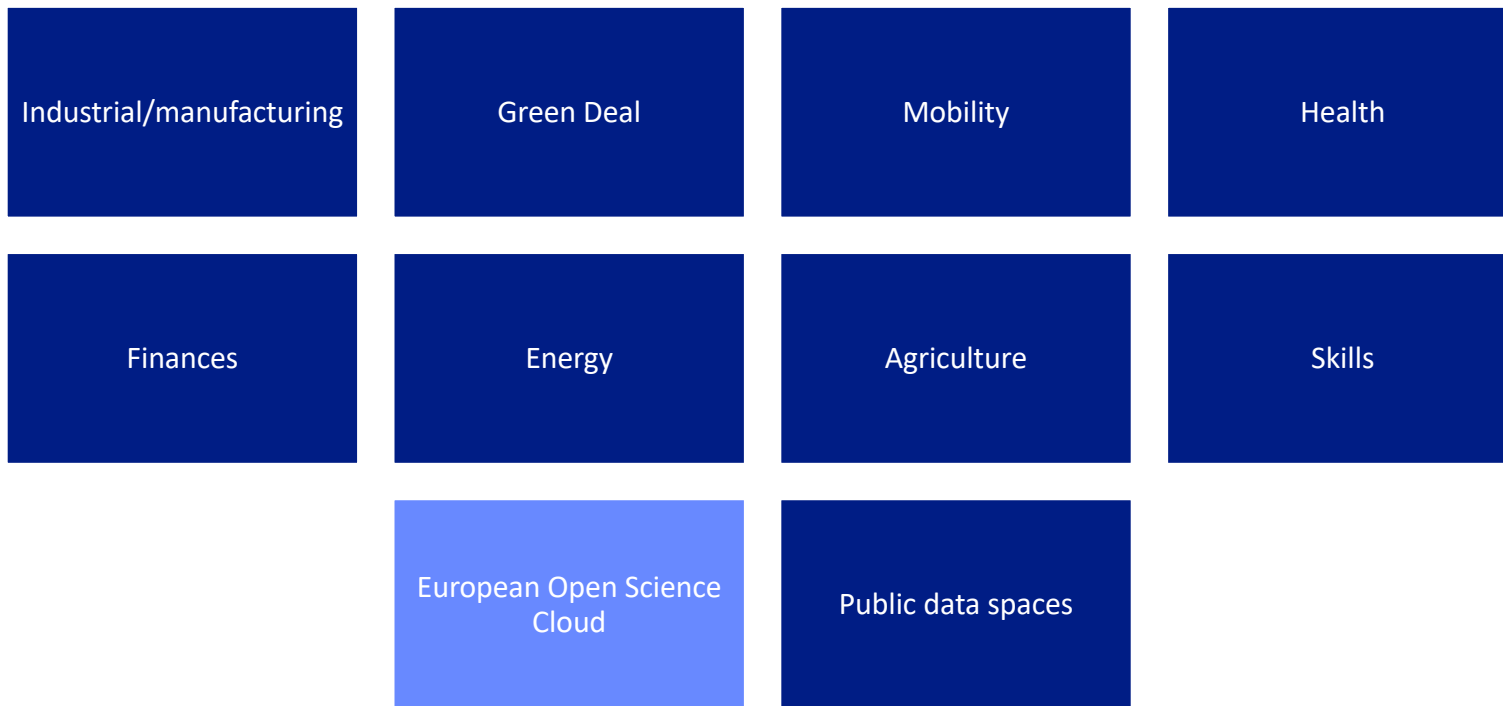
Follow the latest progress and learn more about getting involved.

