



**FAIR-IMPACT**

Expanding FAIR solutions across EOSC

# Interoperability beyond the EOSC

## FAIR-IMPACT contribution to the Data Spaces Support Centre

FAIR-IMPACT National Roadshow  
Germany – 24/01/2023  
Olivier Rouchon

## What is a European common data space?

- Defined as a federated data ecosystem based on shared policies and rules.
- Participants of such data spaces are enabled to access data in a secure, transparent, trusted, easy and unified fashion.
- Data holders are in control of who can have access to their data, for which purpose and under which conditions it can be used.
- From a technical perspective, a data space can be seen as a data integration concept which does not require common database schemas and physical data integration. It is rather based on distributed data stores and integration on an “as needed” basis.

# What is the EOSC?

## A process

- Accelerate Open Science, FAIR data management and use of digital methods and services
- Stimulate co-operation in science and research, new insights and innovations, higher research productivity and improved reproducibility in science.

## An open, trusted, federation of infrastructure

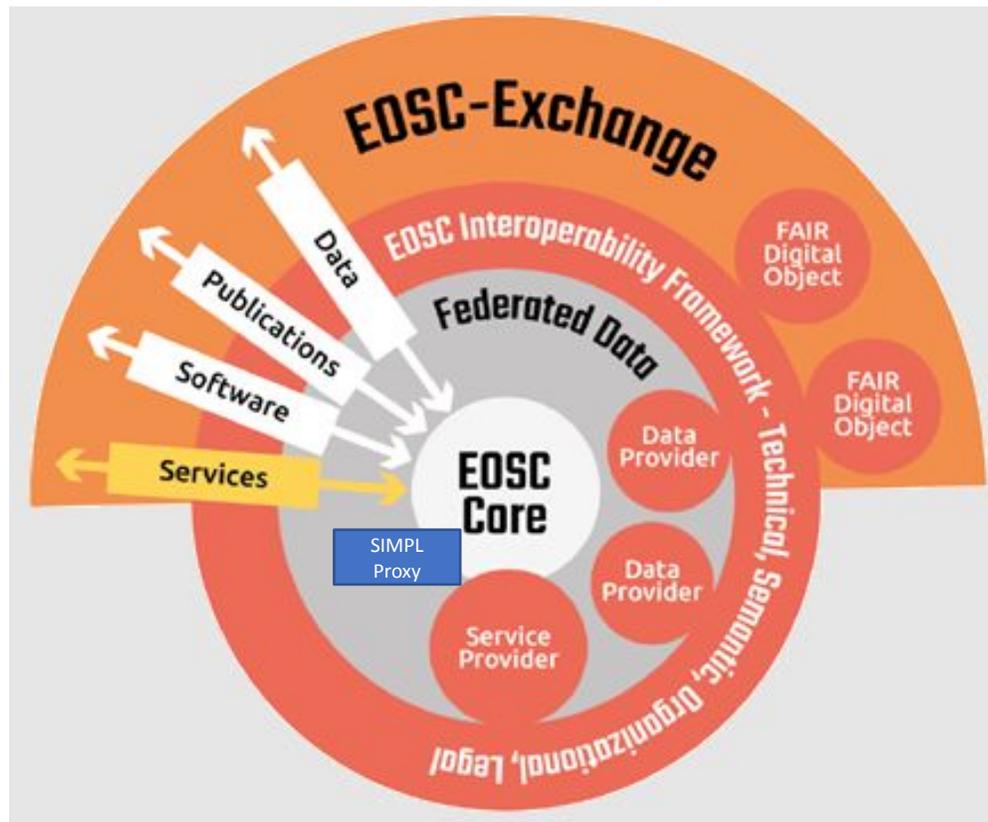
- Access existing Research Infrastructures in Europe;
- Enable circa 2 million European researchers to store, share, process, analyze, and reuse research digital objects (e.g. data, publications and software)

## An evolving ecosystem

- Bringing together the European Commission, the governments and the many R&I stakeholders involved in the European Research Area
- Co-created across European, national, and institutional levels



