Action 1.1 Towards a Digital Ecosystem for the Environment and Sustainability

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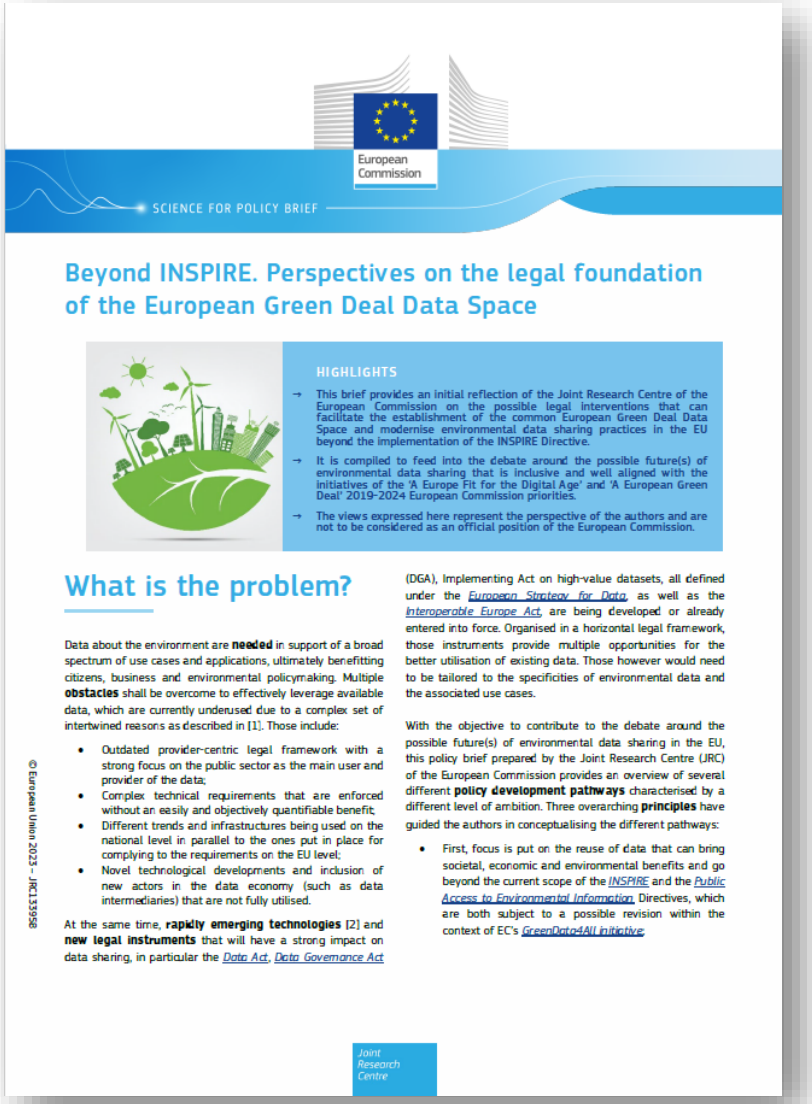
Ex-ante policy development pathways for the EGDDS legal instrument(s)

A perspective from the JRC

Jordi Escriu, Marco Minghini, Alexander Kotsev

Context & Disclaimers

- JRC prepared an ex ante perspective on the possible future(s) of the legal framework
- Overall objective: contribute to the debate around the different policy options led by ENV
- Focus is put on the technical and governance aspects
- This represents the opinion of the authors and is not an official position of the European Commission



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SCIENCE FOR POLICY BRIEF

Beyond INSPIRE. Perspectives on the legal foundation of the European Green Deal Data Space

HIGHLIGHTS

- This brief provides an initial reflection of the Joint Research Centre of the European Commission on the possible legal interventions that can facilitate the establishment of the common European Green Deal Data Space and modernise environmental data sharing practices in the EU beyond the implementation of the INSPIRE Directive.
- It is compiled to feed into the debate around the possible future(s) of environmental data sharing that is inclusive and well aligned with the initiatives of the 'A Europe Fit for the Digital Age' and 'A European Green Deal' 2019-2024 European Commission priorities.
- The views expressed here represent the perspective of the authors and are not to be considered as an official position of the European Commission.

What is the problem?

Data about the environment are **needed** in support of a broad spectrum of use cases and applications, ultimately benefitting citizens, business and environmental policymaking. Multiple **obstacles** shall be overcome to effectively leverage available data, which are currently underused due to a complex set of intertwined reasons as described in [1]. Those include:

- Outdated provider-centric legal framework with a strong focus on the public sector as the main user and provider of the data;
- Complex technical requirements that are enforced without an easily and objectively quantifiable benefit;
- Different trends and infrastructures being used on the national level in parallel to the ones put in place for complying to the requirements on the EU level;
- Novel technological developments and inclusion of new actors in the data economy (such as data intermediaries) that are not fully utilised.

