

Proiectul NI4OS-Europe: obiective și activități

Al 2-lea Eveniment Național de Diseminare
NI4OS-Europe în Moldova
5 mai 2022, online

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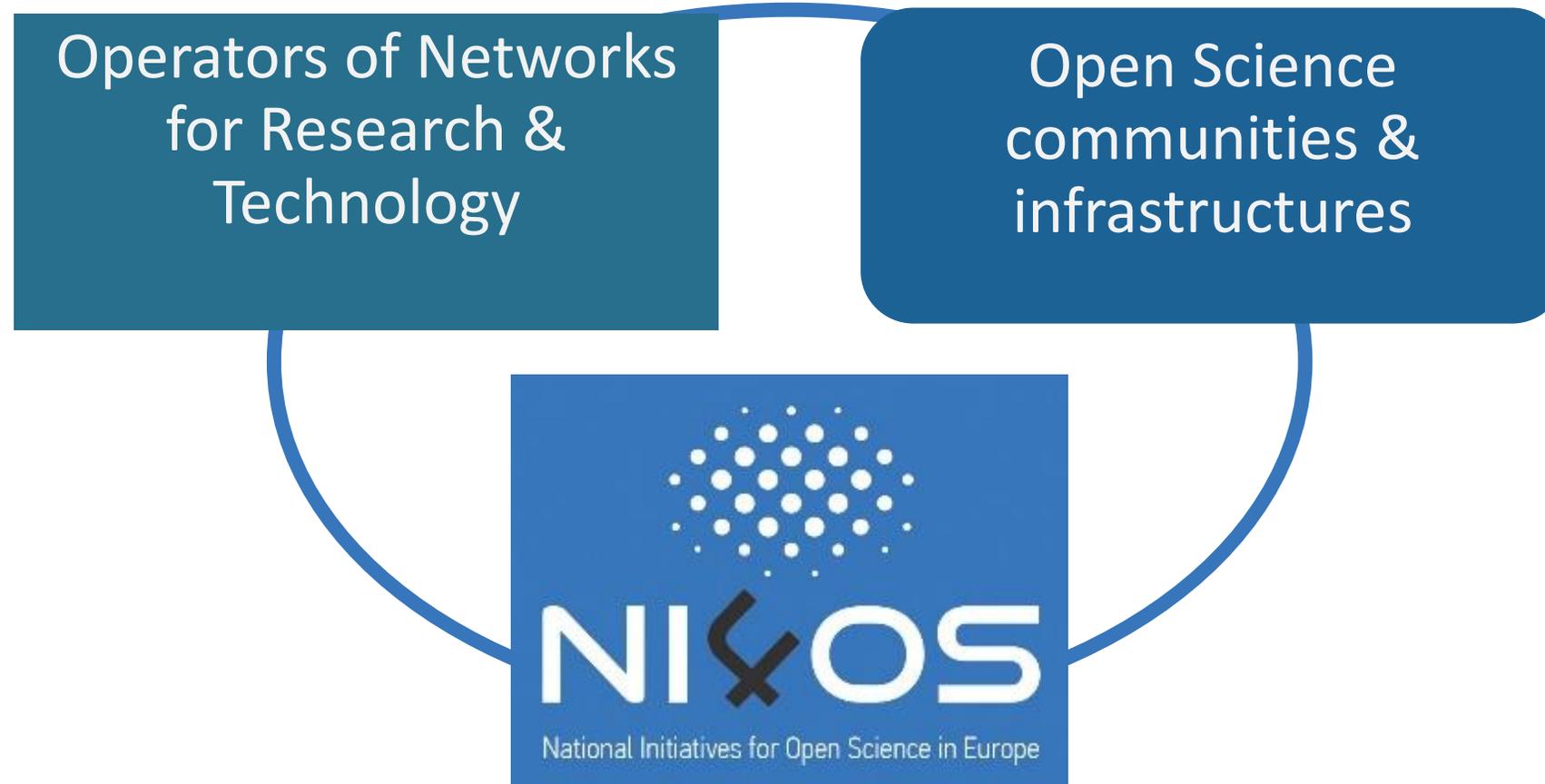


Project administrative summary

- 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 5,599,475 euro
- 22 Partners from 15 countries



Partnership building blocks





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 EOOSC governance



Spread the **EOOSC 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 EOOSC



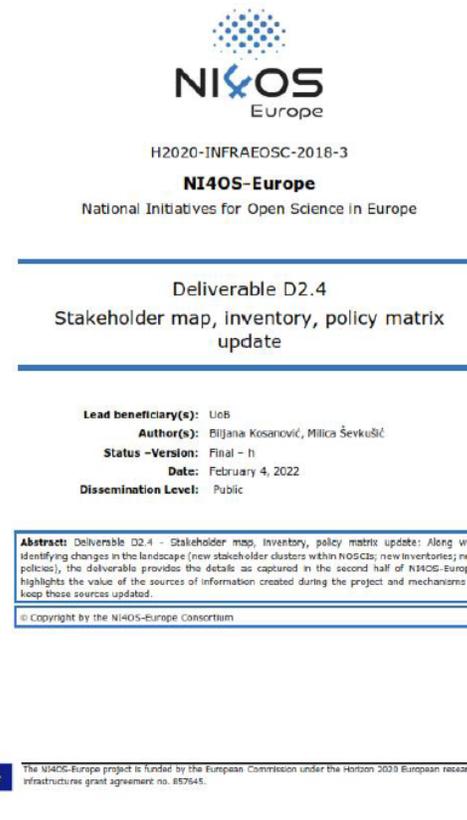


Support the development and inclusion of the **National Open Science Cloud Initiatives** in 15 Member States and Associated Countries in the overall scheme **of EOOSC governance**

- ❑ Task officially closed with the submission of D2.4 "Stakeholder map, inventor, policy matrix update"

however...

