# D2.3 EOSC Processes Development and Consensus (update)

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**Abstract:** This deliverable provides the latest updates of the EOSC Portal Change Management Process, the EOSC Portal Requirements Roadmapping Process and Status, the EOSC Portal Profiles Specifications, the EOSC Portal Onboarding Process, the EOSC Portal Quality Assurance Process and the EOSC Profiles Review and Feedback Report, the EOSC Portal Statistics Report and other related Concepts, Processes, Specifications, Guidelines and Tools.

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The **EOSC Portal Change Management Process** is developed with the contribution of: JNP, UOA, CYFRONET, EGI, EUDAT, OPENAIRE, GEANT, EFIS, ESF, EKT, ICOS ERIC, CESSDA, UNIVERSITY OF MANCHESTER, GRNET in the framework of: EOSC Enhance project that has received funding from European Union's Horizon 2020 research and innovation programme under grant agreement No 871160

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# Definitions

| Term | Definition |
|---|---|
| **EOSC** | the European Open Science Cloud promoted by the European Commission to provide all researchers, innovators, companies and citizens with seamless access to an open-by-default, efficient and cross-disciplinary environment for storing, accessing, reusing data, tools, publications and any *EOSC Resource* for research, innovation and educational purposes. The EOSC is implemented by the *EOSC System* and governed by *EOSC Governance*. |
| **EOSC System** | the IT system implementing *EOSC*. Such a system is called to put in place the policies, procedures and technical solutions needed to enact the delivery of the EOSC Services in accordance with the EOSC Governance guidelines. Such a system is not a monolithic, stand-alone and centralised IT system. Rather the *EOSC System* is designed and developed to be a system of systems. |
| **EOSC Governance** | the set of committees and bodies governing the functioning of *EOSC* and its *EOSC System*. It includes the *EOSC Executive Board*, the *EOSC Board*, and the *EOSC Stakeholders Forum*. |
| **EOSC Portal** | the EOSC Service implementing a web portal facilitating the access to and use of the *EOSC Resources*. The EOSC portal is the universal access channel through which all European researchers can access, use and reuse research outputs and data across disciplines. |
| **EOSC Registry** | an *EOSC Service* providing *EOSC System Users* with a list of live/ready-to-use descriptions of *EOSC Resources* offered by the *EOSC System*. Every entry of the *EOSC Registry* must follow and be described and updated following the *EOSC Interoperability Framework*. The following typologies of the *EOSC Registry* are currently envisaged: the *EOSC Service Registry,* the *EOSC Data Source Registry* and the *EOSC Research Product Registry*. |
| **EOSC Platform** | the collection of internal services and the central *EOSC Registry* which services content to *EOSC Portal* and to other EOSC Registries or parts of the *EOSC System*. |
| **EOSC Resources** | any asset made available by means of the *EOSC system* and according to the *EOSC Rules of Participation* to *EOSC End-Users* to perform a process useful to deliver value in the context of the EOSC. *EOSC Resources* include Services, Data Sources, Research Products and any other asset. |
| **EOSC Service** | an *EOSC Resource* that provides *EOSC System Users* with ready-to-use facilities. *EOSC Services* are supplied by an *EOSC Service Provider* in accordance with the *EOSC Rules of Participation*. *EOSC Services* populate the *EOSC Service Portfolio* and the *EOSC Service Catalogue*. |
| **EOSC Data Source** | an *EOSC Resource* whose specific purpose is to offer deposition, preservation, curation, discovery, access, and usage statistics functionalities to collections of EOSC Research Products from a thematic or cross-discipline perspective. EOSC Data Sources include *Repositories, Scientific Databases*, *Resource Catalogues, Aggregators, Journals, Publishers, Registries, CRIS systems, and Research Graphs*. Repositories support all functionalities above; they are typically used by *EOSC Users* to share and give access to Research Products. Databases are used to share and give access to Research Products that are not intended as files described by metadata (e.g. big data collections, LOD, time-series databases, geospatial/maps databases, etc.). *Resource* catalogues offer discovery functionalities over a set of EOSC Data Sources by collecting their metadata collections. |
| **EOSC Research Product** | an *EOSC Resource* that is the result of a research process (e.g. publications, research data, research software, other products) and is made accessible via an EOSC Data Source. Research Products are characterised/described by metadata to be used for citation, attribution, reuse, reproducibility, semantic linking, and findability. |

| | |
|---|---|
| **EOSC Catalogue** | the list of all live *EOSC Resources* that can be requested by the *EOSC System Users*. It is a subset of the *EOSC Portfolio,* and it populates the *EOSC Registry*. |
| **EOSC Portfolio** | the internal list of *EOSC Resources* including those in preparation, live and discontinued. |
| **EOSC System User** | the role played by every actor (human or machine) exploiting the *EOSC System*. An *EOSC System User* might be further specialised in roles including *EOSC End-users*, *EOSC Providers*, EOSC System Managers, etc. |
| **EOSC End-user** | an *EOSC System User* consuming *Resources* from the EOSC to accomplish a task. *EOSC End-users* can be *Researchers, Research groups, Research communities, Research projects, Research networks, Research managers, Research organisations, Students, Innovators, Businesses, Funders, Policy Makers,* etc. |
| **EOSC Provider** | an *EOSC System User* responsible for the provisioning of one or more *Resources to the EOSC*. *EOSC Providers* are organisations, a part of an organisation or a federation that manages and delivers *Resources* to End-Users. *EOSC Providers* can be *Resource Providers*, *Service Providers*, *Data (Source) Providers*, *Service Developers*, *Research Infrastructures, Distributed Research Infrastructures, Resource Aggregators*, *Thematic Clouds, Regional Clouds*, etc. |
| **EOSC Registry Interoperability Framework** | the framework that any *EOSC Resource* must comply with to be listed in the *EOSC Registry*. The framework includes, among others the *EOSC Profiles,* the *EOSC Onboarding Process,* the *EOSC Rules of Participation*, and the *EOSC Portal Application Programming Interfaces*. The framework also defines the workflows, the APIs, the formats, the legal framework, the SLA that similar Registries operated by research infrastructures or clusters must comply to be aggregated by the corresponding EOSC Registries. |
| **EOSC Profiles** | the standard scheme for the representation of resource-related information in the EOSC Registry. The following typologies are currently envisaged: the *EOSC Provider Profile*, the *EOSC Resource Profile*. The Profiles include structured classifications of various *EOSC Registry* attributes for their harmonised descriptions. |
| **EOSC Onboarding Process** | the process that an *EOSC Provider* must follow to register the *Provider* and their resources in the *EOSC Registry*. |
| **EOSC Rules of Participation** | the principles defined by the *EOSC Governance* to drive the processes enacting an actor to play the role of *EOSC System User* (and any specialisation of it). |
| **EOSC Portal Application Programming Interfaces** | a set of standard APIs that allow for the registration, update, export of *EOSC Resource* descriptions and related information from the *EOSC Registry*. |

# Acronyms

| Acronym | Definition |
|---|---|
| **AAI** | Authentication and Authorization Infrastructure |
| **API** | Application Programming Interface |
| **ARMs** | Aggregators, Repositories & Marketplaces of Thematic and Regional initiatives/Clusters |
| **AARP** | Authorized Representative of the Provider |
| **CMP** | Change Management Process |
| **DT** | Description Template |
| **EC** | European Commission |
| **EOSC** | European Open Science Cloud |
| **EPDT** | EOSC Portal Development Team |
| **EPFNFR** | EOSC Portal Functional and Non-Functional Requirements |
| **EPOP** | EOSC Portal Onboarding Process |
| **EPOT** | EOSC Portal Onboarding Team |
| **EPP-CMP** | EOSC Portal Profiles Change Management Process |
| **EPQAP** | EOSC Portal Quality Assurance Process |
| **EPQT** | EOSC Portal Quality Team |
| **ERA** | European Research Area |
| **ESFRI** | European Strategic Framework for Research Infrastructure |
| **ERIF** | EOSC Registry Interoperability Framework |
| **RfC** | Request of Change |
| **HPC** | High Performance Computing |
| **ICT** | Information and Communications Technology |
| **IP** | Intellectual Property |
| **IT** | Information Technology |
| **ITIL** | Information Technology Infrastructure Library |
| **ITSM** | IT Service Management |
| **MPRTP** | Multi-Provider Regional and Thematic Portal |
| **NGI** | National Grid Initiative |
| **NOAD** | National Open Access Desk |
| **NREN** | National Research and Education Network |
| **QA** | Quality Assurance |
| **RIs** | Research Infrastructures |
| **RoP** | Rules of Participation |
| **RP** | Resource Provider |
| **RfC** | Request for Change |
| **SDT** | Service Description Template |
| **SMS** | Service Management System |
| **SOCRM** | Service Order and Customer Relationship Management |
| **SPM** | Service Portfolio Management |
| **TRL** | Technology Readiness Level |
| **UML** | Unified Modelling Language |
| **WG** | Working Groups |

# References

| Project | Reference |
|---|---|
| **EOSC Enhance** | EOSC Portal Functional and Non-Functional Requirements v1.00 & v4.00<br>EOSC Portal Change Management Process for Profiles v4.00<br>EOSC Portal Profiles v3.00 & EOSC Portal Profiles v4.00<br>EOSC Portal Onboarding Process v3.00 & EOSC Portal Onboarding Process v4.00<br>D2.1, "EOSC contributors mapping and gap analysis"<br>D2.2, "EOSC Processes Development and Consensus"<br>D2.4, "EOSC Service Catalogue Analysis"<br>D2.6, "Service and Resource Management Tutorials"<br>D3.1, "EOSC Portal Functional and Non-Functional Specifications"<br>D5.1, "Communication & Stakeholder Engagement plan"<br>D5.2, "EOSC Portal requirements"<br>Collaboration Agreement with EOSC-hub and OpenAIRE-Advance<br>EOSC Enhance to EOSC Future Transition Plan |
| **eInfraCentral** | D3.1, "Service Catalogue Requirements"<br>D3.2, "Service Classification/Taxonomy"<br>D4.1, "Portal functional and architectural specifications"<br>D3.3, "Guidelines for schema representation and APIs" |
| **EOSC-Pilot** | D2.7, "Final Stakeholder Map"<br>D5.4, "Final EOSC Service Architecture"<br>D5.5, "EOSC Service Portfolio Roadmap"<br>D6.9, "Final report on Data Interoperability" |
| **EOSC-hub** | D12.1 - Procurement requirements and demand assessment<br>D4.1 - Operational requirements for the services in the catalogue<br>WP2 documents including candidate criteria for inclusion into the portal portfolio<br>D10.5 - Requirements and gap analysis report - first version<br>D12.1 - Procurement requirements and demand assessment |
| **CATRIS** | D4.1, "Mapping and gap analysis of service catalogues/portfolios"<br>D4.4, "Functional and non-functional requirements"<br>D3.3, "Report on the results of the survey on requirement elicitation"<br>D4.3, "Service Description Template"<br>D4.5, "Towards a Common Service Catalogue" |

# EOSC Enhance Mission

EOSC Enhance pursues the following **Mission**:

1) **Facilitate interoperability of *EOSC Providers* & *Resources* across all scientific disciplines**.

2) **Enhance the discoverability of *EOSC Resources* by EOSC End-Users**.

3) **Establish the *EOSC Portal* as one of the Distribution Points/Points of Access for the *EOSC Resources***.

4) **Consult with the EOSC ecosystem key results to allow for wide adoption and underpin interoperability**.

The mission is realised by the following operational **Goals**:

*a)* EOSC Enhance facilitates interoperability of *EOSC Providers* and *Resources* across scientific disciplines *by focusing on processes, specifications, guidelines, tools and APIs to support EOSC Providers in making them interoperable, by linking up thematic and regional/national Providers, public and commercial, gateways, aggregators and marketplaces and by applying the emerging EOSC Rules of Participation (RoP).*

*b)* EOSC Enhance improves the discoverability of *EOSC Resources* by EOSC End-Users *by further developing and widening the EOSC Catalogue and Registry, through the integration of additional Resources (Services, Data Sources and Research Products) notably the ESFRI clusters and thematic and geographic clouds, with further technical enhancement of the functionalities for EOSC Providers (Open APIs, AAI) and EOSC End-Users (search and comparison tools, etc.).*

*c)* EOSC Enhance consolidates the *EOSC Portal* as one point of access for researchers *through the facilitation and continuous enhancement of findability and discoverability -by appropriately design of the UI for example- inherent building blocks addressed in the EOSC Enhance project - that will make this possible.*

*d)* EOSC Enhance consults with the ecosystem key results to allow for wide adoption and interoperability *by discussing and agreeing with ESFRI clusters and regional/national portals the critical technical aspects and features of the EOSC Portal and by channelling to the EOSC Governance bodies the outcomes for approval and adoption.*

# Executive Summary

This document is a result of 2021 WP2 activities, within EOSC Enhance, that underpins the development of the EOSC Interoperability Framework expected to be mutually accepted by EOSC stakeholders as the building block for describing and offering the EOSC Resources to the EOSC End-Users in a harmonised way as well as for maintaining their interoperability and quality across the EOSC Providers, i.e. Aggregators, Repositories and Marketplaces of Thematic and National/Regional initiatives and Clusters (ARMs), Research Infrastructures (RIs), National Research and Education Networks (NRENs), National Grid Initiatives (NGIs), National Open Access Desks (NOADs) and other Resource Providers (RPs).

This document builds upon existing processes of EOSC stakeholders, EOSC contributors and EOSC coordinating and contributing projects to provide the latest updates of the EOSC Portal Change Management Process, EOSC Portal Requirements Roadmapping Process and Status, the EOSC Portal Profiles Specifications, the EOSC Portal Onboarding Process including the onboarding process for Multi-Provider Catalogues and the operational aspect of the EOSC Rules of Participation, the EOSC Portal Quality Assurance Process and the EOSC Profiles Review and Feedback Report, and the EOSC Portal Statistics Report and other related concepts, processes, specifications, guidelines and tools.

This document offers enablers to achieve scalability and minimise integration effort to lower maintenance costs and allow EOSC Providers to easily connect and expose capabilities and at the long term contribute to the acceleration of European innovation.

The Specifications and Processes included in this deliverable have been approved and adopted by the EOSC Enhance PMB achieving consensus of the key EOSC ecosystem stakeholders and the majority of them are used by de facto standards by other EOSC stakeholders.

# 1 Introduction

The EOSC Portal aims to become a key component of the European Open Science Cloud (EOSC) by providing an additional access point for Resources for Europe's research sector.

EOSC Enhance, as one of the contributing projects maintaining the EOSC Portal and aimed at enhancing its functionalities, managed to boost the performance and the usage of the EOSC Portal through an important release of an enhanced version of the EOSC Portal performed in September 2020 since then continuous enhancements and updates based on requirements received by the EOSC stakeholders. To deliver the key milestones successfully to the satisfaction of the EOSC Portal stakeholders, implementations for the releases and updates were guided by an effective requirement gathering campaign.

The EOSC initiative is established to address the historical lack of Interoperable Online Catalogues of Research Resources that European Researchers could explore across Europe. Within this framework, WP2 of EOSC Enhance aimed to offer enablers of open digital architectures to achieve scalability, minimum-integration effort, lower maintenance costs, and allow EOSC Providers to easily connect and expose capabilities as well as, in the long term, contribute to the acceleration of European innovation.

Specifically, WP2's scope is to offer concepts, processes, specifications, guidelines, tools and open APIs to allow for:

- opening the 'market' (interoperability), thus offering the opportunity to register voluminous Resources under EOSC Providers and then aggregate them in the EOSC Portal with minimum disturbance for the EOSC Providers.
- deploying processes that allow for the provision of added value services by combining services, other Resources, and those processes.
- integrating processes that allow for an automated update of Resources' descriptions and their metadata without human intervention (e.g., open APIs, harvesting, etc).

WP2 has achieved the above by focusing on:

- defining common information models for EOSC Providers and Resources, such as services, data sources and scientific products; this task was based on efforts, such as eInfraCentral's Service Description Template (SDT) v1.3 and OpenAIRE guidelines for scientific content providers.
- developing a unified EOSC Interoperability Framework, accepted by EOSC stakeholders for describing and offering EOSC Resources to EOSC End-Users in a harmonised way, guaranteeing the interoperability of Resources metadata with open APIs and quality across all the EOSC Providers.
- improving interoperability by offering the opportunity to support the discovery of the wide range of EOSC Resources offered by EOSC Providers through the EOSC Portal with minimum disturbance for the EOSC Providers (initial low barrier to entry).
- deploying processes that allow for the provision of added value services by combining services, other Resources, and those processes.

- developing a framework to allow automated management of the EOSC Resource metadata without human intervention (e.g., harvesting, etc).

WP2 Task 2.2 on 'EOSC services and resources description and classification' worked towards an inclusive common Resource definition model and Resource management framework to reach a harmonised approach to Resource catalogues and deliver a well-structured and streamlined classification/taxonomy which will support the increase of visibility of Resources and will help the stakeholders to identify the Resource they need.

Indeed, European Researchers increasingly live, work, and conduct research across borders. Their increased mobility must be supported by cross-border services and seamless exchange of data. Unfortunately, the environment in which data exchange takes place amongst EU Member States is complex, creating many semantic interoperability conflicts caused among others by the lack of commonly agreed data models, the absence of universal reference data, etc.

On the other hand, many European Resource Providers have their own public catalogues; many others are at very early stages of developing their catalogue; they are following diverse standards, frameworks, and approaches; some describe their Resources with varying level of detail and complexity, while others had no discoverable or accessible paths to their Resource offerings.

A Catalogue aims to present in a well-organised manner the available Resources that are on offer to a User/Customer by a Provider. It is the customer-facing list of all Resources offered. Similarly, to labels on goods or products, containing information on the good as well as pricing, Resources and their attributes should be explained in a clear and structured manner to guide the user to find the right Resource.

The development and implementation of a Catalogue is an essential step towards the transformation from technology-oriented organisations into service-oriented organisations. It is a means to communicate and provide clarity to Users/Customers about the Resources available to them, to help improve customer relations by sharing information and managing customer expectations.

The deliverable is structured as follows: In Chapter 2 the overall EOSC Portal Change Management Process is presented followed by Chapter 3 presenting the Requirements and the Roadmapping with input for assessment under EOSC Future project. In Chapter 4 the latest version of the EOSC Portal Profiles, those being the Provider and the Resource Profile, respectively are presented as well as new profiles for the Multi-Provider Catalogue, extensions of the Resource Profile to Data Sources and Research Products. In Chapter 5 the latest additions to the EOSC Portal Onboarding Process are elaborated and the process for other Multi-Providers Catalogues' onboarding. An important dimension is the Quality Assurance procedures which are covered extensively in Chapter 6 for all the phases of the EOSC Portal Onboarding v4.00, including the initial Provider and Resource Onboarding as well as follow up activities to ensure long-term interoperability and compatibility. This Chapter focuses on the EOSC Profiles Review and Feedback Process. Chapter 7 presents the EOSC Portal Monitoring tool developed to provide the status and an overview of the progress of EOSC Portal and the related EOSC Portal Statistics Report. The deliverable concludes its main body content in Chapter 8 with the Conclusions and next steps, followed by an extensive list of Annexes that present in detail all the core technical components and results of the EOSC Interoperability Framework, namely:

- the EOSC Portal Change Management process (v4.00);
- the EOSC Portal Functional and Non-Functional Requirements and Roadmapping (v4.00);
- the EOSC Portal Provider Profile Specification (v4.00);
- the EOSC Portal Resource Profile Specification (v4.00);
- the EOSC Portal Multi-Provider Catalogue Profile Specification (v4.00);
- the EOSC Portal Code Lists, Taxonomies, Classifications (v4.00);
- the EOSC Portal Onboarding Process (v4.00);
- the EOSC Portal Profiles Review and Feedback Report (v4.00);

The EOSC Interoperability Framework constitutes an important pillar to realise the EOSC vision and framework. Nonetheless, it should be stressed that it constitutes an evolving specification, which will continue to incorporate new features from the EOSC ecosystem as they emerge over time and for the next period of 24 months under EOSC Future[2] Project.

[2] https://eoscfuture.eu/

# 2 EOSC Portal Change Management Process

During the first period, EOSC Enhance documented in D5.2 and WP2 applied very successfully the EOSC Portal Requirements Gathering and Review Process with the contribution of all key EOSC Stakeholders. Figure 2.1 depicts the high-level flow diagram of the process. The results of the deployment of the process are presented in **Chapter 3 EOSC Portal Requirements Gathering Process and Roadmapping**.

This process triggered and formed the basis for one of the main achievements of EOSC Enhance during the second period; this is the agreement of key EOSC Stakeholders on a coordinated process for Change (Request) Management to ensure that a consistent method and procedures are used for the efficient and prompt handling of change requests.

Change management can be used for all change requests, to facilitate efficient and prompt handling of all changes, and maintain the proper balance between the need for change and the potential adverse impact of changes taking also into account the available resources.

## 2.1 EOSC Portal Change Management Process v4.00

At this point in time, the aim of the EOSC Portal Change Management Process (CMP) v4.00 is to ensure that changes to specifications and processes developed within the framework of the EOSC Portal are gathered, reviewed, approved, implemented, and communicated to the stakeholders in a controlled and consistent manner, to ensure the Interoperability Framework is maintained and avoid any possible adverse impact of such changes on the EOSC stakeholders. It also supports and facilitates the efficient management of the various EOSC Portal Releases by organising such changes in bundles and as such they can be incorporated in the planned EOSC Portal Releases after they have been tested and deployed in sandbox environment and communicated to the EOSC stakeholders.

For the EOSC Portal several specifications and tools have been produced among which the EOSC Portal Definitions; the EOSC Portal Functional and Non-Functional Requirements and Roadmapping; the EOSC Portal Profiles; the EOSC Portal Onboarding Process; the EOSC Portal APIs; and various EOSC Portal Reports produced by (semi)automated tools. These are evolving specifications and processes that require governance, maintenance, and update. For all the above specifications and processes a dedicated CMP has been introduced.

For the CMP a stepwise approach is adopted and depicted in Figure 2.2, which presents all the steps to be followed, namely: the collection of change requests, filtering, reviewing, rejection or approval, implementation, verification, and informing the stakeholders about changes status.

## 2.2 EOSC Portal Profiles Change Management Process v4.00

As an example, the dedicated CMP for EOSC Portal Profiles (EPP-CMP) is presented in Figure 2.3. Specific actors and responsibilities are defined during the EPP-CMP process lifecycle (see Table 2-1).

*Table 2-1: Roles and Responsibilities for the EOSC Portal Profiles CMP*

| Roles | Description |
|---|---|
| **Collectors / Co-ordinators** | The team in charge to open the Jira ticket for any incoming/requested changes. They distinguish bugs/other requests i.e. Requirements from requested changes. |
| **Reviewers** | The team in charge to assess the priority and feasibility of the change. They can decide if a change should be rejected or approved for implementation. |
| **Editors** | The team responsible to design and coordinate the implementation and the validation of the EOSC Portal Profiles specifications' changes approved. |
| **Verifiers** | The team assigned to verify that the approved changes are implemented as decided. |
| **Dissemination** | The team assigned to communicate the changes implemented to the stakeholders before (6-months ahead) they are applied on production environment. |

The detailed EPP-CMP process steps are as follows:

| Steps | Description |
|---|---|
| **Collection** | The Change request may come from several sources/interfaces like Processes (e.g., onboarding, etc.), the Specifications, the Helpdesk, the Development Teams, the Management Teams, the Sponsors, and other Stakeholders. All Changes identified MUST first be inserted in the EOSC Enhance JIRA Requirements Project with the issue status "New". While describing the issue and filling in the details, attention should be paid in selecting the relevant "Component" namely RfC-Profile. This is for distinguishing the Requests for Changes (RfCs) from EOSC Portal Requirements and be able to filter the specific ones related to the EOSC Portal Profiles. Jira issues are created manually by the Change Collectors/Coordinators or by any other authorized Partner representative. |
| **Filtering** | The Collectors/Coordinators check all collected Changes (status "NEW") and keep in the EOSC Enhance JIRA Requirements Project only those that are Change Requests related to EOSC Portal Profiles including changes of controlled values/vocabulary. Specifically for any change on the controlled values including removal of a wrong value, addition of a new one or modification of existing etc., in the description of relevant Jira ticket there should be the indication "VOCABULARY". In case of Bug Fixes and improvements of existing functionality they should be moved to the EOSC Enhance JIRA Development Project, while the new EOSC Portal Requirements must be treated under the EOSC Portal New Requirements process. The Collectors/Coordinators may consult internally the Reviewers or externally the Users etc. At this point the Collectors/Coordinators must change the Status of the Jira issue to "Under Review". |
| **Review** | All Jira tickets "Under Review" are automatically added with a bridge under the EOSC Portal Profiles-New Changes "Under Review" table. The reviewers meet twice per year to review the major changes on the EOSC Portal Profiles. Specifically for the changes related to controlled values/vocabulary there is an automated function during the onboarding process, where the AARP is able to propose/request changes and/or additions/deletions to the offered controlled values. Such requests will be handled by the EPOT and will be pending till they are approved; if the requested changes are additions to the control values, then they can be approved by the EPOT without any need for further review. A log file of such additions in control values must be maintained by EPOT based on which a regularly update of the EOSC Profiles Specifications will be performed. In case of modification or deletion of existing controlled value a Jira issue must be opened by EPOT as described in step 1. Collection above. For reviewing such requests for changes of controlled values or other minor changes a regular meeting every 3 months is arranged and if necessary (i.e. urgent requests blocking an activity), ad hoc meetings may be arranged. The Reviewers in both cases (major profile changes or minor changes and changes on controlled values) check that all grey and green columns are complete in the table "Changes under Review" in EOSC Portal Profiles-New Changes page. They further analyze each new change and complete the assessment by filling in the blue columns, where the Reviewers validate and assess the new EOSC Profile Requested Change. During the review process several aspects are examined such as the |

| | |
|---|---|
| | backwards compatibility of the proposed change (whether major or related to controlled values) and the timing of its implementation considering the possible impact on other system components and the interoperability with other catalogues. |
| **Rejection/ Approval** | For EOSC Portal Profile changes not approved, the Reviewers update the status of the JIRA issues to "Rejected". Those are then automatically added with a bridge under the "Changes Rejected Table" in the EOSC Portal Profiles-New Changes. The Reviewers MUST enter in the Jira issue the explanation of why the Change has been discarded. A notification is sent to the person that has opened the ticket. For EOSC Portal Profile changes assessed positively, the Reviewers update the status of the JIRA tickets to "Approved". Those are then automatically added with a bridge under the "Changes Approved Table" in the EOSC Portal Profiles-New Changes. |
| **Selection for Implementation** | After the Reviewers meeting for all Jira issues with Status "Approved" the implementation team is assigned. The status of the Jira Issues changes to "Selected for Implementation" or "Implementing" and a new ID for the Change (e.g. CH-PR-01) is assigned. Those are then automatically added with a bridge to the tables in the EOSC Portal Adopted Changes confluence page for further monitoring, implementation, clarification, and completion. At this stage the impact of the change on other components, processes etc. is further assessed and coordination with project partners and/or other stakeholders may be required (ie the development teams). Once all issues are clarified, change is implemented in EOSC Portal Provider or EOSC Portal Resource Profile confluence pages respectively |
| **Implementation** | Once the EOSC Profile Change is realized (the Jira issue status is updated accordingly in each step) the Implementation team changes the Jira issue status to "Implemented" and the person who opened the issue is notified and confirms that the change is implemented as decided. At this stage the status changes to "DONE". In case the change implemented needs to be reflected in other EOSC Portal components and/or processes the relevant process is activated at the same time (EOSC Portal Requirements and/or Change Management Process for processes i.e., onboarding, etc.). It must be also noted that no more than 1-2 major releases of the EOSC Portal Profiles' specifications are expected within a year. These releases shall include any approved corrections, additions, changes and/or improvements provided that must be pre-announced and communicated to the various stakeholders on a 6-months period basis to ensure that the interoperability is maintained among the various components, processes, other catalogues etc. |
| **Feedback** | The Collectors/Coordinators are informed of the implementation of the change request. Once these changes are announced and consensus is achieved, they are included along with other changes in the next plan release of EOSC Portal components and processes as required (i.e. Provider Dashboard, API, Onboarding process etc) |

For the EOSC Portal Profiles one or maximum two releases are expected within a year. These releases shall include any approved corrections, additions, changes and/or improvements provided that, these are pre-announced and communicated to the EOSC stakeholders 6-months ahead, to ensure that the interoperability is maintained among the various components, processes, other catalogues etc.

EOSC Enhance is currently preparing for handing over all developments to EOSC Future or any other responsible entity, in a very comprehensive and professional manner at the end of 2021. In **Annex I: Requests for Changes on EOSC Portal Profiles** all RfCs processed and adopted are presented as well as the RfCs that have been collected and are registered for further assessment under EOSC Future or other responsible entities.

Furthermore, EOSC Enhance has prepared for transition all JIRA Projects and Confluence Pages that maintain the above information for permanent consultation with the EOSC community. Specifically:

- the Change Management Process Page: https://confluence.egi.eu/x/Y4QkBQ

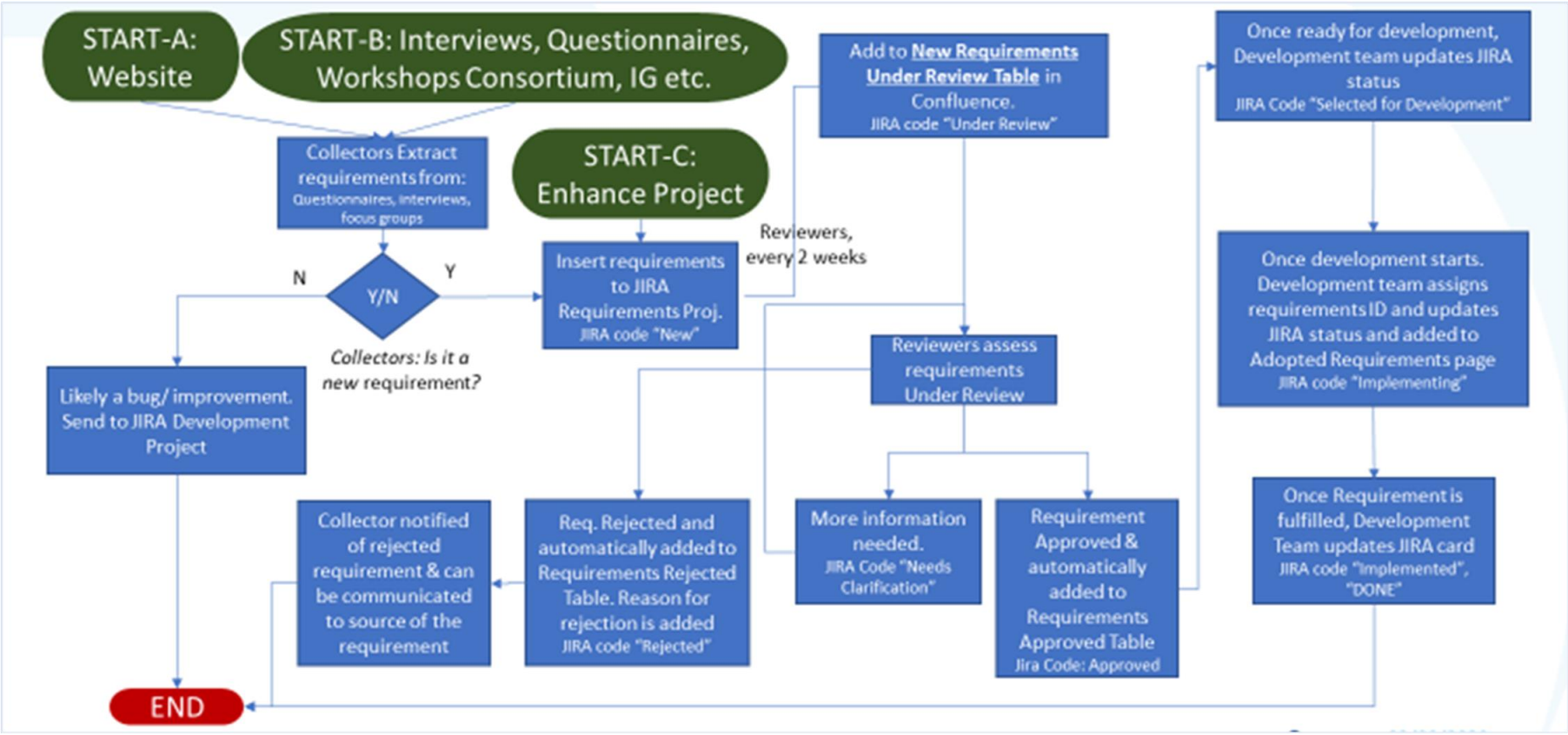


Figure 2.1: EOSC Portal Requirements Gathering Process

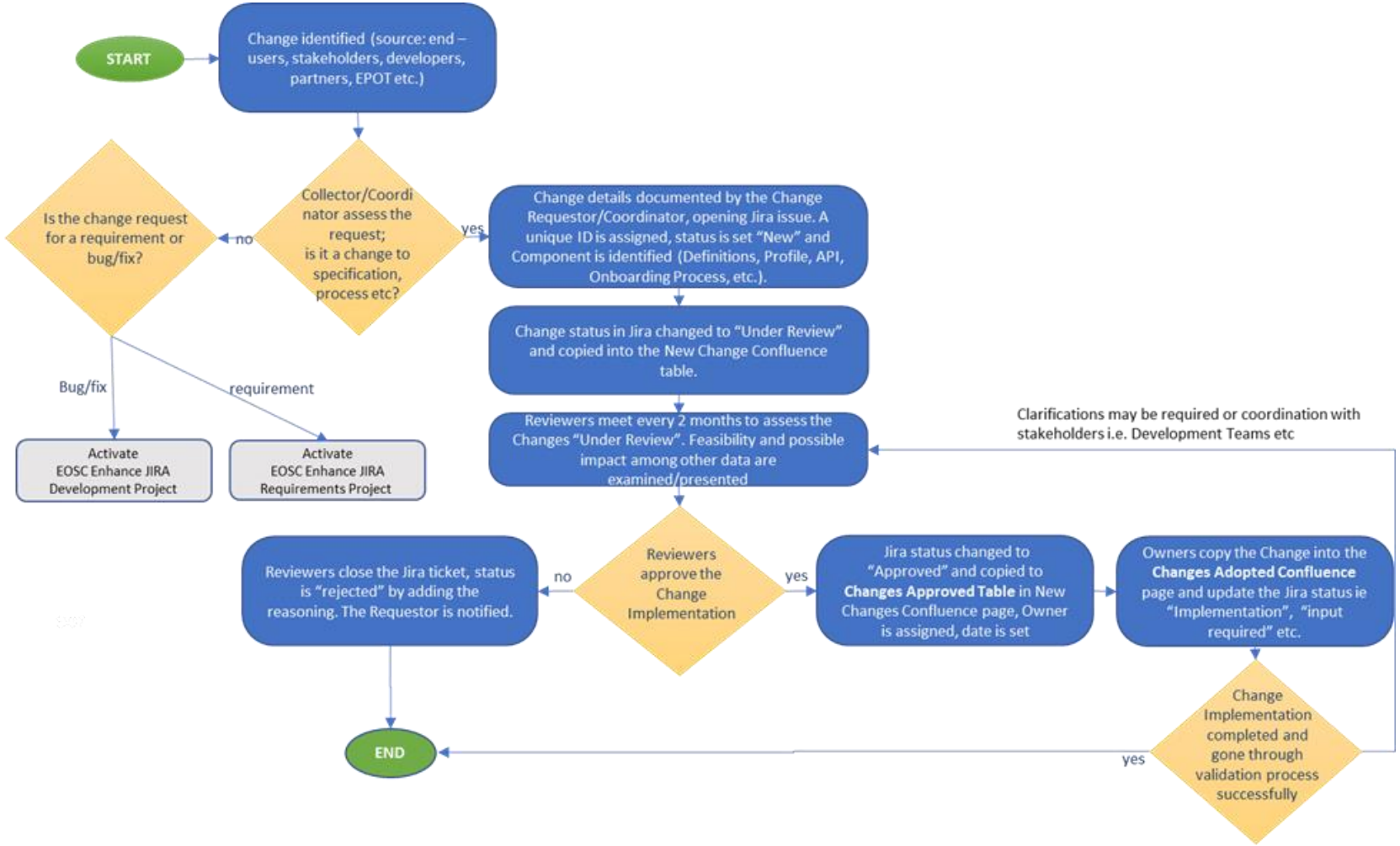


*Figure 2.2 EOSC Portal Generic Change Management Process*

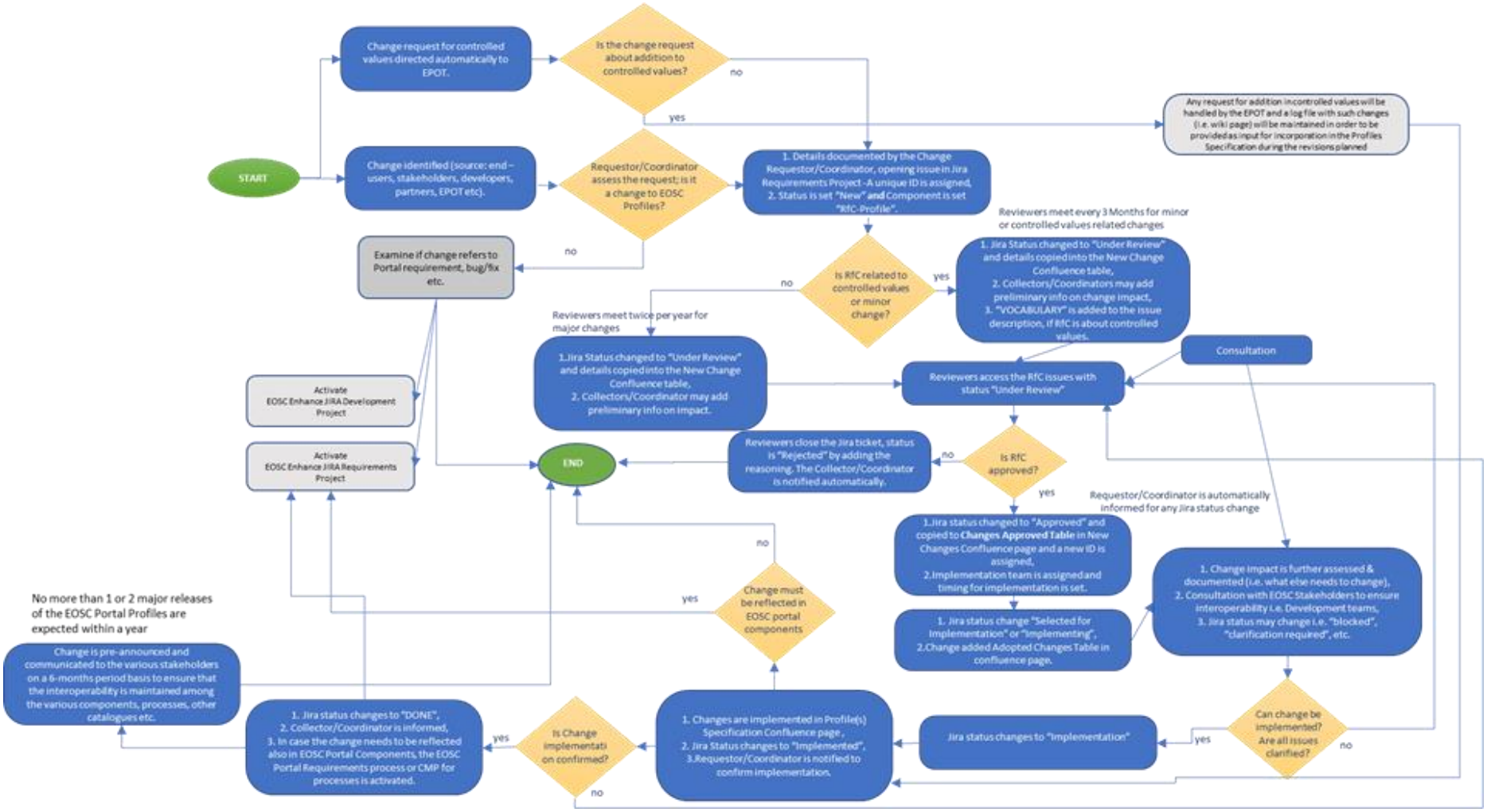


*Figure 2.3 EOSC Portal Profiles Change Management Process*

# 3 EOSC Portal Requirements Gathering Process and Roadmapping

On the 1st of December 2019**,** the new EOSC Enhance project has started with the mandate of bringing forward the developments of the EOSC Portal. Building on the fruitful requirement gathering activity carried out throughout 2020, the EOSC Enhance consortium announced the official release of the new and improved EOSC Portal (Release1).

**EOSC Portal Release 1** included new functionalities, which are geared towards improving the experience for End-Users and Providers of the EOSC Portal and was one of the key milestones of the EOSC Enhance project. The EOSC Portal Release 1 was followed by minor releases during 2021 while another Release 2 is scheduled for November 2021 combined with the transition to EOSC Future.

The EOSC Portal Release 1 featured the new EOSC model for the description of providers and resources, more automated processes especially in onboarding Resources to the portal, allowed Providers to gain more control over their Resources, enriched the information for each Resource allowing users to make better choices, and supported users with more information such as tutorial and documentation areas for Providers. Across the portal, feedback mechanisms were also implemented to allow Users and Providers to provide feedback to the enhancements implemented in the portal. The improvements materialised in EOSC Portal Release 1 are summarised as follows:

1. **Improved Catalogue and Marketplace;** Improving the user experience was primarily carried out through the EOSC Portal Catalogue and Marketplace enhancements. Significant changes were implemented to create an intuitive user interface that also leverages on the new data curated in the Resource Profile 3.0.
2. **Empowered providers through new functionalities;** Having a rich catalogue of Resources that addresses the long tail of science requires an EOSC Portal populated with a wide range of Providers and their Resources. To make the EOSC Portal more provider-friendly, significant technical changes have been implemented. EOSC Enhance has unified the previously separate databases of Resources from eInfraCentral, the EOSC Portal Marketplace and EOSC-hub service catalogue into a single EOSC Portal database. EOSC Enhance also introduced the Provider and Resource Profiles 3.0, and the EOSC Portal Marketplace and Catalogue has been updated to be compatible with these new profiles. These profiles will also pave the way for the inclusion of data and training resources in the future (under ESOC Future project). With these foundational elements implemented, EOSC Enhance then implemented a new onboarding process which now allowed the Providers to register their organisation aside from their Resources. Providers are now also able to manage their onboarded Resources themselves and keep them up to date through the improved Provider Dashboard with less manual intervention needed from the onboarding team.
3. The **EOSC Portal's API component** has also been upgraded to allow the registration of Resources from existing external catalogues and to retrieve data from the EOSC Portal.
4. **Tutorial and documentation sections and more relevant content;** The **EOSC Portal Content Component** serves as the informative section of the EOSC Portal as well as the main gateway to the Provider and user-geared components such as the Provider Dashboard, Marketplace and Catalogue. As part of the improvements towards the experience of Providers, a Provider's Documentation section has been added allowing the EPOT to provide up-to-date technical information for providers interested in becoming part of the EOSC Portal.

**EOSC Enhance has been responsible to move forward the EOSC Portal till its completion (November of 2021)** (while EOSC Future is taking over) and aimed to reinforce the implementation of the EOSC by 'building on the work produced by existing projects (notably eInfraCentral) and provide additional support for the implementation of the EOSC-hub to further develop and optimise the functions and interface offered via the EOSC Portal'.

EOSC Enhance has been delivering the product development axis and the new outputs in an agile method with continuous improvement cycles while keeping the system fully operational on the following phases:

1. **Phase 1 (the interface to the EOSC stakeholders)**: state-of-play analysis, mapping of stakeholders, EOSC Portal current state of affairs, EOSC strategy and evolution, gaps analysis and enhancements, continual requirements gathering processes, toolset enabling the capture of user stories (WP1/WP5).
2. **Phase 2 (the glue of the EOSC Portal)**: requirements prioritisation, functional and non-functional requirements, development of new concepts, update of processes, specifications, guidelines, tools, and APIs (WP2).
3. **Phase 3 (the engine of the EOSC Portal)**: update of functional specifications and architecture design, short development sprints, software and APIs updates, interoperability tests, user experience upgrade, user assessments, software releases (WP3/WP4).
4. **Phase 4 (the coordinated output of EOSC Enhance)**: documentation and user guides, training and validation, communication to stakeholders (WP1/WP5).

Because the first organised rounds of Phase 1 would take up some time, it was decided at the EOSC Enhance kick off meeting to produce a first version of the EOSC Portal Functional and Non-Functional (FNF) Requirements (part of Phase 2) by the end of February 2020 to allow for an immediate development and operations cycle to start.

Version 2020 of the EOSC Portal FNF Requirements was based on the work performed under the eInfraCentral project, the EOSC-hub project, the CatRIS project, and the EOSC Portal collaboration agreement among eInfraCentral, EOSC-hub and OpenAIRE-Advance, EFIS, UOA and JNP. This document is included in EOSC Enhance D2.2 and was the starting point for the EOSC Enhance requirements capture process.

## 3.1 EOSC Portal Requirements and Roadmapping v4.00

Version v4.00 of the EOSC Portal Requirements and Roadmapping (2021) incorporates all the additional work on FNF requirements capture and roadmapping made after the submission of D2.2 and up to date by applying the well-structured and formal process for the New Requirements Collection, Validation, Prioritization, Implementation and Provision of feedback.

The process is continuously updated with feedback coming from the EOSC Enhance Partnership, the EOSC Enhance Requirements Task Force as well as the established sources of EOSC Stakeholders (i.e., WP5 Requirements gathering workshop etc).

Version v4.00 lists and groups the requirements in (i) those already implemented, (ii) those planned for implementation till the end of the EOSC Enhance project, and (iii) those identified and could possibly be further evaluated under EOSC Future project.

The requirements are organised in Functional requirements (i.e., the requirements that define specific behaviours or functions of the EOSC Portal system) and Non-Functional requirements (i.e., the requirements that specify criteria that can be used to judge the operation of the system, rather than specific behaviours)

Furthermore, the requirements are categorised based on the target group/personas they serve: (i) EOSC Unauthenticated End-Users, (ii) EOSC Authenticated End-Users (with access to personalized information), (iii) EOSC Resource Providers (or EOSC Providers), (iv) EOSC Portal Managers, (v) EOSC Funders and Policy Makers, and (vi) Third Party Catalogues/Portfolios.

The EOSC Portal new requirements are formally collected and inserted in EOSC Enhance JIRA Requirements project[3] and follows the steps described in Chapter 2.

**Annex II: Requests for Changes on EOSC Portal Functionality** includes in tabular form version 4.00 of the EOSC Portal FNF Requirements and Roadmapping. The actual implementation of the requirements is described in detail in the WP3, WP4 and WP5 deliverables.

EOSC Enhance is currently preparing for handing over all developments to EOSC Future or any other responsible entity, in a very comprehensive and professional manner at the end of 2021. The requirements related to functionality that have not been implemented or approved are also listed in Annex II.

In this respect EOSC Enhance has prepared for transition all JIRA Projects and Confluence Pages that maintain the above information for permanent consultation with the EOSC community and specifically:

- JIRA Requirements Project: https://jira.egi.eu/projects/EOSCENR/
- New Requirements Page: https://confluence.egi.eu/x/IITeAw
- Adopted Requirements Page: https://confluence.egi.eu/x/SIPeAw
- Rejected Requirements Page: https://confluence.egi.eu/x/ZhCxBg
- Requirements Handed over to EOSC Future Page: https://confluence.egi.eu/x/ZhCxBg

[3] https://jira.egi.eu/projects/EOSCENR/issues/EOSCENR-213?filter=allopenissues

# 4 EOSC Portal Profiles

One of the major challenges that the EOSC aims to address is the historical lack of Interoperable Online Catalogues of Research Resources that European Researchers could explore across Europe.

EOSC Profiles are specifications that define common data models for EOSC entities (Providers, Resources, etc.) and related Code Lists, Taxonomies and Classifications. They contribute to the unified framework for describing and offering EOSC Resources to end-users in a harmonized way, guaranteeing the interoperability of resources metadata with open APIs. They allow automated exchange and management of the EOSC resource information and their accompanying data without human intervention (e.g., harvesting, etc.).

## 4.1 Prior Efforts

The eInfraCentral project[4] first recognised that a common approach to describing (Goal-1) and exchanging (Goal-2) Resource-related information is the way forward to enhance discoverability and thus potential uptake of Resources in a European single digital market for Research. eInfraCentral worked on this harmonisation in partnership with five key e-infrastructures: GÉANT, OpenAIRE, PRACE, EGI and EUDAT. The approach was to extend best practices followed independently and to enable the harmonisation of Resource descriptions to allow interoperability and the possibility for a common catalogue or a catalogue of catalogues.

**Goal-1** was addressed by the EOSC Portal Profiles (previously known as Service Description Templates (SDT)) that are widely adopted as the de facto standard scheme for the representation of Resource-related information in the EOSC Catalogue. Profiles are simplified, reusable and extensible data models that capture the fundamental characteristics of a data entity in a context-neutral and syntax-neutral fashion. This Chapter addresses the current status of the EOSC Portal Profiles.

**Goal-2** was addressed by a rich set of Open REST API methods for the exchange of information among Providers' systems and Portals. The open APIs include methods and mechanisms for data acquisition (resource metadata, indicators, usage, etc.) from federated catalogues, to enable a seamless synchronisation of content. The latest version of the EOSC Portal APIs are described in D3.2 - EOSC Portal Open APIs Specifications.

Thus, as depicted in Figure 4.1, the EOSC Resource Providers (data, apps, instruments, etc.) will feed thematic, regional and other aggregators and in turn allow for the aggregated European Open Science Cloud Portal as an additional distribution channel.

This approach bore fruit with the launch of the eInfraCentral Portal in 2017 and later the EOSC-hub Portal and finally the EOSC Portal in November 2018 (with SDTv1.13). This work was extended within the EOSC Portal Collaboration Agreement of eInfraCentral, EOSC-hub[5] and OpenAIRE-Advance[6] and

[4] https://einfracentral.eu/
[5] https://www.eosc-hub.eu/
[6] https://www.openaire.eu/

within CatRIS[7] that extended this work to offerings by Research Infrastructures (RIs), Core Facilities (CFs) and Shared Scientific Resources (SSRs) and is currently coordinated and further developed by EOSC Enhance (see Figure 4.2).

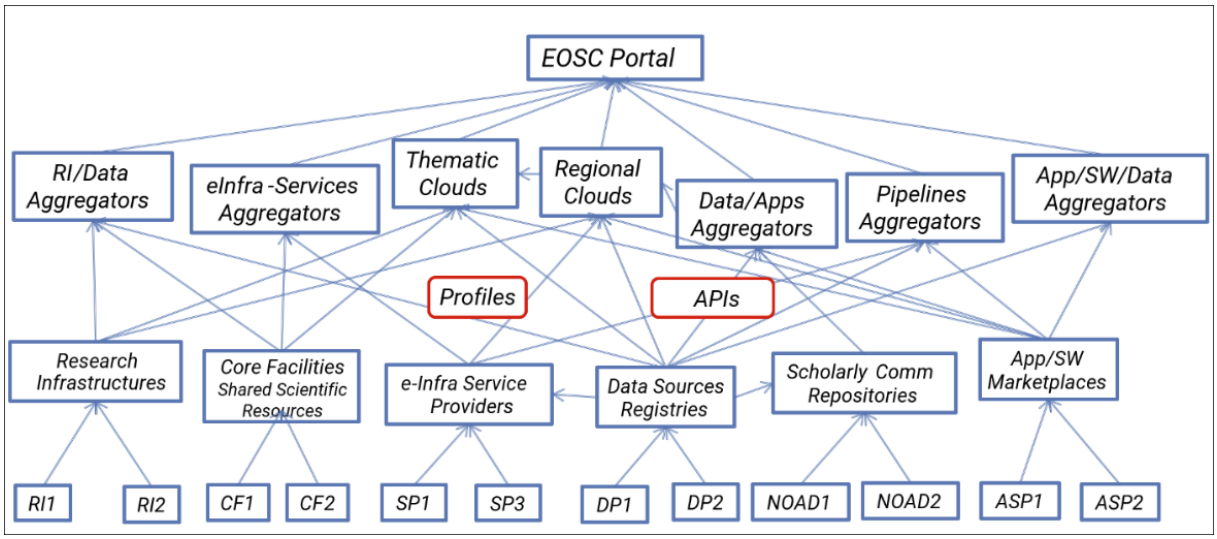


*Figure 4.1: The EOSC Ecosystem*

Note: App/SW/Data = Applications/Software/Data; App/SW = Applications/Software; RI = Research Infrastructures; CF = Core Facility; SP = Service Provider; DP = Data Provider; NOAD = National Open Access Desk; ASP = Application Software Provider. Source: JNP, eInfraCentral project.

*Figure 4.2: Prior Efforts on EOSC Profiles*

## 4.2 EOSC Portal Profiles v3.00

Overall, the above set of concerted actions have led to the development of the EOSC Portal Profiles version v3.00 that were presented in D2.2 – EOSC Processes development and consensus. That version of the EOSC Profiles included two profiles; the **Provider Profile** and the **Resource Profile**, each

[7] https://www.portal.catris.eu/

addressing a different entity and a different phase of the onboarding, update, maintenance, and monitoring processes. The EOSC Portal Profiles v3.00 constituted them as one of the most significant components of the EOSC Interoperability Framework.

The Profiles provide definition of their attributes, their format/type (if any) and multiplicity, as well as whether the attribute is mandatory or optional for the implementation of several features in Catalogues.

They also provide validation rules for validation of input data. Each of these Profiles should have their respective separate online interfaces that will allow a Manager to keep them up to date at the Portal.

The Profiles also include an extensive number of Code lists, Taxonomies, Classifications that have been developed to provide a structured classification of Resources and a harmonized way for the description of various attributes. They also constitute the basis for the structure and the filtering functions of a (centralized) Catalogue, thus allowing for easy cross-referencing, comparability, and evaluation.

## 4.3 EOSC Portal Profiles v4.00

After v3.00 was adopted as a de facto standard in the ESOC ecosystem and deployed successfully at the EOSC Portal and by other EOSC stakeholders, EOSC Enhance received several Requests for Changes (RfCs) for the EOSC Portal Profiles. Those requirements are presented briefly in Table 4-1 and further analysed in **Annex I: Requests for Changes on EOSC Portal Profiles**.

*Table 4-1: EOSC Portal Profiles' Request of Change*

| Jira ID | EOSC Portal Profiles' Request of Change (RfC) | Subject | Implementation |
|---|---|---|---|
| **EOSCENR-165** | Move Hosting Legal Entity from 'other' to 'basic info' in the provider profile. | Attribute | Up to 01/2022 |
| **EOSCENR-197** | Add a new field for a very short resource name | Attribute | Up to 01/2022 |
| **EOSCENR-205** | Adding description of Multimedia in the Marketing section of Resource Profile | Attribute | Up to 01/2022 |
| **EOSCENR-173** | Values of ERP.DEI.3 (Related Platforms) controlled by EPOT | Attribute | In July 2022 |
| **EOSCENR-159** | Profiles: Optional fields in Resource Profile: terms of use, privacy policy | Attribute | In July 2022 |
| **EOSCENR-175** | Resource Profiles: add control values to FUNDERS and FUNDING PROGRAM | Controlled Values | Up to 01/2022 |
| **EOSCENR-223** | Request to add values to the Funding bodies and programs-controlled vocabulary | Controlled Values | Up to 01/2022 |
| **EOSCENR-206** | Minimum Service Maturity level as a Prerequisite for listing resources on the marketplace | Controlled Values | Up to 01/2022 |
| **EOSCENR-162** | Provider > Location > Country should list only countries not 'Europe' and 'Worldwide | Controlled Values | Up to 01/2022 |
| **EOSCENR-177** | New Values for Provider profile - Vocabulary | Controlled Values | Up to 01/2022 |
| **EOSCENR-225** | Create a new Entity named 'Catalogue' and add the 'Catalogue' attribute to both Provider and Resource profiles | New Profile | In July 2022 |

Those requirements, as well as the need: a) to facilitate the onboarding and interoperability of the EOSC Portal to Multi-Provider Catalogues of Thematic and Regional Portals and, b) to describe addi-

tional resource types like Data Sources and Research Products, led to the update of the EOSC Portal Profiles and the issue of version v4.00, the details of which are presented in this chapter.

The EOSC Profile updates to v4.00 can be grouped as:

- **Updates on the EOSC Provider and Resource Profiles v3.00:**
  - Few additions of new Attributes
  - Few changes of Attribute Requirement (mandatory/optional)
  - Some re-organisation of Attributes in Information Blocks
  - Few updates on Lists of Code Lists, Taxonomies, Classifications
  - Some changes of types of Attributes
- **An additional Profile introduced:**
  - Multi-Provider Catalogue Profile
- **Additional extensions introduced:**
  - Data Sources and Research Products

The changes introduced fall into two groups as noted in Table 4-1:

1. the ones that have to be applied immediately, they are addressing operational issues or provide additional needed functionality and are backwards compatible (they do not impact the existing implementations and interoperability), and
2. those that are necessary enhancements but are not backwards compatible and as such, they must be announced before their implementation allowing a minimum period of six months (as per the CMP described in Chapter 2) for the providers and other EOSC stakeholders to adjust their implementations and/or prepare to comply with the new specification requirement.

EOSC Enhance being in preparation for handing over all developments to EOSC Future or any other responsible entity, has prepared for transition all JIRA Projects and Confluence Pages that maintain EOSC Portal Profiles and additional tools and specifically:

- EOSC Portal Profiles page in confluence https://confluence.egi.eu/x/s4XeAw
- EOSC Provider Profile v4.00 in pdf and at https://confluence.egi.eu/x/ZhqxBg
- EOSC Resource Profile v4.00 in pdf and at https://confluence.egi.eu/x/hARmBQ
- EOSC Multi-Provider_Catalogue_Profile v4.00 pdf and at https://confluence.egi.eu/x/ZhqxBg
- EOSC Portal Profiles v4.010 in xls
- EOSC Portal Profiles v4.00 in ppt

## 4.4 EOSC Portal Data Model in v4.00

Similarly to v3.00, the main building block within the Data Model in v4.00 is the Resource. A Resource is identified by a persistent unique ID, which is generated by the Portal during the EPOP. Furthermore, a Resource is described by a set of attributes as depicted in Figure 4.3.

A Resource is offered and managed by a Provider, identified by a Provider ID. A Provider is also described by a set of attributes. A Provider Manager is responsible to manage (add, update, maintain) the Provider's profile. A Resource Manager is responsible to manage (add, update, maintain) the Resource's profile.

A Resource is associated with one or more Options/Instantiations and Performance Indicators (Resource Level Targets), which are used for defining indicator measurements. A Resource is characterised by a set of usage statistics collected by the Portal (e.g. the number of visits on a Resource page, number of orders on the Provider page, number of favourites, average ratings, etc.). These Statistics are reported to the Provider, who may report them to the Funder.

An Authenticated (registered) User is a user who can login in the Portal and generate events for a Resource, such as rate a Resource, add a Resource to the favourites, update a Resource, etc. An Authenticated User may belong to a Provider meaning they would be authorised to manage and monitor the Resources of that provider (e.g. add a Resource, update a Resource, etc).

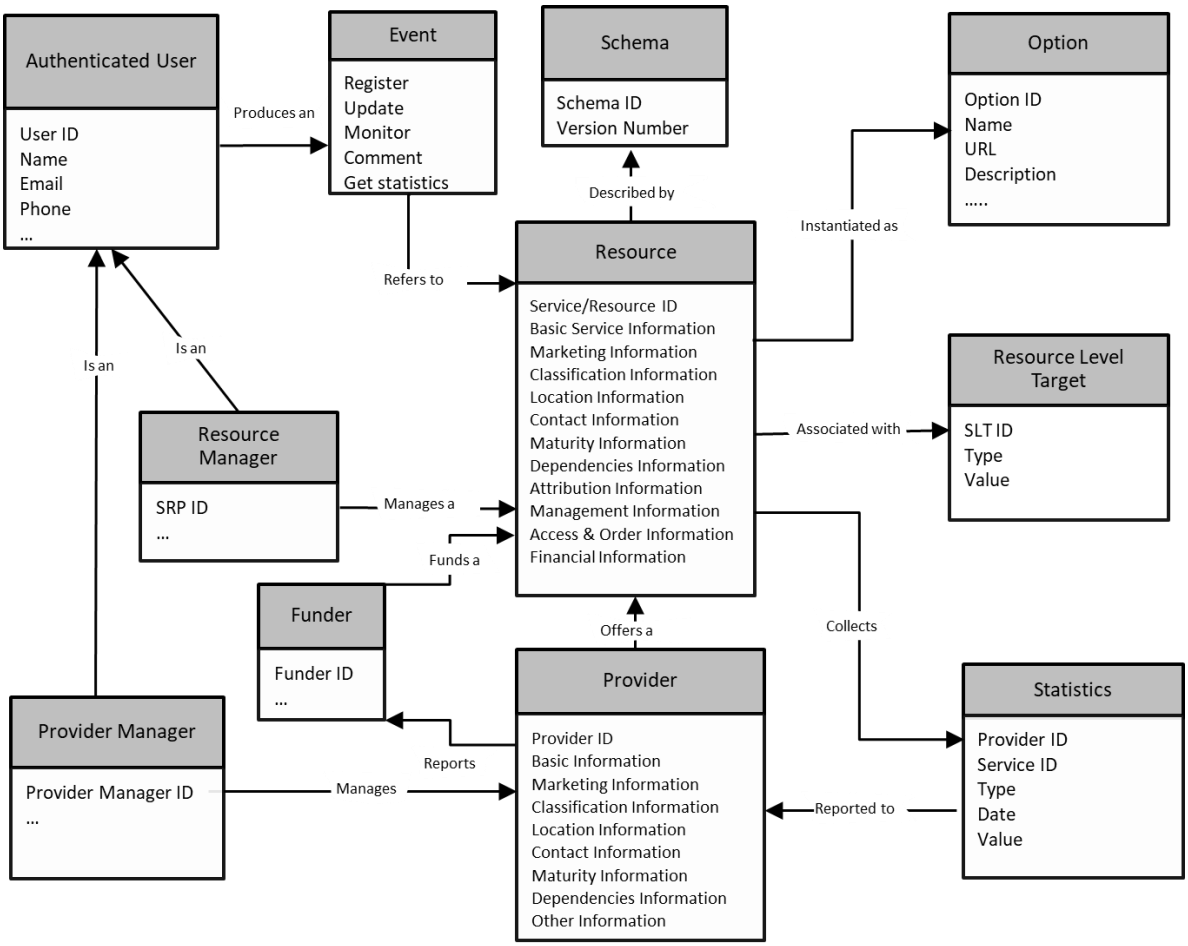


*Figure 4.3: Overview of the EOSC Portal Data Model*

In the following sections detailed information is presented for a) the Provider Profile, b) the Resource Profile, c) the Multi-Provider Catalogue Profile and d) the extensions for describing Data Sources and Research Products.

## 4.5 EOSC Portal Provider Profile v4.00

The changes introduced in the EOSC Portal Provider Profile v4.00 are depicted in Table 4-2. The full specification is described in detail in **Annex III: EOSC Portal Provider Profile Specification .**

*Table 4-2: EOSC Portal Provider Profile Changes from v3.00 to v4.00*

| Code | Attribute Name | RfC | Brief note of change from v3.00 to v4.00 | Date of full implementation | Definition |
|---|---|---|---|---|---|
| Basic Information | | | | | |
| EPP.BAI.0 | ID | - | - | - | - |
| EPP.BAI.1 | Abbreviation | - | - | - | - |
| EPP.BAI.2 | Name | - | - | - | - |
| EPP.BAI.3 | Website | - | - | - | - |
| EPP.BAI.4 | Legal Entity | - | - | - | - |
| EPP.BAI.5 | Legal Status | - | - | - | - |
| EPP.BAI.6 | Hosting Legal Entity | EOSCENR-165 | Moved from Other Information Block EPP.OTH.1 and change of Type from String to List of controlled values | 01/01/2022 | Name of the organisation/institution legally hosting (housing) the provider/research infrastructure or its coordinating centre. A distinction is made between: (1) research infrastructures that are self-standing and have a defined and distinct legal entity, (2) research infrastructures that are embedded into another institution which is a legal entity (such as a university, a research organisation, etc.). If (1) - name of the research infrastructure, If (2) - name of the hosting organisation. |
| Marketing Information | | | | | |
| EPP.MRI.1 | Description | - | - | - | - |
| EPP.MRI.2 | Logo | - | - | - | - |
| EPP.MRI.3 | Multimedia | - | - | - | - |
| EPP.MRI.4 | Multimedia Name | EOSCENR-205 | New Attribute | 01/01/2022 | Short description of the Multimedia content |
| Classification Information | | | | | |
| EPP.CLI.1 | Scientific Domain | - | - | - | - |
| EPP.CLI.2 | Scientific Subdomain | - | - | - | - |
| EPP.CLI.3 | Tags | - | - | - | - |
| EPP.CLI.4 | Structure Type | EOSCENR-165 | Moved from Other Information Block EPP.OTH.5 | 01/01/2022 | Defines the Provider structure type (single-sited, distributed, mobile, virtual, etc.) |
| Location Information | | | | | |
| EPP.L0I.1 | Street Name | - | - | - | - |

| | | | | | |
|---|---|---|---|---|---|
| | and Number | | | | |
| EPP.L0I.2 | Postal Code | - | - | - | - |
| EPP.L0I.3 | City | - | - | - | - |
| EPP.L0I.4 | Region | - | - | - | - |
| EPP.L0I.5 | Country | EOSCENR-162 | Exclude 2 controlled values from implementation | 01/01/2022 | Country of incorporation or Physical location of the Provider or its coordinating centre in the case of distributed, virtual, and mobile providers. |
| Contact Information | | | | | |
| Main Contact/Provider Manager | | | | | |
| EPP.COI.1 | First Name | - | - | - | - |
| EPP.COI.2 | Last Name | - | - | - | - |
| EPP.COI.3 | Email | - | - | - | - |
| EPP.COI.4 | Phone | - | - | - | - |
| EPP.COI.5 | Position | - | - | - | - |
| Public Contact | | | | | |
| EPP.COI.6 | First Name | - | - | - | - |
| EPP.COI.7 | Last Name | - | - | - | - |
| EPP.COI.8 | Email | - | - | - | - |
| EPP.COI.9 | Phone | - | - | - | - |
| EPP.COI.10 | Position | - | - | - | - |
| Maturity Information | | | | | |
| EPP.MTI.1 | Life Cycle Status | - | - | - | - |
| EPP.MTI.2 | Certifications | - | - | - | - |
| Dependencies Information | | (New IB) | | | |
| EPP.DEI.1 | Participating Countries | EOSCENR-165 | Moved from Other Information Block EPP.OTH.2 | 01/01/2022 | Providers/Research Infrastructures that are funded by several countries should list here all supporting countries (including the Coordinating country). |
| EPP.DEI.2 | Affiliations | EOSCENR-165 | Moved from Other Information Block EPP.OTH.3 | 01/01/2022 | Providers that are members or affiliated or associated with other organisations should list those organisations here |
| EPP.DEI.3 | Networks | EOSCENR-165 | Moved from Other Information Block EPP.OTH.4 | 01/01/2022 | Providers that are members of networks should list those networks here. |
| EPP.DEI.4 | Catalogue | MULTI-PROVIDER CATALOGUE PROFILE | New | 01/07/2022 | The Catalogue this Provider is originally registered at. |
| Other Information | | | | | |
| EPP.OTH.1 | ESFRI Domain | - | - | - | - |
| EPP.OTH.2 | ESFRI Type | - | - | - | - |
| EPP.OTH.3 | MERIL Scientific Domain | - | - | - | - |

| | | | | | |
|---|---|---|---|---|---|
| EPP.OTH.4 | MERIL Scientific Subdomain | - | - | - | - |
| EPP.OTH.5 | Areas of Activity | - | - | - | - |
| EPP.OTH.6 | Societal Grand Challenges | - | - | - | - |
| EPP.OTH.7 | National Roadmaps | - | - | - | - |

## 4.6 EOSC Portal Resource Profile v4.00

The changes introduced in the EOSC Portal Resource Profile v4.00 are depicted in Table 4-3. The full specification is described in detail in **Annex IV: EOSC Portal Resource Profile Specification v4.00**.

