

WEBINAR ON THE RDA OPEN CALL FOR INTEROPERABILITY FRAMEWORK

An EU-funded H2020 project that is implementing the European Open Science Cloud

Michelle Williams, GEANT and Najla Rettberg, RDA



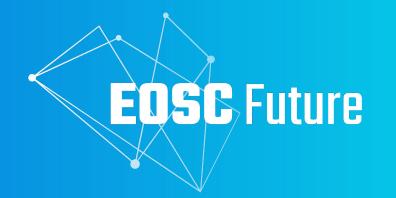




Go to slido.com to ask a question:

#Interoperability

Passcode: 1xi7ox









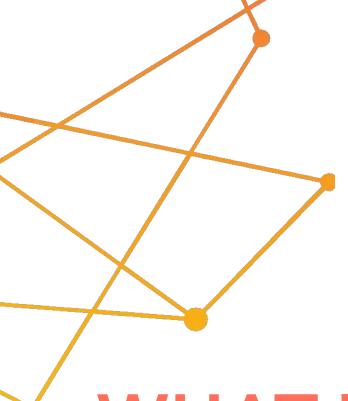


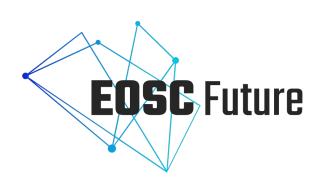
Agenda

- INTRODUCTION/CONTEXT
- OVERVIEW OF THE INTEROPERABILITY FRAMEWORK
- DETAILS OF EVALUATION / HOW TO APPLY
- Q&A









WHAT IS EOSC FUTURE?

Ambitions

EOSC Future is working with key stakeholders to develop the **EOSC Platform**.

The EOSC Platform is composed of:

- EOSC Core an initial set of services enabling EOSC federation
- EOSC Exchange an initial set of resources and services aimed at facilitating cross- and inter-disciplinary research
- 3. EOSC Interoperability Framework an initial set of guidelines for providers that want to integrate services or data into the EOSC Platform

We'll are also providing support and training to make sure users can make the most of the EOSC Platform.





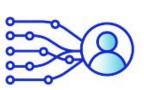




8 KERs



EOSC Core & Support



EOSC Exchange

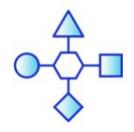


Science Projects



EOSC Observatory





EOSC Interoperability Framework



EOSC Knowledge Hub



Commercial Services &Support



EOSC Future Community

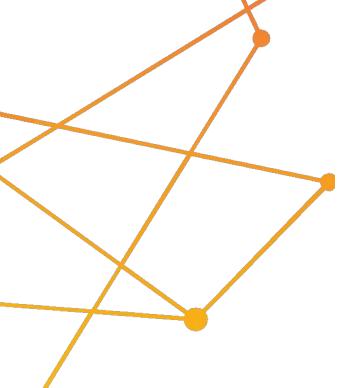
Showcasing the concrete value of the EOSC Platform (for providers & users)

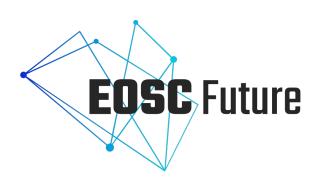












RDA /EOSC Future Open Calls



Vision

Researchers and innovators openly share and re-use data across technologies, disciplines, and countries to address the grand challenges of society.

Mission

RDA builds the social and technical bridges that enable open sharing and reuse of data.

rd-alliance.org

THE RESEARCH DATA ALLIANCE

www.rd-alliance.org

building the social and technical bridges that enable open sharing and re-use of data

59 FLAGSHIP OUTPUTS

including 8 ICT Technical Specifications

200+ ADOPTION CASES

across multiple disciplines, organisations & countries

88 GROUPS WORKING ON GLOBAL DATA INTEROPERABILITY CHALLENGES

33 Working Groups 54 Interest Groups 1 Community of Practice

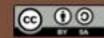
12,934 INDIVIDUAL MEMBERS FROM 148 COUNTRIES

69% Academia & Research 14% Public Administration 11% Enterprise & Industry

61 ORGANISATIONAL MEMBERS 12 AFFILIATE MEMBERS



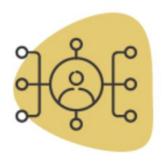








INDIVIDUALS



ORGANISATIONS PERFORMING RESEARCH



STUDENTS & EARLY CAREERS



INFRASTRUCTURE PROVIDERS



FUNDERS



LIBRARIES



EUROPEAN OPEN SCIENCE CLOUD



REGIONS



COVID-19





RDA Open Calls

- Engage a range of stakeholders working on issues such as data interoperability, disciplinary metadata preparation, and data stewardship / ~30 funded projects
- Create a pathway to involvement for those not working with large research infrastructures or in disciplines with less support in EOSC generally / 12 disciplines onboarded
- 3. Ensure representation from across Europe / 20 countries represented

Domain Ambassador for catalysis

 Pedro Mendes, assistant professor at Universidade de

[Learn more]



Domain Ambassador for Ethics & Law

[Learn more]

Open Call Grantees



Domain Ambassador for human immunogenetics and health ethics

medical doctor specialised in human...

[Learn more]



Domain Ambassador for standards. repositories and policies

[Learn more]



Optimising (RDA) Open Science Frameworks and Guidelines in the context of EOSC



· Geta Mitrea, is a lecturer at University Stefan cel Mare of

[Learn more]

• Isabelle Perseil, engineer and Telecom...



Framework for increased discoverability of Social Science Data Objects in the EOSC Portal Service Catalogue

researcher at the Lithuanian Data Archive...