At the same time, **rapidly emerging technologies** [2] and **new legal instruments** that will have a strong impact on data sharing, in particular the *Data Act*, *Data Governance Act* (DGA), Implementing Act on high-value datasets, all defined under the *European Strategy for Data*, as well as the *Interoperable Europe Act*, are being developed or already entered into force. Organised in a horizontal legal framework, those instruments provide multiple opportunities for the better utilisation of existing data. Those however would need to be tailored to the specificities of environmental data and the associated use cases.

With the objective to contribute to the debate around the possible future(s) of environmental data sharing in the EU, this policy brief prepared by the Joint Research Centre (JRC) of the European Commission provides an overview of several different **policy development pathways** characterised by a different level of ambition. Three overarching **principles** have guided the authors in conceptualising the different pathways:

- First, focus is put on the reuse of data that can bring societal, economic and environmental benefits and go beyond the current scope of the *INSPIRE* and the *Public Access to Environmental Information* Directives, which are both subject to a possible revision within the context of EC's *GreenData4All initiative*;

Joint Research Centre

https://europa.eu/!Hyf3mf

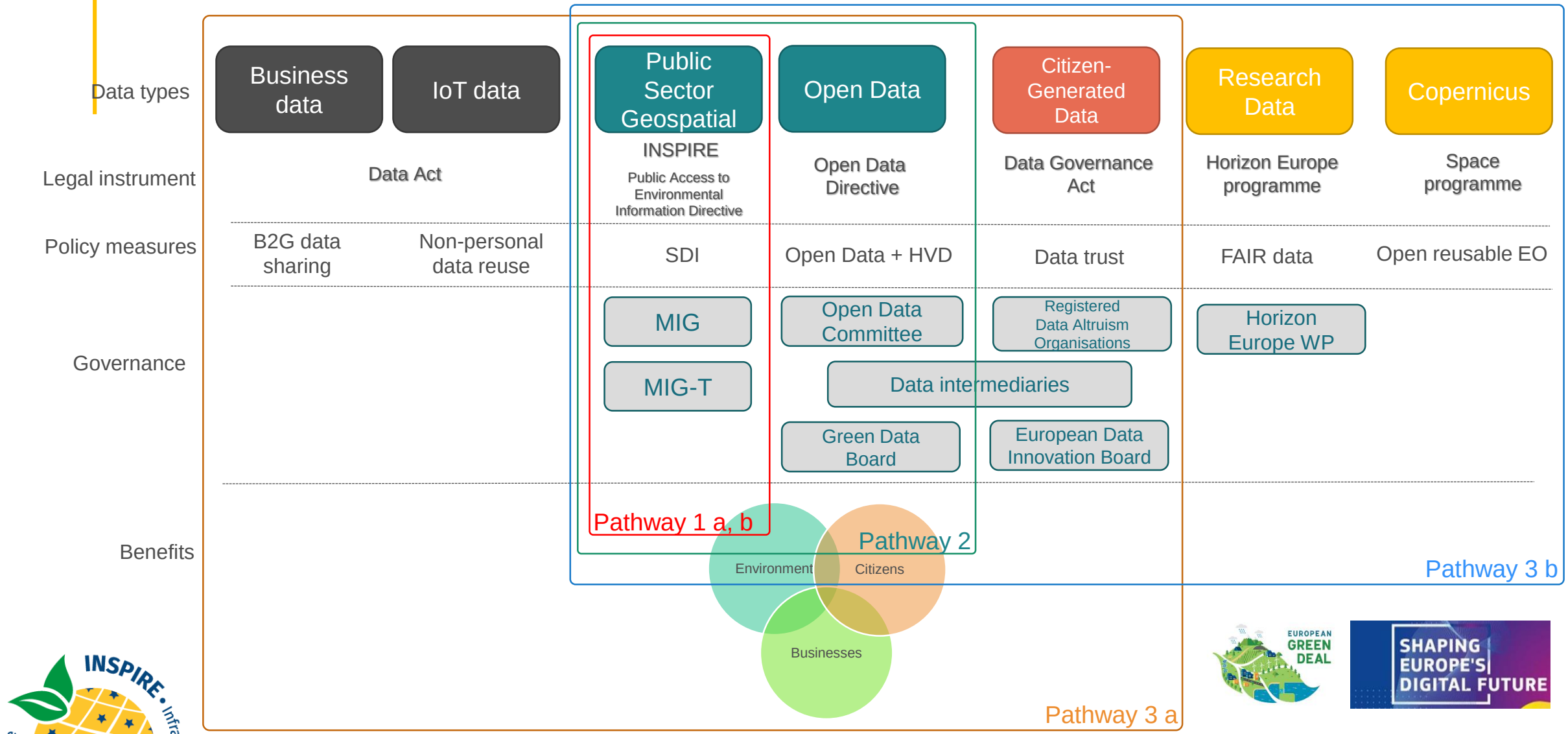
What is the problem

- Multiple **obstacles** shall be overcome to effectively leverage available data
  - Legal framework that needs to be modernised
  - Complex technical requirements
  - Parallel implementations on the national level
  - Rapidly evolving technological landscape
  - Many opportunities created by the horizontal legislation defined by the European Strategy for data
    - Data Act, Data Governance Act, HVD implementing provisions

