

National Initiatives for Open Science in Europe

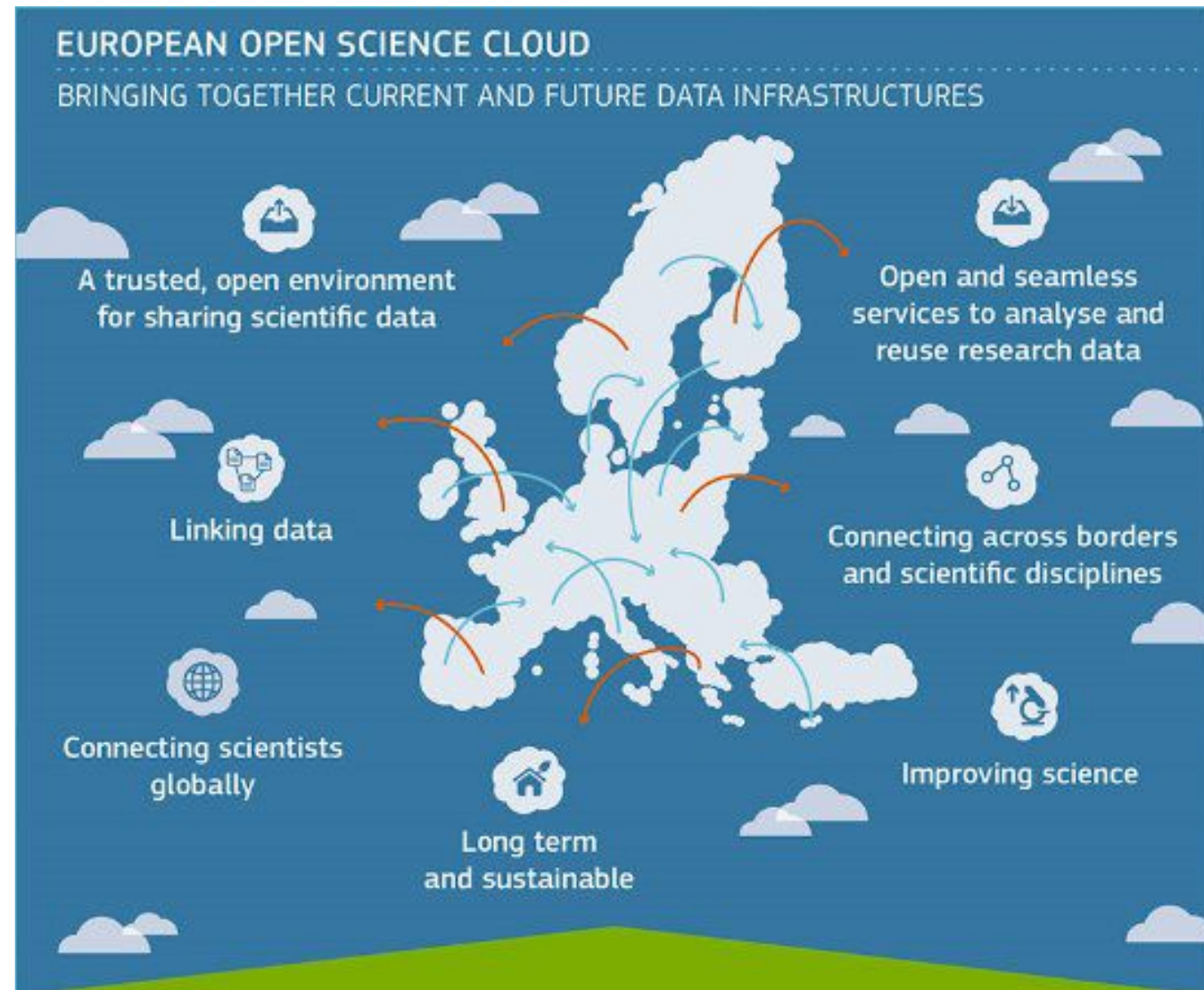
National Dissemination Event
Skopje, 06.11.2020

