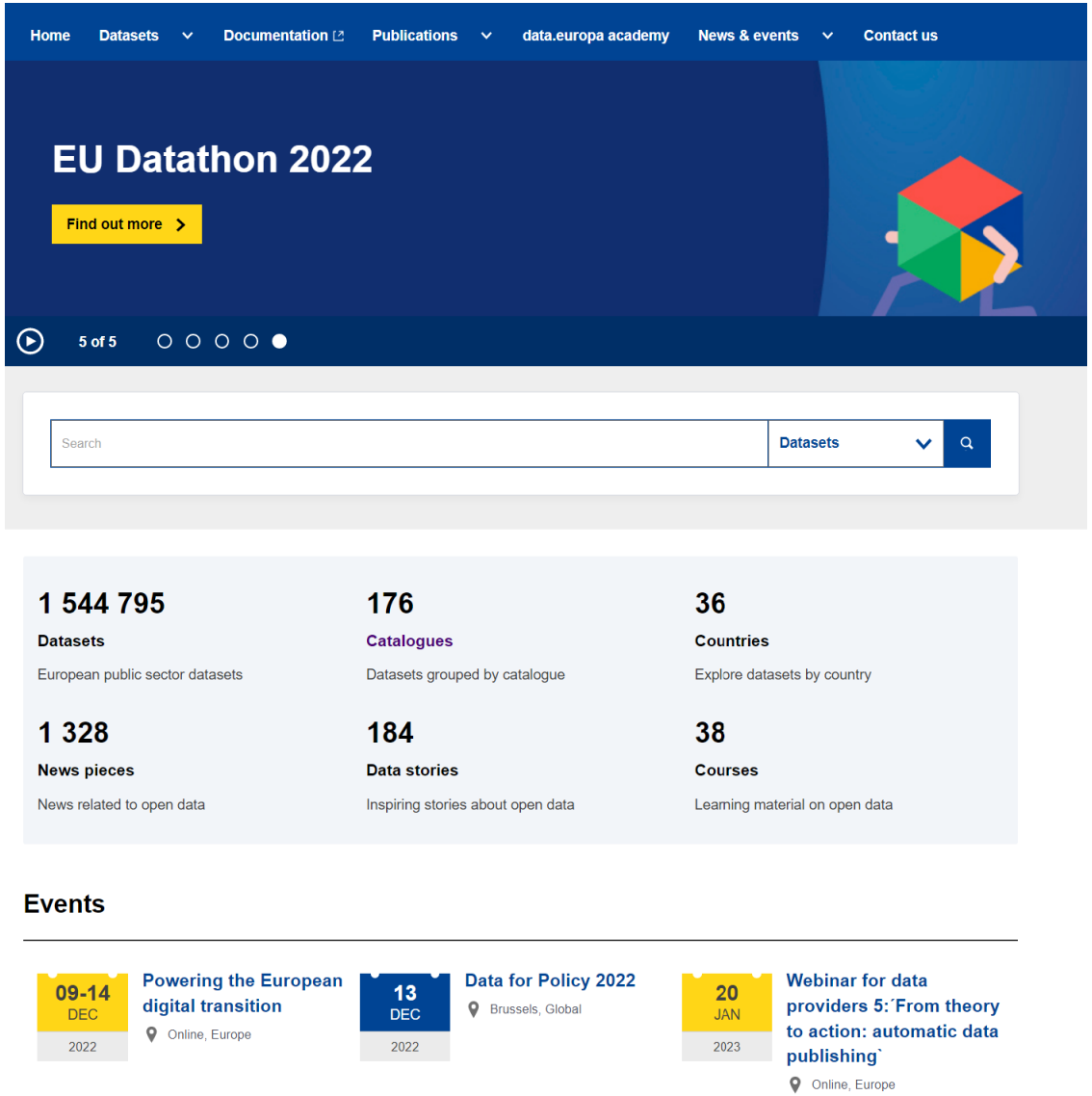
data.europa.eu and the European common data spaces

Elena Simperl

13-12-2022

data.europa.eu The official portal for European data

data.europa.eu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Data for Policy 2022
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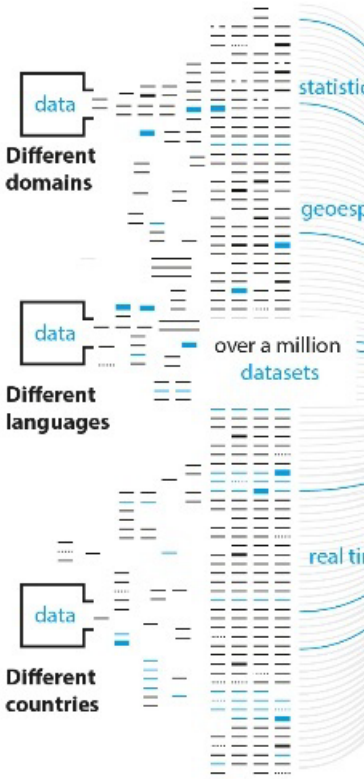
20 JAN 2023
Webinar for data providers 5:´From theory to action: automatic data publishing`
Online, Europe

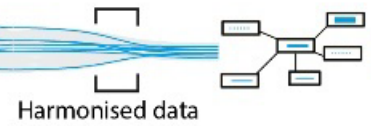
Unique features of data.europa.eu

1. The **challenge** is to present a heterogeneous and large amount of data coming from different countries and domains in a way that makes sense.



