

NI4OS - Europe: National Initiatives for Open Science in Europe

(European Open Science Cloud Initiative – Support of
Open Science in the South Eastern Europe)

**Evenimentul Național NI4OS-Europe de
Formare privind Consolidarea Capacităților în
Domeniul Științei Deschise pentru Moldova**

24 septembrie 2020, online

Dr. Petru Bogatencov

RENAM

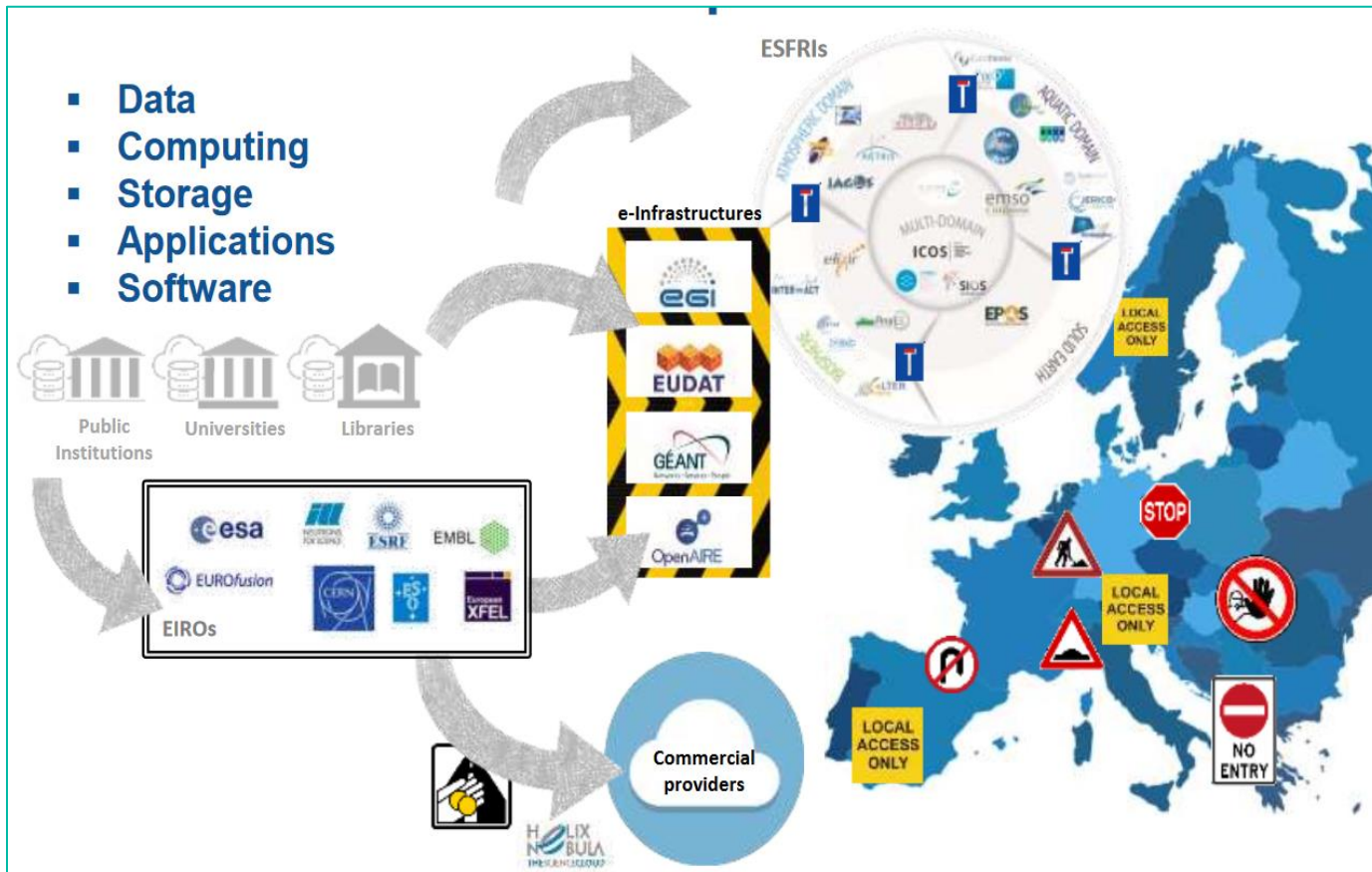


- Name: National Initiatives for Open Science in Europe
- Acronym: NI4OS-Europe (pronounced “NIFOS”)
- Call: INFRAEOSC-05 (b)
Coordination of EOSC-relevant national initiatives across Europe and support to prospective EOSC service providers – Research and Innovation Actions
- Grant number: 857645
- 22 Partners from 15 countries



NI4OS-Europe aims to be a core contributor to EOSC service portfolio, commit to EOSC governance and ensure inclusiveness on the European level for enabling global Open Science.

Previous model of European data infrastructures



Source: EOSC Strategic Implementation Roadmap 2018-2020, May 2018, European Commission

From fragmentation and uneven access to information to a federated model, where access to data would be universal, building on a strong legacy



Future EOSC model: federation of data infrastructures

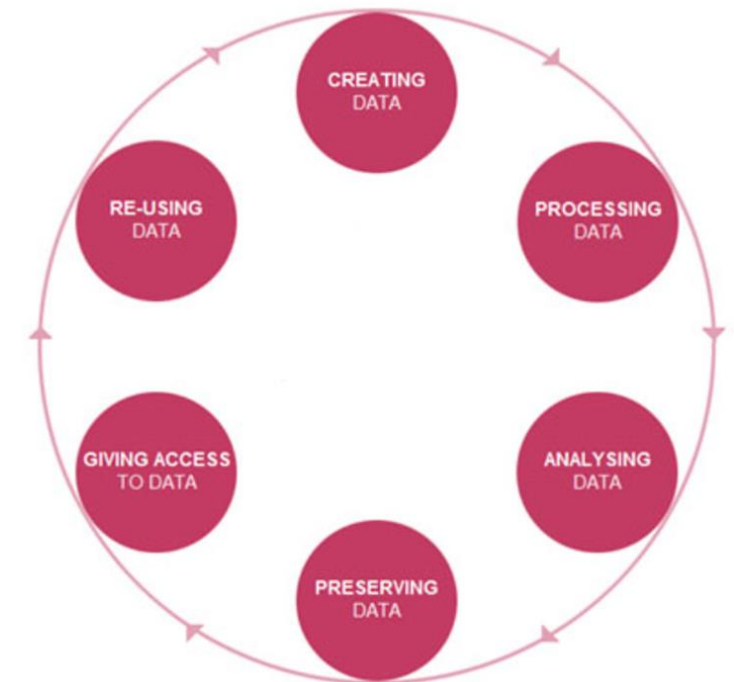


*“We are creating a **European Open Science Cloud** now. It is a trusted space for researchers to store their data and to access data from researchers from all other disciplines. We will create a pool of interlinked information, a ‘web of research data’. Every researcher will be able to better use not only their own data, but also those of others”*

