National Initiatives for Open Science in Europe

NI4OS-Europe and the NI4OS-Europe service catalogue

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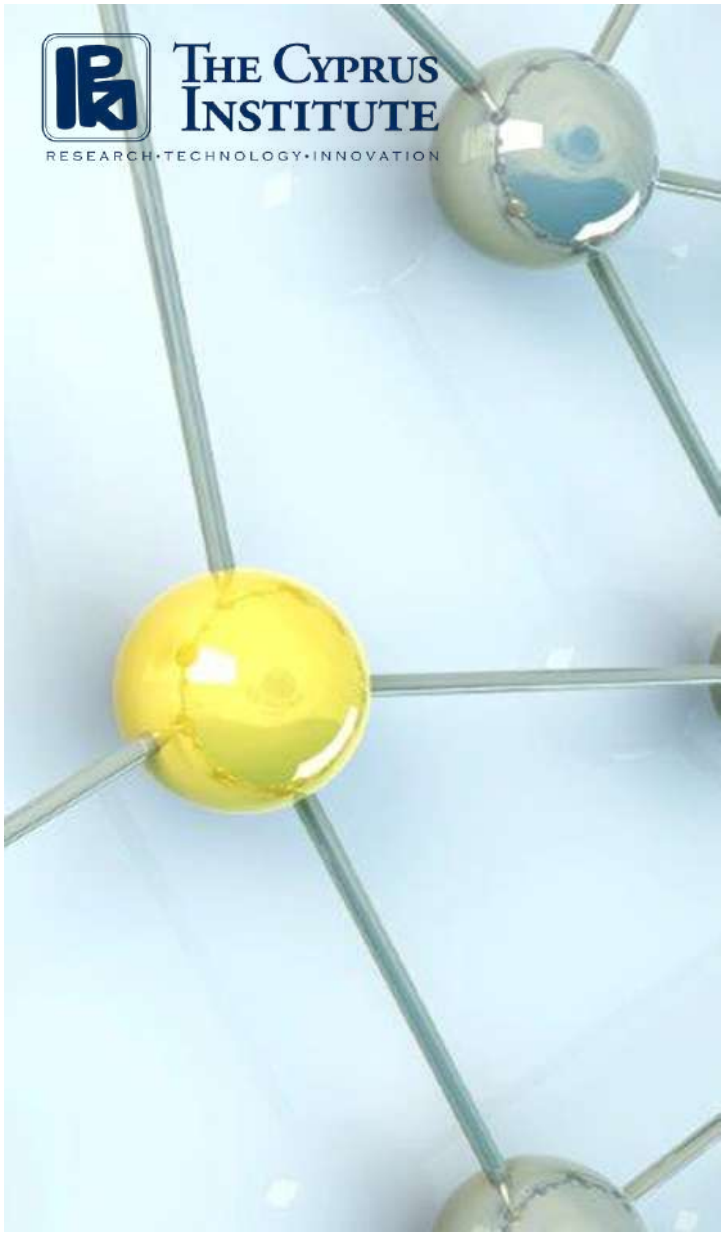
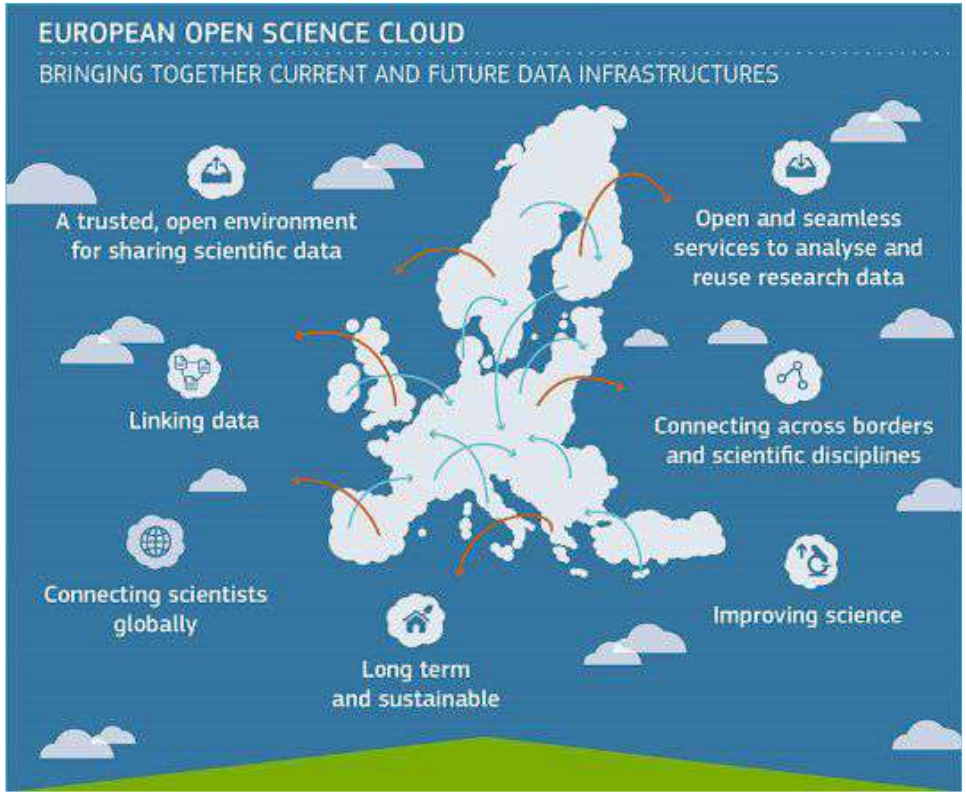