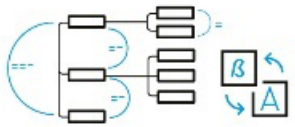
2. There is still a big data comparability issue and a need to link the data together to make them more findable and understandable.

There is also a need to improve linking between EU data and Member States data.



Harmonised data

Common metadata language (DCAT-AP)



Multilingual EU reference data

Data become harmonised by being categorised into domains via data themes. They are described with the same metadata language (DCAT-AP), harmonised and linked using multilingual EU reference data.

data.europa.eu

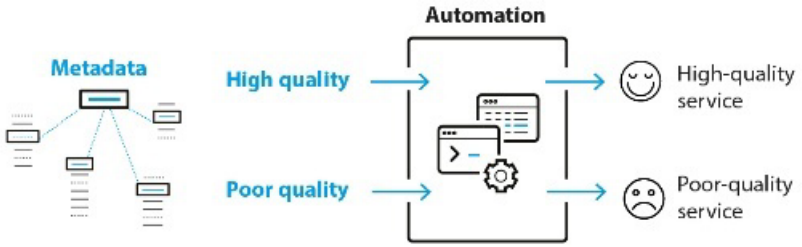
3. We provide access to over a million datasets, which requires **full automation**, hindering the checking of quality at a sufficient level of detail.

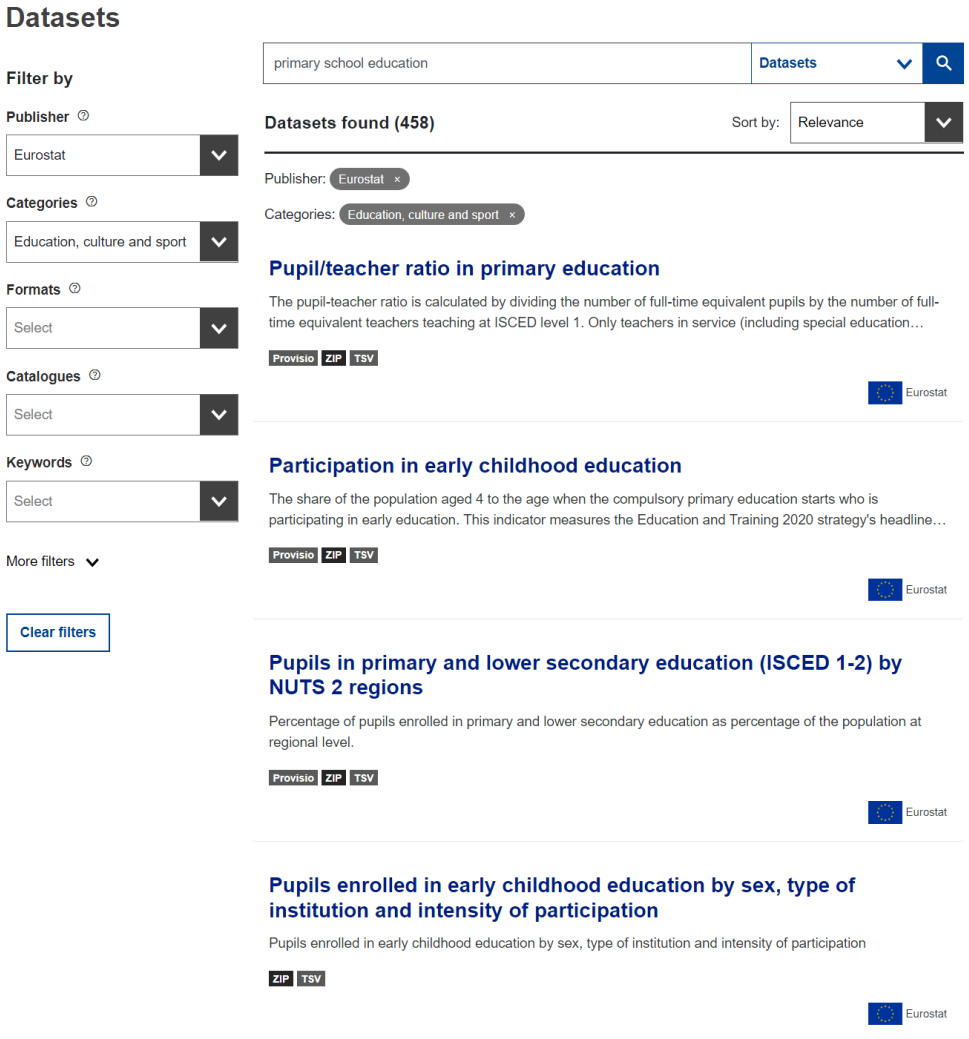
From quantity to quality

Current priorities are to improve the **quality of metadata,** to allow for interoperability, and the relevance and quality of the data.

