



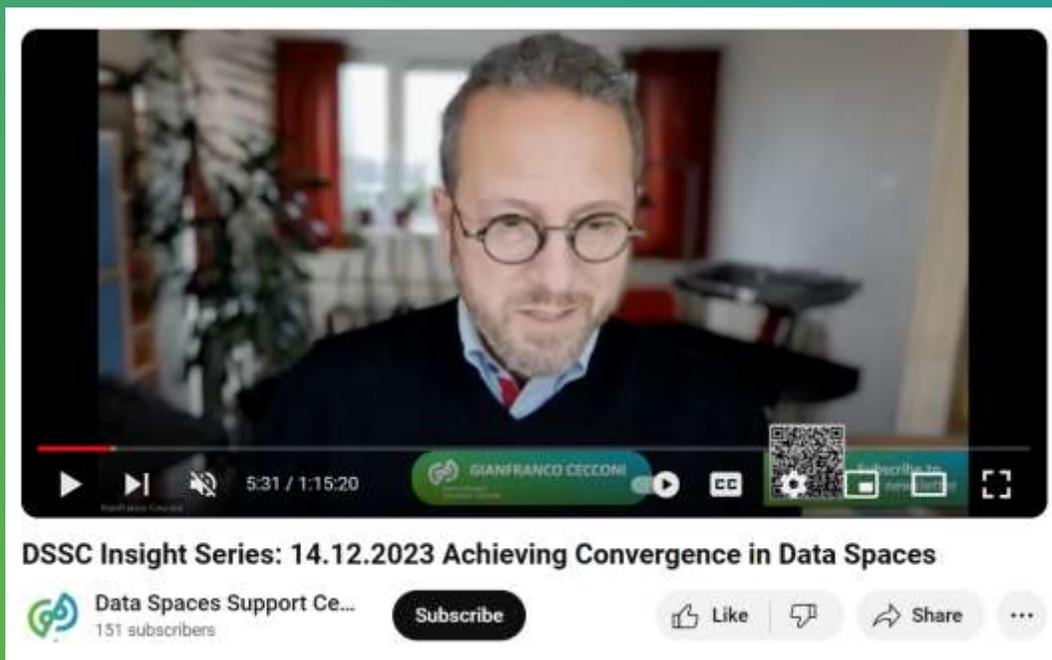
**DATA SPACES
SUPPORT CENTRE**

DSSC Insight Series

The free flow of data from source to fruition

6 June 2024 | 16:00 to 17:30 CEST | online

- **Intro** – Gianfranco Cecconi, Executive Director, Data Spaces Support Centre
- **The DSSC Toolbox and validation scheme** – Michiel Stornebrink, Senior Advisor Data Sharing and Interoperability, TNO & Sonia Jimenez, Director Data Spaces Technology for International Data Spaces Association
- **What can open data do for common European data spaces?** - Elena Simperl, Professor of computer science at King's College London and director of research at the Open Data Institute, Marcin Baryn, DHoU Eu Open Data, Publications Office of the EU, European Commission
- **Q&A (You can also ask questions in the chat!)**



This webinar is recorded. Did you know? Previous DSSC insight series recordings are available on our Youtube channel. Videos from our annual event are also available!

Subscribe to our YouTube channel here



Stay up to date with Data Spaces Support Centre and the European Union's programme for common European data spaces.

Subscribe to the DSSC Newsletter!
tinyurl.com/dssc-newsletter





**DATA SPACES
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Agenda



Toolbox

Michiel Stornebrink



Validation scheme

Sonia Jiménez

The Data Spaces Support Centre receives funding from the European Union Digital Europe Programme under grant agreement n° 101083412.

Toolbox

Michiel Stornebrink

The Data Spaces Support Centre receives funding from the European Union Digital Europe Programme under grant agreement n° 101083412.

Example of technical tools for the DSSC Toolbox

Implementation

- EDC connector
- VTT DISL connector
- Telekom DIH Connector
- TSG connector
-

Component

- Participant Agent (aka Connector)

Related building block(s)

- Nearly all technical BBs



[Link to reports](#)

Example of business and organisational tools for the DSSC Toolbox

Implementation

- Sitra rulebook template #9 'Dataset Terms of Use'
- ...