European Open Science Cloud

Vision

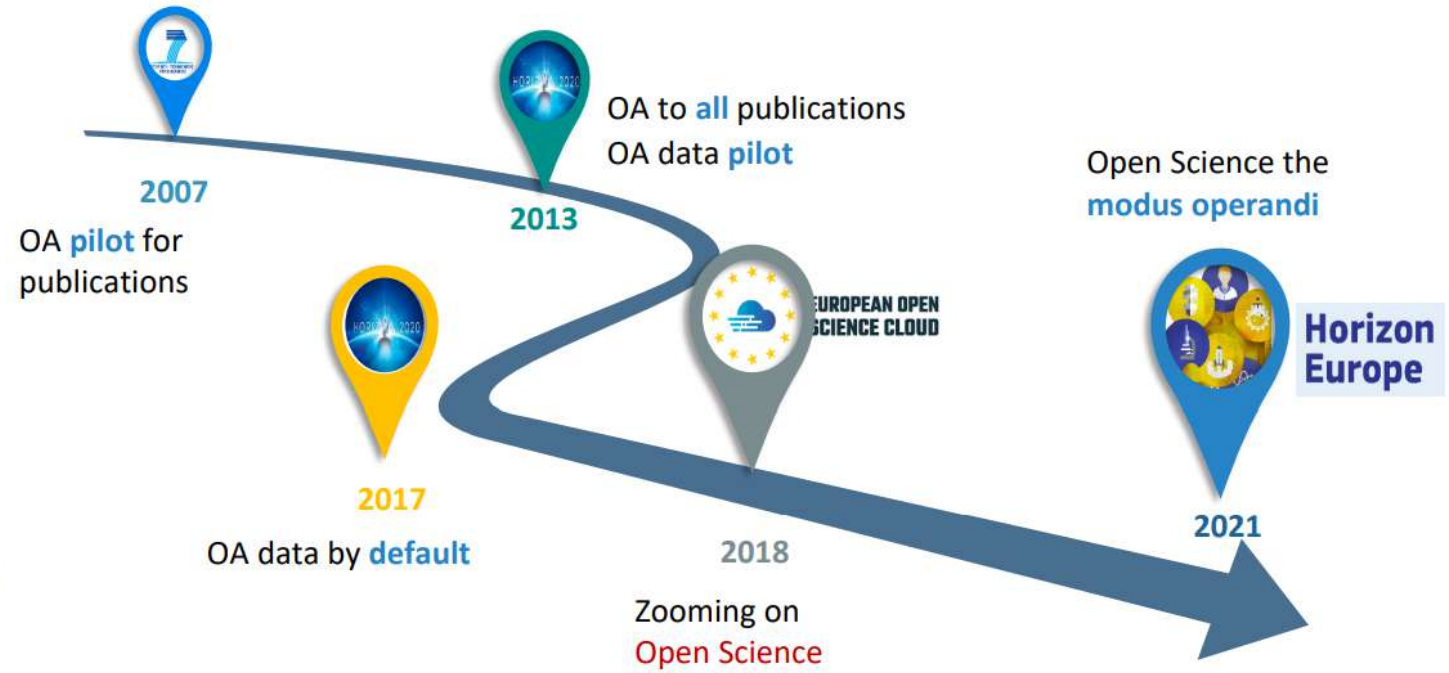
To ensure that European scientists enjoy the full benefits of data-driven science, by offering “1.7 million European researchers and 70 million professionals in science and technology a virtual environment with free at the point of use, open and seamless services for storage, management, analysis and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

2016 Communication on the “European Cloud Initiative”



The route to Open Science

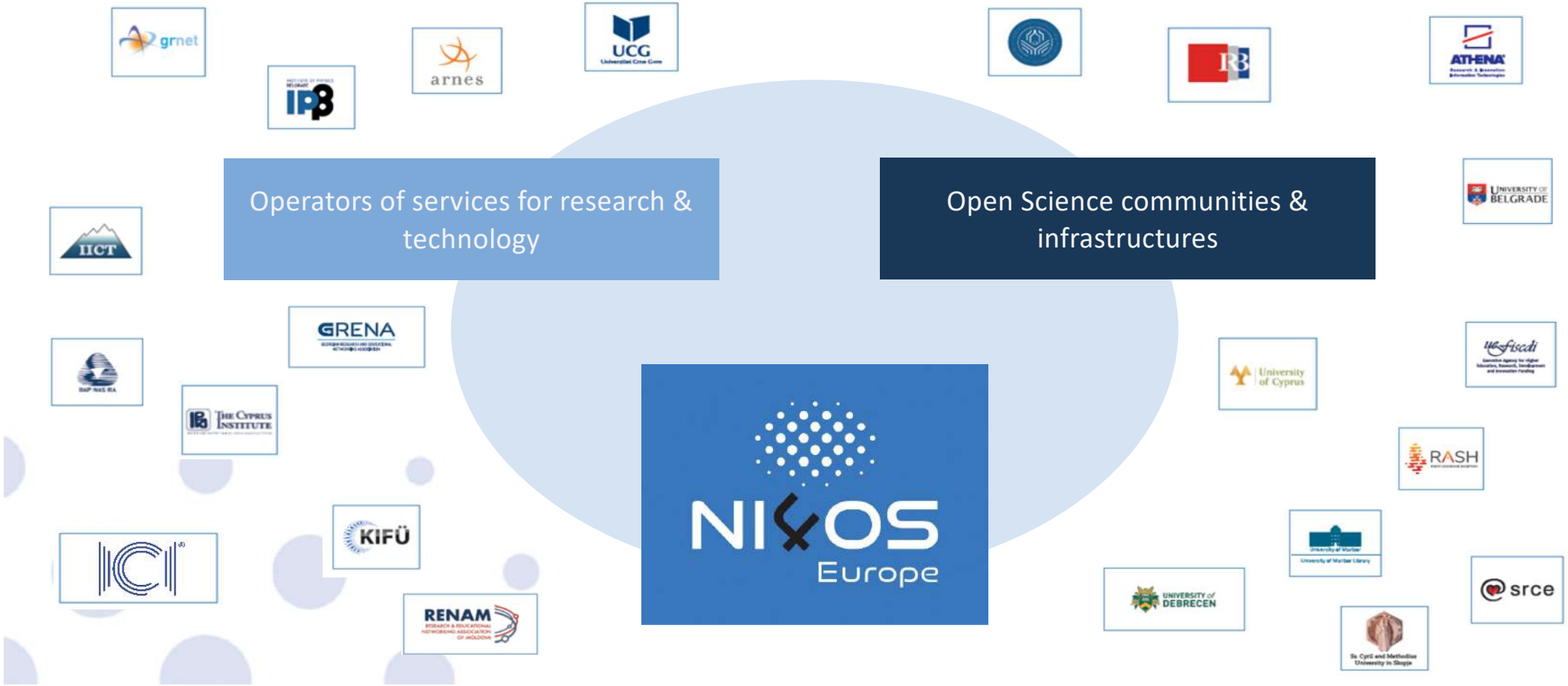
“As open as possible, as closed as necessary”, following the FAIR principles and well-documented processes of data handling and reuse



NI4OS-Europe

15 Member States and Associated Countries | 22 Partners

Partnership building blocks



Mission of NI4OS-Europe

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

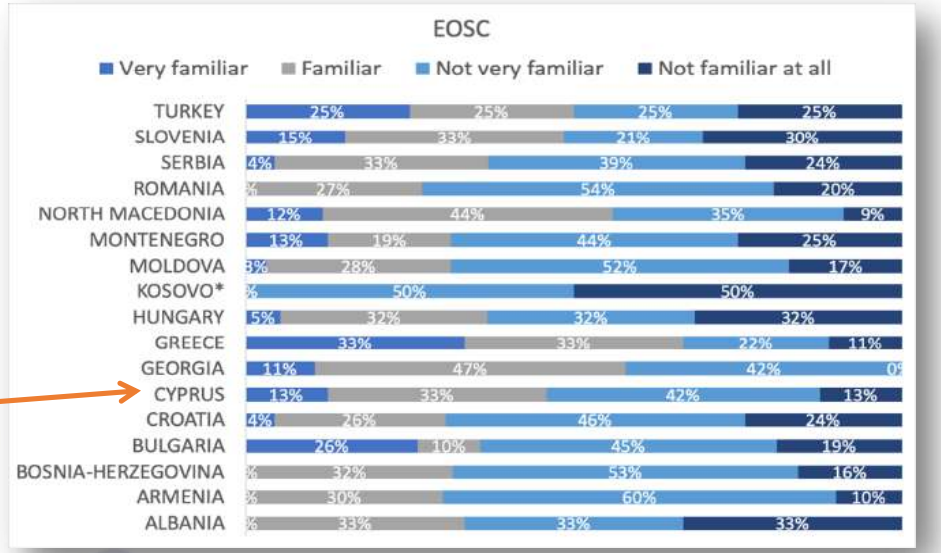
Spread the EOSC and FAIR principles in the community and train it