High-quality metadata

Poor-quality metadata




Datasets
Filter by
Publisher
Eurostat
Categories
Education, culture and sport
Formats
Select
Catalogues
Select
Keywords
Select
More filters
Clear filters
primary school education
Datasets
Datasets found (458)
Sort by:
Relevance
Publisher: Eurostat ×
Categories: Education, culture and sport ×
Pupil/teacher ratio in primary education
The pupil-teacher ratio is calculated by dividing the number of full-time equivalent pupils by the number of full-time equivalent teachers teaching at ISCED level 1. Only teachers in service (including special education…
Provisio ZIP TSV
Eurostat
Participation in early childhood education
The share of the population aged 4 to the age when the compulsory primary education starts who is participating in early education. This indicator measures the Education and Training 2020 strategy's headline…
Provisio ZIP TSV
Eurostat
Pupils in primary and lower secondary education (ISCED 1-2) by NUTS 2 regions
Percentage of pupils enrolled in primary and lower secondary education as percentage of the population at regional level.
Provisio ZIP TSV
Eurostat
Pupils enrolled in early childhood education by sex, type of institution and intensity of participation
Pupils enrolled in early childhood education by sex, type of institution and intensity of participation
ZIP TSV
Eurostat

Home > Datasets > Primary Education

Dataset **Primary Education**

Data.gov.ie

Dataset | Categories | Quality | Similar datasets

Dataset feed | Linked data | Cite

Community GIS — Education & Enterprise

Uploaded as hosted feature layer on 19.10.2 [illegible] doorstep for creating larger icons at larger scales. This is to o[illegible]screen user experience.

Landing Page	https://data.smartdublin.ie/dataset/primary-education
Updated	21.09.2022 19:34
Created	19.10.2018 01:00
Languages	
Publisher	Name: South Dublin County Council
Contact Points	Organization Name: SDCC GIS Officer E-Mail: gisoff@sdublincoco.ie
Identifiers	1bdcd507-61b6-40f3-9ea0-352c7991bb7c
Catalogue Record	Added to data.europa.eu: 21.09.2022 21:25 Updated on data.europa.eu: 23.09.2022 17:43

Show more

The title and description of this dataset are machine translated.

Keywords (7)

Community | Education | Education and E... | Enterprise | Facilities | SDCC | South Dublin

Distributions (6)

Link to the data	Format	Distribution added	Actions
ArcGIS GeoService Show more	ArcG		Download Linked data
ArcGIS Hub Dataset Show more	HTML		Download Linked data
CSV Show more	CSV		Options Download Linked data
GeoJSON Show more	GeoJ		Options Download Linked data
KML Show more	KML		Download Linked data
Shapefile Show more	ZIP		Download Linked data

Grid | Graph | 103 Record(s) | « 1 – 100 »

Download all

X	Y	OBJECT...	Name	Address	PhoneN...	Website	Creator	Creation...	Editor	EditorD...	Primary...
-708996....	7,048,45...	5,047	SAINT L...	SAINT L...	+353 62...	http://ww...	SouthDu...	2018/10/...	SouthDu...	2018/10/...	Primary...
-709063....	7,048,39...	5,048	SAINT B...	TURRET...	+353 1 6...	http://ww...	SouthDu...	2018/10/...	SouthDu...	2018/10/...	Primary...
-706958....	7,042,68...	5,050	SAINT C...	SAINT C...	+353 1 4...	http://ww...	SouthDu...	2018/10/...	SouthDu...	2018/10/...	Primary...
-703682....	7,041,33...	5,051	SAINT D...	SAINT D...	+353 1 4...	http://ww...	SouthDu...	2018/10/...	SouthDu...	2018/10/...	Primary...
-709050....	7,039,96...	5,052	SAINT K...	SAINT K...	+353 1 4...	http://ww...	SouthDu...	2018/10/...	SouthDu...	2018/10/...	Primary...
-707726....	7,038,76...	5,054	SAINT K...	SAINT K...	+353 1 4...	http://ww...	SouthDu...	2018/10/...	SouthDu...	2018/10/...	Primary...
-704473....	7,040,33...	5,056	HOLY S...	HOLY S...	+353 1 4...	http://ww...	SouthDu...	2018/10/...	SouthDu...	2018/10/...	Primary...
-704473....	7,039,62...	5,057	RIVERVI...	RIVERVI...	14,506,230	http://rve...	SouthDu...	2018/10/...	SouthDu...	2018/10/...	Primary...
-701922....	7,039,18...	5,059	SAINT P...	SAINT P...	+353 1 4...	http://ww...	SouthDu...	2018/10/...	SouthDu...	2018/10/...	Primary...
-707793....	7,038,92...	5,061	SAINT K...	SAINT K...	01 4517...	http://stk...	SouthDu...	2018/10/...	SouthDu...	2018/10/...	Primary...
-710045....	7,034,66...	5,064	SACRE...	SACRE...	+353 1 4...	http://ww...	SouthDu...	2018/10/...	SouthDu...	2018/10/...	Primary...
-706730....	7,033,69...	5,068	HOLY R...	HOLY R...	+353 1 4...	http://ww...	SouthDu...	2018/10/...	SouthDu...	2018/10/...	Primary...
-708280....	7,034,55...	5,070	SAINT M...	SAINT M...	+353 1 4...	http://ww...	SouthDu...	2018/10/...	SouthDu...	2018/10/...	Primary...
-706601....	7,035,73...	5,071	SCOIL S...	SCOIL S...	+353 1 4...	http://ww...	SouthDu...	2018/10/...	SouthDu...	2018/10/...	Primary...
-707704....	7,036,06...	5,072	SAINT D...	SAINT D...	+353 1 4...	http://ww...	SouthDu...	2018/10/...	SouthDu...	2018/10/...	Primary...
-709273....	7,034,03...	5,073	SAINT M...	SAINT M...	+353 1 4...	https://w...	SouthDu...	2018/10/...	SouthDu...	2018/10/...	Primary...
-709144....	7,049,31...	5,076	STEWA...	STEWA...	01 651 8...	http://ww...	SouthDu...	2018/10/...	SouthDu...	2018/10/...	Primary...
-703387....	7,038,32...	5,077	BISHOP ...	BISHOP ...	+353 1 4...	http://ww...	SouthDu...	2018/10/...	SouthDu...	2018/10/...	Primary...
-703363....	7,038,39...	5,078	BISHOP ...	BISHOP ...	01 450 8...	http://ww...	SouthDu...	2018/10/...	SouthDu...	2018/10/...	Primary...
-699519....	7,037,71...	5,080	SAINT M...	SAINT M...	+353 1 4...	http://ww...	SouthDu...	2018/10/...	SouthDu...	2018/10/...	Primary...
-701695....	7,037,45...	5,081	RATHFA...	RATHFA...	+353 1 4...	http://rat...	SouthDu...	2018/10/...	SouthDu...	2018/10/...	Primary...
-700693....	7,036,15...	5,082	BALLYR...	BALLYR...	+353 1 4...	http://ww...	SouthDu...	2018/10/...	SouthDu...	2018/10/...	Primary...
-703166....	7,035,82...	5,085	SAINT C...	SAINT C...	+353 1 4...	http://ww...	SouthDu...	2018/10/...	SouthDu...	2018/10/...	Primary...

