



# EOSC Partnership roadmap for 2025 - 2027: developing the European priorities

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# EOSC co-programmed European Partnership

## EOSC European Partnership MoU

EN  
Annex 5

Memorandum of Understanding for the  
Co-programmed European Partnership for the  
European Open Science Cloud (EOSC)

The European Open Science Cloud Association, representing the partners other than the Union (its constituent entities)<sup>1</sup>, the registered offices of which are in Rue du Trône 62, 1050 Bruxelles, hereafter referred to as the "Partners other than the Union", and the European Union, represented by the European Commission, (jointly hereinafter referred to as "the Partners"),

Considering that:

- Parts of Horizon Europe – the Framework Programme for Research and Innovation ("Horizon Europe")<sup>2</sup> – may be implemented through Co-Programmed European Partnerships, on the basis of a Memorandum of Understanding between Partners determined to support the development and implementation of research and innovation activities of strategic importance to enable the Union to address global challenges and maintain its competitiveness in line with EU priorities, including the Sustainable Development Goals;
- The Strategic Plan for Horizon Europe<sup>3</sup> has identified a candidate for a Co-Programmed European Partnership for the European Open Science Cloud (EOSC) considered instrumental to deliver scientific, economic and societal impact in line with the Horizon Europe objectives;
- The proposal received from the Partners other than the Union has been positively assessed by the European Commission in that it fulfils the new ambition and the selection criteria referred to in Article 10 and Annex III of Regulation (EU) 2021/695 of the European Parliament and of the Council<sup>4</sup> ("Horizon Europe");
- The implementation, monitoring and evaluation of the European Partnerships will comply with the criteria referred to in Annex III of Horizon Europe, including an alignment with Horizon Europe monitoring and evaluation provisions, set out in Article 50 and Article 52, as well as Annex V on Key Impact Pathways;
- The multi-annual Strategic Research and Innovation Agenda (SRIA) agreed by the Partners will provide the basis for the development of the co-operation under this

<sup>1</sup> Constituent entities are the members of the Association.

<sup>2</sup> Regulation (EU) 2021/695 of the European Parliament and of the Council of 28 April 2021 establishing Horizon Europe – the Framework Programme for Research and Innovation, laying down its rules for participation and dissemination (OJ L 170, 12.5.2021, p. 1–68.)

<sup>3</sup> <https://op.europa.eu/en/web/eu-law-and-publications/publication-detail/-/publication/306f074-8ac3-11eb-b85c-01aa75ed71a1>

<sup>4</sup> OJ L 170, 12.5.2021, p. 1–68.

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	20208121
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**Strategic R&I Agenda:** basis for defining the annual priorities in line with the Strategic Plan for Horizon Europe

**EOSC Association:** input and advice to the EC for identification of R&I priorities and definition of HE call topics

**European Commission:** takes into account EOSC A input and advice for call topics' preparation

Call topics subject to Horizon Europe comitology procedures

# EOSC Strategic R&I Agenda

## Strategic Research & Innovation Agenda



3 General objectives



9 Specific objectives



14 Operational objectives

### 14 Action Areas

Identifiers

Rules of participation

Metadata and ontologies

Landscape monitoring

FAIR metrics/certification

Business models

AAI

Skills and training

User environments

Rewards and recognition

EOSC interoperability framework

Widening public/private/global

Resource provider environments

Communication

### Roadmap

# INFRAEOSC Destination

## Co-programmed European Partnership



## Strategic Research & Innovation Agenda



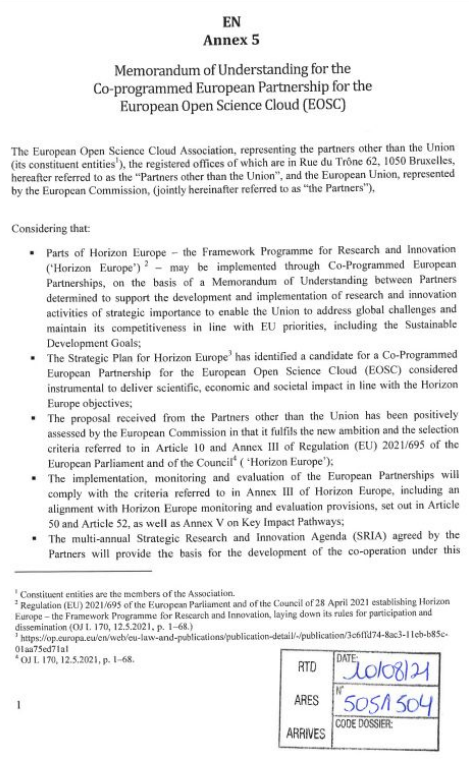
## INFRAEOSC Destination

2021 : 6 topics | 59 M€

2022: 4 topics + Pu Pr | 65 M€

2023: 6 topics + 2 GIB | 70 M€

2024: 5 topics | 61 M€



# INFRAEOSC Destination in WP23-24

Continue to develop the EOSC in a more cohesive and structured manner so that it becomes a fully operational enabling ecosystem for the whole research data lifecycle.

