

# Making data sources discoverable in the EOSC via OpenAIRE PROVIDE

Results from the EOSC future project and the  
next phase of EOSC (the EOSC EU Node)

# Disclaimer

This presentation was initially proposed to talk about the EOSC Marketplace, and would present the results of the EOSC Future project related with the onboarding process to register a provider and its resources supported by OpenAIRE provide.

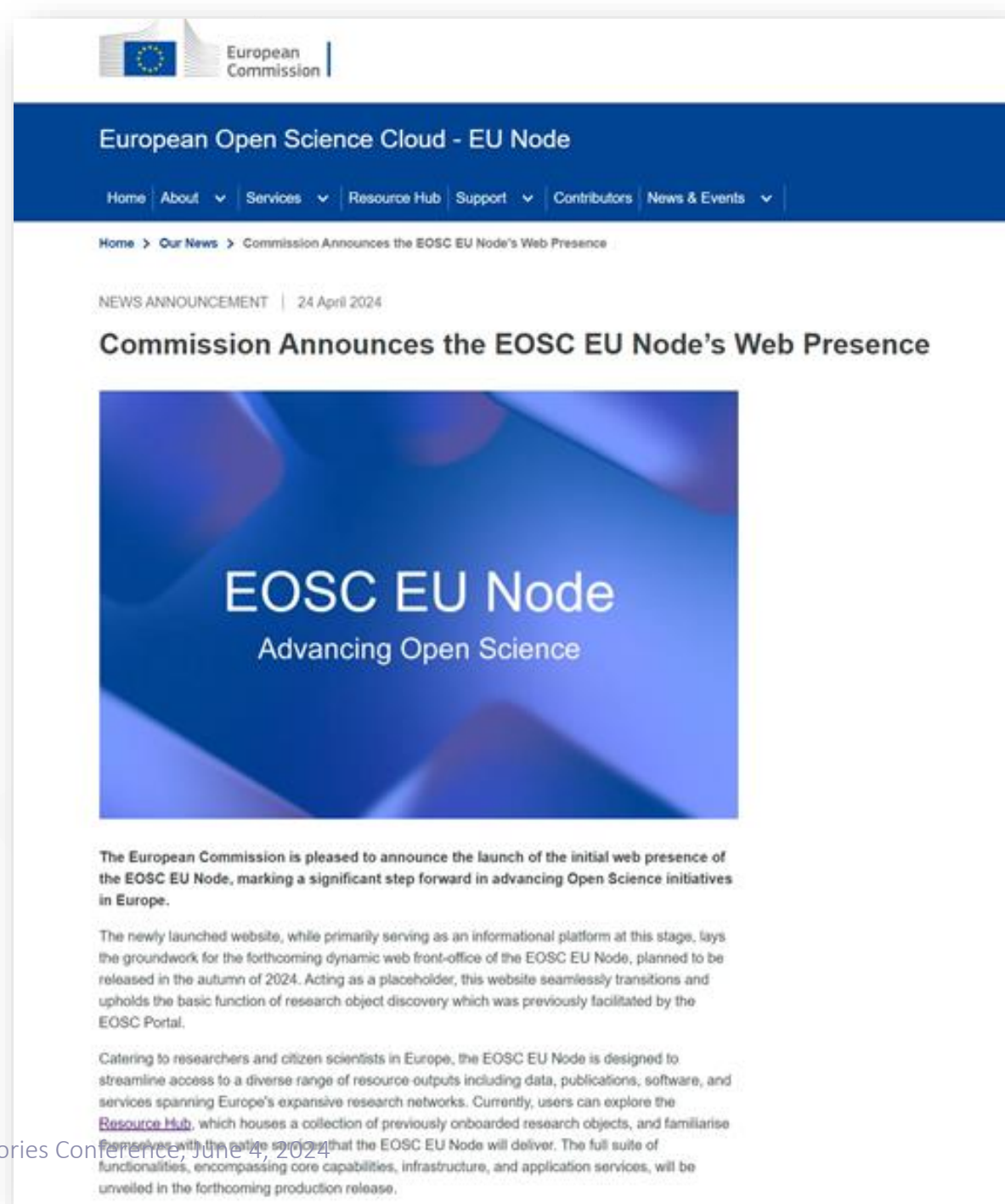
## BUT SOME “THINGS HAVE CHANGED”!

