Update on EOSC and the EOSC Federation

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Skills4EOSC Final event
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EOSC, for the digital transformation of research

- An effective **policy process** to mobilise, align and scale resources and engagement across Europe towards accelerating open science, higher quality, productivity and reproducibility in research.
- An **open and trusted federation of collaborative, autonomous infrastructures** applying agreed, consensus-based policies and rules of participation, combined into a system of systems to enable researchers in Europe to store, share, process, analyse, and reuse research digital objects (e.g. data, publications and software).

EOSC, an EU policy priority

- **European Research Area (ERA) Policy Agenda 2025-2027** (Adopted May 2025)

  OS & EOSC as structural policy #1. Objectives:

  - Open science practices and skills are rewarded and taught, becoming the ‘new normal’
  - standards, tools and services allow researchers to find, access, reuse and combine results
  - a federated community-driven infrastructure enabling open sharing of scientific results is deployed and maintained
  - Europe is in the driving seat towards a web of FAIR research data with established links to other data spaces
  - Researchers are provided with better legal conditions and resources to access and reuse publicly funded research results and use publications and data for scientific purposes

- **EU Strategy for Data:** EOSC is the basis for a science, research and innovation data space that will be connected and fully articulated with the sectoral data spaces

European Commission

EOSC, an EU policy priority

- **European Research Area (ERA) Policy Agenda 2025-2027**

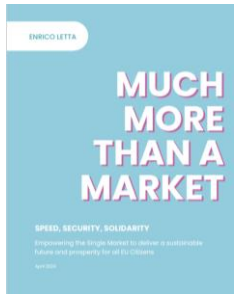
  Mission Letter from President Von der Leyen to Commissioner Zaharieva:
  *You will propose a **European Research Area Act to guarantee a "fifth freedom", namely the free movement of researchers, scientific knowledge and technology**. The aim will be to reduce fragmentation of research and anchor innovation and research into the Single Market and unlock more of its potential*.

- **EU Strategy for Data:** EOSC is the basis for a science, research and innovation data space that will be connected and fully articulated with the sectoral data spaces

  AI Continent Plan (April 2025) foresees the upcoming data union strategy, which will foster a true internal market for data, enabling the scaling up of AI development across the EU

Keeping the policy momentum

Letta
Much more that a Market



*"A central pillar of this strategy is the **creation of a European Knowledge Commons** – a centralised, digital platform providing access to publicly funded research, data sets, and educational resources. ..."*

Draghi
The future of European competitiveness

*"An important factor that would enhance R&I capacity is the availability of **world-leading research and technological infrastructure**, **capable of serving the whole European ecosystem"***

*"The EU's efforts to hone its competitive edge need to be guided by European values, […] such as academic freedom and independence, research integrity and ethics, transparency, diversity, inclusion, gender equality, **open science and open access to scientific publications and research data.**"*

Heitor et al
Align, Act, Accelerate. Research, technology and innovation to boost European competitiveness

*"The European Open Science Cloud **(EOSC) is a key enabler of the digitalisation of research infrastructures** while delivering the European Data Space for research data. **It has potential to become the most generally used infrastructure in Europe**".*

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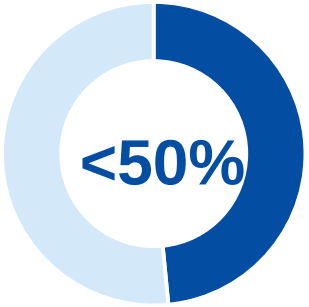
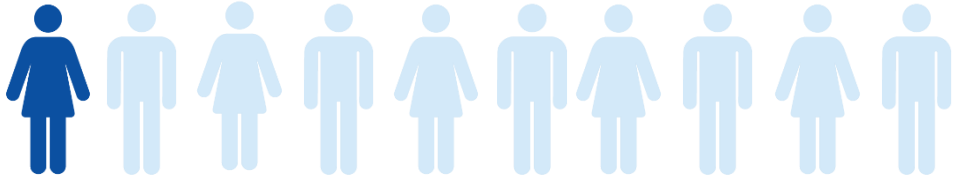
Build-up phase of the EOSC Federation

- **13 candidate nodes (1st wave) + EU node**, interconnected and enabling the sharing of resources, i.e. data and services, and the demonstration of EOSC added value in practice
  - Testing and building interconnections of the essential federating capabilities
  - Defining organizational arrangements and the implementation of shared policies across the Federation
  - Defining and testing demonstratable and actionable multi-node use cases and scientific workflows
  - Estimating the costs and resources
  - Involving the ‘end-user’ at the various stages of development and evolving the EOSC Federation Handbook

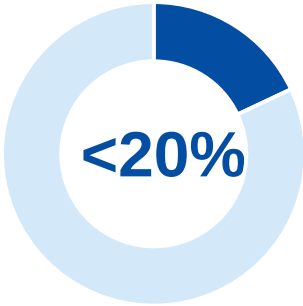
Kick-off meeting, March 2025



Scientific publications available in open access



Authors who retain copyright in contracts with largest subscription journals

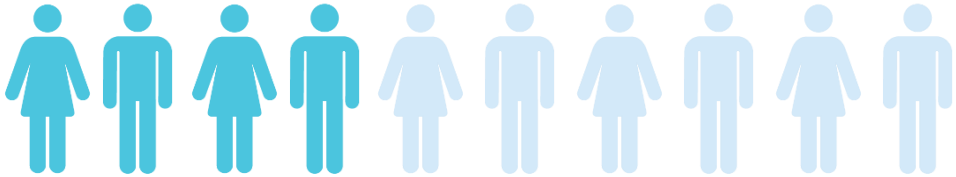


Researchers who put FAIR principles into practice

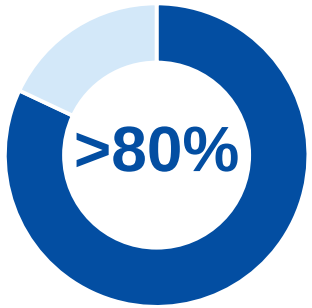
3€ billion per year

National public funding for pan-European Research Infrastructures

Researchers who occasionally store research data in shared/non-local repositories



