Inițiative naționale Cloud pentru știința deschisă și interacțiunea lor cu EOSC

Seminar „Instrumente ale Științei Deschise pentru cercetători”

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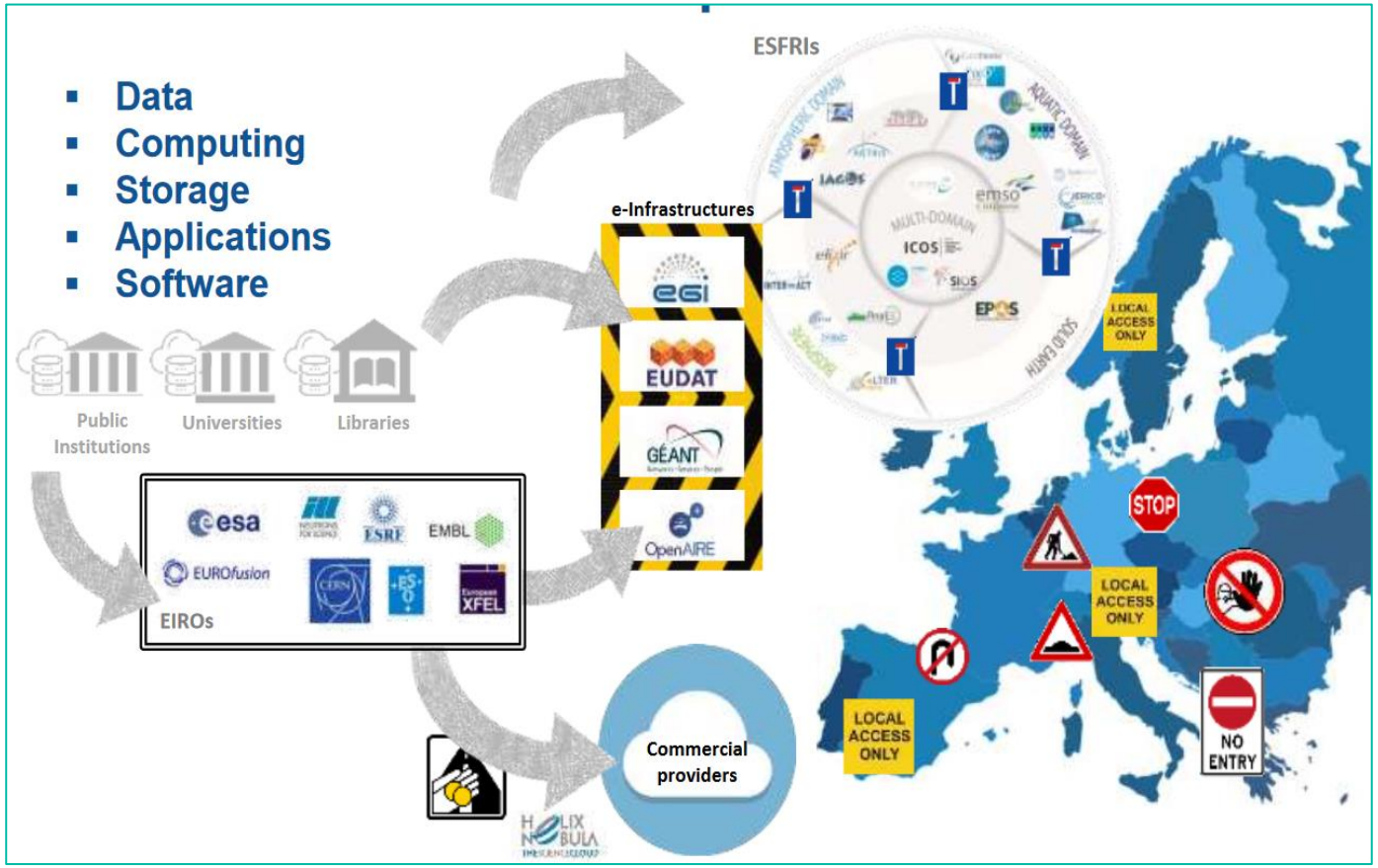
NI4OS Europe