Overview

Top 12 Catalogues

Top 12 | Top 20 | all Catalogues

Country	Name	Findability (Weight: 100 Points)	Accessibility (100 Points)	Interoperability (110 Points)	Reusability (75 Points)	Contextuality (20 Points)	Rating (405 Points)
	European Union Intellectual Property Office (EU)	100 / 100	100 / 100	80 / 110	75 / 75	5 / 20	Excellent
	European Central Bank (EU)	98 / 100	97 / 100	77 / 110	75 / 75	10 / 20	Excellent
	Directorate-General for Migration and Home Affairs (EUROPE)	100 / 100	100 / 100	60 / 110	75 / 75	15 / 20	Good
	Directorate-General for Education, Youth, Sport and Culture (EUROPE)	90 / 100	100 / 100	72 / 110	75 / 75	10 / 20	Good
	European Research Council Executive Agency (EU)	100 / 100	100 / 100	60 / 110	75 / 75	10 / 20	Good
	Executive Agency for Small and Medium-sized Enterprises (EUROPE)	100 / 100	100 / 100	60 / 110	75 / 75	10 / 20	Good
	European Agency for Safety and Health at Work (EU)	90 / 100	100 / 100	70 / 110	75 / 75	10 / 20	Good
	European Political Strategy Centre (EU)	80 / 100	100 / 100	80 / 110	75 / 75	5 / 20	Good
	European Union Agency for Cybersecurity (EU)	90 / 100	100 / 100	60 / 110	75 / 75	13 / 20	Good

Eurostat

Eurostat

Catalogue dashboard | Distribution accessibility issues (427) | DCAT-AP Schema Violations (57 092)

Rating evolution

Good

Findability — 65 /100

Time based search	98%	Geo search	0%	Keyword usage	52%	Categories	98%

Accessibility — 43 /100

Most frequent acces…	200	Download URL	0%	Most frequent downl…	200		

Interoperability — 52 /111

Non-proprietary	86%	Format / Media type …	86%	Machine readable	0%	DCAT-AP compliance	0%
Media type	86%	Format	100%				

Reusability — 71 /75

Contact point	100%	License information	100%	License vocabulary	100%	Access restrictions	100%
Publisher	100%	Access restrictions v…	100%				

Contextuality — 6 /20

Date of issue	13%	Modification date	99%	File size	0%	Rights	100%

Datasets by data theme | Datasets per origin | Datasets per origin and catalogue

Total Number of Datasets: 1 277 637

Data theme	Trend per year	Percentage of total datasets	Number of Datasets
Agriculture, fisheries, forestry and food	-0.00%	27.75 %	355 802
Economy and finance	0.00%	5.5 %	69 990
Education, culture and sport	0.00%	2 %	24 508
Energy	0.00%	0.75 %	8 030
Environment	0.00%	21.5 %	275 786
Government and public sector	-0.00%	7.25 %	94 186
Health	0.00%	1.5 %	19 378
International issues	0.00%	0.09 %	1 138
Justice, legal system and public safety	0.00%	14.75 %	188 985
Population and society	-0.00%	4.25 %	55 873
Regions and cities	-0.00%	3.75 %	46 434
Science and technology	0.00%	7 %	89 710
Transport	-0.00%	3.75 %	47 817

