

European Open Science Cloud

Rules of Participation

Version 0.2 (29 January 2020)

Introduction

The Rules of Participation (RoP) for the European Open Science Cloud (EOSC) apply to all digital resources made accessible via EOSC, including data and services. They define a minimal set of rights, obligations and accountability governing the activities of all those participating in EOSC, such as data and service users, data and service providers, and the operators of EOSC itself.

This version (v0.2) of the RoP is a draft for discussion. It assumes that the governance structure for EOSC will include a governance framework for EOSC involving the appropriate stakeholders that includes a legal entity that will assume ownership of the RoP and provide a decision and revision process for them. This document does not, therefore, address these matters, nor does it concern itself the legal basis for EOSC.

This document is being developed by the ROP Working Group at the same time as the FAIR, Architecture and Sustainability WGs are developing their recommendations. This version of the RoP, therefore, defers specific discussions on these topics to those groups and will later be revised to incorporate any elements arising from that work. Rather, this document provides a conceptual framework for policies and documents related to issues such as “Terms and Conditions” and “Acceptable Use Policies”. These will need to be further elaborated and reviewed with respect to legal regulations before the RoP are finalised. This will be done during 2020 through a study commissioned using EOSC-Secretariat co-creation funds.

For brevity, this document provides a simple exposition of the rules themselves and some brief notes expanding the discussion on a few of the key issues. The final version of the RoP will be accompanied by an explanatory document that elaborates further on the rationale behind the choices made.

Section A defines some ground rules for all EOSC resources, Section B relates to data provisioned through EOSC and section C relates to EOSC services. Section D relates to the “federating core”¹.

¹ The “Federating Core” is the collection of internal services that make EOSC function (rather than those that are provided for researchers *through* EOSC). These services will be provided by the EOSC operators under contractual provisions such as Service Definitions and Service Level Agreements. (See also [Note 3.](#))

The EOSC Rules of Participation

A. Ground Rules

G1. EOSC is open to all.

- The underlying principle of openness applies to all the resources made available through EOSC². EOSC resources will always be as open as possible, and only as closed as necessary.³
- Individual resource providers may add additional constraints for their specific resources provided that these comply with the principles of openness defined in these Rules of Participation (for example in rules [D3](#) and [D4](#) for data and [S3](#) and [S4](#) for services).

G2. EOSC resources are registered in an EOSC recognised catalogue.

- A digital resource (Data or Service) is considered to be an EOSC resource if and only if it is registered in an EOSC recognised catalogue of resources (See [Op1](#)).
- Registration or use of a resource indicates compliance with the EOSC RoP and any EOSC on-boarding requirements⁴ (See [Op 2](#)).
- Use of EOSC branding is available only to registered resources⁵.

² See [Note 1](#).

³ We do not reiterate here more general legal openness requirements, such as those in the Open Data Directive and the Environmental Information directive, or constraints, such as those in GDPR and Copyright directives.e.g. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019L1024&from=EN>, <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:041:0026:0032:EN:PDF> <https://gdpr.eu>, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52016PC0593>.

⁴ Registration in EOSC does not, in itself, guarantee achievement of any specific quality standards, but EOSC provides a framework for a number of certification schemes that can be used to ascertain quality for specific types of resources. (See D4, S4, Op3 and Note 4.)

⁵ EOSC branding will be defined and controlled by the future EOSC legal entity that will have ownership of the RoP.

B. Data

D1. Data resources exposed through EOSC are free of charge at the point of access.

- General information about all registered EOSC resources (metadata) is universally available through EOSC.
- Data users in EOSC are entitled to find and access individual data resources without payment.
- Access to certain data resources may require personal or organisational registration, authentication or authorization (see rule [S5](#)).
- Automated and bulk downloads of data resources or the use of data resources that require a related service to be accessible, constitute a case of service consumption (see rules [S1-S6](#)).

D2. Data producers adhere to principles of proper research conduct⁶.

- Data producers agree to act in accordance with commonly agreed principles regarding the conduct of research⁷ and do not willfully misrepresent or provide false data.

D3. Data providers determine the terms of use of data resources.

- Data providers publish the terms of use for the data resource they are provisioning. This includes Licensing and Terms and Conditions of use and whether access requires authentication and/or authorisation.
- Data providers agree that EOSC operators may monitor and report on the level of usage of their data through EOSC.

D4. Data providers will respect principles of FAIR data.

- Data providers aim to implement the FAIR principles.⁸
- The terms of use comply with the EOSC principles regarding FAIR data and any relevant licensing, legal and ethical constraints on how data can be accessed, processed, analysed, changed and redistributed by data users.

⁶ D3, D4, and D5 attempt to distinguish the responsibilities and liabilities of the original data *producers* from those of *providers* that disseminate the data. There are legal ramifications here that need to be considered further. We propose to do this through a separate study.