Policy development pathways (ex-ante)

- Different level of ambition and integration between INSPIRE and the horizontal legal instruments
- Each pathway has its specific advantages and disadvantages
- Guiding Principles

1. focus is put on the reuse of data that can bring societal, economic and environmental benefits and go beyond the current scope of INSPIRE
2. the EU legal framework should effectively contribute to establishing and sustaining an ecosystem of actors around data-driven innovation
3. Legal framework should align existing and new (digital and green) legal frameworks in a future-proof manner.



INSPIRE • Infrastructure for Spatial Information in Europe

EUROPEAN GREEN DEAL

SHAPING EUROPE'S DIGITAL FUTURE

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Study of interoperability provisions for environmental data sharing

Expert contract

- Title:

  Evaluation of prospective interoperability provisions for environmental data sharing and reuse within the common European Green Deal data space

- Timeline:

  Started in June 2023 – Duration: 8 Months (~ end by January 2024)

- Expert awarded:

  Thorsten Reitz (wetransform - https://wetransform.to)

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Objective

- Identify approaches, challenges, and opportunities for setting the most-targeted and appropriate interoperability provisions for environmental data sharing and reuse.
- Applicable to the European Green Deal Data Space.
- To be considered as input for the GreenData4All initiative.

  Update of the existing legal framework for environmental data sharing in EU, with a potential revision of the INSPIRE (Directive 2007/2/EC) and Public Access to Environmental Information (Directive 2003/4/EC) Directives.
- Scope: Discovery, access and reuse of data in the environmental sector.
- Context: EU Strategy for Data.

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Tasks - Deliverables and schedule

Task 1. Identification and analysis of current interoperability provisions on environmental data sharing

Task 2. Recommended interoperability provisions for the Green Deal data space

Task 3. Validation workshop

Task 4. Prospective interoperability provisions for the Green Deal data space and outreach

Timing	Reference	Deliverable
M1 Jun 2023	KO	Kick-off meeting with JRC
M3 Aug 2023	D1	Identification and analysis of current interoperability provisions on environmental data sharing
M6 Nov 2023	D2	Recommended interoperability provisions for the Green Deal data space
M7 Dec 2023	D3	Validation workshop
M8 Jan 2024	D4	Prospective interoperability provisions for the Green Deal data space and outreach

