

# EOSC-A webinar

## The EOSC Federation and the role of Nodes

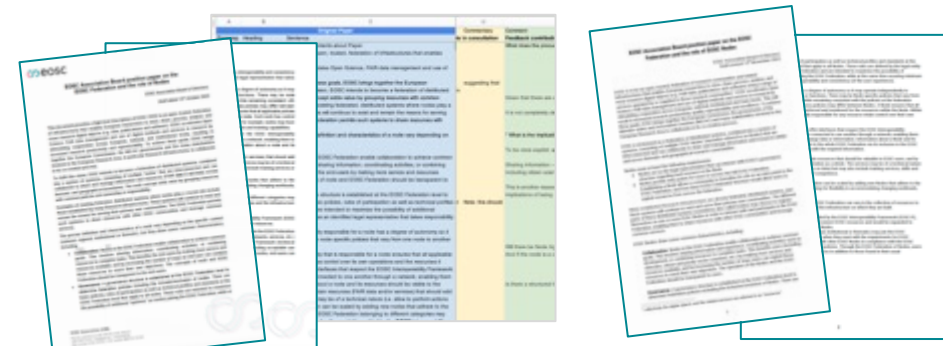
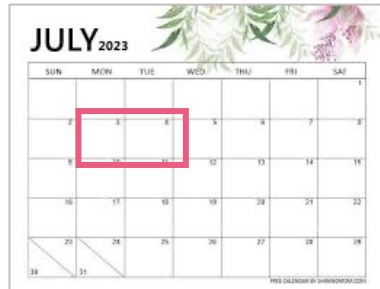
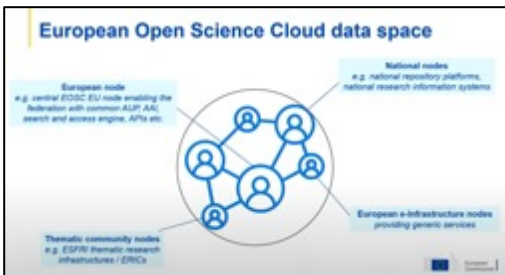
Bob Jones

EOSC-A board of directors

CERN



# eosc Evolution of Node Concept



**Spring**

**July**

**September**

**October**

**November**

Introduction  
EOSC EU Node  
and concept of  
Nodes by EC

Meetings with  
Mandated  
Organisations  
and ESFRI RI  
Working Group  
to prepare  
September  
workshops,  
03./04.07.

Community  
Workshops  
MOs & ESFRI RI  
WG (08./15.09.)  
Unconference  
EOSC  
Symposium  
(21.09.)

Publication of  
Draft Position  
Paper on the  
EOSC  
Federation and  
the role of  
Nodes (13.10.)  
&  
Consultation

Publicatio  
of revised version  
of Draft  
Position Paper  
(12.11.)

# The EOSC Federation and the role of Nodes

## **Main points in the position paper**

<https://eosc.eu/wp-content/uploads/2023/11/20231112-Short-paper-on-the-EOSC-Federation-draft-v3.pdf>

## **EOSC Federation**

- is a federation of distributed systems ('system of systems')
- enables collaboration to achieve common goals and users to access additional resources beyond their usual environment
- has policies and rules defined by the legal entity governing the EOSC Federation
- consists of multiple "Nodes"
- can be scaled by adding more Nodes

## **EOSC Nodes**

- contain resources adding value to the Federation
- act as the legal representative that can interact with EOSC's governance structure
- offer interfaces that comply with the EOSC Interoperability Framework
- control their own operations and resources and ensure that policies are followed within the Node
- may vary in their local policies, the resources to which they provide access and the infrastructure on which they are built

**Initiatives (European, national, regional, institutional or thematic) may join the EOSC Federation and become EOSC Nodes when they meet the requirements listed above**



# Revised draft

Additional feedback received in Dec'23

- Instruct-ERIC
- Uppsala University
- CREAM
- Oslo University
- ERIC-forum
- Athena

Points highlighted

- Clarify what is legal representation of a node
- Define how nodes interact with the EOSC governance
- Explain how RIs map on to nodes and EOSC federation
- Explain the role of the EOSC EU node in the EOSC federation
- Elaborate how nodes will be funded





