

RDA for EOSC – Policy Brief

Addressing organisational interoperability



RESEARCH DATA ALLIANCE



This policy brief is targeted at stakeholders working on issues of organisational interoperability as a means of supporting coordination and collaboration, increasing efficiency, alignment and engagement with the European Open Science Cloud (EOSC).

Introduction

Achieving interoperability is fundamental for the implementation of Open Science and initiatives supporting policies and practices around that. More specifically, achieving interoperability within the European Open Science Cloud (EOSC) is essential for the federation efforts and in order to ensure that the data and services that compose the EOSC, provide added value for users and providers.

The EOSC Interoperability Framework report, published in February 2021, identifies the general principles that should drive the creation of such an interoperability framework and organises them into the four layers: technical, semantic, organisational and legal interoperability - previously considered and discussed in other interoperability frameworks such as the European Interoperability Framework (EIF)¹.

While the technical, semantic and legal aspects of interoperability have been discussed extensively within specific technical, disciplinary and national fora, the organisational interoperability is still a new dimension that has not been widely explored and addressed.

The Why of organisational interoperability - the challenges

As defined in the context of the European International Framework, organisational interoperability refers to the way in which organisations align their business processes, responsibilities and expectations to achieve commonly agreed and mutually beneficial goals.

Notwithstanding the diversity of target and stakeholder organisations, including research performing and funding organisations, government agencies, research service providers, and private sector research organisations; there are important points of convergence that call for an effort to address and commit to improve this layer of interoperability. In the longer term this will support the implementation and sustainability of EOSC and other similar research commons. As the EOSC Interoperability Frameworks report highlights: “this type of interoperability is also focused on meeting the requirements of the user community by making services available, easily identifiable, accessible and user-focused” (European Commission, 2021, p. 12).

Organisations inevitably have different (organisational) interoperability problems but “considering the overall agreed goal of Open Science that underlies all the activities at EOSC, this level of interoperability should be focused on the documentation, integration or alignment of the processes of different organisations providing services in EOSC, so as to ensure that researchers can reach their Open Science goals.” (European Commission, 2021, p. 12).

¹ European Interoperability Framework (EIF) https://ec.europa.eu/isa2/eif_en

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In the specific context of EOSC it relates to well documented and aligned processes especially on the service provider side, and it needs to factor in a clear definition of roles and responsibilities especially for the interoperability services like service catalogues, registers and common PID services, in all stages of the service from development to maintenance.

Organisational interoperability is a socio-technical challenge and this is where organisations like the Research Data Alliance come into play as they serve to build the social and technical bridges that enable interoperability. It is both about the technical solutions and the social enablers, policies and best practices, principles and standards, roles and functions, common goals, incentives for certain behaviours and drivers that underpin the social formal and informal structures. Often in addressing interoperability the focus is placed on the technical aspects, and that provides a very limited view of a complex system or context like a data or research infrastructure, or the EOSC and other research commons. There is a need to have an integrated approach that provides a view that considers the technical but also the social architecture that accounts for both the behaviour of individuals and organisations in a specific system and also considers the policy and economical dimensions.

The how of organisational interoperability - a few recommendations

Consider at all times the point of view of the researchers who should not be faced with conflicts in the steps and process they need to follow. Looking in detail at the experience of a researcher can help understand the key points in terms of organisational interoperability that need to be addressed in order to encourage a certain behaviour and work towards the common goals.

Use common vocabularies supporting a shared understanding of standardised processes, functions, roles and responsibilities.

Provide clear specifications regarding processes, services, data, skills and roles internally to your organisations as well as publicly to help support collaboration and alignment. At its core this recommendation is about documenting well policies and processes. Document best practices and support wider deployment

Avoid or limit organisational heterogeneity or differences in practices and business processes - this should start internally as departments or areas shouldn't develop in isolation from each other. Encourage communication between departments, roles and functions - create connections, avoid overlap and fragmentation.

As both service or data provider and research performing organisation it is wise to become familiar with systems designed to overcome semantic differences between different data sources, support entity matching and other solutions for alignment between models that the EOSC or similar research commons consider implementing.

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The EOSC Interoperability Frameworks report highlights a few recommendations taking into account the EOSC Rules of Participation that regard future actions on the EOSC community and EOSC Association such as clearly defining a governance structure that will deal with interoperability across organisations and disciplines (especially regarding data formats, AAI services, metadata schemas, ontologies, etc.); clear descriptions of the Terms and conditions and Acceptable use policies, Service level agreements and such for the services and resources provisioned through EOSC, clearer guidelines for organisational interoperability through the Rules of Participation.

The EOSC IF also recommends and discusses a need for interoperability certification mechanisms for service providers “so that service users can set their own expectations about the support for interoperability of those services.” (European Commission, 2021, p. 12-13)

References/Sources and further reading

European Commission. Directorate General for Research and Innovation. & EOSC Executive Board. (2021). EOSC interoperability framework: Report from the eosd executive board working groups fair and architecture. Publications Office. <https://data.europa.eu/doi/10.2777/620649>

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