NI4OS-Europe: Servicing the Service Providers

Community support discussions: FAIR implementation for NI4OS-Europe service providers

29th of April

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NI4OS-Europe WP6 leader
The Cyprus Institute

NI4OS-Europe

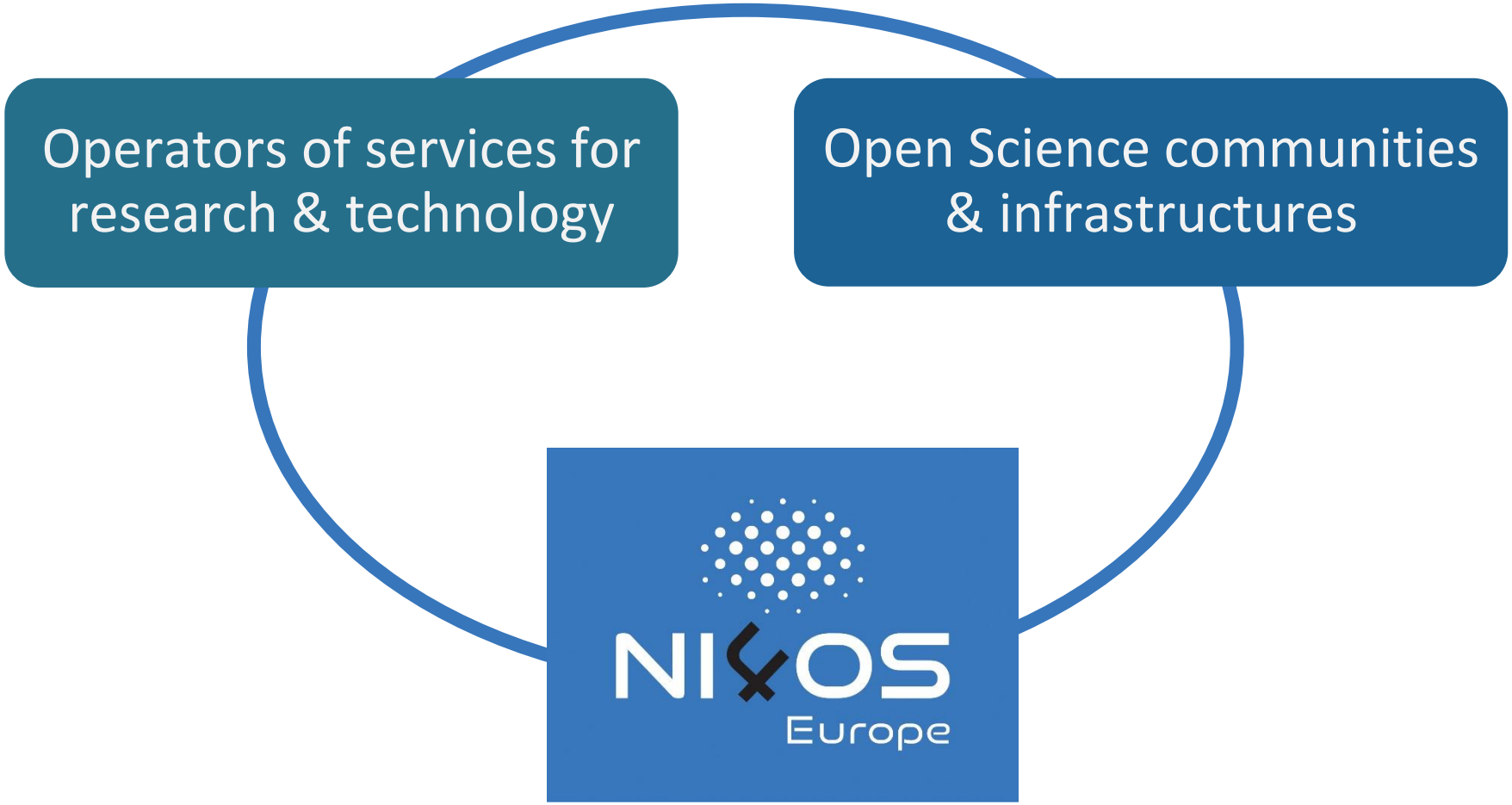
15 Member States and Associated Countries | 22 Partners

NI4OS Europe

Participating countries

Greece	Hungary	Albania	Republic of Moldova
Cyprus	Romania	Bosnia-Herzegovina	Armenia
Bulgaria	Slovenia	North Macedonia	Georgia
Croatia	Serbia	Montenegro	