[Learn more]



FAIRsharing implementation at the University of Debrecen

Judit Fazekas-Paragh, research

RDA Open Call for RDA Communities of Practice



Improving Global Agricultural Data Community of Practice in the Republic of Moldova

· Viorica Lupu, vice director at the Republican Scientific Agricultural...

[Learn more]



Expanding the IGAD CoP in South Caucasus Region – Georgia, Armenia and Azerbaijan

Director and Researcher at the Central...

[Learn more]

RDA Open Call for RDA Working Groups



Data Visitation Working Group

Francis P. Crawley, Executive Director of the Good Clinica

[Learn more]



 Aleksandra Lazić, M.A., is a PhD Assistant at...

[Learn more]



The EU FAR project

Monica Anca Marin, project

[Learn more]

RDA Open Call for cross disciplinary science adoption grants



(maDMP) Ensuring the software accessibility and reusability in the short, medium and long term

 Name Olga Giraldo (ontologist and metadata curator) and Leyla

[Learn more]



Contextual Metadata Futures **Building Indigenous Data Provenance** Capacity for the European Reference Genome Atlas

 Ann Mc Cartney Postdoctoral Research Fellow at National Human Genome...

[Learn more]



Fostering the uptake of RDA indicators in Systems Biomedicine as a measure for model quality and FAIRness within the COMBINE community

 Irina Balaur, Postdoctoral Centre For...

[Learn more]



Training delivery of foundational data science skills for Early Career

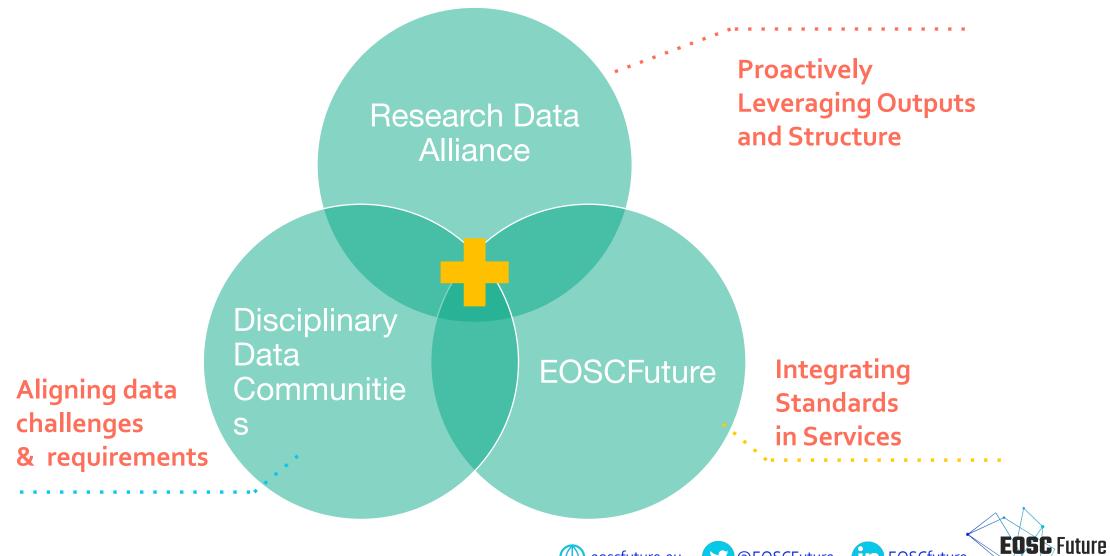
Hugh Shanahan

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Linking Communities and Networks to EOSC

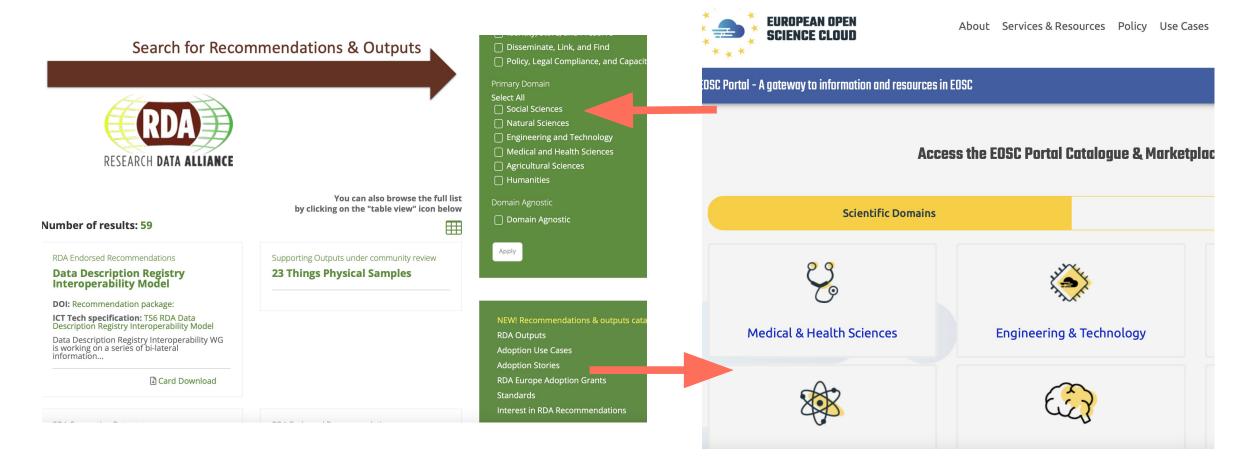








Cross-Disciplinary Science Adoption Grants









EOSC Future Funding Categories



RDA External Evaluators



Meeting and Conference Support



Technical, domain and editorial expertise



Standards and adoption



EOSC & RDA solutions



Dedicated community of practice support



Domain ambassadors



Maintenance facilities



Cross disciplinary science adoption



Individuals or Organisations

RDA / EOSC Future Call for Interoperability Framework Contributions

This call is seeking European consortiums or interdisciplinary groups to validate and demonstrate the value of EOSC Interoperability Framework.













