

# Open Science Policies

EOSC and Beyond

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What is a policy?

# There is no one size fits all model for policies

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## Policies are found at different levels:

- Library
- University (RPO - be aware of the legal and institutional differences)
- National Level

## There are multiple "open" policies and multiple policy makers:

- Open Science
- Open Culture
- Open Data (public and sectoral)

## Policies are not isolated:

- IPR policies (particularly exploitation)
- Infrastructure Policies
- Personal Data / Privacy Policies
- Ethics Boards
- Special regimes

# Constituencies and Material

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Who are the primary users of your infrastructures, services and content (data and content)

- Specific scientific communities
- High Performance Computing Users
- Relationship with infrastructures
- The role of librarians
- Links between RFOs (public and private) and RPOs

What is your material

- Types of content
- Types of meta-data
- Types of services
- Types of infrastructure

Understanding communities of practice

Always ask the question of whether one size fits all

# Be modular (micro policies)

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Break down your policy in modular components

## Key components:

- Rights Acquisition and clearance
- Rights Allocation per scenario
- Licensing policies
- Exploitation
- Confidentiality
- Personal Data
- Ethics
- Technical issues (PIDs, type of deposition)
- Procedural issues
- Infrastructure access
- Use of Service rules
- Rules of Participation (RoP) for infrastructure provision

# Make future-proof choices

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Be granular

Follow model policies and approaches (e.g. Plan S)

Follow EC developments

Coordinate with your NOADs (OpenAIRE context)

Position yourself in EOSC

Coordinate national policies

Understand the global context



EU Policy Context

# Legislation and Policy initiatives I

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- European Cloud Initiative (2016)
  - Setting up EOSC
  - Infrastructures for data science
- General Data Protection Regulation (2016)
  - Framework for Sharing personal data
  - Scientific research exceptions
- Free Flow of non-personal data (FFD) Regulation (2018)
  - Framework for sharing non-personal data
- Revision of the Open Data and re-use of Public Sector Information (PSI) Directive (2018)
  - As open as possible as closed as necessary
  - Inclusion of Scientific Data
  - Publicly funded data -> open/ reusable



# Legislation and Policy initiatives II

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- Revision of the Copyright Directive (2018)
  - Text and Data mining exceptions
- Revision of the Recommendation on access to and preservation of scientific information (2018)
  - Call for setting up open science policies
- A European Strategy for Data (2020)
  - Vision for European Data Strategy
  - Focus on the free flow of data
  - Protecting the citizen
  - Promoting innovation

# The European Data Space

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The European data space will give businesses in the EU the possibility to build on the scale of the Single market. Common European rules and efficient enforcement mechanisms should ensure that:

- data can flow within the EU and across sectors;
- European rules and values, in particular personal data protection, consumer protection legislation and competition law, are fully respected;
- the rules for access to and use of data are fair, practical and clear, and there are clear and trustworthy data governance mechanisms in place;
- there is an open, but assertive approach to international data flows, based on European values.

# Key issues

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1. Availability of Data
  - \* Data for the public good
2. Imbalances in market power
3. Data Interoperability and quality
4. Data Governance
5. Data Infrastructures and Technologies
6. Empowering individuals to exercise their rights
7. Skills and data literacy
8. Cybersecurity

# The Strategy

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- A. A cross-sectoral governance framework for data access and use
- B. Enablers: Investments in data and strengthening Europe's capabilities and infrastructures for hosting, processing and using data, interoperability
- C. Competences: Empowering individuals, investing in skills and in SMEs
- D. Common European data spaces in strategic sectors and domains of public interest
- E. An Open but proactive international approach

## Key Actions A (cross-sectoral governance framework for data access and use)

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- Propose a legislative framework for the governance of common European data spaces, Q4 2020
- Adopt an implementing act on high-value data-sets, Q1 2021
- Propose, as appropriate, a Data Act, 2021
- Analysis of the importance of data in the digital economy (e.g. through the Observatory of the Online Platform Economy), and review of the existing policy framework in the context of the Digital Services Act package (Q4 2020).

