

Common Vision, Service Provision, and Role in the EOSC Governance

EOSC-hub and OpenAIRE-Advance White Paper

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About this paper

This paper outlines a common vision for EOSC, service provision, and role in EOSC governance, as defined in the Joint Activity Plan of the two EC projects EOSC-Hub and OpenAIRE-Advance (April 2018). In the meantime, the EOSC landscape has evolved, notably with the establishment of the EOSC Governance and the enactment of the EOSC Implementation Roadmap (Commission Staff Working Document, March 2018). Authoritative structures are now in place and, accordingly, the primary addressee of this paper is now the EOSC Governance Board through the working instruments of the European Commission. Policy decisions, in particular, are now firmly in the hands of the EOSC Governance and not in the remit of the two projects. As a consequence, this paper takes the form of a concise position paper (and not a fully-fledged white paper) identifying the necessary alignment processes between the EOSC Governance and the two projects EOSC-Hub and OpenAIRE-Advance. Possible contributions of the two projects are temporarily confined by the project runtime (end of 2020) but affect, to varying degrees, the projects' constituent ongoing stakeholders in the EGI Federation, EUDAT CDI, INDIGO-DataCloud, and OpenAIRE, as well as the constituent communities of computing centres and libraries or the global academic infrastructure system.

Delivery slip

From	Editors: Tiina Kupila-Rantala (EOSC-hub), Wolfram Horstmann (OpenAIRE-Advance) Contributors and reviewers: Magchiel Bijsterbosch, Matthew Dovey, Ilaria Fava, Tiziana Ferrari, Luciano Gaido, Damien Lecarpentier, Yannick Lègre, Paolo Manghi, Natalia Manola, Naija Rettberg, Dale Robertson, Per Öster, Tiina Timonen
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Glossary

Acronym / Item	Description
EGI Federation	A federation of computing and storage resource providers united by a mission to support research and development. The federation is governed by the participants represented in the EGI Council and coordinated by the EGI Foundation.
e-IRG	e-Infrastructures Reflection Group
EOSC	European Open Science Cloud
EOSC Executive Board	Body of representatives from the research and e-infrastructures communities, appointed by the European Commission
EOSC Governance	Overall Governance Structure for EOSC, comprising EOSC Governance Board, EOSC Executive Board and Stakeholder Forum (latter not yet specified)
EOSC Governance Board	Also “EOSC board”: institutional group gathering the member states and the Commission to ensure effective supervision of the implementation
EOSC-hub	Project creating the integration and management system of the future European Open Science Cloud
ERA	European Research Area: The European Research Area (ERA) is a unified research area open to the world and based on the internal market, enabling free circulation of researchers, scientific knowledge and technology
ERAC	European Research Area and Innovation Committee: strategic policy advisory committee that advises the Council, the Commission and the member states in the framework of the governance of the European Research Area
ESFRI	European Strategy Forum on Research Infrastructures: Strategic instrument to

	develop the scientific integration of Europe and to strengthen its international outreach.
EUDAT CDI	European e-infrastructure of integrated data services and resources to support research
FAIR	Guiding principles to make data Findable, Accessible, Interoperable, and Reusable
GÉANT	Pan-European research and education network that interconnects Europe's National Research and Education Networks (NRENs)
Horizon 2020	The European Union Framework Programme for Research and Innovation
INDIGO-DataCloud	Project developing a data/computing platform targeted at scientific communities, deployable on multiple hardware, and provisioned over hybrid (private or public) e-infrastructures
LIBER	European research library community
OpenAIRE-Advance	Project supporting Open Access/Open Data mandates in Europe
PRACE	Partnership for Advanced Computing in Europe

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Executive Summary

Common vision. The purpose of EOSC is to enable researchers to “deposit, access and analyse European scientific data through a European Open Science Cloud” (Moedas, 2016). EOSC-Hub and OpenAIRE-Advance are committed to this vision and add, for the years to come, the common vision of **increasing the value of EOSC for each individual researcher as the paramount priority**. EOSC-Hub and OpenAIRE-Advance acknowledge the substantial role they play for the construction of EOSC and are preparing for sustaining EOSC services in 2021, after the projects’ end.

Service provision. In order to increase the value of EOSC for each individual researcher, a sustained and resilient service provision in EOSC is necessary. **Service provision in EOSC will require dedicated operational funding beyond EOSC-hub and OpenAIRE-Advance projects to ensure EOSC-level service integration and the provisioning of services and capacity that are not yet funded at national and/or European level.**

EOSC-Hub and OpenAIRE-Advance are committed to develop and maintain an EOSC portfolio of services and the related business plans, to meet the demand-side and supply-side needs. The adopted business plan template - developed according to standards and best practices - will be general enough to be adopted by everybody willing to operate services in the context of EOSC.