- ❑ Stakeholder mapping proved to be one of the most important activities for the 5b projects and the establishment process of EOSC-A
 - ❑ Adding value to mapping results and activity
 - ❑ Transform, reuse
 - ❑ Share with other project activities



NI4OS
Europe

H2020-INFRAEOSC-2018-3
NI4OS-Europe
National Initiatives for Open Science in Europe

Deliverable D2.4
Stakeholder map, inventory, policy matrix
update

Lead beneficiary(s): UoB
Author(s): Biljana Kosanović, Milica Ševkušić
Status -Version: Final - h
Date: February 4, 2022
Dissemination Level: Public

Abstract: Deliverable D2.4 - Stakeholder map, inventory, policy matrix update: Along with identifying changes in the landscape (new stakeholder clusters within EOSCs; new inventories; new policies), the deliverable provides the details as captured in the second half of NI4OS-Europe, highlights the value of the sources of information created during the project and mechanisms to keep those sources updated.

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The NI4OS-Europe project is funded by the European Commission under the Horizon 2020 European research infrastructure grant agreement no. 857645.

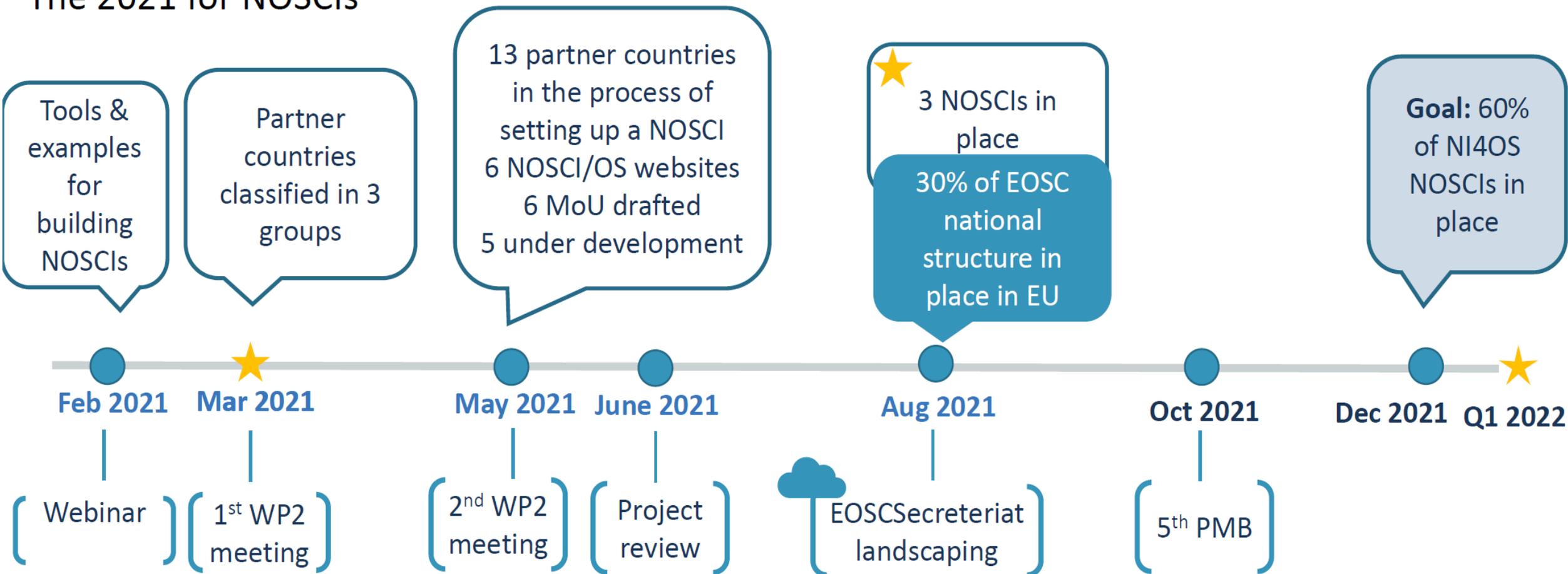


EOSC national initiatives & policy support

- 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**

Set-up National Open Science Cloud Initiatives

The 2021 for NOSCI



January 2022 – Documents that can be used as a basis for set-up National Open Science Cloud Initiative in Moldova (MD-NOSCI) were prepared in Romanian, taking into account successful experience from Romania:

- “Memorandum de Înțelegere privind Inițiativa Națională Cloud pentru Știința Deschisă din Republica Moldova (MD-NOSCI)”
- “MD-NOSCI - Inițiativa Națională Cloud pentru Știința Deschisă din Republica Moldova. Regulament de organizare și funcționare”

These 2 documents were submitted to the Ministry of Education and Research for examination. The recommendation to begin negotiation of the prepared documents with main stakeholders with the aim of preparation of the MD-NOSCI establishment event was received.