Component*

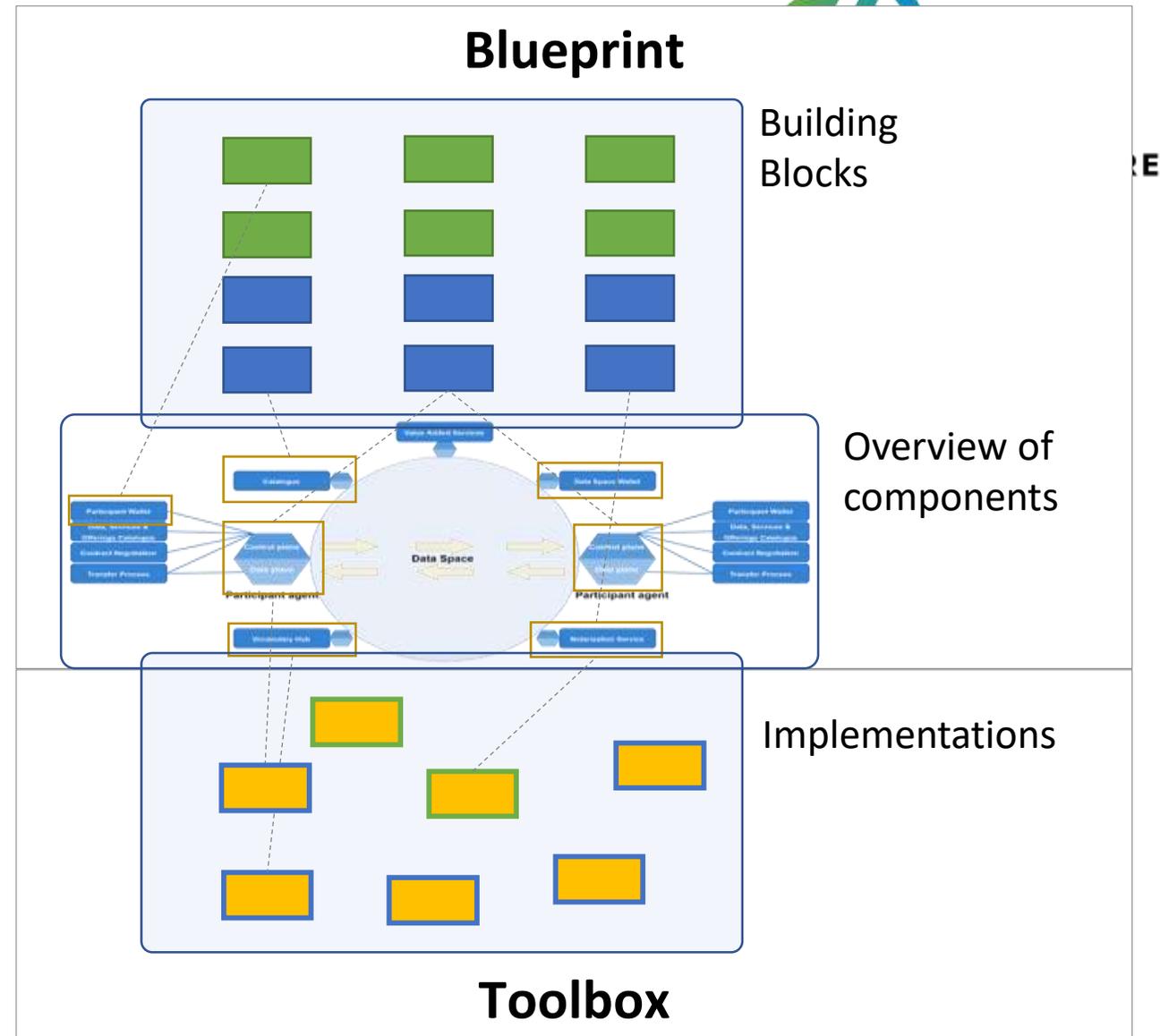
- Data Product Contract template

Related building block(s)

- Contractual Framework

Relationship between DSSC Blueprint and Toolbox

- Building blocks specify the dataspace functionalities and requirements
- Components specify how these materialize in the dataspace
- **Toolbox is a catalogue of implementations (tools) of these components**



Why we need a toolbox

Dataspace participant perspective



- To setup and participate in dataspaces you need solutions that are ready to use.
- There are many dataspace solutions developed; we can't see the forest for the trees.
- Any solution can claim to adhere to the DSSC guidance. How are you selecting a future proof option?

That is why the DSSC will provide and maintain a **curated catalogue of implementations.**

Why you want to be in there

Solution provider perspective

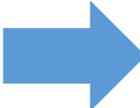
Like with yellow pages:

- Being listed in the Toolbox allows for improved findability by potential users
- Users can better position your solution because it is linked to shared understanding provided by the Blueprint



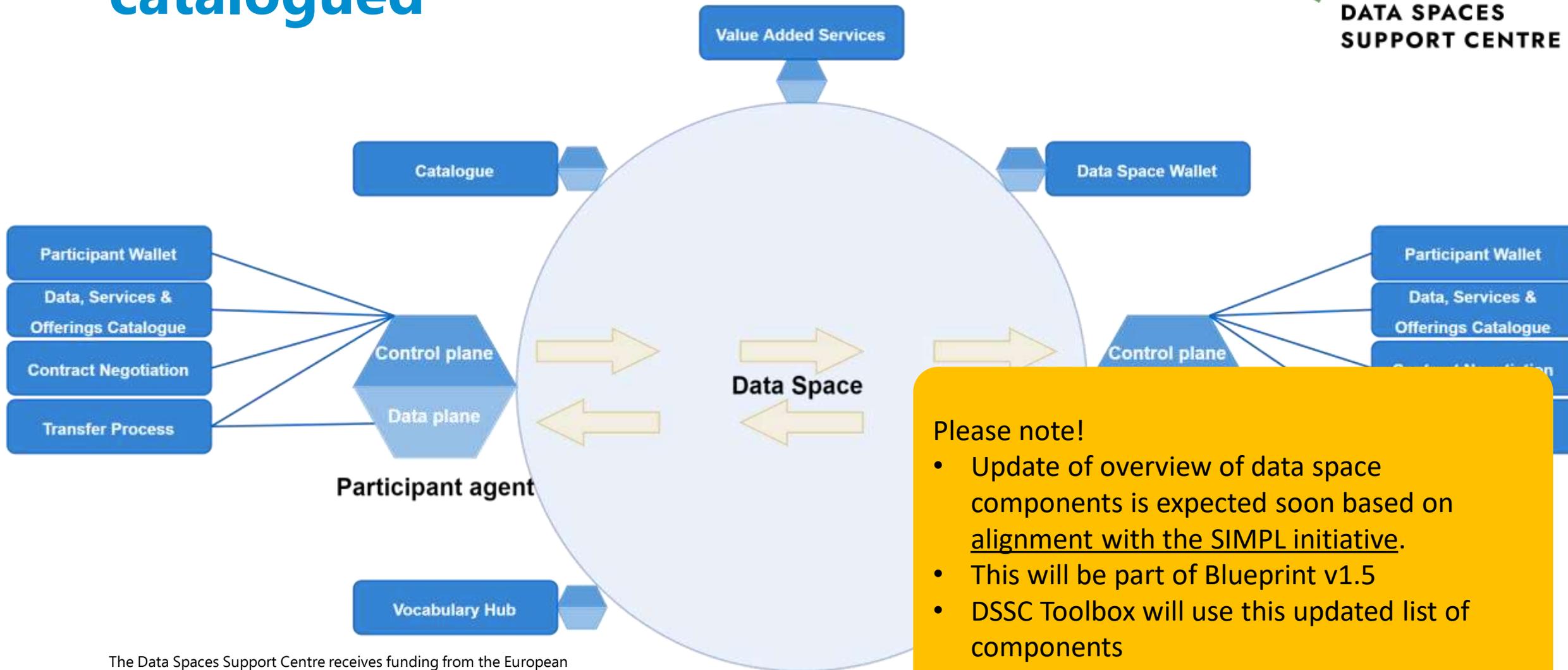
Toolbox is a curated catalogue of implementations

- The toolbox is open for any implementation that adheres to the DSSC Blueprint

 This requires validation

- It covers both technical and business & organisational support tools
- Includes both software and non-software tools
 - Example of non-software are templates, frameworks, a canvas, ..
- Includes both open source and proprietary implementations
- Anyone can submit a tool; the maintainer, an open source initiative or an individual enthusiast.