+ info: <https://open-science-cloud.ec.europa.eu/news/commission-announces-eosc-eu-nodes-web-presence>

➤ **Handover of relevant EOSC Portal functionalities – EOSC future extension**

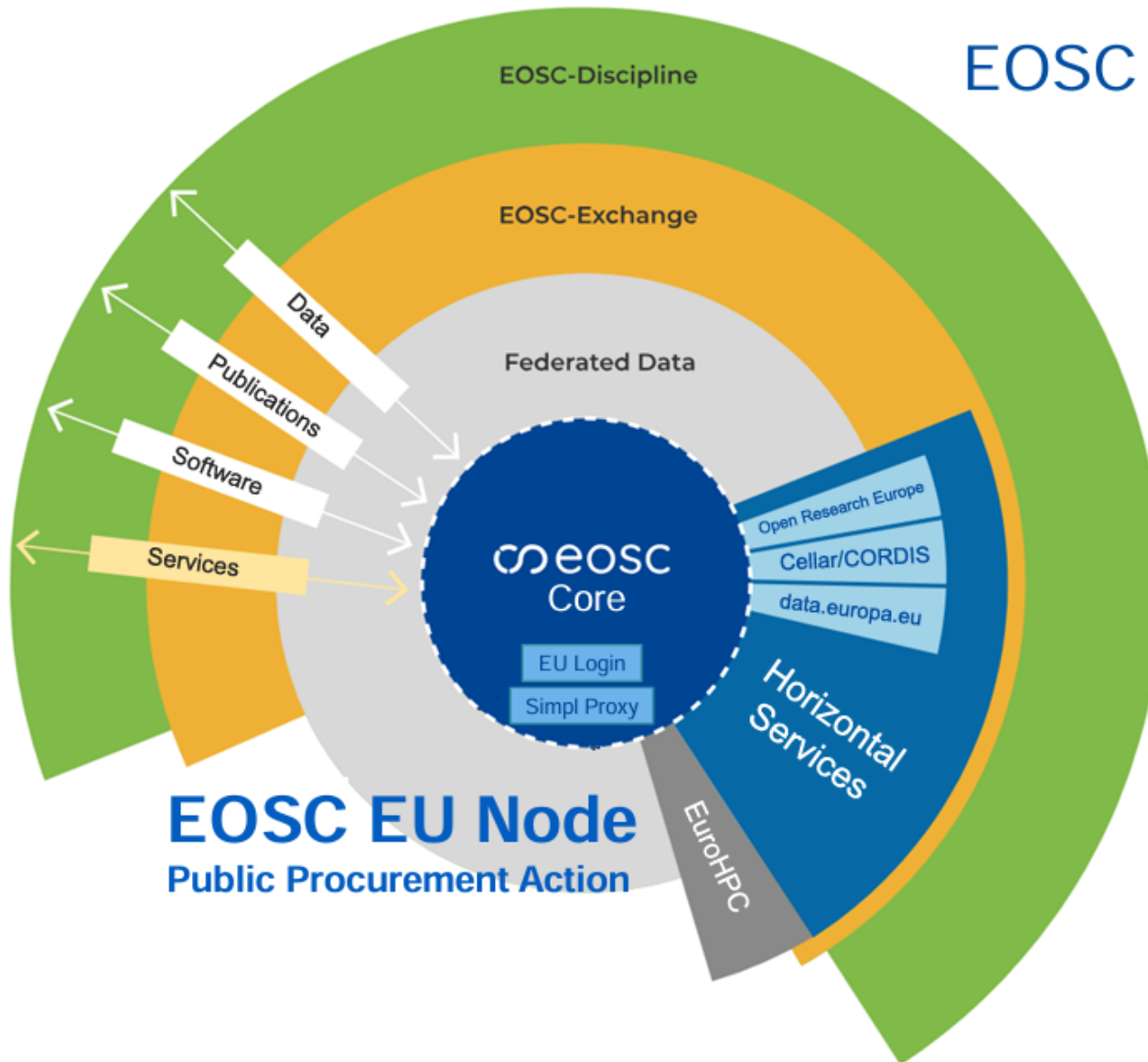
<https://eoscfuture.eu/newsfuture/eosc-future-signs-off-and-welcomes-the-eosc-eu-node/>

➤ **EC launched the EOSC EU Node – first the website as an informational platform anticipating the release planned in the autumn of 2024.**