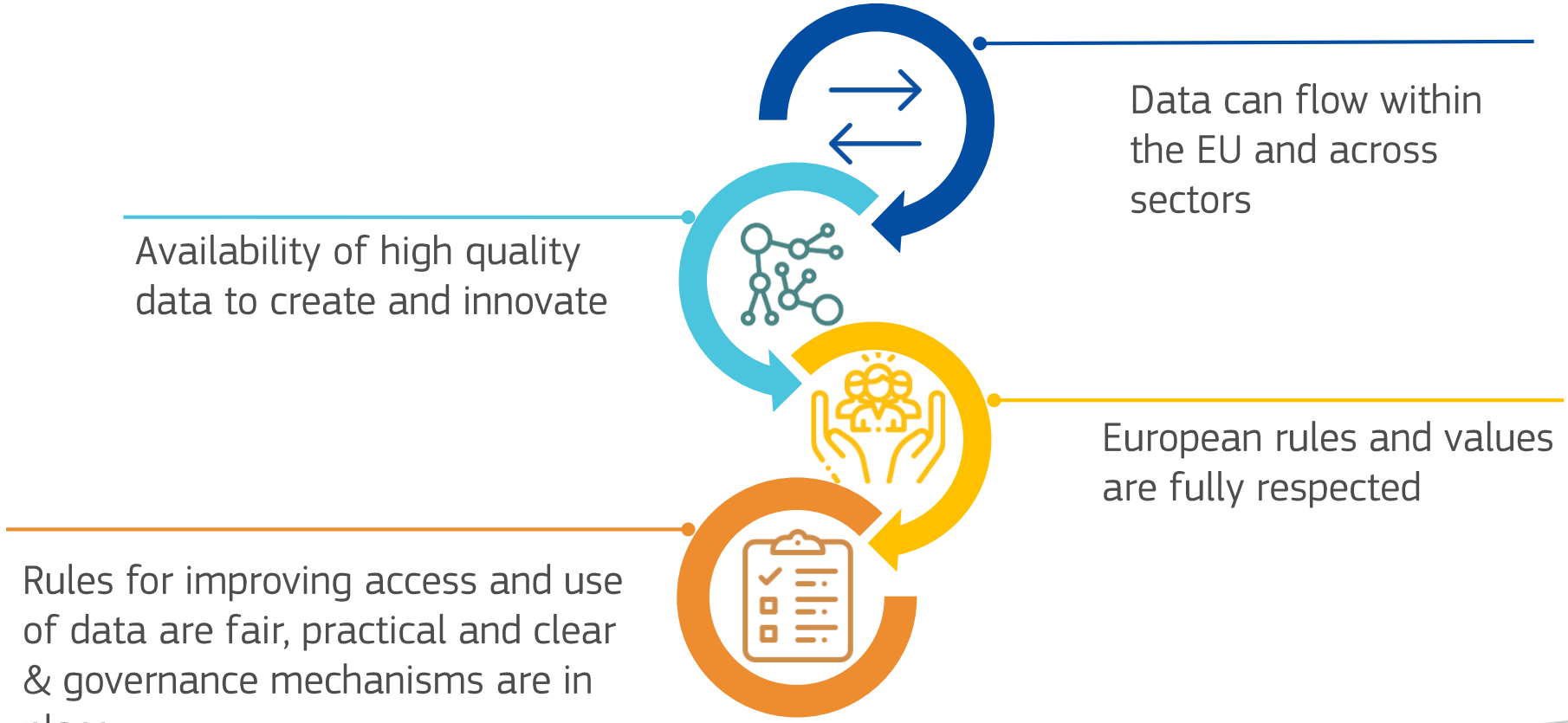
Expected outcomes

- Critical analysis of the interoperability rules governing the sharing of environmental data based on the legal framework currently in force in the EU.
  - State-of-the-art (emerging trends, modern standards and technology).
  - Existing practices and previous experience (MS implementations).
- Identification of main barriers, bottlenecks, challenges and opportunities for improving and further achieving the interoperability objectives in the future societal and policy context.
- Summary of lessons learned and, where necessary, pragmatic suggestions for setting prospective approaches for achieving the interoperability in the Green Deal data space (scenarios with different level of ambition).

JRC Knowledge base on Common European Data Spaces

European strategy for data

Creating a common European data space, a single market for data



Common European data spaces – the context

01 Horizontal Legal framework

Overview of data actions	[D] What data are we talking about?	[H] Who holds such data?	[A] What policy intervention?
Data Governance Act	*Good governance of data cannot wait*		
	[D] Data voluntarily made available by data holders	[H] Public sector, business, individuals, researchers	[A] Make such data easier to share in a controlled manner (technical, legal and with organisational support); Build trust in data sharing; Ensure data interoperability access sectors
Digital Markets Act	*Data: a key element of Big Tech's market power*		
	[D] Data held by online platforms originating from the users (both businesses and individuals)	[H] Online platforms	[A] Among other policy options; identify appropriate data access and data portability remedies
Implementing Act under Open Data Directive	*High quality government data for SMEs & innovation*		
	[D] "High-value" open government data	[H] Public sector	[A] Make such data available for re-use free of charge
Data Act	*Better access to and control over data for a fair data economy*		
	[D] Co-generated, IoT data from industry and individuals, Big Data sources held by business	[H] Business	[A] Ensure flexible use of Big Data sources by government for the common good. Establish fairness in use of co-generated, IoT data. Make sure that Europeans stay in control over their data vis-à-vis third country jurisdictions. Examine IPR legislation for possible obstacles.

02 Investment in data spaces

Digital Europe Programme

HORIZON EUROPE

03 Governance

- Data Spaces Support Centre
  - Stakeholder engagement
  - Interlinking different data spaces
- European Data Innovation Board
  - Governance of data spaces
  - Technical, incl. approval of standards, building blocks

