

EU policy on open science and the European Open Science Cloud

22 October 2025

IV International Conference:

OPEN SCIENCE AND INNOVATION IN UKRAINE 2025

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European Commission



Open science as the modus operandi for research

Open science **facilitates sharing and collaboration**, to make research more efficient and productive, transparent and robust as well as responsive to policy and society needs and expectations.

Improving the **practice**

- **Early and open sharing of research**, ensuring verifiability and reproducibility
- **Providing immediate and unrestricted open access** to research outputs
- **Research output management** - publications, data, and other outputs - in line with FAIR principles
- **Public engagement in R&I**, e.g. citizen science

Developing the **enablers**

- **Incentives and rewards** to adopt open science practices, e.g. initiative for Reforming Research Assessment
- **Legislative and regulatory** environment for practicing open science
- Open research **infrastructures** and skills e.g. Open Research Europe (ORE), European Open Science Cloud (EOSC)



EOSC in the ERA Policy Agenda 2025-2027

11 Structural Policies

longer-term activities
embedded in policy & R&I systems
require efforts beyond Agenda's 3y cycle
include 3y work plan

1. **Open science, data sharing & EOSC**
2. **Research Infrastructures**
3. Gender equality
4. Research careers
5. **Reforming research assessment**
6. Knowledge valorisation
7. Global approach to R&I
8. Strategic energy technology
9. R&I and higher education
10. **Trust in science**
11. Access to excellence



8 Actions

concrete, policy-driven & goal-oriented
completed within Agenda's 3y cycle

1. **Equity in open science**
2. Science for policy
3. Responsible use of AI in science
4. **Research security**
5. R&I for industrial transformation
6. New Approach Methodologies for biomedical research
7. **Integrity and ethics in R&I**
8. Research management



ERA policy on 'enabling open science via sharing and re-use of data, including through the European Open Science Cloud'

Expected outcomes:

- develop a high-value **EOSC federation** and increase its uptake
- increase the amount and productivity of **FAIR** research data in Europe
- identify areas for measures and initiatives to enable an EU **copyright and data** framework fit for research
- assess the **impact of open science** policies and practices based on an open science policy intelligence platform



EOSC – keeping the policy momentum

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.



*“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**”*

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**”.*



EOSC – keeping the policy momentum

European Strategy on Research & Technology Infrastructures

Actions:

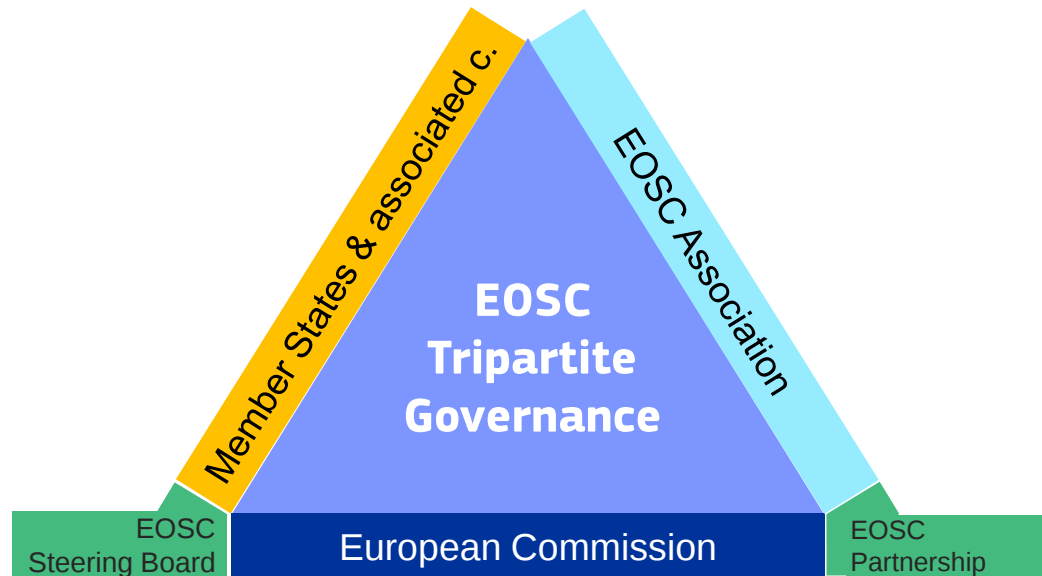
- [...]
- Sustain and enhance **the EOSC Federation** as Europe's research and innovation data space, enabling sharing and reuse of high-quality, FAIR research data, scientific results and digital services.
- Support **compliance with FAIR principles**, increasing FAIR data productivity, and connections to EOSC and other relevant data spaces.
- Support the **pooling and development of AI-ready research data** as well as **tools and services that enable the development of scientific AI models**, and their technological applications, accelerating the use of AI in science and, through it, contributing to the pilot phase of **RAISE**.