Access-enabling and research-enabling services from EOSC-hub and OpenAIRE-Advance providers already receive funding at national and European level, to meet the needs of specific user groups according to service-specific access policies. The business plans will focus on the complementary needs stemming from EOSC-specific target groups, access policies and integration scenarios.

Additional operational funding will be necessary to sustain EOSC operations in the long term. This funding should complement what already secured today and focused on: (1) service user groups not properly addressed at national and European level yet, (2) new services and/or additional capacity needed to scale up existing facilities for data deposition, access and analysis, and (3) increase integration and efficiency of service delivery.

Subsidiarity between EOSC, national and European funding agencies needs to be precisely defined. EOSC-Hub and OpenAIRE-Advance assume that these political issues are addressed in the EOSC Governance Board (incl. member state representatives), and are available to provide recommendations based on information gathered from their constituencies. It is also assumed that these political processes will require a comprehensive analysis of demand and supply, resulting in a **status report for academic and research infrastructures** and could result in an **EOSC charter** approved by the EOSC Governance Board that addresses rules of participation, funding mechanisms and subsidiarity. EOSC-Hub and OpenAIRE-Advance are committed to contribute to this work.

Role in EOSC governance. To address the priority of increasing the value of EOSC to each individual researcher and enact service provision, EOSC-Hub and OpenAIRE-Advance request to establish **a formal communication channel between the projects and the EOSC Governance Board with involvement of the EC**. To this end, EOSC-Hub and OpenAIRE-Advance will nominate a strategic point of contact among their constituents for interacting with the European Commission as well as with the EOSC Governance Board and explore possible governance models for the infrastructure community relevant to EOSC beyond the projects’ lifetime.

1. Introduction

The European Open Science Cloud (EOSC)¹ is an ambitious programme of the European Union to provide a virtual environment that federates existing scientific data infrastructures, currently dispersed across disciplines and the member states. The European Commission presented the vision for EOSC in its April 2016 Communication on the European Cloud Initiative, as a part of the Digital Single Market Strategy. In his speech “Open science: share and succeed” in Amsterdam, in 4 April 2016, Commissioner Carlos Moedas stated:

“By 2020, we want all European researchers to be able to deposit, access and analyse European scientific data through a European Open Science Cloud.”²

In order to realize this vision, a governance for EOSC has been established, involving the member states and stakeholders from research and e-infrastructure communities³. Furthermore, the EC is funding several projects that develop contributions to EOSC by the Horizon 2020 programme for research and innovation. This ecosystem of co-working projects provides a profusion of valuable assets and triggers a serious need to agree on common and coherent targets, priorities and means to concretely advance the construction of a sustainable EOSC.

This paper looks into joint activities of two Horizon 2020 projects, EOSC-hub⁴ and OpenAIRE-Advance⁵, in realizing EOSC. In line with the EOSC Implementation Roadmap (Commission Staff Working Document, April 2018)⁶, the projects are committed to foster the following aspects of EOSC:

1. EOSC becomes an operational digital basis for an enhanced European Research Area.
2. EOSC services are effectively delivered to European researchers as a basis to interact with the global research.
3. EOSC services are effectively linked to national infrastructures, all grounded in the global research infrastructure.
4. EOSC governance is developed towards implementing precise decision-making processes for operational funding of EOSC services.

In this paper, EOSC-hub and OpenAIRE-Advance shift focus from high level objectives to concrete priorities, as described in the *EOSC-hub / OpenAIRE-Advance Collaboration Agreement*, concluded in 30 April 2018⁷. Hence, suggestions are made on how to progress in the construction phase of EOSC and beyond. Since 2018, when the need for this document was identified, the situation has massively changed, especially considering that, now, the Commission Staff Working Document is in place and the EOSC Governance is available. As a result, many motivations underlying the original ideas in 2018 for the document are

¹ <https://ec.europa.eu/research/openscience/index.cfm?pg=open-science-cloud>

² http://europa.eu/rapid/press-release_SPEECH-16-1225_en.htm

³ <https://www.eosc-portal.eu/governance>

⁴ <https://cordis.europa.eu/project/rcn/216096/factsheet/en>

⁵ <https://cordis.europa.eu/project/rcn/212961/factsheet/en>

⁶ https://ec.europa.eu/research/openscience/pdf/swd_2018_83_f1_staff_working_paper_en.pdf

⁷ <https://www.eosc-hub.eu/news/eosc-hub-and-openaire-advance-collaboration>

obsolete. For this reason, after extensive efforts, it was decided to deliver this paper as a concise position statement rather than a fully-fledged white paper.