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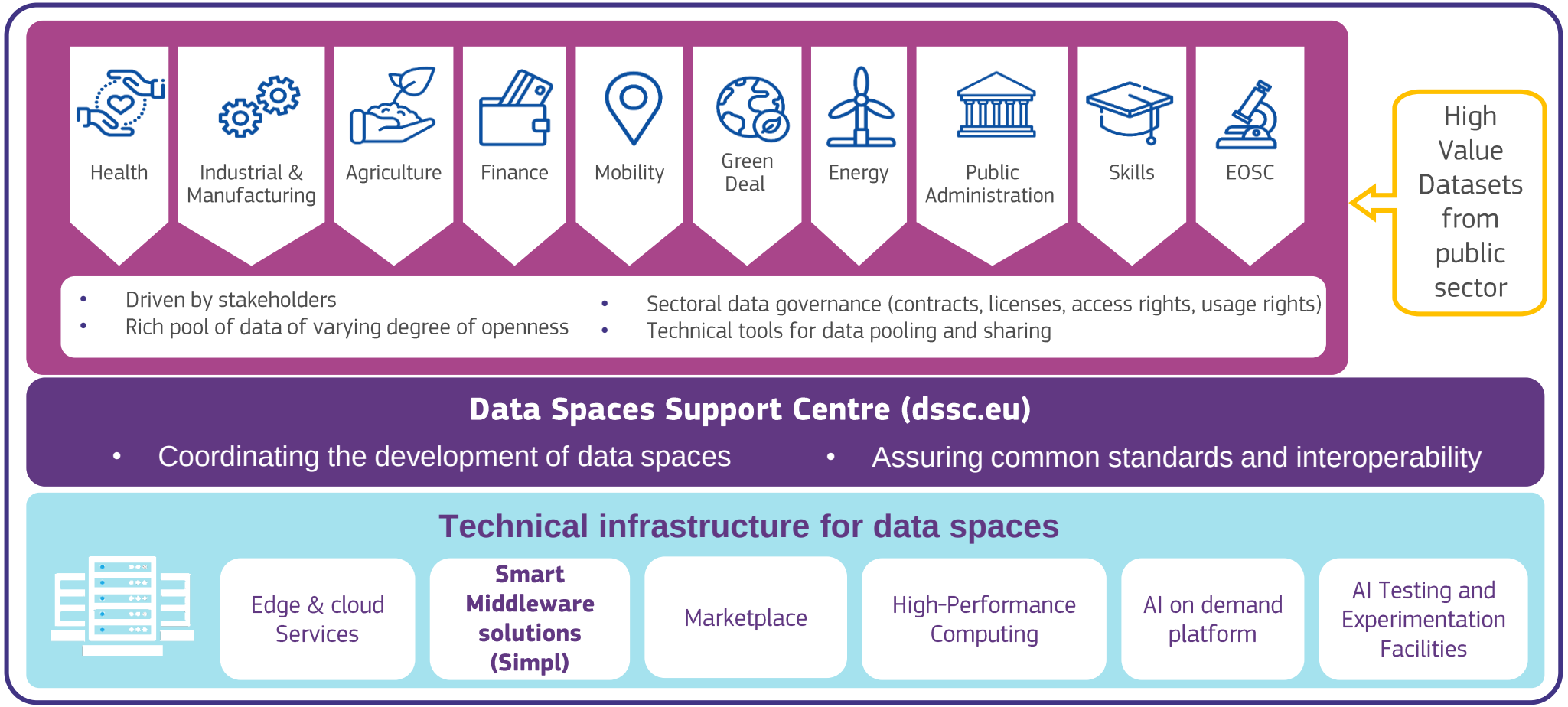
Sectoral common European data spaces



Source: European Commission, DG CNECT

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JRC knowledge base

Objectives

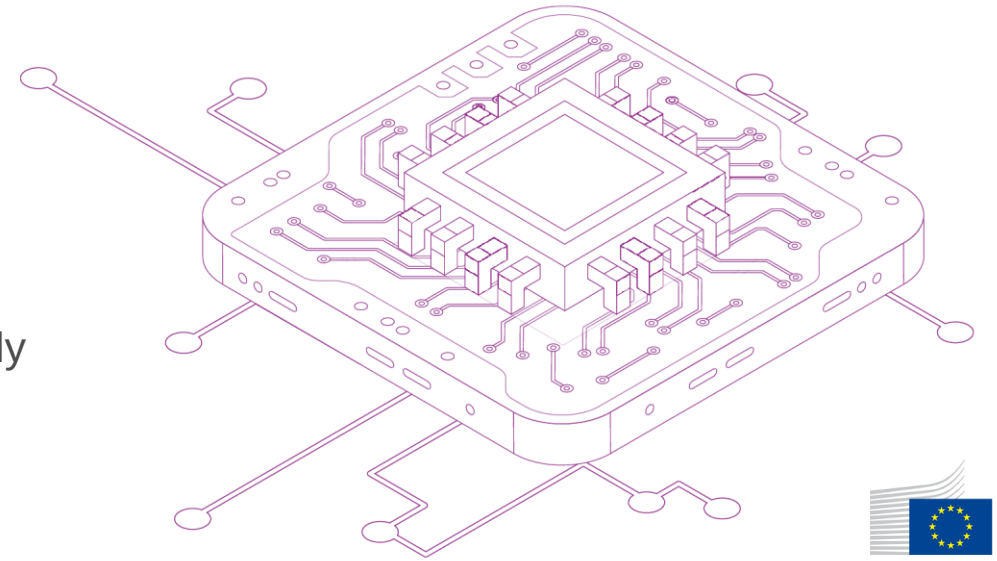
- **Identify, map and expose JRC resources** relevant to common European data spaces
- **Complement** other data space resources and activities

Intended audience

1. Policy **DGs**
2. Data space **stakeholders**
   - Data providers, standardisation bodies, early adopters of technology, user communities

Components

1. Science for Policy report
2. Interactive dashboard
3. Wiki page



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JRC Science for Policy report

- **What?**
  - Scientific **techno-socio-economic perspective**
  - Non-binding **recommendations/good practices**
  - **Complementary** to other resources on data spaces
- **How?**
  - Input by **18 co-authors**
  - **Co-creation** and **validation**
    - Within JRC
    - With policy DGs
    - Other stakeholders