Anastas Mishev, UKIM



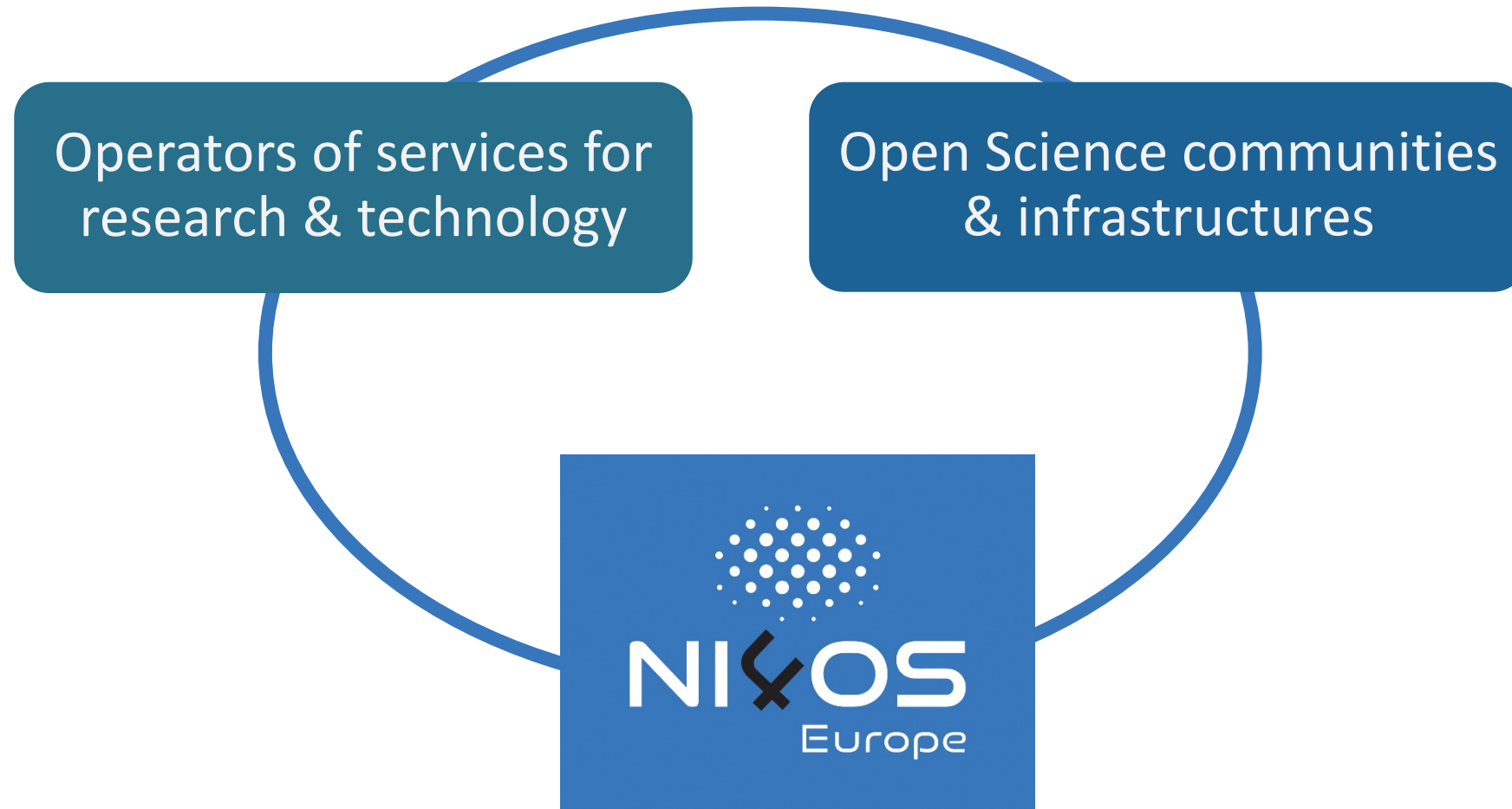
- The role of the EOSC is to ensure that European scientists reap the full benefits of data-driven science, by offering:
- “1.7 million European researchers and 70 million professionals in science and technology a virtual environment with free at the point of use, open and seamless services for storage, 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
- ❑ Acronym: NI4OS-Europe (pronounced “NIFOS”)
- ❑ 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 5,599,475e
- ❑ 22 Partners from 15 countries







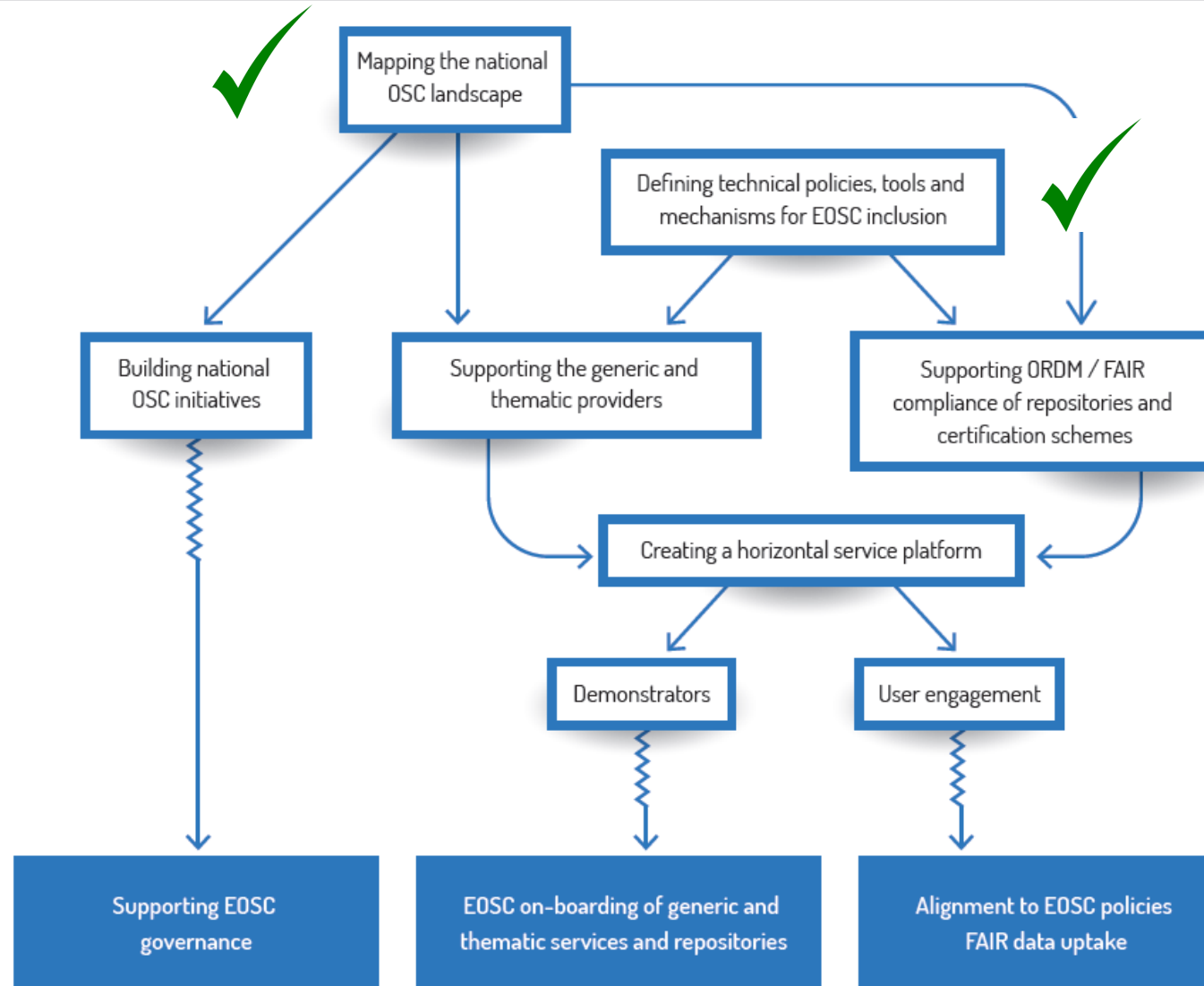
Support the **development and inclusion** of the national Open Science Cloud (OSC) initiatives in 15 Member States and Associated Countries in the overall scheme of EOSC governance