Expected impacts:

- Transforming the way research outputs are shared and exploited
  - Facilitating multi-disciplinary cooperation
  - Increasing volumes of FAIR research data and other outputs
  - Improving trust in science
- 
- All software developed should be open source, licensed under CC0 or open source licences.
  - All projects expected to participate in concertation activities in the framework of the EOSC Partnership.

# INFRAEOSC 2021-2022 calls

## 2021 / 6 topics / 59 M€

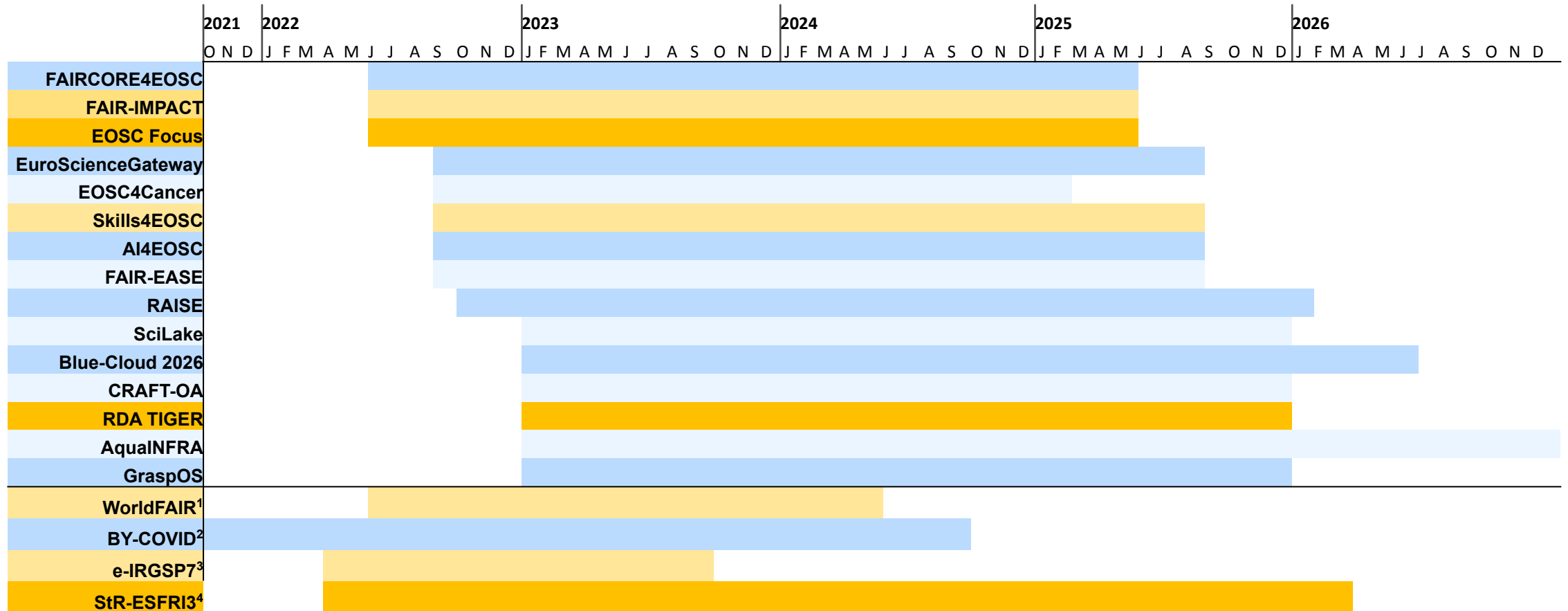
- 1: Supporting an EOSC-ready digitally skilled **workforce**
- 2: Supporting the development and coordination of activities of the **EOSC Partnership**
- 3: Deploying EOSC-**Core** components for FAIR
- 4: Innovative and customizable **services** for EOSC
- 5: Enabling discovery & **interoperability** of federated research objects across sc. communities
- 6: FAIR and open data sharing in support of **cancer** research

