

Registration of EOSC Service Catalogues in the EOSC EU Node's Resource Catalogue

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Abstract The EOSC EU Node (EEN) Resource Catalogue is designed to offer discovery and access to the map of resources made available in the EOSC Federation via the EOSC Nodes, including the EEN itself. In particular, it aggregates service profiles (metadata descriptions of services) collected from the service catalogues of EOSC Nodes. The resulting Catalogue is accessible via the EOSC Resource Hub discovery portal (and open APIs), and can be used to discover, access, and monitor EOSC services across the EOSC Nodes in the Federation.

This document outlines the interoperability guidelines for the EOSC Resource Catalogue, which EOSC Node Service Catalogue providers should follow to register their catalogues with the EEN Resource Catalogue, to make their services discoverable and accessible across the EOSC Federation.

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The EOSC EU Node Resource Catalogue

The *EOSC EU Node Resource Catalogue* (*EEN Resource Catalogue*, also known as the *EOSC Knowledge Graph*) is an indexed collection of metadata profiles that describe *EOSC Resources*. Such profiles are collected from a list of trusted sources and are searchable and accessible via the [EOSC Resource Hub discovery portal](https://open-science-cloud.ec.europa.eu/resources) shown in Figure 1.

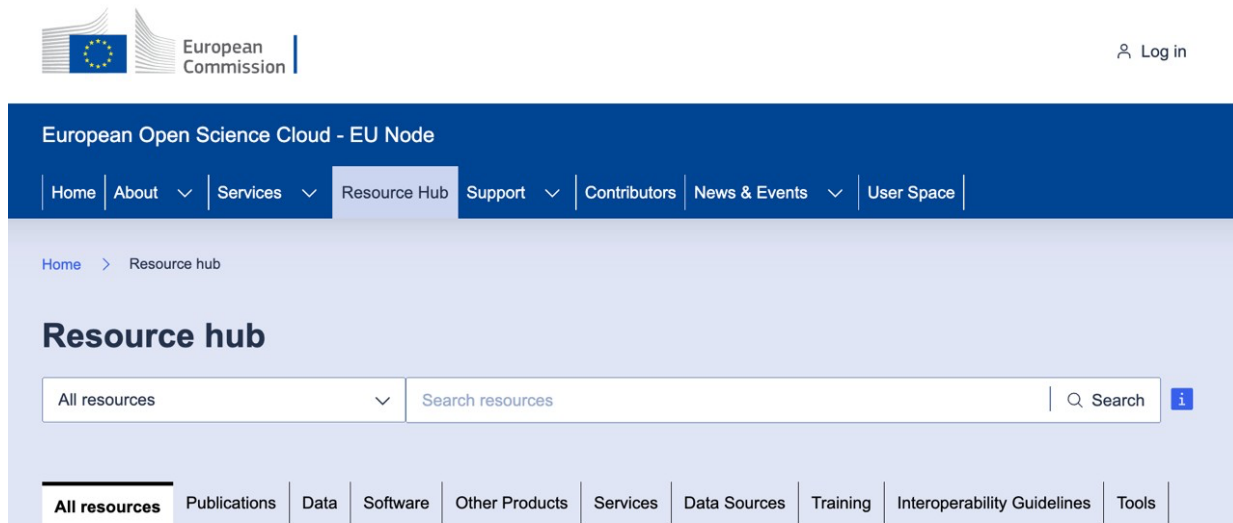


Figure 1 - EOSC Resource Hub discovery portal (<https://open-science-cloud.ec.europa.eu/resources>).

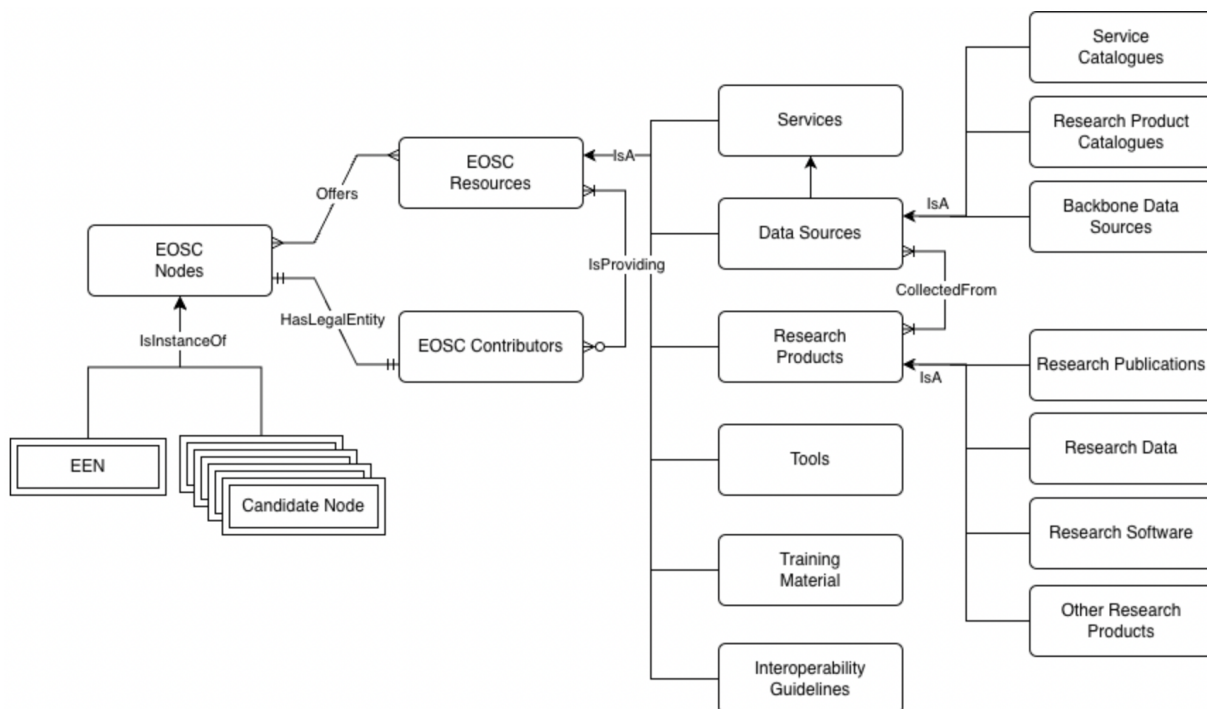


Figure 2 - EEN Resource Catalogue data model.

The purpose of the EEN Catalogue is to offer to users and machines (via APIs) a single discovery entry-point to all resources made available by EOSC Nodes (including the EEN itself) through the EOSC Federation. Its resource data model is shown in Figure 2. All resources in the catalogue

have at least one Contributor (an organization that provides or operates the resource) and are offered through at least one EOSC Node, either the EEN itself or a candidate Node in the buildup phase. An EOSC Node is operated by one Contributor, namely the legal entity organization responsible for its governance.

Figure 3 shows a scenario where an EOSC Node service catalogue includes a portfolio of services owned by the Contributor of the EOSC Node or onboarded there by third-parties. Some services are not EOSC-compliant (White circles), e.g., not satisfying EOSC policies, and some are services the Nodes would like to offer to the federation (Blue circles). The latter class of services are harvested into the EEN Resource Catalogue as the result of the EOSC Service Catalogue registration, during the Node Enrolment process. Once harvested, these services will become Tier 3 services on the EOSC EU Node, discoverable and accessible across the EOSC Federation.