Dedicated NOSCI pages on NI4OS-Europe website:

<https://ni4os.eu/2021/11/25/introducing-the-newest-addition-to-the-ni4os-eu-website-nosci-pages/>

Memorandum de Înțelegere privind Inițiativa Națională Cloud pentru Știința Deschisă din Republica Moldova (MD-NOSCI)

Având în vedere:

- Prioritatea Comisiei Europene, legată de Știința Deschisă, în ceea ce privește dezvoltarea Cloud-ului European pentru Știința Deschisă (European Open Science Cloud – EOSC) ca element central care susține circulația, transferul și absorbția cunoașterii în Spațiul European de Cercetare adaptat erei digitale, precum și obiectivelor Parteneriatului European pentru EOSC;
- Dezvoltarea cadrului strategic național pentru Știința Deschisă și inițiative/proiectele europene în ceea ce privește Știința Deschisă la care Republica Moldova este parte;
- Obiectivul prioritar al proiectului european NI4OS-Europe – „National Initiatives for Open Science in Europe”, de constituire a Inițiativelor Naționale Cloud pentru Știința Deschisă (National Open Science Cloud Initiatives – NOSCI) în cele 15 țări participante, printre care și Republica Moldova;
- Interesul comunității științifice din țara noastră, identificat cu ocazia sondajului consacrat Științei Deschise din noiembrie 2019, precum și a altor evenimente de promovare organizate în cadrul proiectului NI4OS-Europe;
- Participarea unor organizații de cercetare din țara noastră la proiecte europene în derulare, de tip e-infrastructuri sau infrastructuri de cercetare, finanțate în contextul dezvoltării EOSC; au fost agreate și acceptate următoarele:

Regulament de organizare și funcționare

Art. 1 Dispoziții generale

1.1 Inițiativa Națională Cloud pentru Știința Deschisă, denumită în continuare MD-NOSCI, este o coaliție de organizații la nivel național, constituită pe baza semnării unui Memorandum de Înțelegere între Agenția Națională pentru Cercetare și Dezvoltare (ANCD), Institutul de Dezvoltare a Societății Informaționale (IDSI), Universitatea de Stat din Moldova (USM) și Rețeaua Națională pentru Cercetare și Educație RENAM.

1.2 MD-NOSCI nu are personalitate juridică, aderarea la aceasta este un proces continuu și nu implică angajamente financiare.

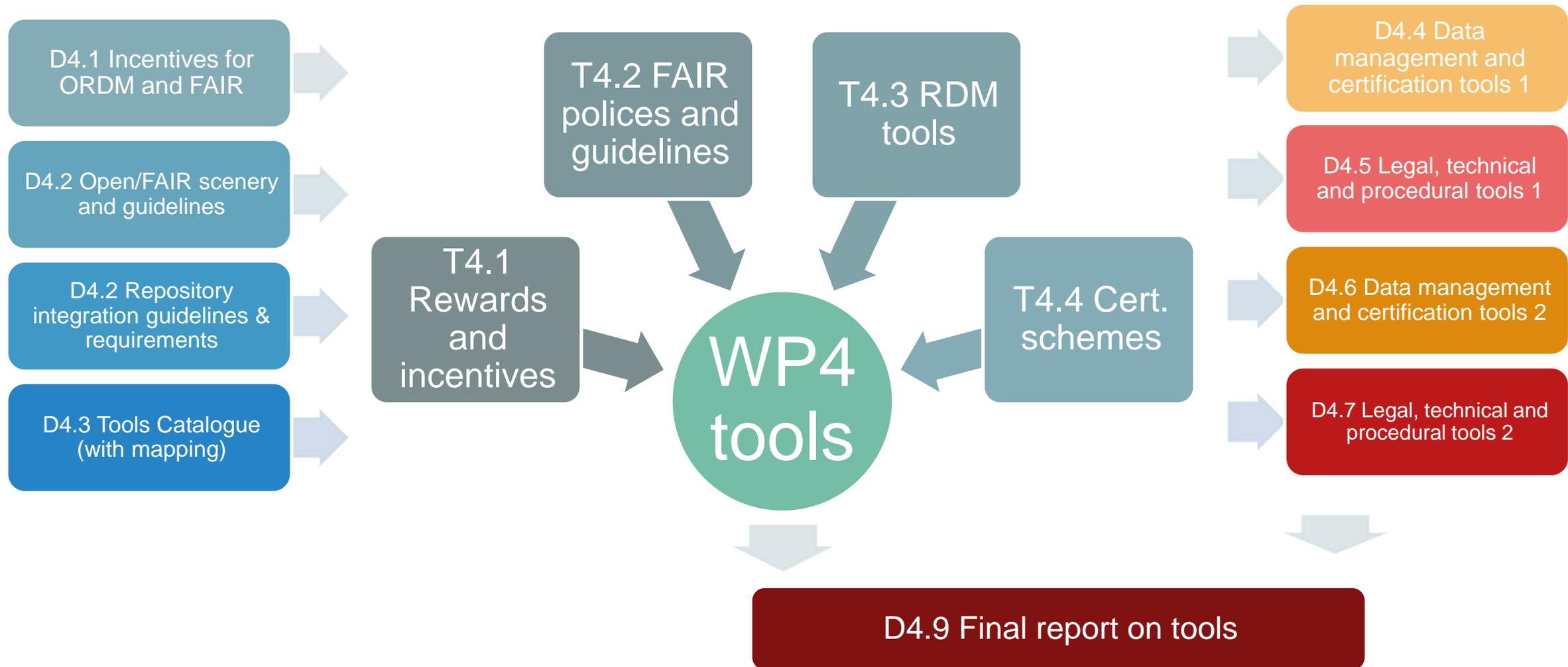
1.3 MD-NOSCI a fost constituită pentru a facilita participarea părților interesate din Republica Moldova la ecosistemul Cloud-ului European pentru Știința Deschisă (European Open Science Cloud – EOSC) și pentru coordonarea activităților la nivel național care permit interconectarea cu EOSC.

1.4 MD-NOSCI este coordonată de organizațiile semnatare ale Memorandumului de Înțelegere.

1.5 MD-NOSCI funcționează pe durata Memorandumului de Înțelegere, respectiv până la finalul anului 2027 cu posibilitatea reînnoirii pe perioade ulterioare, cu acordul scris al organizațiilor semnatare.

