

*Mreža znanja, Open Science Day
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National Initiatives for Open Science Europe: collaboration of SE Europe for the future.

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Inclusiveness of EOSC at the EU level

Question:

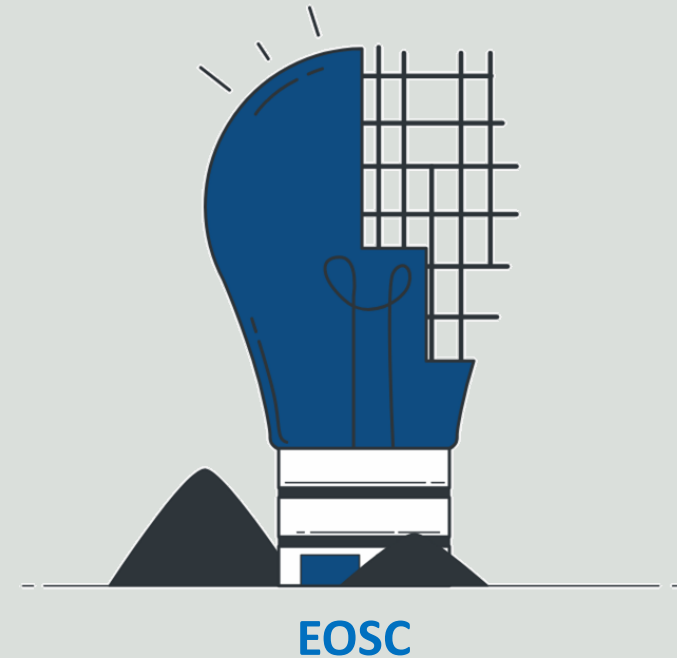
Inclusiveness of EOSC at the EU level

How to engage:

- ✓ Generic service providers
- ✓ Thematic services
- ✓ Repository operators
- ✓ Data providers
- ✓ Scientists and researchers

How to ensure:

- ✓ Geographical coverage
- ✓ Inclusion of less-developed regions



Answer: EOSC Regional projects



INFRAEOSC 5b
EOSC Projects
[Collaboration Agreement](#)

The SEE region 2 decades of cooperation

The SEE region

Various pieces of a larger puzzle

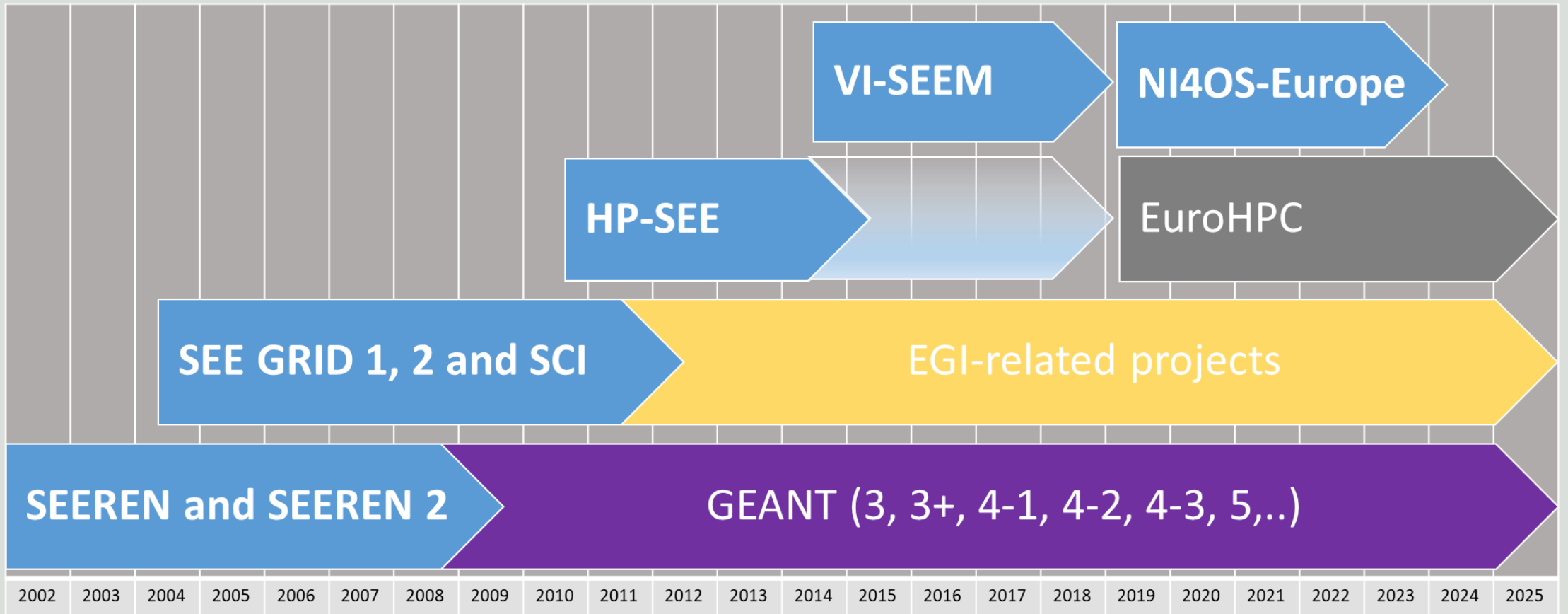
- ✓ EU members (Greece, Cyprus, Bulgaria, Romania, Hungary, Croatia, Slovenia)
- ✓ Western Balkans
- ✓ Eastern Partnership countries (Armenia, Azerbaijan, Belarus, Georgia, the Republic of Moldova and Ukraine)
- ✓ Eastern Mediterranean, Turkey