The screenshot shows a news announcement from the European Commission dated 24 April 2024. The headline is "Commission Announces the EOSC EU Node's Web Presence". Below the headline is a graphic with the text "EOSC EU Node Advancing Open Science". The main text of the announcement states: "The European Commission is pleased to announce the launch of the initial web presence of the EOSC EU Node, marking a significant step forward in advancing Open Science initiatives in Europe. The newly launched website, while primarily serving as an informational platform at this stage, lays the groundwork for the forthcoming dynamic web front-office of the EOSC EU Node, planned to be released in the autumn of 2024. Acting as a placeholder, this website seamlessly transitions and upholds the basic function of research object discovery which was previously facilitated by the EOSC Portal. Catering to researchers and citizen scientists in Europe, the EOSC EU Node is designed to streamline access to a diverse range of resource outputs including data, publications, software, and services spanning Europe's expansive research networks. Currently, users can explore the Resource Hub, which houses a collection of previously onboarded research objects, and familiarise themselves with the entire scope that the EOSC EU Node will deliver. The full suite of functionalities, encompassing core capabilities, infrastructure, and application services, will be unveiled in the forthcoming production release."

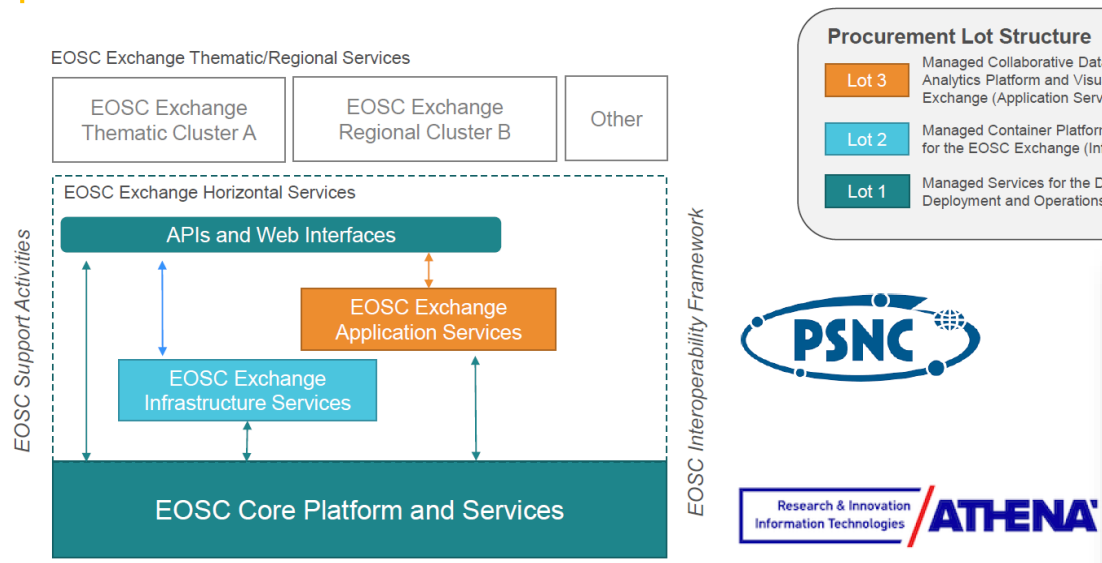
## EOSC EU Node Value Proposition



- **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



# Hight-level EOSC EU Node architecture



**Procurement Lot Structure**

- Lot 3** (orange box): Managed Collaborative Data Platform, Interactive Data Analytics Platform and Visualization Services for the EOSC Exchange (Application Services)
- Lot 2** (blue box): Managed Container Platform and Virtual Machine Services for the EOSC Exchange (Infrastructure Services)
- Lot 1** (green box): Managed Services for the Development, Integration, Deployment and Operations of the Federated EOSC Core



## All together the awardees

**EOSC EU Node**

**EXCHANGE**

- PSNC
- safespring
- NORDUnet
- Sikt
- egi cesnet
- GÉANT
- owncloud

**CORE**

- ATHENA
- OpenAIRE
- GWGD
- egi cesnet
- GÉANT
- grnet
- netcompany
- intrasoft
- icm
- aws
- European Commission

A gold seal in the top right corner reads 'Awarded Contractors'.





**EUROPEAN OPEN  
SCIENCE CLOUD**

## IMPORTANT NOTICE

The EOSC Portal is no longer available, but don't worry!