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

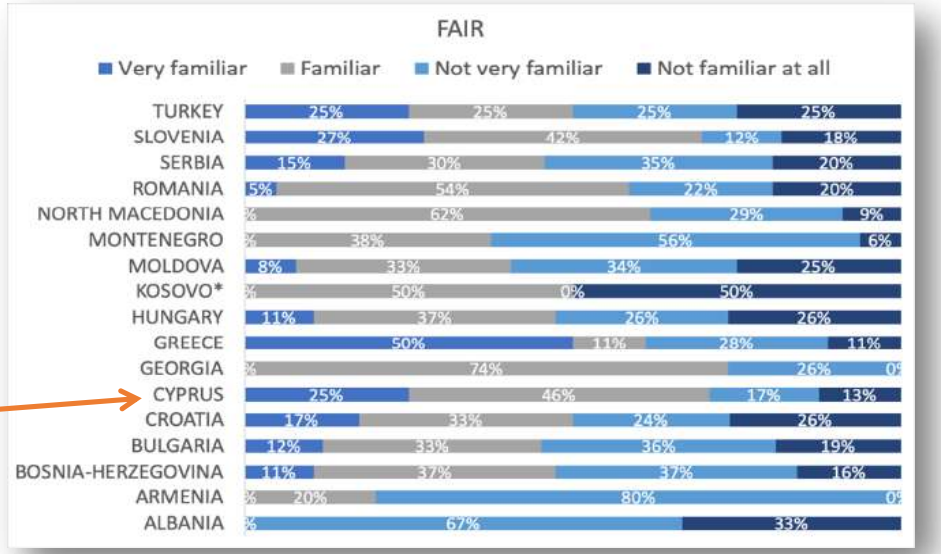
Lines of action

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

NI4OS-Europe Survey



Cyprus



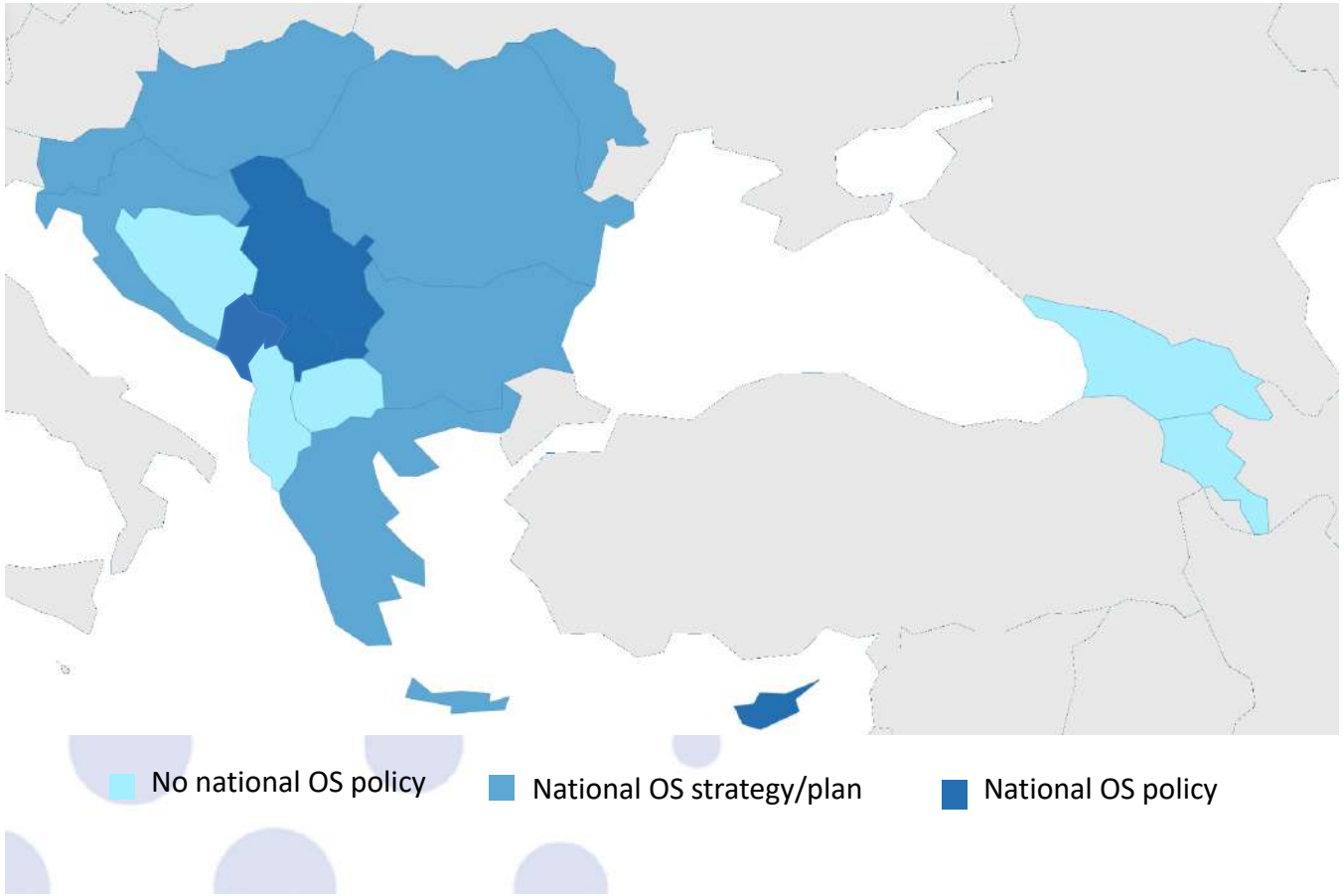
Cyprus

Source: https://ni4os.eu/survey-results/

EOSC national initiatives & policy support

- Support the EOSC Governance structure by forming in partner countries
- Support the building of sustainable 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**

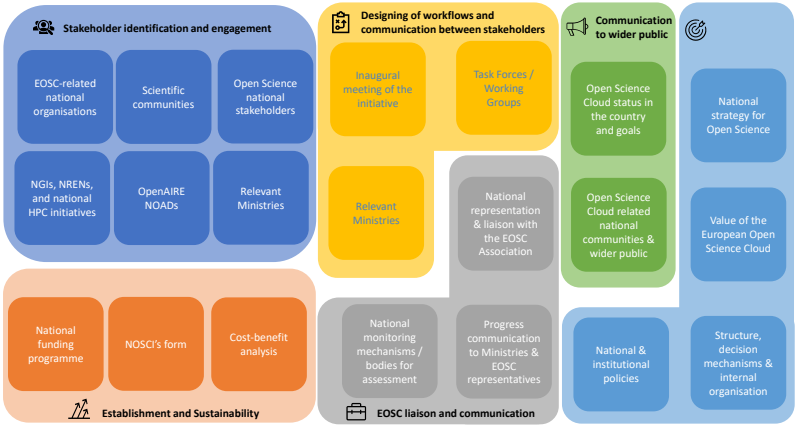
Landscaping: National Open Science policies