Partnership building blocks



Mission

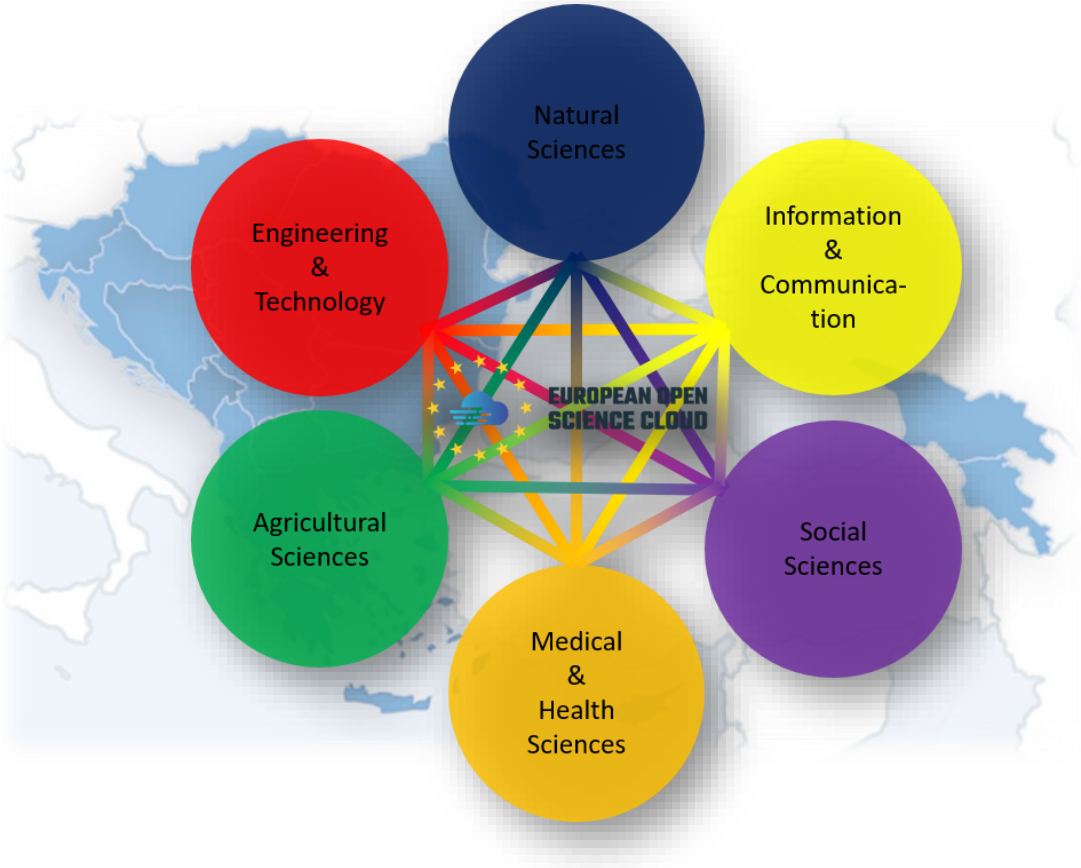
Support the development and inclusion of the national Open Science Cloud (OSC) initiatives in 15 Member States and Associated Countries in the overall scheme of EOSC governance

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

NI4OS-Europe supports OPEN SCIENCE!

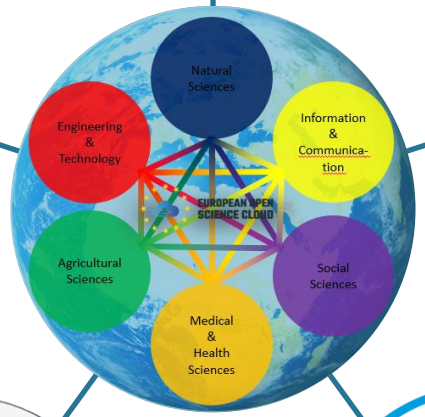
- We support OPEN SCIENCE
- By providing all the necessary tools to the **LONG TAIL OF SCIENCE** throughout the **EOSC**
- Servicing **ALL** possible disciplines
- Namely we support the on-boarding of
  - Thematic Services
  - Generic Services
  - Repositories
- We provide access to **ORDM tools**
- We provide training on **FAIR**

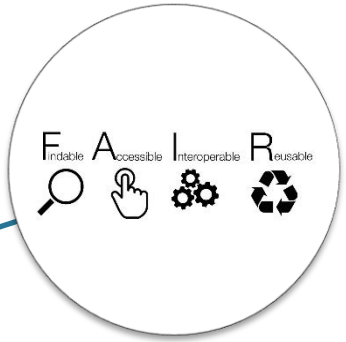


User engagement, training and demonstrators

Involving and supporting scientific communities

Ensuring take-up of core EOSC services in the community





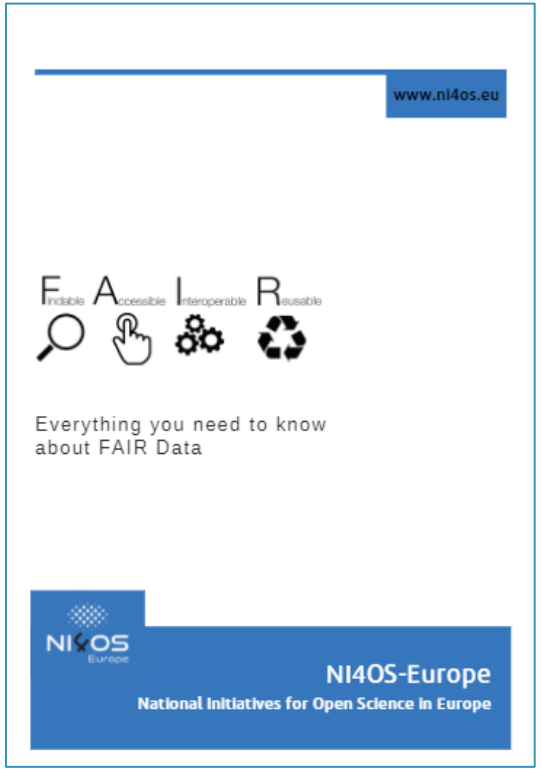
Promoting uptake of FAIR among research communities