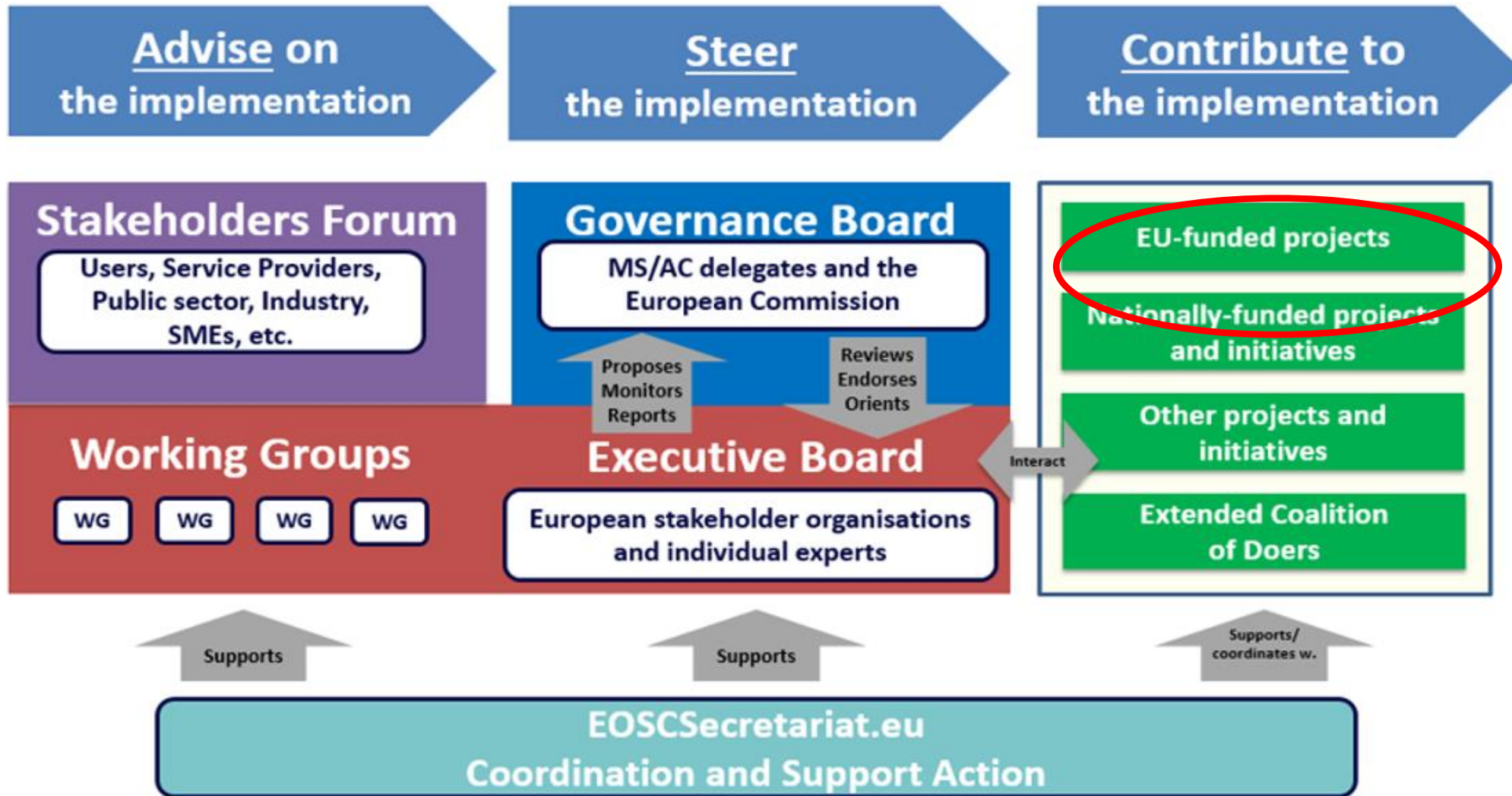
Ursula von der Leyen, President of the European Commission

□ Key aspects

- Open Science and FAIR data
- Federation of existing and planned infrastructures and policies
- Co-operation across disciplines and countries



EOSC implementation



Source: DGRTD

EOSC Where do we stand?

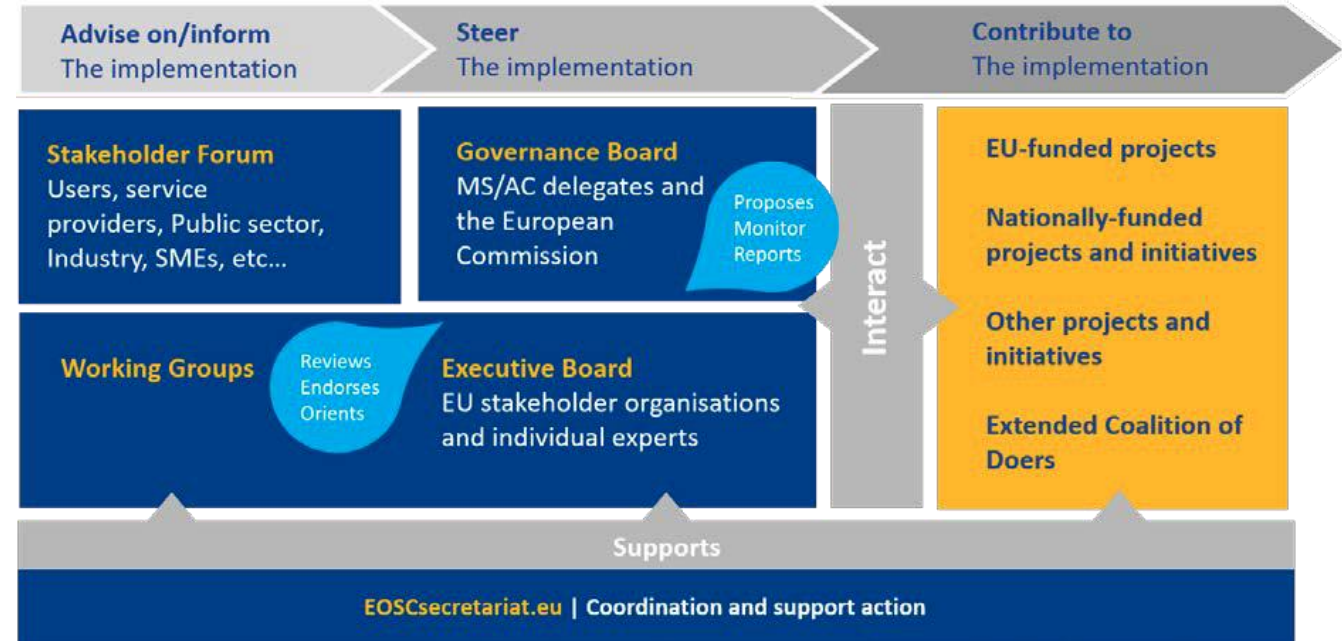


□ 2018 –2020 initial period of EOSC implementation

- H2020 projects
- Governance: Executive Board + 6 WG, Governance Board, European Commission

□ Next stage:

- Strategic Partnership under Horizon Europe programme
- Set up a Minimum Viable EOSC
- Governance structure, including an EOSC Association, Strategic research and innovation agenda



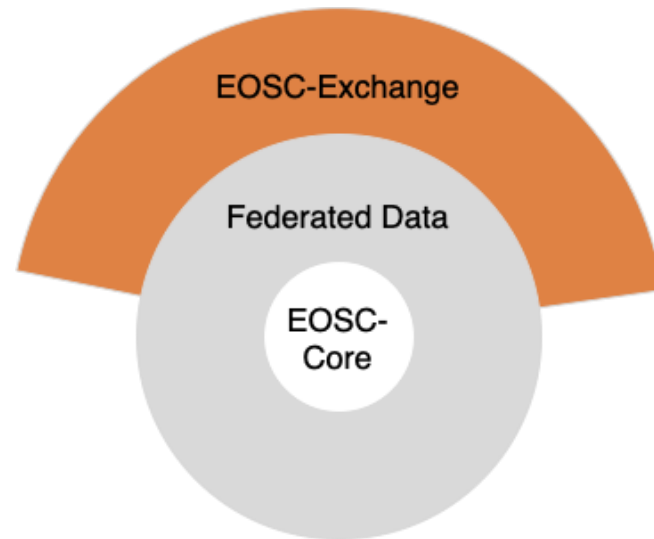
EOSC Work Plan and Looking for the Minimum Viable EOSC (MVE)

From the Tinman document produced by the EOSC Sustainability WG:



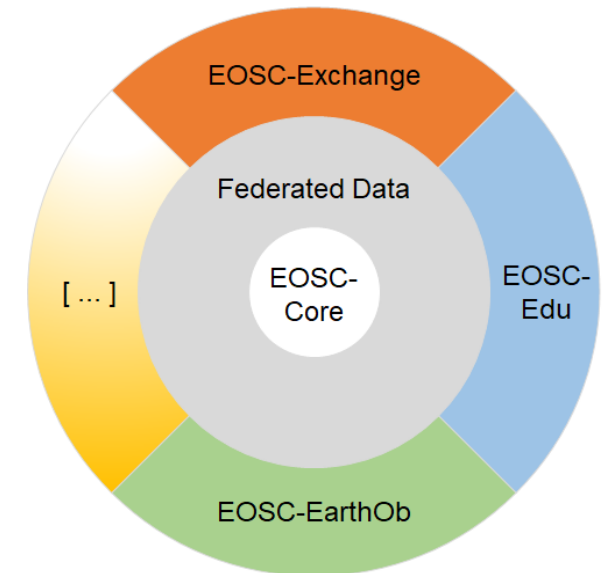
READ IT!