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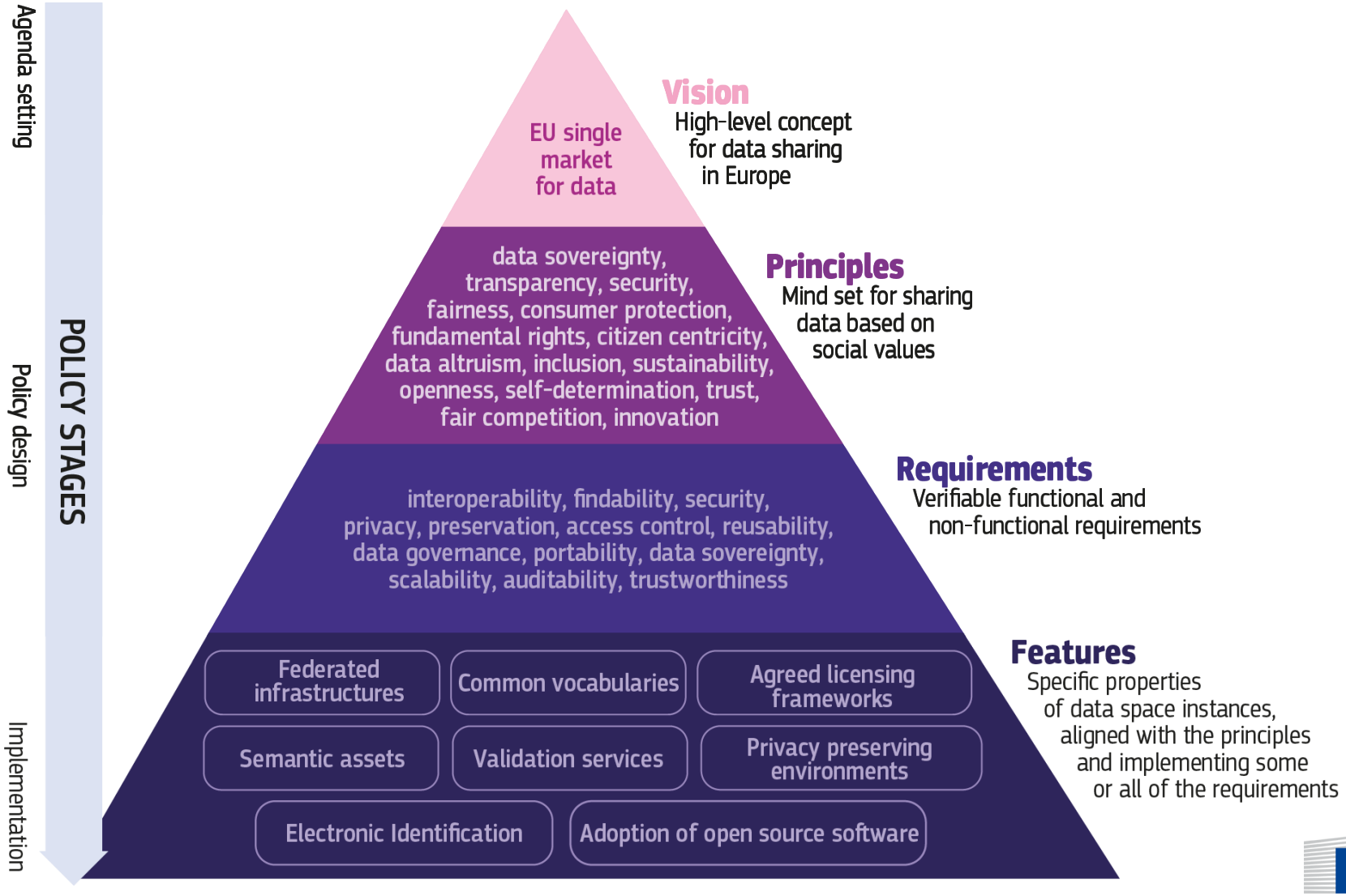
Our analytical lens



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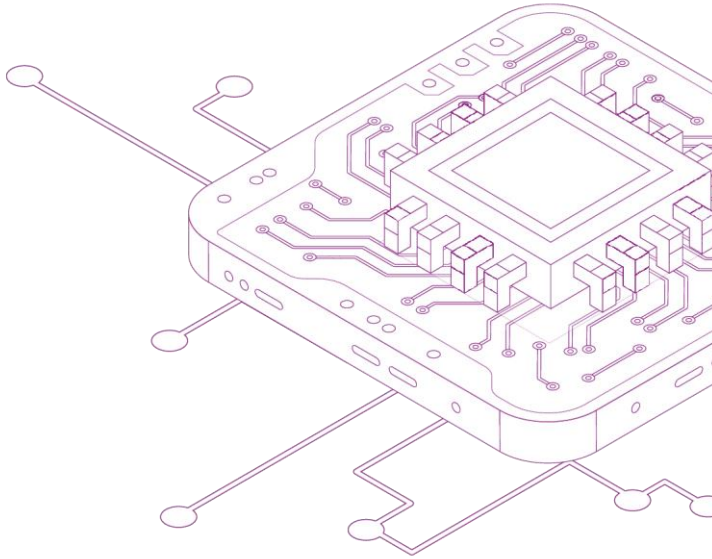
How-to's on technical and organisational aspects of data sharing

