

**NI4OS-Europe**  
**National Initiatives for Open Science in Europe**

**Building Open Science in Europe:  
The road ahead for the EOSC community, Tallinn**  
Dr. Sonja Filiposka (UKIM)  
on behalf of the NI4OS-Europe consortium

# Mission and Vision

- ❑ Mission and vision of the project are to be a core contributor to the EOOSC service portfolio, commit to EOOSC governance and ensure inclusiveness on the European level.



# Partnership

1	Ethniko Diktyo Erevnas Technologias AE	GRNET	Greece
2	ATHINA-Erevnitiko Kentro Kainotomias stis Technologies tis Pliroforias, ton Epikoinonion kai tis Gnosis	ATHENA	Greece
3	The Cyprus Institute	CYI	Cyprus
4	University of Cyprus	UCY	Cyprus
5	Institute of Information and Communication Technologies	IICT	Bulgaria
6	Sveuciliste u Zagreb - Sveucilisni Racunski Centar	SRCE	Croatia
7	Ruđer Bošković Institute	RBI	Croatia
8	Kormanyzati Informatikai Fejlesztési Ugyvisek	KIFU	Hungary
9	Debreceni Egyetem	UD	Hungary
10	Institutul National de Cercetare-Dezvoltare in Informatica – ICI Bucuresti	ICI	Romania
11	Unitatea Executiva pentru Finantarea Invatamantului Superior, a Cercetarii, Dezvoltarii si Inovarii	UEFISCDI	Romania
12	Akademaska raziskovalna mreza Slovenije	ARNES	Slovenia
13	Univerza v Mariboru, Univerzitetna knjiznica Maribor	UMUKM	Slovenia
14	Institut za fiziku	IPB	Serbia
15	Univerzitet u Beogradu	UOB	Serbia
16	Qendra Nderuniversitare e Sherbimeve Dhe Rrjetit Telematik	RASH	Albania
17	Univerzitet u Banjoj Luci	UNI BL	Bosnia-Herzegovina
18	Ss. Cyril and Methodius University in Skopje	UKIM	Northern Macedonia
19	Javna Ustanova Univerzitet Crne Gore Podgorica	UOM	Montenegro
20	Research and Educational Networking Association of Moldova	RENAM	Republic of Moldova
21	Institute for Informatics and Automation of the Academy of Sciences of Armenia	IIAP	Armenia
22	Georgian Research and Educational Networking Association	GRENA	Georgia

# Overall objective

- ❑ 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 in the overall scheme of EOSC governance; spread the EOSC and FAIR principles in the community and train it; and provide technical and policy support in on-boarding of the existing and future service providers into EOSC, including generic services (compute, data storage, data management), thematic (domain-specific) services, repositories and data sets – thus introducing new services that cover the whole spectrum of services related to Open Science, data and publications

# O1: building national OSC initiatives

- ❑ 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
  - ❑ Perform a stakeholder analysis / survey
  - ❑ Map the existing landscape at the national level
  - ❑ Set up national OSC initiatives
  
- ❑ Collaboration areas:
  - ❑ Align the surveys, same model for stakeholder analysis (with 5a and 5b projects)
  - ❑ Align national OSC initiative models (with 5a and 5b projects) (taking into account NRENs, NGIs, national HPC initiatives, NOADs, RDA nodes, etc.)

# O2: Federation and on-boarding preparation

- ❑ Facilitate the federation of existing infrastructures and state-of-the-art services and their on-boarding to EOSC
  - ❑ Operational best practices enabling the on-boarding and federation of generic and thematic services and their connection to EOSC
  - ❑ Support the national tools for federated management to be compatible with EOSC core corresponding services
  - ❑ Support harmonization of service templates
  - ❑ Provide a pre-production environment for testing and validation
  
- ❑ Collaboration areas:
  - ❑ Align operational best practices and service templates (with other 5b projects, EOSC-Hub and eInfraCentral)
  - ❑ Important to allow different levels of integration / on-boarding

