

National Initiatives for Open Science in Europe

National Dissemination Event

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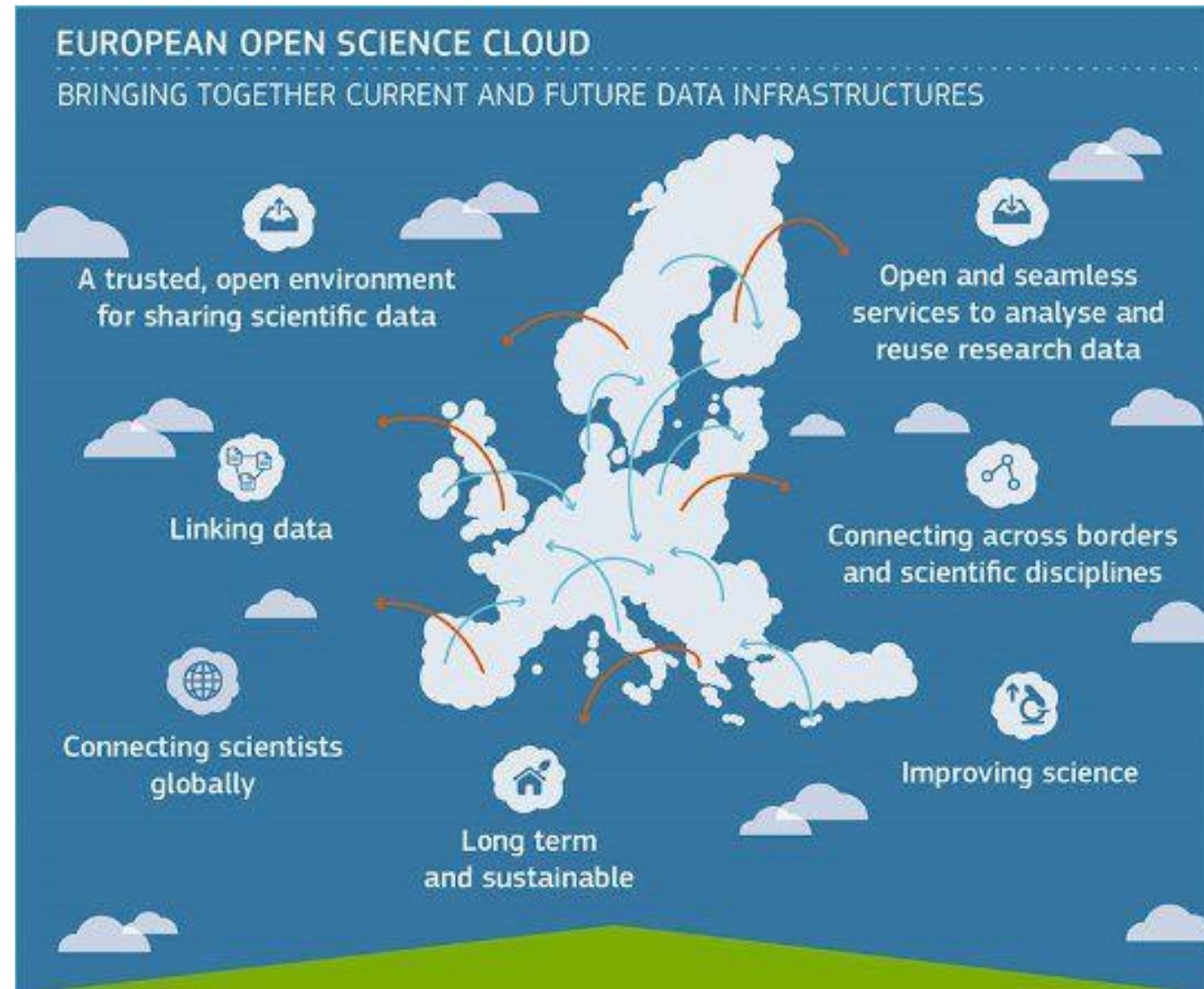
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- ❑ The role of the EOSC is to ensure that European scientists will receive the full benefits of data-driven science, by offering:
- ❑ “1.7 million European researchers and 70 million professionals in science and technology a virtual environment with free at the point of use, open and seamless services for storage, management, analysis and re-use of research data, across borders and scientific disciplines”