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

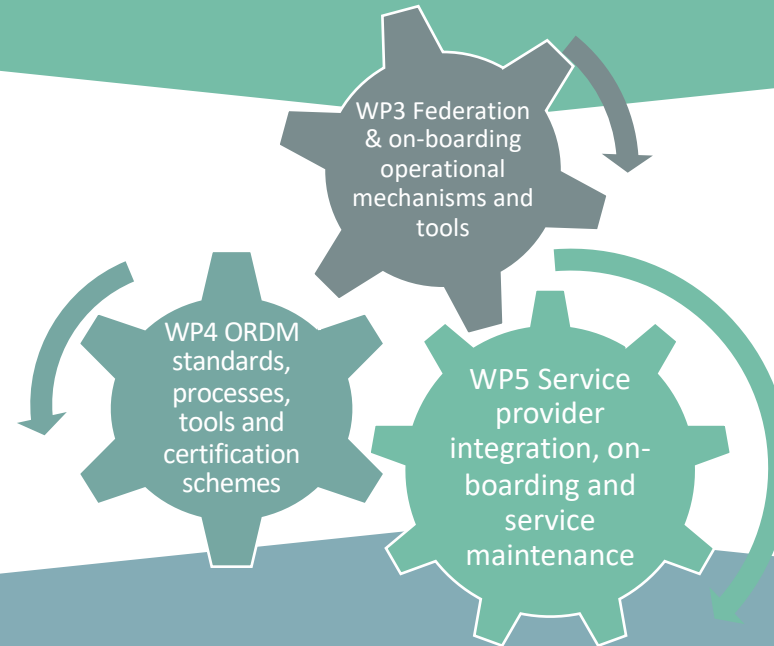


Provide **technical and policy support** in on-boarding of the existing and future service providers into EOSC



WP1 Management

WP2 EOOSC national initiatives and policy support



WP6 User engagement, training and demonstrators

WP7 Communication, marketing, sustainability and innovation

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

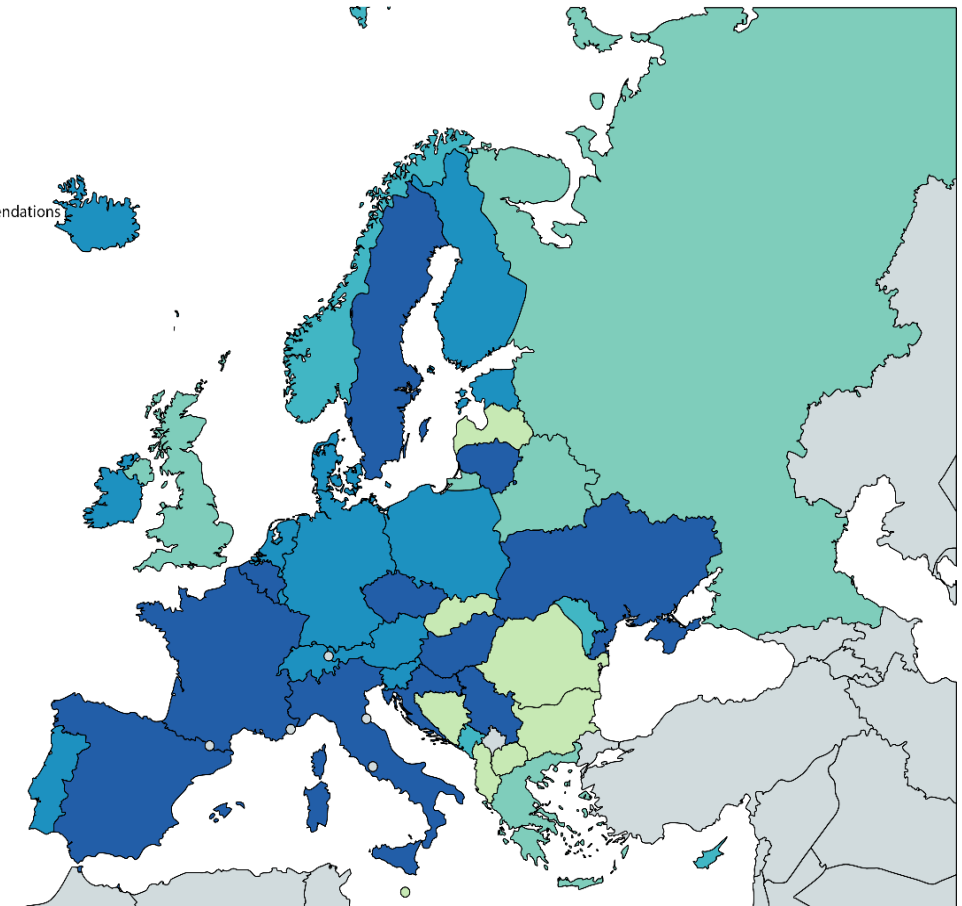
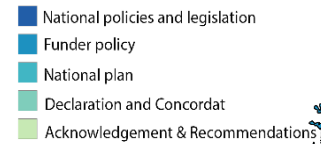
-  Support the EOSC Governance structure by forming **15 national OSC initiatives** in partner countries
-  Support the building of sustainable **pan-European EOSC** governance by engaging the national initiatives
-  Provide **support and interface** to other EOSC-relevant bodies
-  Reduce **fragmentation** and promote federation on national level
-  Prepare the ground for EOSC **on-boarding**