## 2022 / 4 topics + 1 Pu Pr / 65 M€

- 1: Services & tools to underpin a **research assessment** system that incentivises OS practices
- 2: Improving & coordinating technical infrastructure for institutional OS **publishing** across Europe
- 3: FAIR and open data sharing in support of healthy oceans, seas, coastal and inland **waters**
- 4: Support for initiatives helping to generate **global** standards, specifications & recommendations for open sharing of FAIR research data, publications and software
  - Public procurement on EOSC **Core & services**

# WP21-22 INFRAEOSC projects

15 projects / 87 M€ / 221 unique participants / 330 participations



<sup>1</sup>2021-ERA-01-41; 1.9 M€; 19 participants

<sup>2</sup>2021-EMERGENCY-01; 12 M€; 53 participants

<sup>3</sup>2021-DEV-01-05; 0.3 M€; 4 participants

<sup>4</sup>2021-DEV-01-01; 2.5 M€; 4 participants

# INFRAEOSC 2023 call

## 6 topics / 69 M€

- 1: Build on the **science cluster** approach to ensure the uptake of EOSC by research infrastructures and research communities
- 2: Development of community-based approaches for ensuring and improving the quality of scientific **software and code**
- 3: Planning, tracking, and assessing **scientific knowledge production**
- 4: Next generation services for operational and sustainable **EOSC Core** Infrastructure
- 5: EOSC Architecture and **Interoperability** Framework
- 6: Trusted environments for **sensitive data** management in EOSC
  - GIB HE repository + EOSC monitor



# INFRAEOSC – 2024 Call

5 topics / 61 M€ / opening 6 December 2023 / deadline 12 March 2024

RIA  
16M€  
2 projects

**EOSC-01-01:** FAIR and open data sharing in support of the mission adaptation to **climate change**

CSA  
4M€  
1 project

**EOSC-01-02:** Supporting the **EOSC Partnership** in further consolidating the coordination and sustainability of the EOSC ecosystem

CSA  
5M€  
1 project

**EOSC-01-03:** Enabling a network of EOSC federated and trustworthy **repositories** and enhancing the framework of generic and discipline specific services for data and other research digital objects

RIA  
8M€  
1 project

**EOSC-01-04:** Long-term access and **preservation** infrastructure development for EOSC, including data quality aspects

RIA  
28M€  
4 projects

**EOSC-01-05:** Innovative and customizable **services for EOSC Exchange**

# Looking to the future: strategic objectives

- Align practices and standards for high-quality FAIR data.
- Develop tools & services to find, access, reuse and combine FAIR research results.
- Develop, deploy and demonstrate value of EOSC's core components & services, and enlarge the EOSC federation.
- Open science becoming the 'new normal': ensure that open science policies, practices and skills are monitored, rewarded and taught across Europe.

# Looking to the future: challenges

- Demonstrate EOSC added value to the research process itself and increase the uptake of EOSC and open science by European scientists and research organisations of all types;
- Develop EOSC as an accelerator of the digital transition. Foster high FAIR data productivity, promote FAIR data literacy and sovereignty of FAIR research data;
- Develop the EOSC as a public good first and foremost for the researchers and then open it progressively to the public sector and to partners from the commercial sector that are dedicated to open science;
- Deploy EOSC as the European Data Space for research and innovation and support the interconnection of EOSC with other data spaces;
- Ensure continuation of the operation of the EOSC Platform after the end of the upcoming EOSC procurement contract;

# Looking to the future: challenges

- Promote interconnection of digital RIs within the EOSC federation and with other digital infrastructures
  - Motivate the linking between existing RIs as active nodes within the EOSC federation;
  - Encourage the linking between RIs and other relevant sectoral European data spaces under the EU data strategy[1] in view of becoming a source of data for innovation and economic development;
  - Advocate interconnection of RIs to other relevant digital infrastructures, including those funded under the Digital Europe Programme e.g. EuroHPC[2] and TEFs[3] or Horizon Europe programmes e.g. AI on Demand Platform[4].
- Prepare for sustainable operation of the EOSC federation, explore sustainability options, business models and funding modalities; prepare for the evolution of the EOSC governance beyond 2027;
- Continue promoting the uptake of Open Science and EOSC through sharing best practices and demonstrators and monitoring progress and impact continuously (with relevant links to the ERA monitoring Mechanism);
- Continue support to Horizon Europe missions with FAIR and open uses cases capitalising on EOSC resources made available through the EOSC federation;
- Increase focus on EOSC enabling citizen science.

