

Acces la servicii EOSC. Includerea serviciilor în EOSC

Seminar „Instrumente ale Științei Deschise pentru cercetători”

Alexandr Golubev, Asociația RENAM



Open science

- **Open science** holds that it is the movement to make scientific research (including publications, data, physical samples, and software) and its [dissemination accessible](#) to all levels of an inquiring society, amateur or professional.^[1] Open science is transparent and accessible [knowledge that is shared](#) and developed through [collaborative networks](#). It encompasses practices such as publishing [open research](#), campaigning for [open access](#), encouraging scientists to practice [open-notebook science](#), and generally making it easier to publish and communicate [scientific knowledge](#).

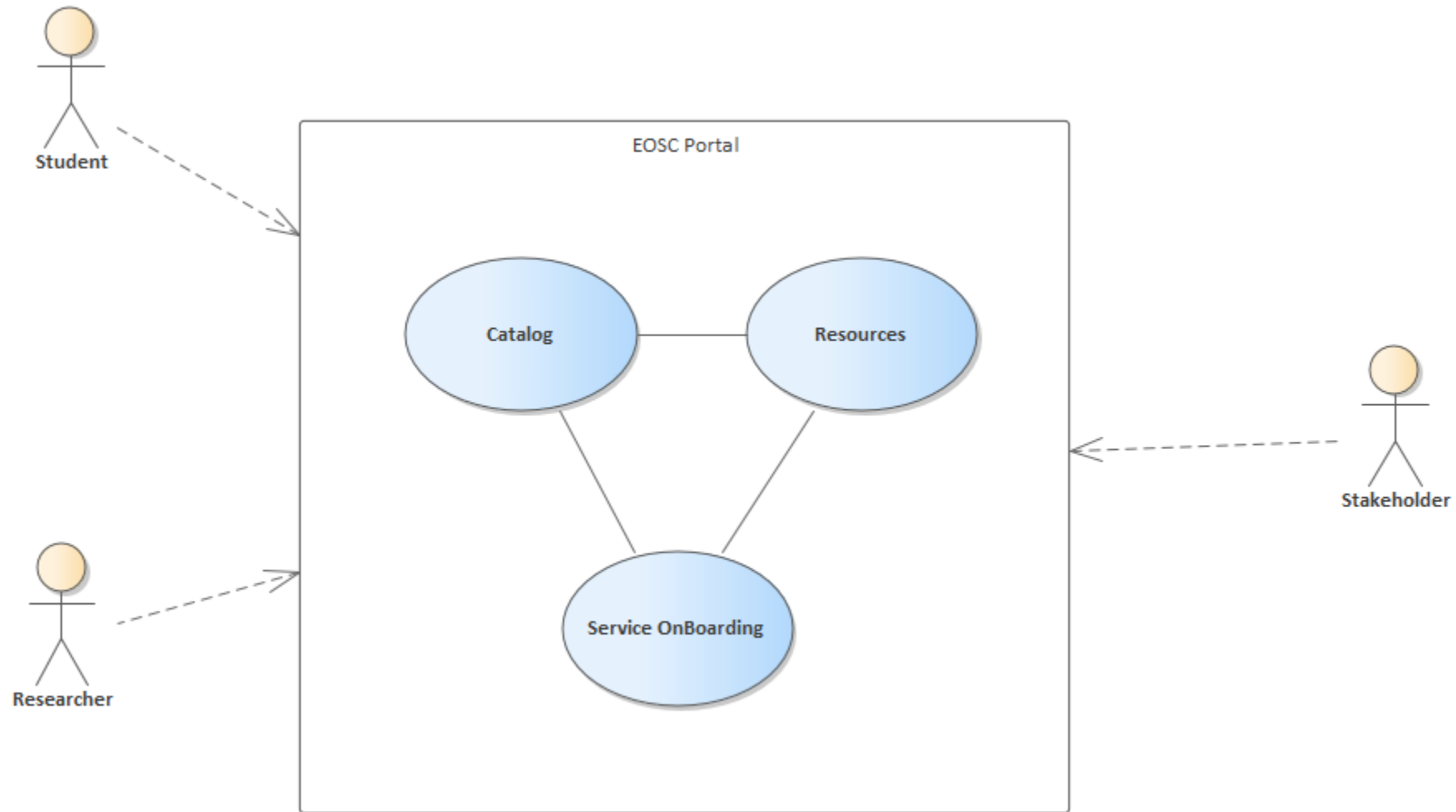
EOSC

- **The European Open Science Cloud (EOSC) is an environment for hosting and processing research data to support EU science.**