You can find out more about the next phase of EOSC (the EOSC EU Node) at <https://open-science-cloud.ec.europa.eu/>

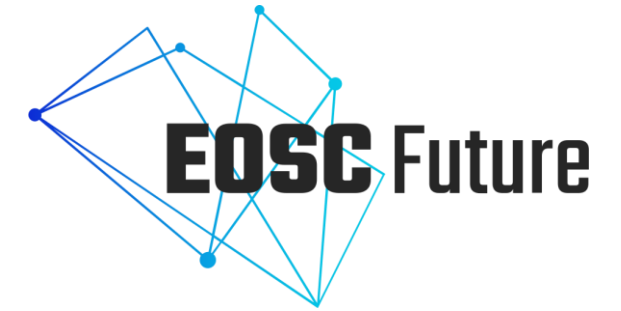
Read the official announcement [here](#). Users and providers can also fill out this [interest form](#) to find out how to get involved.

Finally, all the results from the EOSC Future project, including how the EOSC Portal and EOSC Catalogue & Marketplace came to be, are available [here](#).

# European Open Science Cloud – EU Node

The screenshot displays the website interface for the European Open Science Cloud - EU Node. At the top left is the European Commission logo. The main header is a dark blue bar with the text "European Open Science Cloud - EU Node" and a navigation menu with items: Home, About, Services, Resource Hub (highlighted), Support, Contributors, and News & Events. Below the header is a breadcrumb trail: Home > Resource hub. The main content area is titled "Resource hub" and features a search bar with a dropdown menu currently set to "Data Sources" and a search icon. Below the search bar is a horizontal menu with categories: All resources, Publications, Data, Software, Other Products, Services, Data Sources (highlighted), Training, and Interoperability Guidelines. The main content area shows a list of resources with filters on the left: Scientific domain, Organisation, Interoperability guideline, and Horizontal. The text "Showing 1 to 20 of 60 resources" is displayed above the list. The text "No filters applied" is shown below the filters, and a "Relevance" dropdown is on the right.

<https://open-science-cloud.ec.europa.eu/>



# Being a provider and the onboarding

What was defined and proposed in EOOSC future project (under consideration in the EOOSC EU Node services design and deployment)

+ info: <https://eoscfuture.eu/results/>

# Onboarding of providers (contributors)

## WHAT IS ONBOARDING?

A process to register a provider and its **resources** to the EOSC Marketplace (EOSC EU Node (resource hub)).

### Costs?

- Onboarding is free of charge.

## WHAT ARE THE BENEFITS?

- Gain visibility and promote your resources to reach out to a wider user base.
- Get a free online platform where you can interact with users, provide support.
- Add value to your resources by integrating them with EOSC Core services.
- Make it easier to users to access your resources (using AAI).
- Improve the interoperability of your resources.



# Resources

Resources are described using a standardized set of metadata.

- Data sources (e.g. repositories)
- Research products (Publications, Data, Software)
- Services
- Training resources

## Metadata schema

- Resource profiles
- Research product profiles
- Data source profile
- Training resource profile

## Discover European Research Outputs



Search by Resource type

DATA

PUBLICATIONS

SOFTWARE

SERVICES

TRAINING

[Explore the Resource Hub >](#)

# EOSC Data Source Profile

An EOSC Data Source is a special type of Service, providing metadata about different types of research products it contains and offering access to their payloads.

EOSC includes the following typologies:

- repositories
- scientific databases
- journal and publisher archives, and
- aggregators of EOSC data sources

The data source must make research products discoverable and accessible in a FAIR way.

# Data Source Profile

## Sections:

- Data Source Policies
- Data Source Content
- Research Product Policies
- Research Product Metadata

Code	Attribute Name	Description	Type	Multiplicity	Required	
<b>Data Source Policies</b>						
DS1.1	Submission policy URL	This policy provides a comprehensive framework for the contribution of research products. Criteria for submitting content to the repository as well as product preparation guidelines can be stated. Concepts for quality assurance may be provided.	URL	0..1	R	
DS1.2	Preservation policy URL	This policy provides a comprehensive framework for the long-term preservation of the research products. Principles aims and responsibilities must be clarified. An important aspect is the description of preservation concepts to ensure the technical and conceptual utility of the content	URL	0..1	R	
<b>Data Source Content</b>						
DS1.3	DS2.1	Jurisdiction	The property defines the jurisdiction of the users of the data source, based on the vocabulary for this property	Vocabulary: <a href="#">Jurisdiction</a>	1	M
DS1.4	DS2.2	Data Source Classification	The specific type of the data source based on the vocabulary defined for this property	Vocabulary: <a href="#">Data Source Classification</a>	1	M
DS1.4	DS2.3	Research Product Types	The types of OpenAIRE products managed by the data source, based on the vocabulary for this property	Vocabulary: <a href="#">Research Product Type</a>	1..n	M
DS1.4	DS2.4	Thematic	Boolean value specifying if the data source is dedicated to a given discipline or is instead discipline agnostic	Boolean	1	M
<b>Research Product Policies</b>						
DS3.1	Research Product Licensing	Licenses under which the research products contained within the data sources can be made available. Repositories can allow a license to be defined for each research product, while for scientific databases the database is typically provided under a single license.		0..n	R	
	DS3.1.1	Research Product License Name		String	1	M
	DS3.1.2	Research Product License URL		URL	1	M
DS3.2	Research Product Access Policy			Vocabulary: <a href="#">COAR Access Rights 1.0</a>	0..n	R



