EOSC: From the EOSC EU Node to the EOSC Federation

National Tripartite Event Hungary 2024

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#EOSC #EOSCTripartite
#OpenScience #EUResearchArea

European Commission

Research and Innovation

EOSC, for the digital transformation of research

What is EOSC?

- **A (policy) 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 research.

- **An open and trusted Federation of collaborative and autonomous infrastructures (system of systems, web of distributed Nodes)**
  - Applying agreed, consensus-based policies and rules of participation
  - Enable 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, an EU policy priority

- **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 Research Area (ERA) Policy Agenda** - **Priority Action 1**:
  Enable the open sharing of knowledge and the re-use of research outputs, including through the development of the European Open Science Cloud (EOSC).

Outcomes of Priority Action 1:
1. Deploy Open Science Principles and identify Open Science best practices.
2. Deploy the core components and services of EOSC and federate existing data infrastructures in Europe, working towards the interoperability of research data.
3. Establish a monitoring mechanism to collect data and benchmark investments, policies, digital research outputs, open science skills and infrastructure capacities related to EOSC.

EOSC, next ERA policy agenda, current proposals

**Deepening
an internal market for knowledge**

I. Pact priority area

Green and digital transition

- **Enabling Open Science**
- Equity in Open and Responsible Research
- **Research Infrastructures**
- Inclusive and intersectional gender equality
- Research Careers
- **Research Assessment**
- Fundamental research and scientific leadership
- Establishment of a European Science for Policy ecosystem
- Knowledge Valorisation
- Freedom of Scientific Research
- **AI in science and research in the EU**
- Global Approach to R&I
- Knowledge Security

II. Pact priority area

IV. Pact priority area

III. Pact priority area

- Revamping the SET Plan (merger with Renewable Energy Valleys, tbc)
- Greening Research: first steps towards sustainable research practices
- Non-animal approaches in biomedical research and testing pharmaceuticals
- A harmonised framework to support integrity and ethics in R&I
- Unleashing the full R&I potential of Europe's universities
- Industrial transformation for Europe's competitive sustainability and strategic autonomy
- Citizen Engagement, including trust in science for a stronger and more democratic European society

Research and innovation excellence

- Improve EU-wide access to excellence
- An new ERA for Research Management

Investments and reforms

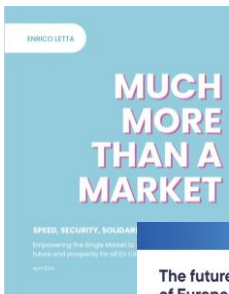- An R&I foresight community of practice

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EOSC, 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. ..."

"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**"

Draghi
The future of European competitiveness

"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**".

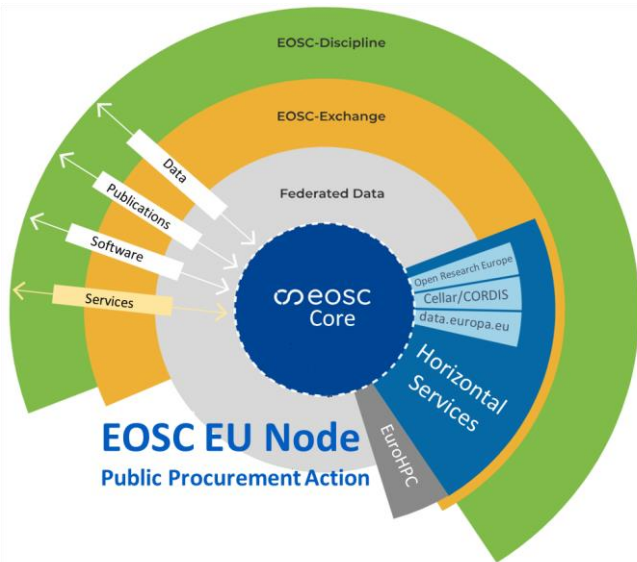European Commission

EOSC, the Federation and its value proposition

EOSC as an open and trusted Federation of collaborative and autonomous infrastructures, a web of distributed EOSC Nodes:

- **Economies of scale:** EOSC Nodes will take advantage of commonly pooled resources and functionalities, enabling them to focus on their core business.
- **Interdisciplinarity:** EOSC will make a step change in fertilizing research that cuts across established disciplinary boundaries, while increasing visibility and re-use of discipline-specific data and services.
- **Research security:** Researchers will find in EOSC a trusted and sovereign environment where they can securely store, analyse and share their results and collaborate within and across disciplines.
- **Enabling AI:** By pooling massive amounts of high-quality FAIR research data, software and compute, and by connecting to other common European data spaces, EOSC aspires to become a key driver of European leadership in AI for science.
- **Policy implementation:** Infrastructure and service providers that will enrol in EOSC will seamlessly comply-by-design to the EU's research and digital policies that are enshrined in the rules and policies of the EOSC Federation.

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Rollout of the **EOSC Federation** (I), the **EOSC EU Node**

The **EOSC EU Node** provisioned from the European Commission
and its value proposition:

- **Facilitate** the creation of the *"Web of FAIR data and interoperable services"* (aka. EOSC Federation) under the Open Science Policy
- **Put** a *"seed in the ground"* by operationalizing the first recognised EOSC Node at the European level for the initial 3 years
- **Offer** "*core services*" for scientific research infrastructures to federate (single-sign-on, catalogues, knowledge graph, application workflow, monitoring, accounting, helpdesk) and common "*horizontal services*" for end-users to benefit from (compute, containers, data transfer, notebooks, file sharing, open research data)
- **Define** the *pathway and blueprint* (EOSC Interoperability Framework) for other potential EOSC Node operators to join the federation

Can I use it? Yes, you can! Launched at EOSC Symposium in Oct. 2024!

Rollout of the EOSC Federation (I), the EOSC EU Node

How can I use it? Go to:
https://open-science-cloud.ec.europa.eu/

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EOSC EU Node

Resource Hub

Stefan LIEBLER
user

Logout

Overview

Notifications

Tools Hub

SERVICES

File Sync & Share

Interactive Notebooks

Large File Transfer

Cloud Container Platform

Virtual Machines

Bulk Data Transfer

Other Services

GENERAL

Groups

Orders

Credits

Favourites

Settings

QUICKLINKS

Helpdesk

Resource Hub

Monitoring

Training Platform

Credits

Overview of your credits.

Your credits

90
Remaining credits

78 days
Next refresh

Services

File Sync & Share
10 credits consumed in this period
View Service >

Interactive Notebooks
Access enabled
View Service >

Virtual Machines
Not available
Please read our User Access Policy for more information
View Service >

Cloud Container Platfo
Not available
Please read our User Access Policy
View Service >

What are credits?

Credits are your virtual currency within the EOSC EU Node which you can spend to consume select services according to your needs.

Credits have no monetary value and are used exclusively in the EOSC EU Node to allow a fair, transparent, and equal access to its services across the entire European research community.

Credits are provided to you for **free of charge (at the point of use)** by the European Commission the first time you log in and are **automatically** renewed every three months. You can find all your spending history and remaining credits in your personal wallet. Please remember that you cannot transfer your credits to another person or between periods.

File Sync & Share

Enable automatic file syncing and secure sharing across locations and teams.

ownCloud infinite Scale can be accessed via a web browser, desktop app or mobile app. To find instructions on how to use these features, ple ownCloud and ownCloud Infinite Scale documentation. You may also check out the ownCloud Web for Users, the Desktop App for Windows, Android, and the Mobile App for iOS documentation.

Note: The directory "notebooks_service" will automatically sync files to the Interactive Notebooks service. The "notebooks_service" directory Interactive Notebooks service.

Open in OwnCloud

Personal | Shared with me

Root

Create folder | Upload file

Name	Size	Owner
notebooks_service	189.71 mb	Stefan LIEBLER

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EOSC EU Node
File Sync & Share Platform

Enter search term   All files

< Personal

Personal

Shares

Spaces

Deleted files

+ New   ↑ Upload

Name ↓	Status	Size
notebooks_service		198.9 MB

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

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EOSC EU Node: User Space

Real scientific use cases:
EOSC Symposium 2024, Day 3
Deep dive into the EOSC EU Node
https://eosc.eu/eosc-symposium-2024-outcomes-and-resources/