Initiativa EOSC

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

EOSC model: federation of data and services infrastructures

EOSC Vision

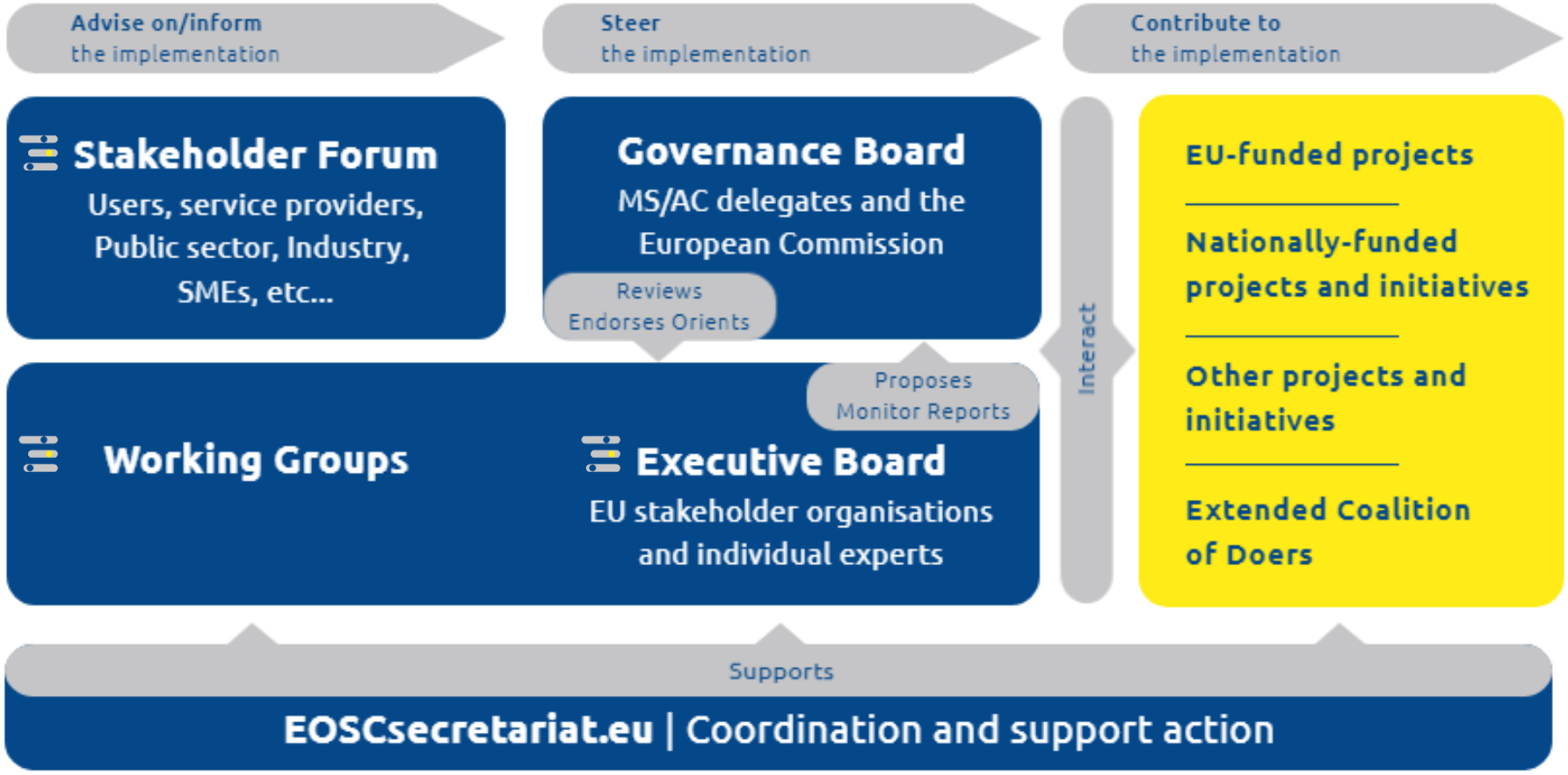
EOSC Vision

EOSC took shape in 2015 **to federate existing research data infrastructures to** support and develop open science and open innovation.