Process

- The most extensive attempt to capture OS in the region
- Drafting of comprehensive questionnaire
- 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)

Current policy scenery for Open Data and Open Science for 40 EU countries

- National policies and legislation
- Funder Policy in place
- National plan drafted
- Declaration and Concordat
- Acknowledgement & Recommendations



National Open Science Cloud Initiative (NOSCI)

- a coalition of national organizations that have a prominent role and interest in EOSC, play an important role in their country and facilitate EOSC governance

Aims

- promotion of synergies at national level
- optimization/articulation of initiative's participation to European and global challenges in the field of OSC, including the EOSC

Top down

Central decision of the related ministry or national research funding organisation

objective-driven

Bottom up

Initiative by researchers, OS stakeholders and actors in the country

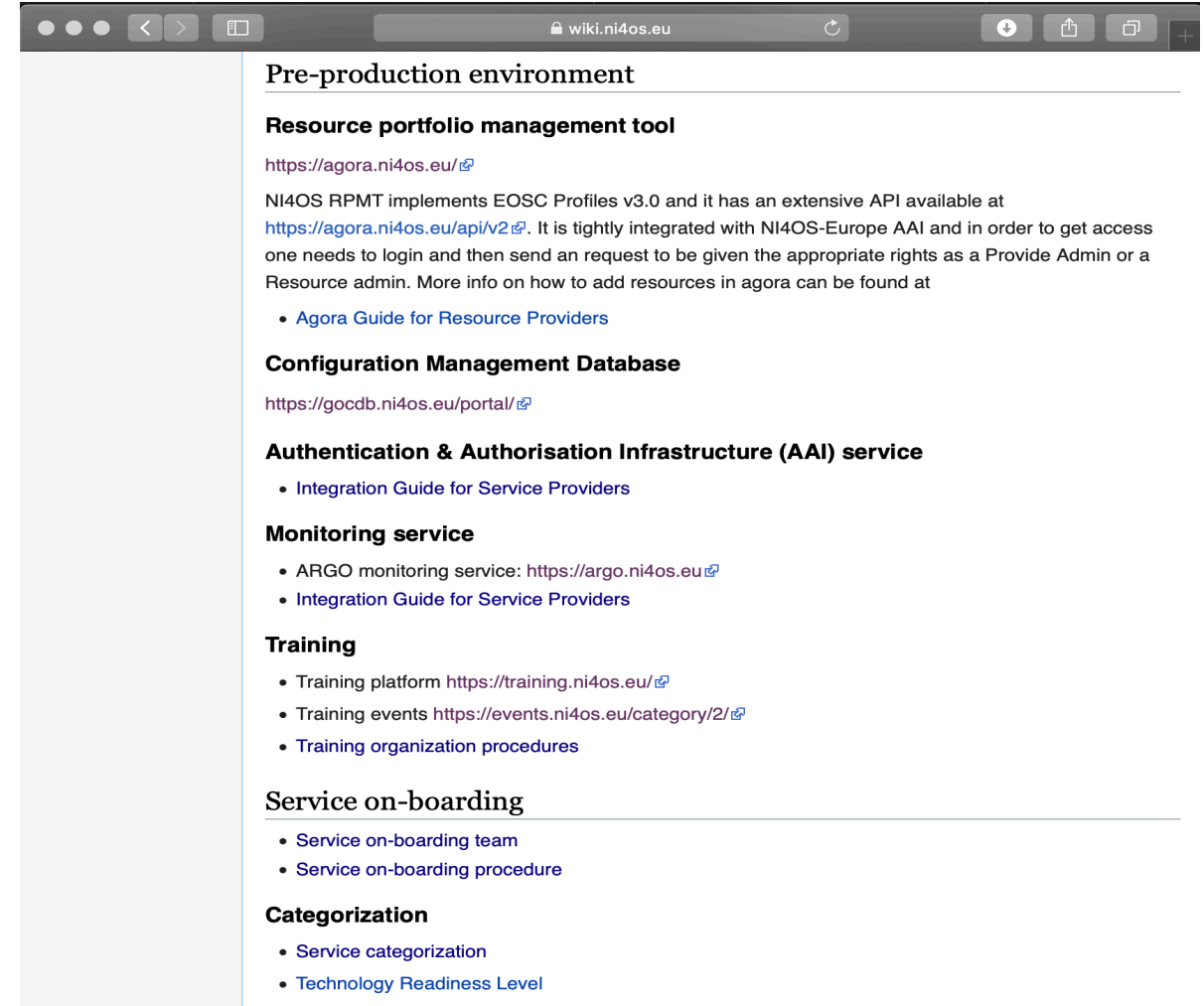
data-driven

Hybrid

Combination of previous two, independently of who initiated it

Procedures and policies (WP3)

- ❑ NI4OS-Europe wiki page contains a collection of:
 - ❑ Policies
 - ❑ Policy templates
 - ❑ Procedures for service integration with the pre-production environment
- ❑ These documents support service providers towards uniform and seamless EOSC integration



EOSC candidate generic services (WP5)