1.6 Prezentul Regulament de organizare și funcționare al MD-NOSCI este întocmit în conformitate cu Memorandumul de Înțelegere al MD-NOSCI și stabilește structura organizatorică, atribuțiile și modul de organizare și funcționare a MD-NOSCI.

Art. 2 Structura organizatorică și atribuții



LCT RoLECT RePol

Tool development considered ongoing discussions within EOSC and OS communities

- Alignment with discussions in EOSC WGs (RoP) and TFs (FAIR)
- Interactions with RDA FAIR Data Maturity Model Working Group
- Tools presentations and tutorials

Done,
update as
needed

In
progress

In
progress

Validation of WP4 tools by EOSC stakeholders

- Shared with the INFRAEOSC-5 Task Forces
 - FAIR
 - Landscape
 - Policy

Done

In
progress

In
progress

Usability tests within NI4OS-Europe

- Local representative (dummy and advanced) users
- User clusters from other NI4OS-Europe countries
- WP6 demonstrators

Done

Done

Done

- Supporting RENAM and other providers' services on-boarding:
 - **Generic:**
 - ✓ RSC, RENAM Scientific Cloud;
 - ✓ RSS, RENAM Storage Service.
 - **Thematic:**
 - ✓ DICOM Network;
 - ✓ CSIA (Cyber Security Incidents Analytics).
 - **Repositories:**
 - ✓ Onboarding IREK – AESM (Institutional Repository of Economic Knowledge), registered in the AGORA catalogue;
 - ✓ IRMS – SUMPh (Institutional Repository in Medical Sciences of the Nicolae Testemitanu State University of Medicine and Pharmacy of the Republic of Moldova) registered in the AGORA catalogue;
 - ✓ Adaptation of the IREK repository to the requirements of the Crossref Agency to award DOI to all publications in the economic field.
 - ✓ New Repository for practical on-boarding - SIA Transplant <https://app.transplant.gov.md/>



- DICOM Network
 - Connect new Equipment and facilities
 - ✓ Integrated with 3 MIS, 5 hospitals, 4 medical centers, 24 Equipment's connected
 - ✓ 298 992 Patients
 - ✓ 516 125 Investigations
- Permanent maintenance and support of integration of DICOM Network datasets into “Open Data Portal”.
- Continuation of data updating in the Kibana Repository:
<http://81.180.84.152:5601/goto/a16b83e103f08aa03e4afa8963658e2c>
- SIA Transplant repository (National Transplant Agency) integration:
 - DICOM Network Integrations.
 - Setup Kibana & Elastic Search for datasets.



- Related activities:
 - Working on **RENAM Scientific Cloud infrastructure** extension – integration of new servers' equipment, installation of the latest release of OpenStack to new servers.
 - An update has begun for restructuring of the **RENAM Storage Service servers**. The amount of disk space will be organized as a single storage of 60 TB. TrueNAS CORE 12.0-U8 is installed as the operating system.
 - Elastic Search & Kibana optimisations:
 - ✓ Advanced REST API Integration
 - ✓ Data Exchange with other repositories
 - Working with the Moldova State University (IR-MSU institutional repository), Technical University of Moldova and the Alecu Russo State University (Balti) to **coordinate joint activities** for their repositories on-boarding.
 - Preparing of the selected national repositories for integration, analysis and resolving of problems.

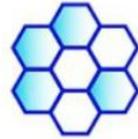
EOSC Providers: Who they are & What they provide



e-Infrastructures

Ex: EUDAT, EGI, national e-Infrastructures (e.g. national research clouds), OpenAIRE, PRACE, FENIX, D4Science

- ✓ Software & other research products
- ✓ Storage
- ✓ Computing
- ✓ Services
- ✓ Training



Research Infrastructures

Ex: ERICs, ESFRIs, EMODnet, Copernicus, DIAS (Data and Information Access Services), clusters

- ✓ Software & other research products
- ✓ Storage
- ✓ Datasets
- ✓ Computing
- ✓ Services
- ✓ Training



Higher Education Institutes (HEIs)

- ✓ Software & other research products
- ✓ Publications
- ✓ Services
- ✓ Storage
- ✓ Datasets



Research Institutes

Ex: Research performing organisations, universities, research centres

- ✓ Software & other research products
- ✓ Datasets
- ✓ Publications



Archives & Repositories

Ex: Institutional thematic and national repositories, archives and aggregators

- ✓ Software & other research products
- ✓ Datasets
- ✓ Publications



Computing & Data Centers

Ex: BCS, CSC, PSNC, CERN

- ✓ Software & other research products
- ✓ Storage
- ✓ Computing
- ✓ Services
- ✓ Training



Publishers & Journals

- ✓ Publications



Libraries

Ex: University libraries, institutional libraries, national libraries, LIBER

- ✓ Publications
- ✓ Datasets
- ✓ Training



Commercial Providers

- ✓ Software & other research products
- ✓ Storage
- ✓ Datasets
- ✓ Computing
- ✓ Services
- ✓ Training
- ✓ Publications

- **NI4OS-Europe Training Platform** <https://training.ni4os.eu/> – for announcing NI4OS-Europe training events, as well as training materials repository.
- This platform contains materials from national training events, including the materials in Romanian (prepared and used for training events in Moldova and Romania).
- December 2020 – **5 regional EOSC support projects** (EOSC-Pillar, EOSC-Synergy, ExPaNDS, NI4OS-Europe and EOSC-Nordic) signed Collaboration Agreement, stipulating different joint activities, including sharing materials and training curricula. This Collaboration Agreement allows NI4OS-Europe partners to have access to training materials developed and offered by other EOSC-related projects.