EOSC Portal

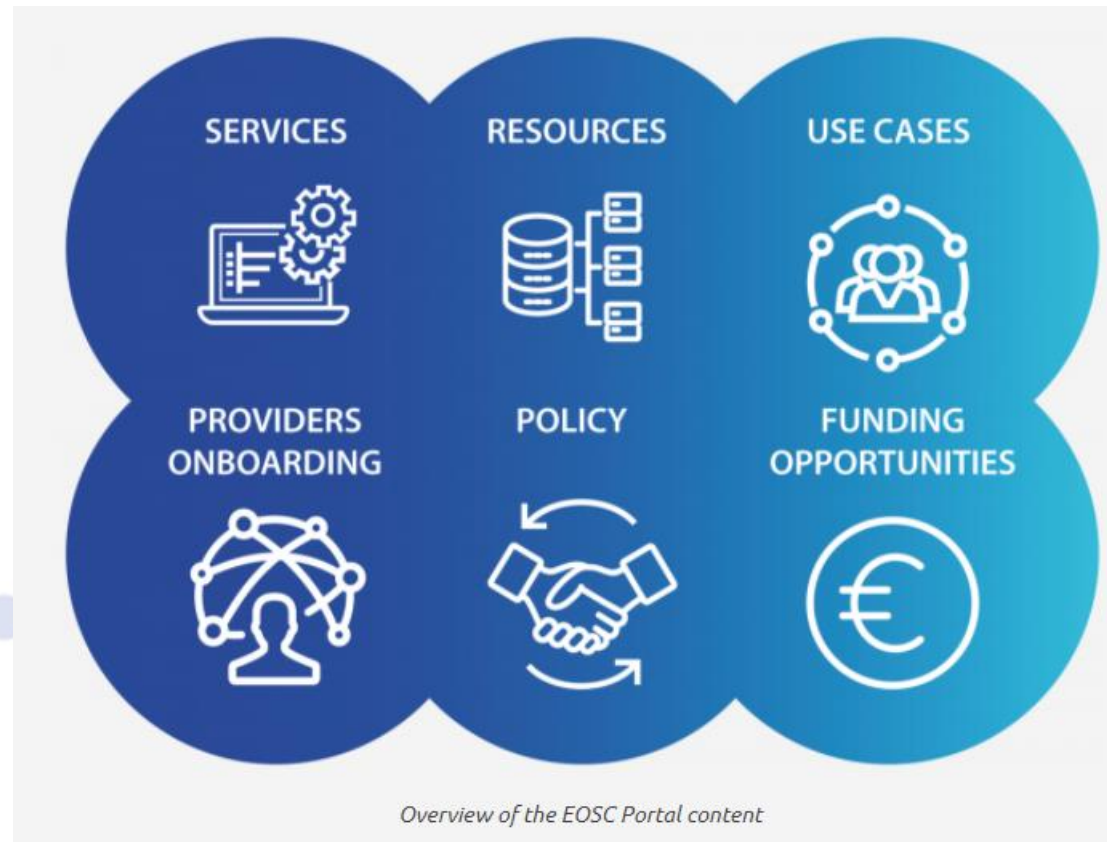
- The EOSC Portal is part of the EOSC implementation roadmap as one of the expected “federating core” services contributing to the implementation of the “Access and interface” action line. It has been conceived to provide a European delivery channel connecting the demand-side and the supply-side of the EOSC and all its stakeholders.