"Call for Interoperability Framework Contributions"

- Demonstrate the Value of the IF in a cross-disciplinary context
- Use cases to demonstrate the practical uptake
- Analysis of the framework in other data commons contexts
- Demonstrations across different layers of interoperability of services and data (metadata cross-walks)

Deadline: 13 December 16h CET

2 Grants of up to 30k, or smaller grants











Leveraging the RDA Community



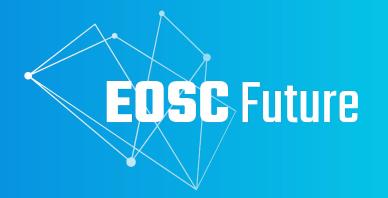














EOSC Future

EOSC Interoperability Framework, Michelle Williams, Product Manager, GEANT







EOSC Interoperability Framework

Why?

- EOSC is a federated infrastructure of data and services.
- Interoperability is essential to deliver services to users.
- Adoption of standards is not sufficient...
- we need more to enable resource interoperability and composability.









EOSC Interoperability Framework

What?

Guidelines and capabilities that:

- facilitate interoperation with EOSC-Core
- promote standard and community best practices within the EOSC
- Governance to manage EOSC promoted guidelines (EIAB)
- A registry to list the guidelines and help tag resources that supports them









Interoperability for EOSC

Interoperability for EOSC is both:

- internal to EOSC-Core:
 - makes it operational and allows communication between components inside the Core
 - to support interoperability of the various elements of EOSC.
- external to the EOSC-Core facilitating EOSC providers:
 - when integrating resources with the EOSC-Core services (such as Order Management, Monitoring, Helpdesk, Execution Framework, etc)
 - o providing a foundation for composability of resources from the EOSC resource catalogue (e.g. Data Transfer).





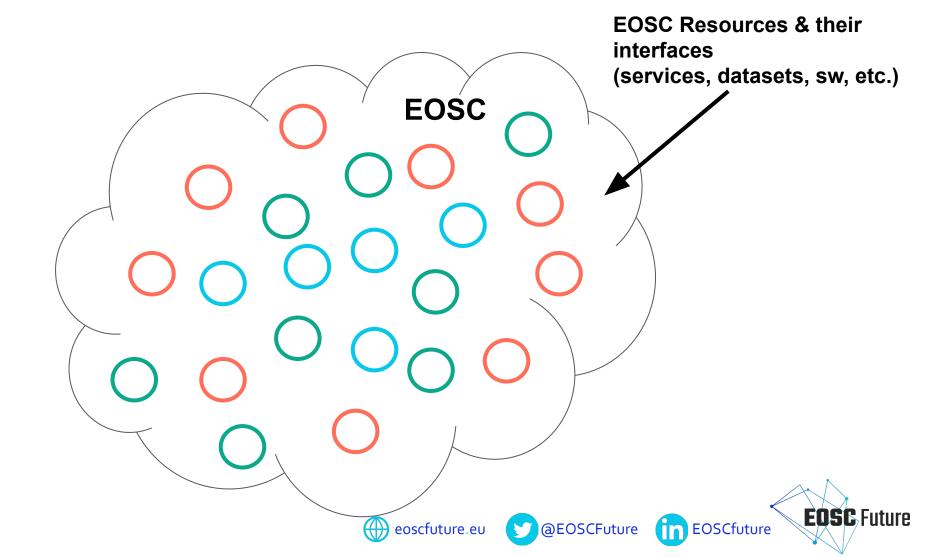




Fostering Interoperability via the EOSC IF

A multitude of different interfaces

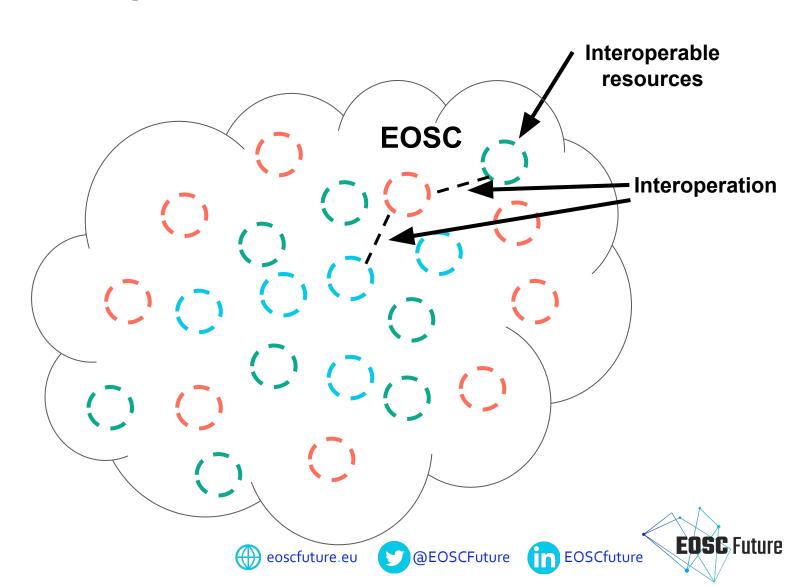
No description of supported interfaces for EOSC Resource





Fostering Interoperability via the EOSC IF

- Foster and curate guidelines that
 - facilitate interoperation
 - work towards composability
 - without reinventing the wheel → adopting already existing standards and community best practices
- Providers will be able to indicate supported guidelines in the EOSC Resource Catalogue





What is meant by interoperation?