Promoting and ensuring EOSC research outcomes through concrete support to users

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

Support to EOSC service & FAIR uptake in communities

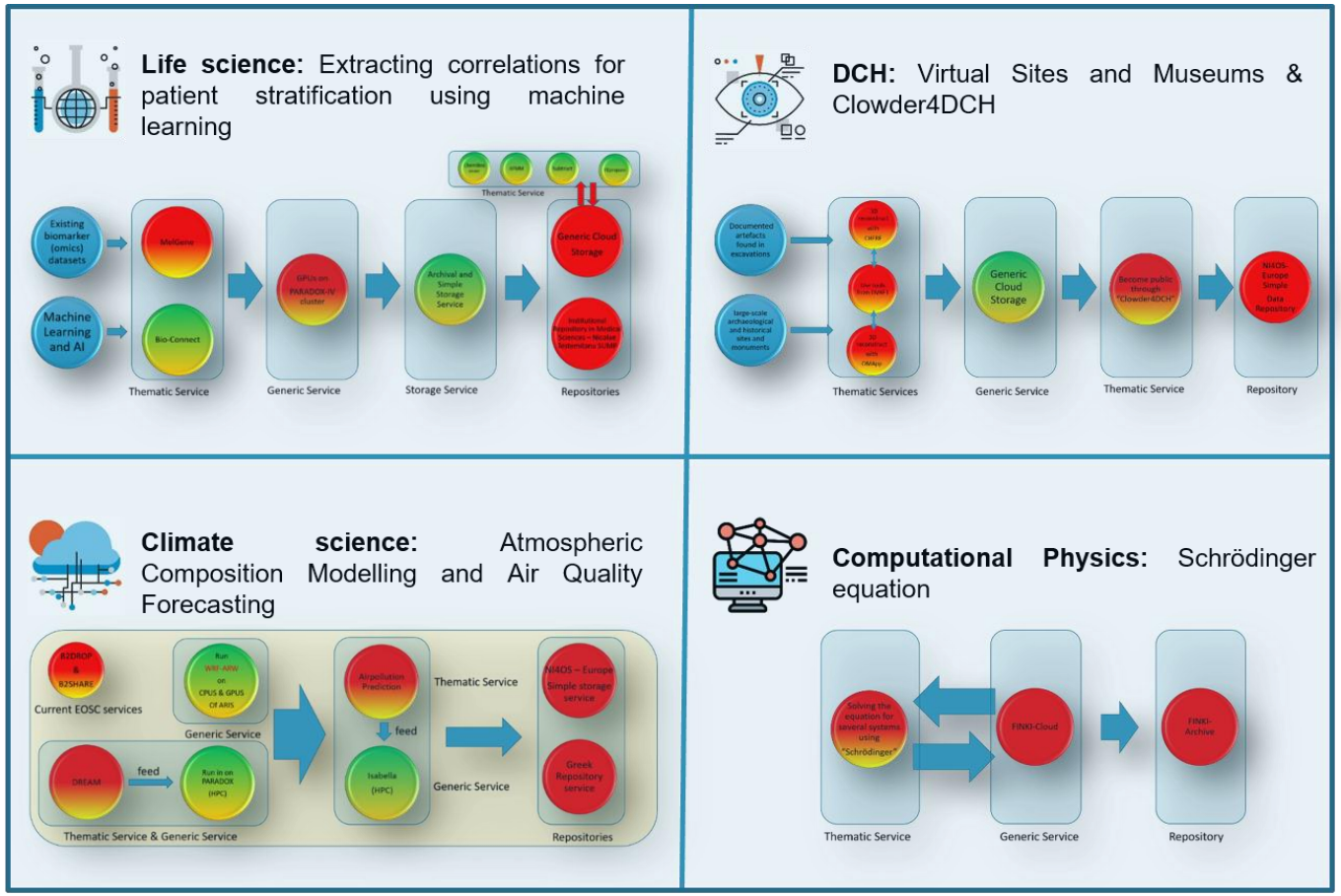
- Policy/Strategy: **Ambassadors** from each country assigned as EOSC promoters
- Training and dissemination: **material for FAIR and EOSC service uptake** is available in all different mother languages of the NI4OS-Europe area. Webinars for disseminating EOSC and FAIR principles in each country
- Infrastructures and tools: Provide **ORDM tools** and enhancing current practices



Flagship scientific communities

We have identify four highly cross-disciplinary, real-user communities:

- Life Science
- Digital Cultural Heritage
- Climate Science
- Computational Physics



Open Call

at: https://ni4os.eu/

Open Call


OPEN CALL
powered by NI4OS-Europe
COMPUTATIONAL PHYSICS
Research Topics
| Computational fluid dynamics | Computational particle physics | Molecular dynamics | Electronic structure methods | | Computational electromagnetics | Lattice gauge theories | Astrophysics |