Access to EOSC services

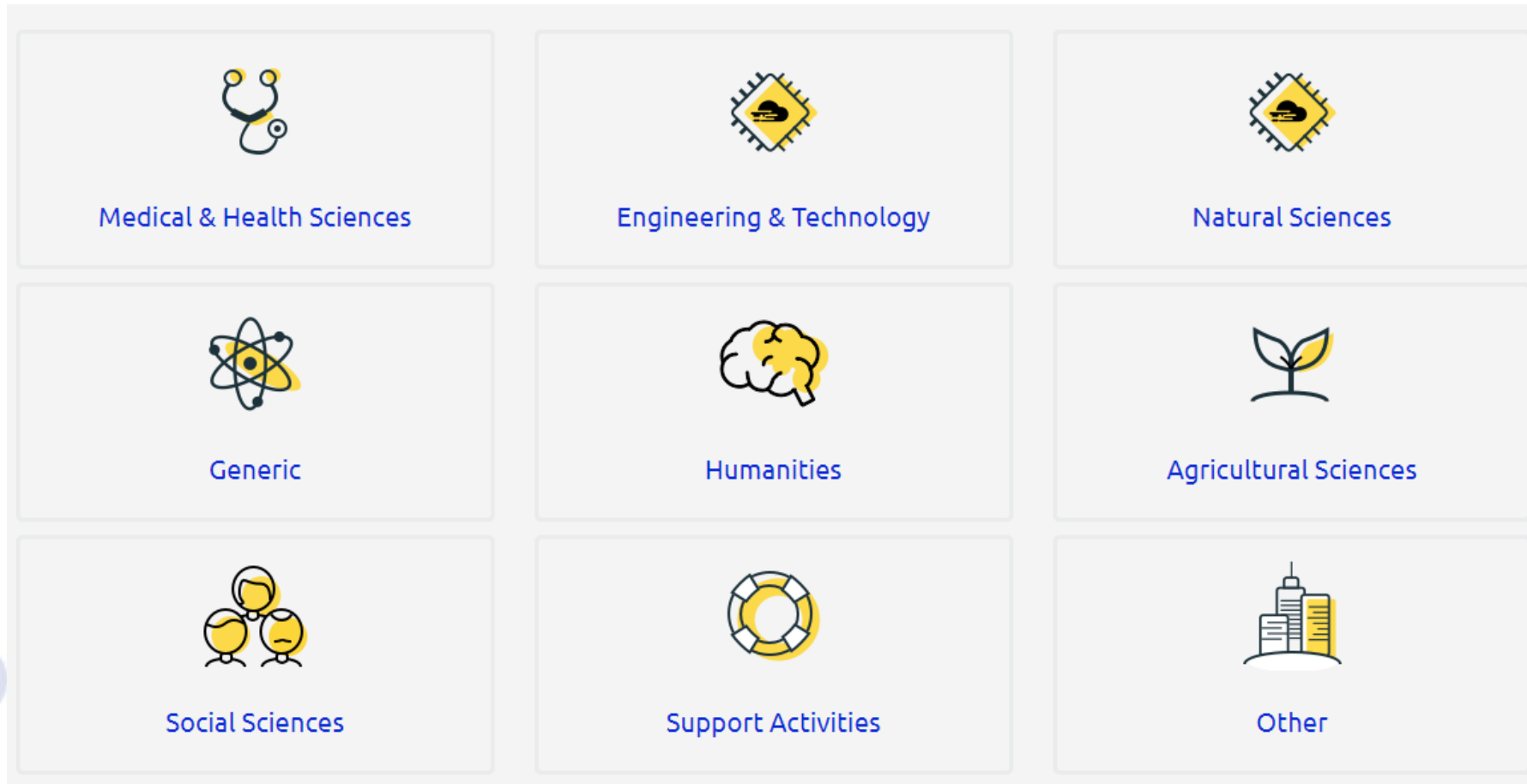


Access to EOSC services

- <https://eosc-portal.eu/>



Scientific Domains



Categories



Access physical & eInfrastructures



Aggregators & Integrators



Process & Analysis



Security & Operations




Sharing & Discovery



Training & Support

Service Catalog




European Galaxy Server

Open, reproducible, web-based platform for data intensive research.

Organisation: [University of Freiburg](#)
Provided by: [ELIXIR Belgium](#), [Erasmus Medical Center](#)

[Access the resource](#)

 OPEN ACCESS

☆☆☆☆☆ (0.0 / 5) 0 reviews Add to comparison Add to favourites

[→ Webpage](#) [→ Helpdesk](#) [→ Helpdesk e-mail](#) [→ Manual](#) [Ask a question about this resource?](#)
[→ Training information](#)

ABOUT **DETAILS** **REVIEWS (0)**

Classification

- Target Users:
Researchers, Research Projects
- Access Types:
Other
- Acces Modes:
Other