- This is a complex subject!
- Meaning of Interoperability differs according to perspective...
 - "The ability of two or more systems or applications to exchange information and to mutually use the information that has been exchanged" (ISO/IEC 17788:2014)
 - ..."conformance to a metadata schema"...
 - …"adherence to policies"…
 - ..."access"...
 - ..."exposure or utilisation of a particular format or API"...
 - …"Machine-readable, executable workflows or configurations that cross infrastructural boundaries"…
- Providing solutions to all of the above will take time!









How can interoperation be achieved?

- Simply pointing out to standards adhered to or software used is not sufficient.
- Providers and users need to understand *how* to interoperate:
 - Is it possible to create a workflow using a resource or output?
 - which components or data are compatible?
 - which input/output format?
 - where are the endpoints?
 - o and so on...
 - how to make results with 'interoperability by design'.
- Helps Providers and Users to understand prerequisites or technical boundaries.









EOSC-IF building on strong foundations

- But Research is already interoperable!
- The EOSC-IF builds upon this foundation with the goal to create a framework that encompasses
 - the EOSC-Core,
 - o and the interfaces necessary to accommodate links to community interoperability frameworks.
- EOSC-IF seeks to:
 - adopt and promote the uptake of existing community-endorsed interoperability standards and guidelines
 - develop crosswalks between communities.
- Interoperability guidelines will help...
 - ...describe how to interoperate with the EOSC-Core components
 - ...Resource Providers achieve interoperability across RIs (either by describing their own interoperability guidelines or by working to the guidelines published by multiple communities.









Interoperability for EOSC-Core and EOSC-Exchange

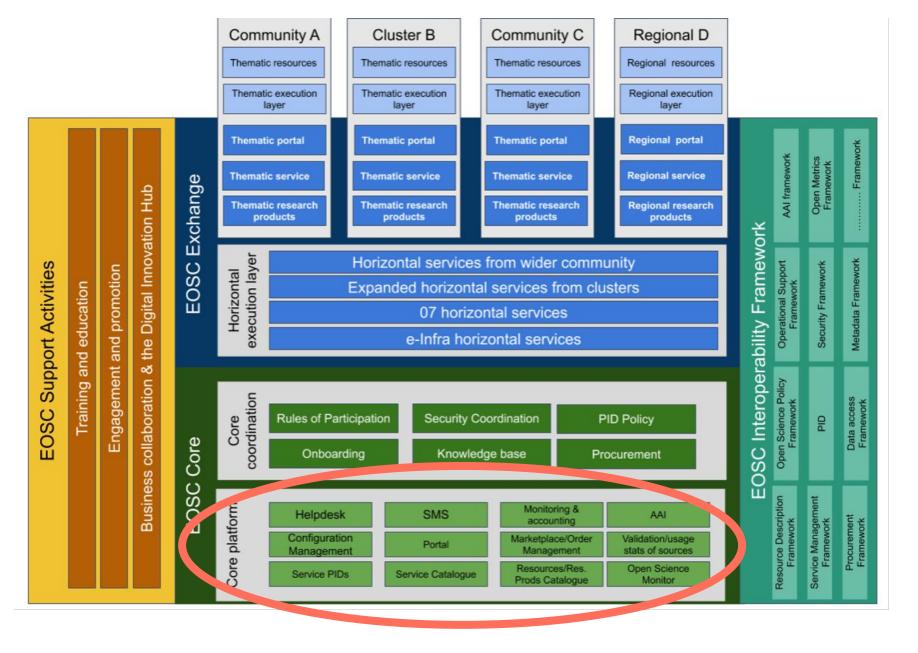
- Designed to comprise Interoperability Guidelines catering for both EOSC-Core and the EOSC-Exchange.
- This would facilitate:
 - allowing EOSC Exchange services to interoperate with the EOSC-Core,
 - capture of guidelines and interoperation capabilities amongst EOSC-Exchange services and resources,
 - preparing services to interoperate with specific communities in mind.
- Communities will be encouraged to publish information describing 'community interoperation', and how other communities can interoperate with them.