# EOSC EU Node

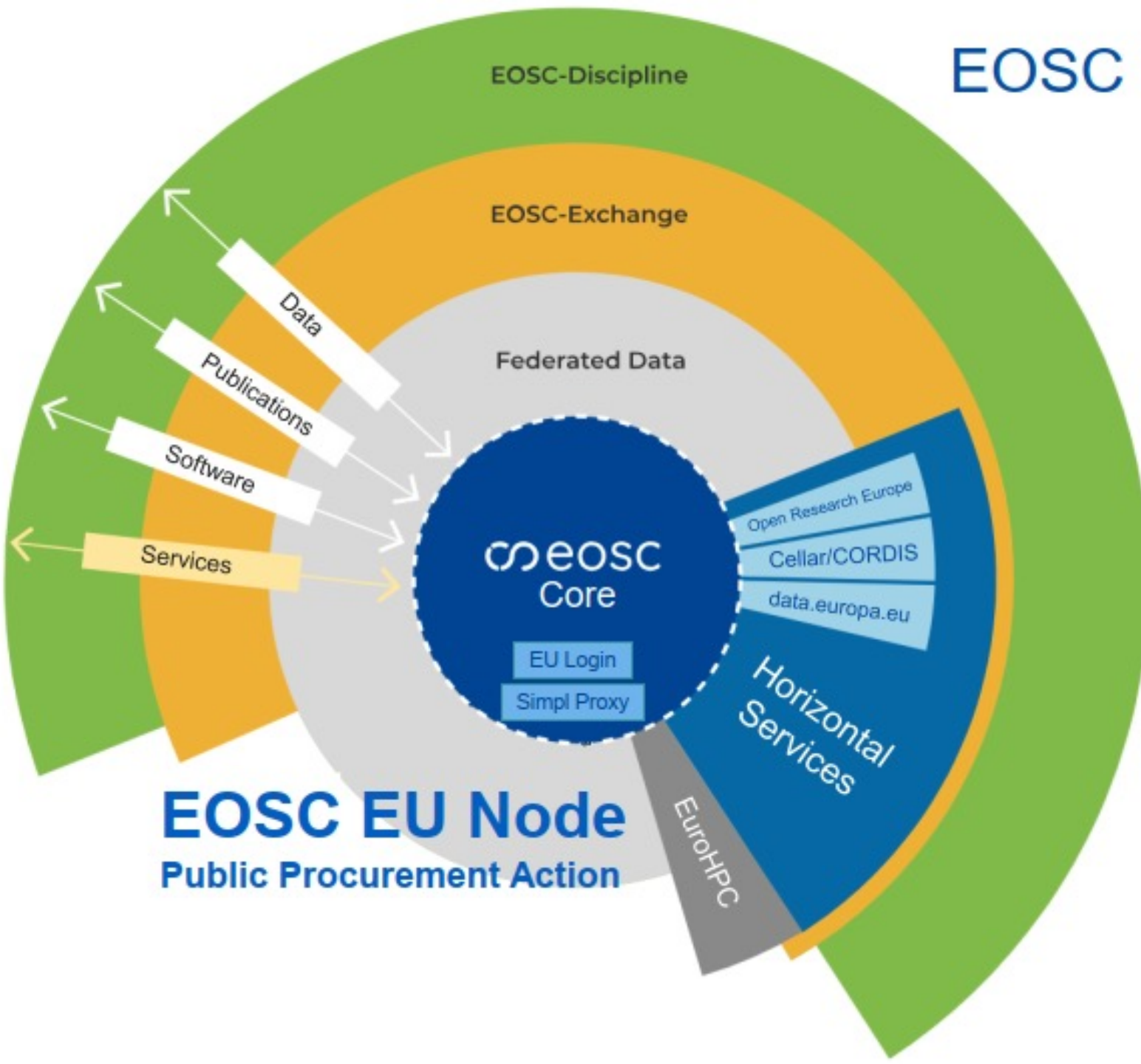
## Value Proposition and Architecture

DG CNECT Unit C.1 Open Science and Digital Modelling

*Peter Szegedi*



# EOSC EU Node Value Proposition



- **Facilitate** the creation of the “*Web of FAIR data and interoperable services*” (aka. EOSC Federation) under the Open Science Policy
- **Put** a “*seed in the ground*” by operationalizing the first recognised EOSC Node at the European level for the initial 3 years
- **Offer** “*core services*” for scientific research infrastructures to federate (single-sign-on, catalogues, knowledge graph, application workflow, monitoring, accounting, helpdesk) and common “*horizontal services*” for end-users to benefit from (compute, containers, data transfer, notebooks, file sharing, open research data)
- **Define** the *pathway and blueprint* (EOSC Interoperability Framework) for other potential EOSC Node operators to join the federation

