

EOSC Technical and Semantic Interoperability Task Force Terms of Reference

1. TF Background and Scope

The EOSC Technical & Semantic Interoperability Task Force (TF) focuses on enabling seamless access to high-quality, interoperable research outputs and services across EOSC and brings together expertise on the technical foundations that connect users with data and services. The TF will liaise with EOSC projects, European infrastructures and the wider EOSC stakeholder community to identify compelling demonstrators for and strategic challenges to the implementation of EOSC. The TF combines the semantic and technical layers of interoperability and the architecture of Authentication and Authorisation Infrastructure (AAI) services. The TF will also explore the interoperability with the Simpl middleware from the Data Spaces Initiative.

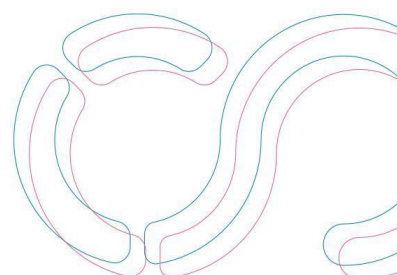
Technical specifications, protocols, contracts and services enable communication across the EOSC. They should ideally include specifications for the abstract exchange of information across nodes (e.g., service contracts, APIs, exchange formats, FAIR Digital Objects and a set of required operations). AAI is a key interoperability service that provides seamless authentication and authorisation (based on standard representations of user identities, permissions, and policies) for the services. Achieving semantic interoperability ensures that information is represented in a way that allows its meaning to be accurately understood and translated across the exchange (e.g., knowledge graph representations, semantic artefacts, mediation using mappings/crosswalks, and shared conceptualisations). Together, these aspects form the foundations for interoperability not only at the level of the protocols but also at the level of the data.

This TF is aligned with the SRIA Strategic Objectives SO7 (Operationalisation of EOSC Services) and SO5 (EOSC Interoperability Framework) mainly, and the Operational Objectives OO1 (Minimum Viable EOSC), OO10 (EOSC Authentication and Authorisation Infrastructure) and OO12 (Metadata interoperability). The TF is fully aligned with several priorities of the Multi-Annual Roadmap, such as the Liaison with HEU projects (in objective 1), the development of AAI in EOSC (in objectives 2 and 3), the enhancement of the EOSC Interoperability Framework and the use of Open Interfaces (in objective 2).

The TF will be organised in 3 closely coordinated subgroups with independent sub-objectives and leaders. Each group is responsible for its output (e.g. deliverables). Deliverables are produced at group level. The 3 groups depart from the previous configuration of task forces and will bring together experts from across the corresponding areas:

- Technical Interoperability, focused on the interoperability of services supporting EOSC.
- Semantic Interoperability, focused on mediating the exchange of (meta)data across a diverse set thematic and regional nodes that will serve stakeholders across a wide-range of scientific domains.
- Authentication and Authorisation Infrastructure, focused on the definition of the EOSC AAI architecture. The group will run under AEGIS¹ with direct support from the AARC-TREE project. The group participation will be open to all AAI experts and stakeholders.

¹ <https://wiki.geant.org/display/AARC/AEGIS>



All the group leaders will be the TF co-chairs that regularly meet to coordinate their activities, identify synergies and common approach.

The TF will liaise with the EOSC EU Node, relevant EOSC Projects (OSCARs, EOSC Beyond, etc) and stakeholders.

1.1. Main Objective

The main principles and delivery objectives of the TF are:

- Facilitate interactions and common developments of EOSC projects. The liaison of EOSC projects with the TF membership would facilitate the identification of gaps and strategic challenges related to the TF's key focus areas.
- Strategically survey and analyse the technical activities of the EOSC projects and providing global recommendations for their integration.
- Gather requirements from the research communities with respect to data and service interoperability.
- Identify high-value use cases that can help to define specifications useful for a wide set of research communities.
- Support the EOSC Association Board on Directors with recommendations related to interoperability.

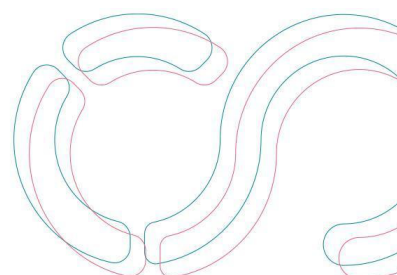
1.2. Key Focus Areas

The measurable Key Focus Areas (KFAs) contributing to the main objective:

- Evolve the EOSC Core and EOSC Technical Architecture with the introduction of the concept of the EOSC Node taking into account interdisciplinary and domain specific user community requirements.
- Identify technical, semantic and interoperability aspects across EOSC at different levels of "maturity".
- Impulse the evolution of the EOSC Interoperability Framework, with the definition of interoperability best practices and recommendations.
- Foster the development of practical implementations of interoperability guidelines through use cases, dedicated projects and also by engagement with discipline-specific infrastructures and initiatives (e.g. ERICs).
- Propose expanding the FAIR Digital Objects model supporting the matching of users with relevant data and compatible services and operations, including policies for sharing data.
- Identify and assess of requirements and gaps for the EOSC AAI
- Maintain and update the EOSC AAI Architecture to meet the needs of stakeholders within and outside of EOSC.

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1.3. Expected Membership

The TF is expected to raise the interest of experts from EOSC Projects, Research Infrastructure and Thematic Clusters and e-Infrastructures, who jointly will gather the necessary skills required for the TF. Members are expected to have the support of their host organisation/project to make in-kind contributions of their time and effort to the task force during its remit.

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