Regional service platform of various technologies built over the last 20 years with a number of projects

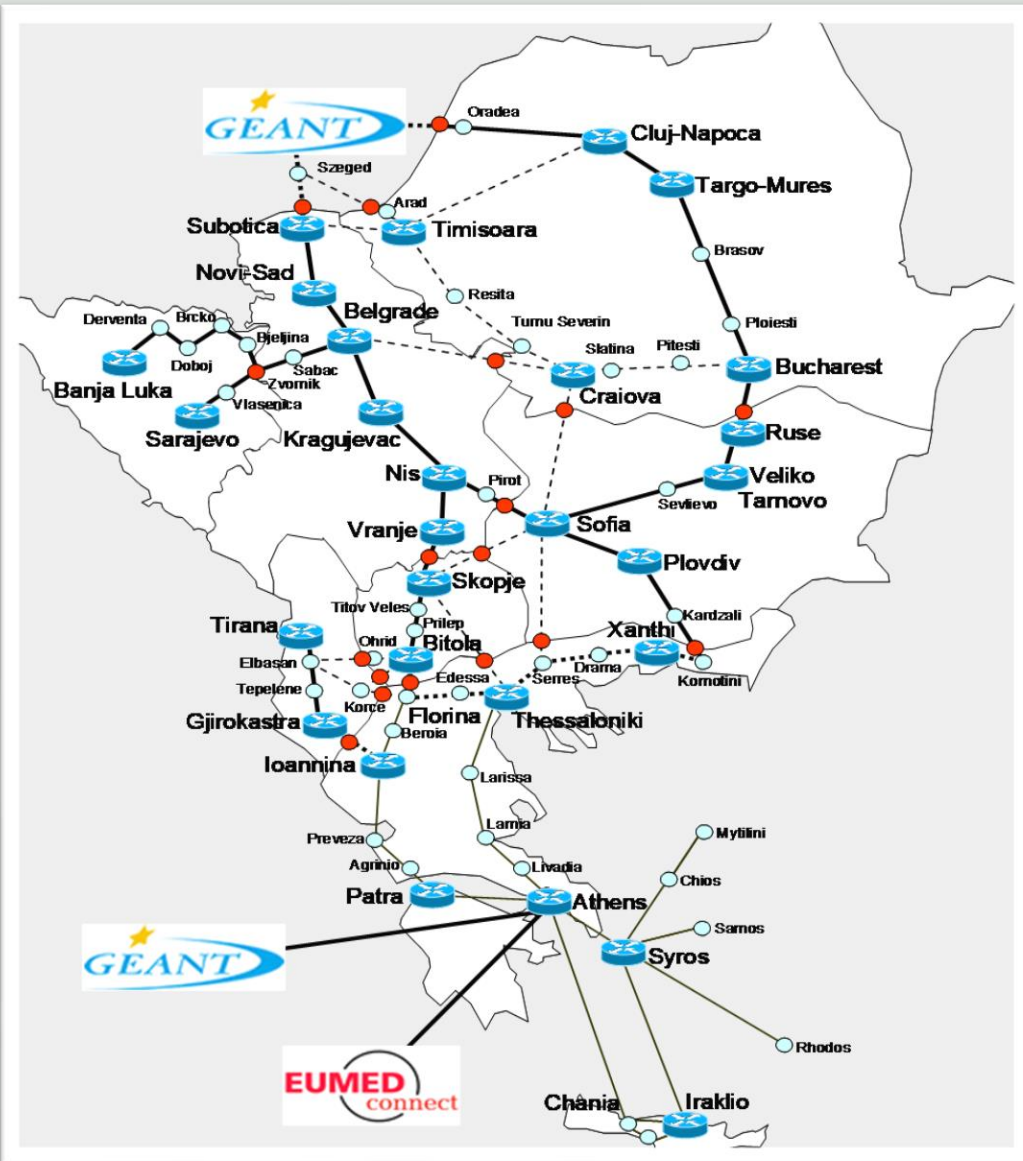
Very close relationship with governments to secure national support for the EC initiatives