Phase 1: Technical components that are catalogued

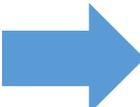


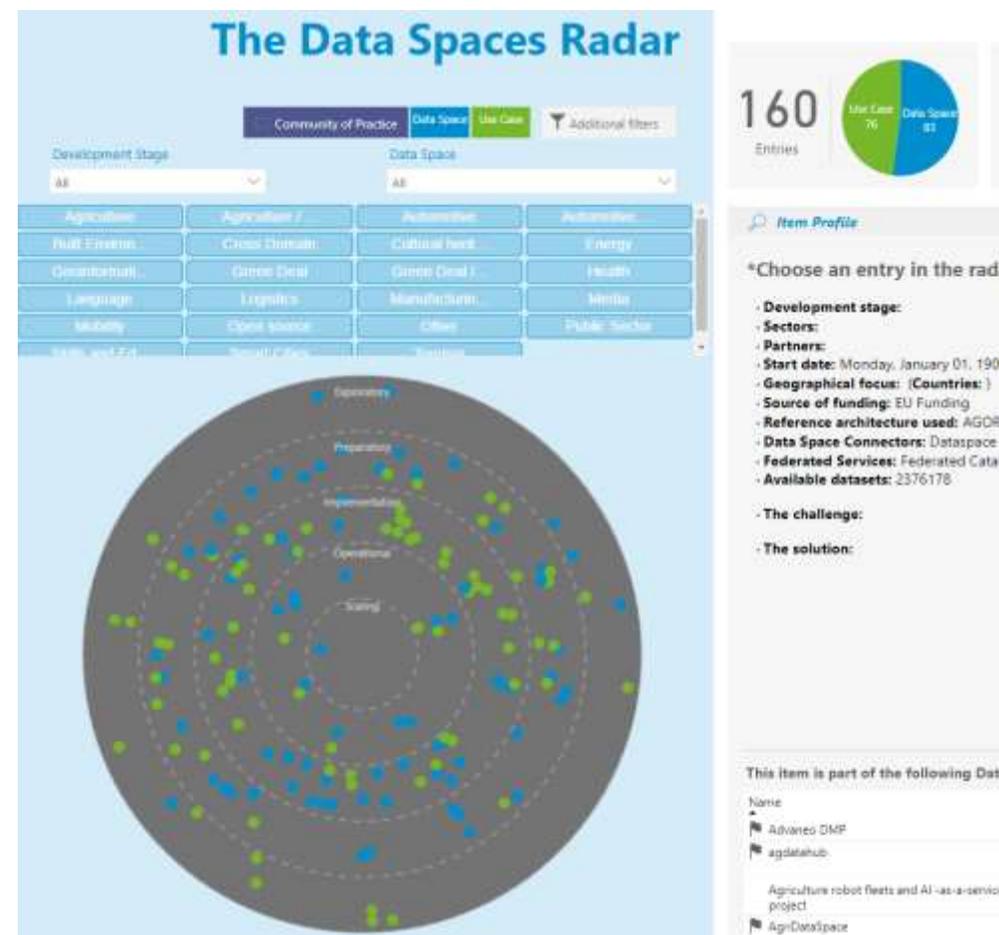
Please note!

- Update of overview of data space components is expected soon based on alignment with the SIMPL initiative.
- This will be part of Blueprint v1.5
- DSSC Toolbox will use this updated list of components

Toolbox v1 release

- Planned for autumn 2024
- Idea is to extend the Data Space Radar
 - Adding implementations (next to the current list of data space initiatives)
 - Allowing to filter, search and find the tools you need
 - Potentially linking them to the data space initiatives in which they are used

 Submit now to be part of first release of the Toolbox



The Data Spaces Support Centre receives funding from the European Union Digital Europe Programme under grant agreement n° 101083412.

How to get implementations listed in the DSSC Toolbox

1. Download the request form
 - See this page: [link](#)
2. Submit a request via the DSSC website
 - [DSSC Support form](#)
 - Fill in the submitter details
 - Type of request: *Submit a request to list implementations in the DSSC Toolbox*
 - Upload the form
3. You will be contacted with details to take a Toolbox implementation **self assessment** based on the validation scheme.
4. If all goes well, the tool will be listed in the first release of the DSSC Toolbox

The screenshot shows the 'DSSC Support' form interface. At the top, it says 'Help Center / DSSC Support' and 'DSSC Support'. Below that, it says 'Welcome! You can raise a request among the following options'. The main heading is 'What can we help you with?'. There is a section for 'Provide feedback and contributions' with a sub-heading 'Submit your requests for contributions and feedback about DSSC assets, including building blocks'. Below this, it says 'Use this form to propose a modification to an existing asset, in general, and to a building block, in particular, or to request the implementation of an existing building block specification.' The form fields are: 'Raise this request on behalf of*' with a dropdown menu showing 'M Stonebrink (michiel.stonebrink@tno.nl)'; 'First Name*' with the value 'Michiel'; 'Last Name*' with the value 'Stonebrink'; 'Organization*' with the value 'TNO'; 'Initiatives' (empty); 'Summary of your request*' with the value 'Semantic Treehouse as Vocabulary Hub implementation'; 'Type of request*' with a dropdown menu showing 'Submit a request to list implementations in the DSSC Toolbox'; and 'Please fill out the following Word document and upload it below:'. Below this, there is a file upload area with the text 'Upload the filled out Word form here:*' and a 'Drop files to attach or browse' button. A file named 'DSSC Toolbox - ... 4.docx' is shown with a thumbnail and the date '04 Jun 2024, 02:04 PM'. At the bottom, there are 'Send' and 'Cancel' buttons.

The Data Spaces Support Centre receives funding from the European Union Digital Europe Programme under grant agreement n° 101083412.

Validation Scheme

Sonia Jiménez

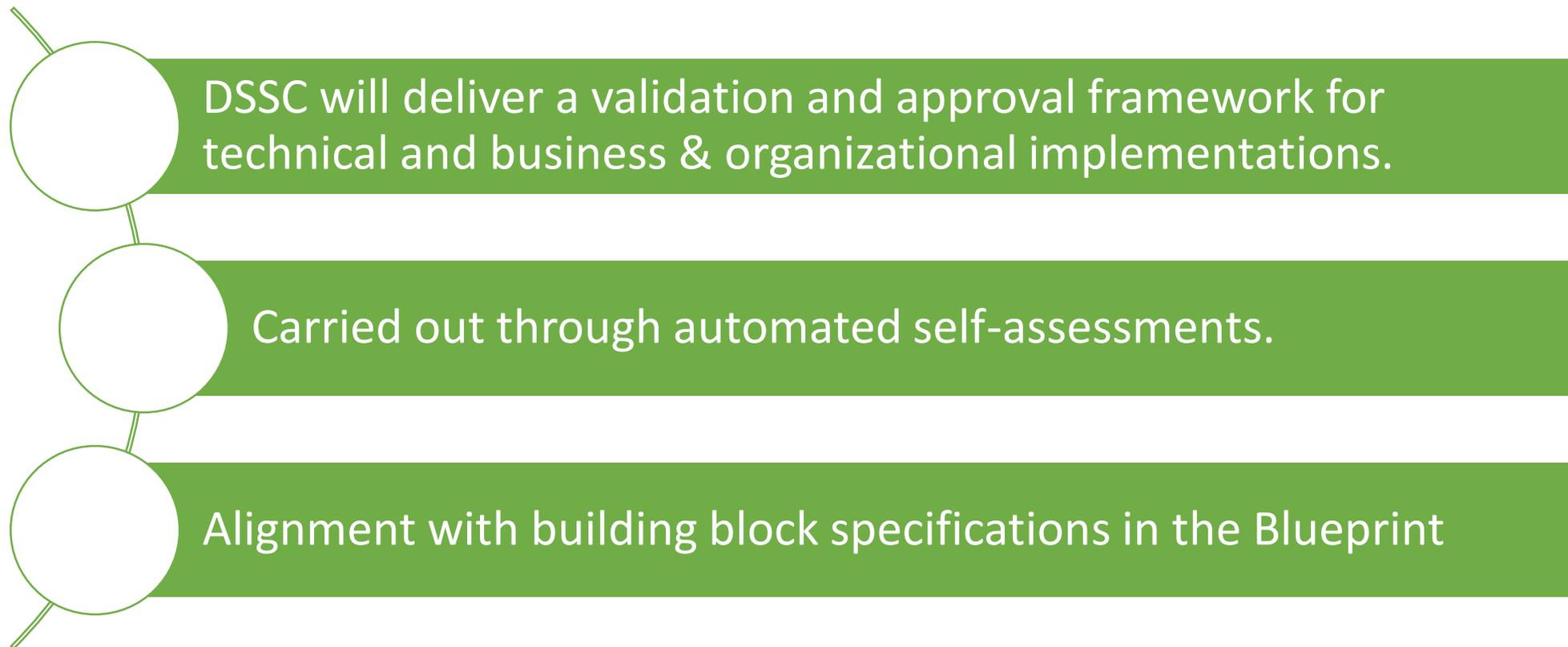
The Data Spaces Support Centre receives funding from the European Union Digital Europe Programme under grant agreement n° 101083412.