2016 Communication on the “European Cloud Initiative”

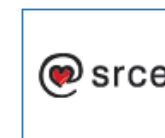


- ❑ Name: National Initiatives for Open Science in Europe (NI4OS-Europe)
- ❑ Horizon 2020 call: INFRAEOSC-05 (b) Coordination of EOSC-relevant national initiatives across Europe and support to prospective EOSC service providers - Research and Innovation Actions
- ❑ Duration: 01/09/2019-31/08/2022 (36 Months) + 6 Months
- ❑ Amount of EC funding 5,599,475 Euro
- ❑ 22 Partners from 15 countries



Partnership

1	National Infrastructures for Research and Technology SA	GRNET	Greece
2	Athena Research & Innovation Center	ATHENA	Greece
3	The Cyprus Institute	CYI	Cyprus
4	University of Cyprus	UCY	Cyprus
5	Institute of Information and Communication Technologies	IICT	Bulgaria
6	SRCE - University of Zagreb, University Computing Centre	SRCE	Croatia
7	Ruđer Bošković Institute	RBI	Croatia
8	Governmental Agency for IT Development	KIFU	Hungary
9	University of Debrecen	UD	Hungary
10	National Institute for Research and Development	ICI	Romania
11	Executive Agency for Higher Education, Research, Development and Innovation Funding	UEFISCDI	Romania
12	Academic and Research Network of Slovenia	ARNES	Slovenia
13	University of Maribor Library	UMUKM	Slovenia
14	Institute of Physics Belgrade	IPB	Serbia
15	University of Belgrade	UOB	Serbia
16	Albanian Academic Network - Interinstitutional ICT Research Centre	RASH	Albania
17	University of Banja Luka	UNI BL	Bosnia-Herzegovina
18	Ss. Cyril and Methodius University in Skopje	UKIM	Northern Macedonia
19	University of Montenegro, Faculty of Electrical Engineering	UOM	Montenegro
20	Research and Educational Networking Association of Moldova	RENAM	Republic of Moldova
21	Institute for Informatics and Automation of the Academy of Sciences of Armenia	IIAP	Armenia
22	Georgian Research and Educational Networking Association	GRENA	Georgia





Support the **development and inclusion** of the national Open Science Cloud initiatives in 15 Member States and Associated Countries in the overall scheme of EOSC governance



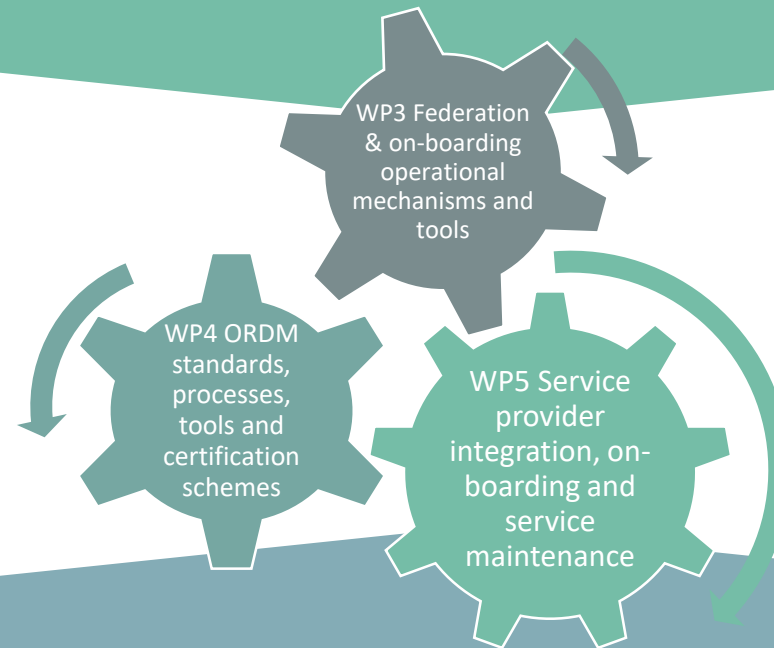
Spread the **EOSC and FAIR principles** in the community and train it



Provide technical and policy support in on-boarding of the existing and future service providers into EOSC