*Table 4-3: EOSC Portal Resource Profile Changes from v3.00 to v4.00*

| Code | Attribute Name | RfC | Brief note of change from v3.00 to v4.00 | Date of full implementation | Definition |
|---|---|---|---|---|---|
| Basic Information | | | | | |
| ERP.BAI.0 | ID | - | - | - | A persistent identifier, a unique reference to the Resource in the context of the EOSC Portal. |
| ERP.BAI.1 | Abbreviation | EOSCENR-197 | New Attribute | 01/01/2022 | An abbreviation of the Resource Name as assigned by the Provider |
| ERP.BAI.2 | Name | - | - | - | Resource Full Name as assigned by the Provider. |
| ERP.BAI.3 | Resource Organisation | - | - | - | The name (or abbreviation) of the organisation that manages or delivers the resource, or that coordinates resource delivery in a federated scenario. |
| ERP.BAI.4 | Resource Providers | - | - | - | The name(s) (or abbreviation(s)) of Provider(s) that manage or deliver the Resource in federated scenarios. |
| ERP.BAI.5 | Webpage | - | - | - | Webpage with information about the Resource usually hosted and maintained by the Provider. |
| Marketing Information | | | | | |
| ERP.MRI.1 | Description | - | - | - | A high-level description in fairly non-technical terms of a) what the Resource does, functionality it provides and Resources it enables to access, b) the benefit to a user/customer delivered by a Resource; benefits are usually related to alleviating pains (e.g., eliminate undesired outcomes, obstacles or risks) or producing |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | gains (e.g. increased performance, social gains, positive emotions or cost saving), c) list of customers, communities, users, etc. using the Resource. |
| ERP.MRI.2 | Tagline | - | - | - | Short catch-phrase for marketing and advertising purposes. It will be usually displayed close to the Resource name and should refer to the main value or purpose of the Resource. |
| ERP.MRI.3 | Logo | - | - | - | Link to the logo/visual identity of the Resource. The logo will be visible at the Portal. If there is no specific logo for the Resource the logo of the Provider may be used. |
| ERP.MRI.4 | Multimedia | - | - | - | Link to video, screenshots or slides showing details of the Resource. |
| ERP.MRI.5 | Multimedia Name | EOSCENR-205 | New Attribute | 01/01/2022 | Short description of the Multimedia content |
| ERP.MRI.6 | Use Cases | - | - | - | Link to use cases supported by this Resource. |
| ERP.MRI.7 | Use Cases Name | EOSCENR-205 | New Attribute | 01/01/2022 | Short description of the Use Case content |
| Classification Information | | | | | |
| ERP.CLI.1 | Scientific Domain | - | - | - | The branch of science, scientific discipline that is related to the Resource. |
| ERP.CLI.2 | Scientific Subdomain | - | - | - | The subbranch of science, scientific subdiscipline that is related to the Resource. |
| ERP.CLI.3 | Category | - | - | - | A named group of Resources that offer access to the same type of Resource or capabilities. |
| ERP.CLI.4 | Subcategory | - | - | - | A named group of Resources that offer access to the same type of Resource or capabilities, within the defined Resource category |
| ERP.CLI.5 | Target Users | - | - | - | Type of users/customers that commissions a Provider to deliver a Resource. |
| ERP.CLI.6 | Access Type | - | - | - | The way a user can access the Resource (Remote, Physical, Virtual, etc.) |
| ERP.CLI.7 | Access Mode | - | - | - | Eligibility/criteria for granting access to users (excellence-based, free-conditionally, free etc.) |
| ERP.CLI.8 | Tags | - | - | - | Keywords associated to the Resource to simplify search by relevant keywords. |

| | | | | | |
|---|---|---|---|---|---|
| Geographical and Language Availability Information | | | | | |
| ERP.GLA.1 | Geographical Availability | - | - | - | Locations where the Resource is offered. |
| ERP.GLA.2 | Language Availability | - | - | - | Languages of the (user interface of the) Resource. |
| Resource Location Information | | | | | |
| ERP.RLI.01 | Resource Geographic Location | - | - | - | List of geographic locations where data, samples, etc. are stored and processed |
| Contact Information | | | | | |
| Main Contact/Resource Owner | | | | | |
| ERP.COI.1 | First Name | - | - | - | First Name of the Resource's main contact person/manager. |
| ERP.COI.2 | Last Name | - | - | - | Last Name of the Resource's main contact person/manager. |
| ERP.COI.3 | Email | - | - | - | Email of the Resource's main contact person/manager. |
| ERP.COI.4 | Phone | - | - | - | Telephone of the Resource's main contact person/manager. |
| ERP.COI.5 | Position | - | - | - | Position of the Resource's main contact person/manager. |
| ERP.COI.6 | Organisation | - | - | - | The organisation to which the contact is affiliated |
| Public Contact | | | | | |
| ERP.COI.7 | First Name | - | - | - | First Name of the Resource's contact person to be displayed at the portal. |
| ERP.COI.8 | Last Name | - | - | - | Last Name of the Resource's contact person to be displayed at the portal. |
| ERP.COI.9 | Email | - | - | - | Email of the Resource's contact person or a generic email of the Provider to be displayed at the portal. |
| ERP.COI.10 | Phone | - | - | - | Telephone of the Resource's contact person to be displayed at the portal. |
| ERP.COI.11 | Position | - | - | - | Position of the Resource's contact person to be displayed at the portal. |
| ERP.COI.12 | Organisation | - | - | - | The organisation to which the contact is affiliated |
| Other Contacts | | | | | |
| ERP.COI.13 | Helpdesk Email | - | - | - | The email to ask more information from the Provider about this Resource. |
| ERP.COI.14 | Security Contact Email | - | - | - | The email to contact the Provider for critical security issues about this Resource. |
| Maturity Information | | | | | |
| ERP.MTI.1 | Technology Readiness | - | - | - | The Technology Readiness Level of the Resource (to be further |

| | | | | | |
|---|---|---|---|---|---|
| | Level | | | | updated in the context of the EOSC). |
| ERP.MTI.2 | Life Cycle Status | - | - | - | Phase of the Resource life-cycle. |
| ERP.MTI.3 | Certifica-tions | - | - | - | List of certifications obtained for the Resource (including the cer-tification body). |
| ERP.MTI.4 | Standards | - | - | - | List of standards supported by the Resource. |
| ERP.MTI.5 | Open Source Technolo-gies | - | - | - | List of open source technologies supported by the Resource. |
| ERP.MTI.6 | Version | - | - | - | Version of the Resource that is in force. |
| ERP.MTI.7 | Last Up-date | - | - | - | Date of the latest update of the Resource. |
| ERP.MTI.8 | Change Log | - | - | - | Summary of the Resource fea-tures updated from the previous version. |
| Dependencies Information | | | | | |
| ERP.DEI.1 | Required Resources | - | - | - | List of other Resources required to use this Resource. |
| ERP.DEI.2 | Related Resources | - | - | - | List of other Resources that are commonly used with this Re-source. |
| ERP.DEI.3 | Related Platforms | EOSCENR-173 | Change of Type from String to List of controlled val-ues | 01/07/2022 | List of suites or thematic plat-forms in which the Resource is engaged or Providers (Provider groups) contributing to this Re-source. |
| ERP.DEI.4 | Catalogue | MULTI-PROVIDER CATA-LOGUE PROFILE | New Attribute | 01/07/2022 | The Catalogue this Resource is originally registered at. |
| Attribution Information | | | | | |
| ERP.ATI.1 | Funding Body | - | - | - | Name of the funding body that supported the development and/or operation of the Re-source. |
| ERP.ATI.2 | Funding Program | - | - | - | Name of the funding program that supported the development and/or operation of the Re-source. |
| ERP.ATI.3 | Grant/Proj ect Name | - | - | - | Name of the project that sup-ported the development and/or operation of the Resource. |
| Management Information | | | | | |
| ERP.MGI.1 | Helpdesk Page | - | - | - | The URL to a webpage to ask more information from the Pro-vider about this Resource. |
| ERP.MGI.2 | User Man-ual | - | - | - | Link to the Resource user manu-al and documentation. |

| | | | | | |
|---|---|---|---|---|---|
| ERP.MGI.3 | Terms Of Use | EOSCENR-159 | Change of Requirement from Optional to Mandatory | 01/07/2022 | Webpage describing the rules, Resource conditions and usage policy which one must agree to abide by in order to use the Resource. |
| ERP.MGI.4 | Privacy Policy | EOSCENR-159 | Change of Requirement from Optional to Mandatory | 01/07/2022 | Link to the privacy policy applicable to the Resource. |
| ERP.MGI.5 | Access Policy | - | - | - | Information about the access policies that apply. |
| ERP.MGI.6 | Resource Level | - | - | - | Webpage with the information about the levels of performance that a Provider is expected to deliver. |
| ERP.MGI.7 | Training Information | - | - | - | Webpage to training information on the Resource. |
| ERP.MGI.8 | Status Monitoring | - | - | - | Webpage with monitoring information about this Resource |
| ERP.MGI.9 | Maintenance | - | - | - | Webpage with information about planned maintenance windows for this Resource |
| Access and Order Information | | | | | |
| ERP.AOI.1 | Order Type | - | - | - | Information on the order type (requires an ordering procedure, or no ordering and if fully open or requires authentication) |
| ERP.AOI.2 | Order | - | - | - | Webpage through which an order for the Resource can be placed |
| Financial Information | | | | | |
| ERP.FNI.1 | Payment Model | - | - | - | Webpage with the supported payment models and restrictions that apply to each of them |
| ERP.FNI.2 | Pricing | - | - | - | Webpage with the information on the price scheme for this Resource in case the customer is charged for. |

## 4.7 EOSC Portal Multi-Provider Catalogue Profile

Early in 2021 a new requirement has been received to "Onboard to EOSC Portal multiple providers and resources/services registered in regional portals and synchronize the metadata between the portals". The requirement was analysed and planned for first implementation with the NI4OS project/portal[8].

[8] https://ni4os.eu

During the pilot implementation for the onboarding of the NI4OS regional Portal it became evident that a new Profile was needed to Model the Multi-Provider Thematic or Regional Catalogues or Aggregators.
The **EOSC Portal Multi-Provider Catalogue Profile** is used during the first step of the EPOP (after the Provider Manager or the Resource Manager logins as an Authenticated User) is described in detail in **Annex V: EOSC Portal Multi-Provider Catalogue Profile Specification v4.00**.

## 4.8 EOSC Portal Data Source Profile

Data sources are EOSC Resources and a subclass of EOSC Services whose specific purpose is to offer deposition, preservation, curation, discovery, access, and usage statistics functionalities to collections of EOSC Research Product Scientific Products from a thematic or cross-discipline perspective.

EOSC Data Sources include Repositories, Catalogues of Research Products, Scientific Databases, Aggregators, Journal sites, Publisher sites, CRIS Systems, and Research Entity Registries. Due to their special role of Research Product “keepers” across or within specific communities, they deserve a special mention in the EOSC resource information model.

Data sources store, preserve, and support discovery and access to metadata, files, and data relative to publications, research data, research software, and other research products; their scope extends also to other types of research entities, as in the case of registries of researchers, organizations, projects, and data sources (see examples below); Data sources can be “hybrid” in terms of content, as they may offer access to a variety of research product or entity types, and in terms of intended users and jurisdiction; Similarly to the EOSC Service Catalogue, the Data Source catalogue should interoperate with thematic RI data source catalogues; Data source onboarding ensures that the quality of the metadata records of the given data sources respect EOSC research product profiles.

The EOSC Portal **Data Source Profile** is described in detail in **Annex VI: EOSC Portal Data Source Profile Specification v4.00**.

## 4.9 EOSC Portal Research Products Profile

Research products are EOSC Resources resulting from a scientific process, any physical or digital asset produced and shared by users/services for users/services, such as research literature, research data(sets), research software, and others. Research Products are characterized/described by metadata to be used for citation, attribution, re-use, reproducibility, semantic linking, and findability, made available via EOSC Data Sources, which also host the digital assets when the product is digital.

The OpenAIRE guidelines provide a community-endorsed classification of research products, based on standard metadata formats (DataCite, Dublin Core, JATS) and vocabularies (CASRAI, COAR) in scholarly communication. According to the guidelines, research products are organized into four classes:

- publications ("literature", intended for humans to read),
- research data (information to be used by programs; human readability is a feature),
- research software (code for compilation or interpretation), and

- other research products (products that are not classified as literature, datasets, and software).

The model may in the future be extended to include more first-class citizen entities. For example, by identifying into “Other Research Products” other classes of products that are "mature" enough to flank publications, data, and software.

For an entity to surface as a first-class entity, the entity must be (i) well recognized across different disciplines of science and (ii) bring a critical mass of products and data sources making such products available.

Figure 4.4 shows the overall EOSC information model, inclusive of Services, Data Sources, Providers, Research Products, and EOSC Interoperability Frameworks.

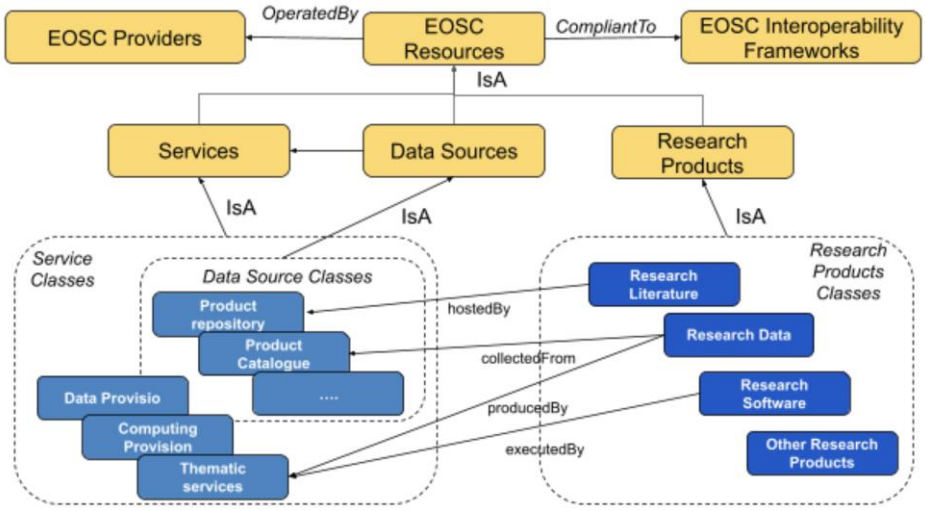


*Figure 4.4: EOSC Information Model with Services, Data Sources, Providers, Research Products*

The EOSC Research Product Profiles include today the following profiles, which EOSC Data Sources must comply with in order to onboard the Research Products they contain into the EOSC Resource Catalogue.

As a System of Systems, the EOSC will further extend the set of Research Product profiles to include other standards regarded well-established, complete, and endorsed by the research communities.

- OpenAIRE Guidelines for Content Providers: EOSC profiles for Research Publication/Literature, Research Dataset, Research Software, Other Research Products and Vocabularies for Research Publication, Research Dataset, Research Software, Other Research Product.
- Bioschemas.org (ongoing, to be promoted in BETA by the end of 2021): Life Science entities: https://bioschemas.org.

The onboarding process (validation and aggregation of metadata), takes place via the EOSC Research Product Onboarding Services, powered by OpenAIRE PROVIDE. More on the onboarding process at https://www.openaire.eu/content-aquisition-policy.

## 4.10 EOSC Portal Profiles Representation Model

In the current implementation of the EOSC Portal all Providers and Resources are described by a structured set of metadata, well-defined by the EOSC Portal Profiles, instantiated in a JSON Schema and currently moving from v3.00 to v4.00.

The EOSC Portal Profiles have been widely accepted and embraced by EOSC projects and initiatives that want to integrate or correlate their catalogues with the EOSC Portal. Those developments underpin the need to implement and publish more formally the data models than publishing them in JSON or PDF formats.

The EOSC Portal does not currently provide a linked data endpoint, but EOSC Enhance has collaborated with the CATRIS project for making the list of vocabularies and classifications in the EOSC Portal Profiles, available in RDF format (SKOS)[9]. Even though the latter will ensure a consistency in the use of controlled values, it does not provide a holistic standard specification model that may assist software developers to build a fully compatible software code base with the latest EOSC Portal Profile version.

To address this gap, EOSC Enhance WP2 has initiated the development of a Unified Modelling Language (UML) representation of the EOSC Portal Profiles compatible with the existing software code base and it is anticipated that it will continue in EOSC Future and will be delivered in that context.

UML has been selected as it is a general-purpose language for specifying, visualizing, constructing, and documenting the artifacts of systems. It is a standard modelling platform that consists of an integrated set of diagrams and aims at helping system and software developers for specifying, visualizing, constructing, and documenting artifacts of software systems but also business modelling and other non-software systems. UML is not a development method by itself; however, it was designed to be compatible with the current leading object-oriented software development methods. It has gained wide acceptance in software engineering as a de-facto tool for object-oriented modelling, offering notations for describing class relationships, component systems, processes, use cases, and more.

The UML representation of the current EOSC Portal Profiles will benefit the EOSC in the following ways:

- EOSC Users are provided with a ready-to-use, expressive visual modelling language so they can develop and exchange meaningful models;
- Projects, Thematic Clusters or any other EOSC User may implement a fully standalone or compatible catalogue without needing additional technical specifications related to the model;
- Will provide extensibility and specialisation mechanisms to extend the core concepts;
- Will offer an agnostic specification in terms of programming language(s) and development processes;
- Will support higher-level development concepts such as collaborations, frameworks, patterns, and components.

[9] https://www.semantics.gr

The UML description will provide the following parts of a software design: the definition of the involved entities (i.e., the system classes); the workflow and interactions between those entities.

Out of the 13 different defined diagram types, the Class Diagram will be used. Class diagrams describe classes, their attributes and methods, and associations between classes.

- **Classes**: a class is the conceptual representation for an entity to be modelled. It can have attributes and operations. Objects of a given class will be called its instances.
- **Attributes**: each class can have several attributes holding information. Their visibility status can be set to public, protected, and private, restricting their access from foreign classes.
- **Methods**: a set of operations may be defined for each class. Typically attribute slots are accessed and modified.
- **Associations**: relations between classes can be modelled by so-called associations. UML defines the concept of associations, aggregations, compositions, and generalisations. Instances of associations are called links.

Below an excerpt of the Provider Profile (Figure 4.5) is transformed into a UML class diagram (Figure 4.6).

| | | | | | | |
|---|---|---|---|---|---|---|
| EPP.MRI.1 | Description | A high-level description of the Provider in fairly non-technical terms, with the vision, mission, objectives, background, experience. | String (max 1000) | 1 | Mandatory | Yes |
| EPP.MRI.2 | Logo | Link to the logo/visual identity of the Provider. | URL | 1 | Mandatory | Yes |
| EPP.MRI.3 | Multimedia | Link to video, slideshow, photos, screenshots with details of the Provider. | URL | Multiple | Optional | Yes |

*Figure 4.5: Excerpt of the Provider's Profile*

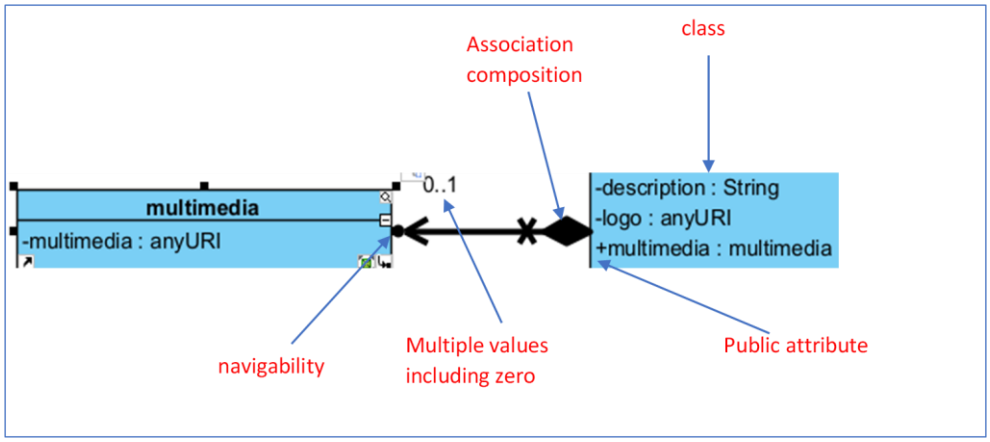


*Figure 4.6: UML Representation of Provider's Attributes*

Figure 4.7 depicts the implementation of the Provider's main class that is currently work in progress. The class includes all attributes without links to subclasses or other dependencies for simplicity reasons. It implements thought the entire Provider's functionality based on the current Profile.

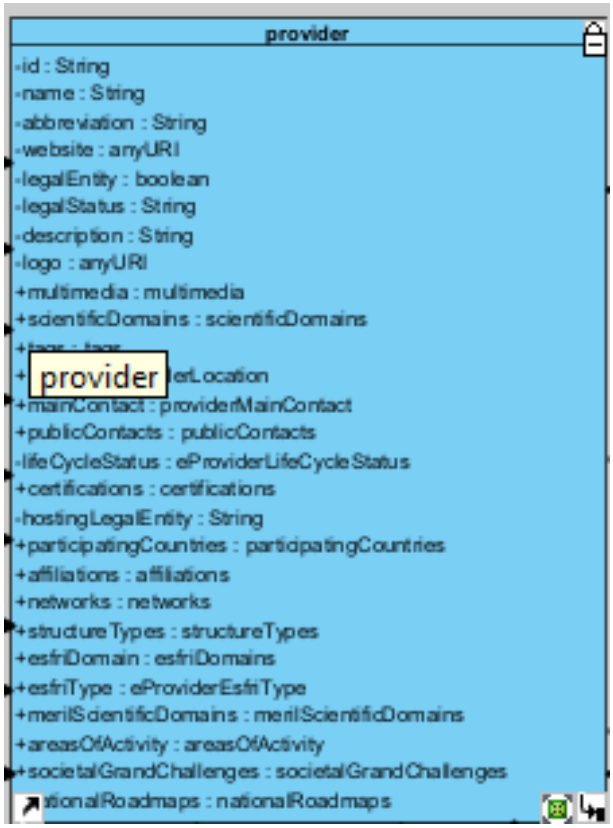


*Figure 4.7: UML Representation of the Provider class*

This graph embeds all (and even more) data than that required to present the EOSC Portal Profiles. The UML representation of the current version of the EOSC Portal Profiles is a long and tedious work requiring certain niche technical skills to compose the architecture of the specification's full extend. Furthermore, the existence of a software code that has been evolved throughout different projects is adding complexity to this endeavour.

# 5 EOSC Portal Onboarding Process

The EOSC Portal Onboarding Process is the process that an EOSC Provider must follow to register the Provider and its Resources in the EOSC Portal Registry. The ESOC Registry provides EOSC System Users with a list of live/ready-to-use descriptions of EOSC Resources offered by the EOSC System. Every entry of the EOSC Registry must comply with and be described and updated following the EOSC Portal Interoperability Framework. The EOSC Portal Interoperability Framework includes, among others the EOSC Profiles, the EOSC Rules of Participation (RoP) and the EOSC Portal Application Programming Interface (APIs) methods for the automatic provisioning and synchronisation of information between Providers' systems and the EOSC Portal. The EPOP is fundamental is achieving trust in the EOSC by checking compliance to the EOSC RoP and the EOSC Profiles.

## 5.1 Prior Efforts

The joint effort by the European Commission, the Member States and four projects (EOSCPilot, eInfraCentral, OpenAIRE-Advance, EOSC-Hub) led to the development of the First Version of the EOSC Portal and the EOSC launch in 2018. This First version of the EOSC Portal onboarded many Resources offered to European researchers from a large number of EOSC Providers. The onboarding of those Resources to the EOSC Portal was achieved by two parallel efforts: eInfraCentral (catalogue) and EOSC-Hub (marketplace) that onboarded together more than 94 Providers that gave access to more than 250 services, 4M datasets, 150K applications and software, 35M publications and 3M other research products, organized in more than 300 entries.

Since 2019 EOSC Enhance is responsible to further develop, optimise and coordinate the onboarding function and related interfaces of the EOSC Portal. In this framework, EOSC Enhance was responsible to unify and specify, develop and operate a single onboarding process for all EOSC Providers.

## 5.2 EOSC Portal Onboarding Process v3.00

EOSC Enhance D2.2 – EOSC Processes development and consensus, unified and specified the EOSC Portal Onboarding Process (EPOP) v3.00 and provided the basic information for the EPOP operations. The EPOP operations were overlooked by EOSC Enhance WP2 in collaboration with EOSC-hub initially and currently with ESOC Future, which staff the process while the tooling comes from EOSC Enhance. The EPOP is implemented by the EOSC Providers Component of the EOSC Portal developed by eInfraCentral and upgraded in EOSC Enhance WP3.

EPOP v3.00 was built on the foundations of eInfraCentral, EOSC-Hub, EOSCPilot, OpenAIRE-Advance and CatRIS, as well as the results produced by the EOSC Working Groups (e.g., RoP) and the experience gained by the organisations participating in the onboarding so far that have produced a detailed set of rules and specific criteria. EPOP v3.00 reflected the need for sufficient and appropriate inclusiveness, transparency, and openness such that it can be followed by all interested parties with small differentiations, irrespective of their maturity.

EPOP v3.00 specified only the onboarding of Providers and their Resources**;** and was organised in 3 distinct Phases implemented in 10 Stages. EPOP v3.00 defined also the EOSC Portal Onboarding

Team (EPOT) roles and responsibilities and the messaging for informing Providers and the EPOT on next (or pending) steps on the EPOP.

The EPOP is supported by the EPOT Backend interface that is specified in the WP3 deliverables. The EPOT utilises an additional software platform to keep track of the applications' onboarding progress. The ticketing system is based on the Jira suite modified accordingly to cope with the requirements of the process. The tooling is presented in D2.2 – EOSC Processes development and consensus.

## 5.3 EOSC Portal Onboarding Process v4.00

After v3.00 was adopted and implemented successfully at the EOSC Portal, EOSC Enhance received several Requests for Changes (RfCs) for the EOSC Portal Onboarding Process. Among those are:

- Several requirements reviewed and approved via the EOSC Portal Change Management Process and listed in Table 5-1.
- The Ordering Capability (additional onboarding Phase).
- The updates on the Quality Assurance and Feedback Processes (see next Chapter).
- The onboarding of trusted Multi-Provider Regional and Thematic Portals (MPRTP) (additional distinct EPOP to cover cases where the Requestor is not the owner of the Resources but rather an aggregator, broker or of other similar roles).

*Table 5-1: EOSC Portal Onboarding Process Requests of Change*

| Jira ID | EOSC Portal Onboarding Process Requests for Change (RfC) | Subject |
|---|---|---|
| **EOSCENR-212** | Activate Provider (incl. dashboard) even without a Resource onboarded | Single Provider |
| **EOSCENR-213** | Adjust Onboarding process for approving Provider and Resources | Single & Multi-Provider |
| **EOSCENR-214** | Add for each Resource the admin role at the Provider Component | Single Provider |
| **EOSCENR-206** | Prerequisite of minimum maturity level for listing Resources on the Portal | Single Provider |
| **EOSCENR-210** | New event for coexistence of Resources in user projects | Single Provider |
| **EOSCENR-184** | Fix silent failure of records which pass PC validation and fail UC validation | Single Provider |
| **EOSCENR-202** | Provide textbox for comments during Resource Update | Single Provider |
| **EOSCENR-187** | In the timeline view show also, who changed the records | Single Provider |
| **EOSCENR-151** | Automatically message Providers who have not updated their Profiles in the last x months | Single Provider |
| **EOSCENR-152** | Send automatic daily digest of EPOT and PP activity to EPOT mailing list | Single Provider |
| **EOSCENR-115** | Prospective providers can access a section with the full guidelines for the onboarding of National Catalogues & Registries | Multi-Provider |
| **EOSCENR-116** | National, Regional or Thematic Aggregators can onboard their resources in automated way | Multi-Provider |
| **EOSCENR-174** | Allow the option to onboard Providers via the API | Single & Multi-Provider |

Based on the aforementioned requirements, 2 distinct EOSC Portal Onboarding Processes are defined in EPOP v4.00: a) for **Single Providers** like in v3.00 and b) for **Aggregators** and in particular for **MPRTPs**.

EOSC Enhance being in preparation for handing over all developments to EOSC Future or any other responsible entity, has prepared for transition all JIRA Projects and Confluence Pages that maintain the EOSC Portal Onboarding Process and additional tools. Specifically the EOSC Portal Onboarding Process in confluence https://confluence.egi.eu/x/xAmxBg.

### 5.3.1 EOSC Portal Onboarding Process for Single Providers v4.00

A general overview of the EPOP for a Single Provider v4.00 is depicted in Figure 5.1. The current form includes 5 Phases implemented in 16 distinct Stages.

The 5 Phases of the Single Provider EPOP v4.00 are:

- **Phase 1**: An Authorised Representative of a Provider (ARP) registers into the EOSC Portal.
- **Phase 2**: The Authorised and Authenticated Representative of a Provider (AARP) onboards the Provider (organisation).
- **Phase 3**: The AARP onboards the Resources offered by the Provider.
- **Phase 4:** The AARP onboards the Options/Offerings of a Resource offered by the Provider.
- **Phase 5**: The AARP and the EPOT maintain the quality of the Profiles.

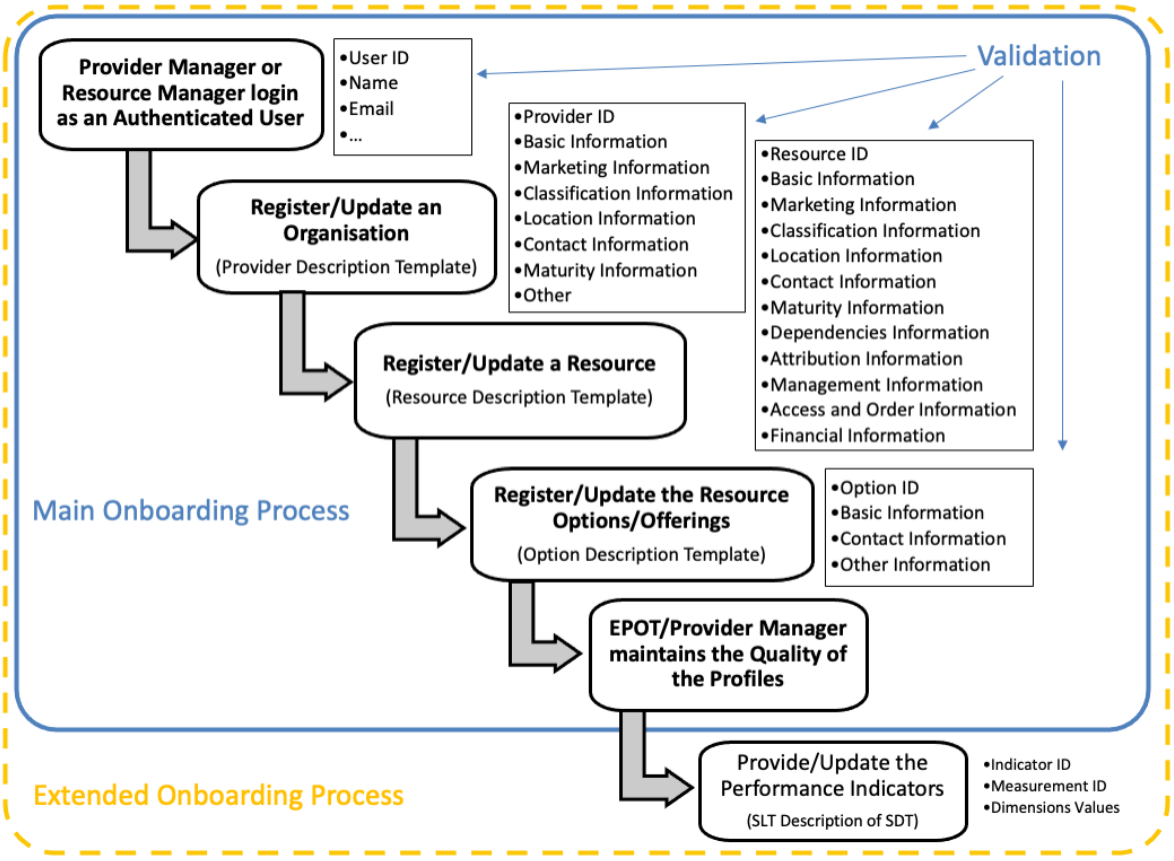


*Figure 5.1: Overview of the EOSC Portal Onboarding Process for Single Provider v4.00*

The Flow Diagram of the Single Provider EPOP is depicted in Figure 5.2.

*Figure 5.2: EOSC Portal Onboarding Process for Single Provider v4.00 Flow Diagram*

The 16 Stages of the Single Provider EPOP v4.00 are:

- **Stage 1**: The Representative of the Provider (RP) visits the EOSC Portal.
- **Stage 2**: The RP registers with the EOSC Portal using an existing identity from a supported Social or Academic AAI mechanism.
- **Stage 3**: The Authenticated Representative of the Provider (ARP) logs into the EOSC Portal.
- **Stage 4**: The ARP asserts he/she is an Authorized Representative of a Provider.
- **Stage 5**: The Authenticated and Authorized Representative of a Provider (AARP) apply to onboard the Provider.
- **Stage 6:** The EOSC Portal Onboarding Team (EPOT) reviews the newly onboarded Provider.
- **Stage 7**: The AARP gets access to the Portal Dashboard.
- **Stage 8**: The AARP selects the method to onboard Resources.
- **Stage 9a**: The AARP applies to onboard a Resource via the Web Interface or **Stage 9b**: The AARP applies to onboard a Resource via the API.
- **Stage 10**: The EPOT reviews the newly onboarded Resources.

- **Stage 11**: The AARP can review the Resource at the Portal Dashboard and can apply to onboard other Resources via the API or Web Interface.
- **Stage 12**: The AARP applies to onboard Resource Options/Offerings.
- **Stage 13**: The EOSC Portal Onboarding or Ordering Team reviews the onboarded Resource Options/Offerings.
- **Stage 14**: The EPOT creates a Review and Feedback Report
- **Stage 15**: Upon Request of Providers the EPOT can provide best practices, feedback, and consultation to Providers.
- **Stage 16**: Profiles on the EOSC Portal are updated by Providers and periodically audited by the EPOT.

**Annex VII: EOSC Portal Onboarding Process for Single Provider Specification v4.00** provide all details of the actions that take place in each of the workflow Stages.

### 5.3.2 EOSC Portal Onboarding Process for Aggregators/Multi-Provider Portals v4.00

Requirements EOSCENR-115 and EOSCENR-116 on Table 5-1 asked for the capability to onboard "National Catalogues and Registries" and "National, Regional or Thematic Aggregators" in an automated way" to the EOSC Portal.

The requirements were analysed and led to a pilot implementation to onboard to the EOSC Portal Regional or Thematic Portals with multiple providers and their resources and to synchronize the metadata between the EOSC Portal and the MPRTPs. The first pilot was implemented with the NI4OS project[10].

Several assumptions have been considered for the onboarding of NI4OS Portal Catalogue:

- The EOSC Portal is at the top hierarchical level. NI4OS is a subordinate Portal in the EOSC ecosystem as depicted in Figure 4.1.
- A common Onboarding Process has been applied to both portals ('trusted') complying to the EOSC Portal Interoperability Framework, including the RoP, EOSC Portal Profiles, Code lists, Taxonomies and Controlled Values v3.00 and the Onboarding Process v3.00.
- Providers registered at NI4OS Portal have agreed on the Terms of Use and Privacy Policy of EOSC Portal.
- Providers will update their Resources only at the NI4OS Portal and not at the EOSC Portal (unidirectional synchronization).
- Resources and Providers in the EOSC Registry are linked to the original hosting catalogue (i.e NI4OS Portal).
- There is a unique ID for Providers which must be common in both portals.

The implementation of the NI4OS pilot revealed several technical and policy related aspects for the onboarding of Aggregators/Multi-Provider Portals to the EOSC Portal that need to be further examined and resolved. These aspects include the deduplication of records, the bidirectional synchronization of records, the administration rights for the Providers and Resources registered at both Portals,

[10] https://ni4os.eu/

the need of a framework or customised agreement for each of the Portals to be integrated to EOSC Portal, etc.

One of the major updates of the EOSC Portal Interoperability Framework made for addressing some of the aforementioned issues, is the introduction of an new Profile for the EOSC Portal Multi-Provider Catalogue (section 4.7) and the relevant updates of EOSC Portal Provider and Resource Profiles (introduction of a new attribute "Catalogue" to link to the MPRTP (section 4.5 and 4.6).

Bidirectional synchronisation should be allowed in the future. In this case the prevailing metadata to overwrite the other will be the one lastly updated (based on timestamp) and therefore the Authorized representative(s) of a Provider must be aware that any change introduced to metadata in one Portal will be communicated to the other one as well. This is a requirement that will be handover to EOSC Future.

Furthermore, the onboarding of a MPRTP should have as a prerequisite to sign an agreement with the EOSC Portal to abide to the EOSC Rules of Participation, EOSC Portal Onboarding Process and\or any other assumptions to allow for representing and managing the resources of its providers in the EOSC portal. This is also hand overed to EOSC Future.

As it concerns the Onboarding Process v4.00 for the MPRTP it is very similar to the Onboarding Process of the Single Provider and includes 5 Phases and 19 distinct Stages. An updated version of the EPOP for a MPRTP v4.00 must be developed once all previously mentioned issues are fully resolved.

The 5 Phases of the MPRTP EPOP v4.00 are:

- **Phase 1**: An Authorised Representative of a MPRTP registers into the EOSC Portal.
- **Phase 2**: The Authorised and Authenticated Representative of a MPRTP (AARM) onboards the Providers registered at the MPRTP.
- **Phase 3**: The AARM onboards the Resources registered at the MPRTP.
- **Phase 4:** The AARM onboards the Options/Offerings of Resources offered by the Providers registered at the MPRTP.
- **Phase 5**: The AARM and the EPOT maintain the quality of the Profiles.

The 19 Stages of the MPRTP EPOP v4.00 are:

- **Stage 1**: The Representative of the MPRTP (RM) visits the EOSC Portal.
- **Stage 2**: The RM registers with the EOSC Portal using an existing identity from a supported Social or Academic AAI mechanism.
- **Stage 3**: The Authenticated Representative of the MPRTP (ARM) logs into the EOSC Portal.
- **Stage 4**: The ARM asserts he/she is an Authorized Representative of a MPRTP.
- **Stage 5**: The Authenticated and Authorized Representative of a MPRTP (AARM) apply to onboard the MPRTP.
- **Stage 6:** The EOSC Portal Onboarding Team (EPOT) reviews the newly onboarded MPRTP.
- **Stage 7**: The AARM gets access to the Portal Dashboard.
- **Stage 8**: The AARM logs into the API Token Portal.
- **Stage 9**: The AARM selects to Get the Value of the Access Token.
- **Stage 10:** The AARM selects to Create a Refresh Token.

- **Stage 11**: The AARM selects to Manage all Access/Refresh Tokens.
- **Stage 12**: The AARM onboards the MPRTP Providers into the EOSC Portal using the Token acquired.
- **Stage 13**: The AARM onboards the Resources of the MPRTP Providers on the EOSC Portal with the token acquired.
- **Stage 14**: The EPOT reviews the onboarded MPRTP Providers and Resources.
- **Stage 15**: The AARM or the MPRTP Provider Managers may onboard Options/Offerings of the Resources of the MPRTP Providers.
- **Stage 16**: The EOSC Portal Onboarding or Ordering Team reviews the Resource Options/Offerings of the MPRTP Providers' Resources.
- **Stage 17**: The EPOT creates a Review and Feedback Report.
- **Stage 18**: Upon Request of MPRTPs the EPOT can provide best practices, feedback, and consultation to MPRTPs.
- **Stage 19**: Profiles on the EOSC Portal are updated by MPRTPs and periodically audited by the EPOT.

**Annex VIII: EOSC Portal Onboarding Process for Multi-Provider Portals Specification v4.00** provide all details of the workflow stages 8-13. The Other Stages are similar to the stages of the Single Provider Onboarding.

# 6 EOSC Portal Quality Assurance Process

The EOSC Enhance strategic aim is to onboard the highest number of Providers and their Resources into the Portal, from all fields of science. To achieve this aim, both quantity and quality aspects must be considered since it is critical to ensure and maintain along the way the completeness and accuracy of the onboarded Providers and Resources as well as to gain traction and credibility among the research communities.

If the Portal quality level is not high, then the End-Users may soon lose interest in using the Portal as they will see little added value. Hence it is fundamental to establish a Quality Assurance Framework, with several procedures, that will allow the establishment of the necessary quality control for the catalogued Provider and Resource descriptions.

Deliverable D2.5 - EOSC Service Catalogue Analysis (update) presents and discusses the quantity aspect as well as the overall assessments of the EOSC Catalogue contents.

This chapter covers the aspects and activities that have led to a holistic Quality Assurance Framework and the EOSC Portal Quality Assurance Process (EPQAP), including the QA during the Onboarding of Providers and Resources, as well as the QA after the completion of the EPOP, covering the Review and Feedback Process ang Report and other periodic QA procedures.

## 6.1 Quality Assurance during Provider Onboarding

After the application of a Provider to join the EOSC Portal, related QA processes are conducted (within 24h during weekdays). The QA check is performed before the Provider Profile is published and made visible to the public to verify that the Provider information is compliant with the Provider Profile. In case of compliance, the Provider Profile is accepted otherwise, the Provider is contacted with suggestions for improvement. Entries that are either not compliant with the Profile attributes or considered of poor quality are identified and marked accordingly. The recommendations are communicated to the Provider, with requests to update the submitted information accordingly. The QA of the Provider Profile is performed by examining the submitted metadata against predefined rules and control values, using the tools in **Annex IX: EOSC Portal Profiles Assessment Tool v4.00** that have been developed and deployed within EOSC Enhance, building and extending upon prior efforts of eInfraCentral. It is obvious that additional, machine validations are performed in all the onboarding steps. All the machine and human validations and guidance are presented in the Profiles Specifications. The machine validations are presented in the WP3 deliverables.

## 6.2 Quality Assurance during Resource Onboarding

After the Provider Profile has been accepted, the first Resource of the Provider can be onboarded. At this stage and before the Resource is published and made visible to the public, a QA check is performed to verify that the Resource Profile is compliant. The QA of the Resource Profile is performed by examining the submitted metadata against predefined rules and control values, using the Resource Profile Assessment Tool presented in **Annex IX: EOSC Portal Profiles Assessment Tool v4.00**. Entries that are either not compliant with the Resource Profile attributes or considered of poor quality are identified and marked accordingly. The respective comments are communicated to the Provid-

er, with recommendation to update the submitted information accordingly. The tooling has been developed and deployed within EOSC Enhance building and extending upon prior efforts of eInfraCentral. The EPQAP is applied to every Resource onboarded and is not limited to the first one. The objective is to sustain high-quality records for the EOSC Portal Catalogue.

## 6.3 Quality Assurance after the Onboarding of all Resources of a Provider

After the Onboarding of all the Resources of a Provider the "EOSC Portal Profiles Review and Feedback" process carries out a combined assessment and deliver holistic feedback on all onboarded resources for a certain Provider. This process aims to further improve the Providers and Resources information by delivering a recommendation Report. The report is drafted by independent reviewers and all data included are treated with total confidentiality, thus they are not made available to any other third party. To this date, more than 150 reports have been processed and produced; the consolidated statistical results of the reports, contribute substantially to the analysis of the EOSC Service Catalogue, and are included in Deliverable D2.5.

The methodology analyses the *Public Availability of Resource Offering*, the *Provider Profile* and the *Resource Profile* and assesses **106** attributes of the current version of the Provider and Resource Profiles. The attributes are assessed for completeness from both a quantitative and a qualitative point of view, and are compared to the Benchmark, the Gold Level Providers (i.e. score over 75%) and the average of all Providers in the EOSC catalogue.

In **Annex X: The EOSC Portal Profiles Review and Feedback Report v4.00**, the full list of attributes reviewed in this process is provided, followed by an overview of indicative recommended improvement actions per attribute. Based on these, an "EOSC Portal Profiles Review and Feedback Report" is generated for each onboarded Provider. An anonymised example of such a Report is provided in Annex X: The EOSC Portal Profiles Review and Feedback Report v4.00.

## 6.4 Periodic and Ad Hoc Quality Assurance

QA checks are also conducted periodically (annually) to validate that the quality and relevance of the metadata in the EOSC Portal is maintained high for the Providers and their Resources and therefore ensuring the overall quality of the EOSC Portal and the RoP are maintained.

The periodic checks are performed by the EPOT and they may entail periodic requests to be sent to Providers to review and update their information. Automatic calendar notifications are also set, after the last login of a Provider Representative to remind the updating/verification of the Profiles. On the occasion of a Provider being inactive for over a year and after a certain number of notifications, the respective records are temporary unpublished from the EOSC Portal. This also ensures that the contact information and related GDPR requirements are satisfied. Profiles of Providers and Resources, including personal information from the EOSC Portal are deleted after 5 years if there is no interaction with a Provider.

At any time, a Provider can also update and edit their Profiles; the EPOT gets notified to perform additional checks based on the log of changes.

## 6.5 Interoperability & Compatibility Updates Quality Assurance

In case of updates of the Provider and/or the Resource Profiles or alterations in the EPOP a semi-automated workflow is put in place for ensuring the correct transition to the new models and/or processes and the reduction of the required curation by the Provider Representatives. A transition plan and mapping of the attributes of the previous and the latest version are deployed in the form of scripts, for handling the transition (e.g., automated rules ensure the correct renaming of attribute names or vocabulary terms, while specialized rules handle cases when a new attribute is introduced in a new model version, depending on the particular nature of the attributes (e.g. mandatory or optional).

In any of those cases, the EPOT communicates the changes to the impacted Providers and inform them on the need for inspection, approval or submission of additional data, if deemed necessary.

# 7 EOSC Portal Monitoring Tool and Statistics Report

The monitoring of the onboarding process is a challenging and complicated task with a plethora of parameters that need to be correlated to deliver meaningful results.

To facilitate this process, an integrated tool has been developed that enables the tracking of a variety of metric fetched from the EOSC Portal API and stored into a Time Series Database using raw format. The stored data are further automatically processed and depicted to stakeholders online via a web interface or offline by the weekly report produced.

The following components comprise the software stack brought together in this context:

- **Metrics scrapper**: a home-grown python script that runs periodically (every hour) and fetches the data to be processed and evaluated from the portal's API.
- **A Time Series Database (TSDB)**: for storing and serving the time series fetched by the metrics scrapper through associated pairs of times and values.
- **Grafana**: acting as an interactive visualization web application. It provides charts and a variety of graphs connected to supported data sources. Public and internal dashboards bring together overviews useful for different stakeholders,
- **Image renderer**: accelerates the preparation for automated statistics reports available as PDF for distribution.

Each of the enlisted software blocks lives inside a dedicate Docker container completely isolated. The metrics scrapper periodically polls the portal's API and queries for the attributes as defined in the current EOSC Profile version.

For each measurement entry the following values are stored:

- tag(s), usually words associated with a measurement that help sort and query efficiently the data,
- the value and the name of the field,
- and a timestamp in nanosec precision.

Currently, three dashboards are available in the statistics portal: an internal, a public[11] and one for producing reports. The first one produces views meaningful for the EOSC Portal developers and EPOT while the second provides views with interest for public viewers to get a quick overview of the Portal's status.

## 7.1 EOSC Portal Statistics Report v4.00

One of the most important outcomes of the EOSC Portal Monitoring Tool, is the EOSC Portal Statistics Report now in v4.00, that is produced automatically on periodic intervals (weekly and monthly depending on the stakeholder) to provide EOSC Stakeholder with a quick overview of the status and progress of EOSC Portal.

[11] https://stats.jnp.gr/d/lmB44atGz/eosc-portal-statistics-public?orgId=1

This is currently provided to EOSC Enhance and EOSC Future partners, to support the onboarding activities and the impact with an overview of the EOSC Catalogue evolution. The following key performance indicators are currently presented in this report:

- The Total Number of EOSC Providers;
- The Total Number of EOSC Resources;
- A Word Cloud of the most frequent Tags used by EOSC Providers;
- The Location (Country) of EOSC Providers' Headquarters;
- The Language Availability of EOSC Resources;
- The Geographic Availability of EOSC Resources;
- The Targeted End-Users' Groups by EOSC Resources;
- The Top 10 EOSC Resources' Categories;
- The Top 10 EOSC Resources' Scientific Domains;
- The Number of EOSC Resources provided by each EOSC Provider;
- The Distribution of EOSC Providers' Scientific Domain (based on Frascati taxonomy);
- The Distribution of EOSC Providers' Scientific Domain (based on MERIL taxonomy);
- The Technology Readiness Level of EOSC Resources;
- The Life-cycle Status of EOSC Resources;
- The Access Type of EOSC Resources;
- The Access Mode of EOSC Resources;
- The Order Type of EOSC Resources;

An example of such report is available in **Annex XI: The EOSC Portal Statistics Report 4.00**

# 8 Conclusions

The **EOSC Portal Change Management Process** describes the process for the gathering, review, approval, implementation, and communication to the stakeholders of changes for the EOSC Portal requirements, Definitions, Profiles, Onboarding process, APIs and Monitoring Platform in a controlled and consistent manner. The EOSC Portal CMP supports and facilitates the efficient management of the various EOSC Portal Releases by organising such changes in bundles and as such they can be incorporated in the planned EOSC Portal Releases after they have been tested and deployed in sandbox environment and communicated to the stakeholders. The CMP follows stepwise approach while specific actors and their responsibilities during process lifecycle are also defined.

The **EOSC Portal Functional and Non-Functional Requirements** list the requirements for the development and deployment of the EOSC Portal overall functionality. The requirements are organized in Functional requirements (i.e. the requirements that define specific behaviours or functions of the EOSC Portal system) and Non-Functional requirements (i.e. the requirements that specify criteria that can be used to judge the operation of the system, rather than specific behaviours). Furthermore, the requirements are categorised based on the target group/personas/roles they serve. The EOSC Portal F-NF Requirements are continuously updated at the EOSC Enhance wiki and complemented with additional requirements coming from the EOSC ecosystem. The requirements presented in this deliverable include all requirements approved and implemented under EOSC Enhance project as well as the ones collected and presented for further assessment under EOSC Future project.

The **EOSC Portal Profiles** are specifications that define common data models for EOSC entities (Providers, Resources, etc) and related Code Lists, Taxonomies and Classifications. They contribute to the unified framework for describing and offering EOSC Resources to end-users in a harmonised way, guaranteeing the interoperability of resources metadata with open APIs. They allow automated management of the EOSC resource information and their accompanying data without human intervention (e.g., harvesting, etc). They are the result of a long, open and inclusive dialogue between research community stakeholders and wider public. The EOSC Portal Profiles are evolving standards, which will incorporate new features from the EOSC ecosystem as they emerge. The EOSC Portal Profiles are updated at the EOSC Enhance wiki. The latest updates for the EOSC Portal Profiles are presented in this deliverable, which include all changes collected and approved for implementation under EOSC Portal CMP including a new profile (Multi-Provider Profile) for the onboarding of catalogues. These changes are planned to be reflected to EOSC Portal components and processes after they are announced to EOSC ecosystem; they are divided in those that are backwards compatible and can be applied without impacting existing records and in those that involve more drastic changes to EOSC Portal components and processes, and they must be pre-announced allowing as a minimum a six months period for the EOSC ecosystem to be prepared.

The **EOSC Portal Onboarding Process** is built on the foundations of eInfraCentral, EOSC-Hub, EOSCPilot, OpenAIRE-Advance and CatRIS, as well as the results produced by the EOSC WGs (e.g. RoP) and the experience gained by the organisations participating in the onboarding so far that have produced a detailed set of rules and specific criteria. The EPOP reflects the need for sufficient and appropriate inclusiveness, transparency, and openness allowing to be followed by all interested parties. The up-

dated EPOP including the onboarding of multi-provider thematic or regional catalogues is presented in this deliverable.

The **EOSC Portal Quality Assurance Process** is under continuous improvement and evolution, as a means of enhancing the offering of the EOSC Portal to the End-Users. Despite the preparatory actions and preventive measures applied, the onboarding results assessment to this day reveals that the need for post-onboarding quality procedures (both periodic and ad hoc) is quite high and will remain as such throughout the existence and operation of the EOSC Portal. Based on the interactions of the consortium partners with Providers, it is evident that Providers understand the need for quality assessment, however many of them may require additional support necessary to create a Profiles at level of quality expected by end-users. Within this context, the introduction and acceptance by the EOSC community of the Review and Feedback Reports introduced in this deliverable, will enhance the Providers' maturity, and in the long run will help further expand the adoption and usage of the EOSC Portal among the European Researchers.

**The EOSC Portal Statistic Report** aims at providing a comprehensive view of the status of the EOSC Portal Catalogue through a set of statistics data. These statistics of the EOSC Portal Catalogue are monitored and calculated by an integrated tool. This tool tracks a diversity of metrics fetched from the EOSC Portal's API and stored into a time series database. The stored data are processed and exhibited online. Furthermore, an automated report is generated weekly and monthly to support the onboarding and outreach activities.

The aforementioned specifications and processes have been approved and adopted by the EOSC Enhance PMB achieving consensus of the key EOSC ecosystem stakeholders.

In this respect, the work included in this deliverable will support the following ultimate goals and objectives:

- Achieve further harmonisation of Resource descriptions provided by European Resource Providers.
- Facilitate Providers and third parties with a common language and path to users.
- Support Providers to become more user-oriented, user-centric and business-focused.
- Facilitate continuous improvements on Resource provision.
- Support more harmonised Resource representations and ensure a common approach to Resource performance monitoring.
- Increase the user base by making Resources more discoverable and easier to relate to users' needs.
- Enhance the EOSC Community and widen the pool of users with additional scientific communities, industry, citizens, etc.

This deliverable includes the results of EOSC Enhance project relevant to the EOSC Portal interoperability framework and as such serves the constant and open dialogue with the EOSC community for all these evolving specifications and processes.

It will also facilitate the handover of EOSC Enhance results to EOSC Future and the EOSC Association.

# 9 Annex I: Requests for Changes on EOSC Portal Profiles

This Annex lists a) the requirements reviewed and approved for inclusion in EOSC Portal Profiles v4.00 and b) those handed over to EOSC Future. Each requirement is described by a unique ID to facilitate traceability, the title, and the description as well as the status/importance, user groups/personas that the functionality will be serving, etc.

## 9.1 RfCs approved and included in EOSC Portal Profiles v4.00

In the following table the EOSC Portal Profiles RfCs collected, reviewed, and adopted are presented.

| ID (Jira) | Title | Description - User Story | User Groups | Status | Priority |
|---|---|---|---|---|---|
| EOSCENR-197 | Add a new field for a very short resource name | In the current Resource Profile, the field "Name" has the purpose: Brief and descriptive name of the Resource as assigned by the Provider. This allows the creation of entries with a too long names, like https://marketplace.eosc-portal.eu/services/pan-learning-org-is-a-e-learning-platform-specifically-designed-to-provide-training-for-users-of-photon-and-neutron-sources. This field should not be used to define the name of the related entry. It could be the case to create a new field for recording this "Brief and descriptive name of the Resource as assigned by the Provider" and use instead the field "Name" for a very short name of the resource. Additionally is it possible to rename the entry https://marketplace.eosc-portal.eu/services/pan-learning-org-is-a-e-learning-platform-specifically-designed-to-provide-training-for-users-of-photon-and-neutron-sources to: https://marketplace.eosc-portal.eu/services/pan-learning-org | All | Approved and included in EOSC Portal Specification v4.00. For implementation in January 2022. | Low |
| EOSCENR-205 | Adding description of Multimedia in the Marketing section of Resource Profile | Adding an optional column for the Multimedia and Use-cases description in the Marketing section of the Resource profile to be entered by the provider during resource registration or update. This will ensure the right name appears in the resource description in the catalogue and also avoid default names like "Multimedia 1", "Use case 2" etc. as shown in the attachment. | All | Approved and included in EOSC Portal Specification v4.00. For implementation in January 2022. | Medium |
| EOSCENR-173 | Values of ERP.DEI.3 (Related Platforms) | Currently PC uses free text for the representation of the ERP.DEI.3 (Related Platforms). These inputs will cause all each | All | Approved and included in EOSC Por- | High |

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| | controlled by EPOT | value to be represented as a separate platform which is counterproductive. Specifically, this does not allow for catalogue filtering by Related Platforms. | | tal Specification v4.00. Planned to be implemented in July 2022 after agreeing on definition and 1st set of controlled values. | |
| EOSCENR-165 | Move Hosting Legal Entity from 'other' to 'basic info' in the provider profile. | Move the Hosting Legal Entity field from the 'Other' menu to the 'Basic' menu, just after the Legal entity field and make it mandatory in case 'Legal entity' is not checked. Also Hosting Legal Entity should only allow entry of providers registered in the Portal and should not be free text. | All | Approved and included in EOSC Portal Specification v4.00. For implementation in January 2022. | High |
| EOSCENR-159 | Optional fields in Resource Profile: terms of use, privacy policy change to mandatory | It is recommended that the privacy policy in Resource Profile is mandatory to be compliant to the European rules. For Terms of Use/AuP it may probably not, but again this is a very important information for users who have to understand if a service published in the EOSC catalogue/marketplace is suitable/acceptable to them. | All | Approved and included in EOSC Portal Specification v4.00. For implementation in July 2022. | High |
| EOSCENR-175 | Add control values to FUNDERS and FUNDING PROGRAM | Add to "funding program" the value: Large Research Infrastructures Programme of the MEYS, Czech Republic, see https://www.vyzkumne-infrastruktury.cz/en/. Add to 'funders' the value: Ministry of Education, Youth and Sports of the Czech Republic (MEYS) | All | Approved and included in EOSC Portal Specification v4.00. For implementation in January 2022. | Low |
| EOSCENR-162 | Provider > Location > Country should list only countries not 'Europe' and 'Worldwide' | In the Provider portal, Provider profile part, the location section asks for 'Country' but allows Europe, Eurozone, Worldwide. While these work for the areas a resource can be *used*, at the same time they do not work here as this is the location of the provider, which should be more identifiable (And indeed we ask for a street address). | All | Approved and included in EOSC Portal Specification v4.00. For implementation in January 2022. | Low |
| EOSCENR-206 | Minimum Service Maturity level as a Prerequisite for listing resources on the marketplace | EOSC Service Maturity Classification, describes the operational level of the service or resource ie TRL 7 to TRL9 (Beta to Production). To ensure that operational service or resources are onboarded and listed at the marketplace, to enforce the | All | Approved and included in EOSC Portal Specification v4.00. For imple- | Medium |

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| | | guideline by making sure at least the minimum TRL (Beta) is selected for a resource or service before it is listed. | | mentation in January 2022. | |
| EOSCENR-177 | New Values for Provider profile - Vocabulary | Add in the vocabulary the following Networks: IAEA missing: International Atomic Energy Agency (only IEA present), EUCALL project missing, EOSC missing, PaNOSC missing, ExPaNDs missing. Correct CALPSO: CALIPSOplus - Convenient Access to Light Sources Open to Innovation, Science and to the World | All | Approved and included in EOSC Portal Specification v4.00. For implementation in January 2022. | High |
| EOSCENR-223 | Rename naming field for providers and resources | For Providers there is Provider name and Provider short name/abbreviation. For Resources there is just name. The request is to rename the provider fields: **Name --> Provider Full name [optional] and Short name --> Provider Name [required].** Then add as notes that the short name or abbreviation will be used in most cases and will be what is displayed in the Marketplace as the main name. This is because in many cases the name is long and can be n a local language. For Resources: **Name --> Resource Full name [optional] and NEW FIELD --> Resource name (with a note it should be short name or abbreviation) [required].** This would make searching and identifying providers and resources easier and simplify layout in the MP a bit. Full names could still be indexed for search. | All | Approved and included in EOSC Portal Specification v4.00. For implementation in January 2022. | High |
| EOSCENR-208 | Request to add values to the Funding bodies and programs-controlled vocabulary | List of the entities to include: National Centre for Computational Design and Discovery of Novel Materials (NCCR MARVEL), MaX – Materials Design at the eXascale, École Polytechnique Fédérale de Lausanne (EPFL), Swissuniversities, BIG-MAP, H2020 MarketPlace, H2020 Intersect, OSSCAR, European Research Council (ERC), Platform for Advanced Scientific Computing (PASC), Partnership for Advanced Computing in Europe (PRACE), NFFA, EMMC, H2020 Dome 4.0, H2020 OpenModel, H2020 NEP | All | Approved and included in EOSC Portal Specification v4.00. For implementation in January 2022. | Medium |
| EOSCENR-225 | Create a new Entity named 'Catalogue' and add the 'Catalogue' attribute to both Provider and Resource profiles | To facilitate the integration of other catalogues to EOSC Portal a new entity has been proposed along with the addition of a new attribute in the Provider and Resource Profile. | | Approved and included in EOSC Portal Specification v4.00. For implementation in July 2022. | High |

## 9.2 RfCs related to EOSC Portal Profiles handed over to EOSC Future

In the following table the EOSC Portal Profiles RfCs collected and provided for further assessment under EOSC Future are presented.

| ID (Jira) | Title | Description - User Story | User Groups | Status | Priority |
|---|---|---|---|---|---|
| EOSCENR-209 | Allow certifications to have a name and a URL (both in profile and PC) | Split the certification entry into: Certificate name, Certificate number, Certificate URL (optional), Certificate expiry date (optional). | All | To be further assessed under EOSC Future project | Low |
| EOSCENR-170 | Extend the resource profile with order configuration information | Review the model that Marketplace has for keeping resource order configurations. Extend the resource profiles with an Optional block of information for the resources that 'Order is required' is checked. A resource can have 1:N such blocks. Each block is a list of attribute-value entries which describe the configuration. | All | To be further assessed under EOSC Future project | High |
| EOSCENR-171 | Add in the Provider's resource web forms and EOSC APIs the blocks of information for the different options of a resource. | Add in the Provider's resource web forms and EOSC APIs the blocks of information for the different ordering options of a resource. Providers should be able in the dashboard to View list of configurations\offerings per resource and be able to Edit\Add\Activate\Deactivate configurations (similar to what we offer now for resource) and also view stats about orders per resource | All | To be further assessed under EOSC Future project | Medium |
| EOSCENR-224 | Add a Provider level Security Contact | Currently, we have security contacts per resource, but now, having providers with no specific resource, we need to have provider level security contacts as well, though we need to specify for what purpose and type of communication would they receive. E.g. high level or abuse reports. | All | To be further assessed under EOSC Future project | High |

# 10 Annex II: Requests for Changes on EOSC Portal Functionality

This Annex lists a) the requirements reviewed and approved for inclusion in EOSC Portal Requirements and Roadmapping v4.00 and b) those handed over to EOSC Future. Each requirement is described by a unique ID to facilitate traceability, the title, and the description as well as the status/importance, user groups/personas that the functionality will be serving, etc.

## 10.1 RfCs included in EOSC Portal Requirements and Roadmapping v4.00

This Annex lists the requirements reviewed and approved for development and deployment at the EOSC Portal for year 2021 thus, (i) those already implemented and (ii) those planned for implementation till the end of the EOSC Enhance project.

### 10.1.1 General

| ID | Title | Description - User Story | User Groups | Status | Priority |
|---|---|---|---|---|---|
| GENERAL-01 | Integration of Portal related SW developed in eInfraCentral and EOSC-Hub | Backend offers restAPIs and messaging functionality for all catalogue information. The catalogue APIs and models should be used by EOSC portal to retrieve and update content for end users.Backend needs input from UF of EOSC portal for: Page visits (Matomo is used), Usage analytics (Favorites, Rating, etc), Order placement. Order management @Providers UI should implement functional specs by EOSC-hub. | All | Implemented in 2nd project period | Critical |
| GENERAL-02 | Integration of Registries developed by InfraCentral and EOSC-Hub | Onboarding of Resources was performed up to now by: eInfraCentral (catalogue) and EOSC-Hub (marketplace) that onboarded around 94 Resource Providers that give access to Resources in more than 300 entries. Those two registries will be integrated into a single EOSC Registry. | Providers | Implemented in 2nd project period | Critical |
| GENERAL-03 | Transition of EOSC Portal Registries to v3.00 | The current Catalogue structure and related Registry is based on SDTv1.13. The Registry will be updated to Profiles v3.00. This implies communication with onboarded RPs to update Resources Descriptions. | Providers | Implemented in 2nd project period | Critical |
| GENERAL-04 | Transition of EOSC Portal Onboarding Process to v3.00 | The current OP is based on OPv1.00. The OP will be updated to OPv3.00. This implies updates on SW and onboarding forms. | Providers | Implemented in 2nd project period | Critical |

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| GENERAL-07 | Change Top Header | In the top header area, where the visitors first land, we need to make it clear that this is the EOSC Portal and not the EOSC. To do this, beside the logo, add a tagline clarifying this. | All | Implemented in 2nd project period | Medium |
| GENERAL-08 | Provide Public Repository of EOSC Enhance Results in EOSC Portal Menu | Provide Public Repository of EOSC Enhance Results in EOSC Portal Menu. | All | Implemented in 2nd project period | High |
| GENERAL-10 | Change visualization of Member States to a map | Create a map view where the policy update pops up as you mouse over or click without needing to go to the country page. | All | Implemented in 2nd project period | Medium |
| GENERAL-11 | Create an EOSC Portal Training section | Implement a training section that includes all the training activities and resources. The trainings need to be linked to each service so to be a guideline and tutorial for the usage of each service. Another part of the training resources will be to focus on the needs of different user and stakeholder groups. | All | Implemented in 2nd project period | High |
| GENERAL-13 | Improve EOSC page visuals | Upgrade visuals of this page and bring them more in line with the EOSC visuals: https://www.eoscsecretariat.eu/eosc-branding. | All | Implemented in 2nd project period | Medium |
| GENERAL-14 | Marketplace access through home | Make it clear that this is the access point to the Marketplace. At present, all service categories don't fit in the full screen. This area only shows the service categories whereas in the marketplace, another way to visualise services is via Branch of Science (at present even these icons have a different look and feel). | All | Implemented in 2nd project period | Medium |
| GENERAL-15 | Rearrange Homepage sections | Change Homepage sections to the following:<br>**Navigation and sliders** (no change in order):<br>• Cross-component top navigation bar<br>• CC main menu<br>• Slider<br>• EOSC Marketplace Access - Duplicate the same way to access the marketplace already filtered by discipline and service type<br>**Community:**<br>• Latest news - change the way they are displayed. Should show- | All | Implemented in 2nd project period | Medium |

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| | | case an active community<br>• Events - change the way they are displayed. Should showcase an active community<br>• Tweets - change the way they are displayed. Should showcase an active community<br>• Subscribe - change to something more space-saving | | | |

### 10.1.2 EOSC Unauthenticated End-Users Interaction

| ID | Title | Description - User Story | User Groups | Status | Priority |
|---|---|---|---|---|---|
| UR-UEUI-01 | View classifications of EOSC Resources | The User can view on the EOSC Portal EOSC Resources organized in classifications, based on the attributes defined by the EOSC Catalogue Model Specification (e.g. provider, scientific domain, etc.). | All, including unauthenticated End-Users | Implemented in 1st project period | - |
| UR-UEUI-02 | Search with keywords EOSC Resources | The User can retrieve on the EOSC Portal a list of EOSC Resources as a result of keywords search | All, including unauthenticated End-Users | Implemented in 1st project period | - |
| UR-UEUI-03 | Search with filters EOSC Resources | The User can filter the search results on the EOSC Portal by using various attributes of the Resource description (e.g. language, provider, scientific domain, etc.). | All, including unauthenticated End-Users | Implemented in 1st project period | - |
| UR-UEUI-04 | View list of EOSC Resources for specific classifications and filters | The User can see a list of EOSC Resources on the EOSC Portal by clicking boxes that match specific attributes of the EOSC Resource description as defined by the EOSC Catalogue Model Specification. | All, including unauthenticated End-Users | Implemented in 1st project period | - |
| UR-UEUI-05 | View detailed characteristics of an EOSC Resource | The User can see the detailed characteristics (full name, description, etc.) of an EOSC Resource when selecting it on the EOSC Portal. | All, including unauthenticated End-Users | Implemented in 1st project period | - |
| UR-UEUI-06 | View ratings of EOSC Resources | The User can see the average of ratings of authenticated Users left for an EOSC Resource on the EOSC Portal. | All, including unauthenticated End-Users | Implemented in 1st project period | - |
| UR-UEUI-07 | View sorted search results of EOSC Resources | The User can sort the results of a search on the EOSC Portal based on: Highest relevance (EOSC Portal search algorithm), Update Date, Newly Added, Rating, etc. | All, including unauthenticated End-Users | Implemented in 1st project period | - |
| UR-UEUI-08 | View com- | The User can see the comments of | All, includ- | Implemented | - |

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| | ments on EOSC Resources | authenticated Users left for an EOSC Resource on the EOSC Portal. | ing unauthenticated End-Users | in 1st project period | |
| UR-UEUI-09 | Navigate to the EOSC Provider site for additional information and/or functionality | The User is redirected from the EOSC Portal to the EOSC Provider site for further information on the EOSC Resource and to order, access it or get other functionality, for orderable and non-orderable EOSC Resources on the EOSC Portal. | All, including unauthenticated End-Users | Implemented in 1st project period | - |
| UR-UEUI-10 | Compare characteristics of EOSC Resources | The User can choose two or more EOSC Resources and compare selected attributes on the EOSC Portal. | All, including unauthenticated End-Users | Implemented in 2nd project period | Medium |
| UR-UEUI-11 | See total visits of a detailed page of an EOSC Resource | The User can see the total visits of the detailed pages of EOSC Resources on the EOSC Portal. | All, including unauthenticated End-Users | Implemented in 2nd project period | Medium |
| UR-UEUI-12 | View number of total redirections to EOSC Provider's site for all EOSC Resources | The User can view the number of total redirections from the EOSC Portal to the EOSC Provider's Resource page. | All, including unauthenticated End-Users | Implemented in 2nd project period | Medium |
| UR-UEUI-13 | View number of total orders of an EOSC Resource | The User can view the number of total orders made on the EOSC Portal for orderable EOSC Resources. | All, including unauthenticated End-Users | Implemented in 2nd project period | Medium |
| UR-UEUI-15 | Visualize offering of EOSC Resources on maps | The User can visualise offerings of EOSC Resources on (interactive) maps on the EOSC Portal. | All, including unauthenticated End-Users | Implemented in 2nd project period | Low |
| UR-UEUI-17 | View list of EOSC Resources associated with a Resource Provider | The User can view the list of EOSC Resources associated with an EOSC Provider on the EOSC Portal and additional details related to the EOSC Provider from the Provider Description Template so that a User can get a holistic view of the EOSC Provider offering. | All, including unauthenticated End-Users | Implemented in 2nd project period | Medium |
| UR-UEUI-18 | Filter services/resources by country | Allow the end user to filter the marketplace service/resource list by country. | All, including unauthenticated End-Users | Implemented in 2nd project period | Low |
| UR-UEUI-19 | Enhance map visualisation of | Scale the map. | All, including unau- | Implemented in 2nd project | High |

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| | EOSC Resources | | thenticated End-Users | period | |
| UR-UEUI-20 | Users can see the origin/source country of a service/resource | User should see resources available in the same country as the currently viewed resource. | All, including unauthenticated End-Users | Implemented in 2nd project period | High |
| UR-UEUI-21 | MP search should cover Related Platforms field | Extend the main search field scope to index the related platforms (currently freetext) field. | All, including unauthenticated End-Users | Planning | High |
| UR-UEUI-22 | Review and Update Providers' page and documentation content | Add link for the Provider documentation page (https://eosc-portal.eu/providers-documentation) to the header of PP so it is always visible - both the PP front page and when you are actually in the web app. Rewrite the PP front page where you apply to become a provider to reflect current info and requirements. Add more contextual info to the PP fields (from the profile spec, or ask the EPOT for help in text) | All, including unauthenticated End-Users | Implemented in 2nd project period | Medium |

### 10.1.3 EOSC Authenticated End-User Interaction

| ID | Title | Description - User Story | User Groups | Status | Priority |
|---|---|---|---|---|---|
| UR-AEUI-01 | Register, login, logout as an authenticated use | The User can register, authenticate and login/logout with the user's organisational federated identity on the EOSC Portal. | Authenticated End-Users | Implemented in 1st project period | - |
| UR-AEUI-02 | Add/remove favourite EOSC Resources | The authenticated User can select specific EOSC Resources and add them to a favourites' list on the EOSC Portal. The user can also remove items from his/her favourites list. | Authenticated End-Users | Implemented in 1st project period | - |
| UR-AEUI-03 | Add rating to an EOSC Resource | The authenticated User can add a rating to an EOSC Resource on the EOSC Portal or on the Portal itself (e.g. five-star rating scale). | Authenticated End-Users | Implemented in 1st project period | - |
| UR-AEUI-04 | Give feedback/comment on an EOSC Resource | The authenticated User can provide feedback or outline aspects of the EOSC Portal itself or of an EOSC Resource on the EOSC Portal. | Authenticated End-Users | Implemented in 1st project period | - |
| UR-AEUI-05 | Order or Access an EOSC Resource | The authenticated User can order or access an EOSC Resource, for orderable/accessible EOSC Resources on the EOSC Portal. | Authenticated End-Users | Implemented in 1st project period | - |

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| UR-AEUI-06 | Perform inquiry on an EOSC Resource to EOSC Providers | The authenticated User can select one or several EOSC Resources on the EOSC Portal and place an inquiry to the contact points of the EOSC Providers offering those selected EOSC Resources. | Authenticated End-Users | Implemented in 1st project period | - |
| UR-AEUI-07 | Add/remove favourites | The authenticated User can add/remove favourite categories, scientific domains, etc to a personal favourites list on his/her profile at the EOSC Portal. | Authenticated End-Users | Implemented in 2nd project period | Medium |
| UR-AEUI-08 | Subscribe to/Unsubscribe from updates and alerts | The authenticated User can subscribe to and unsubscribe from updates on specific EOSC Resources or alerts on the EOSC Portal. | Authenticated End-Users | Implemented in 2nd project period | Medium |
| UR-AEUI-09 | Get recommendations for new EOSC Resources based on similar users | The authenticated User can receive recommendations for new EOSC Resources based on profiles and common interests of similar users (scientific area, etc) on the EOSC Portal. | Authenticated End-Users | Implemented in 2nd project period | Medium |
| UR-AEUI-10 | Get recommendations for new EOSC Resources based on EOSC Resources a user already searched or ordered | The authenticated User can receive recommendations for new EOSC Resources based on previous searches or ordered EOSC Resources on the EOSC Portal. | Authenticated End-Users | Implemented in 2nd project period | Medium |
| UR-AEUI-13 | Identify EOSC resource delivery points | The User can view (zoom into/out of) a map with delivery points, each one depicting a site (location) where an EOSC resource can be delivered by/orderable from a specific EOSC Resource provider. | Authenticated End-Users | Development | Medium |
| UR-AEUI-14 | Edit user profile | The authenticated User can edit his/her user profile on the EOSC Portal. | Authenticated End-Users | Implemented in 2nd project period | Low |
| UR-AEUI-15 | Delete user profile | The authenticated User can delete his/her profile on the EOSC Portal (GDPR compliant). | Authenticated End-Users | Implemented in 2nd project period | Low |
| UR-AEUI-19 | Users can see related services/resources | Service/Resource pages should show other related services as recommendations. | Authenticated End-Users | Implemented in 2nd project period | High |
| UR-AEUI-20 | Users can see compatible services/resources | Service/Resource pages should show other compatible services as recommendations | Authenticated End-Users | Implemented in 2nd project period | High |
| UR-AEUI-21 | Resource Detail Page: Ask a | End user is offered the functionality to ask a question and send a mes- | Authenticated | Implemented in 2nd project | High |