OPEN CALL
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CLIMATE RESEARCH
Research Topics
| Regional climate modelling for climate change, impacts & phenomena | Air quality modelling, including atmospheric chemistry, air pollution transport |Weather forecast & extreme weather prediction, model development, application |


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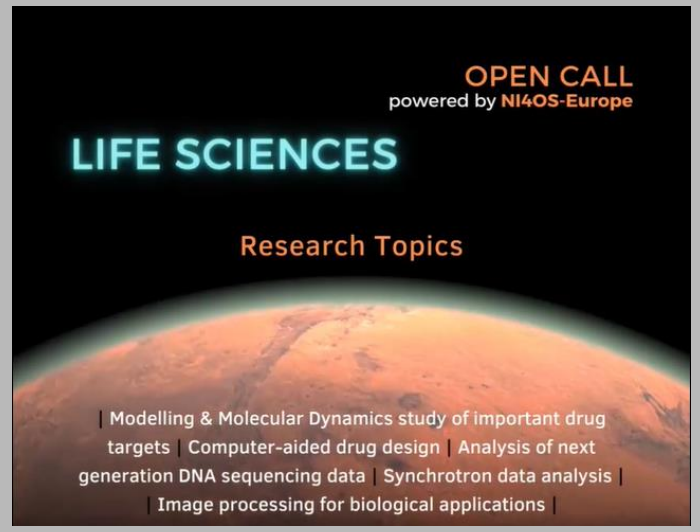
80% LIFE SCIENCES
CLIMATE RESEARCH
DIGITAL CULTURAL HERITAGE
COMPUTATION PHYSICS
20% OTHER SCIENTIFIC FIELDS
Learn more about EOSC compatible projects:
https://ni4os.eu/access/opencall


OPEN CALL
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LIFE SCIENCES
Research Topics
| Modelling & Molecular Dynamics study of important drug targets | Computer-aided drug design | Analysis of next generation DNA sequencing data | Synchrotron data analysis | | Image processing for biological applications |


OPEN CALL
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DIGITAL CULTURAL HERITAGE
Research Topics
| Online services & access to repositories to enable studies of the cultural heritage assets in the region | Online visualization tools to drive breakthrough contributions to heritage enquiries | Training material & tools for the creation of interactive and immersive environments to support the GLAM industry with limited resources to generate virtual exhibitions of their collections of artefacts |

EOSC candidate generic services: examples

- HPC Resources
  - CPU
  - GPU
  - Xeon Phi

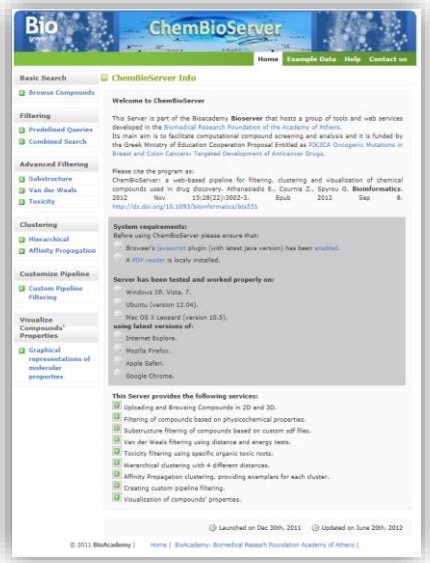
- Cloud Virtual Machines

- Generic Storage

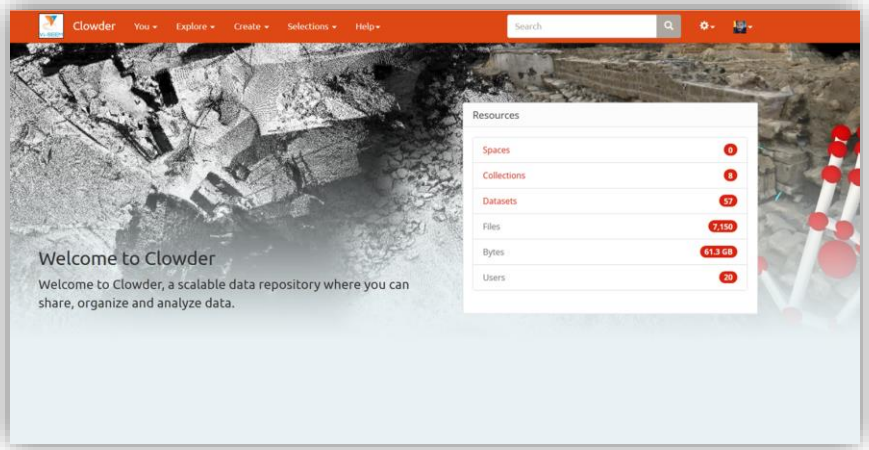
- Data management services (Archival, Repository, Data discovery, Hadoop on-demand, Data analysis service, Simple storage)