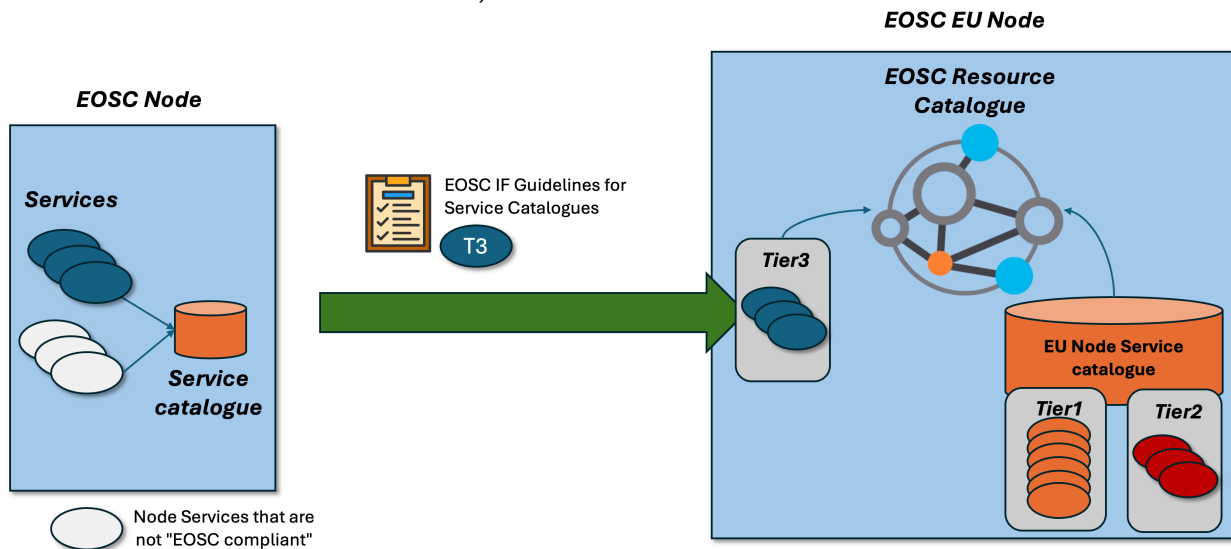


Figure 3 - EOSC Node Service Catalogues: onboarding Tier 3 services

This document focuses on the processes and interoperability guidelines that developers of EOSC Node service catalogues must follow to register and federate their service catalogues with the EEN Resource Catalogue. The aim is to ensure their service metadata profiles are visible in the EEN Resource Catalogue.

EOSC Node Service catalogues

According to the EOSC-A, an EOSC service is a **digital service** delivering capabilities via web user interfaces and/or APIs: a service is not software,¹ but rather software in execution; and, a service is not a website providing information about an office, organization, or similar. The EOSC-A has not yet defined a service classification vocabulary. Such a classification is deemed necessary and will be collaboratively defined in the next stage of the build-up phase by the EOSC-A subgroup of resource catalogues. Examples of services are:

- **Research Product catalogues/data sources** (generalist and thematic repositories, data and software repositories, aggregators, CRIS systems, etc.);
- **Service catalogues** (catalogues of service descriptors);

¹ If you have a particular software, you can use the EOSC EU Node's Tools Hub to create a TOSCA template that uses your software and its deployment recipe on the EEN. Visit the Tools Hub (and the Tools section of the Resource Hub) for more information <https://open-science-cloud.ec.europa.eu/resources/tools>

- **PID registries** (e.g., organization and author national PID systems);
- **Scientific data collections** (timeseries database, observational/sensor data, curated data collections, e.g., Copernicus, OpenCitations, OpenAIRE Graph, biobanks, etc.);
- **Data management** (DMP tools, FAIR validation, validators, policies, rules, IPR management)
- **Research monitoring** (research assessment, impact, trends, dashboards);
- **Computing resource provision** (access to computing resources, cloud, HPC, etc.);
- **Storage resource provision** (access to storage resources, distributed file systems, S3, workspace, DropBox-like, B2DROP, etc.);
- **Training platforms** (online courses, certifications, badges);
- **Data analytics** (data processing, data conversion, RStudio, KNIME, workflow engines...);
- **Research support** (collaborative editing of papers, social networking, conference support, e.g., Overleaf, Indico);
- **Science Gateways, i.e., entry points to a package of services** (e.g., Virtual Research Environments, collaboratories, user spaces).

A Service Catalogue enables EOSC Node service providers to describe their service offerings using a **service metadata profile**. Service catalogues are free to implement service profile information models tailored to their specific application scenarios, providing a single entry point for the Node's portfolio of services.

An EOSC Node can maintain only one service catalogue. Once a catalogue is registered and validated, its service metadata profiles are aggregated into the EOSC Resource Catalogue, including provenance information about the EOSC Node through which the services are offered. The EOSC EU Node defines three tiers of services:

- **Tier 1:** services owned by the EC (procured/provisioned), they are fully integrated in the EEN service offer including its core capabilities, accessible via the User Space with credits (e.g., OwnCloud in the EEN User Space);
- **Tier 2:** services owned by third-party providers and onboarded to the EEN, they may be integrated in the EEN service portfolio (to be defined during onboarding) and, if required, accessible or orderable via the EEN User Space with credits;
- **Tier 3:** all other services whose metadata profiles are harvested by the EOSC Resource Catalogue from the Service Catalogues of other EOSC Nodes (i.e. services owned or onboarded to other Nodes).

EOSC Node Service Catalogues must register as a Data Source to the EEN Resource Catalogue during the Node Enrolment process, enabling their discovery of their services via catalogue entries that offer an external link to the services as **Tier 3**. In case of onboarding to the EOSC EU Node, **Tier 2** service profiles are directly onboarded to the EOSC EU Node service catalogue and listed in there (this is part of the separate Service Onboarding workflow not discussed here).

Integrating Service Catalogues in the EEN Resource Catalogue

This document describes the EEN interoperability guidelines and tools that Contributors of EOSC Nodes must implement to register their service catalogue and share their service profiles via the EEN Resource Catalogue, thereby enabling discovery and monitoring of services across Nodes in the EOSC Federation. To this aim, as illustrated in Figure 3, EOSC Contributors, responsible for the Node catalogues, will:

- **Make their catalogue compliant** with the EEN interoperability guidelines for service catalogues defined in Appendix A (API protocol) and Appendix B (service profile metadata format);
- **Register the catalogues** in the EEN Resource Catalogue;

- **Validate the catalogues** to verify technical compliance.

The EEN Resource Catalogue will **aggregate** (“pull”) service metadata records from the catalogues at regular intervals. The records will be discoverable via the EEN Resource Hub, their Node associated with them.

In the following sections, such steps are described in detail.

Compliance of EOSC Service Catalogues with EEN Interoperability Guidelines

To comply with the EEN Resource Catalogue interoperability guidelines, Service catalogues must implement the following interoperability guidelines:

- **APIs:** GET operation of the Service Controller (**Appendix A**);
- **Exchange format:** Service Bundle schema (**Appendix B**), by appropriately crosswalking from their local service metadata schema to the “service bundle” schema.

Solutions for those EOSC Nodes that do not have a service catalogue are recommended in **Appendix D**.

Registration of EOSC Service Catalogues in the EEN Resource Catalogue

This is part of the EOSC Node Enrolment workflow. Once invited, the Contributor initiates the EEN Contributor's Dashboard self-service for enrolling the **EOSC Node** and the registration of research product catalogue(s) as a **service catalogue**. Detailed instructions are provided in **Appendix C** of this document.

Note that if an EOSC Service Provider (not a node) initiates the Service Onboarding process to the EEN, those services will automatically be included in the EOSC Node' Service Catalogue on the Resource Hub by definition, as Tier-2 services.