□ HPC Resources

□ CPU



□ GPU



□ Xeon Phi



□ Cloud Virtual Machines



□ Generic Storage

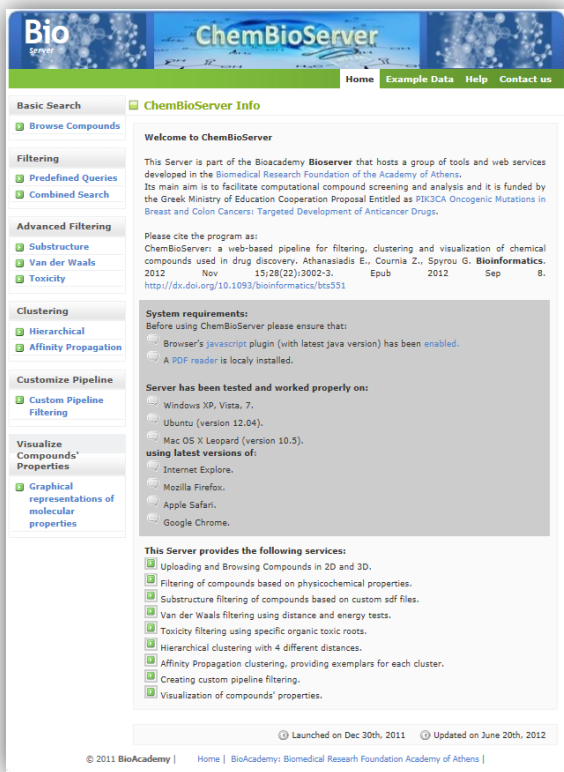


□ Data management services (Archival, Repository, Data discovery, Hadoop on-demand, Data analysis service, Simple storage)



ChemBioServer

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



The screenshot shows the ChemBioServer website interface. It features a navigation bar with 'Home', 'Example Data', 'Help', and 'Contact us'. The main content area includes a 'Welcome to ChemBioServer' message, system requirements, and a list of services provided. The left sidebar contains various search and filtering options.

ChemBioServer Info

Welcome to ChemBioServer

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. Its main aim is to facilitate computational compound screening and analysis and it is funded by the Greek Ministry of Education Cooperation Proposal Entitled as PIK3CA Oncogenic Mutations in Breast and Colon Cancers: Targeted Development of Anticancer Drugs.

Please cite the program as:
ChemBioServer: a web-based pipeline for filtering, clustering and visualization of chemical compounds used in drug discovery. Athanasiadis E., Courmia Z., Spyrou G. **Bioinformatics**. 2012 Nov 15;28(22):3002-3. Epub 2012 Sep 8. <http://dx.doi.org/10.1093/bioinformatics/bts551>

System requirements:
Before using ChemBioServer please ensure that:
 Browser's javascript plugin (with latest java version) has been enabled.
 A PDF reader is locally installed.

Server has been tested and worked properly on:
 Windows XP, Vista, 7.
 Ubuntu (version 12.04).
 Mac OS X Leopard (version 10.5).

using latest versions of:
 Internet Explorer.
 Mozilla Firefox.
 Apple Safari.
 Google Chrome.

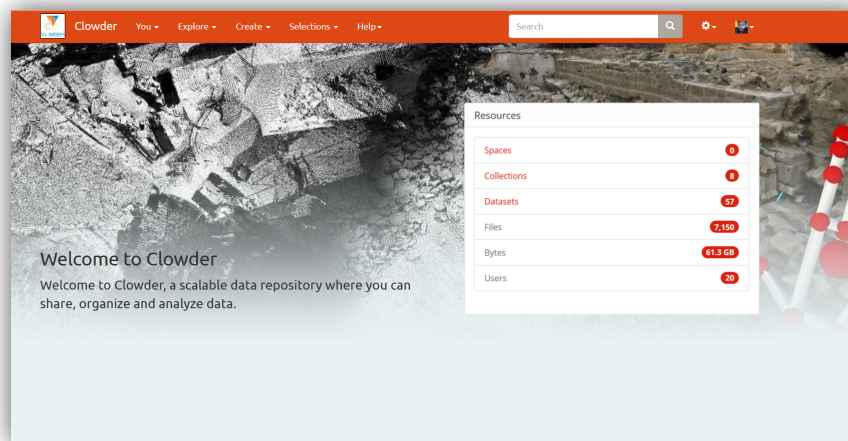
This Server provides the following services:

- 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.

© 2011 BioAcademy | Home | BioAcademy: Biomedical Research Foundation Academy of Athens |

DCH Clowder

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



The screenshot shows the Clowder website interface. It features a navigation bar with 'You', 'Explore', 'Create', 'Selections', and 'Help'. The main content area includes a 'Welcome to Clowder' message and a 'Resources' sidebar with statistics.

Welcome to Clowder

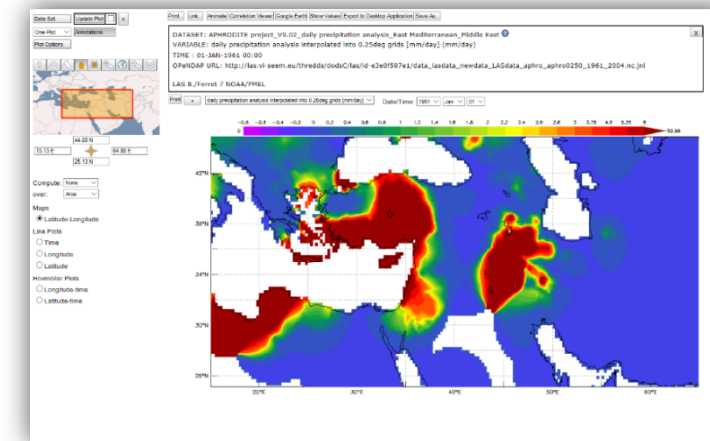
Welcome to Clowder, a scalable data repository where you can share, organize and analyze data.

