

D2.4 EOSC Service Catalogue Analysis

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Abstract: This deliverable presents the features and an analysis of the *EOSC Portal Catalogue* to allow for strategic decisions and improvements in all project activities. It focuses on the key attributes of the *EOSC Providers and Resources Registries* aiming to identify patterns and trends of the metadata stored currently in the *EOSC Portal* highlighting key findings and presenting recommendations to contribute to the improvement of project processes and the strategic direction.



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

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

Acronyms

Acronym	Definition
AAI	Authentication and Authorisation Infrastructure
API	Application Programming Interface
AARP	Authorised Representative of the <i>Provider</i>
EH	EOSC-hub
EIC	eInfraCentral
EOSC	European Open Science Cloud
EPOT	<i>EOSC Portal</i> Onboarding Team
EPDT	<i>EOSC Portal</i> Development Team
EPQAP	<i>EOSC Portal</i> Quality Assurance Process
EPQT	<i>EOSC Portal</i> Quality Team
ESFRI	European Strategic Framework for Research Infrastructure
ERIF	EOSC Registry Interoperability Framework
FQDN	Fully Qualified Domain Names
HPC	High-Performance Computing
ICT	Information and Communications Technology
MP	Marketplace
NOAD	National Open Access Desk
OP	Onboarding Process
QA	Quality Assurance
PC	<i>Providers</i> Component
RIs	Research Infrastructures
RoP	Rules of Participation
SDT	Service Description Template
SLA	Service Level Agreement
SMS	Service Management System
TSDB	Time Series Database
TRL	Technology Readiness Level
UC	User Component
URL	Universal Resource Locator
WP	Work Package

References

Project	Reference
EOSC Enhance	<p>EOSC Portal Functional and Non-Functional Requirements v1.00</p> <p>EOSC Portal Compliance Check/Control of Requirements Implementation</p> <p>EOSC Portal Profiles v3.00</p> <p>EOSC Portal Onboarding Process v3.00</p> <p>EOSC Portal Tutorials</p> <p>Collaboration Agreement with EOSC-hub and OpenAIRE-Advance</p> <p>D2.1, "EOSC contributors mapping and gap analysis"</p> <p>D2.2, "EOSC Processes Development and Consensus"</p> <p>D3.1, "EOSC Portal Functional and Non-Functional Specifications for EOSC Providers"</p> <p>D5.1, "Communication & Stakeholder Engagement plan"</p> <p>D5.2, "EOSC Portal requirements"</p>
eInfraCentral	<p>D3.1, "Service Catalogue Requirements"</p> <p>D3.2, "Service Classification/Taxonomy"</p> <p>D4.1, "Portal functional and architectural specifications"</p> <p>D3.3, "Guidelines for schema representation and APIs"</p>
EOSC-hub	<p>D4.1, "Operational requirements for the services in the catalogue"</p> <p>D10.4, "EOSC Hub Technical Architecture and standards roadmap"</p> <p>D10.5, "Requirements and gap analysis report"</p>
CATRIS	<p>D4.1, "Mapping and gap analysis of service catalogues/portfolios"</p> <p>D4.4, "Functional and non-functional requirements"</p> <p>D3.3, "Report on the results of the survey on requirement elicitation"</p> <p>D4.3, "Service Description Template"</p> <p>D4.5, "Towards a Common Service Catalogue"</p>

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

Responding to and facilitating the achievement of the EOSC Enhance Mission and Goals, and particularly the incorporation of the new *EOSC Providers* and *Resources* Registries into the *EOSC Portal* and the acceleration of the deployment and update of *EOSC Resources*, this deliverable builds upon existing processes of EOSC stakeholders, EOSC contributors and EOSC coordinating and contributing projects to present the migration and merging processes which drove the creation of a single unified *EOSC Portal Catalogue* as well as the statistics and an analysis of the results of the current *EOSC Providers* and *Resources Registries*.

This deliverable is an outcome of EOSC Enhance's WP2 that aims 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 onboard voluminous *EOSC Resources* under *EOSC Providers* and then aggregate them in the *EOSC Portal* with minimum disturbance for the *EOSC Providers*;
 - **defining common information models** for *EOSC Resources*, such as services, data sources and scientific products; this task is based on existing efforts, such as eInfra-Central'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 *EOSC 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);
- **integrating processes** that allow for an automated update of *EOSC Resources'* descriptions and their metadata without human intervention (e.g., open APIs, harvesting, etc).
- **deploying processes** that allow for the provision of added value services by combining services, other resources and those processes;

It must be noted that at the current project stage, the *EOSC Portal Catalogue* is under continuous improvement and evolution supported by the improved and ongoing onboarding activity. The results presented in this deliverable are not final. Final findings will be addressed, and conclusions will be presented with the next revision of this deliverable when the *EOSC Portal Catalogue* is expected to have reached the maturity level required to allow for strategic decision making and *EOSC Portal* road-mapping design.

1 How the *EOSC Portal Catalogue* has developed

One of the major challenges that the European Open Science Cloud (EOSC) aims to address is the historical lack of Interoperable Online Catalogues of Research Resources that European Researchers could explore across Europe. 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. 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 Research Infrastructures and other *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 at presenting in a well-organised manner the available Resources that are on offer to a User or Customer by a Provider. It is the customer-facing list of all Resources offered. Like 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 in finding the required Resource.

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

Following the publication of the Commission Staff Working Document (March 2018) on the Implementation of the EOSC, a 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 an *EOSC Portal* and *ESOC Catalogue* for the EOSC launch in November 2018.

This First version of the *EOSC Portal* onboarded a large number of 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 a large number of *Providers* that gave access to more than 250 services, 4M datasets, 150K applications and software, 35M publications and 3M other research products.

EOSC Enhance is now responsible to further develop, optimise and coordinate the onboarding function and related interfaces of the *EOSC Portal*. In this framework, EOSC Enhance is responsible, in close collaboration with EOSC-Hub and OpenAIRE, to a) **unify and specify**, b) **develop** (product development axis) and c) **operate** (service operation axis) a single onboarding process for all *EOSC Providers*.

D2.2 has presented the *EOSC Portal* Requirements and Roadmapping, the *EOSC Portal* Profiles, the *EOSC Portal* Onboarding Process and the various *EOSC Portal* Quality Assurance Processes. The SW

development for the *Providers Component* and the *Onboarding Process* is responsibility of EOSC Enhance WP3. D3.1 provides the specifications of the Functional and Non-Functional Requirements.

The EOSC Onboarding Operations is overlooked by WP2 and is operated currently in collaboration with EOSC-hub and OpenAIRE, which mainly staffs the process while the tooling comes from EOSC Enhance and is supported by the *EOSC Providers Component* of the *EOSC Portal* developed by eInfraCentral and upgraded in EOSC Enhance.

EOSC Enhance, will provide two important releases of enhanced versions of the *EOSC Portal* scheduled across the lifetime of the project - the first in September 2020 and the last in October 2021. This deliverable presents the status of the *EOSC Portal Catalogue* for the first release.

This release required a migration to v3.00 of the Profiles and merging of two catalogues instances running in the *EOSC Portal*; eInfraCentral Catalogue (based on EIC SDT v1.13) and EOSC-hub Marketplace (based on MP SDT v1.3.0). Until November 2019, onboarding was enabled in both catalogues, thus leading to non-compatible *Resource* information hosted in the two catalogues.

A preliminary work was performed in November 2019 when a first bi-directional integration between the registries was completed. Such integration included the EIC Catalogue REST API that was used by EH Marketplace to retrieve all Resources and map them to EHv1.3.0 while EIC Providers and Resources that did not exist in EH Marketplace were added in the Marketplace. On the opposite direction, EH Marketplace delivered a list of Resources that were not present in EIC Catalogue (EIC manually added missing Providers and Resources to EIC Catalogue following EICv1.13).

For the final migration of the registries into version v3.00 and the merging of existing catalogues, an initial migration of Registries to profiles v3.00 was performed. Such Initial Migration of Registries allowed the merging/deduplication of the two registries into a single database and their integration into the new *EOSC Provider and Resource Profiles v3.00* in a beta environment.

The bulk migration work was performed while several undergoing tests ensured the metadata integrity (i.e., no duplicate Resources. etc.). Once this activity was completed successfully, the production environment was activated, and the final migration of the registries into v3.00 was performed. This was based on the test migration (i.e., by applying deduplication rules and assumptions) performed previously and migrated all the existing and any new *Providers and Resources* into the *Providers and Resource Profiles v3.00*.

Following this, the Onboarding and *EOSC Resource* updates were disabled on the previous profiles (EICv1.13 and MP 1.3.0) and processes. A new *EOSC Provider* Dashboard for self-service management of resources and the API 3.0 for use by other catalogues to a) onboard resources b) retrieve data is now made available (technical details on the migration process as well as the provider's functionality are included in D3.1).

The table below summarises the main activities that were performed as part of the migration/merging process for which a well-coordinated and systematic methodology supported by various partners was applied.

Table 1. Actions for the Merging of Legacy Registries and Migration to v3.00

#	Action Description
1	Creation of two folders (<i>Resources</i> and <i>Providers</i>), each containing the migrated data from providers.eosc-portal.eu
2	Marketplace service database export (2-level depth crawl through the database entities: services & Provider, category names etc. included)
3	Migration of records of onboarded <i>Providers</i> to Profile v3.00 and re-assessment of the metadata
4	Migration of records of onboarded <i>Resources</i> to Profile v3.00 and re-assessment of the metadata
5	Checking the marketplace records before migrating them to v3.00 and merging them in a single database.
6	Marketplace service database export (2-level depth crawl through the database entities: services & Provider, category names etc. included)
7	Merging of the Catalogue & Marketplace <i>Providers'</i> Registries including improvements and alterations where needed
8	Merging of the Catalogue & Marketplace <i>Resources'</i> Registries including improvements and alterations where needed
9	Compilation of Final list of <i>Providers & Resources Merged & Migrated to v3.0</i>
10	<i>Providers Registry</i> uploaded in the beta environment and testing
11	<i>Resources Registry</i> uploaded in the beta environment and testing
12	Integration of EOSC-hub records
13	Finalising <i>Providers' Onboarding Component</i>
14	Final Curated <i>Providers</i> and <i>Resources</i> Registries for further validation and curation by the EPOT before uploading to the production environment
15	Migration to v3.00 successfully completed, Production Environment is operational

The migration of *EOSC Portal* to the *Resource and Provider Profiles v3.00* has been completed, and as from 16 November 2020 the *EOSC Providers* and *Resources Registries v3.00* are operational. More than 115 *EOSC Providers* and 280 *EOSC Resources* have been migrated into Profiles v3.00.

One important aspect for the success of the migration process lies on *EOSC Providers'* contribution in validating their records and completing their *Resources'* missing information into the *EOSC production Catalogue*. As a next step the engagement of the *EOSC Providers* is planned, via systematic communication and support actions, encouraging them to update their records and/or provide the missing information.

This deliverable presents the current *EOSC Portal Catalogue* that is the outcome of the migration and merging process and an analysis of its content using advanced online and offline statistics tool.

Table 2, below provides a list of all onboarded Providers. Additional information for the onboarded Providers and the Resources is presented in Annex 3 and Annex 4 respectively.

Table 2. Providers onboarded at the EOSC Portal

#	Provider name	#	Provider name	#	Provider name
1	100 Percent IT	41	Euro-Mediterranean Center on Climate Change	82	Open Knowledge Maps
2	AGINFRA+	42	Europeana Foundation	83	OpenMinTeD
3	AUTHENIX	43	European Molecular Biology Laboratory - European Bioinformatics Institute	84	OpenRiskNet
4	Barcelona Supercomputing Center	44	European Research Infrastructure for Language Resources and Technology	85	Open Science MOOC
5	Bijvoet Center - Utrecht University	45	European Space Agency	86	OPERAS
6	BioExcel Centre of Excellence	46	EXOSCALE	87	Partnership For Advanced Computing in Europe
7	BlueBRIDGE	47	F6S Network	88	Phenomenal
8	Carl Zeiss Microscopy	48	FAIR Data Infrastructure for Physics, Chemistry, Materials Science, and Astronomy	89	Portuguese National Civil Engineering Laboratory
9	CESNET	49	FAIRsharing	90	PSNC
10	Cineca Consortium of Universities	50	Figshare	91	RASDAMAN
11	CloudFerro	51	Finnish Social Science Data Archive	92	READ-COOP
12	Committee for the Accessibility of Publications in Sciences and Humanities	52	Forschungsdaten.info	93	Research Organization Registry
13	Common Workflow Language community	53	GBIF Spain	94	Ruder Boškovic Institute
14	CompBioMed	54	GÉANT Association	95	SeaDataNet
15	Consortium of European Social Science Data Archives ERIC	55	Genias Benelux	96	Shanghai Science and Technology Innovation Resources Center
16	CSC – IT CENTER FOR SCIENCE	56	GESIS Leibniz Institute for the Social Sciences	97	Sinergise
17	Cyberbotics	57	High Integration of Research Monographs in the European Open Science Infrastructure	98	SixSq
18	CY-Biobank Center of Excellence in Biobanking and Biomedical Research - University of Cyprus	58	Hostkey	99	Smart-SMEAR
19	D4Science Infrastructure	59	Iremer, the French Marine Science Research Institute	100	SoBigData
20	Data Stewardship Wizard	60	INFRAFRONTIER	101	Strasbourg astronomical Data Center
21	de.NBI - German Network for Bioinformatics Infrastructure	61	Institute of Atmospheric Pollution - National Research Council of Italy	102	Suite5 Data Intelligence Solutions
22	Deutsches Elektronen-Synchrotron	62	Institute of Instrumentation for Molecular Imaging - Grid and High Performance Computing - Universitat Politècnica de València	103	SURF
23	Deutsches Klimarechenzentrum	63	Institute of Physics of Cantabria - Spanish National Research Council - University of Cantabria	104	SWITCH
24	Digital Curation Centre	64	Integrated Carbon Observation System European Research Infrastructure Consortium	105	Terradue
25	DigitalGlobe	65	Italian National Institute of Nuclear Physics	106	Test-Cyfronet
26	DOAB Foundation	66	Italian National Institute of Nuclear Physics - Catania Division	107	Tree of Science
27	Earth Observation Data Centre for Water Resources Monitoring	67	Jelastic	108	T-Systems International
28	E-CAM Centre of Excellence	68	Jülich Supercomputing Centre	109	UK Atomic Energy Authority
29	EGI Foundation	69	Koma Nord	110	Universitat Politècnica de València
30	EISCAT Scientific Association	70	LifeWatch ERIC	111	University of Florence
31	Elixir	71	Magnetic Resonance Center of the University of Florence - CERM, Interuniversity consortium CIRMMP	112	University of Freiburg
32	ELIXIR Belgium	72	Materials Cloud	113	University of Geneva
33	ELIXIR Italy	73	Meteorological and Environmental Earth Observation	114	University of Granada – UGR
34	ELIXIR United Kingdom	74	Mundi Web Services	115	University of Minas Gerais
35	Energy Oriented Centre of Excellence	75	National Computing Center for Higher Education	116	University of Oslo
36	EnhanceR	76	National Distributed Computing Infrastructure	117	University of Tartu
37	EOSC Digital Innovation Hub	77	National Infrastructures for Research and Technology	118	Vilnius University
38	Erasmus Medical Center	78	NORCE Norwegian Research Centre	119	Virtual Atomic and Molecular Data Centre
39	Estonian Scientific Computing Infrastructure	79	OpenAIRE	120	VI-SEEM
40	EUDAT	80	Open Biomedical Engineering e-platform for Innovation through Education	121	WeNMR
		81	OpenEdition	122	World-wide E-infrastructure for structural biology

The next Chapter presents an analysis of the EOSC Catalogue statistical data as they derive from the EOSC Portal Monitoring Platform as well as the results of data post-processing.

The deliverable is complemented with conclusions and key findings based on the statistical data, to identify gaps and propose recommendations for *EOSC Portal Catalogue* improvement aiming at supporting ultimately all project activities and provide awareness to the EOSC project Stakeholders.

Annex 1 and Annex 2 provide a selection of Providers and Resources Profiles to show the full information recorded in those Profiles.

Annex 3 and Annex 4 provide the whole list of EOSC Providers and EOSC Resources descriptions that have been onboarded by 26/11/2020.

2 EOSC Portal Catalogue Analysis

The following statistics of the *EOSC Portal Catalogue* are calculated by an integrated platform that was developed by JNP¹. The EOSC Portal Monitoring Platform tracks a diversity of metrics fetched from the Portal’s API and stored into a time series database. The stored data are processed and depicted via a Web interface.

Figure 1 provides a quick overview of the number of *EOSC Providers* and *EOSC Resources* available at the *EOSC Portal* (status on 26/11/2020). The two trendlines depict the progress of the onboarding process in time.

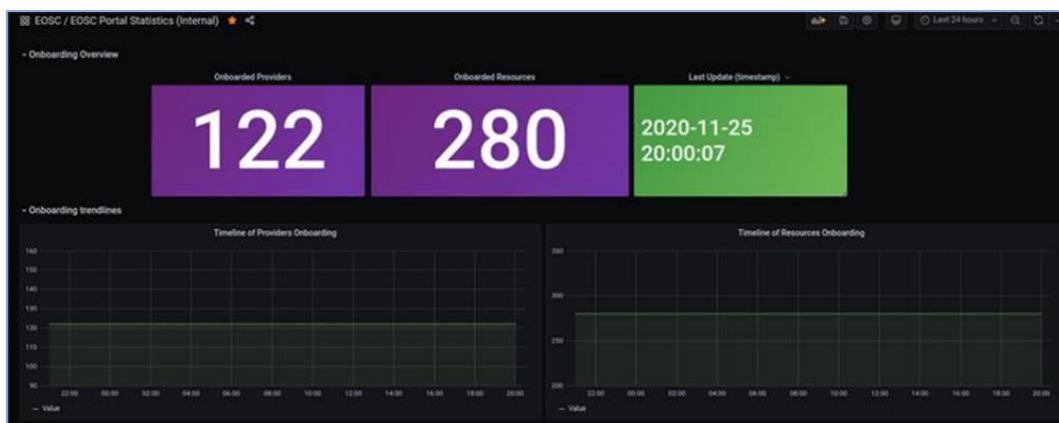


Figure 1: Status of Providers and Resources at the EOSC Catalogue on 25/11/2020

Figure 2 depicts the popularity of the tags associated with the Providers.

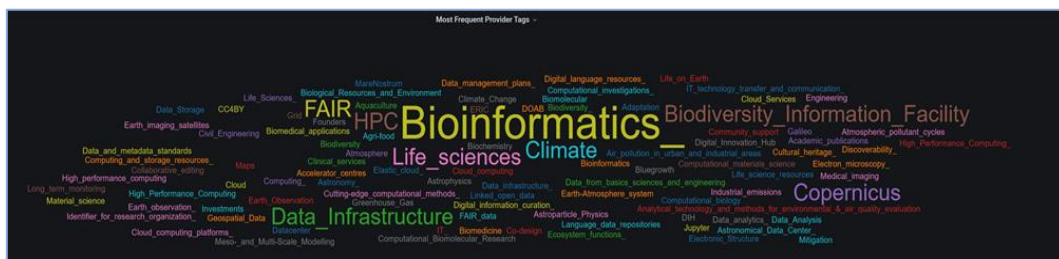


Figure 2: Most used EOSC Providers’ Tags

¹ <https://stats.jnp.gr/d/lmB44atGz/eosc-portal-statistics-public?orgId=1>

The following components comprise the software stack brought together in this context: a) Metrics scrapper: a home-grown python script that runs periodically (every hour) and fetches the data to be processed and measured from the Portal’s API, b) A Time Series Database (TSDB): for storing and serving the time series fetched by the metrics scrapper through associated pairs of times and values, c) Grafana: acts as an interactive visualisation web application. It provides charts and a variety of graphs connected to the supported data sources. The dashboards bring together overviews useful for various end-users, d) Image renderer: accelerates the preparation for automated statistics reports available as PDF for distribution. Each of the enlisted software blocks resides 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 Profile version (v3.00). Different measurements are being retrieved from the Portal, processed, and stored in the Influx TSDB. For each measurement entry, the following fields are stored: a) tag(s) (usually words that are associated with a measurement help us to sort and query the data efficiently), b) the value and the name of the field, c) and a timestamp in nano sec precision.

Figure 3 presents a map with the distribution of the *EOSC Providers'* Headquarters location. The diameter of the circles is proportional to the number of *EOSC Providers* located in each country.



Figure 3: *EOSC Providers'* Country of Incorporation or Physical or Coordinating Location

Figure 4 illustrates the geographic and language availability of the onboarded *EOSC Resources*.

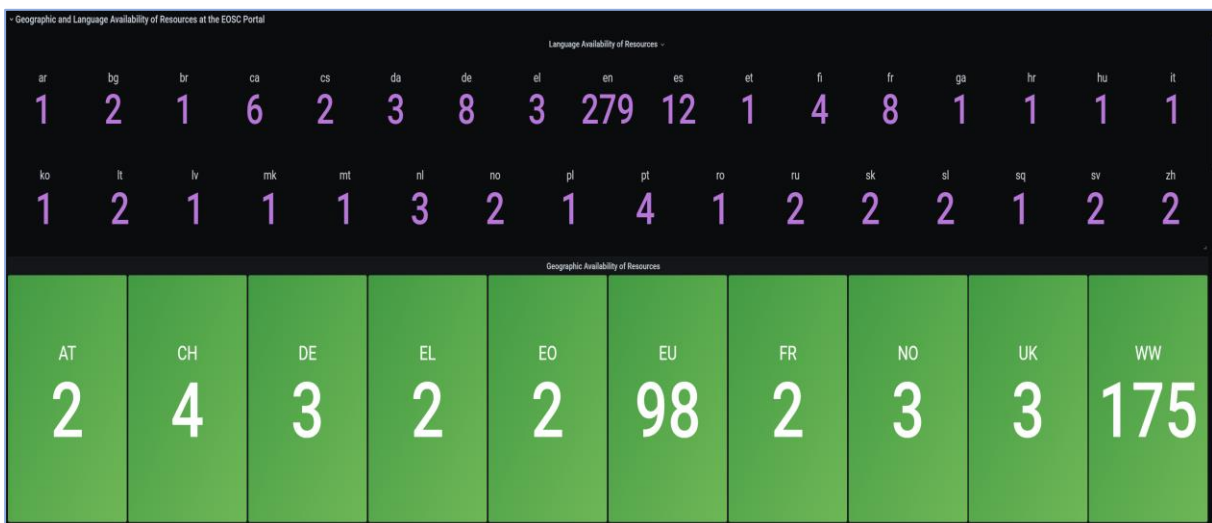


Figure 4: *Geographic and Language Availability of Resources at the EOSC Portal*

The distribution of *EOSC Target End-User* groups is available in Figure 5.

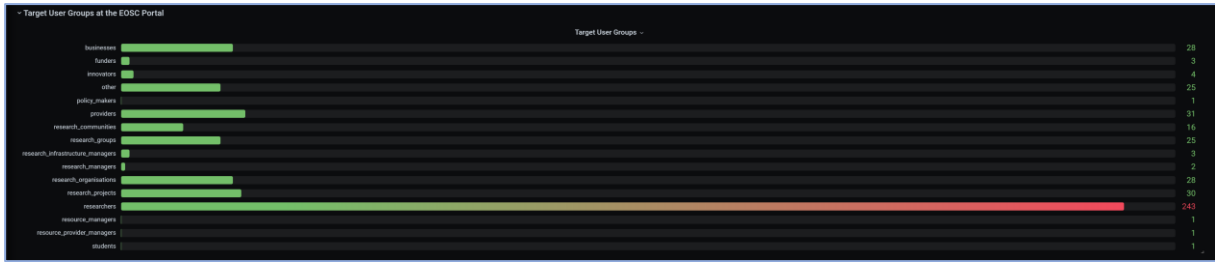


Figure 5: *EOSC Target End-User* Groups at the EOSC Portal

The distribution of the Scientific Domains of *EOSC Resources* is plotted in Figure 6.

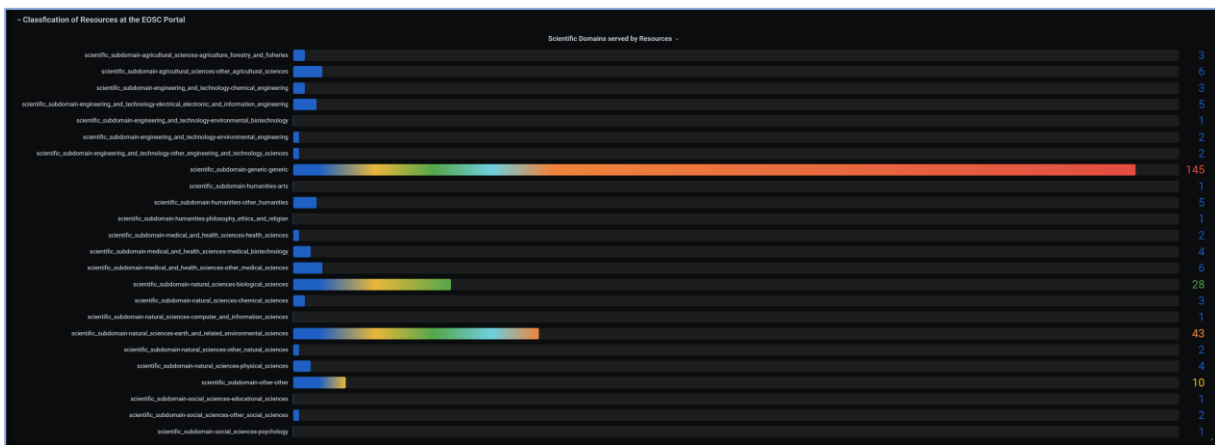


Figure 6: *Classification of EOSC Resources* at the EOSC Portal

Figure 7 presents the maturity of *EOSC Resources* utilizing both TRL and Life-Cycle status attributes.



Figure 7: *Maturity of EOSC Resources* at the EOSC Portal

Figure 8 presents the number of EOSC Resources onboarded per EOSC Provider.

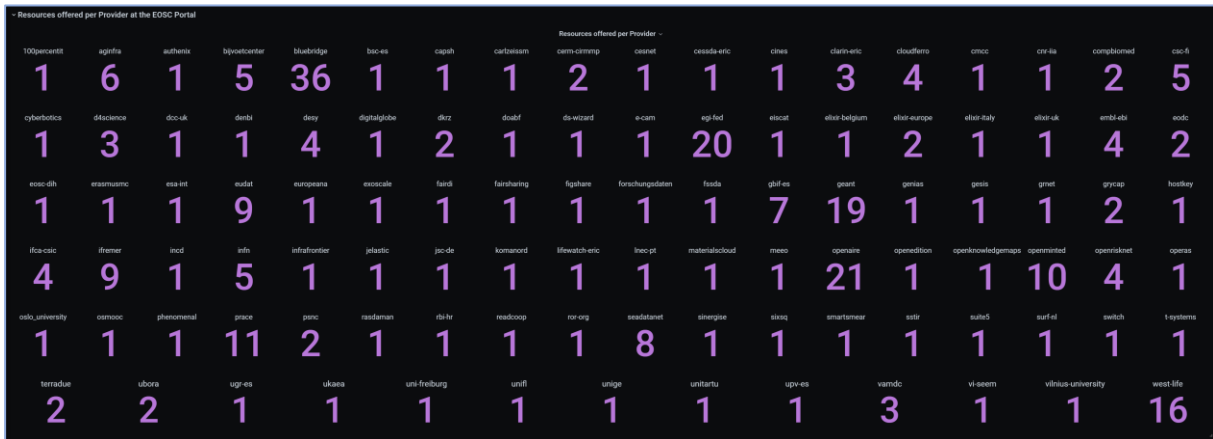


Figure 8: EOSC Resources offered per EOSC Provider

The following Figure presents the completion of the EOSC Provider Profile for each EOSC Provider.



Figure 9: Completion (%) of EOSC Provider Profile per Provider

From the above figure it is evident that there is a quite high level of Providers' Profile completion. Gauges measuring the percentage of completion of EOSC Providers' optional attributes are presented in Figure 10.

The following Figure displays the percentage of completion of *EOSC Resources* optional attributes.



Figure 12: Completion (%) of *EOSC Resources*' profile for optional attributes

The following graphs provide a post-processing analysis of the collected data focusing mainly on the qualitative aspects.

Most of the *EOSC Providers* have onboarded only one Resource, while around 60% of the *EOSC Resources* have been onboarded by 10 *EOSC Providers*.

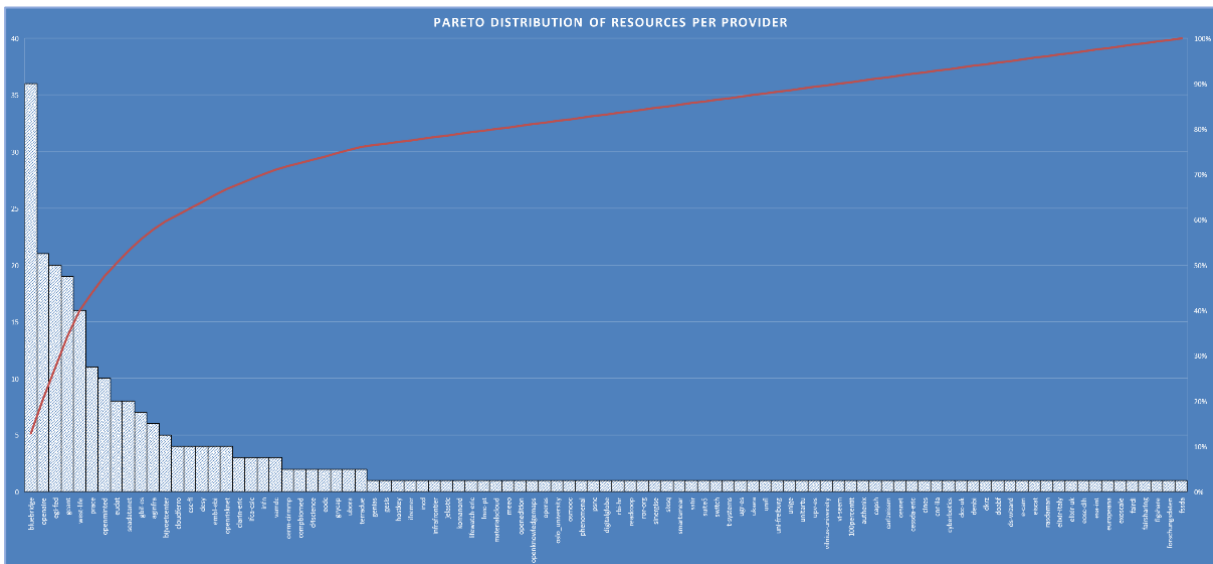


Figure 13: Distribution of *EOSC Resources* per *EOSC Provider*

The two prevailing Scientific Domains that the *EOSC Resources* are serving is generic (e-Infrastructures) and Natural Sciences, while the humanities domain is the least.

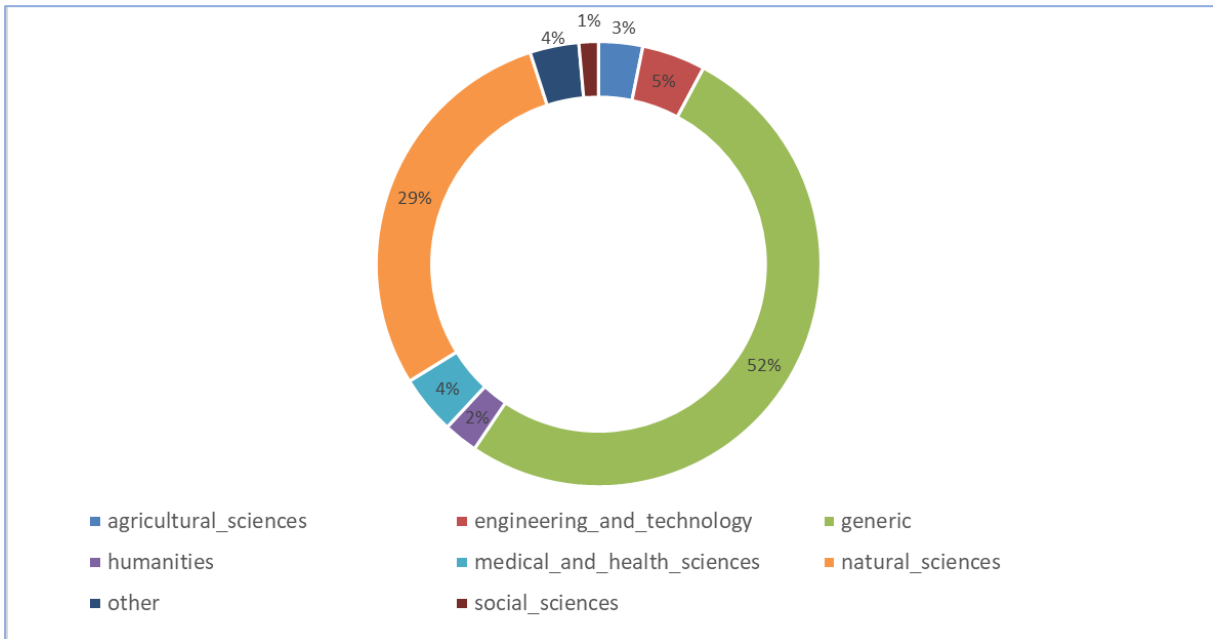


Figure 14: Distribution of EOSC Resources' Scientific Domains

Most onboarded resources fall into the Data Management category while many other categories are included as it can be seen in the following Figure.

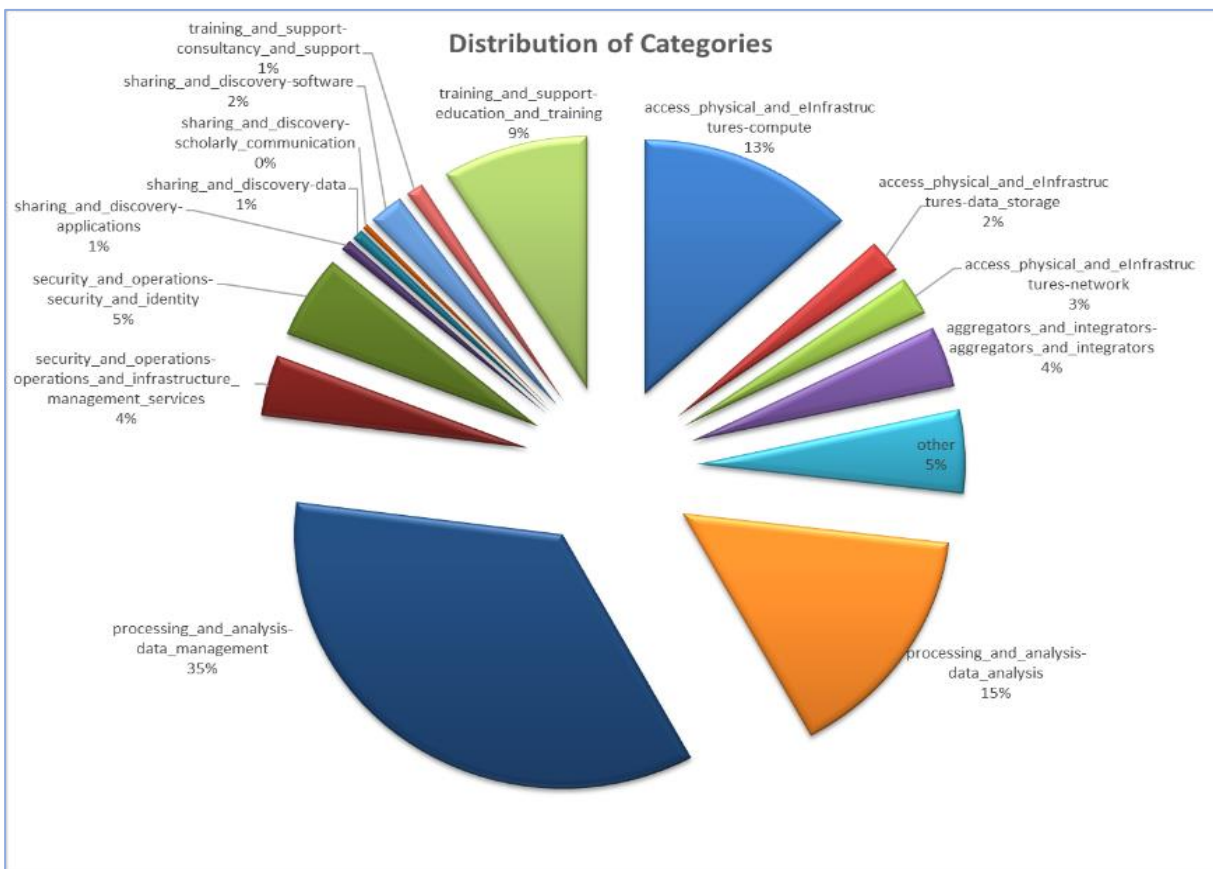


Figure 15: Distribution of EOSC Resources' Categories

Most onboarded *EOSC Resources* are TRL-9.

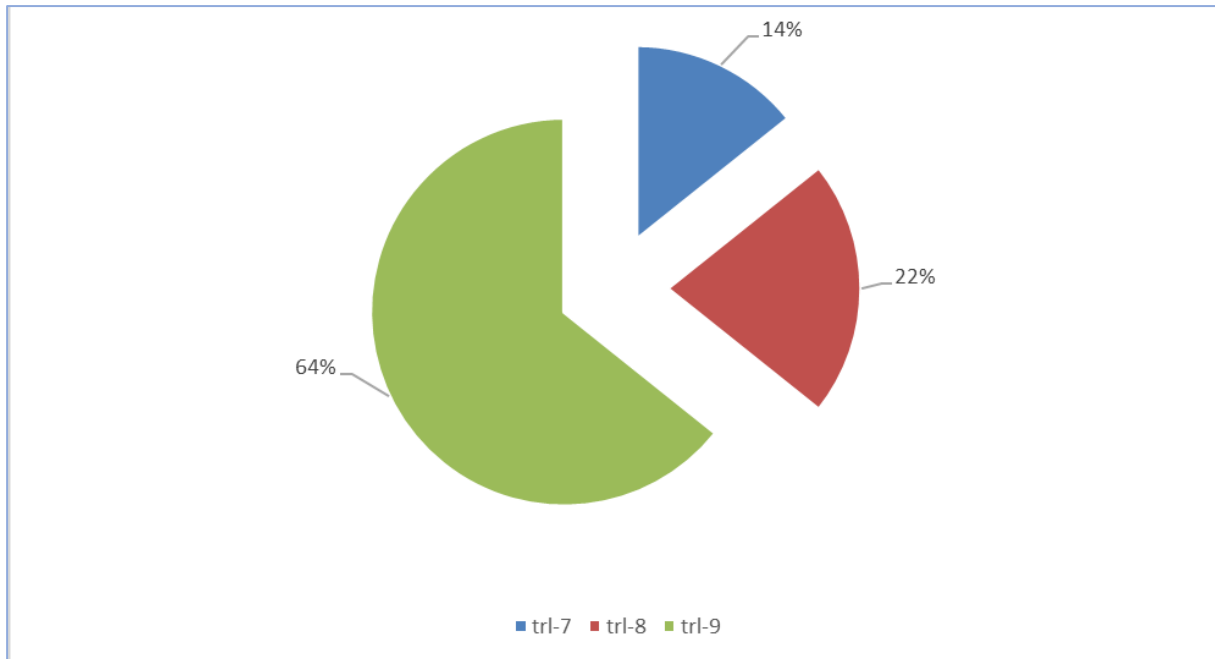


Figure 16: Distribution of EOSC Resources' TRL

Most onboarded *EOSC Resources'* target *End-Users* are either researchers or belong to the research community.

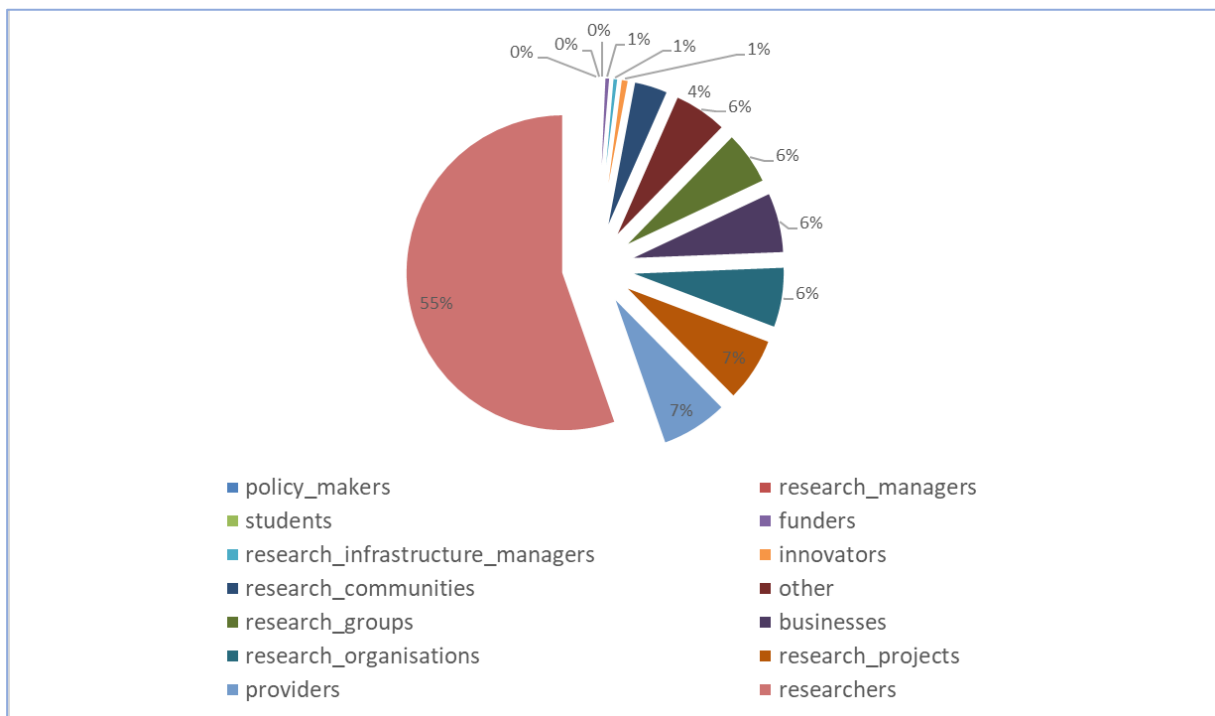


Figure 17: Distribution of EOSC Resources' Target End-User

3 Conclusions and Observations

The following is a list of qualitative observations of the data presented in this deliverable attempting to contribute to the assessment of *EOSC Portal Catalogue* and to provide some intelligence and recommendations to the extent possible for supporting the EOSC Enhance project goals and strategic decision making for the EOSC Portal Roadmap.

1. The *EOSC Portal Catalogue* includes a significant number of onboarded *EOSC Providers and Resources* which is the outcome of several coordinated and integrated processes across various EOSC Enhance project activities which are supported by several project partners, including the onboarding process, the migration and merging process for unifying existing catalogues to a single inclusive catalogue, and the validation and quality assessment processes applied for the onboarding of *EOSC Providers and Resources*. It must be noted though that additional effort must be provided for the engagement of the onboarded *EOSC Providers* in uploading additional *EOSC Resources*. Currently a high percentage of the onboarded *EOSC Resources* are provided by a few *EOSC Providers* (Figure 8 and Figure 13). Such percentages reveal the potential of significantly increasing the number of available *EOSC Resources* within the timeline of the EOSC Enhance project.
2. With respect to the *EOSC Providers'* metadata, it is evident that the completion of *EOSC Providers'* non-mandatory attributes is quite high (Figure 10). It must be noted that more than 60% of such attributes have achieved higher than 96% completion rate leading quite safely to the conclusion that the onboarded *EOSC Providers'* data serve the purpose of a catalogue of high quality. However, there are attributes with a very low completion rate, such as the available multimedia content. Such content would provide additional clarity and ease of use to the *End-Users*, and therefore, it could be offered as a recommendation to the *EOSC Providers* to dedicate some attention in providing such content.
3. In addition, *EOSC Providers'* tags variety (Figure 2) shows a quite extended range of scientific fields while some are prevailing. Such diversity supports the inclusiveness and EOSC Enhance goal for establishing an *EOSC Portal* as one point of access for researchers.
4. The geographical distribution of the onboarded *EOSC Providers* reveals a weakness in the adoption in some Member States. Targeted and more intensive communication activities in combination with additional support on onboarding effort and training would improve such results and would allow for the wide adoption of the *EOSC Portal Catalogue*.
5. The worldwide geographic availability of the onboarded *EOSC Resources* as well as the prevailing English language (Figure 4) set the ground for the wide adoption and interoperability as well as the discoverability within the researchers' community, which is the targeted *EOSC End-Users'* group currently in *EOSC Portal* (Figure 5 and Figure 17).
6. The low business market penetration of *EOSC Portal* though could bring to the surface an opportunity for further consideration and development towards the directions of creating a sustainable future for *EOSC Portal* by extending the Portal offering to address potential business Users.

7. The distribution of the *EOSC Resources'* scientific domains shows clearly that the available *EOSC Resources* support a wide range (generic) of scientific domains and subdomains (Figure 6, Figure 14) within the researchers' community while at the same time cover a quite extended list of categories (Figure 15). On the other hand, where Profiles v3.00 included a new attribute, the data was migrated with 'Generic' or 'Other' value to the new registry in order to prevent publication errors. The statistics presented in this document were generated one week after the migration/merging activities were completed, and it is recognised that many Providers had not yet completed the revision of the published Resources in order to update the new attributes to the most appropriate value for their organisations. This goes some way to explain the imbalance in many of the reported value distribution cited in this report. It may also explain why many Providers have only onboarded one Resource. Furthermore, the evolving nature of the EOSC Portal has made some Providers reluctant to engage until a more stable version is available.
8. There is an obvious current trend for data analytics and data management services, and this is also reflected in the offered *EOSC Resources*. However, other categories on demand are adequately represented. It must be noted though, that the onboarded *EOSC Resources* are service-oriented, in their majority thus the widening of the *EOSC Portal Catalogue* and *Registry* to include additional types of *EOSC Resources* such as Data Sources, Research Products etc. could be part of the *EOSC Portal* Road-mapping design.
9. The maturity level of the *EOSC Resources* is quite high (Figure 7, Figure 16) showing the *EOSC Portal* high quality and readiness for wider adoption within the scientific community.
10. This fact is also supported, by the increased level of completeness of *EOSC Resources'* most important non-mandatory attributes (Figure 12), allowing the discoverability by the *EOSC End-Users*. However, there are attributes such as the access type not sufficiently addressed. The lack of this information could impact the *EOSC End-User's* decision to request or order such Resource. Thus, it would be recommended to advise the *EOSC Providers* to review their migrated records and be supported to fill in missing metadata where necessary.

The following is the list of milestones planned for the next release of the *EOSC Portal Catalogue* to overcome the gaps identified in the aforementioned observations:

- Re-validation of EOSC Providers and Resources on v3.00 (December 2020)
- Re-start of Onboarding Process based on v3.00 (December 2020)
- Presentation of 2021 EOSC Portal Development Roadmap (January 2021)
- RDF, XML of Profiles (February 2021)
- Extension of EOSC Resource Profile for Research Products & Data Sources (March 2021)
- Implementation of EOSC Quality Assurance and Support Measures (April 2021)
- EOSC Portal Profiles v4.00 (July 2021)
- EOSC Portal Onboarding Process v4.00 (July 2021)
- EOSC Portal Migration to v4.00 (September 2021)

- EOSC Portal Tutorials v4.00 (October 2021)
- EOSC Portal Documentation (November 2021)
- Re-validation of EOSC Providers and Resources (December 2021)

This deliverable has outlined the current *EOSC Portal Catalogue* and *Registry* structure and content and presents the quantitative results and several qualitative aspects as has been developed over the first year of EOSC Enhance project operations.

The high quality, completeness and inclusiveness of the data of the *EOSC Portal Catalogue* support the *EOSC End-Users'* functions and operations by facilitating one of the biggest challenges of the research community which is the access to structured, discoverable and of high integrity and quality *EOSC Resources* to support their activities. On the other hand, the *EOSC Portal Catalogue* serves as a gateway for *EOSC Providers* to access a customer-oriented environment offering important opportunities for development and interactions.

The *EOSC Portal Catalogue* is under continuous development supported by integral functions and processes (such as the onboarding and quality assurance of *EOSC Providers* and *Resources*) and monitored by EOSC Enhance project. Several recommendations are presented in this deliverable and would be considered for the enhancement of offered *EOSC Resources* during the second year of EOSC Project operations. It must be highlighted that the statistical data presented in this document are based on the migrated data collected immediately after the release of EOSC Portal Profiles v3.00 when most of the Providers had not updated their profiles. Extensive communications activities have been planned for the coming period to inform the Providers for the latest release, the improvements performed, and the actions expected on their side and as such it is anticipated that in the next iteration of this deliverable, D2.5 which is due in month 23, the statistical data to be collected will demonstrate higher completeness values and will facilitate more elaborated analysis and safe conclusions to be made.

Annex 1: EOSC Provider Profiles Examples



This chapter presents an indicative listing/catalogue of currently onboarded *EOSC Providers* and their *Resources* at *EOSC Portal*.

Table 3: Description for EOSC Provider: *Carl Zeiss*

Code		Attribute Name	Value
Basic Information			
EPP.BAI.0	ID		Carl Zeiss
EPP.BAI.1	Name		Carl Zeiss Microscopy
EPP.BAI.2	Abbreviation		Carl Zeiss
EPP.BAI.3	Website		https://www.zeiss.com/
EPP.BAI.4	Legal Entity		YES
EPP.BAI.5	Legal Status		Other
Marketing Information			
EPP.MRI.1	Description	ZEISS is an internationally leading technology enterprise operating in the optics and optoelectronics industries. In the past fiscal year, the ZEISS Group generated annual revenue totaling more than 6.4 billion euros in the four segments Semiconductor Manufacturing Technology, Industrial Quality & Research, Medical Technology, and Consumer Markets, and invested 11 percent of its revenue in research and development (as of 30 September 2019). ZEISS has a long tradition of similarly high expenditures for research and development, which also represent an investment in the future. For its customers, ZEISS develops, produces and distributes highly innovative solutions for industrial metrology and quality assurance, microscopy solutions for the life sciences and materials research, and medical technology solutions for diagnostics and treatment in ophthalmology and microsurgery. The name ZEISS is also synonymous with the world's leading lithography optics, which are used by the chip industry to manufacture semiconductor components. There is global demand for trendsetting ZEISS brand products such as eyeglass lenses, camera lenses and binoculars. With a portfolio aligned with future growth areas like digitalization, healthcare and Smart Production and a strong brand, ZEISS is shaping the future of technology and constantly advancing the world of optics and related fields with its solutions. The company's significant, sustainable investments in research and development lay the foundation for the success and continued expansion of ZEISS' technology and market leadership. With over 31,000 employees, ZEISS is active globally in almost 50 countries with around 60 sales and service companies, 30 production sites and 25 development sites. Founded in 1846 in Jena, the company is headquartered in Oberkochen, Germany. The Carl Zeiss Foundation, one of the largest foundations in Germany committed to the promotion of science, is the sole owner of the holding company, Carl Zeiss AG.	
EPP.MRI.2	Logo	https://images.zeiss.com/corporate-new/about-zeiss/history/images/logo_heute_tz-1537187631211.jpg?autocompress%2Cformat&fm=sng&dlb=java-1.1.116-w-640&c=987838e7ede9f38fe897b6e61a54db	
EPP.MRI.3	Multimedia		
Classification Information			
EPP.CLI.1	Scientific Domain	Engineering & Technology	
EPP.CLI.2	Scientific Subdomain	Materials Engineering, Electrical, Electronic & Information Engineering	
EPP.CLI.3	Tags	optoelectronics, optics	
Location Information			
EPP.LOI.1	Street Name and Number	Carl-Zeiss-Straße 22	
EPP.LOI.2	Postal Code	73447	
EPP.LOI.3	City	Oberkochen	
EPP.LOI.4	Region		
EPP.LOI.5	Country	Germany	
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	Operational	
EPP.MTI.2	Certifications		
Other Information			
EPP.OTH.1	Hosting Legal Entity		
EPP.OTH.2	Participating Countries	Other	
EPP.OTH.3	Affiliations	Carl Zeiss AG	
EPP.OTH.4	Networks	Other	
EPP.OTH.5	Structure Type	Distributed	
EPP.OTH.6	ESFRI Domain	Physical Sciences & Engineering	
EPP.OTH.7	ESFRI Type	Other	
EPP.OTH.8	MERIL Scientific Domain	Other	
EPP.OTH.9	MERIL Scientific Subdomain	Other	
EPP.OTH.10	Areas of Activity	Applied Research, Technological Development	
EPP.OTH.11	Societal Grand Challenges	Other	
EPP.OTH.12	National Roadmaps		



Text under this category is tainted because it contains private data.

Table 4: Description for EOSC Provider: CESSDA ERIC

Code		Attribute Name	Value
 			
Basic Information			
EPP.BAI.0	ID		CESSDA ERIC
EPP.BAI.1	Name		Consortium of European Social Science Data Archives ERIC
EPP.BAI.2	Abbreviation		CESSDA ERIC
EPP.BAI.3	Website		https://www.cessda.eu/
EPP.BAI.4	Legal Entity		YES
EPP.BAI.5	Legal Status		European Research Infrastructure Consortium (ERIC)
Marketing Information			
EPP.MRI.1	Description	<p>Since 1976 CESSDA has existed as an umbrella organization for social science data archives across Europe, working to improve access to a wide range of data for researchers and students. Collectively they serve over 30,000 researchers, provide access to more than 100,000 data collections per year, and enhance the exchange of data and technologies among data organizations. The purpose of CESSDA ERIC is to increase the impact of CESSDA ERIC members' efforts by providing full scale, integrated and sustainable research infrastructures that enable the research community to conduct high-quality research that in turn leads to effective solutions to the major challenges facing society today. CESSDA ERIC supports national and international research and cooperation in areas expected to be of great importance in the future. A major objective for CESSDA ERIC is to provide seamless access to data across repositories, nations, languages and research purposes. Data will thus be created, described, and preserved in ways that facilitate use for a variety of purposes. CESSDA ERIC encourages standardization of data and metadata, data sharing and knowledge mobility across Europe. CESSDA ERIC plays an active part in the development of standards and, even more importantly, encourages and facilitates the use of metadata standards for documenting and publishing the existing inventories of research data available from national as well as cross-national resources in Europe. The diversity of languages within the European Research Area creates invisible borders and often research resources are only available for researchers using the specific language area in which they are captured or created. Researchers outside that language cannot access important national data. Thus, overcoming language barriers is an essential need for the research communities and will be an important area for CESSDA ERIC. A prioritized target for CESSDA ERIC lies in the enabling and in the overall coordination of national research infrastructures across national borders, across institutional borders, and across language barriers in Europe. By implementing the new information and communication technologies in an intelligent Pan-European manner, substantial steps will be taken in the coming years and the accessibility of both data and documentation across Europe will be realized. CESSDA ERIC is the Consortium of Social Science Data Archives. It is a European Research Infrastructure Consortium (ERIC) as of 2017 and has 18 member countries in Europe. Each member has assigned a national data service provider for ingest, curation, archiving and distribution of social research data. As an EU Research Infrastructure, CESSDA ERIC has significant experience and technical expertise to provide quality support and additional value for integration and consolidation of EOSC. CESSDA ERICs focus and experience on technical proficiency, development of integrated and sustainable data services on one hand, and international cooperation as an attribute inherent to CESSDA ERIC on the other, will contribute to goals set out for further successful EOSC development.</p>	
EPP.MRI.2	Logo	https://www.cessda.eu/var/cessda/storage/images/946-48-eng-GB/Home.png	
EPP.MRI.3	Multimedia	https://www.cessda.eu/News-Events/Videos	
Classification Information			
EPP.CLI.1	Scientific Domain	Social Sciences	
EPP.CLI.2	Scientific Subdomain	Other Social Sciences	
EPP.CLI.3	Tags	Social Sciences, FAIR, ERIC	
Location Information			
EPP.LOI.1	Street Name and Number	Parkveien 20	
EPP.LOI.2	Postal Code	5007	
EPP.LOI.3	City	Bergen	
EPP.LOI.4	Region		
EPP.LOI.5	Country	Norway	
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	cessda@cessda.eu	
EPP.COI.9	Phone		
EPP.COI.10	Position		
Maturity Information			
EPP.MTI.1	Life Cycle Status	Operational	
EPP.MTI.2	Certifications		
Other Information			
EPP.OTH.1	Hosting Legal Entity		
EPP.OTH.2	Participating Countries	Other	
EPP.OTH.3	Affiliations		
EPP.OTH.4	Networks	Other	
EPP.OTH.5	Structure Type	Distributed	
EPP.OTH.6	ESFRI Domain	Social & Cultural Innovation, Data, Computing & Digital Research Infrastructures	
EPP.OTH.7	ESFRI Type	Other	
EPP.OTH.8	MERIL Scientific Domain	Social Sciences	
EPP.OTH.9	MERIL Scientific Subdomain	Data Archives, Data Repositories & Collections	
EPP.OTH.10	Areas of Activity	Basic Research, Technological Development	
EPP.OTH.11	Societal Grand Challenges	Other	
EPP.OTH.12	National Roadmaps		

Text under this category is tainted because it contains private data.