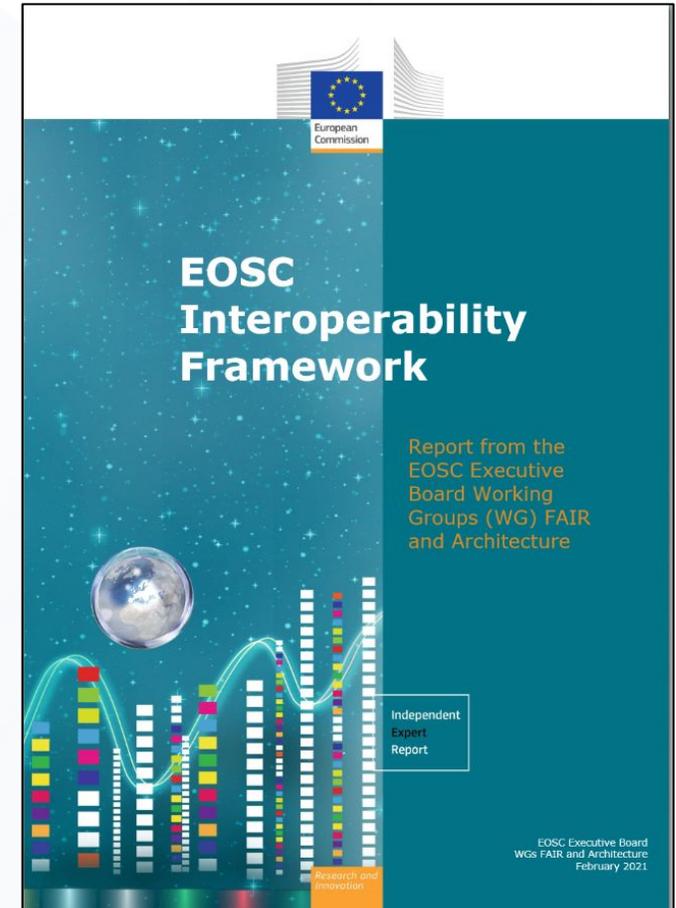
# EOSC architecture



- EOSC Core: core services for scientific research infrastructures to federate (single-sign-on, catalogues, knowledge graph, application workflow, monitoring accounting, heldesk)
- Federated Data: aggregated data resources provided by Research Infrastructures and Science Clusters to their respective communities
- EOSC Exchange: horizontal services for end-users to benefit from (compute, containers, data transfer, notebooks, file sharing, open research data)
- SIMPL: smart middleware that will enable cloud-to-edge federations and support all major data initiatives funded by the European Commission, such as common European data spaces

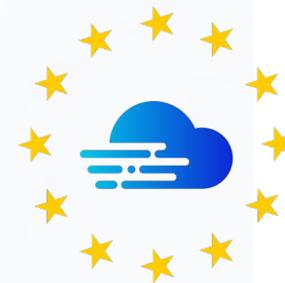
# EOSC interoperability framework

- Developed by the Interoperability Task Force of the EOSC Executive Board FAIR Working Group
- [Published](#) 02/2021
- Recommendations on Legal, Organisational, Sematic & Technical (LOST) interoperability
- Analysis of minimal metadata models and crosswalks among them
- Recommendation of minimum metadata set to describe metadata records for FAIR digital objects
- Definition of the *pathway and blueprint* for other potential EOSC (node) operators to join the federation



## EOSC interoperability framework

- [EOSC Architecture and Interoperability Framework \(12/2021\)](#)
- [Final evaluation of the European Interoperability Framework \(11/2022\)](#)
- [A landscape overview of the EOSC Interoperability Framework Capabilities and Gaps \(10/2023\)](#)