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| | question should push messages to provider component | sage via email to the provider. The message should be also sent to the provider's component to populate in the list of read-only messages already available in the providers dashboard. | End-Users | period | |
| UR-AEUI-22 | Create a link in the Resource Details Page for Provider users to be directed to the Provider's service edit page. | Enable a link from the Resource details page back to the provider's resource page, for provider users to be able to go back to resource page and edit directly the resource. Similar to what the provider's resource page offers for "View Resource in Marketplace" | Authenticated End-Users | Implemented in 2nd project period | High |
| UR-AEUI-24 | Users can see Use cases displayed on service/resource pages | Use cases should be featured/associated in the service page | Authenticated End-Users | Implemented in 2nd project period | High |
| UR-AEUI-25 | User can create profiles and get recommended services and resources | Users to be able to create profiles with services and resources being recommended based on created profile. Suggested user paths based on specific user profile | Authenticated End-Users | Implemented in 2nd project period | Medium |
| UR-AEUI-26 | Users can compare resources | Users can compare resources | Authenticated End-Users | Implemented in 2nd project period | High |
| UR-AEUI-27 | User can use the search engine to search data, services, software | User can use the search engine to search data, services, software | Authenticated End-Users | Implemented in 2nd project period | High |

### 10.1.4 EOSC Provider Interaction

| ID | Title | Description - User Story | User Groups | Status | Priority |
|---|---|---|---|---|---|
| UR-ERPI-01 | Register a Resource Provider | The Provider Administrator can register the organisation on the Web I/F of the EOSC Portal following the EOSC Portal Onboarding Process. | Provider Administrator | Implemented in 1st project period | - |
| UR-ERPI-02 | Register other Resource Provider Administrators | The Provider Administrator can add other admins to the EOSC Provider organisation profile. | Provider Administrator | Implemented in 1st project period | - |
| UR-ERPI-03 | Login/Logout as a Resource Provider | The Provider Administrator can log in to/log out from the EOSC Portal. | Provider Administrator | Implemented in 1st project period | - |
| UR-ERPI-04 | Edit the EOSC Provider profile | The Provider Administrator can edit the EOSC Provider profile on the Web I/F and API of the EOSC Portal. | Provider Administrator | Implemented in 1st project period | - |
| UR-ERPI-05 | Register an EOSC Resource | The Provider Administrator can register a new EOSC Resource on | Provider Administra- | Implemented in 1st pro- | - |

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| | | the Web I/F and API of the EOSC Portal following the EOSC Portal Onboarding Process. | tor | ject period | |
| UR-ERPI-06 | Retrieve/Update an EOSC Resource description | The Provider Administrator can retrieve/update the description of an EOSC Resource on the Web I/F and API of the EOSC Portal. | Provider Administrator | Implemented in 1st project period | - |
| UR-ERPI-07 | View list of EOSC Resources associated with a Resource Provider | The Provider Administrator can view the list of EOSC Resources associated with his/her EOSC Provider organisation on the Web I/F and API of the EOSC Portal. | Provider Administrator | Implemented in 1st project period | - |
| UR-ERPI-08 | View log of actions applied to an EOSC Resource description | The Provider Administrator can view details about the registration and the updates of an EOSC Resource created by an EOSC Provider (e.g., creator, date of creation, date of last update, etc.), on the Web I/F of the EOSC Portal. | Provider Administrator | Implemented in 1st project period | - |
| UR-ERPI-09 | Visualize aggregated number of unique page views for all or specific EOSC Resources of an EOSC Provider | The Provider Administrator can view a chart with the number of page views to all detail pages of EOSC Resources offered by the EOSC Provider, on a daily, weekly, monthly or yearly basis. Also the Provider Administrator can select and see the same stats for a specific EOSC Resource. | Provider Administrator | Implemented in 1st project period | - |
| UR-ERPI-10 | Visualize aggregated number of redirections to EOSC Provider's site for all EOSC Provider Resources or for a specific EOSC Resource | The Provider Administrator can view a chart with the number of redirections to the Provider Resource page for all EOSC Resources offered by the Resource Provider, either on a daily, weekly, monthly or yearly basis. The Provider Administrator can also select and see the same stats for a specific EOSC Resource. | Provider Administrator | Implemented in 1st project period | - |
| UR-ERPI-11 | Visualize aggregated number of times a user has added an EOSC Resource in her favourite list for all EOSC Provider Resources or a specific EOSC Resource | The Provider Administrator can view a chart with the number of times a user has added an EOSC Resource in her favorite list for all EOSC Resources offered by the Resource Provider, either on a daily, weekly, monthly or yearly basis. Also the Provider Administrator can select and see the same stats for a specific EOSC Resource. | Provider Administrator | Implemented in 1st project period | - |
| UR-ERPI-12 | Visualize average rating for all EOSC Pro- | The Provider Administrator can view a chart with the average rating of all EOSC Resources offered | Provider Administrator | Implemented in 1st project period | - |

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| | vider Resources or for specific EOSC Resource | by the Resource Provider, either on a daily, weekly, monthly or yearly basis. Also the Provider Administrator can select and see the same stats for a specific EOSC Resource. | | | |
| UR-ERPI-13 | Visualize country coverage for all EOSC Provider Resources or for specific EOSC Resource | The Provider Administrator can view a map with its country coverage, i.e., the countries in which EOSC Resources offered by the EOSC Provider are available. Also the Provider Administrator can select and see the same map for a specific EOSC Resource. | Provider Administrator | Implemented in 1st project period | - |
| UR-ERPI-14 | Visualize distributions of EOSC Resources on tables | The Provider Administrator can view various distributions of EOSC Resources offered by the EOSC Provider on tables on the EOSC Portal. | Provider Administrator | Implemented in 1st project period | - |
| UR-ERPI-15 | Visualize distribution of EOSC Resources on charts | The User can visualise the distribution of EOSC Resources on various types of charts (timeline, bars, pies, etc.) on the EOSC Portal. | Provider Administrator | Implemented in 1st project period | - |
| UR-ERPI-16 | View total number or Resource orders | The Provider Administrator can view the total number of orders for all EOSC Resources offered by the Resource Provider, either on a daily, weekly, monthly or yearly basis. The Provider Administrator can also select and see the same stats for a specific EOSC Resource. | Provider Administrator | Implemented in 1st project period | - |
| UR-ERPI-17 | Publish/Unpublish an EOSC Resource | The Provider Administrator can flag on the Web I/F of the EOSC Portal an EOSC Resource as inactive/active and the EOSC Resource stops/starts being accessible at the EOSC Portal. | Provider Administrator | Implemented in 2nd project period | High |
| UR-ERPI-18 | Preview EOSC Resource detailed page while onboarding and before it is published | The Provider Administrator can Preview the EOSC Resource detailed page while onboarding and before it is published on the EOSC Portal. | Provider Administrator | Implemented in 2nd project period | High |
| UR-ERPI-21 | Delete EOSC Provider profile | The Provider Administrator can delete the EOSC Provider profile on the Web I/F of the EOSC Portal. | Provider Administrator | Implemented in 2nd project period | Medium |
| UR-ERPI-22 | Delete an EOSC Resource | The Provider Administrator can delete an EOSC Resource on the Web I/F and API of the EOSC Portal. | Provider Administrator | Implemented in 2nd project period | Medium |
| UR-ERPI-24 | Certify EOSC Resource description is updated | The Provider Administrator can certify that the data for an EOSC Resource is accurate and does not require an update. This can start as | Provider Administrator | Implemented in 2nd project period | Medium |

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| | | a request of the EOSC Portal Quality Team. | | | |
| UR-ERPI-27 | Support for markdown in the resource description field | Add support for Markdown in the EOSC Portal Provider Component. | Provider Administrator | Implemented in 2nd project period | High |
| UR-ERPI-28 | Link to the Providers Documentation to move to higher level | Move the link to Providers' Documentation to higher level at the top menu (gray area). | Provider Administrator | Implemented in 2nd project period | High |
| UR-ERPI-29 | PC: View Provider feature | A read-only view to be provided for both the Provider and Resource profiles. | Provider Administrator | Implemented in 2nd project period | High |
| UR-ERPI-30 | Present participating countries in alphabetical order (PC and Catalogue) | The participating countries to maintain a sorted list in alphabetical order both in the PC UI and the Catalogue UI. | Provider Administrator and users | Implemented in 2nd project period | High |
| UR-ERPI-31 | PC: present 'All' option at filter for Active/In Active Resources | The Resource Filter in the PC Dashboard should contain an All option that should be the default view. | Provider Administrator | Implemented in 2nd project period | High |
| UR-ERPI-32 | In PP, differentiate between Pending states in icon | Corner colour flag to differentiate for the three different status cases (provider not approved, 1st resource not yet submitted, 1st resource submitted but not yet approved). | Provider Administrator | Implemented in 2nd project period | Medium |
| UR-ERPI-33 | Providers can copy/clone a resource to use it as a template for others | Providers that have resources with common attributes should be able to copy a similar resource that has already been registered in the Portal. | Provider Administrator | Implemented in 2nd project period | Low |
| UR-ERPI-34 | Activate provider (incl. dashboard) even without a resource onboarded | Activate the dashboard and the provider once the provider is approved and separate this from onboarding the first resource. | Provider Administrator and users and EPOT | Implemented in 2nd project period | High |
| UR-ERPI-35 | Adjust model for approving provider and resources | Updated onboarding process to cater for all steps (approval of provider without a resource being onboarded and accepted first, rejections of provider, suspension of provider, resource validated etc) | Provider Administrator and users and EPOT | Development | High |
| UR-ERPI-37 | Redesign the Provider's landing page and content | Redesign the Provider's landing page and content. A notification and/or announcements page to be considered as well. | Provider Administrator and users and EPOT | Planning | High |

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| UR-ERPI-38 | Provider records should have a 'timeline' like resource records | The Providers' dashboard to have a 'timeline' of changes in the record, similarly as for it appears for Resources. | Provider Administrator and users and EPOT | Implemented in 2nd project period | Medium |
| UR-ERPI-39 | Provide Audit trail for key events at Providers' page | Add an "Audit Trail" to the "monitor" section of the providers' page to provide assurance with regard to the integrity of the system. Key events on the providers' page such as Adding a resource, Deleting a resource, Updating a resource, admin addition, etc need to be recorded and available to Authorised Representative for review. Key features of the audit trail should be traceable, timestamped, secured, archived, and available to the provider for review. | Provider Administrator and users and EPOT | Implemented in 2nd project period | High |
| UR-ERPI-40 | In View Resources view, support going to the provider of a specific resource from the card and dashboard page | From the resource's dashboard to allow to link back to the provider under which the record exists. From the card view in 'view providers' to allow to click through to the provider. | Provider Administrator and users and EPOT | Planning | High |
| UR-ERPI-41 | Provide Textbox for Comments during Resource Update | Add a "commit-like" section close to the "submit" button to give the resource provider opportunity to enter comments on the reason for the update. Comments should appear in the update information on the resource stat page (resource_update-comment_2 attachment). | Provider Administrator and users and EPOT | Implemented in 2nd project period | Medium |
| UR-ERPI-42 | In the timeline view show also, who changed the record | In the timeline view, it shows only when the record was changed. it should also show who and when the record was approved or suspended. | Provider Administrator and users and EPOT | Implemented in 2nd project period | Medium |
| UR-ERPI-43 | Make timeline view more compact in the resource (and provider) views | The timeline view to be more compact in both provider's and resource's view. | Provider Administrator and users and EPOT | Implemented in 2nd project period | Medium |
| UR-ERPI-44 | Providers can update their service/resource pages independently | Providers can update the description of their services on their own. Add a tag to the service if the service is unavailable for some reason. | Provider Administrator | Implemented in 2nd project period | High |
| UR-ERPI-45 | Providers can | Implement usage monitoring ana- | Provider | Implement- | Medi- |

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| | access a dashboard that displays analytics about their own services & resources | lytics (number of accesses of users).<br>Harmonization with the community portals, i.e. not only the access via the EOSC portal should be monitored but also other ways of access. | Administrator | ed in 2nd project period | um |
| UR-ERPI-46 | Training providers can maintain or update their training resources made available in the portal | As a resource listed in the EOSC Portal Marketplace, as training listings are treated the same as any other service/resource, providers should have control over the pages as part of the 1st portal release. | Provider Administrator | Implemented in 2nd project period | High |

### 10.1.5 EOSC Portal Onboarding Team Interaction

| ID | Title | Description - User Story | User Groups | Status | Priority |
|---|---|---|---|---|---|
| UR-EPMI-01 | Accept/Reject registration of a Resource Provider | The EOSC Portal Onboarding Team can accept/reject the registration of an EOSC Provider on the EOSC Portal based on the EOSC Portal Onboarding Process and the EOSC RoP. | EPOT | Implemented in 1st project period | - |
| UR-EPMI-02 | Accept/Reject registration of an EOSC Resource | The EOSC Portal Onboarding Team can accept/reject the registration of an EOSC Resource on the EOSC Portal based on the EOSC Portal Onboarding Process and the EOSC RoP. | EPOT | Implemented in 1st project period | - |
| UR-EPMI-04 | Request clarification from SP | The EOSC Portal Onboarding Team can request clarifications or additional material to make a decision on validation of an EOSC Resource based on the EOSC Portal Onboarding Process. | EPOT | Implemented in 2nd project period | High |
| UR-EPMI-05 | Check updates of EOSC Resource descriptions | The EOSC Portal Quality Team can view the list of EOSC Resources versus their update date to make sure frequent/agreed updates are made by EOSC Providers based on the RoP. | EOSC Portal Quality Team | Implemented in 2nd project period | High |
| UR-EPMI-11 | Button to edit a provider entry they have submitted is unclear | Currently, the edit button is a very small 'I' and it is hard to spot. It would be better if it was, a button marked 'view/edit' and a bit bigger. | EPOT & EOSC Portal Quality Team | Implemented in 2nd project period | Medium |
| UR-EPMI-12 | Links from the Provider and Resource profiles should be clickable for | To add a button next the Provider and Resource records to launch any links included in a new browser window or tab. | EPOT & EOSC Portal Quality Team | Implemented in 2nd project period | High |

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| | EPOT admins | | | | |
| UR-EPMI-13 | Send automatic daily digest of EPOT and PP activity to EPOT mailing list | A daily digest of activity to the be send to onboarding-team@eosc-portal.eu. It could include: Providers & resources suspended, Resources & Providers suspended, new providers & resources, Approved providers & resources, Rejected providers & resources, updated providers & resources | EPOT & EOSC Portal Quality Team | Implemented in 2nd project period | Medium |
| UR-EPMI-15 | Provider Portal: offer a random selection of Providers or Resources based on selectable parameters to allow for Auditing | To support auditing, a functionality to be included to automatically select a number of provider and resource records to check they still meet requirements and RoP. e.g i want to see 10 providers, and get a sample. In addition, to include a flag for when a record was last audited and allow listing resources ordered by when last audited. | EPOT & EOSC Portal Quality Team | Implemented in 2nd project period | Medium |
| UR-EPMI-16 | Provider Portal: Lists of recently updated resources and providers | For supporting Auditing, updates made by the provider need to be tracked (and sorted by) separately by the updates made by the admins. This will allow to flag both updated records to see if the updates are valid, and also see providers that have NOT updated in e.g. the last 6 months or last year. | EPOT & EOSC Portal Quality Team | Implemented in 2nd project period | High |
| UR-EPMI-17 | Provider Portal, rename statuses of categories for provider search | • Pending initial approval – > Provider submitted application<br>• Pending template submission → Approved provider without Resources<br>• Pending template approval → Pending first Resource approval<br>• Rejected template → Rejected Resource<br>• Rejected → Rejected Provider<br>• Approved → Approved Provider | EPOT & EOSC Portal Quality Team | Implemented in 2nd project period | High |
| UR-EPMI-18 | Provider Portal: List resources by time | EPOT admins can 'View resources' page with filters as there is for providers, and by time submitted (so that EPOT can see recently onboarded resources to be able to audit resources onboarded other than the first one, so auto approved, and also to check those coming via API). | EPOT & EOSC Portal Quality Team | Implemented in 2nd project period | High |
| UR-EPMI-19 | Consider a PC action log which the EPOT | Include a log that EPOT can access/filter/search online to include at least EPOT actions (though, | EPOT & EOSC Portal | Implemented in 2nd project period | Medium |

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| | can view/filter | maybe also provider actions) to allow checking when provider and resource records have been edited and approved. | Quality Team | | |
| UR-EPMI-20 | EOSC Providers are not notified if the EPOT changes their provider or resource records | If the EPOT changes a record, this is highlighted to the provider somehow. | EPOT & EOSC Portal Quality Team | Implemented in 2nd project period | Medium |
| UR-EPMI-21 | View Resources - improve filter by provider | EPOT to be able to filter by provider using autocomplete search by the provider as seen in the provider interface when they add providers to records. | EPOT & EOSC Portal Quality Team | Implemented in 2nd project period | Low |
| UR-EPMI-22 | View Providers Filters: add 'check all' and 'uncheck all' buttons | In the PC EPOT view, in the 'View Providers' section, to have buttons to check all and uncheck all. | EPOT & EOSC Portal Quality Team | Implemented in 2nd project period | Low |
| UR-EPMI-25 | Add a field / flag for 'last audited date' to record | For each record (provider or resource) to store a date for when it last completed auditing (and was back into a regular record approved state) to allow to see what has been audited and what has not. | EPOT & EOSC Portal Quality Team | Implemented in 2nd project period | Medium |
| UR-EPMI-26 | Notifications to providers and EPOT on records should point to the specific record not a general link | Both the initial acknowledgement and also the confirmation email should contain the proper link to the specific provider application. It currently provides a generic URL - "[...]You can view the application status here https://providers.eosc-portal.eu//provider/all and proceed with registering the resources[...]". Instead it should go so e.g. https://providers.eosc-portal.eu/dashboard/bsc-es/info or https://providers.eosc-portal.eu/resource-dash-board/openaire/openaire.amnesia/stats | EPOT & EOSC Portal Quality Team | Implemented in 2nd project period | Medium |

### 10.1.6 Third-Party Registries/Catalogues/Portfolios Interaction

| ID | Title | Description - User Story | User Groups | Status | Priority |
|---|---|---|---|---|---|
| UR-TPCI-01 | Programmatic read, update, delete an EOSC Resource | Existing EOSC Resources listed in the EOSC Portal can be read from, updated at or deleted automatically by the EOSC Portal from their EOSC Providers' registries/ catalogues/portfolios via the EOSC Portal RESTful APIs (use of | EOSC Portal, Third Party Catalogues | Implemented in 1st project period | - |

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| | | API Key with 1M expiration based on OAuth). Access is enabled to EOSC Providers which have made an agreement with the EOSC Portal and use a common validation approach to avoid extensive revalidation. | | | |
| UR-TPCI-02 | Exposing EOSC Resources to third parties | A Third-Party can export, via the EOSC Portal RESTful APIs, listed EOSC Resources from the EOSC Portal in structured and popular formats (JSON, XML) and well-defined schemas defined by the EOSC Catalogue Model Specification and the EOSC Portal APIs specification. Access is enabled to EOSC Providers which have made an agreement with the EOSC Portal. | EOSC Portal, Third Party Catalogues | Implemented in 1st project period | - |

### 10.1.7 EOSC Funding Agencies and Policy Makers Interaction

| ID | Title | Description - User Story | User Groups | Status | Priority |
|---|---|---|---|---|---|
| UR-FAPM-01 | Visualize distribution of EOSC Resources on charts | The User can visualise the distribution of EOSC Resources (they fund or are related to) on the catalogue through various types of charts (timeline, bars, pies, etc.) for example for the Category, Sub Category, TRL, scientific domains, etc. | Funding Agencies and Policy Makers Interaction | Implemented in 1st project period | - |

### 10.1.8 EOSC Portal Non-Functional Requirements

| ID | Title | Description - User Story | User Groups | Status | Priority |
|---|---|---|---|---|---|
| UR-NOFU-01 | Capacity of the EOSC Portal on EOSC Providers | The EOSC Portal efficiently manages (onboarding, search, profile) of up to 10,000 records of EOSC Providers. | All | Implemented in 1st project period | - |
| UR-NOFU-02 | Capacity of the EOSC Portal on EOSC Resources | The EOSC Portal efficiently manages (onboarding, search, statistics) of up to 100,000 records of EOSC Resources. | All | Implemented in 1st project period | - |
| UR-NOFU-03 | EOSC Portal interoperability standards | The EOSC Portal will adopt the Open API (Swagger) Specification for exposing the catalogue APIs according to the prescribed functionality of the EOSC Portal. | All | Implemented in 1st project period | - |
| UR-NOFU-04 | EOSC Portal support for non-public REST services | The EOSC Portal will support non-public REST services with authentication and authorization mechanism at each API endpoint for onboarding/ updating/importing EOSC Resource descriptions. | Providers | Implemented in 1st project period | - |
| UR-NOFU- | EOSC Portal | APIs and schema formats must con- | Providers | Implemented | - |

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| 05 | conformance to EOSC interoperability specifications | form to the EOSC interoperability specifications. | | in 1st project period | |
| UR-NOFU-06 | EOSC Portal code published as open source | The source code of the EOSC Portal will be made public with an open-source license on GitHub. | All | Implemented in 1st project period | - |
| UR-NOFU-07 | Use of open-source frameworks, tools and standards | For the development of the EOSC Portal, open-source frameworks, tools and standards will be adopted (to the extent possible). | All | Implemented in 1st project period | - |
| UR-NOFU-08 | EOSC Portal scalability | The EOSC Portal will be able to efficiently handle a yearly increase by 40% in the number of onboarded EOSC Resources and in the total size of the database. | All | Implemented in 1st project period | - |
| UR-NOFU-09 | EOSC Portal secure protocols | The EOSC Portal and API will be implemented over TLS or SSL protocols (HTTPS). | Providers | Implemented in 1st project period | - |
| UR-NOFU-10 | EOSC Portal backup and recovery | The EOSC Portal will support backup and recovery functionality, with a restoration period of maximum 24 hours. | All | Implemented in 1st project period | - |
| UR-NOFU-11 | EOSC Portal authentication and authorization | The EOSC Portal will utilize an authentication/authorization system agreed by the stakeholders. | All | Implemented in 1st project period | - |
| UR-NOFU-12 | EOSC Portal access roles | The EOSC Portal will support the following access roles/personas: 1) EOSC Unauthenticated End-Users, 2) EOSC Authenticated End-Users (with access to personalized information), 3) EOSC Providers (or EOSC Providers), 4) EOSC Portal Managers, 5) OSC Funders and Policy Makers, 6) Third Party Catalogues/Portfolios. | All | Implemented in 1st project period | - |
| UR-NOFU-13 | EOSC Portal user interfaces | The EOSC Portal will implement user-friendly forms to facilitate even inexperienced users in onboarding an EOSC Resource and easily searching and browsing the EOSC Portal. | All | Implemented in 1st project period | - |
| UR-NOFU-14 | EOSC Portal language | The EOSC Portal supports only UK English in the interface to the user. | All | Implemented in 1st project period | - |
| UR-NOFU-15 | EOSC Portal Cookie handling | Now, Portal users are directed to a 'Privacy Policy' that is actually a link to the Cookie Toolkit but does not help the user to work out what type of cookie is used for what function. This should be improved. Furthermore, the way that Cookies are managed offers a confusing UX: | All | Implemented in 2nd project period | High |

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| | | if they close the window after logging into the Portal, then re-open the window, they are asked to log in again. | | | |
| UR-NOFU-16 | EOSC Portal privacy policy | The EOSC Portal will be fully compliant with GDPR and the adopted Privacy Policy of the EOSC portal. | All | Implemented in 2nd project period | High |
| UR-NOFU-17 | EOSC Portal Helpdesk | The EOSC Portal will provide contact mail address for providing support to end users regarding issues with the EOSC Portal. The emails will be handled by qualified personnel within two working days. | All | Implemented in 2nd project period | High |

## 10.2 RfCs related to EOSC Portal Roadmapping handed over to EOSC Future

This section lists the requirements reviewed and approved for development and deployment at the EOSC Portal but not implemented and those that have not been approved yet and should be assessed by EOSC Future.

### 10.2.1 RFCs related to EOSC Roadmapping approved but not implemented in EOSC Enhance

| ID (Jira) | Title | Description - User Story | User Groups | User Priority | Comments |
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| EOSCENR-97 | Edit a name in the Network Classification | In case of a misspelled institution or naming inconsistency (e.g. missing acronym or acronym only) in the Networks Classification to be able to correct it or amend. Irregularities in institutional names can be very confusing and create additional overhead. | Providers, companies, funders | Critical | Approved however further discussions to be arranged also within the framework of PIDs even though this is a rather specific request. Pending PID discussions. |
| EOSCENR-95 | Contact Information automatically retrieved for onboarding process | Contact Information automatically retrieved for onboarding process | EPOT | Low | Will facilitate the work of EPOT, needs to be further analysed. Pending -Dev Team, to furhter assess. |
| GENERAL-06 | Remove 'not a legal entity from the list of options in the Legal Status field. | According to the current criteria non legal entities should not be allowed to onboard, therefore this option should be removed. | Providers | High | Currently applied during onboarding. |

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| GENERAL - 09 | Consider versioning for all data in provider and resource records | Maintain versioning of record and profile data | Providers | Medium | Implementation for PC under EOSC Enhance is done, the functionality is available, however not parallel access to previous versions is possible. Implementation under the scope EOSC Future for the end users to be considered. |
| GENERAL - 12 | The EOSC Portal training section should tackle general topics (e.g. GDPR, ICT etc.). Targeted trainings remain on the RIs side. | The EOSC Portal training section should tackle general topics (e.g. GDPR, ICT etc.). Targeted trainings remain on the RIs side. Training material should be short, easy and with pictures. Videos are not the best format. | All | Low | Only training specifically on the portal usage is part of the scope of EOSC Enhance. Nonetheless, the infrastructure is ready to host such modules if prepared by others, so perhaps EOSC Future to evaluate this. |
| UR-UEUI-14 | View number of scientific domain specific orders | The User can view the number of total orders made for orderable EOSC Resources on the EOSC Portal, according to the scientific domain that he/she is searching for. | All, including unauthenticated End-Users | Low | To be further evaluated under EOSC Future |
| UR-UEUI-16 | Visualize ratings of EOSC Resources | The User can visualise the rating of EOSC Resources based on platform-collected statistics (most orders, most visited, new, etc.) on the EOSC Portal. | All, including unauthenticated End-Users | Low | To be further evaluated under EOSC Future |
| UR-AEUI-11 | View list of EOSC Resources based on user profile | The authenticated User can view a list of EOSC Resources based on his/her specific user profile on the EOSC Portal. | Authenticated End-Users | Medium | To be further evaluated under EOSC Future |
| UR-AEUI-12 | Allow for different views of EOSC Resources based on user profile | The authenticated User can customise views offered on the EOSC Portal. Users may have particular interests in specific EOSC Resource characteristics and different needs in | Authenticated End-Users | Medium | To be further evaluated under EOSC Future |

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| | | terms of the comparisons. The views will ensure a direct and quick way for them to access this content on the EOSC Portal. | | | |
| UR-AEUI-22 | Users can rate resources - enhancement in the existing mechanism | User Component implements a mechanism necessary to rate resources. We can consider changing the content in the feedback form / provide more dimensions of rating and a mechanism to compute rating "stars" as a more sophisticated and composed metric. Maybe low interest shows a low trust in the rating mechanism. This could be a basis for a research of resource "value" vs "rating" | Authenticated End-Users | Low | To be further evaluated under EOSC Future |
| UR-ERPI-19 | Register one or more business agreements for the delivery of an EOSC resource | The Provider Administrator can register a business agreement between their organisation and other EOSC Resource Providers for the delivery of each EOSC resource. Each agreement can be of a peering/federated delivery type (multiple providers delivering an EOSC resource in a federated way) or supplier/provider type (an organisation receiving a resource from a supplier organization and delivering it to end users as the direct channel) | Provider Administrator | High | Federation of Onboarding: Needs clarification and detailed requirements and aslo update of the EOSC Profiles model as well as updates of the onboarding process. To be further evaluated under EOSC Future |
| UR-ERPI-20 | Register one or more offerings for an EOSC resource | The Provider Administrator can register one or more resource offerings for a certain EOSC resource. Each resource offering includes a set (package) composed of support terms, KPIs and pricing of the EOSC resource. | Provider Administrator | High | Needs clarifications: What are the offerings? Are these related to the orderable parts? To be further evaluated under EOSC Future |
| UR-ERPI-23 | Publish/update EOSC Resource availability calendars | The Provider Administrator can publish and update, for bookable EOSC Resources, a calendar for the EOSC Resource availability for booking on the EOSC Portal. | Provider Administrator | Medium | |
| UR-ERPI-25 | Escalate review of EOSC Resource | EOSC Provider can request an EOSC Resource review to be escalated either during a request for info or after a rejec- | Provider Administrator | Low | Needs clarifications on: who is the higher authority of |

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| | | tion. | | | escalation and how it is authenticated? e.g., do we have another body on top of the EPOT? Refer also to UR-EPMI-03. To be further evaluated under EOSC Future |
| UR-ERPI-26 | Approve/Reject comments on an EOSC Resource | The Provider Administrator can approve/reject comments on an EOSC Resource before they are published on the EOSC Portal. | Provider Administrator | Low | Needs clarifications on: who and where users of the portal can post for comments (e.g., in the marketplace)? In such case submitted comments can appear in the provider dashboard and pending for approval. Refer also to UR-EPMI-08. To be further evaluated under EOSC Future |
| UR-EPMI-06 | Request updates of outdated EOSC Resource descriptions | The EOSC Portal Quality Team can prompt EOSC Providers to update their outdated EOSC Resource descriptions by providing an update link. Furthermore, the EOSC Portal Quality Team can program the EOSC Portal to automatically prompt EOSC Providers on outdated EOSC Resource descriptions based on the RoP. | EPOT and EOSC Portal Quality Team | Medium | Allow for notifications for specific issues (pre-defined) and others initiated by EPOT (on demand). To be further evaluated under EOSC Future |
| UR-EPMI-07 | Request updates of EOSC Resource descriptions due to updates of the ontology or platform | The EOSC Portal Quality Team can communicate to EOSC Providers upcoming and new changes to the Resource Description Templates or the EOSC Portal and prompt them to update their EOSC Resource descriptions by providing an update link. EOSC Providers can log in and see each EOSC | EPOT and EOSC Portal Quality Team | Medium | Communication between EPOT & provider; in general, this functionality needs to be provided, along with potential integration with EOSC |

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| | | Resource: what is the same, what field still exists but may need to be reviewed, what new fields need to be filled, etc. | | | Helpdesk (consider also EORC Future plans). It should allow for notifications for specific issues (pre-defined) and others initiated by EPOT (on demand). To be further evaluated under EOSC Future. |
| UR-EPMI-08 | Approve/Reject comments on an EOSC Resource | The EOSC Portal Quality Team can approve/reject comments on an EOSC Resource before they are published on the EOSC Portal. | EPOT | Low | To be further evaluated under EOSC Future |
| UR-EPMI-09 | Audit validated EOSC Resources | Sample and spot check already validated EOSC Resources from external catalogues as part of an auditing process. | EPOT | Low | To be further evaluated under EOSC Future. |
| UR-EPMI-14 | The ability to automatically message providers who have not updated their provider of resource in the last x months | Agreements with providers are likely to require providers to log in and check or update periodically to remain published. To do this it would be nice to be able to automatically or via the provider portal send notifications to providers who have not done so for some time. | EPOT | Medium | To be further evaluated under EOSC Future. |
| UR-EPMI-23 | Fix silent failure of records which pass PC validation and fail UC validation | A notification to the EPOT must be put in place for when the UC rejects a record pulled from the PC.<br>In the long term, the UC and PC need to be better harmonised so that they either share validation or are more compatible. | EPOT | High | To be further evaluated under EOSC Future. |
| UR-EPMI-24 | Add a method for the EPOT to move a resource from one provider to another. | Develop an interface for the EPOT to move a record between providers (there is a need to move a resource from one provider to another - e.g. when a provider changes, a new legal entity is formed, or a project concludes and passes results to others). | EPOT | High | To be further evaluated under EOSC Future (only for special cases to be considered). |
| UR-TPCI-03 | List of providers onboarded | As part of listing resources and providers, to allow the filtering | EOSC Portal, Third Party | High | To be further evaluated un- |

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| | by API and from other marketplaces | out of those onboarded via API vs the Provider Portal, and of those from the API, those onboarded via API from another marketplace. | Catalogues | | der EOSC Future. |
| UR-TPCI-04 | New event for coexistence of resources in user projects | Extend the current event (or generate a second one) with the list of resources already present in the project, in which the resource is added. Allow the following information to be provided:<br>• Resource A was added to a project which already contains Resource B, C, etc.<br>• Alternatively, redundant events for Resource B, C, can be generated (technical details can be discussed) | EOSC Portal, Third Party Catalogues | Medium | To be further evaluated under EOSC Future. |
| UR-FAPM-01 | Visualize distribution of EOSC Resources on charts | The User can visualise the distribution of EOSC Resources (they fund or are related to) on the catalogue through various types of charts (timeline, bars, pies, etc.) for example for the Category, SubCategory, TRL, scientific domains, etc. | Funding Agencies and Policy Makers Interaction | - | To be further evaluated under EOSC Future. |
| UR-EPMI-03 | Escalate approval/rejection decision | The EOSC Portal Onboarding Team can escalate the approval/rejection decision to a higher authority based on the EOSC Portal Onboarding Process. | EPOT | Low | Needs clarifications on: who is the higher authority and how it is authenticated? To be further evaluated under EOSC Future. |

## 10.2.2 FNF RFCs related to EOSC Roadmapping handed over to EOSC Future

It is noted that in cases where the following requirements are not yet processed and have not been assigned an ID, the respective Jira issue number is included.

### 10.2.2.1 Functional Requirements

| ID (Jira) | Title | Description - User Story | User Groups | User Priority |
|---|---|---|---|---|
| EOSCENR-221 | Description Service interoperability | Service interoperability should be clearly described, including APIs, documentation, and interfaces in a machine-readable form. | All | Low |
| EOSCENR-220 | Implement a quality | Quality evaluation of the service is | All | Low |

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| | evaluation system | needed. | | |
| EOSCENR-218 | Add the possibility for private company to offer its complete service catalogue | Private companies (e.g. a European SME) to be able to offer their commercial services through the EOSC. | Providers | Low |
| EOSCENR-217 | Implement Dataset search function | User to be able to find datasets, relevant services and combine them. | End-Users, Providers | Low |
| EOSCENR-216 | Creation of a dataset reliability index | Implementation of a dataset reliability index necessary to evaluate each dataset available. | End-Users, Providers | Low |
| EOSCENR-215 | Navigation according to service solution being sought | Navigation according to service solution being sought or problem to be solved (user may not know what they are looking for). | End-Users | |
| EOSCENR-211 | Show relationships between providers for Resource operation | In Provider Component, Provider to be able to see the resources operated by the specific provider. | All | Medium |
| EOSCENR-209 | Allow certifications to have a name and a URL (both in profile and PC) | Certification field to be split into two parts, a name, and a URL. | All | Medium |
| EOSCENR-136 | Users can view the live order status | End users should have the capability to view live the status of their order. | All | High |
| EOSCENR-137 | User can see the expected order fulfilment time | End Users should clearly see the estimated time it takes for each order to be fulfilled or acknowledged. This should be displayed on the resource page. | All | High/Medium |
| EOSCENR-138 | Post-order feedback survey | Portal could run post-order feedback survey to extract best practices that can be a way to help service providers improve their internal processes as well. | All | High |
| EOSCENR-139 | User is automatically sent/directed to training/tutorial/quick start guide after order is fulfilled | Training on specific services should be linked to the services and ordering. | All | Low |
| EOSCENR-171 (Relevant also with EOSC Portal profiles) | Add in the Provider's resource web forms and EOSC APIs the blocks of information for the different options of a resource. | Providers should be able in the dashboard to view list of configurations\offerings per resource, Edit\Add\Activate\Deactivate configurations (similar to what it is offered currently for the resource), and view stats about orders per resource. | All | Medium |
| EOSCENR-172 | Add to the resource detail page a section with resource configuration details + order placement functionality | Users should be able to view the list of configurations of a resource, access the details and select (order) one of them. They should be able to place an order in the EOSC Portal Marketplace, where all further vali- | All | Medium |

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| | | dations regarding the availability of the offer are performed (or in case there is a link to an external order placement system to be redirected to the Provider's order management system and proceed with the ordering). Users should be able in the Marketplace to:<br>• review an order, see details<br>• cancel, revert an order<br>• see the status of an order (in case it is long running)<br>• view the list of orders\resources in their project\portfolio | | |
| EOSCENR-119 | Providers can access a dashboard that shows top services ordered across the portal and filterable also by category, country, domain | A dashboard that shows top services ordered across the portal that are filterable also by category | All | Medium |
| EOSCENR-142 | Accounting system to manage transactions | Accounting system to manage transactions | All | Low |
| EOSCENR-121 | Automated order fulfilment or at least minimise manual processes | Develop a broker system for resources and allow the interactaction directly to the service providers. | All | Medium |
| EOSCENR-122 | Enriched service descriptions with more technical information | Service description has to be harmonised, expanded and improved to cover more technical aspects. A Service Ontology should be developed in agreement with the service providers. | All | High |
| EOSCENR-124 | Users can see the complete requirements, policies, and user documentation in Service/Resource pages to access or order them | Clear access & usage policies must be clarified and described upfront. | All | High |
| EOSCENR-140 | To implement a monitoring/maintenance model for each of the record (services, data, etc.) part of the Portal | The long-term maintenance of the records part of the Portal is essential. Clear rules and appropriate tools must be in place. Providers to have access to the full log timeline that affected a resource, as part of the Provider Dashboard. | All | High |
| EOSCENR-141 | Have an API portlet where external portals can also search EOSC Portal listings. | Have an API portlet where external portals can also search EOSC Portal listings. This would help build other portals from building their own catalogues. There will be a separate endpoint for API, api.eosc-portal.eu | All | High |
| EOSCENR-109 | Training material should be sortable and search- | Resources - training materials in the User Component should be easily | All | High |

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| | able | discoverable and filterable through multiple criteria. | | |
| EOSCENR-111 | The data component allowing data set searches | The portal should be equipped with the possibility to search for relevant datasets. The portal should be also capable to track the dataset provenience and allow the reproductivity of experiments. | All | Medium |
| EOSCENR-113 | Multichannel helpdesk system (Email, chat, call, webinars, tutorials) | Implement a Helpdesk that responds within 2 days or at least that sends an acknowledgement that the ticket was received. Develop different access methods to the helpdesk (chat, tutorials, webinars, emails). | All | Medium |
| EOSCENR-114 | Integrated CRM (helpdesk, orders, supplier-customer communications) for a single view of customer history | Develop an integrated way of communicating/handling customers in the portal where helpdesk info and orders info is centralized and visible. Harmonization of the CRM would definitely be beneficial for the end user. User Component plays this role of the main contact point for the end user, but there are several contact methods, and they are detached to some extent. Integrating different entities like order history and helpdesk on a single customer history will be appropriate once the plans for the maintenance of these channels will be concretized by the future Portal operators | All | Medium |
| EOSCENR-125 | Service/resource pages should display automatically whether the service is alive | Service/resource pages should display automatically whether the service is alive. | All | High |
| EOSCENR-129 | Users can search based on workflows rather than just services | End users to be able to find solutions and an environment for workflows more than services - the solutions are mostly community driven with natural interlinks between communities. | All | Medium |
| EOSCENR-131 | Structure the portal as a Science Gateway with thematic sub-portals, transdisciplinary virtual environments, & marketplace of horizontal services | The EOSC portal should open up as a “Science Gateway” guiding users through: (a) a series of thematic portals allowing for the different science communities to engage with their own developed solutions, workflows, computing resources and accessing their own data through domain-based catalogues as sort of community-based “virtual research environments”; (b) trans- | All | Medium |

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| | | disciplinary additional branches where researchers and data scientists can share together "EOSC partnerships virtual environments" (e.g. AI software developments and training, HPC and data management services, citizen science projects, etc.); - allow for the thematic portals to link to the central portals. (c) horizontal potential "catalogue & marketplace services" of providers such as pan-European e-infrastructures. | | |
| EOSCENR-132 | Users can access a dashboard for a self-consistent OS working environment | The portal should be open to all kind of open-science related science productions, however it needs to be clearly structured and searchable to reflect those different kinds. By definition, software and workflows are part of "data" and they are the most critical elements for the reproducibility of "scientific results" and for creating further scientific knowledge on top of them. The portal won't be of any usage if it does not provide a complete dashboard for a self-consistent open science working environment. | All | Medium |
| EOSCENR-133 | User can use a Test Suite for resources/services | A test suite to be available for all resources. | All | Low |
| EOSCENR-219 | Increase the range of services and integrate better some existing services | Increase the range of services and integrate better some existing services | All | Low |
| EOSCENR-115 | Prospective providers can access a section with the full guidelines for the onboarding of national catalogues & registries | Clarify the procedures to onboard services from national aggregators/registries. Develop different onboarding paths based on the user: e.g. onboarding path for national service providers, onboarding paths for aggregators, etc. Onboarding of national catalogues & registries on behalf of individual providers, should be first discussed and decided at the procedural level. Main issues concern: Who is authorised and how to represent the regional and national catalogue? Whether an individual provider listed in the national catalogue should be able to update their offerings in the EOSC catalogue. Where is the actual onboarding per- | All | Medium |

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| | | formed (remote catalogue or EOSC-Portal's one)? | | |
| EOSCENR-116 | National, Regional or Thematic aggregators are able to onboard their resources in automated way | Implement API to facilitate harvesting of national services from national or thematic service providers. Services could potentially be in the thousands, and therefore needs automation | All | High |
| EOSCENR-174 | Allow the option to onboard providers via the API | In order to satisfy the use case where Regional Projects (5Bs) and Cluster project want upload in bulk Providers and resources, we need to define both the process to do so and to open up the API to do so. | All | High |
| UR-ERPI-36 (EOSCENR-214) | Add an additional role of Resource Admin with rights to a single resource. | Add an additional role of Resource Admin with rights to a single resource. | All | High |

#### 10.2.2.2 Non-Functional Requirements

| ID | Title | Description - User Story | User Groups | Status | Priority |
|---|---|---|---|---|---|
| UR-NOFU-18 | EOSC Portal alignment with FAIR principles | The EOSC Portal will align with the FAIR principles, facilitating the Findability, Availability, Interoperability and Reusability of the stored data. | All | Development | Medium |
| UR-NOFU-19 | EOSC Portal system requirements documentation | The requirements of the EOSC Portal will be documented as User Requirements and transformed into Functional and Non-Functional Specifications of the EOSC Portal. | All | Development | Medium |
| UR-NOFU-20 | EOSC Portal system design and architecture documentation | The system design, architecture and technical decisions will be documented in detail for future reference and extensibility of the EOSC Portal. | All | Development | Medium |
| UR-NOFU-21 | EOSC Portal users' manual | Detailed user manuals on the functionality of the EOSC Portal will be prepared, covering all roles of the EOSC Portal. | All | Development | Medium |
| UR-NOFU-22 | Accessibility of the EOSC Portal | The EOSC Portal will comply with the European Union (EU) Directive on the Accessibility of Websites and Mobile Applications | All | Development | Medium |
| UR-NOFU-23 | Availability of the EOSC Portal | The availability of the EOSC Portal will start from 95% during the beta versions and will reach 99,9% at the end of the EOSC Enhance project. | All | Development | Medium |
| UR-NOFU-24 | Capacity of the EOSC Portal on registered users | The EOSC Portal will be able to efficiently manage (onboarding, profile) up to 2,000,000 users. | All | Development | Medium |
| UR-NOFU-25 | Capacity of the EOSC Portal on | The EOSC Portal will be able to efficiently manage up to 1,000 concur- | All | Development | Medium |

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| | concurrent users | rent users. | | | |
| UR-NOFU-26 | EOSC Portal persistent identifiers | The EOSC Providers, EOSC Resources in the catalogue should have persistent identifiers. | Providers | Development | Medium |
| UR-NOFU-27 | EOSC Portal Cookie Policy | The EOSC Portal cookie policy will be GDPR and CCPA compliant and will be annotated with proper meta-tags for optimal search engine optimization. | All | Planning | Low |
| UR-NOFU-28 | EOSC Search Engine Optimization | The EOSC Portal content will be annotated with proper meta-tags for optimal search engine optimization. | All | Planning | Low |

# 11 Annex III: EOSC Portal Provider Profile Specification v4.00

An **EOSC Provider** is an EOSC System User responsible for the provisioning of one or more Resources to the EOSC. EOSC Providers are organizations, a part of an organization or a federation that manages and delivers Resources to End-Users. EOSC Providers can be: Resource Providers, Service Providers, Data (Source) Providers, Service Developers, Research Infrastructures, Distributes Research Infrastructures, Resource Aggregators, Thematic Clouds, Regional Clouds, etc. The Provider Profile is used during the first step of the EPOP (after the Provider Manager or the Resource Manager logins as an Authenticated User).

## 11.1 EOSC Portal Provider Profile v4.00 Information Blocks

The information In the Provider Profile v4.00 is organised in eight blocks, as shown in Figure 11.1.

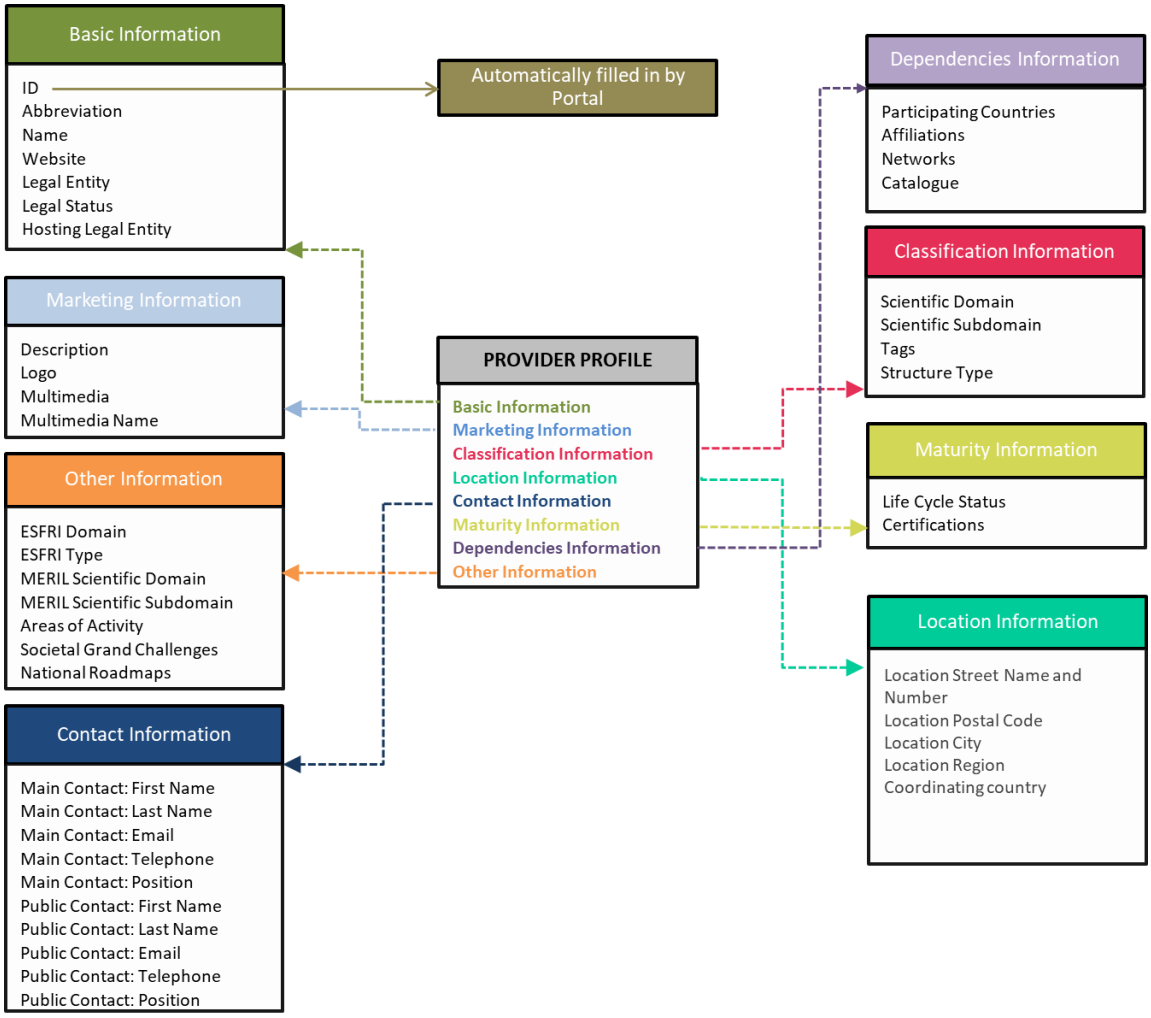


*Figure 11.1: Information Blocks of the EOSC Portal Provider Profile*

a) **Basic Information**: about a provider such as the unique provider identifier in the catalogue, the name, the abbreviation, the Provider website, etc.

b) **Marketing Information**: the description, the logo and multimedia on the Provider if available.
c) **Classification Information**: information about the classification of the provider, such as scientific domain and subdomain, and tags.
d) **Location Information**: information about the location of the Provider.
e) **Contact Information**: information about the contact persons of the Provider.
f) **Maturity Information**: information about the maturity of the Provider (Life Cycle status and Certifications).
g) **Dependencies Information:** Dependencies Information about the Provider, such as Participating Countries, Affiliations, Networks, etc.
h) **Other Information**: other information related to the Provider and its activity.

## 11.2 EOSC Portal Provider Profile v4.00 Specification

The following table includes the full specification of the Provider Profile v4.00.

*Table 11-1: EOSC Portal Provider Profile Specification v4.00*

| Code | Attribute Name | Definition | Type | Multiplicity | Required | Public |
|---|---|---|---|---|---|---|
| Basic Information | | | | | | |
| EPP.BAI.0 | ID | A persistent identifier, a unique reference to the Provider in the context of the EOSC Portal. | String (max 30) | 1 | Mandatory | Yes |
| EPP.BAI.1 | Abbreviation | An abbreviation of the Provider Name as assigned by the Provider. | String (max 30) | 1 | Mandatory | Yes |
| EPP.BAI.2 | Name | Full Name of the Provider/Organisation offering the resource and acting as main contact point. | String (max 100) | 1 | Mandatory | Yes |
| EPP.BAI.3 | Website | Website with information about the Provider. | URL | 1 | Mandatory | Yes |
| EPP.BAI.4 | Legal Entity | A Y/N question to define whether the Provider is a Legal Entity or not. | Boolean | 1 | Mandatory | Yes |
| EPP.BAI.5 | Legal Status | Legal status of the Provider. The legal status is usually noted in the registration act/statutes. For independent legal entities (1) - legal status of the Provider. For embedded providers (2) - legal status of the hosting legal entity. It is also possible to select Not a legal entity. | List of controlled values | 1 | Optional | Yes |
| EPP.BAI.6 | Hosting Legal Entity | Name of the organisation/institution legally hosting (housing) the provider/research infra- | List of controlled values | 1 | Optional | Yes |

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| | | structure or its coordinating centre. A distinction is made between: (1) research infrastructures that are self-standing and have a defined and distinct legal entity, (2) research infrastructures that are embedded into another institution which is a legal entity (such as a university, a research organisation, etc.). If (1) - name of the research infrastructure, If (2) - name of the hosting organisation. | | | | |
| Marketing Information | | | | | | |
| EPP.MRI.1 | Description | A high-level description of the Provider in fairly non-technical terms, with the vision, mission, objectives, background, experience. | String (max 1000) | 1 | Mandatory | Yes |
| EPP.MRI.2 | Logo | Link to the logo/visual identity of the Provider. | URL | 1 | Mandatory | Yes |
| EPP.MRI.3 | Multimedia | Link to video, slideshow, photos, screenshots with details of the Provider. | URL | Multiple | Optional | Yes |
| EPP.MRI.4 | Multimedia Name | Short description of the Multimedia content | String (Max 100) | Multiple | Optional | Yes |
| Classification Information | | | | | | |
| EPP.CLI.1 | Scientific Domain | A named group of providers that offer access to the same type of resource or capabilities. | List of controlled values | Multiple | Optional | Yes |
| EPP.CLI.2 | Scientific Subdomain | A named group of providers that offer access to the same type of resource or capabilities, within the defined domain. | List of controlled values | Multiple | Optional | Yes |
| EPP.CLI.3 | Tags | Keywords associated to the Provider to simplify search by relevant keywords. | String (max 20) | Multiple | Optional | Yes |
| EPP.CLI.4 | Structure Type | Defines the Provider structure type (single-sited, distributed, mobile, virtual, etc.) | List of controlled values | Multiple | Optional | Yes |
| Location Information | | | | | | |
| EPP.LOI.1 | Street Name and Number | Street and Number of incorporation or Physical | String (max 50) | 1 | Mandatory | Yes |

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| | | location of the Provider or its coordinating centre in the case of distributed, virtual, and mobile providers. | | | | |
| EPP.L0I.2 | Postal Code | Postal code of incorporation or Physical location of the Provider or its coordinating centre in the case of distributed, virtual, and mobile providers. | String (max 20) | 1 | Mandatory | Yes |
| EPP.L0I.3 | City | City of incorporation or Physical location of the Provider or its coordinating centre in the case of distributed, virtual, and mobile providers. | String (max 20) | 1 | Mandatory | Yes |
| EPP.L0I.4 | Region | Region of incorporation or Physical location of the Provider or its coordinating centre in the case of distributed, virtual, and mobile providers. | String (max 50) | 1 | Optional | Yes |
| EPP.L0I.5 | Country | Country of incorporation or Physical location of the Provider or its coordinating centre in the case of distributed, virtual, and mobile providers. | List of controlled values | 1 | Mandatory | Yes |
| Contact Information | | | | | | |
| Main Contact | | | | | | |
| EPP.COI.1 | First Name | First Name of the Provider's main contact person/Provider Manager. | String (max 20) | 1 | Mandatory | No |
| EPP.COI.2 | Last Name | Last Name of the Provider's main contact person/Provider Manager. | String (max 20) | 1 | Optional | Yes |
| EPP.COI.3 | Email | Email of the Provider's main contact person/Provider manager. | Email | 1 | Mandatory | No |
| EPP.COI.4 | Phone | Phone of the Provider's main contact person/Provider manager. | String (max 20) | 1 | Optional | No |
| EPP.COI.5 | Position | Position of the Provider's main contact person/Provider manager. | String (max 50) | 1 | Optional | No |
| Public Contact | | | | | | |
| EPP.COI.6 | First Name | First Name of the Provider's contact person to be displayed at the portal. | String (max 20) | 1 | Optional | Yes |

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| EPP.COI.7 | Last Name | Last Name of the Provider's contact person to be displayed at the portal. | String (max 20) | 1 | Optional | Yes |
| EPP.COI.8 | Email | Email of the Provider's contact person to be displayed at the portal or general email to contact Provider. | Email | 1 | Mandatory | Yes |
| EPP.COI.9 | Phone | Phone of the provider's contact person to be displayed at the portal or general phone to contact the Provider. | String (max 20) | 1 | Optional | Yes |
| EPP.COI.10 | Position | Position of the Provider's contact person to be displayed at the portal. | String (max 50) | 1 | Optional | Yes |
| Maturity Information | | | | | | |
| EPP.MTI.1 | Life Cycle Status | Current status of the Provider/Research infrastructure life-cycle. | List of controlled values | 1 | Optional | Yes |
| EPP.MTI.2 | Certifications | List of certifications obtained for the Provider (including the certification body and any certificate number). | String (max 250) | Multiple | Optional | Yes |
| Dependencies Information | | | | | | |
| EPP.DEI.1 | Participating Countries | Providers/Research Infrastructures that are funded by several countries should list here all supporting countries (including the Coordinating country). | List of controlled values | Multiple | Optional | Yes |
| EPP.DEI.2 | Affiliations | Providers that are members or affiliated or associated with other organisations should list those organisations here | String (max 30) | Multiple | Optional | Yes |
| EPP.DEI.3 | Networks | Providers that are members of networks should list those networks here. | List of controlled values | Multiple | Optional | Yes |
| EPP.DEI.4 | Catalogue | The Catalogue this Provider is originally registered at. | Catalogue ID | 1 | Optional | Yes |
| Other Information | | | | | | |
| EPP.OTH.1 | ESFRI Domain | ESFRI domain classification. | List of controlled values | Multiple | Optional | Yes |
| EPP.OTH.2 | ESFRI Type | If the research infrastructure is (part of) an ESFRI project indicate how the RI participates: a) is a node of an ESFRI | List of controlled values | 1 | Optional | Yes |

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| | | project, b) is an ESFRI project, c) is an ESFRI landmark, d) is not an ESFRI project or landmark. | | | | |
| EPP.OTH.3 | MERIL Scientific Domain | MERIL scientific domain classification | List of controlled values | Multiple | Optional | Yes |
| EPP.OTH.4 | MERIL Scientific Subdomain | MERIL scientific subdomain classification | List of controlled values | Multiple | Optional | Yes |
| EPP.OTH.5 | Areas of Activity | Basic research, Applied research or Technological development | List of controlled values | Multiple | Optional | Yes |
| EPP.OTH.6 | Societal Grand Challenges | Provider's participation in the grand societal challenges as defined by the European Commission | List of controlled values | Multiple | Optional | Yes |
| EPP.OTH.7 | National Roadmaps | Provider's participation in a national roadmap. | String (max 80) | Multiple | Optional | Yes |

## 11.3 EOSC Portal Provider Profile v4.00 Example

The following table provides an example of an actual profile of a provider.

*Table 11-2: EOSC Portal Provider Profile Example*

| Code | Attribute Name | Example Value |
|---|---|---|
| Basic Information | | |
| EPP.BAI.0 | ID | embl-ebi |
| EPP.BAI.1 | Abbreviation | Earth Observation Data Centre for Water Resources Monitoring |
| EPP.BAI.2 | Name | Carl Zeiss |
| EPP.BAI.3 | Website | https://jelastic.com/ |
| EPP.BAI.4 | Legal Entity | Y |
| EPP.BAI.5 | Legal Status | Non-Profit Partnership (NPP) |
| EPP.BAI.6 | Hosting Legal Entity | OpenAIRE |
| Marketing Information | | |
| EPP.MRI.1 | Description | OpenAIRE represents a pivotal phase in the long-term effort to implement and strengthen the impact of the Open Access policies of the European Commission, building on the achievements of the OpenAIRE projects. OpenAIRE support and accelerate Open Science and Scholarship, of which Open Access is of fundamental importance. |
| EPP.MRI.2 | Logo | https://www.openaire.eu/images/OpenAIRE_branding/Logo_Horizontal.png |
| EPP.MRI.3 | Multimedia | https://vimeo.com/XYZ |
| EPP.MRI.4 | Multimedia Name | Video of Resource interface |
| Classification Information | | |
| EPP.CLI.1 | Scientific Domain | Information Science and Technology |
| EPP.CLI.2 | Scientific Subdomain | Complex Data Facilities |

| | | |
|---|---|---|
| EPP.CLI.3 | Tags | Open data, open science, publications, research papers |
| EPP.CLI.4 | Structure Type | Virtual |
| Location Information | | |
| EPP.LOI.1 | Street Name and Number | Street 10 |
| EPP.LOI.2 | Postal Code | GR-12345 |
| EPP.LOI.3 | City | Athens |
| EPP.LOI.4 | Region | Attica |
| EPP.LOI.5 | Country | Greece |
| Contact Information | | |
| Main Contact/Provider Manager | | |
| EPP.COI.1 | First Name | John |
| EPP.COI.2 | Last Name | Smith |
| EPP.COI.3 | Email | john.smith@example.com |
| EPP.COI.4 | Phone | (+30210) 1234567 |
| EPP.COI.5 | Position | Coordinator |
| Public Contact | | |
| EPP.COI.6 | First Name | Jack |
| EPP.COI.7 | Last Name | White |
| EPP.COI.8 | Email | jack.white@example.com |
| EPP.COI.9 | Phone | (+30210) 7890123 |
| EPP.COI.10 | Position | Manager |
| Maturity Information | | |
| EPP.MTI.1 | Life Cycle Status | Operational |
| EPP.MTI.2 | Certifications | ISO-27001 |
| Dependencies Information | | |
| EPP.DEI.1 | Participating Countries | Germany, Italy, Poland, Switzerland, Portugal, Netherlands, Belgium, Norway, Uruguay |
| EPP.DEI.2 | Affiliations | EGI, EUDAT, GEANT, OpenAIRE, etc. |
| EPP.DEI.3 | Networks | Open Access Infrastructure for Research in Europe (OpenAIRE) |
| EPP.DEI.4 | Catalogue | CatRIS |
| Other Information | | |
| EPP.OTH.1 | ESFRI Domain | Data, Computing and Digital Research Infrastructures |
| EPP.OTH.2 | ESFRI Type | Not and ESFRI project or landmark |
| EPP.OTH.3 | MERIL Scientific Domain | Humanities & Arts |
| EPP.OTH.4 | MERIL Scientific Subdomain | Collections |
| EPP.OTH.5 | Areas of Activity | Other |
| EPP.OTH.6 | Societal Grand Challenges | Other |
| EPP.OTH.7 | National Roadmaps | No |

## 11.4 EOSC Portal Provider Profile v4.00 Guidelines

*Table 11-3: EOSC Portal Provider Profile Specification v4.00*

| Code | Attribute Name | Guidelines for the Providers | Machine-based validation | Human-based validation |
|---|---|---|---|---|
| Basic Information | | | | |
| EPP.BAI.0 | ID | The Provider ID is currently maintained by the EOSC Portal. It is assigned during onboarding of the Provider. It is suggested to use the | | |

| | | | | |
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| | | Provider's abbreviation (see EPP.BAI.2). Two providers cannot have the same id; therefore the EOSC Portal will resolve this when it happens during the registration of a provider. In next releases of the model, the id will correspond to a PID issued and resolved by PID providers (like ORCID, doi-like, etc.). | | |
| EPP.BAI.1 | Abbreviation | The abbreviation of the Provider will be used in most cases, and will be what is displayed as the main name. | | Verify via internet search that this is the relevant abbreviation (no typos or misspellings) |
| EPP.BAI.2 | Name | Suggested length is up to 100 characters | | Verify via internet search if the Provider name is a valid organisation name and has a Website with the same FQDN. |
| EPP.BAI.3 | Website | Provide the landing page (i.e. domain name or FQDN) of the resource provider | Validate nominal FQDN, reject IP or other formats | Verify via website link, that is functional, in English and directs to the landing page of the Provider |
| EPP.BAI.4 | Legal Entity | | | |
| EPP.BAI.5 | Legal Status | For suggestions in amending the "Legal Status" list, please select "Other", fill in your entry and press the "Submit" button | | |
| EPP.BAI.6 | Hosting Legal Entity | if Legal Entity is not Check then Hosting Legal Entity is Mandatory to be filled in. Also the Hosting Legal Entity must be selected from the list of Providers already registered in the EOSC Portal. | | Verify the existence, name of the provided entity via an internet search |
| Marketing Information | | | | |
| EPP.MRI.1 | Description | | | |
| EPP.MRI.2 | Logo | Describe shortly the objective and background of your organisation. | | Compare briefly to provider website to ensure content consistency, but generally take as is. |
| EPP.MRI.3 | Multimedia | Provide a URL pointing to the organisation's | Validate nominal URL, reject IP or other for- | Verify it is a functional logo, pictures the logo |

| | | | | |
|---|---|---|---|---|
| | | logo at high quality, in the form of the shortest possible alias. Link to the logo/visual identity of the Provider. Go to the Provider's website --> Right Click on the Provider's logo on the website --> Select "Copy Image Link" --> Paste it in the field. | mats For the resource located at the URL validate as follows:- Formats: png, gif, jpg, jpeg, pjpeg, tiff, vnd.adobe, vnd.microsoft - Minimum dimensions 180x120px | of the provider, it is visible in a white background |
| EPP.MRI.4 | Multimedia Name | Provide a URL pointing at a high quality video or slideshow, in the form of the shortest possible alias | Validate nominal URL, reject IP or other formats | Verify the URL is functional and points to a multimedia relevant to Provider info |
| Classification Information | | | | |
| EPP.CLI.1 | Scientific Domain | Suggested length is 100 characters | | Verify the name is relevant to the multimedia content |
| EPP.CLI.2 | Scientific Subdomain | | | |
| EPP.CLI.3 | Tags | For suggestions in amending the "Scientific Domain" list, please select "Other", fill in your entry and press the "Submit" button | | |
| EPP.CLI.4 | Structure Type | For suggestions in amending the "Scientific Subdomain" list, please select "Other", fill in your entry and press the "Submit" button | | |
| Location Information | | | | |
| EPP.L0I.1 | Street Name and Number | Add one Tag in each entry. For multi-word keywords, please use '-' to concatenate words. Suggested length is up to 20 characters | Validate keywords, by inserting '-' to concatenate words not separated by commas and identify as separate keywords words that are separated by commas | Validate tags are relevant and associated to the Provider |
| EPP.L0I.2 | Postal Code | For suggestions in amending the "Structure Type" list, please select "Other", fill in your entry and press the "Submit" button | | |
| EPP.L0I.3 | City | | | |
| EPP.L0I.4 | Region | Suggested length is up to 50 characters | | Verify the name and the number is associated to Provider's address |
| EPP.L0I.5 | Country | Suggested length is up to 20 characters | | Verify the postal code is associated to Provider's |

| | | | | |
|---|---|---|---|---|
| | | | | address |
| Contact Information | | | | |
| Main Contact | | | Suggested length is up to 20 characters | |
| EPP.COI.1 | First Name | Suggested length is up to 50 characters | | Verify the region is associated to Provider's address |
| EPP.COI.2 | Last Name | For suggestions in amending the "Country" list, please select "Other", fill in your entry and press the "Submit" button | | Verify the country is associated to Provider's address and investigate further when "other" is selected |
| EPP.COI.3 | Email | | | |
| EPP.COI.4 | Phone | | | |
| EPP.COI.5 | Position | Suggested length is up to 50 characters | | Check for obvious typos in the name. Confirm with a google search of the name of the contact person |
| Public Contact | | | Suggested length is up to 20 characters | |
| EPP.COI.6 | First Name | | Validate e-mail address | Check for obvious typos in the email. Confirm with a google search of the email of the contact person |
| EPP.COI.7 | Last Name | Suggested length is up to 20 characters | Validate for number (use separate input field for country prefixes) | Check for obvious typos in the phone number and country code. Confirm with a google search of the phone of the contact person |
| EPP.COI.8 | Email | Suggested length is up to 50 characters | | Check for obvious typos in the position of the Provider contact person |
| EPP.COI.9 | Phone | | | |
| EPP.COI.10 | Position | Suggested length is up to 20 characters | | Check for obvious typos in the name. Confirm with a google search of the name of the contact person |
| Maturity Information | | | | |
| EPP.MTI.1 | Life Cycle Status | Suggested length is up to 20 characters | | Check for obvious typos in the last name. Confirm with a google search of the last name of the contact person |
| EPP.MTI.2 | Certifications | | Validate e-mail address | Check for obvious typos in the email. Confirm with a google search of the email of the contact person |
| Dependencies Information | | | | |

| | | | | |
|---|---|---|---|---|
| EPP.DEI.1 | Participating Countries | Suggested length is up to 20 characters | Validate for number (use separate input field for country prefixes) | Check for obvious typos in the phone number and country code. Confirm with a google search of the phone of the contact person |
| EPP.DEI.2 | Affiliations | Suggested length is up to 50 characters | | Check for obvious typos in the position of the Provider contact person |
| EPP.DEI.3 | Networks | | | |
| EPP.DEI.4 | Catalogue | For suggestions in amending the "Life Cycle Status" list, please select "Other", fill in your entry and press the "Submit" button | | |
| Other Information | | | | |
| EPP.OTH.1 | ESFRI Domain | Suggested length is up to 250 characters | | The certifications provided can be generic or community specific. We do not qualify the quality of a certification, the only qualification is that the certification is described on a public webpage. Verify via easy internet searches if the provided names give a valid result describing the certification. If not, request clarification and an URL reference describing the certification. Check whether the certification body is real and appears to offer certification. |
| EPP.OTH.2 | ESFRI Type | | | |
| EPP.OTH.3 | MERIL Scientific Domain | For suggestions in amending the "Participating Countries" list, please select "Other", fill in your entry and press the "Submit" button | | Further investigate when "other" is selected |
| EPP.OTH.4 | MERIL Scientific Subdomain | Suggested length is up to 30 characters | | |
| EPP.OTH.5 | Areas of Activity | For suggestions in amending the "Networks" list, please select "Other", fill in your entry and press the "Submit" button | | |

| | | | | |
|---|---|---|---|---|
| EPP.OTH.6 | Societal Grand Chal-lenges | | | |
| EPP.OTH.7 | National Roadmaps | | | |

## 11.5 EOSC Portal Provider Profile v4.00 Code Lists, Taxonomies, Classifications

The following tables present all the Code Lists, Taxonomies, Classifications of controlled values for the Provider Profile.