Table 5: Description for EOSC Provider: DESY

Code		Attribute Name	Value
 			
Basic Information			
EPP.BAI.0	ID		
EPP.BAI.1	Name		Deutsches Elektronen-Synchrotron
EPP.BAI.2	Abbreviation		DESY
EPP.BAI.3	Website		http://www.desy.de/
EPP.BAI.4	Legal Entity		YES
EPP.BAI.5	Legal Status		Other
Marketing Information			
EPP.MRI.1	Description	<p>DESY is one of the world's leading accelerator centres. Researchers use the large-scale facilities at DESY to explore the microcosm in all its variety – from the interactions of tiny elementary particles and the behaviour of new types of nanomaterials to biomolecular processes that are essential to life. The accelerators and detectors that DESY develops and builds are unique research tools. The facilities generate the world's most intense X-ray light, accelerate particles to record energies and open completely new windows onto the universe. That makes DESY not only a magnet for more than 3000 guest researchers from over 40 countries every year, but also a coveted partner for national and international cooperations. Committed young researchers find an exciting interdisciplinary setting at DESY. The research centre offers specialized training for a large number of professions. DESY cooperates with industry and business to promote new technologies that will benefit society and encourage innovations. This also benefits the metropolitan regions of the two DESY locations, Hamburg and Zeuthen near Berlin.</p>	
EPP.MRI.2	Logo	https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcTH3EwQDwINVIJdtyvgtQfO-VXAbKibAFT-2U1Q7ILL-NIVIMOXa&w=100&h=100	
EPP.MRI.3	Multimedia		
Classification Information			
EPP.CLI.1	Scientific Domain	Engineering & Technology	
EPP.CLI.2	Scientific Subdomain	Materials Engineering	
EPP.CLI.3	Tags	Accelerator centres, Photon Science, Particle Physics, Astroparticle Physics	
Location Information			
EPP.LOI.1	Street Name and Number	Notkestraße 85	
EPP.LOI.2	Postal Code	D-22607	
EPP.LOI.3	City	Hamburg	
EPP.LOI.4	Region		
EPP.LOI.5	Country	Germany	
Contact Information			
Main Contact/Provider Manager			
EPP.COI.1	First Name	Michael	
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	Operational	
EPP.MTI.2	Certifications		
Other Information			
EPP.OTH.1	Hosting Legal Entity		
EPP.OTH.2	Participating Countries	Other	
EPP.OTH.3	Affiliations		
EPP.OTH.4	Networks	Other	
EPP.OTH.5	Structure Type	Distributed	
EPP.OTH.6	ESFRI Domain	Physical Sciences & Engineering	
EPP.OTH.7	ESFRI Type	Other	
EPP.OTH.8	MERIL Scientific Domain	Other	
EPP.OTH.9	MERIL Scientific Subdomain	Other	
EPP.OTH.10	Areas of Activity	Other	
EPP.OTH.11	Societal Grand Challenges	Other	
EPP.OTH.12	National Roadmaps		

Text under this category is tainted because it contains private data.

Table 6: Description for EOSC Provider: EGI

Code		Attribute Name	Value
Basic Information			
EPP.BAI.0	ID		
EPP.BAI.1	Name		EGI Foundation
EPP.BAI.2	Abbreviation		EGI
EPP.BAI.3	Website		https://www.egi.eu/
EPP.BAI.4	Legal Entity		YES
EPP.BAI.5	Legal Status		Foundation
Marketing Information			
EPP.MRI.1	Description	The EGI Federation is an international e-Infrastructure set up to provide advanced computing and data analytics services for research and innovation. The EGI e-Infrastructure is publicly-funded and comprises hundreds of data centres and cloud providers spread across Europe and worldwide. The EGI Federation offers a wide range of services for compute, storage, data and support. More about EGI Services. The EGI Federation provides access to +1,000,000 computing cores and +740 PB of disk and tape storage. The Federation is coordinated by the EGI Foundation (previously known as EGI.eu), created to coordinate and develop the EGI infrastructure, in collaboration with its participants. The EGI Federation believes that all researchers should have seamless access to services, resources and expertise to collaborate and conduct world-class research and innovation. The federation's mission is to deliver open solutions for advanced computing and data analytics in research and innovation. This mission is pursued by coordinating and provisioning an international federated infrastructure that pools together service providers from both the public and private sector in Europe to develop, integrate and deliver digital services for compute- and data-intensive research and innovation. As an open initiative with a global outlook, the EGI Federation also connects service providers beyond Europe following the collaboration needs of the served communities.	
EPP.MRI.2	Logo		https://www.egi.eu/wp-content/uploads/2016/05/cropped-logo_site-1-300x300.png
EPP.MRI.3	Multimedia		https://www.egi.eu/media-gallery/
Classification Information			
EPP.CLI.1	Scientific Domain		Generic
EPP.CLI.2	Scientific Subdomain		Generic
EPP.CLI.3	Tags		e-Infrastructure, Computing, Data analytics
Location Information			
EPP.LOI.1	Street Name and Number		Science Park 140
EPP.LOI.2	Postal Code		1098 XG
EPP.LOI.3	City		Amsterdam
EPP.LOI.4	Region		
EPP.LOI.5	Country		The Netherlands
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		services@egi.eu
EPP.COI.9	Phone		
EPP.COI.10	Position		
Maturity Information			
EPP.MTI.1	Life Cycle Status		Operational
EPP.MTI.2	Certifications		ISO 9001:2015
Other Information			
EPP.OTH.1	Hosting Legal Entity		
EPP.OTH.2	Participating Countries		The Netherlands
EPP.OTH.3	Affiliations		Big Data Value Association
EPP.OTH.4	Networks		EGI
EPP.OTH.5	Structure Type		Virtual
EPP.OTH.6	ESFRI Domain		Data, Computing & Digital Research Infrastructures
EPP.OTH.7	ESFRI Type		Not ESFRI
EPP.OTH.8	MERIL Scientific Domain		Information Science & Technology
EPP.OTH.9	MERIL Scientific Subdomain		Distributed Computing Facilities
EPP.OTH.10	Areas of Activity		Technological Development
EPP.OTH.11	Societal Grand Challenges		Other
EPP.OTH.12	National Roadmaps		

Text under this category is tainted because it contains private data.

Table 7: Description for EOSC Provider: EOSC DIH

Code		Attribute Name	Value
Basic Information			
EPP.BAI.0	ID		
EPP.BAI.1	Name		EOSC Digital Innovation Hub
EPP.BAI.2	Abbreviation		EOSC DIH
EPP.BAI.3	Website		https://eosc-dih.eu/
EPP.BAI.4	Legal Entity		NO
EPP.BAI.5	Legal Status		
Marketing Information			
EPP.MRI.1	Description	EOSC DIH is an international and multi-partner cooperation that supports companies in easily accessing the digital technologies and services offered by the EOSC. It combines 4 main pillars to help companies become more competitive: Pilot design and co-design, Technical access, Training & support and Visibility.	
EPP.MRI.2	Logo	https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcTNGd90kkyeESCv0SUUVsTskn2q-11PctrJjamXXGjvs5Ygnpc&w=100&h=100	
EPP.MRI.3	Multimedia		
Classification Information			
EPP.CLI.1	Scientific Domain		Generic
EPP.CLI.2	Scientific Subdomain		Generic
EPP.CLI.3	Tags		DIH, Digital Innovation Hub, Piloting, Co-design
Location Information			
EPP.LOI.1	Street Name and Number		Science Park 140
EPP.LOI.2	Postal Code		
EPP.LOI.3	City		Amsterdam
EPP.LOI.4	Region		
EPP.LOI.5	Country		The Netherlands
Contact Information			
Main Contact/Provider Manager			
EPP.COI.1	First Name	Text under this category is tainted because it contains private data.	
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	business@eosc-dih.eu	
EPP.COI.9	Phone		
EPP.COI.10	Position		
Maturity Information			
EPP.MTI.1	Life Cycle Status		Operational
EPP.MTI.2	Certifications		
Other Information			
EPP.OTH.1	Hosting Legal Entity		
EPP.OTH.2	Participating Countries		Other
EPP.OTH.3	Affiliations		
EPP.OTH.4	Networks		Other
EPP.OTH.5	Structure Type		Distributed
EPP.OTH.6	ESFRI Domain		Other
EPP.OTH.7	ESFRI Type		Other
EPP.OTH.8	MERIL Scientific Domain		Other
EPP.OTH.9	MERIL Scientific Subdomain		Other
EPP.OTH.10	Areas of Activity		Other
EPP.OTH.11	Societal Grand Challenges		Other
EPP.OTH.12	National Roadmaps		

Table 8: Description for EOSC Provider: EMBL-EBI

Code		Attribute Name	Value
Basic Information			
EPP.BAI.0	ID		
EPP.BAI.1	Name	European Molecular Biology Laboratory - European Bioinformatics Institute	
EPP.BAI.2	Abbreviation	EMBL-EBI	
EPP.BAI.3	Website	https://www.ebi.ac.uk/	
EPP.BAI.4	Legal Entity	YES	
EPP.BAI.5	Legal Status	Other	
Marketing Information			
EPP.MRI.1	Description	EMBL-EBI is international, innovative and interdisciplinary, and a champion of open data in the life sciences. At EMBL-EBI, we make the world's public biological data freely available to the scientific community via a range of services and tools, perform basic research and provide professional training in bioinformatics. We are part of the European Molecular Biology Laboratory (EMBL), an international, innovative and interdisciplinary research organisation funded by 27 member states, 2 prospective member states and 2 associate member states. We are situated on the Wellcome Genome Campus in Hinxton, Cambridge, UK, one of the world's largest concentrations of scientific and technical expertise in genomics. We provide freely available data and bioinformatics services to the scientific community. We contribute to the advancement of biology through investigator-driven research. We provide advanced bioinformatics training to scientists at all levels. We help disseminate cutting-edge technologies to industry. As an ELIXIR Node, we support the coordination of biological data provision throughout Europe.	
EPP.MRI.2	Logo	https://www.embl.de/layout/images/external/common/embl_logo.png	
EPP.MRI.3	Multimedia		
Classification Information			
EPP.CLI.1	Scientific Domain	Medical & Health Sciences	
EPP.CLI.2	Scientific Subdomain	Medical Biotechnology	
EPP.CLI.3	Tags	Bioinformatics, Molecular data resources	
Location Information			
EPP.LOI.1	Street Name and Number		
EPP.LOI.2	Postal Code	CB10 1SD	
EPP.LOI.3	City	Hinxton, Cambridgeshire	
EPP.LOI.4	Region		
EPP.LOI.5	Country	United Kingdom of Great Britain and Northern Ireland	
Contact Information			
Main Contact/Provider Manager			
EPP.COI.1	First Name	Text under this category is tainted because it contains private data.	
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	info@ebi.ac.uk	
EPP.COI.9	Phone		
EPP.COI.10	Position		
Maturity Information			
EPP.MTI.1	Life Cycle Status	Operational	
EPP.MTI.2	Certifications		
Other Information			
EPP.OTH.1	Hosting Legal Entity		
EPP.OTH.2	Participating Countries	Other	
EPP.OTH.3	Affiliations	ELIXIR	
EPP.OTH.4	Networks	Other	
EPP.OTH.5	Structure Type	Distributed	
EPP.OTH.6	ESFRI Domain	Health & Food	
EPP.OTH.7	ESFRI Type	Other	
EPP.OTH.8	MERIL Scientific Domain	Other	
EPP.OTH.9	MERIL Scientific Subdomain	Other	
EPP.OTH.10	Areas of Activity	Other	
EPP.OTH.11	Societal Grand Challenges	Other	
EPP.OTH.12	National Roadmaps		

Table 9: Description for EOSC Provider: GEANT

Code		Attribute Name	Value
Basic Information			
EPP.BAI.0	ID		
EPP.BAI.1	Name		GEANT Association
EPP.BAI.2	Abbreviation		GEANT
EPP.BAI.3	Website		https://www.geant.org/
EPP.BAI.4	Legal Entity		YES
EPP.BAI.5	Legal Status		Association
Marketing Information			
EPP.MRI.1	Description	<p>GEANT is a fundamental element of Europe's e-infrastructure, delivering the pan-European GEANT network for scientific excellence, research, education and innovation. Through its integrated catalogue of connectivity, collaboration and identity services, GEANT provides users with highly reliable, unconstrained access to computing, analysis, storage, applications and other resources, to ensure that Europe remains at the forefront of research. Through interconnections with its 39 national research and education network (NREN) partners, the GEANT network is the largest and most advanced R&E network in the world, connecting over 50 million users at 10,000 institutions across Europe and supporting all scientific disciplines. The backbone network operates at speeds of up to 500Gbps and reaches over 100 national networks worldwide. Since its establishment over 20 years ago, the GEANT network has developed progressively to ensure that European researchers lead international and global collaboration. Over 1000 terabytes of data is transferred via the GEANT IP backbone every day. More than just an infrastructure for e-science, it stands as a positive example of European integration and collaboration. We develop, deliver and promote advanced networks and associated e-infrastructure services. We support open innovation, collaboration and knowledge-sharing amongst our members, partners and the wider research and education networking community.</p>	
EPP.MRI.2	Logo		https://www.geant.org/Resources/PublishingImages/GEANT_logo_lo_res.jpg
EPP.MRI.3	Multimedia		https://www.youtube.com/user/GEANTtv
Classification Information			
EPP.CLI.1	Scientific Domain		Generic
EPP.CLI.2	Scientific Subdomain		Generic
EPP.CLI.3	Tags		e-infrastructure, Pan-European GEANT network, Networks, Trust and Identity
Location Information			
EPP.LOI.1	Street Name and Number		Hoekenrode 3
EPP.LOI.2	Postal Code		1102 BR
EPP.LOI.3	City		Amsterdam
EPP.LOI.4	Region		
EPP.LOI.5	Country		The Netherlands
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		info@geant.org
EPP.COI.9	Phone		
EPP.COI.10	Position		
Maturity Information			
EPP.MTI.1	Life Cycle Status		Operational
EPP.MTI.2	Certifications		
Other Information			
EPP.OTH.1	Hosting Legal Entity		
EPP.OTH.2	Participating Countries		Austria
EPP.OTH.3	Affiliations		
EPP.OTH.4	Networks		Pan-European Research and Education Network (GEANT)
EPP.OTH.5	Structure Type		Distributed
EPP.OTH.6	ESFRI Domain		Data, Computing & Digital Research Infrastructures
EPP.OTH.7	ESFRI Type		Not ESFRI
EPP.OTH.8	MERIL Scientific Domain		Information Science & Technology
EPP.OTH.9	MERIL Scientific Subdomain		Communication Networks
EPP.OTH.10	Areas of Activity		Technological Development
EPP.OTH.11	Societal Grand Challenges		Other
EPP.OTH.12	National Roadmaps		

Text under this category is tainted because it contains private data.

Annex 2: EOSC Resource Profiles Examples

This chapter presents an indicative listing/catalogue of currently onboarded *EOSC Providers* and their *Resources* at *EOSC Portal*.

Table 10: Description for EOSC Resource: APEER (Carl Zeiss)

Code	Attribute Name	Value
Basic Information		
ERP.BAI.0	ID	
ERP.BAI.1	Name	APEER
ERP.BAI.2	Resource Organisation	Carl Zeiss Microscopy
ERP.BAI.3	Resource Providers	Carl Zeiss Microscopy
ERP.BAI.4	Webpage	http://www.apeer.com/
Marketing Information		
Code	Attribute Name	Value
ERP.MRI.1	Description	APEER is a cloud-based digital microscopy platform that helps bridging the gap between researchers and developers. It facilitates the creation of fully automated image processing workflows. APEER integrates all steps starting from the instrument to image pre-processing, analysis functions, machine learning modules and reporting. Users can develop their own tools, jointly create them or access a broad range of community content. Beyond the image processing itself, the platform provides 3D visualization, sharing of tools & results and a strong community exchange.
ERP.MRI.2	Tagline	Your customized image processing solution
ERP.MRI.3	Logo	https://images.zeiss.com/corporate-new/about-zeiss/history/images/logo/logo_heute.ts-1537187631211.jpg?auto=compress%2Cformat&fm=png&ixlib=java-1.1.11&w=640&s=982838e7e4ea9f38fde897b6a61a544b
ERP.MRI.4	Multimedia	https://www.apeer.com/blog
ERP.MRI.5	Use Cases	
Classification Information		
Code	Attribute Name	Example Value
ERP.CLI.1	Scientific Domain	Natural Sciences
ERP.CLI.2	Scientific Subdomain	Earth & Related Environmental Sciences
ERP.CLI.3	Category	Compute
ERP.CLI.4	Subcategory	Other
ERP.CLI.5	Target Users	Researchers
ERP.CLI.6	Access Type	Other
ERP.CLI.7	Access Mode	Other
ERP.CLI.8	Tags	
Geographical and Language Availability Information		
Code	Attribute Name	Example Value
ERP.GLA.1	Geographical Availability	Worldwide
ERP.GLA.2	Language Availability	English
Resource Location Information		
Code	Attribute Name	Value
ERP.RLI.01	Resource Geographic Location	
Contact Information		
Main Contact/Resource		
Code	Attribute Name	Value
ERP.COI.1	First Name	
ERP.COI.2	Last Name	
ERP.COI.3	Email	info@zeiss.com
ERP.COI.4	Phone	
ERP.COI.5	Position	
ERP.COI.6	Organisation	Carl Zeiss Microscopy

Public Contact		
Code	Attribute Name	
ERP.COI.7	First Name	
ERP.COI.8	Last Name	
ERP.COI.9	Email	info@zeiss.com
ERP.COI.10	Phone	
ERP.COI.11	Position	
ERP.COI.12	Organisation	Carl Zeiss Microscopy
Other Contacts		
Code	Attribute Name	
ERP.COI.13	Helpdesk Email	Info@zeiss.com
ERP.COI.14	Security Contact Email	Info@zeiss.com
Maturity Information		
Code	Attribute Name	
ERP.MTI.1	Technology Readiness Level	9 - actual system proven in operational environment
ERP.MTI.2	Life Cycle Status	Production
ERP.MTI.3	Certifications	
ERP.MTI.4	Standards	
ERP.MTI.5	Open Source	
ERP.MTI.6	Version	
ERP.MTI.7	Last Update	
ERP.MTI.8	Change Log	
Dependencies Information		
Code	Attribute Name	
ERP.DEI.1	Required Resources	
ERP.DEI.2	Related Resources	
ERP.DEI.3	Related Platforms	
Attribution Information		
Code	Attribute Name	
ERP.ATI.1	Funding Body	Other
ERP.ATI.2	Funding Program	
ERP.ATI.3	Grant/Project Name	
Management Information		
Code	Attribute Name	
ERP.MGI.1	Helpdesk Page	
ERP.MGI.2	User Manual	https://docs.apeer.com/
ERP.MGI.3	Terms Of Use	https://www.apeer.com/app/assets/legal/Platform_Terms_EN.pdf
ERP.MGI.4	Privacy Policy	
ERP.MGI.5	Access Policy	
ERP.MGI.6	Resource Level	
ERP.MGI.7	Training Information	https://docs.apeer.com/tutorials/python-ome-tiff-example
ERP.MGI.8	Status Monitoring	
ERP.MGI.9	Maintenance	
Access and Order Information		
Code	Attribute Name	
ERP.AOI.1	Order Type	Open Access
ERP.AOI.2	Order	
Financial Information		
Code	Attribute Name	Example Value
ERP.FNI.1	Payment Model	
ERP.FNI.2	Pricing	

Table 11: Description for EOSC Resource: Data Catalogue (CESSDA)

Code	Attribute Name	Value
Basic Information		
ERP.BAI.0	ID	
ERP.BAI.1	Name	CESSDA Data Catalogue
ERP.BAI.2	Resource Organisation	Consortium of European Social Science Data Archives (CESSDA)
ERP.BAI.3	Resource Providers	Consortium of European Social Science Data Archives (CESSDA)
ERP.BAI.4	Webpage	https://datacatalogue.cessda.eu/
Marketing Information		
Code	Attribute Name	
ERP.MRI.1	Description	The CESSDA Data Catalogue contains the metadata of all data in the holdings of CESSDA service providers. It is a one-stop-shop for search and discovery, enabling effective access to European research data for researchers. Details of over 30, 000 data collections are listed. These are harvested from fifteen different CESSDA Service Providers.
ERP.MRI.2	Tagline	The CESSDA Data Catalogue is a one-stop-shop for search and discovery of social science and humanities research data.
ERP.MRI.3	Logo	https://datacatalogue.cessda.eu/static/images/_img/cessda_logo_dc.png
ERP.MRI.4	Multimedia	
ERP.MRI.5	Use Cases	
Classification Information		
Code	Attribute Name	
ERP.CLI.1	Scientific Domain	Social Sciences
ERP.CLI.2	Scientific Subdomain	Other Social Sciences
ERP.CLI.3	Category	Aggregators & Integrators
ERP.CLI.4	Subcategory	Data
ERP.CLI.5	Target Users	Researchers
ERP.CLI.6	Access Type	Virtual
ERP.CLI.7	Access Mode	Free
ERP.CLI.8	Tags	metadata, data discovery, data catalogue, ddi
Geographical and Language Availability Information		
Code	Attribute Name	
ERP.GLA.1	Geographical Availability	Worldwide
ERP.GLA.2	Language Availability	Danish
Resource Location Information		
Code	Attribute Name	
ERP.RLI.01	Resource Geographic Location	Europe
Contact Information		
Main Contact/Resource		
Code	Attribute Name	
ERP.COI.1	First Name	
ERP.COI.2	Last Name	
ERP.COI.3	Email	support@cessda.eu
ERP.COI.4	Phone	
ERP.COI.5	Position	
ERP.COI.6	Organisation	Consortium of European Social Science Data Archives (CESSDA)

Public Contact		
Code	Attribute Name	
ERP.COI.7	First Name	
ERP.COI.8	Last Name	
ERP.COI.9	Email	support@cessda.eu
ERP.COI.10	Phone	
ERP.COI.11	Position	
ERP.COI.12	Organisation	Consortium of European Social Science Data Archives (CESSDA)
Other Contacts		
Code	Attribute Name	
ERP.COI.13	Helpdesk Email	support@cessda.eu
ERP.COI.14	Security Contact Email	support@cessda.eu
Maturity Information		
Code	Attribute Name	
ERP.MTI.1	Technology Readiness Level	8 - system complete and qualified
ERP.MTI.2	Life Cycle Status	Production
ERP.MTI.3	Certifications	
ERP.MTI.4	Standards	OAI-PMH (https://www.openarchives.org/pmh/)
ERP.MTI.5	Open Source Technologies	
ERP.MTI.6	Version	
ERP.MTI.7	Last Update	43742
ERP.MTI.8	Change Log	
Dependencies Information		
Code	Attribute Name	
ERP.DEI.1	Required Resources	
ERP.DEI.2	Related Resources	
ERP.DEI.3	Related Platforms	
Attribution Information		
Code	Attribute Name	
ERP.ATI.1	Funding Body	European Comission (EC)
ERP.ATI.2	Funding Program	
ERP.ATI.3	Grant/Project Name	
Management Information		
Code	Attribute Name	
ERP.MGI.1	Helpdesk Page	
ERP.MGI.2	User Manual	https://datacatalogue.cessda.eu/documentation/
ERP.MGI.3	Terms Of Use	
ERP.MGI.4	Privacy Policy	
ERP.MGI.5	Access Policy	
ERP.MGI.6	Resource Level	https://datacatalogue.cessda.eu/
ERP.MGI.7	Training Information	
ERP.MGI.8	Status Monitoring	
ERP.MGI.9	Maintenance	
Access and Order Information		
Code	Attribute Name	
ERP.AOI.1	Order Type	Fully Open Access
ERP.AOI.2	Order	https://datacatalogue.cessda.eu/
Financial Information		
Code	Attribute Name	
ERP.FNI.1	Payment Model	
ERP.FNI.2	Pricing	

Table 12: Description for EOSC Resource: PAN GitLab (DESY)

Code	Attribute Name	Value
Basic Information		
ERP.BAI.0	ID	
ERP.BAI.1	Name	PAN gitlab
ERP.BAI.2	Resource Organisation	Deutsches Elektronen-Synchrotron
ERP.BAI.3	Resource Providers	Deutsches Elektronen-Synchrotron
ERP.BAI.4	Webpage	https://eosc-pan-git.desy.de
Marketing Information		
Code	Attribute Name	
ERP.MRI.1	Description	Repository service for EOSC PAN notebooks and cloud functions for EOSC PAN FaaS. Gitlab runners for continuous integration in the DESY Compute Cloud, building and publishing docker containers in the project registry.
ERP.MRI.2	Tagline	GitLab for the EOSC PAN Science Demonstrator
ERP.MRI.3	Logo	https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcTH3EwQDwiNVJdtvypgtQftO-VXAbKibAFT-2UtQ7ILI-NiVIM0xA&s
ERP.MRI.4	Multimedia	
ERP.MRI.5	Use Cases	
Classification Information		
Code	Attribute Name	
ERP.CLI.1	Scientific Domain	Generic
ERP.CLI.2	Scientific Subdomain	Generic
ERP.CLI.3	Category	Compute
ERP.CLI.4	Subcategory	Other
ERP.CLI.5	Target Users	Researchers
ERP.CLI.6	Access Type	Other
ERP.CLI.7	Access Mode	Other
ERP.CLI.8	Tags	git, data, notebook, faas, event-driven, storage
Geographical and Language Availability Information		
Code	Attribute Name	
ERP.GLA.1	Geographical Availability	European Union
ERP.GLA.2	Language Availability	English
Resource Location Information		
Code	Attribute Name	
ERP.RLI.01	Resource Geographic Location	
Contact Information		
Main Contact/Resource Owner		
Code	Attribute Name	
ERP.COI.1	First Name	
ERP.COI.2	Last Name	
ERP.COI.3	Email	eosc-pan-info@desy.de
ERP.COI.4	Phone	
ERP.COI.5	Position	
ERP.COI.6	Organisation	Deutsches Elektronen-Synchrotron

Public Contact		
Code	Attribute Name	
ERP.COI.7	First Name	
ERP.COI.8	Last Name	
ERP.COI.9	Email	eosc-pan-info@desy.de
ERP.COI.10	Phone	
ERP.COI.11	Position	
ERP.COI.12	Organisation	Deutsches Elektronen-Synchrotron
Other Contacts		
Code	Attribute Name	
ERP.COI.13	Helpdesk Email	eosc-pan-info@desy.de
ERP.COI.14	Security Contact Email	eosc-pan-info@desy.de
Maturity Information		
Code	Attribute Name	
ERP.MTI.1	Technology Readiness Level	7 - system prototype demonstration in operational environment
ERP.MTI.2	Life Cycle Status	Beta
ERP.MTI.3	Certifications	
ERP.MTI.4	Standards	
ERP.MTI.5	Open Source Technologies	
ERP.MTI.6	Version	
ERP.MTI.7	Last Update	
ERP.MTI.8	Change Log	
Dependencies Information		
Code	Attribute Name	
ERP.DEI.1	Required Resources	
ERP.DEI.2	Related Resources	
ERP.DEI.3	Related Platforms	
Attribution Information		
Code	Attribute Name	
ERP.ATI.1	Funding Body	Other
ERP.ATI.2	Funding Program	
ERP.ATI.3	Grant/Project Name	
Management Information		
Code	Attribute Name	
ERP.MGI.1	Helpdesk Page	https://eosc-pan-git.desy.de/support
ERP.MGI.2	User Manual	https://eosc-pan-git.desy.de/support
ERP.MGI.3	Terms Of Use	
ERP.MGI.4	Privacy Policy	
ERP.MGI.5	Access Policy	
ERP.MGI.6	Resource Level	https://desycloud.desy.de/index.php/s/XrKEbpXFBBKfq4G
ERP.MGI.7	Training Information	https://eosc-pan-git.desy.de
ERP.MGI.8	Status Monitoring	
ERP.MGI.9	Maintenance	
Access and Order Information		
Code	Attribute Name	
ERP.AOI.1	Order Type	Order Required
ERP.AOI.2	Order	https://eosc-pan-git.desy.de
Financial Information		
Code	Attribute Name	
ERP.FNI.1	Payment Model	
ERP.FNI.2	Pricing	https://it.desy.de/sites2009/site_it/content/e1993/e163002/infoboxContent163004/BO-IV-DESY-Eng_eng.pdf

Table 13: Description for EOSC Resource: EGI Cloud Compute (EGI)

Code	Attribute Name	Value
Basic Information		
ERP.BAI.0	ID	
ERP.BAI.1	Name	EGI Cloud Compute
ERP.BAI.2	Resource Organisation	European Grid Infrastructure (EGI)
ERP.BAI.3	Resource Providers	EUropean Grid Infrastructure (EGI)
ERP.BAI.4	Webpage	https://www.egi.eu/services/cloud-compute
Marketing Information		
Code	Attribute Name	
ERP.MRI.1	Description	Cloud Compute gives you the ability to deploy and scale virtual machines on-demand. It offers guaranteed computational resources in a secure and isolated environment with standard API access, without the overhead of managing physical servers. Cloud Compute offers the possibility to select pre-configured virtual appliances (e.g. CPU, memory, disk, operating system or software) from a catalogue replicated across all EGI cloud providers. With Cloud Compute you can: Execute compute- and data-intensive workloads (both batch and interactive). Host long-running services (e.g. web servers, databases or applications servers). Create disposable testing and development environments on virtual machines and scale your infrastructure needs. Select virtual machine configurations (CPU, memory, disk) and application environments to fit your requirements. Manage your Cloud Compute resources in a flexible way with integrated monitoring and accounting capabilities.
ERP.MRI.2	Tagline	Run virtual machines on-demand with complete control over computing resources
ERP.MRI.3	Logo	https://www.egi.eu/wp-content/uploads/2018/10/EGI_Cloud_Compute.png
ERP.MRI.4	Multimedia	
ERP.MRI.5	Use Cases	https://www.egi.eu/about/newsletters/deploying-phenomenal-virtual-research-environments-on-the-egi-federated-cloud/
Classification Information		
Code	Attribute Name	Example Value
ERP.CLI.1	Scientific Domain	Generic
ERP.CLI.2	Scientific Subdomain	Generic
ERP.CLI.3	Category	Compute
ERP.CLI.4	Subcategory	Virtual Machine Management
ERP.CLI.5	Target Users	Researchers
ERP.CLI.6	Access Type	Virtual
ERP.CLI.7	Access Mode	Other
ERP.CLI.8	Tags	Virtual machines on-demand, Pre-configured virtual appliances
Geographical and Language Availability Information		
Code	Attribute Name	Example Value
ERP.GLA.1	Geographical Availability	Worldwide
ERP.GLA.2	Language Availability	English
Resource Location Information		
Code	Attribute Name	
ERP.RLI.01	Resource Geographic Location	
Contact Information		
Main Contact/Resource		
Code	Attribute Name	
ERP.COI.1	First Name	
ERP.COI.2	Last Name	
ERP.COI.3	Email	services@egi.eu
ERP.COI.4	Phone	
ERP.COI.5	Position	
ERP.COI.6	Organisation	European Grid Infrastructure (EGI)

Public Contact		
Code	Attribute Name	
ERP.COI.7	First Name	
ERP.COI.8	Last Name	
ERP.COI.9	Email	services@egi.eu
ERP.COI.10	Phone	
ERP.COI.11	Position	
ERP.COI.12	Organisation	European Grid Infrastructure (EGI)
Other Contacts		
Code	Attribute Name	
ERP.COI.13	Helpdesk Email	services@egi.eu
ERP.COI.14	Security Contact Email	services@egi.eu
Maturity Information		
Code	Attribute Name	
ERP.MTI.1	Technology Readiness Level	9 - actual system proven in operational environment
ERP.MTI.2	Life Cycle Status	Production
ERP.MTI.3	Certifications	ISO/IEC 20000-1
ERP.MTI.4	Standards	
ERP.MTI.5	Open source Technologies	
ERP.MTI.6	Version	1.0
ERP.MTI.7	Last Update	15/1/19
ERP.MTI.8	Change Log	
Dependencies Information		
Code	Attribute Name	
ERP.DEI.1	Required Resources	EGI Notebook
ERP.DEI.2	Related Resources	EGI Cloud Container Compute
ERP.DEI.3	Related Platforms	
Attribution Information		
Code	Attribute Name	
ERP.ATI.1	Funding Body	European Commission (EC)
ERP.ATI.2	Funding Program	
ERP.ATI.3	Grant/Project Name	
Management Information		
Code	Attribute Name	
ERP.MGI.1	Helpdesk Page	http://helpdesk.egi.eu/
ERP.MGI.2	User Manual	
ERP.MGI.3	Terms Of Use	
ERP.MGI.4	Privacy Policy	
ERP.MGI.5	Access Policy	
ERP.MGI.6	Resource Level	https://documents.egi.eu/document/2733
ERP.MGI.7	Training Information	https://www.egi.eu/egi-trainings/
ERP.MGI.8	Status Monitoring	
ERP.MGI.9	Maintenance	
Access and Order Information		
Code	Attribute Name	
ERP.AOI.1	Order Type	Order Required
ERP.AOI.2	Order	https://www.egi.eu/services/cloud-compute
Financial Information		
Code	Attribute Name	Example Value
ERP.FNI.1	Payment Model	
ERP.FNI.2	Pricing	https://www.egi.eu/access-policy/

Table 14: Description for EOSC Resource: Piloting and co-design (EOSC DIH)

Code	Attribute Name	Value
 <h2 style="text-align: center;">Resource Profile</h2> 		
Basic Information		
ERP.BAI.0	ID	
ERP.BAI.1	Name	Piloting and co-design of the Business Pilots
ERP.BAI.2	Resource Organisation	EOSC Digital Innovation Hub
ERP.BAI.3	Resource Providers	EOSC Digital Innovation Hub
ERP.BAI.4	Webpage	https://eosc-dih.eu/
Marketing Information		
ERP.MRI.1	Description	Usage of the EOSC DIH platform to support interested new companies to build pilots on top of the EOSC-hub Infrastructure and Services. It covers following support activities: - Business Pilots definition - support to define in details scenarios using EOSC-hub services for creating added value business services, definition of the new services - Scaling-up - planning actions to increase the scalability of the innovation - Design - support the technical design and architecture of the new business pilot scenarios - Testing - providing necessary resources (in collaboration with the resource providers) and tools to support testing of the new services - Demonstrators - providing an opportunities to demonstrate new solutions to stakeholders, during the events - Performance Verification - support of the benchmarking and verification of the new services before pushing to the service catalogue
ERP.MRI.2	Tagline	Business Pilots piloting using EOSC-hub Infrastructure and Services
ERP.MRI.3	Logo	https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcTNGd9OkkycESCySUUVsTSkn2q-11PtcrlJamXXXgivs5YGnpe&s
ERP.MRI.4	Multimedia	
ERP.MRI.5	Use Cases	
Classification Information		
ERP.CLI.1	Scientific Domain	Generic
ERP.CLI.2	Scientific Subdomain	Generic
ERP.CLI.3	Category	Education & Training
ERP.CLI.4	Subcategory	Related Training
ERP.CLI.5	Target Users	Researchers
ERP.CLI.6	Access Type	Other
ERP.CLI.7	Access Mode	Other
ERP.CLI.8	Tags	
Geographical and Language Availability Information		
ERP.GLA.1	Geographical Availability	European Union
ERP.GLA.2	Language Availability	English
Resource Location Information		
ERP.RLI.01	Resource Geographic Location	
Contact Information		
Main Contact/Resource		
ERP.COI.1	First Name	
ERP.COI.2	Last Name	
ERP.COI.3	Email	info@eosc-dih.eu
ERP.COI.4	Phone	
ERP.COI.5	Position	
ERP.COI.6	Organisation	EOSC Digital Innovation Hub

Public Contact		
ERP.COI.7	First Name	
ERP.COI.8	Last Name	
ERP.COI.9	Email	info@eosc-dih.eu
ERP.COI.10	Phone	
ERP.COI.11	Position	
ERP.COI.12	Organisation	EOSC Digital Innovation Hub
Other Contacts		
ERP.COI.13	Helpdesk Email	info@eosc-dih.eu
ERP.COI.14	Security Contact Email	info@eosc-dih.eu
Maturity Information		
ERP.MTI.1	Technology Readiness Level	7 - system prototype demonstration in operational environment
ERP.MTI.2	Life Cycle Status	Beta
ERP.MTI.3	Certifications	
ERP.MTI.4	Standards	
ERP.MTI.5	Open Source Technologies	
ERP.MTI.6	Version	
ERP.MTI.7	Last Update	
ERP.MTI.8	Change Log	
Dependencies Information		
ERP.DEI.1	Required Resources	
ERP.DEI.2	Related Resources	
ERP.DEI.3	Related Platforms	
Attribution Information		
ERP.ATI.1	Funding Body	Other
ERP.ATI.2	Funding Program	
ERP.ATI.3	Grant/Project Name	
Management Information		
ERP.MGI.1	Helpdesk Page	
ERP.MGI.2	User Manual	
ERP.MGI.3	Terms Of Use	
ERP.MGI.4	Privacy Policy	
ERP.MGI.5	Access Policy	
ERP.MGI.6	Resource Level	https://www.eosc-hub.eu/digital-innovation-hub
ERP.MGI.7	Training Information	
ERP.MGI.8	Status Monitoring	
ERP.MGI.9	Maintenance	
Access and Order Information		
ERP.AOI.1	Order Type	Order Required
ERP.AOI.2	Order	https://www.eosc-hub.eu/digital-innovation-hub
Financial Information		
ERP.FNI.1	Payment Model	
ERP.FNI.2	Pricing	

Table 15: Description for EOSC Resource: Embassy Cloud (EMBL-EBI)

Code	Attribute Name	Value
Resource Profile		
 		
Basic Information		
ERP.BAI.0	ID	
ERP.BAI.1	Name	Embassy Cloud
ERP.BAI.2	Resource Organisation	European Molecular Biology Laboratory - European Bioinformatics Institute
ERP.BAI.3	Resource Providers	European Molecular Biology Laboratory - European Bioinformatics Institute
ERP.BAI.4	Webpage	https://www.embassycloud.org/
Marketing Information		
ERP.MRI.1	Description	Embassy Cloud users (tenants) have direct access to the EMBL-EBI data, services and compute. This is a practical and cost-effective alternative to replicating services and downloading vast, public datasets locally. Tenants can access their workspace from anywhere in the world, reducing the need for capital investments in hardware and related operational costs. We offer distinct advantages over commercial cloud services, most notably direct network access to public data and services and file access to EMBL-EBI's public and managed-access datasets ### Your workspace within the Embassy Cloud will have: 1. A dedicated, secure, private, virtual data centre hosted within our OpenStack infrastructure; 2. An allocation of CPU, RAM and storage resources for you to manage according to your project's needs; 3. Internal and external network configuration of your space, specified by you, with simple firewall and VPN functions; 4. You take on full programmatic control and integration of your space; 5. Your host organisation is solely in charge of the systems administration within your Embassy Cloud space; 6. In addition to the public data sets, you can request access to specified internal EMBL-EBI data resources such as filesets or databases (e.g. ChEMBL, Ensembl, 1000 Genomes Project archive, Uniprot). Each request is evaluated by the resource owner
ERP.MRI.2	Tagline	EMBL-EBI's OpenStack cloud infrastructure co-located with their global life-science data resources and bioinformatics services and tools.
ERP.MRI.3	Logo	https://www.embassycloud.org/images/headers/EMBASSYCloud_logo.png
ERP.MRI.4	Multimedia	
ERP.MRI.5	Use Cases	https://www.embassycloud.org/more/
Classification Information		
ERP.CLI.1	Scientific Domain	Natural Sciences
ERP.CLI.2	Scientific Subdomain	Biological Sciences
ERP.CLI.3	Category	Compute
ERP.CLI.4	Subcategory	Other
ERP.CLI.5	Target Users	Researchers
ERP.CLI.6	Access Type	Other
ERP.CLI.7	Access Mode	Other
ERP.CLI.8	Tags	cloud, iaas, openstack
Geographical and Language Availability Information		
ERP.GLA.1	Geographical Availability	Worldwide
ERP.GLA.2	Language Availability	English
Resource Location Information		
ERP.RLI.01	Resource Geographic Location	
Contact Information		
Main Contact/Resource		
ERP.COI.1	First Name	
ERP.COI.2	Last Name	
ERP.COI.3	Email	
ERP.COI.4	Phone	
ERP.COI.5	Position	VAC Team
ERP.COI.6	Organisation	European Molecular Biology Laboratory - European Bioinformatics Institute

Text under this category is tainted because it contains private data.

Public Contact		
ERP.COI.7	First Name	
ERP.COI.8	Last Name	
ERP.COI.9	Email	info@ebi.ac.uk
ERP.COI.10	Phone	
ERP.COI.11	Position	
ERP.COI.12	Organisation	European Molecular Biology Laboratory - European Bioinformatics Institute
Other Contacts		
ERP.COI.13	Helpdesk Email	cloud@ebi.ac.uk
ERP.COI.14	Security Contact Email	cloud@ebi.ac.uk
Maturity Information		
ERP.MTI.1	Technology Readiness Level	9 - actual system proven in operational environment
ERP.MTI.2	Life Cycle Status	Production
ERP.MTI.3	Certifications	
ERP.MTI.4	Standards	OpenStack - 11
ERP.MTI.5	Open Source Technologies	
ERP.MTI.6	Version	OcataOSP11
ERP.MTI.7	Last Update	12/6/19
ERP.MTI.8	Change Log	
Dependencies Information		
ERP.DEI.1	Required Resources	
ERP.DEI.2	Related Resources	
ERP.DEI.3	Related Platforms	
Attribution Information		
ERP.ATI.1	Funding Body	Other
ERP.ATI.2	Funding Program	
ERP.ATI.3	Grant/Project Name	
Management Information		
ERP.MGI.1	Helpdesk Page	
ERP.MGI.2	User Manual	https://www.ebi.ac.uk/seqdb/confluence/display/EMBCLOUD/Embassy+Cloud+Home
ERP.MGI.3	Terms Of Use	https://docs.google.com/document/d/1Bfn6MZ02qZ320oMqoiWhu0UxhYGtOJm-BZhSN7bgWWho/edit#heading=h.5k1oxvpc4tik
ERP.MGI.4	Privacy Policy	https://www.ebi.ac.uk/data-protection/privacy-notice/embl-ebi-embassy-cloud
ERP.MGI.5	Access Policy	
ERP.MGI.6	Resource Level	https://www.embassycloud.org/
ERP.MGI.7	Training Information	https://www.ebi.ac.uk/seqdb/confluence/display/EMBCLOUD/Embassy+Cloud+Home
ERP.MGI.8	Status Monitoring	
ERP.MGI.9	Maintenance	https://listserver.ebi.ac.uk/mailman/listinfo/embassy-announce
Access and Order Information		
ERP.AOI.1	Order Type	Open Access
ERP.AOI.2	Order	https://www.embassycloud.org/
Financial Information		
ERP.FNI.1	Payment Model	
ERP.FNI.2	Pricing	

Table 16: Description for EOSC Resource: MDVPN (GEANT)

Code	Attribute Name	Value
Basic Information		
ERP.BAI.0	ID	
ERP.BAI.1	Name	GÉANT MDVPN
ERP.BAI.2	Resource Organisation	GÉANT Association
ERP.BAI.3	Resource Providers	GÉANT Association
ERP.BAI.4	Webpage	https://www.geant.org/Services/Connectivity_and_network/Pages/VPN_Services.aspx
Marketing Information		
ERP.MRI.1	Description	GÉANT Multi-Domain Virtual Private Network (MD-VPN) provides an end-to-end international network service that enables scientists all over Europe to collaborate via a common private network infrastructure. The MD-VPN service can be used for connectivity between clusters, grids, clouds and HPC (high-performance computing) centres, allowing them to form virtual distributed resources for third-party research projects. MD-VPN offers fast delivery of VPNs to end users and so can be used in a variety of ways, from a long-term infrastructure with a high demand for intensive network usage to quick point-to-point connections for a conference demonstration. VPNs are ideal for many-to-many (peer-to-peer) or one-to-many (central-site-to-satellite) environments, where each site can be allocated bandwidth according to its own requirements. Each site can support bandwidths from 155Mbps to 100Gbps (subject to availability).NRENS
ERP.MRI.2	Tagline	Increased privacy and control - helping to build effective virtual teams across borders.
ERP.MRI.3	Logo	https://www.geant.org/Resources/PublishingImages/GEANT_logo_lo_res.jpg
ERP.MRI.4	Multimedia	
ERP.MRI.5	Use Cases	
Classification Information		
ERP.CLI.1	Scientific Domain	Generic
ERP.CLI.2	Scientific Subdomain	Generic
ERP.CLI.3	Category	Network
ERP.CLI.4	Subcategory	Virtual Network
ERP.CLI.5	Target Users	Researchers
ERP.CLI.6	Access Type	Virtual
ERP.CLI.7	Access Mode	Other
ERP.CLI.8	Tags	Connectivity, Virtual Private Network
Geographical and Language Availability Information		
ERP.GLA.1	Geographical Availability	European Union, Norway, Switzerland
ERP.GLA.2	Language Availability	English
Resource Location Information		
ERP.RLI.01	Resource Geographic Location	
Contact Information		
Main Contact/Resource		
ERP.COI.1	First Name	
ERP.COI.2	Last Name	
ERP.COI.3	Email	info@geant.org
ERP.COI.4	Phone	
ERP.COI.5	Position	
ERP.COI.6	Organisation	GÉANT Association

Public Contact		
ERP.COI.7	First Name	
ERP.COI.8	Last Name	
ERP.COI.9	Email	info@geant.org
ERP.COI.10	Phone	
ERP.COI.11	Position	
ERP.COI.12	Organisation	GÉANT Association
Other Contacts		
ERP.COI.13	Helpdesk Email	info@geant.org
ERP.COI.14	Security Contact Email	info@geant.org
Maturity Information		
ERP.MTI.1	Technology Readiness Level	9 - actual system proven in operational environment
ERP.MTI.2	Life Cycle Status	Production
ERP.MTI.3	Certifications	
ERP.MTI.4	Standards	
ERP.MTI.5	Open Source Technologies	
ERP.MTI.6	Version	1.0
ERP.MTI.7	Last Update	11/4/19
ERP.MTI.8	Change Log	
Dependencies Information		
ERP.DEI.1	Required Resources	
ERP.DEI.2	Related Resources	
ERP.DEI.3	Related Platforms	
Attribution Information		
ERP.ATI.1	Funding Body	European Comission (EC)
ERP.ATI.2	Funding Program	
ERP.ATI.3	Grant/Project Name	
Management Information		
ERP.MGI.1	Helpdesk Page	https://partner.geant.net/Public/home.aspx
ERP.MGI.2	User Manual	https://partner.geant.net/Public/home.aspx
ERP.MGI.3	Terms Of Use	
ERP.MGI.4	Privacy Policy	
ERP.MGI.5	Access Policy	
ERP.MGI.6	Resource Level	https://www.geant.org/Services/Connectivity_and_network/PublishingImages/Pages/VPN_Services/MD%20VPN%20Service%20Description%20Jun%202015.pdf
ERP.MGI.7	Training Information	https://partner.geant.net/Public/home.aspx
ERP.MGI.8	Status Monitoring	
ERP.MGI.9	Maintenance	
Access and Order Information		
ERP.AOI.1	Order Type	Open Access
ERP.AOI.2	Order	https://www.geant.org/Services/Connectivity_and_network/Pages/VPN_Services.aspx
Financial Information		
ERP.FNI.1	Payment Model	
ERP.FNI.2	Pricing	https://www.geant.org/Services/Connectivity_and_network/Pages/VPN_Services.aspx

Annex 3: Providers onboarded at the EOSC Portal

The following is a list of all the Providers currently onboarded at the EOSC Portal.

Table 17: Providers currently onboarded at the EOSC Portal

No.	1
id	100percentit
name	100 Percent IT
abbreviation	100%IT
website	https://100percentit.com/
description	100 Percent IT offers a wide range of managed IT services and support. Our success is due to the innovation and hard work from our team, over the last two decades. Founded at the height of the E-Commerce boom in 2000 by Cambridge University graduate David Blundell. 100 Percent IT started life providing secure Internet access to multi-tenanted office environments. The company pioneered the delivery of secure private networks using a single switch/router to deliver high-quality secure Internet access in a multi-tenant environment. The company's headquarters is in Newbury, UK.
No.	2
id	aginfra
name	AGINFRA+
abbreviation	AGINFRA+
website	http://www.plus.aginfra.eu/
description	AGINFRA+ aims to exploit core e-infrastructures such as EGI.eu, OpenAIRE, EUDAT and D4Science, towards the evolution of theAGINFRA data infrastructure, so as to provide a sustainable channel addressing adjacent but not fully connected user communities around Agriculture and Food. To this end, the project will develop and provide the necessary specifications and components for allowing the rapid and intuitive development of variegating data analysis workflows, where the functionalities for data storage and indexing, algorithm execution, results visualization and deployment are provided by specialized services utilizing cloud based infrastructure(s). Furthermore, AGINFRA+ aspires to establish a framework facilitating the transparent documentation and exploitation and publication of research assets (datasets, mathematical models, software components results and publications) within AGINFRA, in order to enable their reuse and repurposing from the wider research community.
No.	3
id	authenix
name	AUTHENIX
abbreviation	AUTHENIX
website	https://www.authenix.eu/
description	Bringing together Citizen Science and Research
No.	4
id	bijvoetcenter
name	Bijvoet Center - Utrecht University
abbreviation	Bijvoet Center
website	https://www.uu.nl/en/research/bijvoet-centre-for-biomolecular-research
description	The Bijvoet Centre studies life on the molecular scale. Our focus is on the biomolecules that make up all living organisms, including humans. We concentrate on elucidating the structure of these biomolecules, such as proteins, at the atomic level and on determining the relation between their structure and function in living cells and tissues. By working on healthy cells and those affected by disease, we aim to unravel the basic mechanisms of disease origin. To

	study the structure of biomolecules, we have a wide range of technologies at our disposal, including advanced biochemistry and biophysics, NMR, X-ray crystallography, electron microscopy and mass spectrometry.
No.	5
id	bioexcel
name	BioExcel Centre of Excellence
abbreviation	BIOEXCEL
website	https://bioexcel.eu/
description	BioExcel is the leading European Centre of Excellence for Computational Biomolecular Research. Established in 2015, the centre has grown into a major research and innovation hub for scientific computing. BioExcel develops some of the most popular applications for modelling and simulations of biomolecular systems. A broad range of additional pre-/post-processing tools are integrated with the core applications within user-friendly workflows and container solutions. The software stack comes with great performance and scalability capabilities for extreme-scale utilization of the world's largest high-performance computing (HPC) and high-throughput computing (HTC) compute resource. BioExcel has developed an extensive training program to address competence gaps in extreme-scale scientific computing for beginners, advanced users and HPC/HTC system maintainers. The centre maintains an extensive and growing network of industrial researchers in the pharmaceutical, chemical and food industries, and offers tailored products and consultancy services, while code development is done in close collaborations with hardware and software vendors to ensure compatibility and support for cutting-edge features. BioExcel works closely with various governmental, non-profit, educational and policy projects and initiatives.
No.	6
id	bluebridge
name	BlueBRIDGE
abbreviation	BlueBRIDGE
website	https://www.bluebridge-vres.eu/
description	BlueBRIDGE - Building Research environments fostering Innovation, Decision making, Governance and Education to support Blue growth - supports capacity building in interdisciplinary research communities actively involved in increasing scientific knowledge about resource overexploitation, degraded environment and ecosystem with the aim of providing a more solid ground for informed advice to competent authorities and to enlarge the spectrum of growth opportunities as addressed by the Blue Growth Societal Challenge. BlueBRIDGE capitalizes on past investments and uses the proven D4Science infrastructure. BlueBRIDGE has developed innovative services, the so called Virtual Research Environments (VREs), in the following areas: a) Ecosystem approach to Fisheries - services for stock assessment and for the generation of unique identifiers for global stocks (See Solutions for Ecosystem Approach to Fisheries); b) Aquaculture - services supporting the analysis of socio-economic performance in aquaculture (See Solutions for Aquaculture); c) Maritime Spatial Planning - spatial planning services to identify aquaculture and fisheries infrastructures from satellite imagery and tools to visualize, analyze and report on a range of ecologically important seafloor features within marine protected areas (See Solutions for Maritime Spatial Planning); d) Education - tools to set up and deliver training courses in a cost-effective way (See Solutions for Education).
No.	7
id	bsc-es
name	Barcelona Supercomputing Center
abbreviation	BSC
website	https://www.bsc.es/

description	Barcelona Supercomputing Center-Centro Nacional de Supercomputación (BSC-CNS) is the national supercomputing centre in Spain. We specialise in high performance computing (HPC) and manage MareNostrum, one of the most powerful supercomputers in Europe, located in the Torre Girona chapel. BSC is at the service of the international scientific community and of industry that requires HPC resources. Our multidisciplinary research team and our computational facilities –including MareNostrum– make BSC an international centre of excellence in e-Science. Since its establishment in 2005, BSC has developed an active role in fostering HPC in Spain and Europe as an essential tool for international competitiveness in science and engineering. The centre manages the Red Española de Supercomputación (RES) and is a hosting member of the Partnership for Advanced Computing in Europe (PRACE) initiative. We actively participate in the main European HPC initiatives, in close cooperation with other European supercomputing centres. With a total staff of more than 650 R&D experts and professionals, BSC has been successful in attracting talent, and our research focuses on four fields: Computer Sciences, Life Sciences, Earth Sciences and Computer Applications in Science and Engineering. Most of BSC's research lines are developed within the framework of European Union research funding programmes, and the centre also does basic and applied research in collaboration with leading companies such as IBM, Microsoft, Intel, Nvidia, Repsol and Iberdrola. The quality of our investigation has been recognized by the Spanish government with the Severo Ochoa Excellence Centre grant for cutting edge Spanish science.
No.	8
id	capsh
name	Committee for the Accessibility of Publications in Sciences and Humanities
abbreviation	CAPSH
website	https://dissem.in/
description	CAPSH (Committee for the Accessibility of Publications in Sciences and Humanities) is a French nonprofit association promoting the open access to academic publications.
No.	9
id	carlzeissm
name	Carl Zeiss Microscopy
abbreviation	Carl Zeiss
website	https://www.zeiss.com/
description	ZEISS is an internationally leading technology enterprise operating in the optics and optoelectronics industries. In the past fiscal year, the ZEISS Group generated annual revenue totaling more than 6.4 billion euros in the four segments Semiconductor Manufacturing Technology, Industrial Quality & Research, Medical Technology, and Consumer Markets, and invested 11 percent of its revenue in research and development (as of 30 September 2019). ZEISS has a long tradition of similarly high expenditures for research and development, which also represent an investment in the future. For its customers, ZEISS develops, produces and distributes highly innovative solutions for industrial metrology and quality assurance, microscopy solutions for the life sciences and materials research, and medical technology solutions for diagnostics and treatment in ophthalmology and microsurgery. The name ZEISS is also synonymous with the world's leading lithography optics, which are used by the chip industry to manufacture semiconductor components. There is global demand for trendsetting ZEISS brand products such as eyeglass lenses, camera lenses and binoculars. With a portfolio aligned with future growth areas like digitalization, healthcare and Smart Production and a strong brand, ZEISS is shaping the future of technology and constantly advancing the world of optics and related fields with its solutions. The company's significant, sustainable investments in research and development lay the foundation for the success and continued expansion of ZEISS' technology and market leadership. With over 31,000 employees, ZEISS is active globally in almost 50 countries with around 60 sales and service companies, 30 production sites and 25 development sites. Founded in 1846 in Jena, the company is headquartered in Oberkochen, Germany. The Carl Zeiss Foundation, one of the largest foundations in Germany

	committed to the promotion of science, is the sole owner of the holding company, Carl Zeiss AG.
No.	10
id	cds
name	Strasbourg astronomical Data Center
abbreviation	CDS
website	https://cds.unistra.fr/
description	Strasbourg astronomical Data Center (CDS) is dedicated to the collection and worldwide distribution of astronomical data and related information. The CDS hosts the SIMBAD astronomical database, the world reference database for the identification of astronomical objects; VizieR, the catalogue service for the CDS reference collection of astronomical catalogues and tables published in academic journals; and the Aladin interactive software sky atlas for access, visualization and analysis of astronomical images, surveys, catalogues, databases and related data. The CDS mission is to: a) collect useful information concerning astronomical objects that is available in computerized form; b) upgrade these data by critical evaluations and comparisons; c) distribute the results to the astronomical community; d) conduct research, using these data.
No.	11
id	cerm-cirmmp
name	Magnetic Resonance Center of the University of Florence - CERM, Interuniversity consortium CIRMMP
abbreviation	CERM/CIRMMP
website	https://www.cerm.unifi.it/
description	The Centro Risonanze Magnetiche (CERM) is a center for research, knowledge transfer, and higher education of the University of Florence, located at the Polo Scientifico (Scientific Campus) in Sesto Fiorentino. The Center is a research infrastructure for NMR in the Life Sciences supported by the European Community. The Consorzio Interuniversitario Risonanze Magnetiche di Metallo Proteine (CIRMMP) was founded in 1994 among the Universities of Florence, Siena and Bologna to develop and coordinate resources in the study of metalloproteins. CIRMMP manages and partially owns the instruments in CERM, one of the most well-equipped NMR laboratories in the world. CERM/CIRMMP building covers an area of 3,000 square meters hosting a number of laboratories, offices and common rooms. The flagship of the Center is the impressive collection of NMR spectrometers which feature the largest magnetic field range in the world (from 950 MHz to the earth field) and ranks it among the best equipped laboratories in the world. CERM/CIRMMP is located in the Scientific Campus ("Polo Scientifico") of the University of Florence in Sesto Fiorentino, an area just west of the city of Florence. The campus borders Florence International Airport and yet is a mere 15 minutes from the centre of Florence, world-renowned cradle of renaissance art and culture. Its two-fold status as a public-private laboratory fosters interactions between private industry and public research institutions such as Universities, National Council of Research (CNR) Institutes and European counterparts, promoting synergistic activities such as collaborations and services to SMEs. CERM/CIRMMP is the Italian Instruct-ERIC Centre. Instruct-ERIC is the pan-European research infrastructure in structural biology, making high-end technologies and methods available to users. Instruct-ERIC became operational in 2012 and has grown through its R&D Pilot programme, to provide new services and training courses to support scientists. Instruct-ERIC will provide the stability and sustainability for Instruct services to the structural biology community and to the broader life sciences communities within Europe.
No.	12
id	cesnet
name	CESNET
abbreviation	CESNET

website	https://www.cesnet.cz/
description	CESNET is an association of universities of the Czech Republic and the Czech Academy of Sciences. It operates and develops the national e-infrastructure for science, research and education which encompasses a computer network, computational grids, data storage and collaborative environment. It offers a rich set of services to connected organisations.
No.	13
id	cessda-eric
name	Consortium of European Social Science Data Archives ERIC
abbreviation	CESSDA ERIC
website	https://www.cessda.eu/
description	<p>Since 1976 CESSDA has existed as an umbrella organization for social science data archives across Europe, working to improve access to a wide range of data for researchers and students. Collectively they serve over 30,000 researchers, provide access to more than 100,000 data collections per year, and enhance the exchange of data and technologies among data organizations. The purpose of CESSDA ERIC is to increase the impact of CESSDA ERIC members' efforts by providing full scale, integrated and sustainable research infrastructures that enable the research community to conduct high-quality research that in turn leads to effective solutions to the major challenges facing society today. CESSDA ERIC supports national and international research and cooperation in areas expected to be of great importance in the future. A major objective for CESSDA ERIC is to provide seamless access to data across repositories, nations, languages and research purposes. Data will thus be created, described, and preserved in ways that facilitate use for a variety of purposes. CESSDA ERIC encourages standardization of data and metadata, data sharing and knowledge mobility across Europe. CESSDA ERIC plays an active part in the development of standards and, even more importantly, encourages and facilitates the use of metadata standards for documenting and publishing the existing inventories of research data available from national as well as cross-national resources in Europe. The diversity of languages within the European Research Area creates invisible borders and often research resources are only available for researchers using the specific language area in which they are captured or created. Researchers outside that language cannot access important national data. Thus, overcoming language barriers is an essential need for the research communities and will be an important area for CESSDA ERIC. A prioritized target for CESSDA ERIC lies in the enabling and in the overall coordination of national research infrastructures across national borders, across institutional borders, and across language barriers in Europe. By implementing the new information and communication technologies in an intelligent Pan-European manner, substantial steps will be taken in the coming years and the accessibility of both data and documentation across Europe will be realized. CESSDA ERIC is the Consortium of Social Science Data Archives. It is a European Research Infrastructure Consortium (ERIC) as of 2017 and has 18 member countries in Europe. Each member has assigned a national data service provider for ingest, curation, archiving and distribution of social research data. As an EU Research Infrastructure, CESSDA ERIC has significant experience and technical expertise to provide quality support and additional value for integration and consolidation of EOSC. CESSDA ERICs focus and experience on technical proficiency, development of integrated and sustainable data services on one hand, and international cooperation as an attribute inherent to CESSDA ERIC on the other, will contribute to goals set out for further successful EOSC development.</p>
No.	14
id	cineca
name	Cineca Consortium of Universities
abbreviation	CINECA
website	https://www.cineca.it/

description	Cineca is a not-for-profit Consortium, made up of the Italian Ministry of Education, the Italian Ministry of Universities and Research, 69 Italian universities and 21 Italian National Institutions. Today it is the largest Italian computing centre, one of the most important worldwide. With more seven hundred employees, it operates in the technological transfer sector through high performance scientific computing, the management and development of networks and web based services, and the development of complex information systems for treating large amounts of data. It develops advanced Information Technology applications and services, acting like a trait-d'union between the academic world, the sphere of pure research and the world of industry and Public Administration.
No.	15
id	cines
name	National Computing Center for Higher Education
abbreviation	CINES
website	https://www.cines.fr/
description	CINES (National Computing Center for Higher Education) is a French public institution, located in Montpellier (south of France) and supervised by the French ministry for Higher Education and Research. CINES offers first-class services to the scientific community through two national strategic missions: high performance computing, long-term digital preservation and hosting of I/T platforms
No.	16
id	clarin-eric
name	European Research Infrastructure for Language <i>Resources</i> and Technology
abbreviation	CLARIN ERIC
website	https://www.clarin.eu/
description	CLARIN stands for "Common Language Resources and Technology Infrastructure". It is a research infrastructure that was initiated from the vision that all digital language resources and tools from all over Europe and beyond are accessible through a single sign-on online environment for the support of researchers in the humanities and social sciences. In 2012 CLARIN ERIC was established and took up the mission to create and maintain an infrastructure to support the sharing, use and sustainability of language data and tools for research in the humanities and social sciences. Currently CLARIN provides easy and sustainable access to digital language data (in written, spoken, or multimodal form) for scholars in the social sciences and humanities, and beyond. CLARIN also offers advanced tools to discover, explore, exploit, annotate, analyse or combine such data sets, wherever they are located. This is enabled through a networked federation of centres: language data repositories, service centres and knowledge centres, with single sign-on access for all members of the academic community in all participating countries. Tools and data from different centres are interoperable, so that data collections can be combined and tools from different sources can be chained to perform complex operations to support researchers in their work. The CLARIN infrastructure is fully operational in many countries, and a large number of participating centres are offering access services to data, tools and expertise. At the same time, CLARIN continues to be constructed in some countries that joined more recently, and CLARIN's datasets and services are constantly updated and improved. On the services page we show the services accessible at this moment and we explain how and by whom the various services can be accessed.
No.	17
id	cloudferro
name	CloudFerro
abbreviation	CloudFerro
website	https://cloudferro.com/
description	CloudFerro is a provider of innovative cloud services. We build and operate cloud computing platforms for specialized market segments, such as the European space sector. Our broad

	experience in storing and processing big data sets includes multipetabyte repositories of Earth Observation satellite data. We offer elastic cloud solutions in a public, private or hybrid cloud deployment model, based on open source technologies, customized to meet user needs and cost-effective. Our extensive range of ancillary services and dedicated technical support is delivered by an experienced, local team with unique competences. Our solutions are used by leading European firms and scientific institutions from various market sectors, which process big data, including the European Space Agency (ESA), the European Centre for Medium-Range Weather Forecasts (ECMWF), Mercator Ocean International, German Aerospace Centre (DLR), the EGI and many others.
No.	18
id	cmcc
name	Euro-Mediterranean Center on Climate Change
abbreviation	CMCC
website	https://www.cmcc.it/
description	CMCC has been established in 2005 with the financial support of the Italian Ministry of Education, University and Research, and the Ministry of the Environment, Land and Sea and it is fully operative since 2006. On 10th December 2015 the Center became a Foundation, therefore, representing CMCC's legal status, its contents, aims and operational modalities. CMCC benefits from the extensive applied research experience of its members and institutional partners: Istituto Nazionale di Geofisica e Vulcanologia, Università degli Studi del Salento, Centro Italiano Ricerche Aerospaziali, Università Ca' Foscari Venezia, Università di Sassari, Università della Tuscia, Politecnico di Milano, Resources for the Future, Università di Bologna. CMCC aims at furthering knowledge in the field of climate variability, its causes and impacts and their interactions with the global climate, through the development of high-resolution simulations of the atmosphere and ocean, surface and underground hydrology, environmental and socio-economic impact models. The scientific organization enhances the integration and collaboration among interdisciplinary skills needed to deal with climate sciences related topics. The research network is distributed among nine research divisions that share different knowledge and skills in the field of climate sciences. CMCC is organized in the form of a network that involves and connects public and private entities working together on multidisciplinary studies concerning issues of interest to the climate sciences.
No.	19
id	cnr-iaa
name	Institute of Atmospheric Pollution - National Research Council of Italy
abbreviation	CNR IIA
website	http://www.iaa.cnr.it/
description	To undertake research aimed at improving our understanding of key processes related to air pollution from local to global scale. Specifically, the focus is on: Air pollution in urban and industrial areas; Industrial emissions; Analytical technology and methods for environmental & air quality (AQ) evaluation; Atmospheric pollutant cycles; Advanced monitoring networks for AQ to support EU and international policy; Systems and technologies for geospatial data sharing and Big Data interoperability
No.	20
id	compbiomed
name	CompBioMed
abbreviation	CompBioMed
website	http://www.compbiomed.eu/
description	CompBioMed is active in a vast international consortium across Europe and USA working on urgent coronavirus research. The consortium is redirecting substantial research effort and funding on computational investigations that will improve our understanding of the SARS-

