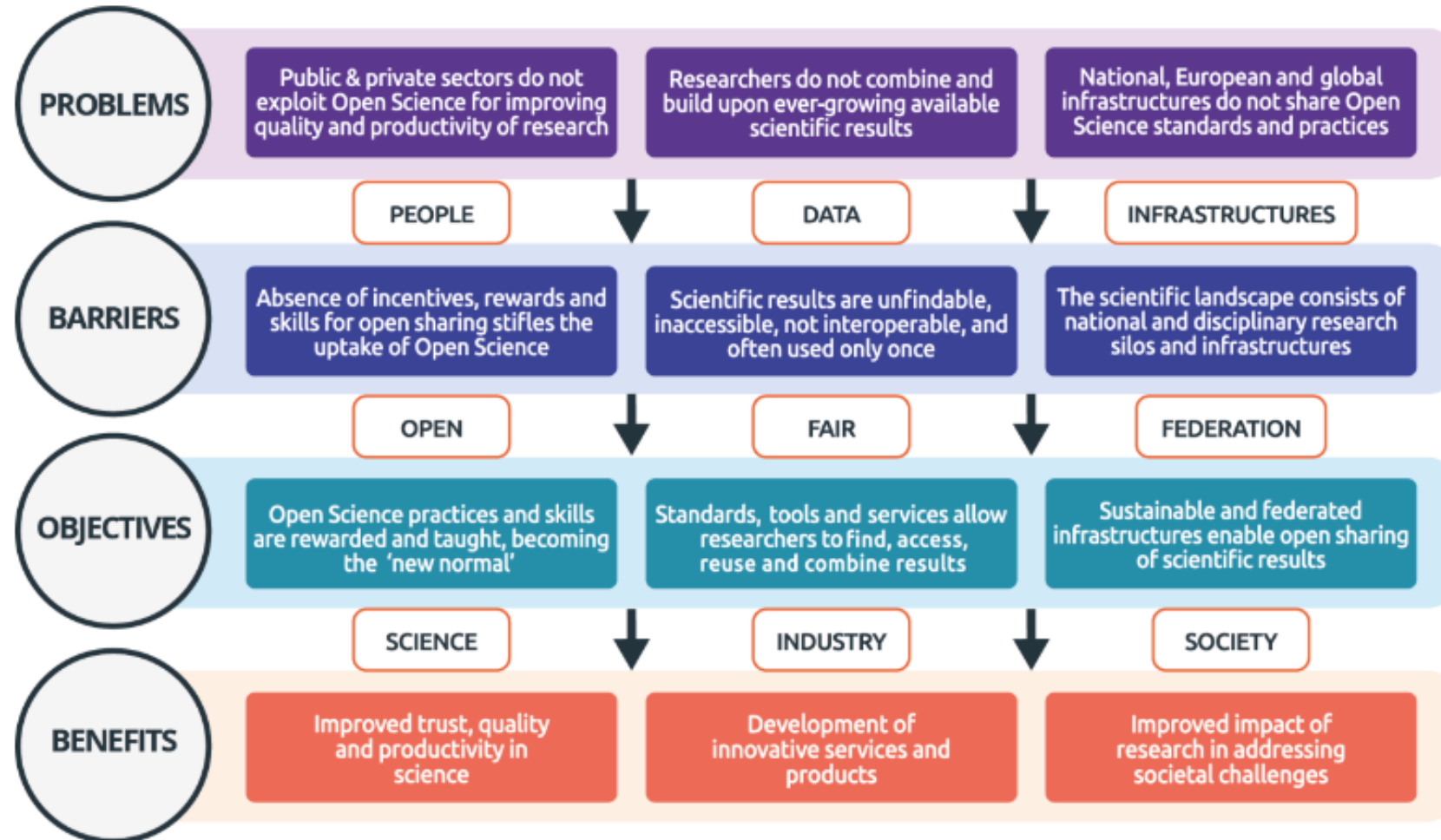# National Initiatives for Open Science in Europe

National Open Science Cloud Initiatives and their role in EOSC inclusiveness and Open Science capacity building

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ATHENA RC
NI4OS-Europe Project Director

European Open Science Cloud: why?