How are implementations listed in the Toolbox?

The Data Spaces Support Centre receives funding from the European Union Digital Europe Programme under grant agreement n° 101083412.

Validation scheme for implementations



Self-assessment content

Implementation metadata

- Functionality (relation to BBs)
- Relation to System Architecture
- Documentation of implementation
- Market ready? (TRL)
- Reference applications in operations
- Dependencies
-

Implementation compliance to Blueprint

- Specific questions about implementation

Implementations that successfully complete the self-assessment will be listed in the Toolbox



Which are the benefits of the Validation Scheme?

The Data Spaces Support Centre receives funding from the European Union Digital Europe Programme under grant agreement n° 101083412.

Benefits of validation scheme

Solution providers

- Assess technical components against blueprint specifications.
- Listed in the

Toolbox

Data spaces authorities

- Assess alignment of Data Space to organizational and business building blocks.

Data spaces participants

- Find validated implementations in Toolbox

Thank you!

Any questions?

The Data Spaces Support Centre receives funding from the European Union Digital Europe Programme under grant agreement n° 101083412.

Open data and data spaces

Elena Simperl
@esimperl

Data Spaces Support Centre, June 2024



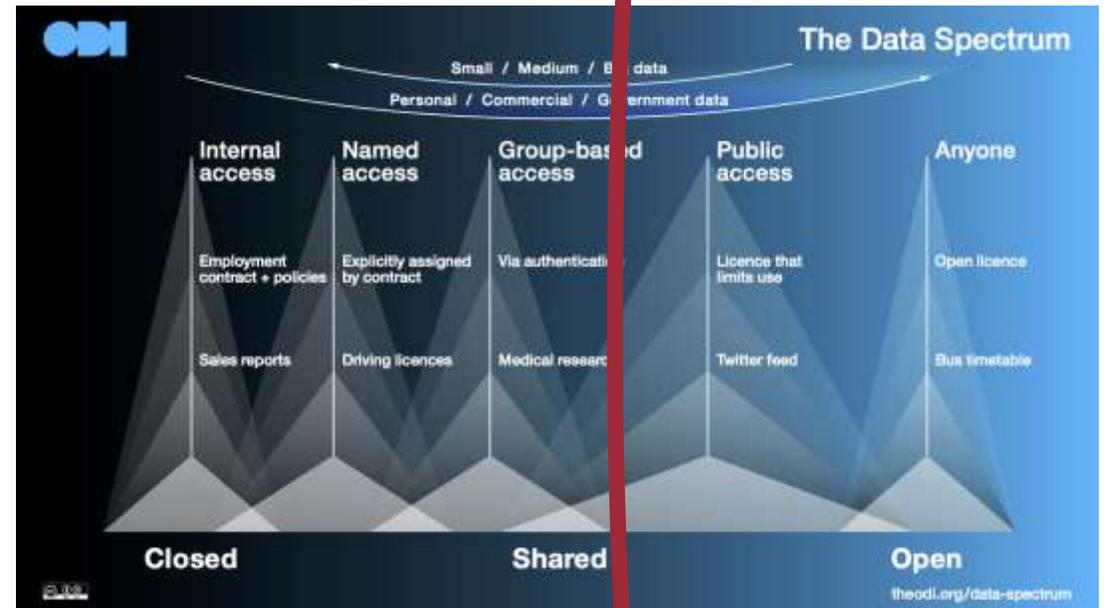
Open data

Data that anyone can access, use and share

No limitations on how the data will be used

Not the same as data in the public domain

Free to use does not have to mean free to access



45M datasets indexed by Google Dataset Search, not just open science and government



Agriculture



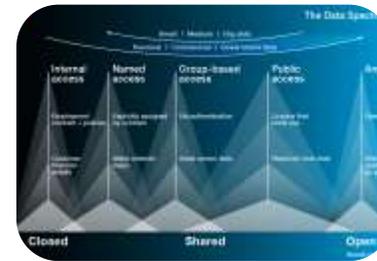
Energy



Finance



Telecoms



Water



Wildlife trade

Substantial economic and social value

Executive summary

Open data market size

- €184.45 billion open data market size in 2019
- €199.51 – €334.20 billion open data market size forecast for 2025

Efficiency gains

- Saving lives with open data e.g., by faster emergency response
- Saving time with open data e.g., in public transport
- Saving the environment with open data e.g., reducing energy consumption
- Improving language services with open data e.g., by increasing machine translation

Open data employment

- 1,089 million open data employees in 2019
- 1,122 – 1,972 million open data employees forecast for 2025

Cost saving

- Saving healthcare costs e.g., due to faster first aid by bystanders
- Saving labour costs e.g., by saving time spent in traffic
- Saving costs on energy bills e.g., due to more solar energy production
- Saving public sector costs e.g., by lower translation costs