Also:

- **AI Continent Plan**
- **AI in Science Strategy**



EOSC: a joint initiative at EU, national & community levels



- ✓ Resource mobilisation & HE funding security **EC** EOSC A
- ✓ Strategic R&I Agenda **EC** EOSC A
- ✓ Community input for EOSC in Horizon Europe EOSC A
- ✓ Advice; national coordination **Steering Board**
- ✓ Position on EOSC in the future FP **Steering Board**
- ✓ Policy opinions **Steering Board**
- ✓ Financial estimates for EOSC post-27 **EC** **Steering Board**
- ✓ EOSC Open Science Observatory **EC** **Steering Board**
- ✓ Strategic Steer to Federation build-up **EC** **Steering Board** EOSC A
- ✓ EOSC Federation Handbook **EC** **Steering Board** EOSC A
- ✓ EOSC post-27 **EC** **Steering Board** EOSC A
- ✓ ...



EOSC EU Node



+3500 users

+70,000 virtual credits

[European Open Science Cloud - EU Node](#)

Services to researchers

- Manage research workflows
- Collaborate with Peers
- Discover research products

Provision of **federating capabilities**

- Authentication & Authorisation
- Catalogues, registry services
- Monitoring, accounting ('credits')
- Helpdesk
- ...



EOSC EU Node



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SusHi: A program for the calculation of Higgs production in gluon fusion and bottom-quark annihilation in the Standard Model and the MSSM

This article describes the code **SusHi** (for "Supersymmetric Higgs") which calculates the cross sections $\sigma(pp \rightarrow b\bar{b} \rightarrow \gamma\gamma) \rightarrow X$ in gluon fusion and bottom-quark annihilation in the SM and the **MSSM**, where $\gamma\gamma$ is any of the neutral Higgs bosons within these models. Apart from inclusive cross sections ...

Author H. Mantler | Robert V. Harlander | Stefan Liebler

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Available Services

The EOSC EU Node offers the following services:

File Sync and Share Enable automatic file syncing and secure sharing across locations and teams.	Interactive Notebooks Create and share documents with real-time code execution.	Large File Transfer Streamline large file transfers online with added security and integrity.
Virtual Machines Design and conduct experiments with flexibility while ensuring reproducibility.	Cloud Container Platform Deploy cloud-native containerised applications that can easily scale.	Bulk Data Transfer Move data effortlessly to data-intensive execution environments.



European Commission

EOSC EU Node

File Sync & Share Platform

All files

Personal

Shares

Spaces

Deleted files

Personal

+ New

Upload

☐	Name ↓	Status	Size
☐	 notebooks_service 		198.9 MB

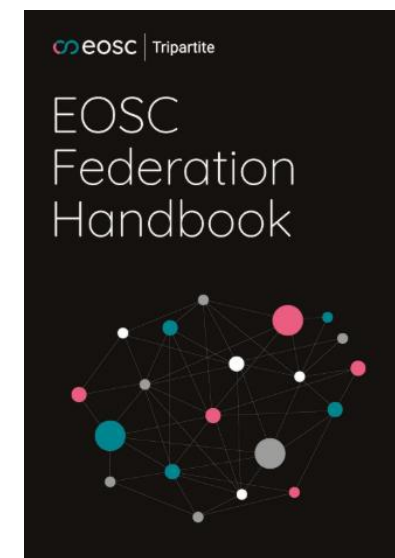
1 item with 198.9 MB in total (0 files, 1 folder)

EOSC Federation

- A pan-European system interconnecting FAIR research data and digital/scientific services and tools across scientific disciplines and across Europe
- In March 2025 13 'candidate' EOSC Nodes joined the EU Node to build a first operational version of the EOSC Federation
- Showcasing first results in EOSC Symposium 2025 (3-5 November)
- Upcoming opportunities for more organisations to contribute