### 11.5.1 Provider Legal Status

| No. | Provider Legal Status |
|---|---|
| 1 | Association |
| 2 | Consortium |
| 3 | Corporation |
| 4 | European Research Infrastructure Consortium (ERIC) |
| 5 | European Economic Interest Grouping |
| 6 | Foundation |
| 7 | Grouping |
| 8 | International or Intergovernmental Organisation or Framework |
| 9 | Non-Governmental Organisation |
| 10 | Non for Profit Company |
| 11 | Partnership |
| 12 | Private Company |
| 13 | Public Company |
| 14 | Public Legal Entity |
| 15 | Public Legal Entity under Private Law |
| 16 | Self Employed |
| 17 | Society |
| 18 | Trust |
| 19 | Union |
| 20 | Other |

### 11.5.2 Hosting Legal Entity

| No. | Name of the Organisation / Institution |
|---|---|
| 1 | Carl Zeiss Microscopy |
| 2 | Consorzio per il Sistema Informativo |
| 3 | Institute for Information Science and Technologies "Alessandro Faedo" - ISTI |
| 4 | National Distributed Computing Infrastructure |
| 5 | UK Research and Innovation - Science and Technology Facilities Council |
| 6 | MyScienceWork |
| 7 | Centre de Recherche en Acquisition et Traitement de l'Image pour la Santé |
| 8 | Europeana Foundation |
| 9 | CY-Biobank Center of Excellence in Biobanking and Biomedical Research - University of Cyprus |
| 10 | Istituto Nazionale di Astrofisica |
| 11 | Earth Observation Data Centre for Water Resources Monitoring |
| 12 | Figshare |
| 13 | Phenomenal |

| | |
|---|---|
| 14 | 100 Percent IT |
| 15 | Photon and Neutron Open Science Cloud |
| 16 | GESIS Leibniz Institute for the Social Sciences |
| 17 | Global Biodiversity Information Facility Portugal: Regions module |
| 18 | IDEAconsult |
| 19 | European Infrastructure for Plant Phenotyping |
| 20 | Institute of Informatics - Slovak Academy of Sciences |
| 21 | re3data - Registry of Research Data Repositories |
| 22 | Miguel Nogueira |
| 23 | Institute of Instrumentation for Molecular Imaging - Grid and High Performance Computing - Universitat Politècnica de València |
| 24 | Swedish Infrastructure for Ecosystem Science |
| 25 | CloudFerro |
| 26 | READ-COOP |
| 27 | Institute of Physics of Cantabria (IFCA) |
| 28 | LINDAT/CLARIAH-CZ Research Infrastructure for Language Resources and Digital Arts and Humanities in the Czech Republic |
| 29 | European Research Infrastructure for Language Resources and Technology |
| 30 | West-Life |
| 31 | COLLABWITH |
| 32 | Partnership For Advanced Computing in Europe |
| 33 | Committee for the Accessibility of Publications in Sciences and Humanities |
| 34 | Demonstration Reasoning - Test |
| 35 | GSI Helmholtzzentrum für Schwerionenforschung GmbH |
| 36 | Consortium of European Social Science Data Archives ERIC |
| 37 | Ifremer, the French Marine Science Research Institute |
| 38 | Cineca Consorzio Interuniversitario |
| 39 | UK Atomic Energy Authority |
| 40 | European Space Agency |
| 41 | Karlsruhe Institute of Technology |
| 42 | EnhanceR |
| 43 | EUDAT |
| 44 | EISCAT Scientific Association |
| 45 | European Molecular Biology Laboratory - European Bioinformatics Institute |
| 46 | Finnish Social Science Data Archive |
| 47 | Center for Research in Ecology and Forestry Applications |
| 48 | Global Biodiversity Information Facility Portugal: Spatial Portal |
| 49 | Jelastic |
| 50 | Mandat International |
| 51 | Forschungsdaten.info |
| 52 | LifeWatch ERIC |
| 53 | Digital Repository of Ireland |
| 54 | Eurac Research |
| 55 | Materials Cloud |
| 56 | Open Knowledge Maps |
| 57 | SixSq |
| 58 | NuoroForestrySchool-DipAGR-UniSS.it |
| 59 | OpenAIRE |
| 60 | Global Biodiversity Information Facility Portugal: Species Portal |
| 61 | F6S Network |
| 62 | University of Granada – UGR |
| 63 | Suite5 Data Intelligence Solutions |

| | |
|---|---|
| 64 | Institut Laue Langevin |
| 65 | European Spallation Source ERIC |
| 66 | Fundacion Centro Tecnologico de Supercomputacion de Galicia |
| 67 | Genomics Coordination Center, University Medical Center Groningen |
| 68 | Athena Research and Innovation Center in Information and Communication Technologies |
| 69 | National Infrastructures for Research and Technology |
| 70 | D4Science Infrastructure |
| 71 | SoBigData |
| 72 | Open Biomedical Engineering e-platform for Innovation through Education |
| 73 | Global Biodiversity Information Facility Portugal: Collections Registry |
| 74 | University of Florence |
| 75 | Edelweiss Connect GmbH |
| 76 | GÉANT Association |
| 77 | ACC Cyfronet AGH-UST |
| 78 | Deutsches Klimarechenzentrum |
| 79 | Digital Curation Centre |
| 80 | Portuguese National Civil Engineering Laboratory |
| 81 | ELIXIR Belgium |
| 82 | RASDAMAN |
| 83 | OpenMinTeD |
| 84 | AUTHENIX |
| 85 | Institut national de recherche en informatique et en automatique |
| 86 | Integrated Carbon Observation System European Research Infrastructure Consortium |
| 87 | Huma-Num |
| 88 | Scientific Knowledge Services |
| 89 | Fraunhofer SCAI |
| 90 | Koma Nord |
| 91 | DataCite |
| 92 | Data Revenue |
| 93 | University of Minas Gerais |
| 94 | Global Biodiversity Information Facility Portugal: Species Lists |
| 95 | CompBioMed |
| 96 | Cyberbotics |
| 97 | Institut Pierre-Simon Laplace |
| 98 | Jülich Supercomputing Centre |
| 99 | Communication & Information Technologies Experts SA Consulting and Development Services |
| 100 | Erasmus Medical Center |
| 101 | SURF |
| 102 | Computing Centre of the National Institute of Nuclear Physics and Particle Physics, CNRS |
| 103 | Strasbourg astronomical Data Centre |
| 104 | Deutsches Elektronen-Synchrotron |
| 105 | Vilnius University |
| 106 | Data Stewardship Wizard |
| 107 | Turkish Academic Network and Information Center |
| 108 | The SCIGNE Platform |
| 109 | ELIXIR United Kingdom |
| 110 | Estonian Scientific Computing Infrastructure |
| 111 | DOAB Foundation |
| 112 | INFRAFRONTIER |
| 113 | University of Tartu |
| 114 | DigitalGlobe |
| 115 | Global Biodiversity Information Facility Portugal: Images Portal |

| | |
|---|---|
| 116 | European Multidisciplinary Seafloor and water column Observatory |
| 117 | Millenia Life |
| 118 | High Integration of Research Monographs in the European Open Science infratructure |
| 119 | Open Science MOOC |
| 120 | Elixir |
| 121 | University of Geneva |
| 122 | Mundi Web Services |
| 123 | Institute of Information and Communication Technologies |
| 124 | Serveo |
| 125 | Institute of Accelerating Systems and Applications |
| 126 | Verified Exascale Computing for Multiscale Applications |
| 127 | Universitat Politècnica de València |
| 128 | OpenEdition |
| 129 | testOnboarding |
| 130 | The Cyprus Institute |
| 131 | SWITCH |
| 132 | EXOSCALE |
| 133 | Centro Nacional de Biotecnologia (CSIC) |
| 134 | Centre National de la Recherche Scientifique |
| 135 | Oxford e-Research Centre, University of Oxford, UK |
| 136 | Mundi Web Services |
| 137 | Central European Research Infrastructure Consortium |
| 138 | Research Organization Registry |
| 139 | VI-SEEM |
| 140 | T-Systems International |
| 141 | Common Workflow Language community |
| 142 | Smart-SMEAR |
| 143 | UiT The Arctic University of Norway |
| 144 | FAIR Data Infrastructure for Physics, Chemistry, Materials Science, and Astronomy |
| 145 | Institute of Atmospheric Pollution Research - National Research Council of Italy |
| 146 | Genias Benelux |
| 147 | NORCE Norwegian Research Centre |
| 148 | Posts and Telecommunications Institute of Technology |
| 149 | Gesellschaft für wissenschaftliche Datenverarbeitung mbH Göttingen |
| 150 | Thoth: Open Book Metadata Dissemination System |
| 151 | Leibniz Information Centre for Science and Technology |
| 152 | hostkey |
| 153 | ELIXIR Italy |
| 154 | Institute of Biomembranes, Bioenergetics and Molecular Biotechnologies, National Research Council |
| 155 | Shanghai Science and Technology Innovation Resources Center |
| 156 | Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering |
| 157 | Open Book Publishers |
| 158 | Italian National Institute of Nuclear Physics |
| 159 | OPERAS AISBL |
| 160 | Tree of Science |
| 161 | Global Biodiversity Information Facility (GBIF) |
| 162 | Terradue |
| 163 | Riga Stradins University |
| 164 | testStates8 |
| 165 | Bijvoet Centre - Utrecht University |
| 166 | Magnetic Resonance Center of the University of Florence - CERM, Interuniversity consortium CIRMMP |
| 167 | A Worldwide e-Infrastructure for Structural Biology |

| | |
|---|---|
| 168 | E-CAM Centre of Excellence |
| 169 | AGINFRA+ |
| 170 | BioExcel Centre of Excellence |
| 171 | EOSC DIH - Digital Innovation Hub |
| 172 | National Computing Center for Higher Education |
| 173 | University of Freiburg |
| 174 | Sinergise |
| 175 | Collaborative Open Access Research and Development |
| 176 | KIT - Steinbuch Centre for Computing |
| 177 | Ubiquity Press Ltd |
| 178 | de.NBI - German Network for Bioinformatics Infrastructure |
| 179 | PlantNet consortium (hosted by Inria) |
| 180 | University of Oslo |
| 181 | CSC – IT CENTER FOR SCIENCE |
| 182 | Swiss National Supercomputing Centre |
| 183 | Meteorological and Environmental Earth Observation |
| 184 | Ruđer Bošković Institute |
| 185 | SeaDataNet |
| 186 | Virtual Atomic and Molecular Data Centre |
| 187 | SCIPEDIA |
| 188 | CORONIS COMPUTING SL |
| 189 | Elsevier BV |
| 190 | Diamond Light Source Ltd |
| 191 | expert.ai |
| 192 | Latin American Giant Observatory |
| 193 | Barcelona Supercomputing Center - Centro Nacional de Supercomputación |
| 194 | eScience Lab, The University of Manchester |
| 195 | Poznan Supercomputing and Networking Center |
| 196 | DDQ B.V. |
| 197 | Digital Research Infrastructure for the Arts and Humanities |
| 198 | Scientific IT Research Activities and Knowledge, ICT Division, CIEMAT |
| 199 | Energy Oriented Centre of Excellence |
| 200 | GBIF Spain |
| 201 | EGI Foundation |
| 202 | Euro-Mediterranean Center on Climate Change |
| 203 | BlueBRIDGE |

### 11.5.3 Provider Scientific Domain/Subdomain

From the Revised Field of Science and Technology (FOS) Classification in the Frascati Manual by the Working Party of National Experts on Science and Technology Indicators (2007), OECD.

| No. | Scientific Domain | No. | Scientific Subdomain |
|---|---|---|---|
| **1** | Natural Sciences | 1 | Mathematics |
| | | 2 | Computer and information sciences |
| | | 3 | Physical sciences |
| | | 4 | Chemical sciences |
| | | 5 | Earth and related environmental sciences |

| | | | |
|---|---|---|---|
| | | 6 | Biological sciences |
| | | 7 | Other natural sciences |
| **2** | Engineering & Technology | 1 | Civil engineering |
| | | 2 | Electrical, electronic and information engineering |
| | | 3 | Mechanical engineering |
| | | 4 | Chemical engineering |
| | | 5 | Materials engineering |
| | | 6 | Medical engineering |
| | | 7 | Environmental engineering |
| | | 8 | Environmental biotechnology |
| | | 9 | Industrial biotechnology |
| | | 10 | Nanotechnology |
| | | 11 | Other engineering and technology sciences |
| **3** | Medical & Health Sciences | 1 | Basic medicine |
| | | 2 | Clinical medicine |
| | | 3 | Health sciences |
| | | 4 | Medical biotechnology |
| | | 5 | Other medical sciences |
| **4** | Agricultural Sciences | 1 | Agriculture, forestry, and fisheries |
| | | 2 | Animal and dairy sciences |
| | | 3 | Veterinary sciences |
| | | 4 | Agricultural biotechnology |
| | | 5 | Other agricultural sciences |
| **5** | Social Sciences | 1 | Psychology |
| | | 2 | Economics and business |
| | | 3 | Educational sciences |
| | | 4 | Sociology |
| | | 5 | Law |
| | | 6 | Political sciences |
| | | 7 | Social and economic geography |
| | | 8 | Media and communications |
| | | 9 | Other social sciences |

| | | | |
|---|---|---|---|
| **6** | Humanities | 1 | History and archaeology |
| | | 2 | Languages and literature |
| | | 3 | Philosophy, ethics and religion |
| | | 4 | Arts |
| | | 5 | Other humanities |
| **7** | Generic | 1 | Generic |
| **8** | Other | 1 | Other |

### 11.5.4 Provider Country

From ISO 3166 standard – Codes for the representation of names of countries and their subdivisions, except for Greece and the United Kingdom (use EL and UK respectively instead of GR and GB) from Eurostat code lists.

| No. | Country |
|---|---|
| **1** | Afghanistan (AF) |
| **2** | Åland Islands (AX) |
| **3** | Albania (AL) |
| **4** | Algeria (DZ |
| **5** | American Samoa (AS) |
| **6** | Andorra (AD) |
| **7** | Angola (AO) |
| **8** | Anguilla (AI) |
| **9** | Antarctica (AQ) |
| **10** | Antigua and Barbuda (AG) |
| **11** | Argentina (AR) |
| **12** | Armenia (AM) |
| **13** | Aruba (AW) |
| **14** | Australia (AU) |
| **15** | Austria (AT) |
| **16** | Azerbaijan (AZ) |
| **17** | Bahamas (BS) |
| **18** | Bahrain (BH) |
| **19** | Bangladesh (BD) |
| **20** | Barbados (BB) |
| **21** | Belarus (BY) |
| **22** | Belgium (BE) |
| **23** | Belize (BZ) |
| **24** | Benin (BJ) |
| **25** | Bermuda (BM) |
| **26** | Bhutan (BT) |
| **27** | Bolivia (BO) |
| **28** | Bonaire, Sint Eustatius and Saba (BQ) |
| **29** | Bosnia and Herzegovina (BA) |
| **30** | Botswana (BW) |
| **31** | Bouvet Island BV) |
| **32** | Brazil (BR) |

| | |
|---|---|
| **33** | British Indian Ocean Territory (IO) |
| **34** | Brunei Darussalam (BN) |
| **35** | Bulgaria (BG) |
| **36** | Burkina Faso (BF) |
| **37** | Burundi (BI) |
| **38** | Cabo Verde (CV) |
| **39** | Cambodia (KH) |
| **40** | Cameroon (CM) |
| **41** | Canada (CA) |
| **42** | Cayman Islands (KY) |
| **43** | Central African Republic (CF) |
| **44** | Chad (TD) |
| **45** | Chile (CL) |
| **46** | China (CN) |
| **47** | Christmas Island (CX) |
| **48** | Cocos (Keeling) Islands (CC) |
| **49** | Colombia (CO) |
| **50** | Comoros (KM) |
| **51** | Congo (Democratic Republic) (CD) |
| **52** | Congo (CG) |
| **53** | Cook Islands (CK) |
| **54** | Costa Rica (CR) |
| **55** | Côte d'Ivoire (CI) |
| **56** | Croatia (HR) |
| **57** | Cuba (CU) |
| **58** | Curaçao (CW) |
| **59** | Cyprus (CY) |
| **60** | Czechia (CZ) |
| **61** | Denmark (DK) |
| **62** | Djibouti (DJ) |
| **63** | Dominica (DM) |
| **64** | Dominican Republic (DO) |
| **65** | Ecuador (EC) |
| **66** | Egypt (EG) |
| **67** | El Salvador (SV) |
| **68** | Equatorial Guinea (GQ) |
| **69** | Eritrea (ER) |
| **70** | Estonia (EE) |
| **71** | Eswatini (SZ) |
| **72** | Ethiopia (ET) |
| **73** | Falkland Islands (FK) |
| **74** | Faroe Islands (FO) |
| **75** | Fiji (FJ) |
| **76** | Finland (FI) |
| **77** | France (FR) |
| **78** | French Guiana (GF) |
| **79** | French Polynesia (PF) |
| **80** | French Southern Territories (TF) |
| **81** | Gabon (GA) |
| **82** | Gambia (GM) |
| **83** | Georgia (GE) |

| | |
|---|---|
| **84** | Germany (DE) |
| **85** | Ghana (GH) |
| **86** | Gibraltar (GI) |
| **87** | Greece (EL) |
| **88** | Greenland (GL) |
| **89** | Grenada (GD) |
| **90** | Guadeloupe (GP) |
| **91** | Guam (GU) |
| **92** | Guatemala (GT) |
| **93** | Guernsey (GC) |
| **94** | Guinea (GN) |
| **95** | Guinea-Bissau (GW) |
| **96** | Guyana (GY) |
| **97** | Haiti (HT) |
| **98** | Heard Island and McDonald Islands (HM) |
| **99** | Holy See (VA) |
| **100** | Honduras (HN) |
| **101** | Hong Kong HK) |
| **102** | Hungary (HU) |
| **103** | Iceland (IS) |
| **104** | India (IN) |
| **105** | Indonesia (ID) |
| **106** | Iran (IR) |
| **107** | Iraq (IQ) |
| **108** | Ireland (IE) |
| **109** | Isle of Man (IM) |
| **110** | Israel (IL) |
| **111** | Italy (IT) |
| **112** | Jamaica (JM) |
| **113** | Japan (JP) |
| **114** | Jersey (JE) |
| **115** | Jordan (JO) |
| **116** | Kazakhstan (KZ) |
| **117** | Kenya (KE) |
| **118** | Kiribati (KI) |
| **119** | Korea (Democratic People's Republic) (KP) |
| **120** | Korea (Republic) (KR) |
| **121** | Kuwait (KW) |
| **122** | Kyrgyzstan (KG) |
| **123** | Lao People's Democratic Republic (LA) |
| **124** | Latvia (LV) |
| **125** | Lebanon (LB) |
| **126** | Lesotho (LS) |
| **127** | Liberia (LR) |
| **128** | Libya (LY) |
| **129** | Liechtenstein (LI) |
| **130** | Lithuania (LT) |
| **131** | Luxembourg (LU) |
| **132** | Macao (MO) |
| **133** | Madagascar (MG) |
| **134** | Malawi (MW) |

| | |
|---|---|
| **135** | Malaysia (MY) |
| **136** | Maldives (MV) |
| **137** | Mali (ML) |
| **138** | Malta (MT) |
| **139** | Marshall Islands (MH) |
| **140** | Martinique (MQ) |
| **141** | Mauritania (MR) |
| **142** | Mauritius (MU) |
| **143** | Mayotte (YT) |
| **144** | Mexico (MX) |
| **145** | Micronesia (FM) |
| **146** | Moldova (MD) |
| **147** | Monaco (MC) |
| **148** | Mongolia (MN) |
| **149** | Montenegro (ME) |
| **150** | Montserrat (MS) |
| **151** | Morocco (MA) |
| **152** | Mozambique (MZ) |
| **153** | Myanmar (MM) |
| **154** | Namibia (NA) |
| **155** | Nauru (NR) |
| **156** | Nepal (NP) |
| **157** | Netherlands (NL) |
| **158** | New Caledonia (NC) |
| **159** | New Zealand (NZ) |
| **160** | Nicaragua (NI) |
| **161** | Niger (NE) |
| **162** | Nigeria (NG) |
| **163** | Niue (NU) |
| **164** | Norfolk Island (NF) |
| **165** | North Macedonia MK) |
| **166** | Northern Mariana Islands (MP) |
| **167** | Norway (NO) |
| **168** | Oman (OM) |
| **169** | Pakistan (PK) |
| **170** | Palau (PW) |
| **171** | Palestine, State of (PS) |
| **172** | Panama (PA) |
| **173** | Papua New Guinea (PG) |
| **174** | Paraguay (PY) |
| **175** | Peru (PE) |
| **176** | Philippines (PH) |
| **177** | Pitcairn (PN) |
| **178** | Poland (PL) |
| **179** | Portugal (PT) |
| **180** | Puerto Rico (PR) |
| **181** | Qatar (QA) |
| **182** | Réunion (RE) |
| **183** | Romania (RO) |
| **184** | Russian Federation (RU) |
| **185** | Rwanda (RW) |

| | |
|---|---|
| **186** | Saint Barthélemy (BL) |
| **187** | Saint Helena, Ascension and Tristan da Cunha (SH) |
| **188** | Saint Kitts and Nevis (KN) |
| **189** | Saint Lucia (LC) |
| **190** | Saint Martin (MF) |
| **191** | Saint Pierre and Miquelon (PM) |
| **192** | Saint Vincent and the Grenadines (VC) |
| **193** | Samoa (WS) |
| **194** | San Marino (SM) |
| **195** | São Tomé and Príncipe (ST) |
| **196** | Saudi Arabia (SA) |
| **197** | Senegal (SN) |
| **198** | Serbia (RS) |
| **199** | Seychelles (SC) |
| **200** | Sierra Leone (SL) |
| **201** | Singapore (SG) |
| **202** | Sint Maarten (SX) |
| **203** | Slovakia (SK) |
| **204** | Slovenia (SI) |
| **205** | Solomon Islands (SB) |
| **206** | Somalia (SO) |
| **207** | South Africa (ZA) |
| **208** | South Georgia and the South Sandwich Islands (GS) |
| **209** | South Sudan (SS) |
| **210** | Spain (ES) |
| **211** | Sri Lanka (LK) |
| **212** | Sudan (SD) |
| **213** | Suriname (SR) |
| **214** | Svalbard and Jan Mayen (SJ) |
| **215** | Sweden (SE) |
| **216** | Switzerland (CH) |
| **217** | Syrian Arab Republic (SY) |
| **218** | Taiwan (Province of China) (TW) |
| **219** | Tajikistan (TJ) |
| **220** | Tanzania (TZ) |
| **221** | Thailand (TH) |
| **222** | Timor-Leste (TL) |
| **223** | Togo (TG) |
| **224** | Tokelau (TK) |
| **225** | Tonga (YO) |
| **226** | Trinidad and Tobago (TT) |
| **227** | Tunisia (TN) |
| **228** | Turkey (TR) |
| **229** | Turkmenistan (TM) |
| **230** | Turks and Caicos Islands (TC) |
| **231** | Tuvalu (TV) |
| **232** | Uganda (UG) |
| **233** | Ukraine (UA) |
| **234** | United Arab Emirates (AE) |
| **235** | United Kingdom of Great Britain and Northern Ireland (UK) |
| **236** | United States Minor Outlying Islands (UM) |

| | |
|---|---|
| **237** | United States of America (US) |
| **238** | Uruguay (UY) |
| **239** | Uzbekistan (UZ) |
| **240** | Vanuatu (VU) |
| **241** | Venezuela (VE) |
| **242** | Viet Nam (VN) |
| **243** | Virgin Islands (British) (VG) |
| **244** | Virgin Islands (U.S.) (VI) |
| **245** | Wallis and Futuna (WF) |
| **246** | Western Sahara (EH) |
| **247** | Yemen (YE) |
| **248** | Zambia (ZM) |
| **249** | Zimbabwe (ZW) |
| **250** | Other |

### 11.5.5 Provider Life Cycle Status

| No. | Provider Life Cycle Status | Description |
|---|---|---|
| **1** | Under Construction | The Provider Infrastructure is under construction. |
| **2** | Operational | The Provider Infrastructure is constructed and all operations are being offered. |
| **3** | Being Upgraded | The Provider Infrastructure is currently being upgraded. It is probable that many Resources are in containment or unavailable. |
| **4** | Other | |

### 11.5.6 Provider Network

| No. | Provider Networks |
|---|---|
| **1** | 4M Association (4M) |
| **2** | African Archeologists Association (AAA) |
| **3** | Academic Careers Understood through MEasurement and Norms (ACUMEN) |
| **4** | Accessibility Assessment Simulation Environment for New Applications Design and Development (ACCESSI-BLE) |
| **5** | European Research Infrastructure for the observation of Aerosol, Clouds and Trace Gases (ACTRIS) |
| **6** | Advancing 3Rs and International Standards in Biological and Biomedical Research (EUPRIM-Net) |
| **7** | AErosol Robotic NETwork (AERONET) |
| **8** | African Studies in Europe (AEGIS) |
| **9** | Alianza por la Investigación y la Innovación Energéticas (ALINNE) |
| **10** | ALISTORE European Research Institute (ALISTORE ERI) |
| **11** | Advanced MEMS For RF and Millimeter Wave Communications (AMICOM) |
| **12** | Analysis and Experimentation on Ecosystems (ANAEE) |
| **13** | Animal Health and Welfare ERA-Net (ANIHWA) |
| **14** | Alliance for Permanent Access to the Records of Science Network (APARSEN) |
| **15** | Asociación de Empresas de Energías Renovables (APPA Marina) |
| **16** | AQUAculture infrastructures for EXCELlence in European fish research towards 2020 (AQUAEXCEL) |
| **17** | Support the sustainable development of aquaculture in the Mediterranean region (AQUAMED) |
| **18** | CEH Aquatic Mesocosm Facility (CAMF) |
| **19** | International network for capacity building for the control of emerging viral vector borne zoonotic diseases (ARBO-ZOONET) |
| **20** | Asia-Europe Sustainable Connectivity Scientific Conference (ASEM) |
| **21** | Association of European Marine Biological Laboratories Expanded (ASSEMBLE) |

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| **22** | Advanced Methods and Tools for Handling and Assembly in Microtechnology (ASSEMIC) |
| **23** | Association of International Research and Development Centers for Agriculture (AIRCA) |
| **24** | Assessment, STrategy And Risk Reduction for Tsunamis in Europe (ASTARTE) |
| **25** | Astrodynamics Network (ASTRONET) |
| **26** | Astroparticle Physics European Coordination (ApPEC) |
| **27** | Atlantic Network of Geodynamical and Space Stations (REAGE) |
| **28** | Austrian Centre for Scientific Comuting (ACSC) |
| **29** | Baseline Surface Radiation Network (BSRN) |
| **30** | Berlin-Brandenburg Institute of Advanced Biodiversity Research (BBIB) |
| **31** | Biobanking and BioMolecular resources Research Infrastructure – European Research Infrastructure Consortium (BBMRI-ERIC) |
| **32** | Bio-based Industries Consortium (BIC) |
| **33** | Biocenter Finland (BF) |
| **34** | Biodiversity Research Network (ALTER-Net) |
| **35** | Biological Alert Laboratories Network, Spain (RELAB) |
| **36** | Biomass Research Infrastructure for Sharing Knowledge (BRISK) |
| **37** | Biological Nuclear Magnetic Resonance (Bio-NMR) |
| **38** | Biobank Standardisation and Harmonisation for Research Excellence in the European Union (BioSHaRE-EU) |
| **39** | Transnational access and enhancement of integrated Biological Structure determination at synchrotron X-ray radiation facilities (BioStruct-X) |
| **40** | European Botanic Gardens Consortium International (BGCI) |
| **41** | Budapest Neutron Centre (BNC) |
| **42** | Cloud-Aerosol Lidar and Infrared Pathfinder Satellite Observation (CALIPSO) |
| **43** | Connecting Archaeology and Architecture in Europe (CARARE) |
| **44** | Coordinating Systems Medicine across Europe (CASyM) |
| **45** | Census Data Open Linked (CEDAR) |
| **46** | Center for Organelle Research (CORE) |
| **47** | Central European Research Infrastructure Consortium (C-ERIC) |
| **48** | European Research Infrastructure for Language Resources and Technology (CLARIN) |
| **49** | Development of european pilot network of stations for observing cloud profiles (CLOUD-NET) |
| **50** | Cross National Equivalent File (CNEF) |
| **51** | Cohort and Longitudinal Studies Enhancement Resources (CLOSER) |
| **52** | Collaboration to Clarify the Costs of Curation (4C) |
| **53** | Collections Policy Board (CPB) |
| **54** | Comité Polar Español (CPE) |
| **55** | Cancer Organoids Multiplexed Screening in Microfluidic Textile chips (COMMIT) |
| **56** | Committee Research with Neutrons (KFN) |
| **57** | Common Access to Biotechnological Resources and Information (CABRI) |
| **58** | Consortium of European Social Science Data Archives (CESSDA) |
| **59** | Consortium of European Taxonomic Facilities (CETAF) |
| **60** | Cooperative Research Ships (CRS) |
| **61** | Convenient Access to Light Sources Open to Innovation, Science and to the World (CALIPSOplus) |
| **62** | Coordinated Research Infrastructures Building Enduring Life-Science Services (CORBEL) |
| **63** | Communication and Policy development for Research Infrastructures in Europe (CoPoRI) |
| **64** | The inter-university core facility network (IcoFNET) |
| **65** | Council for the Development of Social Science Research in Africa (CODESRIA) |
| **66** | Council of Managers of National Antarctic Programs (COMNAP) |
| **67** | Citizenship, Recovery and Inclusive Society Partnership (CRISP) |
| **68** | Cultural Heritage Advanced Research Infrastructures (CHARISMA) |
| **69** | European Data Centre Association (EUDCA) |
| **70** | German Scientific Library Services and Information Systems (DFG LIS) |
| **71** | Digital Research Infrastructure for Arts and Humanities (DARIAH) |

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| **72** | Dutch Techcentre for Life Sciences (DTL) |
| **73** | Enhancing Access and Services To East European users towards an efficient and coordinated panEuropean pool of NMR capacities to enable global collaborative research & boost technological advancements (EAST-NMR) |
| **74** | European Advanced Translational Research Infrastructure in Medicine (EATRIS) |
| **75** | Creating conditions for persistence of biodiversity in the face of climate change (EcoChange) |
| **76** | European Clinical Research Infrastructures Network - Integrating Activity (ECRIN-IA) |
| **77** | Biology and control of vector-borne infections in Europe (EDENEXT) |
| **78** | European Facility for Advanced Seismic Testing (E-FAST) |
| **79** | European Fusion Development Agreement (EFDA) |
| **80** | European Holocaust Research Infrastructure (EHRI) |
| **81** | European Science Teachers Initiative (ESTI - EIROforum) |
| **82** | European Marine Biological Resource Centre (EMBRC) |
| **83** | European Magnetic Field Laboratory (EMFL) |
| **84** | European Network for Diagnostics of Imported Viral Diseases (ENIVD) |
| **85** | Entreprise Europe Network (EEN) |
| **86** | Environmental Research Infrastructures (ENVRI) |
| **87** | EPIZONE European Research Group (ERG) |
| **88** | European Technology Platform on Smart Systems Integration (EpoSS) |
| **89** | Association of European Research Establishments in Aeronautics (EREA) |
| **90** | European Research Infrastructure for Heritage Science Preparatory Phase (E-RIHS) |
| **91** | European Research Infrastructure on Highly Pathogenic Agents (ERINHA) |
| **92** | European Reference Network for Critical Infrastructure Protection (ERNCIP) |
| **93** | European Sequencing and Genotyping Infrastructure (ESGI) |
| **94** | European Society for the study of Human Evolution (ESHE) |
| **95** | Advanced Energy STorage and Regeneration System for Enhanced Energy Management (ESTEEM) |
| **96** | European Strategic Wind Tunnels Improved Research Potential (ESWIRP) |
| **97** | Enabling the European Nanomedicine Area (NANOMED) |
| **98** | Supporting environmental, nature conservation and climate action projects throughout the EU (EU-Life) |
| **99** | e-Infrastructure in the Mediterranean region dedicated for research and educational use (EUMEDCON-NECT) |
| **100** | European Infrastructure of Open Screening Platforms for Chemical Biology (EU-OPENSCREEN) |
| **101** | European Network of Freshwater Research Organisations (EurAqua) |
| **102** | European Atomic Energy Community (Euratom) |
| **103** | European rail research network of excellence (EUR$^2$EX) |
| **104** | Research infrastructure for imaging technologies in biological and biomedical sciences (Euro-BioImaging) |
| **105** | Integration of European Simulation Chambers for Investigating Atmospheric Processes (EUROCHAMP) |
| **106** | Activities of the Roadmap to Fusion during Horizon 2020 through a Joint programme of the members of the EUROfusion consortium (EUROfusion) |
| **107** | European Aerosol Research Lidar Network (EARLINET) |
| **108** | European Aquaculture Technology and Innovation Platform (EATIP) |
| **109** | European Association for Solar Telescopes (EAST) |
| **110** | European Cancer Organisation (ECCO) |
| **111** | European Commission for the control of Foot and Mouth Disease (EuFMD) |
| **112** | European Consortium for Ocean Research Drilling (ECORD) |
| **113** | European Coordination for Accelerator Research & Development (EUCARD) |
| **114** | European Cluster of Advanced Laser Light Sources (EUCALL) |
| **115** | European Culture Collections' Organisation (ECCO) |
| **116** | European Data Infrastructure (EUDAT) |
| **117** | European Energy Research Alliance (EERA) |
| **118** | European Facility for Airborne Research (EUFAR) |
| **119** | European Federation for Primatology (EFP) |

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| **120** | European Grid Infrastructure (EGI) |
| **121** | European Infrastructure of Open Screening Platforms for Chemical Biology (EU-OPENSCREEN) |
| **122** | European Institute for Biomedical Imaging Research (EIBIR) |
| **123** | European Labour History Network (ELHN) |
| **124** | European Librarians in African Studies (ELIAS) |
| **125** | European Life Sciences Infrastructure For Biological Information (ELIXIR) |
| **126** | European Light Microscopy Initiative (ELMI) |
| **127** | European Molecular Biology Network (EMBnet) |
| **128** | European Monitoring Agency for Drugs and Drug Addition (EMCDDA) |
| **129** | European Mouse Mutant Archive (EMMA) |
| **130** | European Multidisciplinary Seafloor Observation (EMSO) |
| **131** | European Open Science Cloud (EOSC) |
| **132** | European Open Science Cloud (EOSC) Photon and Neutron Data Service (ExPaNDS) |
| **133** | European Network for Animal Disease and Infectiology Research Facilities (NADIR) |
| **134** | European Network of Marine Research Institutes and Stations (MARS) |
| **135** | European Network of Vaccine Research and Development (TRANSVAC2) |
| **136** | European Nuclear Science and Applications Research (ENSAR) |
| **137** | European Plant Phenotyping Network (EPPN) |
| **138** | European Plate Observing System (EPOS) |
| **139** | European Polar Board (EPB) |
| **140** | European Research Vessels Operators (ERVO) |
| **141** | European Social Survey Sustainability (ESS-SUSTAIN) |
| **142** | European Technology Platform for High Performance Computing (ETP4HPC) |
| **143** | European VLBI Network (EVN) |
| **144** | European Windtunnel Association (EWA) |
| **145** | European, Middle Eastern and African Society for Biopreservation and Biobanking (ESBB) |
| **146** | Platform for Digital Cultural Heritage (Europeana) |
| **147** | EUROPLANET 2020 Research Infrastructure (EPN2020-RI) |
| **148** | EUROPEAN SOLAR RESEARCH INFRASTRUCTURE FOR CONCENTRATED SOLAR POWER (EU-SOLARIS) |
| **149** | European Vasculitis Study Group (EUVAS) |
| **150** | Event Horizon Telescope (EHT) |
| **151** | European VLBI Network (EVN) |
| **152** | Experimentation in Ecosystem Research (ExpeER) |
| **153** | Federation of European Neurosciences (FENS) |
| **154** | European research infrastructure for imaging technologies in biological and biomedical sciences (BioImaging Network) |
| **155** | Food and Agricultural Organisation of the United Nations (FAO) |
| **156** | The European Fusion Education Network (FUSENET) |
| **157** | GAW Aerosol Lidar Observations Network (GALION) |
| **158** | Gauss Centre for Supercomputing (GCS) |
| **159** | Global Atmosphere Watch Programme (GAW) |
| **160** | GBIF Nodes Network |
| **161** | Global Climate Observing System (GCOS) |
| **162** | Network of French researchers involved in chemical biology approaches (GDR ChemBioScreen) |
| **163** | Pan-European Research and Education Network (GÉANT) |
| **164** | National Genome Research Network (NGFN) |
| **165** | German Consortium for Translational Cancer Research (DKTK) |
| **166** | German Data Forum (RatSWD) |
| **167** | Global Alliance for Zika Virus Control and Prevention (ZIKAlliance) |
| **168** | Global Atmosphere Watch Programme-cooperation Germany, Austria, Switzerland (GAW-DACH) |
| **169** | Global Biodiversity Information Facility (GBIF) |
| **170** | Global Earth Observation System of Systems (GEOSS) |

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| **171** | Global Genome Biodiversity Network (GGBN) |
| **172** | Global Lake Ecology Observatory Network (GLEON) |
| **173** | The Global mm-VLBI Array (GMVA) |
| **174** | Global Network for Taxonomy (BioNET) |
| **175** | Global Mercury Observation System (GMOS) |
| **176** | European GNSS Service Centre (GSC) |
| **177** | Global Ocean Observing System (GOOS) |
| **178** | Leibniz Library Network for Research Information consortium (Goportis) |
| **179** | GCOS Reference Upper-Air Network (GRUAN) |
| **180** | Grupo Interinstitucional y Comunitario de Pesca Artesanal del Pacífico Chocoano (GIPCA) |
| **181** | Gentle User Interfaces for Disabled and Elderly Citizens (GUIDE) |
| **182** | Integrating European Infrastructure to support science and development of Hydrogen- and Fuel Cell Technologies towards European Strategy for Sustainable, Competitive and Secure Energy (H2FC) |
| **183** | Helmholtz Centre for Infection Research (HZI) |
| **184** | Dresden High Magnetic Field Laboratory (Hochfeld-Magnetlabor Dresden, HLD) |
| **185** | Human Brain Project (HBP) |
| **186** | Human Proteome Project (HUPO) |
| **187** | HUMAN centred design for Information Society Technologies (Humanist) |
| **188** | Highly-complex and networked control systems (HYCON2) |
| **189** | Complex Interaction of Water with Environmental Elements, Sediment, Structures and Ice (Hydralab) |
| **190** | Ibero-american network for the study of carotenoids as food ingredients (IBERCAROT) |
| **191** | Inclusive Blockchain Insurance using Space Assets (IBISA) |
| **192** | Ice Age Europe (ICEAGE) |
| **193** | International Council of Museums (ICOM) |
| **194** | International Council for Scientific and Technical Information (ICSTI) |
| **195** | International Forum for Aviation Research Support Action (IFARS) |
| **196** | International Long Term Ecological Research (ILTER) |
| **197** | Infrastructure for NMR, EM and X-rays for translational research (iNEXT) |
| **198** | Infrafrontier The European infrastructure for phenotyping and archiving of model mammalian genomes (INFRAFRONTIER) |
| **199** | INfraStructure in Proton International Research (INSPIRE) |
| **200** | Integrated non-CO2 Greenhouse Gas Observing Systems (InGOS) |
| **201** | Integrated Carbon Observation System (ICOS) |
| **202** | Integrated Infrastructure Initiative for Neutron Scattering and Muon Spectroscopy (NMI3) |
| **203** | Intergovernmental Oceanographic Commission/International Oceanographic Data and Information Exchange (IOC/IODE) |
| **204** | Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) |
| **205** | Internal Magnets for DNP (DNPMAG) |
| **206** | International Association of Labour History Institutions (IALHI) |
| **207** | International Barcode of Life (IBOL) |
| **208** | International Cancer Genome Consortium (ICGC) |
| **209** | International Council for the Exploration of the Sea (ICES) |
| **210** | International Council of Museums (ICOM) |
| **211** | International Council on Archives (ICA) |
| **212** | International Energy Agency (IEA) |
| **213** | International Atomic Energy Agency (IAEA) |
| **214** | International Federation of Data Organizations (IFDO) |
| **215** | International Gravity Reference System (IGRS) |
| **216** | International Mouse Knock-out Consortium (IKMC) |
| **217** | International Mouse Phenotyping Consortium (IMPC) |
| **218** | International Mouse Strain Resources (IMSR) |
| **219** | International Network for Terrestrial Research and Monitoring in the Arctic (INTERACT) |

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| **220** | International Network of Ground-Based Microwave Radiometers (MWRnet) |
| **221** | International Ocean Drilling Program (IODP) |
| **222** | International Panel Survey Methods Workshops (IPSMW) |
| **223** | International Primatological Society (IPS) |
| **224** | International programme of biodiversity science (DIVERSITAS) |
| **225** | International Research Institute of Stavanger (IRIS) |
| **226** | International Research Ship Operators (IRSO) |
| **227** | International Society for Atmospheric Research using Remotely Piloted Aircraft (ISARRA) |
| **228** | International Society for Biological and Environmental Repositories (ISBER) |
| **229** | International Tokamak Physics Activity (ITPA) |
| **230** | International Towing Tank Conference (ITTC) |
| **231** | International Virtual Observatory Alliance (IVOA) |
| **232** | International VLBI Service for Geodesy & Astrometry (IVS) |
| **233** | Infrastructure for Systems Biology – Europe (ISBE) |
| **234** | International Society for Biological and Environmental Repositories (ISBER) |
| **235** | International Society of Nephrology (ISN) |
| **236** | Innovation Technologies and Applications for Coastal Archaeological sites (ITACA) |
| **237** | International Union for Conservation of Nature / Species Survival Commission (IUCN/SSC) |
| **238** | International Virtual Observatory Alliance (IVOA) |
| **239** | Kernel-Based ARchitecture for safetY-critical cONtrol (KARYON) |
| **240** | Innovative Radiopharmaceuticals in Oncology and Neurology (Labex IRON) |
| **241** | Large Binocular Telescope (LBT) |
| **242** | Critical success factors for fish larval production in European Aquaculture: a multidisciplinary network (LarvaNET) |
| **243** | Integrated Initiative of European Laser Research Infrastructures (LASERLAB-EUROPE) |
| **244** | Lasers for Applications at Accelerator facilities for ion beam generation, acceleration and diagnostics ($LA^3NET$) |
| **245** | League of European Accelerator-based Photon Sources (LEAPS) |
| **246** | European Distributed Information Technology for Health Care (EDITH) |
| **247** | e-Infrastructure for Biodiversity and Ecosystem Research (LifeWatch) |
| **248** | Laboratoire National de Champs Magnétiques Intenses (LNCMI) |
| **249** | Low Voltage Agreement Group (LOVAG) |
| **250** | European Long-Term Ecosystem and socio-ecological Research Infrastructure (eLTER) |
| **251** | MAnagement of Security information and events in Service InFrastructures (MASSIF) |
| **252** | Marine Renewables Infrastructure Network for Emerging Energy Technologies (MARINET) |
| **253** | Mediterranean Operational Network for the Global Ocean Observing System (MONGOOS) |
| **254** | Network of leading MESOcosm facilities to advance the studies of future AQUAtic ecosystems from the Arctic to the Mediterranean (MESOAQUA) |
| **255** | Open virtual network for aquatic mesocosm facilities worldwide (MESOCOSM) |
| **256** | Meson Physics in Low-Energy QCD (MesonNet) |
| **257** | Organization devoted to the development of metabolism-based research (Metabolomics Society) |
| **258** | Open and secure network of repositories for sharing and exchanging language data, tools and related web services (META-SHARE) |
| **259** | Open Technology for Digitalisation (Meters & More) |
| **260** | Microbial Resources Research Infrastructure (MIRRI) |
| **261** | Millennium Seed Bank (MSB) Partnership |
| **262** | MIcro-and NAnotechnology Manufacturing (MINAM) |
| **263** | Musical Instrument Museums Online (MIMO) |
| **264** | Prototype Operational Continuity for the GMES Ocean Monitoring and Forecasting Service (MyOcean2) |
| **265** | A network for bringing NANOtechnologies TO LIFE (NANO2LIFE) |
| **266** | Nanostructured and Functional Polymer-based Materials and Nanocomposites (NANOFUN-POLY) |
| **267** | A cross-ETP Coordination Initiative on nanotechnology (NANOfutures) |

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| **268** | National Genome Research Network (NGFN) |
| **269** | National Network for Electron Microscopy (RNME) |
| **270** | Network for the Detection of Atmospheric Composition Change (NDACC) |
| **271** | A Network of Excellence for Advanced Road cooperative traffic management in the Information Society (NEARCTIS) |
| **272** | Network for Digital Methods in the Arts and Humanities (NeDiMAH) |
| **273** | Network of Aquaculture Centres in Central-Eastern Europe (NACEE) |
| **274** | Network of European CEntrifige for Research (NECER) |
| **275** | RO-Crate |
| **276** | Networking Lake Observatories in Europe (NETLAKE) |
| **277** | Federation of European Neuroscience Societies (FENS) |
| **278** | Neutron scattering and Muon Spectroscopy Integrating Infrastructure Initiative (NMI3) |
| **279** | New operational steps towards an alliance of European research fleets (EUROFLEETS2) |
| **280** | Towards Game-changer Service Operation Vessels for Offshore Windfarms (NEXUS) |
| **281** | Nordic Microscopy Society (SCANDEM) |
| **282** | Nordic Nanolab Network (NNN) |
| **283** | Nuclear Physics Network (NuPNET) |
| **284** | Ocean Facilities Exchange Group (OFEG) |
| **285** | Open Access Infrastructure for Research in Europe (OpenAIRE) |
| **286** | Open Planets Foundation (OPF) |
| **287** | Optical Infrared Coordination Network for Astronomy (OPTICON) |
| **288** | Organisation of European Cancer Institutes (OECI) |
| **289** | Photon and Neutron Open Science Cloud (PaNOSC) |
| **290** | Parelsnoer Institute (PSI) |
| **291** | Partnership for European Environmental Research (PEER) |
| **292** | Design for Micro & Nano Manufacture (PATENT-DfMM) |
| **293** | PATrimoines matériels : Réseau d'Instrumentation Multisites Equipex (PATRIMEX) |
| **294** | Photonics community of industry and research organisations (PHOTONICS21) |
| **295** | Polar barcode of life (IBOL) |
| **296** | Partnership for Advanced Computing (PRACE) |
| **297** | PoweRline Intelligent Metering Evolution Alliance (PRIME) |
| **298** | Proteomics Research Infrastructure Maximising knowledge EXchange and access (PRIME-XS) |
| **299** | Protein Production and Purification Platforms in Europe (P4EU) |
| **300** | Proteomics and Metabolomics Core Facility (PROMEC) |
| **301** | Carlos III Networked Proteomics Platform (ProteoRed-ISCIII) |
| **302** | Public Population Project in Genomics and Society ($P^3G$) |
| **303** | An international network of 50 CubeSats for multi-point, in-situ measurements in the lower thermosphere and re-entry research (QB50) |
| **304** | Belgian Network for Radiation Applications in Healthcare (Rad4med) |
| **305** | Advanced Radio Astronomy in Europe (RadioNet) |
| **306** | Rede de Remediação e Reabilitação de Ambientes Degradados (READE) |
| **307** | International Excellence Research Network (REBT) |
| **308** | Research Data Alliance (RDA) |
| **309** | Research infrastructures for the control of insect vector-borne diseases (Infravec2) |
| **310** | Resource Network Supporting Academic Chemical Biology Research (ChemBioNet) |
| **311** | Flagship Project is one of the National Research Programmes funded by the Italian Ministry of University and Research (RITMARE) |
| **312** | European Association for Transactional analysis (EATA) |
| **313** | SatNav Network |
| **314** | Scalable, Secure Storage of Biobank Data (BiobankCloud) |
| **315** | Scandinavian Dialect Syntax Network (ScanDiaSyn) |
| **316** | Scientific Collections International (SciColl) |

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| **317** | Science and Applications of ultrafast and ultraintense lasers (SAUUL) |
| **318** | World class Science and Innovation with Neutrons in Europe (SINE) |
| **319** | ScienceLink Network |
| **320** | Standard Conference on Library Materials on Africa (SCOLMA) |
| **321** | Pan-European infrastructure for ocean & marine data management (SeaDataNet) |
| **322** | Security for Future Networks (SecFuNet) |
| **323** | Security for smart Electricity GRIDs (SEGRID) |
| **324** | Seismic Engineering Research Infrastructures for European Synergies (SERIES) |
| **325** | Seismology and Earthquake Engineering Research Infrastructure Alliance for Europe (SERA) |
| **326** | Square Kilometer Array (SKA) |
| **327** | Society for Neuroscience (SfN) |
| **328** | Society for the Preservation of Natural History Collections (SPNHC) |
| **329** | Society for Tropical Ecology (GTO) |
| **330** | Society of Primatology (ASP) |
| **331** | High-Resolution Solar Physics Network (SOLARNET) |
| **332** | Social Platrform for Holistic Heritage Imapct Assessment (SOPHIA) |
| **333** | Scalable privacy preserving intelligence analysis for resolving identities (SPIRIT) |
| **334** | State-Trait Anxiety Inventory (STAI) |
| **335** | Standing Committee Research Data Infrastructure (FDI) |
| **336** | Stations at High Altitude for Research on the Environment (SHARE) |
| **337** | Strange Particles in Hadronic Environment Research in Europe (SPHERE) |
| **338** | Cooperation between Superconductivity and Magnetism in Mesoscopic systems (SuperMAG) |
| **339** | Swiss Institute for Art Research (SIK-ISEA) |
| **340** | Information Network of European Natural History Collections (SYNTHESYS) |
| **341** | Trustworthy Clouds Privacy and Resilience for Internet-scale Critical Infrastructure (TClouds) |
| **342** | Biodiversity Information Standards (TDWG) |
| **343** | Teide and Roque de los Muchachos Observatories (ORM) |
| **344** | Telescopio Nazionale Galileo (TNG) |
| **345** | Towards a joint European research infrastructure network for coastal observatories (JERICO) |
| **346** | Towards an Alliance of European Research Fleets (EUROFLEETS) |
| **347** | Transnational Access to MAMI (MAMI) |
| **348** | Integrative European Research Infrastructure project to integrate, develop and improve major forest genetics and forestry research (TREES4FUTURE) |
| **349** | UK Environmental Change Network (ECN) |
| **350** | Veterinary Biocontained facility Network for excellence in animal infectious disease research and experimentation (VetBioNet) |
| **351** | Virtual Atomic and Molecular Data Center (VAMDC) |
| **352** | VISION Advanced Infrastructure for Research (VISIONAIR) |
| **353** | VLBI2010 Global Observing System (VGOS) |
| **354** | Virtual Physiological Human Network of Excellence (VPH) |
| **355** | Worldwide e-Infrastructure for NMR and structural biology (WeNMR) |
| **356** | Ultrafast Nanooptics Research Group - Wigner Research Centre for Physics (UNRG) |
| **357** | World Data Centre for Microorganisms (WDCM) |
| **358** | World Data System (WDS) |
| **359** | World Federation for Culture Collections (WFCC) |
| **360** | World Organisation for Animal Health (OIE) |
| **361** | WorldWide LHC Computing Grid (wLCG) |
| **362** | Word Wide NMR (WW-NMR) |
| **363** | Zoonoses Anticipation and Preparedness Initiative (ZAPI) |
| **364** | Other |

### 11.5.7 Provider Structure Type

| No. | Provider Type | Description |
|---|---|---|
| 1 | Single-sited | The Provider has one main physical location for users. |
| 2 | Distributed | The Provider has multiple physical locations but a unified management structure and a single coordination centre. |
| 3 | Mobile | The Provider is changing its physical location on a regular basis (e.g., satellites, research vessels). |
| 4 | Virtual | The Provider is exclusively an electronic resource. |
| 5 | Other | |

### 11.5.8 Provider ESFRI Domain

| No. | ESFRI Domain | Description |
|---|---|---|
| 1 | Energy | The energy sector is key to social and economic development. Especially in some non-OECD countries the energy sector sees very high growth rates due to rising GDP. However, it contributes significantly to global CO2 emissions. For the EU, the reduction of CO2 emissions in a sustainable framework is a major driver of its energy policy. This provides opportunities for new technologies both for application within and outside of the EU. |
| 2 | Environment | Environmental sciences are traditionally divided into four research and study domains: ATMOSPHERE, HYDROSPHERE, BIOSPHERE and GEOSPHERE. These different spheres are closely interlinked, and therefore environmental sciences can also be presented according to Grand Challenges, such as loss of biodiversity, pollution, depletion of natural resources, risks, hazards and climate change. |
| 3 | Health & Food | There is a broad consensus that future competitiveness in a globalised knowledge economy depends on research capability. Research Infrastructures (RIs) in the Biological, Agri-Food and Medical Sciences – i.e. Health & Food – continue to establish themselves as research, innovation and skills hubs and as a motor for economic impact. This is reflected in increasing levels of industrial access to RIs, and in their European and global positioning. |
| 4 | Physical Sciences & Engineering | Research Infrastructures are integral part of the day-to-day activity of Physical Sciences & Engineering. Historically and today the PSE RIs are integrated in the way research is done in these disciplines, and major advances in knowledge are achieved by the research performed at RIs. However, the RIs are much more than research tools; they are truly Hubs of Knowledge & Innovation with a complete multidisciplinary approach and a systematic impact on many areas beyond Physical Sciences and Engineering. |
| 5 | Social & Cultural Innovation | Research Infrastructures that support research across and within the Social & Cultural Innovation domain are among the first known infrastructures: libraries, museums and archives are the most obvious examples of this legacy. In today's digital age, Research Infrastructures in the Social Sciences and Humanities (SSH) enhance research into the historical, social, economic, political and cultural contexts of the European Union, providing data and knowledge to support its strategies. |
| 6 | Data, Computing and Digital Research Infrastructures | In research, as in all fields of society, Information and Communications Technology (ICT) has become a key enabling factor for progress. ICT is also changing the modus operandi of research by providing new possibilities for geographically distributed collaboration and sharing. Data-driven science, as well as more and more open access to data and scientific results, is transforming not only how research is conducted, but its overall reach. |
| 7 | Other | |

### 11.5.9 Provider ESFRI Type

| No. | Provider ESFRI type |
|---|---|
| 1 | RI is a node of an ESFRI project |
| 2 | RI is an ESFRI project |
| 3 | RI is an ESFRI landmark |
| 4 | Not an ESFRI project or landmark |
| 5 | Other |

### 11.5.10 Providers MERIL Scientific Domain/Subdomain

*Source: MERIL.*

| No. | Scientific Domain | No. | Category | Description |
|---|---|---|---|---|
| 1 | Biological & Medical Sciences | 1 | Agronomy, Forestry, Plant Breeding Centres | Facilities that enable open field and forest experiments to test the impact of management practices and of environmental conditions on soil, crop, and primary production. These include plants and trees ex-situ collections, experimental facilities for controlled crosses and propagation, and population genetics field testing. The facilities are relevant for Biological- and Environmental Sciences. |
| | | 2 | Animal Facilities | Facilities that provide husbandry of animals and services to the biomedical research community, usually equipped with highly automated systems that provide the best possible conditions for animal reproduction and maintenance. The main activity is the reproduction and maintenance of animal stocks either of inbred strains or genetically engineered animals, such as transgenic and knockout mouse lines, or even chemically-induced mutants. |
| | | 3 | Collections of Biological Resources (e.g. Microorganisms, Biobanks and Seed Banks) | Facilities for storage of collections of microorganisms, biological material and the associated data and information facilities for a population or a large subset of a population, maintained under controlled conditions (temperature, humidity, atmosphere, etc.). The biological resources, including microorganisms, human/animal cells, tissue, blood and DNA, seeds of crops, trees and wild plant species, are conserved for their genetic endowment. Databases established on these provide holistic information on each accession with scientific descriptors, ethno-botanical/zoological/microbiological/medical knowledge, including for the purpose of establishing intellectual property rights and ownership over the biomaterial stored |
| | | 4 | Bio-Informatics Facilities | Bioinformatics facilities generate knowledge through computer analysis of biological data. |

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| | | | | These can consist of the information stored in the genetic code, but also experimental results from various sources, patient statistics, and scientific literature. Research in bioinformatics includes method development for storage, retrieval, and analysis of the data. Bioinformatics is a rapidly developing branch of biology and is highly interdisciplinary, using techniques and concepts from informatics, statistics, mathematics, chemistry, biochemistry, physics, and linguistics. It has many practical applications in different areas of biology and medicine. |
| | | 5 | Biological/Biomedical Engineering and Biotechnology/Nanotechnology Research Facilities | Facilities that are dedicated to application of concepts and methods of bioscience and/or nanoscience, and/or use of living systems and organisms to develop solutions to problems in life- and preclinical sciences using engineering methodologies. |
| | | 6 | Biomedical Imaging Facilities | Facilities, which are, equipped for visualisation, characterisation, and measurement of biological processes at the cellular and tissue levels in humans and other living systems. |
| | | 7 | Cell Culture Facilities | Facilities that are equipped to provide robust support for isolation and culture of a variety of cell lines (like mammalian and insect cell lines, mouse and human embryonic stem cells), including serum preparation, feeders, growth factors and mycoplasma testing, this may be on serum-based or serum-free media. |
| | | 8 | Clinical Research Centres | Facilities that support patient-oriented research, involving a particular person or group of people or using materials from humans. This research can include studies of mechanisms of human disease; studies of therapies or interventions for disease; clinical trials; studies to develop new technology related to disease. |
| | | 10 | Environmental Health Research Facilities | Environmental health research addresses all potential hazards caused to a human being or an animal by external physical, chemical, and biological factors, and all the related factors impacting behaviours. It encompasses the assessment and control of those environmental factors that can potentially affect health. It is targeted towards preventing disease and creating health-supportive environments. This definition excludes behaviour not related to environment, as well as behaviour related to the social and cultural environment, and genetics. This category includes toxicology and infectious diseases facilities as well as epidemiological study centres. |
| | | 11 | Genomic, Transcriptomic, Proteomics and Metabolomics Facilities | Multiple sites ranging from single laboratory DNA sequencing and RNA transcript analysis facilities run by biologists for their own de- |

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| | | | | partment's research to high-throughput facilities aimed at providing a sophisticated service for a broad community of biologists run by informaticians, biologists and engineers. Proteomics: physical chemistry developments for clinical and biological applications getting access to proteins network linked to the physiological and pathological stated of the cells. This includes nutrigenomics research. |
| | | 12 | Structural Biology Facilities | Facilities, which are equipped for visualisation, characterisation, and measurement of biological processes at the molecular level in humans and other living systems. Main technologies include protein crystallisation, X-ray diffraction, mass spectrometry, DSC. |
| | | 13 | Systems Biology/Computational Biology Facilities | Laboratories that combine all relevant scientific disciplines and the know-how to integrate experimental data with computational and theoretical approaches with the aim of targeting, understanding and engineering pathways, cells, organs and complete organisms. |
| | | 14 | Telemedicine Laboratories and E-Health Technologies | E-Health is an emerging concept relating to the use of networked digital ICTs (primarily the Internet) to facilitate the organisation & delivery of health care and services. It encompasses applications for providers and organisations (e.g. for storing, exchanging and using clinical or administrative data, or aiding evidence-based practice) and for citizens and patients (e.g. web- based health information, education, virtual consulting), as well as research applications of e- Health technologies. |
| | | 15 | Translational Research Centres | Translational Research Centres support the integration of evidence-based medicine, social sciences and political sciences with the aim of optimising patient care and preventive measures, which may extend beyond healthcare services. This is the process of turning appropriate biological discoveries into drugs and medical devices that can be used in the treatment of patients. |
| | | 16 | Other | |
| 2 | Chemistry and Material Sciences | 1 | Analytical Facilities | All facilities where analytical tools are used that are based on one of the following probes or methods: electrons, photons, neutrons, radio frequency, NMR, or analytical chemistry. It does include Surface Science Laboratories dedicated to analysis and characterization of surface and interface phenomena. Different users would come from the scientific domains Chemistry, Earth science, Bio-Medical (including forensic) science and different sensitivities (Analytical Chemistry, electron microscopy laboratories); NMR facilities; surface science labora- |

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| | | | | tories; x- ray diffraction; Electron Microscopy Laboratories, aspects in life sciences, earth, forensics; Surface Science Laboratories. |
| | | 2 | Chemical Libraries and Screening Facilities | Digital libraries related to chemistry as well as screening facilities. |
| | | 3 | Intense Light Sources | All facilities that provide access to intense light radiation sources as used for lasers, synchrotrons, Free Electron Lasers. The facilities are relevant to the scientific domains of Physics, Chemistry, Bio-Medical Sciences, Earth and Environmental Sciences, Humanities & Arts, Information Science & Technology; Laser Sources for materials synthesis laboratories; Laser Sources for spectroscopy laboratories; Synchrotron Light Sources and X-Ray Diffraction Facilities. |
| | | 4 | Intense Neutron Sources | Accelerator-based neutron source facility that provides the intense pulsed neutron beam. |
| | | 5 | Materials Synthesis or Testing Facilities | All single or multi sited facilities run by engineers and materials scientists to process or test materials regarding predefined specifications. It includes testing and processing equipment, structural and properties characterization instruments. The facilities are relevant to the scientific domains of Engineering, Materials Sciences, Physics, and Chemistry. |
| | | 6 | Pilot Plants for Process Testing | Plants where processes in biological or chemical systems, including bioenergy/biorefinery research and food processing research, are tested on a pilot level scale. Biology, Chemistry. |
| | | 7 | Reference Material Repositories | Facilities providing materials with at least one standardised and fully described property that can be used in measurements e.g. as a standard for calibration of instruments or as reference for measuring other materials. |
| | | 8 | Other | |
| 3 | Earth and Environmental Sciences | 1 | Acoustic Monitoring Stations | Non-audible very low frequency waves infrasound stations, (volcano meteors monitoring, avalanches, landslides); audible frequency stations and hydro acoustic stations (marine mammals, multi-beam, acoustic tomography, echosounders, sodar); high frequency stations (T-phase stations). |
| | | 2 | Atmospheric Measurement Facilities | Meteorological stations (all physical parameters that can be observed) ; Global Atmospheric Watch (GAW); Airglow; Ionospheric stations (all sky cameras, ionospheric radar); brewers; lidars; chemical compositions, pollution and radionuclides facilities; This includes atmospheric test chambers, used to conduct controlled experiments for climate change research and atmosphere related problems. |
| | | 3 | Earth Observation Satellites | Including Optical-IR Earth Observation satellites and Radar Earth Observation satellites. |

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| | | 4 | Earth, Ocean, Marine, Freshwater, and Atmosphere Data Centres | Platforms for the exchange of earth, oceanographic, marine, freshwater and atmospheric data and information, and for advisory services in the field of earth, ocean, marine, freshwater and atmospheric data management. National Data Centres, Designated National Agencies for international data exchange and Satellite Data Centres represent the backbone of the data and information infrastructure. National networks are usually put in place to interconnect the data centres of major national institutes. The overall objective is to significantly improve the overview and access to data and data analysis from government and research institutes. |
| | | 5 | Earthquake Simulation Laboratories | Facilities that are equipped to do computer-assisted earthquake simulation. |
| | | 6 | Environmental Management Infrastructures | Pilot facilities and experimental infrastructures for management, ecological restoration and environmental mitigation of terrestrial and aquatic ecosystems in natural or degraded conditions (including hydrological and soil management field facilities; decontamination and bioremediation facilities and pilot plants). |
| | | 7 | Geothermal Research Facilities | Facilities that enable research, development, and demonstration of technologies to advance the use of geothermal energy as a clean, renewable, domestic power source. |
| | | 8 | In Situ Earth Observatories | Platforms and sensor technologies deployed in situ to collect environmental data (including physical, chemical and biological observations) in support of terrestrial environmental research and management activities. These facilities, including ecological habitat field stations, provide a base for trans-disciplinary research and training, with access to terrestrial field sites for survey and experimental opportunities and often supporting environmental observations and the collection of long-term time series data sets (i.e. on biodiversity). |
| | | 9 | In Situ Marine/Freshwater Observatories | Platforms and sensor technologies deployed in situ to collect environmental data (including physical, chemical and biological observations) in support of aquatic environmental research and management activities. These facilities, including marine/freshwater research centres, provide a base for trans-disciplinary research and training, with access to marine and freshwater field sites, and equipment (including research vessels that may carry large exchangeable underwater equipment/instruments ) for survey and experimental opportunities and often supporting environmental observations and the collection of long-term time series data sets (i.e. on biodiversity). Typical equipment |

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| | | | | includes: Buoys; Argo; gliders; autonomous underwater vehicles; remotely operated vehicle (Victor); Tide gauges; deep-sea laboratories. Ship-time for stock assessments, polar supply, naval research, and educational courses and non- academic research are not considered in this context. For this inventory, the atmospheric measurement facilities are kept as a separate category. This implies that some marine research centres will also fall under this category if they host an atmospheric measurement site. |
| | | 10 | Natural History Collections | Facilities that serve as a library of organisms have lived and/or are living on Earth and curation sites for materials relevant for planetary exploration. They contribute to specific research and public education in an easily accessible venue. |
| | | 11 | Polar and Cryospheric Research Infrastructures | Arctic and Antarctic stations; high altitude and mountain stations; heavy icebreakers; International Partnerships in Ice Core Sciences (IPICS); ANDRILL; Polar Ionospheric stations. |
| | | 12 | Research Aircraft | - |
| | | 13 | Solid Earth Observatories, including Seismological Monitoring Stations | Drilling platforms and sensor technologies deployed to collect solid earth data and material in support of solid earth research and management activities. This includes facilities that collect seismological data to be added to the European Integrated Data Archive (EIDA) and made available to the scientific community. Integrated Ocean Drilling Programme (IODP) and Integrated Continental Drilling Programme (ICDP); Sediment Coring Archives; VLBI stations. |
| | | 14 | Other | |
| 4 | Engineering & Energy | 1 | Aerospace and Aerodynamics Research Facilities | Single-sited facilities providing a controlled wind stream in which objects (aircrafts, vehicles, buildings) are placed in order to measure their aerodynamic properties, using for instance lasers and/or simulate an operation and control during flight/drive; includes wind tunnels. |
| | | 2 | Civil Engineering Research Infrastructures | Single-sited, distributed or virtual facilities for the design, construction, testing (including the use of shaking tables) and maintenance of non-military, non-aerospace or non-mechanical large structures, typically including large buildings, transport infrastructures, bridges, dams, tunnels, sewers, plus river, coastal and public health engineering. |
| | | 3 | Electrical and Optical Engineering Facilities | Single- or multi-sited facilities that offer scientists and engineers access to devices for handling light, utilizing properties of light, and detecting light or access to infrastructure for research and development in the fields of elec- |

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| | | | | tricity, electronics, and electromagnetism. These infrastructures may either broadly deal with electrical or electronic engineering or be focused specifically on some of the numerous subtopics, like electronics, electric power, telecommunications, control systems, or other. |
| | | 4 | Energy Engineering Facilities (non-nuclear) | Combustion, solar, wind, production & distribution, includes, combustion test facilities and associated technologies. |
| | | 5 | Marine & Maritime Engineering Facilities | Experimental facilities in the fields of hydraulics, geophysical fluid dynamics, ship dynamics and ice engineering research. These include: Basins (both for marine research with waves and/or (tidal) currents and research on inland water issues); multi-directional wave basins; flumes (both for marine research and for research on inland water issues); towing tanks for ship dynamics research; cavitation tunnels; rotation basins for research on Coriolis-dominated issues; facilities for ice research; other hydraulic facilities. The facilities are relevant for the scientific domains Engineering, Earth and Environmental Sciences, Marine and Polar Sciences |
| | | 6 | Mechanical Engineering Facilities | Facilities dedicated to manufacturing, assembly and testing of components and systems offering services related to control, integration and realization of products and processes including modelling and simulation tools. Processing technology, road-transport vehicle development and testing are included. |
| | | 7 | Other | |
| 5 | Humanities & Arts | 1 | Collections | Sets of often unique objects and items of different types collected usually to be exhibited. Collections normally include a collecting policy for new acquisitions, so only objects and items in certain categories and of a certain quality are accepted into the collection. Objects in a collection are normally catalogued, traditionally in a card index, but nowadays this is being replaced by computerized database also for physical collections. These type of RIs are particularly relevant for the humanities, which often deal with the study of unique artefacts, but they can be relevant for other domains, such as social sciences, life and environmental sciences. PHYSICAL: Museums, Galleries, Analogue audio/visual/multimedia collections, Archaeology, Anthropology and Ethnology Collections, Arts & Art History Collections, Music and Instrument Collections, Datasets (e.g. analogue audio/visual/multimedia datasets). DIGITAL: Archaeology, Anthropology and Ethnology Collections, Arts & Art History Collec- |

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| | | | | tions, Digitised Manuscript Collections, Music and Instrument Collections, Virtual museums, Virtual galleries, Datasets. |
| | | 2 | Repositories | Locations for storage of often-unique objects and items of different nature, in general for preservation purposes. Repositories not only have the function to store objects and items, but they also guarantee access for future retrieval and study. This type of RI in its general definition is relevant to all scientific domains (for instance as far as physical or virtual facility for the deposit of academic publications such as academic journal articles are concerned); however, some humanities disciplines strongly rely on specific repositories for its analysis. PHYSICAL: Analogue audio/visual/multimedia repositories, Archaeology, Anthropology and Ethnology Repositories, Arts & Art History Repositories.<br>DIGITAL: Data repositories (e.g. digital library), Archaeology, Anthropology and Ethnology Repositories, Arts & Art History Repositories, Digitised Manuscript Repositories. |
| | | 3 | Databases | Structured sets of data for one or more purposes, usually in digital form. The term database applies to the data and their supporting data structures. The utilisation of databases is spread across all scientific disciplines. Databases are therefore RIs relevant to all scientific domains. Databases in the form of structured meta-data as well as analytical data organised usually within a relational model have been extensively developed as RIs in the Humanities with increasing uptake in all its disciplines: Archaeology, Anthropology and Ethnology Databases, Arts & Art History Databases, History Databases, Digitised Manuscript Databases. |
| | | 4 | Conceptual Models | Explicit formalisations that map a concept to its intended semantics. Conceptual models are adopted in every research domain (e.g. economic models, mathematical models). In the humanities, however, some conceptual models have developed into RIs indispensable to structure a certain knowledge domain, such as is the case for thesauri and taxonomies (also very much used in life sciences) which have a long tradition in supporting analytical efforts especially in linguistics. Increasingly, digital models built around conceptual ontologies and networks are being developed for modelling specific research domain or for cross-referencing purposes in the Humanities. |
| | | 5 | Research Archives | Accounting normally for organised sets of unpublished and almost always unique historical |

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| | | | | records, or the physical place they are located, archives contain primary source documents (texts, maps, pictures etc.) in physical but also increasingly digital form (e.g. text archives structured in databases) that have accumulated over the course of an individual or organisation's lifetime. In general, archives consist of records that have been selected for permanent or long-term preservation on grounds of their enduring cultural, historical, or evidentiary value. Archives are thus particularly relevant to the Humanities, chiefly to historians but also to many other Humanities researchers dealing with primary sources of various kinds. A scientific discipline called archival science, dedicated to the study and practice of organising, preserving, and providing access to information and materials in archives, has established itself within the Humanities: History Archives, Literature and Text Archives. |
| | | 6 | Research Libraries | Traditionally, large collections of books, or the place in which the collection is housed. However, the term library has extended its meaning to refer to any collection, including digital sources, resources, and services. The collections can be of print, audio, and visual materials in numerous formats, including maps, prints, documents, microform (microfilm/microfiche), CDs, cassettes, videotapes, DVDs, video games, e-books, audiobooks and many other electronic resources. A research library is a collection of useful material for research use. A library is organised for use and maintained by a public body, an institution, a corporation, or a private individual. In addition to providing materials, libraries also provide the services of librarians who are experts at finding and organising information and at interpreting information needs. Modern libraries are increasingly being redefined as places to get unrestricted access to information in many formats and from many sources. They are extending services beyond the physical walls of a building, by providing material accessible by electronic means, and by providing the assistance of librarians in navigating and analysing tremendous amounts of information with a variety of digital tools. Libraries are valuable to all scientific domains; however, they are of specific relevance to Humanities research which relies on access to historical and rare collections of unique artefacts (e.g. primary sources such as ancient manuscripts) and other sources to study those arte- |

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| | | | | facts and works (secondary and tertiary sources) usually held within libraries and otherwise hardly accessible. A scientific discipline called library and information science, an interdisciplinary or multidisciplinary field dedicated to the analysis, collection, organisation, classification, manipulation, preservation, retrieval and dissemination of information resources, has established itself at the crossroads between social sciences, humanities and computer sciences. Historically, library science has also included archival science. |
| | | 7 | Research Bibliographies | Large-scale systematic lists of books and other works such as journal articles, reference and access resources. They can be physical publications (i.e. bound volumes) or digital (indexes and catalogues usually in the form of databases).<br>They can be generally divided into enumerative bibliography, which results in an overview of publications in a particular category, and analytical, or critical, bibliography, which studies the production of research material (in the form of books as well as other formats, including recordings, motion pictures, videos, graphic objects, databases, CD-ROMs and websites). As a bibliography can be produced in any field, it could be considered a transversal category; however, it is Humanities research especially that has traditionally relied on such tools to systematise its fields of enquiry – spanning centuries of relevant publications for many humanities disciplines – and circumscribe its research domain. |
| | | 8 | Other | |
| 6 | Information Science & Technology | 1 | Centralised Computing Facilities | Single-sited facilities with a centralised control that enable high performance computing through supercomputers. These are relevant to all scientific domains. |
| | | 2 | Communication Networks | Facilities responsible, at national or international levels, for the provision of data communications networks, capacity and services to the research and education community in all scientific domains. The networks typically connect other networks at international, regional or metropolitan level. |
| | | 3 | Complex Data Facilities | Facilities to store huge and high dimensional data volumes and apply statistical methods to classify or cluster the data to extract valuable information. The facilities are relevant to Bio-Medical Sciences; Earth and Environmental Sciences; Physics; Astrophysics; Social Sciences. |
| | | 4 | Distributed Computing Facilities | Facilities for virtualisation, grid and cloud computing, or capability computing that are loosely |

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| | | | | coupled, heterogeneous, and geographically dispersed distributed system with non-interactive workloads that involve a large number of files. They federate, share and coordinate distributed resources from different organisations that are not subject to centralized control, using open, general-purpose and in some cases standard protocols and interfaces to deliver non-trivial qualities of service relevant to all scientific domains. |
| | | 5 | Software Service Facilities | Facilities that provide access to well fabricated software for modelling, simulation, development, control and optimization, including software libraries/repositories or support services for the implementation of the software, their maintenance and adaptation to new hardware platforms as well consultation regarding proper use of the software as well as training facilities for users. These are relevant to all scientific domains. |
| | | 6 | Other | |
| 7 | Physics, Astronomy, Astrophysics and Mathematics | 1 | Astro-Particle and Neutrino Detectors and Observatories | Range of detectors/observatories, using interactions in water or ice for detecting astrophysical neutrinos, interactions in liquid noble gases or solids for searching for dark matter particles, and light emission in the atmosphere for the detection of gamma rays from astrophysical sources. |
| | | 2 | Centres for Advanced Research in Mathematics | Research Centres hosting researchers and organizing scientific events at a high level. Three different types of centres can be distinguished according to their aim: a) centres organizing high level one week conferences in mathematics or their interface with sciences and industry; b) centres organizing, over three or more months, targeted advanced scientific programmes at doctoral level or on specific research challenges; c) high-level research institutes with few permanent positions and a highly developed visitor's programme. (High-level mathematics, interface between mathematics and other sciences). |
| | | 3 | Centres for Development of Industrial Mathematics | Centres devoted to the development of the interface between mathematics and industry. Their research groups offer a wide range of mathematical expertise and are able to interact with scientists from other disciplines (life sciences, bio-medicine, material sciences, engineering, computer sciences, physics, social sciences, etc.) both in the academic or industrial frameworks. (Industrial mathematics, applied mathematics). |
| | | 4 | Cross-Disciplinary Centres in Mathematics | Specialised structures devoted to the interaction of mathematics with other sciences (e.g. |

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| | | | | biology, genomics, chemistry, computer sciences …). These structures strive at developing new areas of research where mathematics is known to play a founding role as it did in the development of physics. (Cross-disciplinary centres; mathematical sciences; interaction of mathematics). |
| | | 5 | Extreme Conditions Facilities | All facilities where materials are studied under extreme physical conditions as in High Magnetic Field Laboratories, High Pressure Laboratories, Low Temperature Laboratories, High Radiation Facilities, and Microgravity platforms. |
| | | 6 | Gravitational Wave Detectors and Observatories | Instruments using laser interferometry between freely hung test masses up to several km apart in vacuum. The lengths of two perpendicular arms, defined by the test masses, are compared and fluctuations in the arm length differences are recorded and analysed for potential GW signals. Links to earth observation. |
| | | 7 | High Energy Physics Facilities | High Energy Physics Facilities include accelerators, colliders, targets, light sources and detectors of high-energy particles through electrostatic or oscillating fields accelerating particles to speeds sufficient to cause nuclear and particle reactions. |
| | | 8 | Mathematics Centres of Competence | Mathematics centres of competence develop mathematical models for applications in all sciences and engineering, including social sciences, and medicine. They analyse the models, develop and implement algorithms for the simulation of the models as well as for the optimization and control of the involved processes. They provide transversal competences, which allow transferring concepts and methods from one specific science to another, and they also provide consulting concerning the use of methods and their implementation for specific applications. When needed, they generate the basic mathematical theory that is needed to perform the described tasks. (Mathematical modelling; numerical and statistical simulation; control theory; optimization; mathematical algorithm repository). |
| | | 9 | Micro and Nanotechnology Facilities | Micro and nanotechnology facilities deal with the understanding and control of matter at the nanoscale and microscales, at dimensions between approximately 1 and 1000 nanometres, involving imaging, measuring, modelling, and manipulating matter at this length scale. |
| | | 10 | Nuclear Research Facilities | Nuclear Physics facilities include accelerators, colliders, targets and detectors to study the atomic nucleus, the nuclear matter including its fusion and fission. The facilities can be classified according to their objects of study (had- |

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| | | | | rons, nuclei, applications), the probes that are used to investigate them (lepton/photon or hadron/heavy ion beams), or simply by the size of the facility and the type of reactions involved in the various nuclear processes. |
| | | 11 | Safety Handling Facilities | Facilities that are required to handle materials that potentially cause biosafety, chemical, radioactive, explosive, or engineering hazards. In addition, clean rooms and Actinide Handling Facilities would be included. Includes Biosecurity Level-4 Laboratories. |
| | | 12 | Space Environment Test Facilities | Includes planetary/space environment simulation chambers and space environment exposure facilities as well as space plasma physics facilities |
| | | 13 | Telescopes | Includes ground-based telescopes with (1) optical and/or near infrared telescopes, interferometers or (2) reflector telescopes with mirrors of different diameters, operating at radio frequencies, or infrared and/or optical wavelengths and (3) Space-borne telescopes orbiting the earth including a wide range of wavelengths, from gamma-rays to the radio. |
| | | 14 | Underground Laboratories | Underground spaces providing experimental areas of reduced cosmic ray background, reduced seismic noise etc. for a range of experiments in physics and particle astrophysics. Open to members of collaborations involved in installing and running experiments. These facilities also have relevance to ICT and Material Sciences, Environment, Biological and Medical Sciences, Physics. |
| | | 15 | Other | |
| 8 | Social Sciences | 1 | Data Archives, Data Repositories and Collections | A digital data archive is a centre of expertise in data acquisition, preservation, management, dissemination and promotion of an access to the national and international collections and repositories of digital data. These type of RIs are particularly acute to the social sciences, which often rely on the aggregation of longitudinal data, and to the humanities, which often rely on preservation, but they can be relevant for other domains, particularly, the life and environmental sciences and the medical sciences. |
| | | 2 | Data mining and Analysis (Methodological) Centres, including statistical analysis | Centres of expertise or methodological resources for extracting patterns from large data sets by combining methods from statistics and artificial intelligence. These RIs enable researchers to overcome the challenge of working with increasingly larger datasets. Data-mining and statistical techniques populate every scientific domain but what counts as data is domain specific. Therefore, this category should be understood as specific to social sci- |

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| | | | | ences because it refers to data in the social sciences. |
| | | 3 | National Statistical Facilities (offices) | Centres of expertise responsible for the collection and publication of statistics related to the economy, population and society at international, national and regional levels. These infrastructures have been traditionally created by the states but constitute as well powerful resources for the social scientists. |
| | | 4 | Registers and Survey-led Studies/Databases | Organized and systematic collection of data (time or spatial series) for one or more purposes (research, evidence-based policy, non-governmental organisations) in digital form or not. These type of RIs are particularly acute to the social sciences, which often rely on the aggregation of masses of longitudinal data, but they can be relevant for all the other domains, that is, the humanities, the life and environmental sciences, the physical sciences and engineering, and the medical sciences. |
| | | 5 | Research Data Service Facilities | Facilities for clustering research data and making it permanently accessible, as well as facilities for the provision of all sorts of data services. These often include meta-infrastructures. These types of RIs are particularly relevant to Humanities and Arts; Social Sciences, Medical sciences. |
| | | 6 | Other | |
| 9 | Other | 1 | Other | |

### 11.5.11 Provider Area of Activity

| No. | (Provider) Areas of Activity |
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| **1** | Basic research |
| **2** | Applied research |
| **3** | Technological development |
| **4** | Other |

### 11.5.12 Provider Societal Grand Challenges

| No. | (Provider) Societal Grand Challenges |
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| **1** | Health, demographic change and wellbeing |
| **2** | Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the Bioeconomy |
| **3** | Secure, clean and efficient energy |
| **4** | Smart, green and integrated transport |
| **5** | Climate action, environment, resource efficiency and raw materials |
| **6** | Europe in a changing world – inclusive, innovative and reflective societies |
| **7** | Secure societies – protecting freedom and security of Europe and its citizens |
| **8** | Other |

# 12 Annex IV: EOSC Portal Resource Profile Specification v4.00

An **EOSC Resource** is an asset made available by means of the EOSC system and according to the EOSC Rules of Participation to EOSC End-Users to perform a process useful to deliver value in the context of the EOSC. EOSC Resources include Services, Data Sources, Research Products and any other asset. The Resource Profile is employed during the second step of the EPOP. Following the onboarding of the Provider, the Provider Manager may onboard its Resources by completing this Profile.