## Key Actions B (Enablers: Investments in data and strengthening Europe's capabilities and infrastructures for hosting, processing and using data, interoperability)

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- Invest in a High Impact project on European data spaces, encompassing data sharing architectures (including standards for data sharing, best practices, tools) and governance mechanisms, as well as the European federation of energy-efficient and trustworthy cloud infrastructures and related services, with a view to facilitating combined investments of €4-6 billion, of which the Commission could aim at investing €2 billion. First implementation phase foreseen for 2022;
- Sign Memoranda of Understanding with Member States on cloud federation, Q3 2020;
- Launch a European cloud services marketplace, integrating the full stack of cloud service offering, Q4 2022;
- Create an EU (self-)regulatory cloud rulebook, Q2 2022.

## Key Actions C (Competences: Empowering individuals, investing in skills and in SMEs)

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- Explore enhancing the portability right for individuals under Article 20 of the GDPR giving them more control over who can access and use machine-generated data (possibly as part of the Data Act in 2021).

# Key Actions D (Common European data spaces in strategic sectors and domains of public interest)

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Establish nine common European Data Spaces:

- A Common European industrial (manufacturing) data space
- A Common European Green Deal data space
- A Common European mobility data space
- A Common European health data space
- A Common European financial data space
- A Common European energy data space
- A Common European agriculture data space
- Common European data spaces for public administration
- A Common European skills data space



## Key Actions E (An Open but proactive international approach)

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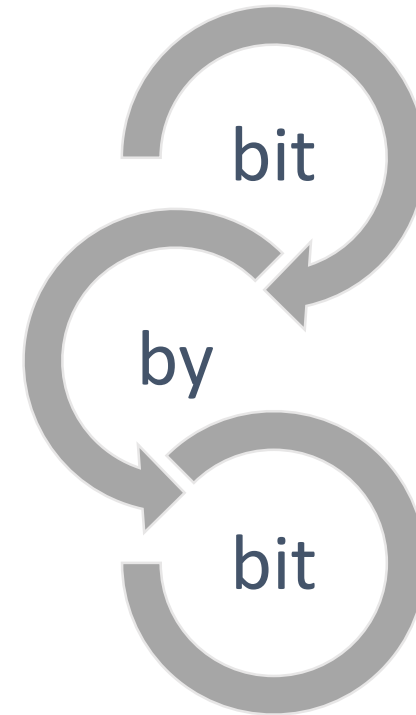
Create a framework to measure data flows and estimate their economic value within Europe, as well as between Europe and the rest of the world, Q4 2021

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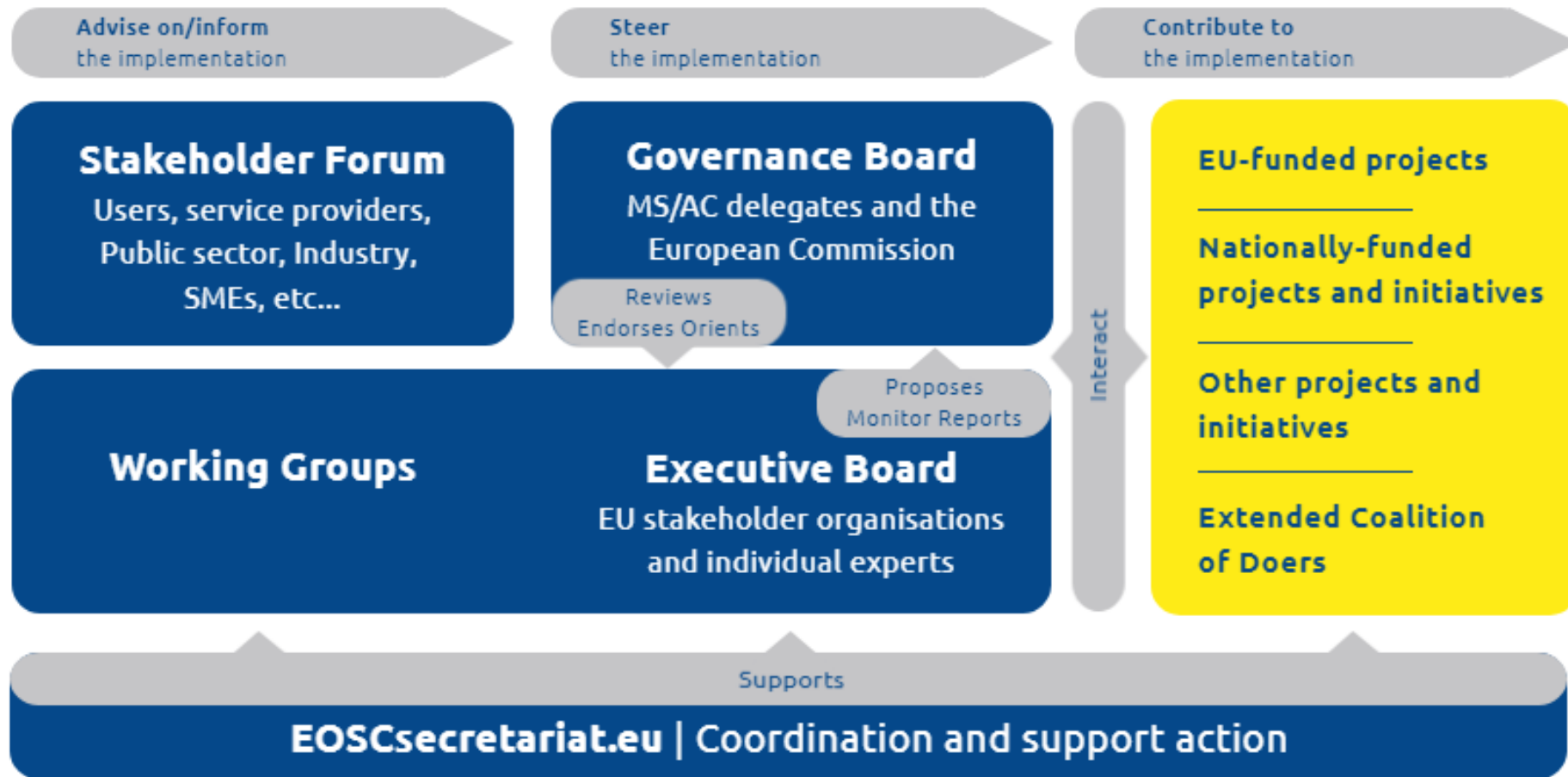
The EOSC context