# EOSC EU Node characteristics and features

- **European level multi-disciplinary and multi-national** scientific data/service portfolio for all research users (eduGAIN) and citizen scientists (EU Login/eIDAS)
- **For now, owned by the EC** and governed by the EOSC Tripartite Governance (EC, EOSC-A, MS/AC) Future ownership is under discussion.
- **Operated and maintained 24/7** by contracted third-parties (result of the EOSC Procurement Action) in production
- **SIMPL Agent proxy** to connect to other industrial Data Spaces
- **EuroHPC resources** may be offered to the EOSC Federation
- **Open concept: National, regional and/or thematic** service providers as well as autonomous EOSC Nodes can connect to the federation (established interoperability frameworks and policies)

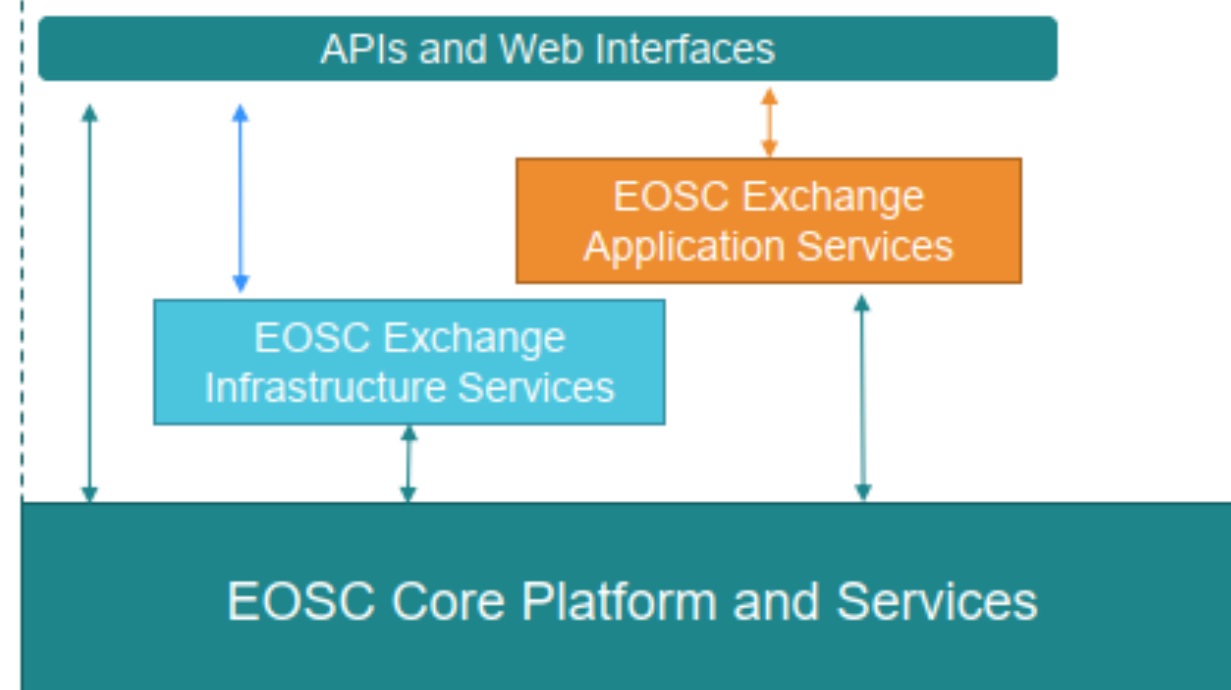


# Procurement Lot Structure

EOSC Exchange Thematic/Regional Services



EOSC Exchange Horizontal Services



## Procurement Lot Structure

Lot 3

Managed Collaborative Data Platform, Interactive Data Analytics Platform and Visualization Services for the EOSC Exchange (Application Services)

Lot 2

Managed Container Platform and Virtual Machine Services for the EOSC Exchange (Infrastructure Services)

Lot 1

Managed Services for the Development, Integration, Deployment and Operations of the Federated EOSC Core