3 different levels in the region:

- Initial actions within the country
- OS policy documents exist
- National OS strategy/plan or officially established initiative exists

NI4OS Toolbox for supporting NOSCIs



NOSCIs setup toolbox

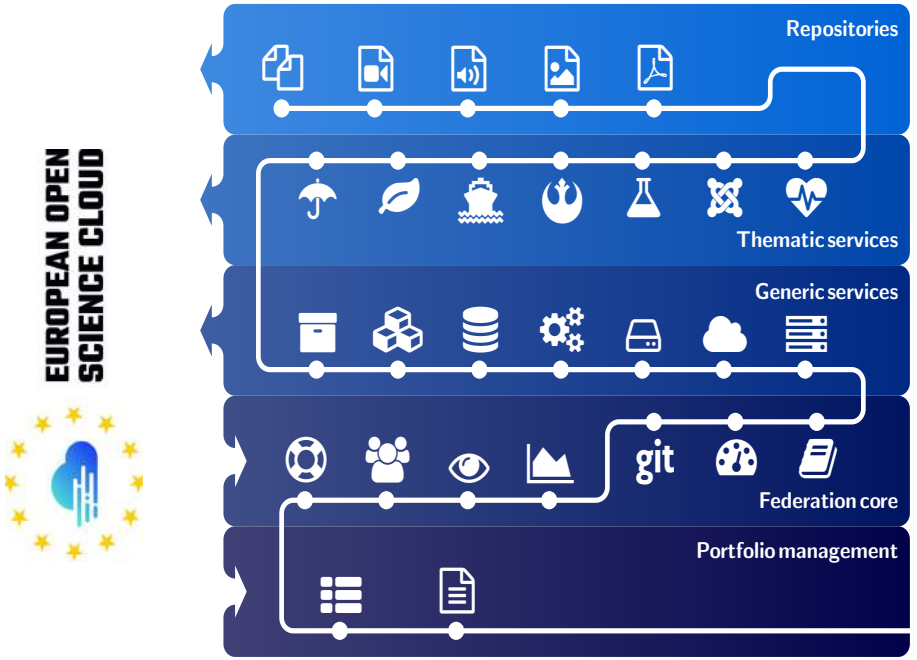
- Modular methodologies & workflows
- Assessment & monitoring
- Operational aspects & sustainability
- Explanatory video guiding through the different setup options
- Workshops, trainings, checklists

Lines of action

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

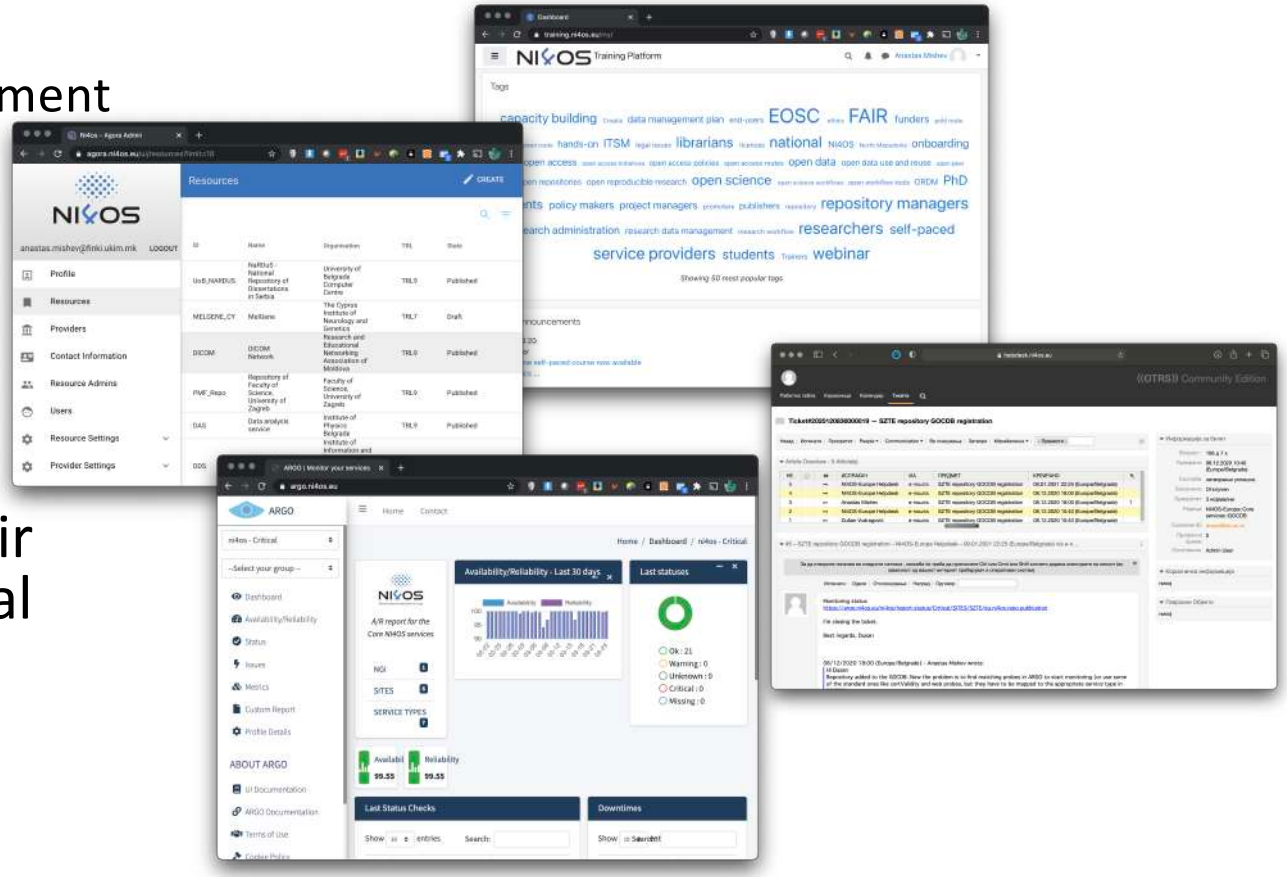
Service integration and onboarding

- Pre-production environment – validate readiness and maturity level for EOSC onboarding
- Service portfolio management system based on the EOSC provider and service profile
- Integration with federation core services
- Service categorization
- Onboarding of
  - generic services
  - thematic services
  - repositories