Minimum Viable EOSC (MVE)



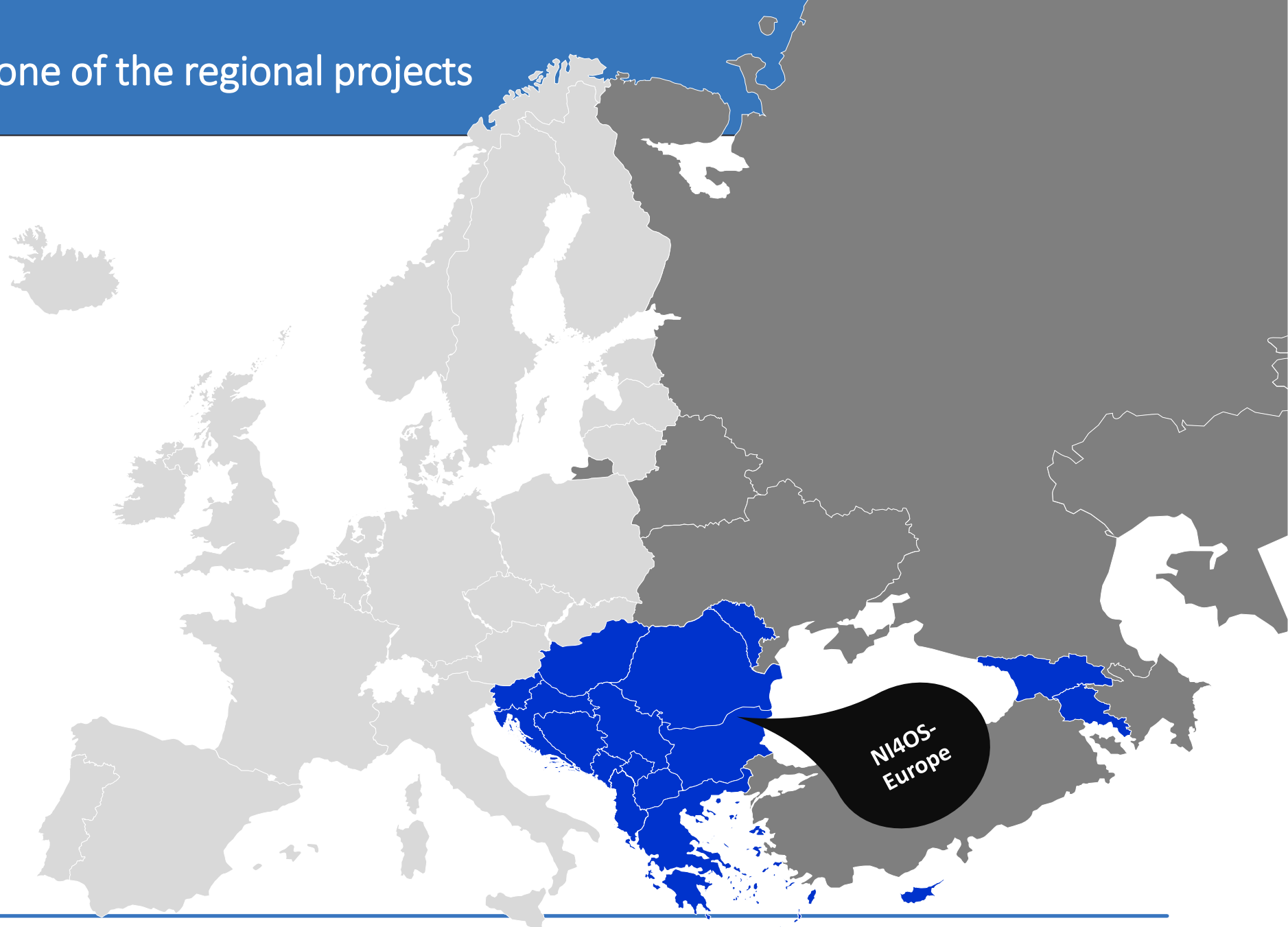
Maximum Valuable EOSC 😊

Public-funded research



& Private sector

NI4OS – Europe is one of the regional projects



□ ***The overall objective*** of the project is to support the development and inclusion of the national Open Science Cloud initiatives in 15 Member States and Associated Countries into the overall scheme of EOSC governance; and technical and policy support in on-boarding of the existing and future service providers into EOSC, including e-Infrastructure services (grid/cloud, data storage and management), thematic (domain-specific).

O1. Support EOSC governance framework by building national Open Science Cloud (OSC) initiatives for open research data, infrastructure and services and enabling them to support the overall EOSC governance and the related EOSC coordination structure. Easing the digital divide between the region and rest of EC.

O2. Facilitate the federation of existing infrastructures and state-of-the-art services and their on-boarding to EOSC.

O3. Enable the EOSC-relevant, non-commercial services to be accessed through the EOSC portal.

O4. Provide the necessary technical, organizational and legal guidelines, tools, mechanisms and certification schemes, to support Open Research Data Management (ORDM) and its implementation in a harmonized and coordinated fashion.

O5. Ensure the engagement of the targeted communities and validate the project solutions.



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

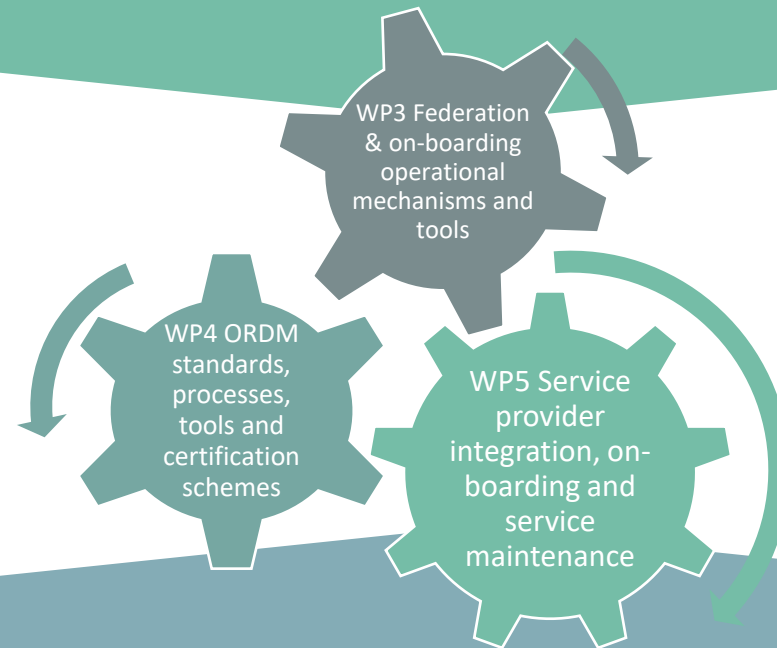


Provide **technical and policy support** in on-boarding of the existing and future service providers into EOSC

- **Build** 15 National Open Science Cloud (OSC) Initiatives & enabling them to support the overall EOSC governance and the related EOSC coordination structure
- **Facilitate** the on-boarding to EOSC of existing infrastructures and state-of-the-art services
- **Enable** the EOSC-relevant, non-commercial services to be accessed through the EOSC portal
- **Develop** technical, organizational and legal guidelines, tools & mechanisms, to support implementation of ORDM and FAIR
- **Ensure** the engagement of the targeted communities and validate the onboarding solutions