Live demo at the Technical launch event:
https://open-science-cloud.ec.europa.eu/news/technical-launch-european-open-science-cloud-eosc-eu-node-sets-stage-successful-deployment

Rollout of the EOSC Federation (II)
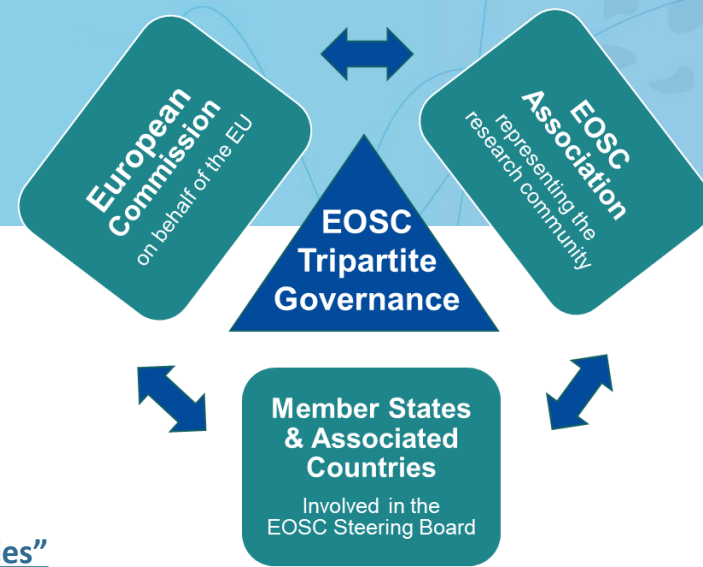
EOSC Tripartite Group (EC, MS/AC, EOSC Association):
Established in April 2024 by the *EOSC Tripartite Governance*
with the aim of developing commonly agreed positions and providing
strategic steering for what concerns the establishment, operation,
and future development of the EOSC Federation.

Document on " Building the EOSC Federation: requirement for EOSC nodes"
> Set requirements on: Legal status, quality service provision, capacity to onboard third-party services and to contribute to EOSC core capabilities, compliance with EOSC Federation rules and standards, monitoring, community engagement and sustainability.

EOSC Federation Handbook (in progress, led by EOSC-A)

Questionnaire for parties interested in joining the build-up phase of the EOSC Federation
> 121 organizations replied to the questionnaire between June and August 2024.

Rollout of the **EOSC Federation** (III)

Build-up phase of the EOSC Federation (kick-off early 2025):

Goal: to achieve a first realization of an operational EOSC Federation towards the end of 2025, with several nodes (including the EOSC EU Node) interconnected and enabling the sharing of resources, i.e. data and services, and the demonstration of EOSC added value in practice.

Identification of Potential Candidate Nodes	Dialogue phase	Identification of Candidate Nodes
• Readiness contribute to the goals of the build-up phase • Maturity and accessibility of resources • Diversity (geographic scope, thematic, type, etc.)	• Improved understanding of the vision and readiness (organisational aspects, technical capabilities, compatibilities, maturity, offered resources, etc.) • Co-creation of roadmap for the build-up phase	• Organisations invited to kick-off the build-up phase. • Voluntary work. No financial support foreseen for orgs joining the build-up phase.

Successive waves of enrolment on nodes and onboarding of services (timing & frequency tbd)

Continuous engagement of all interested organizations on relevant developments and decisions

EOSC, alongside the Federation

EOSC post-2027: Discussion of the Tripartite Governance on future governance, finance and operations of EOSC
- Further development and deployment of the Federation
- Providing input to the next EU Framework Programme

Horizon Europe support to EOSC:

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Horizon Europe (2021-2027)
support to EOSC ~ EUR 490 million

2021-23

- **27 funded projects,** 587 participations
- **1 procurement** action for EOSC EU node

2024

- **9 new projects** selected for funding

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2025-27: INFRAEOSC destination fully embedded in the Strategic Orientations for 2025-27 Research Infrastructures Work Programme.
- WP25: adoption expected for April 2025
- WP26-27: adoption expected for December 2025

Key Inputs for WP25:
- EOSC Partnership and the EOSC Strategic Research &Innovation Agenda
- EOSC Steering Board opinion papers
- ESFRI-EOSC Task Force recommendations
- Stakeholder consultations

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Thank you!