Home > Statistics > Historical Catalogue Statistics > Datasets per origin

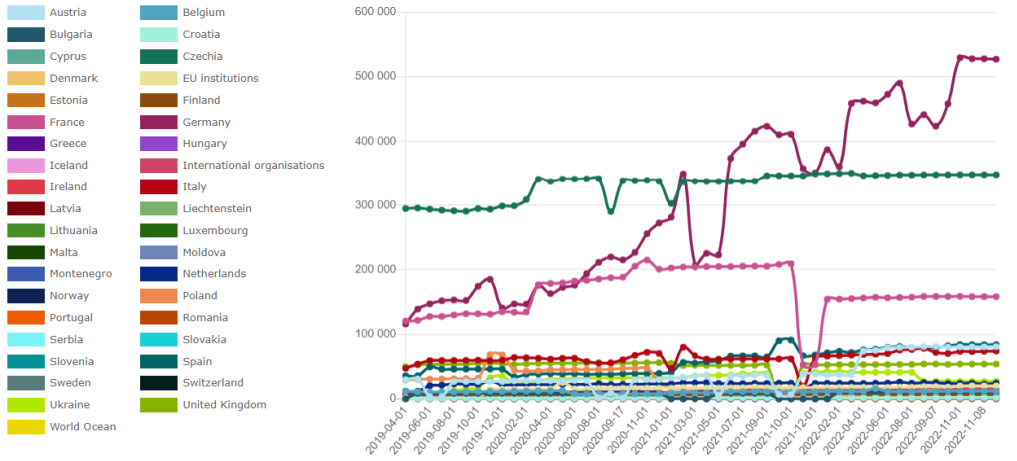
Statistics

Current State | Evolution over time

Updated: 2022-11-14

Evolution over time

Total Number of Datasets | Datasets by data theme | Datasets per origin | Datasets per origin and catalogue

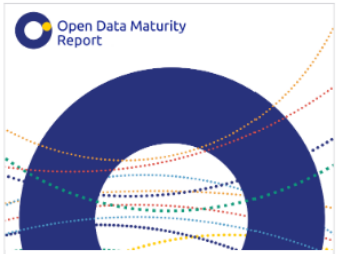


Country Insights

This section provides insights into the status of open data in European countries. The section includes information about countries' national open data portal, the level of open data maturity, use cases, catalogues, events, reports, news, webinars, and interviews about open data. Read more...

Open Data Impact

The 2020 report on the Economic Impact of Open Data researches the value created by open data in Europe. It is the second study by the European Data Portal, following the 2015 report. The study forecasts the open data market size and the employment growth for 2025. Impact is exemplified by efficiency gains and cost savings due to open data. Read more...



Open Data Maturity

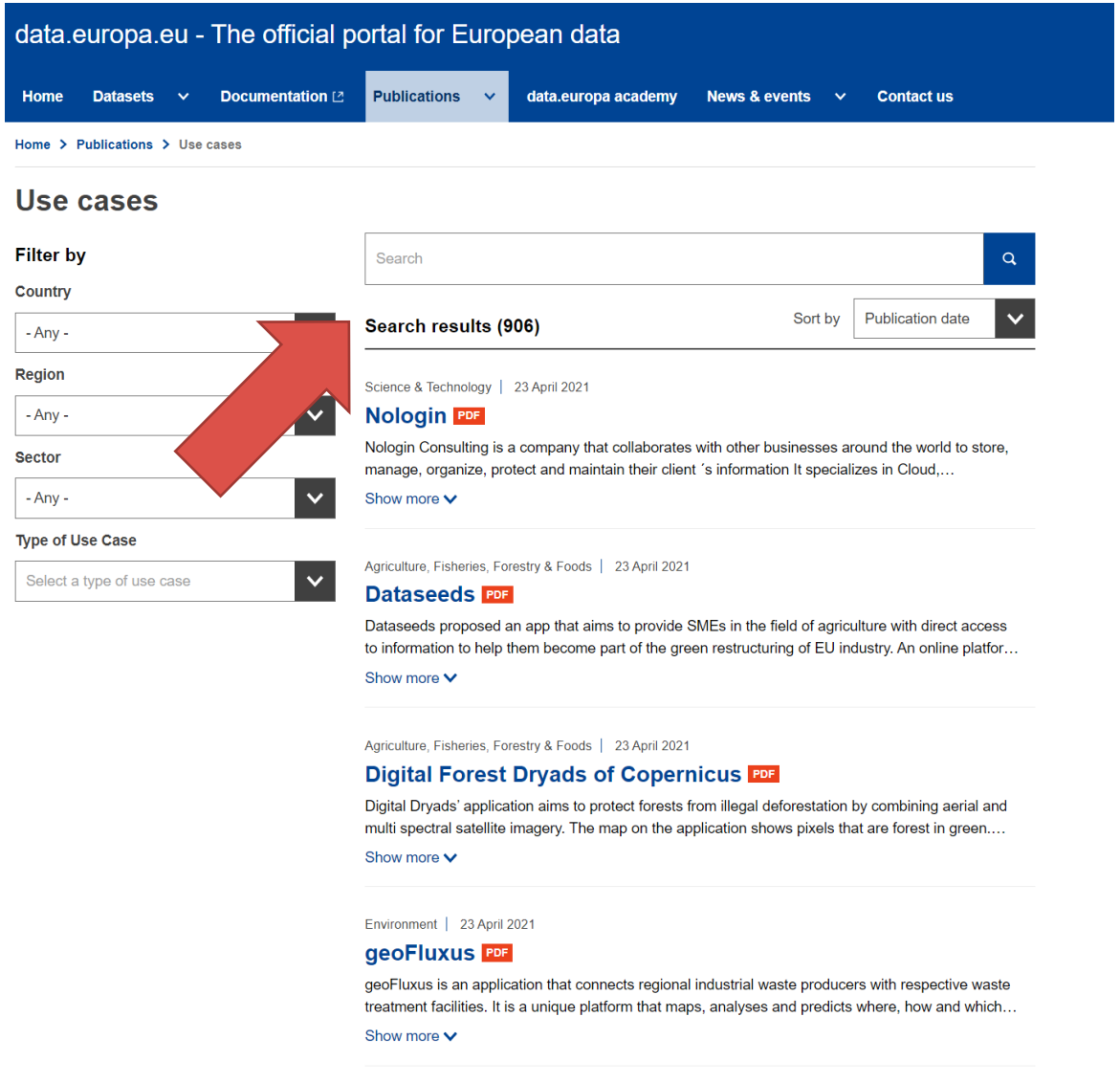
A series of indicators have been selected to measure open data maturity across Europe. These indicators cover the level of development of national policies promoting open data, an assessment of the features made available on national data portals as well as the expected impact of open data. Read more...