## 12.1 EOSC Portal Resource Profile v4.00 Information Blocks

The information In the Resource Profile v4.00 is organised in twelve blocks, as shown in Figure 12.1.

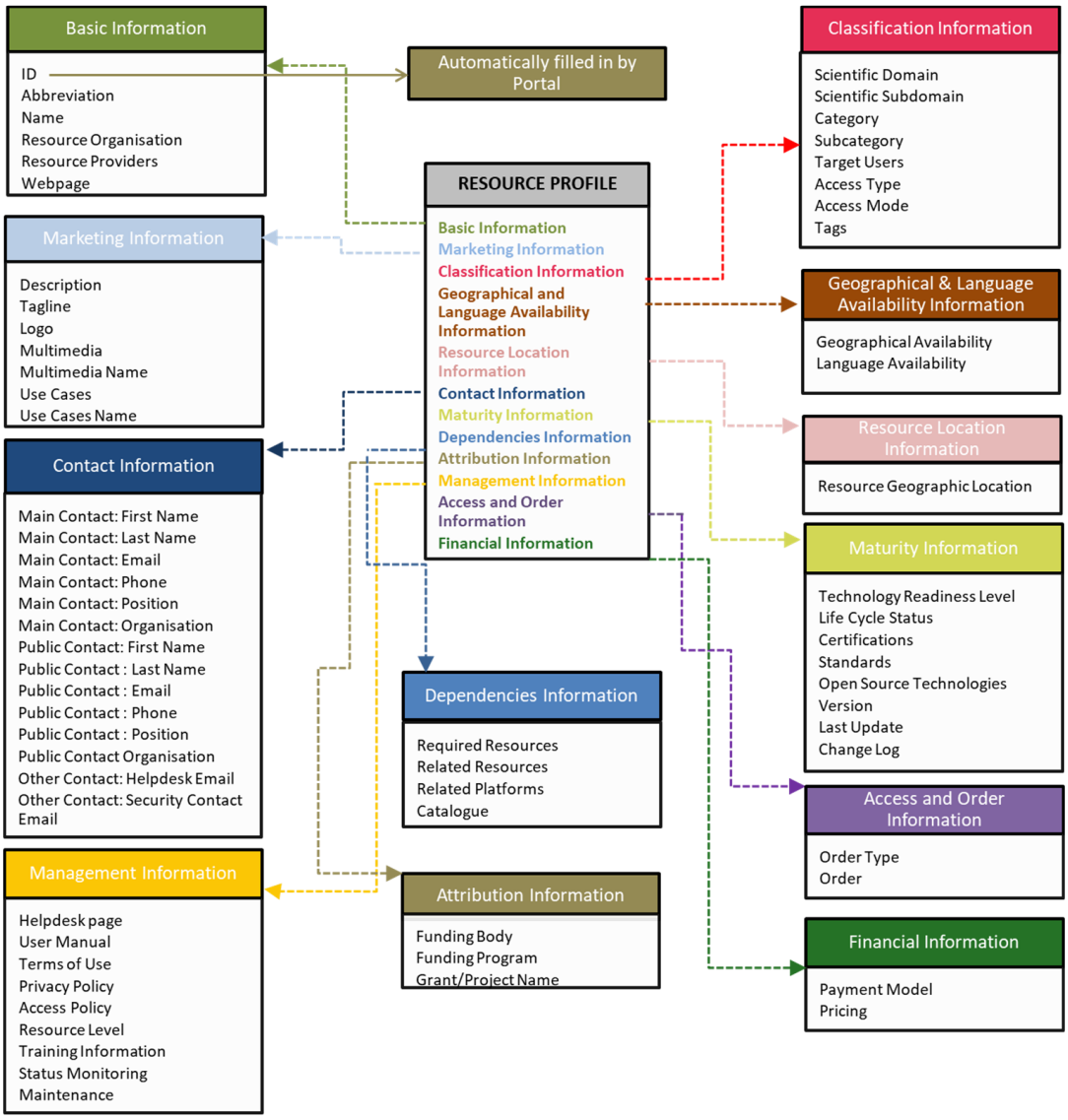


*Figure 12.1: Information Blocks of the EOSC Portal Resource Profile*

a) **Basic Information**: Basic information about a Resource such as the unique reference to the Resource, the name, the Resource organisation, the Providers, the webpage, etc.

b) **Marketing Information:** Marketing information about the Resource, such as Resource description, tagline, logo, multimedia, use cases, etc.
c) **Classification Information**: information about the classification of the Resource, such as scientific domain, category, target users, access type, access mode, tags, etc.
d) **Geographical and Language Availability Information**: information about the geographical availability and language availability.
e) **Resource Location Information**: information about the Resource Geographic Location.
f) **Contact information**: information about the main contact/Resource owner, public contact and other contacts: a) **Main Contact/Resource Owner:** Information about its First and Last Name, Email, Phone, position, organisation, etc., b) **Public Contact:** Information about its First and Last Name, Email Phone, Position, Organisation, etc., c) **Other Contacts:** Information about helpdesk email, security contact email, etc.
g) **Maturity Information**: Information that define the maturity of the Resource, such as technology readiness level, life cycle status, certifications, standards, open source technologies, version, last update, change log, etc.
h) **Dependencies information**: Dependencies Information about the Resource, such as required Resources, related Resource, related platforms, etc.
i) **Attribution information**: Attribution information about the Resource such as funding body, funding program, grant/project name, etc.
j) **Management information**: Management information about the Resource, such as helpdesk page, user manual, terms of use, privacy policy, access policy, service level, training information, status monitoring, maintenance, etc.
k) **Access and Order information**: Access and order information such as order type, order, etc.
l) **Financial information**: Financial information about the Resource such as payment model, pricing, etc.

## 12.2 EOSC Portal Resource Profile v4.00 Specification

The following table includes the full specification of the Resource Profile v4.00.

*Table 12-1: EOSC Portal Resource Profile Specification v4.00*

| Code | Attribute Name | Definition | Type | Multiplicity | Required | Public |
|---|---|---|---|---|---|---|
| Basic Information | | | | | | |
| ERP.BAI.0 | ID | A persistent identifier, a unique reference to the Resource in the context of the EOSC Portal. | String (max 30) | 1 | Mandatory (Assigned by the EOSC Portal) | Yes |
| ERP.BAI.1 | Abbreviation | An abbreviation of the Resource Name as assigned by the Provider | String (Max 20) | 1 | Mandatory | Yes |
| ERP.BAI.2 | Name | Resource Full Name as assigned by the Provider. | String (max 80) | 1 | Mandatory | Yes |
| ERP.BAI.3 | Resource Organisation | The name (or abbreviation) of the organisation that manages or delivers the | Provider ID | 1 | Mandatory (Filled in by the | Yes |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | resource, or that coordinates resource delivery in a federated scenario. | | | EOSC Portal) | |
| ERP.BAI.4 | Resource Providers | The name(s) (or abbreviation(s)) of Provider(s) that manage or deliver the Resource in federated scenarios. | Provider IDs | Multiple | Optional | Yes |
| ERP.BAI.5 | Webpage | Webpage with information about the Resource usually hosted and maintained by the Provider. | URL | 1 | Mandatory | Yes |
| Marketing Information | | | | | | |
| ERP.MRI.1 | Description | A high-level description in fairly non-technical terms of a) what the Resource does, functionality it provides and Resources it enables to access, b) the benefit to a user/customer delivered by a Resource; benefits are usually related to alleviating pains (e.g., eliminate undesired outcomes, obstacles or risks) or producing gains (e.g. increased performance, social gains, positive emotions or cost saving), c) list of customers, communities, users, etc. using the Resource. | String (max 1000) | 1 | Mandatory | Yes |
| ERP.MRI.2 | Tagline | Short catch-phrase for marketing and advertising purposes. It will be usually displayed close to the Resource name and should refer to the main value or purpose of the Resource. | String (max 100) | 1 | Mandatory | Yes |
| ERP.MRI.3 | Logo | Link to the logo/visual identity of the Resource. The logo will be visible at the Portal. If there is no specific logo for the Resource the logo of the Provider may be used. | URL | 1 | Mandatory | Yes |
| ERP.MRI.4 | Multimedia | Link to video, screenshots or slides showing details of the Resource. | URL | Multiple | Optional | Yes |
| ERP.MRI.5 | Multimedia Name | Short description of the Multimedia content | String (Max 100) | Multiple | Optional | Yes |
| ERP.MRI.6 | Use Cases | Link to use cases supported by this Resource. | URL | Multiple | Optional | Yes |
| ERP.MRI.7 | Use Cases Name | Short description of the Use Case content | String (Max 100) | Multiple | Optional | Yes |

| | | | | | | |
|---|---|---|---|---|---|---|
| Classification Information | | | | | | |
| ERP.CLI.1 | Scientific Domain | The branch of science, scientific discipline that is related to the Resource. | List of controlled values | Multiple | Mandatory | Yes |
| ERP.CLI.2 | Scientific Subdomain | The subbranch of science, scientific subdiscipline that is related to the Resource. | List of controlled values | Multiple | Mandatory | Yes |
| ERP.CLI.3 | Category | A named group of Resources that offer access to the same type of Resource or capabilities. | List of controlled values | Multiple | Mandatory | Yes |
| ERP.CLI.4 | Subcategory | A named group of Resources that offer access to the same type of Resource or capabilities, within the defined Resource category | List of controlled values | Multiple | Mandatory | Yes |
| ERP.CLI.5 | Target Users | Type of users/customers that commissions a Provider to deliver a Resource. | List of controlled values | Multiple | Mandatory | Yes |
| ERP.CLI.6 | Access Type | The way a user can access the Resource (Remote, Physical, Virtual, etc.) | List of controlled values | Multiple | Optional | Yes |
| ERP.CLI.7 | Access Mode | Eligibility/criteria for granting access to users (excellence-based, free-conditionally, free etc.) | List of controlled values | Multiple | Optional | Yes |
| ERP.CLI.8 | Tags | Keywords associated to the Resource to simplify search by relevant keywords. | String (max 50) | Multiple | Optional | Yes |
| Geographical and Language Availability Information | | | | | | |
| ERP.GLA.1 | Geographical Availability | Locations where the Resource is offered. | List of controlled values | Multiple | Mandatory | Yes |
| ERP.GLA.2 | Language Availability | Languages of the (user interface of the) Resource. | List of controlled values | Multiple | Mandatory | Yes |
| Resource Location Information | | | | | | |
| ERP.RLI.01 | Resource Geographic Location | List of geographic locations where data, samples, etc. are stored and processed | List of controlled values | Multiple | Optional | |
| Contact Information | | | | | | |
| Main Contact/Resource Owner | | | | | | |
| ERP.COI.1 | First Name | First Name of the Resource's main contact person/manager. | String (max 20) | 1 | Mandatory | No |
| ERP.COI.2 | Last Name | Last Name of the Resource's main contact person/manager. | String (max 20) | 1 | Mandatory | No |
| ERP.COI.3 | Email | Email of the Resource's main contact person/manager. | Email | 1 | Mandatory | No |
| ERP.COI.4 | Phone | Telephone of the Resource's main contact per- | String (max 20) | 1 | Optional | No |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | son/manager. | | | | |
| ERP.COI.5 | Position | Position of the Resource's main contact person/manager. | String (max 20) | 1 | Optional | No |
| ERP.COI.6 | Organisation | The organisation to which the contact is affiliated | String (max 50) | 1 | Optional | No |
| Public Contact | | | | | | |
| ERP.COI.7 | First Name | First Name of the Resource's contact person to be displayed at the portal. | String (max 20) | 1 | Optional | Yes |
| ERP.COI.8 | Last Name | Last Name of the Resource's contact person to be displayed at the portal. | String (max 20) | 1 | Optional | Yes |
| ERP.COI.9 | Email | Email of the Resource's contact person or a generic email of the Provider to be displayed at the portal. | Email | 1 | Mandatory | Yes |
| ERP.COI.10 | Phone | Telephone of the Resource's contact person to be displayed at the portal. | String (max 20) | 1 | Optional | Yes |
| ERP.COI.11 | Position | Position of the Resource's contact person to be displayed at the portal. | String (max 20) | 1 | Optional | Yes |
| ERP.COI.12 | Organisation | The organisation to which the contact is affiliated | String (max 50) | 1 | Optional | Yes |
| Other Contacts | | | | | | |
| ERP.COI.13 | Helpdesk Email | The email to ask more information from the Provider about this Resource. | Email | 1 | Mandatory | Yes |
| ERP.COI.14 | Security Contact Email | The email to contact the Provider for critical security issues about this Resource. | Email | 1 | Mandatory | No |
| Maturity Information | | | | | | |
| ERP.MTI.1 | Technology Readiness Level | The Technology Readiness Level of the Resource (to be further updated in the context of the EOSC). | List of controlled values | 1 | Mandatory | Yes |
| ERP.MTI.2 | Life Cycle Status | Phase of the Resource lifecycle. | List of controlled values | 1 | Optional | Yes |
| ERP.MTI.3 | Certifications | List of certifications obtained for the Resource (including the certification body). | String (max 100) | Multiple | Optional | Yes |
| ERP.MTI.4 | Standards | List of standards supported by the Resource. | String (max 100) | Multiple | Optional | Yes |
| ERP.MTI.5 | Open Source Technologies | List of open source technologies supported by the Resource. | String (max 100) | Multiple | Optional | Yes |
| ERP.MTI.6 | Version | Version of the Resource that is in force. | String (max 10) | 1 | Optional | Yes |
| ERP.MTI.7 | Last Update | Date of the latest update of the Resource. | Date (dd/mm/yyyy) | 1 | Optional | Yes |

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|---|---|---|---|---|---|---|
| ERP.MTI.8 | Change Log | Summary of the Resource features updated from the previous version. | String (max 1000) | Multiple | Optional | Yes |
| Dependencies Information | | | | | | |
| ERP.DEI.1 | Required Resources | List of other Resources required to use this Resource. | Resource IDs | Multiple | Optional | Yes |
| ERP.DEI.2 | Related Resources | List of other Resources that are commonly used with this Resource. | Resource IDs | Multiple | Optional | Yes |
| ERP.DEI.3 | Related Platforms | List of suites or thematic platforms in which the Resource is engaged or Providers (Provider groups) contributing to this Resource. | List of controlled values | Multiple | Optional | Yes |
| ERP.DEI.4 | Catalogue | The Catalogue this Resource is originally registered at. | Catalogue ID | 1 | Optional | Yes |
| Attribution Information | | | | | | |
| ERP.ATI.1 | Funding Body | Name of the funding body that supported the development and/or operation of the Resource. | List of controlled values | Multiple | Optional | Yes |
| ERP.ATI.2 | Funding Program | Name of the funding program that supported the development and/or operation of the Resource. | List of controlled values | Multiple | Optional | Yes |
| ERP.ATI.3 | Grant/Project Name | Name of the project that supported the development and/or operation of the Resource. | String (max 100) | Multiple | Optional | Yes |
| Management Information | | | | | | |
| ERP.MGI.1 | Helpdesk Page | The URL to a webpage to ask more information from the Provider about this Resource. | URL | 1 | Optional | Yes |
| ERP.MGI.2 | User Manual | Link to the Resource user manual and documentation. | URL | 1 | Optional | Yes |
| ERP.MGI.3 | Terms Of Use | Webpage describing the rules, Resource conditions and usage policy which one must agree to abide by in order to use the Resource. | URL | 1 | Mandatory | Yes |
| ERP.MGI.4 | Privacy Policy | Link to the privacy policy applicable to the Resource. | URL | 1 | Mandatory | Yes |
| ERP.MGI.5 | Access Policy | Information about the access policies that apply. | URL | 1 | Optional | Yes |
| ERP.MGI.6 | Resource Level | Webpage with the information about the levels of performance that a Provider is expected to deliver. | URL | 1 | Optional | Yes |
| ERP.MGI.7 | Training In- | Webpage to training in- | URL | 1 | Optional | Yes |

| | | | | | | |
|---|---|---|---|---|---|---|
| | formation | formation on the Resource. | | | | |
| ERP.MGI.8 | Status Monitoring | Webpage with monitoring information about this Resource | URL | 1 | Optional | Yes |
| ERP.MGI.9 | Maintenance | Webpage with information about planned maintenance windows for this Resource | URL | 1 | Optional | Yes |
| Access and Order Information | | | | | | |
| ERP.AOI.1 | Order Type | Information on the order type (requires an ordering procedure, or no ordering and if fully open or requires authentication) | List of controlled values | 1 | Mandatory | Yes |
| ERP.AOI.2 | Order | Webpage through which an order for the Resource can be placed | URL | 1 | Optional | Yes |
| Financial Information | | | | | | |
| ERP.FNI.1 | Payment Model | Webpage with the supported payment models and restrictions that apply to each of them | URL | 1 | Optional | Yes |
| ERP.FNI.2 | Pricing | Webpage with the information on the price scheme for this Resource in case the customer is charged for. | URL | 1 | Optional | Yes |

## 12.3 EOSC Portal Resource Profile v4.00 Example

The following table provides an example of an actual Profile of a Resource.

*Table 12-2: EOSC Portal Resource Profile Example*

| Code | Attribute Name | Example Value |
|---|---|---|
| Basic Information | | |
| ERP.BAI.0 | ID | openrisknet.squonk_computational_notebook |
| ERP.BAI.1 | Abbreviation | B2DROP |
| ERP.BAI.2 | Name | PaaS Orchestrator |
| ERP.BAI.3 | Resource Organisation | OpenAIRE |
| ERP.BAI.4 | Resource Providers | GRNET |
| ERP.BAI.5 | Webpage | http://Resource-name.Provider.eu |
| Marketing Information | | |
| ERP.MRI.1 | Description | Connect spatial information communities and their data using a modern architecture, which is at the same time powerful and low cost, based on International and Open Standards for services and protocols (from ISO/TC211 and OGC). |
| ERP.MRI.2 | Tagline | The open repository for high performance computing code samples |
| ERP.MRI.3 | Logo | https://Resource-name.Resource-Provider.eu/Symbol.jpg |
| ERP.MRI.4 | Multimedia | http://Resource-name.Resource-Provider.eu/Multimedia |
| ERP.MRI.5 | Multimedia Name | Video of Resource interface |
| ERP.MRI.6 | Use Cases | https://zenodo.org/record/1490344#.XfR8p_yxWUk |
| ERP.MRI.7 | Use Cases Name | Kampal Artificial Intelligence for rare disease diagnosis |

| | | |
|---|---|---|
| Classification Information | | |
| ERP.CLI.1 | Scientific Domain | Natural Sciences |
| ERP.CLI.2 | Scientific Subdomain | Earth and related environmental sciences |
| ERP.CLI.3 | Category | Processing and analysis data management |
| ERP.CLI.4 | Subcategory | Aggregators and integrators aggregators and integrators data |
| ERP.CLI.5 | Target Users | Researchers, Research group, Research community, Research project |
| ERP.CLI.6 | Access Type | Virtual |
| ERP.CLI.7 | Access Mode | Excellence-based, Peer reviewed |
| ERP.CLI.8 | Tags | Open Science, data, dataset, data archive, library, repository |
| Geographical and Language Availability Information | | |
| ERP.GLA.1 | Geographical Availability | World |
| ERP.GLA.2 | Language Availability | English |
| Resource Location Information | | |
| ERP.RLI.01 | Resource Geographic Location | Germany |
| Contact Information | | |
| Main Contact/Resource Owner | | |
| ERP.COI.1 | First Name | John |
| ERP.COI.2 | Last Name | Smith |
| ERP.COI.3 | Email | john.smith@example.com |
| ERP.COI.4 | Phone | 3021077755500 |
| ERP.COI.5 | Position | Coordinator |
| ERP.COI.6 | Organisation | Open Access Infrastructure for Research in Europe |
| Public Contact | | |
| ERP.COI.7 | First Name | Jack |
| ERP.COI.8 | Last Name | White |
| ERP.COI.9 | Email | jack.white@example.com |
| ERP.COI.10 | Phone | 3021077755501 |
| ERP.COI.11 | Position | Manager |
| ERP.COI.12 | Organisation | Open Access Infrastructure for Research in Europe |
| Other Contacts | | |
| ERP.COI.13 | Helpdesk Email | helpdesk@Provider.com |
| ERP.COI.14 | Security Contact Email | secutiry@Provider.com |
| Maturity Information | | |
| ERP.MTI.1 | Technology Readiness Level | TRL8 |
| ERP.MTI.2 | Life Cycle Status | Production |
| ERP.MTI.3 | Certifications | Certificate of Excellence in Research Infrastructure Leadership |
| ERP.MTI.4 | Standards | ISO 15430, ISO 27000 |
| ERP.MTI.5 | Open Source Technologies | Liferay |
| ERP.MTI.6 | Version | 3.1 |
| ERP.MTI.7 | Last Update | 2/28/2018 |
| ERP.MTI.8 | Change Log | Upgrade of user interface. Correction of minor bugs. |
| Dependencies Information | | |
| ERP.DEI.1 | Required Resources | List of Resource IDs |
| ERP.DEI.2 | Related Resources | List of Resource IDs |
| ERP.DEI.3 | Related Platforms | DISVIS |
| ERP.DEI.4 | Catalogue | |
| Attribution Information | | |

| | | |
|---|---|---|
| ERP.ATI.1 | Funding Body | European Commission |
| ERP.ATI.2 | Funding Program | Horizon 2020 |
| ERP.ATI.3 | Grant/Project Name | OpenAIRE2020 (643410) |
| Management Information | | |
| ERP.MGI.1 | Helpdesk Page | http://Resource-name.Resource-Provider.eu/Helpdesk |
| ERP.MGI.2 | User Manual | http://Resource-name.provid-er.eu/UserManual |
| ERP.MGI.3 | Terms Of Use | http://Resource-name.provid-er.eu/TermsOfUse |
| ERP.MGI.4 | Privacy Policy | http://Resource-name.provid-er.eu/PrivacyPolicy |
| ERP.MGI.5 | Access Policy | PRACE provides HPC Resources to researchers and scientists from academia and industry through Preparatory Access (code scaling and optimization) and/or through Project Access (large-scale, computationally intensive projects) http://www.prace-ri.eu/hpc-access |
| ERP.MGI.6 | Resource Level | http://Resource-name.Provider.eu/SLA |
| ERP.MGI.7 | Training Information | http://Resource-name.Provider.eu/Training |
| ERP.MGI.8 | Status Monitoring | http://Resource-name.Provider.eu/Monitoring |
| ERP.MGI.9 | Maintenance | http://Resource-name.Provider.eu/Maintenance |
| Access and Order Information | | |
| ERP.AOI.1 | Order Type | Free |
| ERP.AOI.2 | Order | https://gts.geant.net/login |
| Financial Information | | |
| ERP.FNI.1 | Payment Model | http://Resource-name.Provider.eu/PaymentModel |
| ERP.FNI.2 | Pricing | http://Resource-name.Provider.eu/Price |

## 12.4 EOSC Portal Resource Profile v4.00 Guidelines

*Table 12-3: EOSC Portal Resource Profile Specification v4.00*

| Code | Attribute Name | Guidelines for Providers | Machine-based validation | Human-based validation |
|---|---|---|---|---|
| Basic Information | | | | |
| ERP.BAI.0 | ID | A provider does not need to provide this ID during registration or update. This is a unique ID which EOSC Portal assigns to a resource registered in the Registry and it is used to identify a resource in the EOSC portal. In next releases, Providers can use a PID; i.e., PID Providers will offer PID services to Resource Providers to reach a point that the EOSC portal will use global PIDs. | For all strings - implement a notification of exceeding max characters that does not prevent the acceptance of the input | Should examine whether the Resource has been already onboarded by any other Providers and escalate to the EPOT for resolution. |
| ERP.BAI.1 | Abbreviation | | | |
| ERP.BAI.2 | Name | Should be descriptive from a customer point of view and should be quite simple, such that someone non-technical is able to understand what the Resource is about. In case | | In general it should be taken as-is because it is specific to the Resource and the Resource name selected by the Provider. Only ask for clarifications if the name does |

| | | | | |
|---|---|---|---|---|
| | | there is no Full Name the abbreviation should be used. | | not correspond with the name of the Resource name provided on the Resource URL or in case of obvious typo's. |
| ERP.BAI.3 | Resource Organisation | | | |
| ERP.BAI.4 | Resource Providers | | | |
| ERP.BAI.5 | Webpage | Create a unique URL for each Resource and provide the shortest possible alias | Validate nominal URL, reject IP or other formats | Verify if the URL refers to the web page of the Resource, this is commonly the web page of the Resource in the Catalogue of the Provider. Verify if the name on the web page corresponds to the name provided as Resource Name. |
| Marketing Information | | | | |
| ERP.MRI.1 | Description | Describe the Resource in a way that helps potential customers understand it and the benefit it brings. What is the main functionality of the service? The layout and content are up to the Provider. This field is used in the search function to prioritize results. Benefits are usually related to alleviating pains (e.g., eliminate undesired outcomes, obstacles or risks) or producing gains (e.g. increased performance, social gains, positive emotions or cost saving). Description should be as quantified as possible. Please consider GDPR. Suggested length is 1000 characters | | In general take as-is because it is specific to the Resource provided by the Provider. Review the text, not to qualify the quality, but more on readability and for obvious typo's, if necessary, ask for clarifications. Also point out if it does not appear to address the potential customers and explain the main functionality of the Resource. If description is excessively long suggest being more concise. |
| ERP.MRI.2 | Tagline | Marketing specialists are encouraged to be engaged in order to come up with a catch phrase that can aid Resource dissemination and visibility. Suggested length is 100 characters | | In general it should be taken as-is because it is specific to the Resource provided by the Provider. Only ask for clarifications if the tagline does not correspond to the provided Resource Description and in case of obvious typos. |

| | | | | |
|---|---|---|---|---|
| ERP.MRI.3 | Logo | Link to the logo/visual identity of the Resource. The logo will be visible at the Portal. If there is no specific logo for the Resource the logo of the Provider may be used. Go to the Resource Provider's website --> Right Click on the Resource Provider's logo on the website --> Select "Copy Image Link" --> Paste it in the below field. | Validate nominal URL, reject IP or other formats. For the Resource located at the URL validate as follows: Formats: png, gif, jpg, jpeg, pjpeg, tiff, vnd.adobe, vnd.microsoft - Minimum dimensions 180x120px | Verify if the URL points to a logo picture or source including a logo that relate to the Resource in question. If needed, contact requester for clarification. Also verify it is functional, and visible to a white background |
| ERP.MRI.4 | Multimedia | Provide URL of the Resource, in the form of the shortest possible alias | Validate nominal URL, reject IP or other formats | Verify if the URL points to multimedia that relates to the Resource in question. If needed, contact requester for clarification. |
| ERP.MRI.5 | Multimedia Name | Suggested length is 100 characters | | Verify the name is relevant to the multimedia content |
| ERP.MRI.6 | Use Cases | Provide URL of the webpage describing a use case | | Verify that the URL refers to the web page of the Resource and the screenshots and/or videos presented therein correspond to the Resource described. |
| ERP.MRI.7 | Use Cases Name | Suggested length is 100 characters | | Verify the description is related to the Use Cases |
| Classification Information | | | | |
| ERP.CLI.1 | Scientific Domain | For suggestions in amending the "Scientific Domain" list, please select "Other", fill in your entry and press the "Submit" button | | Verify that the provided value corresponds with names provided in the Resource's webpage. |
| ERP.CLI.2 | Scientific Subdomain | For suggestions in amending the "Scientific Subdomain" list, please select "Other", fill in your entry and press the "Submit" button | | Verify that the provided value corresponds with names provided in the Resource's webpage. |
| ERP.CLI.3 | Category | For suggestions in amending the "Category" list, please select "Other", fill in your entry and press the "Submit" button | | Verify that the category chosen is logical to Resource description. |
| ERP.CLI.4 | Subcategory | For suggestions in amending the "Subcategory" list, please select "Other", fill in your entry and press | | Verify that the subcategory chosen is logical to Resource description. |

| | | | | |
|---|---|---|---|---|
| | | the "Submit" button | | |
| ERP.CLI.5 | Target Users | For suggestions in amending the "Target Users" list, please select "Other", fill in your entry and press the "Submit" button | | |
| ERP.CLI.6 | Access Type | For suggestions in amending the "Access Type" list, please select "Other", fill in your entry and press the "Submit" button | | |
| ERP.CLI.7 | Access Mode | For suggestions in amending the "Access Mode" list, please select "Other", fill in your entry and press the "Submit" button | | |
| ERP.CLI.8 | Tags | Add one Tag in each entry. For multi-word keywords, please use '-' to concatenate words. Suggested length is 50 characters | Validate keywords, by inserting '-' to concatenate words not separated by commas and identify as separate keywords words that are separated by commas | In general take as-is because it is specific to the Resource and selected by the Provider. Only ask for clarifications in case of unfamiliar words and/or obvious typo's. |
| Geographical and Language Availability Information | | | | |
| ERP.GLA.1 | Geographical Availability | For suggestions in amending the "Geographical Availability" list, please select "Other", fill in your entry and press the "Submit" button | Validation using the ISO 3166-1 alpha-2 standard for the 2-letter codes for representing the languages. | |
| ERP.GLA.2 | Language Availability | For suggestions in amending the "Language Availability" list, please select "Other", fill in your entry and press the "Submit" button | Validation using the ISO 3166-1 alpha-2 standard for the 2-letter codes for representing the languages. | Verify that English is selected among other languages |
| Resource Location Information | | | | |
| ERP.RLI.01 | Resource Geographic Location | Countries + additional regions \| For suggestions in amending the "Geographic Location" list, please select "Other", fill in your entry and press the "Submit" button | | |
| Contact Information | | | | |
| Main Contact/Resource Owner | | | | |
| ERP.COI.1 | First Name | Suggested length is 20 characters | | Check for obvious typos in the name. Confirm with a google search of the name of the contact |

| | | | | |
|---|---|---|---|---|
| | | | | person |
| ERP.COI.2 | Last Name | Suggested length is 20 characters | | Check for obvious typos in the last name. Confirm with a google search of the last name of the contact person |
| ERP.COI.3 | Email | | Validate e-mail address | Check for obvious typos in the email. Confirm with a google search of the email of the contact person |
| ERP.COI.4 | Phone | Suggested length is 20 characters | Validate for number (use separate input field for country prefixes) | Check for obvious typos in the phone number and country code. Confirm with a google search of the phone of the contact person |
| ERP.COI.5 | Position | Suggested length is 20 characters | | Check for obvious typos in the position of the Provider contact person |
| ERP.COI.6 | Organisation | Suggested length is 50 characters | | Check for obvious typos in the affiliated Organisation |
| Public Contact | | | | |
| ERP.COI.7 | First Name | Suggested length is 20 characters | | Check for obvious typos in the name. Confirm with a google search of the name of the contact person |
| ERP.COI.8 | Last Name | Suggested length is 20 characters | | Check for obvious typos in the last name. Confirm with a google search of the last name of the contact person |
| ERP.COI.9 | Email | | Validate e-mail address | Check for obvious typos in the email. Confirm with a google search of the email of the contact person |
| ERP.COI.10 | Phone | Suggested length is 20 characters | Validate for number (use separate input field for country prefixes) | Check for obvious typos in the phone number and country code. Confirm with a google search of the phone of the contact person |
| ERP.COI.11 | Position | Suggested length is 20 characters | | Check for obvious typos in the position of the Provider contact person |
| ERP.COI.12 | Organisation | Suggested length is 50 characters | | Check for obvious typos in the affiliated Organisation |
| Other Contacts | | | | |
| ERP.COI.13 | Helpdesk Email | Email to contact your helpdesk, where users | Validate e-mail address | Verify the validity of the email address as a |

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| | | with incidents and requests will be directed. | | helpdesk email for the specific Resource (via internet search) |
| ERP.COI.14 | Security Contact Email | Email contact of the person or group responsible for the security aspects of the Resource. | Validate e-mail address | Verify the validity of the email address as a security email for the specific Resource (via internet search) |
| Maturity Information | | | | |
| ERP.MTI.1 | Technology Readiness Level | https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/support/faq;keywords=/2890 for the definitions. Minimum accepted value is > =TRL-7 for the Resource to be publicly visible. For suggestions in amending the "Technology Readiness Level" list, please send an email to onboarding@eosc-portal.eu | A Resource needs to have TRL>=7 to be visible in the portal | Verify the provided TRL according to the Classification Appendix definitions |
| ERP.MTI.2 | Life Cycle Status | For suggestions in amending the "Life Cycle Status" list, please select "Other", fill in your entry and press the "Submit" button | | |
| ERP.MTI.3 | Certifications | List of certifications obtained for the Resource (including the certification body and any certificate number if available). Suggested length is 100 characters | | The certifications provided can be generic or community specific. We do not qualify the quality of a certification, the only qualification is that the certification is described on a public webpage. Verify via internet searches if the provided names give a valid result describing the certification. If not, request clarification and an URL reference describing the certification. Check whether the certification body is real and appears to offer certification. |
| ERP.MTI.4 | Standards | List of formal and externally recognised standards that this Resource conforms to. Suggested length is 100 characters | | The standards provided can be generic or community specific. We do not qualify a standard, the only qualification is |

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| | | | | that the standard is described on a public webpage. Verify via internet searches if the provided names give a valid result describing the standard. If not, request clarification and an URL reference describing the standard. |
| ERP.MTI.5 | Open Source Technologies | List any open source technologies incorporated into the Resource. Please note this is for specific technologies not broad ones like HTTP or a Linux distribution. Suggested length is 100 characters | | Check that the technologies mentioned/projects exist |
| ERP.MTI.6 | Version | Only stable releases should be referenced. Suggested length is 10 characters | | |
| ERP.MTI.7 | Last Update | The date should refer to when the updated version became available to users, not when it was developed or released internally in the Provider. | Validate for date | |
| ERP.MTI.8 | Change Log | Clear, staccato sentences for each updated feature should be used. Suggested length is 1000 characters | | |
| Dependencies Information | | | | |
| ERP.DEI.1 | Required Resources | List any other EOSC Resources that your Resource requires in order to operate. | | |
| ERP.DEI.2 | Related Resources | List any other EOSC Resources that you are aware of that your service can cooperate with. | | |
| ERP.DEI.3 | Related Platforms | Select from a List of Controlled Values the platform this Resource is part of, e.g. a thematic portal for a certain community. An additional value "Other" that will lead to opening a new text input to suggest a new value on the list. EPOT can periodically review all the records with "Other" Plat- | | Verify via an internet search the name of the platform and its relevance with the Resource |

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| | | form selected and depending on a case update the list of controlled values or assign the resource record to an existing one (in case provider missed the platform on the list when trying to find an appropriate one) | | |
| ERP.DEI.4 | Catalogue | | | Verify it is an existed Catalogue |
| Attribution Information | | | | |
| ERP.ATI.1 | Funding Body | Publicity guidelines of each respective funding sources should be adhered to. For suggestions in amending the "Funding Body" list, please select "Other", fill in your entry and press the "Submit" button | | |
| ERP.ATI.2 | Funding Program | For suggestions in amending the "Funding Program" list, please select "Other", fill in your entry and press the "Submit" button | | |
| ERP.ATI.3 | Grant/Project Name | Suggested length is 100 characters | | |
| Management Information | | | | |
| ERP.MGI.1 | Helpdesk Page | Link to the helpdesk where users with incidents and requests will be directed. It should allow private communication with providers (not a public forum). Create a dedicated URL for your Resources and provide the shortest possible alias. | Validate nominal URL, reject IP or other formats | For this field it should be a URL to a helpdesk portal, verify the URL by accessing the URL via a web browser. |
| ERP.MGI.2 | User Manual | Link to the user manual or other basic user instructional information about the Resource. Create a dedicated URL for your Resources and provide the shortest possible alias. | Validate nominal URL, reject IP or other formats | Verify if the URL refers to the web page, document or other information describing the Resource. If not ask clarification from the Provider. The quality of the content does not have to be verified, but the information provided must have a look and feel of a user manual. |
| ERP.MGI.3 | Terms Of Use | Link describing the rules, resource conditions and | Validate nominal URL, reject IP or other for- | Verify that the URL refers to the web page, |

| | | | | |
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| | | usage policy which one must agree to abide by in order to use the Resource. Create a dedicated URL for your Resources and provide the shortest possible alias. | mats | document or other information providing the terms of use for the Resource. If not ask clarification from the Provider. The quality of the content does not to have be verified. The content has to be publicly accessible before the user logs in. If there is no Terms of Use / Acceptable Use Policy or the existing one appears of low quality, suggest the WISE Baseline AUP, see https://aarc-project.eu/wp-content/uploads/2019/03/AARC-I044-Implementers-Guide-to-the-WISE-Baseline-AUP.pdf |
| ERP.MGI.4 | Privacy Policy | Link to the privacy policy applicable to the Resource. Privacy policies are required for all Resources, since they will likely fall under the GDPR limitations. Create a dedicated URL for your Resources and provide the shortest possible alias. | Validate nominal URL, reject IP or other formats | Verify that the URL refers to the web page, document or other information describing the Resource privacy policy. If not ask clarification from the Provider. The quality of the content does not have to be verified. |
| ERP.MGI.5 | Access Policy | Create a dedicated URL for your Resources and provide the shortest possible alias. | | Check that the answer can be generally understood by users, and seems to relate to the service as shown on its website. |
| ERP.MGI.6 | Resource Level | Link to a Service Level Agreement (SLA) or Service Level Specification (SLS) applicable to the Resource. Support is available in forming an SLA or SLS is available at https://wiki.eosc-hub.eu/display/EOSC/Service+Provider+Documentation. | Validate nominal URL, reject IP or other formats | Verify that the provided link points to a Service Level Agreement (SLA) or Service Level Specification (SLS) applicable to the Resource. |
| ERP.MGI.7 | Training Information | Link to page with training information on the Resource. Create a dedicated URL for your Resources | Validate nominal URL, reject IP or other formats | Verify that the URL refers to the web page, document or other information related to |

| | | | | |
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| | | and provide the shortest possible alias. | | training for the Resource. If not ask clarification from the Provider. The quality of the content does not have to be verified, but the information provided must have a look and feel and to be useful as training material. |
| ERP.MGI.8 | Status Monitoring | Web Page with monitoring information about this Resource. | Validate nominal URL, reject IP or other formats | Verify that the URL points to a webpage that provides monitoring information about the Resource. If not ask clarification from the Provider. We do not assess the quality and/or usefulness of the monitoring page. |
| ERP.MGI.9 | Maintenance | Web Page with information about planned maintenance windows for this Resource. | Validate nominal URL, reject IP or other formats | Verify that the URL points to a webpage that provides information on scheduled downtimes of the Resource. If not ask clarification from the Provider. |
| Access and Order Information | | | | |
| ERP.AOI.1 | Order Type | .Information on the order type (requires an ordering procedure, or no ordering and if fully open or requires authentication) For suggestions in amending the "Order Type" list, please select "Other", fill in your entry and press the "Submit" button | | |
| ERP.AOI.2 | Order | | Validate nominal URL, reject IP or other formats | Verify that the URL provided indeed provides information on the order of the Resource. If not, request clarifications from the Provider |
| Financial Information | | | | |
| ERP.FNI.1 | Payment Model | | Validate nominal URL, reject IP or other formats | Verify that the URL provided indeed provides information on the payment model of the Resource. If not, request clarifications from the Provider |

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|---|---|---|---|---|
| ERP.FNI.2 | Pricing | Look at https://cloud.telekom.de/en/infrastructure/open-telekom-cloud/pricing as an example | Validate nominal URL, reject IP or other formats | Verify that the URL provided indeed provides information on the pricing of the Resource. If not, request clarifications from the Provider |

## 12.5 EOSC Portal Resource Profile v4.00 Code Lists, Taxonomies, Classifications

The following tables present all the Code Lists, Taxonomies, Classifications of controlled values for the Resource Profile.

### 12.5.1 Resource Scientific Domain/Subdomain

| No. | Scientific Domain | Description | No. | Scientific Subdomain |
|---|---|---|---|---|
| 1 | Natural Sciences | Any of the sciences (such as physics, chemistry, or biology) that deal with matter, energy, and their interrelations and transformations or with objectively measurable phenomena. | 1 | Mathematics |
| | | | 2 | Computer and information sciences |
| | | | 3 | Physical sciences |
| | | | 4 | Chemical sciences |
| | | | 5 | Earth and related environmental sciences |
| | | | 6 | Biological sciences |
| | | | 7 | Other natural sciences |
| 2 | Engineering & Technology | The application of science and mathematics by which the properties of matter and the sources of energy in nature are made useful to people | 1 | Civil engineering |
| | | | 2 | Electrical, electronic and information engineering |
| | | | 3 | Mechanical engineering |
| | | | 4 | Chemical engineering |
| | | | 5 | Materials engineering |
| | | | 6 | Medical engineering |
| | | | 7 | Environmental engineering |
| | | | 8 | Environmental biotechnology |
| | | | 9 | Industrial biotechnology |
| | | | 10 | Nanotechnology |
| | | | 11 | Other engineering and technology sciences |
| 3 | Medical & Health Sciences | The science of dealing with the maintenance of health and the prevention and treatment of disease | 1 | Basic medicine |
| | | | 2 | Clinical medicine |
| | | | 3 | Health sciences |
| | | | 4 | Medical biotechnology |

| | | | | |
|---|---|---|---|---|
| | | | 5 | Other medical sciences |
| **4** | Agricultural Sciences | Sciences dealing with food and fibre production and processing. They include the technologies of soil cultivation, crop cultivation and harvesting, animal production, and the processing of plant and animal products for human consumption and use. | 1 | Agriculture, forestry, and fisheries |
| | | | 2 | Animal and dairy sciences |
| | | | 3 | Veterinary sciences |
| | | | 4 | Agricultural biotechnology |
| | | | 5 | Other agricultural sciences |
| **5** | Social Sciences | A branch of science that deals with the institutions and functioning of human society and with the interpersonal relationships of individuals as members of society | 1 | Psychology |
| | | | 2 | Economics and business |
| | | | 3 | Educational sciences |
| | | | 4 | Sociology |
| | | | 5 | Law |
| | | | 6 | Political sciences |
| | | | 7 | Social and economic geography |
| | | | 8 | Media and communications |
| | | | 9 | Other social sciences |
| **6** | Humanities | The branches of learning that investigate human constructs and concerns as opposed to natural processes (as in physics or chemistry) and social relations (as in anthropology or economics). | 1 | History and archaeology |
| | | | 2 | Languages and literature |
| | | | 3 | Philosophy, ethics and religion |
| | | | 4 | Arts |
| | | | 5 | Other humanities |
| **7** | Generic | Generic, Not targeting a specific domain. | 1 | Generic |
| **8** | Other | | 1 | Other |

## 12.5.2 Resource Category/Subcategory (and Supercategory)

| No. | Category | Description | No. | Subcategory | No. | Supercategory |
|---|---|---|---|---|---|---|
| **1** | Instrument & Equipment | Access to instruments and equipment | **1** | Spectrometer | **1** | Access physical & e-Infrastructures |
| | | | **2** | Radiation | | |
| | | | **3** | Microscopy | | |
| | | | **4** | Laser | | |
| | | | **5** | Geophysical | | |

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|---|---|---|---|---|---|---|
| | | | **6** | Chromatographer | | |
| | | | **7** | Cytometer | | |
| | | | **8** | Spectrophotometer | | |
| | | | **10** | Digitisation equipment | | |
| | | | **11** | Monument maintenance equipment | | |
| | | | **12** | Other | | |
| **2** | Material Storage | Access to biological, chemical, historical, archaeological, cultural, etc. storage. Includes the acquisition, preparation and processing of samples and materials in view of their preservation. | **1** | Warehousing | | |
| | | | **2** | Fulfilment | | |
| | | | **3** | Assembly | | |
| | | | **4** | Sorting | | |
| | | | **5** | Re-working | | |
| | | | **6** | Packaging | | |
| | | | **7** | Quality inspecting | | |
| | | | **8** | Archiving | | |
| | | | **9** | Disposal | | |
| | | | **10** | Repository | | |
| | | | **11** | Preservation | | |
| | | | **12** | Other | | |
| **3** | Network | Ultra-fast connectivity and access to e-Infrastructures' Resources | **1** | Direct Connect | | |
| | | | **2** | Virtual Network | | |
| | | | **3** | Load Balancer | | |
| | | | **4** | VPN Gateway | | |
| | | | **5** | Exchange | | |
| | | | **6** | Content Delivery Network | | |
| | | | **7** | Traffic Manager | | |
| | | | **8** | Other | | |
| **4** | Compute | High-performance computing Resources and scalable cloud compute capacity for demanding job processes | **1** | Virtual Machine Management | | |
| | | | **2** | Container Management | | |
| | | | **3** | Job Execution | | |
| | | | **4** | Workload Management | | |
| | | | **5** | Orchestration | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | **6** | Serverless Applications Repository | | |
| | | | **7** | Other | | |
| **5** | Data Storage | Reliable, secure and scalable cloud storage for scientific data, apps and workloads | **1** | Data | | |
| | | | **2** | File | | |
| | | | **3** | Queue | | |
| | | | **4** | Disk | | |
| | | | **5** | Online | | |
| | | | **6** | Archive | | |
| | | | **7** | Backup | | |
| | | | **8** | Synchronised | | |
| | | | **9** | Replicated | | |
| | | | **10** | Recovery | | |
| | | | **11** | Digital preservation | | |
| | | | **12** | Other | | |
| **6** | Data | Vast range of data, datasets etc to facilitate research and scientific activities | **1** | Government and agency data | **2** | Sharing & Discovery |
| | | | **2** | Statistical data | | |
| | | | **3** | Scientific/Research data | | |
| | | | **4** | Online service data | | |
| | | | **5** | Clinical trial data | | |
| | | | **6** | Epidemiological data | | |
| | | | **7** | Data archives | | |
| | | | **8** | Other | | |
| **7** | Scholarly Communication | Research findings available to the wider academic community and beyond | **1** | Preparation | | |
| | | | **2** | Discovery | | |
| | | | **3** | Analysis | | |
| | | | **4** | Writing | | |
| | | | **5** | Publication | | |
| | | | **6** | Outreach | | |
| | | | **7** | Assessment | | |
| | | | **8** | Other | | |
| **8** | Software | Software, platforms | **1** | Software Repository | | |

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| | | and tools offered-as-a-service or deployed-on-demand | **2** | Platform | | |
| | | | **3** | Software Package | | |
| | | | **4** | Libraries | | |
| | | | **5** | Other | | |
| **9** | Application | End-user applications (apps) offered-as-a-service or deployed-on-demand | **1** | Communication | | |
| | | | **2** | Collaboration | | |
| | | | **3** | Productivity | | |
| | | | **4** | Business | | |
| | | | **5** | Education | | |
| | | | **6** | Social/Networking | | |
| | | | **7** | Utilities | | |
| | | | **8** | Applications Repository | | |
| | | | **9** | Other | | |
| **10** | Development Resource | Developer tools, development kits, libraries, APIs | **1** | Developer Tools | | |
| | | | **2** | Software Development Kits | | |
| | | | **3** | Software Libraries | | |
| | | | **4** | APIs Repository/Gateway | | |
| | | | **5** | Other | | |
| **11** | Samples | Collection, preparation and delivery of biological, chemical, environmental or other samples. | **1** | Biological samples | | |
| | | | **2** | Chemical compounds library | | |
| | | | **3** | Preparation | | |
| | | | **4** | Characterisation | | |
| | | | **5** | Other | | |
| **12** | Data Management | Robust, feature-rich and user-friendly data management services | **1** | Mining | **3** | Processing & Analysis |
| | | | **2** | Access | | |
| | | | **3** | Transfer | | |
| | | | **4** | Registration | | |
| | | | **5** | Persistent Identifier | | |
| | | | **6** | Interlinking | | |
| | | | **7** | Publishing | | |
| | | | **8** | Discovery | | |
| | | | **9** | Anonymisation | | |

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|---|---|---|---|---|---|---|
| | | | **10** | Preservation | | |
| | | | **11** | Brokering | | |
| | | | **12** | Annotation | | |
| | | | **13** | Validation | | |
| | | | **14** | Maintenance | | |
| | | | **15** | Embargo | | |
| | | | **16** | Digitisation | | |
| | | | **17** | Other | | |
| **13** | Data Analysis | Processes for data with the goal of discovering useful information, informing conclusions, and supporting decision-making | **1** | Machine Learning | | |
| | | | **2** | Artificial Intelligence | | |
| | | | **3** | Forecast | | |
| | | | **4** | Visualization | | |
| | | | **5** | Data extrapolation | | |
| | | | **6** | Image/data analysis | | |
| | | | **7** | Workflows | | |
| | | | **8** | 2D/3D Digitisation | | |
| | | | **9** | Other | | |
| **14** | Measurement & Materials Analysis | Processes and techniques for material analysis, characterisation and monitoring | **1** | Analysis | | |
| | | | **2** | Maintenance and Modification | | |
| | | | **3** | Production | | |
| | | | **4** | Testing and Validation | | |
| | | | **6** | Characterisation | | |
| | | | **7** | Validation | | |
| | | | **8** | Workflows | | |
| | | | **9** | Other | | |
| **15** | Security & Identity | Protect [your] infrastructure and manage user identities and access against advanced threats across devices, data, apps, etc | **1** | User authentication | **4** | Security & Operations |
| | | | **2** | Identity and access management | | |
| | | | **3** | Threat protection | | |
| | | | **4** | Coordination | | |
| | | | **5** | Tools | | |
| | | | **6** | Certification authority | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | **7** | Single Sign-On | | |
| | | | **8** | Firewall | | |
| | | | **9** | Group Management | | |
| | | | **10** | Other | | |
| **16** | Operations & Infrastructure Management Services | Services for monitoring, scaling, creating, tracking and automating operations on [your] infrastructures and services. | **1** | Accounting | | |
| | | | **2** | Helpdesk | | |
| | | | **3** | Monitoring | | |
| | | | **4** | Analysis | | |
| | | | **5** | Configuration | | |
| | | | **6** | Utilities | | |
| | | | **7** | Coordination | | |
| | | | **8** | Billing | | |
| | | | **9** | Order Management | | |
| | | | **10** | Transportation | | |
| | | | **11** | Other | | |
| **17** | Education & Training | Highly-specialized seminars and courses to help advance research knowledge and sharpen scientific skills | **1** | Online Courses | **5** | Training & Support |
| | | | **2** | Open Registration Courses | | |
| | | | **3** | In-house Courses | | |
| | | | **4** | Training Tool | | |
| | | | **5** | Training Platform | | |
| | | | **6** | Related Training | | |
| | | | **7** | Required Training | | |
| | | | **8** | Other | | |
| **18** | Consultancy & Support | Dedicated support, expertise, consultancy for a wide range of scientific disciplines and research activities | **1** | Consulting | | |
| | | | **2** | Audit and Assessment | | |
| | | | **3** | Application Porting | | |
| | | | **4** | Application Scaling | | |
| | | | **5** | Application Optimisation | | |
| | | | **6** | Software Development | | |
| | | | **7** | Software Improvement | | |
| | | | **8** | Modelling and Simulation | | |
| | | | **9** | Prototype Development | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | **10** | Testing | | |
| | | | **11** | Certification | | |
| | | | **12** | Calibration | | |
| | | | **13** | Benchmarking | | |
| | | | **14** | Technology Transfer | | |
| | | | **15** | Methodology Development | | |
| | | | **16** | Other | | |
| **19** | Aggregators & Integrators | Thematic, Regional and other Aggregators & Integrators | **1** | Services | **6** | Aggregators & Integrators |
| | | | **2** | Data | | |
| | | | **3** | Applications | | |
| | | | **4** | Software | | |
| | | | **5** | Other | | |
| **20** | Other | | **1** | Other | **7** | Other |

### 12.5.3 Resource Target Users

| No. | Target Users | Description |
|---|---|---|
| **1** | Researchers | Someone who conducts scientific research, i.e., an organized and systematic investigation by using scientific methods. |
| **2** | Research groups | A research group is a group of researchers working together on a particular issue or topic. Research groups may be composed of researchers all from the same subject/discipline or from different subjects/disciplines. |
| **3** | Research communities | Research communities provide an infrastructure through which scientists of discipline-specific scientific areas can advance their research goals, reaching out to other researchers. |
| **4** | Research projects | A privately or publicly funded project on a research topic. |
| **5** | Research networks | Research networks aim to stimulate interaction between researchers and promote information exchange. |
| **6** | Research managers | Someone in an organization whose job is to manage a research initiative aiming to the development of new scientific results, products or ideas. |
| **7** | Research organisations | A public or private legal entity (e.g. academia, business, industry, public services, etc.) representing the User. |
| **8** | Students | A person who is studying at a university or other place of higher education. |
| **8** | Innovators | The group or individual which is the first to try new ideas, processes, goods and services. Innovators are followed by early adopters, early majority, late majority, and laggards, in that order. |
| **9** | Businesses | An organization or economic system where goods and services are exchanged for one another or for money. Businesses can be privately owned, not-for-profit or state-owned. |
| **10** | Providers | A Provider is an organisation that provides different kind of solutions and/or services or other Resources to end users and other organizations. This broad term incorporates all businesses and organisations that provide products and solutions that are offered for free, on-demand, pay per use or a hybrid delivery model. |

| | | |
|---|---|---|
| **11** | Funders | Individual or organization financing a part or all a project's cost as a grant, investment, or loan. |
| **12** | Policy Makers | Individuals (usually members of the board of directors) who have the authority to set the policy framework of an organization. |
| **13** | Research Infrastructure Managers | A RI Manager is a type of Project Coordinator who specializes in research infrastructures. They are responsible for things like managing researchers, making sure costs are on budget and serving as a liaison between research staff and project stakeholders. |
| **14** | Provider Managers | A Provider Manager is an individual within an organisation that is responsible for the quality of the Resources provided and monitors the delivery of the Resource. |
| **15** | Resource Managers | Resource Managers are typically responsible for managing Resource level agreements with customers and external Providers. |
| **16** | Other | |

### 12.5.4 Resource Access Type

| No. | Access Type | Description |
|---|---|---|
| **1** | Physical | Resources require a physical presence of the user. The user can only access the RI if he is physically present in the specific location that the RI is offered. |
| **2** | Remote | Resources are delivered remotely with the use of a physical infrastructure. The user can remotely work with the physical RI without the need of physical presence. |
| **3** | Virtual | The Resource is delivered through a virtual infrastructure that the use may access virtually through the web or an intranet. |
| **4** | Mail-in | Samples are sent in to for e.g. analysis and the results are returned to the user without the user accessing the RI |
| **5** | Other | |

### 12.5.5 Resource Access Mode

| No. | Access Mode | Description |
|---|---|---|
| **1** | Free | Users can freely access the Resource provided; registration may be needed. |
| **2** | Free conditionally | Users are granted access based on defined policies; such policies usually apply to Resources being offered with “sponsored use” to meet some national or EU level objective; for instance, a country may offer Resources with “sponsored use” to support national researchers involved in international collaborations. |
| **3** | Peer-reviewed | Users are selected based on scientific excellence evaluation, originality, quality and technical and ethical feasibility of an application evaluated through peer review conducted by internal or external experts of the activity to be supported by the Resource |
| **4** | Paid | Users need to pay a fee to access the Resource |
| **5** | Other | |

### 12.5.6 Resource Geographical Availability

Values for this Attribute are all countries in the Provider Country and the following area aggregates**.**

| No. | Country | Definition |
|---|---|---|
| **1** | Worldwide (WW) | All countries |
| **2** | Europe (EO) | All European Countries |
| **3** | European Union (EU) | All countries of the European Union |

| | | |
|---|---|---|
| **4** | Euro Zone (EZ) | All countries of the Eurozone |
| **5** | Schengen Area (AH) | All Schengen Area countries |
| **...** | + all countries in the Geographic Location | |

### 12.5.7 Resource Language Availability

From ISO 639-1:2002 standard - Codes for the representation of names of languages.

| No. | Language |
|---|---|
| **1** | Abkhazian (ab) |
| **2** | Afar (aa) |
| **3** | Afrikaans (af) |
| **4** | Akan (ak) |
| **5** | Albanian (sq) |
| **6** | Amharic (am) |
| **7** | Arabic (ar) |
| **8** | Aragonese (an) |
| **9** | Armenian (hy) |
| **10** | Assamese (as) |
| **11** | Avaric (av) |
| **12** | Avestan (ae) |
| **13** | Aymara (ay) |
| **14** | Azerbaijani (az) |
| **15** | Bambara (bm) |
| **16** | Bashkir (ba) |
| **17** | Basque (eu) |
| **18** | Belarusian (be) |
| **19** | Bengali (bn) |
| **20** | Bihari (bh) |
| **21** | Bislama (bi) |
| **22** | Bosnian (bs) |
| **23** | Breton (br) |
| **24** | Bulgarian (bg) |
| **25** | Burmese (my) |
| **26** | Catalan (ca) |
| **27** | Chamorro (ch) |
| **28** | Chechen (ce) |
| **29** | Chichewa (ny) |
| **30** | Chinese (zh) |
| **31** | Chuvash (cv) |
| **32** | Cornish (kw) |
| **33** | Corsican (co) |
| **34** | Cree (cr) |
| **35** | Croatian (hr) |
| **36** | Czech (cs) |
| **37** | Danish (da) |
| **38** | Divehi (dv) |
| **39** | Dutch (nl) |
| **40** | Dzongkha (dx) |
| **41** | English (en) |
| **42** | Esperanto (eo) |

| | |
|---|---|
| **43** | Estonian (et) |
| **44** | Ewe (ee) |
| **45** | Faroese (fo) |
| **46** | Fijian (fj) |
| **47** | Finnish (fi) |
| **48** | French (fr) |
| **49** | Fula (ff) |
| **50** | Gaelic (gl) |
| **51** | Galician (gd) |
| **52** | Georgian (ka) |
| **53** | German (de) |
| **54** | Greek (el) |
| **55** | Guarani (gn) |
| **56** | Gujarati (gu) |
| **57** | Haitian (ht) |
| **58** | Hausa (ha) |
| **59** | Hebrew (he) |
| **60** | Herero (hz) |
| **61** | Hindi (hi) |
| **62** | Hiri Motu (ho) |
| **63** | Hungarian (hu) |
| **64** | Icelandic (is) |
| **65** | Ido (io) |
| **66** | Igbo (ig) |
| **67** | Indonesian (id) |
| **68** | Interlingua (ia) |
| **69** | Interlingue (ie) |
| **70** | Inuktitut (iu) |
| **71** | Inupiak (ik) |
| **72** | Irish (ga) |
| **73** | Italian (it) |
| **74** | Japanese (ja) |
| **75** | Javanese (jv) |
| **76** | Kalaallisut (kl) |
| **77** | Kannada (kn) |
| **78** | Kanuri (kr) |
| **79** | Kashmiri (ks) |
| **80** | Kazakh (kk) |
| **81** | Khmer (km) |
| **82** | Kikuyu (ki) |
| **83** | Kinyarwanda (rw) |
| **84** | Kirundi (rn) |
| **85** | Komi (kv) |
| **86** | Kongo (kg) |
| **87** | Korean (ko) |
| **88** | Kurdish (ku) |
| **89** | Kwanyama (kj) |
| **90** | Kyrgyz (ky) |
| **91** | Lao (lo) |
| **92** | Latin (la) |
| **93** | Latvian (lv) |

| | |
|---|---|
| **94** | Limburgish (li) |
| **95** | Lingala (ln) |
| **96** | Lithuanian (lt) |
| **97** | Luba-Katanga (lu) |
| **98** | Luxembourgish (lb) |
| **99** | Macedonian (mk) |
| **100** | Malagasy (mg) |
| **101** | Malay (ms) |
| **102** | Malayalam (ml) |
| **103** | Maltese (mt) |
| **104** | Manx (gv) |
| **105** | Maori (mi) |
| **106** | Marathi (mr) |
| **107** | Marshallese (mh) |
| **108** | Mongolian (mn) |
| **109** | Nauru (na) |
| **110** | Navajo (nv) |
| **111** | Ndonga (ng) |
| **112** | Nepali (ne) |
| **113** | Northern Ndebele (nd) |
| **114** | Norwegian (no) |
| **115** | Norwegian bokmål (nb) |
| **116** | Norwegian nynorsk (nn) |
| **117** | Nuosu (ii) |
| **118** | Occitan (oc) |
| **119** | Ojibwe (oj) |
| **120** | Old Church Slavonic (cu) |
| **121** | Oriya (or) |
| **122** | Oromo (om) |
| **123** | Ossetian (os) |
| **124** | Pāli (pi) |
| **125** | Pashto (ps) |
| **126** | Persian (fa) |
| **127** | Polish (pl) |
| **128** | Portuguese (pt) |
| **129** | Panjabi(pa) |
| **130** | Quechua (qu) |
| **131** | Romanian (ro) |
| **132** | Romansh (rm) |
| **133** | Russian (ru) |
| **134** | Sami (se) |
| **135** | Samoan (sm) |
| **136** | Sango (sg) |
| **137** | Sanskrit (sa) |
| **138** | Sardinian (sc) |
| **139** | Serbian (sr) |
| **140** | Sesotho (st) |
| **141** | Setswana (tn) |
| **142** | Shona (sn) |
| **143** | Sindhi (sd) |
| **144** | Sinhalese (si) |

| | |
|---|---|
| **145** | Slovak (sk) |
| **146** | Slovenian (sl) |
| **147** | Somali (so) |
| **148** | Southern Ndebele (nr) |
| **149** | Spanish (es) |
| **150** | Sundanese (su) |
| **151** | Swahili (sw) |
| **152** | Swati (ss) |
| **153** | Swedish (sv) |
| **154** | Tagalog (tl) |
| **155** | Tahitian (ty) |
| **156** | Tajik (tg) |
| **157** | Tamil (ta) |
| **158** | Tatar (tt) |
| **159** | Telugu (te) |
| **160** | Thai (th) |
| **161** | Tibetan (bo) |
| **162** | Tigrinya (ti) |
| **163** | Tonga (to) |
| **164** | Tsonga (ts) |
| **165** | Turkish (tr) |
| **166** | Turkmen (tk) |
| **167** | Twi (tw) |
| **168** | Ukrainian (uk) |
| **169** | Urdu (ur) |
| **170** | Uyghur (ug) |
| **171** | Uzbek (uz) |
| **172** | Venda (ve) |
| **173** | Vietnamese (vi) |
| **174** | Volapük (vo) |
| **175** | Wallon (wa) |
| **176** | Welsh (cy) |
| **177** | Western Frisian (fy) |
| **178** | Wolof (wo) |
| **179** | Xhosa (xh) |
| **180** | Yiddish (yi) |
| **181** | Yoruba (yo) |
| **182** | Zhuang (za) |
| **183** | Zulu (zu) |
| **184** | Other |

### 12.5.8 Resource Geographic Location

Same as Provider Country. From ISO 3166 standard – Codes for the representation of names of countries and their subdivisions, except for Greece and the United Kingdom (use EL and UK respectively instead of GR and GB) from Eurostat code lists.