EOSC brings together national and European stakeholders, initiatives and e-infrastructures to develop an inclusive open science ecosystem in Europe.

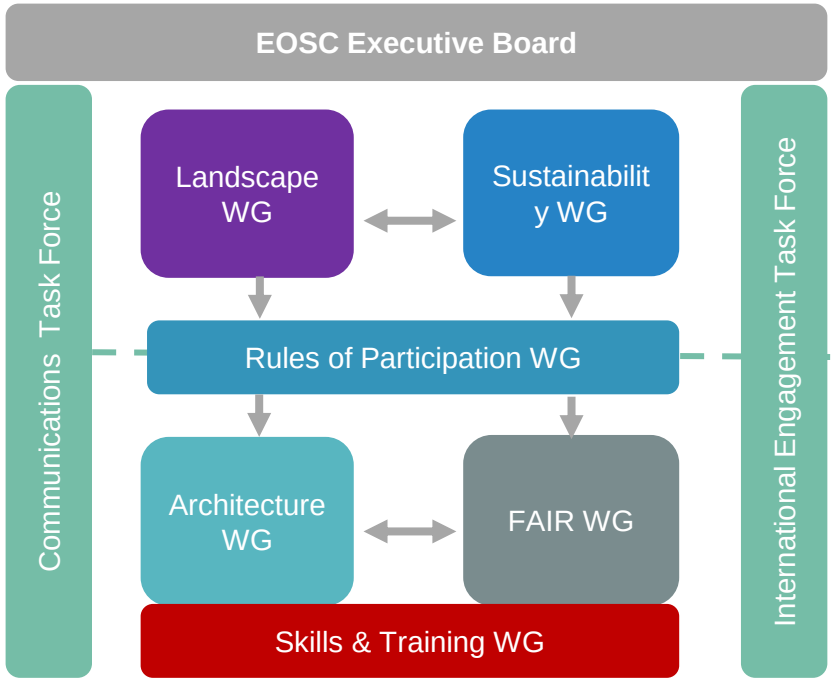
Its aim is to develop a **trusted, virtual and federated environment** that cuts across borders to store, share, process and re-use research digital objects following FAIR principles.

Initial EOSC Governance structure & EOSC projects



EOSC Working Groups – until the end of 2020

6 Working Groups **160+ WG Members** **10 Active WG Task Forces**



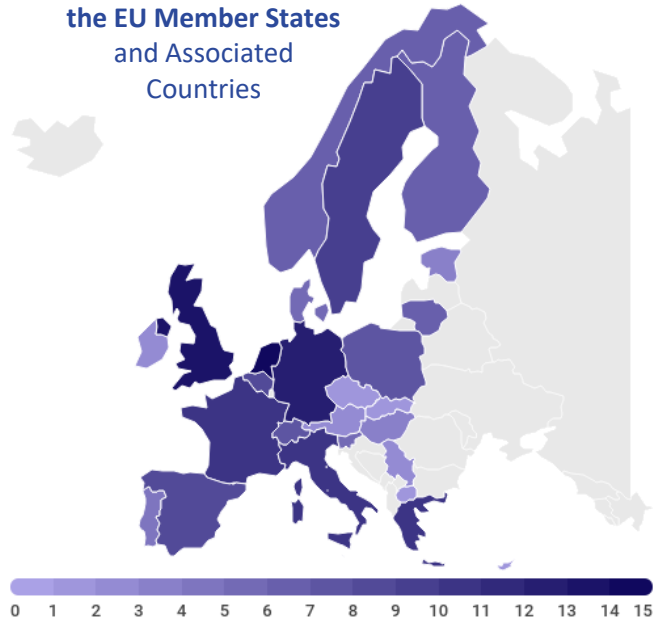
Strategic focus

Close liaison with Governance Board

Practical implementation focused WGs

6 Strategic Priority Areas for EOSC

Experts represent **28 of the EU Member States** and Associated Countries



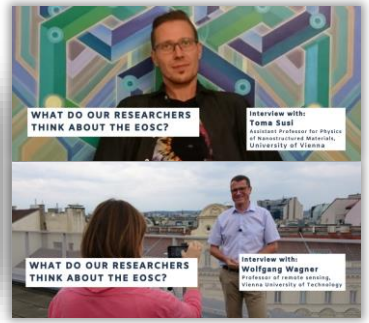
Landscape 15 male 9 female	**RoP** 11 male 8 female
Architecture 39 male 3 female	**FAIR** 16 male 11 female
Sustainability 10 male 8 female	**Skills** 11 male 21 female