	CoV-2 virus and the associated COVID-19 disease, and accelerate the development of treatment options, including antiviral drugs and vaccines.
No.	21
id	csc-fi
name	CSC – IT CENTER FOR SCIENCE
abbreviation	CSC
website	https://www.csc.fi/
description	CSC – IT Center for Science is a Finnish center of expertise in information technology owned by the Finnish state and higher education institutions. We provide internationally high-quality ICT expert services for higher education institutions, research institutes, culture, public administration and enterprises to help them thrive and benefit society at large.
No.	22
id	cwl-community
name	Common Workflow Language community
abbreviation	CWL
website	https://www.commonwl.org/
description	The Common Workflow Language (CWL) is an open standard for describing analysis workflows and tools in a way that makes them portable and scalable across a variety of software and hardware environments, from workstations to cluster, cloud, and high performance computing (HPC) environments. CWL is designed to meet the needs of data-intensive science, such as Bioinformatics, Medical Imaging, Astronomy, High Energy Physics, and Machine Learning. CWL is developed by a multi-vendor working group consisting of organizations and individuals aiming to enable scientists to share data analysis workflows. The CWL project is maintained on Github and we follow the Open-Stand.org principles for collaborative open standards development. Legally CWL is a member project of Software Freedom Conservancy and is formally managed by the elected CWL leadership team, however every-day project decisions are made by the CWL community which is open for participation by anyone.
No.	23
id	cyberbotics
name	Cyberbotics
abbreviation	Cyberbotics
website	https://cyberbotics.com/
description	Cyberbotics Ltd. is a spin-off company from the EPFL and has been developing the Webots robot simulator since 1998. It currently employs 5 people in Lausanne, Switzerland and continuously maintain and develop Webots. Cyberbotics provides consulting on both industrial and academic research projects. It is your best partner for ambitious robot simulation projects. It also provides paid user support and training to the users of the Webots software.
No.	24
id	cy-biobank
name	CY-Biobank Center of Excellence in Biobanking and Biomedical Research - University of Cyprus
abbreviation	CY-Biobank
website	https://www.ucy.ac.cy/cybiobank
description	At the University of Cyprus there is the Molecular Medicine Research Center (MMRC), a Center of Excellence (CoE) under development, aimed at Biobanking and Biomedical Research of the next generation. We aspire to create a contemporary Biobank and a research environment aimed at precision medicine, motivated by our genuine care for human well-being. Key components are continuous education, research and innovation, aimed to serve the patients. The ultimate sacred purpose of the Center of Excellence is to make the link between the dramatic picture of the affected individual-the patient as a human macro-entity-and the patient as a molecular biological micro-entity. The next feat is the prevention or correction of the

	<p>molecular malady through translational research and precision medicine. We, the people at the Molecular Medicine Research Center (MMRC), aspire to create an upgraded research environment with the necessary tools to develop innovative front-line research in the field of genetic diseases and molecular medicine. With the combination of research instruments that include molecular genetics and biostatistics, bioinformatics, molecular and cell biology, we aim to make MMRC a major gate to new knowledge. At MMRC we care about improving human health, through promoting research, innovation and education, in a patient-centric approach. The Molecular Medicine Research Center (MMRC) was created as a result of external competitive funding secured by Prof. C. Deltas and his colleagues, in the form of an infrastructure Strategic Program. The program was co-funded by the Regional Development Fund of the European Union and the Republic of Cyprus through the Cyprus Research Promotion Foundation, with a total of €2mi and included the creation of the first Biobank in the country. This project was ranked first among 42 applications, in a 2-phase procedure. The Biobank was approved by the Cyprus National Bioethics Committee in 2011 to operate for the next 25 years.</p>
No.	25
id	d4science
name	D4Science Infrastructure
abbreviation	D4Science
website	https://www.d4science.org/
description	<p>D4Science is an organisation offering a Data Infrastructure since 2009. D4Science is: connecting +12,000 scientists in 50+ countries, integrating data from +50 heterogeneous providers, executing +50,000 data analysis/month, providing access to over a billion quality records in repositories worldwide, operating with 99,8% service availability. D4Science hosts +150 Virtual Research Environments (VREs) to serve the biological, ecological, environmental, social mining, culture heritage, and statistical communities world-wide.</p>
No.	26
id	dcc-uk
name	Digital Curation Centre
abbreviation	DMPonline
website	https://www.dcc.ac.uk/
description	<p>The Digital Curation Centre (DCC) is a world-leading centre of expertise in digital information curation with a focus on building capacity, capability and skills for research data management. The DCC provides expert advice and practical help on how to store, manage, protect and share digital research data. We provide a broad range of resources including online tools, guidance and training. We also provides consultancy services on issues such as policy development and data management planning. Services are targeted primarily at the higher education community, both in the UK and internationally, but our resources are of benefit to the commercial sector too.</p>
No.	27
id	denbi
name	de.NBI - German Network for Bioinformatics Infrastructure
abbreviation	de.NBI
website	https://www.denbi.de/
description	<p>The 'German Network for Bioinformatics Infrastructure – de.NBI' is a national, academic and non-profit infrastructure supported by the Federal Ministry of Education and Research providing bioinformatics services to users in life sciences research and biomedicine in Germany and Europe. The partners organize training events, courses and summer schools on tools, standards and compute services provided by de.NBI to assist researchers to more effectively exploit their data. In May 2013, the announcement of funding guidelines for a German Network for Bioinformatics Infrastructure (de.NBI) was published by the German Federal</p>

	Ministry of Education and Research (BMBF). The aim of this announcement was to establish an infrastructure in Germany that will provide solutions to the 'Big Data Problem' in life science by means of bioinformatics services and training. A second announcement of funding guidelines for de.NBI partner projects was published in November 2015. The de.NBI program was launched by the BMBF in March 2015, and the partner projects started their work in November 2016. In addition, the ELIXIR Node in Germany is run by de.NBI since August 2016. The first coordinator of the project and Head of the German ELIXIR Node is Alfred Pühler. Since November 2016, the de.NBI network consists of the eight interconnected centers including more than 40 research, service and infrastructure groups with about 150 bioinformaticians. In addition, it is possible to apply for an associated partnership within de.NBI.
No.	28
id	desy
name	Deutsches Elektronen-Synchrotron
abbreviation	DESY
website	http://www.desy.de/
description	DESY is one of the world's leading accelerator centres. Researchers use the large-scale facilities at DESY to explore the microcosm in all its variety – from the interactions of tiny elementary particles and the behaviour of new types of nanomaterials to biomolecular processes that are essential to life. The accelerators and detectors that DESY develops and builds are unique research tools. The facilities generate the world's most intense X-ray light, accelerate particles to record energies and open completely new windows onto the universe. That makes DESY not only a magnet for more than 3000 guest researchers from over 40 countries every year, but also a coveted partner for national and international cooperations. Committed young researchers find an exciting interdisciplinary setting at DESY. The research centre offers specialized training for a large number of professions. DESY cooperates with industry and business to promote new technologies that will benefit society and encourage innovations. This also benefits the metropolitan regions of the two DESY locations, Hamburg and Zeuthen near Berlin.
No.	29
id	digitalglobe
name	DigitalGlobe
abbreviation	DigitalGlobe
website	http://www.digitalglobe.com
description	DigitalGlobe pioneered and continues to lead remote sensing innovation, making geospatial data and insights more accessible and more valuable to all industries. At DigitalGlobe, we believe the answers to some of the world's most pressing problems are within reach if we elevate our perspective and see things more objectively, more holistically—from space.
No.	30
id	dkrz
name	Deutsches Klimarechenzentrum
abbreviation	DKRZ
website	https://www.dkrz.de/
description	The German Climate Computing Center (Deutsches Klimarechenzentrum, DKRZ) is a central service center for German climate and earth system research. Its high performance computers, data storage and services form the central research infrastructure for simulation-based climate science in Germany. Apart from providing computing power, data storage capacity and technical support for models and simulations in climate research, DKRZ offers its scientific users an extensive portfolio of tailor-made services. It maintains and develops application software relevant to climate research and supports its users in matters of data processing. Finally, DKRZ also participates in national and international joint projects and cooperations

	with the aim of improving the infrastructure for climate modeling. DKRZ was founded on November 11, 1987 and took up its services on January 1, 1988. It is a non-profit and non-commercial limited company with four shareholders: A) The Max Planck Society, b) The Freie und Hansestadt Hamburg, represented by the University of Hamburg, c) The Alfred Wegener Institute - Helmholtz Centre for Polar and Marine Research, d) the Helmholtz Zentrum Geesthacht - Centre for Materials and Coastal Research (HZG). Moreover, DKRZ is sponsored by the Federal Ministry of Education and Research and the The Helmholtz Association of German Research Centres. DKRZ provides its resources (computing time, hard-drive storage and archive capacity, consultancy and visualizations) free of charge. Any scientists conducting research in the field of climate and earth system science in Germany, and requiring HPC resources for their work may apply for resources at DKRZ. DKRZ engages about 80 employees, mainly with a background in natural and/or computer sciences and is divided into three scientific departments - Application Support, Data Management and Systems - and the Administration. Furthermore, the Managing Director of DKRZ, Prof. Dr. Thomas Ludwig, also heads the scientific computing group of the department of Informatics at the University of Hamburg, which is located in the same building and strongly collaborates with DKRZ.
No.	31
id	doabf
name	DOAB Foundation
abbreviation	DOAB
website	https://www.doabooks.org/
description	DOAB Foundation is a non-profit legal entity under Dutch law ('stichting'), established by OAPEN Foundation and OpenEdition. The Foundation is based at the National Library in The Hague. The primary aim of DOAB is to increase discoverability of Open Access books. Academic publishers are invited to provide metadata of their Open Access books to DOAB. Metadata will be harvestable in order to maximize dissemination, visibility and impact. Aggregators can integrate the records in their commercial services and libraries can integrate the directory into their online catalogues, helping scholars and students to discover the books. The directory is open to all publishers who publish academic, peer reviewed books in Open Access and should contain as many books as possible, provided that these publications are in Open Access and meet academic standards.
No.	32
id	ds-wizard
name	Data Stewardship Wizard
abbreviation	DSW
website	https://ds-wizard.org
description	We bring together data stewards and researchers to efficiently compose data management plans (DMPs) for their research projects. Data Stewards capture and combine their knowledge and expertise with respect to the specific needs of a domain or an organisation. Researchers are truly guided through composing a DMP which can be then exported using selected template and format, including machine-actionable. The benefit lies not only in having a nowadays often obligatory DMP for funders but mainly learning how to handle data correctly, make them FAIR, maintain them well during the project, and curate them long-term.
No.	33
id	e-cam
name	E-CAM Centre of Excellence
abbreviation	E-CAM
website	https://www.e-cam2020.eu/

description	E-CAM is an e-infrastructure for software development, training, and industrial discussion in simulation and modelling. At E-CAM we focus on four scientific areas of interest to computational scientists: a) Classical Molecular Dynamics, b) Electronic Structure, c) Quantum Dynamics, d) Meso- and Multi-Scale Modelling. We aim to: a) Develop software modules to be used in academia and industry to solve simulation and modelling problems. We will interface those software modules with standard codes and tune the outputs to run on the next generation of exascale computers. We will create an open-access E-CAM Software Repository containing robust applications, modules, scripts, and wrappers. We have set a target of 150 items in the repository by the end of the project. We will set software standards through best practice guidelines to ensure that appropriate documentation and metadata supports the use of the software, b) Provide information and opportunities for discussion on leading-edge simulation and modelling techniques. This includes workshops with industry to identify areas of mutual interest as well as the development of on-line training resources. We have strong industry links already with eight industry pilot projects underway from the start of the project, c) Train the next generation of computational scientists from both industry (new managers and computing specialists) and academia (post-graduates and postdocs). We want to ensure that there are continuing professional development opportunities for scientists and that our links with industry will provide career progression for the participants of our workshops.
No.	34
id	egi-fed
name	EGI Foundation
abbreviation	EGI
website	https://www.egi.eu/
description	The EGI Federation is an international e-Infrastructure set up to provide advanced computing and data analytics services for research and innovation. The EGI e-infrastructure is publicly-funded and comprises hundreds of data centres and cloud providers spread across Europe and worldwide. The EGI Federation offers a wide range of services for compute, storage, data and support. More about EGI Services. The EGI Federation provides access to +1,000,000 computing cores and +740 PB of disk and tape storage. The federation is coordinated by the EGI Foundation (previously known as EGI.eu), created to coordinate and develop the EGI infrastructure, in collaboration with its participants. The EGI Federation believes that all researchers should have seamless access to services, resources and expertise to collaborate and conduct world-class research and innovation. The federation's mission is to deliver open solutions for advanced computing and data analytics in research and innovation. This mission is pursued by coordinating and provisioning an international federated infrastructure that pools together service providers from both the public and private sector in Europe to develop, integrate and deliver digital services for compute- and data-intensive research and innovation. As an open initiative with a global outlook, the EGI Federation also connects service providers beyond Europe following the collaboration needs of the served communities.
No.	35
id	eiscat
name	EISCAT Scientific Association
abbreviation	EISCAT
website	https://www.eiscat.se/
description	EISCAT is an international scientific association with member institutes in several countries. We conduct ionospheric and atmospheric measurements with radars. As an example we can observe effects of the aurora borealis or the northern lights. We operate in three countries: Finland, Norway and Sweden, and all our facilities are located north of the Arctic circle. We are associated with our radar antennas, that are located in Kiruna, Sweden; Sodankylä, Finland; Tromsø, Norway and in Longyearbyen, Svalbard. In Tromsø we also have a combined ionospheric heating and short-wave radar facility. EISCAT was established in 1975. We are a scientific organisation that conducts research on the lower, middle and upper atmosphere

	and ionosphere using the incoherent scatter radar technique. This technique is the most powerful ground-based tool for these research applications. The first EISCAT system, the UHF incoherent scatter radar, became operable in 1981. Since then, the facilities of the EISCAT Scientific Association have been continuously developed and extended and today comprise world-class radars and a powerful ionospheric heating facility. EISCAT is also being used as a coherent scatter radar for studying instabilities in the ionosphere, as well as for investigating the structure and dynamics of the middle atmosphere and as a diagnostic instrument in ionospheric modification experiments with the Heating facility. There are ten incoherent scatter radars in the world, and we here at EISCAT operates three of the highest-standard facilities. These sites are located in the Scandinavian sector, north of the Arctic Circle. They consist of two independent radar systems under the auroral oval on the mainland, together with another radar in the north polar cap region on the island of Spitzbergen in the Svalbard archipelago.
No.	36
id	elixir-belgium
name	ELIXIR Belgium
abbreviation	ELIXIR Belgium
website	https://www.elixir-belgium.org/
description	The Belgian node of ELIXIR brings together experience around data management, analyses workflows and data related trainings. Belgium joined ELIXIR as a full member in November 2015.
No.	37
id	elixir-europe
name	Elixir
abbreviation	ELIXIR
website	https://elixir-europe.org/
description	ELIXIR unites Europe's leading life science organisations in managing and safeguarding the increasing volume of data being generated by publicly funded research. It coordinates, integrates and sustains bioinformatics resources across its member states and enables users in academia and industry to access services that are vital for their research.
No.	38
id	elixir-italy
name	ELIXIR Italy
abbreviation	ELIXIR Italy
website	https://elixir-italy.org/
description	The Italian Node of ELIXIR is coordinated by the National Research Council and currently includes 17 partners including research institutes, universities and technological institutions. ELIXIR-IIB, which has the ambition to raise an Italian Infrastructure for Bioinformatics (IIB) distributed across multiple centers, aims to bring together all the Italian researchers working in the field of bioinformatics, encouraging the exchange and development of skills, integrating the various Italian bioinformatics resources that share international scientific recognition and are publicly available, and to contribute to their integration within the European infrastructure. Another primary objective of ELIXIR-IIB is to organize training activities, both at basic and advanced levels, covering various application fields of Bioinformatics in order to encourage the training of young bioinformaticians, since demand for them is booming both at the national and international levels.
No.	39
id	elixir-uk
name	ELIXIR United Kingdom
abbreviation	ELIXIR UK

website	https://elixiruknode.org/
description	ELIXIR-UK is the UK node of ELIXIR. The node currently consists of 18 organisations with the Earlham Institute as the lead institution. The node is a distributed effort across the UK, which builds upon the breadth and depth of its consortium members to provide services in bioinformatics and computational biology, to support researchers to find and share data and agree on best practices at national, European, and international level. The UK Node acts as a nucleating force at the national level bringing together individuals and institutions with an interest in developing biological bioinformatics, to help build a critical mass, support, and sustain this community and showcase and deliver the resources this community develops to ELIXIR and further afield. The UK Node supports the broader life science research community by providing training and services so that they are better equipped to deal with the data challenges they face and help them discover, distribute, analyse, and store data, exchange expertise and agree on standard approaches. Ultimately assisting the community in their excellent research so that they can better understand and gain insights into the biology of the world that surrounds us.
No.	40
id	embl-ebi
name	European Molecular Biology Laboratory - European Bioinformatics Institute
abbreviation	EMBL-EBI
website	https://www.ebi.ac.uk/
description	EMBL-EBI is international, innovative and interdisciplinary, and a champion of open data in the life sciences. At EMBL-EBI, we make the world's public biological data freely available to the scientific community via a range of services and tools, perform basic research and provide professional training in bioinformatics. We are part of the European Molecular Biology Laboratory (EMBL), an international, innovative and interdisciplinary research organisation funded by 27 member states, 2 prospective member states and 2 associate member states. We are situated on the Wellcome Genome Campus in Hinxton, Cambridge, UK, one of the world's largest concentrations of scientific and technical expertise in genomics. We provide freely available data and bioinformatics services to the scientific community. We contribute to the advancement of biology through investigator-driven research. We provide advanced bioinformatics training to scientists at all levels. We help disseminate cutting-edge technologies to industry. As an ELIXIR Node, we support the coordination of biological data provision throughout Europe.
No.	41
id	eocoe
name	Energy Oriented Centre of Excellence
abbreviation	EoCoE
website	https://www.eocoe.eu/
description	At the cross-road of the energy and digital revolutions, EoCoE develops and applies cutting-edge computational methods in its mission to accelerate the transition to the production, storage and management of clean, decarbonized energy. EoCoE is anchored in the High Performance Computing (HPC) community and targets research institutes, key commercial players and SMEs who develop and enable energy-relevant numerical models to be run on exascale supercomputers, demonstrating their benefits for low-carbon energy technology. EoCoE is built upon a world-class consortium of 18 complementary partners from 7 countries that forms a unique network of expertise in energy science, scientific computing and HPC, including 3 leading European supercomputing centers. EoCoE drives its efforts into 5 scientific Exascale challenges in the low-carbon sectors of energy: Meteorology, Materials, Water, Wind and Fusion. This multidisciplinary effort will harness innovations in computer science and mathematical algorithms within a tightly integrated co-design approach to overcome performance bottlenecks and to anticipate future HPC hardware developments. Challenging applications in selected energy sectors will be created at unprecedented scale, demonstrating

	the potential benefits to the energy industry, such as accelerated design of storage devices, high-resolution probabilistic wind and solar forecasting for the power grid and quantitative understanding of plasma core-edge interactions in ITER-scale tokamaks. By design, each of these Challenges exhibits a complexity level which requires exascale computing resources for its solution, while immediately posing a set of technical challenges for the numerical modelling, algorithmic kernels and computer science methodology from which these applications are constructed. Thus new methods and codes are needed to rebuild from scratch or deeply refactoring numerical approaches within an integrated co-design strategy to cope successfully forthcoming hardware architectures, and be able to mitigate the increase of run-time errors associated with the extreme parallelism. At the same time, they will need to remain relevant to their communities in order to maximize their impact, attract interest from users outside the consortium and the engagement of energy industrials and SMEs.
No.	42
id	eodc
name	Earth Observation Data Centre for Water Resources Monitoring
abbreviation	EODC
website	https://www.eodc.eu/
description	We assist our partners and customers with our expertise in earth observation (EO) and information technology (IT) to create current and future-oriented benefits for society and environment. Together with internal and external experts from our cooperation network we close the gap between research and practice to drive the operational use of EO data. EODC as a strong partner offers EO-tailored IT infrastructure and tools for the scientific, public and private sector. Through profound knowledge of IT and EO we provide the basis to create societal benefits in the areas of environmental and climate monitoring, agricultural applications, infrastructure management, and humanitarian aid and civil security.
No.	43
id	eosc-dih
name	EOSC Digital Innovation Hub
abbreviation	EOSC DIH
website	https://eosc-dih.eu/
description	EOSC DIH is an international and multi-partner cooperation that supports companies in easily accessing the digital technologies and services offered by the EOSC. It combines 4 main pillars to help companies become more competitive: Pilot design and co-design, Technical access, Training & support and Visibility.
No.	44
id	erasmusmc
name	Erasmus Medical Center
abbreviation	Erasmus MC
website	https://www.erasmusmc.nl/
description	Erasmus MC is a single organisation with a single identity. All Erasmus MC departments and units share a common name, logo and house style. Erasmus MC encompasses a full spectrum of clinical services, including those provided by two specialist units operating under the Erasmus MC umbrella: Erasmus MC Sophia Children's Hospital and Erasmus MC Cancer Institute. Both have unique reputations of their own in the world of university hospitals.
No.	45
id	esa-int
name	European Space Agency
abbreviation	ESA
website	https://www.esa.int/

description	The European Space Agency (ESA) is Europe's gateway to space. Its mission is to shape the development of Europe's space capability and ensure that investment in space continues to deliver benefits to the citizens of Europe and the world.
No.	46
id	etais
name	Estonian Scientific Computing Infrastructure
abbreviation	ETAIS
website	https://etais.ee
description	Estonian Scientific Computing Infrastructure (ETAIS) belongs to the Estonian roadmap of research infrastructures providing computing and storage resources for Estonian scientific community. ETAIS project is being carried out by a consortium of four institutions: University of Tartu, Tallinn University of Technology, National Institute of Chemical Physics and Biophysics and Information Technology Foundation for Education. ETAIS aims to increase the competitiveness of the Estonian computing and data-intensive research disciplines by providing access to a new and modern scientific computing infrastructure. The immediate aim of the core infrastructure is to manage the the joint scientific computing infrastructure established for Estonian R&D, which allows Estonian researchers to successfully operate in computing and data-intensive research disciplines. The infrastructure includes hardware (computers, storage media, network devices), the server rooms, software and support services necessary for the operation of the helpdesk. ETAIS infrastructure is in compliance with international cloud and high performance computing infrastructures and follows the best practices of the field.
No.	47
id	eudat
name	EUDAT
abbreviation	EUDAT
website	https://eudat.eu/
description	The EUDAT Collaborative Data Infrastructure (or EUDAT CDI) is one of the largest infrastructures of integrated data services and resources supporting research in Europe. It is sustained by a network of more than 20 European research organisations, data and computing centres that on September 2016 have signed an agreement to maintain the EUDAT CDI for the next 10 years and in 2018 have supported the establishment of the limited liability company, EUDAT Ltd. This infrastructure and its services have been developed in close collaboration with over 50 research communities spanning across many different scientific disciplines and involved at all stage of the design process. EUDAT's vision is Data is shared and preserved across borders and disciplines. Achieving this vision means enabling data stewardship within and between European research communities through a Collaborative Data Infrastructure (CDI), a common model and service infrastructure for managing data spanning all European research data centres and community data repositories. European researchers and practitioners from any research discipline can preserve, find, access, and process data in a trusted environment, as part of the EUDAT Collaborative Data Infrastructure. EUDAT offers heterogeneous research data management services and storage resources, supporting multiple research communities as well as individuals, through a geographically distributed, resilient network distributed across 15 European nations and data is stored alongside some of Europe's most powerful supercomputers.
No.	48
id	europeana
name	Europeana Foundation
abbreviation	Europeana
website	https://pro.europeana.eu/

description	<p>Europeana empowers the cultural heritage sector in its digital transformation. We develop expertise, tools and policies to embrace digital change and encourage partnerships that foster innovation. We make it easier for people to use cultural heritage for education, research, creation and recreation. Our work contributes to an open, knowledgeable and creative society. Europeana imagines a cultural heritage sector powered by digital and a Europe powered by culture, giving it a resilient, growing economy, increased employment, improved well-being and a sense of European identity. Europeana is made possible by the collaboration of three interlinked expert organisations who share the vision of a cultural heritage sector transformed by digital, and a Europe transformed by culture. Together, we call this ecosystem the Europeana Initiative. Europeana brings together cultural heritage professionals from all domains and from all of Europe through the Europeana Network Association, the Europeana Aggregators' Forum, diverse projects and partnerships and a programme of physical and digital events. Europeana provides the cultural heritage sector with a voice advocating for better digital practices that support openness, transparency and reuse of digital cultural heritage. Europeana empowers cultural heritage institutions to connect with existing and new audiences online. We support all cultural heritage institutions to create good quality digital assets in standardised formats, allowing them to share, explore, interrogate and use their collections in ways that fulfil their own 21st century missions. Millions of cultural heritage items from around 4,000 institutions across Europe are available online via the Europeana collections website. We work to share and promote this heritage so that it can be used and enjoyed by educators and researchers, creatives and culture lovers across the world. We provide opportunities for institutions and individuals in the cultural heritage sector to develop their digital skills and practice. Together, we work to raise awareness, build partnerships, enable peer-to-peer working and develop tools, services and events which support cultural heritage organisations in their digital transformation. Europeana develops and maintains technical solutions for showcasing, sharing and using digital cultural heritage. We design our own bespoke products available to all - Europeana collections, a suite of APIs and Europeana Pro - as well as systems and processes used internally to manage and enrich cultural heritage material. Our partnerships with technology organisations foster and promote innovation in the cultural heritage sector and help us find new ways to work with, improve and interact with digital culture.</p>
No.	49
id	exoscale
name	EXOSCALE
abbreviation	EXOSCALE
website	https://www.exoscale.com
description	<p>We're a team of IT operations veterans turned cloud enthusiasts. We believe the applications of the future will be cloud native. With Exoscale we're building infrastructure and services to help European teams build cloud native applications. This relentless focus allows us to build a cloud platform that's both powerful and enjoyable to use. Exoscale is a trademark of Akenes SA, a private company founded in 2011 and headquartered in Switzerland.</p>
No.	50
id	f6snl
name	F6S Network
abbreviation	F6S
website	https://www.f6s.com/
description	<p>F6S is the largest growth company community. It delivers billions in growth to millions of tech founders, growth companies and most of the global startup ecosystem. The F6S community includes 16,000 of the world's top corporates, governments, and startup programs. The community delivers company growth through investment, pilots, grants, partnerships and services. F6S members apply to startup programs (including accelerators), pitch for investment, post or apply for jobs, get free founder benefits and grow on F6S every day. The F6S name</p>

	comes from shortening the six letters between F and S in the word 'Founders'. We're all about growth and getting it done.
No.	51
id	fairdi
name	FAIR Data Infrastructure for Physics, Chemistry, Materials Science, and Astronomy
abbreviation	FAIR-DI
website	https://fairdi.eu/
description	In a similar spirit as that behind the building up and advancing the internet, it is now urgent to build a reliable infrastructure for data from basics sciences and engineering. This is being said since many years, e.g. at the launch of the NOMAD Laboratory in 2015 and here. And this is where the association FAIR-DI e.V. sets in: FAIR-DI will build a worldwide data infrastructure for big data from material science, engineering, and astronomy that follows the FAIR principles. FAIR stands for Findable, Accessible, Interoperable, Re-purposable/Reusable as suggested by Wilkinson and coworkers (Sci. Data 3, 160018, 2016). In the context of computational materials science, see also MRS Bulletin: NOMAD: 'The FAIR concept for big data-driven materials science'. The specific goals are: a) Strongly support extensive sharing of scientific raw data to advance research in science and engineering, thereby also serving the prevention of scientific misconduct, b) Hosting raw data (also defining and maintaining metadata) and normalized data, such that data from different studies can be compared and used for other purposes than those initially intended, when the data were created, c) Building an infrastructure such that the big data are easily available by other computer centers and research labs in academia and industry, d) Make data ready for analysis by methods from artificial intelligence.
No.	52
id	fairsharing
name	FAIRsharing
abbreviation	FAIRsharing
website	https://fairsharing.org/
description	FAIRsharing as a community approach to standards, repositories and policies. Authored by 68 international authors representing different stakeholder groups: (i) researchers in academia, industry and government, (ii) scholarly publishers, (iii) funders and other data policy makers, (iv) research data facilitators, librarians and trainers, (v) infrastructure providers, developers and curators of resources; and (vi) learned societies, unions and associations. We have come together as a community, representing the core adopters, advisory board members, and/or key collaborators of FAIRsharing to present its mission and work, and show the role FAIRsharing plays in informing and educating each stakeholder group to maximize the visibility and adoption of standards, databases and repositories within their community and in data policies.
No.	53
id	figshare
name	Figshare
abbreviation	Figshare
website	https://figshare.com
description	Figshare is a repository where users can make all of their research outputs available in a citable, shareable and discoverable manner. Our mission is to change the face of academic publishing with the improved dissemination and discoverability and reusability of all scholarly research. We're a passionate bunch. The Figshare team now spans 3 continents and specializes in building best of breed software to securely and permanently store, manage and visualize data in a robust and scalable manner.
No.	54

id	fssda
name	Finnish Social Science Data Archive
abbreviation	FSD
website	https://www.fsd.tuni.fi
description	The Finnish Social Science Data Archive (FSD) is a national resource centre for research and education. It provides a single point of access to a wide range of digital research data for learning, teaching and research purposes. Efficient, fair and free services are the cornerstone of FSD's activities. The archive promotes open access to research data as well as transparency, accumulation and efficient reuse of scientific research. FSD has been awarded the CoreTrust-Seal (CTS) for preserving and enabling the reuse of digital research data in a reliable manner. FSD is funded by the Finnish Ministry of Education and Culture and operates as a separate unit of Tampere University. FSD is Finland's national service provider for CESSDA and a member of DDI Alliance, ICPSR, IFDO and ISSP.
No.	55
id	gbif-es
name	GBIF Spain
abbreviation	GBIF Spain
website	https://www.gbif.es/
description	The Global Biodiversity Information Facility (GBIF) is an inter-governmental organization funded by different countries and aimed to provide free and open online access to global biodiversity data supporting scientific research, conservation, and sustainable development. GBIF is a network of participant countries and organizations coordinated by its Secretariat in Copenhagen. Working through participant nodes, it provides data-holding institutions around the world with common standards and open-source tools that enable them to share information about where and when species have been recorded. GBIF.ES is the Spanish Node of GBIF. GBIF.ES is organized as a distributed infrastructure composed by entities from all Spanish regions (research institutes, universities, environmental governments, citizen science initiatives, etc.) together with the Coordination Unit located at the Royal Botanic Garden-CSIC. Spain currently shares through the GBIF network over 32 million records of biodiversity from nearly a hundred of institutions and over three hundreds of datasets. (https://www.gbif.es/en/about-gbif-es/).
No.	56
id	geant
name	GÉANT
abbreviation	GÉANT
website	https://www.geant.org/
description	GÉANT is a fundamental element of Europe's e-infrastructure, delivering the pan-European GÉANT network for scientific excellence, research, education and innovation. Through its integrated catalogue of connectivity, collaboration and identity services, GÉANT provides users with highly reliable, unconstrained access to computing, analysis, storage, applications and other resources, to ensure that Europe remains at the forefront of research. Through inter-connections with its 39 national research and education network (NREN) partners, the GÉANT network is the largest and most advanced R&E network in the world, connecting over 50 million users at 10,000 institutions across Europe and supporting all scientific disciplines. The backbone network operates at speeds of up to 500Gbps and reaches over 100 national networks worldwide. Since its establishment over 20 years ago, the GÉANT network has developed progressively to ensure that European researchers lead international and global collaboration. Over 1000 terabytes of data is transferred via the GÉANT IP backbone every day. More than just an infrastructure for e-science, it stands as a positive example of European integration and collaboration. We develop, deliver and promote advanced networks and associated e-infrastructure services. We support open innovation, collaboration and

	knowledge-sharing amongst our members, partners and the wider research and education networking community.
No.	57
id	genias
name	Genias Benelux
abbreviation	Genias Benelux
website	http://genias.nl/
description	Genias Benelux is an advanced IT technology transfer and communication company. The areas of expertise range from Supercomputing/HPC to Knowledge management software, including distributed computing technologies such as Cloud computing and Docker container technology. Genias is running the oldest supercomputer magazine in the world Primeur magazine. Furthermore, it provides communications services, including White Papers, event coverage and technology articles. For R&D projects, Genias provides communication/dissemination services, since 1995. Genias is also involved in technology testing and management of organisations and projects. Genias participated and is participating as partner in many European projects.
No.	58
id	gesis
name	GESIS Leibniz Institute for the Social Sciences
abbreviation	GESIS Leibniz
website	https://www.gesis.org/
description	With more than 300 employees at two locations - Mannheim and Cologne - GESIS provides essential and internationally relevant research-based services for the social sciences. As the largest European infrastructure institute for the social sciences GESIS offers advice, expertise and services at all stages of scientists' research projects. With this support socially relevant questions can be answered based on the latest scientific methods, and with high quality research data. GESIS is an infrastructure institution for the social sciences whose purpose is to promote social science research. We stand for independence, sustainability, quality, and competence in the social sciences. We are a member of the Leibniz Association. Our goal is to be the most important infrastructure institution for the social sciences in Germany and one of the leading infrastructure institutions for the social sciences in the world. In order to develop innovative, research-based services, we align our core competencies with thematic, methodological, and structural developments in the social sciences.
No.	59
id	grnet
name	National Infrastructures for Research and Technology
abbreviation	GRNET
website	https://grnet.gr/
description	GRNET – National Infrastructures for Research and Technology, provides networking and cloud computing services to academic and research institutions, to educational bodies at all levels, and to agencies of the public, broader public and private sector. It is responsible for promoting and disseminating network and computing technologies and applications, as well as for promoting and implementing Greece's Digital Transformation goals. Thus, GRNET leverages the educational and research activity in the country, towards the development of applied and technological research in the fields of telecommunication networks and computing services. GRNET holds a key role as the coordinator of all e-infrastructures in Education and Research. With twenty-plus years' experience in the fields of advanced network, cloud computing and IT infrastructures and services, and significant international presence, GRNET shall advise the Ministry of Digital Governance on issues relating to the design of advanced information systems and infrastructures. GRNET develops synergies with other agencies which provide digital services in the Greek public sector, by sharing best practices and know-how

	<p>on advanced information systems and it represents the national research and technological community within the European Union's Research Infrastructures. GRNET contributes to the country's Digital Transformation via in-depth analysis, technological studies, standard solutions and specialized know-how, serving at the same time hundreds of thousands of users on a daily basis in the strategic fields of Public Administration, Education, Research, Health and Culture. GRNET is also the National Research and Education Network (NREN). In order to reach its goals, GRNET undertakes projects, initiatives and other activities related to information technology, digital technology, communication, e-governance, new and open technologies, including new big data technologies, artificial intelligence and machine learning, and in general, to the promotion, dissemination and transfer of know-how regarding network and computing technologies and their applications, to research and development, education and to the promotion of Digital Transformation.</p>
No.	60
id	grycap
name	Institute of Instrumentation for Molecular Imaging - Grid and High Performance Computing - Universitat Politècnica de València
abbreviation	GRyCAP
website	https://www.grycap.upv.es
description	<p>GRyCAP is a research group of the Institute for Molecular Imaging Technologies at the Universitat Politècnica de València, in Spain. The group focuses on the application of the multiple facets of distributed computing (e.g. Cloud computing, High-Performance Computing, Grid computing, Serverless computing, etc.) to different scientific areas that include, but are not limited to biomedicine, medical imaging and structural buildings. The GRyCAP has extensive expertise in the development of open-source software for Distributed Computing Infrastructures. It participates in large-scale European H2020 projects and has extensive experience in the leadership of Brazil-European projects. The GRyCAP also has significant training capacities in the area of Cloud computing, actively leading subjects in the Master's Degree in Parallel and Distributed Computing, the Master's Degree in Big Data Analytics and the Master's Degree in Information Management.</p>
No.	61
id	hirmeos
name	High Integration of Research Monographs in the European Open Science infrastructure
abbreviation	HIRMEOS
website	https://www.hirmeos.eu/
description	<p>HIRMEOS develops on top of the most common publishing platforms and technologies for open access monographs in the ERA, enhancing the already existing publication infrastructure. It adds services to the platforms and data to the documents they publish. As the platforms are compliant and indexed by OpenAire, the value added by the project to the platform will be reused by OpenAire to integrate better the monographs in the KMS set up by OpenAire infrastructure. From TRL-6 to TRL-8: The level of development between the platforms is uneven considering the different services the project aims to implement. Most of the services are implemented successfully on one or two of the platforms participating to the project but none on all of them. Some services have been implemented on different and specific environments but on none of the participating platforms. HIRMEOS will bring all platforms at the same level of development regarding the data services they will offer.</p>
No.	62
id	ifca-csic
name	Institute of Physics of Cantabria - Spanish National Research Council - University of Cantabria
abbreviation	IFCA-CSIC
website	https://ifca.unican.es/

description	The Institute of Physics of Cantabria (IFCA) is a Joint Centre with the combined effort of two institutions, Spanish National Research Council (CSIC) and University of Cantabria (UC) oriented to perform research on basic science: to understand the components of nature, from elementary particles (Particle Physics) to the largest structures of the Universe (Astronomy and Space Science) as well as the complex collective behaviour of matter (Statistical and Non-linear Physics). Our centre has maintained a steadily grow in all its aspects since its creation in 1995, reaching its current size of about 80 people, with about 29 staff researchers. It produces yearly more than 200 publications in the best journals in the respective fields and has nearly 20 active projects, obtaining external funding of about 2.0M/year, more than 80% of the total budget. The Instituto de Física de Cantabria was created on June 8th, 1995 through a cooperation agreement signed by José María Mato de la Paz (chairman of the Consejo Superior de Investigaciones Científicas) and Jaime Vinuesa Tejedor (Rector of the Universidad de Cantabria), being the first director of the center F. Xavier Barcons Jáuregui. The main goal of the Instituto de Física de Cantabria is to promote high quality scientific research in the fields of Astrophysics and Structure of Matter.
No.	63
id	ifremer
name	Ifremer, the French Marine Science Research Institute
abbreviation	Ifremer
website	https://wwz.ifremer.fr/
description	A pioneer in ocean science, IFREMER's cutting-edge research is grounded in sustainable development and open science. Our vision is to advance science, expertise and innovation to: a) Protect and restore the ocean, b) Sustainably use marine resources to benefit society, c) Create and share ocean data, information & knowledge. With more than 1,500 personnel spread along the French coastline in more than 20 sites, the institute explores the 3 great oceans: the Indian, Atlantic and Pacific oceans. A leader in ocean science, IFREMER is managing the French Oceanographic Fleet and its dedicated scientists create ground-breaking technology to push the boundaries of ocean exploration and knowledge, from the abyss to the atmosphere-ocean interface. Well-established in the international scientific community, our scientists, engineers and technicians are committed to advance knowledge about our planet's last unexplored frontiers. They provide the science we need for informed decision-making and public policy and they transfer this knowledge and technology to businesses to fulfill public and private needs. Core to our mission is also to strengthen public awareness about the importance of understanding the ocean and its resources, and empowering future generations of leaders through education and outreach national campaigns. Founded in 1984, IFREMER is a French public organization and its budget approximates 240 million euros. It is operating under the joint authority of the French Ministry for Higher Education, Research and Innovation, the French Ministry for the Ecological and Solidary Transition, and the French Ministry of Agriculture and Food.
No.	64
id	incd
name	National Distributed Computing Infrastructure
abbreviation	INCD
website	https://www.incd.pt/
description	INCD - National Distributed Computing Infrastructure is a digital infrastructure supporting research, approved within the framework of the strategic research infrastructures of the Science and Technology Foundation (FCT). INCD provides computing and storage services to the national scientific and academic community in all areas of knowledge. The infrastructure is especially dedicated to providing scientific calculation services, supporting researchers and participation in national and international projects. INCD's technical team keeps close follow-up to the user, offering solutions tailored to the needs and specificities of each project. INCD

	operates an integrated system that provides its services from multiple locations, interconnected by a state-of-the-art network infrastructure. Its services are integrated in similar international infrastructures with which it shares computing resources for the benefit of projects of national and international relevance. In this context, INCD participates in the European Grid Infrastructure (EGI), Iberian computing infrastructure (IBERGRID), the Worldwide LHC Computing Grid (WLCG), the European Open Science Cloud through the EOSC-hub project EOSC-hub and the EOSC-synergy.
No.	65
id	infn
name	Italian National Institute of Nuclear Physics
abbreviation	INFN
website	http://home.infn.it/
description	The National Institute for Nuclear Physics (INFN) is the Italian research agency dedicated to the study of the fundamental constituents of matter and the laws that govern them, under the supervision of the Ministry of Education, Universities and Research (MIUR). It conducts theoretical and experimental research in the fields of subnuclear, nuclear and astroparticle physics. All of the INFN's research activities are undertaken within a framework of international competition, in close collaboration with Italian universities on the basis of solid academic partnerships spanning decades. Fundamental research in these areas requires the use of cutting-edge technology and instruments, developed by the INFN at its own laboratories and in collaboration with industries. Groups from the Universities of Rome, Padua, Turin, and Milan founded the INFN on 8th August 1951 to uphold and develop the scientific tradition established during the 1930s by Enrico Fermi and his school, with their theoretical and experimental research in nuclear physics. In the latter half of the 1950s the INFN designed and built the first Italian accelerator, the electron synchrotron developed in Frascati, where its first national laboratory was set up. During the same period, the INFN began to participate in research into the construction and use of ever-more powerful accelerators being conducted by CERN, the European Organisation for Nuclear Research, in Geneva. Today the INFN employs some 5,000 scientists whose work is recognised internationally not only for their contribution to various European laboratories, but also to numerous research centres worldwide.
No.	66
id	infn-catania
name	Italian National Institute of Nuclear Physics - Catania Division
abbreviation	INFN Catania
website	https://www.ct.infn.it/
description	The Catania Division of INFN (the National Institute of Nuclear Physics) in Italy.
No.	67
id	infrafrontier
name	INFRAFRONTIER
abbreviation	INFRAFRONTIER
website	https://www.infrafrontier.eu/
description	INFRAFRONTIER is the European Research Infrastructure for the generation, phenotyping, archiving and distribution of model mammalian genomes. The INFRAFRONTIER Research Infrastructure provides access to first-class tools and data for biomedical research, and thereby contributes to improving the understanding of gene function in human health and disease using the mouse model. The core services of INFRAFRONTIER comprise the systemic phenotyping of mouse mutants in the participating mouse clinics, and the archiving and distribution of mouse mutant lines by the European Mouse Mutant Archive (EMMA). In addition, INFRAFRONTIER provides specialised services such as the generation of germ-free mice (axenic service) and training in state of the art cryopreservation and phenotyping technologies. The INFRAFRONTIER GmbH coordinates as a non-profit organisation the transnational activities

	of the national partners that together form the European INFRAFRONTIER Research Infrastructure.
No.	68
id	jelastic
name	Jelastic
abbreviation	Jelastic
website	https://jelastic.com/
description	Jelastic is a Multi-Cloud DevOps PaaS for ISVs, telcos, service providers and enterprises needing to speed up development, reduce cost of IT infrastructure, improve uptime and security. The platform automates creation, scaling, clustering and security updates of cloud-native and traditional applications. Jelastic has a unique pay-as-you-use pricing model and is available as public, private, hybrid and multi-cloud in more than 70 data centers worldwide. The platform supports Java, PHP, Ruby, Node.js, Python, .NET, Go environments, as well as Docker and Kubernetes clusters.
No.	69
id	jsc-de
name	Jülich Supercomputing Centre
abbreviation	JSC
website	https://www.fz-juelich.de/
description	We conduct research to provide comprehensive solutions to the grand challenges facing society in the fields of energy and environment, information and brain research. Our aim is to lay the foundation for the key technologies of tomorrow. With some 6,100 employees and a unique research infrastructure, Forschungszentrum Jülich is one of the major interdisciplinary research centres in Europe. It is a member of the Helmholtz Association.
No.	70
id	komanord
name	Koma Nord
abbreviation	Koma Nord
website	https://komanord.pl/
description	Komanord is an IT infrastructure supplier and outsourcer.
No.	71
id	lifewatch-eric
name	LifeWatch ERIC
abbreviation	LifeWatch ERIC
website	https://www.lifewatch.eu/
description	LifeWatch ERIC is a European Infrastructure Consortium providing e-Science research facilities to scientists seeking to increase our knowledge and deepen our understanding of Biodiversity organisation and Ecosystem functions and services in order to support civil society in addressing key planetary challenges. LifeWatch ERIC was established as a European Research Infrastructure Consortium by the European Commission Implementing Decision (EU) 2017/499 of 17 March 2017. In setting up LifeWatch ERIC, the EC is seeking to address, by means of long term investment, the global factors (climate, demographic pressure, pollution, soil consumption, etc.) responsible for ongoing loss of biological diversity and ecosystem functioning, with direct impacts on the well-being and development of today's society. Understanding the evolution and functions of biodiversity and ecosystem services is now of crucial importance, not only for scientific reasons, but also to meet the demand from policy makers, managers and stakeholders for scientific-based tools. This requires analysis of both impacts and managerial decisions on a range of spatial and temporal scales; observation (and

	monitoring) of data from both ecosystems and laboratory experiments; and appropriate storage and management of relevant data. It also implies the setting of standards to ensure interoperability and accurate models of ecosystem dynamics. LifeWatch ERIC seeks to understand the complex interactions between species and the environment, taking advantage of High-Performance, Grid and Big Data computing systems, and the development of advanced modelling tools to implement management measures aimed at preserving life on Earth. Combining a wide range of ICT tools and resources with deep knowledge of the domain, LifeWatch ERIC's mission is to be a "first class" worldwide provider of content and services for the Biodiversity research community by: a) Offering new opportunities for large-scale scientific development, b) Enabling accelerated data capture with innovative new technologies, c) Supporting knowledge-based decision-making for biodiversity and ecosystem management, d) Providing training, dissemination and awareness programmes.
No.	72
id	lnec-pt
name	Portuguese National Civil Engineering Laboratory
abbreviation	LNEC
website	http://www.lnec.pt/
description	LNEC's mission is to undertake, coordinate and promote scientific research and technological development, aiming to the continuous improvement and the good practice of Civil Engineering. It is also LNEC's responsibility to pursue the public interest, by providing services of Science and Technology to public and private, national and foreign entities, contributing to innovation, dissemination of Knowledge and technology transfer. It is also LNEC's mission to assist the Government in the pursuit of public policies, and to provide technical support to the entities that constitute the Authority in the various sectors of Public Administration, in particular with regard to: a) Quality and safety of works, persons and assets; b) Protection and requalification of the natural and built heritage; and c) Modernisation and technological innovation, particularly in the building sector. Since its early days, LNEC has been establishing networks and partnerships with national and international entities, giving it the ability to promote and foster the globalization of Science and Knowledge, positioning LNEC as an important partner in its area of expertise.
No.	73
id	materialscloud
name	Materials Cloud
abbreviation	Materials Cloud
website	https://www.materialscloud.org/
description	Materials Cloud is built to enable the seamless sharing and dissemination of resources in computational materials science, offering educational, research, and archiving tools; simulation software and services; and curated and raw data. These underpin published results and empower data-based discovery, compliant with data management plans and the FAIR principles. Materials Cloud is powered by AiiDA, an open-source python infrastructure to manage and persist the ever-growing amount and complexity of workflows and data in computational science.
No.	74
id	meeo
name	Meteorological and Environmental Earth Observation
abbreviation	MEEO
website	http://www.meeo.it/
description	MEEO, born in 2004 with the aim to develop and commercialize products and services within the Earth Observation, is a privately-held company devoted to the development and implementation of products and services based on remote sensing of the Earth-Atmosphere system. MEEO is able to provide a wide range of services and products "ready" (off the shelf)

	based on analysis of multispectral, multisensor and multitemporal satellite data for environmental monitoring, land management and agriculture. MEEO also aims to develop dedicated services for different applications in remote sensing, in the propagation of electromagnetic waves, data mining and data fusion. MEEO is an ESA value added partner, working on more than 20 ESA projects and several National and European projects. SISTEMA GmbH is a privately-held company founded in 2009 as R & D branch of MEEO and it is focused on development of new data processing tools. It works mainly on ESA project and on Austrian National projects.
No.	75
id	mundi-ws
name	Mundi Web Services
abbreviation	Mundi Web Services
website	https://mundiwebservices.com/
description	Mundi integrates a large range of Earth Observation and non EO data. The collection is regularly enriched to offer all material to build and operate your service. You can find free and licensed products according to your needs. Our tools collection is built on a selection of specialized building-bricks to manage all types of data and use cases. Mundi eases the access to data and processing power and proposes dedicated free or licensed software. Mundi has the skills and the expertise to assist you in a very large range of activities. From technical or functional support to more thematic or business consulting, Mundi team is organized to provide a support tailored to your needs.
No.	76
id	norce
name	NORCE Norwegian Research Centre
abbreviation	NORCE
website	https://www.norceresearch.no/
description	NORCE works towards finding solutions that benefit the community, and which increase sustainable value creation nationally and globally.
No.	77
id	openaire
name	OpenAIRE
abbreviation	OpenAIRE
website	https://www.openaire.eu/
description	OpenAIRE's vision is to transform society through validated scientific knowledge. Allow citizens, educators, funders, civil servants and industry find ways to make science useful for themselves, their working environments, the society. OpenAIRE's mission is to shift scholarly communication towards openness and transparency and facilitate innovative ways to communicate and monitor research. OpenAIRE's mission is closely linked to the mission of the European Commission: to provide unlimited, barrier free, open access to research outputs financed by public funding in Europe. OpenAIRE fulfils the EOSC vision substantially, as its operations already provide the glue for many of the user and research driven functionalities, whether these come from the long tail of science (repositories and local support) or domain disciplined research communities or Research Infrastructures. OpenAIRE is a participatory initiative from its onset. The current governance structure consists of three bodies: the General Assembly (decision making body), the Executive Board (steering) and the Management Office (daily activities). Our network of 34 European National Open Access Desks are experts in open access and open science. They are embedded in national infrastructures and settings voicing the needs of the research community. OpenAIRE operates a distributed management office with dedicated people that carry out the day to day activities and provide the necessary leadership to coordinate the multiple facets of open science in Europe.
No.	78

id	openedition
name	OpenEdition
abbreviation	OpenEdition
website	https://www.openedition.org
description	OpenEdition is a comprehensive digital infrastructure for academic communication in the humanities and social sciences. It brings together four complementary platforms focused respectively on journals (OpenEdition Journals), book series (OpenEdition Books), research blogs (Hypotheses) and academic events (Calenda). With its status as a national research infrastructure, OpenEdition is supported by OpenEdition Center, a CNRS Service and Research Unit (USR 2004), and by Aix-Marseille University, the EHESS and Avignon University.
No.	79
id	openknowledgemaps
name	Open Knowledge Maps
abbreviation	Open Knowledge Maps
website	https://openknowledgemaps.org/
description	Open Knowledge Maps is a charitable non-profit organization dedicated to dramatically increasing the visibility of scientific knowledge for science and society alike. To this end, Open Knowledge Maps operates the world's largest visual search engine for research. Our services enable a diverse set of stakeholders to openly explore, discover, and make use of scientific content. Open Knowledge Maps is an open infrastructure based on the principles of open science: source code, content and data are shared under an open license. As a community-driven initiative, Open Knowledge Maps develops our services in a participatory process together with its stakeholders. Our aim is to create an inclusive, sustainable and equitable infrastructure that can be used by anyone, independent of geographic area, age, or stakeholder group.
No.	80
id	openminted
name	OpenMinTeD
abbreviation	OpenMinTeD
website	http://openminted.eu/
description	OpenMinted sets out to create an open, service-oriented e-Infrastructure for Text and Data Mining (TDM) of scientific and scholarly content. Researchers can collaboratively create, discover, share and re-use Knowledge from a wide range of text-based scientific related sources in a seamless way.
No.	81
id	openrisknet
name	OpenRiskNet
abbreviation	OpenRiskNet
website	https://openrisknet.org/
description	OpenRiskNet is a 3 year project funded under the Horizon 2020 EINFRA-22-2016 Programme. The main objective is to provide an open e-Infrastructure providing resources and services to a variety of communities requiring risk assessment, including chemicals, cosmetic ingredients, therapeutic agents and nanomaterials. OpenRiskNet will work with a network of partners, organized within an Associated Partners Programme. Toxicology and risk assessment are undergoing a paradigm shift, from a phenomenological to a mechanistic discipline based on in vitro and in silico approaches that represent an important alternative to classical animal testing applied to the evaluation of chronic and systemic toxicity risks. Large databases and highly sophisticated methods, algorithms and tools are available for different tasks such as hazard prediction, toxicokinetics, and in vitro – in vivo extrapolations to support this transition. However, since these services are developed independently and provided by different

	groups world-wide, there is no standardized way to access the data or run modelling workflows. To overcome the fragmentation of data and tools, OpenRiskNet will provide open e-Infrastructure resources and services supporting different scientific communities.
No.	82
id	operas
name	OPERAS
abbreviation	OPERAS
website	https://www.operas.unito.it/
description	OPERAS is the Research Infrastructure supporting open scholarly communication in the social sciences and humanities (SSH) in the European Research Area. Its mission is to coordinate and federate resources in Europe to efficiently address the scholarly communication needs of European researchers in the field of SSH. OPERAS' aim is to make Open Science a reality for research in the SSH and achieve a scholarly communication system where knowledge produced in the SSH benefits researchers, academics, students and more generally the whole society across Europe and worldwide, without barriers. The European landscape of scholarly communication in the SSH is currently patchy, fragmented and not organized enough to be efficient, particularly to address the challenge of transitioning to Open Science. This is due to several factors, such as the small size of resource providers, the historical underfunding and lack of sustainability in this area, the variety of technical skills and resources across the community. The nature of the SSH disciplines also adds specific challenges which are not correctly addressed at scale, such as the diversity of publication languages, the entrenchment in diverse cultural backgrounds and the need for specific forms of scholarly communication (monographs, critical editions, and edited bibliographies, amongst others). By fulfilling its mission, OPERAS provides the research community with the missing brick it needs to find, access, create, edit, disseminate and easily and efficiently validate SSH outputs across Europe. In one word, OPERAS unlocks scholarly communication resources and enables the whole field to reinvent itself in the new Open Science paradigm.
No.	83
id	osmooc
name	Open Science MOOC
abbreviation	OSMOOC
website	https://opensciencemooc.eu/
description	This MOOC is designed to help equip students and researchers with the skills they need to excel in a modern research environment. It brings together the efforts and resources of hundreds of researchers and practitioners who have all dedicated their time and experience to create a community platform to help propel research forward. The content of this MOOC will be distilled into 10 core modules. Each module will comprise a complete range of resources including videos, research articles, dummy datasets and code, as well as tasks to complete as individuals or groups. This project is carried out mostly by volunteer work. If you would like to contribute, please join our slack channel Sign up for slack Open Science MOOC or join our GitHub project team. There are 14 people forming the Steering Committee for this project, as well as a core Production Team which is open to anyone to join.
No.	84
id	phenomenal
name	Phenomenal
abbreviation	Phenomenal
website	http://phenomenal-h2020.eu/
description	PhenoMeNal (Phenome and Metabolome aNalysis) is a comprehensive and standardised e-infrastructure that supports the data processing and analysis pipelines for molecular phenotype data generated by metabolomics applications. An infrastructure aimed to address the