The collaboration of EOSC-hub and OpenAIRE-Advance projects unites capabilities of four underlying e-Infrastructures – EGI Federation, EUDAT CDI, INDIGO-DataCloud, and OpenAIRE – bringing together two communities of practice for scholarly infrastructure, i.e. computing centres and libraries. The complementary capabilities of the stakeholder groups makes it possible to address the complex tapestry of services and policies required to federate scientific data infrastructures in practice in a researcher-friendly way. With this paper, EOSC-hub and OpenAIRE-Advance seek to close conversation partnership with the research infrastructures and research communities. At the same time, they aim to produce insight for a broad range of stakeholders, including, e.g. EOSC Governance Board, member states, service and content providers, and research administrators and funding bodies.

2. Connecting researchers with EOSC: Priorities to tackle

EOSC can be viewed from diverse perspectives, e.g. cultural, political, financial, academic or infrastructural. From the perspective of academic information and research infrastructure providers (henceforth referred to as ‘infrastructures’), the main priority is to serve researchers’ needs and to bridge between the variety of available international, national or local information services and each individual researcher⁸. Just like researchers are embedded in a global research system, infrastructures are embedded in a global infrastructure system -- with a complex set of services in between them. From the infrastructural perspective, EOSC is an opportunity to simplify and improve this portfolio of services by either (i) increasing efficiency and removing barriers, (ii) enhancing existing services, (iii) scaling up capacity to meet the digital needs of data-driven research, and (iv) creating novel services. Adding complexities and redundancies is to be prevented. Figure 1 presents the role of EOSC in bridging between researchers and infrastructures.

As EOSC is being built and its governance is being established, the next steps should become more tangible. The EOSC governance and the EOSC implementation projects need to collaborate to tackle the following priorities:

- A. The accessibility, usability and capacity of the facilities contributing to EOSC for each individual researcher need to be increased.
- B. EOSC should provide an operational budget to pay for the provisioning of: (1) access enabling services and processes (federating existing infrastructures - where relevant - in EOSC), and (2) increased capacity and/or new capabilities complementing what is already funded at national / European level.
- C. In order to sustain the EOSC, long-term funding needs to be committed and procurement structures need to be put in place. Short-term projects are not a suitable instrument for this.
- D. Infrastructures need a clear contact point to be involved in the strategic steering of EOSC, which is currently being carried out by a variety of committees and activities.