**EUROPEAN OPEN  
SCIENCE CLOUD**

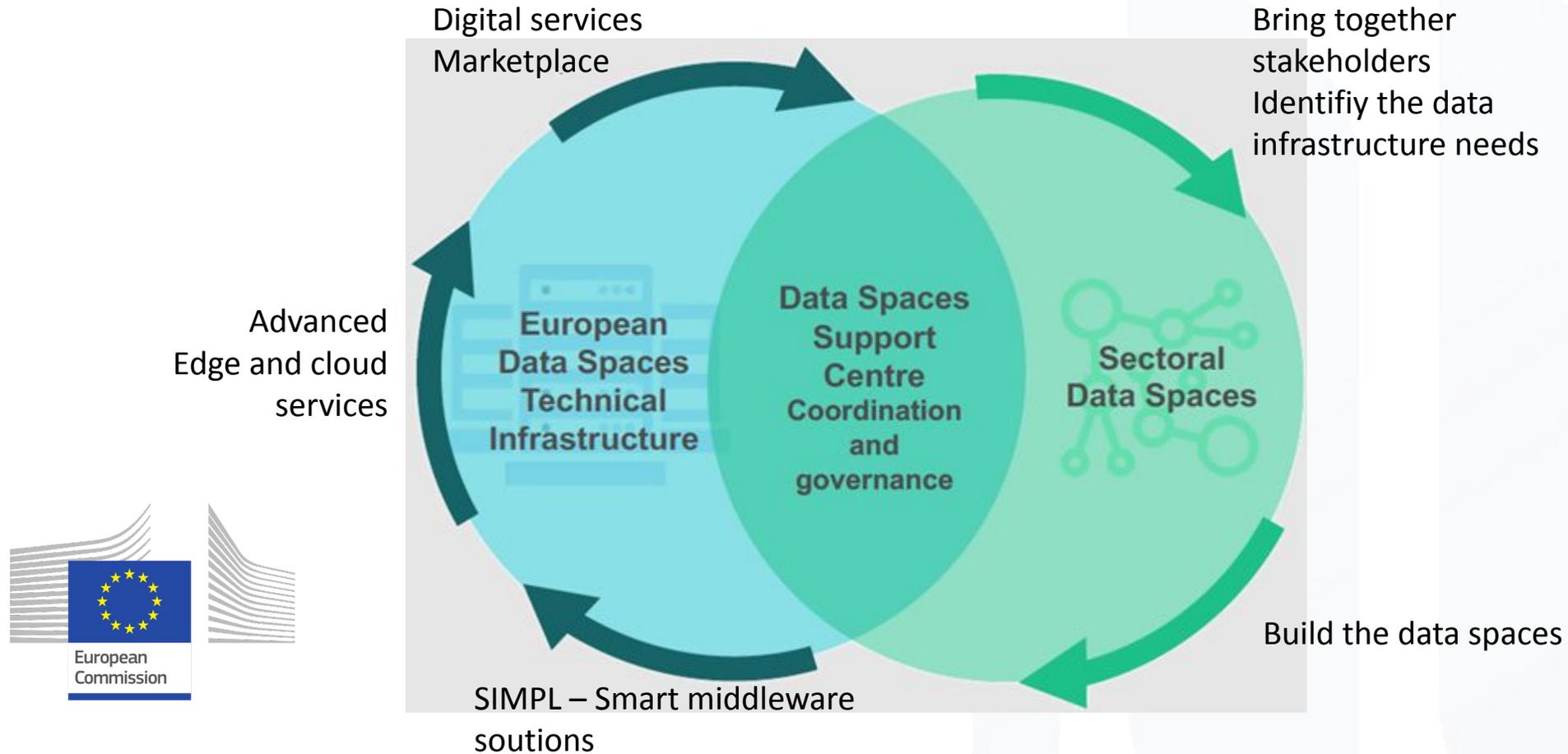
# EOSC in the data spaces ecosystem



- Driven by stakeholders
- Rich pool of data of varying degree of openness
- Sectoral data governance (contracts, licences, access rights)
- Technical tools for data pooling and sharing