### 12.5.9 Resource Technology Readiness Level

| No. | Technology Readiness Level | Description |
|---|---|---|

| | | |
|---|---|---|
| **1** | TRL1 | Basic principles observed |
| **2** | TRL2 | Technology concept formulated |
| **3** | TRL3 | Experimental proof of concept |
| **4** | TRL4 | Technology validated in lab |
| **5** | TRL5 | Technology validated in relevant environment (industrially relevant environment in the case of key enabling technologies) |
| **6** | TRL6 | Technology demonstrated in relevant environment (industrially relevant environment in the case of key enabling technologies) |
| **7** | TRL7 | System prototype demonstration in operational environment |
| **8** | TRL8 | System complete and qualified |
| **9** | TRL9 | Actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies; or in space) |

### 12.5.10 Resource Life Cycle Status

| No. | Life Cycle Status | Description |
|---|---|---|
| **1** | Concept | Concept development |
| **2** | Discovery | Researching users' needs, exploring technological or policy constraints |
| **3** | Design | Resource in design |
| **4** | Preparation | Resource in preparatory phase |
| **5** | Planned | Resource plan defined |
| **6** | Alpha | Resource prototype available for closed set of users |
| **7** | Beta | Resource being developed while available for testing publicly |
| **8** | Implementation | Resource in deployment |
| **9** | Production | Resource available in the live environment |
| **10** | Operation | Resource offered |
| **11** | In containment | Resource active, but generally not available to new users |
| **12** | Retirement | Resource is not anymore offered |
| **13** | Termination | Resource dissolution, dismantling |
| **14** | Other | |

### 12.5.11 Resource Funding Body

| No. | Funding Body |
|---|---|
| **1** | Academy of Finland (AKA) - Finland |
| **2** | Agency for Environment and Energy Management (ADEME) - France |
| **3** | Agency for Innovation by Science and Technology (IWT) - Belgium |
| **4** | Agency for Science, Innovation and Technology (MITA) - Lithuania |
| **5** | Alfred Wegener Institute for Polar and Marine Research (AWI) - Germany |
| **6** | Alternative Energies and Atomic Energy Commission (CEA) - France |
| **7** | Arts and Humanities Research Council (AHRC) - United Kingdom |
| **8** | Australian Research Council (ARC) - Australia |
| **9** | Austrian Academy of Sciences (OeAW) - Austria |
| **10** | Austrian Research Promotion Agency (FFG) - Austria |
| **11** | Austrian Science Fund (FWF) - Austria |
| **12** | Belmont Forum |
| **13** | Biotechnology and Biological Sciences Research Council (BBSRC) - United Kingdom |
| **14** | Brussels Institute for Research and Innovation (INNOVIRIS) - Belgium |

| | |
|---|---|
| **15** | Canadian Institutes of Health Research (CIHR) - Canada |
| **16** | Carlos III Health Institute (ISCIII) - Spain |
| **17** | Center for Industrial Technological Development (CDTI) - Spain |
| **18** | Croatian Science Foundation (CSF) - Croatia |
| **19** | Czech Science Foundation (GACR) - Czechia |
| **20** | Danish Agency for Science and Higher Education (DASHE) - Denmark |
| **21** | Danish Agency for Science, Technology and Innovation (DASTI) - Denmark |
| **22** | Danish Council for Independent Research (DFF) - Denmark |
| **23** | Danish National Research Foundation (DNRF) - Denmark |
| **24** | German Research Foundation (DFG) - Germany |
| **25** | Economic and Social Research Council (ESRC) - United Kingdom |
| **26** | Engineering and Physical Sciences Research Council (EPSRC) - United Kingdom |
| **27** | Estonian Research Council (ETAG) - Estonia |
| **28** | European Comission (EC) |
| **29** | European Space Agency (ESA) |
| **30** | Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI - CNCS) - Romania |
| **31** | Federal Department of Economic Affairs, Education and Research (EAER) - Switzerland |
| **32** | Federal Ministry of Education and Research (BMBF) - Germany |
| **33** | Finnish Funding Agency for Innovation (TEKES) |
| **34** | Flanders Innovation & Entrepeneurship (VLAIO) - Belgium |
| **35** | Fonds National de la Recherche Scientifique (FNRS) - Belgium |
| **36** | Foundation for Fundamental Research on Matter (FOM) - Netherlands |
| **37** | Foundation for Polish Science (FNP) - Poland |
| **38** | General Secretariat for Research and Technology (GSRT) - Greece |
| **39** | Foundation for Science and Technology (FCT) - Portugal |
| **40** | French National Aerospace Research Center (ONERA) - France |
| **41** | French National Research Agency (ANR) - France |
| **42** | French Polar Institute (IPEV) - France |
| **43** | French Research Institute for Exploitation of the Sea (IFREMER) - France |
| **44** | Fritz Thyssen Foundation (FTS) - Germany |
| **45** | General Operational Directorate for Economy, Employment and ResearchDGO6) - Belgium |
| **46** | German Aerospace Center (DLR) - Germany |
| **47** | Icelandic Centre for Research (RANNIS) - Iceland |
| **48** | Innovation Fund Denmark |
| **49** | Innovation Fund of the Ministry of Economy of the Slovak Republic (IMSR) - Slovakia |
| **50** | International Science Council (ISC) |
| **51** | Irish Research Council (IRC) - Ireland |
| **52** | Israel Science Foundation (ISF) - Israel |
| **53** | Japanese Science and Technology Agency (JST) - Japan |
| **54** | Japanese Society for the Promotion of Science (JSPS) - Japan |
| **55** | Knowledge Foundation (KKS) - Sweden |
| **56** | Knut and Alice Wallenberg Foundation (KAWS) - Sweden |

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|---|---|
| **57** | La Caixa Foundation (CAIXA) - Spain |
| **58** | Malta Council for Science and Technology (MCST) - Malta |
| **59** | Max Planck Society for the Advancement of Science (MPG) - Germany |
| **60** | Medical Research Council (MRC) - United Kingdom |
| **61** | Ministry for Economic Development and Technology (MGRT) - Slovenia |
| **62** | Ministry for Economy and Competitveness (MINECO) - Spain |
| **63** | Ministry for Education and Scientific Research (MECR) - Romania |
| **64** | Ministry for Education, University and Research (MIUR) - Italy |
| **65** | Ministry of Education, Science and Technological Development of Republic of Serbia (MESTD) - Serbia |
| **66** | Ministry of Education, Youth and Sports of the Czech Republic (MEYS) |
| **67** | Ministry of Higher Education and Research (MESR) - France |
| **68** | Ministry of Science and Education Republic of Croatia (MSE) - Croatia |
| **69** | Ministry of Science and Technology of the People's Republic of China (MOST) - China |
| **70** | National Aeronautics and Space Administration (NASA) - United States |
| **71** | National Authority for Scientific Research (ANCS) - Romania |
| **72** | National Centre for Research and Development (NCBiR) - Poland |
| **73** | National Centre for Scientific Research (CNRS) - France |
| **74** | National Centre for Space Studies (CNES) - France |
| **75** | National Council for Scientific and Technological Development (CNPq) - Brazil |
| **76** | National Foundation for Research, Technology and Development (OeNFTE) - Austria |
| **77** | National Health and Medical Research Council (NHMRC) - Australia |
| **78** | National institute of Agricultural Research (INRA) - France |
| **79** | National Institute of Health and Medical Research (INSERM) - France |
| **80** | National Institutes of Health (NIG) - United States |
| **81** | National Research Council (CNR) - Italy |
| **82** | National Research Foundation (NRF) - South Africa |
| **83** | National Research Fund (FNR) - Luxembourg |
| **84** | National Research, Development and Innovation Fund (NKFIA) - Hungary |
| **85** | National Science Center (NCN) - Poland |
| **86** | National Science Foundation (NSF) - United States |
| **87** | National University Research Council (CNCSIS) - Romania |
| **88** | Natural Environment Research Council (NERC) - United Kingdom |
| **89** | Natural Sciences and Engineering Research Council of Canada (NSERC) - Canada |
| **90** | Netherlands Organisation for Scientific Research (NWO) - Netherlands |
| **91** | Research Council UK (RCUK) - United Kingdom |
| **92** | Research and Development Agency (APVV) - Slovakia |
| **93** | Research Council of Lithuania (LMT) - Lithuania |
| **94** | Research Council of Norway (RCN) - Norway |
| **95** | Research Foundation Flanders (FWO) - Belgium |
| **96** | Research Promotion Foundation (RPF) - Cyprus |
| **97** | São Paulo Research Foundation (FAPESP) - Brazil |
| **98** | Science and Technology Facilities Council (STFC) - United Kingdom |
| **99** | Science Foundation Ireland (SFI) - Ireland |

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|---|---|
| **100** | Scientific and Technological Research Council of Turkey (TUBITAK) - Turkey |
| **101** | Scientific Grant Agency (VEGA) - Slovakia |
| **102** | Secretariat-General for Investment (SGPI) - France |
| **103** | Slovenian Research Agency (ARRS) - Slovenia |
| **104** | Social Sciences and Humanities Research Council (SSHRC) - Canada |
| **105** | Spanish National Research Council (CSIC) - Spain |
| **106** | State Education Development Agency (VIAA) - Latvia |
| **107** | Swedish Energy Agency - Sweden |
| **108** | Swedish Environmental Protection Agency - Sweden |
| **109** | Swedish Foundation for Strategic Environmental Research (MISTRA) - Sweden |
| **110** | Swedish Foundation for Strategic Research (SSF) - Sweden |
| **111** | Swedish Governmental Agency for Innovation Systems (VINNOVA) - Sweden |
| **112** | Swedish National Space Board (SNSB) - Sweden |
| **113** | Swedish Radiation Safety Authority - Sweden |
| **114** | Swedish Reseach Council Formas - Sweden |
| **115** | Swedish Research Council (VR) - Sweden |
| **116** | Swedish Research Council for Health, Working Life and Welfare (FORTE) - Sweden |
| **117** | Swiss National Science Foundation (SNF) - Switzerland |
| **118** | Tara Expeditions Foundation (TARA) - France |
| **119** | Finnish Funding Agency for Technology and Innovation (TEKES) - Finland |
| **120** | Technology Agency of the Czech Republic (TACR) - Czechia |
| **121** | Technology Foundation (STW) - Netherlands |
| **122** | The Danish Council for Independent Research (DDF) - Denmark |
| **123** | The Icelandic Centre for Research (RANNIS) - Iceland |
| **124** | The Ministry of Education, Science, Research and Sports of the Slovak Republic (MSVVaS SR) - Slovakia |
| **125** | The Research Council of Norway - Norway |
| **126** | The Swedish Foundation for Humanities and Social Sciences (RJ) - Sweden |
| **127** | UK Research and Innovation (UKRI) - United Kingdom |
| **128** | Vienna Science and Technology Fund (WWTF) - Austria |
| **129** | Volkswagen Foundation (VS) - Germany |
| **130** | Wellcome trust (WT) - United Kingdom |
| **131** | Arcadia Fund |
| **132** | Other |

### 12.5.12 Resource Funding Program

| No. | Funding Program |
|---|---|
| **1** | Anti-Fraud Information System (AFIS2020) |
| **2** | European Agricultural Guarantee Fund (after transfers between EAGF and EAFRD) (AGR) |
| **3** | Net transfer between EAGF and EAFRD (AGRNET) |
| **4** | Asylum, Migration and Integration Fund (AMF) |
| **5** | Rights, equality and citizenship programme (CDF2020) |
| **6** | Connecting Europe Facility (CEF) |
| **7** | Cohesion Fund (CF) |
| **8** | Common foreign and security policy (CFSP2020) |

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|---|---|
| **9** | Contribution from the Cohesion Fund to the CEF programme (CF_DET) |
| **10** | Europe for Citizens (CIT2020) |
| **11** | Competitiveness (more developed regions) (COMPREG) |
| **12** | Consumer programme (CONS) |
| **13** | European Earth Observation Programme (COPERNICUS) |
| **14** | Programme for the competitiveness of enterprises and small and medium-sized enterprises (COSME) |
| **15** | Union Civil Protection Mechanism — Member States (CPM_H3) |
| **16** | Union Civil Protection Mechanism — Outside EU (CPM_H4) |
| **17** | Creative Europe programme (CREA) |
| **18** | Action programme for customs in the European Union (CUST2020) |
| **19** | Development Cooperation Instrument (DCI2020) |
| **20** | The Union programme for education, training, youth and sport (Erasmus+) (E4A) |
| **21** | European Agricultural Fund for Rural Development (after transfers between EAGF and EAFRD) (EAFRD) |
| **22** | European Agricultural Fund for Rural Development (EAFRD2020) |
| **23** | European Agricultural Guarantee Fund (EAGF2020) |
| **24** | Emergency Aid Reserve (EAR2020) |
| **25** | Energy projects to aid economic recovery (EERP) |
| **26** | European Fund for Sustainable Development (EFSD) |
| **27** | European Fund for Strategic Investments (EFSI) |
| **28** | European Globalisation Adjustment Fund (EGF2020) |
| **29** | European Instrument for Democracy and Human Rights (EIDHR2020) |
| **20** | European Maritime and Fisheries Fund (EMFF2020) |
| **31** | European Neighbourhood Instrument (ENI) |
| **32** | European Regional Development Fund (ERDF) |
| **33** | European Solidarity Corps (ESC) |
| **34** | European Social Fund (ESF) |
| **35** | European statistical programme (ESP2017) |
| **36** | European statistical programme (ESP2020) |
| **37** | EU Aid Volunteers initiative (EUAV) |
| **38** | Euratom research and training programme (EURATOM) |
| **39** | Comparison of fingerprints for the effective application of the Dublin Convention (EURODAC2020) |
| **40** | European Union Solidarity Fund (EUSF2020) |
| **41** | European Union Solidarity Fund (EUSF) — Member States (EUSF_H3) |
| **42** | European Union Solidarity Fund (EUSF) — Countries negotiating for accession (EUSF_H4) |
| **43** | Fund for European Aid to the Most Deprived (FEAD) |
| **44** | Food and feed (FF2020) |
| **45** | Specific activities in the field of financial reporting and auditing (FINSER2020) |
| **46** | Action programme for taxation in the European Union (FISC2020) |
| **47** | Implementation and exploitation of European satellite navigation systems (EGNOS and Galileo) (GAL2014) |
| **48** | EU cooperation with Greenland (GRLD2020) |
| **49** | The framework programme for research and innovation (H2020) |
| **50** | Union's action in the field of health (Health programme) (HEALTH) |
| **51** | Programme to promote activities in the field of the protection of the European Union's financial interests (HERC3) |
| **52** | Supplementary high flux reactor (HFR) programmes (HFR2015) |
| **53** | Humanitarian aid (HUMA2020) |
| **54** | Enhancing consumers involvement in EU policy making in the field of financial services (ICFS) |
| **55** | Instrument for emergency support within the Union (IES) |
| **56** | Instrument contributing to Stability and Peace (IFS2020) |
| **57** | Instrument for Nuclear Safety Cooperation (INSC2020) |

| | |
|---|---|
| **58** | Instrument for Pre-accession Assistance (IPA2) |
| **59** | Interoperability Solutions for European Public Administrations (ISA2015) |
| **60** | Interoperability Solutions for European public administrations, businesses and citizens (ISA2020) |
| **61** | Internal Security Fund (ISF) |
| **62** | International thermonuclear experimental reactor (ITER) |
| **63** | Justice programme (JUST) |
| **64** | Programme for the Environment and Climate Action (LIFE2020) |
| **65** | Guarantee Fund for external actions (LOAN2020) |
| **66** | Macro financial assistance (MFA) |
| **67** | Nuclear decommissioning assistance programmes in Bulgaria, Lithuania and Slovakia (ND) |
| **68** | Outermost and sparsely populated regions (OUTREG) |
| **69** | Exchange, assistance and training programme for the protection of the euro against counterfeiting (PERI2020) |
| **70** | Partnership instrument for cooperation with third countries (PI) |
| **71** | European Union programme for employment and social innovation (PSCI) |
| **72** | Regional convergence (less developed regions) (REGCONV) |
| **73** | Compulsory contributions to regional fisheries management organisations (RFMOs) and to other international organisations |
| **74** | Sustainable Fisheries Partnership Agreements (SFPAs) |
| **75** | Schengen Information System (SIS2020) |
| **76** | Technical assistance and innovative actions (TA_IA) |
| **77** | Instrument of financial support for encouraging the economic development of the Turkish Cypriot community (TCC) |
| **78** | European territorial cooperation (TERRCOOP) |
| **79** | Transition regions (TRANSREG) |
| **80** | Visa Information System (VIS2020) |
| **81** | Youth employment initiative (specific top-up allocation) (YEI) |
| **82** | Large Research Infrastructures Programme of the MEYS, Czech Republic |
| **83** | Development, deployment and operation of ICT-based e-infrastructures |
| **84** | NUCLEU Programme (Romania) |
| **85** | LINDAT/CLARIAH-CZ Digital Research Infrastructure for the Language Technologies, Arts and Humanities (LM2018101) |
| **86** | ESA EO Exploitation Platforms initiative |
| **87** | Other |

### 12.5.13 Resource Order Type

| No. | Request/Order Type | Description |
|---|---|---|
| **1** | Request/Order required | Resource requires an ordering procedure |
| **2** | Open access | No ordering procedure necessary to access the Resource but requires user authentication |
| **3** | Fully open access | No ordering procedure necessary to access the Resource and no user authentication required |
| **4** | Other | |

# 13 Annex V: EOSC Portal Multi-Provider Catalogue Profile Specification v4.00

An **EOSC Multi-Provider (Thematic or Regional) Catalogue or Aggregator** is an EOSC System User that aggregates the catalogues of multiple Providers and their Resources normally under a theme or geography or else. EOSC MPC or Aggregators may be organizations, a part of an organization or a federation that aggregates and delivers Resources to End-Users. EOSC Providers can be: Resource Aggregators, Thematic Clouds, Regional Clouds, etc. The MPC Profile is a subset of the Provider Profile and is used during the first step of the EPOP (after the MPC Manager logins as an Authenticated User). Following the onboarding of the MPC, the MPC Manager may onboard its Providers and Resources.

The attributes of an the Information Blocks of the MPC Profile is a subset of the Provider Profile and the Code Lists, Taxonomies and Classifications are the same as in the Provider Profile.

## 13.1 EOSC Portal MPC Profile v4.00 Information Blocks

The information in the MPC Profile v4.00 is organised in six blocks, as shown in Figure 13.1.

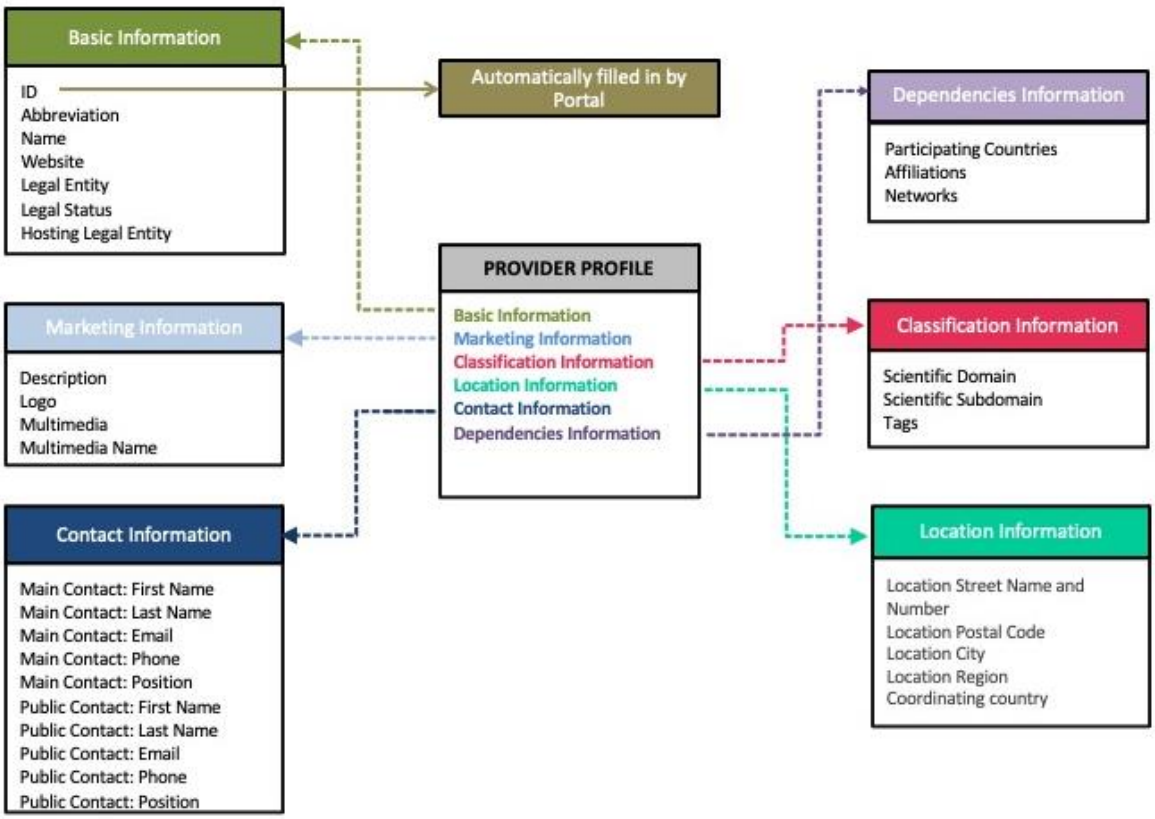



*Figure 13.1: Information Blocks of the EOSC Portal Multi-Provider Catalogue Profile*

a) **Basic Information**: basic information about a mulit-provider such as the unique provider identifier in the catalogue, the name, the abbreviation, the multi-Provider website, etc.

b) **Marketing Information**: the description, the logo and multimedia on the multi-Provider if available.

c) **Classification Information**: information about the classification of the multi-provider, such as scientific domain and subdomain, and tags.

d) **Location Information**: information about the location of the multi-Provider.

e) **Contact Information**: information about the contact persons of the multi-Provider.

f) **Dependencies Information:** Dependencies Information about the multi-Provider, such as Participating Countries, Affiliations, Networks, etc.

## 13.2 EOSC Portal Provider Profile v4.00 Specification

| Code | Attribute Name | Definition | Type | Multiplicity | Required | Public |
|---|---|---|---|---|---|---|
| Basic Information | | | | | | |
| ECP.BAI.0 | ID | A persistent identifier, a unique reference to the (Multi-Provider Regional or Thematic) Catalogue in the context of the EOSC Portal. | String (max 30) | 1 | Mandatory | Yes |
| ECP.BAI.1 | Abbreviation | An abbreviation of the (Multi-Provider Regional or Thematic) Catalogue Name. | String (max 30) | 1 | Mandatory | Yes |
| ECP.BAI.2 | Name | Full Name of the (Multi-Provider Regional or Thematic) Catalogue. | String (max 100) | 1 | Mandatory | Yes |
| ECP.BAI.3 | Website | Website with information about the (Multi-Provider Regional or Thematic) Catalogue. | URL | 1 | Mandatory | Yes |
| ECP.BAI.4 | Legal Entity | A Y/N question to define whether the (Multi-Provider Regional or Thematic) Catalogue is owned by a Legal Entity or not. | Boolean | 1 | Mandatory | Yes |
| ECP.BAI.5 | Legal Status | Legal status of the (Multi-Provider Regional or Thematic ) Catalogue Owner. The legal status is usually noted in the registration act/statutes. For independent legal entities (1) - legal status of the Catalogue. For embedded Catalogues (2) - legal status of the hosting legal entity. It is also possible to select Not a legal entity. | List of controlled values | 1 | Optional | Yes |
| ECP.BAI.6 | Hosting Legal Entity | Name of the organisation legally hosting (housing) the Catalogue or its coordinating centre. | List of controlled values | 1 | Optional | Yes |
| Marketing Information | | | | | | |
| ECP.MRI.1 | Description | A high-level description of the Catalogue in fairly non-technical terms, with the vision, mission, objectives, background, experience. | String (max 1000) | 1 | Mandatory | Yes |
| ECP.MRI.2 | Logo | Link to the logo/visual identity of the Catalogue. | URL | 1 | Mandatory | Yes |
| ECP.MRI.3 | Multimedia | Link to video, slideshow, photos, screenshots with details of the | URL | Multiple | Optional | Yes |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Catalogue. | | | | |
| ECP.MRI.4 | Multimedia Name | Short description of the Multimedia content | String (Max 100) | Multiple | Optional | Yes |
| Classification Information | | | | | | |
| ECP.CLI.1 | Scientific Domain | A named group of Catalogues that offer access to the same type of resources or capabilities. | List of controlled values | Multiple | Optional | Yes |
| ECP.CLI.2 | Scientific Subdomain | A named group of Catalogues that offer access to the same type of resources or capabilities, within the defined domain. | List of controlled values | Multiple | Optional | Yes |
| ECP.CLI.3 | Tags | Keywords associated to the Catalogue to simplify search by relevant keywords. | String (max 20) | Multiple | Optional | Yes |
| Location Information | | | | | | |
| ECP.L0I.1 | Street Name and Number | Street and Number of incorporation or Physical location of the Catalogue Coordinating Entity. | String (max 50) | 1 | Mandatory | Yes |
| ECP.L0I.2 | Postal Code | Postal code of incorporation or Physical location of the Catalogue Coordinating Entity. | String (max 20) | 1 | Mandatory | Yes |
| ECP.L0I.3 | City | City of incorporation or Physical location of the Catalogue Coordinating Entity. | String (max 20) | 1 | Mandatory | Yes |
| ECP.L0I.4 | Region | Region of incorporation or Physical location of the Catalogue Coordinating Entity. | String (max 50) | 1 | Optional | Yes |
| ECP.L0I.5 | Country | Country of incorporation or Physical location of the Catalogue Coordinating Entity. | List of controlled values | 1 | Mandatory | Yes |
| Contact Information | | | | | | |
| Main Contact/Provider Manager | | | | | | |
| ECP.COI.1 | First Name | First Name of the Catalogue's main contact person/Provider Manager. | String (max 20) | 1 | Mandatory | No |
| ECP.COI.2 | Last Name | Last Name of the Catalogue's main contact person/Provider Manager. | String (max 20) | 1 | Optional | Yes |
| ECP.COI.3 | Email | Email of the Catalogue's main contact person/Provider manager. | Email | 1 | Mandatory | No |
| ECP.COI.4 | Phone | Phone of the Catalogue's main contact person/Provider manager. | String (max 20) | 1 | Optional | No |
| ECP.COI.5 | Position | Position of the Catalogue's main contact person/Provider manager. | String (max 50) | 1 | Optional | No |
| Public Contact | | | | | | |
| ECP.COI.6 | First Name | First Name of the Catalogue's contact person to be displayed at the portal. | String (max 20) | 1 | Optional | Yes |
| ECP.COI.7 | Last Name | Last Name of the Catalogue's contact person to be displayed at the | String (max 20) | 1 | Optional | Yes |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | portal. | | | | |
| ECP.COI.8 | Email | Email of the Catalogue's contact person to be displayed at the portal or general email to contact Catalogue. | Email | 1 | Mandatory | Yes |
| ECP.COI.9 | Phone | Phone of the Catalogue's contact person to be displayed at the portal or general phone to contact Catalogue. | String (max 20) | 1 | Optional | Yes |
| ECP.COI.10 | Position | Position of the Catalogue's contact person to be displayed at the portal. | String (max 50) | 1 | Optional | Yes |
| Dependencies Information | | | | | | |
| ECP.DEI.1 | Participating Countries | Catalogues that are funded/supported by several countries should list here all supporting countries (including the Coordinating country). | List of controlled values | Multiple | Optional | Yes |
| ECP.DEI.2 | Affiliations | Catalogues that are members or affiliated or associated with other organisations should list those organisations here | String (max 30) | Multiple | Optional | Yes |
| ECP.DEI.3 | Networks | Catalogues that are members of networks should list those networks here. | List of controlled values | Multiple | Optional | Yes |

# 14 Annex VI: EOSC Portal Data Source Profile Specification v4.00

**Data sources** are EOSC Resources and a subclass of *EOSC Services* whose specific purpose is to offer deposition, preservation, curation, discovery, access, and usage statistics functionalities to collections of EOSC Research ProductScientific Products from a thematic or cross-discipline perspective. EOSC Data Sources include Repositories, Catalogues of Research Products, Scientific Databases, Aggregators, Journal sites, Publisher sites, CRIS Systems, and Research Entity Registries. Due to their special role of *Research Product* "keepers" across or within specific communities, they deserve a special mention in the EOSC resource information model.

## 14.1 EOSC Portal Data Source Profile v4.00 Specification

The following table includes the full specification of the Data Source Profile v4.00.

*Table 14-1: EOSC Portal Data Source Profile Specification v4.00*

| Code | Attribute Name | Description | Type | Multiplicity | Required |
|---|---|---|---|---|---|
| **Data Source Policies** | | | | | |
| 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 |
| DS1.3 | Version control | If data versioning is supported: the data source explicitly allows the deposition of different versions of the same object | Boolean | 1 | O |
| DS1.4 | Persistent Identity Systems | The persistent identifier systems that are used by the Data Source to identify the EntityType it supports | | 0..n | R |
| DS1.4.1 | Persistent Identity EntityType | Specify the EntityType to which the persistent identifier is referring to. | Vocabulary: Research Entity Type | 1 | M |
| DS1.4.2 | Persistent Identity EntityType Scheme | Specify the list of persistent identifier schemes used to refer to EntityTypes | Vocabulary: Persistent Identity Scheme | 1..n | M |
| **Data Source content** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| DS2.1 | Jurisdiction | The property defines the jurisdiction of the users of the data source, based on the vocabulary for this property | Vocabulary: Jurisdiction | 1 | M |
| DS2.2 | Data Source Classification | The specific type of the data source based on the vocabulary defined for this property | Vocabulary: DataSource-Classification | 1 | M |
| DS2.3 | Research Entity Types | The types of OpenAIRE entities managed by the data source, based on the vocabulary for this property | Vocabulary: Research Entity Type | 1..n | M |
| DS2.4 | Thematic | Boolean value specifying if the data source is dedicated to a given discipline or is instead discipline agnostic | Boolean | 1 | M |
| **Research Product policies** | | | | | |
| 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: COAR Access Rights 1.0 | 0..n | R |
| **Research Product Metadata** | | | | | |
| DS4.1 | Research Product Metadata Licensing | Metadata Policy for information describing items in the repository: Access and re-use of metadata | | 0..1 | R |
| DS4.1.1 | Research Product Metadata License Name | | String | 1 | M |
| DS4.1.2 | Research Product Metadata License URL | | URL | 1 | M |
| DS4.2 | Research Product Metadata Access Policy | | Vocabulary: COAR Access Rights 1.0 | 0..n | R |

## 14.2 EOSC Portal Data Source Profile v4.00 Example

The following table provides an example of an actual Data Source.

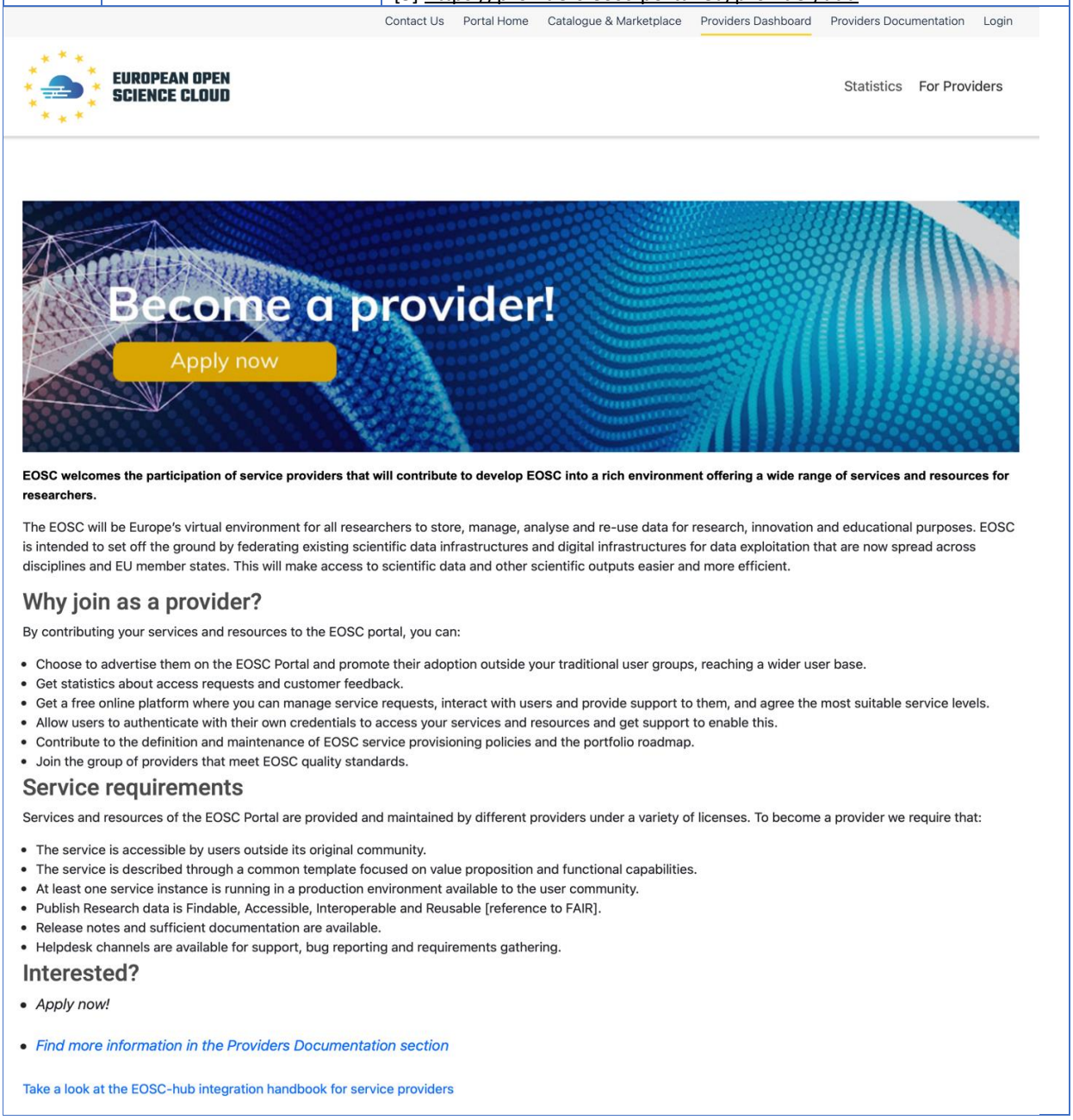
*Table 14-2: EOSC Portal Data Source Profile Example*

| Code | Attribute Name | Examples |
|---|---|---|
| **Data Source Policies** | | |
| DS1.1 | Submission policy URL | DANS EASY deposit agreement, see https://dans.knaw.nl/en/about/organisation-and-policy/legal-information/deposit-agreement.pdf |
| DS1.2 | Preservation policy URL | SURF Data Repository Preservation Policy, see https://repository.surfsara.nl/docs/preservation-policy |
| DS1.3 | Version control | FALSE \| TRUE |
| DS1.4 | Persistent Identity Systems | |
| DS1.4.1 | Persistent Identity EntityType | Examples: Research data, Research software, Research Publications, Other research products, Funders, Projects, Researchers, Organisations, Data Sources, Services, Research Infrastructures, Disciplines |
| DS1.4.2 | Persistent Identity EntityType Scheme | Examples: DOI, Handle, RoR, ORCID, ISNI, ArXiv, PMCID,..... |
| **Data Source content** | | |
| DS2.1 | Jurisdiction | Examples: HAL is "National", Zenodo.org is "Global", university repositories serving university scientists are "Institutional" |
| DS2.2 | Data Source Classification | Examples: Repository, Catalogue of Research Products, Scientific Databases, Metadata Aggregators, Journal, Publisher, CRIS, Research Graph, Research Entity Registry |
| DS2.3 | Research Entity Types | Examples: Research data, Research software, Research Publications, Other research products, Funders, Projects, Researchers, Organisations, Data Sources, Services,Research Infrastructures, Disciplines |
| DS2.4 | Thematic | Multidisciplinary (FALSE) \| Disciplinary (TRUE)<br>GESIS, ArXiv are "disciplinary", Figshare is "multidisciplinary" |
| **Research Product policies** | | |
| DS3.1 | Research Product Licensing | |
| DS3.1.1 | Research Product License Name | Example: Creative Commons Attribution 4.0 International; Apache, GPL,... |
| DS3.1.2 | Research Product License URL | Example for research data: https://creativecommons.org/licenses/by/4.0/<br>Example for software products: https://www.apache.org/licenses/LICENSE-2.0 |
| DS3.2 | Research Product Access Policy | Examples: Open, Embargoed, Restricted, Closed |
| **Research Product Metadata** | | |
| DS4.1 | Research Product Metadata Licensing | |
| DS4.1.1 | Research Product Metadata License Name | Example: CC0, CC-BY, etc. |
| DS4.1.2 | Research Product Metadata License URL | Example: https://creativecommons.org/publicdomain/zero/1.0/deed.it |
| DS4.2 | Research Product Metadata Access Policy | Examples: Open, Embargoed, Restricted |

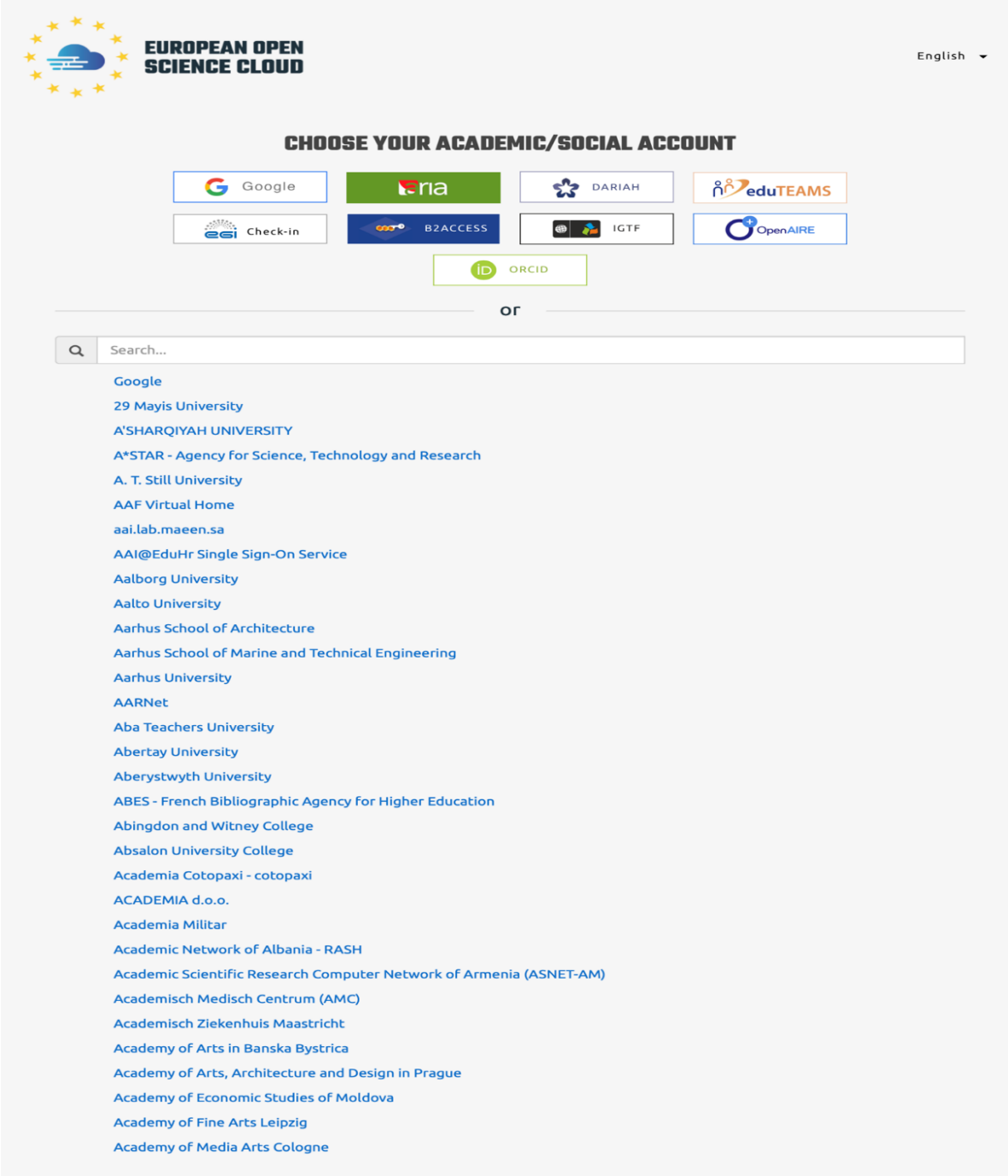
# 15 Annex VII: EOSC Portal Onboarding Process for Single Provider Specification v4.00

The **following sections provide** further details of the actions that take place in each of the workflow Phases and Stages of the Onboarding Process v4.00.

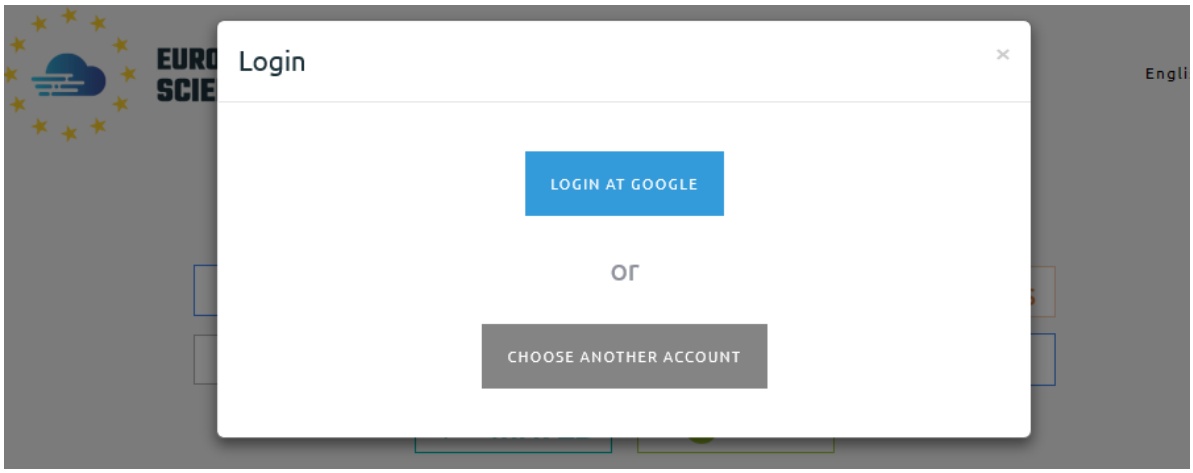
| No. | Stage | Description-Actions |
|---|---|---|
| **Phase 1: Provider Representative Onboarding** | | |
| **A1** | **The Representative of the Provider visits the Portal** | A Representative of the Provider (RP) [1] visits the "For Providers" Section of the EOSC Portal [2] and clicks on "Become a provider! Apply now" [3] to start the process of applying to become a Provider.<br>[1] Assumed to be authorized to act on behalf of the Provider at this stage.<br>[2] https://providers.eosc-portal.eu/becomeAProvider<br>[3] https://providers.eosc-portal.eu/provider/add |

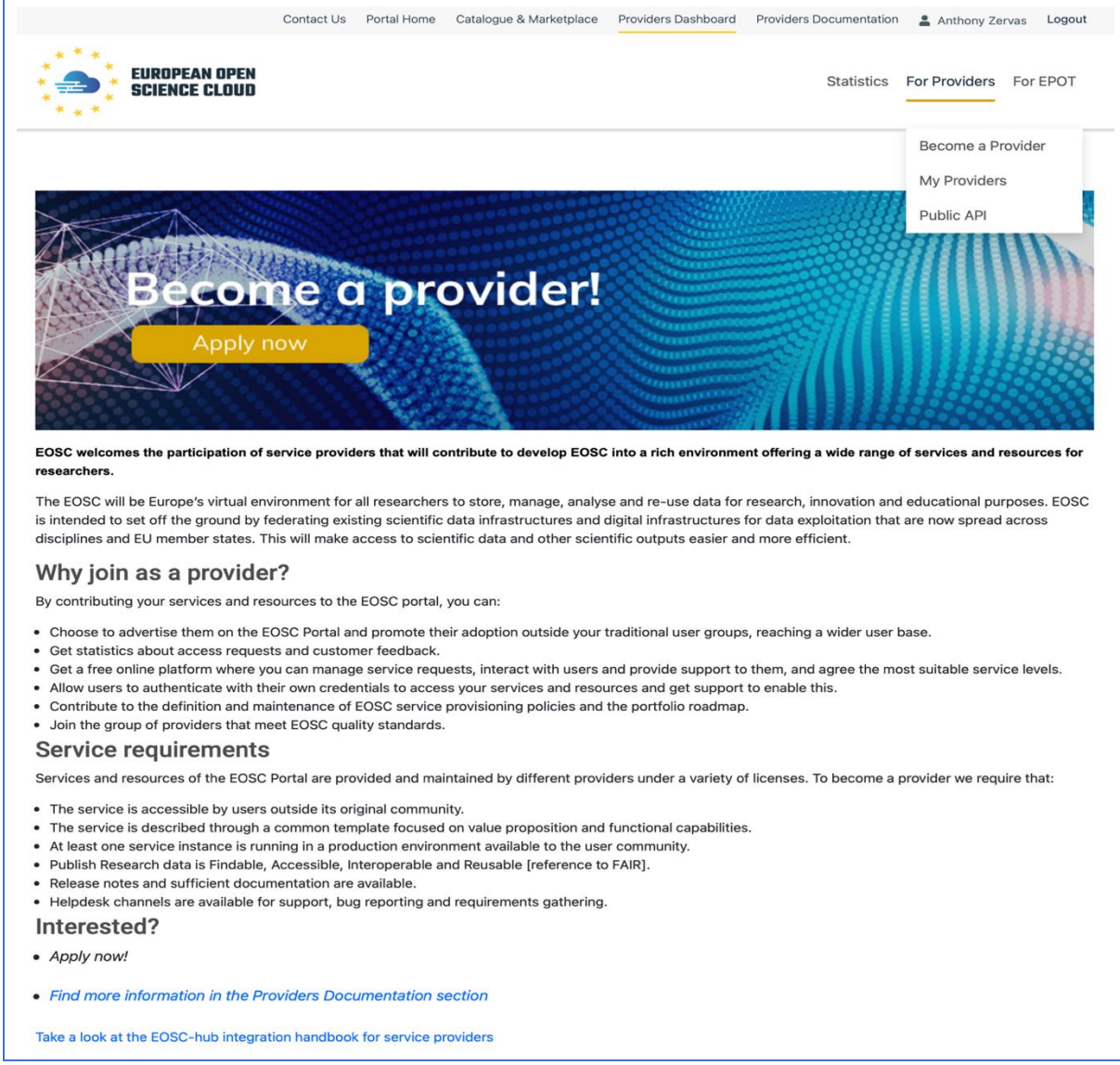


| | | |
|---|---|---|
| **A2** | **The Representative of the Provider registers with the Portal using an existing identity from a supported Social or Academic AAI mechanism** | The RP uses the Authentication and Authorization Infrastructure (AAI) mechanisms supported by the Portal [4] to register with the Portal.<br>In case any difficulties arise during the Authentication, the Representative may communicate issues [5] and depending on the issue, the AAI Team may organise a 1-to-1 call to offer guidance.<br>[4] Currently supported AAI mechanisms: eduTeams, EGI CheckIn, OpenAIRE, EUDAT, B2ACCESS, Aria, Dariah, IGTF, OpenMINTED, ORCID, etc. and AAI mechanisms of many Academic and Research Institutions worldwide. If a Provider representative cannot authenticate via one of the provided Academic AAI proxies, the representative can authenticate via a Google identity account.<br>[5] https://www.eosc-portal.eu/helpdesk or use the feedback ribbon. |

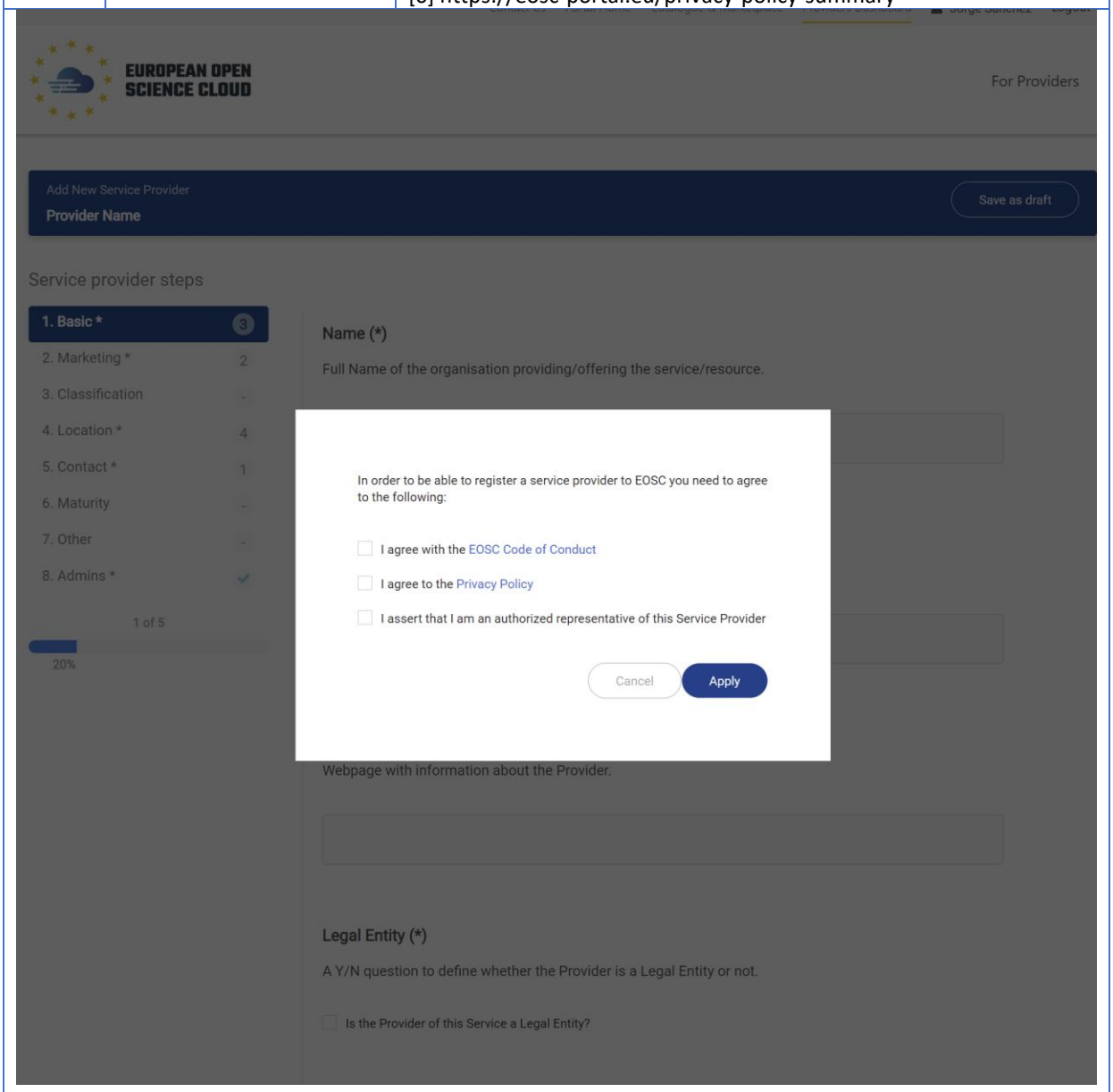


| | | |
|---|---|---|
| **A3** | **The Authenticated Representative of the Provider logs into the Portal** | The Authenticated Representative of the Provider (ARP) logins via the AAI of the Portal. Once logged in, the menu allows access to the "Add New Provider" functionality. |

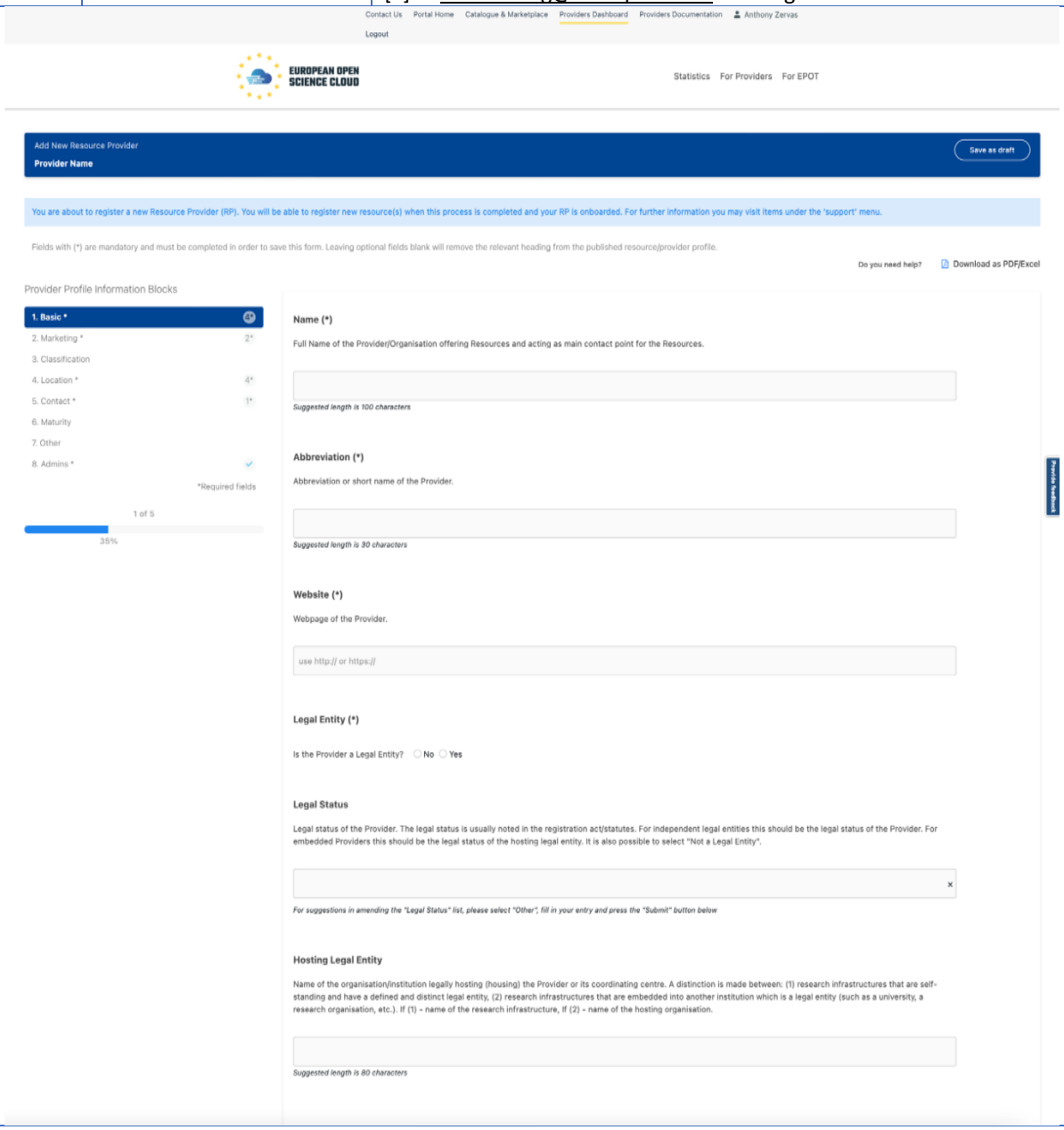


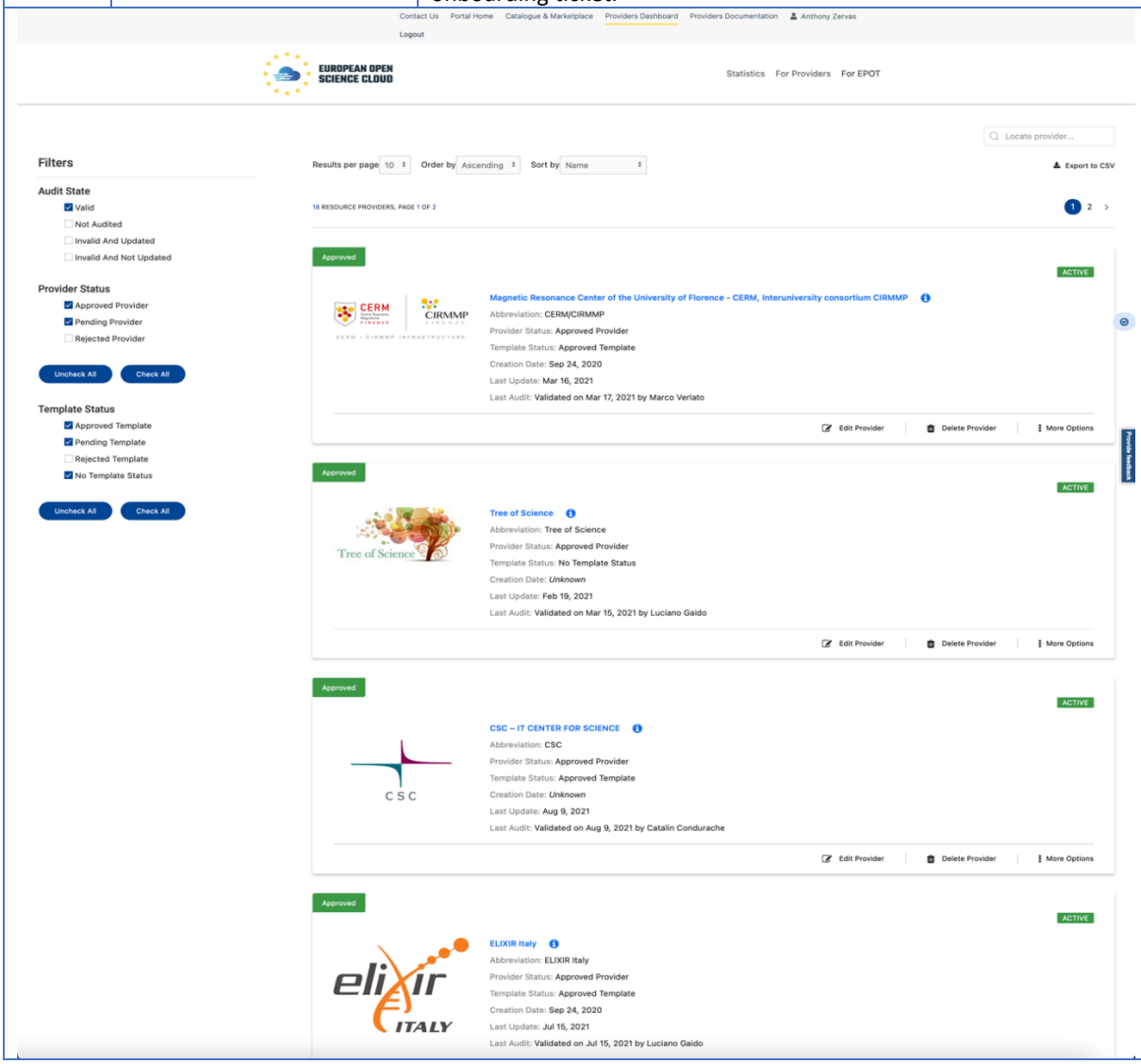
| | | |
|---|---|---|
| **A4** | **The Authenticated Representative of the Provider asserts he/she is an Authorized Representative of a Provider** | By clicking on "Add New Provider", the ARP is asked a) to agree to the EOSC Portal Privacy Policy [6] and b) to assert the Authorisation of Representation of the Provider Organisation.<br>Once a and b are accepted, and the latter asserted, the Authenticated and Authorized Representative of the Provider (AARP) can apply to onboard the Provider.<br>[6] https://eosc-portal.eu/privacy-policy-summary |



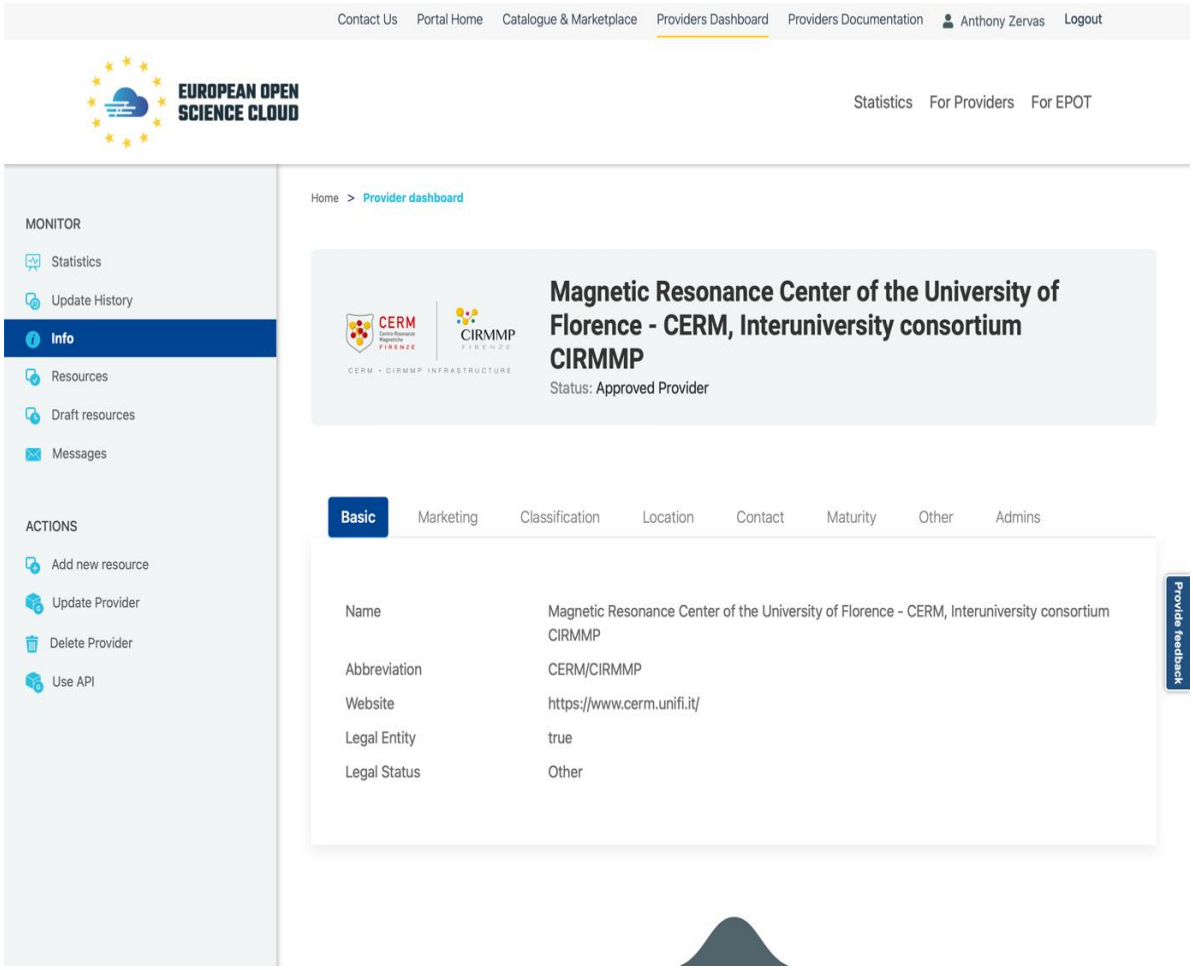
| Phase 2: Provider (Organisation) Onboarding | | |
|---|---|---|
| **A5** | **The Authenticated and Authorized Representative of a Provider applies to onboard the Provider** | Now the AARP may apply for the onboarding of the Provider by completing the Provider Profile [7].<br>Automated mechanisms are used to the greatest extent possible to ensure that all required information is included and that the information is of the correct type, size, etc.<br>If any difficulties arise during the application, the AARP may communicate issues [8]. Depending on the issue, the EOSC Portal Onboarding Team (EPOT) may organize a 1-to-1 call to offer guidance.<br>Upon successful submission: a) the AARP and the EPOT are notified, and b) an onboarding ticket is opened.<br>The EPOT reviews the ticket from the Provider and updates it with any additional information deemed necessary.<br>[7] The Profile is available to download and preview in various formats at https://eosc-portal.eu/providers-documentation/eosc-provider-portal-provider-profile.<br>[8] at onboarding@eosc-portal.eu or using the feedback ribbon. |



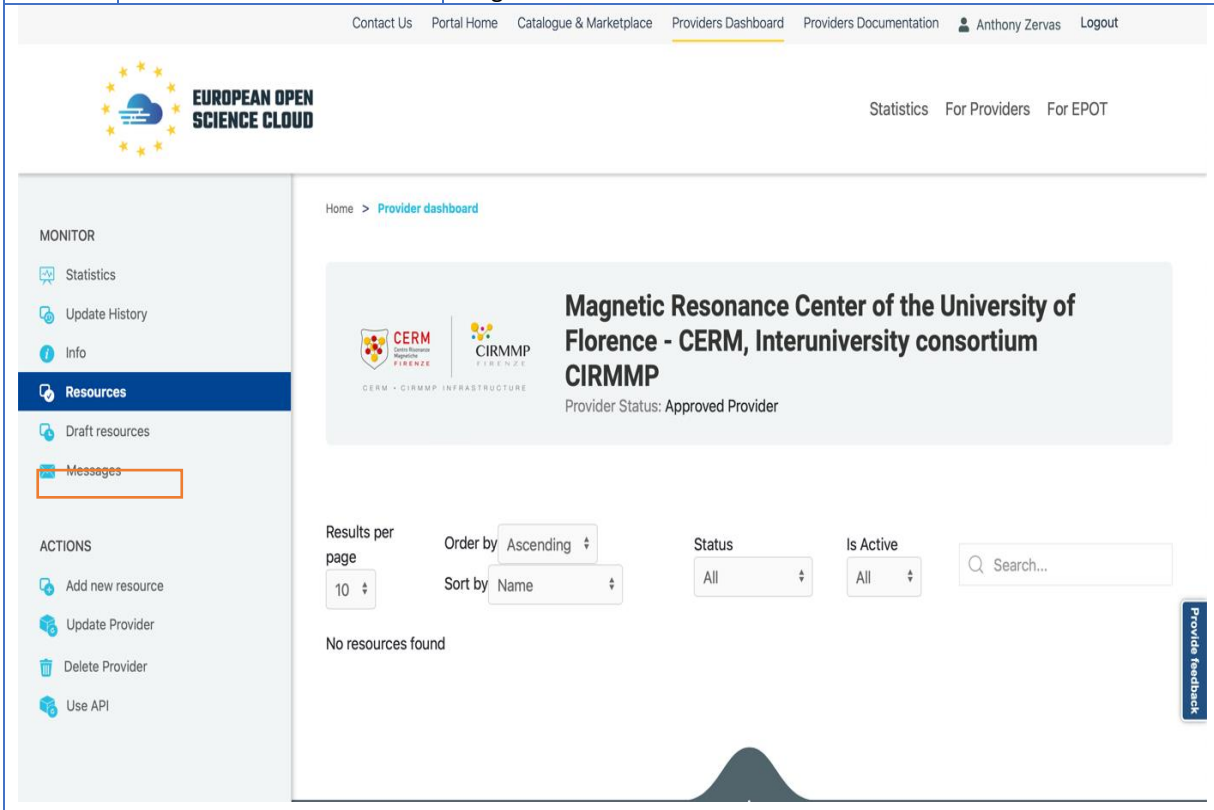
| | | |
|---|---|---|
| **A6** | **The Portal Onboarding Team reviews the newly onboarded Provider** | The EPOT reviews the Provider description by checking the minimum requirements of the Portal and the rules and criteria based on the current RoP and the typology of the Provider Profile (mandatory fields, lengths, types, etc.) and provides recommendations (if any) for improvement.<br>If the Provider Profile description does not comply with the minimum requirements, rules and criteria or the typology of the Provider Profile, the AARP is contacted by email to act on the recommendations and resubmit the Provider description. The ticket is updated, and the recommendations are attached.<br>At this stage, the AARP can benefit from the tutorial materials available on the Portal. In the case of specific needs or issues, personalized consultation may be offered.<br>If the Provider updates via the Portal the Provider description, it is reassessed following the same steps.<br>The Provider may be rejected at this step as not within the allowed range of organizations expected to act as Providers. Otherwise, the AARP is notified of the approval. Approval or rejection notifications are sent automatically by the Portal. The EPOT updates the status of the onboarding ticket. |



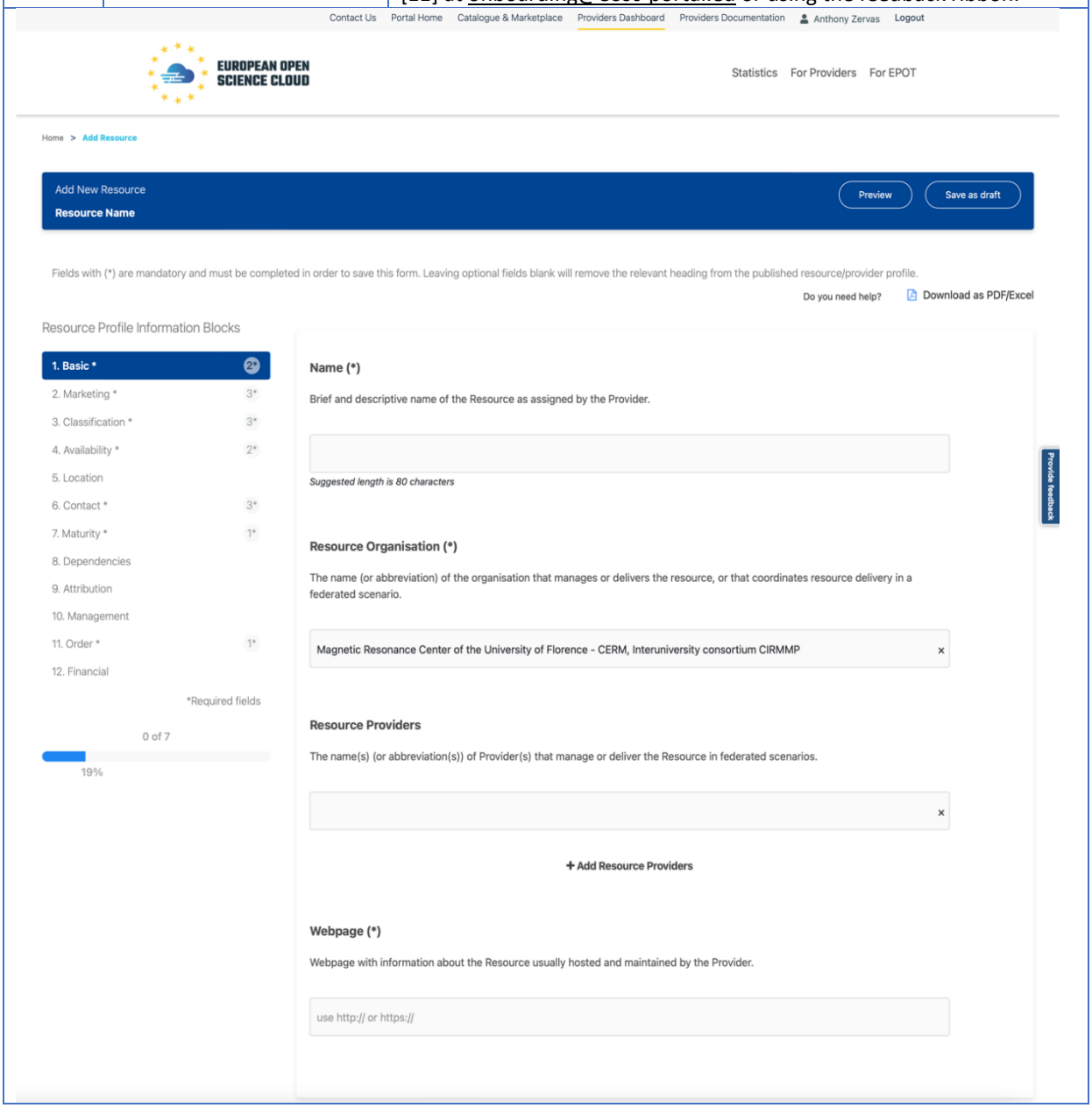
| | | |
|---|---|---|
| **A7** | **The Authenticated and Authorized Representative of the Provider gets access to the Portal Dashboard** | Once the Provider is approved, the Provider is visible publicly, can use the Providers' Dashboard [9] and can be added as a (co) Provider on Resources, etc.<br>Providers are required to maintain and update their descriptions at least once per year via the Dashboard.<br>[9] https://providers.eosc-portal.eu/dashboard/ |