# EOSC design principles

- Co-creation
- Research-led
- Community-driven
- Flexible by design
- Extensible / scalable
- Incremental and iterative
- Hands-on and participatory
- Continuous engagement, consultation & user testing

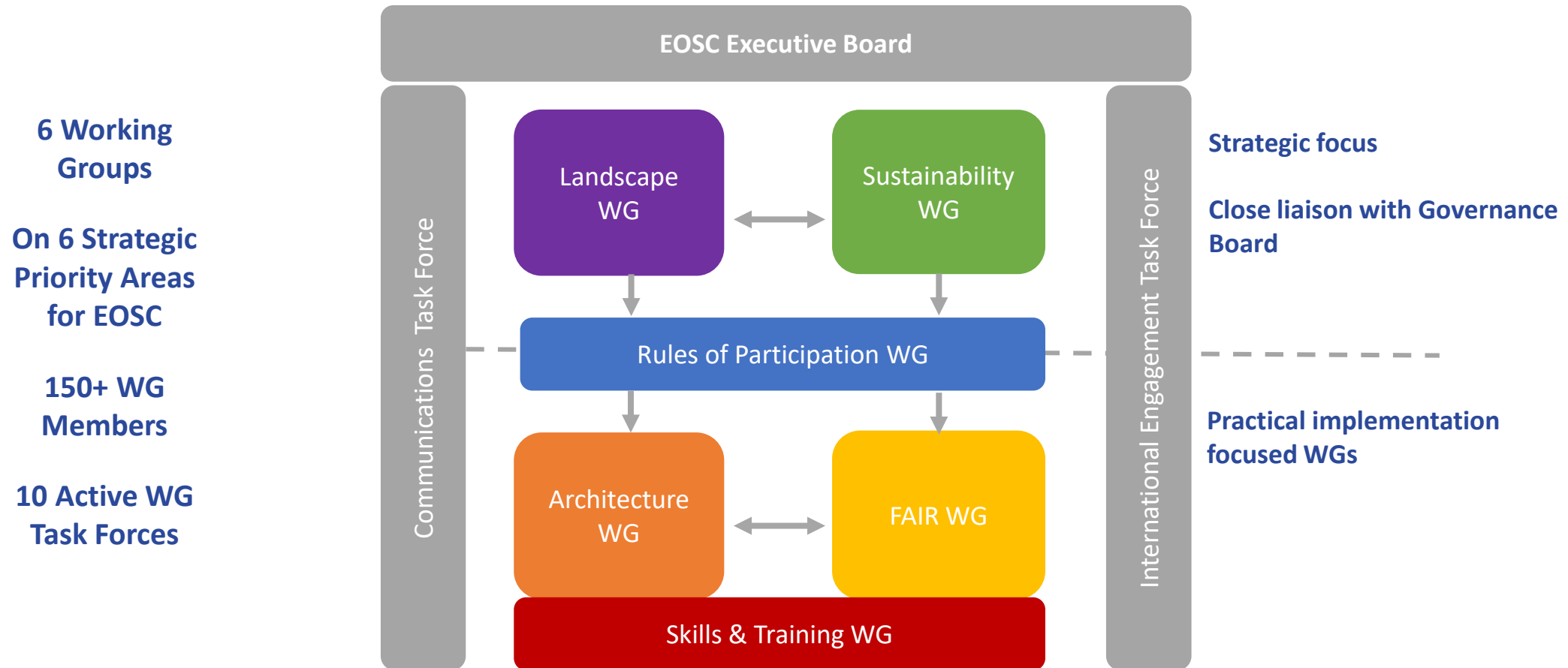


# EOSC governance structure



Source: EOSC Secretariat/ EOSC General Principles

# EOSC Working Groups and Task Forces



**Source:** EOSC Secretariat/ EOSC General Principles



Policies within the  
context of EOSC  
Rules of  
Participation

# What are the EOSC RoP and why should they matter

“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. “

**Source:** EB Working Group RoP (v.0.2) URL:

[https://docs.google.com/document/d/1\\_VgNifaiL9cNCJiXPgTj562sQJ9txvwV0S2rMAawrFU/edit#heading=h.jcs6tbtwn2ei](https://docs.google.com/document/d/1_VgNifaiL9cNCJiXPgTj562sQJ9txvwV0S2rMAawrFU/edit#heading=h.jcs6tbtwn2ei)

# Assumptions

## EOSC Governance Form:

- Involving appropriate stakeholders
- Lean Legal Entity that will provide the vision and roadmap for the EOSC implementation and, hence, assume RoP responsibility (drive it/ implement it)
- Provide a decision and revision process for RoPs



# Structure

- A. Ground Rules for all EOSC resources
- B. Rules related to data provisioned through EOSC
- C. Rules related to EOSC services
- D. Rules for EOSC Operators

## A. Ground Rules for all EOSC resources

### **G1: EOSC is open to all**

- Applies to all resources
- Open as possible; closed as necessary
- Additional constraints may be applied provided they comply with principles of openness for data (D3, D4) and Services (S3, S4)

### **G2: EOSC resources are registered in an EOSC recognized catalogue**

- Only registered resources are recognized
- Registration = RoP compliance
- EOSC branding is allowed to registered resources only

## B. Rules related to data provisioned through EOSC (Part I)

### **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 conduct**

- Data producers agree to act in accordance with commonly agreed principles regarding the conduct of research 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.

## B. Rules related to data provisioned through EOSC (Part II)

### **D4: Data providers will respect principles of FAIR data.**

- Data providers aim to implement the FAIR principles.