⁸ <http://www.knowledge-exchange.info/event/ke-approach-open-scholarship>

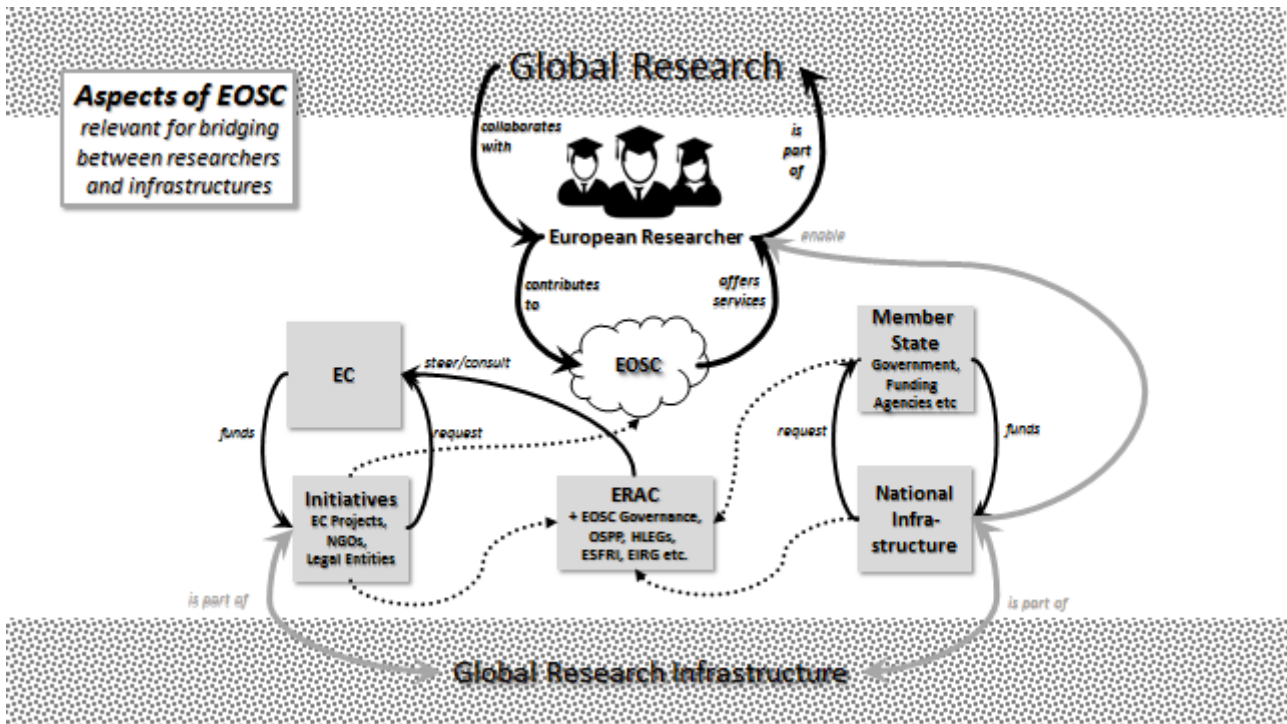


Fig. 1 - Aspects of EOSC relevant for bridging between researchers and infrastructures. The term “entities” refers to e-Infrastructures and research infrastructures. For details, see text.

Infrastructures can tackle these challenges only jointly with other stakeholders. In fact, most of the solutions to these challenges are beyond the current remit of infrastructural service providers in EOSC. However, infrastructures can contribute to addressing the four challenges, respectively:

- a. Infrastructures can provide input to an **EOSC charter** on how to increase accessibility, efficiency, effectiveness, transparency and simplicity of EOSC services for each individual researcher.
- b. Infrastructures can provide strategic advice to the EOSC Governance with the support of their national constituents from the academic and research community in the form of a **research and academic infrastructure situation report**.
- c. Infrastructures can provide **business plans for EOSC services operations**.
- d. Infrastructures can leverage self-organization principles among them to form a **strategic point of contact to infrastructures** for the EOSC Governance Board to interact with.

It becomes obvious from this analysis that, for infrastructures to take action, a *mandate* from the EOSC Governance Board (which includes member states) will be required. Particularly the EOSC Charter (a) and the situation report (b) involves infrastructures funded by the EC as well as infrastructures funded by member state. Thus, EC projects taking self-mandated action on member state issues would be inappropriate or even hazardous for EOSC. It should be noted that the infrastructures behind this paper can represent a substantial part of the European infrastructure landscape, but would need to involve more stakeholders, especially the Research Infrastructures (ESFRI). A formally empowered forum for initiating this dialogue among infrastructures beyond EC project funding needs to be established.

3. Responding to the challenges: EOSC-hub and OpenAIRE-Advance contributions

EOSC-hub and OpenAIRE-Advance contribute a substantial part of overall infrastructural activities to developing EOSC and, as such, commit to tasks following from the challenges. As complementary grants, they already have a EOSC-hub/OpenAIRE-Advance Joint Activity Plan which will have to be fulfilled in the remainder of the two projects, by the end of 2020. EOSC-hub and OpenAIRE-Advance will focus on the four priorities, identified above, by building them into the Joint Activity Plan as well as into their individual project work plans, which include strategic deliverables for both projects in summer 2019.

Furthermore, the two projects will further formalize the cooperation of their constituent legal entities in order to be able to address issues beyond the EC projects. Such an alliance shall encourage EOSC Governance to count on active engagement of infrastructures in the short term, by being included in working groups and the EOSC Stakeholder Forum, and in the long term, by being considered for board positions.

EOSC-hub and OpenAIRE-Advance will jointly pursue the following activities to respond to the challenges that have been identified. In order to ensure an effective collaboration, the projects will seek dialogue with the European Commission and the EOSC Governance.

AREA A - Towards an EOSC charter

EOSC-hub and OpenAIRE-Advance will:

- Advice on the strategy and contribute to the realization of the EOSC Implementation Roadmap by playing an active role according to their capacities and expertise and cascading activities to their national and international partners.