Validation of EOSC Service Catalogues

Once the service catalogue has been registered in the EEN Contributor Dashboard, the EEN Resource Catalogue activates the process of validation of service metadata records. The EEN Resource Catalogue team will validate compliance to the interoperability guidelines described in this document and contact the Contributor in case the validation of protocol implementation or metadata structure and semantics fails. Further rounds of validation will follow, until compatibility is reached and services are onboarded into the EEN Catalogue.

Appendix A: APIs

The API of the service catalogue must implement one method

`/services` //Get a list of Service profiles based on a set of filters.

Params:

- `keyword`: String (Keyword to refine the search) [optional]
- `from`: String (Starting index in the result set, default 0) [optional]
- `quantity`: String (Quantity to be fetched, default 10) [optional]
- `order`: String (Order of results - asc/desc, default asc) [optional]
- `sort`: String (Field to use for ordering) [optional]

Example:

- `resource-catalogue-url/services?quantity=50`

The response format will look like:

```
{
  "total": 87,
  "from": 0,
  "to": 50,
  "results":
  [
    {
      "id": "21.11161/zNsT3H",
      "service":
      {
        "id": "21.11161/zNsT3H",
        "name": "Research Data Unipd",
        ...
      }
    },
    ...
  ] }
```

Appendix B Schema

For a technical specification of the schema, refer to:

<https://coderepo.d4science.org/giambattista.bloisi/een-catalog-specs>

- **Python response model:** https://coderepo.d4science.org/giambattista.bloisi/een-catalogspecs/src/branch/main/catalogue_model.py
- **end-point sample implementation (mocking data from SURF):** <https://coderepo.d4science.org/giambattista.bloisi/een-catalogspecs/src/branch/main/main.py>
- **JSON schema:** https://code-repo.d4science.org/giambattista.bloisi/een-catalogspecs/src/branch/main/service_catalogue.schema.json

Metadata service profile:

Service Bundle

Id	Field	Type	Required	Multiplicity	Description	Example
1	id	String	Yes	1	Unique identifier for the service	surfnode:servicebundle:123456 (It can be a local unique ID, or a PID)
2	service	<Service>	Yes	1	Metadata of the actual resource.	

Service

Id	Field	Type	Required	Multiplicity	Description	Example
1	id	String	Yes	1	Unique identifier for the service (<u>use the same value as the Service Bundle ID</u>)	surfnode:servicebundle:123456
2	alternativeIdentifiers	List	No	0..1	List of alternative identifiers for the service.	

Id	Field	Type	Required	Multiplicity	Description	Example
2.1	type	String	No	0..1	Type of the alternative identifier.	OpenDOAR, re3data, hdl, doi, FAIRSharing
2.2	value	String	No	0..1	Value of the alternative identifier.	10.1234/example. svc.123456, 21.1234/EX-SVC123456 When using PIDs for instruments https://docs.pidinst.org/en/latest/epiccookbook/handles.html
3	abbreviation	String	No	0..1	Abbreviation of the service's name.	EXSVC
4	name	String	Yes	1	Full name of the service.	Example Service for Research Data Processing
5	webpage	URL	Yes	1	URL of the service's webpage.	https://service.example.org
6	description	String	Yes	1	An abstract with a detailed description of the service.	Example Service for Research Data Processing provides scalable compute, curated datasets, and workflows to support reproducible research across multiple scientific domains.
7	tagline	String [max 80 char]	No	0..1	Short tagline summarizing the service.	Scalable, reproducible research processing
8	logo	URL	No	0..1	URL of the service's logo.	https://service.example.org/assets/logo.png

Id	Field	Type	Required	Multiplicity	Description	Example
9	scientificDomains	List	Yes	1	List of scientific domains related to the service.	
9.1	scientificDomain	Controlled Vocabulary : SCIENTIFIC_DOMAIN	Yes	1	Scientific domain related to the catalogue.	scientific_domainsocial_sciences , scientific_domainengineering_and_technology
10	categories	List	Yes	1	Categories the service, i.e., type of service	
10.1	category	Controlled Vocabulary : CATEGORY	Yes	1	Category of the service	categoryprocessing_and_analysisdata_analysis, categoryaccess_physical_and_eInfrastructures-compute
11	targetUsers	Controlled Vocabulary : TARGET_USER_S	Yes	1..N	List of target users for the service	target_userresearchers, target_userresearch_groups, target_userresearch_infrastructure_managers, target_userprovidersProviders
12	accessModes	List of Controlled Vocabulary : ACCESS_MODE	No	0..N	Types of access provided by the service	[access_modefree_conditionally]
13	tags	List String	No	0..N	Tags associated with the service.	[Reproducibility, workflows,datasets,highperformance]
14	languageAvailabilities	List of String	Yes	1..N	List of language availabilities of the service (ISO 639-1 Code)	[en,nl]

Id	Field	Type	Required	Multiplicity	Description	Example
15	helpdeskEmail	String	No	0..1	Email address for the service's helpdesk.	helpdesk@example.org
16	securityContactEmail	String	No	0..1	Email address for security contact.	security@example.org
17	trl	Controlled Vocabulary : TRL	Yes	1	Technology Readiness Level of the service.	Tr1-8
18	userManual	URL	No	0..1	URL of the user manual.	https://service.example.org/docs/user-manual
19	termsOfUse	URL	No	0..1	URL of the terms of use.	https://service.example.org/legal/terms
20	privacyPolicy	URL	No	0..1	URL of the privacy policy.	https://service.example.org/legal/privacy
21	accessPolicy	URL	No	0..1	URL of the access policy.	https://service.example.org/legal/access
22	orderType	Controlled Vocabulary : ORDER_TYPE	Yes	1	Service access modality	order_typeopen_access, order_typeorder_required

Controlled vocabularies

CATEGORY

As defined in: <https://github.com/EOSC-Lot-1/een-resource-cataloguedocs/blob/eosc/vocabularies/CATEGORY.json>

SCIENTIFIC_DOMAIN

As defined in: https://github.com/EOSC-Lot-1/een-resource-cataloguedocs/blob/eosc/vocabularies/SCIENTIFIC_DOMAIN.json

ACCESS_MODE

As defined in: https://github.com/EOSC-Lot-1/een-resource-cataloguedocs/blob/eosc/vocabularies/ACCESS_MODE.json

TARGET_USERS

As defined in: https://github.com/EOSC-Lot-1/een-resource-cataloguedocs/blob/eosc/vocabularies/TARGET_USER.json

TRL (technology readiness levels)

As defined in: <https://github.com/EOSC-Lot-1/een-resource-cataloguedocs/blob/eosc/vocabularies/TRL.json> ORDER_TYPE

As defined in : https://github.com/madgeek-arc/resource-cataloguedocs/blob/master/vocabularies/ORDER_TYPE.json