	H2020 Societal Challenge in Health, Demographic Change and Wellbeing, PhenoMeNal provides services enabling computation and analysis to improve the understanding of the causes and mechanisms underlying health, healthy ageing and diseases.
No.	85
id	prace
name	Partnership For Advanced Computing in Europe
abbreviation	PRACE
website	http://www.prace-ri.eu/
description	The Partnership for Advanced Computing in Europe (PRACE) is an international non-profit association with its seat in Brussels. The PRACE Research Infrastructure provides a persistent world-class high performance computing service for scientists and researchers from academia and industry in Europe. The computer systems and their operations accessible through PRACE are provided by 5 PRACE members (BSC representing Spain, CINECA representing Italy, ETH Zurich / CSCS representing Switzerland, GCS representing Germany and GENCI representing France). The Implementation Phase of PRACE receives funding from the EU's Horizon 2020 Research and Innovation Programme (2014-2020) under grant agreement 823767.
No.	86
id	psnc
name	PSNC
abbreviation	PSNC
website	https://www.psnc.pl/
description	PSNC provides access to a world-class e-Infrastructure for the scientific community, a specific research and development environment – DIGITAL SCIENCE – for “proof of concept” projects, prototyping or large-scale pilot projects. Another branch of our activity is in DIGITAL INDUSTRY, which is focused on the creation of innovations based on Information and Communication Technologies (ICT), i.e. the execution of specific implementations for various fields of science and industry. Equally important is our work in the context of SOCIAL INNOVATION to spread knowledge and awareness of contemporary technological opportunities among various social groups, as well as actively fighting against digital exclusion.
No.	87
id	rasdaman
name	RASDAMAN
abbreviation	RASDAMAN
website	http://www.rasdaman.org/
description	rasdaman ("raster data manager") is an Array DBMS, that is: a Database Management System which adds capabilities for storage and retrieval of massive multi-dimensional arrays, such as sensor, image, simulation, and statistics data. A frequently used synonym to arrays is raster data, such as in 2-D raster graphics; this actually has motivated the name rasdaman. However, rasdaman has no limitation in the number of dimensions - it can serve, for example, 1-D measurement data, 2-D satellite imagery, 3-D x/y/t image time series and x/y/z exploration data, 4-D ocean and climate data, and even beyond spatio-temporal dimensions.
No.	88
id	rbi-hr
name	Ruder Boškovic Institute
abbreviation	RBI
website	https://www.irb.hr/
description	The Ruđer Bošković Institute is regarded as Croatia's leading scientific institute in the natural and biomedical sciences as well as marine and environmental research.
No.	89

id	readcoop
name	READ-COOP
abbreviation	READ-COOP
website	https://read.transkribus.eu/
description	The READ COOP SCE with limited liability was established on 1st of July 2019 in order to sustain and further develop the Transkribus platform. We are convinced that the legal model of a European Cooperative Society gives us the opportunity to carry out our work in a highly efficient, open and democratic way. READ-COOP is based on the EU directive of a European Cooperative Society (SCE) but it is open to members outside of the European Community as well.
No.	90
id	ror-org
name	Research Organization Registry
abbreviation	ROR
website	https://ror.org/
description	ROR is the Research Organization Registry, a community-led project to develop an open, sustainable, usable, and unique identifier for every research organization in the world. The scholarly community depends on a network of open identifier and metadata infrastructure. Content identifiers and contributor identifiers are foundational components of this network. But an additional component has been missing—until now, there has been no open, stakeholder-governed infrastructure for research organization identifiers and their associated metadata. With the aim of filling this gap, ROR launched in January 2019. ROR is intended for use by the research community, for the purposes of increasing the use of organization identifiers in the community and enabling connections between organization records in various systems. Implementation of ROR IDs in scholarly infrastructure and metadata will enable more efficient discovery and tracking of research outputs across institutions and funding bodies. ROR is run by a small group of steering organizations in collaboration with a broad network of community advisors and supporters.
No.	91
id	seadatanet
name	SeaDataNet
abbreviation	SeaDataNet
website	https://www.seadatanet.org/
description	SeaDataNet is a distributed Marine Data Infrastructure for the management of large and diverse sets of data deriving from in situ of the seas and oceans. Professional data centres, active in data collection, constitute a Pan-European network providing on-line integrated databases of standardized quality. The on-line access to in-situ data, meta-data and products is provided through a unique portal interconnecting the interoperable node platforms constituted by the SeaDataNet data centres. The development and adoption of common communication standards and adapted technology ensure the platforms interoperability. The quality, compatibility and coherence of the data issuing from so many sources, is assured by the adoption of standardized methodologies for data checking, by dedicating part of the activities to training and preparation of synthesized regional and global statistical products from the most comprehensive in-situ data sets made available by the SeaDataNet partners.
No.	92
id	sinergise
name	Sinergise
abbreviation	Sinergise
website	https://sinergise.com/

description	<p>Sinergise is a GIS company building large turn-key geospatial systems in the fields of cloud GIS, agriculture and real-estate administration. Sinergise was established in 2008 to develop enterprise-level solutions for managing spatial data, especially for support in land administration and agriculture processes. These are based on one of the first world-scale distributed GIS editing frameworks, Giselle, built in 2003 within company Cosylab (renowned company in the field of large experiments in physics, such as particle accelerators, fusion reactors, etc.), using its technology for distribution of millions of event data per second. In 2008 GIS business reached the sustainable level and Sinergise span-off from Cosylab to form an individual entity. In 12 years of operations Sinergise built solutions for large governmental clients in Europe (United Kingdom, France, Slovenia, Croatia, Macedonia, Montenegro, Czech Republic, Azerbaijan, Moldova) and Africa (Nigeria, Ghana, Tanzania, Mauritius), almost all of them still being supported nowadays. Altogether there are more than 2 million people annually using Sinergise's tools and its technology helps to manage more than 50 million property records and more than 500 million EUR of transactions annually.</p>
No.	93
id	sixsq
name	SixSq
abbreviation	SixSq
website	https://sixsq.com
description	<p>SixSq was founded in August 2007 by 3 partners. The company provides the edge-to-cloud management platform Nuvla.io, which allows companies and institutions to deploy a secure and comprehensive edge and cloud strategy, while avoiding lock-in. Most of our software is open source. The NuvlaBox software turns any x86 or ARM hardware platform into a smart edge device. Think of NuvlaBox as the Linux or Windows of edge devices (in fact it is based on Linux). Nuvla.io also provides a Private App Store, with the same convenience as Apple's App Store, but for deploying apps at the edge and in the cloud. As long as your app is containerised, you can deploy it with Nuvla.io, in a click! It's as easy to use! We believe Nuvla.io will accelerate AI deployment at the edge and take away management complexity, while giving you full control over your data. Our customers use it to deploy retail, outpost, smart city, and science applications. What will you do with it? Let us know. Creating complex and sophisticated software like Nuvla and NuvlaBox and operating services like Nuvla.io is not trivial. We pour all our passion and energy in writing the best software possible. We hope you'll have as much fun using our products and services as we have creating them. If you do, please tell us, and if we're not meeting your expectations, we'd really appreciate you share your thoughts.</p>
No.	94
id	smartsmeat
name	Smart-SMEAR
abbreviation	SmartSMEAR
website	https://www.atm.helsinki.fi/SMEAR/
description	<p>Smear research stations are to measure the relationship of atmosphere and forest in boreal climate zone. The main aims of research are: Biosphere - aerosol - cloud - climate interactions; Biogeochemical cycles of carbon, nitrogen, sulphur and water; Analysis of gaseous and particle pollutants and their role in cloud formation; Analysis of water, carbon and nutrient budgets of soil; Analysis of environment and tree structure on gas exchange, water transport and growth of trees.</p>
No.	95
id	sobigdata
name	SoBigData
abbreviation	SoBigData
website	http://sobigdata.eu

description	SoBigData proposes to create the Social Mining & Big Data Ecosystem: a research infrastructure (RI) providing an integrated ecosystem for ethic-sensitive scientific discoveries and advanced applications of social data mining on the various dimensions of social life, as recorded by "big data". SoBigData will open up new research avenues in multiple research fields, including mathematics, ICT, and human, social and economic sciences, by enabling easy comparison, re-use and integration of state-of-the-art big social data, methods, and services, into new research. It will not only strengthen the existing clusters of excellence in social data mining research, but also create a pan-European, inter-disciplinary community of social data scientists, fostered by extensive training, networking, and innovation activities.
No.	96
id	sstir
name	Shanghai Science and Technology Innovation Resources Center
abbreviation	SSTIRC
website	http://www.sstir.cn/
description	SSTIR is a research and development resource integration big data platform which support the city's push to become an innovation hub with global influence.
No.	97
id	suite5
name	Suite5 Data Intelligence Solutions
abbreviation	Suite5
website	https://www.suite5.eu/
description	Suite5 is an Information Technology Solutions and Services SME with the mission to deliver innovative data-driven intelligence solutions through state-of-the art technologies. Combining strong technology know-how and hands-on approach in managing and implementing projects commissioned by the public and the private sector, Suite5 provides research-inspired solutions and practical support for its clients.
No.	98
id	surf-nl
name	SURF
abbreviation	SURF
website	https://www.surf.nl/
description	SURFnet is an organisation that develops, implements and maintains the national research and education network (NREN) of the Netherlands, and is also the name of the network it operates. SURFnet's executives have been founders of or occupied board positions in organisations including Ebone, CENTR, SIDN, AMS-IX, TERENA, DANTE, RIPE NCC, ISOC, IETF, IESG and IAB. The company is a subsidiary of a not-for-profit foundation, SURF. SURFnet as a network is a backbone computer network reserved for higher education and research in the Netherlands. Staff and students of connected organizations can communicate through SURFnet with other internet users.
No.	99
id	switch
name	SWITCH
abbreviation	SWITCH
website	https://www.switch.ch/
description	SWITCH was founded in 1987 under private law by the Swiss Confederation and the eight university cantons that existed at the time: "The foundation has as its objective to create, promote and offer the necessary basis for the effective use of modern methods of telecomputing in teaching and research in Switzerland, to be involved in and to support such methods. It is a non-profit foundation that does not pursue commercial aims." (Excerpt from the deed of foundation, Berne 22 October 1987)

No.	100
id	terradue
name	Terradue
abbreviation	Terradue
website	https://www.terradue.com/
description	Terradue's mission is to innovate services in Earth Science, tailored for data-intensive applications. We come together to remove barriers and automate Cloud data storage, data analysis algorithms and massive computing power.
No.	101
id	treeofscience
name	Tree of Science
abbreviation	Tree of Science
website	https://www.treeofscience.com
description	Tree of Science is dedicated to give impact and accelerate science, humanities, and research by providing digital solutions for researchers and their research organizations. We promote Science 2.0, digital tools for researchers and open science, to trigger a systematic change in the modus operandi of doing research and managing science.
No.	102
id	t-systems
name	T-Systems International
abbreviation	T-Systems
website	https://www.t-systems.com/
description	T-Systems supports more than 1,000 clients, including all DAX 30 companies in Germany and 100 of the Fortune 500 companies globally. Our clients come from all regions and sectors, including the automotive industry, retail trade, logistics and transport sector, and healthcare. As a subsidiary of Deutsche Telekom, T-Systems provides all important building blocks for innovative information technology and digitalization. This includes development, implementation, integration, and sale of private and public IT infrastructures and applications, including strategic digitalization and the transformation solutions that accompany this. We also provide consultancy services, drawing from our deep knowledge of the industry and with the help of over 4,000 SAP experts around the world.
No.	103
id	ubora
name	Open Biomedical Engineering e-platform for Innovation through Education
abbreviation	UBORA
website	http://ubora-biomedical.org/
description	UBORA is a platform for open source co-design of new solutions to face the current and future global healthcare challenges, by exploiting networking, knowledge on rapid prototyping of new ideas and sharing of safety criteria and performance data. UBORA ("excellence" in Swahili) brings together European and African Universities and their associated technological hubs (supporting biomedical prototyping laboratories and incubators), national and international policymakers and committed and credible stakeholders propelled by a series of Design Schools and Competitions. In a nutshell, UBORA couples the open design philosophy with Europe's leadership in quality control and safety assurance, guaranteeing better health and new opportunities for growth and innovation.
No.	104
id	ugr-es
name	University of Granada – UGR
abbreviation	UGR

website	https://www.ugr.es/
description	The University of Granada is a public university located in the city of Granada, Spain, and founded in 1531 by Emperor Charles V. With approximately 80,000 students, it is the fourth largest university in Spain. Apart from the city of Granada, UGR also has campuses in Ceuta and Melilla. In the academic year 2012/2013 almost 2,000 European students were enrolled in UGR through the Erasmus Programme, making it the most popular European destination. The university's Center for Modern Languages (CLM) receives over 10,000 international students each year. In 2014, UGR was voted the best Spanish university by international students.
No.	105
id	uio
name	University of Oslo
abbreviation	UiO
website	https://www.uio.no/
description	The University of Oslo, until 1939 named the Royal Frederick University, is the oldest university in Norway, located in the Norwegian capital of Oslo. Until 1 January 2016 it was the largest Norwegian institution of higher education in terms of size, now surpassed only by the Norwegian University of Science and Technology. The university has approximately 27,700 students and employs around 6,000 people. Its faculties include (Lutheran) theology (with the Lutheran Church of Norway having been Norway's state church since 1536), law, medicine, humanities, mathematics, natural sciences, social sciences, dentistry, and education. The university's original neoclassical campus is located in the centre of Oslo; it is currently occupied by the Faculty of Law. Most of the university's other faculties are located at the newer Blindern campus in the suburban West End. The Faculty of Medicine is split between several university hospitals in the Oslo area. The university also includes some formally independent, affiliated institutes such as the Centre for International Climate and Environmental Research (CICERO), NKVTS and the Frisch Centre. The university was founded in 1811 and was modeled after the University of Copenhagen and the recently established University of Berlin. It was originally named for King Frederick VI of Denmark and Norway and received its current name in 1939. The university is informally also known as Universitetet ("the university"), having been the only university in Norway, until 1946 and was commonly termed "The Royal Frederick's" (Det Kgl. Frederiks), before the name change. The Nobel Peace Prize was awarded in the university's Atrium, from 1947 to 1989 and will be so again in 2020, making it the only university in the world to be involved in awarding a Nobel Prize.[8] Since 2003, the Abel Prize is awarded in the Atrium. Five researchers affiliated with the university have been Nobel laureates.
No.	106
id	ukaea
name	UK Atomic Energy Authority
abbreviation	UK AEA
website	https://www.gov.uk/government/organisations/uk-atomic-energy-authority
description	The United Kingdom Atomic Energy Authority is a UK government research organisation responsible for the development of nuclear fusion power. It is an executive non-departmental public body of the Department for Business, Energy and Industrial Strategy (BEIS). On its formation in 1954, the authority was responsible for the United Kingdom's entire nuclear programme, both civil and defence, as well as the policing of nuclear sites. It made pioneering developments in nuclear (fission) power, overseeing the development of nuclear technology and performing much scientific research. However, since the early 1970s its areas of work have been gradually reduced, with functions transferred to other government organisations as well as to the private sector. The authority now focuses on United Kingdom and European fusion power research programmes at Culham in Oxfordshire, including the world's most powerful fusion device, the Joint European Torus. The research aims to develop fusion power

	as a commercially viable, environmentally sound energy source for the future. United Kingdom Atomic Energy Authority owns the Culham Science Centre and has a stake in the Harwell Campus, and is involved in the development of both sites as locations for science and innovation-based business. It has also been involved in undertaking safety and reliability assessments for outside bodies, due to its long running experience in such work within the nuclear field.
No.	107
id	umg-br
name	University of Minas Gerais
abbreviation	UMG
website	https://ufmg.br/
description	Federal University of Minas Gerais is a federal university located in Belo Horizonte, state of Minas Gerais, Brazil. UFMG is one of Brazil's five largest universities, being the largest federal university. It offers 75 undergraduate degrees, including a Medicine degree, Law and Economics, plus Engineering and Science and Art degrees, 57 PhD programs, 66 MSc programs, 79 Post-Baccalaureate programs and 41 medical residency programs. UFMG has a population of 49,254 students. UFMG has been ranked among the best universities in Brazil and in Latin America. The university also has campi in Tiradentes and Montes Claros. Most courses, however, are taught at the main campus, located in the Pampulha neighborhood of Belo Horizonte. It receives the second highest amount of federal resources among other federal universities and registered over 1060 national and international patents in 2016 the biggest amount among other Brazilian higher education institutions. In 2014, according to Scopus, UFMG published over three thousand articles in influential international newspapers and magazines. In addition, 784 of their teachers are researchers for Brazil's National Council for Scientific and Technological Development. Past students include former Brazilian presidents Dilma Rousseff, Juscelino Kubitschek and Tancredo Neves; former Governor of Minas Gerais Rondon Pacheco; [6] writer, medical doctor and diplomat João Guimarães Rosa, writers Fernando Sabino, Pedro Nava and Cyro dos Anjos; plastic surgeon Ivo Pitanguy, poet Carlos Drummond de Andrade and musicians Fernando Brant, Samuel Rosa of Skank and Fernanda Takai of Pato Fu. The undergraduate students are admitted through the national annual exams called Exame Nacional do Ensino Médio (National High School Exam).
No.	108
id	unifi
name	University of Florence
abbreviation	UniFI
website	https://www.unifi.it/
description	The University of Florence (Italian: Università degli Studi di Firenze, UniFI) is an Italian public research university located in Florence, Italy. It comprises 12 schools and has about 60,000 students enrolled.
No.	109
id	uni-freiburg
name	University of Freiburg
abbreviation	UNI FREIBURG
website	https://www.uni-freiburg.de/
description	The University of Freiburg, officially the Albert Ludwig University of Freiburg, is a public research university located in Freiburg im Breisgau, Baden-Württemberg, Germany. The university was founded in 1457 by the Habsburg dynasty as the second university in Austrian-Habsburg territory after the University of Vienna. Today, Freiburg is the fifth-oldest university in Germany, with a long tradition of teaching the humanities, social sciences and natural sciences and technology and enjoys a high academic reputation both nationally and internationally. The university is made up of 11 faculties and attracts students from across Germany as

	well as from over 120 other countries. Foreign students constitute about 18.2% of total student numbers. The University of Freiburg has been associated with figures such as Martin Heidegger, Hannah Arendt, Rudolf Carnap, David Daube, Johann Eck, Hans-Georg Gadamer, Friedrich Hayek, Edmund Husserl, Edith Stein, Friedrich Meinecke, Max Weber, Paul Uhlenhuth and Ernst Zermelo. As of October 2020, 22 Nobel laureates are affiliated with the University of Freiburg as alumni, faculty or researchers, and 15 academics have been honored with the highest German research prize, the Gottfried Wilhelm Leibniz Prize, while working at the university.
No.	110
id	unige
name	University of Geneva
abbreviation	University of Geneva
website	https://www.unige.ch/
description	The University of Geneva is a public research university located in Geneva, Switzerland. It was founded in 1559 by John Calvin as a theological seminary and law school. It remained focused on theology until the 17th century, when it became a center for Enlightenment scholarship. In 1873, it dropped its religious affiliations and became officially secular. Today, the university is the third largest university in Switzerland by number of students. In 2009, the University of Geneva celebrated the 450th anniversary of its founding. Almost 40% of the students come from foreign countries. The university holds and actively pursues teaching, research, and community service as its primary objectives. UNIGE is a member of the League of European Research Universities (including academic institutions such as Amsterdam, Barcelona, Cambridge, Heidelberg, and Milan) the Coimbra Group and the European University Association.
No.	111
id	unitartu
name	University of Tartu
abbreviation	University of Tartu
website	https://www.ut.ee/
description	The University of Tartu is a university in the city of Tartu in Estonia. It is the national university of Estonia, and the only classical university in the country, and also the biggest and most prestigious university in Estonia. It was founded under the name of Academia Gustaviana in 1632 by Baron Johan Skytte, the Governor-General (1629–1634) of Swedish Livonia, Ingria and Karelia, with the required ratification provided by his long-time friend and former student – from age 7 –, King Gustavus Adolphus, shortly before the king's death on 6 November in the Battle of Lützen (1632), during the Thirty Years' War (1618–1648). Nearly 14,000 students are at the university, of whom over 1,300 are foreign students. The language of instruction in most curricula is Estonian, some more notable exceptions are taught in English, such as semiotics, applied measurement science, computer science, information technology law, and European Union – Russia studies. The historical buildings of the university are included in the European Heritage Label list as "embodiment of the ideas of a university in the Age of Enlightenment". The university is a member of the Coimbra Group and the Utrecht Network.
No.	112
id	upv-es
name	Universitat Politècnica de València
abbreviation	UPV
website	http://www.upv.es/
description	The Polytechnic University of Valencia is a Spanish university located in Valencia, with a focus on science and technology. It was founded in 1968 as the Higher Polytechnic School of Valencia and became a university in 1971, but some of its schools are more than 100 years old.
No.	113

id	vamdc
name	Virtual Atomic and Molecular Data Centre
abbreviation	VAMDC
website	https://portal.vamdc.eu/vamdc_portal/home.seam
description	VAMDC aims to be an interoperable e-infrastructure that provides the international research community with access to a broad range of atomic and molecular (A&M) data compiled within a set of A&M databases accessible through the provision of this portal and of user software. Furthermore VAMDC aims to provide A&M data providers and compilers with a large dissemination platform for their work. VAMDC infrastructure was established to provide a service to a wide international research community and has been developed in conjunction with consultations and advice from the A&M user community.
No.	114
id	vilnius-university
name	Vilnius University
abbreviation	VU
website	https://www.vu.lt/
description	Vilnius University is the oldest university in the Baltic states, one of the oldest and most famous in Eastern Europe, preceded only by the universities of Prague, Kraków, Pécs, Budapest, Bratislava and Königsberg. Today it is the largest university in Lithuania. The university was founded in 1579 as the Jesuit Academy (College) of Vilnius by Grand Duke of Lithuania and King of Poland, Stephen Báthory. It was the third oldest university (after the Cracow Academy and the Albertina) in the Polish–Lithuanian Commonwealth. In the aftermath of the Third Partition of Poland (1795) and the November Uprising (1830–1831), the university was closed down and suspended its operation until 1919. In the aftermath of World War I the university saw failed attempts to restart it by Lithuania (December 1918) and invading Soviet forces (March 1919). It finally resumed operations as Stefan Batory University in Poland (August 1919), a period followed by another Soviet occupation in 1920, and the less than two-years of the Republic of Central Lithuania, incorporated into Poland in 1922. Following the Soviet invasion of Poland in September 1939, the university was briefly administered by the Lithuanian authorities (from October 1939), and then after Soviet annexation of Lithuania (June 1940), punctuated by a period of German occupation after German invasion of the Soviet Union (1941–1944), administrated as Vilnius State University by the Lithuanian Soviet Socialist Republic. In 1945 the Polish community of students and scholars of Stefan Batory University was transferred to Nicolaus Copernicus University in Toruń. After Lithuania regained its independence in 1990, following the dissolution of the Soviet Union, it resumed its status as one of the prominent universities in Lithuania. The wide-ranging Vilnius University ensemble represents all major architectural styles that predominated in Lithuania: Gothic, Renaissance, Baroque and Classicism.
No.	115
id	vi-seem
name	VI-SEEM
abbreviation	Vi-SEEM
website	https://vi-seem.eu/
description	VI-SEEM is a three-year project that aims at creating a unique Virtual Research Environment (VRE) in Southeast Europe and the Eastern Mediterranean (SEEM), in order to facilitate regional interdisciplinary collaboration, with special focus on the scientific communities of Life Sciences, Climatology and Digital Cultural Heritage. VI-SEEM builds on the success of its predecessor e-Infrastructure projects that have been crucial for enabling high-quality research & ICT developments by providing networking and computational resources, application support and training, in both South East Europe and Eastern Mediterranean, and have supported

	<p>the European vision of inclusive and smart growth, based on knowledge and innovation, enriching the European Research Area. The project unifies existing e-Infrastructures into an integrated platform to better utilize synergies, for an improved service provision within a unified Virtual Research Environment to be provided to scientific communities of high impact in the combined South East Europe and Eastern Mediterranean region. VI-SEEM will significantly leverage and strengthen the research capacities of user communities, thus improving research productivity and competitiveness on the pan-European level. Joining, sharing and exploiting the resources across the SEEM region in a common platform will ensure continuity and expansion of the available resources and services that will further propel excellence across the region.</p>
No.	116
id	wenmr
name	WeNMR
abbreviation	WeNMR
website	http://www.wenmr.eu/
description	<p>WeNMR is a Virtual Research Community supported by EGI. WeNMR aims at bringing together complementary research teams in the structural biology and life science area into a virtual research community at a worldwide level and provide them with a platform integrating and streamlining the computational approaches necessary for data analysis and modelling.</p>
No.	117
id	west-life
name	World-wide E-infrastructure for structural biology
abbreviation	West-life
website	https://west-life.eu/
description	<p>West-Life provides data processing and data management services for the international community of structural biologists, and in particular to support integrative experimental approaches within the field of structural biology. It has developed enhancements to existing web services for structure solution and analysis, created new pipelines to link these services into more complex higher-level workflows, and added new data management facilities. Through this work it has striven to make the benefits of European e-Infrastructures more accessible to life-science researchers in general and structural biologists in particular.</p>

Annex 4: Resources onboarded at the EOSC Portal

The following is a list of all the Resources currently being onboarded at the EOSC Portal.

Table 18: Resources currently onboarded at the EOSC Portal

No.	1
id	100percentit.100_percent_it_trusted_cloud
name	100 Percent IT Trusted Cloud
provider	100percentit
webpage	http://100percentit.com/cloud-computing
description	<p>An increasing number of businesses are moving their data and servers to the cloud to benefit from the improved flexibility, security and resilience that a good cloud solution can offer. Using the cloud allows you to set up a world-class IT infrastructure without the extensive capital costs associated with procuring IT hardware. The cloud also offers the ability to scale your IT infrastructure at a moment's notice to keep up with the demands of your business. By using a cloud platform, you can quickly provision new servers and shut them down when they are not required any more without wasting resources on underused infrastructure. You can also benefit from reclaiming lost office space and reducing the costs of power and cooling which are necessary for power-hungry servers. By using 100 Percent IT's cloud solution, your data will be stored securely in one of our three UK-based datacentres. These datacentres are all high-end datacentres, boasting multiple redundant power supplies and internet connections, backup generators and UPS systems and 24/7 security. All of our IT infrastructure is resilient and redundant, giving you confidence that your IT infrastructure won't fail you at a critical moment. ### Features: 1. Fully Scalable 2. Self-service Cloud Platform 3. Optional Hourly Billing (only pay for what you use) 4. Advanced Software Defined Networking, including: 1. Routers 2. Load Balancers 3. Virtual Routers 4. Firewalls 5. VPN's 5. Tier3 Datacentres, with multiple redundancy on all critical infrastructure 6. Cloud servers can be integrated into your office network (Hybrid Cloud) 7. World class connectivity Users of the service can also benefit from 100 Percent IT's cutting edge patented cybersecurity solution, 'Trusted Cloud'. The technology employed is a cutting edge approach called distributed hardware-backed whitelisting. Every few seconds, each server in our estate will generate an audit list of all programs and configuration running on the server. This list is digitally signed using a cryptographically secure hardware module and then sent to one or more verification servers where it will be cross-checked against a previously generated and signed whitelist. Even a single line of unauthorised code will be instantly detected and flagged, allowing CyberHive's security team to stop an attack in its tracks before any damage can be inflicted or data lost. 100 Percent IT cloud services offer reliability, scalability and value for money at the same time as providing a reliable and trusted platform for hosting critical data and services. Using IaaS can dramatically reduce the cost and pain associated with maintaining traditional on-premises servers. Trusted Cloud is a new cutting edge cybersecurity solution that protects critical infrastructure and sensitive data by identifying in seconds any unauthorised code or configuration running on the servers. 100 Percent IT is supplying IaaS for the NextGEOSS service (https://nextgeoss.eu/) through the EGI as well as services to a number of academic and commercial customers.</p>
tagline	Infrastructure as a Service (IaaS), secured by cutting edge cybersecurity software co-developed by the University of Oxford
No.	2
id	aginfra.agris_elastic_index
name	AGINFRA+ AGRIS Elastic Index
provider	aginfra
webpage	https://support.d4science.org/projects/aginfraplus_wiki/wiki/AGRIS_Elastic_Index

description	An API for accessing and searching the AGRIS database. Facilitate search and retrieval of a vast amount of scientific publications from the AGRIS databaseScientific communities of the AGINFRA+ project, namely communities that perform research on aspects related to: (a) agro-climatic and economic modelling, (b) food safety risk assessment and (c) food security
tagline	Access and search the AGRIS database
No.	3
id	aginfra.chart_visualization
name	AGINFRA+ Chart Visualization
provider	aginfra
webpage	https://support.d4science.org/projects/aginfraplus_wiki/wiki/CHART_VIS
description	This service provides to users generic capabilities to visualize bar charts, scatter plots and other basic charting graphs. The service is based on using either CSV files or REST API calls. For researchers and data scientists willing to visualize their data Scientific communities of the AGINFRA+ project, namely communities that perform research on aspects related to: (a) agro-climatic and economic modelling, (b) food safety risk assessment and (c) food security
tagline	Charting visualization
No.	4
id	aginfra.data_transformation_service
name	AGINFRA+ Data Transformation Service
provider	aginfra
webpage	https://support.d4science.org/projects/aginfraplus_wiki/wiki/AGINFRA+_Data_Transformation_Service
description	A Data Transformation and RDF-ization tool. Facilitate the transition to the Semantic Web and the Linked Data Universe Scientific communities of the AGINFRA+ project, namely communities that perform research on aspects related to: (a) agro-climatic and economic modelling, (b) food safety risk assessment and (c) food security
tagline	Transform Legacy Data to Semantic Web Resources
No.	5
id	aginfra.geoanalytics_visualization
name	AGINFRA+ Geoanalytics Visualization
provider	aginfra
webpage	https://support.d4science.org/projects/aginfraplus_wiki/wiki/GEO_VIS
description	The Geoanalytics Platform is a simple yet efficient GIS system that facilitates analysts and scientists to visualize, analyze and manage geospatial information. The platform offers various features to help users collaborate and disseminate their work. Furthermore, it is an extensible system in which administrators can import data and analytics algorithms. It consists of a number of sub-systems that provide different aspects of its functionality, necessary to perform the sub tasks of: Project definition and management and sharing Exploration of existing geospatial datasets Geospatial layer and attribute visualization Geospatial analysis method execution The platform integrates with infrastructure security and presentation layers, and utilizes primarily open standards, allowing it to seamlessly integrate into the offered VREs, even beyond its initial scope. The Geoanalytics administration toolkit adds a number of functionalities to the VRE allowing managers to configure and extend its capabilities. The most notable features are the following: Layer/style management Geospatial / statistics datasets import Geospatial analysis algorithm (function) import For researchers and data scientists willing to visualize, analyze and manage geospatial informationScientific communities of the AGINFRA+ project, namely communities that perform research on aspects related to: (a) agro-climatic and economic modelling, (b) food safety risk assessment and (c) food security

tagline	Geoanalytics platform
No.	6
id	aginfra.ontology_engineering_service
name	AGINFRA+ Ontology Engineering Service
provider	aginfra
webpage	https://support.d4science.org/projects/aginfraplus_wiki/wiki/AGINFRA+_Ontology_Engineering_Service
description	A service for collaborative development, maintenance and sharing of semantic resources (ontologies, vocabularies, thesauri, etc.) related to agriculture and food sector. The creation and management of semantic resources can be expressed in the following Semantic Web standards: OWL, RDF-S, SKOS, SKOS-XL Enable collaboration and knowledge exchange for various semantic resources of the agri-food sector. Scientific communities of the AGINFRA+ project, namely communities that perform research on aspects related to: a) agro-climatic and economic modelling, b) food safety risk assessment and c) food security.
tagline	Create, edit and manage semantic resources
No.	7
id	aginfra.semantic_linking_service
name	AGINFRA+ Semantic Linking Service
provider	aginfra
webpage	https://support.d4science.org/projects/aginfraplus_wiki/wiki/AGINFRA+_Semantic_Linking_Service
description	A service for defining arbitrary links between entities of two or more semantic specifications pertaining to the agri-food sector. Enable interoperability between different semantic specifications Scientific communities of the AGINFRA+ project, namely communities that perform research on aspects related to: (a) agro-climatic and economic modelling, (b) food safety risk assessment and (c) food security
tagline	Link semantic specifications related to the agri-food sciences
No.	8
id	authenix.authenix
name	AUTHENIX
provider	authenix
webpage	https://www.authenix.eu
description	The Authorization Server acts as a broker of user authentication and personal information between the Identity Providers and the Operators, while the Identity Providers provide the authentication and the personal information of the user. Each registered Operator can obtain a specific amount of Data, individual for each application and service, for the Purpose as determined below. Any use exceeding the or deviating from the Purpose and/or the Determined Use of Data is described in the Terms of Use and Privacy Statement of each Operator and requires prior separate consent of the user. This Service controls the provision of the Data to Operators based on OpenID Connect scopes that were used when the application or service was registered with this Service. It is not possible that an Operator can obtain more Data than authorized to the Operator based on the scope(s). Which scopes exist and which user attributes are linked with a scope are defined by the OpenID specification. In order to provide the Data to the registered Operators, this Service must first collect the Data from the Identity Provider used for login. Each Identity Provider must get user consent to release any personal information to this Service. By using this Service, you agree that the collected information is processed for the purpose of making it available to the registered Operators upon request. Any registered Operator requires a valid access token to obtain Data. Each access token has a validity period that limits the time where it can be used to fetch Data. This Service allows you to see the amount of Data that is

	collected for the current lifetime of an access token. This Service does not collect any more personal information as received from an Identity Provider as previously authorized by the user at login with the Identity Provider.
tagline	Bringing together Citizen Science and Research
No.	9
id	bijvoetcenter.cs-rosetta3
name	CS-ROSETTA3
provider	bijvoetcenter
webpage	https://www.uu.nl/en/research/bijvoet-centre-for-biomolecular-research
description	The CS-ROSETTA3 web portal allows structural biologists to model the 3D structure of proteins using only the 13CA, 13CB, 13C', 15N, 1HA and 1HN NMR chemical shifts as input.
tagline	NMR protein structure prediction using the EGI HTC-enabled CS-ROSETTA portal
No.	10
id	bijvoetcenter.disvis
name	DisVis
provider	bijvoetcenter
webpage	https://www.uu.nl/en/research/bijvoet-centre-for-biomolecular-research
description	DisVis is a software designed to visualize and quantify the accessible interaction space defined by distance restraints between biomolecules.
tagline	Visualizes and quantify the information content of distance restraints between macromolecular complexes with DisVis
No.	11
id	bijvoetcenter.haddock
name	HADDOCK
provider	bijvoetcenter
webpage	https://www.uu.nl/en/research/bijvoet-centre-for-biomolecular-research
description	HADDOCK is a web portal that offers computational tools for structural biologists to model the structure of complexes of proteins and other biomolecules via a user-friendly interface. The portal offers a number of interfaces, depending on the amount of information and restraints that researchers wish to place on their models. HADDOCK is prepared to deal with several classes of problems, including protein-protein, protein-nucleic acids and protein-ligand complexes.
tagline	Integrative modeling of biomolecular complexes with the user-friendly, EGI HTC-enabled HADDOCK portal
No.	12
id	bijvoetcenter.powerfit
name	PowerFit
provider	bijvoetcenter
webpage	https://www.uu.nl/en/research/bijvoet-centre-for-biomolecular-research
description	PowerFit is a software designed to fit atomic structures into cryo-EM density maps, using an exhaustive 6-dimensional cross-correlation search.
tagline	The PowerFit server allows you to fit your 3D structures in any map!
No.	13
id	bijvoetcenter.spoton
name	SpotOn
provider	bijvoetcenter

webpage	https://www.uu.nl/en/research/bijvoet-centre-for-biomolecular-research
description	SpotOn is a robust algorithm developed to identify and classify the interfacial residues as Hot-Spots (HS) and Null-Spots (NS) with a final accuracy of 0.95 and a sensitivity of 0.95 on an independent test set.
tagline	SpotOn: determination of Hot-Spots at protein-protein interfaces
No.	14
id	bluebridge.access_to_open_data_platforms
name	Access to Open Data platforms
provider	bluebridge
webpage	https://bluebridge.d4science.org/explore
description	Access to Open Data platforms: a group of services to enable standardized access to data.a. IT Managers can deliver VREs enabling effective discovery and access to heterogeneous data platforms; b. Data Managers can easily enable data workflows operating on heterogeneous data platforms; c. Individual scientists can easily discovery, access, and use heterogeneous data platforms by exploiting single sign-on and transparent policy and license management; d. Scientific Advisory working group (user group) empowers working groups with a simple-to-use rich data catalogue populated with a wide spectrum of data generated and maintained by different data platforms.The service is widely used by the members of the following VREs:Biodiversity Lab, ScalableDataMining, TabularDataLab, Aquaculture Training Lab, InfraTraining, SustainableBlueEconomy, Blue Datathon, DRuMFISH, ICES_BNetworkAnalysis, ICES_DALSA - ICES Trainign Course on Data Limited Stock Assessment, ICES_DASC - ICES Training Course on Design and Analysis od Statistically Sound Catch Sampling Programmes, ICES_FIACO - ICES Trainign Course on Principles and Methods of broadband/wideband technologies: application to Fisheries Acoustics, ICES_FIACO2017 - ICES Trainign Course on Principles and Methods of broadband/wideband technologies: application to Fisheries Acoustics, ICES_AbundanceEstimation-FromAcoustic - ICES Training Course: Introduction to abundance estimation from fisheries acoustic surveys, ICES_IntroStockAssessment - ICES Training Course: Introduction to Stock Assessment, ICES_IntroToREnv - ICES Training Course Introduction to the R Environment, and more.
tagline	Online environment to enable standardized data access.
No.	15
id	bluebridge.accounting_framework
name	Accounting Framework
provider	bluebridge
webpage	https://bluebridge.d4science.org/explore
description	Accounting Framework enables accounting resource usage and usage control via quota mechanisms.a. IT Managers can manage resources utilization via policies and quota exploitation; b. Data Managers maintain access to data under control; to easily define tailored policies for consumption of data; c. Scientific Advisory working group (user group) deliver to working groups a computational environment capable to satisfy the expected QoS.The service is widely used by the members of the following VREs:Aquaculture Training Lab, InfraTraining, SIASPA - Strategic Investment Analysis and Scientific Planning/Alerting VRE, SustainableBlueEconomy, Alieia VRE, Aquabiotech, ARDAG_Aquaculture, Ellinika Psaria VRE, Forkys VRE, GALAXIDI, iLKNAC_Aquaculture, KIMAGRO_Fishfarming, MARKELLOS_Aquaculture, Sinay, STRATOS_AQUACULTURES, Aquaculture Training Lab, InfraTraining, SustainableBlueEconomy, Blue Datathon, DRuMFISH, ICES_BNetworkAnalysis, ICES_DALSA - ICES Trainign Course on Data Limited Stock Assessment, ICES_DASC - ICES Training Course on Design and Analysis od Statistically Sound Catch Sampling Programmes, ICES_FIACO - ICES Trainign Course on Principles and Methods of broadband/wideband technologies: application to Fisheries Acoustics, ICES_FIACO2017 - ICES Trainign Course on

	Principles and Methods of broadband/wideband technologies: application to Fisheries Acoustics, and more.
tagline	Standardized Accounting and User Quota Management.
No.	16
id	bluebridge.aquaculture_atlas_generation_spatial_data_catalog
name	Aquaculture Atlas Generation Spatial Data Catalog
provider	bluebridge
webpage	https://ckan-bb1.d4science.org/dataset/aquaculture_atlas_generation_spatial_data_catalog
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 (a.o. from ISO/TC211 and OGC). Standalone Software Developer: find powerful OGC-based spatial management services; IT Manager: find a coherent OGC compliant SDI for data storage, access to processing; Data Manager: a comprehensive overview of spatial info and processes; Individual scientist: spatial data on demand and processing; Scientific Advisory working group (user group): develop a comprehensive understanding of the socio-economic state of and pressure of a specific psatial area ; e-infrastructure representative: to have access to data processing and geo-exploitation data. This service is widely used by members of the following VRE(s): Aquaculture Atlas Generation
tagline	Catalog application to manage spatially referenced resources
No.	17
id	bluebridge.aquaculture_atlas_spatial_data_repository
name	Aquaculture Atlas Spatial Data Repository
provider	bluebridge
webpage	http://geoserver-sdi-lab.d4science.org/geoserver
description	A repository of datasets hosted by D4Science. Datasets include species distribution maps. Standalone Software Developer: find powerful OGC-based spatial management services; IT Manager: find a coherent OGC compliant SDI for data storage, access to processing; Data Manager: a comprehensive overview of spatial info and processes; Individual scientist: spatial data on demand and processing; Scientific Advisory working group (user group): develop a comprehensive understanding of the socio-economic state of and pressure of a specific psatial area ; e-infrastructure representative: to have access to data processing and geo-exploitation data. This service is widely used by members of the following VRE(s): SDI_Lab
tagline	Repository application to manage spatially referenced resources
No.	18
id	bluebridge.aquaculture_farming
name	Aquaculture Farming
provider	bluebridge
webpage	https://bluebridge.d4science.org/explore
description	Aquaculture Farming is a group of services to predict the farm performance. Data Managers (IT aquafarming SME) are provided with a cost-effective solution to manage data flows related to farming (i.e. economic performance, environmental impact); Third-parties services based on BlueBRIDGE Platform can analyse aquafarming performance by clustering farms into best performers and those not performing well and giving advice accordingly. The service is widely used by the members of the following VREs: Aquaculture Training Lab, InfraTraining, SIASPA - Strategic Investment Analysis and Scientific Planning/Alerting VRE, SustainableBlueEconomy, Alieia VRE, Aquabiotech, ARDAG_Aquaculture, Ellinika Psaria VRE, Forkys VRE, GALAXIDI, iLKNAK_Aquaculture, KIMAGRO_Fishfarming, MARKELLOS_Aquaculture, Sinay, STRATOS_AQUACULTURES, Tuna Atlas, SDG-Indicator14.4.1, TabularDataLab, StockAssessment, WECAFC-FIRMS,

	Aquaculture Atlas Generation, Protected Area Impact Maps, Vulnerable Marine Ecosystem (VME) DB, Global Record of Stocks and Fisheries (GRSF), GRSF Admin
tagline	A comprehensive and collaborative environment to analyse and forecast aquaculture farm performances.
No.	19
id	bluebridge.biodiversity
name	Biodiversity
provider	bluebridge
webpage	https://bluebridge.d4science.org/explore
description	Biodiversity is a domain-specific group of services to i) provide access to biodiversity repository on taxonomic names and species occurrences and ii) project and perform analysis. a. Data Managers can access the world's largest repositories at a single point, help scientists to get information; b. Individual scientists are able to see the species distribution in biodiversity maps and through comparison of maps. The service is widely used by the members of the following VREs: SDG-Indicator14.4.1, FrenchTropicalTunaAtlas, StockAssessment, ICCAT BFT-E, IOTC SS3, Bay of Bengale Large Marine Ecosystem Hilsa WG, CWP Secretariat, WECAFC-FIRMS, Global Record of Stocks and Fisheries (GRSF), GRSF Admin, Biodiversity Lab, ScalableDataMining, TabularDataLab, Tuna Atlas, SDG-Indicator14.4.1, TabularDataLab, StockAssessment, WECAFC-FIRMS, Aquaculture Atlas Generation, Protected Area Impact Maps, Vulnerable Marine Ecosystem (VME) DB, Global Record of Stocks and Fisheries (GRSF), GRSF Admin, Tuna Atlas, SDG-Indicator14.4.1, AnalyticsLab, Biodiversity Lab, FrenchTropicalTunaAtlas, RPrototypingLab, RStudioLab, ScalableDataMining, TabularDataLab, StockAssessment, Bionym, ICCAT BFT-E, IOTC SS3, Aquaculture Atlas Generation, Protected Area Impact Maps, SDI_Lab, Vulnerable Marine Ecosystem (VME) DB, Aquaculture Training Lab, InfraTraining, SIASPA - Strategic Investment Analysis and Scientific Planning/Alerting VRE, SustainableBlueEconomy, Blue Datathon, DRuMFISH, ICES_BNetworkAnalysis, ICES_DALSA - ICES Trainign Course on Data Limited Stock Assessment, ICES_DASC - ICES Training Course on Design and Analysis od Statistically Sound Catch Sampling Programmes, ICES_FIACO - ICES Trainign Course on Principles and Methods of broadband/wideband technologies: application to Fisheries Acoustics, ICES_FIACO2017 - ICES Trainign Course on Principles and Methods of broadband/wideband technologies: application to Fisheries Acoustics, ICES_AbundanceEstimationFromAcoustic - ICES Training Course: Introduction to abundance estimation from fisheries acoustic surveys, ICES_IntroStockAssessment - ICES Training Course: Introduction to Stock Assessment, ICES_IntroToREnv - ICES Training Course Introduction to the R Environment, ICES_LogbookData - ICES Trainign Course on VMS and EU logbook data, ICES_MSE - ICES Training Course: Introduction to Management Strategy Evaluation, ICES_MSY - ICES Training course on methods for setting proxy MSY reference points, ICES OnlineOceanography, ICES_SA - ICES Training Course on Stock Assessment Advanced, ICES_TCRC - ICES Training Course in the R Environment, ICES_TCSSM - ICES Training Course on Social Science Methods for Natural Scientists, Alieia VRE, Aquabiotech, ARDAG_Aquaculture, Ellinika Psaria VRE, Forkys VRE, GALAXIDI, iLKNAK_Aquaculture, KIMAGRO_Fishfarming, MARKELLOS_Aquaculture, Sinay, STRATOS_AQUACULTURES, Global Record of Stocks and Fisheries (GRSF), GRSF Admin
tagline	Online environment to access biodiversity repositories.
No.	20
id	bluebridge.bionym
name	BiOnym
provider	bluebridge
webpage	https://bluebridge.d4science.org/explore
description	BiOnym is a domain-specific framework and an environment to compare high volumes of names between registries. a. Software Developers that need to reconcile lists and sets of names with spelling hierarchical errors. The framework offers a flexible set of algorithms to define a software-driven approach to compute lexical distances; b. IT Managers are provided with a cost-

	<p>effective and performant solution where an online service is needed to compute similarities between lists and sets, and where IT decision support is needed based on computed similarities; c. Data Managers have a flexible solution when the need is to harmonize and standardize (reference) data, and face issues with spelling mistakes, different vocabularies and hierarchical mistakes. BiOnym can support and automate some of the steps to reconcile differences between taxonomies. d. Individual scientists are assisted in identifying the correct name(s) of individual or groups of species names on-line, with a flexible user interface where preferences can be set; e. e-infrastructure experts/representatives are supported in performing datasets linking and capturing the results in a formalized way as a computed distance between two sets, with information of the method(s) and weights applied as integral part of the computational results. The service is widely used by the members of the following VREs:SDG-Indicator14.4.1, FrenchTropicalTunaAtlas, StockAssessment, ICCAT BFT-E, IOTC SS3, Bay of Bengale Large Marine Ecosystem Hilsa WG, CWP Secretariat, WECAFC-FIRMS, Global Record of Stocks and Fisheries (GRSF), GRSF Admin, Biodiversity Lab, ScalableDataMining, TabularDataLab, Tuna Atlas, SDG-Indicator14.4.1, TabularDataLab, StockAssessment, WECAFC-FIRMS, Aquaculture Atlas Generation, Protected Area Impact Maps, Vulnerable Marine Ecosystem (VME) DB, Global Record of Stocks and Fisheries (GRSF), GRSF Admin, Tuna Atlas, SDG-Indicator14.4.1, AnalyticsLab, Biodiversity Lab, FrenchTropicalTunaAtlas, RPrototypingLab, RStudioLab, ScalableDataMining, TabularDataLab, StockAssessment, Bionym, ICCAT BFT-E, IOTC SS3, Aquaculture Atlas Generation, Protected Area Impact Maps, SDI_Lab, Vulnerable Marine Ecosystem (VME) DB, Aquaculture Training Lab, InfraTraining, SIASPA - Strategic Investment Analysis and Scientific Planning/Alerting VRE, SustainableBlueEconomy, Blue Datathon, DRuMFISH, ICES_BNetworkAnalysis, ICES_DALSA - ICES Trainign Course on Data Limited Stock Assessment, ICES_DASC - ICES Training Course on Design and Analysis od Statistically Sound Catch Sampling Programmes, ICES_FIACO - ICES Trainign Course on Principles and Methods of broadband/wideband technologies: application to Fisheries Acoustics, ICES_FIACO2017 - ICES Trainign Course on Principles and Methods of broadband/wideband technologies: application to Fisheries Acoustics, ICES_AbundanceEstimation-FromAcoustic - ICES Training Course: Introduction to abundance estimation from fisheries acoustic surveys, ICES_IntroStockAssessment - ICES Training Course: Introduction to Stock Assessment, ICES_IntroToREnv - ICES Training Course Introduction to the R Environment, ICES_LogbookData - ICES Trainign Course on VMS and EU logbook data, ICES_MSE - ICES Training Course: Introduction to Management Strategy Evaluation, ICES_MSY - ICES Training course on methods for setting proxy MSY reference points, ICES OnlineOceanography, ICES_SA - ICES Training Course on Stock Assessment Advanced, ICES_TCRE - ICES Training Course in the R Environment, ICES_TCSSM - ICES Training Course on Social Science Methods for Natural Scientists, Alieia VRE, Aquabiotech, ARDAG_Aquaculture, Ellinika Psaria VRE, Forkys VRE, GALAXIDI, iLKNak_Aquaculture, KIMAGRO_Fishfarming, MARKELLOS_Aquaculture, Sinay, STRATOS_AQUACULTURES, Global Record of Stocks and Fisheries (GRSF), GRSF Admin</p>
tagline	Online environment to support online and onsite courses.
No.	21
id	bluebridge.collaboration_framework
name	Collaboration Framework
provider	bluebridge
webpage	https://bluebridge.d4science.org/explore
description	<p>Collaboration Framework: a set of social tools to share data, updates and messages with others and to keep abreast of new data, prospects, services, users.a. Individual scientists can easily share ideas, comments, suggestions and communicate with other members of the community; b. Trainers can easily share data, algorithms, and technologies and communicate with the classroom; c. Trainees can easily access to data and technologies in a controlled environment where experiments and tests can be performed, traced and documented. The service is widely used by the members of the following VREs: Aquaculture Training Lab, InfraTraining, SIASPA - Strategic Investment Analysis and Scientific Planning/Alerting VRE, SustainableBlueEconomy, Alieia VRE,</p>

	Aquabiotech, ARDAG_Aquaculture, Ellinika Psaria VRE, Forkys VRE, GALAXIDI, iLKNAK_Aquaculture, KIMAGRO_Fishfarming, MARKELLOS_Aquaculture, Sinay, STRATOS_AQUACULTURES, SDG-Indicator14.4.1, FrenchTropicalTunaAtlas, StockAssessment, ICCAT BFT-E, IOTC SS3, Bay of Bengale Large Marine Ecosystem Hilsa WG, CWP Secretariat, WECAFC-FIRMS, Global Record of Stocks and Fisheries (GRSF), GRSF Admin, Tuna Atlas, SDG-Indicator14.4.1, AnalyticsLab, Aquaculture Atlas Generation, Protected Area Impact Maps, SDI_Lab, Vulnerable Marine Ecosystem (VME) DB, SIASPA - Strategic Investment Analysis and Scientific Planning/Alerting VRE, SustainableBlueEconomy, Biodiversity Lab, ScalableDataMining, TabularDataLab, Aquaculture Training Lab, InfraTraining, SustainableBlueEconomy, Blue Datathon, DRuMFISH, and more.
tagline	A comprehensive and collaborative environment to support sharing and collaboration among users.
No.	22
id	bluebridge.d4science_spatial_data_catalog
name	D4Science Spatial Data Catalog
provider	bluebridge
webpage	http://geonetwork.d4science.org/geonetwork
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 (a.o. from ISO/TC211 and OGC).StandaloneSoftware Developer: find powerful OGC-based spatial management services;IT Manager: find a coherent OGC complaint SDI for data storage, access to processing;Data Manager: a comprehensive overview of spatial info and processes;Individual scientist: spatial data on demand and processing;Scientific Advisory working group (user group): develop a comprehensive understanding of the socio-economic state of and pressure of a specific psatial area ;e-infrastructure representative: to have access to data processing and geo-exploitation data.This service is widely used by members of the following VRE(s): AnalyticsLab, Aquabiotech, Biodiversity Lab, Bionym, Blue Datathon, DRuMFISH, ICCAT BFT-E, ICES_TCRE - ICES Training Course in the R Environment, ICES_TCSSM - ICES Training Course on Social Science Methods for Natural Scientists, MARKELLOS_Aquaculture, Protected Area Impact Maps, RPrototypingLab, RStudioLab, SIASPA - Strategic Investment Analysis and Scientific Planning/Alerting VRE, STRATOS_AQUACULTURES, ScalableDataMining, Sinay, Stock-Assessment, SustainableBlueEconomy, TabularDataLab, iSearch
tagline	Catalog application to manage spatially referenced resources
No.	23
id	bluebridge.d4science_spatial_data_repository
name	D4Science Spatial Data Repository
provider	bluebridge
webpage	https://thredds.d4science.org/thredds/catalog/public/netcdf/catalog.html
description	A repository of datasets hosted by D4Science. Datasets include species distribution maps. StandaloneSoftware Developer: find powerful OGC-based spatial management services;IT Manager: find a coherent OGC complaint SDI for data storage, access to processing;Data Manager: a comprehensive overview of spatial info and processes;Individual scientist: spatial data on demand and processing;Scientific Advisory working group (user group): develop a comprehensive understanding of the socio-economic state of and pressure of a specific psatial area ;e-infrastructure representative: to have access to data processing and geo-exploitation data.This service is widely used by members of the following VRE(s): ARDAG_Aquaculture, Alieia VRE, AnalyticsLab, Aquabiotech, Aquaculture Atlas Generation, Aquaculture Training Lab, Bay of Bengale Large Marine Ecosystem Hilsa WG, Biodiversity Lab, Bionym, Blue Datathon, BlueBRIDGE Review, CWP Secretariat, DRuMFISH, Ellinika Psaria VRE, Forkys VRE, FrenchTropicalTunaAtlas, GALAXIDI, GRSF Admin, Global Record of Stocks and Fisheries (GRSF), ICCAT BFT-E, ICES Online-Oceanography, ICES_AbundanceEstimationFromAcoustic - ICES Training Course: Introduction to abundance estimation from fisheries acoustic surveys, ICES_BNetworkAnalysis, ICES_DALSA -

	ICES Trainign Course on Data Limited Stock Assessment, ICES_DASC - ICES Training Course on Design and Analysis od Statistically Sound Catch Sampling Programmes, ICES_FIACO - ICES Trainign Course on Principles and Methods of broadband/wideband technologies: application to Fisheries Acoustics, ICES_FIACO2017 - ICES Trainign Course on Principles and Methods of broadband/wideband technologies: application to Fisheries Acoustics, ICES_IntroStockAssessment - ICES Training Course: Introduction to Stock Assessment, ICES_IntroToREnv - ICES Training Course Introduction to the R Environment, ICES_LogbookData - ICES Trainign Course on VMS and EU logbook data, ICES_MSE - ICES Training Course: Introduction to Management Strategy Evaluation, ICES_MSY - ICES Training course on methods for setting proxy MSY reference points, ICES_SA - ICES Training Course on Stock Assessment Advanced, ICES_TCRE - ICES Training Course in the R Environment, ICES_TCSSM - ICES Training Course on Social Science Methods for Natural Scientists, IOTC SS3, InfraTraining, KIMAGRO_Fishfarming, MARKELLOS_Aquaculture, Protected Area Impact Maps, RPrototypingLab, RStudioLab, SDG-Indicator14.4.1, SDI_Lab, SIASPA - Strategic Investment Analysis and Scientific Planning/Alerting VRE, STRATOS_AQUACULTURES, ScalableDataMining, Sinay, StockAssessment, SustainableBlueEconomy, TabularDataLab, Tuna Atlas, Vulnerable Marine Ecosystem (VME) DB, WECAFC-FIRMS, iLKNAK_Aquaculture, iSearch
tagline	Repository application to manage spatially referenced resources
No.	24
id	bluebridge.data_miner_analytics_prototype_service
name	Data Miner Analytics Prototype Service
provider	bluebridge
webpage	https://ckan-bluebridge.d4science.org/dataset/data_miner_analytics_prototype_service
description	A data analytics service offering a rich array of ready to use methods ranging from data clustering methods to geospatial data analytics, occurrence data management, and species distribution maps generation.StandaloneSoftware Developer: find powerful OGC-based spatial management services;IT Manager: find a coherent OGC complaint SDI for data storage, access to processing;Data Manager: a comprehensive overview of spatial info and processes;Individual scientist: spatial data on demand and processing;Scientific Advisory working group (user group): develop a comprehensive understanding of the socio-economic state of and pressure of a specific psatial area ;e-infrastructure representative: to have access to data processing and geo-exploitation data.This service is widely used by members of the following VRE(s): ICCAT BFT-E, IOTC SS3, RPrototypingLab, Sinay
tagline	Analytics service offering a rich array of methods
No.	25
id	bluebridge.data_miner_analytics_service
name	Data Miner Analytics Service
provider	bluebridge
webpage	https://ckan-bluebridge.d4science.org/dataset/data_miner_analytics_service
description	A data analytics service offering a rich array of ready to use methods ranging from data clustering methods to geospatial data analytics, occurrence data management, and species distribution maps generation.StandaloneSoftware Developer: find powerful OGC-based spatial management services;IT Manager: find a coherent OGC complaint SDI for data storage, access to processing;Data Manager: a comprehensive overview of spatial info and processes;Individual scientist: spatial data on demand and processing;Scientific Advisory working group (user group): develop a comprehensive understanding of the socio-economic state of and pressure of a specific psatial area ;e-infrastructure representative: to have access to data processing and geo-exploitation data.This service is widely used by members of the following VRE(s): ARDAG_Aquaculture, Alieia VRE, AnalyticsLab, Aquabiotech, Aquaculture Atlas Generation, Aquaculture Training Lab, Biodiversity Lab, Bionym, Blue Datathon, DRuMFISH, Ellinika Psaria VRE, Forkys

	VRE, GALAXIDI, GRSF Admin, ICES_TCRE - ICES Training Course in the R Environment, KIMAGRO_Fishfarming, MARKELLOS_Aquaculture, Protected Area Impact Maps, SDG-Indicator14.4.1, SIASPA - Strategic Investment Analysis and Scientific Planning/Alerting VRE, STRATOS_AQUACULTURES, ScalableDataMining, StockAssessment, SustainableBlueEconomy, TabularDataLab, Tuna Atlas, WECAFC-FIRMS, iLKNAK_Aquaculture
tagline	Analytics service offering a rich array of methods
No.	26
id	bluebridge.data_warehousing_facilities
name	Data warehousing facilities
provider	bluebridge
webpage	https://bluebridge.d4science.org/explore
description	Data warehousing facilities is a group of services to analyse (tabular) data, validate and transform them, identify periodicity and trends.a. IT Managers are provided with a scalable and controlled environment for teams working on data quality control, data harmonization, and data analysis and mining; b. Data Managers can exploit a scalable and controlled environment where data provenance and traceability are integrated features of the data dashboard; c. Individual scientists can to import, validate, and harmonize data in order to make them suitable for analytical methods accessible through the e-infrastructure or locally; d. Scientific Advisory working group (user group) can support large and distributed teams requiring a common trusted environment ensuring traceability of the operations, roll-back, and supervision before publication.The service is widely used by the members of the following VREs:SDG-Indicator14.4.1, FrenchTropicalTunaAtlas, StockAssessment, ICCAT BFT-E, IOTC SS3, Bay of Bengale Large Marine Ecosystem Hilsa WG, CWP Secretariat, WECAFC-FIRMS, Global Record of Stocks and Fisheries (GRSF), GRSF Admin, Tuna Atlas, SDG-Indicator14.4.1, AnalyticsLab, Aquaculture Atlas Generation, Protected Area Impact Maps, SDI_Lab, Vulnerable Marine Ecosystem (VME) DB, SIASPA - Strategic Investment Analysis and Scientific Planning/Alerting VRE, SustainableBlueEconomy, Biodiversity Lab, ScalableDataMining, TabularDataLab, Aquaculture Training Lab, InfraTraining, SustainableBlueEconomy, Blue Datathon, DRuMFISH, ICES_BNetworkAnalysis, ICES_DALSA - ICES Trainign Course on Data Limited Stock Assessment, ICES_DASC - ICES Training Course on Design and Analysis od Statistically Sound Catch Sampling Programmes, and more.
tagline	A comprehensive and collaborative environment to perform data analysis, data transformation and identification of trends and periodicity.
No.	27
id	bluebridge.data-driven_atlas_production
name	Data-driven Atlas Production
provider	bluebridge
webpage	https://bluebridge.d4science.org/explore
description	Data-driven Atlas Production (e.g. monitoring of aquaculture MPA's, Integrated Coastal Zone Management - ICZM) is a group of services to generate atlases of coastal and marine sites based on analyses of hosted geospatial layers that can be derived from interoperable external infrastructures that provide EO based products (such as DIAS service or CLS Earth Observation Data Access (EODA) tools).a. Data Managers can benefit from workflows for the identification of aquaculture sites and environmental change; b. Third-parties services based on BlueBRIDGE Platform can prepare inventories of aquaculture sites using remote sensing data (i.e. FAO, JRC, Copernicus, NOAA); c. e-Infrastructure representative: innovate analysis of satellite data using image analysis techniques and ontologies (i.e. CLS).The service is widely used by the members of the following VREs:Tuna Atlas, SDG-Indicator14.4.1, TabularDataLab, StockAssessment, WECAFC-FIRMS, Aquaculture Atlas Generation, Protected Area Impact Maps, Vulnerable Marine Ecosystem (VME) DB, Global Record of Stocks and Fisheries (GRSF), GRSF Admin
tagline	Online environment to generate coastal and marine atlases.