⁷ For example, The European Code of Conduct for Research Integrity, https://ec.europa.eu/research/participants/data/ref/h2020/other/hi/h2020-ethics_code-of-conduct_en.pdf

⁸ As defined by the FAIR data WG (such as “permissive” licensing to allow access and reuse).

D5. Data users adhere to the terms of use of data resources.

- Data users agree to adhere to, and to not willfully violate, any terms of use associated with the data. (See [Note 3](#).)

D6. Data users reference the source.

- Data users agree to reference the source of the data, if required to do so, in every communication where they make use of, or refer to, the data resource.⁹ (See [Note 2](#)).
- Where a persistent identifier is provided for the resource this will be used in the reference.
- If required to do so, data users will also acknowledge the intellectual work of the original creator(s) of the data.
- Where the resource stipulates a standard form for this reference or acknowledgment, this form will be used by the user.

⁹ If data is licensed as CC0 or is public domain, then this requirement is waived.

C. Services

S1. Services exposed through EOSC are free of charge at the point of access

- Service users in EOSC are entitled to find and access individual EOSC services without payment.
- In order for service providers to be compensated where appropriate, access to certain services may require personal or organisational registration, authentication or authorization (see Rule [Op4](#)).
- Where machine access to services implies high usage there may need to be additional means of compensation¹⁰.

S2. Service providers adhere to principles of proper research conduct.

- Service providers agree to act in accordance with commonly agreed principles regarding the conduct of research¹¹ that assure, for example, the quality of information provided through the service for example they will not willfully misrepresent or provide false information.

S3. Service providers determine and publish the conditions of use of their services.

- Service providers define and publish the terms of use for the service they are provisioning. This includes Licensing and Terms and Conditions of use and whether access requires authentication and/or authorisation.
- Service providers define and publish their own quality targets for their services and agree that EOSC operators may monitor and report on the service levels achieved for the usage of the service through EOSC.

S4. Services align with EOSC service architecture

- Services comply with EOSC architectural standards¹² where applicable, for example regarding API access, so that composite services and workflows can be built that integrate service use.

¹⁰ The EOSC Sustainability Working Group is developing the business model for EOSC which will further define how compensation for service provision may work. These RoP may need to be refined in the light of the outcome of that work.

¹¹ For example, The European Code of Conduct for Research Integrity, https://ec.europa.eu/research/participants/data/ref/h2020/other/hi/h2020-ethics_code-of-conduct_en.pdf and any National or Disciplinary Codes. Eg UK concordat.

¹² These are currently being defined by the EOSC Architecture WG.

- Services requiring authentication or authorization will support the use of relevant community recognised academic credentials for federated AAI¹³.

S5. Service users adhere to the terms of use of the services they consume.

- Service users agree to adhere to and to not willfully violate the terms of use determined by the service provider.

S6. Service users reference the source.

- Service users agree to reference the service they use, and if required, the intellectual work of its original creator(s), in every communication where they make use of, or refer to the service.
- Where the service stipulates a standard form for this acknowledgment this form will be used by the user.
- Where a persistent identifier is provided for the service this will be quoted in the reference.

¹³ As far as possible, services will provide community accepted methods for AAI and employ standard forms of wording in any AUP. The AARC project has provided a Blueprint Architecture and Policy Development Toolkit for Authentication and Authorisation.

D. Rules for EOSC Operators

Op1. Registry of Data and Service Catalogues

- The EOSC federating core provides a means to register, and so recognise, data and service catalogues thus defining the scope of what constitutes EOSC resources (See Rule [G2](#)).
- Registration requires agreement to comply with these RoP (See Rule [G2](#)).

Op2. Onboarding of data and services

- The EOSC operators deploy processes for registering as an EOSC resource or resource aggregators. These will include standardised minimal procedures that aim to enable the federation of resources.
- Individual resource aggregators may define additional onboarding requirements for inclusion in their portfolio¹⁴.

Op3. Monitoring and Accounting

- The federating core includes a means to report on data and service usage via open standards and the functionality required to provide aggregated reporting where data and service providers to adopt these standards.

Op4. Authentication and Authorisation

- EOSC operators support procedures that enable authentication and authorisation based on academic credentials for federated AAI.¹⁵

Op5. Search function and other global functions

¹⁴ For example, data aggregators may include additional requirements regarding the provision of metadata, and service aggregators may include requirements concerning compliance with certain APIs a posteriori. An example of how this can be done is here: <https://wiki.eosc-hub.eu/display/EOSC/Criteria+for+possible+inclusion+in+the+EOSC+Service+Portfolio>

¹⁵ These procedures are being established by the EOSC Architecture WG and the AAI Task Force, building on the work of the National Research and Education Networks (NRENs) (See also Rule [S5](#))

- The federating core provides a meta search function with both UI and API access. The search is based on open standards and aggregates results from all EOSC resources that adopt these standards.