Studies

A collection of papers that discuss various relevant topics around open data, such as barriers in working with open data, high-value datasets, and business-to-government data sharing. Read more...

Use Cases

This part of the portal contains use cases from both publishers and re-users of open data. The use cases provided below are gathered via the 'Tell us your story' form on the portal or shared with us by other contacts. This section of the portal will grow over time. Read more...



data.europa.eu
The official portal for European data

Dimension	Metrics
Open Data Policy	Policy framework
	Governance of open data
	Open data implementation
Open Data Impact	Strategic awareness
	Political impact
	Social impact
	Environmental impact
	Economic impact
Open Data Portal	Portal features
	Portal usage
	Data provision
	Portal sustainability
Open Data Quality	Currency
	Monitoring and measures
	DCAT-AP compliance
	Deployment quality and linked data

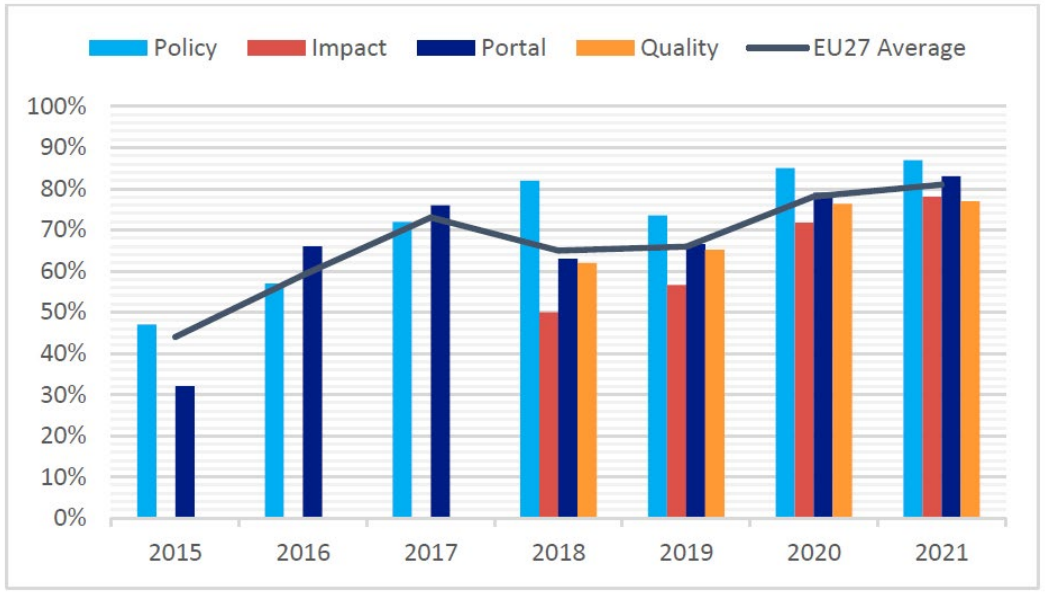
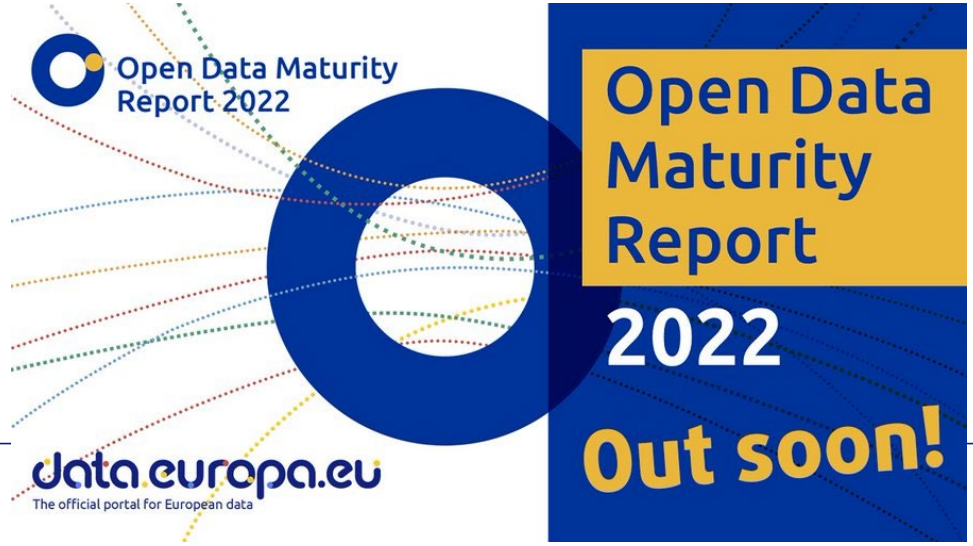
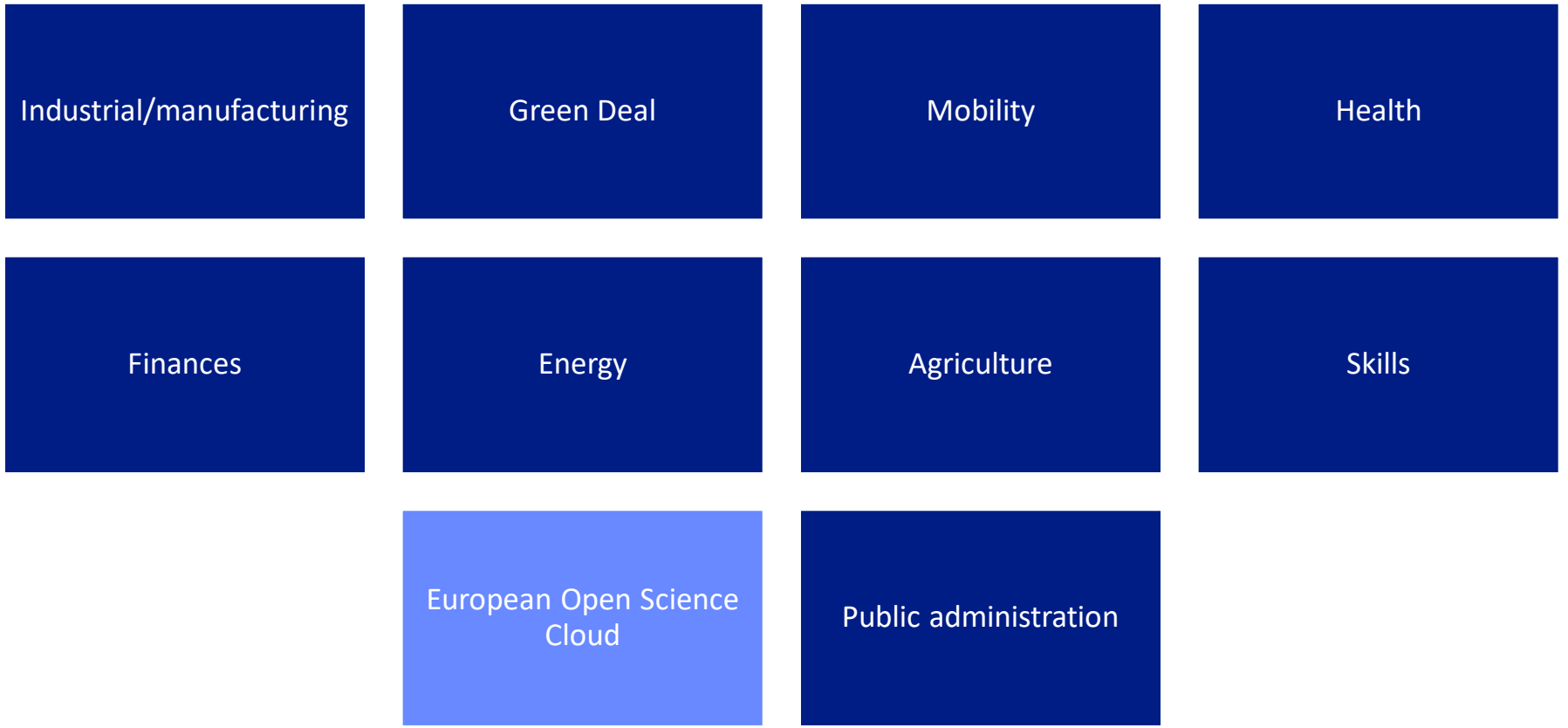


Figure 1: The Open Data Maturity scores of the EU27 (used to be EU28 until 2019)