 Follow the Commission's work on data @DataEcoEU

The European data space

“a European data space as a genuine single market for data where personal and non-personal data, including sensitive business data, are secure and businesses have easy access to high-quality industrial data, boosting growth and creating value”

Common European data spaces (initial list)



Related initiatives

International Data Spaces Association

INTERNATIONAL DATA SPACES ASSOCIATION

A TRUSTWORTHY ARCHITECTURE FOR THE DATA ECONOMY

The IDS provides self-determined control between all imaginable data endpoints

INTERNATIONAL DATA SPACES APPROACH

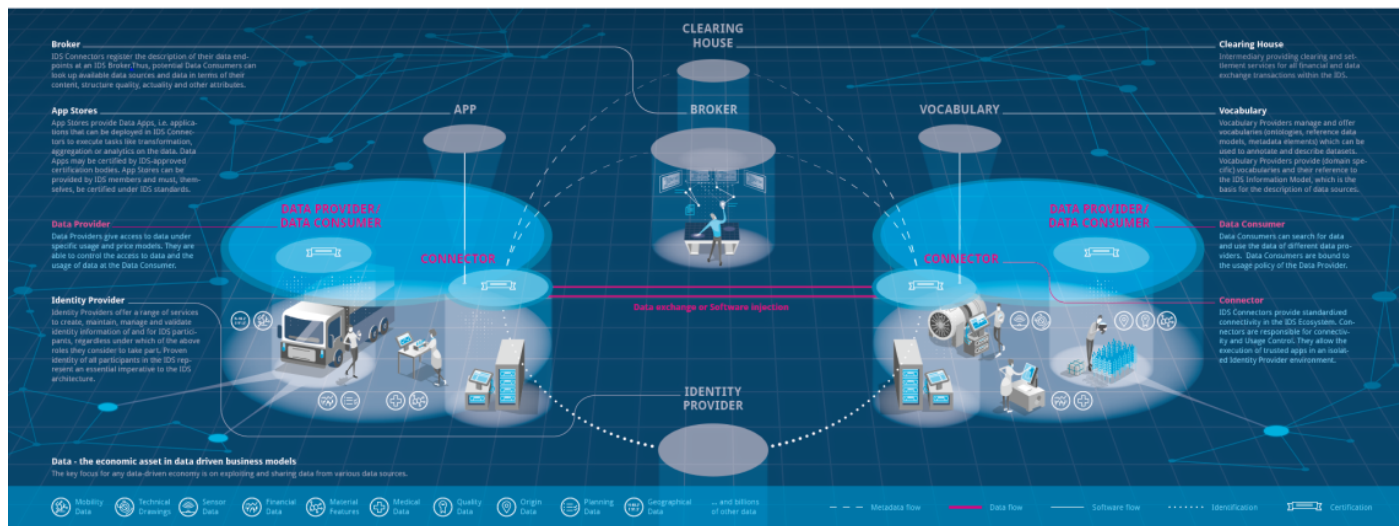
- Endless Connectivity**
Standard for data flows between all kinds of data endpoints
- Trust between different security domains**
Comprehensive and audit-proof security functions providing a maximum level of trust
- Governance for the data economy**
Usage control and enforcement for data flows and assignments of data

MISSION STATEMENT

- Secure Data Exchange**
It forms the basis for a variety of certifiable software solutions, smart services...
- Business Models**
Data Owners remain sovereign owners of their data at any time
- International Standards**
ISA defines the basic conditions and governance for a reference architecture and interfaces
- Use Cases**
This standard is actively developed and updated on the basis of use cases

DIGITAL IDENTITIES

A network of trusted entities in the data economy requires a mechanism for digital entities, that can reliably identify a participant and can provide more information on transaction partners. Additional information must be updated regularly and be provided in a trusted manner.



USE CASES

Services and functionalities of the IDS are specified and validated in use cases. Additional requirements are fed into the architecture development. The IDS approach is applied and tested in Smart Services are developed facilitating the Data Owner and Data Consumers to exploit the IDS.