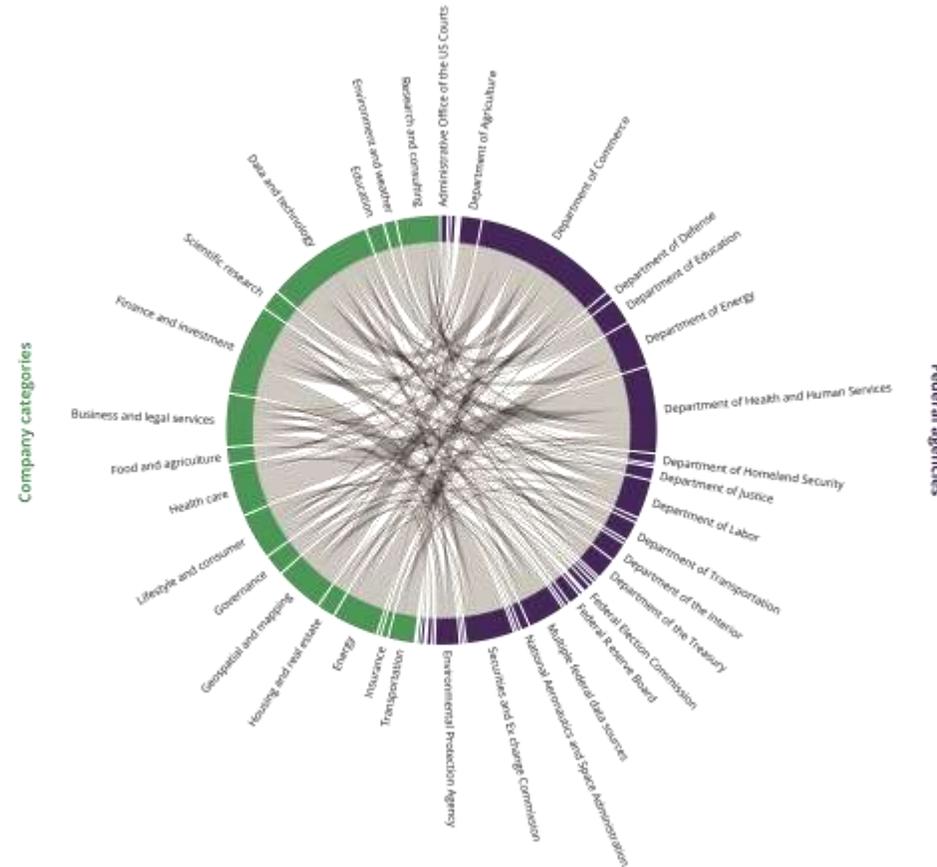
Open data in organisations

- 49% of data used by surveyed organisations is open data and 77% of organisations plan to use more data
- 46% of organisations revenues are impacted by open data and 73% of organisations expect the impact to increase
- 70% of surveyed organisations create data internally, of which 54% publish some of it as open data

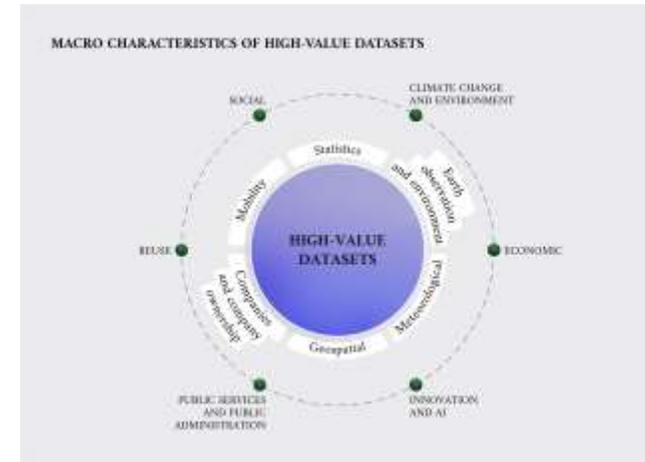
Open data sectors

- 15.7% growth expected from high impact and high potential sectors
- High impact:
- High potential:

Source: data.europa.eu, 2020



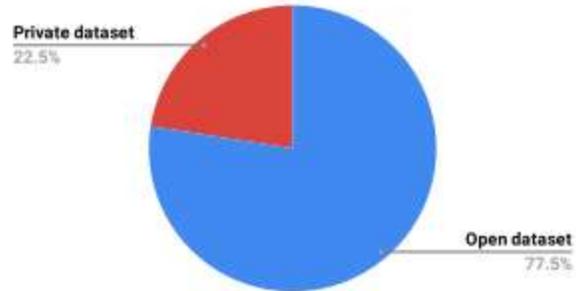
Source: World Development Report, 2021



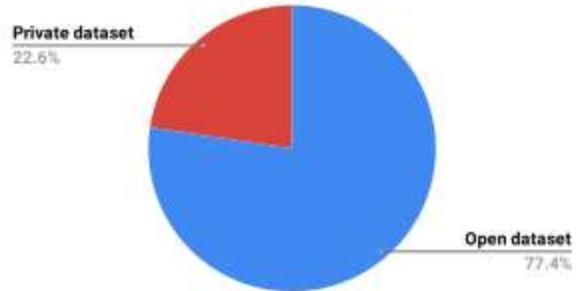
Source: data.europa.eu, 2022

Modern AI runs on open datasets

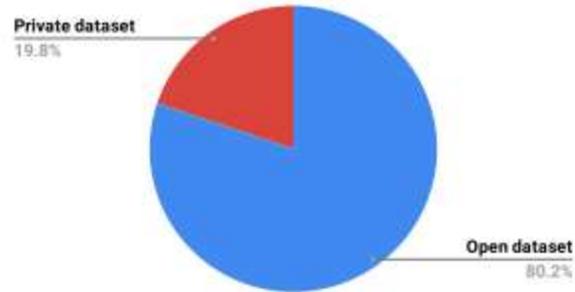
Facebook



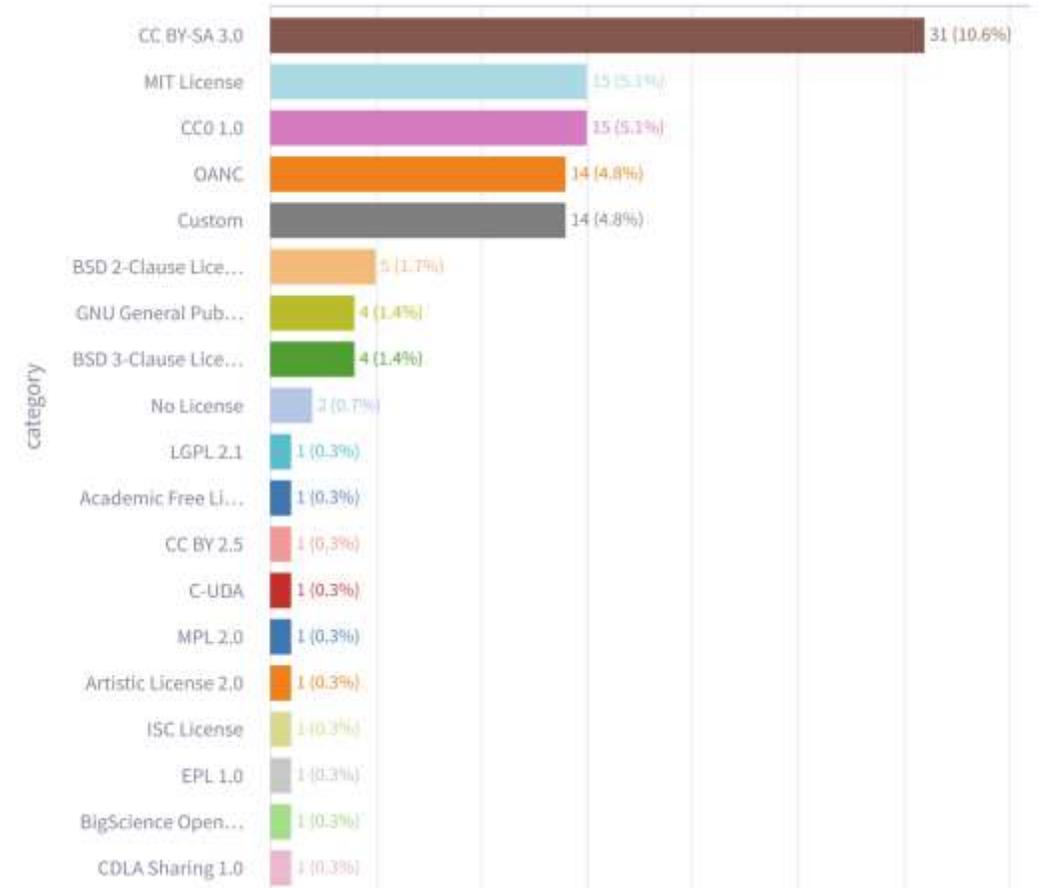
Google



Microsoft



Source: MLCommons, 2023



Source: Data Provenance Explorer, 2024

User-centric data provisioning



(Source: Walker & Simperl, 2017)

The ten guidelines

- Organise for use of the datasets - rather than simply for publication
- Promote use through data storytelling and community building, borrowing from open-source communities and other peer-production systems
- Invest in discoverability best practices, borrowing from e-commerce and web search
- Publish good quality metadata - to enhance reuse
- Adopt standards to ensure interoperability
- Co-locate tools so that a wider range of users can be engaged with
- Link datasets to enhance value
- Be accessible by offering options for from APIs to CSV downloads
- Co-locate documentation - users should not need to be domain experts to understand the data;
- Be measurable - as a way to assess how well they are meeting users' needs.

Operationalising the guidance

- Literature review to develop 5* schemes to operationalise indicators.
- Application of the schemes on 10 open data portals at different maturity level.



(Walker & Simperl, 2017)

LINKED DATA
 ★ On the web, open license
 ★★ Machine-readable data
 ★★★ Non-proprietary format
 ★★★★★ RDF standards
 ★★★★★★ Linked RDF
IS YOUR DATA 5 ★ ?

	Bronze	Silver	Gold	Platinum
Legal				
Openly licensed & legally reusable (i.e. open)	✓	✓	✓	✓
Clear rights statement, detailing any copyrights		✓	✓	✓
Privacy issues addressed		✓	✓	✓
Machine readable rights statement			✓	✓
Practical				
Accessible on the web	✓	✓	✓	✓
Discoverable (linked to from other web pages)		✓	✓	✓
Data is maintained or up to date		✓	✓	✓
Data will be available for at least a year		✓	✓	✓
Guaranteed freshness (data always up to date)			✓	✓
Regular frequency of data			✓	✓
Daily issues documented			✓	✓
Technical				
Data uses a machine readable format		✓	✓	✓
Data published in context appropriate formats		✓	✓	✓
Data uses open standard machine readable formats			✓	✓
Single convenient URL for downloading data			✓	✓
Machine readable provenance documentation			✓	✓
URLs used as identifiers within data			✓	✓
Social				
Data is documented		✓	✓	✓
Contact details for people to provide feedback and ask questions		✓	✓	✓
Machine readable metadata (documentation)			✓	✓
Social media accounts used to promote data			✓	✓
Forum or mailing list for users			✓	✓
Dedicated course team building user community				✓

Example: Organise for use

Each dataset is accompanied by a comprehensive descriptive record (going beyond a collection of structured metadata)

An extract of the data can be previewed (for sense making)

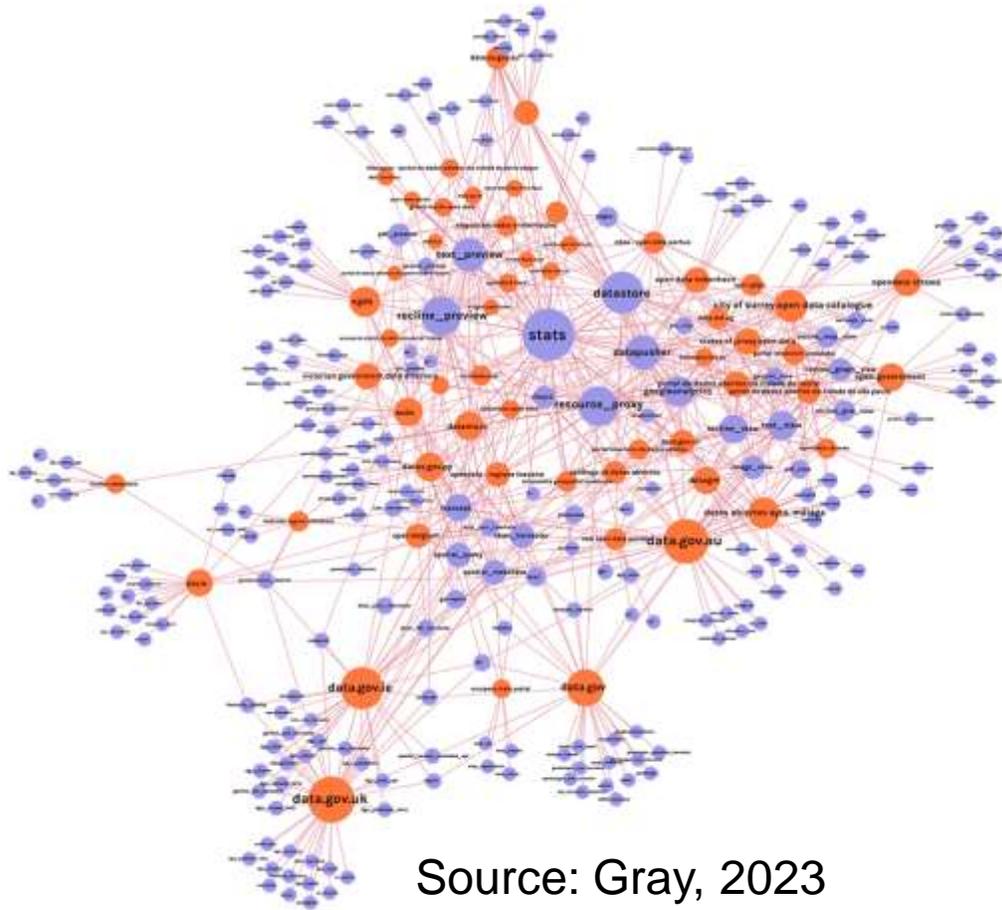
The portal provides recommendations for related datasets

The portal enables users to review/rate the datasets

Keywords from datasets are linked to other published datasets



Decentralised open-data publishing



Source: Gray, 2023



Assessing use and impact

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- 70% of surveyed organisations create data internally, of which 58% publish some of it as open data

For details on calculations and assumptions see corresponding sections.