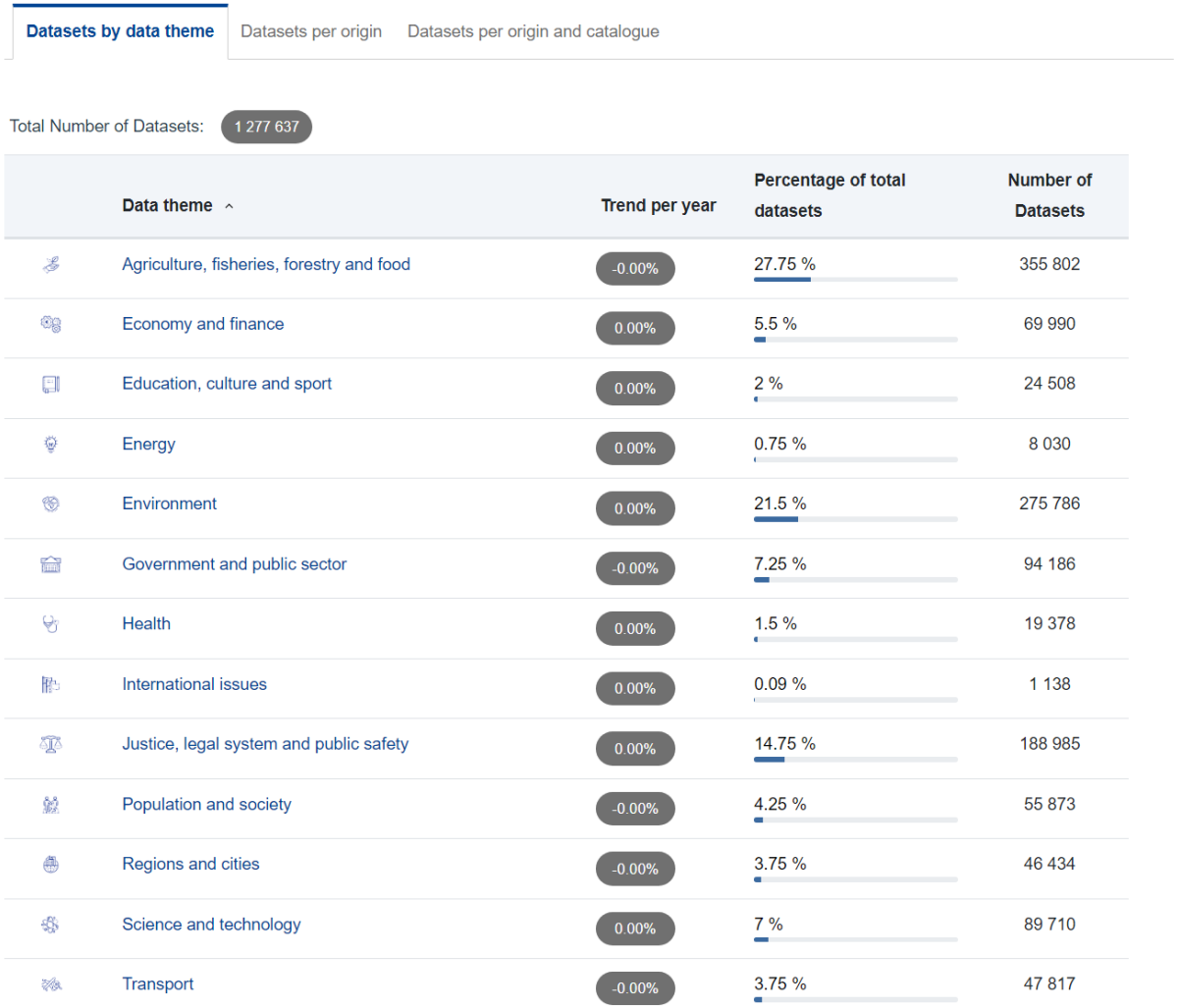
data.europa.eu and data spaces

Common European data spaces (initial list)



Premise of the research (1)

- data.europa.eu could be a core supplier of public sector data for European common data spaces



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Premise of the research (2)

- Ongoing initiatives and funded projects 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.

Goals of the research

- **Open government data (OGD) should not be an afterthought to the European single market for data**
- Two reports
  - **This report (completed in Q1 2022)**
    - 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

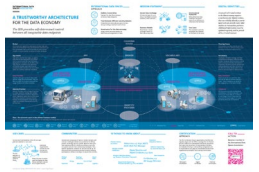
Desk research

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

Interviews

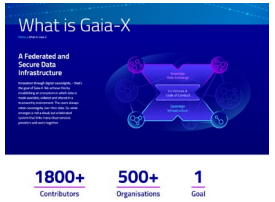
- Add context and depth to desk research findings

Desk research: sources



IDS Radar use cases

- 57 use cases: smart cities (4), manufacturing (7), energy (4), mobility (7), automotive (4), supply chains (8), cross-sector/other (24)

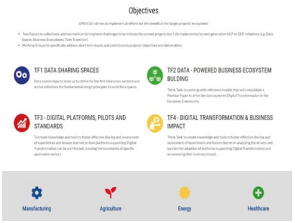


GAIA-X use cases

- 78 use cases: agriculture (4), energy (9), finance (3), geoinformation (5), health (22), industry 4.0 (14), mobility (5), public sector (10), smart cities (1), smart living (5).

GAIA-X position papers

- Agriculture, energy, finance, geoinformation, health, industry 4.0, mobility, public sector, smart cities/smart regions, smart living



Open DEI projects

- 34 projects: manufacturing (7), agriculture (6), energy (8), health (13).

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?

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)*

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.

Thank you

info@data.europa.eu

data.europa.eu academy

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