WP1 Management

WP2 EOOSC national initiatives and policy support



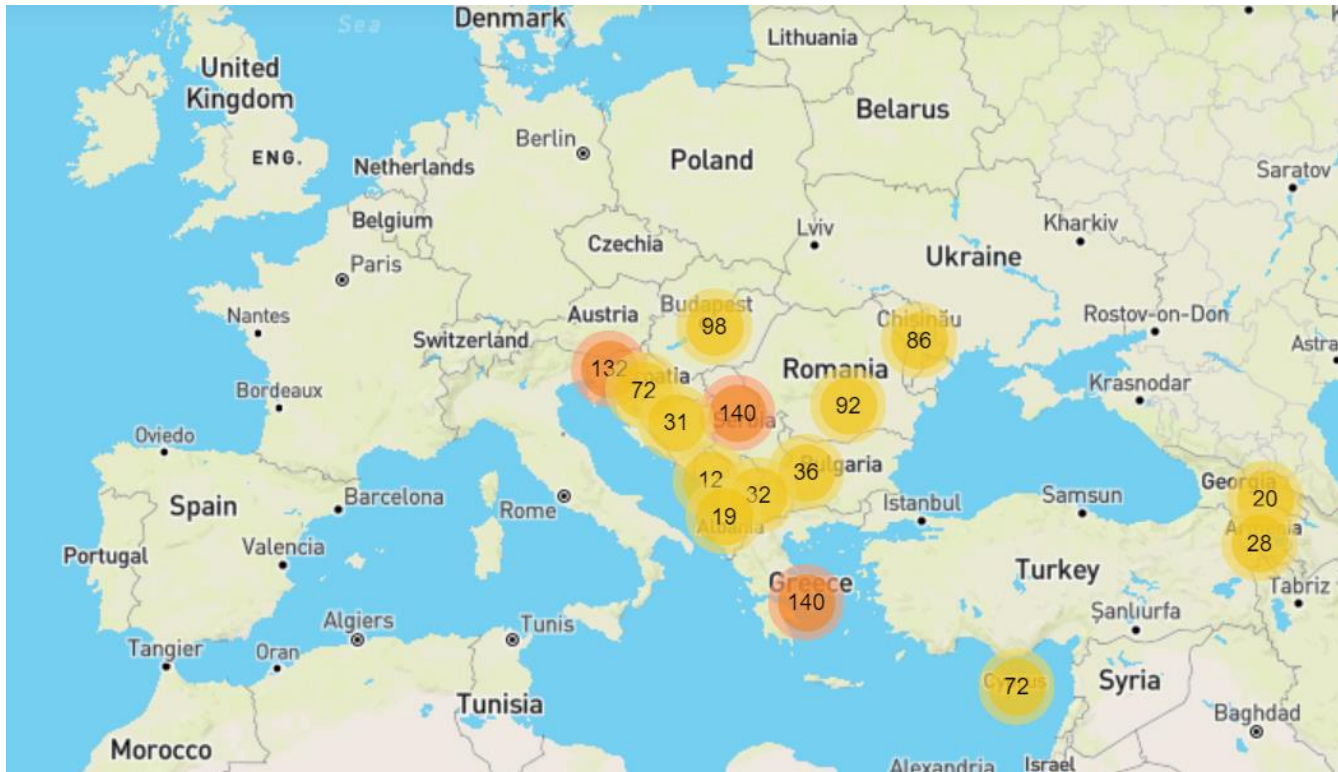
WP6 User engagement, training and demonstrators

WP7 Communication, marketing, sustainability and innovation

Support the development and inclusion of the National Open Science Cloud Initiatives in 15 Member States and Associated Countries in the overall scheme of EOSC governance