Resources

- Spaces: 0
- Collections: 8
- Datasets: 57
- Files: 7,150
- Bytes: 61.3 GB
- Users: 20

Live Access Server

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



The screenshot shows the Live Access Server interface. It features a map of Europe with a color-coded overlay representing precipitation data. The interface includes a search bar, a 'Compute' button, and a 'Download' button.

Compute: None

Download: None

Map: None

Latitude Longitude

Line Plot

Time

Longitude

Latitude

Horizontal Plot

Longitude-time

Latitude-time

EOSC candidate repositories: actions (WP5)



National

- ❑ Type of repository (CRIS, registry, database, etc)
- ❑ Maturity (in beta vs in production; maintenance, software versions)
- ❑ Types of content/ data (literature, data, OER, digitisations, etc)
- ❑ Services integrated (internal vs external; PIDs etc)
- ❑ Best practices adoption (Open & FAIR, policy, training)

- ❑ Enhance discoverability (indexed by registries)
- ❑ Contribute to OpenAIRE/ EOSC Research Graph (OpenAIRE compatibility; information contextualisation)
- ❑ Enrich collections (Broker)
- ❑ Certification (in collaboration with FAIRsFAIR)

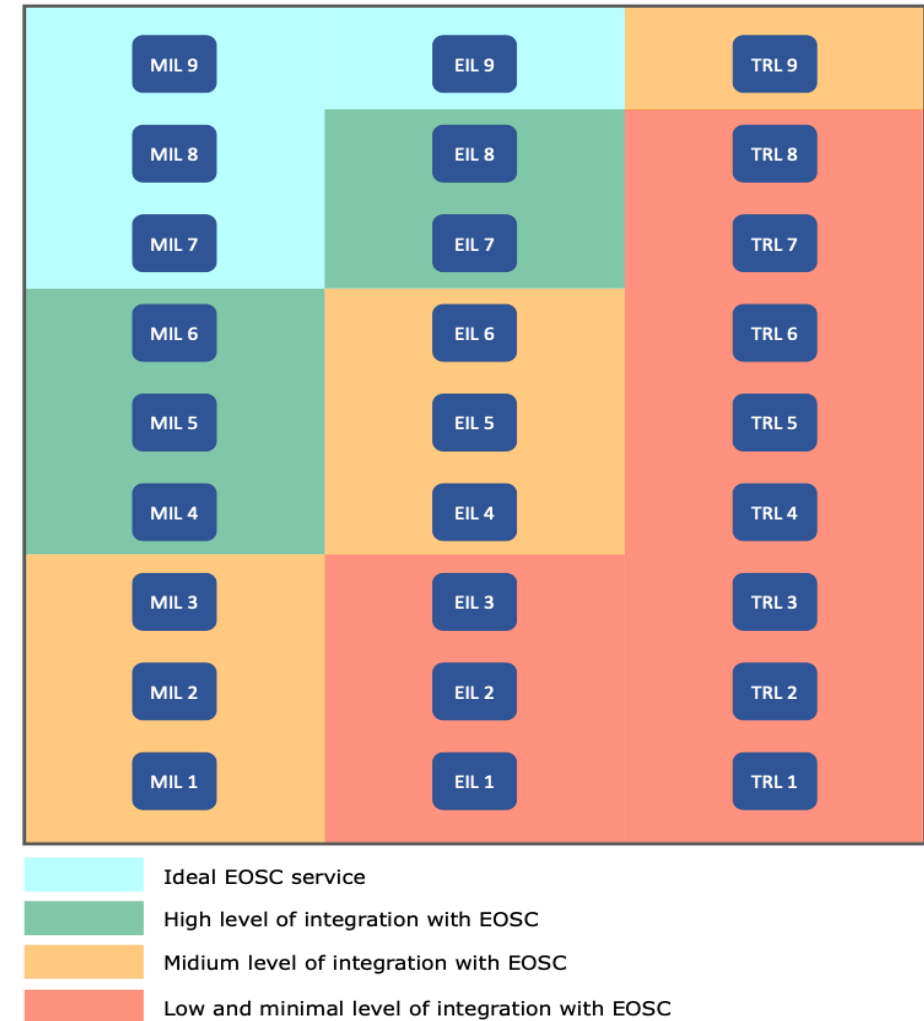


Institutional

45 candidates
Certification
NOADs cooperation

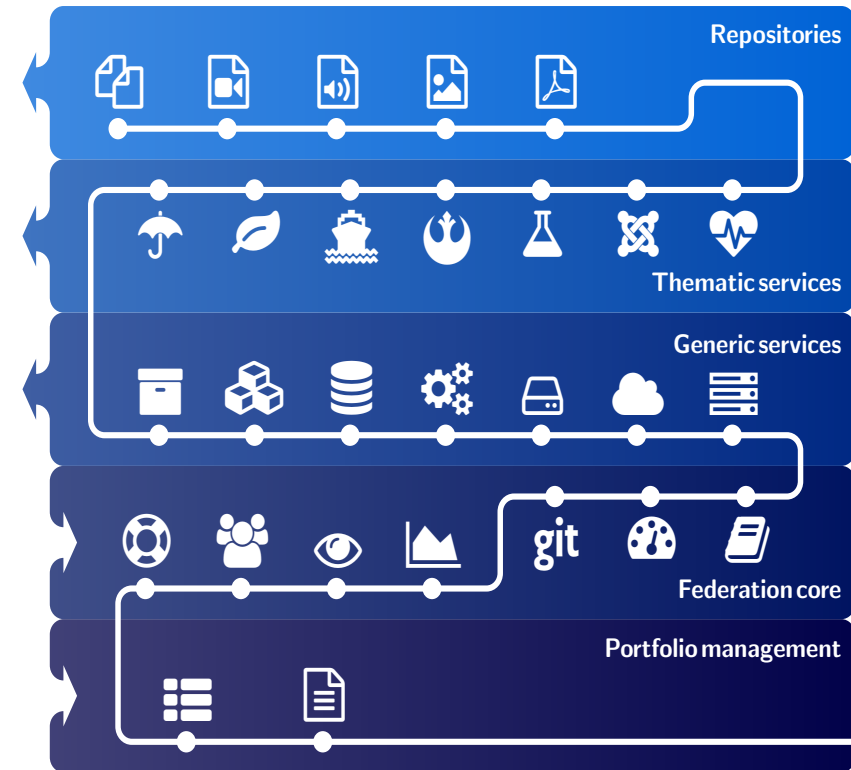
Service Integration levels (WP3, WP5)