ExPaNDS



- **Deadline:** May 11, 2022.
- Addressed to **scientists and researchers** that work in academic and research institutions in EU member states and associated countries, including the Republic of Moldova.
- NI4OS-Europe offers a broad set of **generic, thematic** services as well as **repositories** in the European region, with the special focus on the scientific communities of **Life Sciences, Climatology, Digital Cultural Heritage and Computational Physics**. Generic services are in the areas of Compute resource provisioning (HPC and Cloud), Storage, and Data services provisioning. Repositories provide access to datasets, Software, as well as scientific manuscripts.
- The list of services and resources offered by NI4OS-Europe project:
https://catalogue.ni4os.eu/?_=/resources
- Among all the proposals 80% should address open research topics in specific fields of Life Sciences, Climate research, Digital Cultural Heritage, and Computational Physics and **20% on any other scientific fields**. Access to computational resources (generic) can be awarded for max 6 months, while access to storage resources – up to 8 months.

- May 3, 2022 – **EOSC policy event** organized by EOSC-Future with involvement of NI4OS-Europe: <https://eoscfuture.eu/eventsfuture/eosc-policy-event/>
- Video streaming: <https://www.youtube.com/channel/UCBkBatupgJrfwJhUVlhdvzQ>
- May 4, 2022 – **National Policies Relevant to EOSC deployment: Status, gaps, and steps towards harmonisation** organized by EOSC-Pillar, EOSC-Nordic, ExPaNDS, NI4OS-Europe, EOSC-Synergy and FAIRsFAIR projects: <https://ni4os.eu/2022/03/21/workshop-on-national-policies-relevant-to-eosc-deployment/>
- September 28-29, 2022 – **EOSC Regional Event** in Budapest, organized by NI4OS-Europe: <https://ni4os.eu/2022/03/29/save-the-date-for-the-eosc-regional-event-in-budapest/>
- **Support of EOSC Association activities** – Multi-Annual Roadmap 2023-24 preparation and public consultations. 3 phases of MAR, which sets priority activities and outcomes:
 - 2021-2022: development towards a functional federation of infrastructure
 - 2023-2024: expansion to production that generates added value
 - 2025-2027: expansion to develop impact from Open Science

EOSC: scopul și evoluții actuale

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EOSC initiative to support Open Science

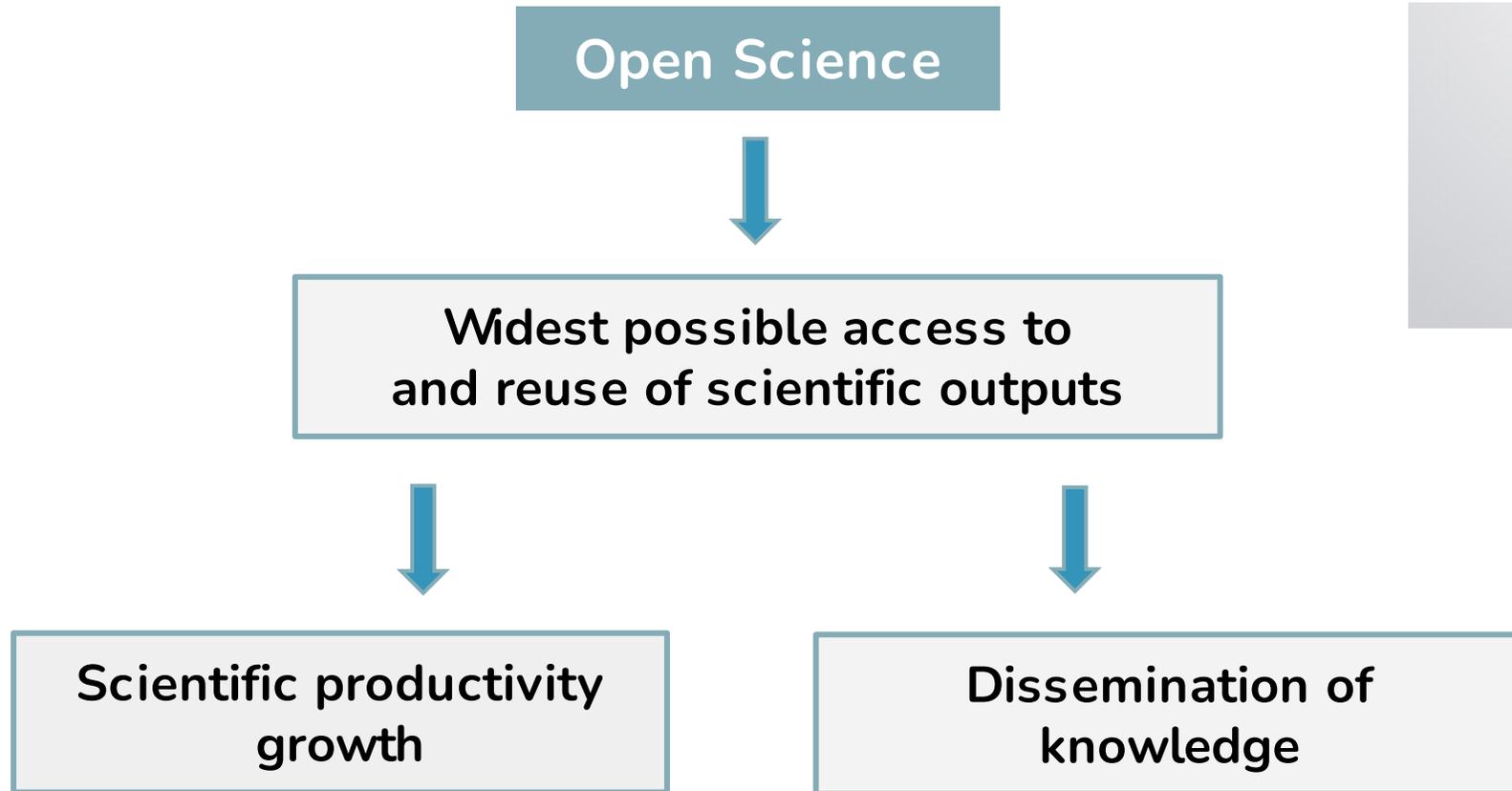


Image source:

<https://en.unesco.org/science-sustainable-future/open-science/recommendation>

Initiatives & frameworks - Some examples



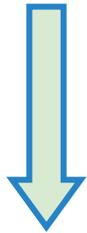
Recommendation of the Council concerning Access to Research Data from Public Funding

DIRECTIVE (EU) 2019/1024 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 20 June 2019
on open data and the re-use of public sector information

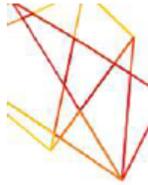
**Open Science
strategy**



- **Open Science policies and governance**
- **Services and infrastructures**
- **Skills and training**
- **Incentives and recognition**
- **Alignment with global projects and initiatives**
- Etc.



**Key to ensure EOSC
sustainability**



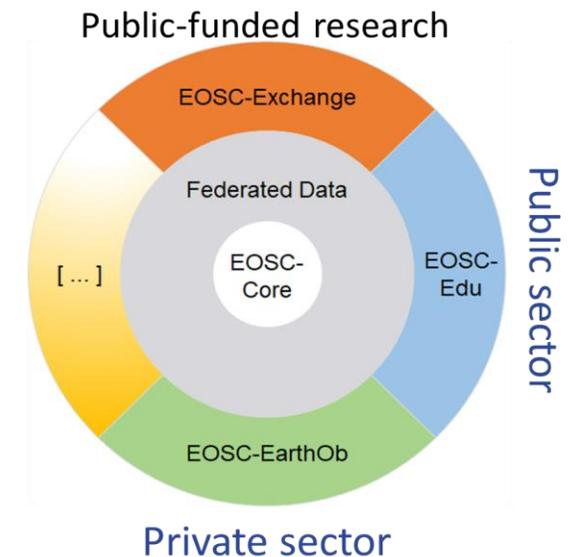
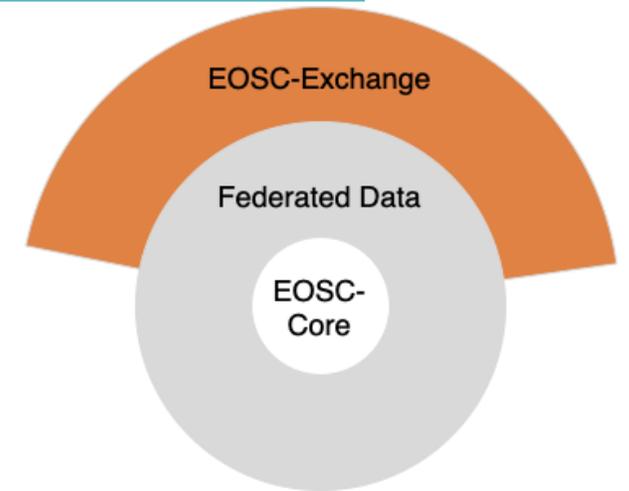
What is the European Open Science Cloud EOSC? - <https://www.eosc.eu/about-eosc>