Concept and Design: INFOGRAFIX PRO GmbH - www.infografix.de

COMMUNITIES

Interest and user groups of same or similar domains with common challenges validate and proliferate the IDS approach, technology and eco-system. Based on their practical experience the IDS reference architecture and the eco-system around it are continuously developed. Thus, specific application scenarios for verticals are set up, implemented and systematically pushed forward, allowing participants to enhance existing or to launch new services.

- Medical Health
- Energy
- Materials
- Banking/ Insurance
- Industrial
- Farm & Food
- Smart Cities
- Logistics

10 THINGS TO KNOW ABOUT

- Containerization, e.g. Docker
- Web services, e.g. https, MQTT, REST, Multi Part Messages
- Message Oriented Middleware
- Enterprise Integration Patterns
- Software Engineering, e.g. tools like Maven, git
- Digital Identities and Digital Certificates, e.g. X.509
- Semantic Data Descriptions, e.g. Resource Descriptions Framework
- Requirements Engineering Processes and tools, e.g. UML and BPMN
- Data Ecosystems
- Certification, e.g. IEC 60443, ISO 27001

CERTIFICATION APPROACH

The IDS Certification Body is appointed by the ISA and regularly aligns with the ISA to manage the certification process, defines the standardized evaluation procedures and supervises the actions of the Evaluation Facilities. An Evaluation Facility is contracted by an Applicant and is responsible for carrying out the detailed technical and organizational evaluation work during a certification.



CALL TO ACTION

Become a member in the International Data Spaces Association:



Related initiatives

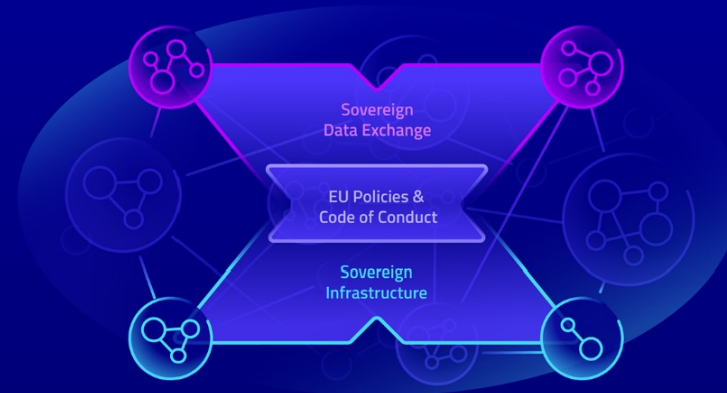
GAIA-X

What is Gaia-X

Home > What is Gaia-X

A Federated and Secure Data Infrastructure

Innovation through digital sovereignty – that's the goal of Gaia-X. We achieve this by establishing an ecosystem in which data is made available, collated and shared in a trustworthy environment. The users always retain sovereignty over their data. So, what emerges is not a cloud, but a federated system that links many cloud services providers and users together.



1800+
Contributors

500+
Organisations

1
Goal

Related initiatives

Open DEI

Objectives

OPEN DEI strives to implement all efforts for the benefit of the target projects' ecosystem:

- Task Forces to collectively address medium to long term challenges to be initiated by current projects but fully implemented by next generation HEP or DEP initiatives (e.g. Data Spaces; Business Ecosystems; Twin Transition)
- Working Groups to specifically address short term issues and contribute to projects' objectives and deliverables:



TF1 DATA SHARING SPACES

Data spaces experts team up to define for the first time cross-sectoral and across initiatives the fundamental design principles to build data spaces.



TF2 DATA - POWERED BUSINESS ECOSYSTEM BUILDING

Think Tank to come up with reference models that will consolidate a Position Paper to drive the data-powered Digital Transformation in the European Community.



TF3 - DIGITAL PLATFORMS, PILOTS AND STANDARDS

To create knowledge and tools to foster effective sharing and assessment of experiences and lessons learned on how platforms supporting Digital Transformation can be architected, crossing the boundaries of specific applicative sectors.