Source: data.europa.eu, 2020

ODI

Measuring the impact of data institutions

March 2022

Open Data Institute

Open data in data spaces

- 15+ years body of data, methods, standards, insights, best practices, available for everyone to use.
- Similar goals, often open data publishing starts by sharing data internally or with trusted partners.
- Common challenges e.g. discoverability, UX, data and metadata assurance, privacy, integration, assessing use/impact.
- Use cases require fusing shared & open data e.g. official statistics, maps, company/land registries etc.

What's needed

- **Knowledge and technology transfer** – don't reinvent the wheel, especially when public funds are at play.
- **Harmonisation with key open datasets** – e.g. high-value datasets to reduce costs of integration and level the playing field for smaller data spaces' data users.
- **Knowledge exchange** – organisations are asking for evidence on added value, impact, risks for multiple data-spectrum options.
 - We can create that body of knowledge together.
 - It may also lead to **open data contributions** by data spaces publishers.



Thank you

Elena Simperl

@esimperl

WHAT CAN OPEN DATA (DATA.EUROPA.EU) DO FOR COMMON EUROPEAN DATA SPACES?

DSSC Insight Series - The free flow of data from source to fruition – 6 June 2024

Publications Office of the European Union – European Commission

Marcin Baryń

Our services in a nutshell

Data

Providing access to free public data resources across Europe via a single platform (the portal).

Academy

Supporting the EU institutions, EU Member States and European countries to publish metadata of their open data in a harmonised manner.

Community

Organising open data competitions and conferences; communicating via social media and newsletters.

Publications

Assessing open data maturity in Europe; providing reports, studies and training via the academy.



data.europa.eu as data hub

- More than 1.7 million datasets, grouped in 185 data catalogues
- Navigate or search to get to the data or catalogue you are looking for
- Benefit from many filters
- Query the data via SPARQL endpoint
- Access the data via an API

The screenshot displays the data.europa.eu website interface. At the top, a blue navigation bar contains the site name and a menu with items: Home, Datasets (highlighted with a red box), Documentation, Publications, data.europa academy, News & events, and Contact us. Below the navigation bar, the page title is 'data.europa.eu - The official portal for European data'. The main content area is titled 'Datasets' and features a search bar with 'ljubljana' entered (highlighted with a red box) and a search button. To the left of the search bar is a map of Europe with a location filter. Below the search bar, there are filters for 'Catalogues' (set to 'Odprti podatki Slovenije'), 'Keywords' (set to 'kultura'), and 'Formats' (set to 'Select'). The search results show two datasets found, sorted by 'Relevance'. The first dataset is 'Cultural Associations in the Municipality of Dol pri Ljubljani', with a description and download options for Excel XL, CSV, and HTML. The second dataset is 'Quality of Life in Ljubljana, 2010', with a description and download options for HTML, PDF, UNKNOWN, and Plus 16.

data.europa.eu as data hub

- **Metadata translations** in all EU languages, machine translations for other text
- **Download and transform CSV files** automatically in many different formats
- Get **quick visualisations** for geo datasets
- Get **feedback for the metadata quality** on how to improve it
- **Embed** your datasets into other websites
- **Export citation formats** for your datasets properly

The screenshot shows the dataset page for 'Cultural Associations in the Municipality of Dol pri Ljubljani'. The 'Quality' tab is highlighted with a red box. The page includes a description of the dataset, publisher information (OBČINA DOL PRI LJUBLJANI), and a table of distributions. A notice indicates that the title and description are machine translated.

Home > Datasets > Cultural Associations in the Municipality of Dol pri Ljubljani

Dataset Cultural Associations in the Municipality of Dol pri Ljubljani

Odprti podatki Slovenije Publisher: OBČINA DOL PRI LJUBLJANI Updated:

Dataset Quality Similar datasets

The database covers all registered and active cultural societies in the Municipality of Dol pri Ljubljani. In addition to the name of the Society, the database contains the following information: address or registered office of the association, settlement, registration number, tax number and link to data on the AJPES portal.

Publisher Name: OBČINA DOL PRI LJUBLJANI
Contact Points Organization Name: OBČINA DOL PRI LJUBLJANI
E-Mail: obcina@dol.si

Show More

Distributions (3)

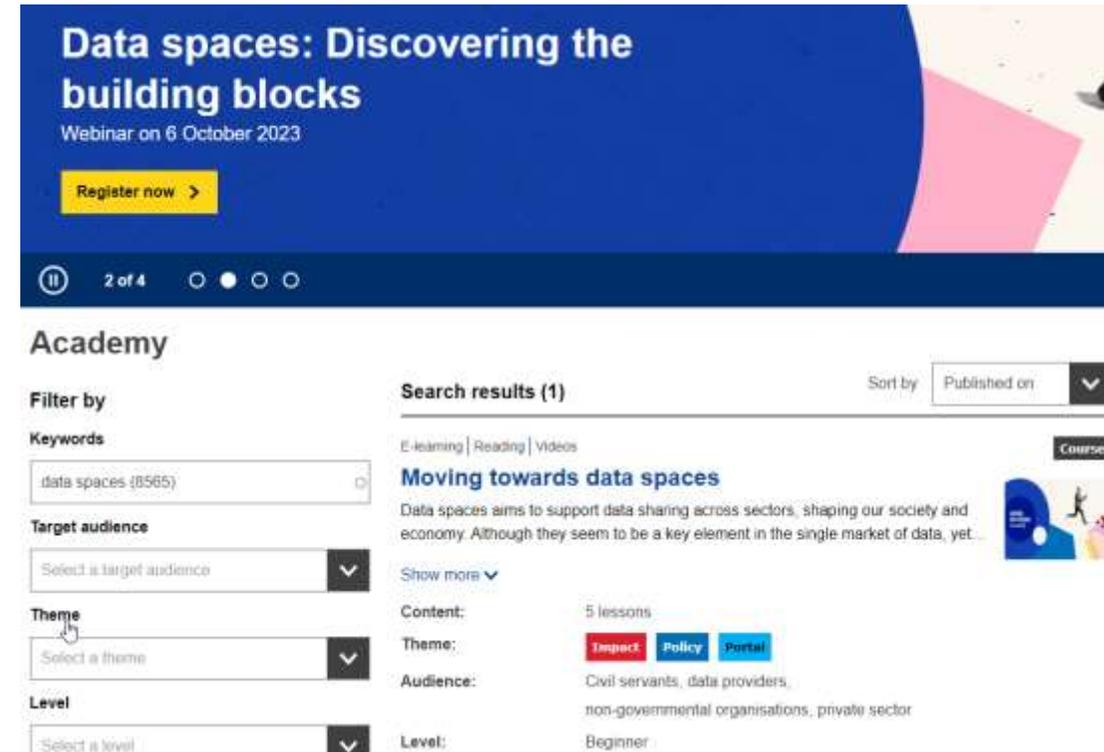
Link to the data	Format	Distribution added	Actions
Cultural societies in the Municipality of Dol pri Ljubljani.csv Show more	CSV		Options Download Linked data
Cultural societies in the Municipality of Dol pri Ljubljani.xls Show more	Excel XLS		Options Download Linked data
No title available	HTML		Download Linked data

i The title and description of this dataset are machine translated.