# Looking to the future: tripartite governance points to guide future EOSC activities

- Need for continued operation of an operational EOSC infrastructure. Key to the added-value will be the federation of e-infrastructures and integration of services in the EOSC core
- A meaningful EOSC will require a meaningful amount of FAIR data and other digital outputs becoming accessible through the EOSC federation. Turn FAIR (principles and metrics) into coherent practices across Europe by all research communities. This will imply reinforced efforts towards (i) accelerating FAIR Data productivity by all research communities while safeguarding FAIR data sovereignty and autonomy by the research performing organisations generating the data, (ii) sustaining FAIR-enabling repositories ensuring FAIR data quality and long-term data preservation and connecting them to the EOSC federation, and (iii) reinforcing both networking and capacity building activities in relation to skills for Open and FAIR practices and the supporting knowledge centres and networks of FAIR data stewards across Europe
- Future EOSC governance and operation shall ensure the public good nature of EOSC. Main focus shall be on the public research sector during the ramp-up phase.
- The EOSC environment shall be primarily deployed as the European Data Space for research and innovation, properly interconnected with the other data spaces.

# Looking to the future: tripartite governance points to guide future EOSC activities

- New state-of-the-art technologies and service elements for the EOSC Core and Exchange will have to be explored or incubated, improved and upgraded following user feedback.
- The EOSC federation shall build on a widely adopted EOSC Interoperability Framework (cross-domain and discipline-specific) of FAIR data and composable services. This framework shall be maintained with agreed guidelines to support common operation across the federation.
- It will be essential to ensure effective expansion and scalability of the EOSC federation involving an increasing number of research infrastructures, each of them providing FAIR data and services aligned in terms of community standards and EOSC acceptable use policies and rules of participation.
- A new governance model for operating, evolving and sustaining the EOSC federation after 2027 shall be detailed and agreed upon.
- Business models to sustain the EOSC federation and the FAIR data federation will have to move from high level considerations to operational models tailored to different EOSC user profiles/use scenarios.
- EOSC progress shall continue to be monitored along the agreed frameworks and targets developed by the EOSC Steering Board and the EOSC European Partnership. Good practices and thematic demonstrators shall be promoted to enrich mutual learning.
- As we go along with the expansion of the EOSC federation, increased focus shall be put on EOSC enabling citizen science.

# Looking to the future: what priorities for future work programmes? WP25

- EOSC SO1 - Aligned curricula for data stewards across Europe and coordination of national and community networks of FAIR data stewards in Europe. 1 CSA.
- EOSC SO2 - Common approach to FAIR assessment tools and development of EOSC-compatible FAIR metrics tailored to specific need by the communities. 1 RIA.
- EOSC SO2 - Upscaling best practices by the communities in terms of tools and guidelines to implement FAIR-by-design for data and other research outputs. Few IAs.
- EOSC SO2 - Machine-actionable research data repositories linked to the EOSC federation enabling FAIRness and AI-readiness. Few RIAs.
- EOSC SO2 - FAIR and open data sharing in support of the mission Climate Neutral and Smart Cities. Two RIAs.
- EOSC SO3 – Enable the EOSC platform to host AI-ready data for FAIR and transparent large scale AI research. Two RIAs.
- EOSC SO3 - EOSC Platform (EU node) continuation post 2026.
- EOSC SO3 – Integration of data-rich communities in the EOSC Platform (EU Node). Several RIAs.
- EOSC SO3 – Building consensus-based, strategic views on e-infrastructures coordination and integration into the upcoming EOSC federation. 1 CSA.

# Looking to the future: what priorities for future work programmes? WP26-27

- EOSC SO1 - EOSC enabling citizens science. Few IAs.
- EOSC SO3 - EOSC Interoperability. 1 CSA.
- EOSC SO3 – EOSC opening-up to the wider public and private sectors.
- EOSC SO1, SO2, SO3 – transitioning to the 3rd phase of EOSC implementation after 2027.



# Looking to the future: strategic objectives

- Building up on work programmes 21-24

To address the following main challenges:

- demonstrate EOSC added value to the research process; showcase demonstrators; increase uptake by researchers;
- **EOSC as an accelerator of the digital transition: FAIR data literacy, sovereignty, etc**
- **EOSC as a public good: researchers primary users; open progressively to public/private sectors**
- **Deploy EOSC as a European data space, and connect other data spaces**
- **EOSC platform after the end of the procurement contract**
- **EOSC sustainability beyond '27: business/funding models; governance**
- **EOSC enabling citizen science**
- **EOSC support to EU Missions**
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