TF4 - DIGITAL TRANSFORMATION & BUSINESS IMPACT

Think Tank to create knowledge and tools to foster effective sharing and assessment of experiences and lessons learnt on analysing the drivers and barriers for adoption of platforms supporting Digital Transformation and on assessing their business impact.



Manufacturing



Agriculture



Energy



Healthcare

From policy to reality: current actions

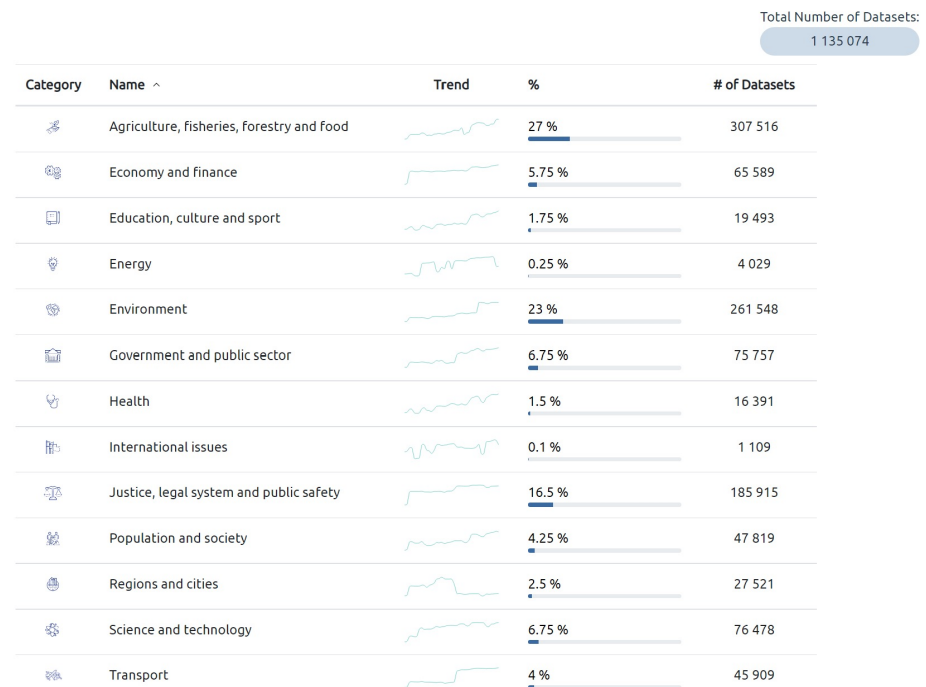
- Digital Europe funding to prepare implementation and deployment
 - Thematically an iteration from initial list to include e.g. **languages, media, smart communities, public procurement, security, tourism**
 - Deadlines of first calls in the first half of 2022
 - **Data space support centre**

From policy to reality: current actions

- Public sector open data for AI and open data platform
 - Thematically based on work on **high-value datasets**.
 - Increase the availability, quality, usability of data in accordance to the **Open Data Directive**

Premise for this report

- data.europa.eu as a core instrument to supply European common data spaces with public sector data



Premise for the report

- Initiatives funded through current calls will generate lists of datasets relevant for each data space and governance schemes to connect existing data ecosystems.
- Public administrations and other open-data holders/publishers must be part of this conversation.

A blue ballpoint pen with a silver tip is positioned diagonally on the left side of the page. The background is a light blue document with a grid and a bar chart. The text is centered on the right side of the page.

Are you involved
in any data
space related
initiative?