Example

Note: for a full API response see Appendix A.

```
{
  "id": "surf-node:servicebundle:123456",
  "service": {
    "id": "surf-node:servicebundle:123456",
    "alternativeIdentifiers": [
      {
        "type": "doi",
        "value": "10.1234/example.svc.123456"
      },
      {
        "type": "hdl",
        "value": "21.1234/EX-SVC-123456"
      }
    ],
    "abbreviation": "EXSVC",
    "name": "Example Service for Research Data Processing",
    "webpage": "https://service.example.org",
    "description": "Example Service for Research Data Processing provides scalable compute, curated datasets, and workflows to support reproducible research across multiple scientific domains.",
    "tagline": "Scalable, reproducible research processing",
    "logo": "https://service.example.org/assets/logo.png",
    "scientificDomains": [
      {
        "scientificDomain": "scientific_domain-social_sciences"
      },
      {
        "scientificDomain": "scientific_domain-engineering_and_technology"
      }
    ],
    "categories": [
      {
        "category": "category-processing_and_analysis-data_analysis"
      },
      {
        "category": "category-access_physical_and_eInfrastructures-compute"
      }
    ]
  }
}
```

```

"targetUsers": [
  "target_user-researchers",
  "target_user-research_groups",
  "target_user-research_infrastructure_managers",
  "target_user-providers"
],
"accessModes": ["access_mode-free_conditionally"],
"tags": [
  "Reproducibility",
  "workflows",
  "datasets",
  "high-performance"
],
"languageAvailabilities": [
  "EN",
  "NL"
],
"helpdeskEmail": "helpdesk@example.org",
"securityContactEmail": "security@example.org",
"trl": "trl-8",
"userManual": "https://service.example.org/docs/user-manual",
"termsOfUse": "https://service.example.org/legal/terms",
"privacyPolicy": "https://service.example.org/legal/privacy",
"accessPolicy": "https://service.example.org/legal/access",
"orderType": "order_type-open_access"
}
}

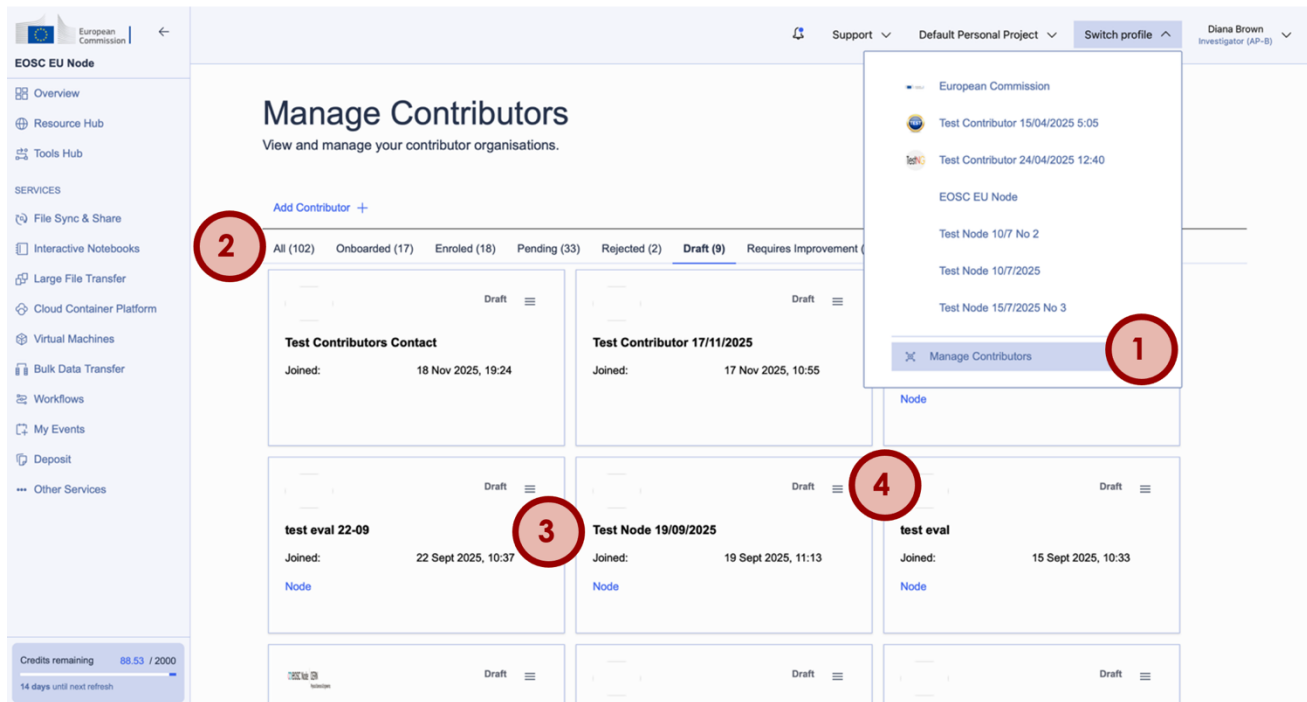
```

Appendix C Registering your service catalogue with the EEN

To be able to federate your service catalogue(s) you need to register them as Data Sources under your node. This is done in the EEN contributor's dashboard. If you have already enrolled your node, move straight to section 2.

1. Enrolment of a Node in the Federation

1.1 Manage Contributors



- Once the EOSC EU Node Onboarding Team creates your Node draft entry, you will receive an email to finish enrolment. To do so, as a first step, you may log in to your **User Space** and navigate to the **Manage Contributors** page - (1)
- To facilitate the detection of the draft Node entry, you may use the tabs on the top of the page - (2)
- To resume and complete the Node enrolment procedure, you may either click on the draft Node's name, or on the three vertical lines and select the **Resume Application** option - (3), (4)

1.2 Basic Information

European Commission

EOSC EU Node

Overview

Resource Hub

Tools Hub

SERVICES

File Sync & Share

Interactive Notebooks

Large File Transfer

Cloud Container Platform

Virtual Machines

Bulk Data Transfer

Workflows

My Events

Deposit

Other Services

Credits remaining 14 days until next refresh

0/5 required steps completed 17%

Cancel and Exit Update Node

Next

Edit Node

Fields with (*) are mandatory.
Important: All information must be provided in the English language.
Non-English submissions will result in rejection.

1 Basic Information * 2*

2 Profile * 2*

3 Location * 5*

4 Contact * 3*

5 Users

6 Acknowledgement and Acceptance * 2*

7 Overview

Name * 4

Name of the Node.

Test Node 19/09/2025

Up to 100 characters

Abbreviation * 5

Abbreviation or short name of the Node.

TN

Up to 30 characters

Website * 6

The website address of the Node.

use only https://

Legal Entity * 7

Whether the Node is a legal entity or not.

☒ No ☐ Yes

Node Type * 8

The type of the Node.

- After entering the Node enrolment wizard, you will be presented with a two-pane view. The various steps of the wizard are enumerated on the left pane. Each step has a number of mandatory fields marked with a circle next to its title. The total percentage of mandatory fields completed for the entire wizard is also indicated at the bottom of the left pane - (1), (2), (3)
- In the first step of the wizard, you will be asked to fill-in some **Basic Information** for your Node, including its **Name**, **Abbreviation** and **Website** address (name and abbreviation follow the agreed federation node naming conventions) - (4), (5), (6)
- You must also indicate whether the Node is a **Legal Entity** or not - (7)
- Finally, you may also optionally select the type of the Node (i.e., one of **EU Wide**, **National**, **Regional**, or **Thematic**) - (8)
- To proceed to the next step of the wizard, click on the **Next** button - (9)
- You may cancel the process and exit at any time without saving by clicking on the **Cancel and Exit** button - (10)
- To update the draft application for your Node enrolment and exit the wizard without submitting it, click on the **Update Node** button - (11)

1.3 Profile

European Commission

EOSC EU Node

Overview

Resource Hub

Tools Hub

SERVICES

File Sync & Share

Interactive Notebooks

Large File Transfer

Cloud Container Platform

Virtual Machines

Bulk Data Transfer

Workflows

My Events

Deposit

Other Services

Credits remaining 88.53 / 2000

14 days until next refresh

1/5 required steps completed

29%

Support

Default Personal Project

Switch profile

Diana Brown Investigator (AP-B)

Edit Node

Fields with (*) are mandatory. Important: All information must be provided in the English language. Non-English submissions will result in rejection.

Basic Information *

Profile *

Location *

Contact *

Users

Acknowledgement and Acceptance *

Overview

Description *

A high-level, non-technical description of the Node.