No.	28
id	bluebridge.dynamic_reporting
name	Dynamic Reporting
provider	bluebridge
webpage	https://bluebridge.d4science.org/explore
description	Dynamic Reporting: a services-driven environment to enable interactive analysis and presentation of data analysis and scientific findings.a. Data Managers support the shared production, delivery, and presentation of the results of collaborative data analysis; b. Individual scientists simplify the organization and presentation of the scientific findings resulting from the research activities; c. Scientific Advisory working group (user group): support working groups with collaborative tools helping them in organizing results and producing reports of the performed activities.The service is widely used by the members of the following VREs:Tuna Atlas, SDG-Indicator14.4.1, TabularDataLab, StockAssessment, WECAFC-FIRMS, Aquaculture Atlas Generation, Protected Area Impact Maps, Vulnerable Marine Ecosystem (VME) DB, Global Record of Stocks and Fisheries (GRSF), GRSF Admin
tagline	A comprehensive and collaborative environment to support presentation and reporting of data analysis findings.
No.	29
id	bluebridge.french_tuna_atlas_spatial_data_catalog
name	French Tuna Atlas Spatial Data Catalog
provider	bluebridge
webpage	http://geonetwork-french-tunaatlas.d4science.org/geonetwork
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 (a.o. from ISO/TC211 and OGC).StandaloneSoftware Developer: find powerful OGC-based spatial management services;IT Manager: find a coherent OGC complaint SDI for data storage, access to processing;Data Manager: a comprehensive overview of spatial info and processes;Individual scientist: spatial data on demand and processing;Scientific Advisory working group (user group): develop a comprehensive understanding of the socio-economic state of and pressure of a specific psatial area ;e-infrastructure representative: to have access to data processing and geo-exploitation data.This service is widely used by members of the following VRE(s): FrenchTropicalTunaAtlas
tagline	Catalog application to manage spatially referenced resources
No.	30
id	bluebridge.french_tuna_atlas_spatial_data_repository
name	French Tuna Atlas Spatial Data Repository
provider	bluebridge
webpage	http://geoserver-french-tunaatlas.d4science.org/geoserver
description	A repository of datasets hosted by D4Science. Datasets include species distribution maps. StandaloneSoftware Developer: find powerful OGC-based spatial management services;IT Manager: find a coherent OGC complaint SDI for data storage, access to processing;Data Manager: a comprehensive overview of spatial info and processes;Individual scientist: spatial data on demand and processing;Scientific Advisory working group (user group): develop a comprehensive understanding of the socio-economic state of and pressure of a specific psatial area ;e-infrastructure representative: to have access to data processing and geo-exploitation data.This service is widely used by members of the following VRE(s): FrenchTropicalTunaAtlas
tagline	Repository application to manage spatially referenced resources
No.	31

id	bluebridge.global_record_of_stocks_and_fishery
name	Global Record of Stocks and Fishery
provider	bluebridge
webpage	https://bluebridge.d4science.org/explore
description	Global Record of Stocks and Fishery is a domain-specific combined registry of information on the status and trend in fisheries. The service is used to summarize fisheries and exploitation reports across several data suppliers and generate globally unique identifiers for stocks and fisheries in a semantic knowledge base. a. scientists can access information, and re-use this to enrich their own websites, e.g. to show exploitation limits; to compare information across data providers; b. Scientific Advisory working group (user group) can i) find information on location and exploitation level of stocks and fisheries; ii) use this information to e.g. support activities related to traceability of marine products to promote sustainable exploitation; iii) add relevant information to the KB on stocks and fisheries; c. Third-parties services based on BlueBRIDGE Platform access information and re-use this in their retail chains, e.g. to advise on sustainable exploitation options. The service is widely used by the members of the following VREs:SDG-Indicator14.4.1, FrenchTropicalTunaAtlas, StockAssessment, ICCAT BFT-E, IOTC SS3, Bay of Bengale Large Marine Ecosystem Hilsa WG, CWP Secretariat, WECAFC-FIRMS, Global Record of Stocks and Fisheries (GRSF), GRSF Admin, Tuna Atlas, SDG-Indicator14.4.1, TabularDataLab, StockAssessment, WECAFC-FIRMS, Aquaculture Atlas Generation, Protected Area Impact Maps, Vulnerable Marine Ecosystem (VME) DB, Global Record of Stocks and Fisheries (GRSF), GRSF Admin
tagline	A comprehensive and transparent inventory of stocks and fisheries records across multiple data providers.
No.	32
id	bluebridge.global_tuna_atlas_spatial_data_catalog
name	Global Tuna Atlas Spatial Data Catalog
provider	bluebridge
webpage	http://geonetwork2-tunaatlas.d4science.org/geonetwork
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 (a.o. from ISO/TC211 and OGC). StandaloneSoftware Developer: find powerful OGC-based spatial management services; IT Manager: find a coherent OGC complaint SDI for data storage, access to processing; Data Manager: a comprehensive overview of spatial info and processes; Individual scientist: spatial data on demand and processing; Scientific Advisory working group (user group): develop a comprehensive understanding of the socio-economic state of and pressure of a specific psatial area ; e-infrastructure representative: to have access to data processing and geo-exploitation data. This service is widely used by members of the following VRE(s): Tuna Atlas
tagline	Catalog application to manage spatially referenced resources
No.	33
id	bluebridge.global_tuna_atlas_spatial_data_repository
name	Global Tuna Atlas Spatial Data Repository
provider	bluebridge
webpage	http://geoserver-tunaatlas.d4science.org/geoserver
description	A repository of datasets hosted by D4Science. Datasets include species distribution maps. StandaloneSoftware Developer: find powerful OGC-based spatial management services; IT Manager: find a coherent OGC complaint SDI for data storage, access to processing; Data Manager: a comprehensive overview of spatial info and processes; Individual scientist: spatial data on demand and processing; Scientific Advisory working group (user group): develop a comprehensive

	understanding of the socio-economic state of and pressure of a specific psatial area ;e-infrastructure representative: to have access to data processing and geo-exploitation data.This service is widely used by members of the following VRE(s): Tuna Atlas
tagline	Repository application to manage spatially referenced resources
No.	34
id	bluebridge.indian_ocean_tuna_commission_spatial_data_catalog
name	Indian Ocean Tuna Commission Spatial Data Catalog
provider	bluebridge
webpage	http://geonetwork-iotcss3.d4science.org/geonetwork
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 (a.o. from ISO/TC211 and OGC).StandaloneSoftware Developer: find powerful OGC-based spatial management services;IT Manager: find a coherent OGC complaint SDI for data storage, access to processing;Data Manager: a comprehensive overview of spatial info and processes;Individual scientist: spatial data on demand and processing;Scientific Advisory working group (user group): develop a comprehensive understanding of the socio-economic state of and pressure of a specific psatial area ;e-infrastructure representative: to have access to data processing and geo-exploitation data.This service is widely used by members of the following VRE(s): AnalyticsLab, Bay of Bengale Large Marine Ecosystem Hilsa WG, Blue Datathon, BlueBRIDGE Review, DRuMFISH, ICES OnlineOceanography, ICES_AbundanceEstimationFromAcoustic - ICES Training Course: Introduction to abundance estimation from fisheries acoustic surveys, ICES_BNetworkAnalysis, ICES_FIACO2017 - ICES Trainign Course on Principles and Methods of broadband/wideband technologies: application to Fisheries Acoustics, ICES_IntroStockAssessment - ICES Training Course: Introduction to Stock Assessment, ICES_IntroToREnv - ICES Training Course Introduction to the R Environment, ICES_LogbookData - ICES Trainign Course on VMS and EU logbook data, ICES_MSE - ICES Training Course: Introduction to Management Strategy Evaluation, ICES_MSY - ICES Training course on methods for setting proxy MSY reference points, IOTC SS3, InfraTraining, SDG-Indicator14.4.1, SDI_Lab, Sinay
tagline	Catalog application to manage spatially referenced resources
No.	35
id	bluebridge.nym_framework
name	NYM Framework
provider	bluebridge
webpage	https://bluebridge.d4science.org/explore
description	NYM Framework allows comparison, harmonisation and validation of large datasets against a tailored controlled vocabulary.a. Software Developers can exploit a well-defined framework rich of an extensible set of algorithms to compute lexical distances; b. IT Managers can customize and deliver an online service to compute similarities between large datasets and controlled vocabularies; c. Data Managers can customize first and then harmonize and standardize (reference) data, and face issues with spelling mistakes, different vocabularies and hierarchical mistakes; d. e-infrastructure experts/representatives are supported in performing datasets linking and capturing the results in a formalized way as a computed distance between two sets, with information of the method(s) and weights applied as integral part of the computational results.The service is widely used by the members of the following VREs:Biodiversity Lab, ScalableDataMining, TabularDataLab, Tuna Atlas, SDG-Indicator14.4.1, TabularDataLab, StockAssessment, WECAFC-FIRMS, Aquaculture Atlas Generation, Protected Area Impact Maps, Vulnerable Marine Ecosystem (VME) DB, Global Record of Stocks and Fisheries (GRSF), GRSF Admin, Tuna Atlas, SDG-Indicator14.4.1, AnalyticsLab, Biodiversity Lab, FrenchTropicalTunaAtlas, RPrototypingLab, RStudioLab, ScalableDataMining, TabularDataLab, StockAssessment, Bionym, ICCAT

	BFT-E, IOTC SS3, Aquaculture Atlas Generation, Protected Area Impact Maps, SDI_Lab, Vulnerable Marine Ecosystem (VME) DB, Aquaculture Training Lab, InfraTraining, SIASPA - Strategic Investment Analysis and Scientific Planning/Alerting VRE, SustainableBlueEconomy, Blue Dathon, DRuMFISH, ICES_BNetworkAnalysis, ICES_DALSA - ICES Trainign Course on Data Limited Stock Assessment, ICES_DASC - ICES Training Course on Design and Analysis od Statistically Sound Catch Sampling Programmes, ICES_FIACO - ICES Trainign Course on Principles and Methods of broadband/wideband technologies: application to Fisheries Acoustics, ICES_FIACO2017 - ICES Trainign Course on Principles and Methods of broadband/wideband technologies: application to Fisheries Acoustics, ICES_AbundanceEstimationFromAcoustic - ICES Training Course: Introduction to abundance estimation from fisheries acoustic surveys, ICES_IntroStockAssessment - ICES Training Course: Introduction to Stock Assessment, ICES_IntroToREnv - ICES Training Course Introduction to the R Environment, ICES_LogbookData - ICES Trainign Course on VMS and EU logbook data, ICES_MSE - ICES Training Course: Introduction to Management Strategy Evaluation, ICES_MSU - ICES Training course on methods for setting proxy MSU reference points, ICES OnlineOceanography, ICES_SA - ICES Training Course on Stock Assessment Advanced, ICES_TCRE - ICES Training Course in the R Environment, ICES_TCSSM - ICES Training Course on Social Science Methods for Natural Scientists, Alieia VRE, Aquabiotech, ARDAG_Aquaculture, Ellinika Psaria VRE, Forkys VRE, GALAXIDI, iLKNAK_Aquaculture, KIMAGRO_Fishfarming, MARKELLOS_Aquaculture, Sinay, STRATOS_AQUACULTURES, Global Record of Stocks and Fisheries (GRSF), GRSF Admin
tagline	Online environment to support data harmonization and validation.
No.	36
id	bluebridge.protected_area_impact_maps_spatial_data_repository
name	Protected Area Impact Maps Spatial Data Repository
provider	bluebridge
webpage	http://geoserver2-protectedareaimpactmaps.d4science.org/geoserver
description	A repository of datasets hosted by D4Science. Datasets include species distribution maps. ClusteredSoftware Developer: find powerful OGC-based spatial management services;IT Manager: find a coherent OGC complaint SDI for data storage, access to processing;Data Manager: a comprehensive overview of spatial info and processes;Individual scientist: spatial data on demand and processing;Scientific Advisory working group (user group): develop a comprehensive understanding of the socio-economic state of and pressure of a specific psatial area ;e-infrastructure representative: to have access to data processing and geo-exploitation data.This service is widely used by members of the following VRE(s): Protected Area Impact Maps
tagline	Repository application to manage spatially referenced resources
No.	37
id	bluebridge.regional_database_for_fishery_stock_management
name	Regional Database for Fishery Stock Management
provider	bluebridge
webpage	https://bluebridge.d4science.org/explore
description	Regional Database for Fishery Stock Management is a domain-specific group of services to collect and collate data and perform analysis through tools and reports.a. Data Managers can improve quality of regional datasets, analysis and reporting; b. Individual Scientists can discover innovation (R packages for biologist); c. Scientific Advisory working group (user group) are given a collaborative environment to produce scientifically sound stock assessments and management recommendations with a focus on data limited stocks, e.g. WECAFC.The service is widely used by the members of the following VREs:SDG-Indicator14.4.1, FrenchTropicalTunaAtlas, StockAssessment, ICCAT BFT-E, IOTC SS3, Bay of Bengale Large Marine Ecosystem Hilsa WG, CWP Secretariat, WECAFC-FIRMS, Global Record of Stocks and Fisheries (GRSF), GRSF Admin,

	Tuna Atlas, SDG-Indicator14.4.1, TabularDataLab, StockAssessment, WECAFC-FIRMS, Aquaculture Atlas Generation, Protected Area Impact Maps, Vulnerable Marine Ecosystem (VME) DB, Global Record of Stocks and Fisheries (GRSF), GRSF Admin
tagline	A comprehensive and collaborative environment to collect, harmonize and analyse fisheries and stock data.
No.	38
id	bluebridge.scalable_data_mining
name	Scalable Data Mining
provider	bluebridge
webpage	https://bluebridge.d4science.org/explore
description	Scalable Data Mining is a facility to perform statistical analysis. a. Software Developers can easily test, validate, and run algorithms developed in a large spectrum of software languages (e.g. R, Java, Python, Fortran) on a distributed infrastructure that appears to them as a single coherent system effectively hiding the different technologies and security frameworks; b. IT Managers can offer a scalable (on demand), controlled (by maximum quota of exploitable resources per user/per day), and secure environment where executing reproducible data analytical algorithms; c. Data Managers select the appropriate data analytical models among the wide spectrum of models offered with the aim of offering an easy-to-use data dashboard; d. Individual scientists have access to a wide spectrum of available data analytical models and can easily test, validate, and run algorithms developed in a large spectrum of software languages (e.g. R, Java, Python, Fortran); e. Scientific Advisory working group (user group) can configure and enrich the data dashboard with the aim of supporting the activities of a working group while hiding the complexity of a powerful, controlled, and secure e-infrastructure that can scale according to the evolving needs of the group. The service is widely used by the members of the following VREs: Aquaculture Training Lab, InfraTraining, SIASPA - Strategic Investment Analysis and Scientific Planning/Alerting VRE, SustainableBlueEconomy, Alieia VRE, Aquabiotech, ARDAG_Aquaculture, Ellinika Psaria VRE, Forkys VRE, GALAXIDI, iLKNAK_Aquaculture, KIMAGRO_Fishfarming, MARKELOS_Aquaculture, Sinay, STRATOS_AQUACULTURES, SDG-Indicator14.4.1, FrenchTropicalTunaAtlas, StockAssessment, ICCAT BFT-E, IOTC SS3, Bay of Bengale Large Marine Ecosystem Hilsa WG, CWP Secretariat, WECAFC-FIRMS, Global Record of Stocks and Fisheries (GRSF), GRSF Admin, Tuna Atlas, SDG-Indicator14.4.1, AnalyticsLab, Aquaculture Atlas Generation, Protected Area Impact Maps, SDI_Lab, Vulnerable Marine Ecosystem (VME) DB, SIASPA - Strategic Investment Analysis and Scientific Planning/Alerting VRE, SustainableBlueEconomy, Biodiversity Lab, ScalableDataMining, TabularDataLab, Aquaculture Training Lab, InfraTraining, SustainableBlueEconomy, Blue Datathon, DRuMFISH, and more.
tagline	A comprehensive and collaborative environment to perform statistical data analysis.
No.	39
id	bluebridge.scientific_training_environment
name	Scientific Training Environment
provider	bluebridge
webpage	https://bluebridge.d4science.org/explore
description	Scientific training environment (i.e. Training environment for Data Scientist) consists of a group of services to manage courses, e-training and self-learning materials. a. Trainers are provided with a secure and controlled environment where it is possible to share data, algorithms, and technologies, support users via online communication tools, check the exploitation of provided resources; b. Trainees have access to data and technologies in a controlled environment where experiments and tests can be performed, traced and documented. The service is widely used by the members of the following VREs: SDG-Indicator14.4.1, FrenchTropicalTunaAtlas, StockAssessment, ICCAT BFT-E, IOTC SS3, Bay of Bengale Large Marine Ecosystem Hilsa WG, CWP Secretariat, WECAFC-FIRMS, Global Record of Stocks and Fisheries (GRSF), GRSF Admin, Tuna Atlas, SDG-

	Indicator14.4.1, TabularDataLab, StockAssessment, WECAFC-FIRMS, Aquaculture Atlas Generation, Protected Area Impact Maps, Vulnerable Marine Ecosystem (VME) DB, Global Record of Stocks and Fisheries (GRSF), GRSF Admin
tagline	Online environment to support registries of names comparison and validation.
No.	40
id	bluebridge.secure_file_sharing_and_storage
name	Secure File Sharing and Storage
provider	bluebridge
webpage	https://bluebridge.d4science.org/explore
description	Secure File Sharing and Storage: a group of services to enable secure and controlled file sharing. a. Data Managers exploit secure file sharing and storage while keeping accounting and traceability; b. Individual scientists easily share data, experiments, products results with selected colleagues; c. Scientific Advisory working group (user group) empowers the working group with an easy-to-use environment where operations are traced and accounted. The service is widely used by the members of the following VREs: Aquaculture Training Lab, InfraTraining, SIASPA - Strategic Investment Analysis and Scientific Planning/Alerting VRE, SustainableBlueEconomy, Alieia VRE, Aquabiotech, ARDAG_Aquaculture, Ellinika Psaria VRE, Forkys VRE, GALAXIDI, iLKNAK_Aquaculture, KIMAGRO_Fishfarming, MARKELLOS_Aquaculture, Sinay, STRATOS_AQUACULTURES, SDG-Indicator14.4.1, FrenchTropicalTunaAtlas, StockAssessment, ICCAT BFT-E, IOTC SS3, Bay of Bengale Large Marine Ecosystem Hilsa WG, CWP Secretariat, WECAFC-FIRMS, Global Record of Stocks and Fisheries (GRSF), GRSF Admin, Tuna Atlas, SDG-Indicator14.4.1, AnalyticsLab, Aquaculture Atlas Generation, Protected Area Impact Maps, SDI_Lab, Vulnerable Marine Ecosystem (VME) DB, SIASPA - Strategic Investment Analysis and Scientific Planning/Alerting VRE, SustainableBlueEconomy, Aquaculture Training Lab, InfraTraining, SustainableBlueEconomy, Blue Datathon, DRuMFISH, ICES_BNetworkAnalysis, and more.
tagline	Online environment to support secure and controlled data sharing.
No.	41
id	bluebridge.software_integration_support
name	Software Integration Support
provider	bluebridge
webpage	https://bluebridge.d4science.org/explore
description	Software Integration Support: a group of services to integrate software solutions within the e-infrastructure. a. Software Developers can easily integrate algorithms developed in a large spectrum of software languages (e.g. R, Java, Python, Fortran) and software packages on a distributed infrastructure with the aim to offer access to them as-a-service; b. IT Managers can customize VREs with legacy software usually adopted by a specific community of users; c. Data Managers can complement e-Infrastructure offer for data management and analysis with technologies exploited in data management workflows; d. Individual scientists are enabled to move their models and implemented algorithms from desktop to a scalable e-infrastructure. To easily share with colleagues new ideas that still need to be tested and validated; e. Scientific Advisory working group (user group) can customize the e-infrastructure to the needs of the working group. The service is widely used by the members of the following VREs: Aquaculture Training Lab, InfraTraining, SIASPA - Strategic Investment Analysis and Scientific Planning/Alerting VRE, SustainableBlueEconomy, Alieia VRE, Aquabiotech, ARDAG_Aquaculture, Ellinika Psaria VRE, Forkys VRE, GALAXIDI, iLKNAK_Aquaculture, KIMAGRO_Fishfarming, MARKELLOS_Aquaculture, Sinay, STRATOS_AQUACULTURES, SDG-Indicator14.4.1, FrenchTropicalTunaAtlas, StockAssessment, ICCAT BFT-E, IOTC SS3, Bay of Bengale Large Marine Ecosystem Hilsa WG, CWP Secretariat, WECAFC-FIRMS, Global Record of Stocks and Fisheries (GRSF), GRSF Admin, Biodiversity Lab, ScalableDataMining, TabularDataLab, Aquaculture Training Lab, InfraTraining, Sustaina-

	bleBlueEconomy, Blue Datathon, DRuMFISH, ICES_BNetworkAnalysis, ICES_DALSA - ICES Trainign Course on Data Limited Stock Assessment, ICES_DASC - ICES Training Course on Design and Analysis od Statistically Sound Catch Sampling Programmes, and more.
tagline	Online environment to support software integration and activation on distributed e-infrastructure.
No.	42
id	bluebridge.software_repository
name	Software Repository
provider	bluebridge
webpage	https://bluebridge.d4science.org/explore
description	Software Repository enables secure and controlled software sharing.a. Software Developers store, maintain, share (either publicly or with selected users), and execute software in a controlled environment; b. Data Managers manage specific software exploited in data workflows as resource; c. Individual scientists easily share with selected colleagues software, test it with them, and execute on distributed computing; d. Scientific Advisory working group (user group) documents and manage software exploited by the working team as resource.The service is widely used by the members of the following VREs:Aquaculture Training Lab, InfraTraining, SIASPA - Strategic Investment Analysis and Scientific Planning/Alerting VRE, SustainableBlueEconomy, Alieia VRE, Aquabiotech, ARDAG_Aquaculture, Ellinika Psaria VRE, Forkys VRE, GALAXIDI, iLKNAK_Aquaculture, KIMAGRO_Fishfarming, MARKELLOS_Aquaculture, Sinay, STRATOS_AQUACULTURES, Aquaculture Training Lab, InfraTraining, SustainableBlueEconomy, Blue Datathon, DRuMFISH, ICES_BNetworkAnalysis, ICES_DALSA - ICES Trainign Course on Data Limited Stock Assessment, ICES_DASC - ICES Training Course on Design and Analysis od Statistically Sound Catch Sampling Programmes, ICES_FIACO - ICES Trainign Course on Principles and Methods of broadband/wideband technologies: application to Fisheries Acoustics, ICES_FIACO2017 - ICES Trainign Course on Principles and Methods of broadband/wideband technologies: application to Fisheries Acoustics, ICES_AbundanceEstimationFromAcoustic - ICES Training Course: Introduction to abundance estimation from fisheries acoustic surveys, ICES_IntroStock-Assessment - ICES Training Course: Introduction to Stock Assessment, ICES_IntroToREnv - ICES Training Course Introduction to the R Environment, ICES_LogbookData - ICES Trainign Course on VMS and EU logbook data, ICES_MSE - ICES Training Course: Introduction to Management Strategy Evaluation, ICES_MSY - ICES Training course on methods for setting proxy MSY reference points, ICES OnlineOceanography, ICES_SA - ICES Training Course on Stock Assessment Advanced, ICES_TCRE - ICES Training Course in the R Environment, ICES_TCSSM - ICES Training Course on Social Science Methods for Natural Scientists, Tuna Atlas, SDG-Indicator14.4.1, TabularDataLab, StockAssessment, WECAFC-FIRMS, Aquaculture Atlas Generation, Protected Area Impact Maps, Vulnerable Marine Ecosystem (VME) DB, Global Record of Stocks and Fisheries (GRSF), GRSF Admin
tagline	Online environment to support secure and controlled software sharing.
No.	43
id	bluebridge.spatial_data_infrastructure_laboratory_catalog
name	Spatial Data Infrastructure Laboratory Catalog
provider	bluebridge
webpage	http://geonetwork-sdi-lab.d4science.org/geonetwork
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 (a.o. from ISO/TC211 and OGC).StandaloneSoftware Developer: find powerful OGC-based spatial management services;IT Manager: find a coherent OGC complaint SDI for data storage, access to processing;Data Manager: a comprehensive overview of spatial info and processes;Individual scientist: spatial data on demand and processing;Scientific Advisory working group (user group): develop a comprehensive understanding of the socio-economic state of

	and pressure of a specific psatial area ;e-infrastructure representative: to have access to data processing and geo-exploitation data.This service is widely used by members of the following VRE(s): SDI_Lab
tagline	Catalog application to manage spatially referenced resources
No.	44
id	bluebridge.spatial_planning
name	Spatial Planning
provider	bluebridge
webpage	https://bluebridge.d4science.org/explore
description	Spatial Planning (e.g. monitoring of Aquaculture, MPA, Integrated Coastal Zone Management - ICZM) is a group of services to generate holistic maps to support spatial planning by deep analysis of the relationships between hosted layers (intersection and interpolation analysis, proximity analysis, merging and editing of features). a. Software Developers find powerful WPS-based spatial management services; b. IT Managers find a coherent OGC complaint SDI for data storage, access to processing; c. Data Managers can benefit of a comprehensive overview of spatial info and processes; d. Individual scientists have access to spatial data on demand and processing; e. Scientific Advisory working group (user group) develop a comprehensive understanding of the socio-economic state of and pressure of a specific area (MPA); f. e-infrastructure representatives have access to data processing and geo-exploitation data.The service is widely used by the members of the following VREs: Tuna Atlas, SDG-Indicator14.4.1, AnalyticsLab, Aquaculture Atlas Generation, Protected Area Impact Maps, SDI_Lab, Vulnerable Marine Ecosystem (VME) DB, SIASPA - Strategic Investment Analysis and Scientific Planning/Alerting VRE, SustainableBlueEconomy, Tuna Atlas, SDG-Indicator14.4.1, TabularDataLab, StockAssessment, WECAFC-FIRMS, Aquaculture Atlas Generation, Protected Area Impact Maps, Vulnerable Marine Ecosystem (VME) DB, Global Record of Stocks and Fisheries (GRSF), GRSF Admin
tagline	Online environment to perform marine spatial planning.
No.	45
id	bluebridge.species_modeling
name	Species Modeling
provider	bluebridge
webpage	https://bluebridge.d4science.org/explore
description	Species Modelling is a domain-specific group of services to model species distribution based on observational records or other information, and predict current and future distributions based on the interaction between environmental and biological parametersSoftware Developers can i) apply version control and discover / modify new algorithms; everyone comes with their own tools and uses the same environment; ii) annotate and describe the model and results through metadata of provenance, performance, and ownership; iii) exploit the parallelization offered by a of a performant infrastructure; b. IT Managers have control over (and audit) modelling software (solving IT capacity problems, access and usage of computing resources); deploy modern tools to resource limited organization across the planet using a web-only approach; c. Data Managers organize data workflows in a report (w/automations); d. Scientists can improve the performance and versatility of models and discover new version of existing models, biodiversity data and environmental data; e. Scientific Advisory working group (user group) can collaboratively review the output of models; f. e-infrastructure representatives run models across multiple infrastructuresThe service is widely used by the members of the following VREs:Tuna Atlas, SDG-Indicator14.4.1, AnalyticsLab, Aquaculture Atlas Generation, Protected Area Impact Maps, SDI_Lab, Vulnerable Marine Ecosystem (VME) DB, SIASPA - Strategic Investment Analysis and Scientific Planning/Alerting VRE, SustainableBlueEconomy, Biodiversity Lab, ScalableDataMin-

	ing, TabularDataLab, Tuna Atlas, SDG-Indicator14.4.1, TabularDataLab, StockAssessment, WECAFC-FIRMS, Aquaculture Atlas Generation, Protected Area Impact Maps, Vulnerable Marine Ecosystem (VME) DB, Global Record of Stocks and Fisheries (GRSF), GRSF Admin
tagline	A comprehensive and collaborative environment to analyse and forecast the distribution of species.
No.	46
id	bluebridge.stock_assessment_support
name	Stock Assessment Support
provider	bluebridge
webpage	https://bluebridge.d4science.org/explore
description	Stock Assessment Support is a domain-specific group of services to upload and harmonize (or have access to) tabular data, analyse using state-of-the-art tools (DLM Toolkit, FLR, SS3, CMSY-as-a-service, etc.), to generate dynamic and interactive reports and maps and to generate standardized and harmonized fisheries data sets. IT Managers find a single-sign-on environment for cloud based data harmonization and analysis to support stock monitoring needs in an organization; b. Data Managers reduce the effort for stock assessment teams when collating, analysing, reviewing and repeating a data workflow; c. Individual Scientists can discover stock assessment services and upload data, models and assessments in a private or shared space; d. Scientific Advisory working group (user group) - i.e. FAO, SFP, RAM - provide stock assessment advice and support team work through re-runnable work-flows and dynamic reports. The service is widely used by the members of the following VREs:SDG-Indicator14.4.1, FrenchTropicalTunaAtlas, StockAssessment, ICCAT BFT-E, IOTC SS3, Bay of Bengale Large Marine Ecosystem Hilsa WG, CWP Secretariat, WECAFC-FIRMS, Global Record of Stocks and Fisheries (GRSF), GRSF Admin, Tuna Atlas, SDG-Indicator14.4.1, TabularDataLab, StockAssessment, WECAFC-FIRMS, Aquaculture Atlas Generation, Protected Area Impact Maps, Vulnerable Marine Ecosystem (VME) DB, Global Record of Stocks and Fisheries (GRSF), GRSF Admin
tagline	To produce dynamic and interactive reports and maps and to generate standardized and harmonized fisheries data sets
No.	47
id	bluebridge.support_for_data_publication
name	Support for Data Publication
provider	bluebridge
webpage	https://bluebridge.d4science.org/explore
description	Support for Data Publication: an environment to support controlled data publication according to international standards/formats/protocols.a. Data Managers extend current practices with controlled and standard data publication with the aim to enlarge the access to data products while maintained full ownership and control over the sharing of results; b. Individual scientists collaborate via standard formats and protocols with selected colleagues since the conception, definition, validation, and sharing of a result; c. Scientific Advisory working group (user group) normalize the exchange of data on activities, enlarge the audience of products, user and data management for the working group; d. E-infrastructure representatives simplify the integration with other e-infrastructures by rationalizing and standardizing formats and interfaces for data access. The service is widely used by the members of the following VREs:SDG-Indicator14.4.1, FrenchTropicalTunaAtlas, StockAssessment, ICCAT BFT-E, IOTC SS3, Bay of Bengale Large Marine Ecosystem Hilsa WG, CWP Secretariat, WECAFC-FIRMS, Global Record of Stocks and Fisheries (GRSF), GRSF Admin, Biodiversity Lab, ScalableDataMining, TabularDataLab, Tuna Atlas, SDG-Indicator14.4.1, TabularDataLab, StockAssessment, WECAFC-FIRMS, Aquaculture Atlas Generation, Protected Area Impact Maps, Vulnerable Marine Ecosystem (VME) DB, Global Record of Stocks and Fisheries (GRSF), GRSF Admin, Tuna Atlas, SDG-Indicator14.4.1, AnalyticsLab, Biodiversity Lab, FrenchTropicalTunaAtlas, RPrototypingLab, RStudioLab, ScalableDataMining, TabularDataLab, StockAssessment, Bionym, ICCAT BFT-E, IOTC SS3, Aquaculture Atlas Generation,

	Protected Area Impact Maps, SDI_Lab, Vulnerable Marine Ecosystem (VME) DB, Aquaculture Training Lab, InfraTraining, SIASPA - Strategic Investment Analysis and Scientific Planning/Alerting VRE, SustainableBlueEconomy, Blue Datathon, DRuMFISH, ICES_BNetworkAnalysis, ICES_DALSA - ICES Trainign Course on Data Limited Stock Assessment, ICES_DASC - ICES Training Course on Design and Analysis od Statistically Sound Catch Sampling Programmes, ICES_FIACO - ICES Trainign Course on Principles and Methods of broadband/wideband technologies: application to Fisheries Acoustics, ICES_FIACO2017 - ICES Trainign Course on Principles and Methods of broadband/wideband technologies: application to Fisheries Acoustics, ICES_AbundanceEstimationFromAcoustic - ICES Training Course: Introduction to abundance estimation from fisheries acoustic surveys, ICES_IntroStockAssessment - ICES Training Course: Introduction to Stock Assessment, ICES_IntroToREnv - ICES Training Course Introduction to the R Environment, ICES_LogbookData - ICES Trainign Course on VMS and EU logbook data, ICES_MSE - ICES Training Course: Introduction to Management Strategy Evaluation, ICES_MSY - ICES Training course on methods for setting proxy MSY reference points, ICES OnlineOceanography, ICES_SA - ICES Training Course on Stock Assessment Advanced, ICES_TCRE - ICES Training Course in the R Environment, ICES_TCSSM - ICES Training Course on Social Science Methods for Natural Scientists, Alieia VRE, Aquabiotech, ARDAG_Aquaculture, Ellinika Psaria VRE, Forkys VRE, GALAXIDI, iLKNAK_Aquaculture, KIMAGRO_Fishfarming, MARKELLOS_Aquaculture, Sinay, STRATOS_AQUACULTURES, Global Record of Stocks and Fisheries (GRSF), GRSF Admin
tagline	Online environment to support data harmonization and publication.
No.	48
id	bluebridge.western_central_atlantic_fishery_commission_spatial_data_catalog
name	Western Central Atlantic Fishery Commission Spatial Data Catalog
provider	bluebridge
webpage	http://geonetwork-weca-fc-firms.d4science.org/geonetwork
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 (a.o. from ISO/TC211 and OGC).StandaloneSoftware Developer: find powerful OGC-based spatial management services;IT Manager: find a coherent OGC complaint SDI for data storage, access to processing;Data Manager: a comprehensive overview of spatial info and processes;Individual scientist: spatial data on demand and processing;Scientific Advisory working group (user group): develop a comprehensive understanding of the socio-economic state of and pressure of a specific psatial area ;e-infrastructure representative: to have access to data processing and geo-exploitation data.This service is widely used by members of the following VRE(s): WECAFC-FIRMS
tagline	Catalog application to manage spatially referenced resources
No.	49
id	bluebridge.western_central_atlantic_fishery_commission_spatial_data_repository
name	Western Central Atlantic Fishery Commission Spatial Data Repository
provider	bluebridge
webpage	http://geoserver-weca-fc-firms.d4science.org/geoserver
description	A repository of datasets hosted by D4Science. Datasets include species distribution maps. StandaloneSoftware Developer: find powerful OGC-based spatial management services;IT Manager: find a coherent OGC complaint SDI for data storage, access to processing;Data Manager: a comprehensive overview of spatial info and processes;Individual scientist: spatial data on demand and processing;Scientific Advisory working group (user group): develop a comprehensive understanding of the socio-economic state of and pressure of a specific psatial area ;e-infrastructure representative: to have access to data processing and geo-exploitation data.This service is widely used by members of the following VRE(s): WECAFC-FIRMS
tagline	Repository application to manage spatially referenced resources

No.	50
id	capsh.dissemin
name	Dissemin
provider	capsh
webpage	https://dissem.in
description	Dissemin searches for copies of your papers in a large collection of open repositories and tells you which ones cannot be accessed. Many researchers do not use their right to make their papers freely available online, in addition to the paywalled version offered by traditional publishers. This forces libraries to buy overpriced electronic subscriptions to journals, when they can afford them at all. Dissemin lets researchers deposit their works into HAL, Zenodo and OSF, which provide long-term archival and high visibility in search engines. The service is gratis to use, the software is freely licensed under the AGPL and the data is available for everyone to use via our open API.
tagline	Spot your own paywalled papers. Liberate them in one click.
No.	51
id	carlzeissm.aper
name	APEER
provider	carlzeissm
webpage	http://www.apeer.com/
description	APEER is a cloud-based digital microscopy platform that helps bridging the gap between researchers and developers. It facilitates the creation of fully automated image processing workflows. APEER integrates all steps starting from the instrument to image pre-processing, analysis functions, machine learning modules and reporting. Users can develop their own tools, jointly create them or access a broad range of community content. Beyond the image processing itself, the platform provides 3D visualization, sharing of tools & results and a strong community exchange.
tagline	Your customized image processing solution
No.	52
id	cerm-cirmmp.amber
name	AMBER
provider	cerm-cirmmp
webpage	https://www.cerm.unifi.it/
description	Simple and user-friendly NMR-based refinement of the 3D structures of biological macromolecules through the AMPS-NMR portal. Amber (Assisted Model Building with Energy Refinement) is a suite of programs that allow users to perform molecular dynamics (MD) simulations on biological systems and to store different calculations. The portal was developed with the help of the WestLife and INDIGO-DataCloud projects and supported by the MoBrain Competence Centre, under the EGI-Engage project.
tagline	Web portal for Nuclear Magnetic Resonance (NMR) structure refinement
No.	53
id	cerm-cirmmp.fanten
name	FANTEN
provider	cerm-cirmmp
webpage	http://abs.cerm.unifi.it:8080
description	FANTEN is a user-friendly web tool for the determination of anisotropy tensors. It is freely available through the WeNMR gateway. The portal was developed with the help of the WestLife and

	INDIGO-DataCloud projects and supported by the MoBrain Competence Centre, under the EGI-Engage project.
tagline	FANTEN for the analysis of magnetic anisotropy-induced NMR data
No.	54
id	cesnet.metacentrum_cloud
name	MetaCentrum Cloud
provider	cesnet
webpage	https://cloud2.metacentrum.cz/
description	MetaCentrum Cloud provides an infrastructure as a-service for scientific users, working in international projects supported by e-INFRA CZ (Czech national e-infrastructure, see also https://www.e-infra.cz/). It provides an easy to use admin web interface and a programmable API for managing virtual machines, networks, and storage. Internally based on OpenStack it supports advanced usage patterns including support of complex virtual networks, object storage and access to GP-GPU. The providers, CESNET and CERIT-SC have a long history of providing e-infrastructure services to support a broad range of scientific workflows. The user can expect skilled support staff and even collaboration on the use case optimization.
tagline	Czech national scientific cloud
No.	55
id	cessda-eric.cessda_data_catalogue
name	CESSDA Data Catalogue
provider	cessda-eric
webpage	https://datacatalogue.cessda.eu/
description	The CESSDA Data Catalogue contains the metadata of all data in the holdings of CESSDA service providers. It is a one-stop-shop for search and discovery, enabling effective access to European research data for researchers. Details of over 30, 000 data collections are listed. These are harvested from fifteen different CESSDA Service Providers.
tagline	The CESSDA Data Catalogue is a one-stop-shop for search and discovery of social science and humanities research data.
No.	56
id	cines.etr
name	eTDR - European Trusted Digital Repository
provider	cines
webpage	https://www.cines.fr/en/europe/eudat-cdi/etr/
description	Services provided to ensure that digital information remains findable, accessible, interoperable and reusable. It includes capacity/resource planning and application of long-term preservation techniques/technologies. It also combines policies, processes and actions to ensure access to 'born-digital' and reformatted data, regardless of the challenges of technological changes or failures (metadata, file format, media).
tagline	eTDR services ensure that research digital data remains FAIR over time.
No.	57
id	clarin-eric.language_resource_switchboard
name	Language Resource Switchboard
provider	clarin-eric
webpage	http://switchboard.clarin.eu/
description	A web application that suggests language analysis tools for specific data sets, enabling the following tasks: Sentence level analysis : - Constituency Parsing - Dependency Parsing - Shallow Parsing Word level analysis : - Lemmatization - Morphological Analysis - Named Entity

	Recognition - Part-Of-Speech Tagging **Semantic analysis** : - Coreference Resolution - Sentiment Analysis - Text Summarization **Digital Humanities analysis** : - Distant Reading - Named Entity Linking - Stylometry - Topic modelling The [Language Resource Switchboard][1] will automatically provide a list of available tools, based on the language and format of the input. The Switchboard can also be invoked from the [Virtual Language Observatory][2] and B2DROP (see Suggested compatible services below). [1]: https://switchboard.clarin.eu [2]: https://vlo.clarin.eu
tagline	A web application that suggests language analysis tools for specific data sets.
No.	58
id	clarin-eric.virtual_collection_registry
name	Virtual Collection Registry
provider	clarin-eric
webpage	https://www.clarin.eu/content/virtual-collections
description	A service that allows researchers to create their own citable digital bookmarks. A virtual collection is a coherent set of links to digital objects (e.g. annotated text, video) that can be easily created, accessed and cited. The links can originate from different archives, hence the term virtual. CLARIN provides a [registry][1] where scholars can create and publish their virtual collections. It provides [persistent identifiers][2] and federated login][3]. The collection metadata is openly available and accessible via the [Virtual Language Observatory][4]. The referenced digital objects can also be processed with the [Language Resource Switchboard][5]. [1]: https://www.clarin.eu/vcr [2]: https://www.clarin.eu/content/persistent-identifiers [3]: https://www.clarin.eu/content/federated-identity [4]: https://vlo.clarin.eu [5]: https://switchboard.clarin.eu
tagline	A service that allows researchers to create their own citable digital bookmarks.
No.	59
id	clarin-eric.virtual_language_observatory
name	Virtual Language Observatory
provider	clarin-eric
webpage	https://vlo.clarin.eu
description	A facet browser for fast navigation and searching in large amounts of metadata. This portal enables the discovery of language data and tools, provided by over 40 CLARIN centres, other language resource providers and Europeana. The [VLO][1] also provides access to the [Virtual Collection Registry][2] metadata and can be used as a starting point to process language data with the [Language Resource Switchboard][3]. [1]: https://vlo.clarin.eu [2]: https://www.clarin.eu/content/virtual-collections [3]: https://switchboard.clarin.eu
tagline	A facet browser for fast navigation and searching in huge amounts of metadata.
No.	60
id	cloudferro.data_collections_catalog
name	CloudFerro Data Collections Catalog
provider	cloudferro
webpage	https://discovery.creodias.eu/dataset
description	The Catalogue is based on CKAN open source software which is widely used for open data publications like e.g. European Data Portal, data.org.uk or danepubliczne.gov.pl. CKAN provides user friendly web interface for all activities associated with data publication and subscription. It is capable of advanced data management. All datasets are organized and described with metadata, which allows it to be easily discoverable, with the use of search phrases and customizable filters (e.g.: tags, categories, data formats). It is possible to publish one dataset in different data formats, not only as downloadable files but also as links to web service, web API or links to

	external WWW resources. Datasets can be stored in CKAN, along with version history and dataset statistics, which allows to monitor the interest in datasets. CKAN also provides functionalities for collaboration, community participation and providing feedback, such as comments, ratings and sharing. CKAN is highly customizable in both terms of Look&Feel and functionalities. CKAN provides very rich RESTful JSON API, which allows other applications to discover and access the datasets. It can be integrated easily with Semantic Web technologies such as RDF data model and SPARQL.
tagline	Data Collections Catalog is based on two solutions – CKAN - comprehensive frontend catalogue application for information discovery and EO Browser – specialized catalogue application for robust satellite imagery discovery and quick georeferenced preview
No.	61
id	cloudferro.data_related_services_-_eo_browser
name	Cloudferro Data related Services - EO browser
provider	cloudferro
webpage	https://browser.creodias.eu
description	CreoDias EO browser allows browsing wide archive of Earth Observation products, created by ESA's [Sentinel 1][1], [Sentinel 2][2], [Sentinel 3][3], ESA's archives of [Landsat 5][4], [Landsat 7][5], [Landsat 8] [6] and [Envisat][7]. It provides ability to visualize and download chosen products in.png and.jpg formats. [1]: https://sentinel.esa.int/web/sentinel/missions/sentinel-1 [2]: https://sentinel.esa.int/web/sentinel/missions/sentinel-2 [3]: https://sentinel.esa.int/web/sentinel/missions/sentinel-3 [4]: https://landsat.gsfc.nasa.gov/landsat-5/ [5]: https://landsat.gsfc.nasa.gov/landsat-7/ [6]: https://landsat.gsfc.nasa.gov/landsat-8/landsat-8-overview/ [7]: https://earth.esa.int/web/guest/missions/esa-operational-eo-missions/envisat
tagline	The EO Browser allows visualization and basic processing of selected data collections (like Sentinel-1 L1 GRD or Sentinel-2 L1C)
No.	62
id	cloudferro.data_related_services_-_eo_finder
name	Cloudferro Data related Services - EO Finder
provider	cloudferro
webpage	https://finder.creodias.eu/www
description	The Finder tool allows finding data products stored in the repository, obtained or processed at selected times with selected cloud coverage levels and with other selection criteria.
tagline	Manage your data products
No.	63
id	cloudferro.infrastructure
name	CloudFerro Infrastructure
provider	cloudferro
webpage	https://creodias.eu
description	CREODIAS processing covers full set of virtual resources available in the solution: VM – Virtual Machines (or virtual computing servers) with several operating systems available (both free like CentOS, Ubuntu, Debian, Scientific Linux, and commercial like RedHat, SUSE, Microsoft Windows Server), virtual storage volumes that can be easily mounted to the VMs together with object storage solution, virtual networks, virtual appliances like firewalls (FWaaS) and VPN concentrators (VPNaaS), physical servers (baremetal) that can be integrated to the virtual world, Single Server VMs – full physical server with a single VM and very fast passthrough NVMe storage – a combination of advantages of a dedicated server and a cloud VM (high capacity, storage speed, no noisy neighbor problem).