WP1 Management

WP2 EOSC national initiatives and policy support



Credits: Eleni Toli ATHENA RC

WP6 User engagement, training and demonstrators

WP7 Communication, marketing, sustainability and innovation

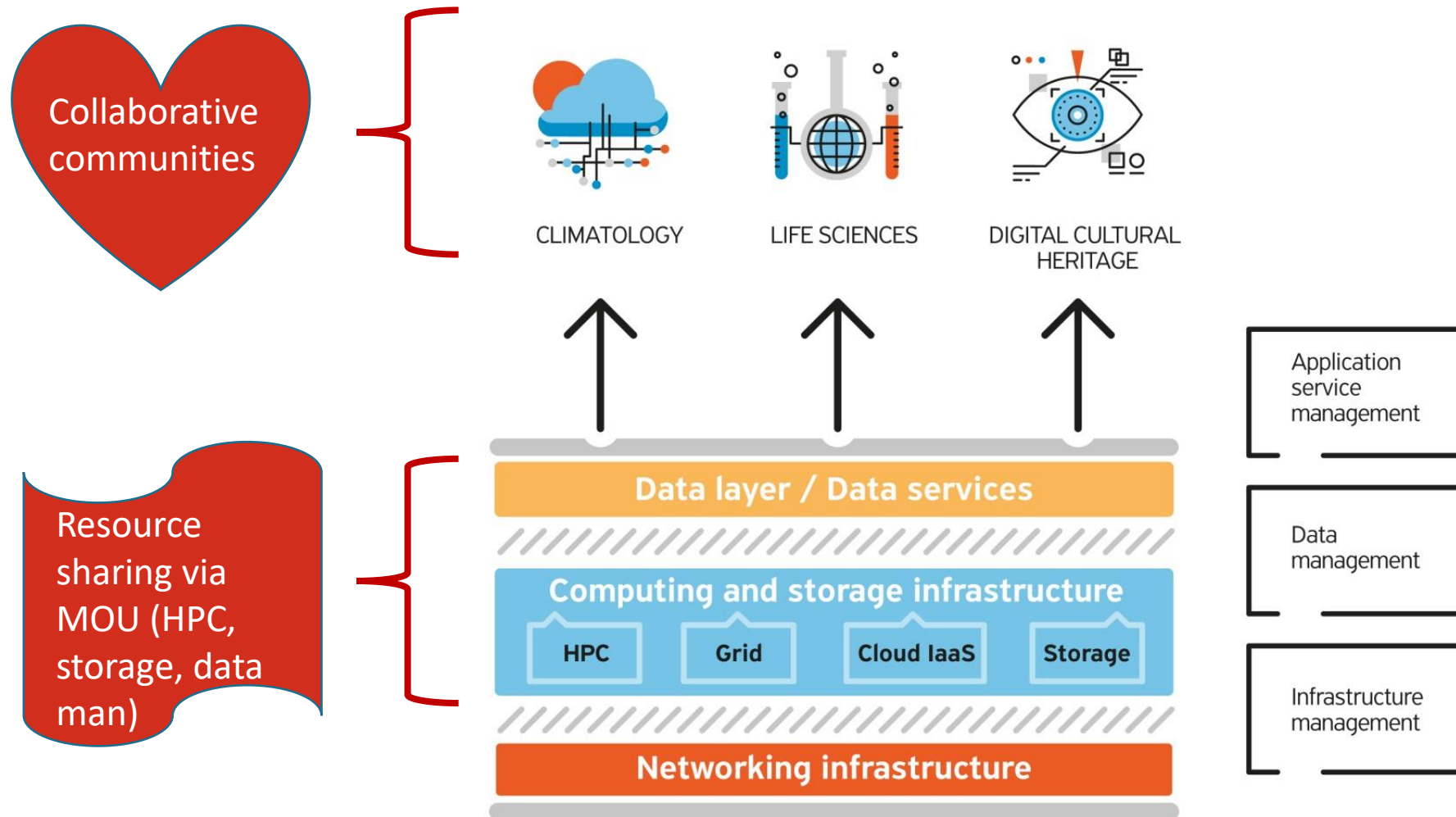
- ❑ A continuing, integrative effort in the wider region
- ❑ e-Infrastructure and related services built over the last 15 years with a number of projects
- ❑ Targeting less developed EU countries, countries on path to accession and ENP
 - ❑ EU members (Greece, Cyprus, Bulgaria, Romania, Hungary, Croatia, Slovenia)
 - ❑ Western Balkans
 - ❑ Eastern Europe countries (incl. Republic of Moldova)

A strong and wide partnership

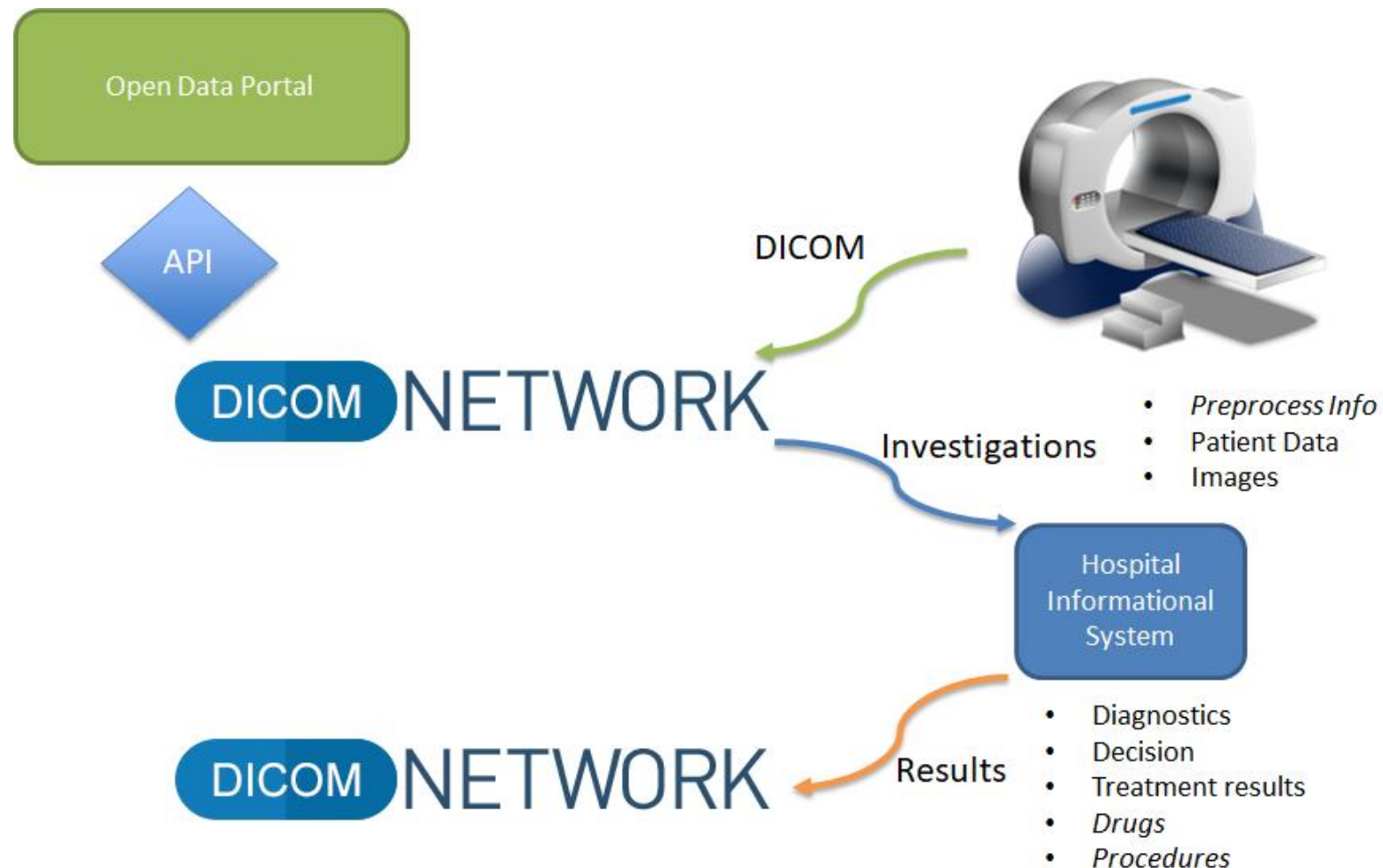
- ❑ Main service provider partners
 - ❑ National Research and Education Networks
 - ❑ National Grid, HPC and emerging Cloud Initiatives – consortium of computing/data providers per country
- ❑ “Stakeholder” partners
 - ❑ Research institutes, universities, SMEs
- ❑ Policy makers
 - ❑ Ministries, research councils



How does it look like?



□ Development of DICOM thematic service



- ❑ These initiatives are pieces of the puzzle to sustain regional R&D, R&E, ICT development:
- ❑ Increasing the retention of talented scientists and engineers in the region
- ❑ Easing the digital divide between the region and rest of EC
- ❑ Making available the benefits of the Information Society for all citizens
- ❑ Pursuing joint R&D efforts among countries in the region
- ❑ Regional political stability and cohesiveness

- ❑ Brief overview of the landscape in Moldova - main players:
 - Funding organizations - Ministry of Education, Culture and Research of the Republic of Moldova; National Agency for Research and Development;
 - NREN – RENAM (since 1999);
 - Providers of generic services - RENAM Scientific Cloud (RSC), RENAMstor (RENAM Storage Service), USM (the State University of Moldova) - HPC cluster and Vladimir Andrunachievici Institute of Mathematics and Computer Science - HPC cluster;
 - RIs, e-Infrastructures & services: National computing infrastructure (coordinated by RENAM), National scientific publications, <https://ibn.idsi.md/> - Information Society Development Institute (ISDI), National Center for Spatial Technologies (founded by the Technical University in 2011); Institute of Emergency Medicine – medical images collection in DICOM format (the list has to be extended)...
 - State program 18.07.10A / PS50, Development of e-Infrastructure of data in the field of research, development and innovation in the Republic of Moldova – one project funded “Elaboration of the conceptual and methodological framework for e-data infrastructure in the field of RDI in the Republic of Moldova (e-IDSMS)”;
 - National delegate to EOSC Governance Board.