# O3: On-boarding

- ❑ Enable the EOSC-relevant, non-commercial services to be accessed through the EOSC portal
  - ❑ Provide technical support to service providers, ensuring interoperability between national and EOSC services, for their federation and integration into EOSC
  - ❑ Provide support to the integration of national repositories securing the FAIRness of their practices
  - ❑ Deliver an integrated platform, consisting of the on-boarded resources from the region, which will be available as proof-of-concept for testing and fine-tuning with user communities
  
- ❑ Collaboration areas:
  - ❑ On-boarding approaches (with other 5b projects, EOSC-Hub and eInfraCentral)
  - ❑ FAIRness of repositories (FAIRsFAIR, other 5b projects)

# O4: ORDM practices

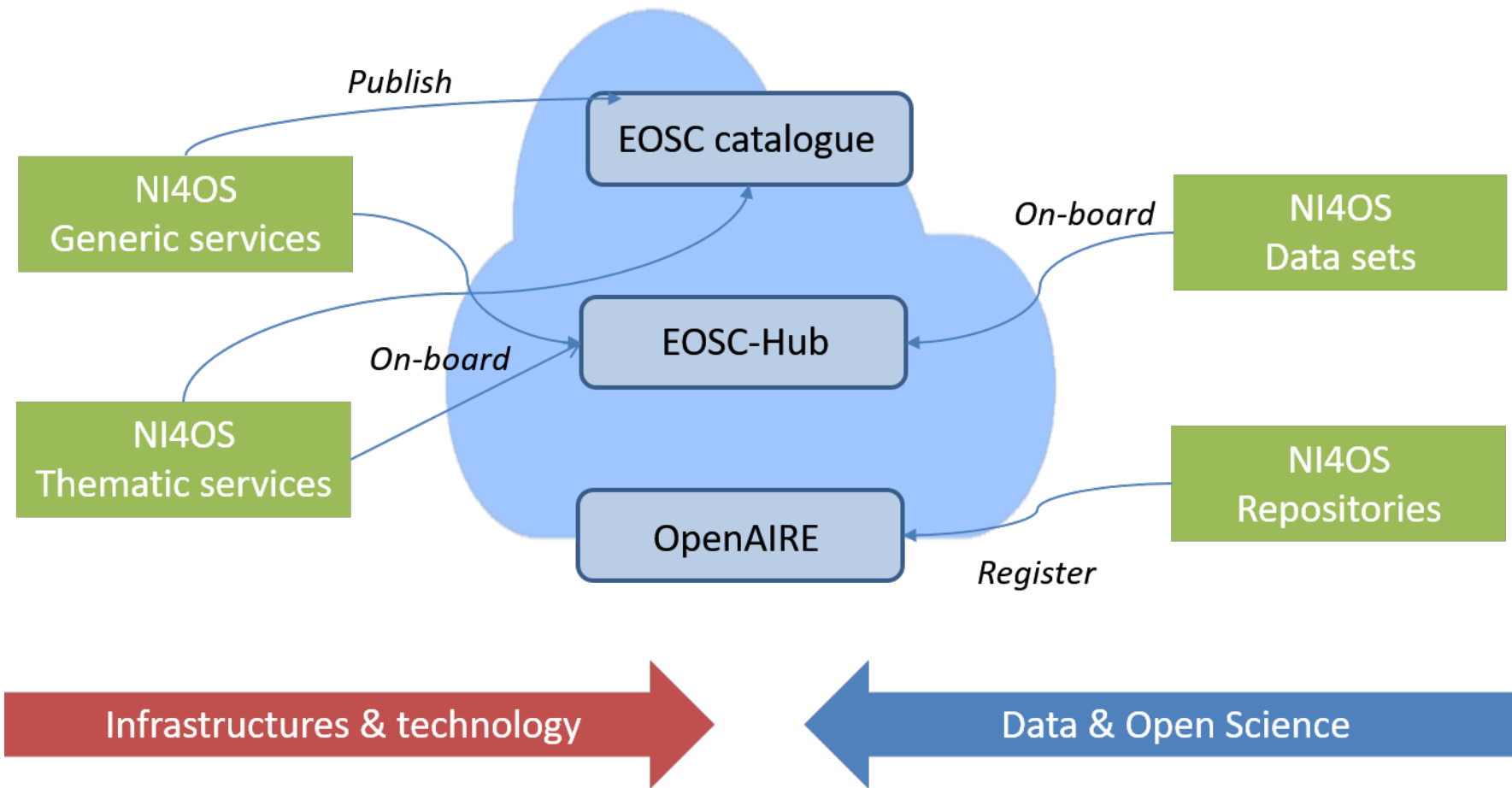
- ❑ Technical, organizational and legal guidelines, tools, mechanisms and certification schemes, to support Open Research Data Management and its implementation in a harmonised and coordinated fashion
  - ❑ Produce specific guidelines for ORDM
  - ❑ Define and adapt FAIR guidelines in the local context and ensure the FAIRness of repositories in a standardised and interoperable fashion
  - ❑ Develop and adapt easy-to-use technical and legal tools: DMP management, FAIR assessors, licence calculators, decision trees, provision of identifiers
  - ❑ Establish reliable certification schemes for open research data and service management of data repositories, compliant with GDPR, ethics and IPR rules and policies
- ❑ Collaboration areas:
  - ❑ FAIR guidelines, certification schemes, ORDM guidelines (FAIRsFAIR, other 5b projects)