Affected activities and plans:

- Joint Activity Plan
 - Item JA 3.2 Strategy
 - Item JA3.1 Cross-Project Governance
- EOSC-hub
 - Item T2.1 Strategic Direction
 - Item T10.2 Service Catalogue Technical Evolution
- OpenAIRE-Advance
 - Item 1.5 Sustainability
- Ongoing or planned EU-projects, especially EOSC Secretariat

Possible relation to plans in EOSC Governance: Working Group on “Rules of Participation”

AREA B - Towards a research and academic infrastructure situation report

EOSC-hub and OpenAIRE-Advance will:

- Get a mandate for providing a status report on services for the research and academic community.
- Gather information on the status and demand of infrastructure services involving national/European research and academic partners. The status report will concern a variety of services including data lifecycle management services, and scholarly communication services (e.g., data catalogues, community specific tools, PID services, training services, etc). The projects will leverage contacts and multipliers in member states to ensure regular synthesis of this information to maintain quality assurance.

Affected activities and plans:

- Joint Activity Plan
 - Item JA 3.2 Strategy
- EOSC-hub
 - Item T2.1 Strategic Direction
 - Item T3.2 Stakeholder Engagement Programme
 - Item WP12 Business Models and Procurement
- OpenAIRE-Advance
 - Item 1.5 Sustainability
- Ongoing or planned EU-projects

Possible relation to plans in EOSC Governance: Working Group on “Landscape”

AREA C - Towards a EOSC service portfolio and business plan

Through the cross-project strategic board, EOSC-hub and OpenAIRE-Advance will:

- Collect information on the demand for EOSC services deriving from the outputs of the EOSC-hub and OpenAIRE-Advance projects.
- Based on the analysis of demand, provide recommendations to the EOSC governance on an EOSC service portfolio of access enabling and research enabling services. For each service the projects will define the service value proposition, the target groups, the service functional and non functional specifications and the operational costs.

Affected activities and plans:

- Joint Activity Plan
 - Item JA 3.2 Strategy
 - Item JA3.1 Cross-Project Governance
- EOSC-hub
 - Item T2.2 Service roadmap, service portfolio and service catalogue
 - Item T2.3 Governance and Sustainability
 - Item WP12 Business Models and Procurement

- OpenAIRE-Advance
 - Item 1.5 Sustainability
- Ongoing or planned EU-projects

Possible relation to plans in EOSC Governance: Working Group on “Sustainability”

AREA D - Towards a coalition of infrastructures offering a single strategic point of contact

EOSC-hub and OpenAIRE-Advance will:

- Establish a task force of the constituent legal entities of EOSC-Hub and OpenAIRE-Advance (EGI Federation, EUDAT CDI, INDIGO-DataCloud, and OpenAIRE) on formal cooperation beyond the projects’ lifetimes. Two representatives (chair and a deputy) from each constituent legal entity will be invited to the task force.
- Seek for strategic collaboration across the e-Infrastructures.
- Put this paper to the agenda of governance structures of these constituent legal entities (General Assemblies, boards) to further develop consensus among members.
- Identify delegates from EOSC-hub and OpenAIRE-Advance to approach other bodies such as e-IRG and ESFRI and associations such as the European Universities Association and LIBER to initiate a dialogue on building a strategic point of contact for the EOSC Governance Board to the infrastructures contributing to EOSC, and propagate awareness among relevant partners at national level.
- Analyse possible models for realizing a coalition of participating infrastructures, offering a single strategic point of contact to the EOSC governance.

Affected activities and plans:

- Joint Activity Plan
 - Item JA 3.2 Strategy
 - Item JA 2.1 Communications
- EOSC-hub
 - Item T2.1 Strategic Direction
 - Item T2.3 Governance and Sustainability
 - Item T3.2 Stakeholder Engagement Programme
- OpenAIRE-Advance
 - Item 2.1 Communication
- Ongoing or planned EU-projects

Possible relation to plans in EOSC Governance: Setting up the “Stakeholder Forum”

4. Conclusions

The EOSC-hub and OpenAIRE-Advance projects have initiated a number of joint activities in order to advance an effective realization of customer-centric and value-added EOSC. In several cross-project discussions in the time frame from November 2018 to March 2019, four areas were identified where rigorous actions are required to deliver on the expectations anchored to EOSC. While these areas discuss the importance of the serviceability of the EOSC offering for individual researchers, they also highlight the relations between local, national and international infrastructures, the need for novel business models as well as the need for strategic dialogue between different stakeholders. Hence, this paper suggested joint and separate actions for EOSC-hub and OpenAIRE-Advance, respectively, in the following areas: The projects contribute to an EOSC charter; they contribute to a research and academic infrastructure situation report; they provide business plans for EOSC services operations; and they form a strategic point of contact to infrastructures. The actions induce a need for comprehensive discussion within and beyond the projects, and an engagement for continuously co-working with all EOSC stakeholders, including, for example, the EOSC Governance Board, service and content providers, research communities, and funding bodies.