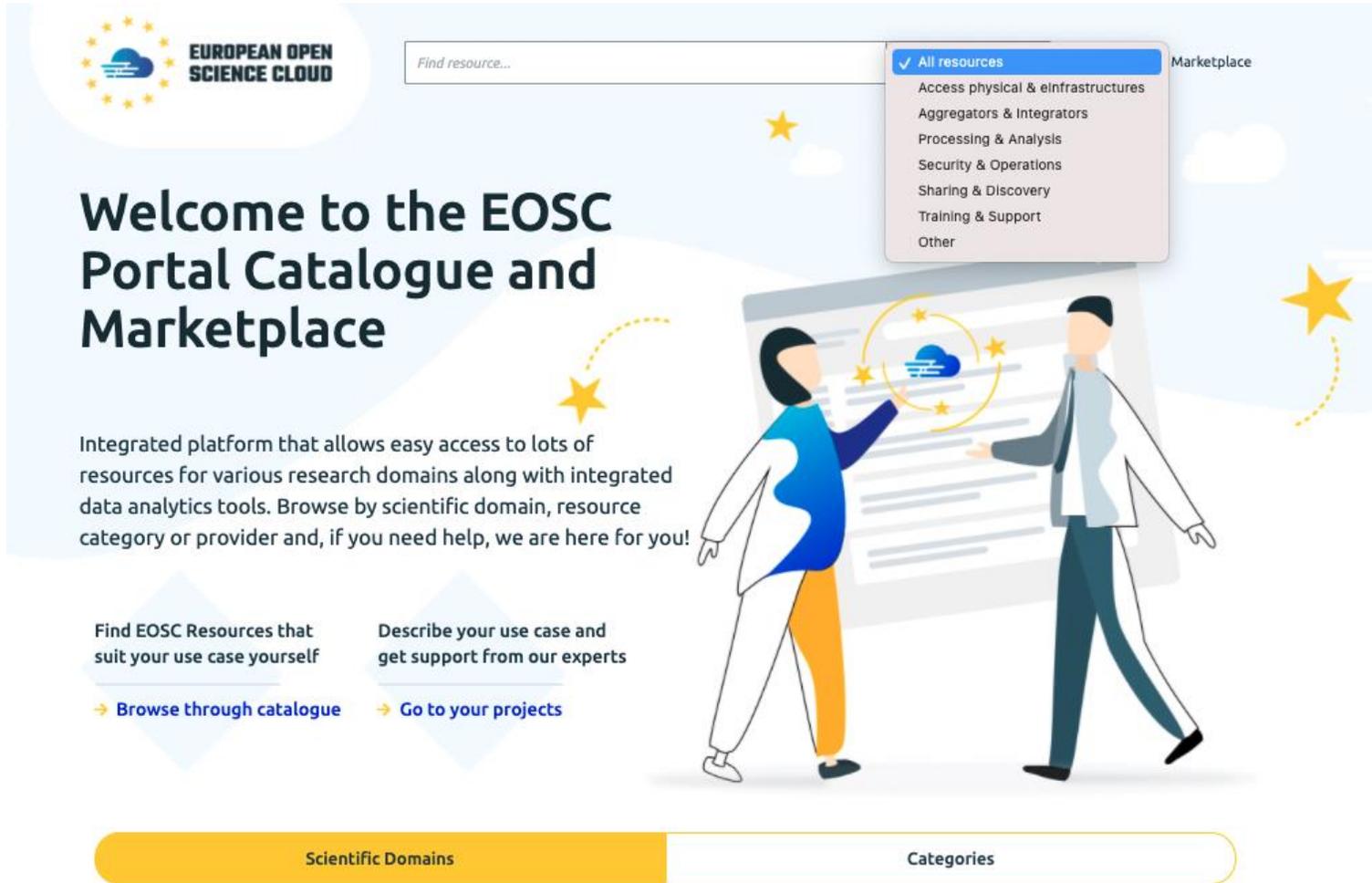
A web of FAIR data and services

Federation of eInfra and research infrastructures –
federated ‘system of systems’

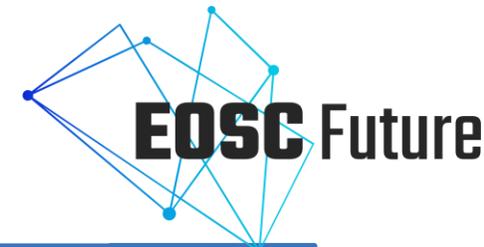
Multi-disciplinary environment in which data can be
brought together with services to perform analyses
and address societal challenges. In this environment
researchers can:

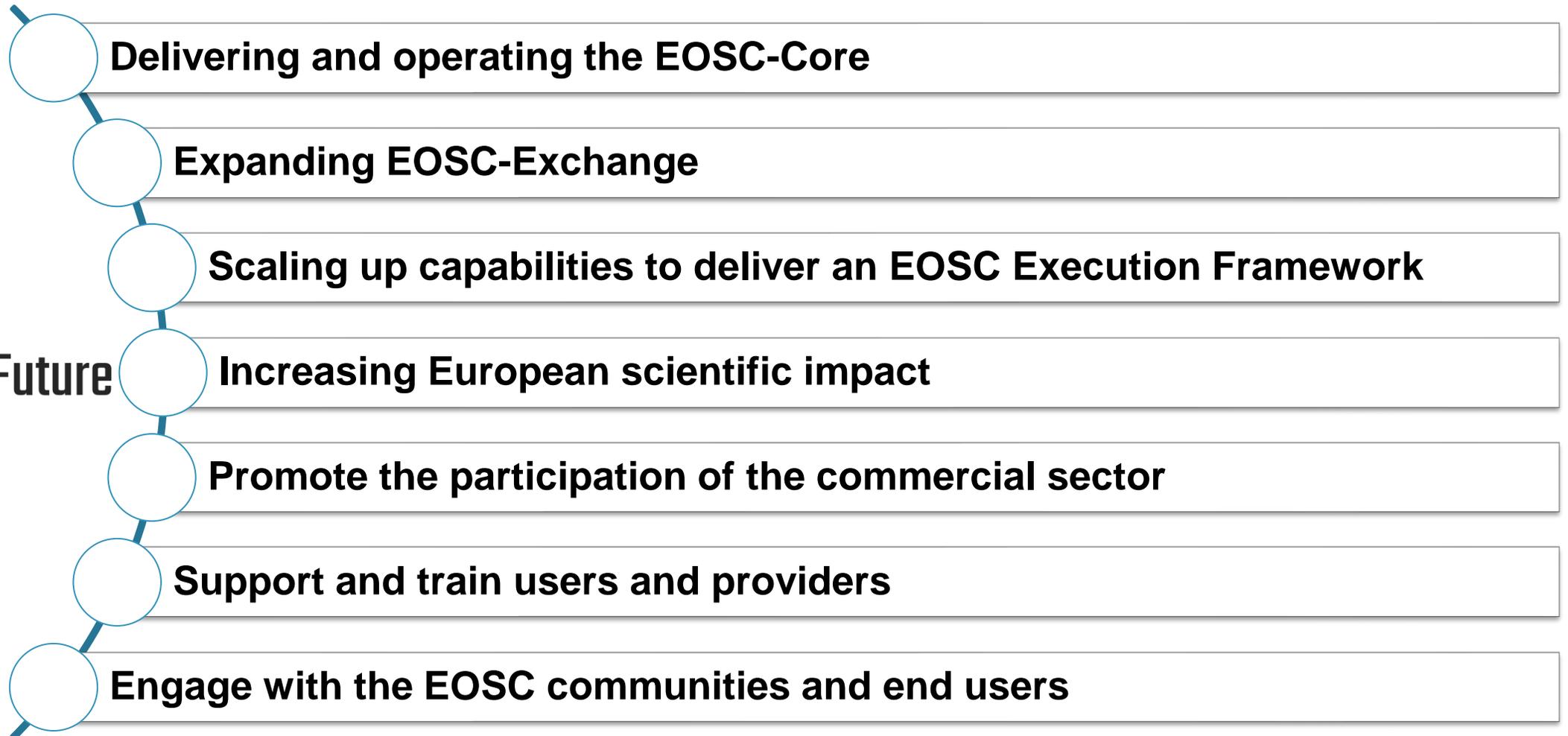
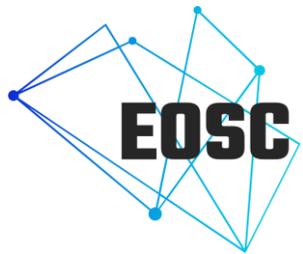
- publish
- find and
- re-use data, tools and services