Public Contacts

- info@uni-freiburg.de

Changelog

- <https://galaxyproject.eu/posts/2019/03/19/galaxy-1901/>

Availability

- Geographical Availabilities:
[European Union](#)
- Languages:
English

Maturity Information

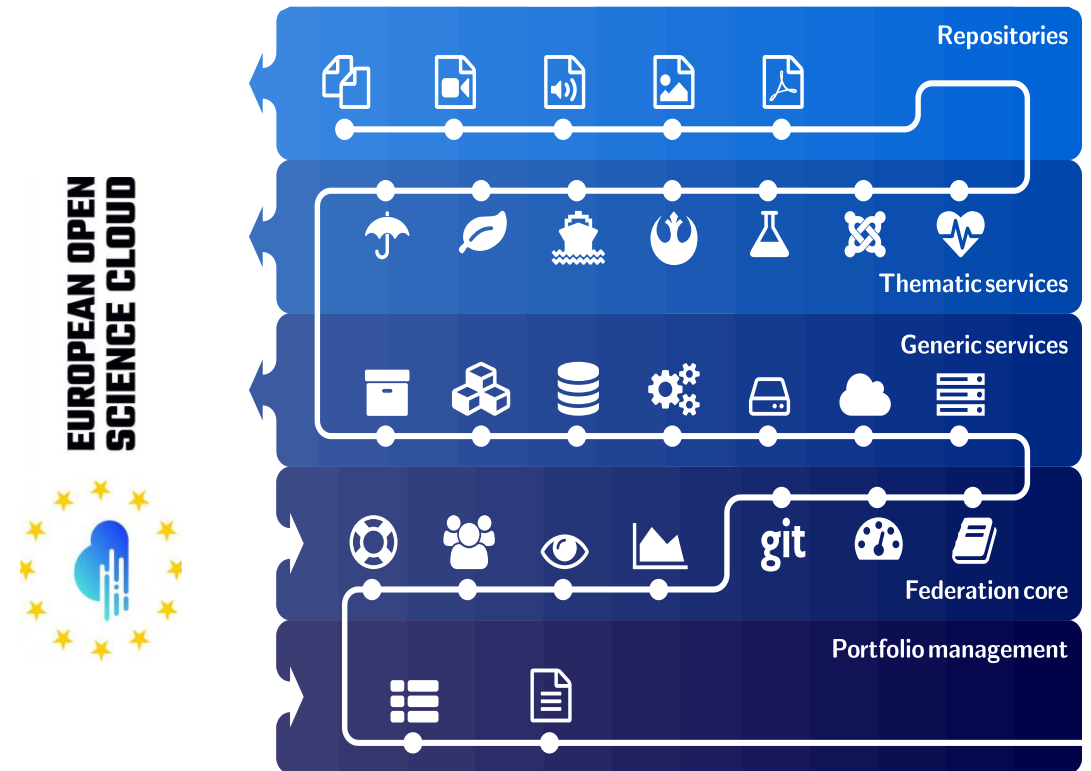
- Trl:
TRL-9
- Life Cycle Status:
Production

Management

[→ Helpdesk](#)
[→ Manual](#)