Timeline: 2 decades



Timeline: 2 decades



SEEREN: regional inter-NREN connectivity and GEANT links

- *Result: sustainable national networks, all countries in GEANT*

SEEGRID: regional Grid infrastructure, building NGIs and user communities, infrastructure for large-scale environmental science user communities.

- *Result: national Grids, regional coordination, all countries within EGI*



HP-SEE: regional HPC interconnection
(+2nd generation Caucasus link)

- *Result: stable national HPC centers, regional HPC sharing*

SEERA-EI: regional programme managers collaboration towards common e-Infrastructure vision, strategy and regional funds

- *Result: influencing national agendas, setting common regional policy*



VI-SEEM: integrated platform of HPC, cloud, grid, data management, application-level services

- *Result: regional integrated platform, regional resource sharing*

Current activity

NI4OS-Europe

Current activity: NI4OS-Europe

15 Member States and Associated Countries | 22 Partners



NI4OS-Europe Objectives

Spread the EOSC and FAIR principles in the community and train it



Support the development and inclusion of the NOSCI in 15 MS and AC of the SEE in the overall scheme of EOSC governance

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

Diversity different levels of maturity

Extensive Landscaping

- Visualization of results
- Creation of stakeholder map for SEE
- Set of data deposited in Zenodo under open license

3 different Policy levels in the region

- No national OS policies
- OS policy documents exist (mainly OA)
- National OS strategy/plan or officially established initiative exists

Fragmented policy landscape in a unique area with many diversities including 7 MS and 8 AC (non-EU) countries → need for a **solution to support concretely OS Policies for the SEE countries** and engagement with **EOSC**.



Not very familiar with
EOSC

Knowledge about FAIR
principles is slightly higher
(in comparison to EOSC)



The solution: Establishment of NOSCI



NOSCI: Coalition of national organizations that have a prominent role and interest in the EOSC with main objective to promote synergies at national level for optimize the participation into EOSC, support its governance and deploy National OS Policies.

