

# *The European e-Infrastructures Solutions for Nodes in the EOSC Federation*

European e-Infrastructures offer a wide portfolio of innovative digital services that are tailored to the needs of the science and research communities and align with the interoperability requirements of EOSC. Through their collaboration in the e-Infrastructure Assembly, these leading providers — EGI, EUDAT, GÉANT, OpenAIRE, and PRACE — offer a fundamental support and expertise to organisations founding or developing EOSC nodes and federating the local web of data with EOSC and the EOSC EU Node. Their scalable and ready-to-use solutions align with the EOSC interoperability requirements and bring assistance and expertise to the development of new and existing EOSC node's core capabilities and additional resources.

## **The EOSC Federation**

EOSC is evolving into an open, trusted federation of collaborative and autonomous infrastructures where European researchers can store, share, process, analyse, and reuse research digital objects (data, publications and software). It brings together the European Commission, national governments of the Member States, and the many R&I stakeholders involved in the European Research Area. It forms the basis for a science, research and innovation data space that will be connected and fully articulated with the Common European Data Spaces across different areas.

The launch of the EOSC EU Node marked the first step towards the EOSC Federation. The EOSC EU Node provides:

- Federation-enabling core services (e.g. single sign-on, catalogues, knowledge graph, monitoring)
- Horizontal services for researchers (e.g. computing, containers, notebooks, data transfer, file sharing)
- A blueprint for interoperability and guidance for onboarding new EOSC nodes

A number of candidate nodes that will be the first to populate the future federation, have been selected and are working together with EOSC to onboard their services.

## **Pan-European e-Infrastructures**

The *e-Infrastructure Assembly* is the structured collaboration of five pan-European digital service providers: EGI, EUDAT, GÉANT, OpenAIRE and PRACE. Together, they provide and connect local, regional, European and thematic research data centres, data repositories, archives and computing infrastructures as well as universities and other organisations and employ teams of experts with the aim of enabling the advancement of science and innovation. Together, the e-Infrastructures and their members provide an ecosystem of services in which research, innovation, collaboration and coordinated service delivery efforts are aligned with EOSC at the local, national and European level.

For over a decade, they have contributed to the development of EOSC through INFRAEOSC projects and participation in EOSC task forces which guided and aligned the process both contextually and theoretically. Concurrently, Assembly members have strengthened their collaboration with research communities and organisations, focusing on the development, construction and operation of services and underlying



infrastructure for the research data life cycle, as well as for the management of the web of FAIR data. These form the basis of the EOSC EU Node, and, since they are readily integrated in the EOSC framework, they are now also available to prospective EOSC Federation nodes.

## Tailored solutions for nodes, communities and organisations

Members of the e-Infrastructures Assembly provide scalable, federated solutions and services that enable national and international research collaborations and support researchers across the entire research lifecycle. Their ready-to-use services, consulting, and expertise are tailored to support emerging EOSC Nodes — whether national or thematic — in building interoperable, secure, and efficient Open Science infrastructures.

The combined service portfolio spans a wide range of areas and is designed to integrate with national, regional, and European research infrastructures:

- **Compute & Storage:** High-performance computing (HPC), cloud computing, and data storage for large-scale scientific applications.
- **Data Management & FAIR Services:** Repositories, metadata management, research knowledge graphs, persistent identifiers (PIDs), and research data management (RDM) platforms to support FAIR and Open Science principles.
- **Publishing & Sharing:** OpenAIRE services for publishing, sharing, and linking research outputs — including open access repositories, metadata aggregation, and impact monitoring.
- **AAI & Security:** Federated Authentication and Authorization Infrastructure (AAI), security frameworks, and trusted access solutions.
- **Data Transfer & Sharing:** File transfer, sync & share tools, and cross-border data mobility services for collaborative research.
- **Training & Capacity Building:** Workshops, hands-on training, and online learning resources for researchers and service providers.
- **Federated Capabilities & Interoperability:** Frameworks and technical support for aligning services with EOSC interoperability requirements.
- **Bespoke Development:** Collaboratively develop tools or services tailored to the specific needs of researchers, projects, or infrastructures.

The e-Infrastructures deliver trust at scale with key federating services and expert support for integration with EOSC, including AAI, service onboarding and validation, service management, and security. Tailored solutions are available to facilitate integration, cross-border access, or to co-develop services that best fit specific community requirements.

While some services may be procured directly, the Assembly prioritises co-created, funded collaborations that support long-term partnerships and shared innovation goals keeping community needs and impact at the centre.

## Contacts

For more information on EOSC node support by the Assembly write an e-mail to [einfra-a@lists.kit.edu](mailto:einfra-a@lists.kit.edu).

Or directly go to the portfolio pages of the individual sites of the organisations:

EGI: <https://www.egi.eu/services>

GÉANT: <https://geant.org/services>

EUDAT: <https://eudat.eu/catalogue>

OpenAIRE: <https://catalogue.openaire.eu/home>

PRACE: <https://prace-ri.eu/resources>