EOSC candidate thematic services: examples

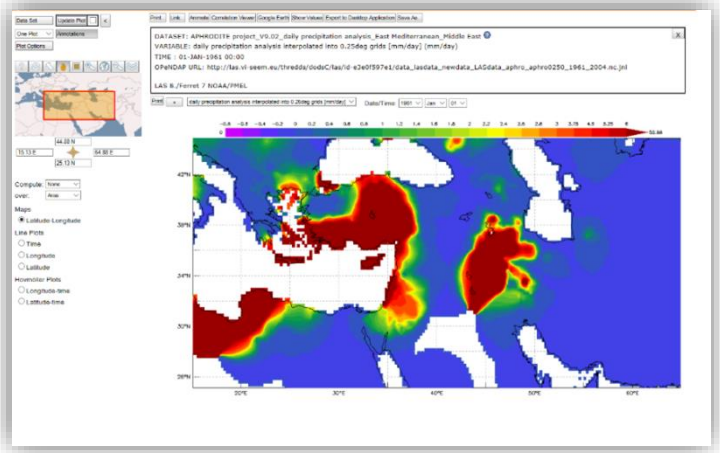
ChemBioServer



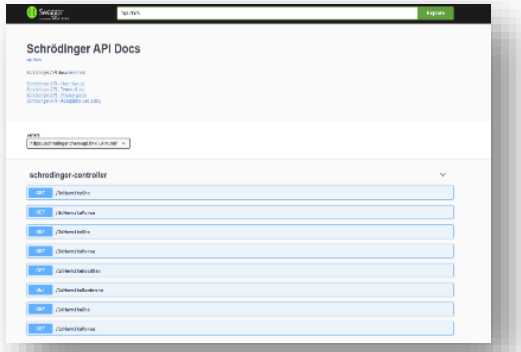
DCH Clowder



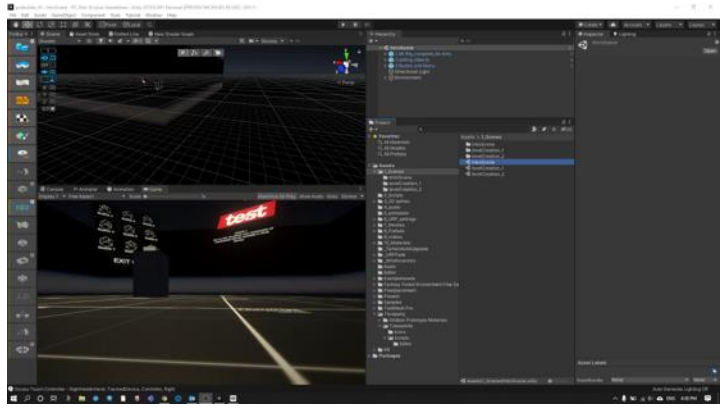