- 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 onboarded



□ Hierarchical organization of resources within the NI4OS-Europe project

- Resource catalogue/portfolio that implements resource description template
- Services form the pre-production environment (helpdesk, monitoring, etc.)
- Generic services (HTC, HPC, PaaS, etc.)
- Thematic services
- Repositories (data, publication, code)



□ Resource on-boarding includes five main steps



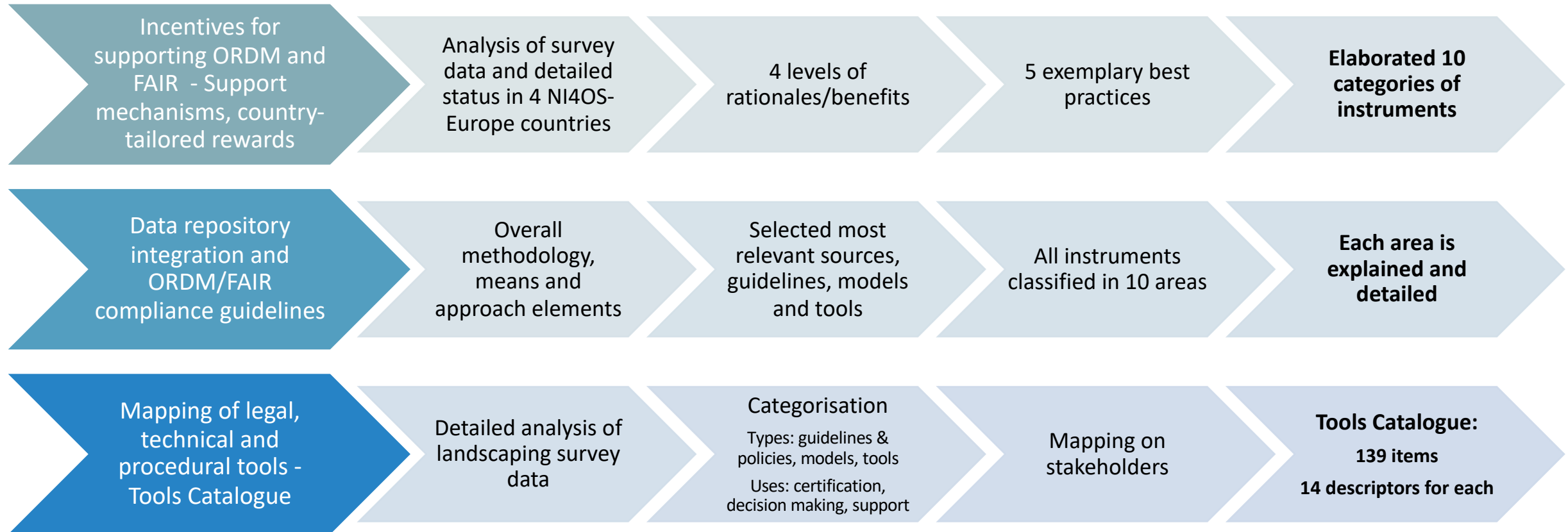
Scope

- 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
- Elaboration of incentives to support ORDM and FAIR

Outcomes

- Analysis of the incentives and rewards that can be employed to improve the uptake of ORDM and FAIR
- Analysis of guidelines for OS by approaching ORDM and FAIR
- Analysis and categorization of contemporary existing tools supporting FAIR and ORDM

Design of D4.1 - D4.3 and their applicable products



Tools for data and service managers

License Clearance Tool (D4.4)

- Helps in resolving IPR issues and guides you through input licenses, output licenses, personal data, special limitations
- Two different workflows: resource-driven and license-driven
- Supports reproducibility of research

Repository Policy Generator (D4.5, in dev)

- Creation of repository policy documents using
 - Few mandatory inputs
 - Explained choices
 - Related options
 - Carefully redacted templates

RoP Compliance Tool (D4.5, in dev)

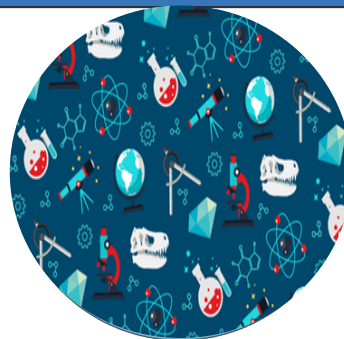
- Follows and supports the rules of RoP
- Focuses on legal and ethical aspects of EOSC compliance
- Covers an almost unexplored terrain between FAIRness of data and service descriptions

License Clearance Tool
An easy and automatic approach in license clearance

Repository Policy Generator
I am interested in
Data
Name *
COVID-19 Corona
Description *
URL
DOI
Manager's Full Na
Manager's Email

RoP Compliance Tool
1 Resource Information
2 Licensing In
3 Licensing Out
4 Personal Data
5 Other Rights
6 Additional notes and clarifications