Contributions from different stakeholders to the EOSC

Researcher engagement

Video: EOSC - The New Frontier of Data-Driven Science

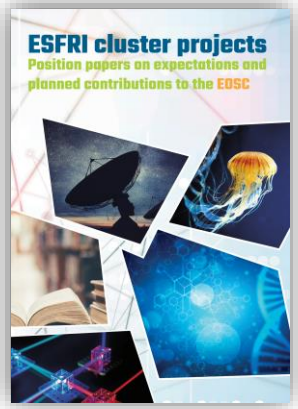
Interviews



Workshops

Engagement with International Initiatives

The international Research Data Community Contributing to EOSC



ESFRI Cluster projects – Position Papers

EOSC Symposiums

Building the European Open Science Cloud

HPC Assets and Contributions to the EOSC

EOSC Regional Projects

EOSC 5b projects (Regional)

zenodo

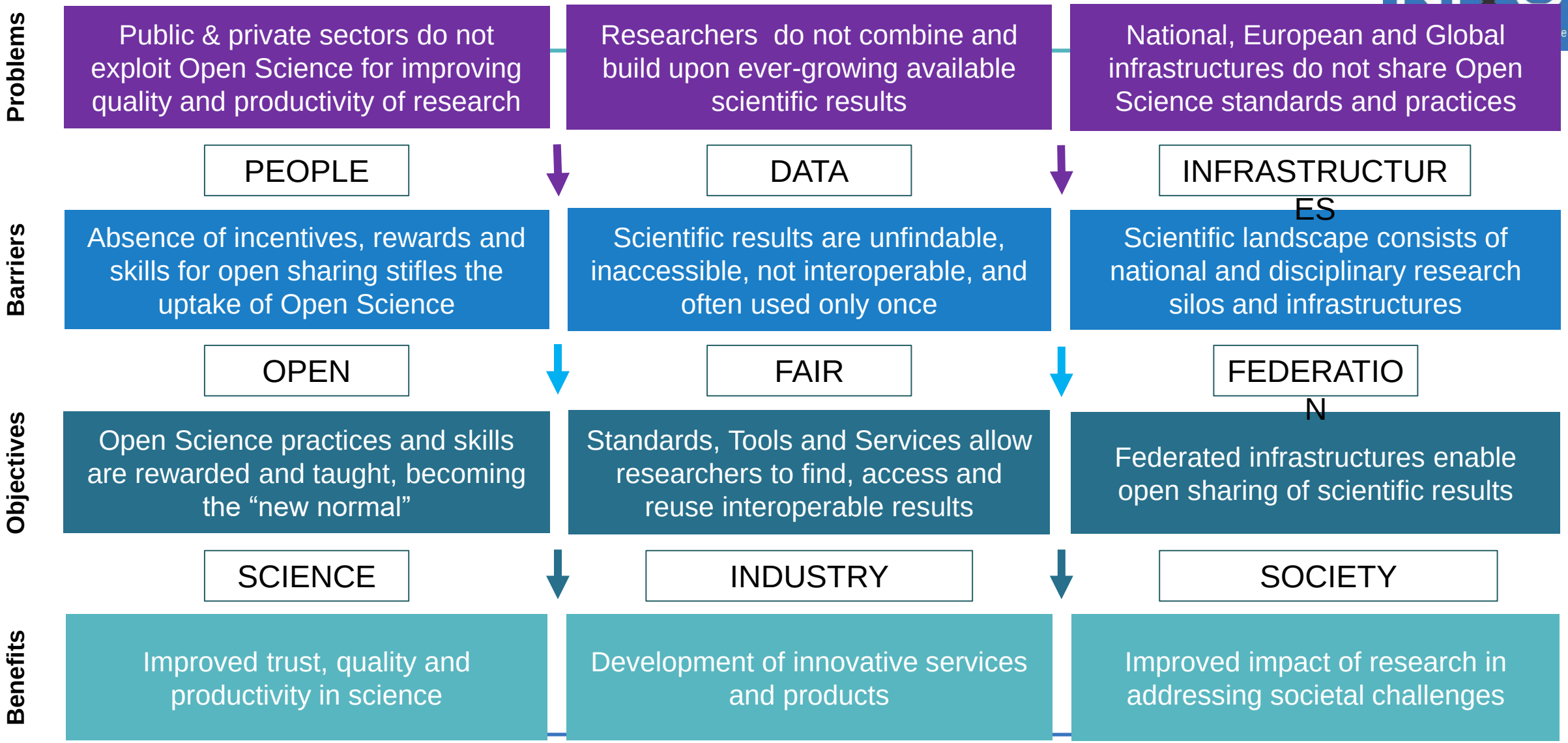
EOSC governing bodies launched it Zenodo community, where all publications are collecting, in a collaborative and curated manner.