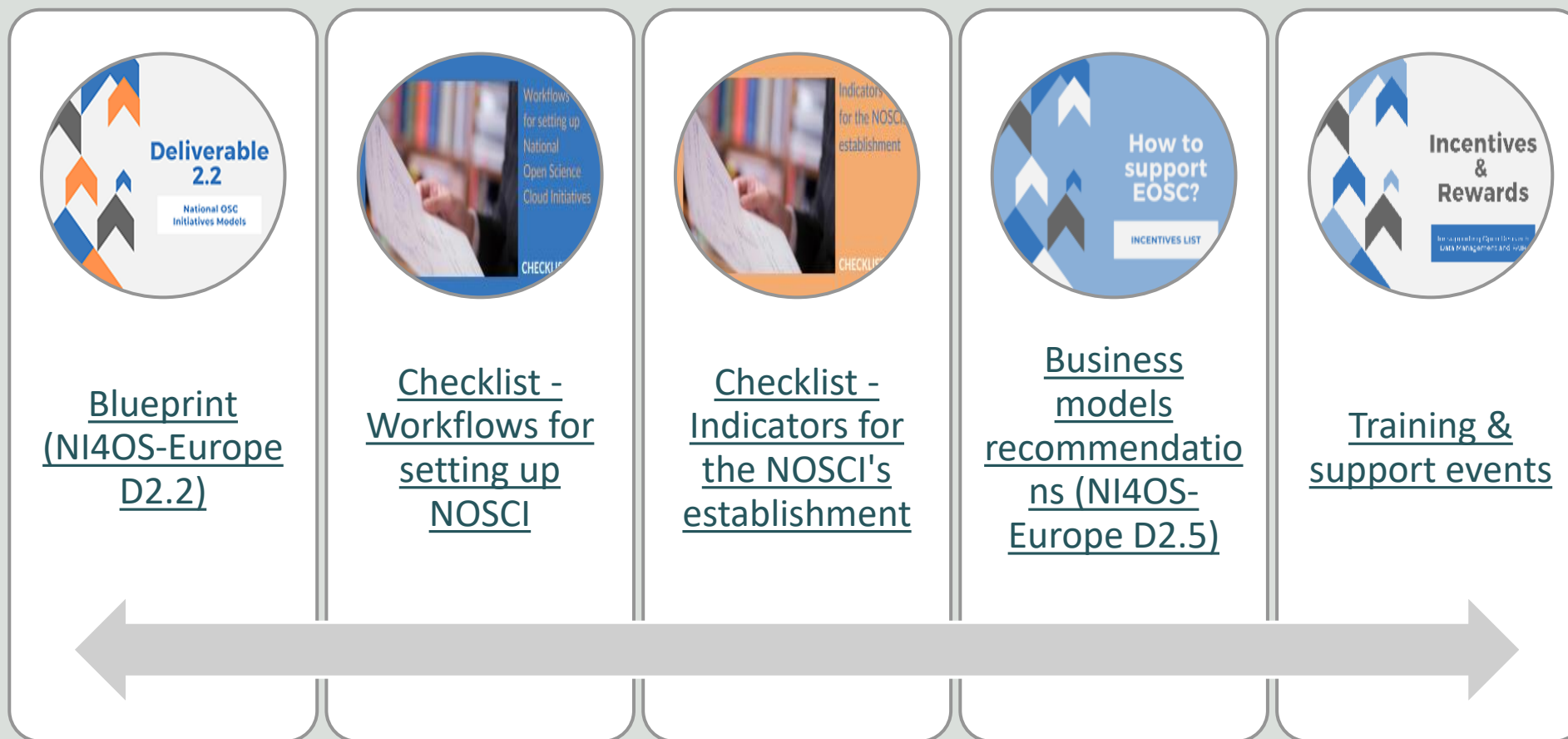
Living OS ecosystems that support EOSC Governance and embrace diversity and OS maturity of countries.

Spreading **awareness and communicating EOSC developments** to all national Stakeholders → tackling the knowledge gap on EOSC.

Organise and coordinate the national community with activities that enable interconnection with **EOSC Ecosystem** and participation into **the EOSC-A**.

Reduce policy fragmentation in the SEE and promote federation on national level.

NI4OS-Europe Toolbox for the establishment of NOSCI



The Blueprint is a holistic framework that supports the establishment of NOSCI. The framework is both, agile and expandable to successfully address any countries-specific needs.

Blueprint Indicators | Main categories

1. Organisation of the NOSCI

- organizational and administrative aspects of the NOSCI

2. Infrastructure & Services

- core infrastructure aspects: the infrastructure itself and its operations

3. Training & Skills

- assess the nature and spread of the training activities

4. Sustainability & international collaboration

- financial issues related to sustainability & relationship with international organizations



The proposed indicators are in line with the EOSC Readiness Indicators and may be used as a guide to complement the establishment and operation of a NOSCI.

2nd Working Proposal for Living Indicators to Monitor MS Progresses Towards EOSC Readiness (EOSC Landscaping Task Force)

Blueprint Workflows | Setting-up a NOSCI

1. Top down

- Initiated by higher authority stakeholders (Public Bodies/Ministries)



2. Bottom up

- Initiated by OS stakeholders and relevant actors in the country
- Involves all stakeholders in decision-making processes



3. Hybrid

- Combination of previous two, independently of who initiated it



The setting up of National Open Science Cloud Initiatives cannot be a linear process.
Country- or community-specific considerations must be taken into account.