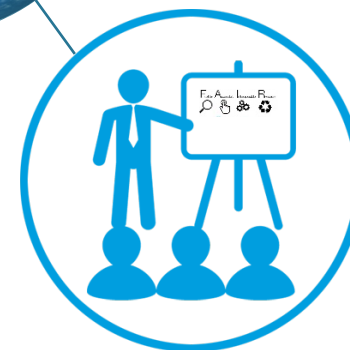
Involving and supporting scientific communities



Promoting uptake of FAIR among research communities



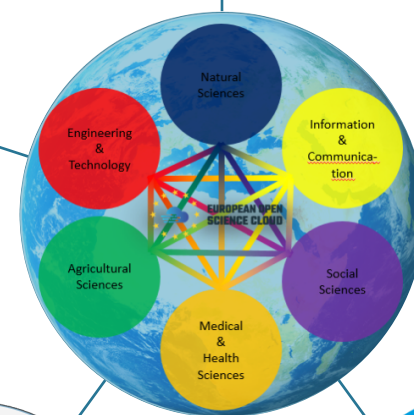
Training for federated services, interoperability, ORDM principles, repository certification, FAIR...



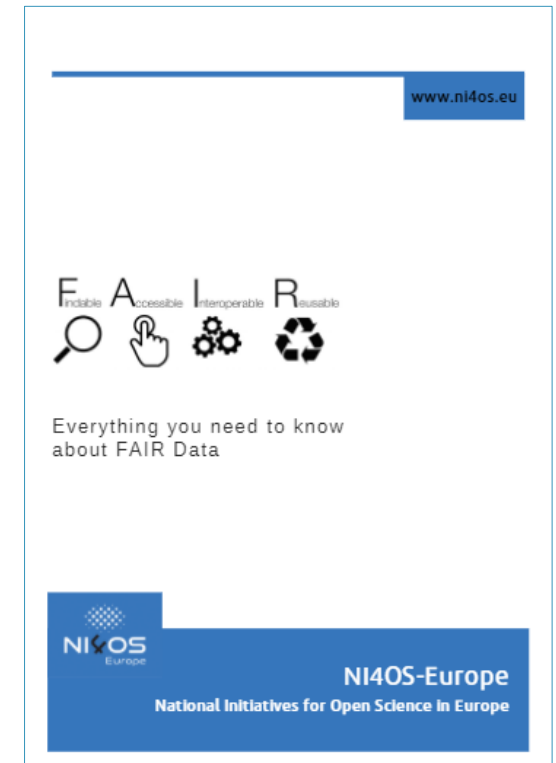
Promoting and ensuring EOSC research outcomes through concrete support to users



Ensuring take-up of core EOSC services in the community



- ❑ Ambassadors from each country assigned as EOSC promoters
- ❑ 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



- ❑ NI4OS-Europe training platform: <https://training.ni4os.eu/>
- ❑ Training platform has been populated with training material (e.g. course on FitSM).
- ❑ 5 train-the-trainers events held on:
 - ❑ FAIR
 - ❑ National EOSC promotion
 - ❑ ORDМ
 - ❑ Onboarding
 - ❑ IT Service Management
- ❑ Each country participating in NI4OS-Europe has scheduled 2 training events – total of 30 training events

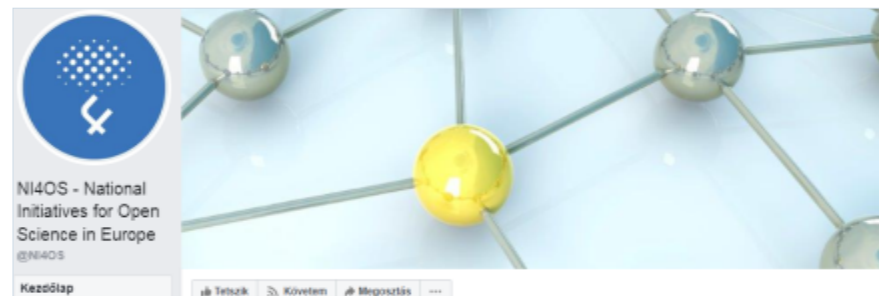
Communication platform

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



Promotional material

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

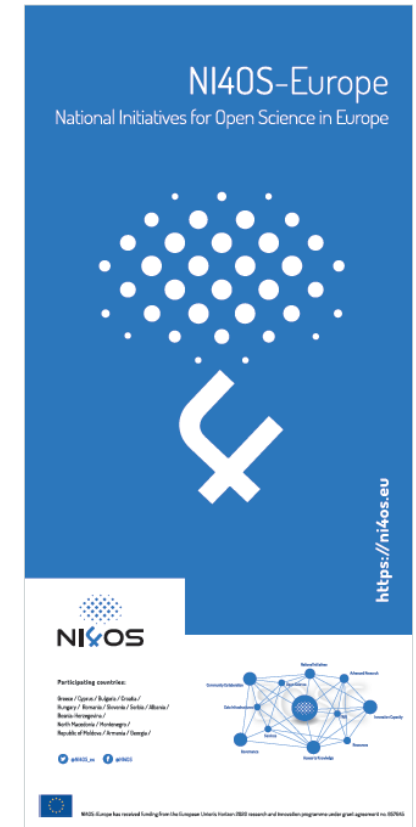


Dissemination events

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



- ❑ Webinars (3)
- ❑ Workshops (3)
- ❑ Dissemination events (2)
- ❑ Newsletters (2)
- ❑ Position paper on EOSC (1)
- ❑ Website posts (46)
- ❑ Social media posts (192)



- ❑ COVID-19 social media campaign (23 posts)
- ❑ NI4OS-Europe vs 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>

- ❑ 15 OSC initiatives
- ❑ 20 generic service instances
- ❑ 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)
- ❑ 3 flagship scientific fields
- ❑ 3 sets of ORDM guidelines
- ❑ 6 ORDM tools
- ❑ 1 pre-production environment

Thanks!