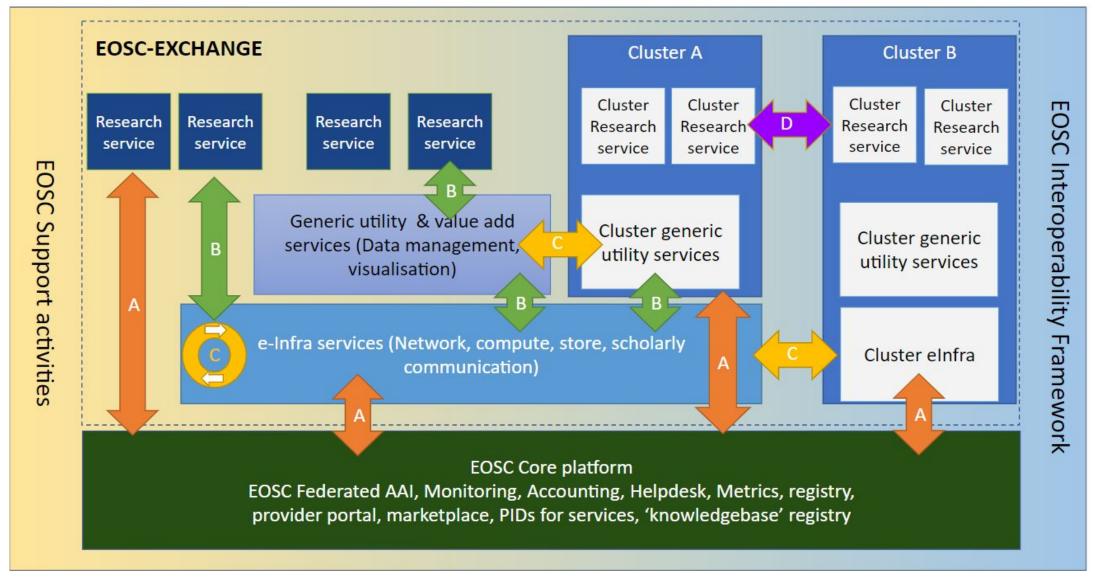




















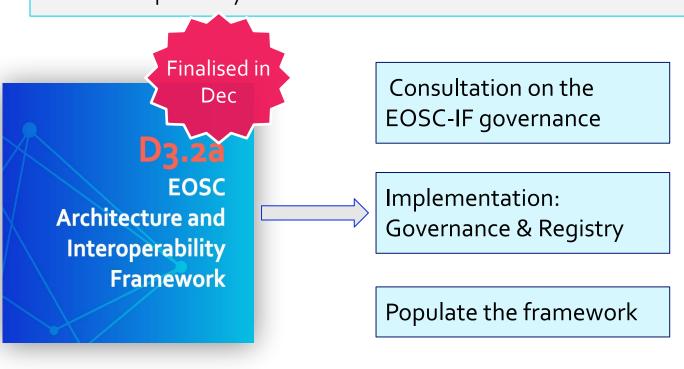


Watch the EIF Webinar:

https://youtu.be/gopN4TrJKpA

Recap: work on the EOSC IF

The Architecture and Interoperability WP (WP₃) works to define a governance model to manage and populate the EOSC Interoperability Framework.



- Webinar
- Adjustment & <u>communication</u>
- EIAC & EIAB
- Process (EOSC-Core Guidelines)
- Community guidelines
- WP3 Working Groups

Developed outside WP3









Iterative approach

- Early iterations:
 - Guidelines in the form of human readable documents
 - describing inputs, outputs, endpoints, APIs, formats, dependencies, etc,
 - linking out to related guidelines and standards, etc, that may also have been curated by other registries, such as FAIRsharing and other registries with similar goals, or that might apply to other projects or infrastructures
 - supports the tagging of resources that comply with specified guidelines
- Future iterations would provide more complex functionality:
 - Machine-readable profiles describing how a resource complies with a guideline
 - Machine-readable, executable configuration templates
 - Machine composability achieved via orchestration services included in an Execution Framework





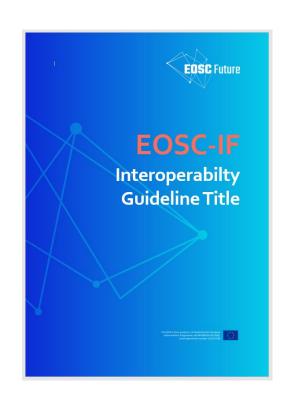




Types of Interoperability Guideline

1. EOSC-Core Interoperability Guidelines

- To describe specifications for the purposes of interoperating with EOSC-Core services (either for Core services or Exchange services).
- Should provide context and technical instructions to Providers that would like to integrate their services and/or resources with (or be interoperable with) one or more EOSC-Core Services.
- For operators of EOSC-Core Services to provide guidance to Service and Resource Providers who wish to benefit from the functionalities that the EOSC-Core services offer.











Types of Interoperability Guideline

It will be possible to propose the inclusion of the following, using a process and toolset that will be announced in the future...

- 2. EOSC-Exchange Interoperability Guidelines Template (thematic): where thematic services and resources interoperate with each other.
- 3. EOSC-Exchange Interoperability Guidelines Template (horizontal): where services and resources interoperate with each other across communities and infrastructures.









Governing bodies

"An overarching, independent group that will assess whether requests for inclusion into the EOSC IF are compliant with a minimum set of requirements"

Body	Responsibility	Interim body for duration of EOSC Future project
EOSC Interoperability Advisory Board (EIAB)	Responsible for overseeing the EOSC IF; endorsing guidelines, based on the recommendations of the EIAC.	EOSC Future Technical Coordination Board
EOSC Interoperability Area Chairs (EIAC)	Responsible for: • performing the initial assessment of the proposed guidelines • making recommendations for inclusion to the EIAB.	EOSC Future WP3 task leads supported by editorial board (calling in community experts to help with the review process as needed).









RDA call for EOSC-IF contribution

- Use-cases:
 - practical uptake of interoperation with the EOSC-Services,
 - interoperability of resources across infrastructures,
 - demonstrate advantage of cross-disciplinary data interoperability guidelines,
 with related resources (e.g. APIs, software, etc) and documented guidelines.
- Provision of community interoperability guidelines with potential to apply as EOSC Interoperability Guidelines.
- Analysis of the framework in the context of other similar frameworks.
- Demonstrations of differing layers of interoperability, e.g.
 Metadata cross-walks.









Examples of interoperability

1

Facilitating the machine-actionable transfer of data using the DOI of a referenced dataset to a specified analysis or data visualisation facility. This *could* assist use of a dataset without needing to know exactly where it is, and to make offline arrangements prior to the data transfer or analysis proceeding.