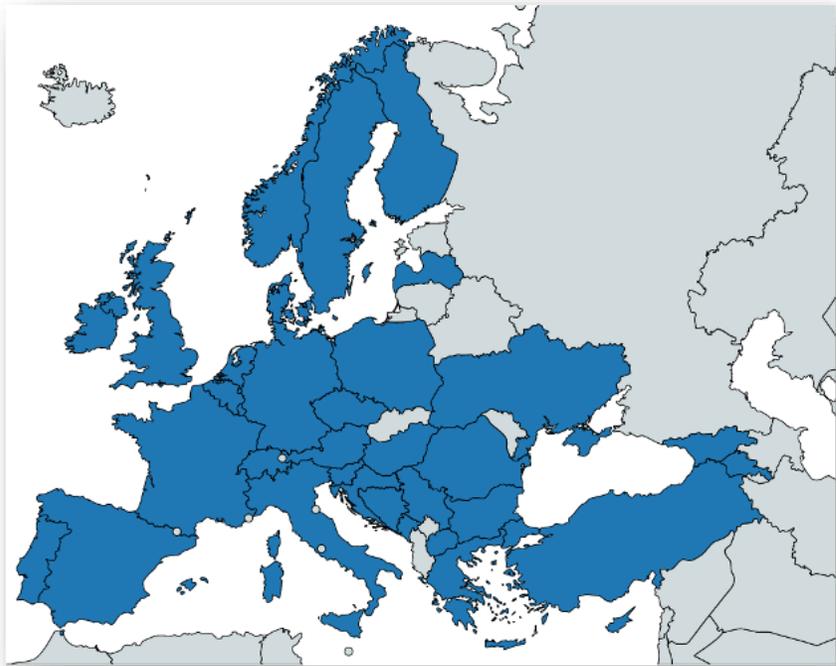




- ✓ Catalogue to browse for data and services
- ✓ Can search by resource type to find relevant tools
- ✓ Filter by scientific domains
- ✓ Virtual Tour:
<https://marketplace.eosc-portal.eu/?tour=overview>







Natural Sciences

Engineering

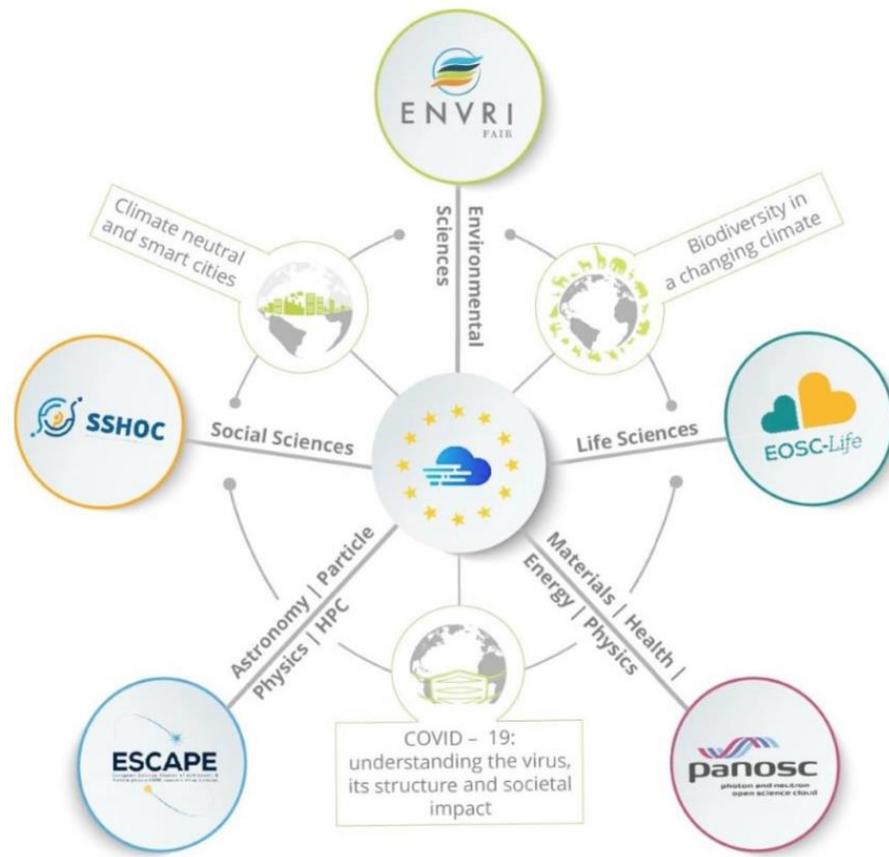
Medical and Health
Sciences

Social sciences

Humanities

and many more...

- ✓ A team of “EOSC champions” from different scientific disciplines across the EU to help test and refine services and products.
- ✓ The User Group will rely on surveys, focus groups, or testbed sessions to validate project outputs.
- ✓ 300 applications from different science areas and broad coverage.



ESFRI Science Clusters :

ENVRI-FAIR – environmental sciences

EOSC-Life – life sciences

ESCAPE – astronomy and particle physics

PaNOSC – photon and neutron sciences

SSHOC – social sciences and humanities

Thanks!



<https://ni4os.eu/>



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