- 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.

### **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.

### **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.
- 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.

## C. Rules related to EOSC services (Part I)

### **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 compensation.

### **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 research that assure, for example, the quality of information provided through the service for example they will not willfully misrepresent or provide false information.

## C. Rules related to EOSC services (Part II)

### **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 standards where applicable, for example regarding API access, so that composite services and workflows can be built that integrate service use.
- Services requiring authentication or authorization will support the use of relevant community recognised academic credentials for federated AAI.

## C. Rules related to EOSC services (Part III)

### **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.

# D. Rules for EOSC operators (Part I)

## **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 portfolio.

## **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 adopt these standards.



## D. Rules for EOSC operators (Part II)

### **Op4: Authentication and Authorisation**

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

### **Op5: Search function and other global functions**

- 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.

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Take-aways

# Some conclusions

## Understand what kind of policies you need to implement:

- Macro or Micro Policies?
- How are they related to each other
- Focus on three elements:
  - Infrastructures
  - Data
  - Services (public and private)

## Think of the broader Ecosystem:

- This is not just an Open Science issue: read the EU data strategy
- Talk to more than one ministries
- Think of it as a development strategy

## Appreciate the EOSC context:

- Participatory governance: use it!
- Take part to the sustainability discussions

## Follow the EOSC RoPs

- Develop EOSC compliant policies
- Focus on Data, Services and Operators
- Link to all levels of policy