# All together the awardees



## EOSC EU Node

EXCHANGE



CORE



netcompany

intrasoft



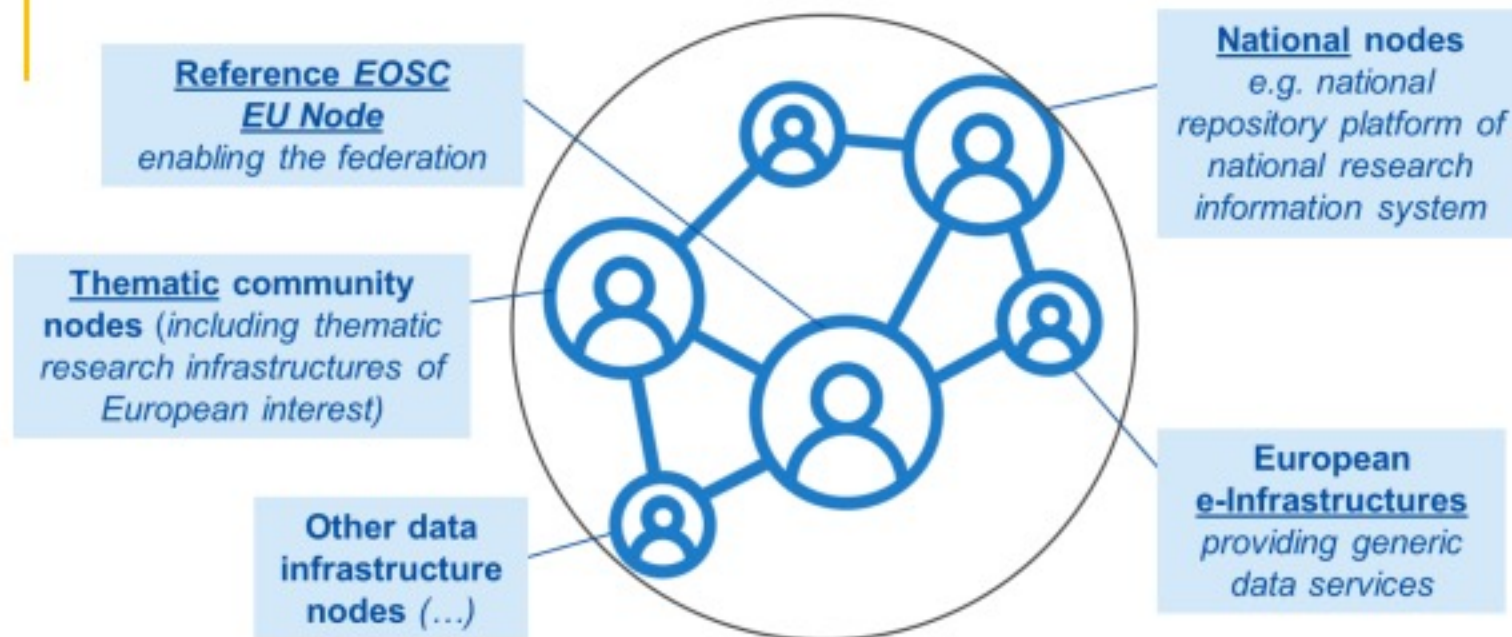
# Nodes

Federated system of systems



# About the EOSC Federation and EOSC Nodes

Peter Szegedi (DG-CNECT)



## **EOSC policies and standards\*\*:**

A baseline should be defined to ensure that each node can have a minimum working set of features and supports a minimum set of policies. It is important to mandate compliance with protocols and standards, but to give freedom to each node on how to support them.

**EOSC Federation\***: Open and trusted federation of collaborative, autonomous infrastructures applying agreed, consensus-based EOSC policies and rules of participation, combined into a system of systems to enable European researchers to store, share, process, analyse, and reuse research digital objects (e.g. data, publications and software)

**EOSC Node\***: Data infrastructure system of variable nature (national, regional, institutional or thematic) with consensus-based policies, transparent ownership and clear responsibility, connected to the EOSC Federation to share information and resources within the EOSC community and to leverage common services