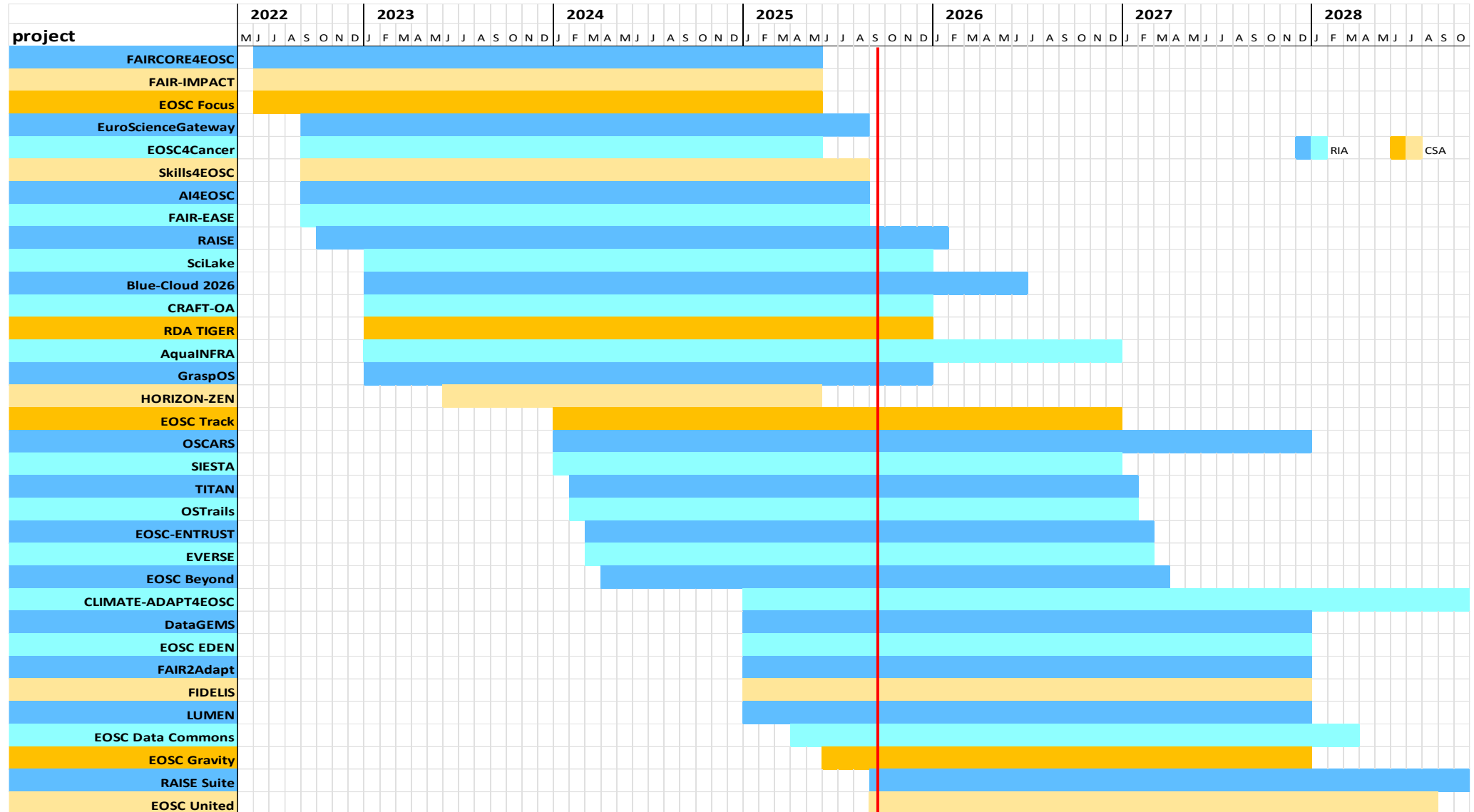
Organisations setting up first 13 EOSC 'candidate Nodes'



[10.5281/zenodo.14999576](https://zenodo.org/record/14999576)



EOSC projects in Horizon Europe



EOSC in Horizon Europe – 2025 call

5 topics / 106.5 M€ / closed on 18 September

RIA
30M€
4-5
projects

01-01: EOSC Nodes with federating capabilities for the EOSC Federation

RIA
16M€
2-3
projects

01-02: FAIR Integration for Enhanced Research Data in the EOSC ecosystem and beyond

RIA
15M€
1-2
projects

01-03: Advancing AI-readiness and Machine Actionability in the EOSC Ecosystem

CSA
8M€
1 project

01-04: Data stewards, skills and training for Open Science and FAIR practices

RIA
37.5M€
4-5
projects

01-05: Using Generative AI (GenAI4EU) for Scientific Research via EOSC



EOSC in Horizon Europe

Draft call for 2026-2027 – 4 topics

- 2026
 - 1. Uptake of FAIR data management practices and of EOSC by research communities and research infrastructures
 - 2. Trusted frameworks for secure and efficient data sharing in EOSC
- 2027
 - 1. Expanding and deepening the EOSC Federation
 - 2. Strengthening the potential of the EOSC for knowledge valorisation and industry academia collaboration

Find it here: <https://ec.europa.eu/transparency/comitology-register/screen/documents/109463/1/consult?lang=en>