Up to 1000 characters

Logo *

A URL that directs to the logo of the Node.

use only https://

- At the **Profile** step of the wizard, you must provide a short **Description** of your Node organization (i.e., not more than 1000 characters).
- You must also provide a URL pointing to the **Logo** (following the [EOSC Federation design guidelines](#)) of your Node organization. The logo can be of any image type (e.g., PNG, JPEG) and should obey the EOSC Federation Node logo template - (1), (2)

1.4 Location

Edit Node

Fields with (*) are mandatory.
Important: All information must be provided in the English language.
Non-English submissions will result in rejection.

Location * (5*)

Organization *
The name of the Node Coordinating Organization.
Up to 100 characters

Address *
Street name and number of the Node's premises.
Up to 50 characters

Postal Code *
The postal code of the Node's premises' address.

City *
The city where the Node's premises are located.

Region
The region where the Node's premises are located.
Up to 20 characters

Country *
The country where the Node's premises are located.

Credits remaining: 88.53 / 2000
14 days until next refresh

2/5 required steps completed
41%

- At the **Location** step of the wizard, you must provide the location information of your Node organization. Specifically, you must provide the name of the **Organization**, **Address**, **Postal Code**, **City**, and **Country** of your organization - (1), (2), (3), (4), (5)
- Optionally, you may provide the **Region** of your Node Organisation - (6)

1.5 Contact

Edit Node

Fields with (*) are mandatory.
Important: All information must be provided in the English language.
Non-English submissions will result in rejection.

- Basic Information *
- Profile *
- Location *
- Contact *** (3*)
- Users
- Acknowledgement and Acceptance * (2*)
- Overview

Main Contact *

Important: The main contact should be a registered EOSC EU Node user. Failure to comply may result in rejection.

First Name *
The first name of the Node's main contact person.
Up to 50 characters

Last Name *
The last name of the Node's main contact person.
Up to 50 characters

Email *
The email of the Node's main contact person.

Phone Country Code
The phone country code
(No Selection)

Phone
The phone of the Node's main contact person.
Up to 10 characters

Position
The organisational position of the Node's main contact person.
Up to 50 characters

Credits remaining: 88.53 / 2000
14 days until next refresh

3/5 required steps completed
70%

- Next, at the **Contact** step of the wizard, you must provide the details of the Node's main contact person, namely the Node Coordinator. Specifically, you must provide his/her **First Name**, **Last Name** and **Email**. Please note that the main contact must be a registered EOSC EU Node user - (1), (2), (3)
- Optionally, you may provide his/her **Phone** number and organizational **Position** - (4), (5)

1.6 Users

The screenshot displays the 'Edit Node' wizard for an EOSC EU Node. The 'Users' step is active, showing details for the Node's administrator. The fields are non-editable and highlighted with red circles and numbers:

- (1) First name: Diana
- (2) Last name: Brown
- (3) Email: brown_03@example.domain

The progress bar at the bottom indicates that 4/5 required steps are completed (88%).

- At the **Users** step of the wizard, you are presented with non-editable fields containing the details of the administrator user (could be the same person, but a different role from the Main Contact') of the Node under enrolment, which was provided during the initial creation of the draft application by the EOSC EU Node Onboarding Team. Specifically, you can view his/her **First Name**, **Last Name** and **Email**. The administrator user must have an active account on the EOSC EU Node - (1), (2), (3)

1.7 Acknowledgment and Acceptance

Edit Node

Fields with (*) are mandatory.
Important: All information must be provided in English language.
Non-English submissions will result in rejection.

- ☒ Basic Information *
- ☒ Profile *
- ☒ Location *
- ☒ Contact *
- 5 Users
- ☒ **Acknowledgement and Acceptance ***
- 7 Overview

Acknowledgement and Acceptance *

I confirm that I accept the following conditions:

- ☒ Information submitted in the present form is automatically stored in the EOSC EU Node Catalogue services.
- ☒ Selected information from the present form is automatically presented in the EOSC EU Node Resource Hub upon successful Enrollment.

For additional information refer to the [EOSC EU Node Privacy Statement](#).

Credits remaining: 88.53 / 2000
14 days until next refresh

5/5 required steps completed
100%

- In the **Acknowledgment and Acceptance** step of the wizard, you must provide your consent to the following:
- Information submitted in the present form is automatically stored in the EOSC EU Node Catalogue services - (1)
- Selected information from the present form is automatically presented in the EOSC EU Node Resource Hub upon successful Enrolment - (2)

1.8 Overview

EOSC EU Node

European Commission

Support | Default Personal Project | Switch profile | Diana Brown Investigator (AP-B)

Edit Node

Fields with (*) are mandatory.
Important: All information must be provided in the English language.
Non-English submissions will result in rejection.

Basic [Edit]

✓ Basic Information * ✓
✓ Profile * ✓
✓ Location * ✓
✓ Contact * ✓
5 Users
7 Overview

5/5 required steps completed 100%

Cancel and Exit | Update Node

Basic

Name: Test Node 19/09/2025
Abbreviation: TN
Legal Entity: Yes
Website: https://test.com
Node Type: Multinational
OpenAIRE Community Tag: [Edit]

Profile [Edit]

Description: This is a test description
Logo: https://test.com

Location [Edit]

Organization: Test Organization
Address: Test Address
Postal Code: 12345
City: Athens
Region:
Country: Europe

Contact

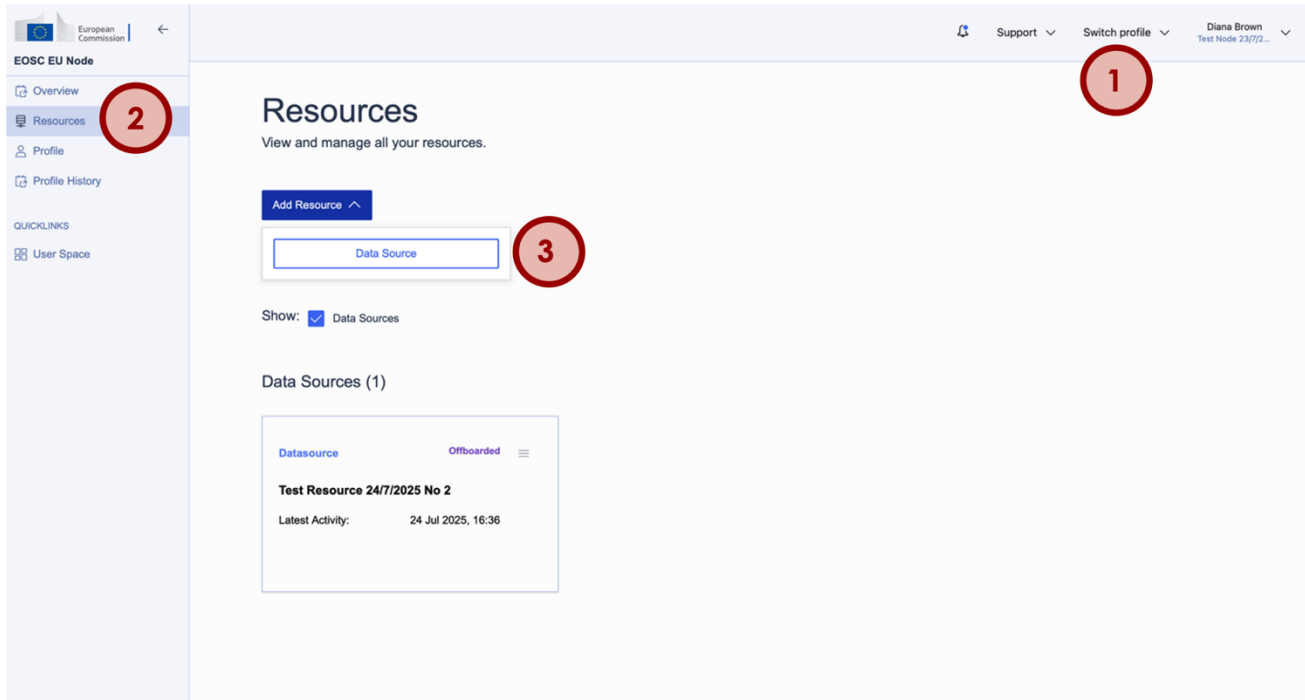
Credits remaining 88.53 / 2000
14 days until next refresh