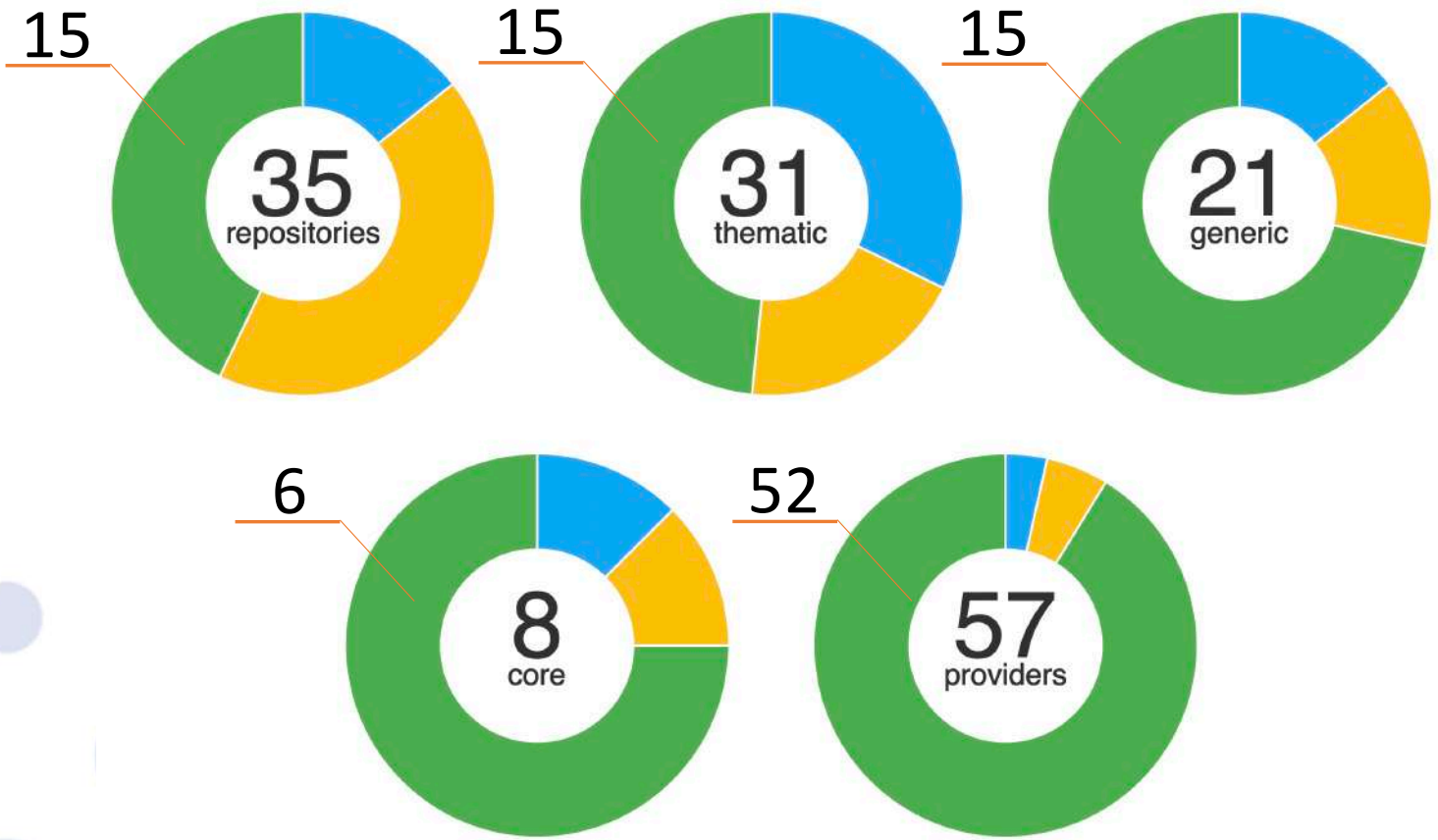


NI4OS-Europe pre-production environment

- Federating core
  - Service catalogue management system (AGORA)
  - AAI
  - Helpdesk
  - Monitoring
  - Accounting
- Enabling regional service providers to integrate their resources through regional support

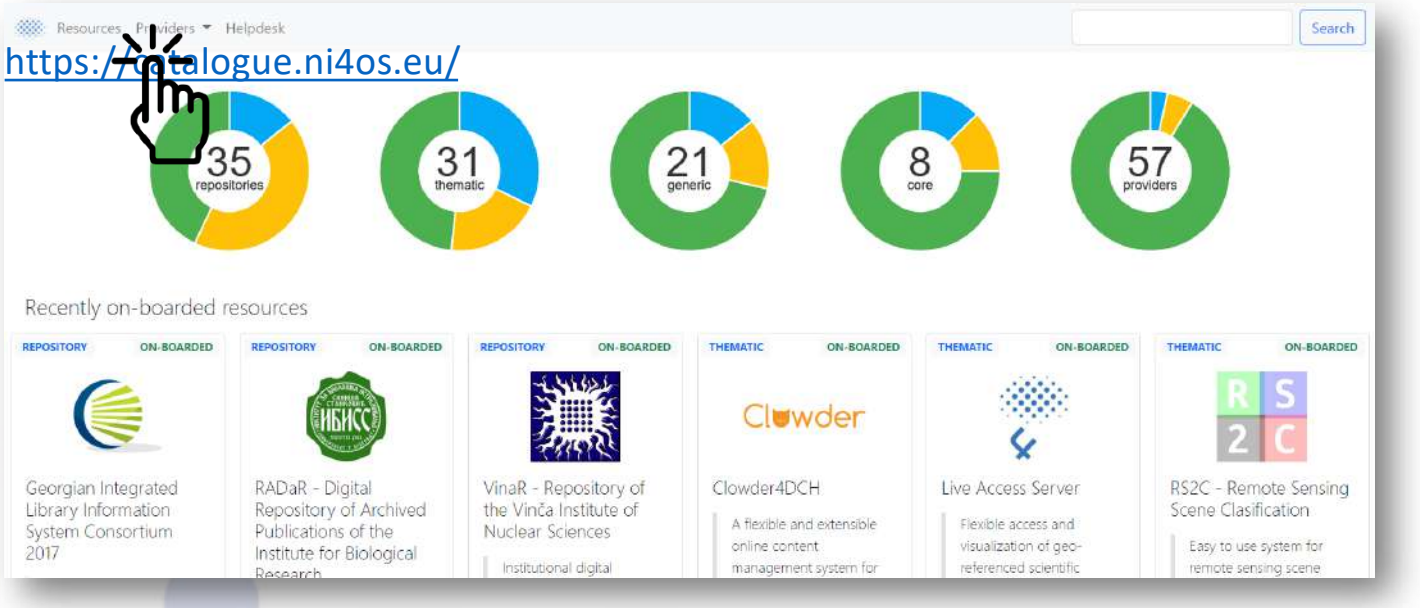


On-boarded resources/providers



The NI4OS-Europe Service Catalogue

- EOSC-compatible on-boarding procedure
- Fully compatible with the latest EOSC profile specification
- Technical integration with the central EOSC catalogue achieved
- Monitoring of the on-boarding process