Horizon Europe 2028 - 2034

The structure of the new Horizon Europe

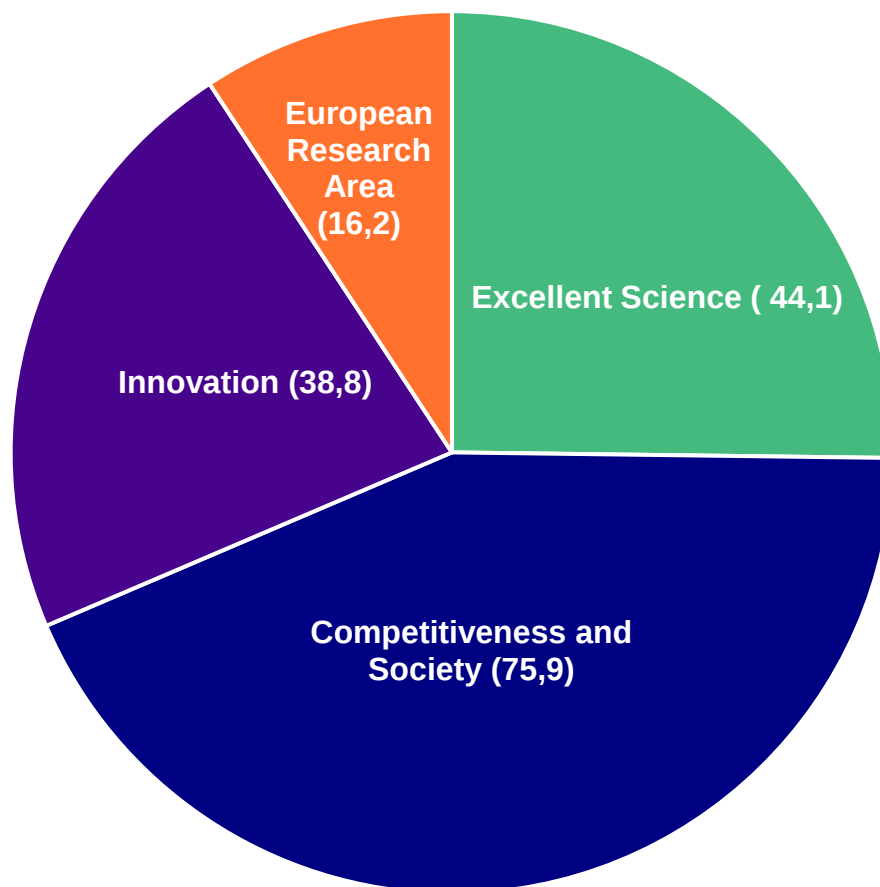


¹ Consistent with activities under the European Competitiveness Fund

The Budget

Horizon Europe total budget EUR 175 billion (current prices)

Figures all in EUR billion



■ Excellent Science (44,1)

■ Competitiveness and Society (75,9)

■ Innovation (38,8)

■ European Research Area (16,2)



Novelties

**Further
Simplification**

**Partnerships
Landscape**

EIC

**Research and
Technology
Infrastructures**

Widening

**Dual-use
research**

Pillar IV - European Research Area (ERA)

Pillar IV aims to support the development of a unified ERA with a focus on promoting excellence, inclusiveness and impact. It also supports the development and operation of research and technology infrastructures.

Indicative budget: **EUR 16.2 billion**, of which

- EUR 5.4 billion for 'Widening Participation and Spreading Excellence'



Research and Technology Infrastructures

Research Infrastructures

Support the construction, development and integration of research infrastructures of EU interest

- Developing, consolidating and streamlining the Union landscape of research infrastructures
- Reinforcing transnational access to research infrastructures across domains and sectors, and adapting to new emerging user communities
- Making research infrastructures more resilient and sustainable while keeping pace with rapid technological advancements
- **Developing a web of FAIR and machine-actionable research data, including through expanding and consolidating the European Open Science Cloud as Europe's research data space**
- Reinforcing European research infrastructure policy and international cooperation

Technology Infrastructures

Improve technology infrastructure capacities in the Union and facilitate access to the integrated services of such infrastructures for innovative companies, including start-ups and scale-ups

- Development of new technology infrastructure capacities
- Improving the visibility and uptake of technology infrastructure services
- Access programme for SMEs, start-ups and scale-ups across the Union
- Collaboration and networking among the infrastructures, training and upskilling of their staff
- Reinforcing the European technology infrastructure policy.

The funding of the Research and Technology Infrastructures shall contribute to equip the Union with a strong and coherent ecosystem of world-class sustainable facilities and services, building on prioritised pan-European infrastructures and complementary state-of-the-art national capacities and using funding instruments, including European partnerships. The Programme shall contribute up to 20% of the building costs of critical new world-class capacities of European research and technology infrastructures

Future directions for EOSC

Sustaining and enhancing the **EOSC Federation**

- Building Europe's high-value, FAIR research data space

Contributing to the **web of FAIR data and the uptake of AI**

- AI for FAIR & FAIR for AI

Ensuring research **security** and **sovereignty**

- Secure and trusted research environments, data sovereignty

Linking with **other Common European Data Spaces and beyond**

- FAIR-inspired data quality principles outside academia (public sector, industry)



Thank you



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