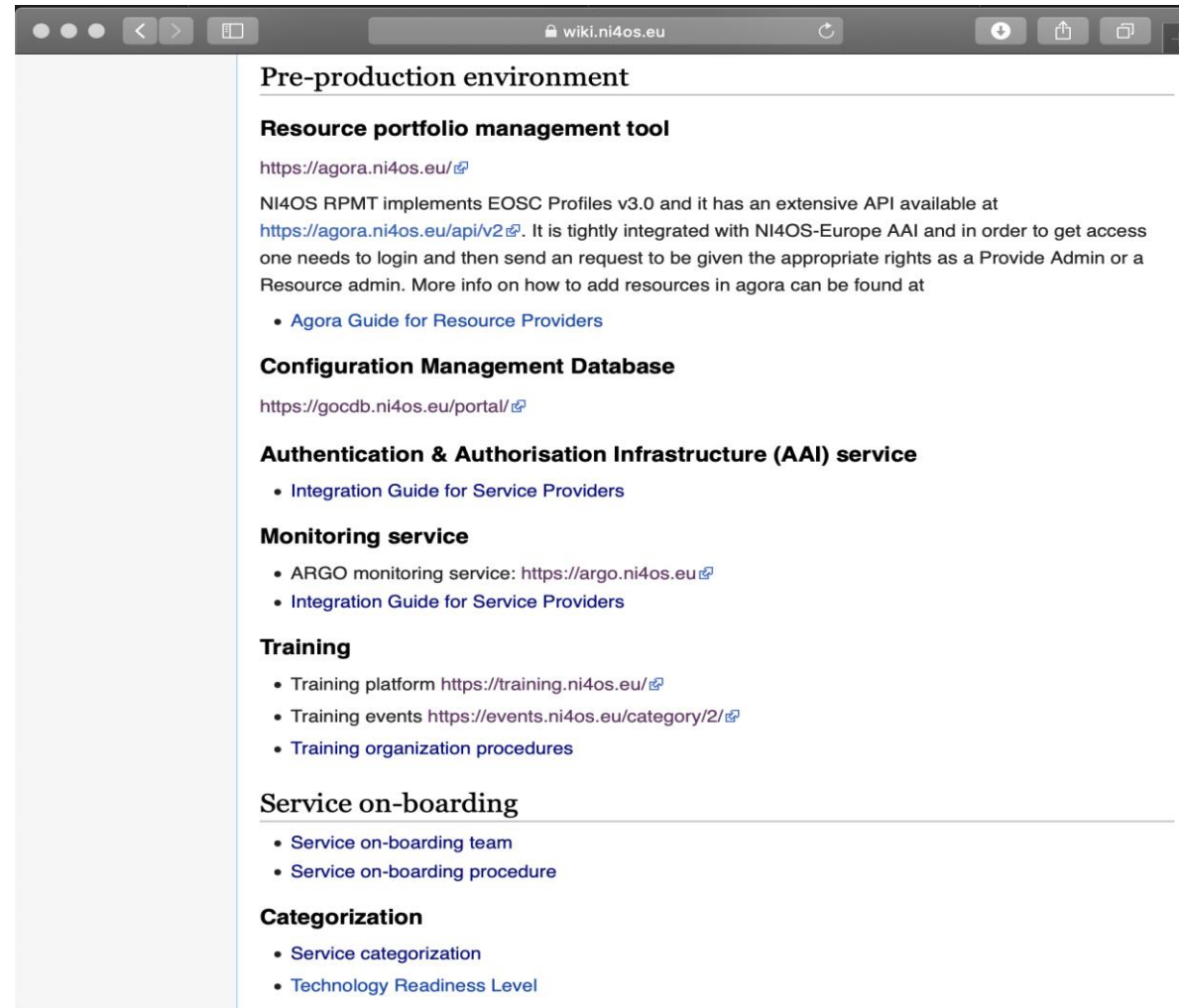
- Support the EOSC Governance structure by forming **OSC initiatives** in partner countries
- Support the building of sustainable **EOSC** governance by engaging the national initiatives
- Provide **support and interface** to other EOSC-relevant bodies
- Reduce **fragmentation** and promote federation on national level
- Prepare the ground for EOSC **on-boarding**

- ❑ Compilation of extensive list of stakeholders and organizations from SEE
- ❑ Survey in 15 NI4OS-Europe partner countries
- ❑ >1000 stakeholders approached, 575 responses received



- ❑ Visualization of results: <https://ni4os.eu/survey-results/>
- ❑ Creation of stakeholder map for SEE: <https://ni4os.eu/os-stakeholders-map/>

- ❑ Pre-production environment: service catalogue management system (AGORA), helpdesk, monitoring, accounting, authentication & authorisation, training portal
- ❑ Collection of related policies and procedures on NI4OS-Europe wiki page
- ❑ To support service providers towards uniform and seamless EOSC integration



The screenshot shows a web browser window with the address bar displaying 'wiki.ni4os.eu'. The page content is organized into several sections:

- Pre-production environment**
 - Resource portfolio management tool**
 - <https://agora.ni4os.eu/>
 - NI4OS RPMT implements EOSC Profiles v3.0 and it has an extensive API available at <https://agora.ni4os.eu/api/v2/>. It is tightly integrated with NI4OS-Europe AAI and in order to get access one needs to login and then send a request to be given the appropriate rights as a Provide Admin or a Resource admin. More info on how to add resources in agora can be found at
 - [Agora Guide for Resource Providers](#)
 - Configuration Management Database**
 - <https://gocdb.ni4os.eu/portal/>
 - Authentication & Authorisation Infrastructure (AAI) service**
 - [Integration Guide for Service Providers](#)
 - Monitoring service**
 - ARGO monitoring service: <https://argo.ni4os.eu/>
 - [Integration Guide for Service Providers](#)
 - Training**
 - Training platform <https://training.ni4os.eu/>
 - Training events <https://events.ni4os.eu/category/2/>
 - [Training organization procedures](#)
- Service on-boarding**
 - [Service on-boarding team](#)
 - [Service on-boarding procedure](#)
- Categorization**
 - [Service categorization](#)
 - [Technology Readiness Level](#)

- ❑ Support non-commercial services (generic, thematic, repository) to be accessed through the EOSC portal
- ❑ Provision of technical support to service providers for interoperability and integration into EOSC
- ❑ Securing and implementing interoperability between national services and EOSC
- ❑ Implementation of processes and practices for optimal use of the resources
- ❑ Currently 41 resources are registered at service catalogue management system AGORA
- ❑ Georgia: 1 generic, 1 thematic and 1 repository services



On-boarded generic services (WP5)

- ❑ HPC resources: CPU, GPU
- ❑ Cloud Virtual Machines
- ❑ Generic Storage
- ❑ Data management services
- ❑ 14 generic services registered within the AGORA catalogue
- ❑ 4 generic services are fully on-boarded

NI4OS Europe

EXPLORE
NI4OS-Europe Catalogue

Generic services

The **PARADOX Hadoop cluster** is designed to **overlap computation & data storage operations**, i.e., to enable performing of computation on the same machine(s) that store the corresponding data.

ONBOARDED

NI4OS Europe

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Generic services

PARADOX-IV cluster consists of 106 working nodes and 3 service nodes. The total number of new processor-cores in the cluster is 1696. Its peak computing power is 105 TFlops.

ONBOARDED

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Generic services

AVITOHOL supercomputer provides 412 TFlops of performance for diverse scientific and industrial applications.

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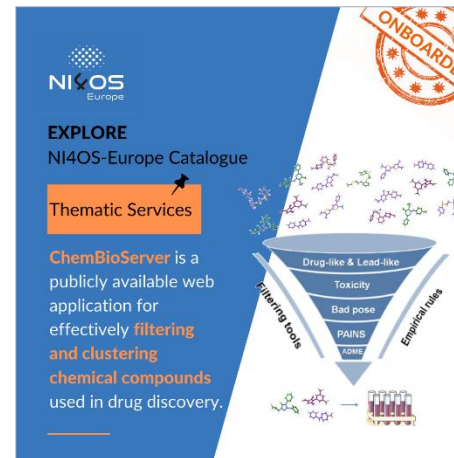
Generic services

FINKI cloud infrastructure, based on **Openstack**, is hosted on 15 servers, each with 128GB RAM and 20 HT CPU cores, totaling in 300 vCPU cores and 37TB SSD and 32 TB SAS storage.

ONBOARDED

On-boarded thematic services (WP5)

- 14 thematic services registered within the AGORA catalogue
- 6 thematic services are fully on-boarded



NIXOS Europe
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NI4OS-Europe Catalogue
Thematic Services

ChemBioServer is a publicly available web application for effectively **filtering and clustering chemical compounds** used in drug discovery.

Filtering tools: Drug-like & Lead-like, Toxicity, Bad pose, PAINS, ADMET, Empirical rules

ONBOARDED



NIXOS Europe
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Thematic Services

Gaussian API is a service for fitting repulsive potentials in density-functional tight-binding with Gaussian process regression.

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Thematic Services

Schrödinger API offers advanced methods for solving of **multidimensional time-independent Schrödinger equation**.

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Thematic Services

DREAMM is a novel web-based tool that **predicts protein-membrane interfaces of peripheral membrane proteins** using ensemble machine learning.

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Thematic Services

NanoCrystal is a novel web-based crystallographic tool for the **construction of nanoparticles** from any material crystal structure.