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

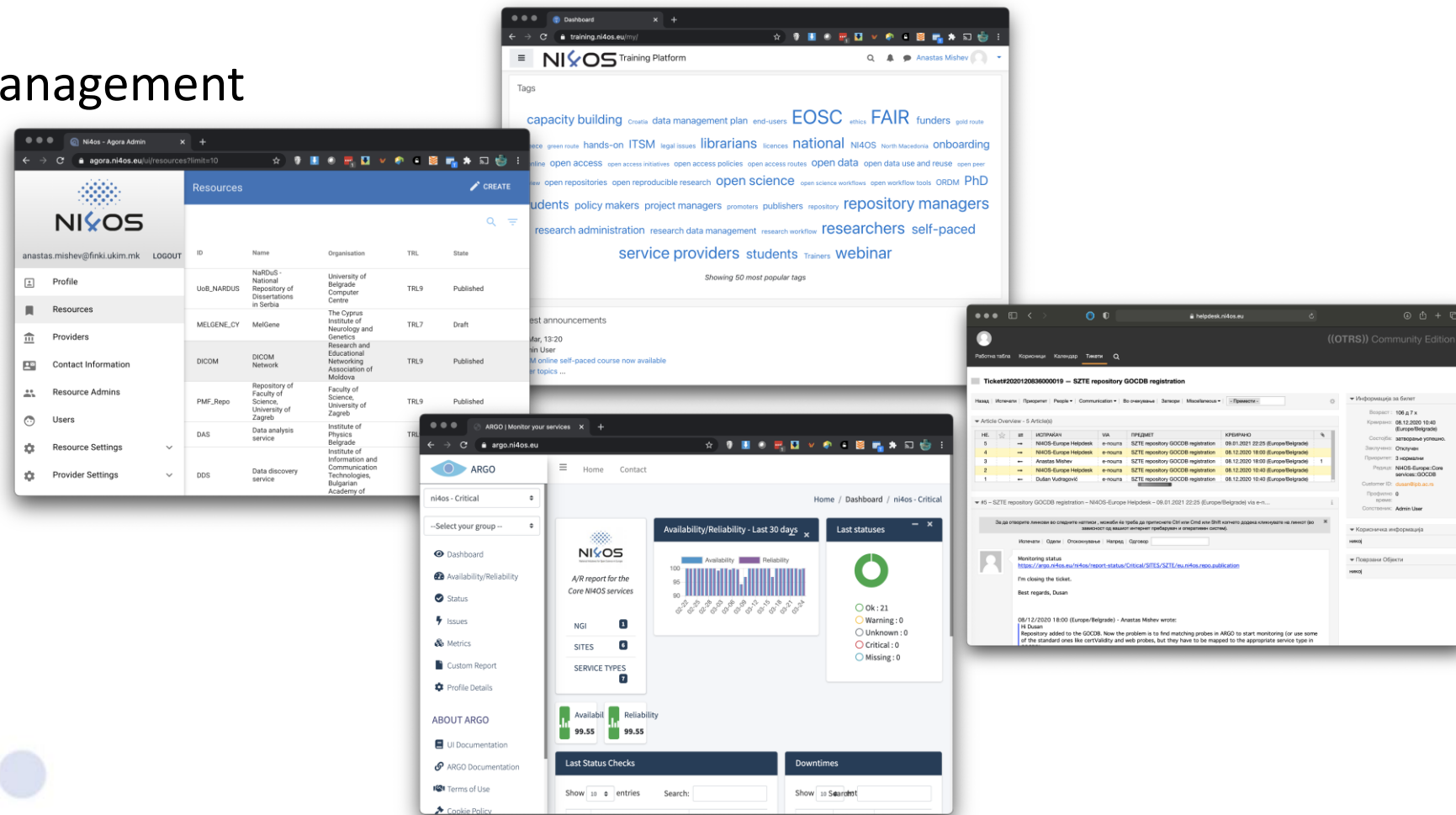


NI4OS-Europe pre-production environment



- Federating core

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



On-boarded generic services

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



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.



EXPLORE
NI4OS-Europe Catalogue

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.



EXPLORE
NI4OS-Europe Catalogue

Generic services

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



EXPLORE
NI4OS-Europe Catalogue

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.



Registered Generic Services for Moldova

○ **Generic services:**

- NI4OS-Europe-SDT-Cloud-RENAM-MD-Openstack
- NI4OS-Europe-SDT-Storage-MD-RENAM-FreeNAS


Basic Information					
Entry name	Entry type	Required	Public	Your answer	Guidance
Storage specification	Single Line	X	X	R740XD Server	
Total storage [TB]	Single Line	X	X	56Tb	
Storage technology	Single selection l	X	X	SAS	SSD, SAS,
Storage performance	Single Line		X		140 IOPS
Software details					
Entry name	Entry type	Required	Public	Your answer	Guidance
Supported interfaces	Single Line	X	X	FTP, NFS, WebD	List of protocols
Supported storage types	Multiselect list		X		Available

