



EOSC and the EOSC federation

Spain National Tripartite Event

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What is 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

The value proposition of the EOSC federation

- **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 fertilising 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 with their peers 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.

Challenges for the EOSC federation

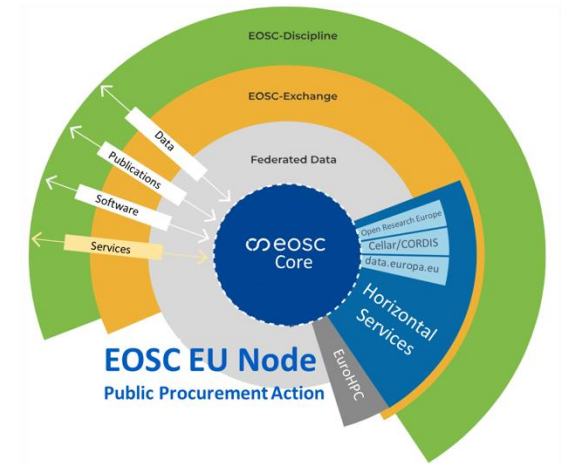
- Definition of the **high-level architecture of the Federation** (Nodes vs service providers, policies and requirements, interoperability framework).
- To ensure effective **expansion, inclusiveness and scalability** of the EOSC federation
- Demonstration of the **EOSC added-value**. Stimulate the connection of RIs and major FAIR data producers, as well as the federation of e-infrastructures and integration of services in the EOSC.
- Increase of high-quality **FAIR data productivity**.
- **Continuous development** and testing of technologies and service elements for the EOSC Core and Exchange Definition of the high-level architecture of the Federation.
- **Gradual expansion** of the EOSC Federation. Interconnecting it with other EU data spaces. Interconnection of RIs to other relevant digital infrastructures
- EOSC post-2027. Discussion on **future governance**, finance and operations of EOSC . Considering Tripartite Governance, contributions of the different parties, further development and deployment of the Federation. **Providing input to the next Framework Programme.**

Roll-out of the EOSC federation (I)

Deployment of the EOSC EU Node

EOSC EU Node 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

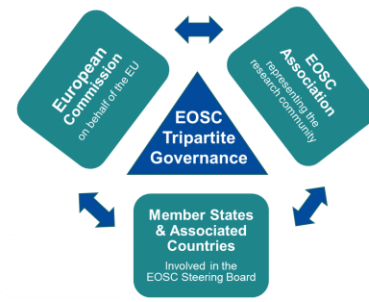


Upcoming milestones

- **Oct 10th**
Technical Launch
- **Oct 21-23, EOSC Symposium 2024**
Presentation of the EOSC EU node to the community

Roll-out of the EOSC federation (II)

EOSC Tripartite Group (EC, MS/AC, EOSC-A)



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

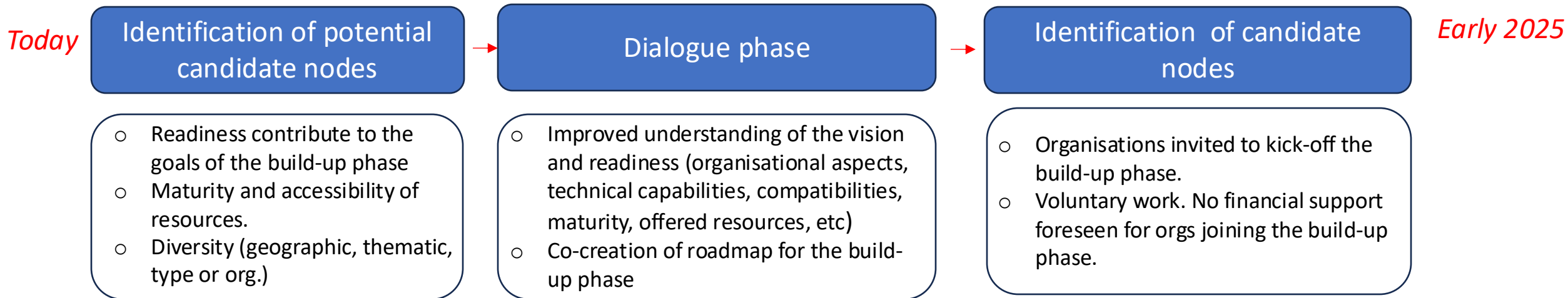
- **Document on “ Building the EOSC Federation: requirement for EOSC nodes”**
 - Set requirements on: Legal status, quality service provision, capacity to onboard third-party services and to contribute to EOSC core capabilities, compliance with EOSC Federation rules and standards, monitoring, community engagement and sustainability.
- **EOSC Federation Handbook** (in progress, led by EOSC-A)
- **EOSC-A Questionnaire for parties interested in joining the build-up phase of the EOSC Federation** (closed end Aug).
 - 121 organizations replied to the questionnaire.
 - Next: Analysis of replies and selection of potential candidate nodes.