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Thematic Services

FEPrepare is a webserver, which automates the set-up procedure for performing **NAMD/FEPrepare simulations**.

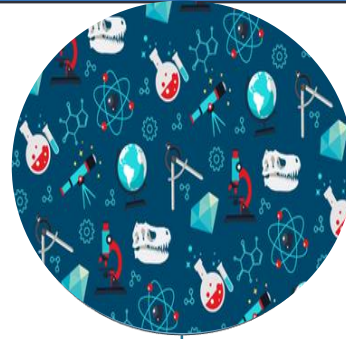
ONBOARDED

On-boarded repositories (WP5)

- ❑ Types of content/data (publications, literature, data, digitisations, etc.)
- ❑ Enhance discoverability (indexed by registries)
- ❑ Contribute to OpenAIRE/EOSC research graph
- ❑ Certification
- ❑ 7 repositories registered within the AGORA catalogue
- ❑ 2 repositories are fully on-boarded



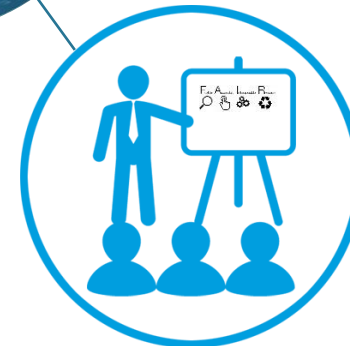
Involving and supporting scientific communities



Promoting uptake of FAIR among research communities



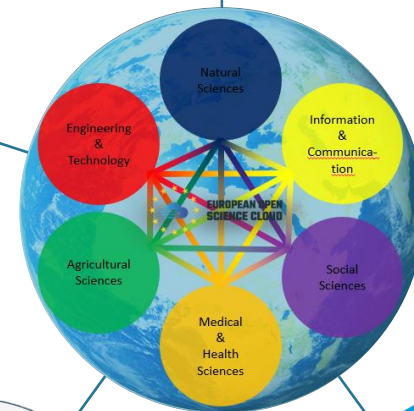
Training for federated services, interoperability, ORDM principles, repository certification, FAIR...



Promoting and ensuring EOSC research outcomes through concrete support to users



Ensuring take-up of core EOSC services in the community



- ❑ NI4OS-Europe training platform has been populated with training materials: <https://training.ni4os.eu/>
- ❑ Training and dissemination material for FAIR and EOSC service uptake is available in all different mother languages of the NI4OS-Europe area
- ❑ Webinars for disseminating EOSC and FAIR principles in each country
- ❑ Georgia: 2 training events



Communication platform

Website: <https://ni4os.eu/>

Calendar: <https://ni4os.eu/calendar>

Agenda tool: <http://events.ni4os.eu/>

Social media:  [NI4OS_eu](https://twitter.com/NI4OS_eu)  NI4OS  ni4os.eu



COVID-19 webpage: fast track access to services, tools and software for the scientific communities that perform extensive research to tackle COVID-19