Importance of publishing and attracting external funding in a researcher's career



2025 RI WP

- **HORIZON-INFRA-2025-01-EOSC-04: Data stewards, skills and training for Open Science and FAIR practices**

Expected Outcomes:

1. Definition of consistent core curricula for data stewards throughout Europe, […]
2. Enhanced data steward skills, enhancing their ability to manage and interpret complex data […]
3. Expansion and strengthening of existing competence networks […],
4. Advancement of Open Science education throughout all research career stages. […]
5. Mainstreaming transparent, aligned, and interoperable Open Science practices […]

"Boundary conditions"

1. Interactions with operators of an evolving and expanding EOSC Federation, to ensure alignment with the policies and practices of the EOSC Federation.
2. Alignment with broader EU frameworks on skills and research careers [e.g ResearchComp]
3. Collaborations with **CoARA** for reach a better recognition of open, collaborative practices in **research assessment**.

2025 RI WP

- **HORIZON-INFRA-2025-01-EOSC-04: Data stewards, skills and training for Open Science and FAIR practices**
- **HORIZON-INFRA-2025-01-EOSC-01: EOSC Nodes with federating capabilities for the EOSC Federation**
- **HORIZON-INFRA-2025-01-EOSC-02: FAIR Integration for Enhanced Research Data in the EOSC ecosystem and beyond**
- **HORIZON-INFRA-2025-01-EOSC-03: Advancing AI-readiness and Machine-Actionability in the EOSC Ecosystem**
- **HORIZON-INFRA-2025-01-EOSC-05: Using Generative AI (GenAI4EU) for Scientific Research via EOSC**

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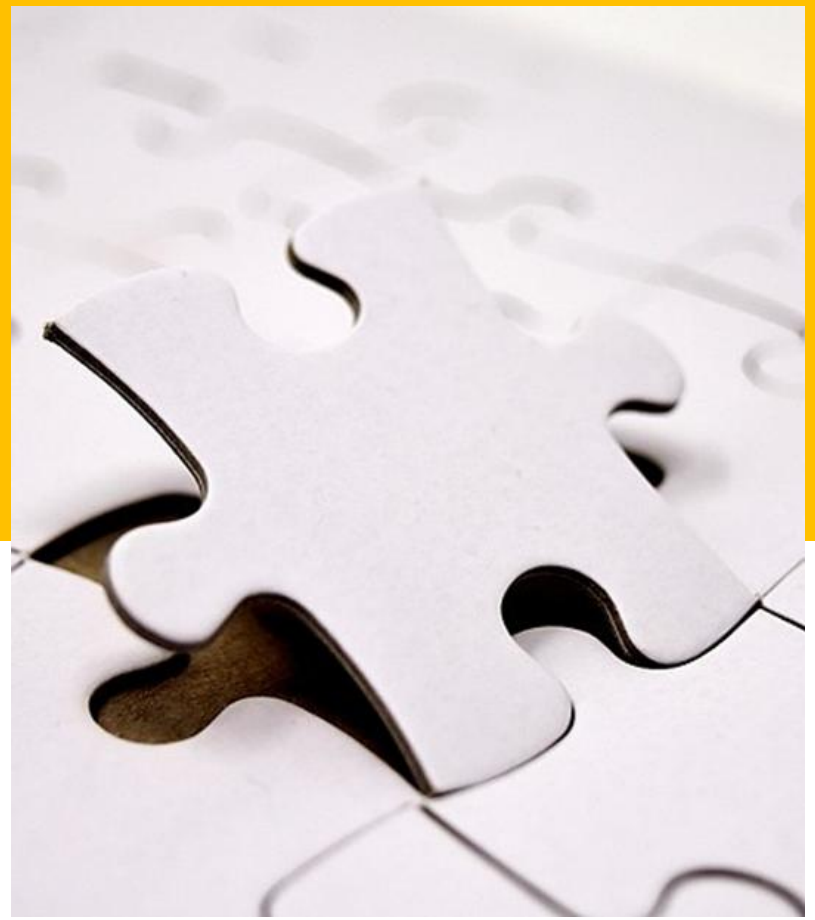
- 2026-2027 RI WP to be adopted by end 2025.

European Commission

Outlook and remarks

- EOSC is shifting from an exploratory phase to an operational one, where EOSC Federation and EOSC nodes as focal points for onboarding resources, structuring communities and ensuring sustainability.
- Sustained coordination and effective integration of resources needed for the effective transformation of the research landscape in Europe and the uptake of Open Science.
- Continuous expansion and evolution: *Training as a service* as federating capability of the EOSC Federation. How should it look like? What are the community evolving needs?
- Addressing emerging priorities (AI, research security, data sovereignty, knowledge valorisation…) will **ALL** require training and upskilling the research community in **responsible research management** and FAIR management of research outputs.

Thank you



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