Blueprint Workflows | The five-steps methodology



NOSCI: tangible outcomes

Already Established: 11 NOSCI

<ul style="list-style-type: none">•2021•National Initiative for Open Data and Cloud Computing (Bgl-ODCC)•Workflow: Hybrid <p>Bulgaria</p> 	<ul style="list-style-type: none">•2021•Croatian Open Science Cloud Initiative (locally HR-OOZ initiative)•Workflow: Hybrid <p>Croatia</p> 	<ul style="list-style-type: none">•2021•Georgian Open Science Cloud Initiative (GOSCI)•Workflow: Bottom-up <p>Georgia</p> 	<ul style="list-style-type: none">•2022•Hellenic Open Science Initiative (EPAE-HOSI)•Workflow: Hybrid <p>Greece</p> 	<ul style="list-style-type: none">•2021•Nyílt Tudományos Fórum (Open Science Forum)•Workflow: Hybrid <p>Hungary</p> 	<ul style="list-style-type: none">•2020•National Open Science Cloud Initiative in Montenegro (NIOON)•Workflow: Bottom up <p>Montenegro</p> 
<ul style="list-style-type: none">•2021•National Open Science Cloud Initiative in North Macedonia (NOSCI.MK)•Workflow: Hybrid <p>North Macedonia</p> 	<ul style="list-style-type: none">•2021•Romanian Open Science Cloud Initiative (RO-NOSCI)•Workflow: Hybrid <p>Romania</p> 	<ul style="list-style-type: none">•2020•Team for Open Science in Serbia (TONus)•Workflow: Hybrid <p>Serbia</p> 	<ul style="list-style-type: none">•2021•Slovenian Open Science Community•Workflow: Top-down <p>Slovenia</p> 	<ul style="list-style-type: none">•2021•Cyprus Open Science Initiative•Workflow: Top-down <p>Cyprus</p> 	

NOSCI: tangible outcomes

In progress: 4 NOSCI

<ul style="list-style-type: none">• Set-up in progress• Workflow: Hybrid• Foreseen: 2022	<ul style="list-style-type: none">• Set-up in progress• Workflow: Bottom-up• Foreseen: 2022	<ul style="list-style-type: none">• Set-up in progress• Workflow: Hybrid• Foreseen: 2022	<ul style="list-style-type: none">• Set-up in progress• Workflow: Hybrid• Foreseen: 2022
Albania 	Armenia 	Bosnia-Herzegovina 	Moldova 



<https://ni4os.eu/15-national-osc-initiatives/>

NOSCI: tangible outcomes

Impact of NOSCI

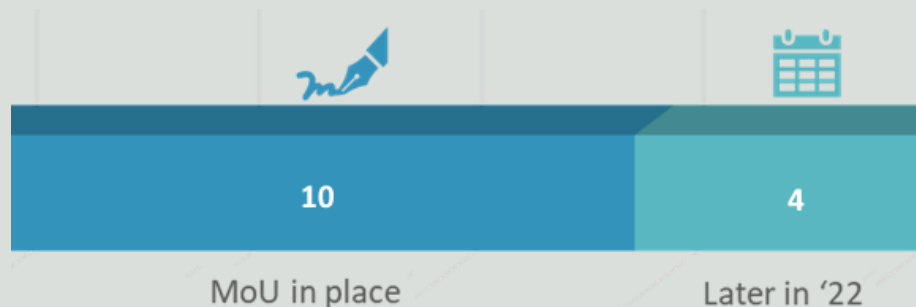
- Strong collaboration at regional level
- Exchange of best practices related to OS
- Training of a respectable number of individuals on OS / FAIR / EOSC
- All countries are developing official OS Policies
- National OS plans in several countries
- Aligned of National policies at EU level
- Encourage broader use of EOSC available resources



Liaison & collaboration

- Support to national representatives in the EOSC GB & EB and now in SB
- Input to all EOSC strategic documents (Fair Lady, SRIA, etc)
- Participation in the EOSC Task Forces and now in the Advisory bodies