Op6. APIs for value-add providers

- The federating core provides an API that enables added value services to be built on top of the EOSC aggregated catalogue and services.

Notes

Note 1 - Openness

The principle of openness runs throughout all aspects of EOSC. It applies equally to the content, the architecture, and to the user base. Whilst the aim is that EOSC is as open as possible, it is not the case that *everything* can be open to *everyone* for *every purpose*. Regarding content, a distinction needs to be made between resources that are non-rivalrous, such as data, and those with are rivalrous, such as compute. Regarding architecture, the approach is that resource providers voluntarily adopted certain open standards that enable federation of resources in order to deliver added value through their participation in EOSC. Regarding users, whilst many resources may be accessible without any registration and no user group is excluded *a priori*, users may have to authenticate and have appropriate authorisation to access some services. The EOSC has been described as a [web of research data](#) and, by analogy with the world wide web, in general anyone can view any resource whilst further authentication and authorisation are necessary to access some resources and functionality. These issues are currently being discussed in the Sustainability, FAIR and Architecture WGs and these RoP will be refined as required to accommodate the outcomes of these discussions.

Note 2 - Referencing sources

There are two distinct motivations behind the requirement to reference sources: (i) so that reusers can validate the provenance of the source, and (ii) to give credit for the reuse. Both can be addressed by quoting the PID of the source when available. Emerging systems, such as Event Data, that record when new connections between PIDs are made, will enable such tracking to be automated. However, the raw material for such systems is still the quoting of the PID of the resource being referenced. The EOSC PID policy is being developed by a separate Task Force and these RoP will be amended as required to incorporate the result of these discussions.

Note 3 - Responsibilities and liabilities

Different stakeholders such as data producers, data providers, service providers, users of data and services, and EOSC operators, have different responsibilities and liabilities. These will be the subject of a study on legal requirements that is to be commissioned. The study will include in it's scope an analysis of the responsibilities and liabilities of the future EOSC legal entity and the EOSC operators regarding issues such as how any mis-use of resources made accessible via the EOSC should be handled, and how acceptance of the RoP by EOSC use and resource providers should be established and monitored. The study will also consider where responsibilities lie for ensuring ethical use of EOSC resources.

Note 4 - Rules and Quality Standards

A balance needs to be found between having strong RoP that ensure high quality of EOSC resources but may be a disincentive to participation, and adopting a more laissez faire approach which might increase participation but could be detrimental to the value-added through integration of these resources into EOSC. It is important to distinguish quality from value. For example, Data of low quality can be of high value to a particular researcher because it is novel and unique, and data of high quality can be of low value because it is of low interest to that researcher. In either case, it is important for the researcher to understand that provenance and quality of the data they are analysing if they are to draw valid conclusions from it. Whilst EOSC has no role in the assessment of value, it can have some role in enabling judgements of particular aspects of quality. By encouraging resource providers to enhance the quality of their data through support for metadata descriptions, and enabling monitoring and community feedback on these assertions, for example by supporting a number of recognised Seals of Approvals, EOSC can provide a basis for community-specific indication of data quality.

Glossary (Partial - Work in Progress)

- **AAI:** Authentication and Authorization Infrastructure
- **API:** Application Program Interface- An application program interface (API) is a set of routines, protocols, and tools for building software applications (wikipedia)
- **Digital research resource:** Data or service resources that are the subject of the RoP of EOSC.
- **Digital Object:**...¹⁶
- **User:** an individuals or institutions using a digital resource.
- **Provider** (of Data or Service) : Individuals or institutions making a digital resource available through EOSC.
- **Data Producer:** Originator of data that is made available through EOSC.
- **Data:** Digital research data, comprised of metadata and object. Data can be in any format, for example in binaries, ascii, documents, or structured data-bases. Code can also be considered as Data but special RoP may apply to Code.
- **EOSC architecture** - as defined by EOSC Architecture WG.
- **Service:** Any offer that provides interaction functionality to users or providers, software or web services being typical cases. (In the strict sense, data can constitute services, too. However, for the sake of clarity, data are treated as a separate entity in this document.)
- **Access:** Interaction of a user or provider with a digital research resource. Access can be anonymous (without personal registration), authenticated (after personal registration) and authorized (with specific access rights).
- **Federating core:** the essential services that make EOSC function (rather than those that are provided through EOSC).
- **EOSC Exchange:** see sustainability “Tinman”.
- **Resource aggregator:** The EOSC is a federation of existing and new data infrastructures. Typically these data infrastructures bring together a number of different data sets and services. A *resource aggregator* is a service or data resource that brings together other resources. . EOSC is thus a “collection of collections”.
- **More to be added - Add each noun used in the document to this list.**

¹⁶ Check with Architecture group whether this term is being used. If so should we use it in the RoP instead of resource maybe. (Does Digital Object include services.)