Roll-out of the EOSC federation (III)

A staged approach*.

- Build up phase (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.



- Successive waves of enrolment on nodes and onboarding of services (timing & frequency tbd)
- Continuous engagement of all interested organizations on relevant developments and decisions.

* Ultimately any decisions on the roll-out of the EOSC Federation, including the arrangements for the build-up phase and initial selection of candidate nodes, will be made by the EOSC Tripartite Governance

HE Research Infrastructures WP. Strategic Orientations 2025-27

- **Destination 2: European Open Science Cloud (EOSC), Destination Earth (DestinE) and pan-European National Research and Education Networks**
 - 2.1. Enabling an operational, open and FAIR EOSC ecosystem.
- **WP 2025:** Adoption expected for Q1/Q2 2025
- **WP 2026-2027.** Adoption expected for Q3/Q4 2025

Next ERA Policy Agenda 2025-2027: Current proposals. **Council negotiation & adoption Q1-Q2 2025**

Deepening an internal market for knowledge

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

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

Green and digital transition

- 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

EOSC in the broader EU policy context

ENRICO LETTA

MUCH MORE THAN A MARKET

SPEED, SECURITY, SOLIDARITY

Empowering the Single Market to deliver a sustainable future and prosperity for all EU Citizens

April 2024

*“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. This empowers citizens, researchers, and businesses alike, allowing them to tap into a wealth of knowledge for innovation and societal progress. To remove barriers to knowledge sharing, the **EU must harmonise cross-border data flow mechanisms, particularly interoperability and data protection regulations, and invest in robust digital infrastructure.** This facilitates the secure and efficient transfer of non-personal data vital to research and innovation within the EU, supporting the development of European data spaces in key sectors - the chapter on health will focus on the European Health Data Space (EHDS) - to promote data sharing and use for the benefit of the economy and society, and strengthen cybersecurity through regulations, standards, and practices that protect critical infrastructures and citizens' data.”*

EOSC in the broader EU policy context

The future of European competitiveness

Part A | A competitiveness strategy for Europe

SEPTEMBER 2024

“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. Most Member States cannot achieve the necessary scale in their financial or organisational capacities. This calls for a strategic coordinated approach, with a central role for the EU.”

“Focus on European values: The EU’s efforts to hone its competitive edge need to be guided by European values, which should be further reinforced by its action. These encompass fundamental values, including human rights, the rule of law and democracy, but also values of specific relevance to research and innovation, 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**. These values and principles should remain at the core of Europe’s approach and constitute the strength of its model of excellent, collaborative research. Promoting these values makes Europe a more attractive place for researchers and businesses from around the world.”

“Increase joint investment in world-leading research and technology infrastructure. Research and technology infrastructure is essential for ground-breaking R&I, and often serves as a focal point of R&I ecosystems”.

Thank you



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