2. Goals and research methodology

Goals

- **Open government data (OGD) should not be an afterthought to the European single market for data**
- Two reports
 - **This report:**
 - Explore challenges and opportunities for data.europa.eu in the context of data spaces at regional, national, and European levels
 - Landscaping and analysis of ongoing works towards standards, consolidated support, and implementations
 - Next report after (some) spaces become available
 - data.europa.eu as intermediary in existing spaces
 - Technical roadmap, synergies, collaborations

Methodology

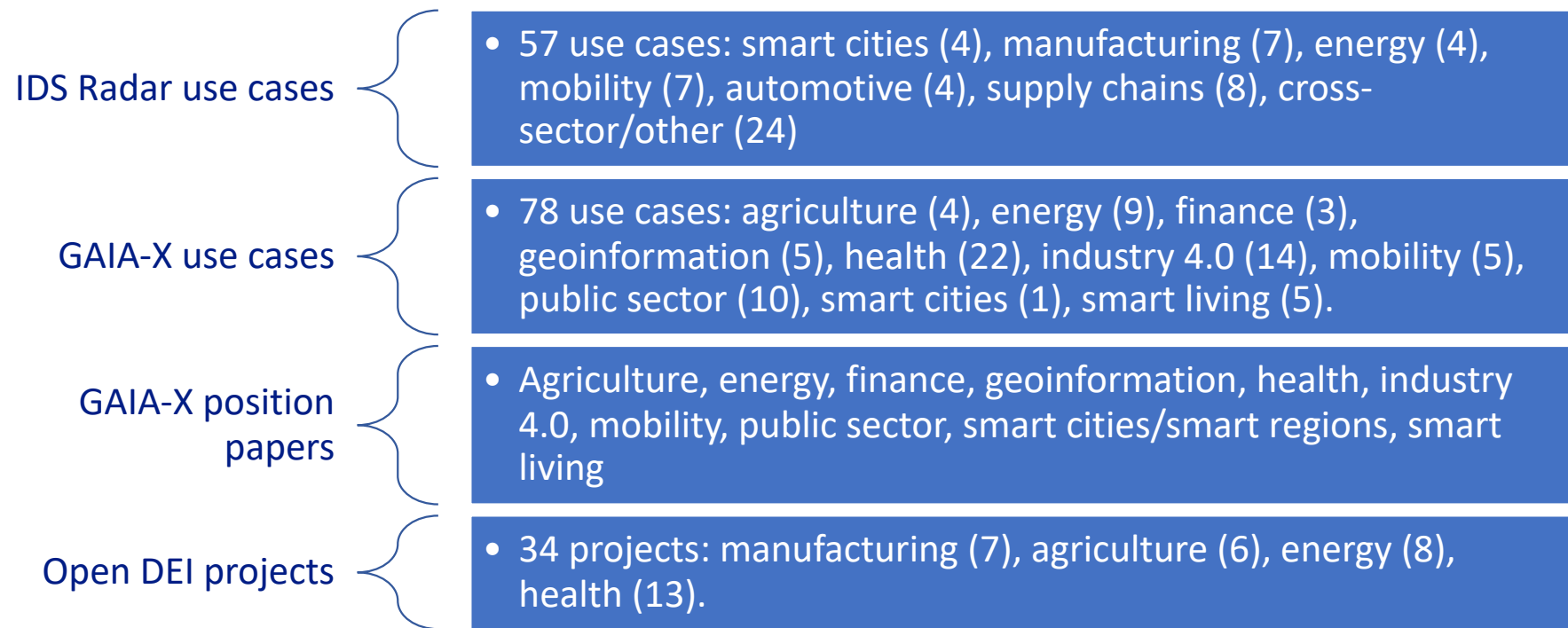
Desk
research

- Identify data spaces
- Identify use cases and open data in these use cases
- Map out PS actors involved
- *Select stakeholders to interview*

Interviews

- Add context and depth to desk research findings

Desk research: sources



Desk research: methods

- Check if they mention or use open data from any source or portal
- Check if they engage actively with key open-data stakeholders e.g. PS publishers, data intermediaries.
- *Discarded all spaces (and related use cases) that referred to:*
 - *Tech for data spaces rather than actual data spaces;*
 - *Enterprise data spaces benefiting individual organisations.*