tagline	CREODIAS platform is a cloud infrastructure adapted to the processing of big amounts of EO data, including an EO Data storage cluster and a dedicated IaaS cloud infrastructure for the platform's Users
No.	64
id	cnr-iiia.geo_dab
name	GEO Discovery and Access Broker
provider	cnr-iiia
webpage	http://www.geodab.net
description	GEO Discovery and Access Broker (GEO DAB) is a key component of the GEOSS Platform, transparently connecting GEOSS User's requests to the resources shared by the GEOSS Providers. GEO DAB scope is to simplify cross and multi-disciplinary discovery, access, and use (or reuse) of disparate data and information. GEO DAB is a brokering framework that interconnects hundreds of heterogeneous and autonomous supply systems (the enterprise systems constituting the GEO metasytem) by providing mediation, harmonization, transformation, and QoS capabilities. GEO DAB can be accessed using several web service interfaces, available at [link][1] . [1]: http://eosc.geodab.eu/gi-cat-StP/ The GEOSS (Global Earth Observation System of Systems) Web Portal is the main entry point for discovering and accessing GEOSS data. GEOSS Platform interconnects more than 170 data systems globally, providing discoverability of more than 400M datasets. This version of the GEOSS Web Portal is connected also to the ECOPotential Virtual Laboratory, allowing users to execute available models utilizing GEOSS data as inputs.
tagline	Multi-disciplinary discovery, access, and use of resources from the Global Earth Observation System of Systems
No.	65
id	compbiomed.compbiomed_training_portal
name	CompBioMed Training Portal
provider	compbiomed
webpage	http://www.compbiomed.eu/training-3/
description	The CompBioMed Training Portal is a sustainable open access educational and training resource for Computational Biomedicine community. It displays: past and upcoming training events organised by CompBioMed training material developed for each course (course slides, code examples, exercises, audio/video recording) relevant training courses offered by CompBiomed partners. Training events or WebinarsThe objective of the CompBioMed Centre of Excellence is to train future generations of scientists within the field of computational biomedicine, by running training courses on topics such as HPC use, software engineering and algorithm design, as well as training medical practitioners in the basic medical and clinical contexts of HPC simulation, at events with maximum community exposure such as community workshops and leading international conferences.
tagline	Collection of all CompBioMed training activities, courses and webinars.
No.	66
id	compbiomed.software_hub
name	CompBioMed Software Hub
provider	compbiomed
webpage	http://www.compbiomed.eu/
description	The CompBioMed Software Hub addresses the needs of the computational biomedicine research community, which can use the Hub to access the resources developed, aggregated and coordinated by CompBioMed. Software for Cardiovascular, Molecular Medicine and Neuro-musculoskeletal Medicine. The CompBioMed Software Hub contains links to documentation, media, tutorials and training material, for the software related to the CompBioMed project. Computational biomedicine researchers

tagline	All about the software for the computational biomedicine research community
No.	67
id	csc-fi.chipster
name	Chipster
provider	csc-fi
webpage	https://chipster.csc.fi/
description	Chipster is a user-friendly analysis software for high-throughput data. It contains over 300 analysis tools for next generation sequencing (NGS), microarray, proteomics and sequence data. Users can save and share automatic analysis workflows, and visualize data interactively using a built-in genome browser and many other visualizations. ### Features: - Federated authentication through the EGI Applications on Demand service. - Web based access. - Execution of analysis tools from the Chipster toolbox. ### To submit an order request for this service, please register to the <i>EOSC Portal</i> Marketplace with the EGI AAI Check-In service.
tagline	NGS and microarray analysis in the cloud.
No.	68
id	csc-fi.cpouta
name	cPouta Community Cloud
provider	csc-fi
webpage	https://research.csc.fi/cpouta
description	The cPouta Community Cloud service is an IaaS cloud computing service. It allows its users to access, use and manage virtualized infrastructure using a self-service model. Using cPouta, customers can quickly deploy self-administered infrastructure using a simple user interface. The virtual machines are internet accessible (if you so wish). cPouta is a generic service, which can be used for most things. cPouta will provide you with virtual machines and storage, which you can use to build your own service, do a quick test, have a development platform, build a data processing pipeline, or any other purpose you can think of.
tagline	cPouta - IaaS for science
No.	69
id	csc-fi.csc_epouta
name	ePouta Virtual Private Cloud
provider	csc-fi
webpage	https://research.csc.fi/epouta
description	This service provides a infrastructure as a-service for running analysis on sensitive data. The ePouta Virtual Private Cloud service allows customers to provision virtual machines and storage resources directly to their own internal networks. It provides an easy to use admin web interface and a programmable API for managing virtual machines, networks and storage. CSC ePouta meets elevated information security level regulations and is targeted for sensitive data processing.
tagline	Secure and cost-effective cloud computing for processing sensitive data
No.	70
id	csc-fi.rahti_container_cloud
name	Rahti Container Cloud
provider	csc-fi
webpage	https://research.csc.fi/rahti
description	Rahti is a cloud computing service that allows you to easily host applications and make them accessible over the web. It is based on OKD, which is a distribution of Kubernetes and runs end-

	user applications in Docker containers. With the Rahti service, you can easily deploy scalable and fault-tolerant applications and make them accessible over the web. Rahti provides features like load balancing, high availability, and rolling updates for your application. It also provides a set of ready-made templates that allow you to set up applications like a database or a web server with just a few clicks. Under the hood, Rahti is built on open-source and based on a distribution of Kubernetes called OKD.
tagline	Rahti - Container cloud for science
No.	71
id	cyberbotics.robotbenchmark
name	robotbenchmark
provider	cyberbotics
webpage	https://robotbenchmark.net
description	robotbenchmark is a web service with a cloud-based 3D robot simulation software that provides a series of robotics challenges to researchers and students. Robotics challenges, including a performance evaluation metrics, are provided to the users. Users can program simulated robots in Python and run the simulation to evaluate the performance of their robot controllers. A ranking of the best performing robot controllers is stored for each benchmark, including a simulation playback capability. Researchers are welcome to contact us to add more benchmarks to this cloud service. Participation is free of charge. The added value for the researchers and students is the following: Ease-of-Use Realistic Simulation Software Relevant Robotics Challenges Comparison of Scientific Approaches The added value for the users is the following: Ease-of-Use Realistic Simulation Software Relevant Robotics Challenges Comparison of Scientific Approaches
tagline	Program simulated robots online - Compare your performance to the best - Share your achievements.
No.	72
id	d4science.alien_and_invasive_species_vre
name	Alien and Invasive Species Virtual Research Environment
provider	d4science
webpage	https://services.d4science.org/web/alienandinvasivespecies
description	Alien and Invasive Species Virtual Research Environment (VRE) is a web-based, comprehensive, collaborative working environment supporting decision makers and scientists in predicting the spread of an invasive species (possibly alien) in a new environment. The VRE hosts examples of suitable habitat maps produced for today and 2050 in new areas for more than 11, 000 species and provides models and workflows to combine environmental data with species observations in their habitats to predict their future spread. ### Features: - A service providing state-of-the art Data Analytics algorithms suitable for alien and invasive species spread prediction; - A service for seamless discovery and access to species occurrence data and taxa names from several providers providers (eg. BrazilianFlora, OBIS, WoRMS, GBIF, ITIS, CatalogueOfLife); - A complete spatial data infrastructure for discovering, accessing and publishing spatial datasets according to OGC standards; - A catalogue service for discovering, accessing and publishing any research object (multi-part objects with actionable parts) and promoting its re-use; - A social networking service supporting communication among VRE members by sharing and commenting posts;
tagline	A web-based, collaborative working environment enacting to predict the spread of an invasive species (possibly alien) in a new environment
No.	73
id	d4science.visual_media_service_vre
name	Visual Media Service Virtual Research Environment
provider	d4science
webpage	https://services.d4science.org/web/visualmedia

description	Visual Media Service allows users to upload visual media files on a server and to automatically transform them into an efficient web format, making them ready for web-based visualisation. It has been created to provide an easy-to-use service for publishing advanced multimedia content on the web, and it is open to all users. It is based on 3DHOP, and Relight a collection of tools and templates for the creation of multimedia interactive Web presentations of digital cultural artifacts. For all type of visual data, Visual Media Service adopts efficient multi-resolution representation schemas to handle complex dataset and to allow fast data download on internet and high-performance view-dependent visualization. ### Features: - Streaming, compression, multiresolution allowing for large, hi-quality models, Re-lightable (RTI) images, or high resolution images presentation over the web. - Configurable tools and interfaces can be adapted to the specific characteristics of the data. - Support for sharing of advanced visual resources among professionals in the Cultural Heritage community
tagline	Upload visual media files and transform them into an efficient web format, making them ready for web-based visualisation.
No.	74
id	dcc-uk.dmponline
name	DMPonline
provider	dcc-uk
webpage	https://dmponline.dcc.ac.uk/about_us#Background
description	The Digital Curation Centre's DMPonline tool helps you to create, review, and share data management plans that meet institutional and funder requirements. Institutions can customise the tool to provide local guidance and example answers to assist researchers in developing plans. There are many benefits to using DMPonline. It makes DMPs quicker and easier to complete as tailored support is available. Since the tool adopts the RDA common standard for DMPs and has a full text API, all data can be extracted by institutions and a growing number of integrations are provided.
tagline	The leading tool to help you develop Data Management Plans
No.	75
id	denbi.cloud
name	de.NBI Cloud: Cloud Computing for Life Sciences
provider	denbi
webpage	https://cloud.denbi.de/
description	In life sciences today, the handling, analysis and storage of enormous amounts of data is a challenging issue. For example, new sequencing and imaging technologies result in the generation of large scale genomic and image data. Hence, an appropriate IT infrastructure is crucial to perform analyses with such large datasets and to ensure secure data access and storage. The de.NBI cloud is an excellent solution to enable integrative analyses for the entire life sciences community and the efficient use of data in research and application. To a large extent, de.NBI will close the gap of the missing computational resources for researchers. The federated de.NBI Cloud concept and infrastructure unite and optimizes the existing strengths of the individual cloud sites. The de.NBI Cloud is a fully academic cloud, free of charge for academic users, where academic cloud centers provide storage and computing resources for locally stored data. We provide High Memory and GPU nodes, Bibigrid, Kubernetes, Bioinformatics workflows (e.g. Galaxy) and access to database mirrors, e.g the International Cancer Genome Consortium. IaaS, PaaS and SaaS services can be preconfigured. The services are provided by currently six cloud installations distributed over Germany interlinked by a Single sign-on (SSO) and the ELIXIR Authentication and Authorization Infrastructure (ELIXIR AAI).
tagline	Compute Power for your Project
No.	76
id	desy.pan_data

name	PaN data
provider	desy
webpage	https://dcache-xdc.desy.de
description	Data backend storage service for EOSC PAN notebooks and cloud functions for EOSC PAN FaaS. Streams for storage events via kafka and Server Sent Events. Delegation of read/write access with Macaroons.
tagline	dCache backend storage for the EOSC PAN Science Demonstrator
No.	77
id	desy.pan_faas
name	PaN faas
provider	desy
webpage	https://eosc-pan-faas.desy.de
description	Compute backend service for EOSC PAN notebooks and EOSC PAN data. Continuous integration and deployments of docker containers as cloud functions on the DESY Compute Cloud.
tagline	OpenWhisk, cloud functions for the EOSC PAN Science Demonstrator
No.	78
id	desy.pan_gitlab
name	PAN gitlab
provider	desy
webpage	https://eosc-pan-git.desy.de
description	Repository service for EOSC PAN notebooks and cloud functions for EOSC PAN FaaS. Gitlab runners for continuous integration in the DESY Compute Cloud, building and publishing docker containers in the project registry.
tagline	GitLab for the EOSC PAN Science Demonstrator
No.	79
id	desy.pan_notebook
name	PaN notebook
provider	desy
webpage	https://eosc-pan-jhub.desy.de
description	Spawn Jupyter Servers in the DESY Compute Cloud and run notebooks which can make use of the EOSC PaN FaaS Service and connect to EOSC PaN Data Service.
tagline	JupyterHub for the EOSC PAN Science Demonstrator
No.	80
id	digitalglobe.earthwatch
name	SecureWatch
provider	digitalglobe
webpage	http://www.digitalglobe.com/products/securewatch
description	EarthWatch is the most comprehensive, single-access-point subscription for premium geospatial content. With a broad range of imagery and geospatial information products, plus a usage-based pricing model, EarthWatch provides unrivaled coverage, quality, and flexibility. Elevate your work with a product that delivers beautiful and accurate imagery with global access and unlimited users. EarthWatch offers the best value for a wide range of GIS projects such as mapping, detecting change over time, asset and facility monitoring, humanitarian and disaster response, and more. ### Features: 1. Highest commercially available satellite resolution; up to 30cm 2. Fresh imagery available within hours of acquisition 3. Key metadata included 4. Time-

	lapse library for change detection 5. True color, orthorectified image strips and mosaics available for offline use 6. Set AOI refresh alerts 7. Access via browser or API 8. Predictable global collections ### Benefits: 1. Make timely, informed decisions 2. Leverage the 17-year, 100+ PB DigitalGlobe archive 3. Easy access to native SWIR and Stereo 4. Increase efficiency with frequent updates 5. Reduce tasking costs and traditional order processing time with off-the-shelf availability 6. On demand access via the GIS tool of your choice to extract the information you need 7. No geographical or concurrent user restrictions 8. Privacy
tagline	With EarthWatch, stream and download industry-leading geospatial information in a single, powerful solution.
No.	81
id	dkrz.enes_climate_analytics_service
name	ENES Climate Analytics Service
provider	dkrz
webpage	https://portal.enes.org/data/data-metadata-service/processing/ecas
description	Users can define parallel processing workflows, executed remotely without needing to download data or provide own computing resources as these are provided by ECAS. Moreover, users can explore workflows others have created and shared, and apply these to their own data. ECAS enables users to write a workflow once and apply it to diverse data without having to customize it again. ### To access the service you need to: ECAS is open for use by users interested in working on Earth Sciences data. Available data sources may be different between CMCC and DKRZ. To use ECAS and to learn more about the different datasets available, please follow the instructions for registration and access at the two sites: - [CMCC][1] - [DKRZ][2] ### See the online manual: - [Ophidia][3] - [More about Ophidia][4] - [ENES][5] - [IS-ENES][6] - [ESGF][7] [1]: https://ophidiolab.cmcc.it/ [2]: https://ecaslab.dkrz.de/ [3]: http://ophidia.cmcc.it/ [4]: http://ophidia.cmcc.it/documentation/ [5]: https://verc.enes.org/ [6]: https://is.enes.org/ [7]: http://esgf.llnl.gov/ ### Service slide deck https://www.slideshare.net/TheEOSChubproject/enes-climate-analytics-service-ecas
tagline	Analyze and process data from multiple communities with the Ophidia Big Data Analytics framework
No.	82
id	doabf.operas_certification
name	OPERAS Certification (DOAB)
provider	doabf
webpage	https://www.doabooks.org/
description	DOAB Peer review's certification service provides an online form to establish a standardized description of the PR process, reviews them and then attributes to books/collections (also available via API). A system of 'PR certified' icons completes the service. The service is free for all, but publishers' participants will need a login provided by the service provider to access the certification process of PR.
tagline	Peer Review process certification of Open Access Monographs
No.	83
id	ds-wizard.data_stewardship_wizard
name	Data Stewardship Wizard
provider	ds-wizard
webpage	https://ds-wizard.org
description	Data Stewardship Wizard (DSW) brings together data stewards and researchers to compose data management plans (DMPs) for projects efficiently and in a FAIR manner. Data stewards can easily capture the knowledge, including required project data and decisions in knowledge models that are then turned into per-project questionnaires to be filled by researchers

	are guided through a questionnaire using recommendations, FAIR metrics indications, and by showing only relevant questions based on the previous answers. With the filled questionnaire, a DMP as a document can be easily generated using a selected template and output format and persistently stored directly in DS Wizard. The benefit lies not only in having a nowadays often obligatory DMP for funders but mainly learning how to handle data correctly, make them FAIR, maintain them well during the project, and curate them long-term. Smart, guided, and efficient composing of Data Management Plans, ELIXIR nodes, research institutions, individual researchers.
tagline	Smart Data Management Plans for FAIR Open Science
No.	84
id	e-cam.e-cam_online_training_portal
name	E-CAM Online Training Portal
provider	e-cam
webpage	https://www.e-cam2020.eu/
description	E-CAMs online training portal represents an educational resource mainly for the materials and life sciences communities. The portal collects all the content captured at our Extended Software Development Workshops, allowing to revisit the lectures or demonstrations after the meeting. The material included varies from talks focused on state of the art methods to tutorials on the writing of robust software and performance optimization on massively parallel computer platforms, and many things in between. The portal is built using Clowder, a scalable data repository where people can share, organize and analyze data. It is intended to help build a repository for the extended E-CAM community to store training/background material, and that allows contributors to the repository to disseminate their training/expository material more widely for constructive use in future events. Public content, Content available after registration to the portal, The goals of our training infrastructure are to (1) collect the content captured at our Extended Software Development Workshops (ESDWs), allowing participants to revisit lectures or demonstrations in their own time, both during and after the meeting. Such material can also be used by people who did not have the opportunity to attend the ESDW (in particular industrialists); (2) generate online training modules for each ESDW, which will be a set of preparatory material shared with the participants and that will allow everyone to acquire the same basic knowledge before the meeting; (3) be a repository for the data associated to our events (lectures, material); (4) build tutorials on programming best practices to develop software for extreme-scale hardware; (5) associate with other groups and projects with similar training scope such as PRACE, other CoEs and MolSSI, to cover for different and broader training material. Participants in our events, scientists in the extended E-CAM community and workshop organizers
tagline	Access, store and share training content that can bring the E-CAM user communities to the exascale.
No.	85
id	egi-fed.accounting
name	EGI Accounting
provider	egi-fed
webpage	https://www.egi.eu/internal-services/accounting
description	EGI Accounting stores user accounting records from various services offered by EGI, such as Cloud, HTC and storage usage. It works thanks to a network of message brokers that transfer usage data from the host to a central repository of information. The data is handled securely and can be consulted online through the EGI Accounting Portal. EGI council members can use EGI accounting services to account for the resource usage of their own services. EGI Accounting gives: Increased control over resource consumption. Reduced overhead of defining data models, architecture and setup of an accounting system. Reduced cost of maintaining an accounting infrastructure. Access to a reliable, high available, high performance service. User friendly web interface. Reduced overhead of defining data models, architecture and setup of an accounting

	system, reduced cost of maintaining an accounting infrastructure. Countries and organisations represented in the EGI Council
tagline	Track and report the usage of your services
No.	86
id	egi-fed.archive_storage
name	EGI Archive Storage
provider	egi-fed
webpage	https://www.egi.eu/services/archive-storage
description	Archive Storage allows you to store large amounts of data in a secure environment freeing up your usual online storage resources. The data on the Archive Storage can be replicated across several storage sites, thanks to the adoption of interoperable open standards. The service is optimised for infrequent access. Main characteristics: Store data for long-term retention. Store large amount of data. Free up your online storage. Make disaster recovery possible, free up your online storage.
tagline	Back-up your data for the long term and future use in a secure environment
No.	87
id	egi-fed.attribute_management
name	EGI Attribute Management
provider	egi-fed
webpage	https://www.egi.eu/internal-services/attribute-management/
description	With this service, the managers of Virtual Organisations (VOs) can easily manage groups by approving or removing users. Group membership information can be then provided to service providers, both EGI federated and external, to regulate user authorisation. This is a third party service, fully integrated with Check-in and other EGI services and entirely compliant with EGI policies. Main characteristics: An easy and trusted way to manage virtual organisation memberships. Manages the access rights of users and user groups to EGI services. Easily integrated with service providers via Check-in (SAML, OIDC, or X.509-based PKI). Easy and trusted way to manage Virtual Organization membership.
tagline	Manage memberships and groups in communities and virtual organisations
No.	88
id	egi-fed.check-in
name	EGI Check-In
provider	egi-fed
webpage	https://www.egi.eu/internal-services/check-in/
description	EGI Check-in is a proxy service that operates as a central hub to connect federated Identity Providers (IdPs) with EGI service providers. Check-in allows users to select their preferred IdP so that they can access and use EGI services in a uniform and easy way. Main characteristics: Enables multiple federated authentication sources using different technologies. Increased productivity and security. Federated in eduGAIN as a service provider, publishing REFEDS RnS and Sirtfi compliance. User registration portal to allow accounts-linking. Combines user attributes originating from various authoritative sources (IdPs and attribute provider services) and delivers them to the connected EGI service providers in a transparent way. Integrate different through sources of identities, increased productivity and security. EGI Check-in is a proxy service that operates as a central hub to connect federated Identity Providers (IdPs) with EGI service providers. Check-in allows users to select their preferred IdP so that they can access and use EGI services in a uniform and easy way. Main characteristics: * Enables multiple federated authentication sources using different technologies * Increased productivity and security * Federated in eduGAIN as a service provider, publishing REFEDS RnS and Sirtfi compliance * User registration

	portal to allow accounts-linking * Combines user attributes originating from various authoritative sources (IdPs and attribute provider services) and delivers them to the connected EGI service providers in a transparent way.
tagline	Access and use EGI services in a uniform and easy way
No.	89
id	egi-fed.cloud_compute
name	EGI Cloud Compute
provider	egi-fed
webpage	https://www.egi.eu/services/cloud-compute
description	Cloud Compute gives you the ability to deploy and scale virtual machines on-demand. It offers guaranteed computational resources in a secure and isolated environment with standard API access, without the overhead of managing physical servers. Cloud Compute offers the possibility to select pre-configured virtual appliances (e.g. CPU, memory, disk, operating system or software) from a catalogue replicated across all EGI cloud providers. With Cloud Compute you can: Execute compute- and data-intensive workloads (both batch and interactive). Host long-running services (e.g. web servers, databases or applications servers). Create disposable testing and development environments on virtual machines and scale your infrastructure needs. Select virtual machine configurations (CPU, memory, disk) and application environments to fit your requirements. Manage your Cloud Compute resources in a flexible way with integrated monitoring and accounting capabilities.
tagline	Run virtual machines on-demand with complete control over computing resources
No.	90
id	egi-fed.cloud_container_compute
name	EGI Cloud Container Compute
provider	egi-fed
webpage	https://www.egi.eu/services/cloud-container
description	Cloud Container Compute (in Beta phase) gives you the ability to deploy and scale Docker containers on-demand. It offers guaranteed computational resources in a secure and isolated environment with standard API access, without the overhead of managing the operating system. The result is improved performance, ideal for development work. Main characteristics: On-demand provisioning. Lightweight environment for maximised performance. Standard interface to deploy on multiple service providers. Interoperable and transparent. Removes friction between development and operations environments. Improved performance, ideal for development work. Cloud Container Compute gives you the ability to deploy and scale Docker containers on-demand. It offers guaranteed computational resources in a secure and isolated environment with standard API access, without the overhead of managing the operating system. The result is improved performance, ideal for development work. Main characteristics: * On-demand provisioning * Lightweight environment for maximised performance * Standard interface to deploy on multiple service providers * Interoperable and transparent * Removes friction between development and operations environments.
tagline	Run Docker containers in a lightweight virtualised environment
No.	91
id	egi-fed.configuration_database
name	EGI Configuration Database
provider	egi-fed
webpage	https://www.egi.eu/internal-services/configuration-database
description	The Configuration Database is a central registry to record topology information about all the participating sites of your e-infrastructure. The Configuration Database also provides different

	rules and grouping mechanisms for filtering and managing the information associated to resources. This can include entities such as operations and resource centres, service endpoints and their downtimes, contact information and roles of staff responsible for operations at different levels. Main characteristics: Ready-to-use solution for configuration management. Improves the operation of a distributed infrastructure. Hierarchical management with roles and capabilities. Improves the operation of a distributed infrastructure.
tagline	Manage the configuration information of federated e-infrastructure assets and their functional relations
No.	92
id	egi-fed.data_transfer
name	EGI Data Transfer
provider	egi-fed
webpage	https://www.egi.eu/services/data-transfer
description	Data Transfer allows you to move any type of data files asynchronously from one place to another. The service includes dedicated interfaces to display statistics of on-going transfers and manage network resources. Data Transfer is ideal to move large amounts of files or very large files. The Data Transfer service has mechanisms to ensure automatic retry in case of failure. Main characteristics: Ideal for very large files. Able to handle large amounts of files. Transfer process with automatic retry. Easily move your research data
tagline	Transfer large sets of data from one place to another
No.	93
id	egi-fed.fitsm_training
name	EGI FitSM Training
provider	egi-fed
webpage	https://www.egi.eu/services/fitsm-training
description	With FitSM Training you will learn the fundamentals of IT service management and how to implement FitSM in your organisation through a combination of lessons and examples. FitSM is a lightweight standard for IT service management. It brings order and traceability with simple, practical support and provides a common conceptual and process model setting out realistic requirements. The training programme is structured in three levels: Foundation, Advanced and Expert. With FitSM training you can: Increase your expertise in managing IT services. Raise your professional profile by a recognised certification. EGI offers two types of training courses that can be requested: Open Registration: open for individual registrations and organised at a pre-determined date and location. In-House: for organisations needing several members of staff to be trained. The date and location of the training are mutually agreed. Foundation Level, Advanced Level in Service Planning and Delivery, Advanced Level in Service Operation and Control, Expert Level, Expert Bridge (Side entry for ITSM professionals) Increase your expertise in managing IT services, Increase professional profile by a recognized certification. 13 total courses run commercially by EGI, for a total of over 100 certificates released. Following institutions having received the service: CSC - IT Center for Science, EGI Foundation, EMBL-EBI, German Climate Computing Centre (DKRZ), i2CAT Foundation, INFN (Bologna, LNF, MIB, Pisa, Rome1, Rome2, Torino), Jisc, Karlsruhe Institute of Technology, Karolinska Institutet, KTH - Royal Institute of Technology, NSC, Pure Purpose, LLC, STFC, SURFnet, SURFsara, Terradue (IT Srl, UK Ltd)
tagline	Learn how to manage IT services with a pragmatic and lightweight standard
No.	94
id	egi-fed.helpdesk
name	EGI Helpdesk
provider	egi-fed
webpage	https://www.egi.eu/internal-services/helpdesk

description	Helpdesk provides you with the information and support you need to troubleshoot your product and service problems. You can report incidents, bugs or change requests. EGI provides support to users and operators through a distributed helpdesk with central coordinating. The central helpdesk provides a single interface for support. The support activities are grouped in first and second level support. Main characteristics: Central point of contact for support. Repository of information and solutions. Keeps track of progress of ongoing issues happening on the infrastructure. Have a central point of contact for support, route issues to where they can be solved. EGI resource providers: https://www.egi.eu/federation/data-centres/EGI users
tagline	Your point of contact to ask for support at EGI
No.	95
id	egi-fed.high-throughput_compute
name	EGI High-Throughput Compute
provider	egi-fed
webpage	https://www.egi.eu/services/high-throughput-compute
description	With High-Throughput Compute you can run computational jobs at scale on the EGI infrastructure. It allows you to analyse large datasets and execute thousands of parallel computing tasks. High-Throughput Compute is provided by a distributed network of computing centres, accessible via a standard interface and membership of a virtual organisation. EGI offers more than 700,000 cores of installed capacity, supporting over 1.6 million computing jobs per day. This service supports research and innovation at all scales: from individuals to large collaborations. Main characteristics of the service: Access to high-quality computing resources. Integrated monitoring and accounting tools to provide information about the availability and resource consumption. Workload and data management tools to manage all computational tasks. Large amounts of processing capacity over long periods of time. Faster results for your research. Shared resources among users, enabling collaborative research. Enable collaborative research
tagline	Execute thousands of computational tasks to analyse large datasets
No.	96
id	egi-fed.iso_27001_training
name	EGI ISO 27001 Training
provider	egi-fed
webpage	https://www.egi.eu/services/iso-27001-training/
description	With ISO 27001 training, you will learn the fundamentals of Information Security and how to implement a management system (ISMS) in your organisation through a combination of people, processes and IT systems. ISO 27001 is part of the ISO/IEC 27000 family of standards designed to help organisations keep information assets secure. ISO 27001 offers a systematic approach to managing and securing information such as intellectual property, finances, personal data, both internal and data entrusted to you by third parties. The training programme is structured in two levels: Foundation and Professional. A formal ISO 27001 certification is offered to all participants of the training after successfully passing a final exam. ### The ISO 27001 Training helps you to 1. Ensure that security risks are appropriately managed and prioritised 2. Protect your organisation against information security threats and vulnerabilities 3. Protect the data entrusted to you by your organisation 4. Guarantee fulfilment of legal responsibilities 5. Increase confidence in your organisation ### EGI offers two types of training: 1. Open Registration: organised at a pre-determined date/location open for individual registrations 2. In-House: for organisations needing several members of staff to be trained. The date and location of the training are mutually agreed.
tagline	Learn how to manage and secure information assets
No.	97
id	egi-fed.marketplace

name	EGI Marketplace
provider	egi-fed
webpage	https://www.egi.eu/internal-services/marketplace/
description	The EGI Marketplace is an online platform for exposing and promoting services to new scientific and market segments. The Marketplace provides all the necessary functionalities for bringing together offering and demand to make research happen. All services are provided by the EGI Federation and partner institutions. The Marketplace allows you to: Showcase your services to new markets and grow your user base. Join the community of like-minded service providers. Collaborate with other organisations to improve resources and services. Increase the exploitability and innovation capacity of your service offerings. Promote cross-disciplinary research. Easily discover expertise that can be tapped into based on usage of resources available; Increase competitiveness by providing a low cost of entry to expensive technologies for small academic institutions and businesses; Facilitate inter-disciplinary research by providing access to technologies typically considered outside of a particular field ; Collaborative improvement of services and resources.; Allow researchers and institutions to focus on value creation as opposed to maintaining redundant resources. EGI resource providers: https://www.egi.eu/federation/data-centres/EGI users
tagline	Expose your services to a broader audience
No.	98
id	egi-fed.notebook
name	EGI Notebook
provider	egi-fed
webpage	https://www.egi.eu/services/notebooks/
description	Notebooks is a browser-based tool for interactive analysis of data using EGI storage and compute services. Notebooks are based on JupyterHub technology. This service can combine text, mathematics, computations and their rich media output using Jupyter technology, and can scale to multiple servers and users with the Cloud Compute service. Notebooks for Researchers: After a lightweight approval, users login, write and play notebooks using storage and compute capacity. Notebooks for Communities EGI offers consultancy and technology to set up a community-specific JupyterHub on top of a community VO. Comes together with EGI-enabled compute and storage resources and with community-specific storage. For individual users: Reproducible research with notebooks (notebooks can be re-played by the same user, shared and re-played by different users), easy to hook into other big-data environments (e.g. Spark, Hadoop) or services (e.g. Cloud Compute) provided by or hosted by EGI. For groups: establish a JupyterHub for your community on top of EGI and community-specific compute and storage resources. "For individual users: Reproducible research with notebooks (notebooks can be re-played by the same user, shared and re-played by different users), easy to hook into other big-data environments (e.g. Spark, Hadoop) or services (e.g. Cloud Compute) provided by or hosted by EGI. For groups: establish a JupyterHub for your community on top of EGI and community-specific compute and storage resources"
tagline	Create interactive documents with live code, visualisations and text
No.	99
id	egi-fed.online_storage
name	EGI Online Storage
provider	egi-fed
webpage	https://www.egi.eu/services/online-storage
description	Online Storage allows you to store data in a reliable and high-quality environment and share it across distributed teams. Your data can be accessed through different standard protocols and can be replicated across different providers to increase fault-tolerance. Online Storage gives you

	complete control over the data you share and with whom. Main characteristics: Assign global identifiers to files. Access highly-scalable storage from anywhere. Control the data you share. Organise your data using a flexible hierarchical structure. Easily share and organise your data, control the data you share.
tagline	Store, share and access your files and their metadata on a global scale
No.	100
id	egi-fed.operational_tools
name	EGI Operational Tools
provider	egi-fed
webpage	https://www.egi.eu/internal-services/operational-tools
description	The service of Operational tools provides the essential toolkit to run a core infrastructure platform in a federated ecosystem. The Operational Tools available for members of the EGI Council are: Monitoring – provided by CNRS, GRNET, SRCE. Operations portal – provided by CCIN2P3 (Operations portal website). Configuration database – provided by STFC (GOCDDB). Security tool. Information discovery. Messaging brokers. There is also a range of accounting tools offered as a separate service. The EGI Operational Tools guarantee: Reduced expenses – the entire tool kit is already available, and maintenance is shared by all members. A predictable service provisioning with high availability and reliability. Full operational integration. Increased efficiency of running operations in a federated ecosystem. Easy coordination of large collaborations. Reduced expenses – the entire tool kit is already available, and maintenance is shared by all members, increased efficiency of running operations in a federated ecosystem, easy coordination of large collaborations.
tagline	Integrate resources and operations in a federated ecosystem
No.	101
id	egi-fed.service_monitoring
name	EGI Service Monitoring
provider	egi-fed
webpage	https://www.egi.eu/internal-services/service-monitoring
description	Service Monitoring keeps an eye on the performance of your IT services and quickly detects and resolves any issues. The service monitors the infrastructure by collecting the monitoring data generated by functional probes. The raw data is merged into statistics and available through the user interface in a user-friendly way. This service builds on EGI's ten years' experience of monitoring distributed e-infrastructures. With Service Monitoring you will get: Minimal development effort for setting up monitoring services. Ready-to-use user interface. Automated reporting tools. Improve the quality of the services, and prove to customers/funders the quality of service achieved. EGI resource providers: https://www.egi.eu/federation/data-centres/
tagline	Monitor the performance of IT services
No.	102
id	egi-fed.training_infrastructure
name	EGI Training Infrastructure
provider	egi-fed
webpage	https://www.egi.eu/services/training-infrastructure
description	The Training Infrastructure is a cloud-based computing and storage resources for training events. It is useful to organise onsite tutorials or workshops and online training courses or as a platform for self-paced learning. Trainers can deploy custom virtual machine images on the Training Infrastructure as the training environment for the students. The virtual machines can be customised according to specific needs and the community can benefit from the easy deployment and easy reuse of course materials. The Training Infrastructure uses the same high-

	quality computing and storage environment that EGI provides to researchers. Main characteristics: Target-specific courses and added value for scientific communities. Easy-to-use, on-demand access and improvements in the training offer. Allows easy deployment of courses and reuse. Target-specific courses and added value for scientific communities, allows easy deployment of courses and reuse.
tagline	Dedicated computing and storage for training and education
No.	103
id	egi-fed.validated_software_and_repository
name	EGI Validated Software and Repository
provider	egi-fed
webpage	https://www.egi.eu/internal-services/validated-software-and-repository
description	This service provides a collection of IT tools that Council participants and/or user communities may require to manage their work. This service provide a repository of software provided by the EGI Technology Providers and validated by the EGI Software Provisioning process. The software distributed through the repository follows the quality criteria and the staged-rollout rules defined in the EGI Software Provisioning process. Software Provisioning allows for: Great visibility of the software published and integrated with EGI. Automatic updates of software packages. Reduced overall time needed in package management. Improved reliability of the software passing through the verification chain. Great visibility of the software published and integrated with EGI, reduced overall time needed in package management.
tagline	Benefit from a repository of high-quality software validated for the EGI infrastructure
No.	104
id	egi-fed.workload_manager
name	EGI Workload Manager
provider	egi-fed
webpage	https://www.egi.eu/services/workload-manager/
description	With the Workload Manager you can manage and distribute your computing tasks in an efficient way while maximising the usage of computational resources. The Workload Manager is based on DIRAC technology and is suitable for users that need to exploit distributed resources in a transparent way. The service has a user-friendly interface and also allows easy extensions for the needs of specific applications via APIs. Main characteristics: Job submission management and workload distribution in an optimised way. Supports both cloud and grid capacities. User-friendly interface and open architecture. Workload Manager platform eases scientific computing by overlaying distributed computing resources in a transparent manner to the end-user. Workload Manager platform eases scientific computing by overlaying distributed computing resources in a transparent manner to the end-user.
tagline	Manage computing workloads in an efficient way
No.	105
id	eiscat.data_access_portal
name	EISCAT data access portal
provider	eiscat
webpage	https://www.eiscat.se/eosc
description	User portal for EISCAT data access and analysis. The EISCAT_3D Data Portal offer the following main features: - AAI, user login - Data browser - Data download - Online computing: stage and analyse data using cloud resources, reference applications or user's own software
tagline	EISCAT user portal
No.	106

id	elixir-italy.laniakea_recas
name	Laniakea@ReCaS
provider	elixir-italy
webpage	https://laniakea-elixir-it.github.io/
description	The Laniakea@ReCaS service, based on Laniakea software stack, provides the possibility to automate the creation of Galaxy-based virtualized environments through an easy setup procedure, providing an on-demand workspace ready to be used by life scientists and bioinformaticians. At the end of the process, the user gains access to a private, production-grade, fully customizable, Galaxy virtual instance. Laniakea features the deployment of a stand-alone or cluster backed Galaxy instances, shared reference data volumes, encrypted data volumes and rapid development of novel Galaxy flavours for specific tasks.
tagline	Automatic deployment of virtual Galaxy environments for life science
No.	107
id	elixir-uk.cyverse_uk
name	CyVerse UK
provider	elixir-uk
webpage	http://cyverseuk.org/
description	CyVerse UK supports life science research provisioning virtual machines on a per request basis to UK scientists. The virtual machines can be used for dedicated analysis, running web services to serve web pages, data, and analyses to the community, or as a virtual laboratory or development ecosystem to share with collaborators. We can also offer a limited amount of virtual machines for short term training courses. ### Features: 1. Up to 100G local storage space on the virtual machine 2. Access to an HTCondor scheduler and workers for job submission 3. Possibility to request additional storage, in the form of NFS or Object Data Store 4. Integration with the CyVerse Data Store for CyVerse UK registered users
tagline	Cyberinfrastructure for life science
No.	108
id	embl-ebi.embassy_cloud
name	Embassy Cloud
provider	embl-ebi
webpage	https://www.embassycloud.org/
description	Embassy Cloud users (tenants) have direct access to the EMBL-EBI data, services and compute. This is a practical and cost-effective alternative to replicating services and downloading vast, public datasets locally. Tenants can access their workspace from anywhere in the world, reducing the need for capital investments in hardware and related operational costs. We offer distinct advantages over commercial cloud services, most notably direct network access to public data and services and file access to EMBL-EBI's public and managed-access datasets ### Your workspace within the Embassy Cloud will have: 1. A dedicated, secure, private, virtual data centre hosted within our OpenStack infrastructure; 2. An allocation of CPU, RAM and storage resources for you to manage according to your project's needs; 3. Internal and external network configuration of your space, specified by you, with simple firewall and VPN functions; 4. You take on full programmatic control and integration of your space; 5. Your host organisation is solely in charge of the systems administration within your Embassy Cloud space; 6. In addition to the public data sets, you can request access to specified internal EMBL-EBI data resources such as filesets or databases (e.g. ChEMBL, Ensembl, 1000 Genomes Project archive, Uniprot). Each request is evaluated by the resource owner
tagline	EMBL-EBI's OpenStack cloud infrastructure co-located with their global life-science data resources and bioinformatics services and tools.
No.	109

id	embl-ebi.identifiersorg
name	Identifiers.org
provider	embl-ebi
webpage	https://identifiers.org
description	The Identifiers.org system provides a range of services to generate, resolve and validate persistent (PID) and Compact Identifiers, to enable the referencing of scientific data and to promote the citability of individual data provider, enabling integration across e-infrastructures.
tagline	Persistent Identifier (PID)services
No.	110
id	eodc.data_catalogue_service
name	EODC Data Catalogue Service
provider	eodc
webpage	https://eodc.eu/services/
description	The EODC Data Catalogue service allows querying the Copernicus Sentinel satellite data hosted at EODC. The service is available through a simple Web GUI, eomEX+, as well as an API. The back-end of eomEX+ is the EODC pycsw server, an implementation of an OGC CSW server. As a consequence, the eomEX+ API is accompanied by an expert level API provided by the EODC CSW server, located at [link][1]. Further details can be found [here][2]. [1]: https://csw.eodc.eu [2]: https://eomex.eodc.eu/manual
tagline	Catalog Service for the Web (CSW), OGC compliant catalogue service to expose metadata of geospatial records hosted at EODC
No.	111
id	eodc.jupyterhub_for_global_copernicus_data
name	EODC JupyterHub for global Copernicus data
provider	eodc
webpage	https://eodc.eu/services/
description	EODC JupyterHub provides access to the global EODC Copernicus Data Archive. Eliminate the barrier to get access to and to start to develop algorithms in view of remote sensing data. Full access to EODC Copernicus satellite data archive. No need to setup a VM to access data archive.Simple python dev. environment.
tagline	EODC JupyterHub provides access to the global EODC Copernicus Data Archive.
No.	112
id	eosc-dih.piloting_and_co-design_of_the_business_pilots
name	Piloting and co-design of the Business Pilots
provider	eosc-dih
webpage	https://eosc-dih.eu/
description	Usage of the EOSC DIH platform to support interested new companies to build pilots on top of the EOSC-hub Infrastructure and Services. It covers following support activities: - Business Pilots definition - support to define in details scenarios using EOSC-hub services for creating added value business services, definition of the new services - Scaling-up - planning actions to increase the scalability of the innovation - Design - support the technical design and architecture of the new business pilot scenarios - Testing - providing necessary resources (in collaboration with the resource providers) and tools to support testing of the new services - Demonstrators - providing an opportunities to demonstrate new solutions to stakeholders, during the events - Performance Verification - support of the benchmarking and verification of the new services before pushing to the service catalogue
tagline	Business Pilots piloting using EOSC-hub Infrastructure and Services

No.	113
id	esa-int.geoss_web_portal
name	GEOSS Web Portal
provider	esa-int
webpage	http://geosspublish.uat.esaportal.eu/knowledge-producer
description	The GEOSS (Global Earth Observation System of Systems) Web Portal is the main entry point for discovering and accessing GEOSS data. GEOSS Platform interconnects more than 170 data systems globally, providing discoverability of more than 400M datasets. This version of the GEOSS Web Portal is connected also to the ECOPotential Virtual Laboratory, allowing users to execute available models utilizing GEOSS data as inputs.
tagline	Access to resources from the Global Earth Observation System of Systems
No.	114
id	eudat.b2access
name	B2ACCESS
provider	eudat
webpage	https://www.eudat.eu/services/b2access
description	B2ACCESS is the EUDAT federated cross-infrastructure authorisation and authentication framework for user identification and community-defined access control enforcement. B2ACCESS allows EUDAT users to authenticate themselves using a variety of credentials. Standard For EUDAT service users and EUDAT service providers who need a single login for EUDAT. B2ACCESS service is a customer facing services provides a federates access to the B2 services in a trusted way.
tagline	Identity & authorisation
No.	115
id	eudat.b2drop
name	B2DROP
provider	eudat
webpage	https://www.eudat.eu/services/b2drop
description	B2DROP is a secure and trusted data exchange service for researchers and scientists to keep their research data synchronized and up-to-date and to exchange with other researchers. B2DROP is an ideal solution to store and exchange data with colleagues and team members, synchronise multiple versions of data and ensure automatic desktop synchronisation of large files. Standard free. For the individuals researchers who need to synchronise and exchange data with one or multiple users, B2DROP Service is a customer-facing solution to store and exchange data with colleagues and team members.
tagline	Synch and share research data
No.	116
id	eudat.b2find
name	B2FIND
provider	eudat
webpage	https://www.eudat.eu/services/b2find
description	B2FIND is the EUDAT metadata service and provides a discovery portal which allows users to find data collections within an international and inter-disciplinary scope. It is based on a comprehensive metadata catalogue of research data collections stored in EUDAT data centres and other repositories. Harmonization of the metadata descriptions collected from heterogeneous sources enables not only the presentation in a consistent form but as well the faceted search across scientific domain boundaries. Standard. For Communities and other providers of research data who need to publish and give visibility to their metadata and individual researchers

	who need to search data from everywhere, and see data in the context with an across community approach.
tagline	Find research data
No.	117
id	eudat.b2handle
name	B2HANDLE
provider	eudat
webpage	https://www.eudat.eu/services/b2handle
description	B2HANDLE is the distributed service for storing, managing and accessing persistent identifiers (PIDs) and essential metadata (PID records) as well as managing PID namespaces. The implementation of the service relies on the DONA/Handle persistent identifier solution. Standard. B2HANDLE can be used by middleware applications, end-user tools and other service to reliably identify data objects over longer timespans and through changes in object location or ownership. The B2HANDLE service encompasses management of identifier namespaces (Handle prefixes), establishment of policies and business workflows, operation of Handle servers and technical services, and a user-friendly Python library for general interaction with Handle servers and EUDAT-specific extensions. B2HANDLE is mostly transparent to end-users, shielding them from the complexity of infrastructure details. In the background, B2HANDLE operates as a federation and based on policies that aim to ensure high availability of Handle resolution by cross-site mirroring of Handles. B2HANDLE supports a dedicated Handle record structure (a PID profile) for the safe data management within an infrastructure with a given topology. By relying on features of the PID profile, end-users can, for instance, ensure authenticity of objects with checksums and timestamps and account for replicated objects across multiple locations.
tagline	Register your research data
No.	118
id	eudat.b2note
name	B2NOTE
provider	eudat
webpage	https://b2note.eudat.eu
description	B2Note allows to easily create, search and manage annotations. An annotation is a keyword or commentary attached to a data object (data collection, file) that explains or classifies it. B2NOTE is a standalone service for annotating data content hosted within the EUDAT CDI. There exist 3 types of annotations in B2Note - the semantic tag, a keyword from an ontology (a semantic tag coming from identified ontology repositories - currently only Bioportal - the free-text keyword, to be created and used when a specific semantic term is not found - the comment, a more comprehensive annotation Perfect for service providers who want to extend the (web based) service with annotation functionality ### Relevant: User must register to create and maintain annotations, additional access registration can be applied on the service which enabled annotation functionality via B2NOTE. Service providers willing to enable annotation via B2NOTE on an existing service can request consultancy and support. ### To access the service you need to: 1. The EUDAT public B2NOTE service (https://b2note.eudat.eu) is offered as a fairshare free-to-use service, no registration is required to search through the B2NOTE, registration is needed to store and manage annotations. 2. Request for integration within existing services select the service option below. 3. Provide URL to service 4. Go to the cart and submit your order. 5. You will receive an email summarising your order. 6. You will be contacted by the EUDAT support team ### Service provided by EUDAT and BSC
tagline	Data annotation service to create annotations on research data
No.	119
id	eudat.b2safe

name	B2SAFE
provider	eudat
webpage	https://www.eudat.eu/services/b2safe
description	B2SAFE is a robust, safe and highly available service which allows community and departmental repositories to implement data management policies on their research data across multiple administrative domains in a trustworthy manner. It offers: abstraction layer of large scale, heterogeneous data storages, guards against data loss in long-term archiving, allows to optimize access for users (e.g. from different regions), brings data closer to facilities for compute-intensive analysis. Standard; with-DPMFor the communities who need to guard against data loss, B2SAFE is a customer facing service that allow data replication and safe storage between geographically distributed centres in the EUDAT CDI.
tagline	Replicate research data safely
No.	120
id	eudat.b2share
name	B2SHARE
provider	eudat
webpage	https://www.eudat.eu/services/b2share
description	B2SHARE is a user-friendly, reliable and trustworthy way for researchers, scientific communities and citizen scientists to store and share small-scale research data from diverse contexts. B2SHARE is a solution that facilitates research data storage, guarantees long-term persistence of data and allows data, results or ideas to be shared worldwide. Standard. For the individuals researchers who do not have adequate facilities for storing, preserving and sharing data, B2SHARE Service is a customer-facing service which provides a safe repository for scientific data and a easy way to share it in the research community.
tagline	Store and publish research data
No.	121
id	eudat.b2stage
name	B2STAGE
provider	eudat
webpage	https://www.eudat.eu/services/b2stage
description	B2STAGE is a reliable, efficient, light-weight and easy-to-use service to transfer research data sets between EUDAT storage resources and high-performance computing (HPC) workspaces. Standard. For Communities who need to transfer large data collection from EUDAT CDI to HPC. B2STAGE Service is a customer-facing service that allow high performance transfers in a reliable, fast, easy to use environment.
tagline	Get data to computation
No.	122
id	europaena.europaena_apis
name	Europeana APIs
provider	europaena
webpage	https://pro.europaena.eu/resources/apis
description	The Europeana REST API is a set of APIs which provides a service calibrated to the needs of professionals interested in the reuse of digitised or digital-born cultural heritage in education, research and the creative industries. Rewarded an API Award for the category “Data APIs” in 2017, it is an automated and flexible method of access and retrieval of the Europeana Collections. The Europeana REST API set includes the following services: Search API, Record API, Entity API, IIIF API, OAI-PMH and SPARQL services. Next in development is the Annotations API, seen

	as a high-potential service for research audiences. All Europeana API services are free of charge and require a simple registration. Europeana provides extensive API documentation on https://pro.europeana.eu/resources/apis and support via a dedicated Google Group and email. Sharing best practices with regard to data publication and access adds extra value to the Europeana offer. Featured examples include the Europeana Data Model (https://pro.europeana.eu/resources/standardization-tools/edm-documentation) which streamlines the aggregation of cultural data from across Europe, Europeana Publishing Framework (https://pro.europeana.eu/post/publishing-framework), and other work related to the FAIR principles for research data (see publication below) (https://pro.europeana.eu/post/europeana-and-the-fair-principles-for-research-data).
tagline	Large-Scale Data Discovery, Acquisition and Management of Digital Cultural Heritage in Research
No.	123
id	exoscale.european_cloud_hosting
name	European Cloud Hosting
provider	exoscale
webpage	https://www.exoscale.com
description	Exoscale is a simple to use yet advanced on-demand compute and storage as a service platform available from several locations in Europe with resources spinned up in seconds at an affordable per minute pricing: a) Cloud servers, quick to get started, easy to run and scale, fully cloud native, b) Object Storage, S3 compliant, no lock-in, cloud native object storage solution, for any kind of data, pay only what you use, c) GPU Servers, latest generation cards, extra-large SSD storage, d) DNS zones with straightforward web interface, e) Runstatus, hosted status dashboards for developing teams. Exoscale is a simple to use yet advanced on-demand compute and storage as a service platform available from several locations in Europe with resources spinned up in seconds at an affordable per minute pricing: a) Cloud servers, quick to get started, easy to run and scale, fully cloud native, b) Object Storage, S3 compliant, no lock-in, cloud native object storage solution, for any kind of data, pay only what you use, c) GPU Servers, latest generation cards, extra-large SSD storage, d) DNS zones with straightforward web interface, e) Runstatus, hosted status dashboards for developing teams. With Exoscale we're building infrastructure and services to help European teams build cloud native applications. This relentless focus allows us to build a cloud platform that's both powerful and enjoyable to use. Exoscale is also the ideal partner for those looking to respect the strict Swiss data privacy laws. We also help engineers ensure that the workloads started in Austria, stay in Austria. Same goes for workloads started in Germany: we guarantee that they will remain in Germany. This means that your projects are GDPR-compliant when you work with Exoscale. Trusted by engineers across Europe. Our customer success engineers have helped hundreds of customers from all over Europe migrate, run and scale production workloads on Exoscale.
tagline	A solid, simple, scalable and secure European cloud hosting alternative
No.	124
id	fairdi.nomad_repository
name	NOMAD repository
provider	fairdi
webpage	https://repository.nomad-coe.eu/
description	Computational materials science develops and uses highly sophisticated computer programs to investigate, characterize, and predict materials at the atomic level. It thus provides insight into materials properties and functions and the design and development of new materials that meet specific requirements. Providing a forefront infrastructure for computed materials data, that enables the exploitation of this significant raw material, is the aim of the Novel Materials Discovery (NOMAD) project. The NOMAD Repository accepts, more precisely requests, input and output files of all important codes. The NOMAD Repository keeps data for at least 10 years.

	Open access can be delayed by up to three years. DOIs are provided on request to make the data citable. See also https://youtu.be/UcnHGokl2Nc . The NOMAD Repository is the world's largest collection of computational materials science data, hosting raw data contributed by the community of electronic-structure theory. The NOMAD Repository is not restricted to a single code or a closed group of researchers. Already now, more than 30 of the dominant ab initio codes are supported, and more codes will be added on demand, in collaboration with the corresponding code developers. In the repository, the full input and output files of calculations are stored. It also contains the data of the most important computational materials databases worldwide.
tagline	The NOMAD Repository is the world's largest collection of computational materials science data.
No.	125
id	fairsharing.fairsharing
name	FAIRsharing
provider	fairsharing
webpage	https://fairsharing.org/
description	FAIRsharing is a FAIR-supporting resource that includes: an informative and educational registry on data standards, databases, repositories and policy, alongside search and visualization tools and services that interoperate with other FAIR-enabling resources FAIRsharing guides consumers to discover, select and use standards, databases, repositories and policy with confidence, and producers to make their resources more discoverable, more widely adopted and cited. FAIRsharing works with and for the communities and organizations behind standards (reporting guidelines, terminology artefacts, models and formats, metrics and identifier schema), databases (both knowledge-bases and repositories), and data policies (from funders and journal publishers to describe and interlink these resources, as relevant. For example, enabling users to see which data policies recommend which repositories and what standards the latter implement. FAIRsharing also works as a service, providing content (metadata description) for a number of external tools, one example is the FAIR Evaluator tool (https://doi.org/10.1038/s41597-019-0184-5).
tagline	FAIRsharing: FAIRer resources for FAIRer data
No.	126
id	figshare.figshare
name	Figshare
provider	figshare
webpage	https://knowledge.figshare.com/institutions
description	Figshare is a free repository where users can make all of their research outputs available in a citable, shareable and discoverable manner. Figshare allows users to upload any file format up to 5GB to be previewed in the browser so that any research output, from posters and presentations to datasets and code, can be disseminated in a way that the current scholarly publishing model does not allow. Among others, Figshare offers free private space of 20GB, DOIs for data, a figshare API for research and unlimited public space. 1) FREE accounts: Upload files up to 5 GB, 20 GB of free private space, Unlimited public space, DOI for your work, Upload any file format, Accessible anywhere, Desktop uploader, Figshare API, Collaborative spaces, Private link sharing, DOI reservation, Collections. 2) Services for Publishers: figshare Viewer, figshare Portal, figshare Datastore, Research data management, Research data dissemination, Curation workflows, Reporting and statistics. Figshare is used by: 1) Institutions that manage, disseminate and measure the public impact of all their research outputs, 2) Publishers that may want to increase the discoverability of their content while better serving end users and authors, 3) Researchers that want their research outputs available in a citable, shareable and discoverable manner. Figshare is a free platform that comply with funder and publisher policies around open research outputs. Figshare supports embargoes and version control and allow users to track impact of

	<p>their research with altmetrics, download and citation counts. Trusted by more than 70 institutions, publishers, funders, public agencies and laboratories worldwide. Since 2012, Figshare has offered 7.5 million+ downloads, 800.000+ uploads, 500.000+ collections, 2 million+ articles and 26 million+ page views. Figshare for Institutions offers a simple and cost-effective software solution for academic and higher education establishments to both securely host and make publicly available its academic research outputs. Figshare for Institutions takes care of all technical aspects of a FAIR data repository, allowing organisations to focus on engagement, compliance and curation. Figshare plugs into existing workflow, is completely customisable in terms of branding and can live on a University domain.</p>
tagline	The All In One Repository: digital object identifiers, altmetrics, citation counts, code and more!
No.	127
id	fssda.data_service_portal_aila
name	Data Service Portal Aila
provider	fssda
webpage	https://services.fsd.uta.fi/?lang=en
description	<p>Aila is Finnish Social Science Data Archive's (FSD) online data discovery, deposit and download service. Aila facilitates access to research data from the social sciences and related fields. Everyone can download data online from Aila according to the conditions set for each dataset. Some data are available for all users and for the rest registration in advance is required. Everyone can freely search, filter and browse rich study descriptions of archived data in Finnish and in English. This includes not only descriptive metadata but variable level metadata and frequencies as well. Data download is also always free of charge. Students and staff from the Finnish higher education and research institutions can register themselves using HAKA identity federation. Other users apply for a username from FSD User Services. Datasets may be deposited to Aila according to FSD's collection policy. Both quantitative (numerical) or qualitative (i.e. text, speech, or visual images) data collected for research purposes are accepted. A prerequisite for archiving is that the data can be reused at least for research purposes. Aila features a secure transfer service for data file(s) and data description as well as other material, such as the questionnaire, coding instructions and interview questions. Aila provides access to the research data holdings of FSD. FSD takes care of long-term preservation and access to the data through Aila. Especially quantitative and qualitative research data from and about Finland are available through Aila and data may be translated into English for on request. The service helps to + save time and resource for researchers when accessing data + increase visibility and merit, and verification of research through increased data citation + avoid overlapping data collection or recollection of data + reduce potential duplication of effort + secure value to future researchers and students intervention + provide more equal and easy access to metadata and data + facilitate use of data by new audiences + provide well curated and documented data + preserve data for the long term + enable comparative and multidisciplinary research + facilitate verification and reproducibility of research + remove user burden from data depositors + facilitate open science + motivate new research</p>
tagline	Download data from Aila
No.	128
id	gbif-es.collections_registry
name	GBIF Spain Collections Registry
provider	gbif-es
webpage	https://coleccion.es.gbif.es
description	<p>Online registry with information about Spanish institutions, as well as their respective collections and datasets, that publish data through the GBIF network. The dataset landing page displays the metadata, including DOI, license information and direct access to the records.</p>
tagline	Metadata registry for Spanish institutions, collections and datasets sharing data through GBIF.ES

No.	129
id	gbif-es.e-Learning_platform
name	E-Learning Platform of GBIF Spain
provider	gbif-es
webpage	https://elearning.gbif.es
description	The GBIF.ES e-learning platform offers online workshops on data quality, data publication, data use, etc. open to whole GBIF community
tagline	The GBIF.ES e-learning platform offers online workshops on data quality, data publication, data use, etc. open to whole GBIF community
No.	130
id	gbif-es.images_portal
name	GBIF Spain Images Portal
provider	gbif-es
webpage	https://imagenes.gbif.es
description	Image portal and webservice application to store and visualize images linked to occurrence records. Some tools are available to measure, zoom, calibrate or download the image.
tagline	Visualize images found in the data portal for a taxon.
No.	131
id	gbif-es.occurrence_records
name	GBIF Spain Occurrence Records
provider	gbif-es
webpage	https://registros.gbif.es
description	Portal to display list of occurrence data, visualize georeferenced records in map, statistics of the dataset search with dynamic graphs, explore a single record to view related information and the quality tests run on the record and download data
tagline	Access to occurrence biodiversity data published by Spanish providers
No.	132
id	gbif-es.regions_module
name	GBIF Spain Regions module
provider	gbif-es
webpage	https://regiones.gbif.es
description	Portal to explore records in specific regions such as Protected Natural Areas, Provinces, National Biogeographical Regions, Special Protection Areas (SPA) and Natura 2000
tagline	Access to species recorded in a defined region such as a protected area, habitat or territory
No.	133
id	gbif-es.spatial_portal
name	GBIF Spain Spatial Portal
provider	gbif-es
webpage	https://espacial.gbif.es
description	Spatial portal to visualise and analyse relationships between species, location and environment.
tagline	The spatial portal enables users to map a species occurrence records and explore the data for that species by time, region, data quality and the species' link to the natural environment
No.	134
id	gbif-es.species_portal

name	GBIF Spain Species Portal
provider	gbif-es
webpage	https://especies.gbif.es
description	Portal providing information at the species level: description, vernacular names, taxonomical rank, image galleries, literature, and DNA information. Currently, the Portal contains information for more than 151,000 species
tagline	Aggregates data on species description, common names, taxonomy, image gallery, sequence data and bibliography
No.	135
id	geant.clouds_service_infrastructure_as_a_service
name	GÉANT Clouds Service - Infrastructure as a Service
provider	geant
webpage	https://clouds.geant.org/geant-cloud-catalogue/geant-cloud-catalogue-iaas/
description	Infrastructure as a Service (IaaS) provides virtualized computing resources over the cloud. NRENs can act as brokers for third-party providers that host hardware, software, servers, storage and other infrastructure components on behalf of users. Or NRENs may decide to build infrastructure and make it available over the cloud to users. IaaS platforms offer highly scalable resources that can be adjusted on-demand and are ideal for academic research characterised by workloads that are temporary, experimental or subject to unexpected change. For NRENs and constituent institutions, federated IaaS frameworks and offerings offer many benefits.
tagline	Enabling Institutions to access virtualised commercial cloud services
No.	136
id	geant.edugain
name	eduGAIN
provider	geant
webpage	https://www.geant.org/Services/Trust_identity_and_security/eduGAIN
description	eduGAIN is a fast-growing initiative that interconnects research and education identity federations around the world. It enables the trustworthy exchange of information between service providers and research and education institutions or other identity providers. This means simpler access to a wider range of online content, services and other resources that benefit collaboration in the research and education community. eduGAIN provides access to all the online services that students, researchers and educators need while minimising the number of accounts users and service providers have to manage - reducing costs, complexity and security risks; gives service providers access to a larger pool of users internationally, and allows users to access resources of peer institutions or commercial or cloud services using their one trusted identity. With eduGAIN participants from more than 1,500 identity providers accessing services from 1,000 service providers, eduGAIN has fast become the primary mechanism to interfederate for research and education collaboration around the world.
tagline	Unlocking global research and education collaboration.
No.	137
id	geant.edugain_federation_as_a_service
name	eduGAIN Federation as a Service
provider	geant
webpage	https://edugain.org/faas/
description	Authentication and authorisation infrastructure (AAI) is one of the key differentiators between national research and education networking organisations (NRENs) and other network providers. Its provision aids the development and delivery of enhanced services to all users. The development and operation of a national identity federation is not a trivial activity and GÉANT's