Basic Information					
Entry name	Entry type	Required	Public	Your answer	Guidance
Server specification	Single Line	X	X	Dell R430	This might be
Number of servers	Single Line	X	X		2 Number of
CPU details					
Entry name	Entry type	Required	Public	Your answer	Guidance
CPU specification	Single Line	X	X	Intel(R) Xeon(R) i	
CPUs per server	Single Line	X	X		2
Cores per CPU	Single Line	X	X		16
RAM per server [GB]	Single Line	X	X		128
RAM per core [GB]	Single Line	X	X		8
Total number of CPU-cores	Single Line	X	X		32
Filesystem details					
Entry name	Entry type	Required	Public	Your answer	Guidance
Total storage [TB]	Single Line	X	X		2.7
Virtual Machine specification					
Entry name	Entry type	Required	Public	Your answer	Guidance
Minimum number of CPU cores per VM	Single Line	X	X		1
Minimum amount of RAM per VM [GB]	Single Line	X	X		2
Maximum number of CPU cores per VM	Single Line	X	X		4
Maximum amount of RAM per VM [GB]	Single Line	X	X		16
Maximum amount of storage per VM [GB]	Single Line	X	X		250
Software details					

RENAM continued negotiation of services on-boarding prioritization, timing, categorization and preparing own resources for on-boarding and verification according to the developed documents, templates and rules.

On-boarded thematic services

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



NIXOS Europe
ONBOARDED

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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



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NI4OS-Europe Catalogue

Thematic Services

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

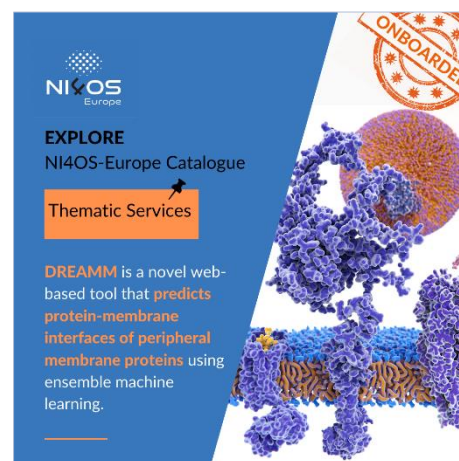


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Thematic Services

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.



NIXOS Europe
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Thematic Services

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



NIXOS Europe
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Thematic Services

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

Registered Thematic Services and Repositories

- Thematic services:

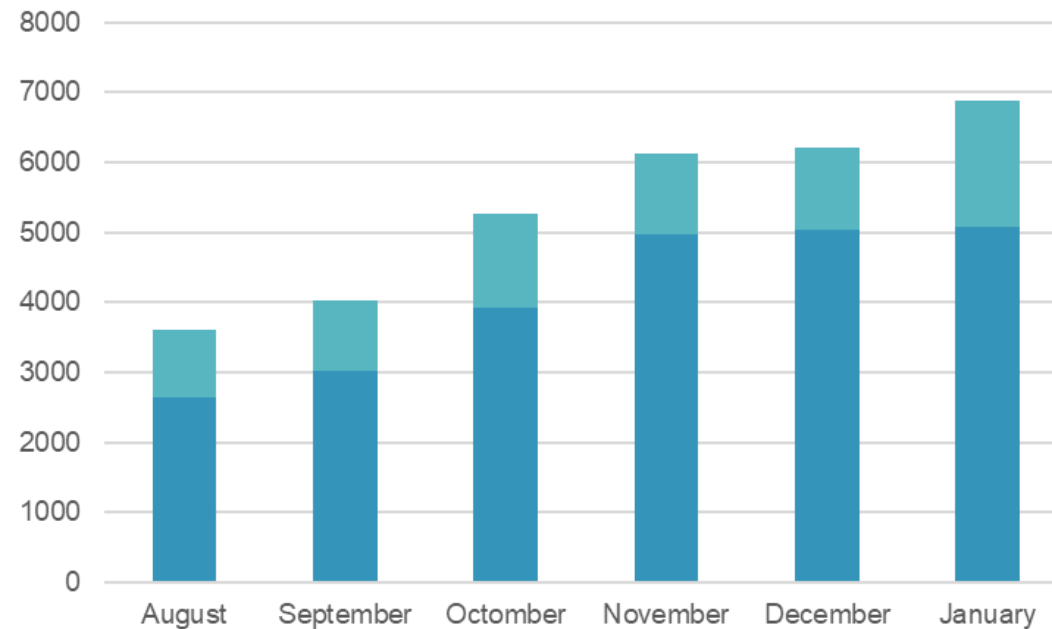
- DICOM Network
- CSIA

- Repositories:

- IREK – ASEM, Institutional Repository of Economic Knowledge.
- Support of integration of national repositories;
- Preparing repositories for integration, analysis of problems and regulatory documents

DICOM Network Service Development:

- DICOM Viewer optimizations. Added one more Image View for impersonated Data.
- Connecting new members to DICOM Network.
- Connecting new equipment to DICOM Network.
- Added special reporting tools for COVID 19 patients.