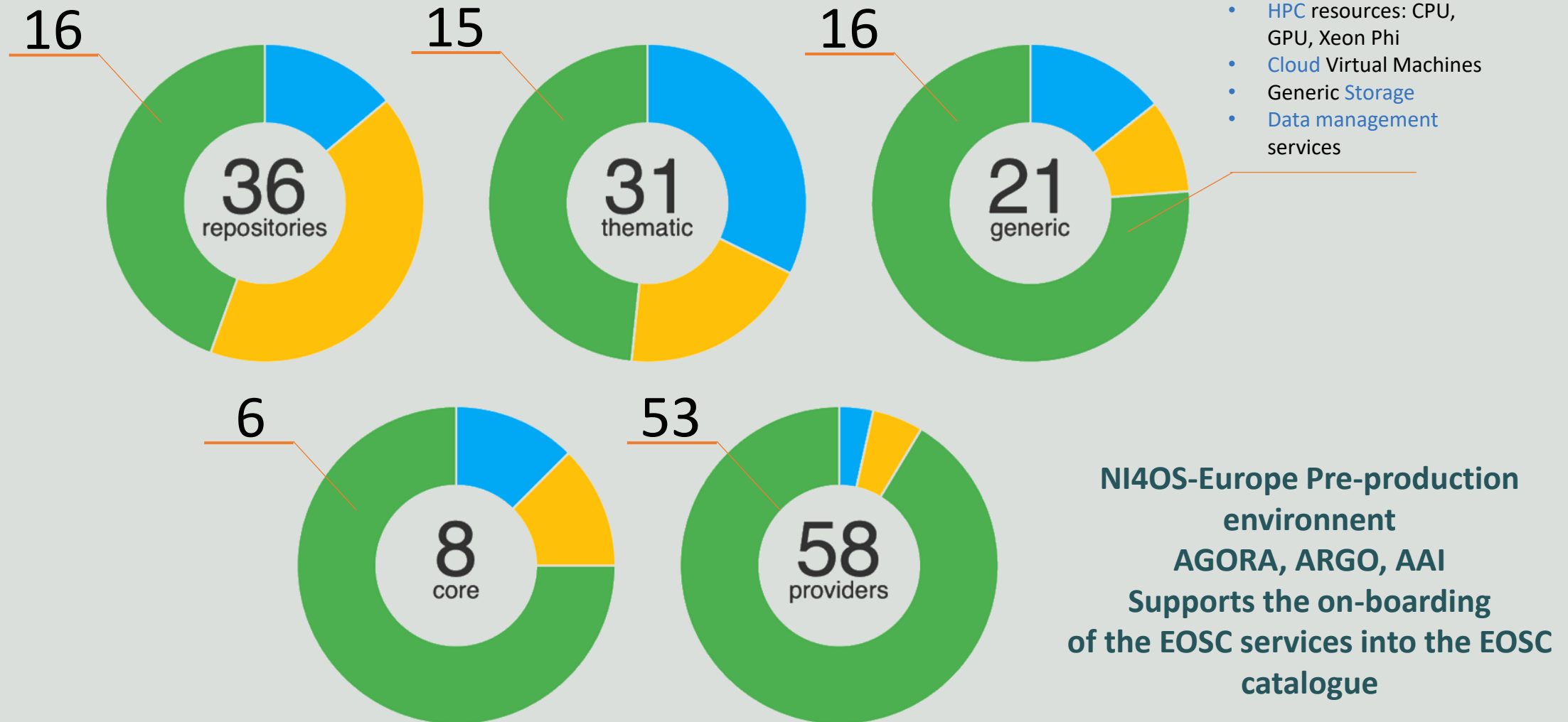
NOSCI MoU Status



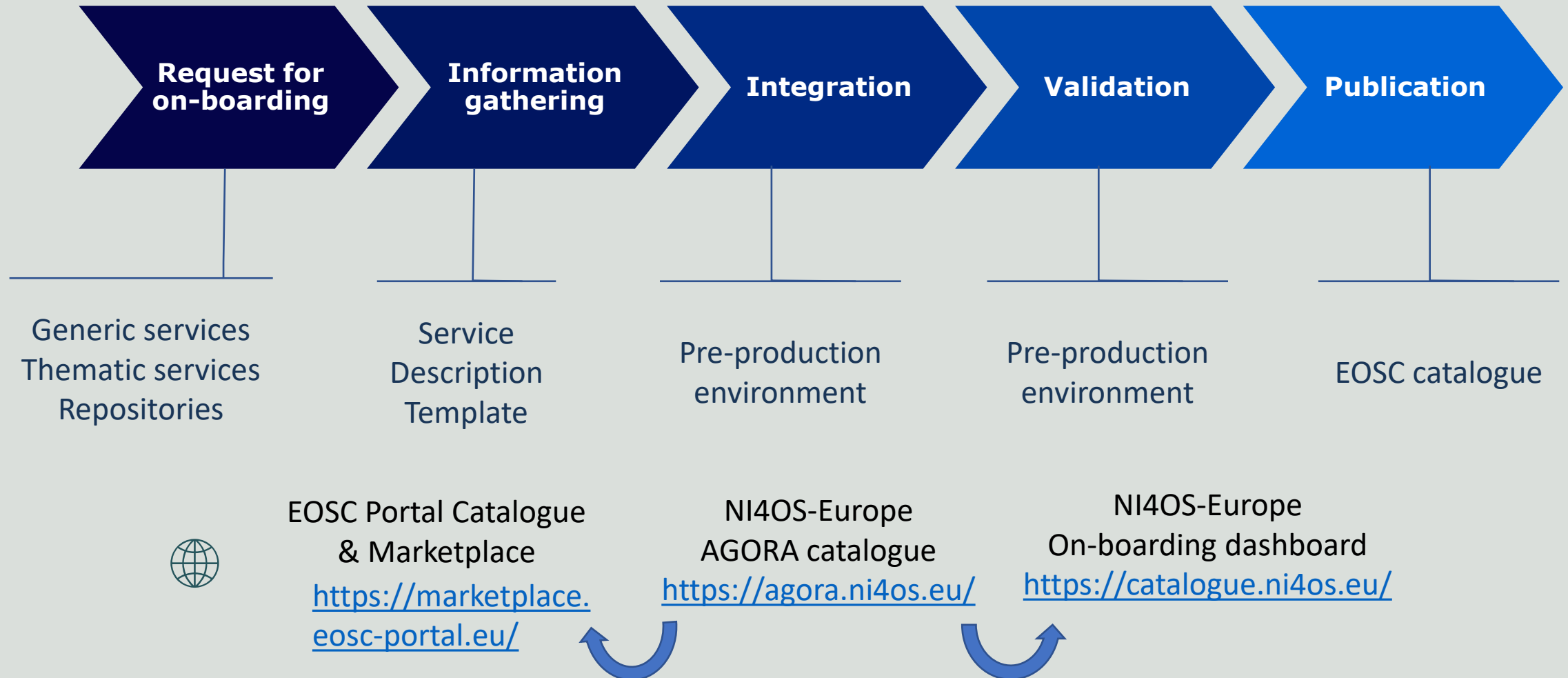
NI4OS-Europe region in EOSC-A

- 6 Mandated organizations
- 11 Members
- 7 Observers
- 12 NI4OS-Europe countries engaged

Services onboarded via pre-production platform: 1/3 of EOSC catalogue



The NI4OS-Europe 5-steps end-to-end on-boarding



The NI4OS-Europe open call

- After technical and brief scientific evaluation **20 projects accepted**
- 16 projects required access to **HPC resource**
- 3.2 million CPU-core hours, 120 kGPU-card hours, 50 TBs
- 13 TBs for archival purposes
- 19 VMs with 166 VM-cores



**Looking ahead
(eg: EuroHPC)**

EuroHPC and DAEDALUS

- DAEDALUS, SEE EuroHPC petascale (30PFlops) collaboration with GRNET-GR, Cyprus Institute - CY, UKIM - MK, UDG – ME
- Potential new partners (Serbia, Albania and Bosnia-Herzegovina)
- Centre for regional cooperation in SEE and a gateway for pan-European and international collaborations in the context of EuroHPC, European Data Spaces, European Open Science Cloud, and other relevant global initiatives.



EuroHPC
Joint Undertaking



- Regional initiatives important to sustainability block in the EOSC puzzle:
 - ✓ Helps scalability on European level
 - ✓ Support national initiatives and their links to EOSC Governance
 - ✓ Full coverage in Europe, and broad engagement

Importance of Regional Initiatives for EOSC



- For SEE region, it is important to:
 - ✓ Keep the region aligned with EU efforts
 - ✓ Support countries on the path to EU accession
 - ✓ Ease the digital divide between the region and rest of EU → prevent brain drain
 - ✓ Continue the EU funding for the region (matching the national funding) to keep the momentum and to prevent 2-speed Europe
 - ✓ Join pan-EU initiatives such as EuroHPC and EOSC initiatives → National and EU support is needed

Importance of Regional Initiatives for EOSC



Thank you



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 **Any Questions?**