# Data Spaces deployment



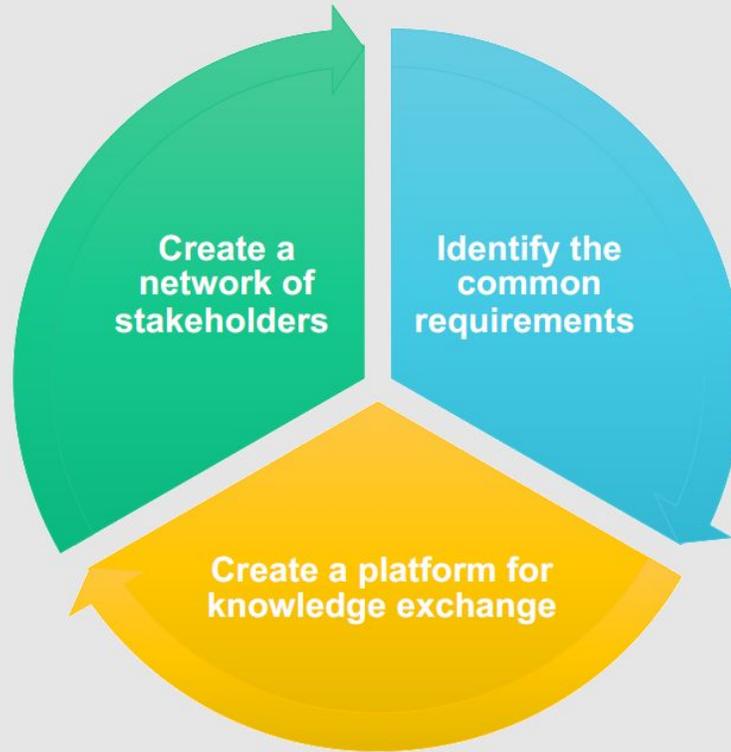


# Data Spaces Support Centre



Closely work with CSAs and projects funded under DIGITAL

**INTERNATIONAL DATA SPACES ASSOCIATION**



Support the deployment of data spaces

gaia-x

Support the work of the envisaged European Data Innovation Board



**DATA SPACES SUPPORT CENTRE**



## DSSC thematic working groups

- Participants: individuals representing initiatives or organizations with exhibited relationship with the DSSC through
  - Its Community of Practice (representatives from current or ended projects)
  - Strategic Stakeholder Forum
  - Specific stakeholders part of the Collaborations & Liaisons groups
- 4 EOSC-related projects invited to contribute: EOSC Future, FAIR-Impact, WorldFAIR, FAIRCORE4EOSC
- Objectives:
  - share available knowledge about data spaces
  - co-create new knowledge - brainstorming
- 3 different thematic groups
  - Business
  - Governance
  - Technology