PROBLEMS
- Public & private sectors do not exploit Open Science for improving quality and productivity of research
- Researchers do not combine and build upon ever-growing available scientific results
- National, European and global infrastructures do not share Open Science standards and practices

PEOPLE — DATA — INFRASTRUCTURES

BARRIERS
- Absence of incentives, rewards and skills for open sharing stifles the uptake of Open Science
- Scientific results are unfindable, inaccessible, not interoperable, and often used only once
- The scientific landscape consists of national and disciplinary research silos and infrastructures

OPEN — FAIR — FEDERATION

OBJECTIVES
- Open Science practices and skills are rewarded and taught, becoming the 'new normal'
- Standards, tools and services allow researchers to find, access, reuse and combine results
- Sustainable and federated infrastructures enable open sharing of scientific results

SCIENCE — INDUSTRY — SOCIETY

BENEFITS
- Improved trust, quality and productivity in science
- Development of innovative services and products
- Improved impact of research in addressing societal challenges

EOSC SRIA Version 1.0, 15 February 2021

EOSC Guiding Principles

- **Research-community centred:** EOSC will place research at the centre of the initiative and will thus prioritise engagement with research communities to understand their requirements, helping them and ensuring academic sovereignty of research data.

- **Multi-stakeholderism:** EOSC will succeed if and only if it follows a multi-stakeholder approach;

- **Openness:** EOSC will ensure that research artefacts are 'as open as possible, as closed as necessary';

- **FAIR principles:** EOSC will assemble research artefacts that are findable, accessible, interoperable and reusable;

- **Federation of infrastructures:** EOSC will federate existing and upcoming research infrastructures;

- **Machine-actionable:** EOSC will strike the right balance between machines and people in delivering the services that will serve the needs of European scientists.

EOSC implementation: Regional projects

Supporting FAIR & OS across research communities

Tools

Addressing principles; focus on legal aspects and EOSC

- LCT- License Clearance Tool

↗ https://lct.ni4os.eu/

- RoLECT - EOSC RoP Legal & Ethics Compliance

↗ https://rolect.ni4os.eu

- RePol – Repository Policy Generator

↗ https://repol.ni4os.eu

Training

Promoting practices and skills – uptake

- Network of trainers

- Resources on Open and FAIR RDM

FAIR Maturity Model, FAIRify, ORDM training, …

- Supporting material

Translations, guidelines, incentives

Onboarding

Applying principles in practice – implementation

- Pre-production environment

AGORA, ARGO, AAI

- On-boarding support

generic & thematic services and repositories

- Demonstrators

4 scientific communities

- Service Catalogue

↗ https://catalogue.ni4os.eu

Community

Creating awareness; building capacity

- **NOSCIs**

  OS stakeholders in each country supporting EOSC governance

- Network of EOSC promoters

EOSC ambassadors highlighting on the ground FAIR & OS

- Network of translation officers

Speaking FAIR and OS in national languages

NOSCIs: a network of OS and EOSC actors

15 NOSCIs in Southeast Europe

- 2022
- **National Open Science Cloud Initiative in Albania**
- Workflow: Hybrid

Albania

- 2022
- **Armenian National Open Science Cloud Initiative**
- Workflow: Bottom-up

Armenia

- 2022
- **Bosnia & Herzegovina NOSCI**
- Workflow: Hybrid

Bosnia-Herzegovina

- 2021
- **National Initiative for Open Data and Cloud Computing (BgI-ODCC)**
- Workflow: Hybrid

Bulgaria

- 2021
- **Croatian Open Science Cloud Initiative (locally HR-OOZ initiative)**
- Workflow: Hybrid

Croatia

- 2022
- **Cyprus Open Science Initiative**
- Workflow: Top-down

Cyprus

- 2021
- **Georgian Open Science Cloud Initiative (GOSCI)**
- Workflow: Bottom-up

Georgia

- 2022
- **Hellenic Open Science Initiative (EPAE-HOSI)**
- Workflow: Hybrid

Greece

- 2021
- **Nyílt Tudományos Fórum (Open Science Forum)**
- Workflow: Hybrid

Hungary

- 2020
- **National Open Science Cloud Initiative in Montenegro (NIOON)**
- Workflow: Bottom up