Live Access Server



Schrödinger API



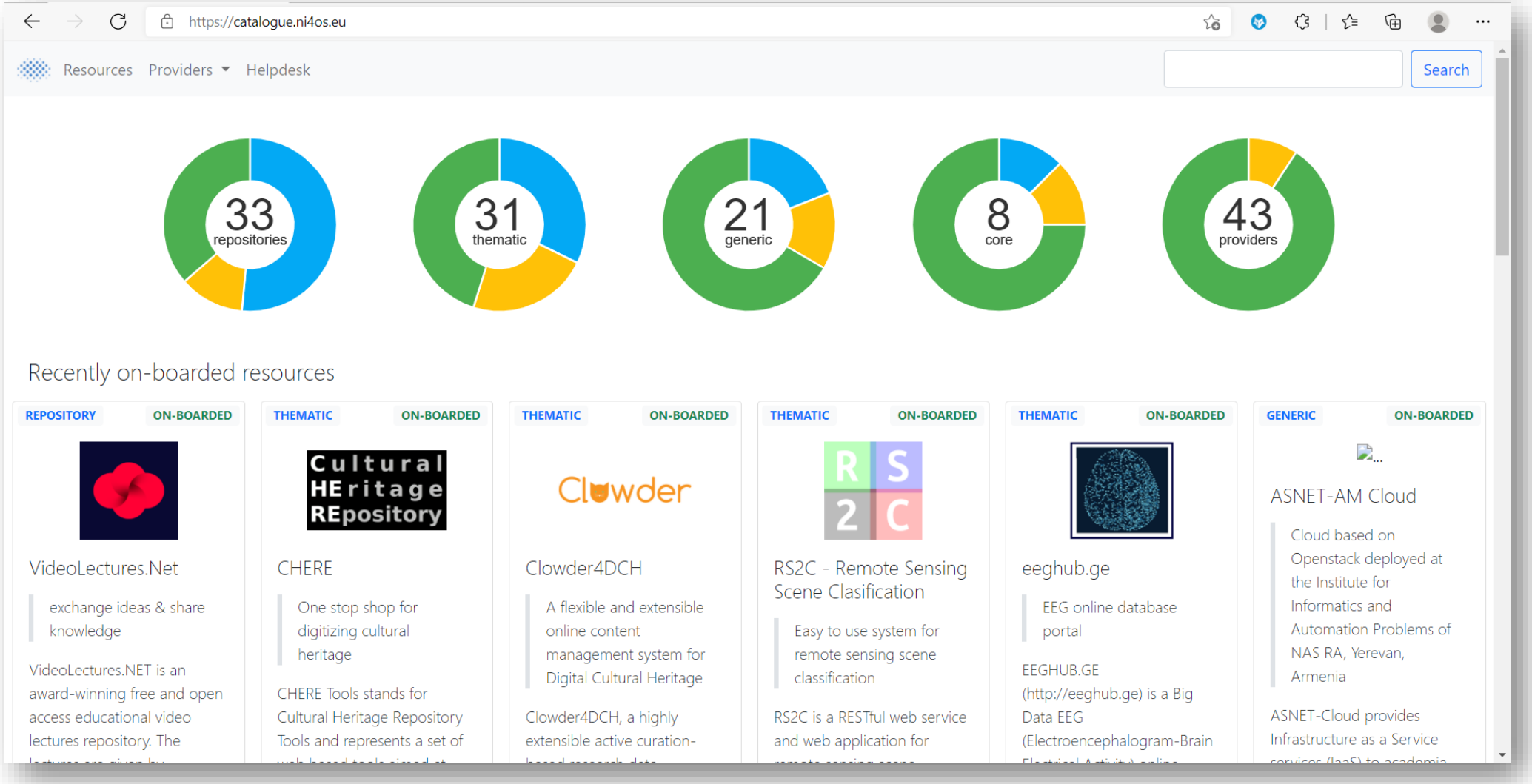
OVRET



Airquality

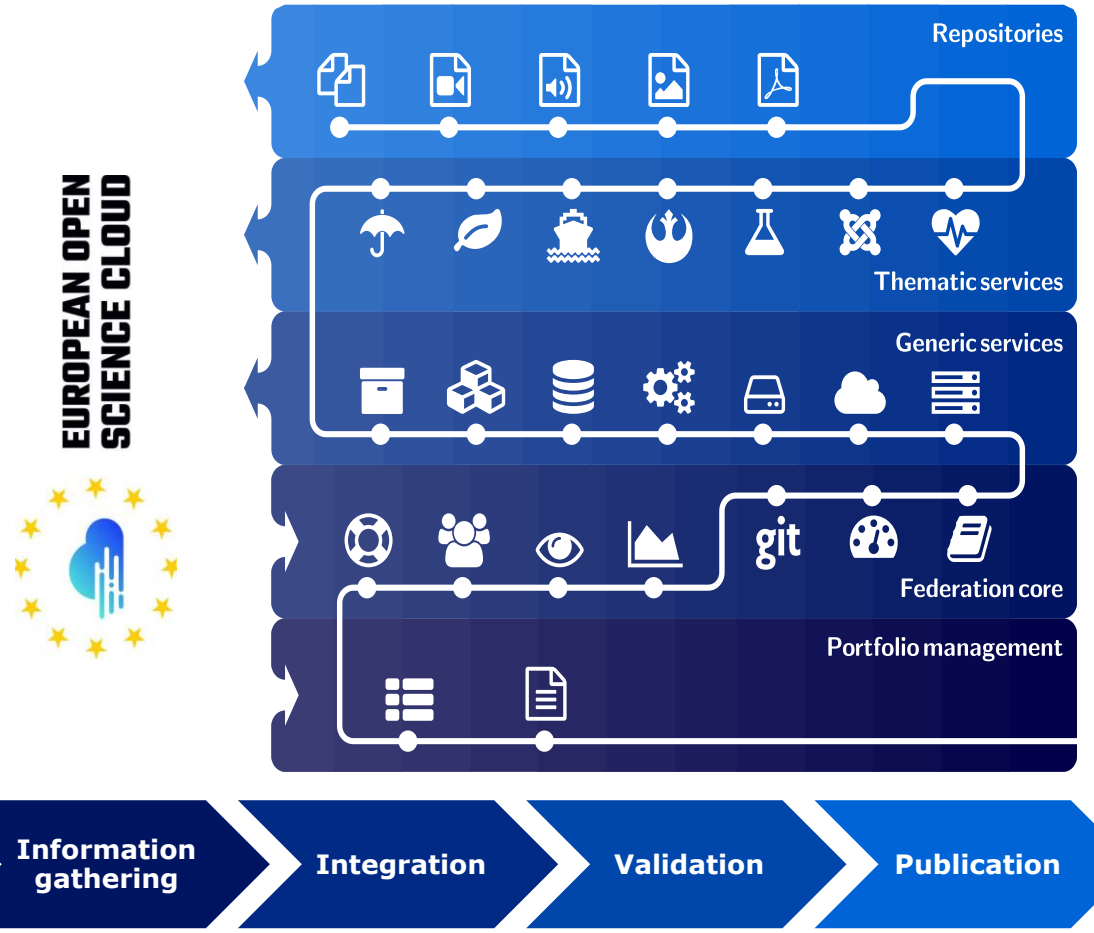
NI4OS-Europe Service Catalogue: examples