Interviews

- 12 participants from 8 countries (19 people contacted)
- 30 minutes semi-structured interviews

Id	Domain	Country	Type of stakeholder	Gender
P1	Mobility	Spain	Data owner Data user	Male
P2	Health	France	Software provider	Male
P3	Cross-domain	Germany	Software provider	Male
P4	Public sector	Belgium	Vocabulary provider	Female
P5	Industry 4.0	Spain	Data provider	Prefer not to say
P6	Geoinformation Public sector	Italy	Service provider	Male
P7	Public sector	Italy	Broker service	Female
P8	Agriculture	Poland	Vocabulary provider Data provider	Female
P9	Cross domain	Spain	Identity provider	Male
P10	Cross domain	France	Software provider	Male
P11	Mobility	France	Data provider	Female
P12	Supply Chain and Logistics	The Netherlands	Vocabulary provider	Male

ANNEX 1. Interview protocol

This annex provides the interview protocol that has been used for the semi-structured interviews that have been done in the context of this work. As in any semi-structured interview, the questions that are presented here are mainly acting as a guideline for the conversation with the interviewee.

1. Are you involved in the development of any emergent or well-established data space?

If yes, in which domain or group of domains?

2. Are you involved in the setup of any of the European common data spaces?

If yes, in which one? Are you submitting or have submitted a request for funding under any of the Digital Europe or Horizon Europe programme calls?

3. Do you or the organisation that you represent belong to any of the organisations that are active in the development of frameworks and architectures for data spaces (IDSA, GAIA-X, etc.)?

4. For each of the data spaces that you are involved in, can you tell me...? (no need for specific names, the answers can be similar to "a relevant company in the automotive sector")

4.1 The private organisations that are involved on it

4.2 The public organisations that are involved on it

4.3 Any other type of organisation or individual that is involved on it

5. Do you already have an initial catalogue of datasets identified for your data space?

5.1 How many of these datasets are from public administrations?

5.1.1 If there are public datasets, are the public administrations that act as data providers or data intermediaries aware of the fact that these datasets will be used in the data space?

5.1.2 Have you thought of using data.europa.eu or any other open data portal as a source for data?

5.1.3 Will the data space contribute any data to data.europa.eu or any other open data portal?

5.2 How many of these datasets are from private institutions?

5.3 Are there any other relevant set of datasets that will be used?

6. Have you decided on the metadata schemas that will be used to describe (and federate) datasets? Something like DCAT or the IDS Information model?

7. Do you know of other similar data spaces in the domain of your data space that we should look at?

8. Would you have any recommendation for data.europa.eu on how to make sure that their datasets are used in the data space?

3. Findings

151 initiatives, 21 use open data, 2 mention data.europa.eu, 19 involve PS stakeholders

Domain	Initiatives where open data is used	Initiatives where data.europa.eu is mentioned	Initiatives with public stakeholders involved	Total number of initiatives
Agriculture/Agrifood	2	1	0	9
Energy	2	0	3	21
Finance	1	0	1	3
Geoinformation	5	1	0	5
Health	0	0	7	37
Industry 4.0/ Manufacturing	0	0	0	27
Automotive	0	0	0	4
Supply Chain and Logistics	0	0	0	8
Mobility	5	0	4	10
Public Sector	1	0	1	9
Smart Living / Smart Cities	5	0	3	10
Other	0	0	0	8
Totals	21	2	19	151

Overlapping priorities in data space development

European common data spaces (source: Digital Europe work programme)	Domains for data spaces identified by GAIA-X, IDSA and Open DEI
Green Deal	Geoinformation
Smart communities	Smart living and smart cities
Mobility	Mobility
Manufacturing/Industrial	Industry 4.0/Manufacturing/Automotive
Agriculture	Agriculture / Agri-food
Cultural heritage	-
Health (focus on cancer and genomics)	Health
Media	--
Finance	Finance
Skills	-
Language	-
Public procurement	Public sector (procurement not explicitly considered)
Security and law enforcement	Public sector (procurement not explicitly considered)
Tourism	-
Energy	Energy
-	Supply chains and logistics

Additional general findings

- Bias on French and German organisations in use cases, data sources, stakeholders, though developments under way to change that e.g. GAIA-X AISBL.
- Three sectors (geo, mobility, smart cities) with clear ties to open data sources, though no portals mentioned, or PS stakeholders mentioned or involved.
- No catalogues of datasets in either source consulted.