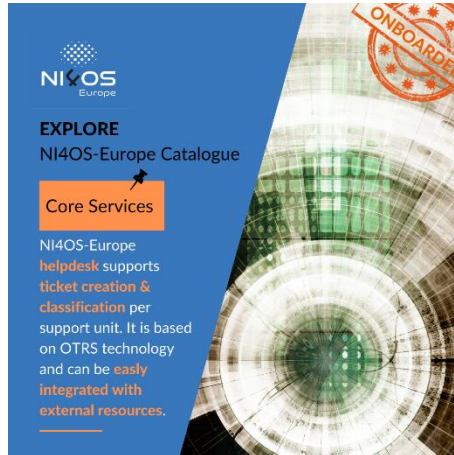
Percentage of COVID-19 patients in the DICOM NETWORK system. Blue is non COVID-19 investigations and teal are COVID-19 investigations.

On-boarded repositories

- Enhance discoverability (indexed by registries)
- Contribute to OpenAIRE/EOSC Research Graph (OpenAIRE compatibility; information contextualization)
- Enrich collections (Broker)
- Certification (in collaboration with FAIRsFAIR)
- 7 repositories **registered** within the AGORA catalogue
- 2 fully **on-boarded**



On-boarded pre-production environment



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Core Services

NI4OS-Europe **helpdesk** supports **ticket creation & classification** per support unit. It is based on OTRS technology and can be **easily integrated with external resources**.

ONBOARDED



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NI4OS-Europe Catalogue

Core Services

The **ARGO Monitoring Engine** supports monitoring of the **status, availability, and reliability of services** provided in NI4OS-Europe.

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EXPLORE
NI4OS-Europe Catalogue

Core Services

NI4OS-Europe **accounting system** collects, analyzes & provides information about the **usage of services**, e.g. **HPC usage, storage data, virtual machines data**.

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NI4OS-Europe Catalogue

Core Services

AGORA is a tool for managing a **"service portfolio"**. It is addressed to the management board of an organization to **oversee all services, tools and products** that it either uses internally or provides to its customers.

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EXPLORE
NI4OS-Europe Catalogue

Core Services

NI4OS-Europe **training portal** contains material of the project's training events. It also offers **self-paced courses** on **EOSC** related topic.

ONBOARDED

Services from NI4OS-Europe pre-production environment have been on-boarded

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

Tools for data and service managers

- License Clearance Tool
 - Help in resolving IPR issues when dealing with various
 - input licenses
 - output licenses
 - personal data
 - special limitations
- Repository Policy Generator (in dev)
 - Creation of repository policy documents using
 - Few mandatory inputs
 - Explained choices
 - Related options
 - Carefully redacted templates

This screenshot shows the 'Licensing Out' step of the tool. The form is divided into several sections: 'Compatible Licenses' with a dropdown menu showing 'Creative Commons Attribution'; 'Data source Description' with a text input field containing a URL; 'URL' with a text input field; 'DOI' with a text input field; 'Owner's full name' with a text input field; 'Owner's email' with a text input field; 'Type' with a dropdown menu set to 'Data'; and 'Existing License' with a dropdown menu set to 'Open Database License (OdbL)'. There are 'PREVIOUS' and 'NEXT' buttons at the bottom.