Ministerul Educației, Culturii
și Cercetării al Republicii Moldova



Ministry of Education, Culture and
Research of the Republic of Moldova

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Nr. 042-09/3434 din 08.10.18

**RENAM/Asociația Rețelelor de Cercetare și Educație din Moldova,
Co-Președintelui Prof., Academician Ion TIGHINEANU,
Co- Președintelui Prof., Academician Grigore BELOSTECINIC**

În calitate de Ministru al Educației, Culturii și Cercetării din Republica Moldova, exprim sprijinul și recunoașterea Asociației Rețelelor de Cercetare și Educație din Moldova (RENAM) pentru coordonarea inițiativei naționale și a activităților aferente privind realizarea inițiativei "European Open Science Cloud" în Republica Moldova cu furnizarea de resurse computaționale de infrastructură cloud pentru susținerea serviciilor generice și tematice pentru datele de cercetare deschise și asigurarea accesului la repozitoriile naționale de date de cercetare.

Având o experiență de 20 de ani de operare a eInfrastructurii naționale științifico-educative, integrate în spațiul informațional paneuropean GEANT, îmi exprim convingerea că Asociația RENAM va asigura incluziunea instituțiilor interesate la nivel național și va reprezenta cu succes țara în inițiativele paneuropene EOSC și integrarea relevantă în EOSC și proiectele aferente.

Monica BABUC
Ministru

- ❑ Strategy/ideas for EOSC service uptake and FAIR uptake
 - Working with local stakeholders to determine potential services for extending predetermined list of national generic / thematic services, that can be further integrated in EOSC & included in EOSC service catalog;
 - To determine potential data collections (open data repositories) at the national level that can be tested and validated from the point of view of interoperability, compliance with OA requirements at the national and EU levels. This activity will ensure support in FAIR-ing datasets included in national repositories and in perspective certifying the selected repositories.
 - To approach predetermined users communities that generate and work with research data by distributing basic information/materials about OS principles, preferences, access to RI and services; creation of instrumental support for relevant information distribution (lists of main stakeholders, interested institutions, users, etc.). Announcing general EOSC and NI4OS-Europe project activities/results via RENAM, national universities and research institutes web sites.
- ❑ Strategy/ideas for Training
 - Creation of training platform – training market place with demo content, tools, references to best practices; ability for all partners to contribute to development and localization of training content, documents, etc. Provide access to EOSC-Hub and OpenAIRE training materials (and tools).
 - Practical demonstration / trainings how to use generic services, work with thematic services, access / contribute to data repositories development.
- ❑ Initial ideas and suggestions for training events, synergies
 - Plan of organization of trainings at national level;
 - On-line training materials – ability to have access to recorded training events. Organizations of regular Webinars announced to and accessible by national users' communities.

NI4OS - EOSC National Landscape Survey

Based on:

- ❑ EOSC Pillar draft (and final) version
- ❑ NI4OS-Europe WP leaders' requests
- ❑ several already existing surveys: EC-NREN, EUA, RCC, RDA, FAIRsFAIR

Life-cycle:

- ❑ 1st draft in August 2019
- ❑ Reviewed in several iterations
- ❑ Reviewed by Data Protection officers
- ❑ Testing since September 20th
- ❑ Opened: October 21th – December 10th 2019
- ❑ Collected data analysis – January – April 2020

Rezultatele sondajului NI4OS-Europe privind știința deschisă pentru Moldova

Evenimentul Național NI4OS-Europe de Formare privind
Consolidarea Capacităților
în Domeniul Științei Deschise pentru Moldova

24 septembrie 2020, online

Petru Bogatencov, RENAM



Harta NI4OS-Europe reflectă părțile interesate existente în domeniul Științei Deschise din Europa de Sud-Est, care au fost identificate și grupate pe baza rolului lor în funcțiile importante ale Științei Deschise.

Setul de date colectat include informații despre 1010 părți interesate (968 de entități unice) din 15 țări.

Pentru Moldova – 86 de părți interesate:

- Finanțare – 3;
- Creare – 46;
- Suport – 30;
- Consum – 2;
- Facilitarea Științei Deschise – 5.



<https://ni4os.eu/os-stakeholders-map/>

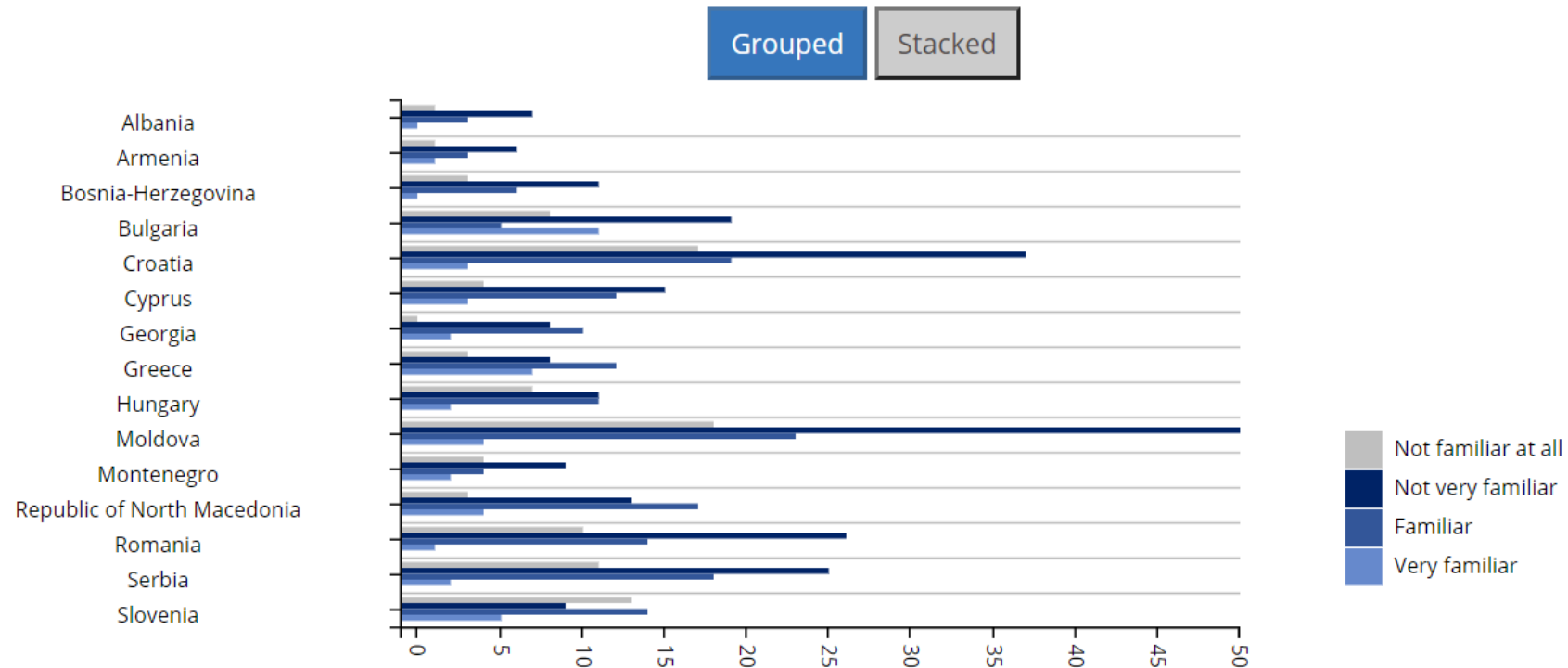
Cât de familiarizați sunteți cu EOSC?