Previous | Publish Node

- Finally, at the **Overview** step of the wizard, you have the opportunity to go through all the details that you have provided for your Node organisation
- To edit a field before submitting, you may either click on the corresponding step title at the left pane of the wizard, or at the **Edit** button above each category - (1), (2)
- To submit the application for review, click on the Publish Node button. You will be presented with a confirmation modal. Upon successful submission the Node's application will appear as having the 'Pending' status in the **Manage Contributors** tab in your **User Space**. Once the application is validated and accepted by the EOSC EU Node Onboarding Team and the European Commission, your Node organisation will appear as 'Enroled' in the **Manage Contributors** tab in your **User Space** - (3)

2. Register a Service Catalogue from a Node

2.1 Node Dashboard



- When you submit your Node enrolment application for review, you will be able to visit your **Node Dashboard** page by clicking on the **Switch profile** drop-down list next to your username while in the **User Space** and selecting your Node. Please note that if your Node enrolment application is under review by the EOSC EU Node Onboarding Team and the European Commission, the status of your node will appear as 'Pending.' From there, you may start registering your **Service Catalogue** even while your enrolment application is still pending - (1)
- To register a **Service Catalogue**, visit the **Resources** tab in the **Node Dashboard**, click on the **Add Resource** button and then on the **Data Source** button. Doing so will initiate the **Create a Data Source** wizard - (2), (3)

2.2 Basic Metadata

- In the first page of the **Create a Data Source** wizard, you will be presented with a two-pane view. The various steps of the wizard are enumerated in the left panel. Each step has several mandatory fields marked with a circle next to its title. The total percentage of mandatory fields completed for the entire wizard is also indicated at the bottom of the left pane - (1), (2)
- During the first step of the wizard, you will be asked to fill-in some **Basic Information** for your Service Catalogue, including its **Name**, **Abbreviation**, and **Website** address - (3), (4), (5)
- You may cancel the process and exit at any time without saving by clicking on the **Cancel and Exit** button - (6)
- To update the draft application for your Service Catalogue registration and exit the wizard without submitting it, click on the **Save Data Source as Draft** button - (7)
- To proceed to the next step of the wizard, click on the **Next** button - (8)

2.3 Marketing

European Commission

EOSC EU Node

Overview

Resources

Profile

Profile History

QUICKLINKS

User Space

Create a Data Source

Fields with (*) are mandatory.
Important: All information must be provided in the English language.
Non-English submissions will result in rejection.

- Basic *
- Marketing *** (2*)
- Classification *
- Location
- Contact *
- Maturity
- Management *
- Data Source Information *
- Data Source Metadata *
- Acknowledgement and Acceptance *
- Overview

1/8 required steps completed
7%

Cancel and Exit | Save Data Source as Draft

Previous | Next >

Description *

A high-level, non-technical description of what the Data Source offers.

Up to 1000 characters

Tagline

A short catchphrase for marketing and advertising purposes.

Up to 100 characters

Logo

A link to the logo of the Data Source.

use only https://

Language *

The language(s) in which the Data Source was originally published.

- In the **Marketing** step of the wizard, you must provide a non-technical **Description** and the **Language** of your Service Catalogue - (1), (2)
- You may also optionally provide a **Tagline** (i.e., a short catchphrase describing the Service Catalogue) and a URL pointing to the **Logo** of the Service Catalogue (if available). The logo can be of any image type (e.g., PNG, JPEG) - (3), (4)

2.4 Classification

The screenshot displays the 'Create a Data Source' wizard in the EOSC EU Node interface. The left sidebar contains navigation links: Overview, Resources, Profile, Profile History, QUICKLINKS, and User Space. The main content area is divided into two panels. The left panel lists steps 1-11, with 'Classification' selected. The right panel shows the 'Scientific Categorisation' section with dropdowns for 'Scientific Domain' (1) and 'Scientific Subdomain' (2), both set to 'Other'. Below these is an 'Add Scientific Categorisation +' button (3). The 'Tags' section has a text input field (4) and an 'Add Tags +' button (5). A progress bar at the bottom indicates 3/8 required steps completed (22%).

- Next, in the **Classification** part of the wizard, you must select the **Scientific Domain** and **Subdomain** of your Service Catalogue. In case no scientific domain and/or subdomain are applicable to your Service Catalogue, you can select the 'Other' or 'Generic' value. You may add more domains by clicking on the **Add Scientific Categorization** button - (1), (2), (3)
- You can optionally add one more **Tags** (i.e., related keywords) to the Service Catalogue - (4), (5)

2.5 Location

European Commission

EOSC EU Node

Overview

Resources

Profile

Profile History

QUICKLINKS

User Space

Create a Data Source

Fields with (*) are mandatory.
Important: All information must be provided in the English language.
Non-English submissions will result in rejection.

- Basic *
- Marketing *
- Classification *
- Location**
- Contact *
- Maturity
- Management *
- Data Source Information *
- Data Source Metadata *
- Acknowledgement and Acceptance *
- Overview

3/8 required steps completed
22%

Geographic Locations

List of geographic locations covered by this Data Source.

Europe

Add Geographic Location +

- Next, you may optionally select one or more **Geographic Locations** that are covered by the Service Catalogue - (1), (2)

2.6 Contact

European Commission

EOSC EU Node

Overview
Resources
Profile
Profile History

QUICKLINKS
User Space

Create a Data Source

Fields with (*) are mandatory.
Important: All information must be provided in the English language.
Non-English submissions will result in rejection.

- Basic *
- Marketing *
- Classification *
- 4 Location
- 5 **Contact *** (1*)
- 6 Maturity
- 7 Management * (2*)
- 8 Data Source Information * (3*)
- 9 Data Source Metadata * (11*)
- 10 Acknowledgement and Acceptance * (2*)
- 11 Overview

3/8 required steps completed
29%

Main Contact *

Important: The main contact should be a registered EOSC EU Node user. Failure to comply may result in rejection.

First Name *
The name of the main contact person for the Data Source.
Georgios
Up to 20 characters

Last Name *
The last name of the main contact person for the Data Source.
Chatzigeorgakidis
Up to 20 characters

Email *
The email of the main contact person for the Data Source.

Phone Country Code
The phone country code.
(No Selection)

Phone
The phone of the main contact person for the Data Source.
Up to 10 characters

Organisation
The organisation of the main contact person for the Data Source.
Up to 50 characters

Position
The position of the main contact person for the Data Source.
Up to 20 characters

- In the **Contact** step of the wizard, you must provide details of the main contact person for the Service Catalogue. Please note that the main contact should be a registered EOSC EU Node user
- Specifically, you must provide the main contact's **First Name**, **Last Name**, and **Email** - (1), (2), (3)
- You can optionally provide his/her **Phone**, **Organisation** and **Position** in that organization - (4), (5), (6)

2.7 Maturity

European Commission

EOSC EU Node

Overview

Resources

Profile

Profile History

QUICKLINKS

User Space

Create a Data Source

Fields with (*) are mandatory.
Important: All information must be provided in the English language.
Non-English submissions will result in rejection.

- Basic *
- Marketing *
- Classification *
- Location
- Contact *
- Maturity**
- Management *
- Data Source Information *
- Data Source Metadata *
- Acknowledgement and Acceptance *
- Overview

4/8 required steps completed
33%

Certifications

List of certifications obtained from the Data Source (can be either the name of the organization that provided the certification, or the URL of the certification body, or its URL).
Up to 100 characters.