NI4OS-Europe generic services

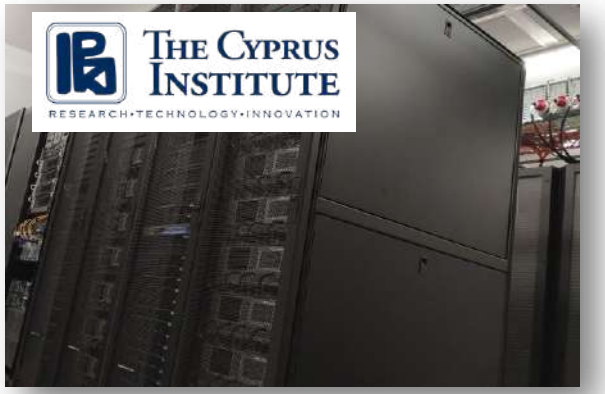
- HPC Resources
  - CPU
  - GPU
  - Xeon Phi

- Cloud Virtual Machines

- Generic Storage

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

NI4OS-Europe generic services



CYI Cyclone ~600 TFlop/s

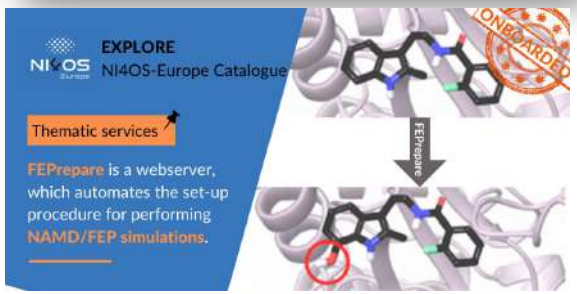
ARIS GRNET ~400 TFlop/s

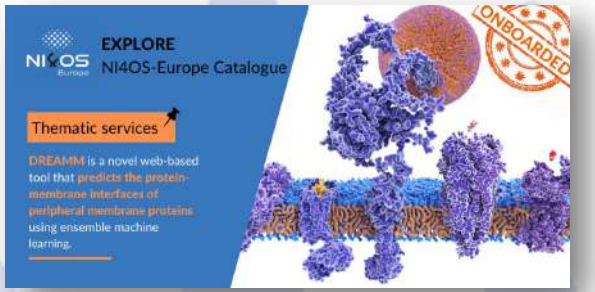
IICT-BAS AVITOHOL ~ 400 TFlop/s

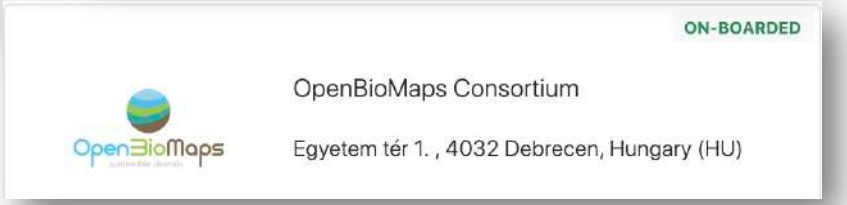
IPB PARADOX IV ~100 TFlop/s

LEO(KIFU) ~250 TFlop/s

On-boarded life Science thematic services

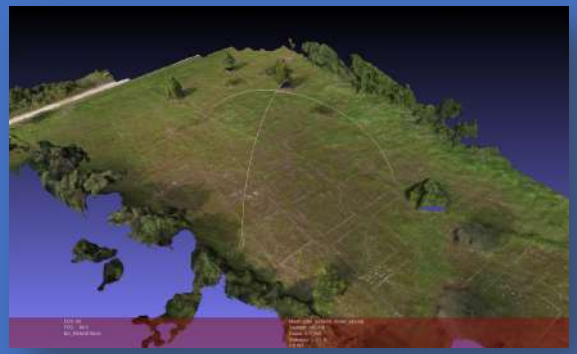




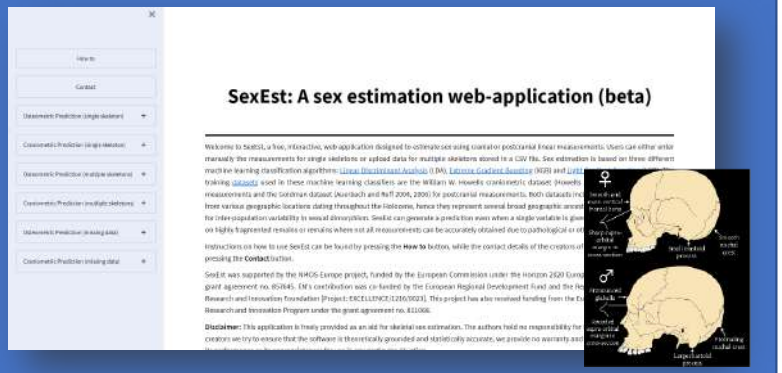


On-boarded DCH thematic services

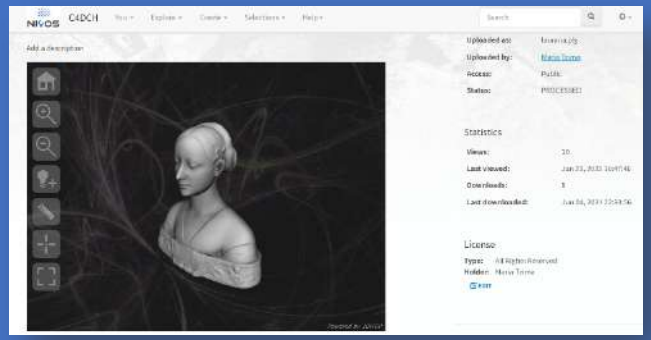
CHERE

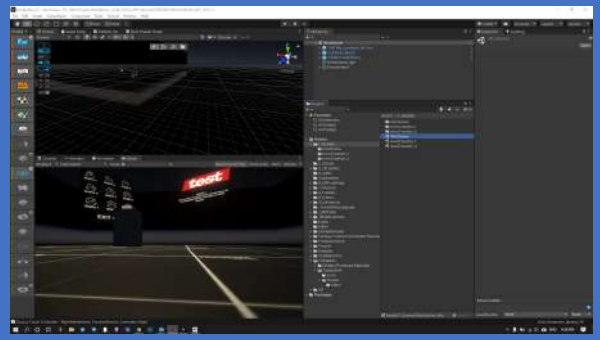


SexEst



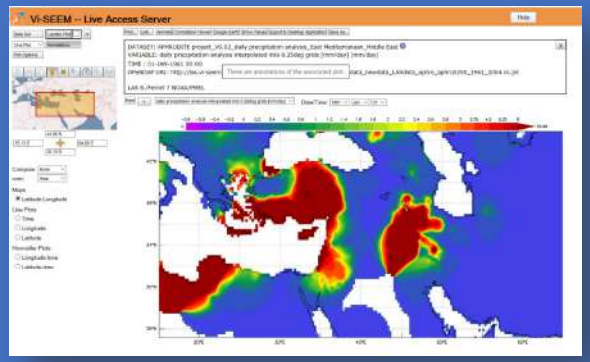
DCH Clowder





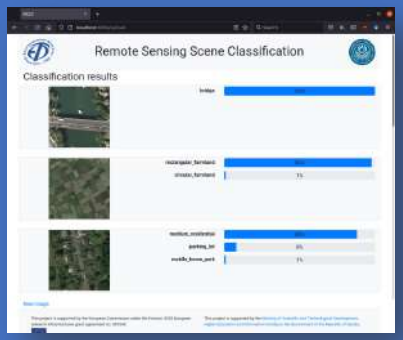
On-boarded Climate thematic services