Total răspunsuri: 575

Răspunsuri din Moldova: 95

- Nefamiliarizat – 18
- Nu prea familiarizat – 50
- Familiarizat – 23
- Foarte familiarizat – 4

<https://ni4os.eu/survey-results/>



Total responses: 575

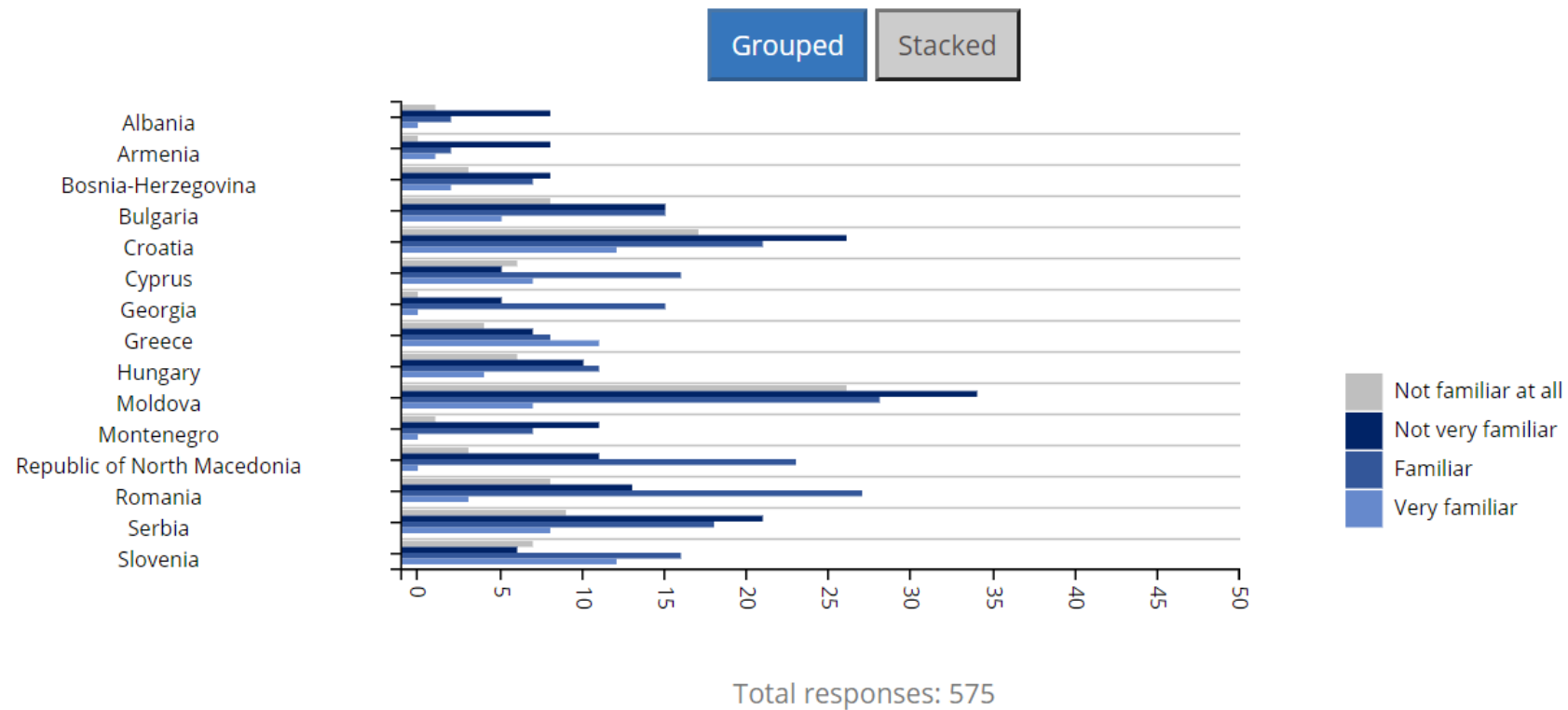
Cât de familiarizați sunteți cu conceptul de date FAIR?

Total răspunsuri: 575

Răspunsuri din Moldova: 95

- Nefamiliarizat – 26
- Nu prea familiarizat – 35
- Familiarizat – 28
- Foarte familiarizat – 7

<https://ni4os.eu/survey-results/>



De ce domenii de formare / asistență / consiliere au nevoie cercetătorii și personalul de asistență pentru ca datele să fie FAIR? (1)

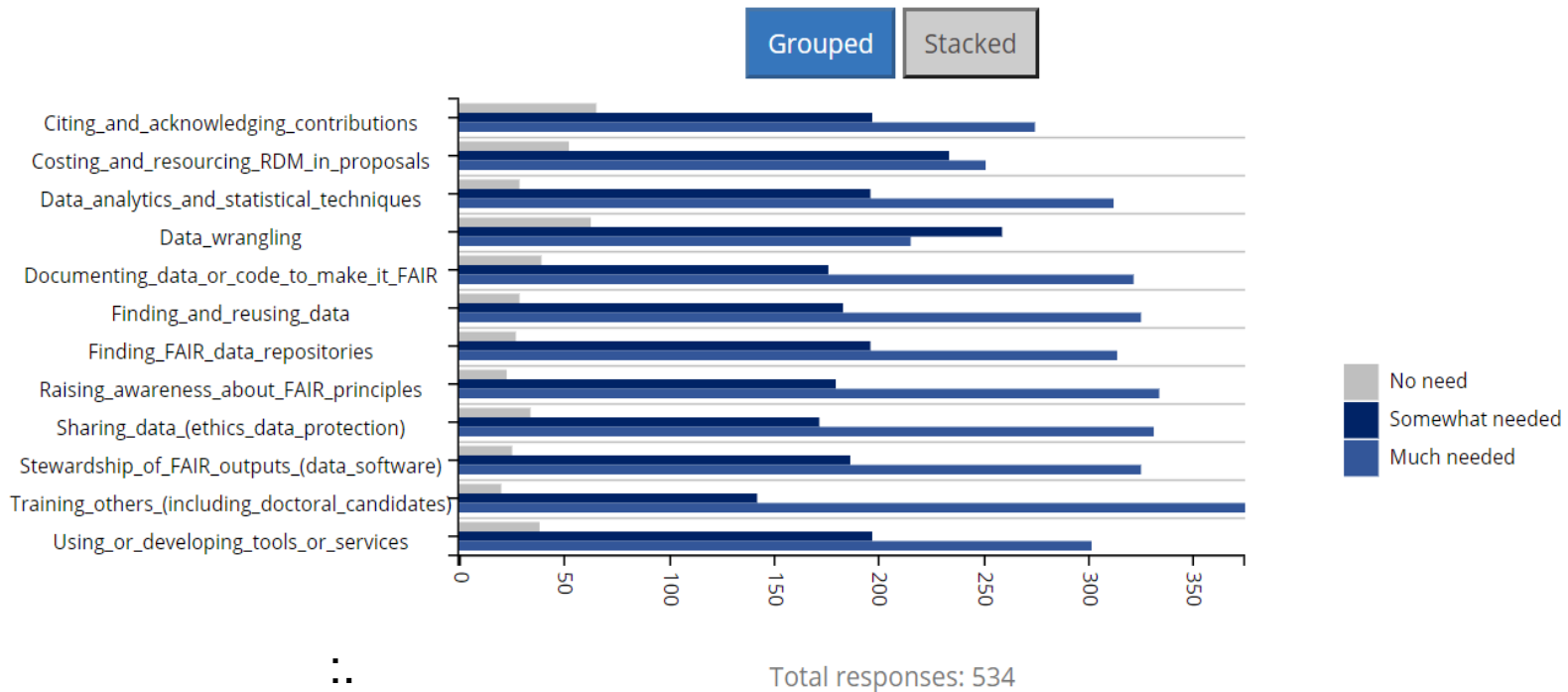
Total răspunsuri: 534

(această întrebare nu a fost oferită organizațiilor de finanțare a cercetării)

Rezultatele sondajului demonstrează o **nevoie puternică de formare în toate domeniile legate de FAIR**: aproximativ **90%** dintre respondenți au spus că formarea este **necesară** sau **foarte necesară**.

Instruirea altor categorii (inclusiv doctoranzilor) se evidențiază ușor ca domeniu prioritar pentru formare.