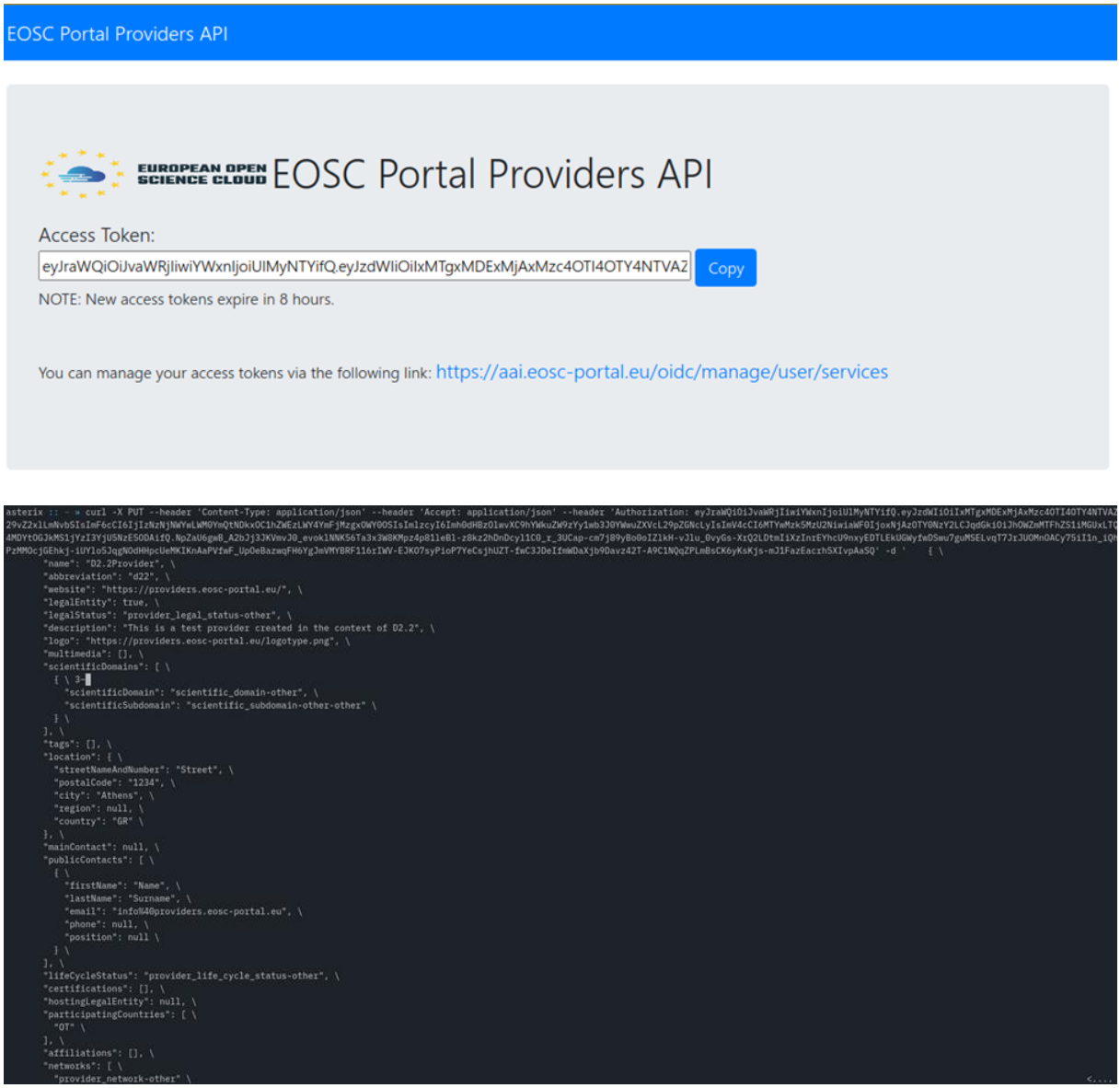
| Phase 3: Resource Onboarding | | |
|---|---|---|
| **A8** | **The Authenticated and Authorized Representative of the Provider selects the method to onboard the Resources** | The AARP logins (if not already logged in) to the Portal and may proceed with the onboarding of Resources.<br>The AARP is offered two options to onboard Resources: a) via a web interface for each Resource individually or b) via the Portal Application Programming Interface (API).<br>If the web interface is selected, then Stage A9a follows; otherwise, Stage A9b. |



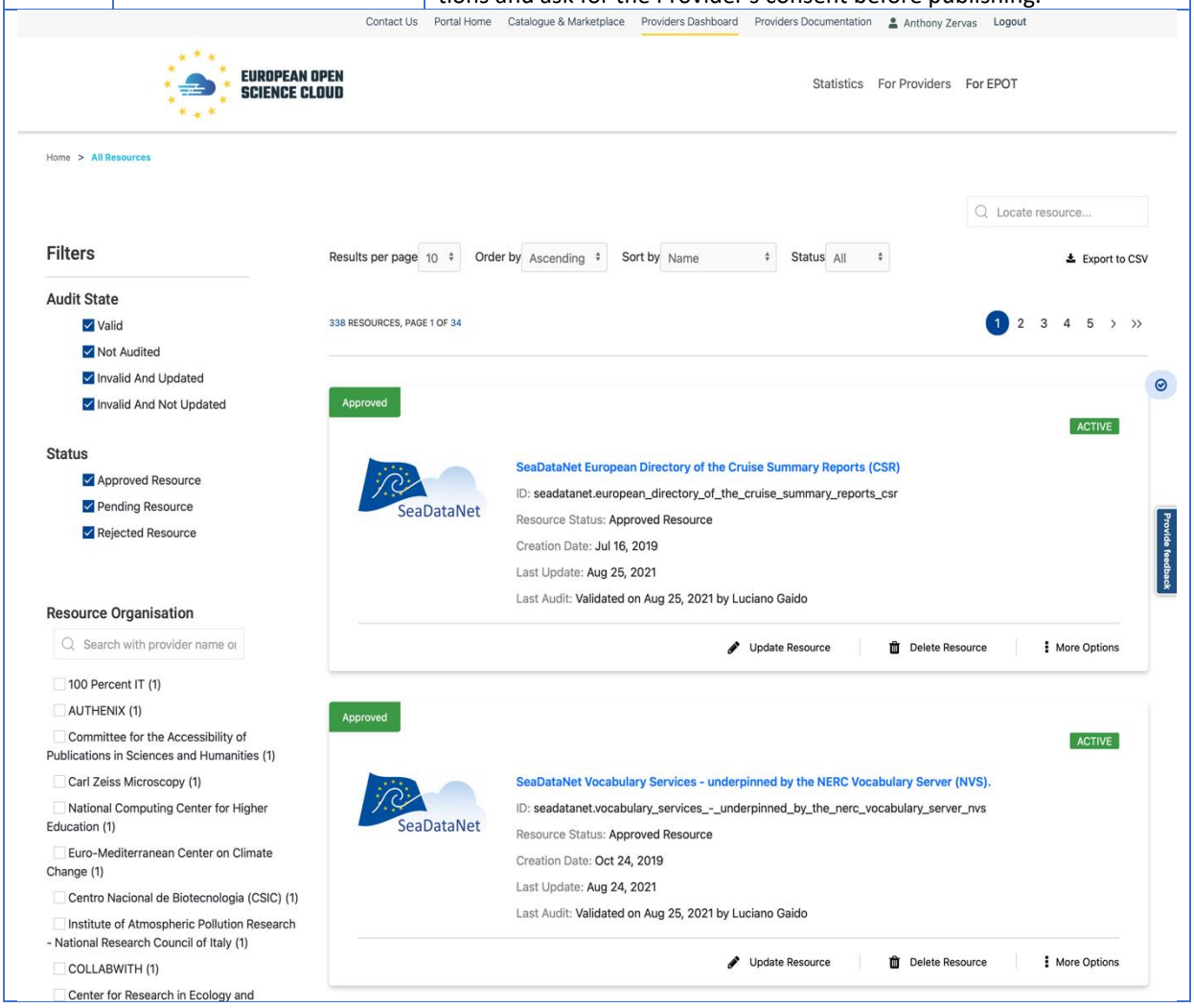
| | | |
|---|---|---|
| **A9a** | **The Authenticated and Authorized Representative of a Provider applies to onboard a Resource via the web interface** | The AARP may apply for the onboarding of a Resource by completing the Resource Profile [10].<br>Automated mechanisms are used to the greatest extent possible to ensure that all required information is included and that the information is of the correct type, size, etc.<br>In case any difficulties arise during the application, the AARP may communicate issues [11], and depending on the issue, the EPOT may organise a 1-to-1 call to offer guidance.<br>Otherwise, if the Profile is completed and passes all checks, it can be submitted.<br>When the Profile is submitted, the AARP is queried if additional Resources will be onboarded. If yes, then step A9a is repeated; otherwise, the process moves to step A10.<br>[10] The Profile is available to download and preview in various formats at https://eosc-portal.eu/providers-documentation/eosc-provider-portal-resource-profile<br>[11] at onboarding@eosc-portal.eu or using the feedback ribbon. |



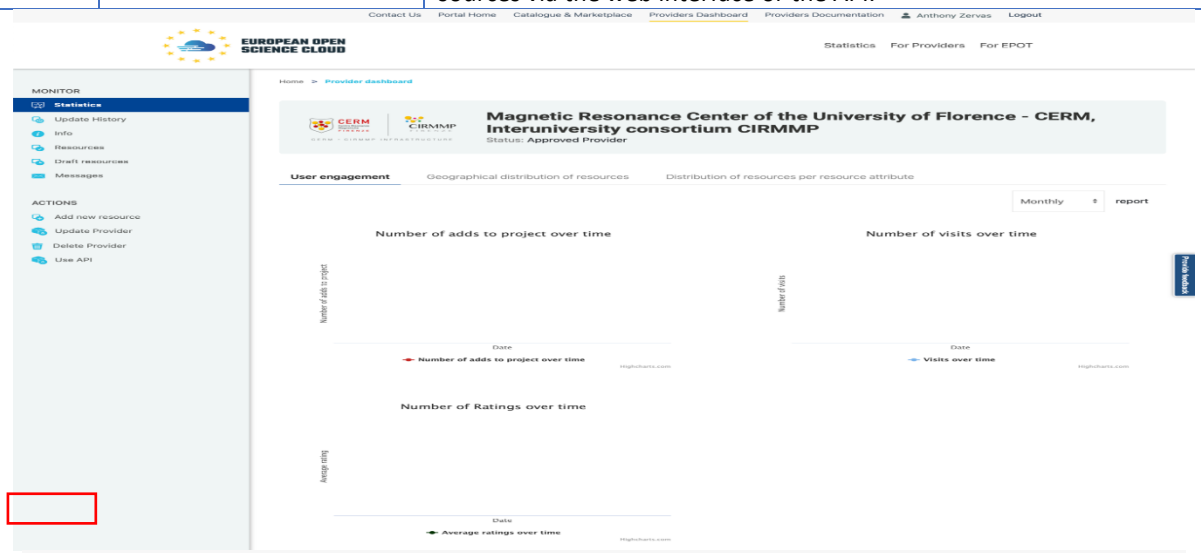
| | | |
|---|---|---|
| **A9b** | **The Authenticated and Authorized Representative of a Provider applies to onboard a Resource via the API** | The AARP may apply for the onboarding of Resources by using the Portal Open API.<br>The Provider needs to use the AAI of the Portal to retrieve a new API token. Then, the Provider prepares the Resource description according to the Resource Profile by calling the API's POST/Resource/validate method. Upon successful validation, the Provider calls the POST/ Resource method to add the new Resources in the catalogue. Upon success, the Provider receives a new set of Resource IDs, and the new Resources are onboarded in the Portal. A detailed description of the Portal Open API is available [12].<br>In case any difficulties arise during the employment of the API, the AARP may communicate issues [13]. Depending on the issue, the EPOT may organize a 1-to-1 call to offer guidance.<br>[12] https://providers.eosc-portal.eu/openapi<br>[13] onboarding@eosc-portal.eu or using the feedback ribbon. |

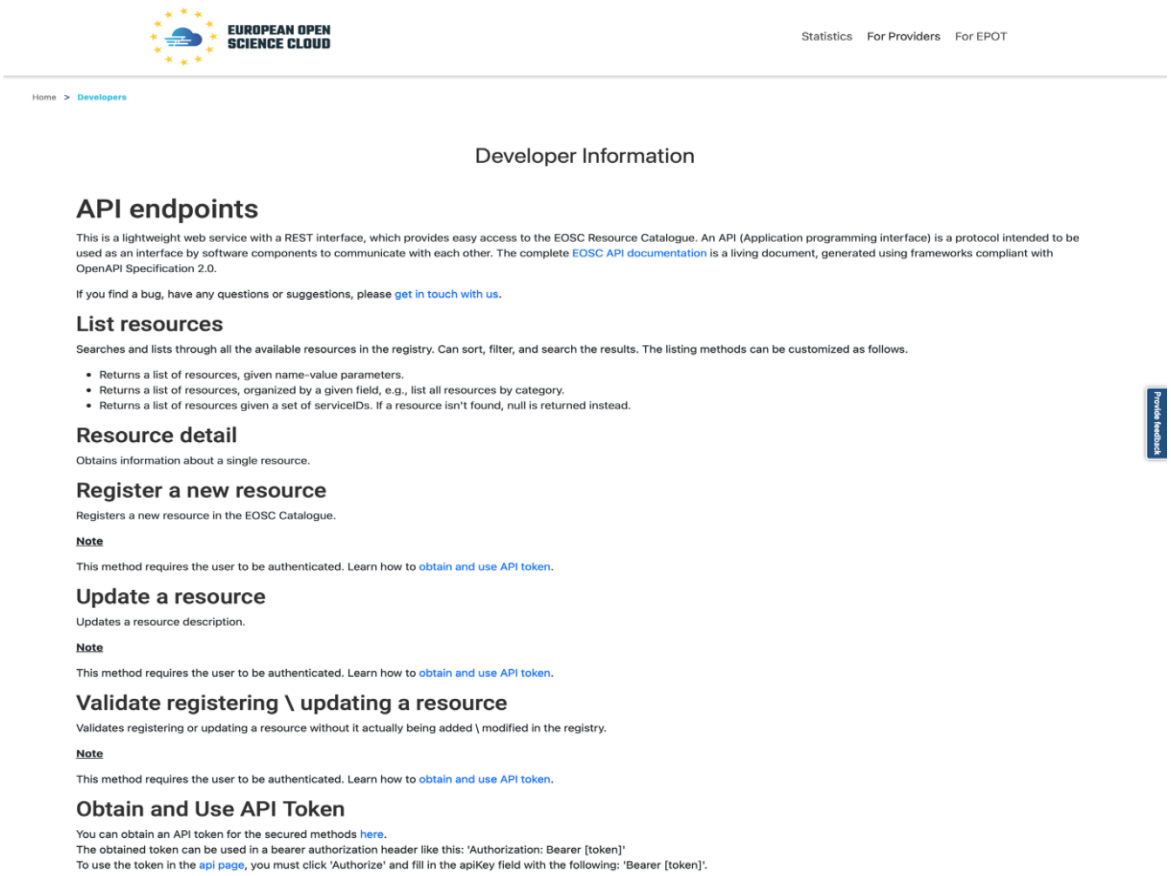


| | | |
|---|---|---|
| **A10** | **The Portal Onboarding Team reviews the newly onboarded Resources** | For each Resource to be onboarded, the EPOT examines whether the Resource has been already onboarded by any other Providers and if this the case, tries to resolve the issue.<br>The EPOT examines the quality of the metadata, if they follow the general recommendations and guidance of the Resource Profile, spelling, accuracy, composition and URLs.<br>If the Resource description does not comply with the minimum requirements of the Portal and the rules and criteria based on the current RoP and the typology of the Resource Profile, the AARP may be asked to take action (e.g. amend the description and resubmit, etc.) or join an information/training session. In this, often 1-to-1 call, the AARP will have the chance to ask questions and get personalized consultation on the best way to onboard the Resources.<br>To facilitate the amendment, the EPOT provides recommendations taking into account potential Provider's peculiarities, reviews the Provider's website, its catalogue and provided URLs and proposes alternatives for the description of the Resource's metadata, and provides best practice examples from other Providers.<br>The Resource may also be rejected if the Provider fails to update the Resource accordingly. The Provider receives a notification of the definitive Resource Onboarding rejection and possibly Provider suspension.<br>The EPOT may also perform small corrections on the Resource descriptions and ask for the Provider's consent before publishing. |



| | | |
|---|---|---|
| **A11** | **The Authenticated and Authorized Representative of a Provider can review the Resource at the Portal Dashboard and can apply to onboard other Resources via the API or web interface** | Once the Resource is approved, it is visible publicly, and the AARP can use the Providers' Dashboard to maintain and review the descriptions at least once per year by either using the pencil button or clicking on the name of the Resource.<br>The Dashboard also offers statistics for Resources, and a reach set of additional functionalities that are constantly being enriched such as active Resources, pending to be approved Resources, messages, information/statistics regarding ordering etc.<br>On the Dashboard the AARP can now proceed to onboard other Resources via the web interface or the API. |



| Phase 4: Option/Offering Onboarding | | |
|---|---|---|
| **A12** | **The Authenticated and Authorized Representative of a Provider applies to onboard Resource Options/Offerings** | The AARP may apply for onboarding a Resource Option/Offering by completing the Option/Offering Profile currently at the EOSC Portal User Component. This is available to orderable resources only.<br>Currently the SOMBO Order Management System is integrated and used to handle the orders. The registered Providers may select to use their own Order Management System for integration or use SOMBO to receive information about submitted orders.<br>Orders for resources are placed in the EOSC Portal User Component, which then need to be passed on to Providers' systems for handling, and to SOMBO for user support. |

Parameters and offers

ORDER REQUIRED

**General purpose**

Base preformance instance type. Features: Accessible in opportunistic or reserved ways, CPU cores could be overcommitted. Ideal for: Web services, Micro-services, Development...

Show more

**TECHNICAL PARAMETERS**

| | |
|---|---|
| Number of CPU Cores | 1 - 8 |
| Amount of RAM per CPU core | 1 - 4 GB |
| Local disk | 10 - 40 GB |
| Number of VM instances | 1 - 50 |
| Access type | opportunistic - reserved |
| Start of service | date |
| Number of days | 1 - 730 |

Edit

ORDER REQUIRED

**Compute-intensive**

Optimised instance for computing tasks. Feattures: High perfromance CPU cores, Until 64 CPU cores, Real CPU cors (non-overcommitted), Low latency network, Reserved instances. Ideal for: Batch...

Show more

**TECHNICAL PARAMETERS**

| | |
|---|---|
| Number of CPU Cores | 8 - 64 |
| Amount of RAM per CPU core | 2 - 8 GB |
| Local disk | 10 - 40 GB |
| Number of VM instances | 1 - 50 |
| Access type | reserved |
| Start of service | date |
| Number of days | 1 - 730 |

Edit

| | | |
|---|---|---|
| **A13** | **The Portal Onboarding Team reviews the onboarded Resource Options/Offerings** | All newly onboarded Resource Option/Offering and their representation in EOSC Portal User Component are reviewed by the EPOT. |

VOUCHER

**General purpose**

Use a voucher of €250,00 euros, valid for 1 year from the data of issue, to access the commercial Base preformance instance type. Features: Accessible in opportunistic or reserved ways...

Expand to read more

**TECHNICAL PARAMETERS**

| | |
|---|---|
| Number of CPU cores | **1 - 8** |
| Total amount of RAM | **1 - 4 GB** |
| Storage capacity | **10 - 40 GB** |
| Number of days | **1 - 730** |

Order

**Compute-intensive**

Optimised instance for computing tasks. Feattures: High perfromance CPU cores, Until 64 CPU cores, Real CPU cors (non-overcommitted), Low latency network, Reserved instances. Ideal for...

Expand to read more

**TECHNICAL PARAMETERS**

| | |
|---|---|
| Number of CPU cores | **8 - 64** |
| Total amount of RAM | **2 - 8 GB** |
| Storage capacity | **10 - 40 GB** |
| Number of days | **1 - 730** |

Order

| Phase 5: Maintenance and Quality Assurance | | |
|---|---|---|
| **A14** | **The Portal Onboarding Team creates a Review and Feedback Report** | After the first Onboarding round and then periodically a Review and Feedback Report that assesses the Provider and Resources descriptions is produced by the EPOT.<br>The Review and Feedback Report is based on 106 attributes assessed in a quantity and quality-based manner and provides general recommendations to improve their Profiles. |

EOSC Portal Profiles
Review and Feedback Report
for

**PROVIDER X**

**October 2021**

EOSC Enhance has received funding from the European Union's Horizon 2020 under grant agreement No. 871160

| | | |
|---|---|---|
| **A15** | **Upon Request of Providers the EOSC Portal Onboarding Team can provide best practices, feedback, and consultation to Providers** | Upon request by any Provider the EPOT may provide practices for the Providers to enhance and improve their Profiles. Feedback can be provided with an additional Report. |

## 2. Recommendations

Table 2 presents an overview of the recommended improvement actions that need to be taken by **PROVIDER X**. The recommendations focus mainly on indicators that are characterized as "Yellow" or "Red". The order of presentation does not indicate any order of significance.

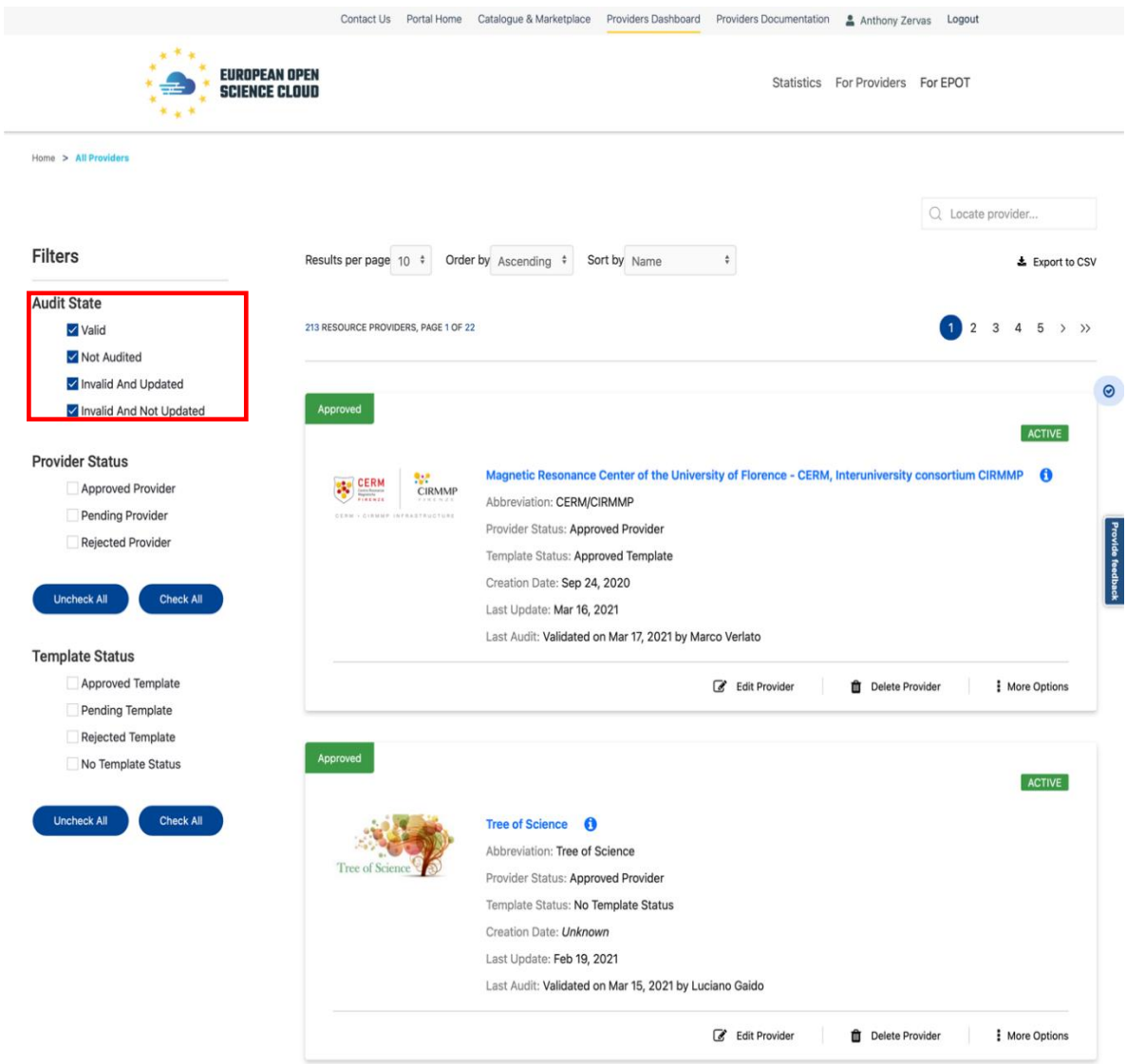
Table 2: Overall Recommendations for Resource PROVIDER X

| | | | |
|---|---|---|---|
| | | RECOMMENDATIONS | |
| M | Public Availability | PUBLIC LINK | |
| M | | PUBLIC CATALOGUE | |
| M | | API INTEROPERABILITY | It is strongly recommended to make use of the available API to expedite registering and/or updating your resources. |
| | | RESOURCE PROVIDERS | |
| M | Basic Information | ID | |
| M | | Name | |
| M | | Abbreviation | |
| M | | Website | |
| M | | Legal Entity | |
| O | | Legal Status | |
| M | Marketing Information | Description | |
| M | | Logo | |
| O | | Multimedia | |
| O | Classification Information | Scientific Domain | |
| O | | Scientific Subdomain | |
| O | | Tags | |
| M | Location Information | Street Name and Number | |
| M | | Postal Code | |
| M | | City | |
| O | | Region | It is suggested to provide the region of incorporation or physical location of the provider or its coordinating centre in the case of distributed, virtual, and mobile providers. |
| M | | Country | |
| M | Contact Information/ Main | First Name | |
| M | | Last Name | |
| M | | Email | |
| O | | Phone | It is suggested to provide the phone of the provider's main contact person/provider manager. |
| O | | Position | |
| O | Contact Information/ Public | First Name | It is suggested to provide the first name of the provider's contact person to be displayed publicly at the portal. |
| O | | Last Name | It is suggested to provide the last name of the provider's contact person to be displayed publicly at the portal. |
| M | | Email | |
| O | | Phone | It is suggested to provide the phone of the provider's contact person to be displayed publicly at the portal or general phone to contact the provider. |
| O | | Position | It is suggested to provide the position of the provider's contact person to be displayed publicly at the portal. |
| O | Maturity Information | Life Cycle Status | |
| O | | Certifications | |
| O | Other Information | Hosting Legal Entity | It is suggested to provide the name of the organisation/institution legally hosting (housing) the provider or its coordinating centre. |
| O | | Participating Countries | |
| O | | Affiliations | |
| O | | Networks | |
| O | | Structure Type | |
| O | | ESFRI Domain | |
| O | | ESFRI Type | |
| O | | MERIL Scientific Domain | |
| O | | MERIL Scientific Subdomain | |
| O | | Areas of Activity | |
| O | | Societal Grand Challenges | |
| O | | National Roadmaps | It is suggested to provide the provider's participation in a national roadmap. |
| | | RESOURCES | |
| M | Basic Information | ID | |
| M | | Name | |
| M | | Resource Organisation | |
| O | | Resource Providers | |
| M | | Webpage | |
| M | Marketing Information | Description | |
| M | | Tagline | |
| M | | Logo | |
| O | | Multimedia | It is suggested to provide the link to video, screenshots or slides showing details of the resource in English. |
| O | | Use Cases | It is suggested to provide the link to use cases supported by this resource in English. |
| M | Classification Information | Scientific Domain | |
| M | | Scientific Subdomain | |
| M | | Category | |
| M | | Subcategory | |
| M | | Target Users | |
| O | | Access Type | |
| O | | Access Mode | |
| O | | Tags | |
| M | | Geographical Availability | |
| M | Geographical and Language Availability Information | Language Availability | |
| O | Resource Location Information | Geographic Location | It is suggested to indicate the list of geographic locations where data, samples, etc. are stored and processed when offering the resource. |
| M | Contact Information/ Main | First Name | It is strongly recommended to provide the first name of the resource's main contact person/resource manager. |
| M | | Last Name | It is strongly recommended to provide the last name of the resource's main contact person/resource manager. |
| M | | Email | |
| O | | Phone | It is suggested to provide the telephone of the resource's main contact person/resource manager. |
| O | | Position | It is suggested to provide the position of the resource's main contact person/resource manager. |
| O | | Organisation | It is suggested to select the organisation to which the resource's main contact person/resource manager is affiliated. |
| O | Contact Information/ Main | First Name | It is suggested to provide the first name of the resource's contact person to be displayed publicly at the portal. |
| O | | Last Name | It is suggested to provide the last name of the resource's contact person to be displayed publicly at the portal. |
| M | | Email | |
| O | | Phone | It is suggested to provide the telephone of the resource's contact person to be displayed publicly at the portal. |
| O | | Position | It is suggested to provide the position of the resource's contact person to be displayed publicly at the portal. |
| O | | Organisation | It is suggested to select the organisation to which the resource's public contact person is affiliated. |
| M | Oher Contacts | Helpdesk Email | |
| M | | Security Contact Email | |
| M | Maturity Information | Technology Readiness Level | |
| O | | Life Cycle Status | |
| O | | Certifications | It is suggested to provide the list of certifications obtained for the resource (including the certification body or URL if available). |
| O | | Standards | It is suggested to provide the list of standards supported by the resource. |
| O | | Open Source Technologies | It is suggested to provide the list of open source technologies supported by the resource. |
| O | | Version | |
| O | | Last Update | |
| O | | Change Log | It is suggested to provide the summary of the resource features updated from the previous version. |
| O | Dependencies Information | Required Resources | It is suggested to select the list of other resources required to use this resource. |
| O | | Related Resources | It is suggested to indicate the list of other resources that are commonly used with this resource. |
| O | | Related Platforms | It is suggested to select the list of suites or thematic platforms in which the resource is engaged or providers (provider groups) contributing to this resource. |
| O | Attribution Information | Funding Body | |
| O | | Funding Program | It is suggested to indicate the name of the funding program that (co-)financed the development and/or operation of the resource. |
| O | | Grant/Project Name | It is suggested to provide the name of the project that (co-)financed the development and/or operation of the resource. |
| O | Management Information | Helpdesk Page | |
| O | | User Manual | It is suggested to provide the link to the resource user manual and documentation in English. |
| O | | Terms Of Use | It is suggested to provide the webpage in English describing the rules, resource conditions and usage policy which one must agree to abide by in order to use the resource. |
| O | | Privacy Policy | It is suggested to provide the link to the privacy policy applicable to the resource in English. |
| O | | Access Policy | It is suggested to provide the information in English about the access policies that apply to the resource. |
| O | | Service Level | |
| O | | Training Information | |
| O | | Status Monitoring | It is suggested to provide the webpage with monitoring information about the resource in English. |
| O | | Maintenance | It is suggested to provide the webpage with information about planned maintenance windows for the resource in English. |
| M | Access and Order Information | Order Type | |
| O | | Order | |
| O | Financial Information | Payment Model | It is suggested to provide the webpage with the supported payment models for the resource and potential restrictions that apply to each of them in English. |
| O | | Pricing | |

## 4. Additional support

Should **PROVIDER X** require any support for implementing any further Profile improvements, our staff would be happy to offer its advisory expertise to aid in this direction. If so, please contact us at your convenience by email nominating the appropriate representative for your organisation, and a member of our team will promptly follow up on this matter.

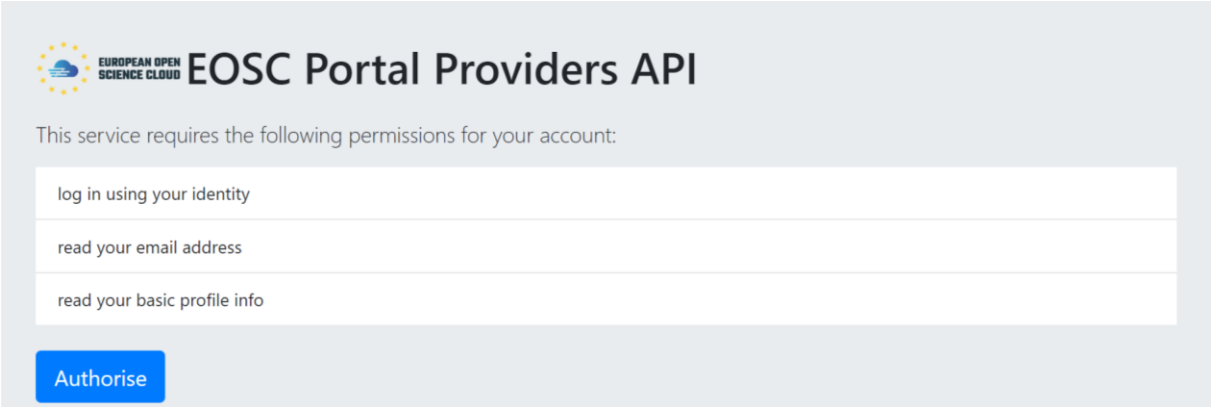
| | | |
|---|---|---|
| **A16** | **Profiles on the EOSC Portal are updated by Providers and periodically audited by the EOSC Onboarding Team** | Periodically the EPOT audits the catalogue records, and Providers may be requested to update their Profiles within an agreed and stated timeframe; otherwise, the Provider and/or Resource may be suspended until updated.<br>Also due to a updates in Profile specifications or functionality (new RoP, new Profiles, new features, etc.) Providers are requested to review their Provider and Resource descriptions to ensure they still meet the new rules and criteria and all required information.<br>Possible changes are highlighted to the Providers. Providers must update their services within an agreed and stated timeframe; otherwise, the service may be suspended until updated.<br>In case the Provider is suspended: the Provider cannot submit new resources, existing Resources are suspended while in this state but reactivated if the Provider is re-approved, the Provider can edit records for the Provider and already onboarded Resources, but they are not published. Where a Provider is a Provider Organisation for a Resource from another Resource organisation, they are greyed out. |

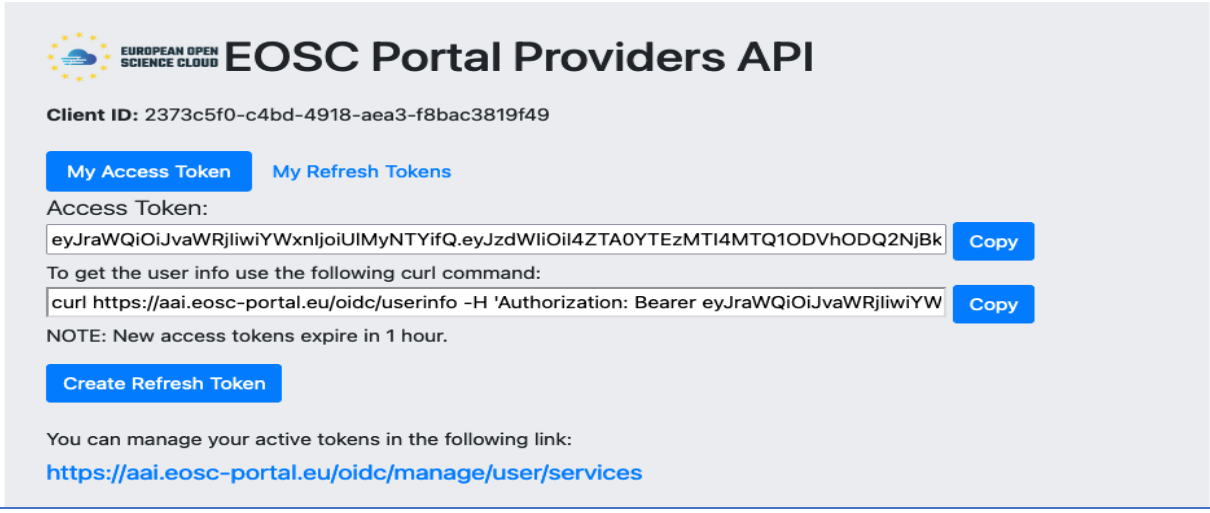


## 16 Annex VIII: EOSC Portal Onboarding Process for Multi-Provider Portals Specification v4.00

The **following sections provide** further details of the actions that take place in the workflow Stages 8-13.

| No. | Stage | Description-Actions |
|---|---|---|
| **B8** | **The AARM logs into the API Token Portal** | A AARM [1] visits the Providers API Token Portal by entering the following URL in a browser: https://aai.eosc-portal.eu/providers-api and clicks on "Authorise".<br>[1] it is assumed that the Representative of the MPRTP (to be confirmed via an agreement to be established):<br>• There is a common onboarding process/method applied to both portals ('trusted') complying to the EOSC Portal Interoperability Framework, including the EOSC Portal Profiles, code lists, taxonomies and controlled values, Onboarding Process and RoP.<br>• Providers registered at the MPRTP have agreed on the Terms of Use and Privacy Policy of EOSC Portal<br>• Providers will update their Resources only at the MPRTP and not the EOSC Portal (unidirectional synchronization).<br>• Resources and Providers in the EOSC Registry are linked to the original hosting catalogue.<br>• There is a unique ID for Providers which must be common in both portals. |



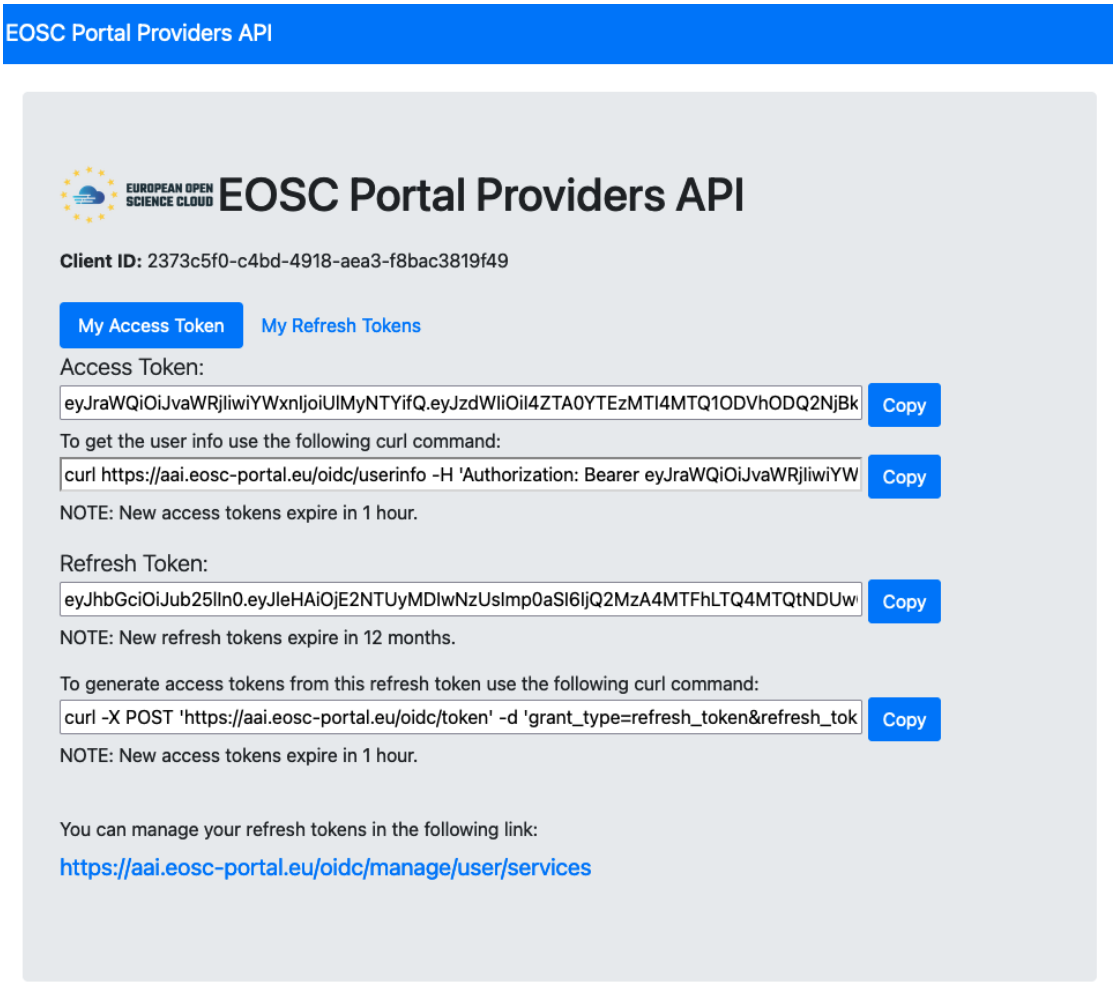



| | | |
|---|---|---|
| **B9** | **The AARM selects to Get the Value of the Access Token** | After successful authentication, the AARM is redirected to the Providers API token portal. Then she/he will be able to perform the following actions in the “My Access Token” tab [2]:<br>• **Get** the value of the Access Token (Go to step B5a)<br>• **Create** a Refresh Token (Go to step B5b).<br>• **Manage** all Access/Refresh Tokens obtained by the EOSC Portal AAI.<br>The Representative of the MPRTP can Get the value of the Access Token and use it directly in an API call:<br>Click on the “Copy” button under the “Access Token” label and then add it to your HTTP request.<br>[2] New Access Tokens expire in 1 hour, but the Token Portal also allows for obtaining Refresh Tokens which are valid for approximately 13 months. A Refresh Token is a special kind of token used to obtain a renewed Access Token. Fresh Access Tokens can be requested using a Refresh Token until that token expires or gets revoked. |

Example: Make a request from Terminal

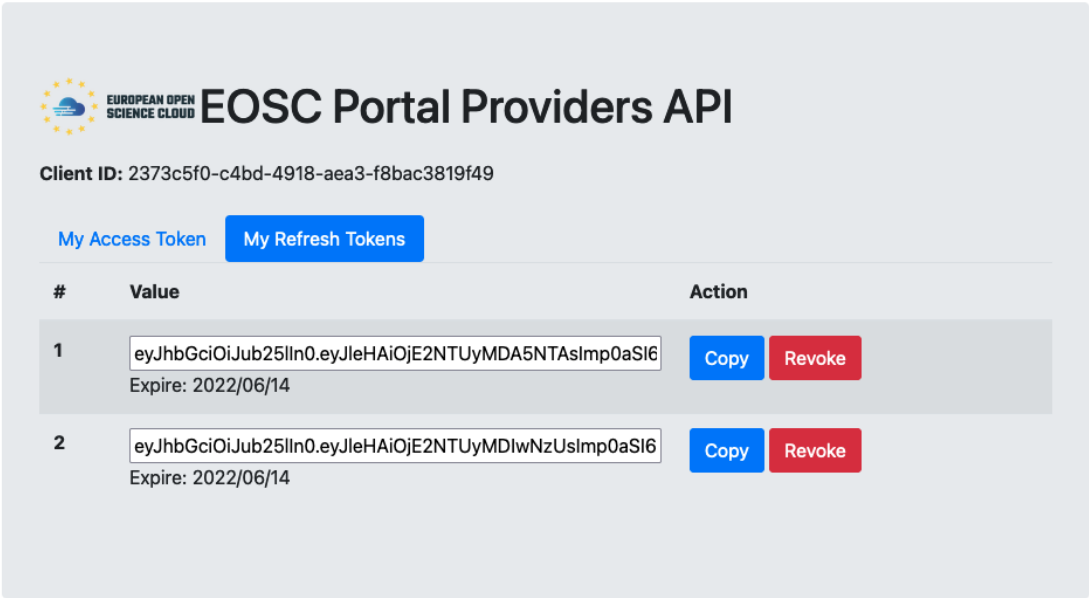
```
$ export access_token=<access_token_value>
$ curl \
--header "Authorization: Bearer $access_token" \
--header "Content-Type: application/json" \
--data "$escapedJson" \
https://sandbox.providers.eosc-portal.eu/api/provider
```

| | | |
|---|---|---|
| **B10** | **The AARM selects to Create a Refresh Token** | The AARM can Create a Refresh Token by clicking on the “Create Refresh Token” button. Then 2 new fields will appear with the following actions:<br>• Get the value of the Refresh Token.<br>• Request the token endpoint to generate an Access Token using the Refresh Token.<br>The Representative of the MPRTP shall then click on the “Copy” button under the *“To generate access tokens from this refresh token use the following curl command”* label and paste the command in the terminal. |



| | | |
|---|---|---|
| **B11** | **The AARM selects to Manage all Access/Refresh Tokens** | The AARM can Manage all Access/Refresh Tokens that have been obtained by the EOSC Portal AAI by following the link: https://aai.eosc-portal.eu/oidc/manage/user/services.<br>In the "My Refresh Tokens" tab the Representative of the MPRTP can see all active Refresh Tokens that have been created by this portal.<br>The Representative of the MPRTP can copy the value of the refresh Token or "deactivate" the Token by clicking on the "Revoke" button. This action is irreversible. |

EOSC Portal Providers API



| | | |
|---|---|---|
| **B12** | **The AARM registers the MPRTP Providers into the EOSC Portal using the Token acquired** | Upon successful completion of step B4, the Representative of the MPRTP registers the MPRTP Provider(s) via the API using the token acquired:<br>curl \<br>--header "Authorization: Bearer $token" \<br>--header "Content-Type: Application/json" \<br>--data "$escapedJson" \<br>https://sandbox.providers.eosc-portal.eu/api/provider<br>A FLAG is created in which the Provider(s) submitted the first resource as Resource Organisation. |
| **B13** | **The AARM registers the Resources of the MPRTP Providers on the EOSC Portal with the token acquired** | Following the successful completion of step B7, the Representative of the regional/thematic portal may onboard subsequent Resources, as per step B7 above.<br>Subsequent resources are automatically approved, but there is a flag that these are transferred from another catalogue. This is a filterable characteristic for EPOT (filter catalogue transfers, filter by specific catalogue). EPOT will audit these records periodically. |

# 17 Annex IX: EOSC Portal Profiles Assessment Tool v4.00

## 17.1 EOSC Portal Provider Profile Assessment Tool v4.00

| Code | Attribute Name | Example Value | Guidelines for the Providers | Definition | Type | Multiplicity | Required | Public |
|---|---|---|---|---|---|---|---|---|
| **Basic Information** | | | | | | | | |
| **EPP.BAI.0** | **ID** | embl-ebi | The Provider ID is currently maintained by the EOSC Portal. It is assigned during onboarding of the Provider. It is suggested to use the Provider's abbreviation (see EPP.BAI.2). Two providers cannot have the same id; therefore the EOSC Portal will resolve this when it happens during the registration of a provider. In next releases of the model, the id will correspond to a PID issued and resolved by PID providers (like ORCID, doi-like, | A persistent identifier, a unique reference to the Provider in the context of the EOSC Portal. | String (max 30) | 1 | Mandatory | Yes |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | etc.). | | | | | |
| **EPP.BAI.1** | **Abbreviation** | Earth Observation Data Centre for Water Resources Monitoring | The abbreviation of the Provider will be used in most cases, and will be what is displayed as the main name. | An abbreviation of the Provider Name as assigned by the Provider. | String (max 30) | 1 | Mandatory | Yes |
| **EPP.BAI.2** | **Name** | Carl Zeiss | Suggested length is up to 100 characters | Full Name of the Provider/Organisation offering the resource and acting as main contact point. | String (max 100) | 1 | Mandatory | Yes |
| **EPP.BAI.3** | **Website** | https://jelastic.com/ | Provide the landing page (i.e. domain name or FQDN) of the resource provider | Website with information about the Provider. | URL | 1 | Mandatory | Yes |
| **EPP.BAI.4** | **Legal Entity** | Y | | A Y/N question to define whether the Provider is a Legal Entity | Boolean | 1 | Mandatory | Yes |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | or not. | | | | |
| **EPP.BAI.5** | **Legal Status** | Non-Profit Partnership (NPP) | For suggestions in amending the "Legal Status" list, please select "Other", fill in your entry and press the "Submit" button | Legal status of the Provider. The legal status is usually noted in the registration act/statutes. For independent legal entities (1) - legal status of the Provider. For embedded providers (2) - legal status of the hosting legal entity. It is also possible to select Not a legal entity. | List of controlled values | 1 | Optional | Yes |
| **EPP.BAI.6** | **Hosting Legal Entity** | OpenAIRE | if Legal Entity is not Check then Hosting Legal Entity is Mandatory to be filled in. Also the Hosting Legal Entity must be selected from the list of Providers already registered in the EOSC Portal. | Name of the organisation/institution legally hosting (housing) the provider/research infrastructure or its coordinating centre. A distinction is made between: (1) research infrastructures that are self-standing and have a defined and distinct legal entity, | List of controlled values | 1 | Optional | Yes |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | (2) research infrastructures that are embedded into another institution which is a legal entity (such as a university, a research organisation, etc.). If (1) - name of the research infrastructure, If (2) - name of the hosting organisation. | | | | |
| **Marketing Information** | | | | | | | | |
| **EPP.MRI.1** | **Description** | OpenAIRE represents a pivotal phase in the long-term effort to implement and strengthen the impact of the Open Access policies of the | Describe shortly the objective and background of your organisation. | A high-level description of the Provider in fairly non-technical terms, with the vision, mission, objectives, background, experience. | String (max 1000) | 1 | Mandatory | Yes |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | European Commission, building on the achievements of the OpenAIRE projects. OpenAIRE support and accelerate Open Science and Scholarship, of which Open Access is of fundamental importance. | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **EPP.MRI.2** | **Logo** | https://www.openaire.eu/images/Open-AIRE_branding/Logo_Horizontal.png | Provide a URL pointing to the organisation's logo at high quality, in the form of the shortest possible alias. Link to the logo/visual identity of the Provider. Go to the Provider's website --> Right Click on the Provider's logo on the website --> Select "Copy Image Link" --> Paste it in the field. | Link to the logo/visual identity of the Provider. | URL | 1 | Mandatory | Yes |
| **EPP.MRI.3** | **Multimedia** | https://vimeo.com/XYZ | Provide a URL pointing at a high quality video or slideshow, in the form of the shortest possible alias | Link to video, slideshow, photos, screenshots with details of the Provider. | URL | Multiple | Optional | Yes |
| **EPP.MRI.4** | **Multimedia Name** | Video of Resource interface | Suggested length is 100 characters | Short description of the Multimedia content | String (Max 100) | Multiple | Optional | Yes |
| **Classification Information** | | | | | | | | |
| **EPP.CLI.1** | **Scientific Domain** | Information Science and Technology | For suggestions in amending the "Scientific Domain" list, please select "Other", fill in your entry and press the "Submit" button | A named group of providers that offer access to the same type of resource or capabilities. | List of controlled values | Multiple | Optional | Yes |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **EPP.CLI.2** | **Scientific Subdomain** | Complex Data Facilities | For suggestions in amending the "Scientific Subdomain" list, please select "Other", fill in your entry and press the "Submit" button | A named group of providers that offer access to the same type of resource or capabilities, within the defined domain. | List of controlled values | Multiple | Optional | Yes |
| **EPP.CLI.3** | **Tags** | Open data, open science, publications, research papers | Add one Tag in each entry. For multi-word keywords, please use '-' to concatenate words. Suggested length is up to 20 characters | Keywords associated to the Provider to simplify search by relevant keywords. | String (max 20) | Multiple | Optional | Yes |
| **EPP.CLI.4** | **Structure Type** | Virtual | For suggestions in amending the "Structure Type" list, please select "Other", fill in your entry and press the "Submit" button | Defines the Provider structure type (single-sited, distributed, mobile, virtual, etc.) | List of controlled values | Multiple | Optional | Yes |
| **Location Information** | | | | | | | | |
| **EPP.L0I.1** | **Street Name and Number** | Street 10 | Suggested length is up to 50 characters | Street and Number of incorporation or Physical location of the Provider or its coordinating centre in the case of distributed, | String (max 50) | 1 | Mandatory | Yes |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | virtual, and mobile providers. | | | | |
| **EPP.L0I.2** | **Postal Code** | GR-12345 | Suggested length is up to 20 characters | Postal code of incorporation or Physical location of the Provider or its coordinating centre in the case of distributed, virtual, and mobile providers. | String (max 20) | 1 | Mandatory | Yes |
| **EPP.L0I.3** | **City** | Athens | Suggested length is up to 20 characters | City of incorporation or Physical location of the Provider or its coordinating centre in the case of distributed, virtual, and mobile providers. | String (max 20) | 1 | Mandatory | Yes |
| **EPP.L0I.4** | **Region** | Attica | Suggested length is up to 50 characters | Region of incorporation or Physical location of the Provider or its coordinating centre in the case of distributed, virtual, and mobile providers. | String (max 50) | 1 | Optional | Yes |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **EPP.L0I.5** | **Country** | Greece | For suggestions in amending the "Country" list, please select "Other", fill in your entry and press the "Submit" button | Country of incorporation or Physical location of the Provider or its coordinating centre in the case of distributed, virtual, and mobile providers. | List of controlled values | 1 | Mandatory | Yes |
| **Contact Information** | | | | | | | | |
| **Main Contact/Provider Manager** | | | | | | | | |
| **EPP.COI.1** | **First Name** | John | Suggested length is up to 50 characters | First Name of the Provider's main contact person/Provider Manager. | String (max 20) | 1 | Mandatory | No |
| **EPP.COI.2** | **Last Name** | Smith | Suggested length is up to 20 characters | Last Name of the Provider's main contact person/Provider Manager. | String (max 20) | 1 | Optional | Yes |
| **EPP.COI.3** | **Email** | john.smith@example.com | | Email of the Provider's main contact person/Provider manager. | Email | 1 | Mandatory | No |
| **EPP.COI.4** | **Phone** | (+30210) | Suggested length is up to 20 | Phone of the Provider's main contact per- | String (max | 1 | Optional | No |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 1234567 | characters | son/Provider manager. | 20) | | | |
| **EPP.COI.5** | **Position** | Coordinator | Suggested length is up to 50 characters | Position of the Provider's main contact person/Provider manager. | String (max 50) | 1 | Optional | No |
| **Public Contact** | | | | | | | | |
| **EPP.COI.6** | **First Name** | Jack | Suggested length is up to 20 characters | First Name of the Provider's contact person to be displayed at the portal. | String (max 20) | 1 | Optional | Yes |
| **EPP.COI.7** | **Last Name** | White | Suggested length is up to 20 characters | Last Name of the Provider's contact person to be displayed at the portal. | String (max 20) | 1 | Optional | Yes |
| **EPP.COI.8** | **Email** | jack.white@example.com | | Email of the Provider's contact person to be displayed at the portal or general email to contact Provider. | Email | 1 | Mandatory | Yes |
| **EPP.COI.9** | **Phone** | (+30210) | Suggested length is up to 20 | Phone of the provider's contact person to | String (max | 1 | Optional | Yes |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 7890123 | characters | be displayed at the portal or general phone to contact the Provider. | 20) | | | |
| **EPP.COI.10** | **Position** | Manager | Suggested length is up to 50 characters | Position of the Provider's contact person to be displayed at the portal. | String (max 50) | 1 | Optional | Yes |
| **Maturity Information** | | | | | | | | |
| **EPP.MTI.1** | **Life Cycle Status** | Operational | For suggestions in amending the "Life Cycle Status" list, please select "Other", fill in your entry and press the "Submit" button | Current status of the Provider/Research infrastructure life-cycle. | List of controlled values | 1 | Optional | Yes |
| **EPP.MTI.2** | **Certifications** | ISO-27001 | Suggested length is up to 250 characters | List of certifications obtained for the Provider (including the certification body and any certificate number). | String (max 250) | Multiple | Optional | Yes |
| **Dependencies Information** | | | | | | | | |

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| **EPP.DEI.1** | **Participating Countries** | Germany, Italy, Poland, Switzerland, Portugal, Netherlands, Belgium, Norway, Uruguay | For suggestions in amending the "Participating Countries" list, please select "Other", fill in your entry and press the "Submit" button | Providers/Research Infrastructures that are funded by several countries should list here all supporting countries (including the Coordinating country). | List of controlled values | Multiple | Optional | Yes |
| **EPP.DEI.2** | **Affiliations** | EGI, EUDAT, GEANT, OpenAIRE, etc. | Suggested length is up to 30 characters | Providers that are members or affiliated or associated with other organisations should list those organisations here | String (max 30) | Multiple | Optional | Yes |
| **EPP.DEI.3** | **Networks** | Open Access Infrastructure for Research in Europe (OpenAIRE) | For suggestions in amending the "Networks" list, please select "Other", fill in your entry and press the "Submit" button | Providers that are members of networks should list those networks here. | List of controlled values | Multiple | Optional | Yes |

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| **EPP.DEI.4** | **Catalogue** | CatRIS | | The Catalogue this Provider is originally registered at. | Catalogue ID | 1 | Optional | Yes |
| **Other Information** | | | | | | | | |
| **EPP.OTH.1** | **ESFRI Domain** | Data, Computing and Digital Research Infrastructures | For suggestions in amending the "ESFRI Domain" list, please select "Other", fill in your entry and press the "Submit" button | ESFRI domain classification. | List of controlled values | Multiple | Optional | Yes |
| **EPP.OTH.2** | **ESFRI Type** | Not and ESFRI project or landmark | For suggestions in amending the "ESFRI Type" list, please select "Other", fill in your entry and press the "Submit" button | If the research infrastructure is (part of) an ESFRI project indicate how the RI participates: a) is a node of an ESFRI project, b) is an ESFRI project, c) is an ESFRI landmark, d) is not an ESFRI project or landmark. | List of controlled values | 1 | Optional | Yes |
| **EPP.OTH.3** | **MERIL Scientific Domain** | Humanities & Arts | For suggestions in amending the "MERIL Scientific Domain" list, please select "Other", fill in your entry and | MERIL scientific domain classification | List of controlled val- | Multiple | Optional | Yes |

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| | | | press the "Submit" button | | ues | | | |
| **EPP.OTH.4** | **MERIL Scientific Subdomain** | Collections | For suggestions in amending the "MERIL Scientific Subdomain" list, please select "Other", fill in your entry and press the "Submit" button | MERIL scientific subdomain classification | List of controlled values | Multiple | Optional | Yes |
| **EPP.OTH.5** | **Areas of Activity** | Other | For suggestions in amending the "Area of Activity" list, please select "Other", fill in your entry and press the "Submit" button below | Basic research, Applied research or Technological development | List of controlled values | Multiple | Optional | Yes |
| **EPP.OTH.6** | **Societal Grand Challenges** | Other | For suggestions in amending the "Societal Grand Challenges" list, please select "Other", fill in your entry and press the "Submit" button below | Provider's participation in the grand societal challenges as defined by the European Commission | List of controlled values | Multiple | Optional | Yes |
| **EPP.OTH.7** | **National Roadmaps** | No | Suggested length is up to 80 characters | Provider's participation in a national roadmap. | String (max 80) | Multiple | Optional | Yes |

## 17.2 EOSC Portal Resource Profile Assessment Tool v4.00

| Code | Attribute Name | Example Value | Guidelines for Providers | Definition | Type | Multiplicity | Required | Public |
|---|---|---|---|---|---|---|---|---|
| **Basic Information** | | | | | | | | |
| **ERP.BAI.0** | **ID** | openrisk-net.squonk_computational_notebook | A provider does not need to provide this ID during registration or update. This is a unique ID which EOSC Portal assigns to a resource registered in the Registry and it is used to identify a resource in the EOSC portal. In next releases, Providers can use a PID; i.e., PID Providers will offer PID services to Resource Providers to reach a point that the EOSC portal will use global PIDs. | A persistent identifier, a unique reference to the Resource in the context of the EOSC Portal. | String (max 30) | 1 | Mandatory (Assigned by the EOSC Portal) | Yes |
| **ERP.BAI.1** | **Abbreviation** | B2DROP | | An abbreviation of the Resource Name as assigned by the Provider | String (Max 20) | 1 | Mandatory | Yes |
| **ERP.BAI.2** | **Name** | PaaS Orchestrator | Should be descriptive from a customer point of view and should be quite simple, such that someone non-technical is able to understand what the Resource is about. In case there is no Full Name the abbreviation should be used. | Resource Full Name as assigned by the Provider. | String (max 80) | 1 | Mandatory | Yes |
| **ERP.BAI.3** | **Resource Organisation** | OpenAIRE | | The name (or abbreviation) of the organisation that manages or delivers the resource, | Provider ID | 1 | Mandatory (Filled in by the EOSC Por- | Yes |

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| | | | | or that coordinates resource delivery in a federated scenario. | | | tal) | |
| **ERP.BAI.4** | **Resource Providers** | GRNET | | The name(s) (or abbreviation(s)) of Provider(s) that manage or deliver the Resource in federated scenarios. | Provider IDs | Multiple | Optional | Yes |
| **ERP.BAI.5** | **Webpage** | http://Resource-name.Provider.eu | Create a unique URL for each Resource and provide the shortest possible alias | Webpage with information about the Resource usually hosted and maintained by the Provider. | URL | 1 | Mandatory | Yes |
| **Marketing Information** | | | | | | | | |
| **ERP.MRI.1** | **Description** | Connect spatial information communities and their data using a modern architecture, which is at the same time powerful and low cost, based on International and Open Standards for services and protocols (from ISO/TC211 and OGC). | Describe the Resource in a way that helps potential customers understand it and the benefit it brings. What is the main functionality of the service? The layout and content are up to the Provider. This field is used in the search function to prioritize results. Benefits are usually related to alleviating pains (e.g., eliminate undesired outcomes, obstacles or risks) or producing gains (e.g. increased performance, social gains, positive emotions or cost saving). Description should be as quantified as possible. Please consider GDPR. Suggested length is 1000 characters | A high-level description in fairly non-technical terms of a) what the Resource does, functionality it provides and Resources it enables to access, b) the benefit to a user/customer delivered by a Resource; benefits are usually related to alleviating pains (e.g., eliminate undesired outcomes, obstacles or risks) or producing gains (e.g. increased performance, social gains, positive emotions or cost saving), c) list of customers, communi- | String (max 1000) | 1 | Mandatory | Yes |

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| | | | | ties, users, etc. using the Resource. | | | | |
| **ERP.MRI.2** | **Tagline** | The open repository for high performance computing code samples | Marketing specialists are encouraged to be engaged in order to come up with a catch phrase that can aid Resource dissemination and visibility. Suggested length is 100 characters | Short catch-phrase for marketing and advertising purposes. It will be usually displayed close to the Resource name and should refer to the main value or purpose of the Resource. | String (max 100) | 1 | Mandatory | Yes |
| **ERP.MRI.3** | **Logo** | https://Resource-name.Resource-Provider.eu/Symbol.jpg | Link to the logo/visual identity of the Resource. The logo will be visible at the Portal. If there is no specific logo for the Resource the logo of the Provider may be used. Go to the Resource Provider's website --> Right Click on the Resource Provider's logo on the website --> Select "Copy Image Link" --> Paste it in the below field. | Link to the logo/visual identity of the Resource. The logo will be visible at the Portal. If there is no specific logo for the Resource the logo of the Provider may be used. | URL | 1 | Mandatory | Yes |
| **ERP.MRI.4** | **Multimedia** | http://Resource-name.Resource-Provider.eu/Multimedia | Provide URL of the Resource, in the form of the shortest possible alias | Link to video, screenshots or slides showing details of the Resource. | URL | Multiple | Optional | Yes |
| **ERP.MRI.5** | **Multimedia Name** | Video of Resource interface | Suggested length is 100 characters | Short description of the Multimedia content | String (Max 100) | Multiple | Optional | Yes |
| **ERP.MRI.6** | **Use Cases** | https://zenodo.org/record/1 | Provide URL of the webpage describing a use case | Link to use cases supported by this Re- | URL | Multiple | Optional | Yes |

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| | | 490344#.XfR8p_yxWUk | | source. | | | | |
| **ERP.MRI.7** | **Use Cases Name** | Kampal Artificial Intelligence for rare disease diagnosis | Suggested length is 100 characters | Short description of the Use Case content | String (Max 100) | Multiple | Optional | Yes |
| **Classification Information** | | | | | | | | |
| **ERP.CLI.1** | **Scientific Domain** | Natural Sciences | For suggestions in amending the "Scientific Domain" list, please select "Other", fill in your entry and press the "Submit" button | The branch of science, scientific discipline that is related to the Resource. | List of controlled values | Multiple | Mandatory | Yes |
| **ERP.CLI.2** | **Scientific Subdomain** | Earth and related environmental sciences | For suggestions in amending the "Scientific Subdomain" list, please select "Other", fill in your entry and press the "Submit" button | The subbranch of science, scientific subdiscipline that is related to the Resource. | List of controlled values | Multiple | Mandatory | Yes |
| **ERP.CLI.3** | **Category** | Processing and analysis data management | For suggestions in amending the "Category" list, please select "Other", fill in your entry and press the "Submit" button | A named group of Resources that offer access to the same type of Resource or capabilities. | List of controlled values | Multiple | Mandatory | Yes |
| **ERP.CLI.4** | **Subcategory** | Aggregators and integrators aggregators and integrators data | For suggestions in amending the "Subcategory" list, please select "Other", fill in your entry and press the "Submit" button | A named group of Resources that offer access to the same type of Resource or capabilities, within the defined Resource category | List of controlled values | Multiple | Mandatory | Yes |
| **ERP.CLI.5** | **Target Users** | Researchers, Research group, Research community, Re- | For suggestions in amending the "Target Users" list, please select "Other", fill in your entry and press the "Submit" button | Type of users/customers that commissions a Provider to deliver a Resource. | List of controlled values | Multiple | Mandatory | Yes |

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| | | search project | | | | | | |
| **ERP.CLI.6** | **Access Type** | Virtual | For suggestions in amending the "Access Type" list, please select "Other", fill in your entry and press the "Submit" button | The way a user can access the Resource (Remote, Physical, Virtual, etc.) | List of controlled values | Multiple | Optional | Yes |
| **ERP.CLI.7** | **Access Mode** | Excellence-based, Peer reviewed | For suggestions in amending the "Access Mode" list, please select "Other", fill in your entry and press the "Submit" button | Eligibility/criteria for granting access to users (excellence-based, free-conditionally, free etc.) | List of controlled values | Multiple | Optional | Yes |
| **ERP.CLI.8** | **Tags** | Open Science, data, dataset, data archive, library, repository | Add one Tag in each entry. For multi-word keywords, please use '-' to concatenate words. Suggested length is 50 characters | Keywords associated to the Resource to simplify search by relevant keywords. | String (max 50) | Multiple | Optional | Yes |
| **Geographical and Language Availability Information** | | | | | | | | |
| **ERP.GLA.1** | **Geographical Availability** | World | For suggestions in amending the "Geographical Availability" list, please select "Other", fill in your entry and press the "Submit" button | Locations where the Resource is offered. | List of controlled values | Multiple | Mandatory | Yes |
| **ERP.GLA.2** | **Language Availability** | English | For suggestions in amending the "Language Availability" list, please select "Other", fill in your entry and press the "Submit" button | Languages of the (user interface of the) Resource. | List of controlled values | Multiple | Mandatory | Yes |
| **Resource Location Information** | | | | | | | | |
| **ERP.RLI.01** | **Resource Geographic Location** | Germany | Countries + additional regions \| For suggestions in amending the "Geographic Location" list, please select "Other", fill in your entry and press the "Submit" button | List of geographic locations where data, samples, etc. are stored and processed | List of controlled values | Multiple | Optional | |
| **Contact Information** | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|
| **Main Contact/Resource Owner** | | | | | | | | |
| **ERP.COI.1** | **First Name** | John | Suggested length is 20 characters | First Name of the Resource's main contact person/manager. | String (max 20) | 1 | Mandatory | No |
| **ERP.COI.2** | **Last Name** | Smith | Suggested length is 20 characters | Last Name of the Resource's main contact person/manager. | String (max 20) | 1 | Mandatory | No |
| **ERP.COI.3** | **Email** | john.smith@example.com | | Email of the Resource's main contact person/manager. | Email | 1 | Mandatory | No |
| **ERP.COI.4** | **Phone** | 3021077755500 | Suggested length is 20 characters | Telephone of the Resource's main contact person/manager. | String (max 20) | 1 | Optional | No |
| **ERP.COI.5** | **Position** | Coordinator | Suggested length is 20 characters | Position of the Resource's main contact person/manager. | String (max 20) | 1 | Optional | No |
| **ERP.COI.6** | **Organisation** | Open Access Infrastructure for Research in Europe | Suggested length is 50 characters | The organisation to which the contact is affiliated | String (max 50) | 1 | Optional | No |
| **Public Contact** | | | | | | | | |
| **ERP.COI.7** | **First Name** | Jack | Suggested length is 20 characters | First Name of the Resource's contact person to be displayed at the portal. | String (max 20) | 1 | Optional | Yes |
| **ERP.COI.8** | **Last Name** | White | Suggested length is 20 characters | Last Name of the Resource's contact person to be displayed at the portal. | String (max 20) | 1 | Optional | Yes |
| **ERP.COI.9** | **Email** | jack.white@example.com | | Email of the Resource's contact person or a generic email of the Provider to be displayed at the portal. | Email | 1 | Mandatory | Yes |

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| **ERP.COI.10** | **Phone** | 3021077755501 | Suggested length is 20 characters | Telephone of the Resource's contact person to be displayed at the portal. | String (max 20) | 1 | Optional | Yes |
| **ERP.COI.11** | **Position** | Manager | Suggested length is 20 characters | Position of the Resource's contact person to be displayed at the portal. | String (max 20) | 1 | Optional | Yes |
| **ERP.COI.12** | **Organisation** | Open Access Infrastructure for Research in Europe | Suggested length is 50 characters | The organisation to which the contact is affiliated | String (max 50) | 1 | Optional | Yes |
| **Other Contacts** | | | | | | | | |
| **ERP.COI.13** | **Helpdesk Email** | helpdesk@Provider.com | Email to contact your helpdesk, where users with incidents and requests will be directed. | The email to ask more information from the Provider about this Resource. | Email | 1 | Mandatory | Yes |
| **ERP.COI.14** | **Security Contact Email** | secutiry@Provider.com | Email contact of the person or group responsible for the security aspects of the Resource. | The email to contact the Provider for critical security issues about this Resource. | Email | 1 | Mandatory | No |
| **Maturity Information** | | | | | | | | |
| **ERP.MTI.1** | **Technology Readiness Level** | TRL8 | https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/support/faq;keywords=/2890 for the definitions. Minimum accepted value is > =TRL-7 for the Resource to be publicly visible. For suggestions in amending the "Technology Readiness Level" list, please send an email to onboarding@eosc-portal.eu | The Technology Readiness Level of the Resource (to be further updated in the context of the EOSC). | List of controlled values | 1 | Mandatory | Yes |