## Phase 1: registering the provider's representative

Go to Providers Hub

Register and assert the status of an authorized representative.

## Phase 2: Onboarding the provider

Fill out the form

Review by EPOT (EOSC Portal Onboarding Team)

Approval by EPOT

## Phase 3: Onboarding resources

Add a resource

Review by EPOT (compliance with the recommendations)

Approval by EPOT

Onboard more resources

# Does the repository meet the requirements for data sources?

- at least TRL8
- a number of extra fields that are specific to data sources
- must support automatic harvesting of the related metadata descriptions according to the EOSC

## **Interoperability Framework** Guidelines for Research Products

- harvesting protocols (e.g. OAI-PMH)
- **provide metadata compliant with OpenAIRE guidelines for literature (3.0, 4.0), for data archives, or for CRIS systems.**



[Image by Freepik](#)



# Workflow to onboard Data sources and Research products \*

## 1. Register in OpenAIRE (via OpenAIRE PROVIDE)

- Be compatible with OpenAIRE Guidelines

Then  OpenAIRE | PROVIDE

## 2. Onboard in EOSC

- Follow the inclusion criteria

\* Implemented in EOSC Future and the reference in the EOSC EU Node services design and deployment)



[Image by Freepik](#)

# OPENAIRE IS SUPPORTING THE DEPLOYMENT OF THE EOSC EU NODE

## Transition from the previous EOSC Portal

+ What will happen to the previous EOSC Portal?

+ Will I be able to discover the same research resources and services as in the previous EOSC Portal?

— Can I 'onboard' my research outputs or services in the previous EOSC Portal?

No. The 'onboarding' of Providers in the previous EOSC Portal has been discontinued as of 15 March 2024. The EOSC EU Node will provide similar functionalities for our [Contributors](#) under a revised policy framework.

+ I am a 'Provider' in the previous EOSC Portal. Are there any actions or steps I should take?

## Contributors

### PAGE CONTENTS

[Overview](#)

[Contributor Categories](#)

[Core Capabilities](#)

[Technology Forum](#)

## Overview

From scientific publications and data to software and ready to use tools, EOSC assembles the collective output of the European research and innovation community. EOSC is often referred as the European Common Data Space for Research and Innovation. It builds upon the efforts of the Member States and Associated Countries (developing national Open Science Policies), Research Infrastructures, e-Infrastructures, EU-funded research projects, thematic clusters, and private initiatives, leading up to the materialisation of the European Open Science Cloud.

The transformative pathway towards establishing Open Science as the new norm is a joint endeavour. One of which you can contribute to in terms of Open Science resources, science-supporting services, technology, policies, and training. You can also help us shape the features and services of the EOSC EU Node itself.

## Contributor Categories

Contributor Categories:

- **Repositories:** Offer curated and FAIR research products with unique identifiers and minimum semantic interoperability (such as publications, data, software, etc.) that are as open as possible and as closed as necessary.
- **Research Infrastructures:** Contribute specialised knowledge, tools, applications, and datasets, particularly in niche or cutting-edge areas of science.
- **Technology and Infrastructure Providers:** Offer infrastructure and/or platform services following the cloud-based delivery model, that can form the European backbone of computational and data storage capabilities.
- **Software Developers and IT Professionals:** Develop the models, tools, and applications that facilitate data management, analysis, collaboration, and other essential research activities within the EOSC ecosystem.
- **Industry Partners:** Engage with the EOSC EU Node for collaborative research activities spanning across public and private sectors and for potentially bridging the gap between scientific research and industrialised innovation.

Detailed information on how you can contribute to the EOSC EU Node will be available soon in this space. Rules of Participation are subject to apply.