Link: https://catalogue.ni4os.eu/



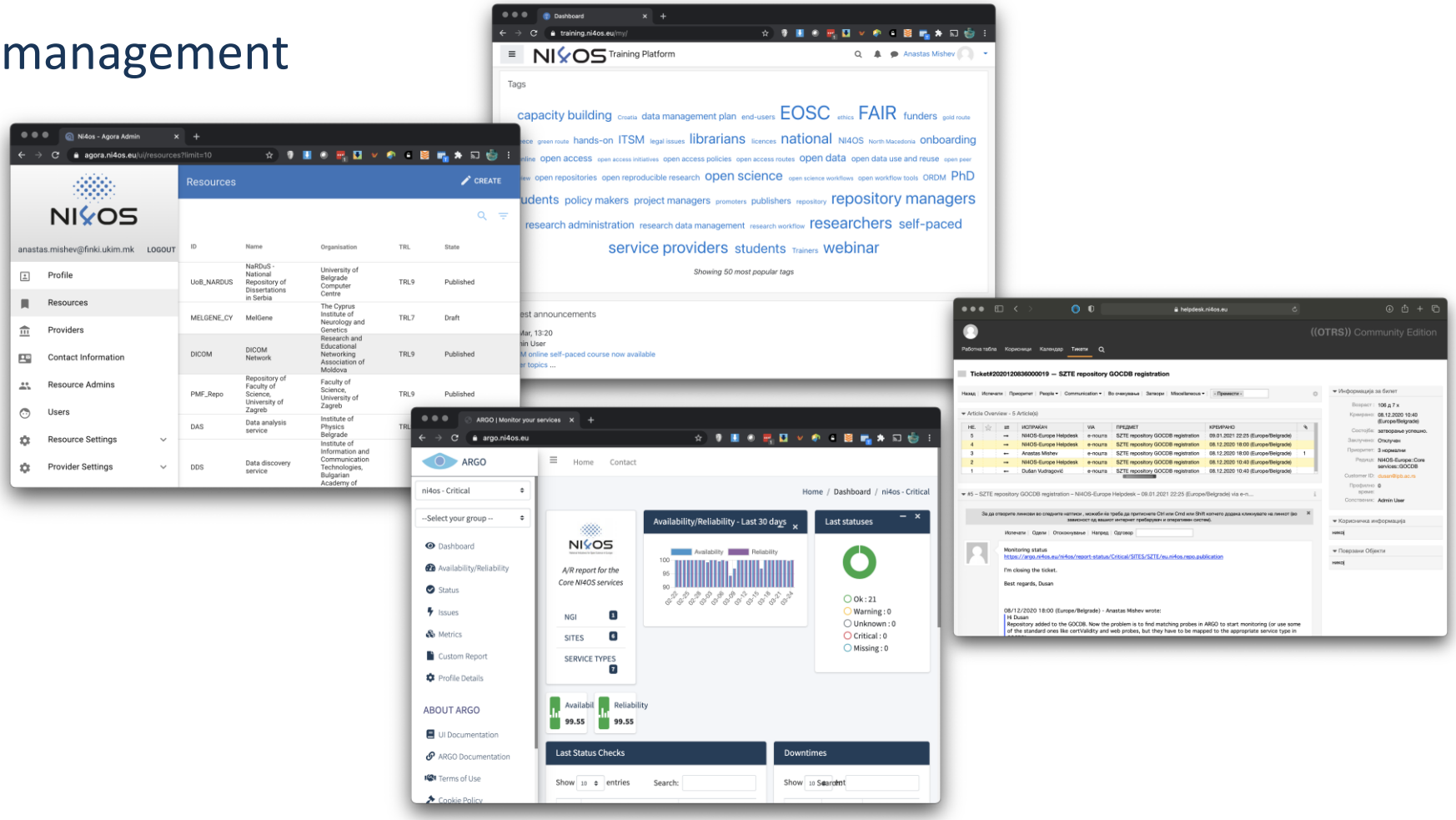
Service integration and onboarding

- 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



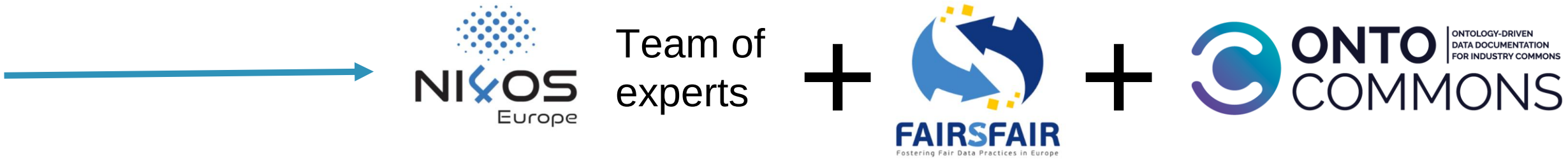
NI4OS-Europe pre-production environment

- Federating core
  - Service catalogue management system (AGORA)
  - AAI
  - Helpdesk
  - Monitoring
  - Accounting



How FAIR-enabling are the services?

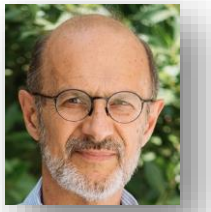
- Does a service support metadata?
- Does a service support semantics?
- Are there metadata standards available for a specific domain?
- How much FAIR-educated are the scientists developing a service?
- How about semantics interoperability?
- How do we facilitate the inclusion of semantics, metadata schemas, ontological solutions on a service at practical level?
- Address the above



NI4OS-Europe Task-Force on Semantics/Metadata/Ontologies

- NI4OS-Europe Team of experts:
  - Consists of academics with experience on metadata and controlled vocabularies