		How-to Information Sheets	Data Space Theme
TECHNICAL	1	How can stakeholders benefit from synthetic data in a data space?	Synthetic data
	2	How to choose the best software stack for a data space?	Software stacks
	3	How to ensure clear access and use conditions for a dataset in a data space?	Licensing
	4	How to ensure that datasets shared by different actors in a data space can be used together?	Interoperability
	5	How to ensure that technical requirements and standards are being followed?	Data validation
	6	How to facilitate the discovery of data in a data space?	Data discoverability
	7	How to select the most appropriate standards for a data space?	Data standards
	8	How to ensure that digital resources and data are uniquely referenced in a data space?	Data registers
	9	How to provide access to data in a data space?	APIs for data access
	10	How to preserve privacy and protect personal data and sensitive business data in a data space?	Privacy enhancing technologies
ORGANISATIONAL	1	Which actors are providing what types of data in scope of a data space?	Data Actors
	2	How to foster a people-centred approach to data in a data space?	Citizen data
	3	How can business benefit from sharing data in a data space?	Benefits to business in data spaces
	4	How can governments access private sector data of public interest?	Accessing data (B2G)
	5	How can data transparency for AI systems be increased in a data space?	Transparency – AI data in data spaces
	6	How to leverage voluntary data sharing in a data space?	Voluntary data sharing
	7	Which legal aspects should be considered when creating, providing or using novel data-driven solutions in data spaces?	Legal



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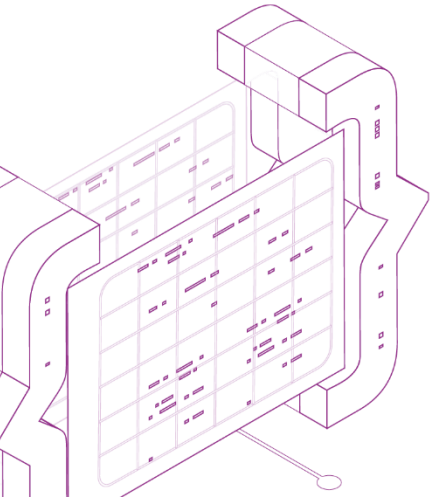
Sample How-to's on Data Sharing



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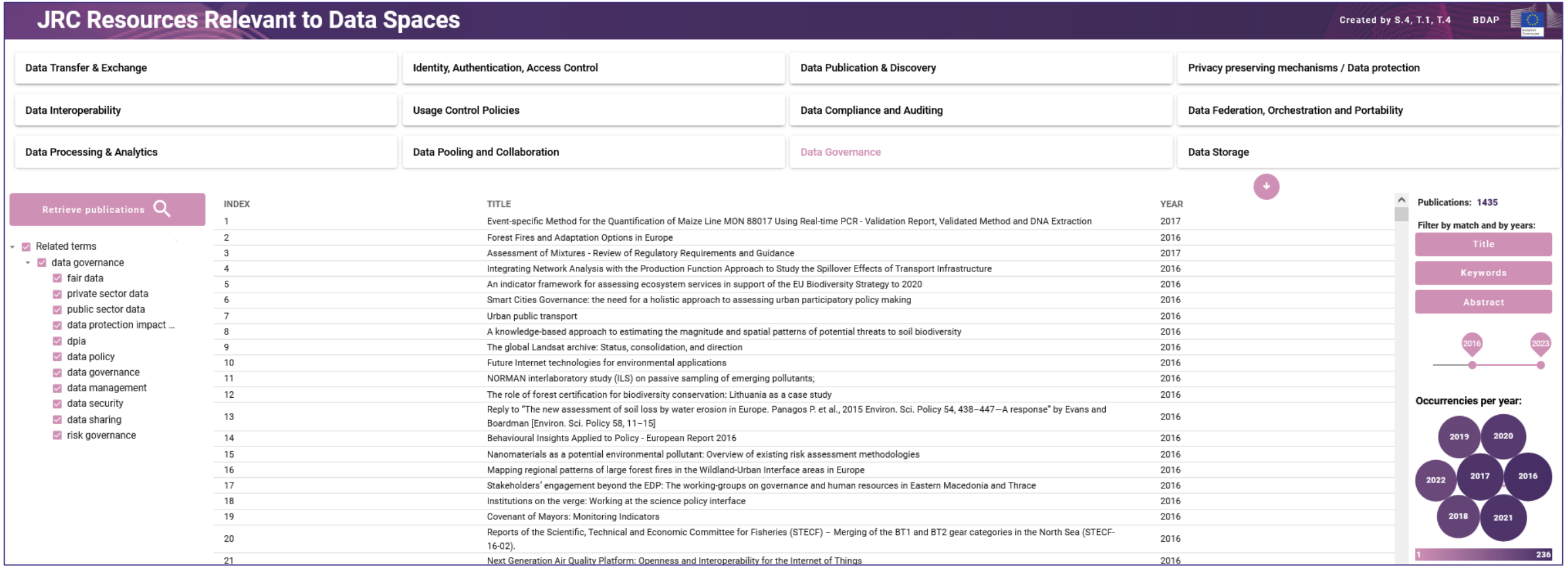
Dashboard: JRC resources mapped to requirements for European data spaces