2

Building upon **existing data exchange formats, such as HDF5**, *could* facilitate researchers in adopting or conforming metadata to terminology that **facilitates or supports cross-domain crosswalks**.

3

Interoperating services and data in scenarios supporting multidisciplinary research to model emergency response, e.g., hazard assessment and risk communication in terms of the societal impact of a major seismic event.











EOSC-Core Service Interoperability

EOSC Monitoring Service

- Guidelines for reference:
 https://zenodo.org/record/7118591#.Y3LOu-zMlsc
- Monitoring probe type(s) to be used (from https://poem.argo.grnet.gr/ui/public_probes/)
- Probe source(s)
 (https://argoeu.github.io/argo-monitoring/docs/
 Monitoring/quidelines/)

Helpdesk

- Guidelines for reference:
 https://zenodo.org/record/7308617#.Y2vu1H7MK
 V5
- Zammad API (REST): https://docs.zammad.org/en/latest/api/intro.html
- Four implementation options









EOSC-Core Service Interoperability

EOSC Data Transfer Service

- Guideline for reference (in development):
 https://github.com/EGI-Federation/eosc-future-d
 ata-transfer
- Based on a flexible DTS API:
 https://eosc-data-transfer.vm.fedcloud.eu/q/swagger-ui/#/
- Source types: Zenodo DOI, B2Share record, Signposting URL
- Storage protocols: WebDAV with token or username/password, S₃, FTP

EOSC Research Product Harvesting

Interoperability required to enable EOSC Research Product Harvesting, specific guideline for each type of Research Product:

- OpenAIRE Guidelines for Literature, institutional, and thematic Repositories
- OpenAIRE Guidelines for Data Archives
- OpenAIRE Guidelines for CRIS Managers
- Draft OpenAIRE Guidelines for Software Repository Managers
- Draft OpenAIRE Guidelines for Other Research Products All guidelines rely on OAI-PMH harvesting protocol: OAI-PMH v2.0 protocol









More information

Governance	EIAB and EIAC Charter
General info and templates	https://eosc-portal.eu/eosc-interoperab ility-framework
Report from the EOSC Executive Board Working Group (WG) Architecture	https://op.europa.eu/en/publication-de tail/-/publication/91fco324-6b50-11eb-a eb5-01aa75ed71a1
Suggestions for interoperability guidelines to be incorporated	eiac@eoscfuture.eu









HOW PROPOSALS ARE EVALUATED

2 x Grants of up to 30k

Note: Could also be a handful of smaller grants

Connection to RDA is weighted higher

Each proposal is evaluated by 3 x independent evaluators



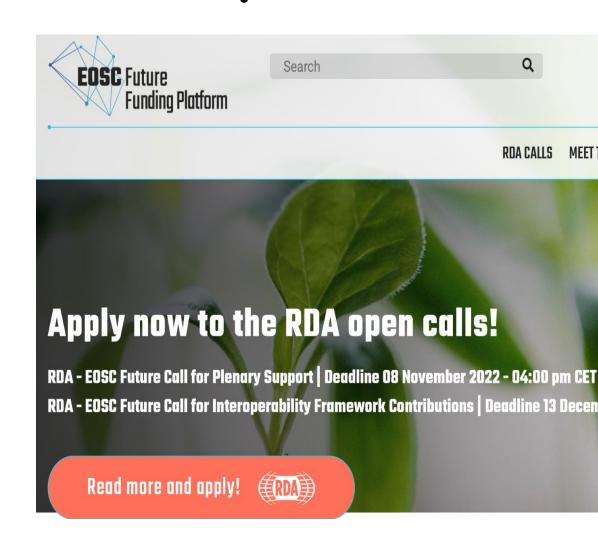






How to apply?

- Apply at the EOSC Future Funding Platform https://eoscfuture-grants.eu/
- You cannot be part of the EOSC Future Consortium / LTE
- Unsure?
 rda-opencalls@rda-foundation.org
- Have to be European organisation or SME
- Need to have an affiliation to RDA or a potential use of RDA services
- Disclaimer: Max 60 k per organisation
- Call results due early January











Thank you very much

Any Questions?

Get in touch: rda-opencalls@rda-foundation.org









END









EOSC Future is structured around six thematic pillars:















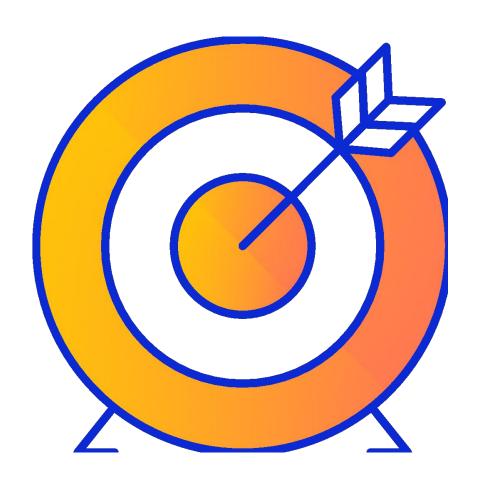








Policy and Strategy



Policy and strategy insights will allow the project to make sure the EOSC environment is built on the foundations of previous EOSC projects while aligning with shifting stakeholder needs. EOSC Future will also provide inputs on key issues such as the strategic Research and Innovation Agenda of the EOSC Partnership.