<https://ni4os.eu/survey-results/>

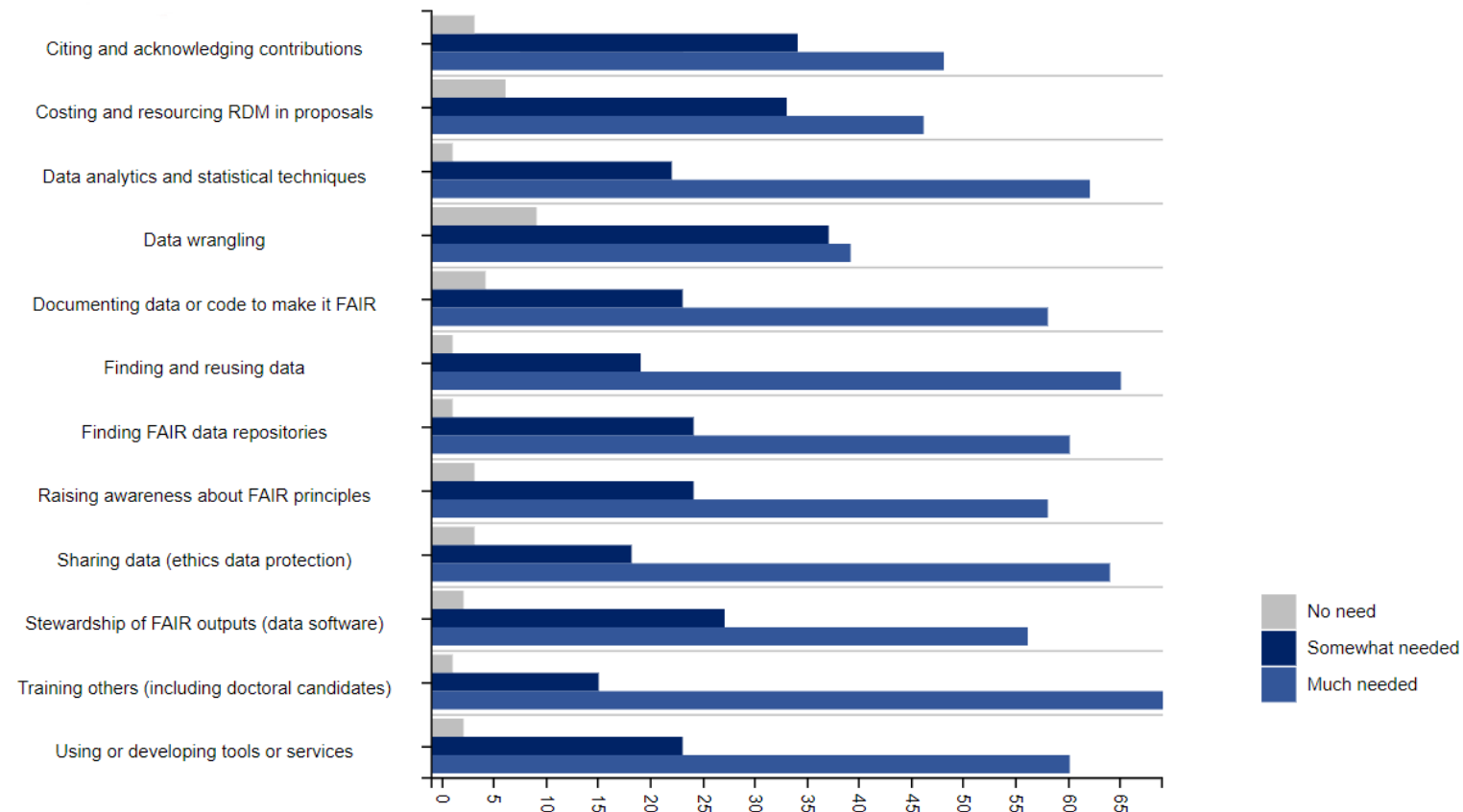


De ce domenii de formare / asistență / consiliere au nevoie cercetătorii și personalul de asistență pentru ca datele să fie FAIR? (2)

Răspunsuri din Moldova: 85

Este foarte necesar:

- Instruirea altor categorii (inclusiv a doctoranzilor) – 69
- Regăsirea și reutilizarea datelor – 65
- Partajarea datelor (etica protecției datelor) – 64
- Analiza datelor & tehnici de statistică – 62
- Regăsirea repozitoriilor de date FAIR – 60
- Utilizarea sau dezvoltarea instrumentelor și serviciilor – 60
- Documentarea datelor sau a codului pentru a le face FAIR – 58
- Creșterea gradului de conștientizare cu privire la principiile FAIR – 58



Organizația dvs. oferă asistență / instruire în următoarele domenii? (1)

Total răspunsuri: 534 (această întrebare nu a fost oferită organizațiilor de finanțare a cercetării)

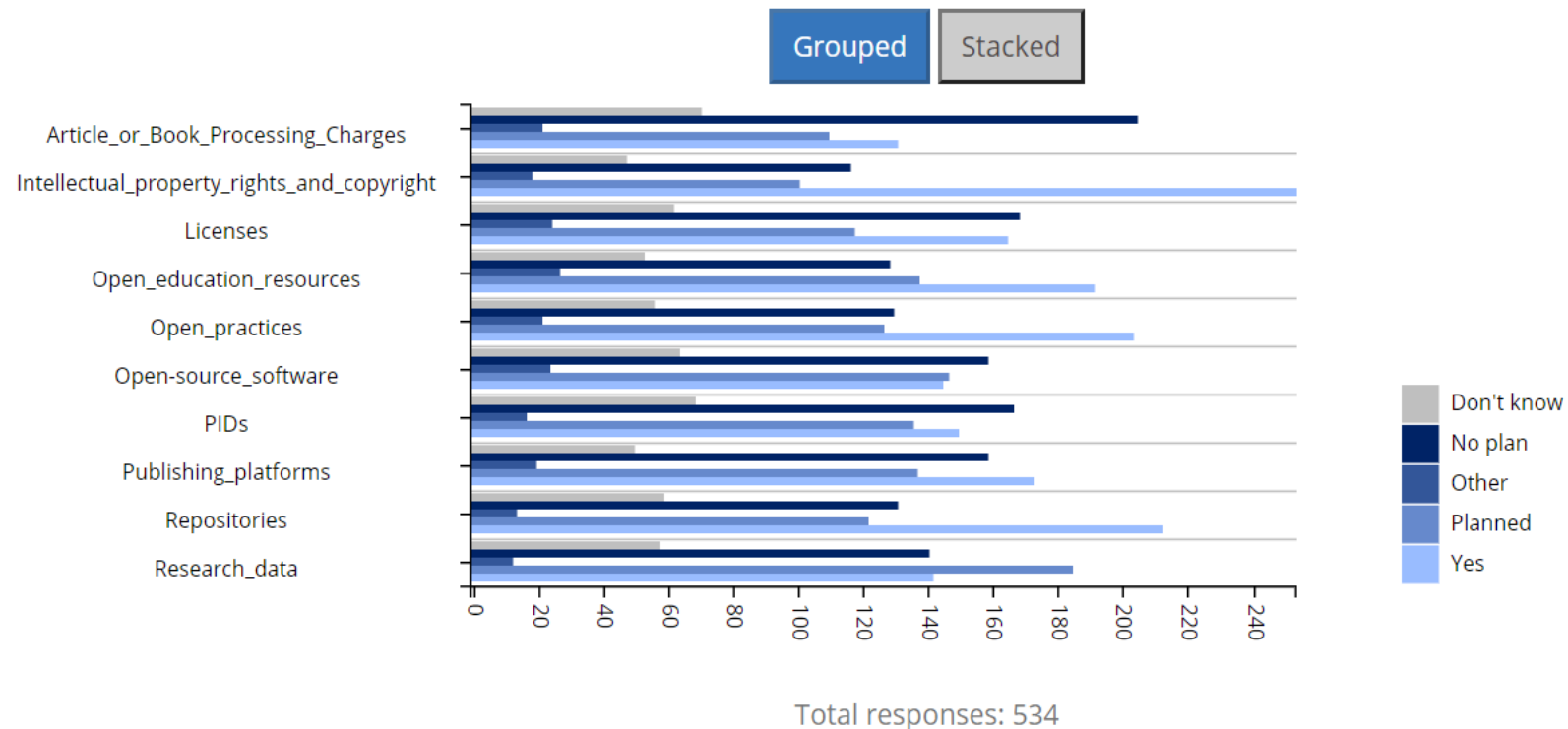
Peste 60% dintre respondenți oferă **instruire pentru serviciile lor**.

Aproape jumătate dintre ei oferă deja instruire despre **drepturile de proprietate intelectuală și drepturile de autor**.

Un alt domeniu major acoperit de instruire sunt **repozitoriile instituționale** (aproape 40% dintre respondenți oferă deja instruire în acest domeniu).

Aproximativ 60% dintre respondenți nu oferă instruire cu referire la date de cercetare. Dar, aproape 35% dintre ei, intenționează să facă acest lucru în viitor.