Montenegro

- 2021
- **National Open Science Cloud Initiative in North Macedonia (NOSCI.MK)**
- Workflow: Hybrid

North Macedonia

- 2021
- **Romanian Open Science Cloud Initiative (RO-NOSCI)**
- Workflow: Hybrid

Romania

- 2020
- **Team for Open Science in Serbia (TONus)**
- Workflow: Hybrid

Serbia

- 2021
- **Slovenian Open Science Community**
- Workflow: Top-down

Slovenia

- 2023
- **MD-NOSCI**
- Workflow: Top-down

Moldova

NOSCIs: the process

- Landscaping
- Modelling
- Setting up
- Training, liaison, collaboration
- Monitoring and assessment

NOSCIs

National level

International level

EOSC

NOSCIs establishment Toolbox

Modular methodologies and workflows

- Blueprint (NI4OS-Europe D2.2)

- Checklist - Workflows for setting up NOSCI

- Checklist - Indicators for the NOSCI's establishment

- Operational aspects and sustainability (NI4OS-Europe D2.5)

- Workflow examples

- Training material & events

D2.2 National OSC initiatives model

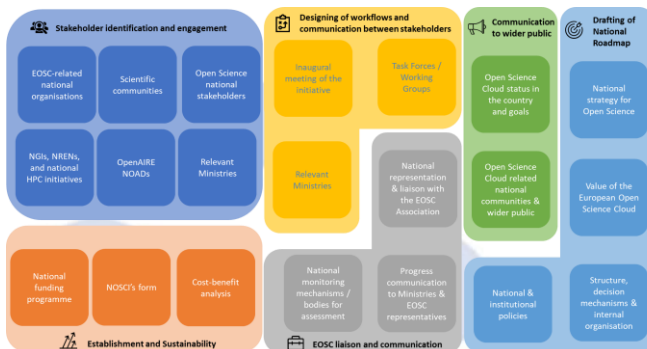Incentives & Rewards for supporting Open Research Data Management and FAIR

How to support EOSC – Incentives List

Workflows for setting up NOSCI

Indicators for the NOSCIs establishment

ORDM & FAIR: Guidelines and Incentives

National Open Science Cloud Initiatives (NOSCIs)

- Living national OS ecosystems that support the EOSC Governance

- Embrace diversity and OS maturity of countries and are inclusive in terms of participation of OS stakeholders

- Keep national stakeholders up to date with EOSC developments and spread awareness