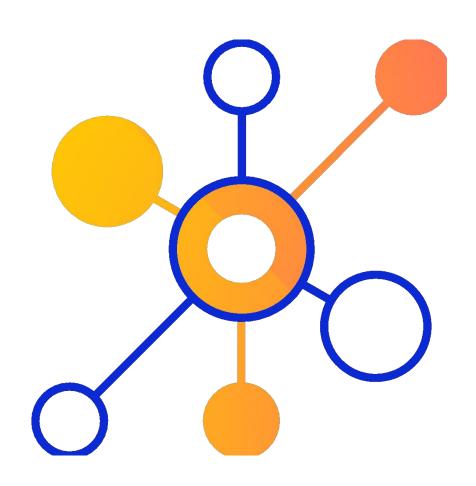








Technology and Interoperability



The project's tech experts will ensure interoperability between the different EOSC functionalities and resources that will be onboarded, while keeping in step with technological developments. They will also ensure that EOSC Future aligns with the needs of users and scientific communities and can respond to changing needs and contexts.











Excellent Science



In collaboration with the EOSC Science Clusters, the EOSC Future project will implement five research projects that address pressing societal challenges and complex scientific problems. These projects will emphasise the value of FAIR data and open science and will showcase how EOSC can support excellent and cross-disciplinary research.











Co-development and Procurement



Onboarding services are crucial to the innovation and sustainability of an EOSC. That is why the project will work to connect resource providers, catalogues, and other resources to the virtual environment. At the same time, it will onboard and procure public and private-sector services to create a rich and diverse EOSC environment.



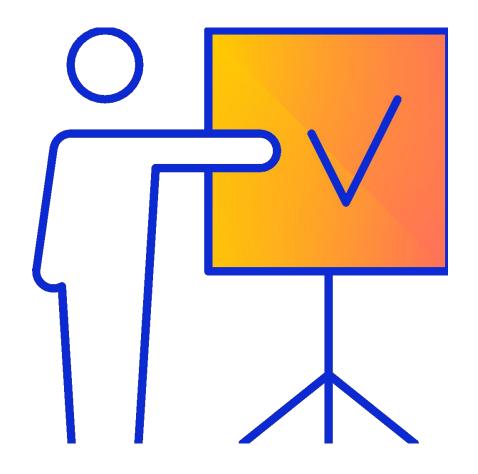




EOSC Future



Skills and Training



To train both users and providers to make the most of the EOSC environment, the project will establish an EOSC Knowledge Hub. The Hub will build a network of expert trainers, and catalogue existing support materials while developing new training courses and documents.



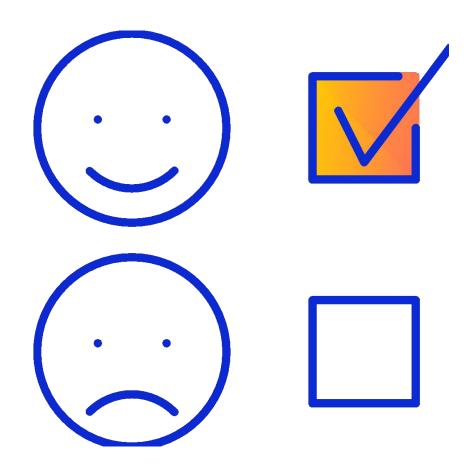








User Engagement



User input and co-creation will be hugely important in creating an EOSC environment that is fit-for-purpose and intuitive to use. That is why the project will regularly consult the EOSC community and a pool of test users to collect inputs and feedback on the services and tools we develop.















Ambitions

EOSC Future will work with key stakeholders to develop:

- 1. EOSC-Core the set of enabling services needed to operate the EOSC
- EOSC-Exchange registering resources and services from research infrastructures, other EOSC projects and Science Clusters
- 3. **EOSC Interoperability Framework** which will provide guidelines for providers that want to integrate services or data into EOSC

We'll also provide support and training to make sure users can make the most of the EOSC platform.

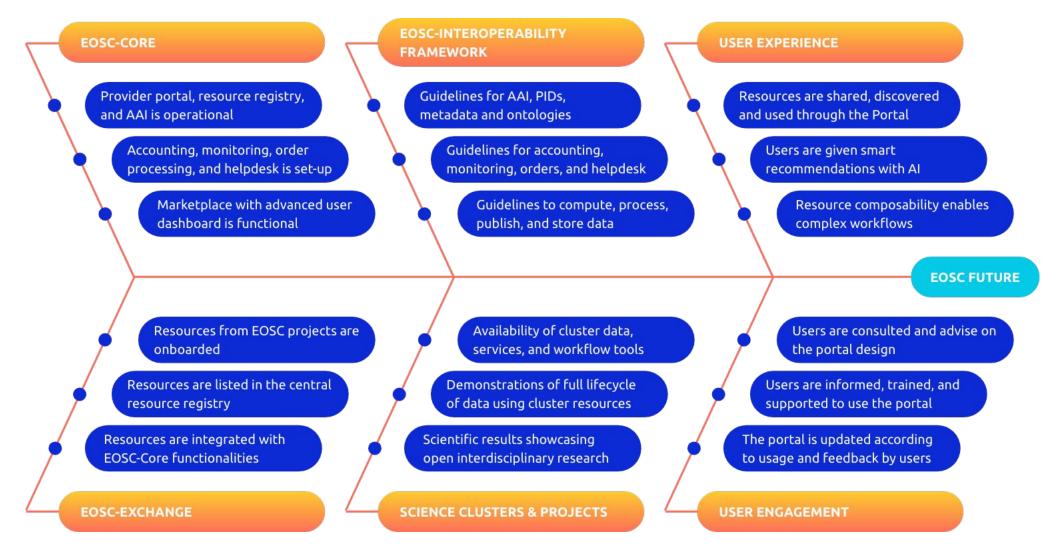








Approach









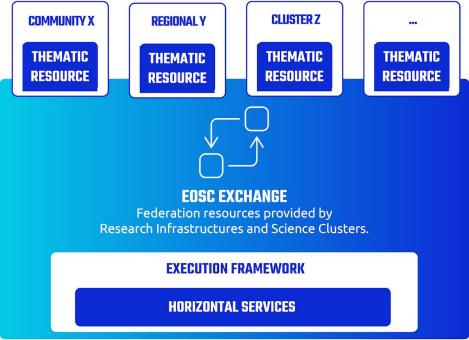






EOSC SUPPORT ACTIVITIES

Training,
engagement,
and human-centric
activities that help
users benefit from
EOSC.