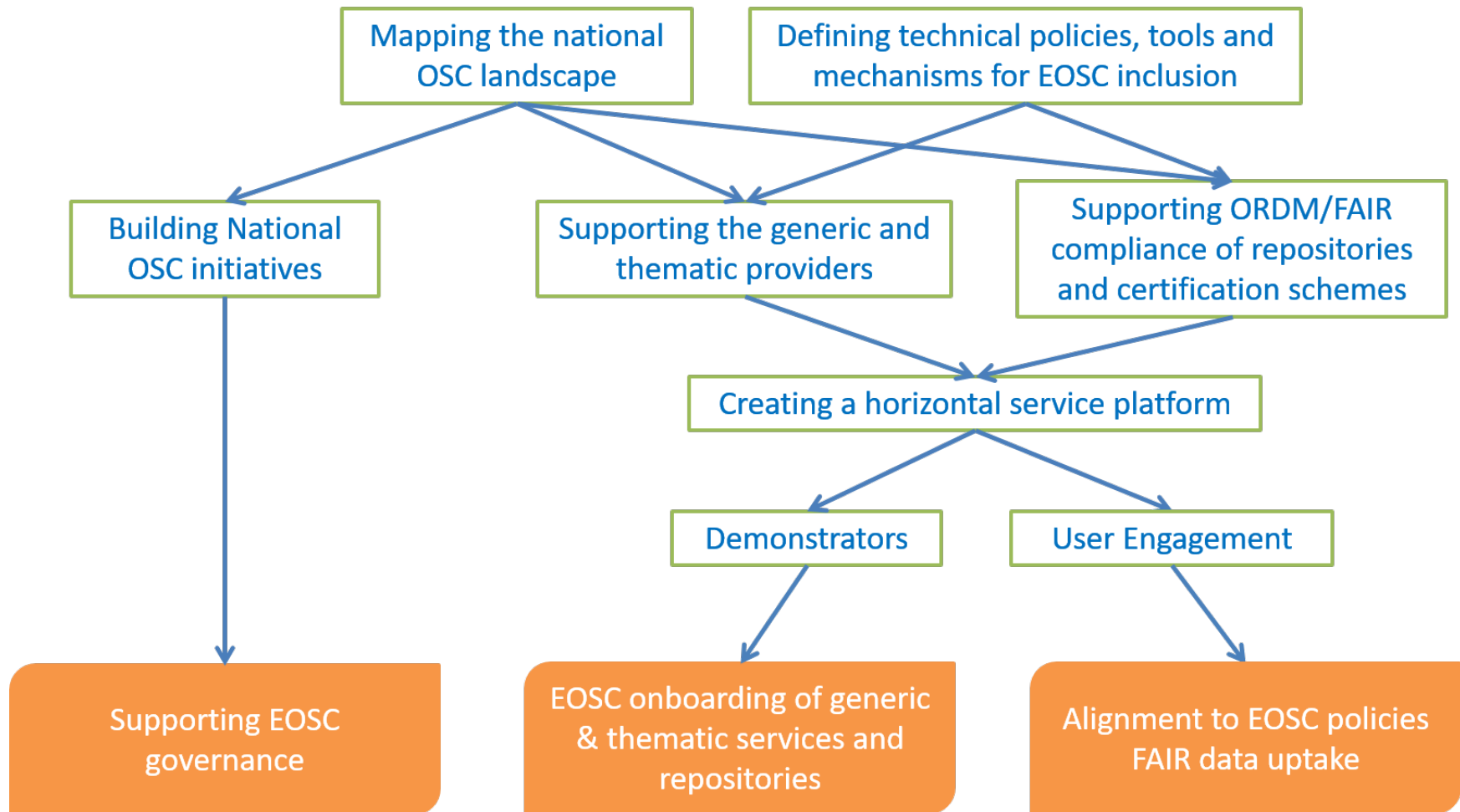
# O5: Community engagement

- ❑ Ensure the engagement of the targeted communities and validate the project solutions.
  - ❑ Run selected cross-country inter-disciplinary demonstrators with selected real user communities and research infrastructures
  - ❑ Provide full-blown training programme for prospective providers and users in the area to ensure take-up of core EOSC services/functions in the community
  - ❑ Provide capacity building trainings on service management, federation, interoperability, FAIR, certification, and technical/organizational/legal aspects of ORDM
  - ❑ Promote the uptake of EOSC guidelines and FAIR principles across the widest possible community
  
- ❑ Collaboration areas:
  - ❑ Harmonization of training material (all other projects), FAIR uptake (5b projects, FAIRsFAIR)