<https://ni4os.eu/ni4os-europe-vs-covid19>

Promotional material

Brochure, posters, presentation, roll up banners, web banners

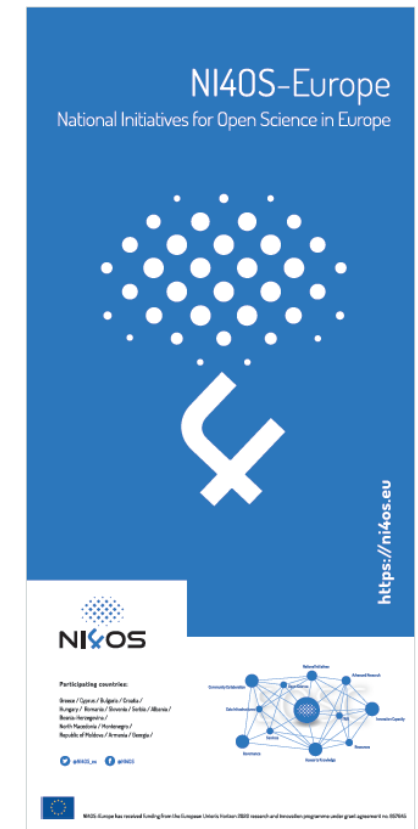


Dissemination events

Sustainability and innovation

Find solutions for sustainable and long-term impact of project results

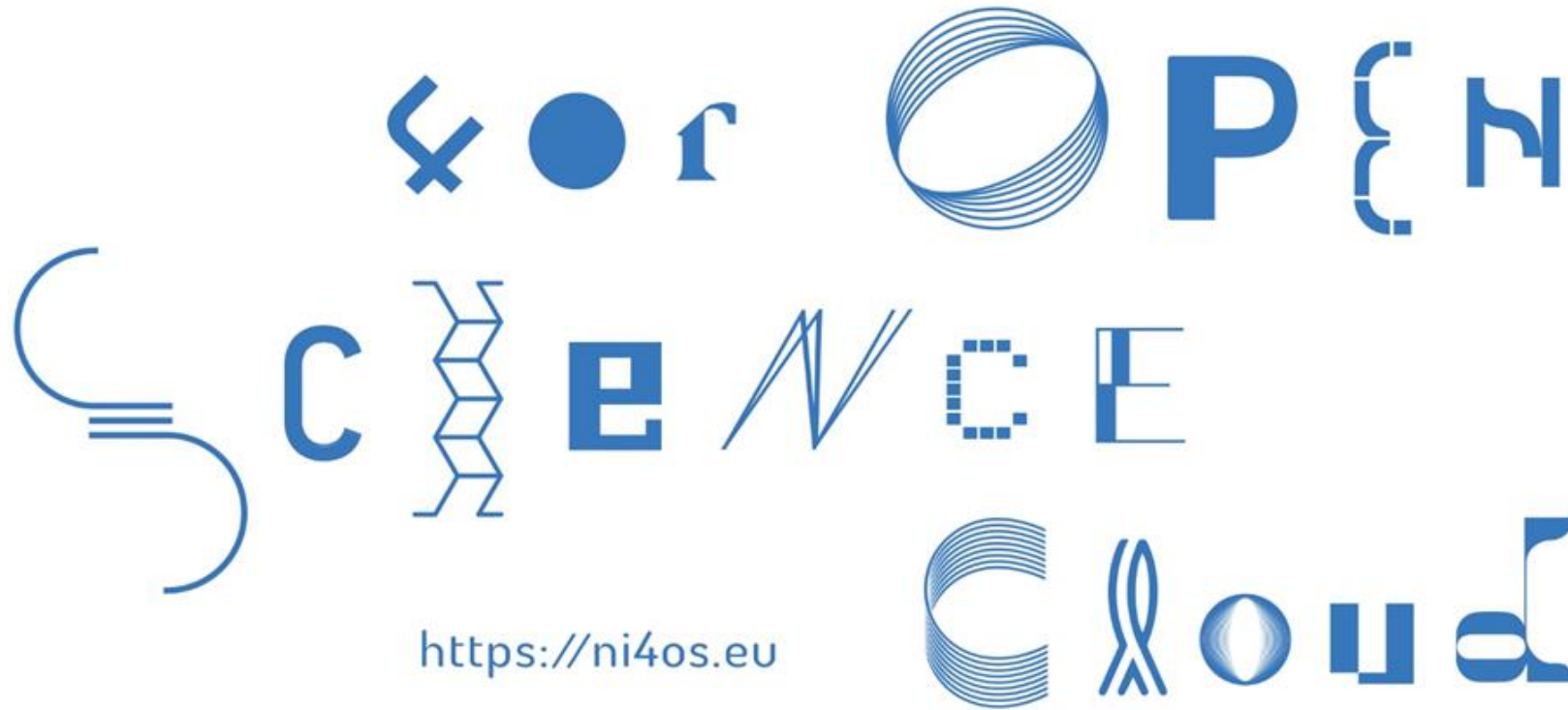
Manage knowledge and results so as to create added value for different stakeholders





- ❑ 15 OSC initiatives
- ❑ 20 generic services
- ❑ 20 thematic services
- ❑ 15 repositories
- ❑ 30 national-level trainings (450 persons targeted)
- ❑ 5 train-the-trainer events
- ❑ 30 national dissemination events (600 persons targeted)
- ❑ 1 regional event (200 persons targeted)
- ❑ 4 flagship scientific fields (Life Science, Climate Science, Digital Cultural Heritage, Computational Physics)

Thank you!



<https://ni4os.eu>

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 [ni4os.eu](https://instagram.com/ni4os.eu)