<https://ni4os.eu/survey-results/>

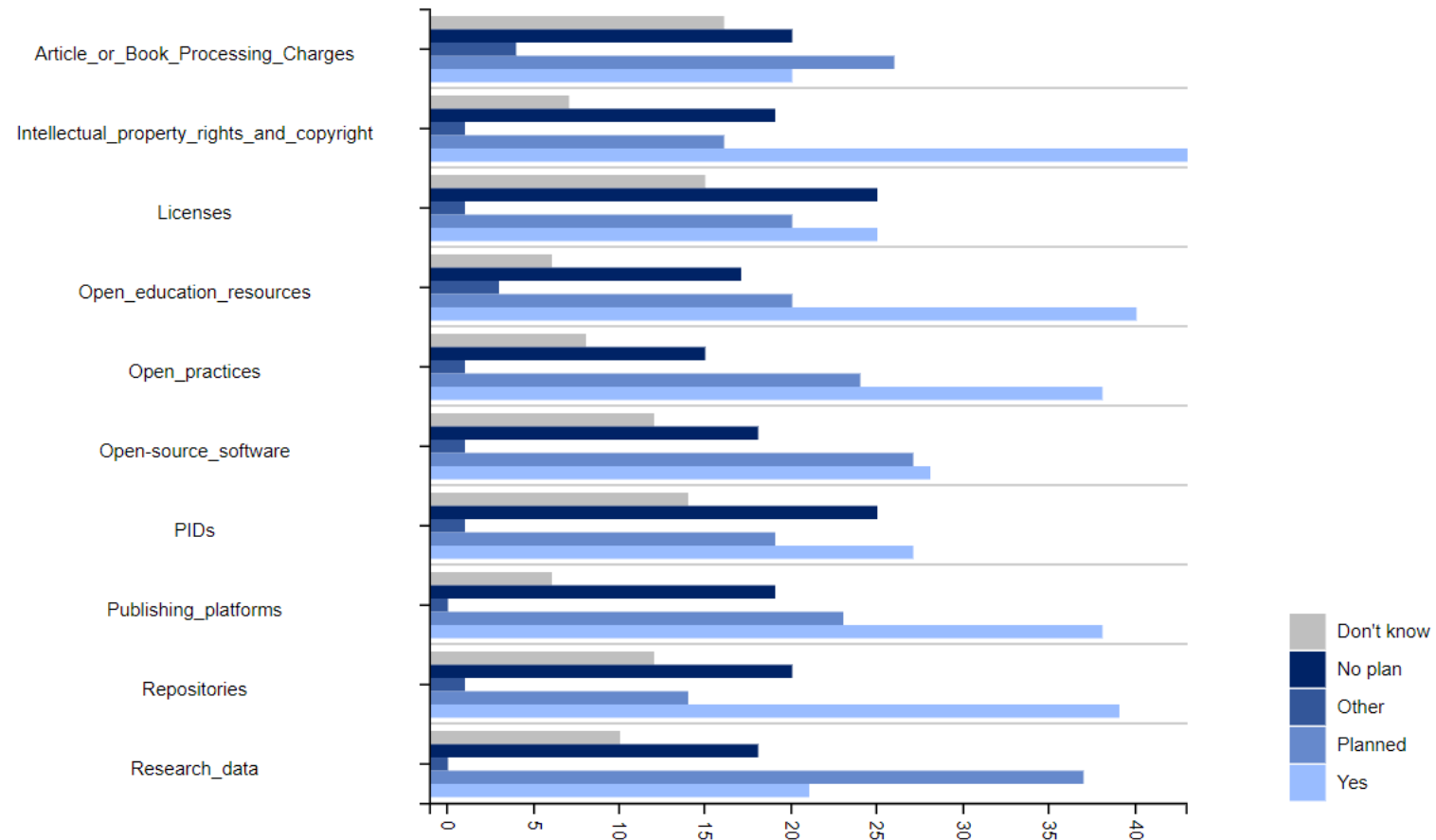


Organizația dvs. oferă asistență / instruire în următoarele domenii? (2)

Răspunsuri din Moldova: 85

Da:

- Drepturile de proprietate intelectuală și drepturile de autor – 43
- Resurse educaționale deschise – 40
- Repozitorii – 39
- Practici deschise – 38
- Platforme de editare – 38

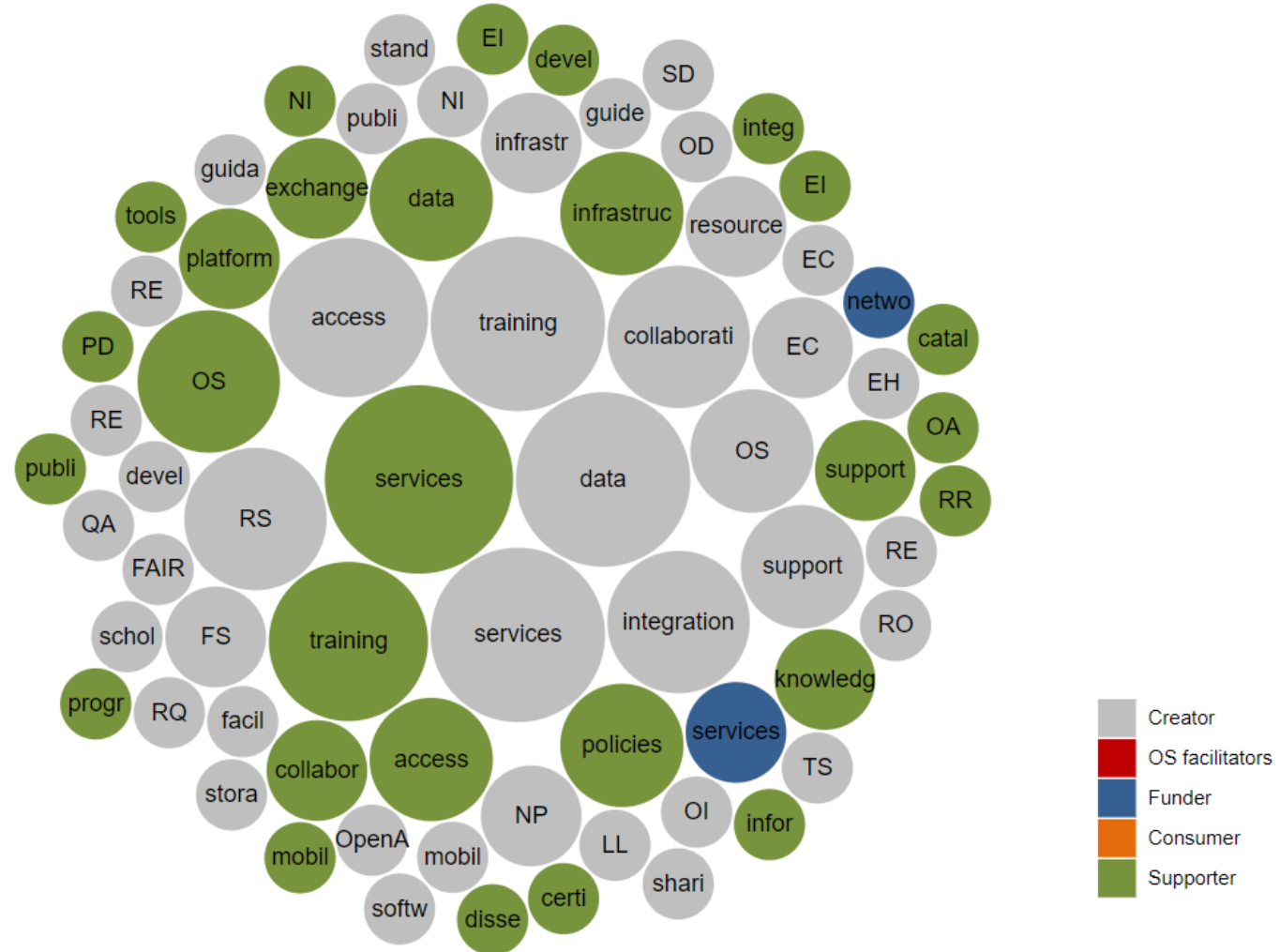


Răspunsuri la întrebarea deschisă “**Ce așteptări aveți la EOSC?**” au fost analizate pentru a extrage concepte distincte, care au fost normalizate în continuare.

Cuvântul *cloud* este asociat **cu conceptele exprimate cel mai frecvent** de părțile interesate.

Răspunsuri din Moldova:

- Servicii – 6+7+2
- Instruire – 6+5
- Date – 6+3
- Acces – 5+3
- Știința Deschisă – 3+4
- Colaborare – 4+2
- Suport – 3+2
- Infrastructură – 3+2



- Lets go ahead together!