Sector-specific findings (1)

- Agriculture: Earth Observation data, INSPIRE, no PS involvement.
- Energy: municipal open data for business models in energy, cities, national agencies.
- Finance: financial big data cluster with open data component, several PS administrations as stakeholders.
- Geoinformation: various open data sets but no specific providers or PS stakeholders involved.
- Health: open data only for Covid-19 dashboard/hub, public healthcare providers.

Sector-specific findings (2)

- Manufacturing, automotive, supply chains, logistics: no open data references or PS stakeholders involved.
- **Mobility: most PS stakeholders involved from all sectors analysed, no specific data portals, catalogues etc.**
- **Public sector: no PS stakeholder involvement**
- **Smart cities, smart living: some data providers in the public sector identified, but not involved.**

Interview findings (1)

- PS organisations are underrepresented in ongoing data sharing initiatives.

*“The role of **open data portals as data providers is taken for granted** in many of the data spaces (and use cases) that are being developed. However, the institutions in charge of open data portals should be more actively involved in the development of data spaces in order to have more representativeness in those developments”. (P6, provides services to public administrations in Italy)*

Interview findings (2)

- **No catalogues of datasets to be covered in the spaces.**

“Open data portals like data.europa.eu have demonstrated the possibility of federating metadata and providing links to datasets. This type of technology is clearly useful for many data spaces that do not have additional requirements for the collection of the catalogue of datasets, so institutions like data.europa.eu should make an effort to position their open source technology in as many data spaces as possible”. (P3, develops architectures and technology for spaces, Germany)

Interview findings (3)

- **Underspecified metadata schemes, identifier schemes, vocabularies etc.**

*“Public administrations (e.g., those behind data.europa.eu) may act in some occasions as **neutral organisations that can provide support for some of the roles identified in the main architectures.** For instance, they may have a relevant role as **vocabulary providers**, including the participation in the development of **data standards and models**, or even as **identity providers** or as part of the **data governance managers.**” (P12, develops vocabularies for supply chain and logistics, The Netherlands)*

5. Conclusions and next steps

Conclusions

- Data spaces is an emerging field, with activities spanning across a range of stakeholders. Still some biases and limitations could be identified, both geopolitical and in terms of stakeholders considered or directly involved.
- Open government data sources, portals, stakeholders are not as prominently represented as they could be, not even in sectors where they play a key role: mobility, smart cities, smart communities etc.
- Current initiatives do not consider some spaces that are relevant to the public sector e.g. procurement, skills, cultural heritage, green deal.

Opportunities will be missed

- Open data is a core type of data source, but unless PS stakeholders and open data intermediaries are involved more directly in IDSA, GAIA-X, Open DEI, there will be frictions and open data will not have the impact it deserves.
- Experience of open data holders with data publishing, metadata management, data quality, data discovery, federation etc. is not transferred to data spaces. Key European expertise and technologies have less impact.
- Interoperability requires neutral entities to define identifies, exchange formats, vocabularies. PS data intermediaries like data.europa.eu are a natural choice to take on such roles.

Next steps

- Once some data spaces become available, undertake in-depth case study analysis focused on data.europa.eu as a data intermediary.
- Derive technical and non-technical roadmap to allow data.europa.eu to be used effectively in data spaces.

6. Feedback and closing

Please
provide us
your
feedback!





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Thank you very much!

info@data.europa.eu



 The official portal
for European data