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| **ERP.MTI.2** | **Life Cycle Status** | Production | For suggestions in amending the "Life Cycle Status" list, please select "Other", fill in your entry and press the "Submit" button | Phase of the Resource life-cycle. | List of controlled values | 1 | Optional | Yes |
| **ERP.MTI.3** | **Certifications** | Certificate of Excellence in Research Infrastructure Leadership | List of certifications obtained for the Resource (including the certification body and any certificate number if available). Suggested length is 100 characters | List of certifications obtained for the Resource (including the certification body). | String (max 100) | Multiple | Optional | Yes |
| **ERP.MTI.4** | **Standards** | ISO 15430, ISO 27000 | List of formal and externally recognised standards that this Resource conforms to. Suggested length is 100 characters | List of standards supported by the Resource. | String (max 100) | Multiple | Optional | Yes |
| **ERP.MTI.5** | **Open Source Technologies** | Liferay | List any open source technologies incorporated into the Resource. Please note this is for specific technologies not broad ones like HTTP or a Linux distribution. Suggested length is 100 characters | List of open source technologies supported by the Resource. | String (max 100) | Multiple | Optional | Yes |
| **ERP.MTI.6** | **Version** | 3.1 | Only stable releases should be referenced. Suggested length is 10 characters | Version of the Resource that is in force. | String (max 10) | 1 | Optional | Yes |
| **ERP.MTI.7** | **Last Update** | 2/28/2018 | The date should refer to when the updated version became available to users, not when it was developed or released internally in the Provider. | Date of the latest update of the Resource. | Date (dd/mm/yyyy) | 1 | Optional | Yes |
| **ERP.MTI.8** | **Change Log** | Upgrade of user interface. Correction of minor bugs. | Clear, staccato sentences for each updated feature should be used. Suggested length is 1000 characters | Summary of the Resource features updated from the previous version. | String (max 1000) | Multiple | Optional | Yes |

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| **Dependencies Information** | | | | | | | | |
| **ERP.DEI.1** | **Required Resources** | List of Resource IDs | List any other EOSC Resources that your Resource requires in order to operate. | List of other Resources required to use this Resource. | Resource IDs | Multiple | Optional | Yes |
| **ERP.DEI.2** | **Related Resources** | List of Resource IDs | List any other EOSC Resources that you are aware of that your service can cooperate with. | List of other Resources that are commonly used with this Resource. | Resource IDs | Multiple | Optional | Yes |
| **ERP.DEI.3** | **Related Platforms** | DISVIS | Select from a List of Controlled Values the platform this Resource is part of, e.g. a thematic portal for a certain community. An additional value "Other" that will lead to opening a new text input to suggest a new value on the list. EPOT can periodically review all the records with "Other" Platform selected and depending on a case update the list of controlled values or assign the resource record to an existing one (in case provider missed the platform on the list when trying to find an appropriate one) | List of suites or thematic platforms in which the Resource is engaged or Providers (Provider groups) contributing to this Resource. | List of controlled values | Multiple | Optional | Yes |
| **ERP.DEI.4** | **Catalogue** | | | The Catalogue this Resource is originally registered at. | Catalogue ID | 1 | Optional | Yes |
| **Attribution Information** | | | | | | | | |
| **ERP.ATI.1** | **Funding Body** | European Commission | Publicity guidelines of each respective funding sources should be adhered to. For suggestions in amending the "Funding Body" list, please select "Oth- | Name of the funding body that supported the development and/or operation of the Resource. | List of controlled values | Multiple | Optional | Yes |

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| | | | er", fill in your entry and press the "Submit" button | | | | | |
| **ERP.ATI.2** | **Funding Program** | Horizon 2020 | For suggestions in amending the "Funding Program" list, please select "Other", fill in your entry and press the "Submit" button | Name of the funding program that supported the development and/or operation of the Resource. | List of controlled values | Multiple | Optional | Yes |
| **ERP.ATI.3** | **Grant/Project Name** | OpenAIRE2020 (643410) | Suggested length is 100 characters | Name of the project that supported the development and/or operation of the Resource. | String (max 100) | Multiple | Optional | Yes |
| **Management Information** | | | | | | | | |
| **ERP.MGI.1** | **Helpdesk Page** | http://Resource-name.Resource-Provider.eu/Helpdesk | Link to the helpdesk where users with incidents and requests will be directed. It should allow private communication with providers (not a public forum). Create a dedicated URL for your Resources and provide the shortest possible alias. | The URL to a webpage to ask more information from the Provider about this Resource. | URL | 1 | Optional | Yes |
| **ERP.MGI.2** | **User Manual** | http://Resource-name.provider.eu/UserManual | Link to the user manual or other basic user instructional information about the Resource. Create a dedicated URL for your Resources and provide the shortest possible alias. | Link to the Resource user manual and documentation. | URL | 1 | Optional | Yes |
| **ERP.MGI.3** | **Terms Of Use** | http://Resource-name.provider.eu/TermsOfUse | Link describing the rules, resource conditions and usage policy which one must agree to abide by in order to use the Resource. Create a dedicated URL for your Resources and provide the shortest possible alias. | Webpage describing the rules, Resource conditions and usage policy which one must agree to abide by in order to use the Resource. | URL | 1 | Mandatory | Yes |

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| **ERP.MGI.4** | **Privacy Policy** | http://Resource-name.provider.eu/PrivacyPolicy | Link to the privacy policy applicable to the Resource. Privacy policies are required for all Resources, since they will likely fall under the GDPR limitations. Create a dedicated URL for your Resources and provide the shortest possible alias. | Link to the privacy policy applicable to the Resource. | URL | 1 | Mandatory | Yes |
| **ERP.MGI.5** | **Access Policy** | PRACE provides HPC Resources to researchers and scientists from academia and industry through Preparatory Access (code scaling and optimization) and/or through Project Access (large-scale, computationally intensive projects) http://www.prace-ri.eu/hpc-access | Create a dedicated URL for your Resources and provide the shortest possible alias. | Information about the access policies that apply. | URL | 1 | Optional | Yes |
| **ERP.MGI.6** | **Resource Level** | http://Resource-name.Provider.eu/RLA | Link to a Service Level Agreement (SLA) or Service Level Specification (SLS) applicable to the Resource. Support is availa- | Webpage with the information about the levels of performance that a Provider is ex- | URL | 1 | Optional | Yes |

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| | | | ble in forming an SLA or SLS is available at https://wiki.eosc-hub.eu/display/EOSC/Service+Provider+Documentation. | pected to deliver. | | | | |
| **ERP.MGI.7** | **Training Information** | http://Resource-name.Provider.eu/Training | Link to page with training information on the Resource. Create a dedicated URL for your Resources and provide the shortest possible alias. | Webpage to training information on the Resource. | URL | 1 | Optional | Yes |
| **ERP.MGI.8** | **Status Monitoring** | http://Resource-name.Provider.eu/Monitoring | Web Page with monitoring information about this Resource. | Webpage with monitoring information about this Resource | URL | 1 | Optional | Yes |
| **ERP.MGI.9** | **Maintenance** | http://Resource-name.Provider.eu/Maintenance | Web Page with information about planned maintenance windows for this Resource. | Webpage with information about planned maintenance windows for this Resource | URL | 1 | Optional | Yes |
| **Access and Order Information** | | | | | | | | |
| **ERP.AOI.1** | **Order Type** | Free | .Information on the order type (requires an ordering procedure, or no ordering and if fully open or requires authentication) For suggestions in amending the "Order Type" list, please select "Other", fill in your entry and press the "Submit" button | Information on the order type (requires an ordering procedure, or no ordering and if fully open or requires authentication) | List of controlled values | 1 | Mandatory | Yes |
| **ERP.AOI.2** | **Order** | https://gts.geant.net/login | | Webpage through which an order for the Resource can be placed | URL | 1 | Optional | Yes |
| **Financial Information** | | | | | | | | |
| **ERP.FNI.1** | **Payment Model** | http://Resource- | | Webpage with the supported payment | URL | 1 | Optional | Yes |

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| | | name.Provider.eu/Payment Model | | models and restrictions that apply to each of them | | | | |
| **ERP.FNI.2** | **Pricing** | http://Resource-name.Provider.eu/Price | Look at https://cloud.telekom.de/en/infrastructure/open-telekom-cloud/pricing as an example | Webpage with the information on the price scheme for this Resource in case the customer is charged for. | URL | 1 | Optional | Yes |

## 17.3 EOSC Portal Multi-Provider Catalogue Profile Assessment Tool v4.00

| Code | Attribute Name | Example Value | Guidelines for the Catalogues | Definition | Type | Multiplicity | Required | Public |
|---|---|---|---|---|---|---|---|---|
| **Basic Information** | | | | | | | | |
| **ECP.BAI.0** | **ID** | embl-ebi | The Provider ID is currently maintained by the EOSC Portal. It is assigned during onboarding of the Provider. It is suggested to use the Provider's abbreviation (see EPP.BAI.2). Two providers cannot have the same id; therefore the EOSC Portal will resolve this when it happens during the registration of a provider. In next releases of the model, the id will correspond to a PID issued and resolved by PID providers (like ORCID, doi-like, etc.). | A persistent identifier, a unique reference to the (Multi-Provider Regional or Thematic) Catalogue in the context of the EOSC Portal. | String (max 30) | 1 | Mandatory | Yes |
| **ECP.BAI.1** | **Abbreviation** | Earth Observa- | The abbreviation of the Provid- | An abbreviation of the | String | 1 | Mandatory | Yes |

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| | | tion Data Centre for Water Resources Monitoring | er will be used in most cases, and will be what is displayed as the main name. | (Multi-Provider Regional or Thematic) Catalogue Name. | (max 30) | | | |
| **ECP.BAI.2** | **Name** | Carl Zeiss | Suggested length is up to 100 characters | Full Name of the (Multi-Provider Regional or Thematic) Catalogue. | String (max 100) | 1 | Mandatory | Yes |
| **ECP.BAI.3** | **Website** | https://jelastic.com/ | Provide the landing page (i.e. domain name or FQDN) of the service provider | Website with information about the (Multi-Provider Regional or Thematic) Catalogue. | URL | 1 | Mandatory | Yes |
| **ECP.BAI.4** | **Legal Entity** | Y | | A Y/N question to define whether the (Multi-Provider Regional or Thematic) Catalogue is owned by a Legal Entity or not. | Boolean | 1 | Mandatory | Yes |
| **ECP.BAI.5** | **Legal Status** | Non-Profit Partnership (NPP) | For suggestions in amending the "Legal Status" list, please select "Other", fill in your entry and press the "Submit" button | Legal status of the (Multi-Provider Regional or Thematic ) Catalogue Owner. The legal status is usually noted in the registration act/statutes. For independent legal entities (1) - legal status of the Catalogue. For embedded Catalogues (2) - legal status of the hosting legal entity. It is also possible to select Not a legal entity. | List of controlled values | 1 | Optional | Yes |
| **ECP.BAI.6** | **Hosting Legal** | OpenAIRE | if Legal Entity is not Check then | Name of the organisa- | List of | 1 | Optional | Yes |

| | | | | | | | | |
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| | **Entity** | | Hosting Legal Entity is Mandatory to be filled in. Also the Hosting Legal Entity must be selected from the list of Providers already registered in the EOSC Portal. | tion legally hosting (housing) the Catalogue or its coordinating centre. | controlled values | | | |
| **Marketing Information** | | | | | | | | |
| **ECP.MRI.1** | **Description** | OpenAIRE represents a pivotal phase in the long-term effort to implement and strengthen the impact of the Open Access policies of the European Commission, building on the achievements of the OpenAIRE projects. OpenAIRE support and accelerate Open Science and Scholarship, of which Open Access is of fundamental importance. | Describe shortly the objective and background of your organisation. | A high-level description of the Catalogue in fairly non-technical terms, with the vision, mission, objectives, background, experience. | String (max 1000) | 1 | Mandatory | Yes |
| **ECP.MRI.2** | **Logo** | https://www.openaire.eu/images/OpenAIRE_branding/Logo_Hori | Provide a URL pointing to the organisation's logo at high quality, in the form of the shortest possible alias. Link to the | Link to the logo/visual identity of the Catalogue. | URL | 1 | Mandatory | Yes |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | zontal.png | logo/visual identity of the Provider. Go to the Provider's website --> Right Click on the Provider's logo on the website --> Select "Copy Image Link" --> Paste it in the field. | | | | | |
| **ECP.MRI.3** | **Multimedia** | https://vimeo.com/XYZ | Provide a URL pointing at a high quality video or slideshow, in the form of the shortest possible alias | Link to video, slideshow, photos, screenshots with details of the Catalogue. | URL | Multiple | Optional | Yes |
| **ECP.MRI.4** | **Multimedia Name** | Video of Resource interface | Suggested length is 100 characters | Short description of the Multimedia content | String (Max 100) | Multiple | Optional | Yes |
| **Classification Information** | | | | | | | | |
| **ECP.CLI.1** | **Scientific Domain** | Information Science and Technology | For suggestions in amending the "Scientific Domain" list, please select "Other", fill in your entry and press the "Submit" button | A named group of Catalogues that offer access to the same type of resources or capabilities. | List of controlled values | Multiple | Optional | Yes |
| **ECP.CLI.2** | **Scientific Subdomain** | Complex Data Facilities | For suggestions in amending the "Scientific Subdomain" list, please select "Other", fill in your entry and press the "Submit" button | A named group of Catalogues that offer access to the same type of resources or capabilities, within the defined domain. | List of controlled values | Multiple | Optional | Yes |
| **ECP.CLI.3** | **Tags** | Open data, open science, publications, research papers | Add one Tag in each entry. For multi-word keywords, please use '-' to concatenate words. Suggested length is up to 20 characters | Keywords associated to the Catalogue to simplify search by relevant keywords. | String (max 20) | Multiple | Optional | Yes |
| **Location Information** | | | | | | | | |
| **ECP.L0I.1** | **Street Name and Number** | Street 10 | Suggested length is up to 50 characters | Street and Number of incorporation or Physical location of the | String (max 50) | 1 | Mandatory | Yes |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Catalogue Coordinating Entity. | | | | |
| **ECP.L0I.2** | **Postal Code** | GR-12345 | Suggested length is up to 20 characters | Postal code of incorporation or Physical location of the Catalogue Coordinating Entity. | String (max 20) | 1 | Mandatory | Yes |
| **ECP.L0I.3** | **City** | Athens | Suggested length is up to 20 characters | City of incorporation or Physical location of the Catalogue Coordinating Entity. | String (max 20) | 1 | Mandatory | Yes |
| **ECP.L0I.4** | **Region** | Attica | Suggested length is up to 50 characters | Region of incorporation or Physical location of the Catalogue Coordinating Entity. | String (max 50) | 1 | Optional | Yes |
| **ECP.L0I.5** | **Country** | Greece | For suggestions in amending the "Country" list, please select "Other", fill in your entry and press the "Submit" button | Country of incorporation or Physical location of the Catalogue Coordinating Entity. | List of controlled values | 1 | Mandatory | Yes |
| **Contact Information** | | | | | | | | |
| **Main Contact/Provider Manager** | | | | | | | | |
| **ECP.COI.1** | **First Name** | John | Suggested length is up to 50 characters | First Name of the Catalogue's main contact person/Provider Manager. | String (max 20) | 1 | Mandatory | No |
| **ECP.COI.2** | **Last Name** | Smith | Suggested length is up to 50 characters | Last Name of the Catalogue's main contact person/Provider Manager. | String (max 20) | 1 | Optional | Yes |
| **ECP.COI.3** | **Email** | john.smith@example.com | | Email of the Catalogue's main contact person/Provider manager. | Email | 1 | Mandatory | No |
| **ECP.COI.4** | **Phone** | (+30210) | Suggested length is up to 20 | Phone of the Cata- | String | 1 | Optional | No |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 1234567 | characters | logue's main contact person/Provider manager. | (max 20) | | | |
| **ECP.COI.5** | **Position** | Coordinator | Suggested length is up to 50 characters | Position of the Catalogue's main contact person/Provider manager. | String (max 50) | 1 | Optional | No |
| **Public Contact** | | | | | | | | |
| **ECP.COI.6** | **First Name** | Jack | Suggested length is up to 20 characters | First Name of the Catalogue's contact person to be displayed at the portal. | String (max 20) | 1 | Optional | Yes |
| **ECP.COI.7** | **Last Name** | White | Suggested length is up to 20 characters | Last Name of the Catalogue's contact person to be displayed at the portal. | String (max 20) | 1 | Optional | Yes |
| **ECP.COI.8** | **Email** | jack.white@example.com | | Email of the Catalogue's contact person to be displayed at the portal or general email to contact Catalogue. | Email | 1 | Mandatory | Yes |
| **ECP.COI.9** | **Phone** | (+30210) 7890123 | Suggested length is up to 20 characters | Phone of the Catalogue's contact person to be displayed at the portal or general phone to contact Catalogue. | String (max 20) | 1 | Optional | Yes |
| **ECP.COI.10** | **Position** | Manager | Suggested length is up to 50 characters | Position of the Catalogue's contact person to be displayed at the portal. | String (max 50) | 1 | Optional | Yes |
| **Dependencies Information** | | | | | | | | |
| **ECP.DEI.1** | **Participating Countries** | Germany, Italy, Poland, Switzer- | For suggestions in amending the "Participating Countries" | Catalogues that are funded/supported by | List of con- | Multiple | Optional | Yes |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | land, Portugal, Netherlands, Belgium, Norway, Uruguay | list, please select "Other", fill in your entry and press the "Submit" button | several countries should list here all supporting countries (including the Coordinating country). | trolled values | | | |
| **ECP.DEI.2** | **Affiliations** | EGI, EUDAT, GEANT, OpenAIRE, etc. | Suggested length is up to 30 characters | Catalogues that are members or affiliated or associated with other organisations should list those organisations here | String (max 30) | Multiple | Optional | Yes |
| **ECP.DEI.3** | **Networks** | Open Access Infrastructure for Research in Europe (OpenAIRE) | For suggestions in amending the "Networks" list, please select "Other", fill in your entry and press the "Submit" button | Catalogues that are members of networks should list those networks here. | List of controlled values | Multiple | Optional | Yes |

# 18 Annex X: The EOSC Portal Profiles Review and Feedback Report v4.00

The following table illustrate the attributes taken into consideration in the EOSC Portal Profiles Review and Feedback process and the way that they are presented to the Providers. Attributes marked "Green" reflect sufficiently covered attributes. Indicators marked "Yellow" indicate attributes where possible improvements are recommended. Indicators marked "Red" reflect areas where improvements are strongly recommended. "M" denotes a Mandatory attribute while "O" denotes an Optional attribute in the EOSC Portal Profiles.

*Table 18-1: Attributes of the EOSC Portal Profiles Review and Feedback Process*

| | | | GREEN | YELLOW | RED |
|---|---|---|---|---|---|
| | Public Availability | PUBLIC LINK | | | |
| | | PUBLIC CATALOGUE | | | |
| | | API INTEROPERABILITY | | | |
| | | **PROVIDERS** | | | |
| M | Basic Information | ID | | | |
| M | | Name | | | |
| M | | Abbreviation | | | |
| M | | Website | | | |
| M | | Legal Entity | | | |
| O | | Legal Status | | | |
| M | Marketing Information | Description | | | |
| M | | Logo | | | |
| O | | Multimedia | | | |
| O | Classification Information | Scientific Domain | | | |
| O | | Scientific Subdomain | | | |
| O | | Tags | | | |
| M | Location Information | Street Name and Number | | | |
| M | | Postal Code | | | |
| M | | City | | | |
| O | | Region | | | |
| M | | Country | | | |
| M | Contact Information/Main | First Name | | | |
| M | | Last Name | | | |
| M | | Email | | | |
| O | | Phone | | | |
| O | | Position | | | |
| O | Contact Information/Public | First Name | | | |
| O | | Last Name | | | |
| M | | Email | | | |
| O | | Phone | | | |
| O | | Position | | | |
| O | Maturity Information | Life Cycle Status | | | |
| O | | Certifications | | | |
| O | Other Information | Hosting Legal Entity | | | |
| O | | Participating Countries | | | |
| O | | Affiliations | | | |

| | | | | | |
|---|---|---|---|---|---|
| O | | Networks | | | |
| O | | Structure Type | | | |
| O | | ESFRI Domain | | | |
| O | | ESFRI Type | | | |
| O | | MERIL Scientific Domain | | | |
| O | | MERIL Scientific Subdomain | | | |
| O | | Areas of Activity | | | |
| O | | Societal Grand Challenges | | | |
| O | | National Roadmaps | | | |
| | | **RESOURCES** | | | |
| M | **Basic Information** | ID | | | |
| M | | Name | | | |
| M | | Resource Organisation | | | |
| O | | Resource Providers | | | |
| M | | Webpage | | | |
| M | **Marketing Information** | Description | | | |
| M | | Tagline | | | |
| M | | Logo | | | |
| O | | Multimedia | | | |
| O | | Use Cases | | | |
| M | **Classification Information** | Scientific Domain | | | |
| M | | Scientific Subdomain | | | |
| M | | Category | | | |
| M | | Subcategory | | | |
| M | | Target Users | | | |
| O | | Access Type | | | |
| O | | Access Mode | | | |
| O | | Tags | | | |
| M | **Geographical and Language Availability Information** | Geographical Availability | | | |
| M | | Language Availability | | | |
| O | **Resource Location Information** | Geographic Location | | | |
| M | **Contact Information/Main** | First Name | | | |
| M | | Last Name | | | |
| M | | Email | | | |
| O | | Phone | | | |
| O | | Position | | | |
| O | | Organisation | | | |
| O | **Contact Information/Public** | First Name | | | |
| O | | Last Name | | | |
| M | | Email | | | |
| O | | Phone | | | |
| O | | Position | | | |
| O | | Organisation | | | |
| M | **Oher Contacts** | Helpdesk Email | | | |
| M | | Security Contact Email | | | |
| M | **Maturity Information** | Technology Readiness Level | | | |
| O | | Life Cycle Status | | | |
| O | | Certifications | | | |
| O | | Standards | | | |
| O | | Open Source Technologies | | | |
| O | | Version | | | |

| | | | | | |
|---|---|---|---|---|---|
| O | | Last Update | | | |
| O | | Change Log | | | |
| O | Dependencies Information | Required Resources | | | |
| O | | Related Resources | | | |
| O | | Related Platforms | | | |
| O | Attribution Information | Funding Body | | | |
| O | | Funding Program | | | |
| O | | Grant/Project Name | | | |
| O | Management Information | Helpdesk Page | | | |
| O | | User Manual | | | |
| O | | Terms Of Use | | | |
| O | | Privacy Policy | | | |
| O | | Access Policy | | | |
| O | | Service Level | | | |
| O | | Training Information | | | |
| O | | Status Monitoring | | | |
| O | | Maintenance | | | |
| M | Access and Order Information | Order Type | | | |
| O | | Order | | | |
| O | Financial Information | Payment Model | | | |
| O | | Pricing | | | |

The following section presents the structure of an anonymized full report.

# EOSC Portal Profiles
# Review and Feedback Report
# for

## PROVIDER X

## October 2021

EOSC Enhance has received funding from the European Union's Horizon 2020 under grant agreement No. 871160

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## Credits

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## Authors

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## 1. Overall Review Results

The methodology used for the EOSC Portal Profiles Review and Feedback Report was introduced by JNP in eInfraCentral and CatRIS and now EOSC Enhance with sole purpose to improve the EOSC Providers Readiness.

This report is drafted by independent reviewers, provides recommendations for improvement on the Provider and Resources descriptions (106 attributes) of **PROVIDER X** based on its public website and catalogue and the Profiles at the EOSC Portal.

The collected data and this report are treated with absolute confidentiality and will not be made available to any other third party, unless the Provider has agreed beforehand in written manner. It is the sole decision of the Resource provider to publish the report or parts of it.

Based on the benchmarking exercise **PROVIDER X** has gained a:

**Score 73%**

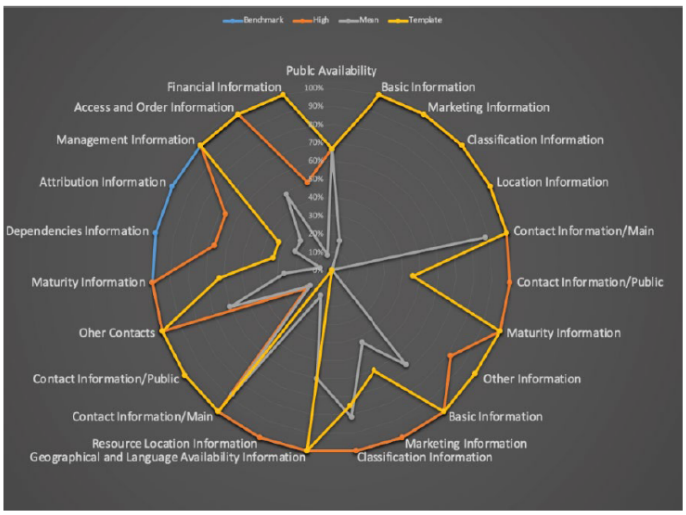
Table 1 on the next page presents an overview of the assessment results for the Provider and Resources Profiles. Indicators marked "Green" reflect excellent performance while indicators marked "Yellow" indicate room for improvement. Indicators marked "Red" reflect areas where significant weaknesses still exist. Lighter shades of the colours indicate the optional attributes that have a smaller effect on the Completeness Level Score. Further improvements are seen necessary if the Provider aims to reach a higher completeness level.

**Table 2** provides general recommendations for further improvement of both Provider and Resource Profiles.

**Figure 1** summarizes the review of **PROVIDER X** compared to the Benchmark, the Gold Level Providers (score over 75%) and the average of all Providers in the EOSC catalogue, based on a 3-pillar analysis[1]: Public Availability of a Catalogue, Provider's Profile and Resource's Profile.

For **PROVIDER X** to improve their catalogues and Profile descriptions, it needs to implement several actions as they are proposed in the Recommendations on Table 2.

Figure 1: Comparison to Benchmarks




[1] Additional pillars are currently under consideration for incorporation in the benchmarking.

Table 1: Overall Review Results

| | | | | | |
|---|---|---|---|---|---|
| M | Public Availability | PUBLIC LINK | | | |
| M | | PUBLIC CATALOGUE | | | |
| M | | API INTEROPERABILITY | | | |
| RESOURCE PROVIDERS | | | | | |
| M | Basic Information | ID | | | |
| M | | Name | | | |
| M | | Abbreviation | | | |
| M | | Website | | | |
| M | | Legal Entity | | | |
| O | | Legal Status | | | |
| M | Marketing Information | Description | | | |
| M | | Logo | | | |
| O | | Multimedia | | | |
| O | Classification Information | Scientific Domain | | | |
| O | | Scientific Subdomain | | | |
| O | | Tags | | | |
| M | Location Information | Street Name and Number | | | |
| M | | Postal Code | | | |
| M | | City | | | |
| O | | Region | | | |
| M | | Country | | | |
| M | Contact Information/ Main | First Name | | | |
| M | | Last Name | | | |
| M | | Email | | | |
| O | | Phone | | | |
| O | | Position | | | |
| O | Contact Information/ Public | First Name | | | |
| O | | Last Name | | | |
| M | | Email | | | |
| O | | Phone | | | |
| O | | Position | | | |
| O | Maturity Information | Life Cycle Status | | | |
| O | | Certifications | | | |
| O | Other Information | Hosting Legal Entity | | | |
| O | | Participating Countries | | | |
| O | | Affiliations | | | |
| O | | Networks | | | |
| O | | Structure Type | | | |
| O | | ESFRI Domain | | | |
| O | | ESFRI Type | | | |
| O | | MERIL Scientific Domain | | | |
| O | | MERIL Scientific Subdomain | | | |
| O | | Areas of Activity | | | |
| O | | Societal Grand Challenges | | | |

| | | | | | |
|---|---|---|---|---|---|
| O | | National Roadmaps | | | |
| | | **RESOURCES** | | | |
| M | **Basic Information** | ID | | | |
| M | | Name | | | |
| M | | Resource Organisation | | | |
| O | | Resource Providers | | | |
| M | | Webpage | | | |
| M | **Marketing Information** | Description | | | |
| M | | Tagline | | | |
| M | | Logo | | | |
| O | | Multimedia | | | |
| O | | Use Cases | | | |
| M | **Classification Information** | Scientific Domain | | | |
| M | | Scientific Subdomain | | | |
| M | | Category | | | |
| M | | Subcategory | | | |
| M | | Target Users | | | |
| O | | Access Type | | | |
| O | | Access Mode | | | |
| O | | Tags | | | |
| M | **Geographical and Language Availability Information** | Geographical Availability | | | |
| M | | Language Availability | | | |
| O | **Resource Location Information** | Geographic Location | | | |
| M | **Contact Information/ Main** | First Name | | | |
| M | | Last Name | | | |
| M | | Email | | | |
| O | | Phone | | | |
| O | | Position | | | |
| O | | Organisation | | | |
| O | **Contact Information/ Public** | First Name | | | |
| O | | Last Name | | | |
| M | | Email | | | |
| O | | Phone | | | |
| O | | Position | | | |
| O | | Organisation | | | |
| M | **Oher Contacts** | Helpdesk Email | | | |
| M | | Security Contact Email | | | |
| M | **Maturity Information** | Technology Readiness Level | | | |
| O | | Life Cycle Status | | | |
| O | | Certifications | | | |
| O | | Standards | | | |

## 2. Recommendations

Table 2 presents an overview of the recommended improvement actions that need to be taken by **PROVIDER X**. The recommendations focus mainly on indicators that are characterized as "Yellow" or "Red". The order of presentation does not indicate any order of significance.

**Table 2: Overall Recommendations for Resource PROVIDER X**

| RECOMMENDATIONS | | | |
|---|---|---|---|
| M | **Public Availability** | PUBLIC LINK | |
| M | | PUBLIC CATALOGUE | |
| M | | API INTEROPERABILITY | It is strongly recommended to make use of the available API to expedite registering and/or updating your resources. |
| RESOURCE PROVIDERS | | | |
| M | **Basic Information** | ID | |
| M | | Name | |
| M | | Abbreviation | |
| M | | Website | |
| M | | Legal Entity | |
| O | | Legal Status | |
| M | **Marketing Information** | Description | |
| M | | Logo | |
| O | | Multimedia | |
| O | **Classification Information** | Scientific Domain | |
| O | | Scientific Subdomain | |
| O | | Tags | |
| M | **Location Information** | Street Name and Number | |
| M | | Postal Code | |
| M | | City | |
| O | | Region | It is suggested to provide the region of incorporation or physical location of the provider or its coordinating centre in the case of distributed, virtual, and mobile providers. |
| M | | Country | |
| M | **Contact Information/ Main** | First Name | |
| M | | Last Name | |
| M | | Email | |
| O | | Phone | It is suggested to provide the phone of the provider's main contact person/provider manager. |
| O | | Position | |
| O | **Contact Information/ Public** | First Name | It is suggested to provide the first name of the provider's contact person to be displayed publicly at the portal. |
| O | | Last Name | It is suggested to provide the last name of the provider's contact person to be displayed publicly at the portal. |
| M | | Email | |

| | | | |
|---|---|---|---|
| O | | Last Update | |
| O | | Change Log | It is suggested to provide the summary of the resource features updated from the previous version. |
| O | Dependencies Information | Required Resources | It is suggested to select the list of other resources required to use this resource. |
| O | | Related Resources | It is suggested to indicate the list of other resources that are commonly used with this resource. |
| O | | Related Platforms | It is suggested to select the list of suites or thematic platforms in which the resource is engaged or providers (provider groups) contributing to this resource. |
| O | Attribution Information | Funding Body | |
| O | | Funding Program | It is suggested to indicate the name of the funding program that (co-)financed the development and/or operation of the resource. |
| O | | Grant/Project Name | It is suggested to provide the name of the project that (co-)financed the development and/or operation of the resource. |
| O | Management Information | Helpdesk Page | |
| O | | User Manual | It is suggested to provide the link to the resource user manual and documentation in English. |
| O | | Terms Of Use | It is suggested to provide the webpage in English describing the rules, resource conditions and usage policy which one must agree to abide by in order to use the resource. |
| O | | Privacy Policy | It is suggested to provide the link to the privacy policy applicable to the resource in English. |
| O | | Access Policy | It is suggested to provide the information in English about the access policies that apply to the resource. |
| O | | Service Level | |
| O | | Training Information | |
| O | | Status Monitoring | It is suggested to provide the webpage with monitoring information about the resource in English. |
| O | | Maintenance | It is suggested to provide the webpage with information about planned maintenance windows for the resource in English. |
| M | Access and Order Information | Order Type | |
| O | | Order | |
| O | Financial Information | Payment Model | It is suggested to provide the webpage with the supported payment models for the resource and potential restrictions that apply to each of them in English. |
| O | | Pricing | |

## 4. Additional support

Should **PROVIDER X** require any support for implementing any further Profile improvements, our staff would be happy to offer its advisory expertise to aid in this direction. If so, please contact us at your convenience by email nominating the appropriate representative for your organisation, and a member of our team will promptly follow up on this matter.

The report is produced semi-automatically. The following is a fist list of the recommendations inserted in the reports at the current version.

*Table 18-2: EOSC Portal Review and Evaluation Report Recommendations Overview*

| | Optional - Generic | Mandatory > 50% | Mandatory < 50% |
|---|---|---|---|
| PUBLIC LINK | | | |
| PUBLIC CATA-LOGUE | | | |
| API INTEROPERA-BILITY | | It is recommended to make use of the available API to expedite registering and/or updating your resources. | It is strongly recommended to make use of the available API to expedite registering and/or updating your re-sources. |
| **RESOURCE PROVIDERS** | | | |
| ID | | | |
| Name | | It is recommended to pro-vide the full name of the provider/organisation offer-ing resources and acting as main contact point for the resources. | It is strongly recommended to provide the full name of the provider/organisation offering resources and acting as main contact point for the resources. |
| Abbreviation | | It is recommended to pro-vide the abbreviation or short name of the provider. | It is strongly recommended to provide the full name of the provider/organisation offering resources and acting as main contact point for the resources. |
| Website | | It is recommended to pro-vide the webpage of the provider in English. | It is strongly recommended to provide the webpage of the provider in English. |
| Legal Entity | | It is recommended to indi-cate the legal entity of the provider. | It is strongly recommended to indicate the legal entity of the provider. |
| Legal Status | It is suggested to select the legal status of the provider. The legal status is usually noted in the registration statutes. | | |
| Description | | It is recommended to pro-vide a high-level description of the provider in fairly non-technical terms, with the vi-sion, mission, objectives, background, experience. | It is strongly recommended to provide a high-level de-scription of the provider in fairly non-technical terms, with the vision, mission, ob-jectives, background, experi-ence. |
| Logo | | It is recommended to pro-vide the link to the logo/visual identity of the provider. | It is strongly recommended to provide the link to the logo/visual identity of the provider. |
| Multimedia | It is suggested to provide the links to video, slideshow, photos, screenshots with de-tails of the provider. | | |

| | | | |
|---|---|---|---|
| Scientific Domain | It is suggested to indicate the branch of science/scientific discipline that is related to the resource. | | |
| Scientific Subdomain | It is suggested to indicate the sub-branch of science/scientific subdiscipline that is related to the resource. | | |
| Tags | It is suggested to provide the keywords associated to the provider to simplify search by relevant keywords. | | |
| Street Name and Number | | It is recommended to provide the street and number of incorporation or physical location of the provider or its coordinating centre in the case of distributed, virtual, and mobile providers. | It is strongly recommended to provide the street and number of incorporation or physical location of the provider or its coordinating centre in the case of distributed, virtual, and mobile providers. |
| Postal Code | | It is recommended to provide the postal code of incorporation or physical location of the provider or its coordinating centre in the case of distributed, virtual, and mobile providers. | It is strongly recommended to provide the postal code of incorporation or physical location of the provider or its coordinating centre in the case of distributed, virtual, and mobile providers. |
| City | | It is recommended to provide the city of incorporation or physical location of the provider or its coordinating centre in the case of distributed, virtual, and mobile providers. | It is strongly recommended to provide the city of incorporation or physical location of the provider or its coordinating centre in the case of distributed, virtual, and mobile providers. |
| Region | It is suggested to provide the region of incorporation or physical location of the provider or its coordinating centre in the case of distributed, virtual, and mobile providers. | | |
| Country | | It is recommended to provide the country of incorporation or physical location of the provider or its coordinating centre in the case of distributed, virtual, and mobile providers. | It is strongly recommended to provide the country of incorporation or physical location of the provider or its coordinating centre in the case of distributed, virtual, and mobile providers. |
| First Name | | It is recommended to provide the first name of the provider's main contact person/provider manager. | It is strongly recommended to provide the first name of the provider's main contact person/provider manager. |
| Last Name | | It is recommended to pro- | It is strongly recommended |

| | | | |
|---|---|---|---|
| | | vide the last name of the provider's main contact person/provider manager. | to provide the last name of the provider's main contact person/provider manager. |
| Email | | It is recommended to provide the email of the provider's main contact person/provider manager. | It is strongly recommended to provide the email of the provider's main contact person/provider manager. |
| Phone | It is suggested to provide the phone of the provider's main contact person/provider manager. | | |
| Position | It is suggested to provide the position of the provider's main contact person/provider manager. | | |
| First Name | It is suggested to provide the first name of the provider's contact person to be displayed publicly at the portal. | | |
| Last Name | It is suggested to provide the last name of the provider's contact person to be displayed publicly at the portal. | | |
| Email | | It is recommended to provide the email of the provider's contact person to be displayed publicly at the portal or general email to contact the provider. | It is strongly recommended to provide the email of the provider's contact person to be displayed publicly at the portal or general email to contact the provider. |
| Phone | It is suggested to provide the phone of the provider's contact person to be displayed publicly at the portal or general phone to contact the provider. | | |
| Position | It is suggested to provide the position of the provider's contact person to be displayed publicly at the portal. | | |
| Life Cycle Status | It is suggested to indicate the current status of the provider life-cycle. | | |
| Certifications | It is suggested to provide the list of certifications obtained for the provider (including the certification body, the certificate number or URL if available). | | |
| Hosting Legal Entity | It is suggested to provide the name of the organisation/institution legally hosting (housing) the provider or its coordinating centre. | | |
| Participating Coun- | It is suggested to select the | | |

| | | | |
|---|---|---|---|
| tries | providers that are funded by several countries should list here all supporting countries (including the coordinating country first). | | |
| Affiliations | It is suggested to provide the providers that are members or affiliated or associated with other organisations should list those organisations here. | | |
| Networks | It is suggested to select the providers that are members of networks should list those networks here. | | |
| Structure Type | It is suggested to indicate the structure type of the provider (single-sited, distributed, mobile, virtual, etc.). | | |
| ESFRI Domain | It is suggested to select the ESFRI domain classification (applicable to ESFRIs only). | | |
| ESFRI Type | It is suggested if the RI is (part of) an ESFRI project to indicate how the RI participates | | |
| MERIL Scientific Domain | It is suggested to select the MERIL scientific domain classification. | | |
| MERIL Scientific Subdomain | It is suggested to indicate the MERIL scientific subdomain classification. | | |
| Areas of Activity | It is suggested to select the basic research, applied research or technological development. | | |
| Societal Grand Challenges | It is suggested to indicate the provider's participation in the grand societal challenges defined by the European Commission. | | |
| National Roadmaps | It is suggested to provide the provider's participation in a national roadmap. | | |
| **RESOURCES** | | | |
| ID | | | |
| Name | | It is recommended to provide a brief and descriptive name of the resource as assigned by the provider. | It is strongly recommended to provide a brief and descriptive name of the resource as assigned by the provider. |
| Resource Organisation | | It is recommended to provide the name (or abbreviation) of the organisation that | It is strongly recommended to provide the name (or abbreviation) of the organisa- |

| | | | |
|---|---|---|---|
| | | manages or delivers the resource, or that coordinates resource delivery in a federated scenario. | tion that manages or delivers the resource, or that coordinates resource delivery in a federated scenario. |
| Resource Providers | It is suggested to provide the name(s) (or abbreviation(s)) of provider(s) that manage or deliver the resource in federated scenarios. | | |
| Webpage | | It is recommended to provide the webpage with information about the resource (usually hosted and maintained by the provider). | It is strongly recommended to provide the webpage with information about the resource (usually hosted and maintained by the provider). |
| Description | | It is recommended to provide a high-level description of the resource in fairly non-technical terms. | It is strongly recommended to provide a high-level description of the resource in fairly non-technical terms. |
| Tagline | | It is recommended to provide a short catchphrase for marketing and advertising purposes. It will be usually displayed close to the resource name and should refer to the main value or purpose of the resource. | It is strongly recommended to provide a short catchphrase for marketing and advertising purposes. It will be usually displayed close to the resource name and should refer to the main value or purpose of the resource. |
| Logo | | It is recommended to provide a functioning link to the logo/visual identity of the resource (preferably a version that is clearly visible to a white background). | It is strongly recommended to provide a functioning link to the logo/visual identity of the resource (preferably a version that is clearly visible to a white background). |
| Multimedia | It is suggested to provide the link to video, screenshots or slides showing details of the resource. | | |
| Use Cases | It is suggested to provide the link to use cases supported by this resource. | | |
| Scientific Domain | | It is recommended to indicate the branch of science/scientific discipline that is related to the resource. | It is strongly recommended to indicate the branch of science/scientific discipline that is related to the resource. |
| Scientific Subdomain | | It is recommended to indicate the sub-branch of science/scientific subdiscipline that is related to the resource. | It is strongly recommended to indicate the sub-branch of science/scientific subdiscipline that is related to the resource. |
| Category | | It is recommended to indicate the category of resources that offer access to the same type of resources. | It is strongly recommended to indicate the category of resources that offer access to the same type of resources. |

| | | | |
|---|---|---|---|
| Subcategory | | It is recommended to indicate the subcategory of resources that offer access to the same type of resources, under the defined resource category. | It is strongly recommended to indicate the subcategory of resources that offer access to the same type of resources, under the defined resource category. |
| Target Users | | It is recommended to indicate the type of users that the resource is targeting. | It is strongly recommended to indicate the type of users that the resource is targeting. |
| Access Type | It is suggested to select the way a user can access the resource (remote, physical, virtual, etc.). | | |
| Access Mode | It is suggested to select the eligibility/criteria for granting access to the resource to users (excellence-based, free-conditionally, free etc.). | | |
| Tags | | | |
| Geographical Availability | | It is recommended to provide the select where the resource is offered. | It is strongly recommended to select the locations where the resource is offered. |
| Language Availability | | It is recommended to select the languages of the (user interface of the) resource. | It is strongly recommended to select the languages of the (user interface of the) resource. |
| Geographic Location | It is suggested to indicate the list of geographic locations where data, samples, etc. are stored and processed when offering the resource. | | |
| First Name | | It is recommended to provide the first name of the resource's main contact person/resource manager. | It is strongly recommended to provide the first name of the resource's main contact person/resource manager. |
| Last Name | | It is recommended to provide the last name of the resource's main contact person/resource manager. | It is strongly recommended to provide the last name of the resource's main contact person/resource manager. |
| Email | | It is recommended to provide the email of the resource's main contact person/resource manager. | It is strongly recommended to provide the email of the resource's main contact person/resource manager. |
| Phone | It is suggested to provide the telephone of the resource's main contact person/resource manager. | | |
| Position | It is suggested to provide the position of the resource's main contact person/resource manager. | | |
| Organisation | It is suggested to select the organisation to which the | | |

| | | | |
|---|---|---|---|
| | resource's main contact person/resource manager is affiliated. | | |
| First Name | It is suggested to provide the first name of the resource's contact person to be displayed publicly at the portal. | | |
| Last Name | It is suggested to provide the last name of the resource's contact person to be displayed publicly at the portal. | | |
| Email | | It is recommended to provide the email of the resource's contact person or a generic email of the provider to be displayed publicly at the portal. | It is strongly recommended to provide the email of the resource's contact person or a generic email of the provider to be displayed publicly at the portal. |
| Phone | It is suggested to provide the telephone of the resource's contact person to be displayed publicly at the portal. | | |
| Position | It is suggested to provide the position of the resource's contact person to be displayed publicly at the portal. | | |
| Organisation | It is suggested to select the organisation to which the resource's public contact person is affiliated. | | |
| Helpdesk Email | | It is recommended to provide an email to ask for more information from the provider about the resource. | It is strongly recommended to provide an email to ask for more information from the provider about the resource. |
| Security Contact Email | | It is recommended to provide an email to contact the provider for critical security issues about the resource. | It is strongly recommended to provide an email to contact the provider for critical security issues about the resource. |
| Technology Readiness Level | | It is recommended to indicate the technology readiness level of the resource. | It is strongly recommended to indicate the technology readiness level of the resource. |
| Life Cycle Status | It is suggested to indicate the status of the resource lifecycle. | | |
| Certifications | It is suggested to provide the list of certifications obtained for the resource (including the certification body or URL if available). | | |
| Standards | It is suggested to provide the list of standards supported by the resource. | | |

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| Open Source Technologies | It is suggested to provide the list of open source technologies supported by the resource. | | |
| Version | It is suggested to provide the version of the resource that is in force. | | |
| Last Update | It is suggested to provide the date of the latest update of the resource. | | |
| Change Log | It is suggested to provide the summary of the resource features updated from the previous version. | | |
| Required Resources | It is suggested to select the list of other resources required to use this resource. | | |
| Related Resources | It is suggested to indicate the list of other resources that are commonly used with this resource. | | |
| Related Platforms | It is suggested to select the list of suites or thematic platforms in which the resource is engaged or providers (provider groups) contributing to this resource. | | |
| Funding Body | It is suggested to indicate the name of the funding body that (co-)financed the development and/or operation of the resource. | | |
| Funding Program | It is suggested to indicate the name of the funding program that (co-)financed the development and/or operation of the resource. | | |
| Grant/Project Name | It is suggested to provide the name of the project that (co-)financed the development and/or operation of the resource. | | |
| Helpdesk Page | It is suggested to provide the URL to a webpage to ask more information from the provider about this resource. | | |
| User Manual | It is suggested to provide the link to the resource user manual and documentation. | | |
| Terms Of Use | It is suggested to provide the webpage describing the rules, resource conditions and usage policy which one must agree to abide by in | | |

| | | | |
|---|---|---|---|
| | order to use the resource. | | |
| Privacy Policy | It is suggested to provide the link to the privacy policy applicable to the resource. | | |
| Access Policy | It is suggested to provide the information about the access policies that apply to the resource. | | |
| Service Level | It is suggested to provide the webpage with the information about the levels of performance of the resource that a provider is expected to deliver. | | |
| Training Information | It is suggested to provide the webpage to training information on the resource. | | |
| Status Monitoring | It is suggested to provide the webpage with monitoring information about the resource. | | |
| Maintenance | It is suggested to provide the webpage with information about planned maintenance windows for the resource. | | |
| Order Type | | It is recommended to select the type of the ordering process. | It is strongly recommended to select the type of the ordering process. |
| Order | It is suggested to provide the webpage through which an order for the resource can be placed. | | |
| Payment Model | It is suggested to provide the webpage with the supported payment models for the resource and potential restrictions that apply to each of them. | | |
| Pricing | It is suggested to provide the webpage with the information on the price scheme for the resource in case the customer is charged for. | | |

# 19 Annex XI: The EOSC Portal Statistics Report 4.00

# EOSC Portal Statistics

based on EOSC Portal Profiles, Onboarding Process and APIs v3.00 for the period

Fri Oct 1 15:05:41 UTC 2021

to

Fri Oct 8 15:05:41 UTC 2021

## Introduction

This Report is produced on a periodic basis to offer EOSC stakeholders with a quick overview of the status and progress of the EOSC Portal. The report is produced by JNP in the framework of the EOSC Enhance and EOSC Future projects that are funded by the European Union's Horizon Research and Innovation Programmes under grant agreement 871160 and 101017536 respectively.

For any additional information, requests on specific statistics or recommendations please contact us.

## The EOSC Portal

The EOSC Portal is an access channel through which European researchers are able to access, use and reuse research outputs, data and services across disciplines. The EOSC Portal is part of the EOSC implementation roadmap as one of the expected "federating core" services contributing to the implementation of the "Access and Interface" action line. It has been conceived to provide a European delivery channel connecting the demand-side and the supply-side of the EOSC and all its stakeholders.

The Current Version of the EOSC Portal has been developed through the collective effort of eInfraCentral, EOSC-Hub, OpenAIRE-Advance, EOSCsecretariat.eu, EOSC Enhance and EOSC Future projects and isstructured in the following main sections:

1. A section for EOSC Providers to onboard and join the Portal following the EOSC Portal Onboarding Process (EPOP) and employing the EOSC Portal Profiles. They are also offered with dashboard tools for monitoring the usage of their Resource offerings and a rich collection of open REST API methods for the automatic provisioning and synchronisation of information between providers' systems and the EOSC Portal as well as the provisioning of catalogue infor-

The EOSC Portal is operated by the EOSC Enhance (Grant Agreement no. 871160) and EOSC Future (Grant Agreement no. 101017536) projects funded by the European Union's Horizon Programme.

mation towards third party systems to enable the development of added value services on top of it.

2. A section for the EOSC End-Users to discover the EOSC Resources with a multitude of functionalities. It allows users to browse all EOSC Resources, to search and filter specific ones based on multiple criteria, to compare EOSC Resources across several characteristics and personalize their experience, by providing feedback on EOSC Resources or adding them to their favourite list, etc.

EOSC Portal is accessible here.

## The EOSC Portal Statistics

This report provides a comprehensive overview of the following key performance indicators:

- The Total Number of EOSC Providers
- The Total Number of EOSC Resources
- A Word Cloud of the most frequent Tags used by EOSC Providers
- The Location (Country) of EOSC Providers' Headquarters
- The Language Availability of EOSC Resources
- The Geographic Availability of EOSC Resources
- The Targeted End-Users' Groups by EOSC Resources
- The Top 10 EOSC Resources' Categories
- The Top 10 EOSC Resources' Scientific Domains
- The Number of EOSC Resources provided by each EOSC Provider
- The Distribution of EOSC Providers' Scientific Domain (based on Frascati taxonomy)
- The Distribution of EOSC Providers' Scientific Domain (based on MERIL taxonomy)
- The Technology Readiness Level of EOSC Resources
- The Life-cycle Status of EOSC Resources
- The Access Type of EOSC Resources
- The Access Mode of EOSC Resources
- The Order Type of EOSC Resources

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Last Update (Timestamp)

2021-10-08
15:00:11

Onboarded Providers

207

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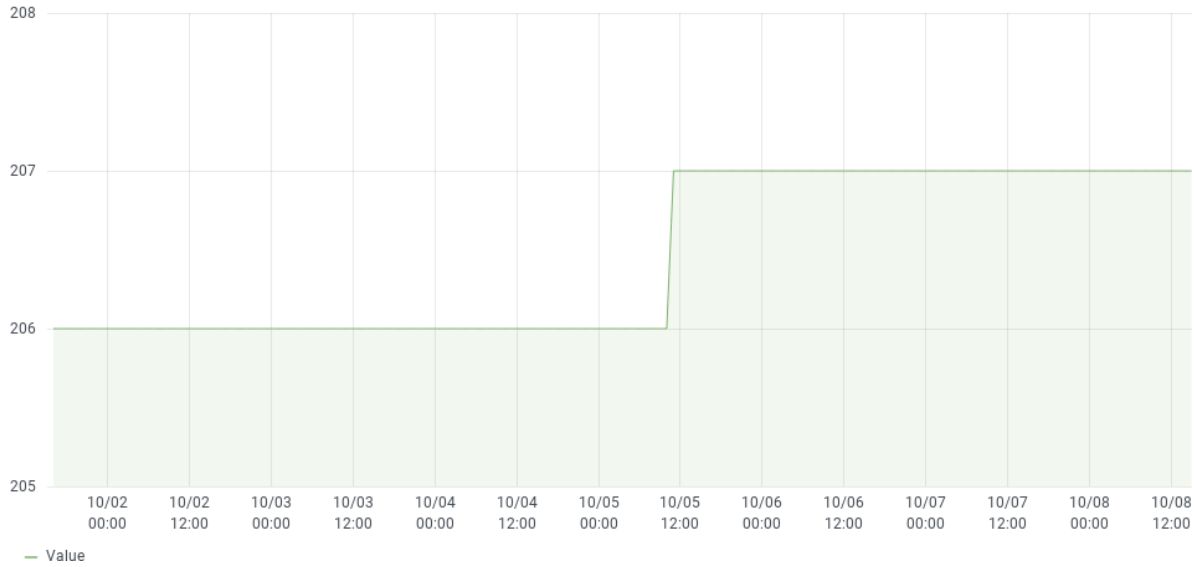
Onboarded Resources

Timeline of Providers Onboarding

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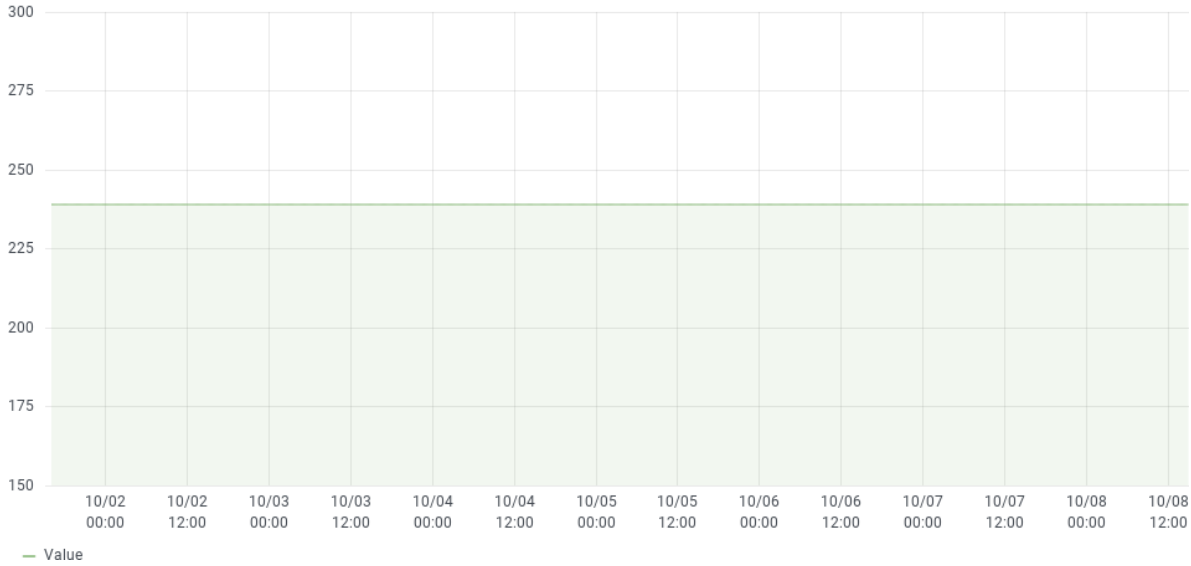
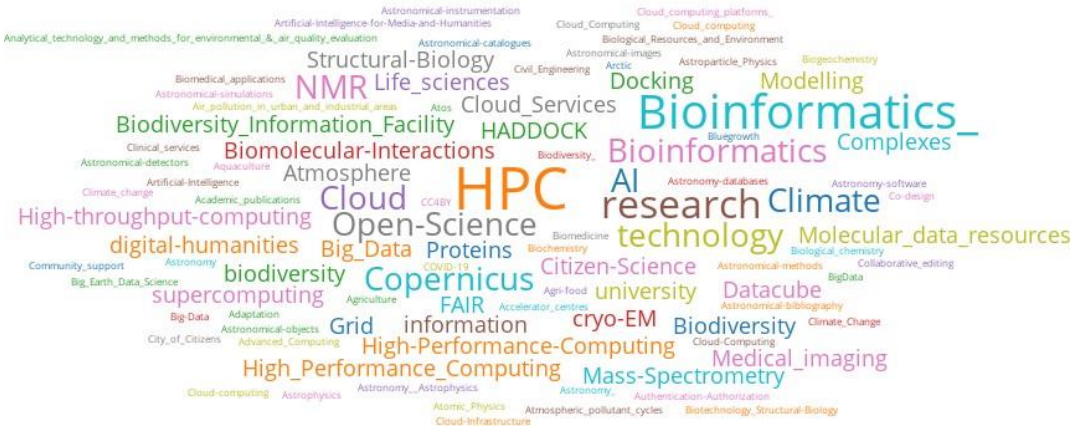
Timeline of Resources Onboarding




Most Frequent Provider Tags

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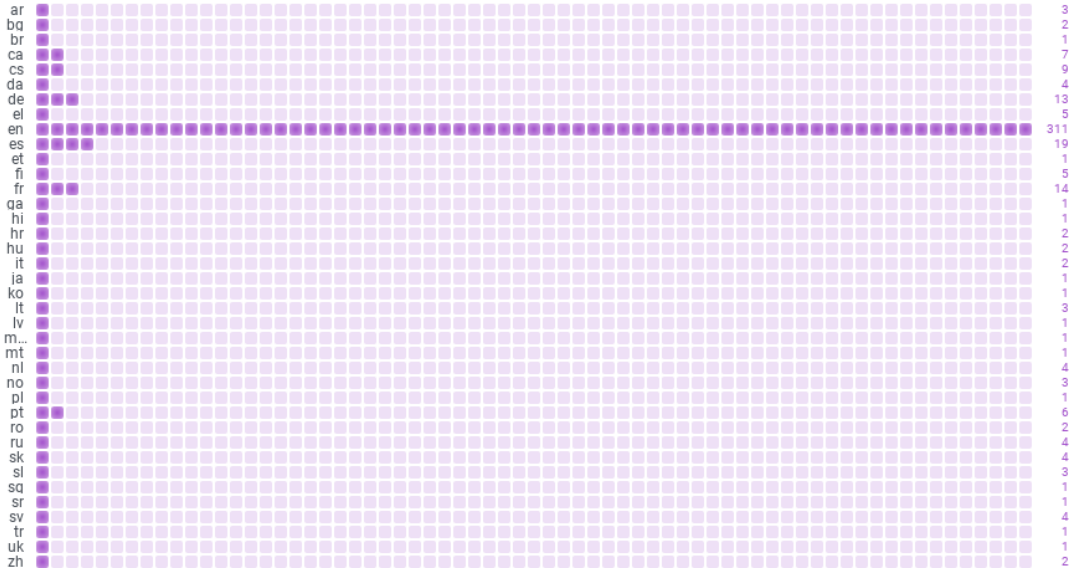
Location of Providers' HQ

Language Availability of Resources

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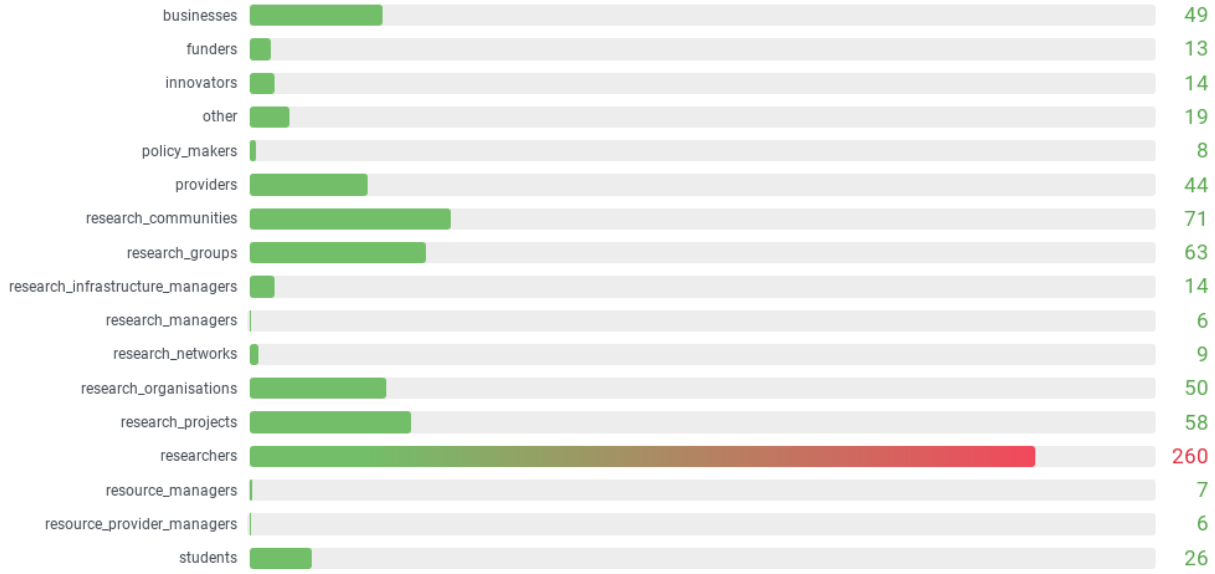
## Geographic Availability of Resources

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AD 1 | AE 1 | AL 8 | AM 8 | AR 1 | AT 11 | AU 2 | AZ 7 | BD 1 | BE 9 | BG 7 | BJ 1 | BR 2 | BY 8 | CA 2 | CH 12 |
| CL 2 | CN 2 | CO 2 | CR 1 | CY 8 | CZ 9 | DE 12 | DK 9 | DZ 2 | EC 2 | EE 8 | EH 1 | EL 8 | EO 9 | ES 10 | ET 1 |
| EU 86 | EZ 1 | FI 8 | FO 1 | FR 11 | GE 8 | GH 1 | GL 2 | HK 2 | HR 9 | HU 9 | ID 1 | IE 8 | IL 8 | IN 2 | IR 2 |
| IS 9 | IT 12 | JP 2 | KG 1 | KP 1 | KZ 1 | LA 1 | LB 1 | LI 1 | LK 2 | LT 8 | LU 8 | LV 8 | MA 2 | MD 8 | ME 7 |
| MG 1 | MK 8 | MO 1 | MT 8 | MW 1 | MX 2 | MY 2 | MZ 1 | NG 1 | NL 10 | NO 8 | NP 1 | NZ 2 | OM 2 | PE 1 | PH 1 |
| PK 2 | PL 8 | PS 1 | PT 7 | QA 1 | RO 8 | RS 7 | RU 2 | RW 1 | SA 2 | SE 9 | SG 2 | SI 9 | SK 9 | SN 1 | TG 1 |
| TH 1 | TJ 1 | TR 8 | TT 1 | TW 1 | TZ 1 | UA 8 | UG 2 | UK 12 | US 2 | UY 1 | WW 212 | ZA 2 | ZM 2 | | |

## Target User Groups

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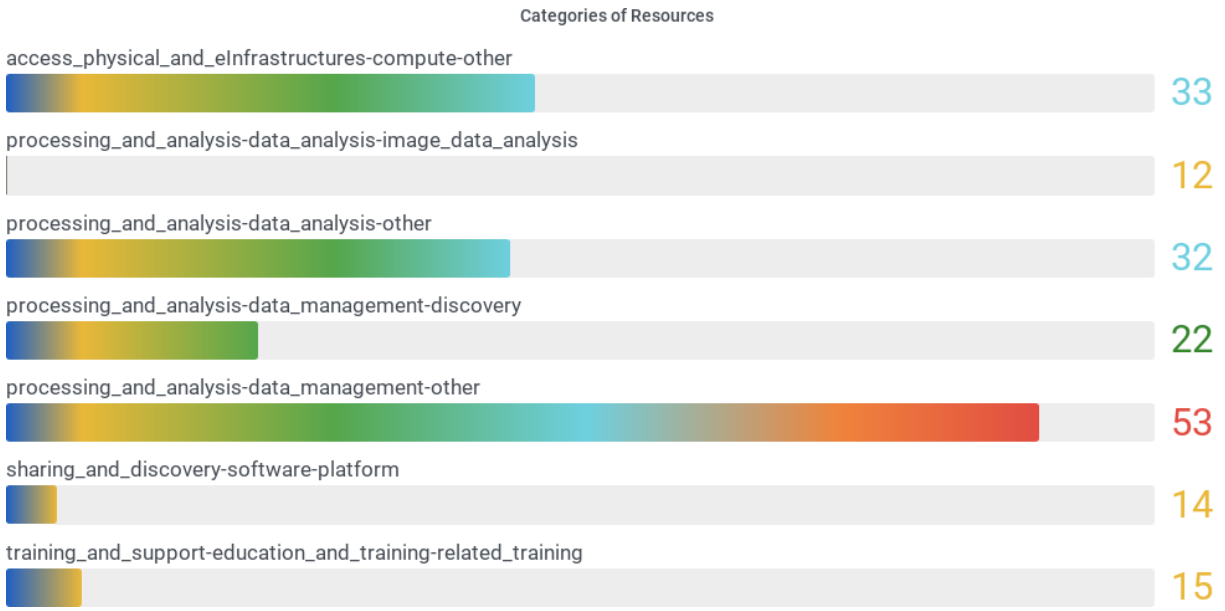


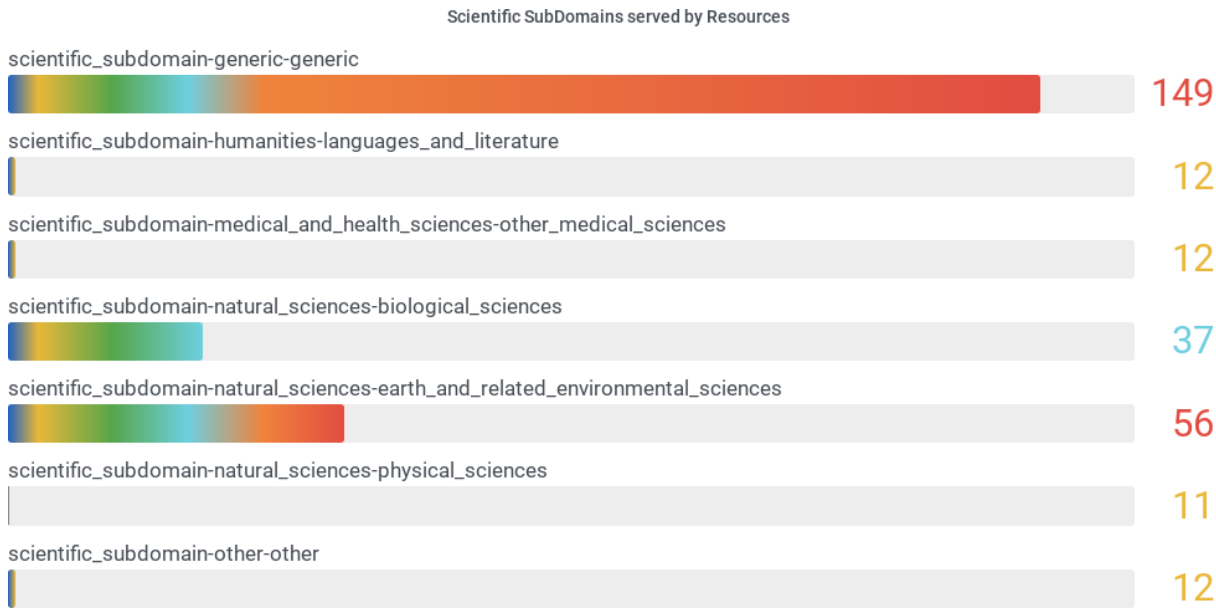


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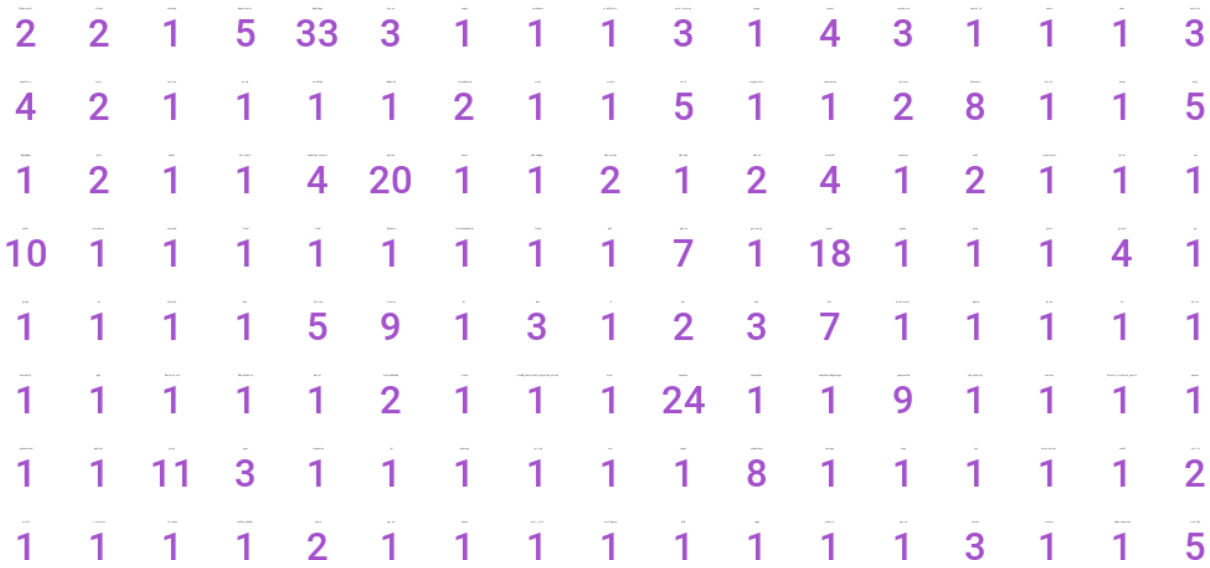
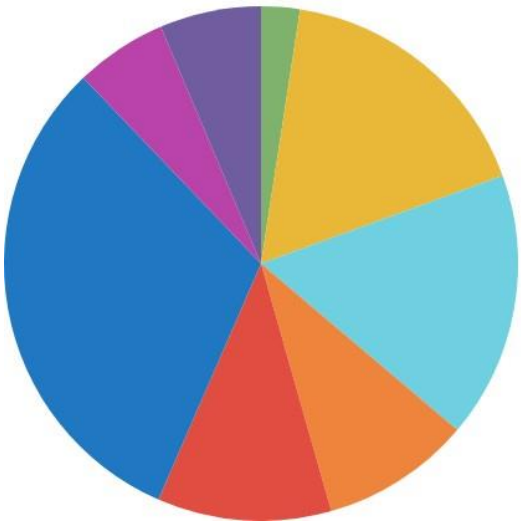
Resources offered per Provider




Providers' Scientific Domains



| | current |
|---|---|
| agricultural_sciences | 8 |
| engineering_and_technology | 56 |
| generic | 55 |
| humanities | 31 |
| medical_and_health_sciences | 36 |
| natural_sciences | 103 |
| other | 19 |
| social_sciences | 21 |

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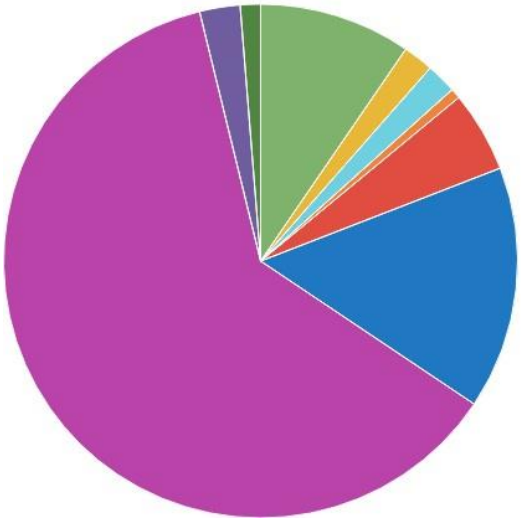
Providers' Meril Scientific Domain



| | current |
|---|---|
| biological_and_medical_sciences | 15 |
| chemistry_and_material_sciences | 3 |
| earth_and_environmental_sciences | 3 |
| engineering_and_energy | 1 |
| humanities_and_arts | 8 |
| information_science_and_technology | 24 |
| other | 97 |
| physics_astronomy_astrophysics_and_mathematics | 4 |
| social_sciences | 2 |

Technology Readiness Level

Resources Life-cycle Status

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Resources Access Type

Resources Access Mode

Resources Order Type

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