## National Initiatives for Open Science in Europe

National Capacity Building Event

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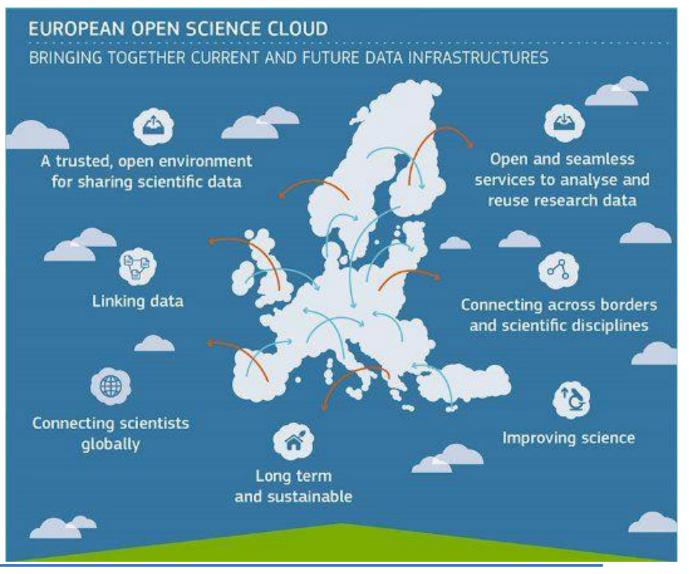
National Initiatives for Open Science in Europe – H2020 Research and Innovation action – contract no. 857645

## **European Open Science Cloud**



- 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"





## Project administrative summary



- Name: National Initiatives for Open Science in Europe
- □ Acronym: NI4OS-Europe
- Call: INFRAEOSC-05 (b) Coordination of EOSC-relevant national initiatives across Europe and support to prospective EOSC service providers -Research and Innovation Actions
- Grant number: 857645
- Amount of EC funding 5,599,475 Euro
- 22 Partners from 15 countries



## Partnership



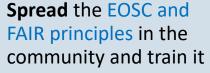
1	National Infrastructures for Research and Technology SA	GRNET	Greece				
2	Athena Research & Innovation Center	ATHENA	Greece				
3	The Cyprus Institute	CYI	Cyprus	grnet	ATHENA	THE CYPRUS INSTITUTE	University of Cyprus
4	University of Cyprus	UCY	Cyprus		Research & Internation Information Technologies		
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	пст	(€) src€	e <b>R</b>	KIFÜ
8	Governmental Agency for IT Development	KIFU	Hungary				
9	University of Debrecen	UD	Hungary				
10	National Institute for Research and Development	ICI	Romania		Vof		4ª Fiscdi
11	Executive Agency for Higher Education, Research, Development and	UEFISCDI	Romania		EN	IC Bucharest	Executive Agency for Higher Education, Research, Development and provedien Familing
	Innovation Funding	UEFISCUI	KUIIIdilid				
12	Academic and Research Network of Slovenia	ARNES	Slovenia				
13	University of Maribor Library	UMUKM	Slovenia			BELGRADE	1 INIVERSITY OF
14	Institute of Physics Belgrade	IPB	Serbia	arnes	University of Maribor University of Maribor Libror	- 173	
15	University of Belgrade	UOB	Serbia	urnee			
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	REITLACAZINA DAGPTAR	STO	Ss. Cyril and Methodius	UCG
19	University of Montenegro, Faculty of Electrical Engineering	UOM	Montenegro			University in Stopje	Chinerable, Chile Grie
20	Research and Educational Networking Association of Moldova	RENAM	Republic of Moldova				
21	Institute for Informatics and Automation of the Academy of Sciences of	IIAP	Armenia			GRENA	
	Armenia			NETWORKING ASSOCIATION . OF MOLDOVA	2	GEDROARRESEARCH AND EDUCATIONS, NETWORKING ASSOCIATION	IIAP NAS RA
22	Georgian Research and Educational Networking Association	GRENA	Georgia				