Cert

Add Certifications +

- Next, in the **Maturity** step, you can optionally select one or **Certifications** that were obtained for the Service Catalogue that is being onboarded - (1), (2)

2.8 Management (I/II)

Create a Data Source

Fields with (*) are mandatory.
Important: All information must be provided in the English language.
Non-English submissions will result in rejection.

- Basic *
- Marketing *
- Classification *
- Location
- Contact *
- Maturity
- Management *** (2*)
- Data Source Information * (3*)
- Data Source Metadata * (11*)
- Acknowledgement and Acceptance * (2*)
- Overview

4/8 required steps completed
33%

Helpdesk Page
The Helpdesk page of the Data Source.
(3)

Helpdesk Email *
The email of the Data Source's Helpdesk.
(1)

Security Contact Email *
The email of the Data Source's security contact.
(2)

User Manual
Link to the Data Source's user manual or documentation.
(4)

Terms of Use
The page containing the Terms of User for the Data Source.
(5)

Privacy Policy
Link to the privacy policy of the Data Source.
(6)

Access Policy (Acceptable Use Policy)
Link to the acceptable use policy of the Data Source.

- In the **Management** step of the wizard, you will be asked to provide the **Helpdesk Email** and **Security Contact Email** for your Service Catalogue - (1), (2)
- You can also optionally provide the URL of the Data Source's **Helpdesk Page**, a URL pointing to the **User Manual** of the Service Catalogue, a URL pointing to the **Terms of Use** of the Service Catalogue, a URL pointing to the **Privacy Policy** of the Service Catalogue and more (see the next page) - (3), (4), (5), (6)

2.9 Management (II/II)

European Commission

EOSC EU Node

Overview
Resources
Profile
Profile History

QUICKLINKS
User Space

Create a Data Source

Fields with (*) are mandatory.
Important: All information must be provided in the English language.
Non-English submissions will result in rejection.

- Basic *
- Marketing *
- Classification *
- 4 Location
- Contact *
- 6 Maturity
- 7 Management *** (2*)
- 8 Data Source Information * (3*)
- 9 Data Source Metadata * (11*)
- 10 Acknowledgement and Acceptance * (2*)
- 11 Overview

4/8 required steps completed
33%

Helpdesk Email *
The email of the Data Source's Helpdesk.

Security Contact Email *
The email of the Data Source's security contact.

User Manual
Link to the Data Source's user manual or documentation.
use only https://

Terms of Use
The page containing the Terms of User for the Data Source.
use only https://

Privacy Policy
Link to the privacy policy of the Data Source.
use only https://

Access Policy (Acceptable Use Policy)
Link to the acceptable use policy of the Data Source.
use only https://

User Access Policy (URL)
Link to the user access policy of the Data Source.
use only https://

- After scrolling down the page in the **Management** step of the wizard, you will be able to optionally provide URLs for the **Acceptable Use Policy** and **User Access Policy** of the Service Catalogue - (1), (2)

2.10 Data Source Information

European Commission

EOSC EU Node

Overview
Resources
Profile
Profile History

QUICKLINKS
User Space

Create a Data Source

Fields with (*) are mandatory.
Important: All information must be provided in the English language.
Non-English submissions will result in rejection.

- Basic *
- Marketing *
- Classification *
- 4 Location
- Contact *
- 6 Maturity
- Management *
- Data Source Information ***
- 9 Data Source Metadata *
- 10 Acknowledgement and Acceptance *
- 11 Overview

6/8 required steps completed
51%

Data Source Type *

The type of the Data Source. Can be one of Software Research, Services metadata, Publications, Data, or All of the Above.

Services metadata

Submission Policy URL

Link to the submission policy of the Data Source.

use only https://

Preservation Policy URL

Link to the preservation policy of the Data Source.

use only https://

Version Control

Whether version control will be used for the Data Source or not.

☐ No ☐ Yes

Persistent Identity Systems

Persistent Identity Entity Type *
Specify the type of research entity the persistent identifier is for.

Other

Persistent Identity Entity Type Schemes *
Specify the identifier system used for this record's persistent identifier.

Other

Add Persistent Identity System +

- Next, in the **Data Source Information** step of the wizard, you must provide the Data Source Type (i.e., **Services Metadata**) and select one or more Persistent Identity Systems for the Data Source - (1), (2), (3), (4)
- You can also optionally provide the **Submission Policy URL**, the **Preservation Policy URL** of the Data Source, and indicate whether **Version Control** will be applied to the Data Source - (5), (6), (7)

2.11 Data Source Metadata (I/IV)

- In the **Data Source Metadata** step of the wizard, you must initially select the **Data Source Classification**, which should be set to **Service Catalogue**. Then, you must fill-in the rest of the mandatory fields for Service Catalogues, which include the **Jurisdiction** (i.e., pool of users the data source is intended to serve) of the Service Catalogue (either **Global**, **Institution**, **National**, or **Regional** aka multiple countries) and whether the Service Catalogue is **Thematic** or not (i.e., organized around a specific theme, subject, or domain of interest, rather than being general purpose or broadly scoped) - (1), (2), (3)
- You can optionally select one or more **Access Policies** for the research product related to the Service Catalogue that is being onboarded - (4), (5)
- You may also optionally provide details for the related **Research Product Metadata Licensing** (i.e., name and URL) - (6), (7)

2.12 Data Source Metadata (II/IV)

European Commission

EOSC EU Node

Overview

Resources

Profile

Profile History

QUICKLINKS

User Space

Create a Data Source

Fields with (*) are mandatory.
Important: All information must be provided in the English language.
Non-English submissions will result in rejection.

- Basic *
- Marketing *
- Classification *
- Location
- Contact *
- Maturity
- Management *
- Data Source Information *
- Data Source Metadata ***
- Acknowledgement and Acceptance *
- Overview

6/8 required steps completed
71%

Research Product Metadata Access Policies

Access policies related to research product metadata.

policy

Add Research Product Metadata Access Policy

Harvestable

Whether the Data Source will be harvestable by other entities, or not.

No Yes

Data Source Access URL *

The Base URL of the Data Source.

use only https://

Protocol of Data Source Access URL *

OAI Sets

OAI-PMH set used to group or filter records for harvesting

set

Add OAI Set

Format

Metadata format used for OAI-PMH harvesting

(No Selection)

Compatibility

- Scrolling down the **Data Source Metadata** step of the wizard, you will be asked to provide the **Base URL** of the Service Catalogue and its protocol (**FTP**, **OAI**, **Rest API** or **Other**) - (1), (2)
- You may also optionally provide one or more **Access Policies** for the related research product metadata, indicate whether the Service Catalogue is harvestable by other entities or not, add one or more **OAI Sets** and select the **Format** of the Service Catalogue - (3), (4), (5), (6), (7), (8)

2.13 Data Source Metadata (III/IV)

Create a Data Source

Fields with (*) are mandatory.
Important: All information must be provided in the English language.
Non-English submissions will result in rejection.

- Basic *
- Marketing *
- Classification *
- 4 Location
- Contact *
- 6 Maturity
- Management *
- Data Source Information *
- 9 Data Source Metadata *** (4*)
- 10 Acknowledgement and Acceptance *
- 11 Overview

6/8 required steps completed
71%

Compatibility
Declare whether the Data Source is compatible with OpenAIRE guidelines. Compatibility with OpenAIRE guidelines is mandatory only for Research Product Catalogues.

Compliance to OpenAIRE Guidelines
I acknowledge that all appropriate steps have been performed in [OpenAIRE PROVIDE](#) for this data source to be compliant with the latest OpenAIRE Guidelines "OpenAIRE for institutional and Thematic Repositories (OpenAIRE 4.0)". Note that compliance is mandatory only for Research Product Catalogues. In case the data source is of a different type you can select the "No" value.