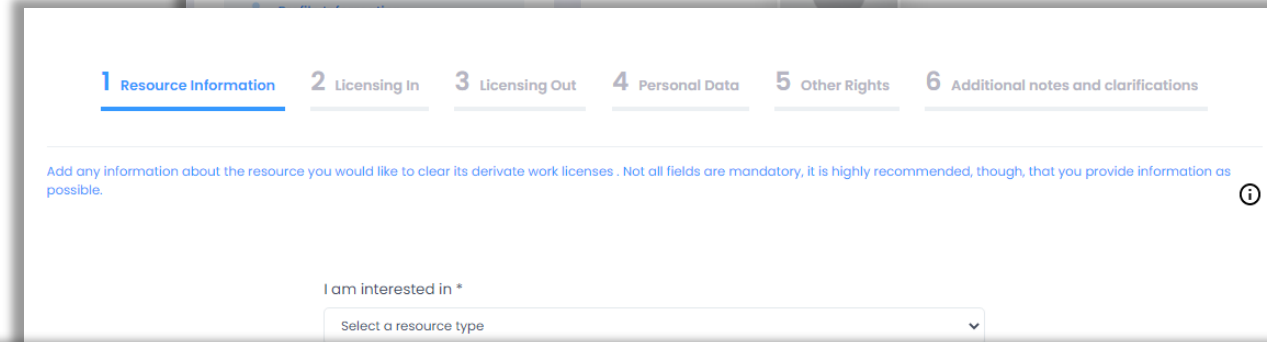
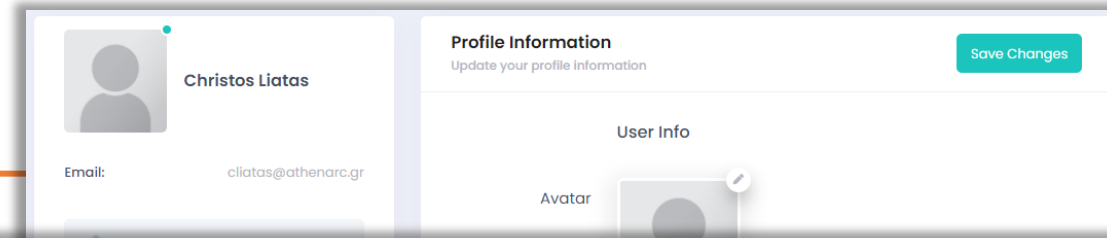
License Clearance Wizard

This screenshot shows the 'Personal Data' step of the 'License Clearance Wizard'. The form includes several questions with text input fields: 'National legislation limitations', 'Statistical limitations', 'Confidentiality agreements', 'Confidentiality: Describe', 'Embargo period for the data?', 'Embargo conditions', 'National Security limitations?', 'National Security limitations: Specify', 'Cultural heritage legislation limitations?', and 'Cultural heritage limitations: Specify'. At the bottom, there is a text area for 'Additional notes and clarifications' and a 'SUBMIT' button.

LCT- License Clearance Tool

➤ <https://lct.ni4os.eu/>

- An intuitive tool for content license clearance.
- Automates the clearance of rights (copyright) for derivative works.
- Mitigates legal uncertainty and diminishes costs in the clearance of licensing issues.
- Effectively reduces time to publicly release properly licensed content.
- Mainstreams legal support on usage rights.
- Allows for both free-tier and cost-model based crowdsourced clearance.



RoLECT - EOSC RoP Legal & Ethics Compliance

➤ <https://rolect.ni4os.eu>

- Guided compliance check for legal and ethics EOSC RoP.
- Targets service providers, researchers and research organizations.
- Mitigates legal uncertainty and ensures compliance with the key legal and ethical aspects.
- Successfully reduces time for compliance evaluations.
- Mainstreams EOSC RoP compliance procedure, tracking changes, identifying and constructing a series of legal and ethical rules.
- Will evolve to automatically check the validity of the provided resources.

The screenshot displays the RoLECT web application interface. At the top, the RoLECT logo is prominently featured, consisting of a network of colored nodes (green, blue, yellow) connected by lines, with the word 'RoLECT' in green text. Below the logo, the text 'EOSC RoP Legal & Ethics Compliance' is displayed. A green button labeled 'Login via NI4OS AAI' is visible, along with a link to 'Explore the tool as a guest user'. The interface is divided into several sections: a left sidebar with a 'Wizard' header and a list of navigation items (General, Service, IPR: Ba, IPR: Re, IPR: Lic, IPR: Op, Personal Data, Ethics Information, Public Sector Information), a central content area with a calendar grid, and a bottom section with text input fields and buttons labeled 'PREVIOUS' and 'NEXT STEP'. The bottom section contains the following text: 'If available, provide ToS authentications / registration sections', 'Enter text', 'If available, provide ToS information about charging', 'Enter text', 'If available, provide ToS information about quotas', 'Enter text', 'Is the resource findable without charge by all users?' with a checkbox, and 'What kind of resource is it?' with a dropdown menu.