- Agiatis Benardou



- Panos Constantopoulos

- Georgios Artopoulos

- Zoe Cournia

- Valentina Vassallo

- Adam Szaldobagyi

- Vicky Liakopoulou

- Branko Marović

NI4OS-Europe Task-Force on Semantics/Metadata/Ontologies

- NI4OS-Europe Team of experts:
- Goals:
  - Provide more context on the foggy subject of FAIR-enabling services
    - Answer questions and increase awareness on the technicalities of FAIR implementation
    - Everyone to understand the basics of semantics and the role of metadata and controlled vocabularies (ontologies, taxonomies, etc)
  - Work with service providers to analyse the different types of metadata
    - Provide tailored advice for appropriate use in a research data management lifecycle
  - Contribute to some parts of the implementation of domain data protocols (to later be implemented in the Argos DMP service)
  - Contribute to the EOSC FAIR TF and EOSC FAIR Metrics and Data Quality TF conversations

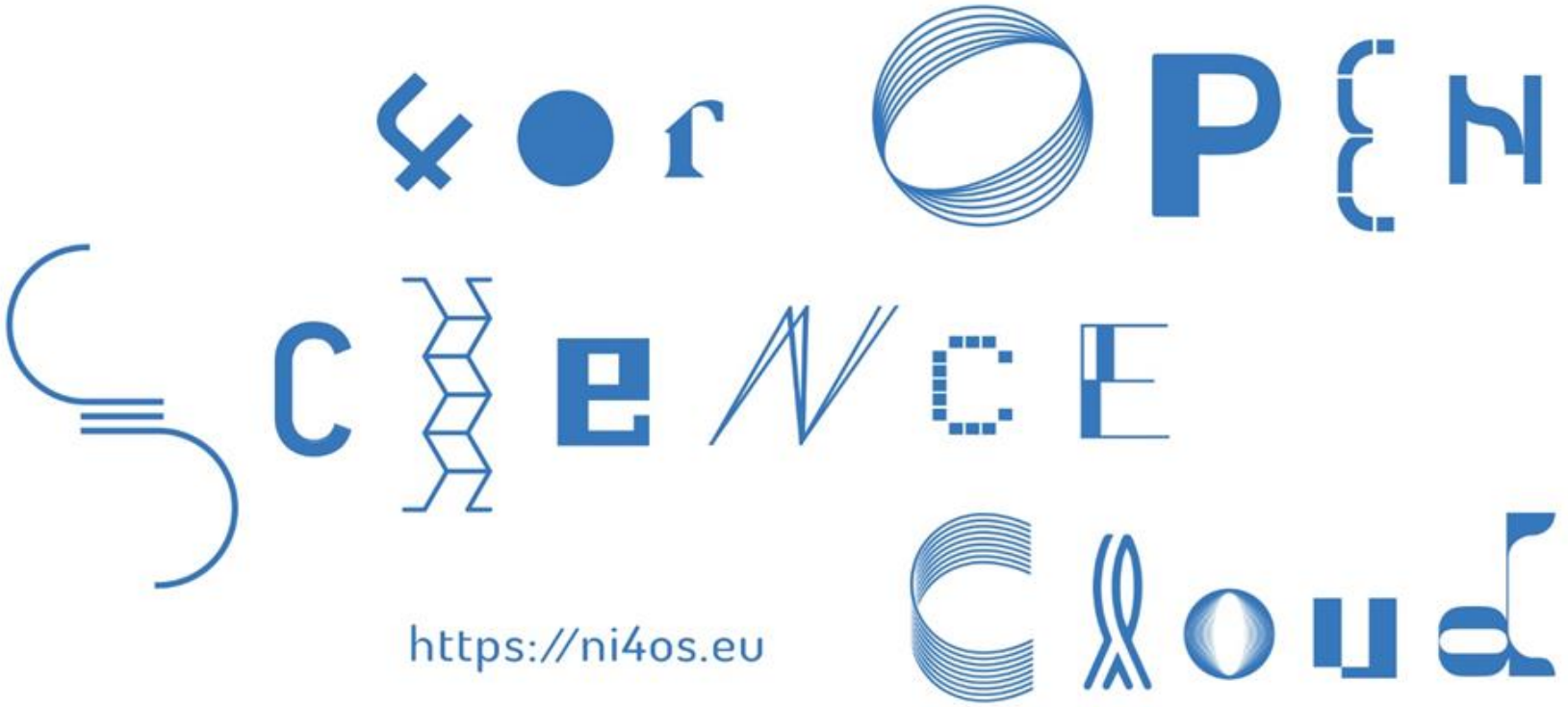
NI4OS-Europe Task-Force on Semantics/Metadata/Ontologies

- Activities:
  - Organisation of webinars for on-boarded service providers and repository managers
  - Providing a pathway on integrations and/or alterations that are necessary for enhancing existing services or new services
  - Feedback on ORDM tools (RePol, LCT, RoLECT)
    - LCT – License Clearance Tool: https://lct.ni4os.eu
    - RePol – Repository Policy Generator https://repol.ni4os.eu/
    - RoLECT – EOSC RoP Legal & Ethics Compliance https://rolect.ni4os.eu/

Further on

- Consolidate the ‘experts group’ activities to Guidelines for service providers
  - Clearly demonstrate how different services (eg data analysis, storage, etc) can enhance FAIRness
- Create a metadata standard based on best practices

Thanks for your attention!



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