

EOSC Beyond

Next Generation of EOSC Core Services





coeosc Beyond Overall Objective

Advance Open Science and innovation in research by providing new EOSC Core capabilities that allow scientific applications to integrate and compose multiple EOSC Resources from national, regional and thematic **EOSC Nodes**

Project Factsheet



Call topic:

HORIZON-INFRA-2023-EOSC-01-04

Next generation services for operational and sustainable EOSC Core Infrastructure

Project Officer:

Flavius Alexandru PANA European Research Executive Agency Unit REA.C.4 **Budget:** 10.000.000€

Start: 01/04/2024

Duration: 36 months







Consortium: 33

- E-Infrastructures: EGI, OpenAIRE, EUDAT, GEANT
- Technology providers: ATHENA, CERN, CESNET, CYFRONET, DANS, FZJ, GRNET, GWDG, IISAS, INFN, IPB, KIT, LIP, UPV, SRCE, UKIM, UPV
- Research communities: CNB-CSIC, CESSDA (EKKE, TARKI), CMCC, DESY, ENEA, INSTRUCT-ERIC, LifeWatch. NFDI. Premotec, UNITN

Coordinator: EGI Foundation





What we are expected to deliver

AAI, Resource Catalogues, Monitoring Accounting, Helpdesk, etc.



Improved existing EOSC
Core services and
framework



Next Generation Core services to support the setup and the Federation of EOSC Nodes



Advanced IF registry
Machine composability
AWM/Exec Framework



SW Libraries implementing interface described in the EOSC IF Guidelines

The EOSC Execution Framework

The EOSC Integration Suite



Enhanced EOSC Platform Blueprint

EOSC Core Innovation Sandbox



National/Regional:

Germany (NFDI)

Czech Republic (e-Infra CZ),

NI4OS Southeast Europe (GRNET, IPB, UKIM)

e-Infrastructures:

EGI Federation



Network of EOSC Pilot Nodes

Thematic:

Environmental (LifeWatch)

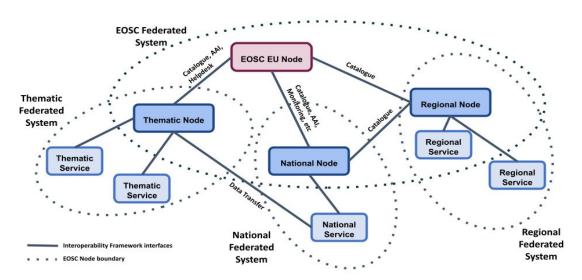
Health and Food (METROFood-RI)

Structural Biology (Instruct-ERIC)

Climate Science (ENES)

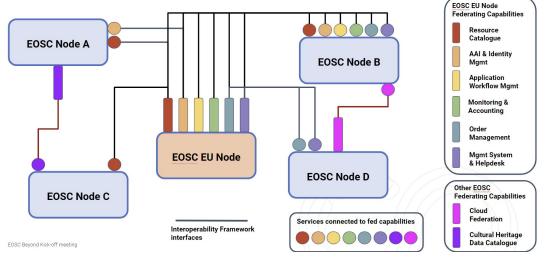


EOSC Federation Technical Architecture



EOSC as a Federation of Nodes

EOSC Node X Core Services Enabling Node operation Federating Capabilities Services that participate in fed **EOSC Compliant Interfaces to** Other EOSC Nodes connect to federating capabilities Core services enabling fed (including the EU Node) **Community Services** Pushed to / pulled from EOSC Exchange Community Exchange Other services, datasets and resources of interest Interoperability partite meeting Framework



Federating Capabilities

Ongoing Activities

- **Modelling the Technical Architecture according to** the requirements of the pilot nodes & other users
- Identifying Federating Capabilities and piloting related use cases
- Participation in the EOSC Federation Handbook writing (EOSC Tripartite initiative)
- Live paper on the EOSC Federation Technical **Architecture (first version at EGI Conference)** → D5.3 (Sept 2025)

EOSC Node Service Structure



EOSC Beyond Pilot Nodes

- 8 Pilot Nodes in the project
 - 3 Regional Nodes: Germany (NFDI), Czech Republic (e-Infra CZ), NI4OS Southeast Europe (GRNET, IPB, UKIM)
 - 4 Thematic Nodes: Environmental (LifeWatch), Health and Food (METROFood-RI), Structural Biology (Instruct-ERIC), Climate Science (ENES)
 - 1 e-Infrastructure: EGI
- Actively working to identify more pilots
 - OSCARs, RIs, other e-Infras
 - 4 additional pilots already involved: SSHOC, ENVRI, DARIAH, CLARIN
- Pilot Nodes are being defined via interviews and dedicated workshops

EOSC Beyond Workshops: Definition of EOSC Nodes and their federation, requirements for EOSC Core services from a use case perspective and integration activities.

- 10 giu 2024, 10:00 → 12 giu 2024, 18:00 Europe/Warsaw
- 303 (ACC Cyfronet AGH)

Descrizione Main points:

- Conceptual and Technical Definition: Develop an EOSC Node technical description based on the workshop findings. This includes identifying possible types of nodes, their organizational structure, architecture, and functional scope.
- Dependencies and Federation Concept: Sketch the initial dependencies between the potential nodes and define the concept of the EOSC Nodes Federation. This involves identifying potential federated services and possible node integration.
- Core Service Requirements: Outline the requirements for core services from the potential nodes and other relevant stakeholders. This may include input for the specification of EOSC Core services adapters, etc.

Event Location:

Academic Computer C

Nawojki 11 st

Floor 3,

10 Pilot Nodes attended the event:

- NFDI
- e-Infra CZ
- LifeWatch
- MetroFood-RI
- INSTRUCT ERIC
- ENES
- EGI
- SSHOC
- DARIAH
- CLARIN



Coming Soon

Welcome to the EOSC Core Innovation Sandbox

The EOSC Core Innovation Sandbox by EOSC Beyond is your pre-production environment for testing and staging within the EOSC Platform. It's designed for EOSC Core service providers, EOSC Exchange service providers, and EOSC Nodes to integrate seamlessly with EOSC.

Join us!

Federation Capabilities

Test and integrate with the same federating capabilities as the EOSC EU Node. This includes the AAI Federation, Federated Resource Catalogue, Helpdesk, Application Workflow Management, and more, all with compatible interfaces.

Technical Deployment

Use the Sandbox for the technical deployment of your use cases. Perfect for EOSC Nodes and other providers.

Dedicated Technical Support

Get dedicated technical support to help with integration. We offer tools to automate the process, including easy-to-use connectors in the form of software libraries.

Pilot Node Deployment

Deploy and validate the Network of the EOSC pilot Nodes. Showcase and demonstrate new capabilities, like deploying data analysis services on the fly in EOSC Cloud resources via the EOSC Execution Framework.



Thank you!

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