EOSC INTEROPERABILITY FRAMEWORK

A flexible framework
of standards to
enable exchange
and use of
information and
tailored assembly of resources.











Main Goals

1

Delivering and operating the EOSC-Core

5

Promote the participation of the commercial sector in EOSC

2

Expanding EOSC-Exchange

6

Support and train users and providers

3

Scaling up capabilities to deliver an EOSC Execution Framework

7

Engage with the EOSC communities and end users

4

Increasing
European
scientific impact

8

Align with the strategic vision for EOSC













RDA Open Calls. Communication avenues

1

Meet the Grantees

Home /

SPLASH PAGE

WHAT: Indiv. grantee
overview, Links to their results
WHERE: EOSC Grants Portal
3 years
Who: Trust IT

2

Awardee BLOG POST

Grantee Write up
WHERE? EOSC Future /RDA
WHO: RDA / Arctik
Visuals/Layout
Editing

3

RDA/EOSC Cross-Disciplinary IMPACT REPORT

WHERE: RDA / EOSC Future
Who: Arckik (based on final
reports)
Advanced planning
Information collection
Visuals/Layout

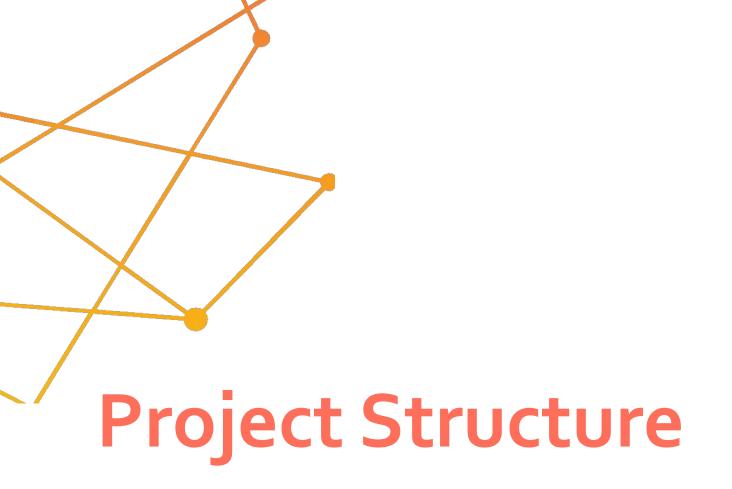
RDA Zenodo Community





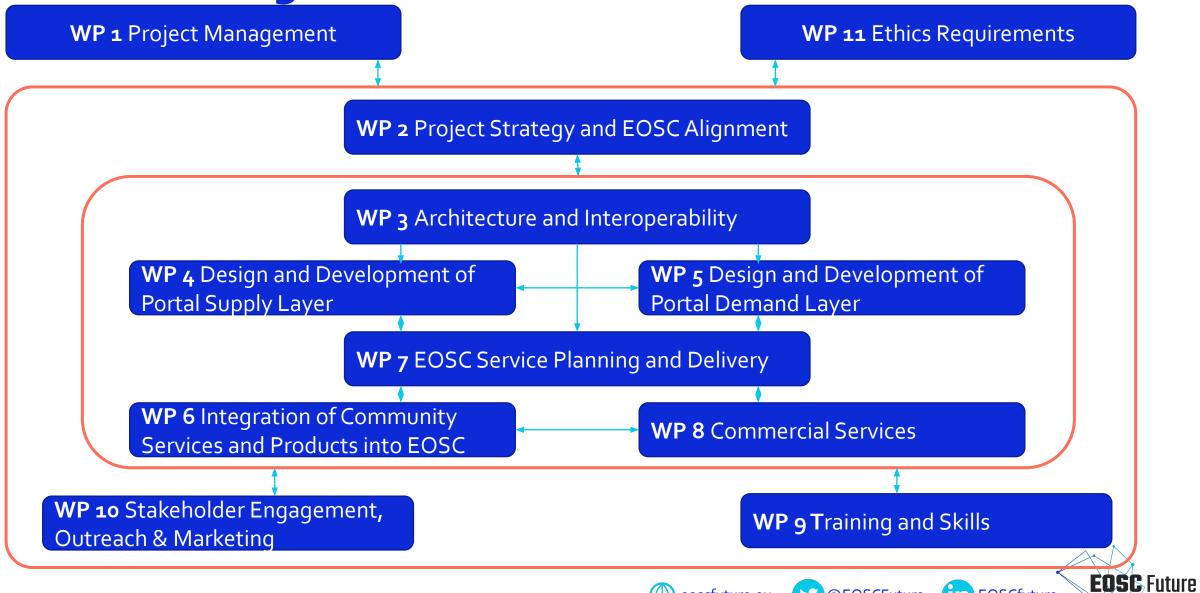








Work Package Structure











The EOSC Future consortium













































