	Federation as a Service (FaaS) offering was created specially to help. FaaS supports NRENs in building their identity federations by providing hosted set of tools for operating their identity federation. FaaS offering was designed with special care on security, as a key enabler of trust in identity federations. In that way, NRENs can establish their federation following best current practices and focus on the development of service and identity provider systems to help rapidly build AAI in their region.
tagline	Helping NRENs to build identity federations and deliver AAI services.
No.	138
id	geant.edupert
name	eduPERT
provider	geant
webpage	https://www.geant.org/Services/Connectivity_and_network/Pages/eduPERT.aspx
description	Performance Enhancement Response Teams (PERTs) provide an investigation and consulting service to academic and research users on their network performance issues. As networks and networked applications develop, increasing demands are made on performance and reliability, with a need for skilled experts to be able to respond rapidly to issues to help solve user problems quickly and efficiently. It is essential that teams have access to the latest information, tools and experience from other experts, ensuring they pool their knowledge in the face of the ever-changing technologies involved. eduPERT provides a centre of excellence for investigation and consulting services to academic and research users on their network performance issues. By linking individual PERTs, eduPERT helps knowledge sharing across the community to benefit everyone. Universities, other organisations and international projects are encouraged to join, by setting up 'local' or 'project' PERTs and becoming part of the eduPERT Knowledge Base.
tagline	Supporting PERTs across the community to achieve best network performance.
No.	139
id	geant.eduroam
name	eduroam
provider	geant
webpage	https://www.eduroam.org
description	eduroam (education roaming) is the secure, world-wide roaming access service developed for the international research and education community. eduroam allows students, researchers and staff to seamlessly access internet connectivity when within range of a hotspot, whether they are moving across campus or visiting other participating institutions. With benefits for users and for their campus IT departments, eduroam saves time and facilitates active and enduring collaboration between countries and institutions. eduroam supports research and education by providing: roaming broadband in more than 80 territories worldwide; access at thousands of locations, with one password; secure and privacy-preserving technology; reciprocal service that is free-of-charge to users. Universities, FE Colleges
tagline	Seamless Wi-Fi access for research and education around the world.
No.	140
id	geant.eduroam_managed_idp
name	eduroam Managed IdP
provider	geant
webpage	https://www.eduroam.org/eduroam-managed-idp/
description	The benefits of eduroam for institutions and users are clear the ability to provide secure, easy-to-use local and global Wi-Fi roaming to students, researchers and staff is a major plus for any organisation and when added to managing access for visitors makes a compelling case. But for

	smaller institutions it may be hard to dedicate resources to implementing and support eduroam. eduroam Managed IdP can get your users on-line quickly and securely.
tagline	Making eduroam easy
No.	141
id	geant.eduteams
name	eduTEAMS
provider	geant
webpage	https://eduteams.org
description	The eduTEAMS service enables research communities to securely access and share common resources and services. Leveraging the ubiquitous presence of eduGAIN federated identities, eduTEAMS enables communities to securely authenticate and identify their users, organize them in groups, assign them roles and centrally manage access rights for using community resources. As research is not confined only in the research institutes and universities, eduTEAMS caters also for users coming from the industry or citizen scientists who may not have access to eduGAIN. It does so by supporting external (non-eduGAIN) identity providers, such as social networks providing federated identities, community identity providers and other platforms that can provide federated users identities. Communities can use the eduTEAMS service as the community AAI for their virtual collaborations.
tagline	Making managing virtual teams easy
No.	142
id	geant.inacademia
name	InAcademia
provider	geant
webpage	https://inacademia.org/
description	InAcademia is the real-time, digital equivalent of asking a student to show you their student card in order to access or buy your services and products. No need to rely on university email addresses or to wait for students to provide documentation, InAcademia removes slow, costly and manual verification processes of students and academic staff by providing merchants with a quick, easy, reliable and secure way to verify identities, provided the student is registered with a participating eduGAIN Identity Provider. The service is available in eduGAIN and can be integrated into registration and e-commerce systems by commercial and not-for-profit merchants. InAcademia leverages the power of eduGAIN and the Identity services of the students' institution to securely authenticate a user's affiliation credentials. InAcademia provides the merchant only with a simple 'Yes/No' response and no personal information is shared.
tagline	Online Student Validation
No.	143
id	geant.ip
name	GÉANT IP
provider	geant
webpage	https://www.geant.org/Services/Connectivity_and_network/Pages/GEANT_IP.aspx
description	GÉANT IP provides general-purpose IP transit for national research and education networking (NREN) organisations and other approved research and education partners and providers. Its core function is to provide a private service for IP (internet protocol) traffic that is separated from general-purpose access to the internet. Working at speeds of up to 100Gbps, GÉANT IP provides core connectivity that supports inter-NREN connectivity. 10-200Gbit/s, Peering, GÉANT World ServiceDedicated, uncontended IP connectivity.
tagline	Providing high-bandwidth, high-speed international connectivity for millions of academic users
No.	144

id	geant.l3vpn
name	GÉANT L3VPN
provider	geant
webpage	https://www.geant.org/Services/Connectivity_and_network/Pages/VPN_Services.aspx
description	L3-VPNs are ideal for many-to-many (peer-to-peer) or one-to-many (central-site-to-satellite) environments, where each site can be allocated bandwidth according to its own requirements. Each site can support bandwidths from 155Mbps to 100Gbps (subject to availability). This service allocates unique VLAN (virtual local area network) identifiers to each L3-VPN to ensure data isolation across the GÉANT network, giving assured performance and security. The GÉANT L3-VPN service provides NRENs with the backbone infrastructure to enable custom VPN services for their users across the GÉANT backbone. VPNs are ideal for many-to-many (peer-to-peer) or one-to-many (central-site-to-satellite) environments, where each site can be allocated bandwidth according to its own requirements. Each site can support bandwidths from 155Mbps to 100Gbps (subject to availability).
tagline	Increased privacy and control - helping to build effective virtual teams across borders.
No.	145
id	geant.lambda
name	GÉANT Lambda
provider	geant
webpage	https://www.geant.org/Services/Connectivity_and_network/Pages/GEANT_Point-to-Point.aspx
description	GÉANT Lambda provides bandwidth up to 100Gbps to support NREN users with particularly demanding network requirements. The service provides transparent 10Gbps, or 100Gbps ethernet connections between GÉANT PoPs. Unprotected or restored using GMPLS (Generalised Multi-protocol Label Switching) signalling. Ideally suited to major international projects, Point-to-Point services offer a high performance networking solution.NRENs
tagline	High-performance interconnectivity for the most demanding networking requirements.
No.	146
id	geant.mdvpn
name	GÉANT MDVPN
provider	geant
webpage	https://www.geant.org/Services/Connectivity_and_network/Pages/VPN_Services.aspx
description	GÉANT Multi-Domain Virtual Private Network (MD-VPN) provides an end-to-end international network service that enables scientists all over Europe to collaborate via a common private network infrastructure. The MD-VPN service can be used for connectivity between clusters, grids, clouds and HPC (high-performance computing) centres, allowing them to form virtual distributed resources for third-party research projects. MD-VPN offers fast delivery of VPNs to end users and so can be used in a variety of ways, from a long-term infrastructure with a high demand for intensive network usage to quick point-to-point connections for a conference demonstration. VPNs are ideal for many-to-many (peer-to-peer) or one-to-many (central-site-to-satellite) environments, where each site can be allocated bandwidth according to its own requirements. Each site can support bandwidths from 155Mbps to 100Gbps (subject to availability).NRENs
tagline	Increased privacy and control - helping to build effective virtual teams across borders.
No.	147
id	geant.open
name	GÉANT Open
provider	geant

webpage	https://www.geant.org/Services/Connectivity_and_network/Pages/GEANT_Point-to-Point.aspx
description	GÉANT Open allows NRENs and approved commercial organisations to exchange connectivity in a highly efficient and flexible manner. The service uses shared facilities to which all users can connect their own circuits at either 100Gbps, 10Gbps or 1Gbps, and they can then request interconnections with any other participant to provide inter-organisation connectivity. As a first within the European research and education community, approved commercial organisations will be able to connect to GÉANT Open. This will help research and education users to access a wide variety of commercial third parties as part of private-public research projects. Ideally suited to major international projects, Point-to-Point services offer a high performance networking solution.NRENs, International NRENs, Cloud Service Providers
tagline	High-performance interconnectivity for the most demanding networking requirements.
No.	148
id	geant.perfsonar
name	perfSONAR
provider	geant
webpage	https://www.geant.org/Services/Connectivity_and_network/Pages/perfSONAR.aspx
description	perfSONAR can be used by GEANT, national research and education networking (NREN) organisations, campuses and major projects for quick and easy performance troubleshooting. It provides easy, transparent end-to-end monitoring, giving access to network measurement data from multiple network domains. It can operate at local level or around the globe and is scalable to provide at-a-glance information about multiple network paths simultaneously. By tracking performance across and between domains it is now possible to identify and rectify any potential performance bottlenecks, helping research teams focus their efforts on their research and allowing NRENs to identify where investments in new capacity will provide the best return. With more than 1, 400 measurement points across the globe, it is now far easier for NRENs and research teams to accurately measure network performance and ensure it meets their research needs. The development of perfSONAR is the result of the combined work of GEANT, Internet2, ESnet and Indiana University. PerfSONAR helps distributed project teams monitor their network performance quickly and easily to ensure projects can focus on their research and have confidence in the networks they are using. Find out how neuGRID use perfSONAR to support their international project.NRENs, Universities, Multi-national projects
tagline	Real-time, multi-domain performance monitoring.
No.	149
id	geant.plus
name	GÉANT Plus
provider	geant
webpage	https://www.geant.org/Services/Connectivity_and_network/Pages/GEANT_Point-to-Point.aspx
description	GÉANT Plus service allows national research and education networking (NREN) organisations to request point-to-point Ethernet circuits between end-points at GÉANT PoPs (points of presence). Circuits can be established to any European NREN. Ideally suited to major international projects, Point-to-Point services offer a high performance networking solution.NRENs
tagline	High-performance interconnectivity for the most demanding networking requirements.
No.	150
id	geant.testbeds_service
name	GÉANT Testbeds Service
provider	geant
webpage	https://www.geant.org/Services/Connectivity_and_network/GTS/

description	GÉANT Testbeds Service (GTS) delivers integrated virtual environments as testbeds for the network research community. GTS is designed for researchers of advanced networking technologies to help support testing and development over a large-scale, dispersed environment. GTS can support multiple projects simultaneously and isolates them from each other and from the production GÉANT network to provide security and safety.
tagline	Integrated virtual network environments to support advanced research.
No.	151
id	geant.transits_training
name	TRANSITS Training
provider	geant
webpage	https://www.geant.org/Services/Trust_identity_and_security/Pages/TRANSITS_Training.aspx
description	TRANSITS provides affordable, high-quality training to both new and experienced computer security incident response team (CSIRT) personnel, as well as individuals with a bona-fide interest in establishing a CSIRT. There are two types of training course: TRANSITS-I for new recruits, and TRANSITS-II for more experienced personnel. GÉANT runs regular training courses within Europe on a cost recovery basis, with financial support from ENISA, the European Union agency for network and information security. The TRANSITS-I course materials may also be licensed to those wishing to organise their own courses. NRENS, Identity Federations, Campus Security Teams, Third Parties
tagline	High-quality training for computer security teams.
No.	152
id	geant.trusted_certificate_service
name	Trusted Certificate Service
provider	geant
webpage	https://www.geant.org/Services/Trust_identity_and_security/Pages/TCS.aspx
description	GÉANT's Trusted Certificate Service is provided by DigiCert, is one of the largest worldwide Certification Authorities (CA). TCS takes advantage of a bulk purchasing arrangement whereby participating national research and education networking organisations (NRENS) may issue close to unlimited numbers of certificates provided by a commercial organisation at a significantly reduced price. The five main types of certificates available are: SSL certificates – for authenticating servers and establishing secure sessions with end clients. Grid certificates – for authenticating Grid hosts and services (IGTF compliant). Client certificates – for identifying individual users and securing email communications. Code signing certificates – for authenticating software distributed over the internet. Document signing certificates – for authenticating documents from Adobe PDF, Microsoft Office, OpenOffice, and LibreOffice.
tagline	Increasing online security by facilitating the deployment of digital certificates.
No.	153
id	geant.trusted_introducer
name	Trusted Introducer
provider	geant
webpage	https://www.trusted-introducer.org
description	Many research and education networking organisations, commercial internet service providers, telecommunications operators and governments have established computer security incident response teams (CSIRTs) to deal with network security incidents. Collaboration between trusted teams is very important because incidents often originate from outside the network that is affected. The Trusted Introducer (TI) service forms the backbone of infrastructure services and acts as a clearinghouse for all computer security incident response teams (CSIRTs), building a

	web of trust between CSIRTs by listing known teams, and accrediting and certifying teams according to their demonstrated and checked level of maturity. Accredited and certified CSIRTs can participate in closed meetings where they hear sensitive and confidential information about incidents and threats. TI also provides them with vital members-only services that enable the teams to interact more efficiently and effectively.
tagline	Building mutual trust between security teams.
No.	154
id	genias.e-irg_knowledge_base
name	e-IRG Knowledge Base
provider	genias
webpage	http://knowledgebase.e-irg.eu/
description	The Knowledge Base provides insight into the complex e-Infrastructures, by providing overviews of projects, e-Infrastructures, and organisations, all in one big data graph. You can explore this by moving around the graph, gaining more understanding of the complex relations. We provide several starting pages that focus on a different aspect as doors that unlock new rooms of information.
tagline	All the information about European e-Infrastructures in one place.
No.	155
id	geis.doi_registration_service
name	da ra - DOI Registration Service for social science and economic data
provider	geis
webpage	https://www.da-ra.de/en
description	da ra assigns persistent identifiers to digital objects by using the DOI system. The DOI registration is carried out in close cooperation with data providing organisations, such as data archives, research data centres etc., which are responsible for the maintenance and storage of research data and for the maintenance of metadata. The data remain with the data centres; da ra assigns the DOI names via DataCite, stores the provided metadata and makes the registered contents searchable via a database. The metadata are also freely available via OAI-PMH. da ra operates a specific metadata schema which is compliant with the Data Documentation Initiative (DDI) Standard. Besides the web based entry mask and a tool for uploading metadata da ra offers a web service (API) that enables to work automatically with the DOI registration service.
tagline	DOI Registration for social and economic data
No.	156
id	grycap.elastic_cloud_compute_cluster
name	Elastic Cloud Compute Cluster (EC3)
provider	grycap
webpage	https://servproject.i3m.upv.es/ec3-ltos/index.php
description	The Elastic Cloud Computing Cluster (EC3) is a platform that allows creating elastic virtual clusters on top of Infrastructure as a Service (IaaS) providers, either public (such as Amazon Web Services, Google Cloud or Microsoft Azure) or on-premises (such as OpenNebula and OpenStack). Through a 'job wizard' interface, the user can configure the virtual cluster with a predefined set of applications that will be deployed in the clouds underpinning the EGI Applications On Demand infrastructure. The installation and the configuration of the cluster are performed by means of the execution of Ansible receipts. The cluster configured by EC3 is private: as soon as it is configured the user will have root access to the environment, and can setup and configure the cluster installing additional libraries and software to their needs. ### Features: - Federated authentication through the EGI Applications on Demand service. - Web based access. - Interoperability with most widely used IaaS cloud technologies - Wizard interface to streamline the

	configuration and the deployment of the virtual cluster on top of Infrastructure as a Service (IaaS) providers. - Several Ansible receipts are available to deploy applications and tools in the cluster nodes. - Nodes of the clusters will be self-managed by CLUES. Working nodes will be undeployed when they are idle. - Use of 'per-user subproxies' from EGI to access X.509-protected resources on the users' behalf. - Access to the HNSciCloud commercial cloud service providers for limited scale usage, via a voucher of €250, 00 euros. - User support is available by an international network of consultants. Scientific applications already available for access: Life science (Galaxy, NAMD) ### To submit an order request for this service, please register to the <i>EOSC Portal</i> Marketplace with the EGI AAI Check-In service.
tagline	Deploy a virtual cluster on top of IaaS infrastructures with a few clicks.
No.	157
id	grycap.infrastructure_manager
name	Infrastructure Manager (IM)
provider	grycap
webpage	https://www.grycap.upv.es/im
description	Infrastructure Manager (IM) is an open-source service that deploys complex and customized virtual infrastructures on multiple back-ends. The IM automates the, deployment, configuration, software installation, monitoring and update of virtual infrastructures. It supports a wide variety of public and on-premises Cloud back-ends, thus making user applications Cloud agnostic. In addition, it features DevOps capabilities, based on Ansible to enable the installation and configuration of all the user required applications providing the user with a fully functional infrastructure. ### Features: 1. Multi-Backend: Deploy on on-premises, public and scientific Clouds, and container orchestration platforms. 2. Extensible plugins: Plugins available for OpenNebula, Amazon EC2, Google Cloud Platform, Microsoft Azure, Docker, Kubernetes, Fog-Bow, T-Systems OTC, OpenStack, CloudStack and EGI Federated Cloud (OCCL). 3. Hybrid Infrastructures: Deploy virtual infrastructures that span across multiple providers. 4. Embrace DevOps: Powered by Ansible, the IM provides recipes for common deployments (Hadoop clusters, etc.). 5. Interfaces: Featuring a CLI, a web GUI, an XML-RPC service API and a REST API.
tagline	Cloud orchestrator
No.	158
id	ifca-csic.deepaas_training_facility
name	DEEPaaS training facility
provider	ifca-csic
webpage	https://train.deep-hybrid-datacloud.eu
description	Distributed training facility for Machine Learning, Artificial Intelligence and Deep Learning models. This service offers a set of tools to build and train Machine Learning, Artificial Intelligence and Deep Learning models in distributed e-Infrastructures. Ready to use models are available for transfer learning or reuse. The DEEP-Hybrid-DataCloud is providing machine learning and deep learning scientists with a set of tools that allow them to effectively exploit the existing compute and storage resources available through EU e-Infrastructures for the whole machine learning cycle. The DEEPaaS training facility provides tools for building training, testing and evaluating Machine Learning, Artificial Intelligence and Deep Learning models over distributed e-Infrastructures leveraging GPU resources. Models can be built from scratch or from existing and pre-trained models (transfer learning or model reuse). Features: Transparent training over distributed e-Infrastructures with GPU access. Docker based for model portability and reusability. Easy model integration with REST APIs. - CLI and web user interface to interact with the system. - OpenID Connect based identity.
tagline	Distributed training facility for Machine Learning, Artificial Intelligence and Deep Learning models.
No.	159

id	ifca-csic.remote_monitoring_and_smart_sensing
name	Remote Monitoring and Smart Sensing
provider	ifca-csic
webpage	http://remote-sensing.ifca.es/
description	The Remote Monitoring and Smart Sensing Analysis Service is a web server designed to cover the entire process (from the selection, downloading to the view and analysis) required to work with satellite data products. First, the web server provides an Interface to search, find and download Sentinel & Landsat satellite products easily, and after then provides different tools to manage and work with the products. During the downloading process, the user can perform a valid search for different zones, and also restrict the queries by different keywords: cloud coverage, date, platform name (S1, S2, L8). In case of interruptions or other exceptions, downloading will restart from where it left off. At the same time, a geospatial integration with Smart Sensing data (where applicable, mainly from isolated areas) will be performed In terms of data treatment, the following products are available to be processed: • Sentinel-1 • Sentinel-2 • Landsat 8
tagline	Remote Monitoring and Smart Sensing
No.	160
id	ifremer.argo_floats_data_discovery
name	Argo floats data discovery
provider	ifremer
webpage	https://www.seanoe.org/data/00311/42182/
description	Discover Argo floats observations, data graphics and data access
tagline	Discover and access Argo data
No.	161
id	incd.application_lifecycle_enabler_4_cloud
name	Application Lifecycle Enabler 4 Cloud - Alien4Cloud
provider	incd
webpage	https://a4c.ncg.ingrid.pt
description	Visual application topology composition and deployment The composition service offers an easy and user focused way of building complex application topologies based on the TOSCA open standard, that can be deployed on any e-Infrastructure using the orchestration services. Ready to use topologies are also provided. This service hides the complexity of the underlying standard by providing a graphical user interface, so that users do not need to have knowledge on the TOSCA language.
tagline	Graphical composition and execution of complex application topologies
No.	162
id	infn.dynamic_on_demand_analysis_service
name	Dynamic On Demand Analysis Service (DODAS Portal)
provider	infn
webpage	https://dodas-iam.cloud.cnaf.infn.it/login
description	DODAS acts as cloud enabler designed for scientists seeking to easily exploit distributed and heterogeneous clouds to process data. Aiming to reduce the learning curve as well as the operational cost of managing community specific services running on distributed cloud, DODAS completely automates the process of provisioning, creating, managing and accessing a pool of heterogeneous computing and storage resources. ### DODAS provides: - A comprehensive approach to opportunistic computing, with the possibility of orchestrate multiple centers (e.g.

	campus facilities, public or private clouds, to gather all available computing and storage resources). - A simple solution for elastic computing site extensions, e.g. extension of allocated resources in order to absorb peaks of usage. - An easy and controlled procedure to dynamically instantiate a spot 'Data Analysis Facility', for example a mission specific site. This is meant as the generation of an ephemeral WLCG-Tier as a Service to share computing and data resources with collaborators. - The support to create HTCondor batch systems and BigData Platform on demand over multi-backend IaaS cloud resources. ### Service slide deck https://www.slideshare.net/TheEOSChubproject/eoschub-dynamic-on-demand-analysis-service
tagline	Simplify the access and management of computing resources
No.	163
id	infn.indigo_identity_and_access_management
name	INDIGO Identity and Access Management (IAM)
provider	infn
webpage	https://indigo-iam.github.io/docs/v/current/
description	The INDIGO Identity and Access Management Service (IAM) provides user identity and policy information to services so that consistent authorization decisions can be enforced across distributed services. IAM provides a layer where identities, enrollment, group membership and other attributes and authorization policies on distributed resources can be managed in a homogeneous way, supporting identity federations and various authentication mechanisms (X.509 certificates and social logins). The IAM service has been successfully integrated with many off-the-shelf components like Openstack, Kubernetes, Atlassian JIRA and Confluence, Grafana and with key Grid computing middleware services (FTS, dCache, StoRM). ## Functions * Authentication: The IAM supports authentication via SAML IdPs or identity federations, OpenID Connect providers and X.509 certificates. * Enrollment: The IAM provides enrollment and registration functionalities, so that users can join groups/collaborations according to well-defined flows. * Attribute and identity management: The IAM provides services to manage group membership, attributes assignment and account linking functionality. * User provisioning: the IAM provides endpoints to provision information about users identities to other services, so that consistent local account provisioning, for example, can be implemented. ## Service access options * IAM as a service INFN provides IAM as a service to partner research communities. In this scenario, a dedicated IAM instance is deployed on the INFN infrastructure and configured according to the community needs. INFN takes care of keeping the service operational and up-to-date, while administrative control on the IAM instance is granted to the community. For more information on how to access IAM as a service, check the service website.
tagline	Identity and Access Management Service
No.	164
id	infn.paas_orchestrator
name	PaaS Orchestrator
provider	infn
webpage	https://indigo-paas.cloud.ba.infn.it
description	The PaaS Orchestrator service allows coordinating the provisioning of virtualized compute and storage resources on distributed cloud infrastructures and the deployment of dockerized services and jobs on Mesos clusters. The service comes with a set of application/service topologies ready-to-use that can be deployed through a user-friendly web interface. Users can deploy complex virtual infrastructures or docker containers in an automated way, through a user-friendly web interface. They can monitor the deployment state and get the relevant endpoints to access the deployed services, once the deployment is complete.
tagline	TOSCA-based deployment orchestration service on multiple IaaS.
No.	165

id	infrafrontier.training_in_mouse_functional_genomics
name	INFRAFRONTIER Training in mouse functional genomics
provider	infrafrontier
webpage	https://www.infrafrontier.eu/resources-and-services/training-and-consulting-services
description	The INFRAFRONTIER Research Infrastructure and its partners offer a wide range of state-of-the-art training opportunities: Mouse clinics in different European countries provide outstanding training opportunities in first-line mouse phenotyping as well as specialised phenogenomics courses covering e.g. mouse embryology and in vivo CRISPR/Cas9 genome editing. The INFRAFRONTIER courses provide unique training opportunities in mouse model development as well as hands on cryopreservation courses offered by EMMA (European Mouse Mutant Archive) partners. 400 Scientists trained
tagline	Wide range of state-of-the-art training opportunities
No.	166
id	jelastic.platform-as-a-service
name	Jelastic Platform-as-a-Service
provider	jelastic
webpage	http://jelastic.com
description	Jelastic is a Multi-Cloud DevOps PaaS for ISVs, telcos, service providers and enterprises needing to speed up development, reduce cost of IT infrastructure, improve uptime and security. The platform automates creation, scaling, clustering and security updates of cloud-native and traditional applications. Jelastic has a unique pay-as-you-use pricing model and is available as public, private, hybrid and multi-cloud in about 60 data centers worldwide. The platform supports Java, PHP, Ruby, Node.js, Python, .NET, Go environments, as well as Docker and Kubernetes clusters. Features: * Public, Private, Hybrid and Multi-Cloud deployments * Support of microservices and legacy applications with zero code changes * Automated continuous integration, delivery and upgrade processes * More than 50 certified containers out-of-the-box * Managed multi-tenant Kubernetes and Docker containers support * Automatic vertical and horizontal scaling according to applications load * Superb developer web portal for easy provisioning, scaling and updating environments * Open API, CLI and SSH access for deeper containers management * Integration with Git, SVN & Continuous Integration services * Automated replication for application servers and databases * Multi-cloud and multi-region management of workloads distribution and live migration * Comprehensive billing engine, quotas and access control policies * Built-in metering, monitoring and troubleshooting tools Jelastic provides Cloud solutions for data collection and processing of near real time data streams coming from multiple stations operating worldwide under different Earth Observation projects. Such services are relevant for seismic and infrasound monitoring. Jelastic Cloud solutions have flexible capability for cloning and migration of developed applications to different Cloud IaaS for optimal monitoring functionality. Services could be tested for early warning and seismic risk assessment and monitoring. Training services could be provided on request.
tagline	Multi-Cloud DevOps PaaS
No.	167
id	komanord.guardomic
name	Guardomic
provider	komanord
webpage	https://guardomic.eu
description	Guardomic is a bot mitigation engine aimed for web services owners who want to protect their websites from bot traffic and their users from fraudulent digital ads, or cryptocurrency web mining. A big part of our system are in-depth statistics, allowing our clients to be conscious about their traffic. The solution helps to defend from unwanted bot traffic and dangerous ad-

	fraud. The Guardomic allows to control it automatically or manually. If you choose to control the solution manually, it provides advanced monitoring and helps decide to block suspicious traffic, or allow it. Because of big impact on hardware performance, limiting or blocking of bot traffic in many cases the can save cost of an unnecessary hardware upgrade.
tagline	Bot defence for WWW sites and web services
No.	168
id	lifewatch-eric.plants_identification_app
name	LifeWatch ERIC Plants Identification App
provider	lifewatch-eric
webpage	https://www.lifewatch.eu/
description	This web service connects to a deep neural network which has been trained with thousands of plant images from Europe. It can classify different types of plants, including flowers. The input to be sent to the web service is an image URL or a local image. The response is a JSON with the potential classification (the name of the potential specie), a percentage, link to google images and link to wikipedia.sets.
tagline	Web service to classify plant pictures based on convolutional neural networks
No.	169
id	lnec-pt.opencoasts_portal
name	OPENCoastS Portal
provider	lnec-pt
webpage	https://opencoasts.ncg.ingrid.pt/
description	<p>OPENCoastS builds on-demand circulation forecast systems for user-selected sections of the North Atlantic coast and maintains them running operationally for the timeframe defined by the user. This daily service generates forecasts of water levels and 2D velocities over the spatial region of interest for periods of 48 hours, based on numerical simulations of the relevant physical processes. Forcing conditions at the boundaries and over the domain are defined by the user from global forecast databases. Automatic comparison with real-time in-situ sensor data can be provided for a number of user specified locations. It takes advantage of LNEC's team long-term work on coastal modelling as model developers, integrated in several open source modelling communities (SCHISM, ELCIRC, SELFE, ADCIRC), and in its advanced competences in developing forecast frameworks and operating forecasts deployments. ### Users and application potential OPENCoastS can contribute directly to the development of new research methodologies and workflows regarding water quality, biological, biochemical and coastal erosion studies. SMEs will benefit from these operational systems to feed their own higher-level service portfolios to respond to other societal needs, without the need to invest time and resources to deploy forecast systems from scratch. Port and coastal authorities –Through the use of this platform coastal managers have all the information required to fulfill their responsibilities (examples of uses include facilitating navigation, reducing port operation costs, reducing emergency planning and response of coastal hazards, and better exploring recreational uses of the coast). ### How to request a service To request use of the OPENCoastS, please fill in thee request form and register at https://opencoasts.ncg.ingrid.pt/. After analysis and validation of the request, you will be allowed to log in and start building your forecasts. Service provided by OPENCoastS is provided by the Portuguese National Civil Engineering Laboratory, and was jointly developed by LNEC and LIP. Currently, the service is deployed at a single computing site (NCG-INGRID-PT, part of [INCD][1] and the [EGI Federation][2]). Through EOSC-hub, OPENCoastS will be expanded to include a more diverse set of geographical data, and improved with integration of new features from the EGI, EUDAT and INDIGO-DataCloud service catalogues. [1]: http://www.incd.pt/ [2]: https://www.egi.eu/federation/ ### Service slide deck: https://www.slideshare.net/TheEOSChubproject/eoschubopencoasts</p>
tagline	On-demand operational coastal circulation forecast service

No.	170
id	materialscloud.aiiDA_lab
name	AiiDA lab
provider	materialscloud
webpage	https://materialscloud.org/aiidalab
description	[AiiDA](http://www.aiida.net) is a workflow manager for computational science with a strong focus on provenance and performance. Through its flexible plugin infrastructure, it supports a [wide range of simulation codes](http://aiidateam.github.io/aiida-registry) and makes them available for use through the Python programming language, and automatically records the full provenance of your simulation pipeline in a graph. The AiiDA lab lets you run and manage AiiDA-powered workflows through tailored web applications in the browser. Use the App store to pick and install apps from the [application registry](https://aiidalab.github.io/aiidalab-registry/) or write your own in just a few lines of python using [jupyter widgets](https://ipywidgets.readthedocs.io/) and [appmode](https://github.com/oschuett/appmode). This service is supported by the [MaX European Centre of Excellence](http://www.max-centre.eu/), the [MARVEL National Centre for Competence in Research](https://nccr-marvel.ch/), the [European H2020 MarketPlace](https://www.the-marketplace-project.eu/) project, and by [swissuniversities](https://www.materialscloud.org/swissuniversities).
tagline	Reproducible turn-key workflows for materials science
No.	171
id	meeo.me_a_platform
name	MEA Platform (Data access and exploitation service)
provider	meeo
webpage	https://eodataservice.org
description	MEA platform implements the concept of Digital Earth making global environmental geospatial data Findable, Accessible, Interoperable and Reusable (FAIR). MEA platform provides an effective subsetting functionality that accesses the data only when requested and serves to the client only the data amount that is really needed. MEA platform exposes OGC-standardised discovery (openSearch) and access (WCS 2.0) interfaces.
tagline	MEA Platform - Working towards a Digital Earth by Removing Data Access Barriers.
No.	172
id	openaire.amnesia
name	AMNESIA
provider	openaire
webpage	https://amnesia.openaire.eu/amnesia/
description	AMNESIA allows end users to anonymize sensitive data in order to share them with a broad audience. The service allows the user to guide the anonymization process and decide on a flexible trade-off between privacy guaranty and data utility. The service is offered through a web interface that allows users to explore the anonymized data visually. Moreover, the service detects duplicate anonymized files when they are uploaded to Zenodo. Reduce or eliminate the dangers to the privacy of the users that are associated with the data. Allow data owners or curators to safely share the data with other experts and to benefit from their processing on them.
tagline	Anonymize your datasets
No.	173
id	openaire.argos
name	ARGOS

provider	openaire
webpage	https://argos.openaire.eu/home
description	ARGOS is an online tool in support of automated processes to creating, managing, sharing and linking DMPs with research artifacts they correspond to. It is the joint effort of OpenAIRE and EUDAT to deliver an open platform for Data Management Planning that addresses FAIR and Open best practices and assumes no barriers for its use and adoption.
tagline	Create, Link, Share DMPs
No.	174
id	openaire.broker
name	OpenAIRE Broker
provider	openaire
webpage	https://provide.openaire.eu
description	Content providers can use the OpenAIRE Broker Service via the OpenAIRE Content Provider Dashboard. Thanks to the Broker, repositories, publishers or aggregators can exchange metadata and enrich their local metadata collection by subscribing to notifications of different types. The Broker is able to notify providers when the OpenAIRE Graph contains information that is not available in the original collection of the provider. In particular, the provider can subscribe via the Content Provider Dashboard and be notified about: Additional PIDs of publications (e.g. DOIs). Additional classification subjects (e.g. subjects from standard schemes like ACM, JEL and DDC. Links to Open Access versions . Links to projects. Links to datasets. Missing publication dates. Enriched repositories for better access. Improved institution memory. Better institution research assessment. OA publisher compliance to funder rules.
tagline	OpenAIRE Catch-all Notification Broker Service
No.	175
id	openaire.data_provider_dashboard
name	OpenAIRE Content Provider Dashboard
provider	openaire
webpage	https://provide.openaire.eu
description	The OpenAIRE Content Provider Dashboard is a one-stop-shop web service where data providers (repository, data archive, journal, aggregator, CRIS system) interact with OpenAIRE. It provides the front-end access to many of OpenAIRE's backend services: Register - validate data source against OpenAIRE guidelines (via the OpenAIRE Validator); register in OpenAIRE; provide links to content for text and data mining; view history of validations, status of harvesting; Enrich - subscribe and view/receive notifications to enrich the metadata or the content of the data source (via the OpenAIRE Broker); Assess - subscribe to the OpenAIRE Usage Statistics service; view aggregated, cleaned usage stats for repository access (COUNTER rules, latest robots.txt). Improve repository collections and content for enhanced visibility and access. Improved institution memory. Better institution research assessment. Compliance to funder rules. Improved repository interoperability.900 content providers of all types have used the registration and validation service.
tagline	One-stop-shop for sharing, improving and enriching your content
No.	176
id	openaire.digital_humanities_and_cultural_heritage_openaire_community_gateway
name	Digital Humanities and Cultural Heritage OpenAIRE Community Gateway
provider	openaire
webpage	https://beta.dh-ch.openaire.eu/
description	The OpenAIRE Community Gateway for Digital Humanities and Cultural Heritage offers a view of the OpenAIRE Graph including literature, datasets, software, other research products, and

	projects (all linked to each other relative to the domain of Digital Humanities. This broad definition includes Humanities, Cultural Heritage, History, Archaeology and related fields. Users can discover scientific outputs and browse their discipline-specific graph, monitor Open Science statistics over time, and by accessing Zenodo.org also deposit/publish new products by assigning them to this community. Growing a single entry point for Digital Humanities and Cultural Heritage Researchers in Digital Humanities and Cultural Heritage
tagline	Single entry point for discovery and sharing of scientific results in Digital Humanities and Cultural Heritage
No.	177
id	openaire.discovery_portal
name	OpenAIRE Explore Portal
provider	openaire
webpage	https://explore.openaire.eu
description	The OpenAIRE Discovery portal provides access to Open Access research content. It is based on OpenAIRE's open scholarly communication graph that includes all research and scholarly activities, spanning all phases of the research life cycle. The OpenAIRE scholarly communication graph is created bi-monthly by aggregating, cleaning, transforming and inferring content retrieved from OpenAIRE's European and global network of validated OA data providers. In addition to the usual search and browse mechanisms, the OpenAIRE Discovery portal provides end user functionalities which allow users to: find the most fitting repository to deposit their publication or data, authoritatively enrich the underlying content (e.g., linking research results to funding, linking research results to external sources), view and download reports or graphs of aggregated research outcomes (e.g., per funder, project, institution) and their stats. Enable intelligent and contextualized research discovery. Connect public to open access research in Europe and beyond. 9, 200 registered users. 50, 000 users use the service on the average every month.
tagline	Find open linked research
No.	178
id	openaire.european_marine_science_openaire_dashboard
name	European Marine Science OpenAIRE Community Gateway
provider	openaire
webpage	https://beta.mes.openaire.eu/
description	The OpenAIRE Community Gateway for European Marine Science offers a view of the OpenAIRE Graph including literature, datasets, software, other research products, and projects (all linked to each other) relative to this discipline. Users can discover scientific outputs and browse their discipline-specific graph, monitor Open Science statistics over time, and by accessing Zenodo.org also deposit/publish new products by assigning them to this community. Growing a single entry point for Marine Science Researchers in Marine Science
tagline	Single entry point for discovery and sharing of scientific results in European Marine Science
No.	179
id	openaire.fisheries_and_aquaculture_management_openaire_dashboard
name	Fisheries and Aquaculture Management OpenAIRE Community Gateway
provider	openaire
webpage	https://beta.fam.openaire.eu/
description	The OpenAIRE Community Gateway for Fisheries and Aquaculture Management offers a view of the OpenAIRE Graph including literature, datasets, software, other research products, and projects (all linked to each other) relative to the conservation of marine resources for sustainable development and related topics. Users can discover scientific outputs and browse their discipline-specific graph, monitor Open Science statistics over time, and by accessing Zenodo.org

	also deposit/publish new products by assigning them to this community. Growing a single entry point for Fisheries and Aquaculture Management Researchers in Fisheries and Aquaculture Management
tagline	Single entry point for discovery and sharing of scientific results in Fisheries and Aquaculture Management
No.	180
id	openaire.funder_dashboard
name	OpenAIRE Funder Dashboard
provider	openaire
webpage	https://monitor.openaire.eu/
description	The Funder Dashboard is built on the OpenAIRE Graph and provides a monitoring and reporting mechanism (including visualization) that allows funders and policy makers to monitor all their funded research outcomes. Additional functionalities include private pages that allow configuration and deployment of on-demand visualization services. Note: The Funder Dashboard will be an extension of the current OpenAIRE monitoring pages, by integrating more elaborate queries and advanced visualizations. Improved, seamless funding monitoring and impact assessment. Funders have access to free, advanced monitoring tools to track their research outputs, produce publications reports, track projects results, funder stats and claiming of links between projects and scholarly objects. The EC is using the current mechanism for monitoring the open access policy. Other European national funders are currently using this as well (FCT-PT, NOW-NL).
tagline	One-stop-shop for funder open research monitoring
No.	181
id	openaire.graph
name	OpenAIRE Graph Access API
provider	openaire
webpage	http://api.openaire.eu
description	The OpenAIRE Graph Access API enables developers to realize services for scholarly communication and research analytics. By using the API, you access the OpenAIRE Graph, a scholarly communication graph, i.e. a digital space where you can find information about objects of the scholarly communication life-cycle (publications, research data, research software, projects, organizations, etc.) and semantic links among them. The service gives access to the OpenAIRE Graph via different protocols (OAI-PMH, HTTP API, SPARQL) to serve developers with different requirements and preferences. The OpenAIRE Graph is created bi-monthly by: Aggregating metadata from OpenAIRE's European and global network of validated content providers; Enriching metadata by text mining and inference; Collecting information from end-users A gateway to open research. Enable intelligent visibility, access and reusability of research content. Enable third-party service developers to realize services for scholarly communication and research analytics. APIs are accessed on the average 6, 000 times every month. The OpenAIRE Graph is indexed by two major Library services (EBSCO and ExLibris) and it by the US Dept. of Energy worldwidescience.org site.
tagline	A gateway to open research
No.	182
id	openaire.greek_sustainable_development_solutions_network_sdsn_openaire_dashboard
name	Greek Sustainable Development Solutions Network (SDSN) OpenAIRE Community Gateway
provider	openaire
webpage	https://beta.ee.openaire.eu/
description	The OpenAIRE Community Gateway for the Greek United Nations (UN) Sustainable Development Solutions Network (SDSN) offers a view of the OpenAIRE Graph including literature, da-

	tasets, software, other research products, and projects (all linked to each other) about sustainable development in Greece. Users can discover scientific outputs and browse their discipline-specific graph, monitor Open Science statistics over time, and by accessing Zenodo.org also deposit/publish new products by assigning them to this community Growing a single entry point for research products on sustainable development in Greece Researchers of SDSN - Greece
tagline	Single entry point for discovery and sharing of scientific results relevant for the Greek United Nations (UN) Sustainable Development Solutions Network (SDSN)
No.	183
id	openaire.inference
name	OpenAIRE Mining Service
provider	openaire
webpage	http://catalogue.openaire.eu/service/openaire.openaire_inference_
description	This service performs text mining (entity resolution) on the metadata and the fulltext of publications and extracts information on: links to projects/grants and funders; data citations or links to scientific database entries (e.g. links to entries in PDB - Protein Data Bank); document classification according to several taxonomies; software citations; author affiliations; references; document similarity. The service is a standalone service that is also used to enrich the OpenAIRE Graph and results are presented in the OpenAIRE discovery portal. Improved linked open science. Improved research analytics. Improved research monitoring and impact assessment. Customers get structured metadata related to the publications. Funders have access to a list of publications that acknowledge their projects. Content providers (Repository managers/OA publishers) may enrich their content. The EC is using the current mechanism for monitoring the open access policy.
tagline	Text and data mining for scholarly communication
No.	184
id	openaire.neuroinformatics_openaire_dashboard
name	Neuroinformatics OpenAIRE Community Gateway
provider	openaire
webpage	https://beta.ni.openaire.eu/
description	The OpenAIRE Community Gateway for Neuroinformatics offers a view of the OpenAIRE Graph including literature, datasets, software, other research products, and projects (all linked to each other) relative to this discipline. Users can discover scientific outputs and browse their discipline-specific graph, monitor Open Science statistics over time, and by accessing Zenodo.org also deposit/publish new products by assigning them to this community. Growing a single entry point for Neuroinformatics Researchers in Neuroinformatics
tagline	Single entry point for discovery and sharing of scientific results in Neuroinformatics
No.	185
id	openaire.open_science_helpdesk
name	Open Science Helpdesk
provider	openaire
webpage	https://www.openaire.eu/support
description	This service provides a wide range of activities brought together to support stakeholders questions on Open Science and builds a knowledge base on a range of topics targeted at different stakeholders. It includes a 24x7 Helpdesk supported by NOADs, FAQs, Factsheets, Briefing Papers and topical webinars. The whole European network of NOADs work behind the scenes at national levels to run the service. Open Science enabler. Direct and round the clock support for wide ranging issues on Open Science across European Research Institutions, Projects and Individuals Daily tickets and NOADs contact by all stakeholder types

tagline	Access OpenAIRE support resources or ask us a question
No.	186
id	openaire.open_science_training
name	Open Science Training
provider	openaire
webpage	https://www.openaire.eu/online-courses
description	This service offers policy training and support on European Commission Open Science policies providing the body of resources to facilitate the easy uptake and comprehension of the Open Access mandate to publications and data, as well as a broader open science agenda among a wide range of stakeholders. For example: It helps project coordinators to comply with Open Access funder's requirements. It assists repository managers and journal editors and publishers with making their repositories and journals compatible with the OpenAIRE Guidelines. It works with national research funders to align their policies with Open Access policies of the European Commission. It organizes conferences, workshops and other knowledge sharing and community-building events and activities to promote availability of Open Access publications and research data and Open Science. Open Access Basics, Research Data Management Handbook, Guides to Open Science, FactsheetsOpen Science enabler. Open science training provides user groups and customers with the latest information about developments in open access, open data and open science. It communicates basic principles, recent developments and innovations, provides how to guides to different stakeholders and helps them to develop the necessary skills. Supports open science implementation across European research Institutions and individuals. Large attendance in webinars and training workshops
tagline	Practice Open and FAIR Science
No.	187
id	openaire.research_community_dashboard
name	OpenAIRE Research Community Dashboard
provider	openaire
webpage	https://beta.connect.openaire.eu/
description	The OpenAIRE Research Community Dashboard offers on demand Community Gateways that communities can customize to fit their sharing, publishing and discovery needs. Through the RCD, gateway managers can configure the respective Community Gateway by providing (i) the criteria identifying the subset of the OpenAIRE Research Graph that pertains to the community, and (ii) the community statistics to be made public or private. Easy discovery and access to community-related research results. Facilitate publishing of all types of research products. Raise awareness on Open Science among the research community. Monitor Open Science trends. Research communities in the following disciplines: Digital Humanities and Cultural Heritage, Fisheries and Aquaculture Management, Neuroinformatics, European Marine Science, Sustainable Development and Economics in Greece.
tagline	Build an Open Research Gateway for your community: turn Open Science into practice
No.	188
id	openaire.scholexplorer
name	OpenAIRE ScholeXplorer
provider	openaire
webpage	http://scholexplorer.openaire.eu
description	ScholeXplorer populates and provides access to a graph of relationships between datasets and literature, and between datasets and datasets. Objects and relationships are provided by data sources managed by publishers (e.g. CrossRef), data centers (e.g. DataCite and non-DataCite

	data archives), repositories (e.g. OpenAIRE itself and similars). The service aggregates links expressed in Scholix format and offers programmatic access (APIs) that allow third-party services to run queries/provision of the links in the graph. Among known consumers the service API accounts for Science Direct, Scopus, and several data repositories. Enhancing Linked Open Science. Intelligent and contextualized research. Enabling new forms of research impact. As to May 2019, the production service includes more than 56.000.000 links between more than 20.000.000 research objects, counting around 5 billion accesses since production mode (November 2017)
tagline	The data and literature interlinking service
No.	189
id	openaire.technical_support_towards_openaire_compliance
name	Technical support towards OpenAIRE compliance
provider	openaire
webpage	https://guidelines.openaire.eu
description	The OpenAIRE Guidelines are a suite of application profiles designed to allow data providers to make their scholarly outputs visible through the OpenAIRE infrastructure. The profiles are based on established metadata and transfer protocol standards. While the focus of each profile is different, they allow for interlinking and the contextualization of research artefacts. Enhanced interoperability. Provide content (metadata and fulltext) in a consistent, complete and interoperable way. Followed in Europe by 900+ data providers (different compatibility levels). Adoption in Latin America (LaReferencia), Mexico, Japan for regional/national infrastructures.
tagline	OpenAIRE compliance made simple
No.	190
id	openaire.usage_statistics
name	OpenAIRE Usage Statistics
provider	openaire
webpage	https://provide.openaire.eu
description	OpenAIRE's Usage Statistics Service contributes towards impact evaluation of usage activity in Open Access Repositories. Managers of OpenAIRE compliant repositories can enable the service via the OpenAIRE Content Provider Dashboard. Once enabled, the service collects and analyzes usage data from the repository and exploits usage metrics like downloads and metadata views. Counters about the usage of a repository and its individual items are available in the relative detail page on the OpenAIRE Discovery Portal. Taking advantage of OpenAIRE's Graph service deduplication mechanism, the service aggregates/merges usage statistics that come from different repositories and relate to the same object. OpenAIRE's Usage Statistics service uses the Matomo Open Source Analytics platform (matomo.org) to track usage activity. Statistics are generated using the COUNTER Code of practice directives and reports can be collected from SUSHI-Lite compatible endpoints. Anonymized and aggregated usage data to improve research impact and assessment. Currently deployed in 31 literature repositories (Portugal, France, Croatia, Bulgaria).
tagline	Track the usage activity of your repository
No.	191
id	openaire.validator
name	OpenAIRE Validator
provider	openaire
webpage	https://www.openaire.eu/validator
description	The OpenAIRE Validator service is used by content providers who wish to register to OpenAIRE and allows them to verify that they are compliant with the OpenAIRE guidelines. The service also checks the quality of implementation of the OAI-PMH protocol. Content providers can use the

	<p>service after logging into the OpenAIRE Content Provider Dashboard. If validation succeeds the provider can be registered to join the OpenAIRE infrastructure. The providers content will be regularly aggregated to contribute to the OpenAIRE Graph. OpenAIRE allows for registration of institutional and thematic repositories registered in OpenDOAR, research data repositories registered in re3data, individual e-Journals, CRIS, aggregators and publishers. The Validator service is realised with a configurable software that allows users with administration rights to customize the validation rules to be applied. This feature makes it easier to adapt the service when the OpenAIRE guidelines are updated and also to offer similar services, possibly with different rules and configurations, to third-parties. Increased interoperability. Better visibility. National, regional aggregators: compliance to local guidelines. OpenAIRE Content providers: Compliance to OpenAIRE guidelines. OpenAIRE deployment: 890 data providers have used the service before they register to OpenAIRE. They use it for continuous validations or updates to new versions of the guidelines. An average of 400 monthly visitors/validations. The Validation service has been deployed also for National and Regional Aggregators like La Referencia (Latin America, 11 countries), Fecyt (Spain), Mincyt (Argentina).</p>
tagline	OpenAIRE Validation Service
No.	192
id	openaire.zenodo
name	Zenodo
provider	openaire
webpage	https://www.zenodo.org
description	Zenodo is a general purpose repository that enables researchers, scientists, projects and institutions to share, preserve and showcase multidisciplinary research results (data, software and publications) that are not part of the existing institutional or subject-based repositories of the research communities. It is founded in the trustworthy CERN data centre. Enables everyone to participate in Open Science. Used by more than 50K researchers and 3K communities all over the world.
tagline	A catch-all repository
No.	193
id	openedition.operas_research_for_society
name	OPERAS Research for Society (Hypotheses)
provider	openedition
webpage	https://hypotheses.org/
description	The Research for Society Service is designed to be an interactive platform between SSH researchers and the society at large. Developing the practices of academic blogging, the hypotheses.org platform already offers to SSH researchers the ability to build an open conversation with socio-economic actors, more particularly regarding the societal challenges.
tagline	The research blogging service in SSH to address societal challenges
No.	194
id	openknowledgemaps.open_knowledge_maps
name	Open Knowledge Maps
provider	openknowledgemaps
webpage	https://openknowledgemaps.org
description	Open Knowledge Maps is the world's largest visual search engine for research. On our website, users can create knowledge maps of research topics in any discipline. Knowledge maps provide an immediate overview of a topic, since the most important sub-areas are shown at a glance and linked to relevant resources and concepts. Open Knowledge Maps enables a large number

	<p>of interest groups to freely access scientific content. Users include researchers, students, librarians, educators, journalists and practitioners around the world. At the same time, we increase the visibility of content from a variety of sources such as repositories, funding organizations, research institutions and publishers. Users can easily and quickly: - Get an overview of a research topic: knowledge maps provide an instant overview of a topic by showing the main areas at a glance, and papers related to each area. This makes it possible to easily identify useful, pertinent information. - Separate the wheat from the chaff: we cluster similar papers together. This makes it easier to identify relevant content when you are searching for an ambiguous term, or when you would like to identify content from a single discipline in a multidisciplinary field. - Identify relevant concepts: one of the most difficult tasks when you are new in a research field is to learn the “language” of the field. Open Knowledge Maps makes it easier for you by labeling research areas with relevant concepts. - Find open content: our knowledge maps include both closed and open access papers. However we highlight open access papers - and the majority of those papers can be read from within the interface. And if not, the fulltext is only a click away. Our BASE integration offers discovery of more than 158 mio research artefacts from more than 7.700 interdisciplinary sources, our PubMed integration offers discovery of more than 30 mio artefacts specialized on biomedical and life science disciplines.</p>
tagline	A visual interface to the world's scientific knowledge
No.	195
id	openminted.builder_of_tdm_applications
name	OpenMinTeD Builder of TDM Applications
provider	openminted
webpage	http://openminted.eu/omtd-services/builder-of-tdm-applications/
description	<p>With the OpenMinTeD workflow editor, which is based on the Galaxy editor, registered users can build new TDM applications by combining together software components. The service is intended for developers of TDM applications who know which components can be put together and in which order (based on their input and output requirements). OpenMinTeD has further defined a set of specifications that aim to resolve interoperability issues stemming from the different implementation frameworks of the components. The specifications cater for the integration of components in the form of dockerized images as well as web services that abide to the OpenMinTeD specifications and can thus be combined to create a valid application. StandardThe service offers TDM experts a workflow editor and a set of interoperable components that can be combined to create new TDM applications. They can experiment by putting together components and ancillary knowledge resources, test them on real content, fine tune them and, when deemed ready, share them through the OpenMinTeD platform.</p>
tagline	Mix-and-match basic components and build TDM applications
No.	196
id	openminted.catalogue_of_ancillary_resources
name	OpenMinTeD Catalogue of Ancillary Resources
provider	openminted
webpage	http://openminted.eu/omtd-services/catalogue-of-ancillary-resources/
description	<p>The OpenMinTeD Catalogue of Ancillary Knowledge Resources includes (a) Machine Learning (ML) models and computational grammars that can be integrated with TDM components, and (b) annotation resources, i.e. lexica, terminological lists, gazetteers, linguistic and domain ontologies, etc., that can be used for annotating content resources. These resources, appropriately combined with generic TDM components, give rise to new applications catering for new domains or languages. All the resources include links to the point(s) they can be accessed from and can be deployed to build TDM applications which can then be executed through the OpenMinTeD platform. The catalogue brings together resources added by users or imported from domain community portals and registries, all described through a harmonised metadata</p>

	schema that includes for each resource: (a) administrative information, such as its title, a short description, licence or terms of use, provenance information (resource creator, creation dates, funding programs, etc.); (b) technical information, such as data format, size, links to documents that may help the users (e.g. user manuals, video tutorials, publications about the component, etc.), etc. Users can browse through the catalogue or use the faceted search or a google-like free text query to discover resources according to specific criteria. Standard for developers of TDM applications that want to easily discover knowledge resources they can use with their generic software in order to build language or domain-specific applications. Users can easily find them, compare and contrast them with similar resources through the metadata records, integrate them in their applications and test the application in a real-life context.
tagline	Find Machine Learning models, domain ontologies, terminologies, etc. to use with your TDM software
No.	197
id	openminted.catalogue_of_corpora
name	OpenMinTeD Catalogue of Corpora
provider	openminted
webpage	http://openminted.eu/omtd-services/catalogue-of-scholarly-datasets/
description	A catalogue of corpora (datasets) made up of mainly Open Access scholarly publications. Users can view publicly available corpora that have been created with the OpenMinTeD Corpus Builder for Scholarly Works, or manually uploaded to the OpenMinTeD platform. The catalogue can be browsed and searched via the faceted navigation facility or a google-like free text search query. All users can view the descriptions of the corpora (with administrative and technical information, such as language, domain, keywords, licence, resource creator, etc.), as well as the contents and, when available, the metadata descriptions of the individual files that compose them. In addition, registered users can process them with the TDM applications offered by OpenMinTeD and download them in accordance with their licensing conditions. StandardFor users interested in finding corpora of various languages and domains easily accessible and ready to be processed with TDM applications; the use of a uniform metadata schema for their description facilitates comparison and contrast and thereby selection of the appropriate corpus.
tagline	Find easily accessible corpora of scholarly content and mine them!
No.	198
id	openminted.catalogue_of_tdm_applications
name	OpenMinTeD Catalogue of TDM Applications
provider	openminted
webpage	http://openminted.eu/omtd-services/catalogue-of-tdm-applications/
description	The OpenMinTeD Catalogue of Text and Data Mining (TDM) applications allows users to easily discover pre-registered and ready-to-run applications on scholarly content also offered via the OpenMinTeD platform. Users can browse through the whole catalogue, refine its contents with specific criteria (using the faceted search or a google-like free text search facility), select a specific application, view its detailed formal description, and at the click of a button use it to process a corpus of scholarly publications. For each application, the user can view: (a) administrative information, such as the title of the application, a short description, licence or terms of use, provenance information (resource creator, creation dates, funding programs, etc.); (b) technical information, such as the task it performs, the requirements on the input resource (e.g. whether it runs on a corpus of English, on texts with a specific data format, etc.), details on the output it produces (e.g. a list of the biomedical entities or a list of relations between symptoms and illnesses extracted from the corpus), links to documents that may help the users (e.g. user manuals, video tutorials, publications about the application, etc.), list of the software components that are included in the application, etc. StandardUsers can easily find the TDM applications that best fit their needs, compare them with similar applications, and, most important, they can click

	to run them as-is on the biggest collection of Open Access scholarly content or on their own corpus.
tagline	Find ready-to-run Text and Data Mining applications
No.	199
id	openminted.catalogue_of_tdm_components
name	OpenMinTeD Catalogue of TDM Components
provider	openminted
webpage	http://openminted.eu/omtd-services/catalogue-of-tdm-components/
description	The catalogue of Text and Data Mining (TDM) components brings together pieces of software that perform basic TDM and Natural Language Processing (NLP) tasks and can be mixed together to build sophisticated applications. All components have been adapted to the OpenMinTeD interoperability specifications which aim at enabling their integration irrespective of their original implementation framework and ensure that they can be executed without problems in the OpenMinTeD platform. The catalogue targets mainly TDM developers, i.e. expert users who know how to combine them appropriately in the same workflow and build ready-to-run applications. The service is empowered with browse and search (faceted and google-like free text) functionalities based on the harmonised metadata descriptions of the resources. For each component, the user can view: (a) administrative information, such as its title, a short description, licence or terms of use, provenance information (resource creator, creation dates, funding programs, etc.); (b) technical information, such as the task it performs, the requirements on the input resource (e.g. whether it runs on a corpus of English, on texts with a specific data format, etc.), details on the output it produces, links to documents that may help the users (e.g. user manuals, video tutorials, publications about the component, etc.), etc. StandardThe main asset of this catalogue is that it brings together basic TDM and NLP software components conforming to the OpenMinTeD interoperability specifications and are, thus, guaranteed to be executed without problems in the platform and easy to be combined with other components.
tagline	Find TDM and NLP components and mix them together
No.	200
id	openminted.consulting_on_licences_for_tdm
name	OpenMinTeD Consulting on Licences for TDM
provider	openminted
webpage	http://openminted.eu/omtd-services/tdm-consulting-on-licenses/
description	The OpenMinTeD Licence Compatibility Matrix is the first step towards achieving legal interoperability among Text and Data Mining resources - and not only. The service expands its application beyond OpenMinTeD to cover legal issues related to digital resource access and usage. The matrix encodes in a clear way the compatibility among popular licences and terms of use of data resources, software and web services, i.e. aims to assess the possibility that resources licensed under specific licences can indeed be combined and their combination feasibly result in a derivative work. It also assesses whether, considering specific clauses (e.g. Non Commercial Use or Share Alike), there is likely to be a conflict between the licensing terms considered. When derivatives are allowed, the matrix indicates full compatibility, compatibility under conditions and lack of compatibility. StandardTo the best of our knowledge, this is the only tool that attempts to asses compatibility between licences and terms of use in the TDM context for data and software resources. This is a valuable asset for anyone interested in TDM without legal expertise, since it allows them to know whether they can legally process the content they want, combine together TDM components to build a workflow and share it with other users.
tagline	Find if the licences of the data you want to process and of the processing software are compatible
No.	201
id	openminted.corpus_builder_for_scholarly_works

name	OpenMinTeD Corpus Builder for Scholarly Works
provider	openminted
webpage	http://openminted.eu/omtd-services/corpus-builder-for-scholarly-works/
description	OpenMinTeD has set up a mechanism which provides access to scholarly and scientific content from a wide range of sources (publishers, repositories, journals, etc.) and enables users to search and select among them the ones that interest them for mining; the selection is based on a faceted search or a google-like natural text query based on the harmonised metadata descriptions of the documents (e.g. publication year, keywords, domain, etc.) while the selected documents form together a collection or corpus. The OpenMinTeD registry provides content made available by two major content aggregators, OpenAIRE and CORE, and other open access content providers. StandardThe OpenMinTeD Corpus Builder is unique in that it exploits the largest available Open Access scholarly content brought together in one source and described in a harmonised way; thus users can easily select subsets with a single query, and get direct access to the full text of the selected publications, instead of having to go through the APIs of various content providers one by one, pose differently formulated queries to match the provider's system each time in order to collect the set of publications that fits their research topic. They can then go on to process this dataset with one of the TDM applications offered by the OpenMinTeD platform.
tagline	Dig into the biggest set of Open Access scientific publications, build your corpus and mine it!
No.	202
id	openminted.support_and_training
name	OpenMinTeD Support and Training
provider	openminted
webpage	http://openminted.eu/omtd-services/support-and-training/
description	OpenMinTeD promotes state-of-the-art Text and Data Mining (TDM) techniques and technologies to boost Open Science and Research. To further its vision, it has created a number of training resources that aim to (a) raise awareness about TDM among researchers and instruct them on how to integrate it in their research activities and workflows, and (b) promote the OpenMinTeD platform. The OpenMinTeD services on TDM support training include webinars, tutorials and online courses for researchers with little or no knowledge of TDM, stories that introduce TDM concepts for non-technical people, FAQs, guidelines on the OpenMinTeD platform, etc. StandardThe OpenMinTeD training services are dedicated to raising awareness about the merits of TDM among researchers with no or little technical background. They include course material that demonstrates TDM tools in operation and the actual use of the OpenMinTeD platform.
tagline	Learn to mine with OpenMinTeD
No.	203
id	openminted.tdm_applications_executor
name	OpenMinTeD TDM Applications Executor
provider	openminted
webpage	http://openminted.eu/omtd-services/tdm-applications-executor/
description	The OpenMinTeD TDM applications executor targets primarily researchers with little or no knowledge of text mining who need to find and run TDM applications on content without going through complicated processes. OpenMinTeD offers ready-to-use TDM applications in a catalogue that can be easily searched and browsed. Once users find the appropriate application, they can select to run it on their own content or on the content offered in the OpenMinTeD platform (mainly open access scholarly and scientific publications). StandardFor users with little or no knowledge in mining, who find in one place the content to mine and a set of ready-to-run TDM applications.