Data.europa academy

your open data knowledge centre

- **Aim:** improve **data literacy**
- **Content:**
 - Grouped in 11 thematic courses (legal, technical, business, visualisation, ...)
 - Articles, videos, slide shows, reports, ...
 - Designed according to **users' needs**
- Constantly **updated and improved**
- Special series on **data spaces**



Data spaces: Discovering the building blocks
Webinar on 6 October 2023
[Register now >](#)

2 of 4

Academy

Filter by

Keywords
data spaces (8565)

Target audience
Select a target audience

Theme
Select a theme

Level
Select a level

Search results (1) Sort by Published on

E-learning | Reading | Videos

Moving towards data spaces Course

Data spaces aims to support data sharing across sectors, shaping our society and economy. Although they seem to be a key element in the single market of data, yet...

Show more

Content: 5 lessons

Theme: [Impact](#) [Policy](#) [Portal](#)

Audience: Civil servants, data providers, non-governmental organisations, private sector

Level: Beginner

European Register for Protected Data held by the public sector

- In the context of the Data Governance Act, the EU was asked to set up a searchable electronic register of public sector protected data
- This register, the European Register for Protected Data held by the Public Sector (ERPD) is available on data.europa.eu since 24 September 2023
- Search the national catalogues of protected data: the NSIPs (National single information points)
- State of play: Czech and Dutch catalogues are online; Ireland NSIP catalogue is in progress

The screenshot displays the 'European data' portal interface. The search results for 'European Register for Protected Data held by the Public Sector' are shown, with 280 datasets found. The results are sorted by relevance. A specific dataset, '1029-2: SELF-EMPLOYED', is highlighted. The description of this dataset is: 'The dataset contains information about the subject/object of the right and its properties, which is kept in Agenda A1029: Social security. Basic description: Self-employed person in the records of the CSSA...'. The dataset is available in XML format. The search filters on the left include 'Catalogues' with 'National Single Information Point Czechia' selected, and 'Categories' set to '- Any -'. The 'More filters' option is also visible.

European data
data.europa.eu The official portal for European data

Home Data Academy Community Publications Documentation

Home > Quick search: SPARQL Search Metadata quality Statistics

Publish: European Register for Protected Data

Search: Datasets

Datasets found (280) Sort by: Relevance

European Register for Protected Data held by the Public Sector: yes

The European Register for Protected Data held by the Public Sector (ERPD) provides relevant information on what data is held by public authorities in the Member States, according to Art. 8.2 of the Data Governance Act. Any user, such as citizens, entrepreneurs, or researchers, can therefore search for and find information about public sector data in the EU Member States, including information on protected data that cannot be made available under the general open data rules (e.g. health or mobility data).

Further information on the implementation of the Data Governance Act is available here and for more technical information with the harvesting guidelines here.

1029-2: SELF-EMPLOYED

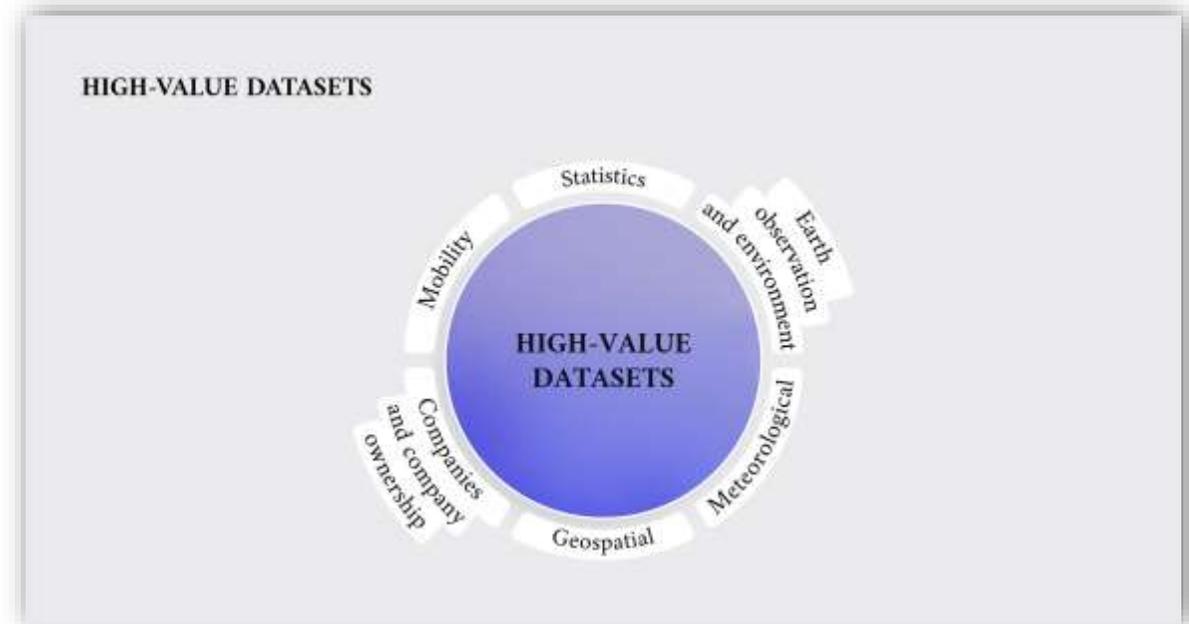
The dataset contains information about the subject/object of the right and its properties, which is kept in Agenda A1029: Social security. Basic description: Self-employed person in the records of the CSSA...

National Single Information Point Czechia

What are high-value datasets?

Commission Implementing Regulation adopted on the 21 December 2022 and to be implemented by June 2024.

- Identified 6 thematic categories of datasets that bring benefits for society, the environment and the economy.
- Public sector bodies should make all these datasets **available** to the public in machine-readable format with open license.
- Digital Europe Programme (DEP) funded project to adapt metadata standard to describe High-value datasets on data.europa.eu.



Implementation of High Value Datasets on data.europa.eu

- Extra tab on data.europa.eu for access to all high-value datasets.
- Filters by category, country, date of publication and many more.
- A visual dashboard will be added to increase the visibility of high-value datasets per Member State and based on the EUR-Lex visual navigation.



Features on data.europa.eu which can be reused by Common European Data Spaces

- Data visualisation previews
- Data harvesting protocols (importing and transforming)
- Data Providers Interface
- Metadata quality assessment tool
- Data citation feature
- Data embedding feature

Thank you



Stay in touch! Find us on social media or contact info@data.europa.eu.

Q&A

Subscribe to the DSSC Newsletter!



The Data Spaces Support Centre receives funding from the European Union Digital Europe Programme under grant agreement n° 101083412.