☐ No ☐ Yes

Repository Identifier
The repository identifier of the Data Source.

Repository Identifier Type
The repository identifier type (e.g. opendoar, re3data, fairsharing) of the Data Source.

Alternative Identifiers
Alternative Identifier
An alternative identifier of the Data Source (if available)

• Make sure your Repository is already registered in one of the following global registries - [OpenDOAR](#) (for Literature Repositories), [Re3Data](#) (for Data Repositories) or [FAIRsharing](#) (for Data and Literature Repositories), and is compatible with the [OpenAIRE Guidelines](#)
• <https://www.openaire.eu/register-your-data-repository-in-openaire>
• <https://www.openaire.eu/validate-registration-guide>

- Scrolling further down the **Data Source Metadata** step of the wizard, you may optionally declare whether the Service Catalogue is compatible with the [OpenAIRE guidelines 4.0](#) - (1), (2)
- You may also provide the **Repository Identifier** (and its type) of the Service Catalogue. The repository must be already registered in one of the following global registries: [OpenDOAR](#) (for Literature Repositories), [Re3Data](#) (for Data Repositories) or [FAIRsharing](#) (for Data and Literature Repositories). The repository must also be compatible with the [OpenAIRE Guidelines 4.0](#) - (3), (4)

2.14 Data Source Metadata (IV/IV)

European Commission

EOSC EU Node

Overview Resources Profile Profile History QUICKLINKS User Space

Create a Data Source

☐ No ☐ Yes

Fields with (*) are mandatory.
Important: All information must be provided in the English language.
Non-English submissions will result in rejection.

- Basic *
- Marketing *
- Classification *
- 4 Location
- Contact *
- 6 Maturity
- Management *
- Data Source Information *
- 9 Data Source Metadata *** 4*
- 10 Acknowledgement and Acceptance *
- 11 Overview

6/8 required steps completed 71%

Repository Identifier

The repository identifier of the Data Source.

Repository Identifier Type

The repository identifier type (e.g. opendoar, re3data, fairsharing) of the Data Source.

Alternative Identifiers

Alternative Identifier

An alternative identifier of the Data Source (if available)

Identifier

Alternative Identifier Type

The type of the Data Source's alternative identifier (e.g. opendoar, re3data, fairsharing)

Add Alternative Identifier +

- Make sure your Repository is already registered in one of the following global registries - [OpenDOAR](#) (for Literature Repositories), [Re3Data](#) (for Data Repositories) or [FAIRsharing](#) (for Data and Literature Repositories), and is compatible with the [OpenAIRE Guidelines](#)
- [https://www.openaire.eu/register-your-data-repository-in-openaire](#)
- [https://www.openaire.eu/validate-registration-guide](#)
- In case you have an OpenAIRE identifier for your datasource please provide it and set as its type "OpenAIRE Identifier"

- Finally, scrolling at the bottom of the Data Source Metadata step of the wizard, you can optionally provide one or more alternative repository identifiers and their type - (1), (2), (3)

2.15 Acknowledgment and Acceptance

European Commission

EOSC EU Node

Overview
Resources
Profile
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QUICKLINKS
User Space

Create a Data Source

Fields with (*) are mandatory.
Important: All information must be provided in English language.
Non-English submissions will result in rejection.

- Basic *
- Marketing *
- Classification *
- 4 Location
- Contact *
- 6 Maturity
- Management *
- Data Source Information *
- Data Source Metadata *
- Acknowledgement and Acceptance *
- 11 Overview

8/8 required steps completed
100%

Acknowledgement and Acceptance *

I confirm that I accept the following conditions:

- ☒ Information submitted in the present form is automatically stored in the EOSC EU Node Catalogue services.
- ☒ Selected information from the present form is automatically presented in the EOSC EU Node Resource Hub upon successful Enrolment.

[For additional information refer to the EOSC EU Node Privacy Statement.](#)

- In the **Acknowledgment and Acceptance** step of the wizard, you must provide your consent to the following:
- Information submitted in the present form is automatically stored in the EOSC EU Node Catalogue services - (1)
- Selected information from the present form to be automatically presented in the EOSC EU Node Resource Hub upon successful Enrolment - (2)

2.16 Overview

- Finally, at the **Overview** step of the wizard, you have the opportunity to go through all the details that you have provided for the Data Source to be onboarded
- To edit a field before submitting, you may either click on the corresponding step title in the left pane of the wizard, or on the **Edit** button above each category - (1), (2)
- To submit the application for review, click on the **Publish Data Source** button. You will be presented with a confirmation modal. Upon successful submission the Data Source's application will appear as having the 'Pending' status in the **Resources** tab in your **Node Dashboard**. Once the application is validated and accepted by the EOSC EU Node Onboarding Team and the European Commission, your Data Source will appear as 'Onboarded' in the **Resources** tab in your **Node Dashboard** - (3)

Appendix D: Implementation options

Service Catalogues typically stem from specific requirements, such as the marketing of services, and entail costs associated with their implementation, maintenance, and operation. EOSC Nodes may therefore choose not to provide Service Catalogues if they are not considered necessary by

their user community. For example, this is the case where a Node offers a fixed set of services accessible through a directory on a static portal. When a service catalogue is not available, it is important for the EOSC Node to evaluate whether implementing one is feasible and beneficial, taking into account any applicable requirements and resource availability. To establish a service catalogue, EOSC Nodes have the options to:

Develop new software. Develop a software application from scratch whose export APIs and metadata format match the requirements specified in Appendix A and B.

Reuse and deploy existing open-source software. Three EEN-compatible solutions are available:

- *The EEN service catalogue software:* available in the first [Public Release bundle](#) of the EOSC EU Node software (implemented in `resource-catalogue-v5_0_0_u117`). A comprehensive guide to the API endpoints, models, and core components, with detailed descriptions of each controller, along with their associated functionalities and endpoints can be retrieved from the "[Resource Catalogue Documentation for EOSC EU node](#)". It includes an overview of its data models and a detailed list of vocabularies used within the platform. Additionally, the documentation provides schemas for validating data of the various classes, ensuring consistency and reliability across the system. Contact the EEN technical team for further enquiry;
- *The SURF EOSC Service Catalogue Demonstrator API:* software available at <https://gitlab.com/rsc-surf-nl/eosc-tools/eosc-services-catalog>, contact the SURF Node technical team for further enquiry. A minimal, self-contained example of the API and metadata described in this document, build on FastAPI with a Swagger UI, including example SURF services. To setup, read the documentation;
- *The EOSC Finnish National Node Service Catalogue software:* Software available at <https://github.com/CSCfi/EOSCnode>, contact the CSC Node technical team for further enquiry. A light-weight API that supports the EEN Service Catalogue data model;
- *The [EOSC Beyond project](#) service catalogue software:* contact the EEN technical team for further enquiry.

Request an aaS option. Two solutions are available:

- *The EEN service catalogue software aaS:* contact the EEN technical team for further enquiry;
- *The EOSC Node | Italy and the EOSC Node | Digital Twin of the Ocean service catalogue software aaS:* these solutions are offered by the D4Science infrastructure and rely on the CKAN (ckan.org) technology extended with (a) support for community-defined types of objects (with rich metadata) and (b) integration with D4Science-based Virtual Research Environment for the collaborative development of the catalogue. Additional details are available at <https://www.d4science.org/services/catalogue> and <https://api.d4science.org/catalogue/docs/index.html> (technical details about the model and the API). Contact the [D4Science.org](https://www.d4science.org) technical team behind the two Nodes for further enquiry.