tagline	Mine the corpus of your choice at the click of a button!
No.	204
id	openrisknet.e-infrastructure
name	OpenRiskNet e-infrastructure
provider	openrisknet
webpage	https://openrisknet.org/e-infrastructure/
description	<p>OpenRiskNet e-infrastructure supports the harmonisation and improved interoperability of data and software tools in the area of predictive toxicology and risk assessment (e.g. for chemicals, cosmetic ingredients, therapeutic agents or nanomaterials) The infrastructure is built on virtual research environments (VRE), which can be deployed to workstations as well as public and in-house cloud infrastructures. Services providing data, analysis, modelling and simulation services for risk assessment are integrated into the infrastructure and can be combined to workflows using harmonized and interoperable application programming interfaces. The reference environment is meant to demonstrate the features of the infrastructure and for test calculations only. Development of personalised workflows and production runs can then be performed on VRE deployed on user provided hardware. OpenRiskNet provides resources to enable users to instantiate their own virtual infrastructures populated with the applications and middleware making up the virtual research environment on public or private cloud resources, as well as in-house server/workstations. The reference environment is provided as a quick entry point to test the OpenRiskNet features. The OpenRiskNet e-infrastructure supports many aspects of risk assessment by allowing the integration of toxicology-related data sources, for the implementation and execution of processing and analysis pipelines and for the execution of modelling workflows. The benefits for the users are: a) Improvement of industrial risk assessments, b) Prototyping of new services and apps, c) Access to integrated resources, d) Complete and qualified system, e) Support for innovative product development. Case studies have been defined to test and evaluate the solutions provided by OpenRiskNet to the predictive toxicology and risk assessment community especially regarding the usability of the developed APIs and the interoperability layer. These demonstrate the capabilities to satisfy the requirements of the different stakeholder groups including researchers, risk assessors and regulators and present real-world applications like systems biology approaches for grouping compounds, read-across applications using chemical and biological similarity, and identifying areas of concern based on in vitro and in silico approaches for compounds lacking any previous knowledge from animal experiments: 1) Data curation and creation of pre-reasoned datasets and searching, 2) Modelling for Prediction or Read Across, 3) A systems biology approach for grouping compounds, 4) Metabolism Prediction, 5) Identification and Linking of Data related to AOPWiki, 6) Toxicogenomics-based prediction and mechanism identification, 6) Reverse dosimetry and PBPK prediction.</p>
tagline	Risk assessment virtual reference environment for data integration, analysis and modelling
No.	205
id	openrisknet.jaqpot
name	Jaqpot
provider	openrisknet
webpage	https://ui-jaqpot.prod.openrisknet.org/
description	<p>Jaqpot is a user-friendly web-based e-infrastructure containing many data analysis and modelling microservices integrated under a common API. The Jaqpot infrastructure allows for building applications that preprocess data, compute descriptors from raw data (such as electronic images), create, validate, store and share predictive machine learning models and generate reports in standard formats. Jaqpot user interface allows the end-user to use most Jaqpot functionalities. OpenRiskNet provides resources to enable users to install their own virtual infrastructures populated with the applications and middleware making up the virtual research environ-</p>

	<p>ment on public or private cloud resources, as well as in-house server/workstations. The reference environment (https://home.prod.openrisknet.org/) is provided as a quick entry point to test the OpenRiskNet features. Jaqpot offers the production of predictive models and their sharing within the community as ready-to-use web applications. Case studies have been defined to test and evaluate the solutions provided by OpenRiskNet to the predictive toxicology and risk assessment community especially regarding the usability of the developed APIs and the interoperability layer. These demonstrate the capabilities to satisfy the requirements of the different stakeholder groups including researchers, risk assessors and regulators and present real-world applications like systems biology approaches for grouping compounds, read-across applications using chemical and biological similarity, and identifying areas of concern based on in vitro and in silico approaches for compounds lacking any previous knowledge from animal experiments: 1) Data curation and creation of pre-reasoned datasets and searching, 2) Modelling for Prediction or Read Across, 3) A systems biology approach for grouping compounds, 4) Metabolism Prediction, 5) Identification and Linking of Data related to AOPWiki, 6) Toxicogenomics-based prediction and mechanism identification, 6) Reverse dosimetry and PBPK prediction.</p>
tagline	Generate, store and share predictive statistical and machine learning models
No.	206
id	openrisknet.lazar
name	Lazar
provider	openrisknet
webpage	https://lazar.prod.openrisknet.org/predict
description	<p>Lazar (Lazy Structure-Activity Relationships) takes a chemical structure as input and provides predictions for a variety of toxic properties. Lazar uses an automated and reproducible read across procedure to calculate predictions. Rationales for predictions, applicability domain estimations and validation results are presented in a clear graphical interface for the critical examination by toxicological experts. OpenRiskNet provides resources to enable users to install their own virtual infrastructures populated with the applications and middleware making up the virtual research environment on public or private cloud resources, as well as in-house server/workstations. The reference environment (https://home.prod.openrisknet.org/) is provided as a quick entry point to test the OpenRiskNet features. Case studies have been defined to test and evaluate the solutions provided by OpenRiskNet to the predictive toxicology and risk assessment community especially regarding the usability of the developed APIs and the interoperability layer. These demonstrate the capabilities to satisfy the requirements of the different stakeholder groups including researchers, risk assessors and regulators and present real-world applications like systems biology approaches for grouping compounds, read-across applications using chemical and biological similarity, and identifying areas of concern based on in vitro and in silico approaches for compounds lacking any previous knowledge from animal experiments: 1) Data curation and creation of pre-reasoned datasets and searching, 2) Modelling for Prediction or Read Across, 3) A systems biology approach for grouping compounds, 4) Metabolism Prediction, 5) Identification and Linking of Data related to AOPWiki, 6) Toxicogenomics-based prediction and mechanism identification, 6) Reverse dosimetry and PBPK prediction.</p>
tagline	Toxicity predictions
No.	207
id	openrisknet.squonk_computational_notebook
name	Squonk Computational Notebook
provider	openrisknet
webpage	https://squonk-notebook.prod.openrisknet.org/portal
description	<p>We believe that the reason computational tools are not being utilised effectively in RD is not because of a lack of functionality, but a lack of usability. And we dont just mean standard UI/UX type issues, rather usability of the whole work process. The Computational Notebook is a new</p>

	<p>breed of software designed around that work process. By integrating best of breed open source and commercial tools and making them interoperable and simple to use, the Squonk Computational Notebook allows scientists to perform complex workflows easily. Not only can you process your data but you can also analyse the results. As you work a record of what you did is automatically built up, providing strong provenance and reproducibility. Controlled sharing facilitates secure collaboration with co-workers. The Squonk Computational Notebook has a wide range of cheminformatics and computational chemistry services built in, as well as a simple mechanism for adding new ones. Many of these are relevant to the goals of the OpenRiskNet project in performing chemical risk assessment. These services are also available as REST web services within the OpenRiskNet environment and so can be accessed by other applications running in that environment. Users of these services would typically select the service to use, provide a set of chemical structures as input, specify options for execution and then submit the request to the service. A few seconds or a few minutes later the results would be ready to be consumed. Whilst still in pilot phase, we have a number of deployments including a public evaluation site, the OpenRiskNet reference site, and a private deployment for a CRO. The users are typically chemists wanting a simple mechanism to perform cheminformatics or computational chemistry operations or for an organisation to make new services available to their users.</p>
tagline	Computation research made simple and reproducible
No.	208
id	operas.operas_metrics_service
name	OPERAS Metrics service
provider	operas
webpage	https://metrics.operas-eu.org/
description	The OPERAS Metrics service provides an Open Source tool able to collect usage and alternative metrics for Open Access publications. The portal contains the service's description, the list and definitions of the measures, and implementation guidelines.
tagline	-
No.	209
id	osmooc.open_science_mooc
name	Open Science MOOC
provider	osmooc
webpage	https://opensciencemooc.eu/
description	The Open Science MOOC is designed to help equip students and researchers with the skills they need to excel in a modern research environment. It brings together the efforts and resources of hundreds of researchers and practitioners who have all dedicated their time and experience to create a community platform to help propel research forward. The content of this MOOC will be distilled into 10 core modules. Each module will comprise a complete range of resources including videos, research articles, dummy datasets and code, as well as tasks to complete as individuals or groups. For researchers, increased knowledge and skills to help them excel both within a modern research environment, and for work outside of academia
tagline	We want to help make open the default setting for all global research.
No.	210
id	phenomenal.phenomenal
name	PhenoMeNal
provider	phenomenal
webpage	https://portal.phenomenal-h2020.eu/home

description	PhenoMeNal (Phenome and Metabolome aNalysis) is a comprehensive and standardised e-infra-structure that supports the data processing and analysis pipelines for molecular phenotype data generated by metabolomics applications. PhenoMeNal allows you to deploy your own Cloud Research Environment (CRE) for Metabolomics data analysis on private and public cloud providers, an Application Library listing open source tools and online training tutorialsReproducible Metabolomics processing and analysis pipeline without the need for expert installation and maintenanceWorldwide, individual researchers and larger labs with either commercial cloud-based or in-house deployments.
tagline	Large-Scale computing for medical metabolomics
No.	211
id	prace.application_enabling_support
name	PRACE Application Enabling Support
provider	prace
webpage	https://prace-ri.eu/
description	Enable applications for project access, helping users in porting, scaling and optimising their applications to fully exploit the capabilities of PRACE systems.Type C (Tier-0 support), Type D (Tier-1 to Tier-0 support)Application EnablingEuropean HPC users and European HPC communities, including industrial researchers
tagline	Support for development of Tier-0 and Tier-1 application codes
No.	212
id	prace.code_vault
name	PRACE Code Vault
provider	prace
webpage	https://repository.prace-ri.eu/git/CodeVault/Overview
description	The PRACE CodeVault is an open repository containing various high performance computing code samples for the HPC community. The CodeVault is an open platform that supports self-education of learning HPC programming skills where HPC users can share example code snippets, proof-of-concept codes and more. The PRACE CodeVault contains training material from PRACE partners, as well as example codes for common HPC kernels, such as dense and sparse linear algebra, spectral and N-body methods, structured and unstructured grids, Monte Carlo methods and parallel I/O. The code samples are published as open source and can be used both for educational purposes and as parts of real application suites (as permitted by particular licenses).
tagline	The open repository for high performance computing code samples
No.	213
id	prace.deci_access
name	PRACE DECI Access
provider	prace
webpage	https://prace-ri.eu/hpc-access/deci-access/
description	Proposals must deal with complex, demanding, innovative simulations that would not be possible without Tier-1 access. Proposals from academia and industry are eligible, as long as the project leader is undertaking non-proprietary research in a European country (European Union, candidates, associated countries and PRACE member countries). Project leaders will typically be employed in research organisations (academic or industrial). Individual HPC centres may have further restrictions on who is eligible to use the machines, e.g. due to US export rules.Access to Tier-1 resourcesEuropean HPC users and European HPC communities, including industrial researchers
tagline	PRACE Distributed European Computing Initiative (Tier-1) Access

No.	214
id	prace.mooc
name	PRACE MOOC
provider	prace
webpage	https://www.futurelearn.com/courses/big-data-r-hadoop
description	PRACE Massive Open Online Courses. The agreement between PRACE and the Massive Open Online Course (MOOC) platform FutureLearn has been signed. PRACE will be moving forward in the development of the PRACE MOOCs with the assistance of FutureLearns representatives.
tagline	PRACE Massive Open Online Courses
No.	215
id	prace.patc
name	PRACE Advanced Training Centres
provider	prace
webpage	https://events.prace-ri.eu/category/2
description	The PRACE Advanced Training Centres (PATCs) provide top-class education and training opportunities for computational scientists in Europe and are the primary source for PRACE training portal materials. Scientists and researchers from academia and industry
tagline	Programme of events organised by the PRACE Training Centres
No.	216
id	prace.preparatory_access
name	PRACE Preparatory Access
provider	prace
webpage	http://www.prace-ri.eu/prace-preparatory-access
description	The objective of PRACE Preparatory Access is to allow PRACE users to optimise, scale and test codes on PRACE Tier-0 systems before applying to PRACE calls for Project Access. Production runs are not allowed as part of PRACE Preparatory Access. Currently, PRACE offers the following schemes for Preparatory Access: Type A: this scheme is intended to produce scalability plots of the performance of the codes on PRACE HPC systems, as well as other parameters that may be relevant to apply for PRACE calls for Project Access. The maximum duration of Type A projects is 2 months. Type B: the objective of this scheme is to undertake code development and optimisation. Applicants will need to describe the proposed work plan in detail, including the human resources and expertise available to implement the project. The maximum duration of Type B projects is 6 months. Type C: in this scheme, PRACE experts are requested to provide the necessary support to undertake adaptations (development and optimisation) to the codes of PRACE users. The maximum support that can be requested is the equivalent to 6 person-months of effort. The maximum duration of Type C projects is 6 months. Type D: this scheme allows PRACE users to start a code adaption and optimisation process on a PRACE Tier-1 system. PRACE experts help in the system selection process. In addition to Tier-1 computing time, the PRACE user will also receive Tier-0 computing time towards the end of the project (in form of the Type A scheme) to test the scalability improvements. The work is supported by PRACE experts. The maximum support that can be requested is the equivalent to 6 person-months of effort. The maximum duration of Type D projects is 12 months. Type A (Benchmarking), Type B (Development) Access to Tier-0 resources HPC users and HPC communities that plan to apply to a PRACE Tier-0 call
tagline	HPC access for benchmarking and application development
No.	217
id	prace.project_access

name	PRACE Project Access
provider	prace
webpage	https://prace-ri.eu/hpc-access/project-access/
description	Project Access is the access to PRACE Tier-0 world class high performance computing (HPC) resources for projects, which use codes that have been previously tested and have demonstrated high scalability and optimisation. Preparatory Access is strongly recommended to collect technical data to support the request of resources. Proposals for Project Access must be based on computer codes and data ready to run on the Tier-0 systems. Single-year, multi-year access, CoE access. Access to Tier-0 resources. European HPC users and European HPC communities, including industrial researchers.
tagline	HPC access for large-scale computing projects
No.	218
id	prace.ptc
name	PRACE Training Centres
provider	prace
webpage	http://www.prace-ri.eu/IMG/pdf/2017-05-10-PTC-Selection-press-release-FINAL.pdf
description	The PRACE Training Centres (PTCs) provide top-class education and training opportunities for computational scientists in Europe and are the primary source for PRACE training portal materials.
tagline	State-of-the-art curriculum for training in HPC
No.	219
id	prace.seasonal_schools_and_international_summer_school
name	PRACE Seasonal Schools and International Summer School
provider	prace
webpage	https://summerofhpc.prace-ri.eu/info/
description	The PRACE Seasonal Schools have been running since 2008 as part of the PRACE educational programme offering top-quality face-to-face training events organized around Europe, aiming to improve the skills necessary for the use of the PRACE ecosystem. The seasonal school topics range from generic intermediate to advanced programming techniques to more specialized topical schools that e.g. focus on a specific topic, such as big data, or offer discipline specific parallel tracks.
tagline	Summer placements at HPC centres across Europe
No.	220
id	prace.shape
name	SHAPE
provider	prace
webpage	https://prace-ri.eu/hpc-access/shape-access/
description	SHAPE, the SME HPC Adoption Programme in Europe is a pan-European, PRACE-based programme supporting HPC adoption by SMEs. The Programme aims to raise awareness and equip European SMEs with the expertise necessary to take advantage of the innovation possibilities opened up by High Performance Computing (HPC), thus increasing their competitiveness. HPC is a powerful technology that can enable the development of new products or services, reduce time-to-market and cost of RD or increase quality. The opportunities opened up by HPC are vast and an increasing number of SMEs turn to HPC in order to create new business opportunities. The Programme will help European SMEs overcome barriers to using HPC, such as cost of operation, lack of knowledge and lack of resources. It will facilitate the process of defining a workable solution based on HPC and defining an appropriate business model.

tagline	SME HPC Adoption Programme in Europe
No.	221
id	prace.training_portal
name	PRACE Training Portal
provider	prace
webpage	http://www.training.prace-ri.eu/nc/training_courses
description	The PRACE Training Portal includes training and educational announcements and training material (seasonal schools, workshops, tutorials, course descriptions, MOOCs, Seasonal Schools, Training Center Events, Tutorials, Training material, Codevault, Best practice guides) For the individuals who want to gain expertise and capacities in new technologies and tools in various aspects of high performance computing.
tagline	Browse, search, explore upcoming HPC training events
No.	222
id	psnc.symbiote
name	symbloTe
provider	psnc
webpage	https://symbiote-open.man.poznan.pl/symbioteSearch/
description	The symbloTe (symbiosis of smart objects across IoT environments, https://www.symbiote-h2020.eu/) project provided an interoperable mediation framework to enable the discovery and sharing of connected devices across different IoT platforms for rapid development of cross-platform IoT applications. symbloTe Core Services are responsible for storing IoT meta-information about the platforms, their resources and domain models they are using. It also provides search, security, administration and monitoring features. Another layer, symbloTe Cloud Services, provide a virtualization support for integrating IoT platforms and allowing unified and secured remote access to the observation data, services and actuators. The provided service is on the TRL 8. We propose the symbloTe IoT Interoperability Framework Core Service to be included in the <i>EOSC Portal</i> . -- Endpoint API for developers https://symbiote-open.man.poznan.pl/coreInterface/
tagline	IoT Platforms interoperability framework
No.	223
id	rasdaman.datacube
name	Datacube
provider	rasdaman
webpage	http://www.rasdaman.org/
description	The rasdaman datacube engine provides spatio-temporal access and analytics, initially on the CreoDias Sentinel archive. Standards-based interfaces of the OGC datacube reference implementation allows a large, growing number of standards-conformant clients to tap right into the rasdaman datacubes, ranging from map navigation (ex: OpenLayers) and virtual globes (ex: NASA WorldWind, Microsoft Cesium) over Web GIS (ex: QGIS, ArcGIS) to analytics (ex: python, R). Among others, this supports Artificial Intelligence (AI) applications in a fast, flexible manner. The rasdaman EOSC-hub datacubes will be federated with other offerings, establishing a common information space for free mix & match. Federation queries are processed and optimized among the participating servers, clients directly get the final query result, with no extra intermediate data transfer to them Visualize via WMS, extract via WCS or perform server-side analytics via WCPS on any subset of Sentinel or Landsat data in real time, in your favorite client.
tagline	Satellite datacubes at your fingertips, ready for spatio-temporal analysis and visualization in your favourite client and powered by the European Datacube engine, rasdaman
No.	224

id	rbi-hr.dariah_science_gateway
name	DARIAH Science Gateway
provider	rbi-hr
webpage	https://www.irb.hr/eng
description	The DARIAH Science Gateway provides various web-based applications and services for the Digital Humanities researchers, institutes and communities. ### Features: The DARIAH Science Gateway offers easy access to the following applications: - Simple Semantic Search Engine (SSE): Allows users to search in the e-Infrastructure Knowledge Base (Open Access Document Repositories and Data Repositories). - Parallel Semantic Search Engine (PSSE): A parallelised version of SSE enabling simultaneously search across the e-Infrastructure Knowledge Base, Europeana, Cultura Italia, Isidore, OpenAgris, PubMed and DBpedia platforms. - DBO@Cloud: A Cloud-based repository presenting 100+ years old collection of Bavarian dialects. - Cloud Access service: Single-job applications and parameter-sweep applications can be run on the DARIAH VO clouds without porting efforts. - Workflow Development service: Complex workflow applications can be developed and run on all the resources of the DARIAH VO. - File transfer service: Enables transferring data from, to and between storage services providing HTTP, HTTPS, SFTP, GSIFTP, SRM, iRODS and S3 protocols. ### Service slide deck https://www.slideshare.net/TheEOSChub-project/dariah-thematic-service
tagline	The DARIAH Science Gateway is a platform that provides access to various digital applications and services for the Arts & Humanities researchers
No.	225
id	readcoop.transkribus
name	Transkribus
provider	readcoop
webpage	http://transkribus.eu/
description	Transkribus is a platform for the digitisation, transcription, recognition and searching of historical documents. Transkribus enables users to train specific neural networks on their documents not only for printed, but also for handwritten documents. Transkribus offers a number of tools for the automated processing of documents, such as: a) Handwritten Text Recognition (HTR), b) Layout Analysis, c) Document Understanding, d) Keyword Spotting, e) Optical Character Recognition (OCR) using ABBYY Finereader Engine 11. All documents in Transkribus are private and not shared publicly. StandardHistorical documents are recognized and made searchable. Allows scholars to transcribe documents in a highly standardized, flexible and reliable way and get support from automated tools such as Handwritten Text Recognition and Layout Analysis. Allows archivists to involve humanities scholars and volunteers in repository building. Allows scientists in the fields of computer vision, document analysis, pattern recognition, natural language, etc. to access reference data in a well-acknowledged format. 300+ data providers (researchers, scholars, archives, libraries), 20.000+ registered users
tagline	Handwritten Text Recognition and Keyword Spotting
No.	226
id	ror-org.identifier
name	Research Organization Registry (ROR) Identifier
provider	ror-org
webpage	https://ror.org
description	The Research Organization Registry is a community-led project to develop an open, sustainable, usable, and unique identifier for every research organization in the world.
tagline	The Research Organization Registry is a community-led project to develop an open, sustainable, usable, and unique identifier for every research organization in the world.
No.	227

id	seadatanet.data_access_portal_cdi
name	SeaDataNet Common Data Index (CDI)
provider	seadatanet
webpage	https://cdi.seadatanet.org
description	The SeaDataNet infrastructure links already more than 100 national oceanographic data centres and marine data centres from 35 countries riparian to all European seas. The data centres manage large sets of marine and ocean data, originating from their own institutes and from other parties in their country, in a variety of data management systems and configurations. A major objective and challenge in SeaDataNet is to provide an integrated and harmonised overview and access to these data resources, using a distributed network approach. This is achieved by developing, implementing and operating the Common Data Index service (CDI) that gives users a highly detailed insight in the availability and geographical spreading of marine data across the different data centres across Europe. The CDI provides an ISO19115 - ISO19139 based index (metadatabase) to individual data sets (such as samples, timeseries, profiles, trajectories, etc) and it provides a unique interface to online data access. Data sets are available in ODV (Ocean Data View) and NetCDF (CF) SeaDataNet formats that can be imported to ODV software, which includes the Data Interpolating Variational Analysis software tool (DIVA). Standard For communities who need to access oceanographic in-situ measurements of high quality in a standardised format More than 110 data providers (linked to more than 600 data originators) and several thousands of data users.
tagline	Access oceanographic in-situ data
No.	228
id	seadatanet.doi_minting_service
name	SeaDataNet DOI minting service
provider	seadatanet
webpage	https://www.seadatanet.org/Software/SEANOE
description	SeaDataNet uses the SEANOE (SEA scieNtific Open data Edition) service to facilitate scientists to publish their research data in the field of marine sciences as citable resources. Each data set published by SEANOE has a DOI. Your data may well be cited in scientific articles in a reliable and sustainable way. SEANOE offers a fast responding service: if your dataset is well described ¹ , you should get a DOI within 24 hours. Data are necessarily published in free access in SEANOE. However you fix by yourself the conditions of use of your data by selecting one of the seven Creative Commons licenses. Note that it is possible to inactivate access to data files for a maximum period of two years, for example to restrict access to data of a publication under scientific review. During the embargo period, the DOI is active and the description page of data (the DOI Landing page) is available freely online. Standard For data scientists and researchers who need to publish a dataset that can be linked to a paper for a scientific journal.
tagline	Publish your marine data and get a DOI
No.	229
id	seadatanet.european_directory_of_marine_environmental_data_edmed
name	SeaDataNet European Directory of Marine Environmental Data (EDMED)
provider	seadatanet
webpage	https://edmed.seadatanet.org/
description	SeaDataNet is a pan-European distributed marine data infrastructure for the management, exchange and re-use of marine and oceanographic data sets. A major objective and challenge in SeaDataNet is to promote discoverability of these data resources in a consistent and comprehensive manner. This is achieved through the SeaDataNet metadata services a set of directories, with associated user interfaces and web services, each governed by a SeaDataNet partner and

	content provided through national SeaDataNet collating nodes. The European Directory of Marine Environmental Data (EDMED) is the SeaDataNet catalogue promoting discoverability of, and access to, marine and oceanographic data sets and collections held within European research organisations. EDMED covers a wide range of disciplines including marine meteorology; physical, chemical and biological oceanography; and marine geology and geophysics. Data sets are described in EDMED irrespective of their format. EDMED utilises a metadata format based upon the ISO 19115 content model. The EDMED Schema and XML coding are supported by URLs and URNs to the SeaDataNet Common Vocabularies. For communities who need to search and access standardised marine data sets and collections More than 110 data providers (linked to more than 600 data originators) and several thousands of data users.
tagline	Discover oceanographic datasets and data collections
No.	230
id	seadatanet.european_directory_of_marine_environmental_research_projects
name	SeaDataNet European Directory of Marine Environmental Research Projects (EDMERP)
provider	seadatanet
webpage	https://edmerp.seadatanet.org/
description	SeaDataNet is a pan-European distributed marine data infrastructure for the management, exchange and re-use of marine and oceanographic data sets. One of the objectives is to provide an overview of marine environmental research projects. This is set up as a directory that is ready for discovery, but also supporting other SeaDataNet metadata directories (e.g CDI datasets information refers to a project in EDMERP to indicate the origine of data). EDMERP covers marine research projects for a wide range of disciplines including marine meteorology; physical, chemical and biological oceanography; sedimentology; marine biology and fisheries; environmental quality; coastal and estuarine studies; marine geology and geophysics etc. Research projects are described as metadata factsheets with their most relevant aspects. The primary objective is to support users in identifying interesting research activities and in connecting them to involved research managers and organisations across Europe. Currently, EDMERP describes around 3.000 research projects from organisations across Europe. EDMERP offers two interfaces, a regular HTML interface for human users and a SPARQL Endpoint for machine applications. For users who want to have access to the main european-scale marine research projects active in the marine research domain.
tagline	Discover marine research projects
No.	231
id	seadatanet.european_directory_of_marine_organisations_edmo
name	SeaDataNet European Directory of Marine Organisations (EDMO)
provider	seadatanet
webpage	https://edmo.seadatanet.org/
description	SeaDataNet is a pan-European distributed marine data infrastructure for the management, exchange and re-use of marine and oceanographic data sets. One of the objectives is to provide an overview of organisations active in the marine domain. This is set up as a directory that is supporting the other metadata directories (e.g CDI datasets information refers to the EDMO directory codes for the originator, dataholder, metadata provide, of the data). EDMO contains up-to-date addresses and activity profiles of research institutes, data holding centres, monitoring agencies, governmental and private organisations, that are in one way or another engaged in oceanographic and marine research activities, data information management and/or data acquisition activities. Currently, EDMO lists and describes more than 4.000 organisations. EDMO offers two interfaces, a regular HTML interface for human users and a SPARQL Endpoint for machine applications. For communities who need to have access to the main organisations ac-

	tive in the marine research domain, and communities that wish to adopt EDMO as a vocabulary/codelist.Used internally in Europe, the SeaDataNet community, as well as outside in Australia (AODN) and USA/Canada.
tagline	Discover marine organisations
No.	232
id	seadatanet.european_directory_of_the_cruise_summary_reports_csr
name	SeaDataNet European Directory of the Cruise Summary Reports (CSR)
provider	seadatanet
webpage	http://seadata.bsh.de/Cgi-csr/retrieve_sdn2/start_sdn2.pl
description	SeaDataNet is a pan-European distributed marine data infrastructure for the management, exchange and re-use of marine and oceanographic data sets and collections. A major objective and challenge in SeaDataNet is to promote discoverability of these data resources in a consistent and comprehensive manner. This is achieved through the SeaDataNet metadata services a set of directories, with associated user interfaces and web services, each governed by a SeaDataNet partner and content provided through national SeaDataNet collating nodes. The European Directory of Cruise Summary Reports (CSR) is the SeaDataNet catalogue promoting discoverability of, and access to, reports of the research oceanographic cruises operated by European countries. CSR utilises a metadata format based upon the ISO 19119 content model. The CSR Schema and XML coding are supported by URLs and URNs to the SeaDataNet Common Vocabularies.Find an existing cruise, see if cruises exist in your area of interestChief scientists of Research cruises, Oceanographers, researchers, ship owners, public authorities
tagline	Discover research oceanographic cruises
No.	233
id	seadatanet.european_directory_of_the_initial_ocean-observing_systems_edios
name	SeaDataNet European Directory of the Initial Ocean-Observing Systems (EDIOS)
provider	seadatanet
webpage	http://seadatanet.maris2.nl/v_edios_v2/search.asp
description	SeaDataNet is a pan-European distributed marine data infrastructure for the management, exchange and re-use of marine and oceanographic data sets and collections. A major objective and challenge in SeaDataNet is to promote discoverability of these data resources in a consistent and comprehensive manner. This is achieved through the SeaDataNet metadata services a set of directories, with associated user interfaces and web services, each governed by a SeaDataNet partner and content provided through national SeaDataNet collating nodes. The European Directory of Ocean-Observing Systems (EDIOS) is the SeaDataNet catalogue promoting discoverability of, and access to, ocean measuring and monitoring systems operated by European countries. EDIOS is an initiative of the European Global Ocean Observing System (EuroGOOS) and helps to maintain visibility of continuously available data sets for operational modelling purposes and supports implementation of the European Unions Marine Strategy Framework Directive (MSFD). EDIOS presents users with three main tiers of information: monitoring i) programmes, ii) platforms and iii) series/stations. The catalogue utilises a metadata format based upon the ISO 19115 content model. The EDIOS Schema and XML coding are supported by URLs and URNs to the SeaDataNet Common Vocabularies.For communities who need information about marine monitoring initiatives operated by European countriesMore than 110 data providers (linked to more than 600 data originators) and several thousands of data users
tagline	Discover ocean measuring and monitoring systems
No.	234
id	seadatanet.vocabulary_services_-_underpinned_by_the_nerc_vocabulary_server_nvs
name	SeaDataNet Vocabulary Services - underpinned by the NERC Vocabulary Server (NVS).
provider	seadatanet

webpage	https://www.seadatanet.org/Standards/Common-Vocabularies
description	SeaDataNet is a pan-European distributed marine data infrastructure for the management, exchange and re-use of marine and oceanographic data sets. A major objective and challenge in SeaDataNet is to promote standardisation and interoperability of these data (and associated metadata) resources. This is achieved through adoption of SeaDataNet Common Vocabularies lists of standardised controlled terms covering a broad spectrum of disciplines of relevance to the oceanographic and wider community. Use of these terms to markup data and metadata helps to remove ambiguity and promotes machine-machine information exchange. The technical infrastructure for SeaDataNet Common Vocabularies is provided by the NERC Vocabulary Server (NVS), supported by NVS Vocabulary Services. Common vocabularies are made available as web services (RESTful, SOAP and SPARQL endpoint) and are machine and human readable. Content governance of SeaDataNet Common Vocabularies is a collaborative effort drawing in domain expertise from the global community. For communities who need to disseminate interoperable data and metadata assets
tagline	Standardised markup of data and metadata sets through governed common vocabularies
No.	235
id	sinergise.sentinel_hub
name	Sentinel Hub
provider	sinergise
webpage	http://sentinel-hub.com/
description	Sentinel Hub is a multi- spectral and multi-temporal big data satellite imagery service, capable of fully automated archiving, real-time processing and distribution of remote sensing data and related EO products. Users can use OGC compliant and proprietary APIs to retrieve satellite data over their AOI and specific time range from full archives in a matter of seconds. Sentinel Hub received Copernicus Masters Award 2016.
tagline	Seamless access to global archives of Sentinel, Landsat, MODIS, Envisat and other satellite missions.
No.	236
id	sixsq.nuvla_multi-cloud_application_management_platform
name	Nuvla Multi-cloud Application Management Platform
provider	sixsq
webpage	https://sixsq.com/nuvla
description	Nuvla is a multi-cloud application management platform which supports DevOps and Big Data. It is powered by the SixSq SlipStream software and essentially constitutes a self-provisioning and a smart cloud brokerage service providing cost effective access to a wide range of cloud services (IaaS). Nuvla automates the full application management lifecycle, including the deployment, testing, certification and optimization of the application, within cloud infrastructures. Its application deployment automation capabilities work for new and legacy applications alike. Furthermore, Nuvla delivers a high level of automation that can provide substantial return on investment within a single Quarter when targeting legacy applications. Last but not least, Nuvla ensures that its customers are truly cloud neutral, giving them the ability to switch cloud providers effortlessly, eliminating lock-in. Nuvla is a multi-cloud application management platform which supports DevOps and Big Data. It is powered by the SixSq SlipStream software and essentially constitutes a self-provisioning and a smart cloud brokerage service providing cost effective access to a wide range of cloud services (IaaS). Nuvla automates the full application management lifecycle, including the deployment, testing, certification and optimization of the application, within cloud infrastructures. Its application deployment automation capabilities work for new and legacy applications alike. Furthermore, Nuvla delivers a high level of automation that can provide substantial return on investment within a single Quarter when targeting legacy applications. Last but not least, Nuvla ensures that its customers are truly cloud neutral, giving them

	<p>the ability to switch cloud providers effortlessly, eliminating lock-in. Nuvla offers the following benefits: a) All clouds to choose from under a single contract, as opposed to having to negotiate and sign contracts with individual cloud providers to try; single bill, as opposed to having to consolidate and aggregate bills from different providers, each with a different structure and pricing policy; single dashboard, as opposed to having to monitor usage and costs from different dashboards, display logic and information presentation, b) Improved governance and quality control, eliminating shadow-IT and reclaiming infrastructure control, maintaining sound governance without compromising on security, c) Automated deployment, considerably reducing engineering time & costs, increasing development and deployment velocity and quality, making application deployments less error-prone and much more repeatable, enabling more frequent software releases, meaning shorter time-to-market and lower overhead. Global, including customers such as: Schröder, NSL, CGI, THALES Alenia Space, Terma, SciSys Group, Interoute, French Institute of Bioinformatics (IFB), National Institute of Nuclear Physics - INFN, The European Space Agency (ESA), The European Broadcasting Union, Citrix Systems Inc., and Atos.</p>
tagline	Multi-cloud/edge/hybrid management platform operated by SixSq to reduce costs and improve efficiency
No.	237
id	smartsmeat.new_particle_formation_event_analysis
name	New Particle Formation Event Analysis
provider	smartsmeat
webpage	https://services.d4science.org/web/particleformation/
description	The VRE supports new particle formation event analysis on interoperable e-Infrastructures. It provides access to Jupyter notebooks to classify events and process information about them. It integrates the SMEAR Research Infrastructure (provider of primary data) and uses EGI and D4Science services to support primary data interpretation and the cataloging of data derived in analysis. Access to the VRE requires a D4Science account.
tagline	D4Science Service
No.	238
id	sstir.public_rd_resource_graph_of_AI_in_Shanghai
name	Public R & D Resource Graph of Artificial Intelligence in Shanghai
provider	sstir
webpage	http://knowledgegraph.sstir.cn
description	<p>### Compass for Artificial Intelligence Research Public R & D Resource Graph of Artificial Intelligence in Shanghai, which is launched by Shanghai Science and Technology Innovation Resources Center, is a scientific research resource portal based on the theme of AI. It can be divided into two parts, one-stop search based on knowledge graph and visual data analysis. One-stop search includes search results pages of scientific literature, knowledge graphs, relevant recommendations and details of experts' scientific research ability. Visual data analysis includes the development trend analysis of papers, patents, projects, experts, investments and enterprises. All the information is based on the data from government, international cooperated partners such as Elsevier, and SSTIR's own database whose data also supports consultancy reports for government annually. The service is for communities who are looking for AI research resources in Yangtze River Delta Area in China or any researchers who interesting in general situation of AI talents, papers, patents, projects, experts, investments and enterprises in China. ### Features: When users search terms such as expert names and topic keywords, all scientific research information of the term will be displayed, including experts' scientific research ability, related articles, experts in the same field, recommendation of related subjects words, etc. The details page of experts' scientific research ability shows the resume and published articles of an expert in the field of artificial intelligence. On the page of knowledge graph, users can view more information related to the search term, including subject areas, experts and scientific research institutions.</p>

	Different colors represent different subject areas and different ball sizes represent different associations with the keyword. Users can also view visual reports on the topic of artificial intelligence, including seven aspects: experts, articles, projects, patents, investments, technology and business transactions. It shows the development status and historical trend of artificial intelligence and each sub field from multiple perspectives. ### Uses cases: Search which experts and institutions are related to the concept "Neural Networks". Search the academic scientific research ability of an expert, including the amount of papers that are issued and cited. Search the development trend of artificial intelligence's patents in its sub field in the past three years.
tagline	Compass for Artificial Intelligence Research
No.	239
id	suite5.furniture_enterprise_analytics
name	DataFurn - Furniture Enterprise Analytics
provider	suite5
webpage	http://datafurn.s5labs.eu/
description	DataFurn collects, analyzes and visualizes online content (e.g. from social media platforms, blogs), detects useful product-related content, extracts relevant furniture product-service topics/features, monitors brand influence and customer interactions and forecasts furniture trends for the upcoming seasons. "DataFurn assists furniture manufacturers in making sense of the tremendous data overflow in selected social networks. DataFurn stands out in relation to the generic social media analytics platforms by providing intuitive dashboards that have been already created and curated by furniture domain experts. In this way, DataFurn reduces the necessary effort and time to entry (for setting up, understanding and maintaining the relevant reports of interest). Through a pay-as-you-go business model, SMEs can benefit from an intuitive and user-friendly (not requiring any technical background) dashboard that acts as a decision support system (e.g. by allowing for different comparisons in time and in content, better understanding how the discussions and weak signals from other neighbouring domains influence the furniture domain). "
tagline	DataFurn, a Furniture Enterprise Analytics Platform-as-a-Service, helps furniture manufacturers to leverage untapped social information and transform it into actionable knowledge.
No.	240
id	switch.switchengines
name	SWITCHengines
provider	switch
webpage	https://www.switch.ch/engines/
description	SWITCHengines is a user-friendly, reliable and trustworthy Academic Community Cloudservice (IaaS) located 100% in Switzerland. SWITCHengines provides compute and storage services in the form of virtual machines to researchers, lecturers and IT-services of Swiss and European universities and related institutions. The service options are based on the usage amount and duration. The basis are the Academic Tarif as well as the Service Description documents. Swiss based solution; agile & scalable; Data at SWITCH; Various Storage Options; Customized Billing; Professional Support Several 1000 users in the academic and research space
tagline	SWITCHengines - for bigger data and faster research
No.	241
id	terrადue.eo_services_for_earthquake_response_and_landslides_analysis
name	GEP - EO Services for Earthquake Response and Landslides Analysis
provider	terrადue
webpage	https://geohazards-tep.eu/
description	This is a Thematic Application of the Geohazards Thematic Exploitation Platform providing access to a set of on-demand terrain motion services supporting interferogram generation, co-

	seismic displacement mapping, landslide rapid mapping and landslide displacement field monitoring with Sentinel-1 and Sentinel-2 data.
tagline	On-demand EO processing services for Earthquake Response and Landslides Analysis.
No.	242
id	terrადue.high-resolution_change_monitoring_for_the_alpine_region
name	GEP - High-Resolution Change Monitoring for the Alpine Region
provider	terrადue
webpage	https://geohazards-tep.eu/
description	This service provides an interferometric product at 50m resolution and 25m pixel spacing systematically for every 6-day Sentinel-1 SLC pair over the Alpine Region. It allows rapid response to earthquakes occurring within the processing mask by automatic generation of co-seismic interferograms that are published in a dedicated GeoBrowser and made available for visualization and download.
tagline	Continuous systematic interferogram generation with Sentinel-1 data over the Alpine Region.
No.	243
id	t-systems.open_telekom_cloud
name	Open Telekom Cloud
provider	t-systems
webpage	https://open-telekom-cloud.com/en
description	Highly scalable public cloud services based on OpenStack, with granular services for compute, storage, connectivity network, security management, databases, data analysis, PaaS and SaaS functions. Enterprise agreements for services with extended support and committed SLAs in silver, gold and platinum options. On-demand processing and storage capacity, various service payment models including pay-as-you-go and alternative discount models. Maximum security and favorable prices; an Infrastructure as a Service solution that couples the highest level of security with competitive pricing. Scalable cloud resources; a platform that offers scalable compute and storage resources without the contractual obligations. No vendor lock-in; built upon Open Stack you have the ability to port workloads in and out of the cloud with no vendor lock-in, delivering the flexibility your business needs. Instant provisioning of servers and storage; order, configure and deploy your infrastructure in minutes with our simple and intuitive online console. Manage your resources online and integrate them with your existing environments via a comprehensive set of APIs. Flexible CPU, RAM, Storage & Networking Options; optimize the hardware and network configuration for your application, define the auto-scaling rules to ensure performance and enjoy peace of mind with the remote monitoring & alerts. More than 1400 customers in Europe since launch in 2016. Reference customers e.g.: AdaptVis (Visualization from the Cloud), Baumüller (Maintenance), TeleClinic (Medical consultations), Creatieve Koppen (Innovations from the public cloud), Implisense GmbH (Smart infrastructure), Coachimo (Coaching from the cloud), Fuse-AI (Cancer detections), etc.
tagline	Simple, secure and affordable European alternative public cloud, based on OpenStack
No.	244
id	ubora.ubora_e-platform
name	UBORA e-platform
provider	ubora
webpage	https://platform.ubora-biomedical.org
description	UBORA is an e-platform for co-developing and sharing open source medical devices (OSMDs) underpinned by an innovative design and teaching methodology which prioritises safety and compliance to the European Medical Device Regulation (EU MDR 2017/745). Both a teaching and a design environment, UBORA promotes and sustains the development of open source

	medical devices, providing users a structured framework for the identification of clinical needs, risk class, relevant standards, management of computer-aided modelling files, and preparation of the pre-production device dossier. Each stage is vetted and monitored by experts to ensure that safety criteria are met during the design process. Standard Co-design and share open source medical devices compliant with relevant standards and EU Medical Device Regulation 500+ users and 200+ running projects of medical devices.
tagline	Open Biomedical Engineering e-platform for innovation through education
No.	245
id	ugr-es.glacier_lagoons_of_sierra_nevada
name	Lagunas de Sierra Nevada / Glacier Lagoons of Sierra Nevada
provider	ugr-es
webpage	https://lagunasdesierranevada.es
description	This Service is the end result of a Citizen Science Campaign ('74 high mountain glacier oasis') created and coordinated by the Department of Ecology of the University of Granada with the collaboration of the Sierra Nevada National Park, the Global Change Observatory of Sierra Nevada. Its major scope is to involve society in the investigation and protection of the high mountain sites of Sierra Nevada. The potential users of this service are mountaineers and citizens with a general interest in nature preservation. With their voluntarily participation, we seek to enlarge the historical record of lagoon photographs and share all the scientific and practical information about the conservation, science and practices around these vulnerable ecosystems. Through this interactive platform, internet users will be able to: <ul style="list-style-type: none"> • Interact with the scientific teams that carry out their research in these ecosystems • Share and visualize the historical record of photographs • Access to all scientific and information related to Sierra Nevada lagoons • Participate in the activities, courses and visits organized for the protection of these sites.
tagline	Science and conservation of glacier lagoons
No.	246
id	uio-no.tsd
name	TSD
provider	uio
webpage	https://www.uio.no/english/services/it/research/sensitive-data/
description	This service provides researchers with a desktop with secure storage and software to run your collection and analysis of sensitive data. The system is built on the idea that having a robust firewall around a system that provides a full separation of projects, is the best policy. A two-step authentication is needed to gain access to the system. Inside the system, every project has its own VLAN and its own virtual file system. This means that projects cannot find any information about any other project on the system.
tagline	Services for sensitive data
No.	247
id	ukaea.prominence
name	PROMINENCE
provider	ukaea
webpage	https://alahiff.github.io/prominence/
description	PROMINENCE is a platform which allows users to exploit idle cloud resources for running scientific workloads with a simple batch system style interface. Key features include: <ul style="list-style-type: none"> - Jobs can be submitted from anywhere using any OS and any language. - All jobs are run in containers to ensure they will can run reliably anywhere and are reproducible. - Multi-node OpenMPI jobs can be run in addition to HTC jobs. - On-premises resources can be utilised with the ability to

	burst onto external clouds at times of peak demand. - Goes beyond bursting onto a single external cloud with hierarchical cloud bursting. For example, burst onto national research clouds, to EGI FedCloud and finally to public clouds. - All infrastructure provisioning is handled completely automatically and is totally transparent to the user. - Clouds are selected automatically based on job requirements and preferences, and any failures are handled automatically. - Output data can be accessed from cloud-based object storage.
tagline	Enabling HTC & HPC applications opportunistically across private, academic and public clouds
No.	248
id	unifl.snap4city
name	Snap4City
provider	unifl
webpage	https://www.snap4city.org
description	Snap4City (https://www.snap4city.org) provides a flexible method and solution to quickly create a large range of smart city applications exploiting heterogeneous data, performing data analytics, and enabling services for stakeholders by IOT/IOE, data analytics and big data technologies. Snap4City applications may exploit multiple paradigms as data driven, stream and batch processing, putting co-creation tools in the hands of: (i) Smart Living Lab users and developers a plethora of solutions to develop applications without vendor lock-in nor technology lock-in, (ii) final users customizable / flexible mobile Apps and tools, (iii) city operators and decision makers specialized / sophisticated city dashboards and IOT/IOE applications for city status monitoring, control and decision support. Snap4City is for organizations/communities interested in Smart City and IOT, which would like to perform experiments on smart city data, that can upload or reuse from those available, for research purpose and validation. Features for the organizations that subscribe the service will have a number of users to: Access at large collection of data coming from different cities. * Exploit a set of tools for uploading and integrating new data, and performing data analytic. * Comparing results obtained with those of different cities. * Sharing data transformation and data analytics with other users in the same or different organizations. * Access to a large set of training test cases, tutorial, video and examples. * Search and discovering smart city data on the basis of entity relationships, temporal and spatial, semantic search. * Access to Advanced Smart city API, also in the form of MicroServices in Node-RED. * Control entity type access with GDPR compliant mechanisms. * Upload on the system new data sets up to 30Gbyte. * Authorize a number of final users for the organization.
tagline	Smart City IOT as a Service, SClaaS
No.	249
id	uni-freiburg.european_galaxy_server
name	European Galaxy Server
provider	uni-freiburg
webpage	https://usegalaxy.eu/
description	The European Galaxy server (https://usegalaxy.eu/) in an open, web-based platform for data intensive research and provides access to: 1. compute and storage resources without any charge 2. more than 2000 different, well-documented and constantly maintained scientific tools 3. Training material for omics, cheminformatics, machine learning and much more 4. Training Infrastructure as a Service (https://galaxyproject.eu/tiaas) 5. 250 GB per user (500 GB for ELIXIR members) When this effort is combined with our community-maintained workflows and our in-depth training material, it makes up for a truly productive work experience. We believe in enabling everyone to perform reproducible and transparent science. The European Galaxy project is a joint effort of multiple countries and hundreds of contributors. The benefit to a customer and their users delivered by a service; benefits are usually related to alleviating pains (e.g., eliminating undesired outcomes, obstacles or risks) or producing gains (e.g. increased performance, social gains, positive emotions or cost saving)

tagline	Open, reproducible, web-based platform for data intensive research.
No.	250
id	unitartu.ut.rocket
name	UT Rocket
provider	unitartu
webpage	https://dellingr.neic.no/offerings/
description	Rocket cluster is a general purpose HPC cluster under SLURM management. The main part of the Rocket cluster consists of 135 compute nodes, two compute nodes with GPUs and a head-node. In addition to these nodes, there is a large memory machine with 2TB of RAM and two GPFS filesystem servers, which will provide fast storage for the entire cluster. All the machines mentioned above are connected to a fast Infiniband 4X QDR fabric.
tagline	General purpose HPC cluster in UT HPCC.
No.	251
id	upv-es.lemonade
name	LEMONADE - Live Exploration and Mining Of a Non-trivial Amount of Data from Everywhere
provider	upv-es
webpage	https://www.eubra-bigsea.eu/portfolio/lemonade-live-exploration-and-mining-non-trivial-amount-data-everywhere
description	Data analytics is a concept related to pattern and relevant knowledge discovery from large amounts of data, as well as building predictive and prescriptive models. In general, the task is complex and demands knowledge in very specific areas, such as massive data processing and parallel programming languages. However, analysts are usually not versed in Computer Science, but in the original data domain. In order to support them in such analysis, we present Lemonade - Live Exploration and Mining Of a Non-trivial Amount of Data from Everywhere - A Platform for visual creation and execution of data analysis workflow. LEMONADE is open source and provides components for Creating Processing Workflows; Importing, Exporting or Managing Datasets; Run those Workflows; and Visualize Data. LEMONADE can be downloaded and deployed locally or use the running instance provided with the service. LEMONADE can use as back-end Mesos, Spark and Kubernetes clusters, which could be provisioned elsewhere.
tagline	Visual Data Analytics Tool
No.	252
id	vamdc.portal
name	VAMDC Portal
provider	vamdc
webpage	https://portal.vamdc.eu/vamdc_portal
description	VAMDC aims to be an interoperable e-infrastructure that provides the international research community with access to a broad range of atomic and molecular (A&M) data compiled within a set of A&M databases accessible through the provision of this portal. It is a unified interface to query multiple databases simultaneously thanks to standardized request language and data format. This service provides a way to query many atomic and molecular services simultaneously. Moreover, as the results share the same data format, it makes it easier to cross-match the results.
tagline	A centralized query interface for the whole VAMDC infrastructure
No.	253
id	vamdc.query_store
name	VAMDC Query Store
provider	vamdc

webpage	https://cite.vamdc.eu
description	All the queries served by the VAMDC infrastructure are stored into the Query-Store, a service built by implementing both RDA data-citation recommendation, and the RDA-Scolix. The Query-Store gathers all the queries of VAMDC, together with the produced results and relevant bibliographic information. This service succeeded in removing the technical barriers linked with the automatic data-citation and with the delegation of credits for VAMDC-extracted data.: scientists may extract data from VAMDC, assign a DOI to those Data and cite them in publication through this DOI. The data-authors will receive automatically bibliographic credits via Scholix. Other Research Infrastructure may commission VAMDC for porting our solution to their particular use case. The adopted approach is transdisciplinary and may be adopted by other E-infrastructure, ESFRI or ERICs. No kind of limitation
tagline	Quickly cite your data in scientific papers
No.	254
id	vamdc.species_database
name	VAMDC Species Database
provider	vamdc
webpage	https://species.vamdc.eu/
description	This service is a website providing the list of all the chemical species available in the VAMDC architecture. By using a graphical user interface, it is possible to know in which database one can expect to find data related to a given species. The service also provides a REST API to query it without using the interface and a full export of its content into a single xls file
tagline	Discover where to look for data for chemical species
No.	255
id	vilnius-university.the_national_open_access_research_data_archive_midias
name	The National Open Access Research Data Archive (MIDAS)
provider	vilnius-university
webpage	https://www.midias.lt/public-app.html#/midias?lang=en
description	The aim of MIDAS is to collect, process, store and analyse scientific research data and other relevant information in all subject areas enabling free, easy and convenient access to it via the Internet for any user without infringing copyright and intellectual property rights. MIDAS archive site consists of: a) MIDAS Research space dedicated only to registered users of MIDAS (each registered user is provided with 100 GB of free online space for research data storage. Registration takes place through the e-government portal or by invitation). b) MIDAS Portal provides one-stop access to archive materials for everyone interested in accessing and reviewing the published research data and their metadata. MIDAS provides virtual services for researchers and others participating in the education process that lead to a more effective and higher-quality research. Information infrastructure tools developed and implemented in MIDAS ensure the effective flow of scholarly communication as well as easy research data sharing both nationally and globally. The project is led by Vilnius University in collaboration with Vilnius University Hospital and thirteen science, study and medical institutions. The project is funded by EU structural funds and the national budget of Lithuania.
tagline	Manage Your Research Data in a Safe Data Repository
No.	256
id	vi-seem.clowder
name	V-SEEM CLOWDER
provider	vi-seem
webpage	http://dchrepo.vi-seem.eu

description	Clowder is a research data management system designed to support any data format and multiple research domains. It contains three major extension points: preprocessing, processing and previewing. When new data is added to the system, whether it is via the web front-end, or through the RESTful web services, preprocessing is off-loaded to extraction services for extracting appropriate data and metadata. The extraction services attempt to extract information and run preprocessing steps based on the type of the data, for example to create previews. This raw metadata is presented to the user in the Clowder web interface. Free for registered users. Access given through the VI-SEEM open calls Easy preprocessing, processing, storage and visualisation of Digital Cultural Heritage data sets. 20+ users from the VI-SEEM DCH community
tagline	Preprocess, process and visualise data from any domain in extensible and accessible manner.
No.	257
id	west-life.3dbionotes
name	3DBIONOTES
provider	west-life
webpage	http://3dbionotes.cnb.csic.es/ws
description	Web based application designed to integrate protein structure, protein sequence and protein annotations in a unique graphical environment. The current version of the application offers a unified, enriched and interactive view of EMDB volumes, PDB structures and Uniprot sequences where the protein annotations stored in Uniprot, Immune Epitope DB, Phospho Site Plus, BioMuta and dSysMap can be explored interactively at sequence and structural level.
tagline	-
No.	258
id	west-life.amber
name	AMBER
provider	west-life
webpage	http://ambermd.org/
description	The Assisted Model Building with Energy Refinement tool refers to two things: a set of molecular mechanical force fields for the simulation of biomolecules (which are in the public domain, and are used in a variety of simulation programs); and a package of molecular simulation programs which includes source code and demos.
tagline	-
No.	259
id	west-life.arp_warp
name	ARP wARP
provider	west-life
webpage	http://www.embl-hamburg.de/ARP/
description	A program for building macromolecular models from crystallographic data. It builds proteins, RNA/DNA, secondary structure, side chains, loops, solvent and ligands
tagline	-
No.	260
id	west-life.auto-rickshaw
name	Auto-Rickshaw
provider	west-life
webpage	https://www.embl-hamburg.de/Auto-Rickshaw/
description	Automated crystal structure determination platform
tagline	-

No.	261
id	west-life.cs-rosetta3
name	CS-ROSETTA3
provider	west-life
webpage	http://haddock.science.uu.nl/enmr/services/CS-ROSETTA3/
description	Protocol which generates 3D models of proteins, using only the 13CA, 13CB, 13C#, 15N, 1HA and 1HN NMR chemical shifts as input. This service is now operating under EOSC-Hub.
tagline	-
No.	262
id	west-life.dipcheck
name	Dipcheck
provider	west-life
webpage	http://cluster.embl-hamburg.de/cgi-bin/dipcheck/dipcheck.cgi
description	DipCheck is a validation tool for the evaluation of protein backbone geometry, developed by Joana Pereira and Victor Lamzin at the EMBL Hamburg. The tool uses a Euclidian 3D space (Dip-Space) of the orthogonal descriptors of the geometry of a 5-atom dipeptide unit: CAi-1-Oi-1-CAi-Oi-CAi+1. The DipSpace database contains 1, 024, 000 data points derived from well-refined structures deposited in the PDB.
tagline	-
No.	263
id	west-life.disvis_web_portal
name	DisVis web portal
provider	west-life
webpage	https://milou.science.uu.nl/services/DISVIS
description	This is now operating under EOSC-Hub.
tagline	Visualisation of interaction space between two molecules
No.	264
id	west-life.fanten
name	Finding Anisotropy Tensor
provider	west-life
webpage	http://abs.cerm.unifi.it:8080/
description	FANTEN (Finding Anisotropy TENSOR) is a new user-friendly web tool for the determination of the anisotropy tensors related to PCSs (pseudo-contact shifts) and RDCs (residual dipolar couplings). This service is now operating under EOSC-Hub.
tagline	-
No.	265
id	west-life.haddock_web_portal
name	HADDOCK Web Portal
provider	west-life
webpage	https://haddock.science.uu.nl/services/HADDOCK2.2
description	HADDOCK (High Ambiguity Driven protein-protein DOCKing) is an information-driven flexible docking approach for the modeling of biomolecular complexes. HADDOCK distinguishes itself from ab-initio docking methods in the fact that it encodes information from identified or predicted protein interfaces in ambiguous interaction restraints (AIRs) to drive the docking process. HADDOCK can deal with a large class of modeling problems including protein-protein, protein-

	nucleic acids and protein-ligand complexes. More information about HADDOCK2.2 can be found on the HADDOCK2.2 website (http://bonvinlab.org/software/haddock2.2). This service is now operating under EOSC-Hub.
tagline	3D prediction of biomolecular complexes
No.	266
id	west-life.metalpdb
name	MetalPDB
provider	west-life
webpage	http://metalweb.cerm.unifi.it/
description	Knowledge on metal sites in biological macromolecules, built on structural information in the Protein Data Bank (PDB).
tagline	-
No.	267
id	west-life.pdb_redo_server
name	PDB_REDO server
provider	west-life
webpage	http://xtal.nki.nl/pdb_redo
description	The PDB_REDO web server allows users to optimise their crystallographic structure model in an automated way. The model is refined and rebuilt in the context of the experimental data. The server returns a new structure model, new electron density maps, validation data, a script to visualise model changes in COOT, and a settings file for further model refinement in REFMAC.
tagline	-
No.	268
id	west-life.powerfit_web_portal
name	PowerFit web portal
provider	west-life
webpage	http://milou.science.uu.nl/services/POWERFIT
description	PowerFit automatically fits high-resolution atomic structures into cryo-EM densities. To this end it performs a full-exhaustive 6-dimensional cross-correlation search between the atomic structure and the density. It takes as input an atomic structure in PDB-format and a cryo-EM density with its resolution; and outputs positions and rotations of the atomic structure corresponding to high correlation values. PowerFit uses the local cross-correlation function as its base score. The score can optionally be enhanced by a Laplace pre-filter and/or a core-weighted version to minimize overlapping densities from neighboring subunits. This is now operating under EOSC-Hub. Protein structure analysis
tagline	Fit an atomic model with a electron density map.
No.	269
id	west-life.protein_crystallisation_construct_designer
name	Protein Crystallisation Construct Designer
provider	west-life
webpage	http://xtal.nki.nl/ccd
description	The Protein Crystallisation Construct Designer (ProteinCCD) is a tool to help to choose promising constructs for protein expression and crystallisation. A specific feature of CCD is that since it starts from the DNA sequence, it keeps track of the protein-DNA relationship. Thus, although all the analysis and construct choice is being done in the protein level, CCD can be used to suggest primers for PCR amplification of the chosen constructs, since it also knows the DNA sequence.

tagline	-
No.	270
id	west-life.scipion
name	Scipion
provider	west-life
webpage	http://scipion.cnb.csic.es/
description	A software framework for integrating several 3DEM software packages through a workflow-based approach. Scipion allows the execution of reusable, standardized, traceable and reproducible image-processing protocols. These protocols incorporate tools from different programs while providing full interoperability among them. Scipion is an open-source project that can be downloaded from http://scipion.cnb.csic.es .
tagline	-
No.	271
id	west-life.spoton
name	SpotOn
provider	west-life
webpage	http://milou.science.uu.nl/cgi/enmr/services/SPOTON/spoton/
description	Determination of Hot-Spots at protein-protein interfaces SpotOn is a robust algorithm developed to identify and classify the interfacial residues as Hot-Spots (HS) and Null-Spots (NS) with a final accuracy of 0.95 and a sensitivity of 0.95 on an independent test set This service is now operating under EOSC-Hub.
tagline	-
No.	272
id	west-life.virtual_folder_for_structural_biology_projects
name	Virtual Folder for Structural Biology Projects
provider	west-life
webpage	https://appdb.egi.eu/store/vappliance/d6.1.virtualfoldervm/
description	It provides internal file repository with limited scratch disc space available within virtual machine and accessible via WEBDAV protocol. The internal file repository can be used by installed application to execute processing tasks etc. It provides integration of external file repositories specific to user/group. Currently user specific EUDAT (B2DROP) can be mounted and data processed.
tagline	-