https://jeodpp.jrc.ec.europa.eu/eu/dashboard/voila/render/DataSpaces/JRCResourcesData.ipynb

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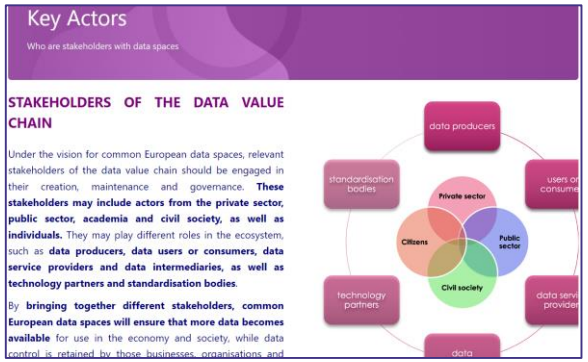

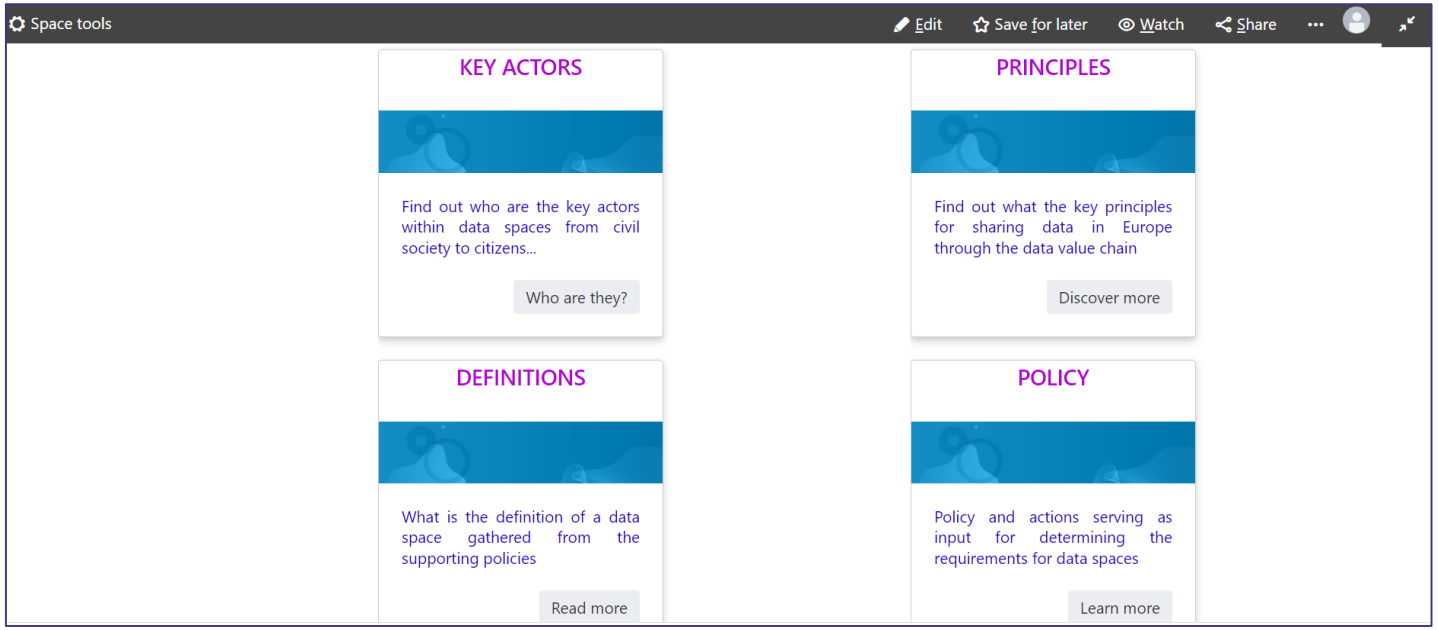

https://wikis.ec.europa.eu/display/jrcdataspaceswiki/JRC+Data+Spaces+Knowledge+Base

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Guidelines on the validation and use of GPKG for END e-reporting

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