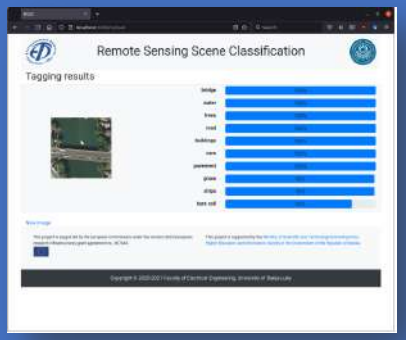
Live Access Server



Airquality

Remote Sensing Scene Classification

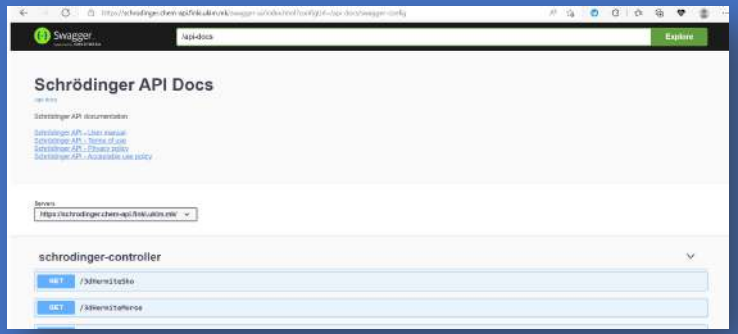


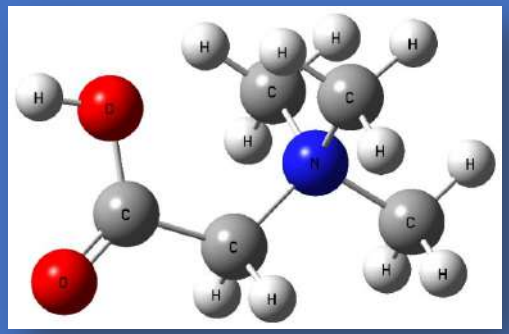


OMApp

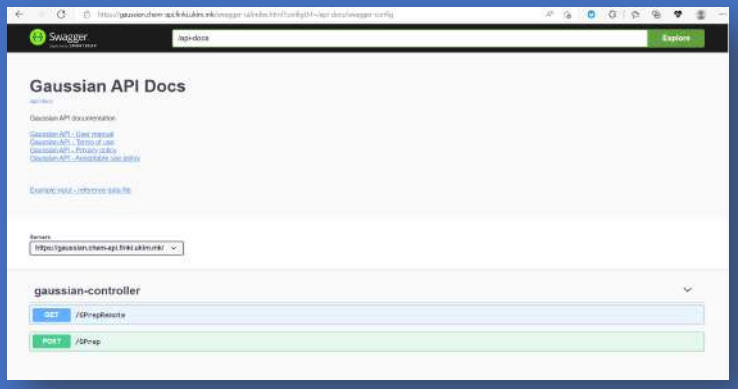
On-boarded Computational Physics thematic services

Schrödinger API





Gaussian API



EOSC candidate repositories: actions

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)

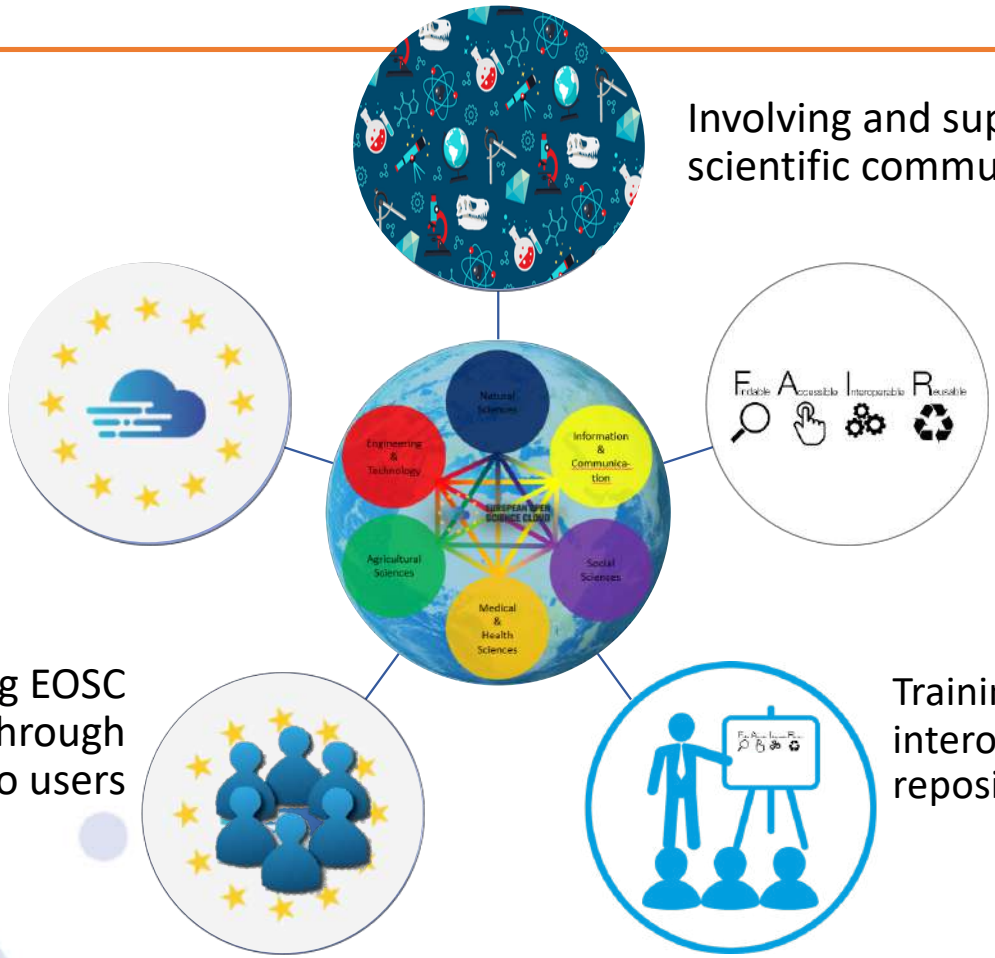
Institutional

45 candidates
Certification
NOADs cooperation

Lines of action

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

User engagement, training and demonstrators



Involving and supporting scientific communities

Ensuring take-up of core EOSC services in the community

Promoting uptake of FAIR among research communities

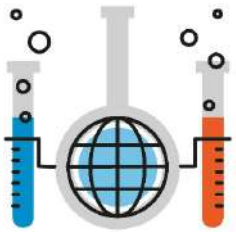
Promoting and ensuring EOSC research outcomes through concrete support to users