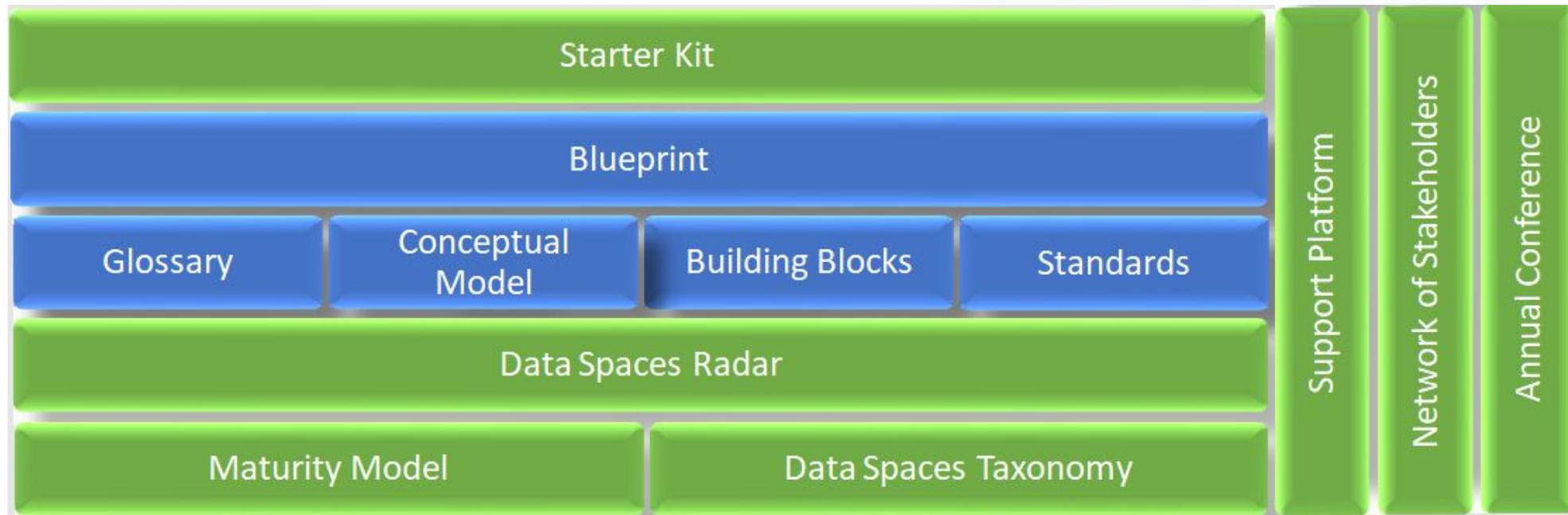


**DATA SPACES  
SUPPORT CENTRE**

# Expected deliverables

<a href="#">Starter Kit</a>	A short guidance document to create a data space by providing a multifaced view about business, legal, governance and technical aspects and pointing out to the DSSC assets available for addressing all of them.
<a href="#">Glossary</a>	Limited set of data spaces related terms, where each term has a criterion to determine whether or not something is an instance/example of the concept to which the term refers.
<a href="#">Network of Stakeholders</a>	Group of parties relevant to the development of data spaces and with whom the DSSC proactively engages in achieving its purpose and objectives. It includes the CoP as main targeted subgroup.
<a href="#">Support Platform</a>	Single point of truth about data spaces which opens and activates a place to host, grow and curate discussions related to data spaces for all the actors of the data economy and where they can access a knowledge base including the DSSC assets.
<a href="#">Conceptual Model</a>	A consistent, coherent and comprehensive description of the concepts and their relationships that can be used to unambiguously explain what data spaces and data space initiatives are about. The conceptual model offers a starting point for defining the governance models for data space initiatives.
<a href="#">Blueprint</a>	A consistent, coherent and comprehensive set of guidelines to support the implementation, deployment and maintenance of data spaces. The blueprint contains the conceptual model of data space, data space building blocks, and recommended selection of standards, specifications and reference implementations identified in the data spaces technology landscape.
<a href="#">Building Blocks</a>	Organised inventory of data space building blocks recommended by the DSSC, according to a taxonomy which cover all the data spaces aspects.
<a href="#">Collection of Standards and Technologies Landscape</a>	A curated collection of candidate standards (de facto and de jure), specifications and open-source reference implementations available for deploying data spaces.
Data Spaces Taxonomy	A classification scheme used to describe, analyse and organise data space initiatives according to a defined set of characteristics. It will be visualized through the DSSC Radar.
Maturity Model	A set of indicators and a self-assessment tool (including a survey and the analysis of the data collected) allowing data space initiatives to understand their stage of development and their capabilities in absolute terms and in relation to peers. It will be visualized through the DSSC Radar.
Radar/Inventory	A web-based tool to provide an overview of the data space initiatives, their sectors, locations and approximate lifecycle stages ranging from data spaces in an exploratory stage to fully operational and scalable data space solutions.

# Expected deliverables



# More information



Project Number: 101056432    Start Date of Project: 01/06/2022    Duration: 36 months  
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**Deliverable 3.1**

Technical Collaboration with other European Partnerships and relevant initiatives

Focus on Common European Data Spaces

Authors	Paolo Budroni (TU Wien), Chits De Loof (Belnet), Juliana de Mello Castro Giroletti (TU Wien), Dale Robertson (EGI), Friederike Schröder-Pander (Belnet)
Contributors	Isabel Caetano (EOSC-A), Francisca de Jong (CLARIN), Niels Dermaecker (Belnet)
Work Package	WP 3 SRIA Update and Technical Development
Reviewed by	Ignacio Blanquer (EOSC-A Director), Sara Garavelli (EOSC-A Director), Ute Gussenheimer (EOSC Focus Project Coordinator), EOSC Focus Management Board
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Version	V1

**Deliverable Abstract**

This deliverable is a report on the technical collaboration of the EOSC Partnership with other European Partnerships and relevant initiatives. This first report is dedicated to the EOSC liaison with the Common European Data Spaces. The objective of this deliverable is to describe the Common European Data Spaces, their governance, scope, technical framework and to report on the actions and opportunities for mutual collaboration and cooperation in line with the objectives of the EOSC Partnership's Memorandum of Understanding.

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## EOSC Focus deliverable on the data spaces

- EOSC liaison with the Common European Data Spaces
- Description of the Common European Data Spaces, their governance, scope, technical framework, etc.
- Pending Research Executive Agency (REA) approval

<https://eosc.eu/wp-content/uploads/2023/12/EO-SC-Focus-D3.1-to-be-approved-by-EC.pdf>

Thank you for your attention!



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