## Mission



#### Support

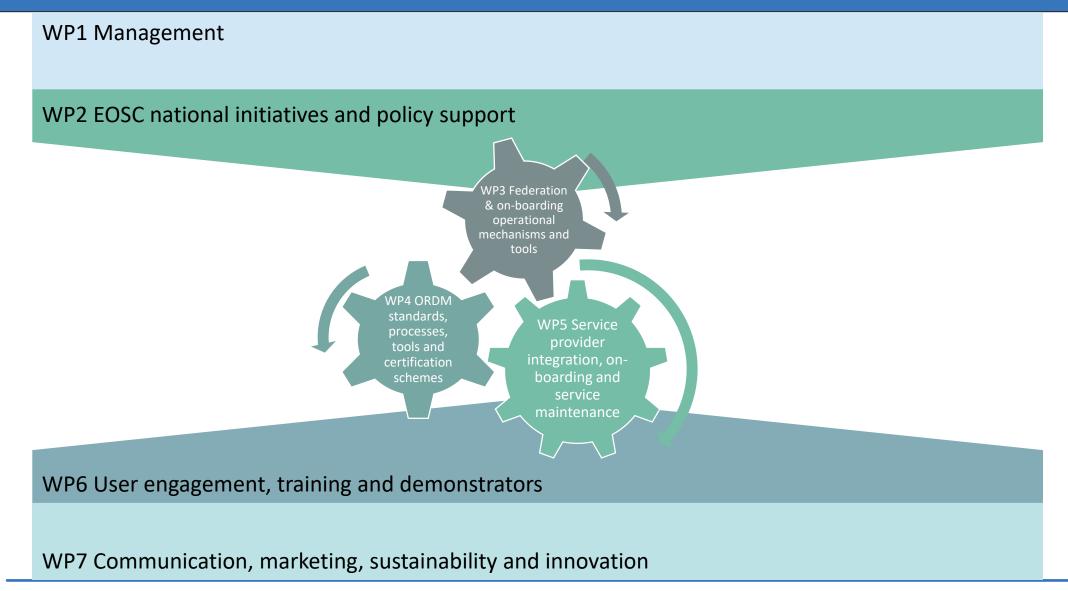
the development and inclusion of the national Open Science Cloud initiatives in 15 Member States and Associated Countries in the overall scheme of EOSC governance



**Provide** technical and policy support in onboarding of the existing and future service providers into EOSC

## Project structure





## WP2 EOSC national initiatives and policy support



Strengthen the national Open Science ecosystems, enhance regional representation in the pan-EU initiatives and support alignment of policies and practices for Open Science and FAIR data with EOSC

Support the EOSC Governance structure by forming 15 national OSC initiatives in partner countries

Support the building of sustainable pan-European EOSC governance by engaging the national initiatives

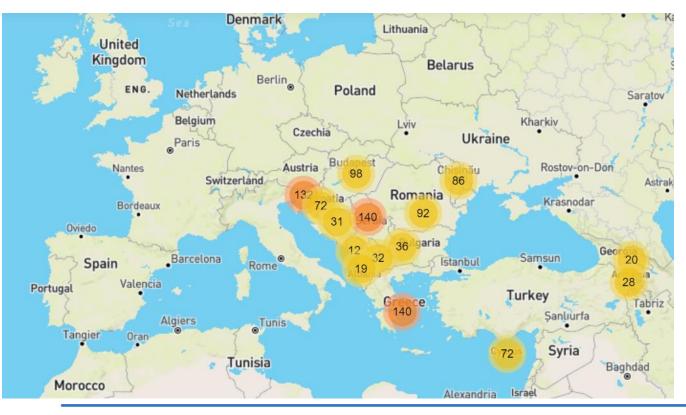
Provide **support and interface** to other EOSC-relevant bodies

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 (57% response rate)



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



## National Open Science Cloud Initiative

Coalition of national organizations that have an important role and interest in EOSC

Aims:	Top down	Bottom up	Hybrid	
<ul> <li>Promotion of synergies at national level</li> <li>Enhance participation of national research communities in EOSC</li> </ul>	Central decision of the related ministry or national research funding organisation	Initiative by researchers, OS stakeholders and actors in the country	Combination of previous two, independently of who initiated it	
	objective-driven	data-driven		

## WP3 Federation and on-boarding operational mechanisms and tool



Pre-production environment: helpdesk, backend & frontend monitoring, accounting, service catalogue management system, authentication & authorisation, training portal

- Collection of related policies and procedures on NI4OS-Europe wiki page
- These documents support service providers towards uniform and seamless EOSC integration