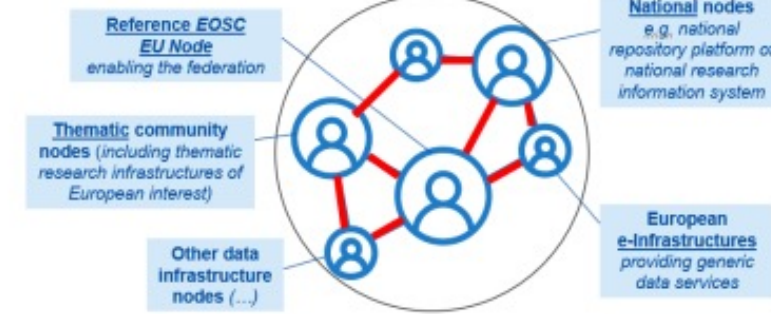
\* Source: "EOSC operations and evolution post-2027" supporting document by the EOSC-SB Policy subgroup (November 2023)

\*\* Source: GEANT and NREN's position on EOSC Nodes (October 2023)



# The connections in the Federation

Peter Szegedi (DG-CNECT)



## To address the EOSC puzzle

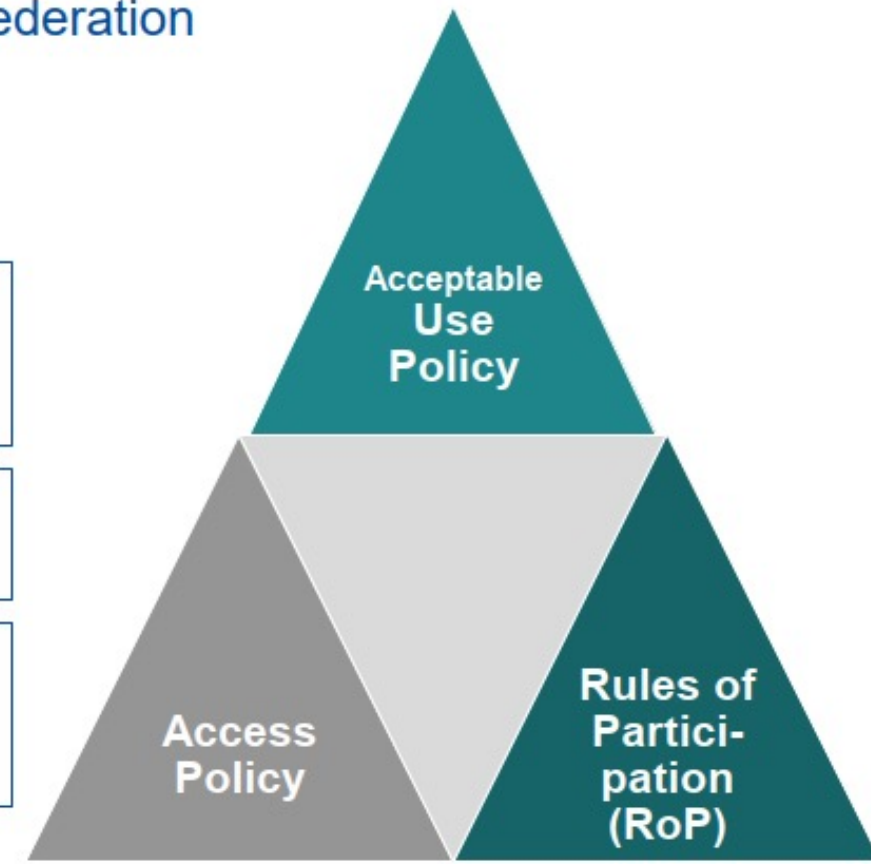
And cope with a vast quantity of infrastructure components of various scales and scopes, centralised or distributed, being generic, domain-specific or cross-disciplinary at institutional, national or European level.

- Minimal standards to be applied across the Federation (EOSC Interoperability Framework).
- Common policies and Rules of Participation applicable across the Federation
- A model to govern, enforce and evolve those policies.
- Trade-off between inclusiveness and quality of EOSC resources ?

*The Use Policy affect **all users** (registered or anonymous) and defines what is acceptable use of EOSC. For example: lawful, respect of intellectual property, respect of security rules...*

*The Access Policy primarily regulates the use of resources (computing, data, network) and security rules **for registered users**.*

*The Rules of Participation affect all **resource providers / Node operators**. Define the **minimal standards** for any 3rd party service (ie: assets, support) provided within the Federation. Deeply related to onboarding.*