## Core Capabilities

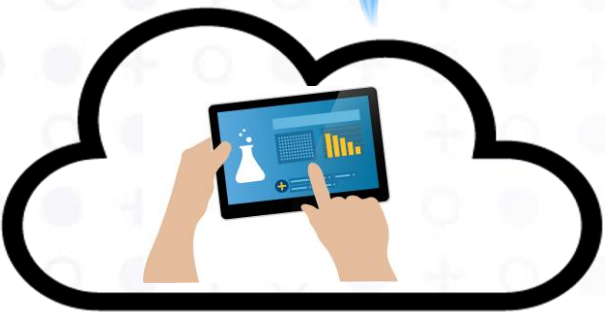
The EOSC EU Node will offer in the future the possibility for Contributors to utilise some core capabilities "as a Service". Those capabilities will be:

- **EOSC Authentication and Authorisation Infrastructure (AAI):** A federated trust and identity management framework for EOSC.
- **Resource Catalogues and Registry Services:** Seamless connection and discovery of research objects and catalogues.
- **Application Workflow Management:** A workflow tool to compose and orchestrate infrastructure resources federated into EOSC.
- **Monitoring and Accounting:** Transparent monitoring and accounting information across EOSC.
- **Helpdesk:** Part of the Service Management System proposed for EOSC as a common framework for operationalised environments.

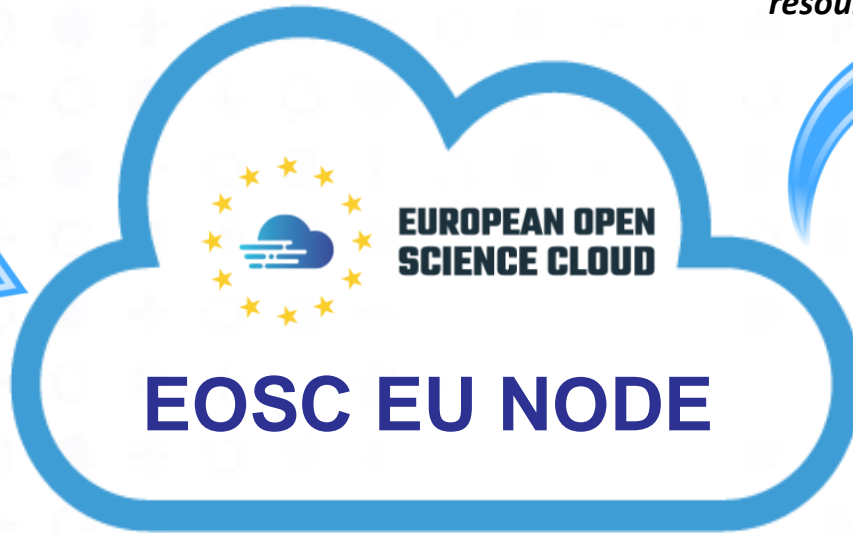
<https://open-science-cloud.ec.europa.eu/support/frequently-asked-questions#contributors>

# Sharing resources beyond organizational boundaries

*Share resources!*



**Libraries (e.g. Repositories, Archives, CRIS systems)**

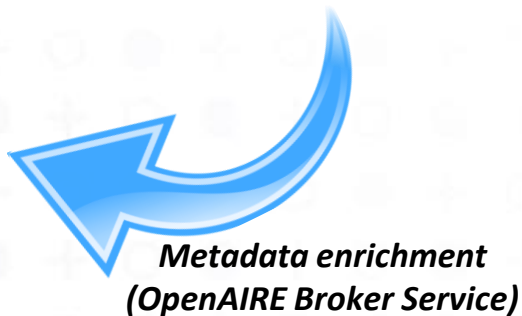


*Search, find, identify, compose, and reuse resources!*



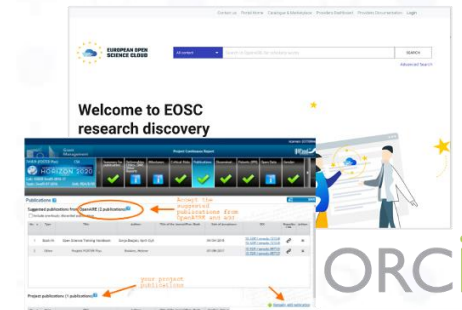
**EOSC users**

**RIs, clusters, e-infras, long tail, libraries, organizations, funders, companies**



*Metadata enrichment (OpenAIRE Broker Service)*

*Reporting scientific production to funders, Commission, and scholarly communication services*



THANKS

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[pedro.principe@usdb.uminho.pt](mailto:pedro.principe@usdb.uminho.pt)

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