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

User engagement, training and demonstrators

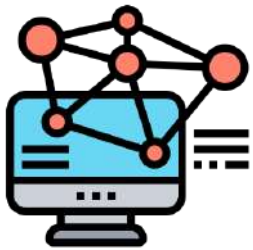
- Training materials available
- Definition of use cases in various scientific fields:

Digital Cultural Heritage



Life Sciences

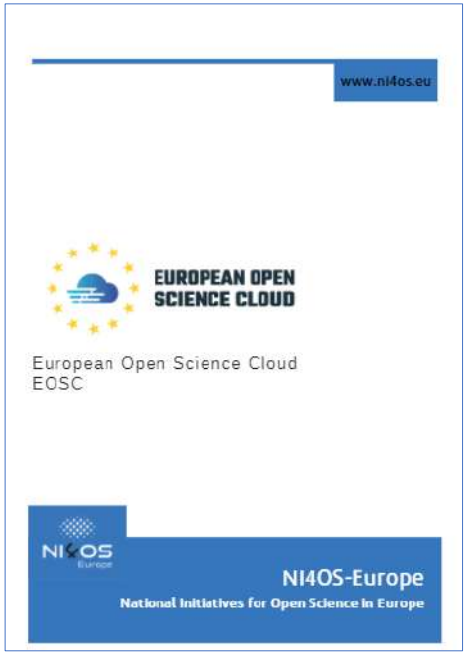
Climate Science

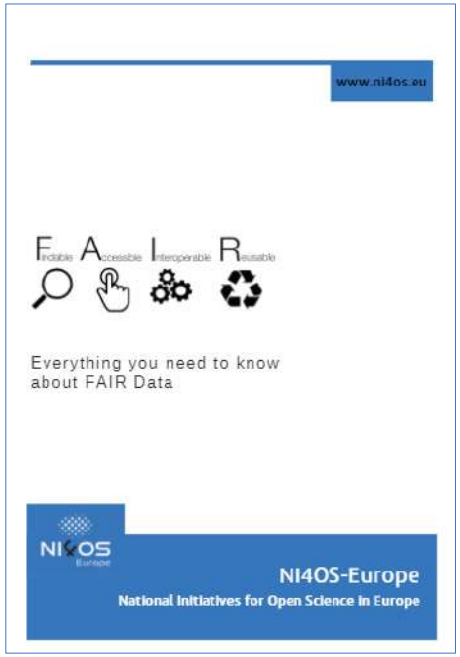


Computational Physics

Support to EOSC service & FAIR uptake in communities

- Ambassadors from each country assigned as EOSC promoters
- Training and dissemination material for FAIR and EOSC service uptake is available in all different languages of the NI4OS-Europe area
- Webinars for disseminating EOSC and FAIR principles in each country





NI4OS-Europe EOSC promoters

The actions of NI4OS-Europe EOSC promoters

NI4OS-Europe training

- Training events
  - 10 train-the-trainers
    - > 500 participants
  - 30 national capacity building and end-users training events
    - > 1500 participants
- Training topics
  - FAIR data principles
  - EOSC promotion
  - Open Research Data Management (ORDM)
  - On-boarding
  - IT Service Management

NI4OS-Europe training platform

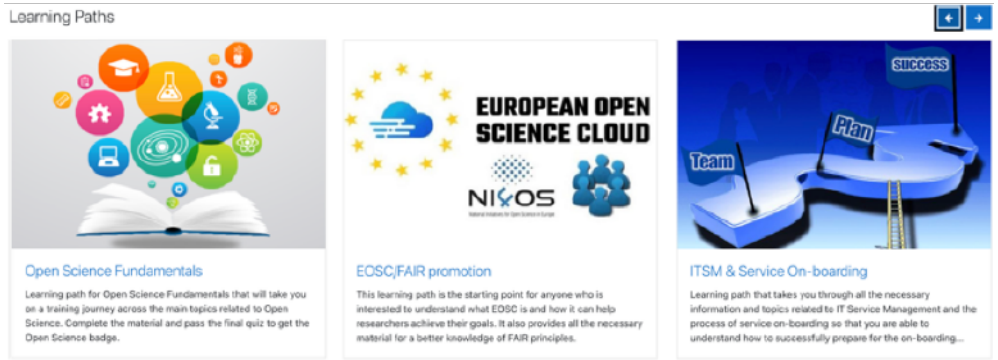
Training material on various FAIR & ORDM topics available on the training platform for self-paced learning

https://training.ni4os.eu/

Over 800 users

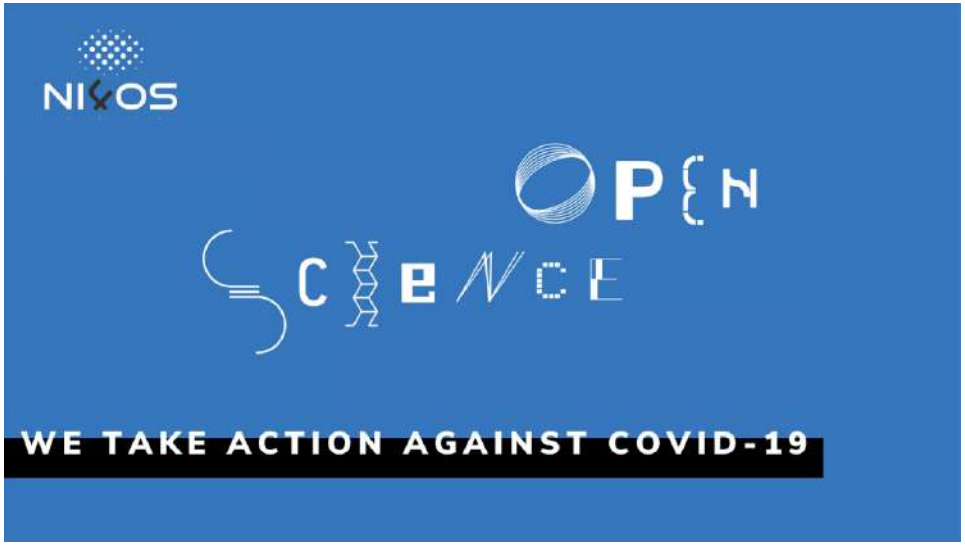
Over 100 courses

5 Learning Paths



Support the global efforts on COVID-19

- COVID-19 social media campaign
- NI4OS-Europe vs COVID-19: providing fast track access to services, tools and software for the Scientific communities that perform extensive research to tackle COVID-19
- NI4OS-Europe Covid19 Wiki : Collection of joint resources in open science related to COVID-19 in SEE



Scientific results:

"Multi-omics data integration and network-based analysis drives a multiplex drug repurposing approach to a shortlist of candidate drugs against COVID-19"

Support Researchers through Open Call

Thanks!

NI4OS

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Join NI4OS-Europe Community:

https://ni4os.eu/contact-us

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