# Status of Components of EOSC governance framework

Governance Component	Description	Status	Prepared by
<b>Common Federation Goals</b>	Common Goals for the EOSC Federation agreed by stakeholders in advance of the creation of the Federation	Outlined in the EOSC-Federation and EOSC-Nodes paper of EOSC-A (see above)	EOSC Focus & EOSC BoD
<b>Rules of Membership</b>	Rules to become a Governance Member of the EOSC Federation	To be agreed.	
<b>Rules of Participation (RoP)</b>	RoP for Service Providers and other potential Community Catalogue Operators from the research community.	Additional principles proposed by TF RoP (2023), not adopted	TF RoP (2023), EOSC Focus
	RoP for Research Users.	High level principles.	Report from EOSC EB RoP WG (2019)
	RoP for non-research providers, citizen scientists, corporate users, public sector	Not addressed.	
<b>Resource Inclusion Criteria</b>	Definition of resource types, related Inclusion Criteria.	Applied in EOSC Future project	EOSC-Future (2023)
<b>Interoperability of Core Services</b>	Standards for interoperability of essential services that must operate seamlessly across the Federation.	Some technical standards applied in practice by the EOSC Future project.	EOSC-Future (2023)
<b>Interoperability between Core Services and</b>	Standards for interoperability of essential services with resources included in EOSC Federation by Participants.	Over 20 Interoperability Guidelines have been	EOSC-Future (2023)

<b>Included Resources</b>		adopted by the EOSC Future project.	
	<b>Access Policies:</b> Baseline approach, trust based, automated and scalable for targeted users and use cases.	AP template for the EC-procured horizontal services drafted by EOSC BoD, shared April 2023.	EOSC Focus & EOSC BoD
	<b>Acceptable Use Policies:</b> Assessment of range of relevant AUPs and identification of common denominators	Drafted by EOSC-A, not formally approved	EOSC-A
<b>Interoperability between Included Resources</b>	Standards for interoperability between certain resources and certain Horizontal Services.	2 Interoperability Guidelines have been adopted by the EOSC Future project.	EOSC-Future (2023)
	Semantic Interoperability Standards within Disciplines	Subject of active work by many communities.	
<b>Interoperability between EOSC Federation and other platforms.</b>	Standards for interoperation with Data Spaces, Copernicus, EMODNet, CORDIS, etc.	No consistent framework.	

Table extracted from EOSC Focus deliverable report D5.1

# eosc EOSC-A plans for 2024

Engage with different stakeholders to advance the understanding of the EOSC Federation and Nodes

- **DG CNECT on the scope and usage of the EU Node**
  - Candidates to test integration of nodes/means of verification and validation of performance
  - Relationship to other data spaces (DSSC Strategic Stakeholder Forum <https://dssc.eu/>)
- **DG RTD on the governance framework**
  - EOSC tripartite meetings (16 April'24, etc.)
- **EOSC-A Mandated Organisations & funding organisations forum on national nodes**
  - zoom based meetings to be organized (proposed 9 Feb & 22 March 24)
- **EOSC-A ESFRI RI Working Group on thematic nodes**
  - ERIC Forum meeting 28 Feb'24
  - ESFRI-EOSC Task Force meetings
- **E-infrastructures on e-infra nodes via possible future EOSC-A Working Group**
  - Building on exchanges held at e-IRG workshop in Valencia in Nov'23

Progressively compile a first draft of the future EOSC handbook of operations document

**EOSC-A**  
**Membership**  
**participation**



## Possible table of contents

- **Purpose**
  - Goals & Purpose of EOSC
- **Operational structure and responsibilities**
  - Federating Entity
  - Nodes
- **Governance and legal framework**
  - Governance structure
  - Legal framework
  - Policies (Rules of Participation, Access Policy, Acceptable Usage Policy, ELSI, IP, etc.)
  - Communication and External Relations
  - Risk management
- **EOSC platform**
  - FAIR Data & Services (Core, Exchange)
  - Interoperability (EOSC Interoperability Framework)
  - Training
- **Technical Operations**

draft

# eosc Further defining the EOSC Federation

- EOSC-A has drafted a paper defining the EOSC Federation and its building blocks, EOSC Nodes
- EOSC-A will continue to lead on shaping the definition of the EOSC Federation and the role of EOSC Nodes
- In 2024, EOSC-A intends to build on this paper and engage with different stakeholder groups to develop a handbook of operations that provides policies, guidelines, recommendations and related procedures for the EOSC Federation
  - **EOSC-A members are encouraged to work with us to ensure this material addresses their needs**
  - **We will repeat these webinars during the year to share the progress**
- Key to this evolution is the agreement on the future EOSC governance model (post 2027)