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Pre-produc	tion envi	ronment				
Resource po	rtfolio mar	nagement tool				
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Authentication			cture (AAI) service			
Monitoring se	ervice					
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- Implementation and adoption of tools, standards and guidelines
- ■Selection and delivery of tools
- Harmonization and interoperability within and across communities and with core initiatives
- Development and application of certification schemes
- Analysis to improve the uptake of Open Research Data Management and FAIR principles



- Enabling EOSC-relevant, 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
- □Georgia: 1 generic, 1 thematic and 1 repository services

## EOSC candidate generic services (WP5)









## EOSC candidate thematic services (WP5)



#### **ChemBioServer**

Service for filtering, clustering and visualization of chemical compounds used in drug discovery

Basic Search	ChemBioServer Info
Browse Compounds	Welcome to ChemBioServer
Filtering	
	This Server is part of the Bioacademy Bioserver that hosts a group of tools and web services developed in the Biomedical Research Foundation of the Academy of Athens.
Predefined Queries	Its main aim is to facilitate computational compound screening and analysis and it is funded by
Combined Search	the Greek Ministry of Education Cooperation Proposal Entitled as PIK3CA Oncogenic Mutations in Breast and Colon Cancers: Targeted Development of Anticancer Drugs.
Advanced Filtering	
Substructure	Please cite the program as: ChemBioServer: a web-based pipeline for filtering, clustering and visualization of chemical
Van der Waals	compounds used in drug discovery. Athanasiadis E., Cournia Z., Spyrou G. Bioinformatics.
D Toxicity	2012 Nov 15;28(22):3002-3, Epub 2012 Sep 8, http://dx.doi.org/10.1093/bioinformatics/bts551
	http://dx.doi.org/10.1053/bioinformatics/dc531
Clustering	System requirements:
Hierarchical	Before using ChemBioServer please ensure that:
Affinity Propagation	Browser's javascript plugin (with latest java version) has been enabled.
	A PDF reader is localy installed.
Customize Pipeline	Server has been tested and worked properly on:
Custom Pipeline	Windows XP, Vista, 7.
Filtering	Ubuntu (version 12.04).
Visualize	Mac OS X Leopard (version 10.5).
Compounds'	using latest versions of:
Properties	Internet Explore.
Graphical	Mozilla Firefox.
representations of molecular	Apple Safari.
properties	Google Chrome.
	This Server provides the following services:
	Uploading and Browsing Compounds in 2D and 3D.
	Filtering of compounds based on physicochemical properties.
	Substructure filtering of compounds based on custom sdf files.
	Van der Waals filtering using distance and energy tests.
	Toxicity filtering using specific organic toxic roots.
	Hierarchical clustering with 4 different distances.
	Affinity Propagation clustering, providing exemplars for each cluster.
	Creating custom pipeline filtering.
	Visualization of compounds' properties.
	(a) Launched on Dec 30th, 2011 (a) Updated on June 20th, 2012

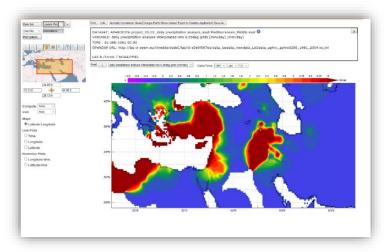
#### DCH Clowder

A Digital Culture Heritage repository which also offers integrated interactive visualization tools

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#### Live Access Server

A web server providing flexible access to geo-referenced scientific data, offering visualization & post-processing capabilities for climate data



## EOSC candidate repositories: actions (WP5)





□ Type of repository (registry, database, etc)

Maturity (production, maintenance, software versions)

Types of content/ data (publications, literature, data, OER, digitisations, etc)

al Best practices adoption (Open & FAIR, policy, training)

Four repositories on-boarded to the OpenAIRE

- NI4OS-Europe Repository
- □ SZTE Repository of Publications
- Repository of Faculty of Science University of Zagreb
- Meteorological and Hydrological Service of Croatia Repository



### Institutional

## Service Integration levels (WP3, WP5)



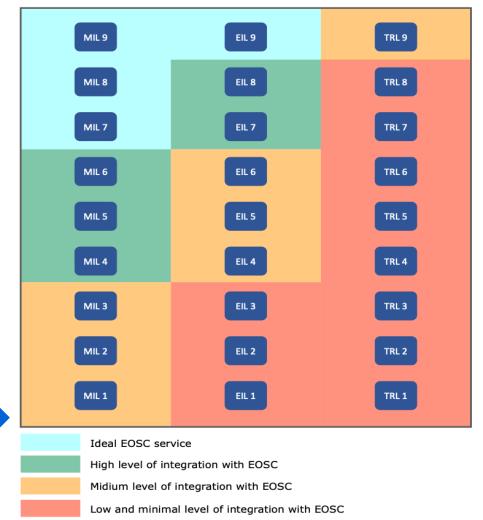
NI4OS-Europe uses multiple categorization of services:

Technology Readiness Levels (TRL)
 EOSC Integration Levels (EIL)
 Management Integration Levels (MIL)

All three categorizations used to assess EOSC readiness of each of the services to be on-boarded

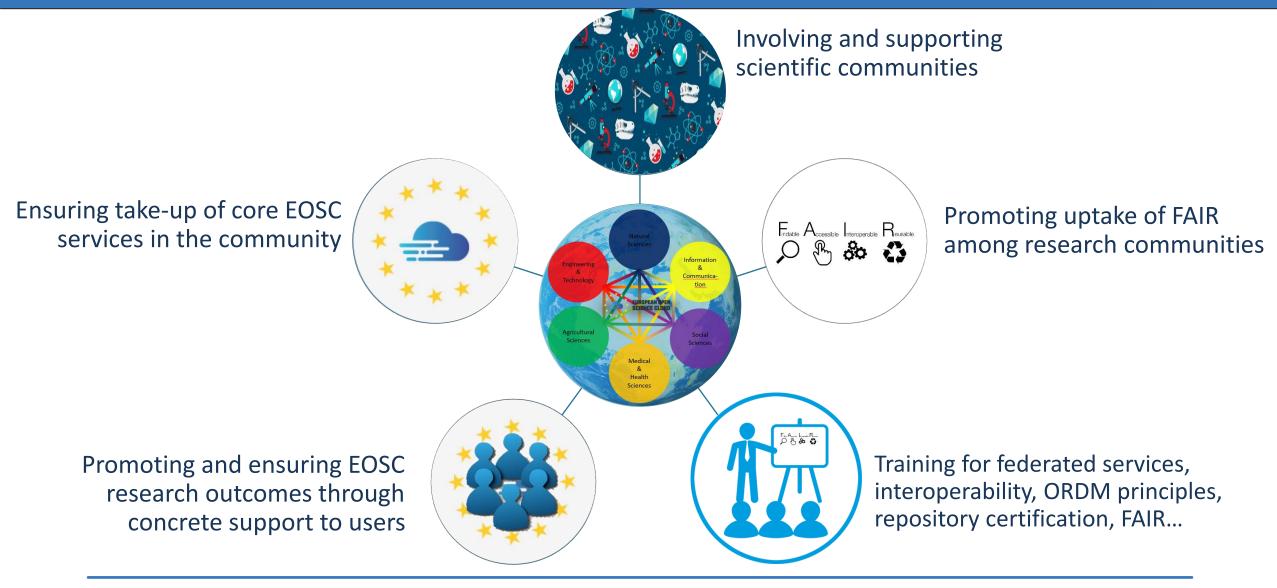
Resource on-boarding includes five main steps





## WP6 User engagement, training and demonstrators





□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 European Open Science Cloud languages of the NI4OS-Europe area EOSC □ Webinars for disseminating EOSC and FAIR principles in each country NIVOS

Georgia: 2 training events



## WP7 Communication, marketing, sustainability, innovation



#### Communication platform

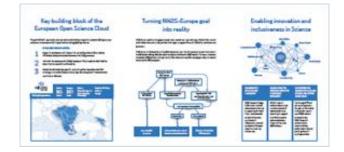
Website:	https://ni4os.eu/
Calendar:	https://ni4os.eu/calendar
Agenda tool:	http://events.ni4os.eu/
Social media:	🕑 <u>NI4OS eu</u> 🕜 NI4OS 🞯 ni4os.eu





#### **Promotional material**

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



**Dissemination events** 



**COVID-19 webpage:** fast track access to services, tools and software for the scientific communities that perform extensive research to tackle COVID-19 <u>https://ni4os.eu/ni4os-europe-vs-covid19</u>

#### 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

## NI4OS-Europe in numbers: Key Performance Indicators

- □ 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)
- □ 3 sets of ORDM guidelines
- □ 1 pre-production environment

Thank you!