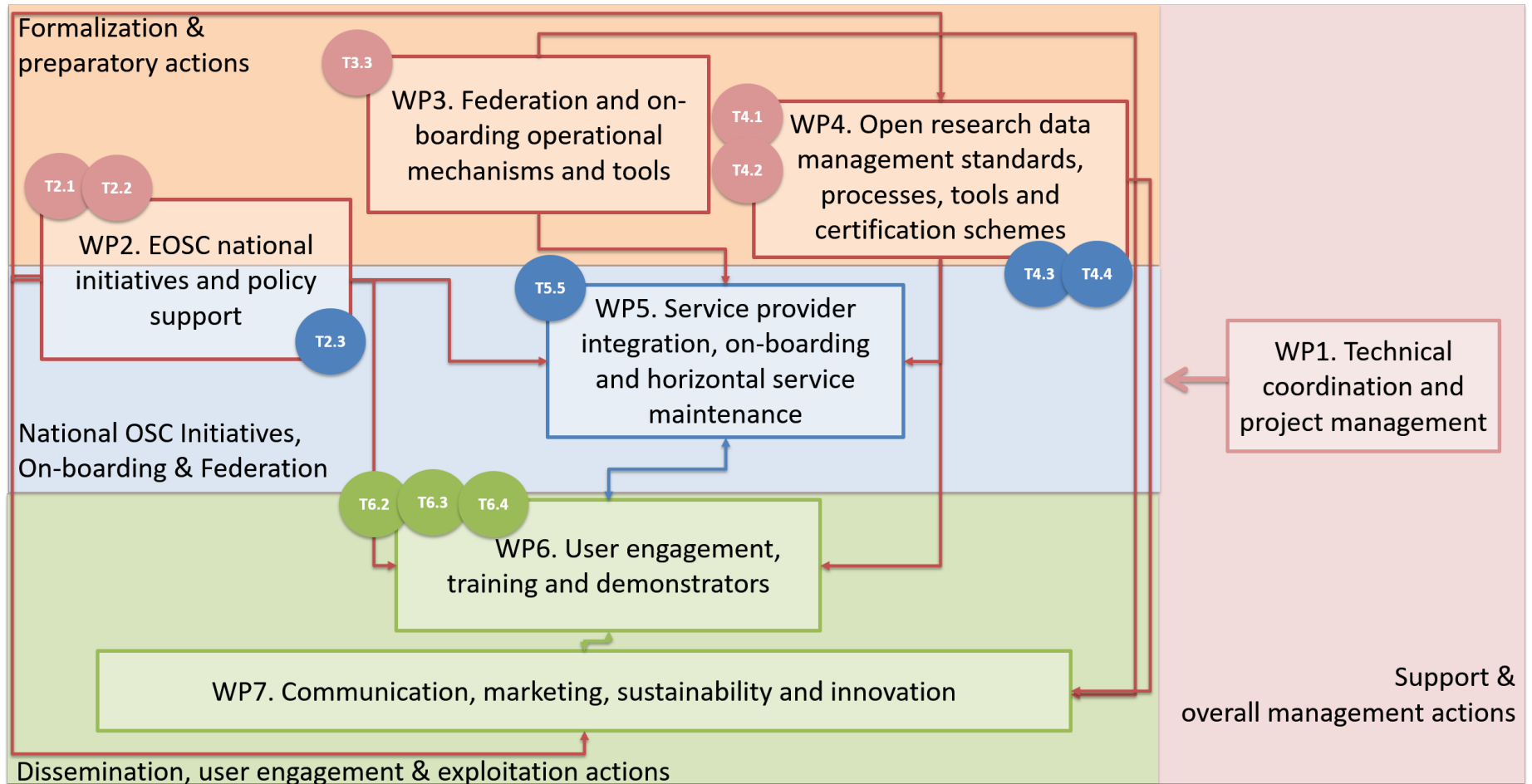
# Overall view



# Methodology



# Workflow



# Candidate services: generic, thematic, repositories and data sets

- ❑ Generic cloud IaaS/VMs
- ❑ Generic storage services
- ❑ Data Management services (Archival, Repository, Data discovery, Hadoop on-demand, Data analysis service, Simple storage)
- ❑ HPC on-boarding approaches to be investigated
- ❑ 15 instances in total from a large sample
  
- ❑ Thematic: mature, pilot, in\_development
- ❑ Areas: Life Sciences, Digital Cultural Heritage, Climate
- ❑ 20 instances in total, from a sample of 70 candidates
  
- ❑ Repositories: 15 to be FAIRed: (from a sample of 21 national, 17 institutional, 2 digital libraries, 3 registries, 2 OERs; 32 Generic, 14 Thematic)

# Conclusion: collaboration areas

- ❑ Align the surveys, same model for stakeholder analysis
- ❑ Align national OSC initiative models (taking into account NRENs, NGIs, national HPC initiatives, NOADs, RDA nodes, etc.)
- ❑ Align operational best practices and service templates
- ❑ Important to allow different levels of integration / on-boarding
- ❑ On-boarding approaches (what is on-boarded, where and how?)
- ❑ FAIR guidelines, certification schemes, ORDM guidelines
- ❑ FAIR uptake approaches and incentives
- ❑ Harmonization of training material
  
- ❑ These points could be a baseline for collaboration agreements

# Preparatory activities

- ❑ Acting upon the discussion held during EOOSC week in Prague
- ❑ Undertaken preparatory steps
  - ❑ Initial preparation of landscaping questionnaire
  - ❑ Initial analysis of national service providers/research infras/user communities
  - ❑ Nomination of representatives for the working groups of EOOSC Executive Board

---

Questions?

**THANK YOU FOR YOUR ATTENTION**