- Coordinating national activities that enable interconnection with EOSC Ecosystem
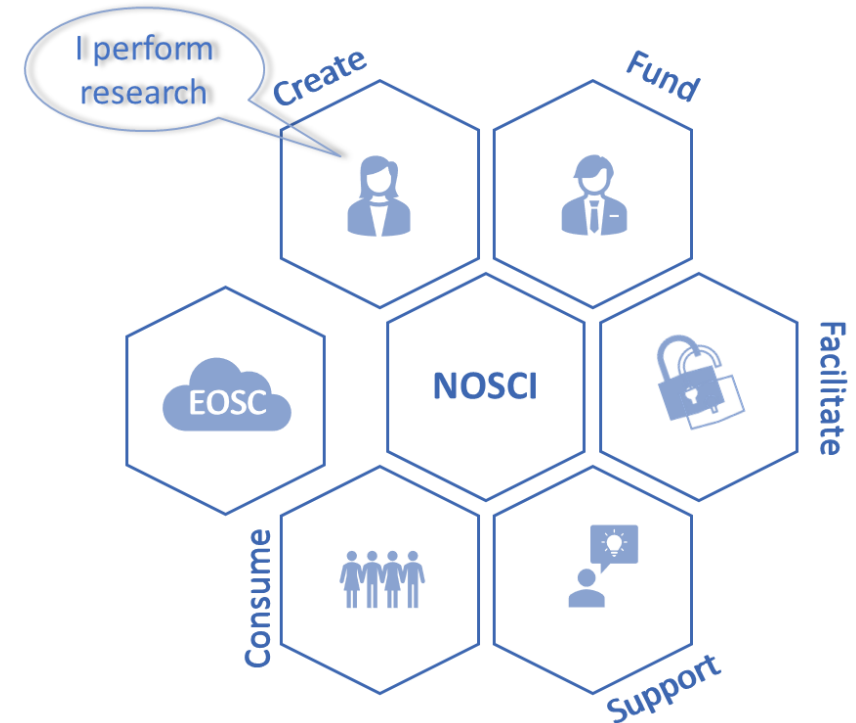
Country	OS Policy/Plan	EOSC-A	NOSCI
Albania	<u>In progress</u> **Open Access Policy Regulation document** **Database for Archiving and Publication of Research Funds and Programs in Albania**	**Mandated Member** **RASH**	✓
Armenia	<u>In progress</u> **Strengthening Research Management and Open Science Capacities of HEIs in Moldova and Armenia**	Observer **IIAP NAS RA**	✓
Bosnia-Herzegovina	<u>In progress</u> **Action plan of the council of ministers of Bosnia and Herzegovina for the implementation of the initiative "Open Government Partnership"**	Observer **UNIBL**	✓
Bulgaria	✓ **National Open Science Plan for Bulgaria (2021)**	**Mandated Member** **NACID**	✓
Croatia	✓ **Croatian Open Access Declaration (2012)** **Croatian Act on Scientific Activity (to be adopted)**	**Mandated Member** **SRCE**	✓
Cyprus	✓ **OA/OS policy (2016)** **National Policy of the Republic of Cyprus for Open Science Practices (May 2022)**	Member **European University Cyprus**	✓
Georgia	<u>In progress</u> **Policy to define clear steps for the dissemination of and open access to scientific publications**	No	✓
Greece	✓ **National Open Science Plan – 2020** **Digital Transformation Strategy - 2021**	Member **GRNET-ATHENA-OpenAIRE** Observer **NCSRD-JNP-FORTH**	✓

Country	OS Policy/Plan	EOSC-A	NOSCI
Hungary	✓ **Open Science /FAIR data policy**	**Mandated Member** **KIFU**	✓
Moldova	✓ **Code on Science and Innovation (2004 and amendments in 2018)** **Declaration on Open Science (2018)** **National Strategy for the Development of the Digital Moldova Information Society (2020)**	**Mandated Member** **IDSI** **Member** **NARD**	✓
Montenegro	✓ **Programme of Implementation of Open Science Principles in Montenegro with the Action Plan (2020–2022)** **- 2020**	No	✓
North Macedonia	<u>In progress</u> **OS/OA policies upcoming to the ESFRI and other related roadmaps**	**Member** **FCSE, UKIM**	✓
Romania	✓ **National Action Plan 2018-2020 for Open Government Partnership (NAP 2018-2020)**	**Mandated Member** **ICI Bucharest** **Member** **UEFISCDI**	✓
Serbia	✓ **OA/OS policy in place, adopted in 2018** **Open Science Platform and the inclusion of Open Science in the Law on Science and Research (2019)**	**Member** **IPB**	✓
Slovenia	✓ **OA/OS policy in place adopted in 2015** **The new Resolution on Research and Innovation Strategy of Slovenia 2021–2030 and its related Action Plan** **– in progress (in progress)**	**Mandated Member** **ARNES** **Member** **NIB University of Maribor**	✓

Impact of NOSCIs

- Strong collaboration at regional level
- Exchange of best practices related to OS
- Training of a respectable number of individuals on OS / FAIR / EOSC
- Development or update of official OS Policies in majority of SEE countries
- National OS plans in several countries
- Alignment of national policies at EU level
- Support to be at the same pace across the region, while respecting national frames
- Harmonisation and consolidation within the national OS ecosystems
- Encourage broader use of EOSC available resources

The way forward

- Effort still need needed to persuade stakeholders to embrace OS – significant contribution thus far by regional projects

- Regional initiatives (NI4OS-Europe) and national engagement are important for alignment with EU efforts and EOSC capacity building

- Inclusiveness at national and regional level: paradigm change and driver of change

Thanks!

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Join NI4OS-Europe Community:
https://ni4os.eu/contact-us