SRIA Table of Contents:

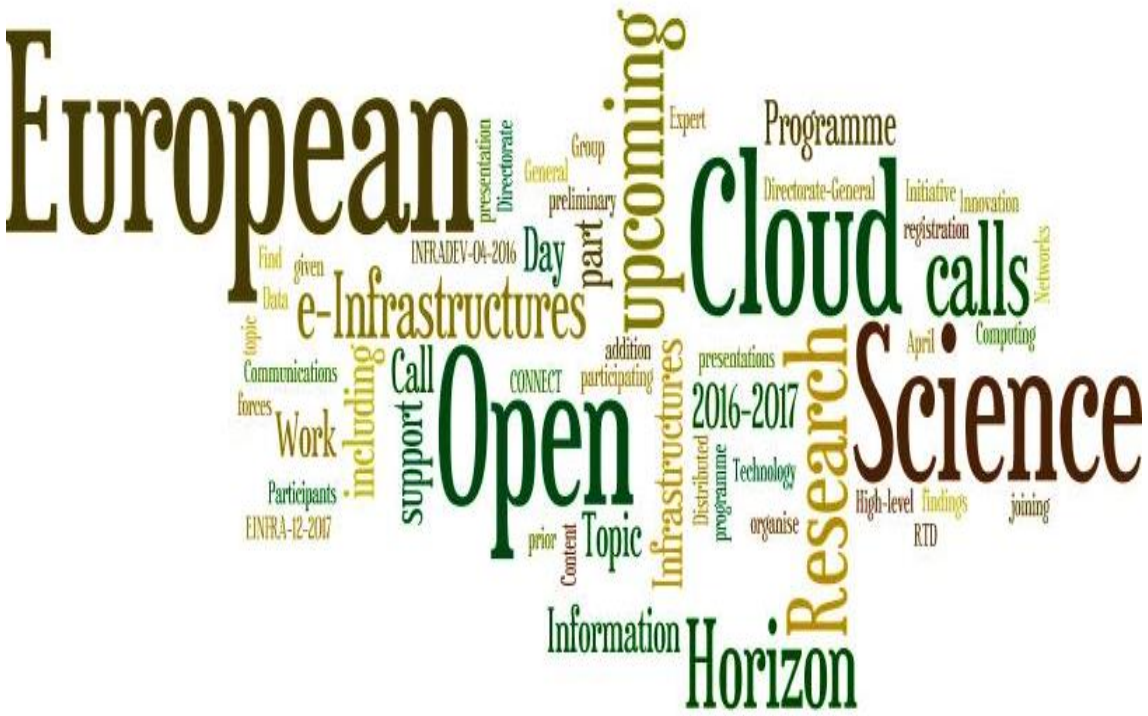
https://www.eoscsecretariat.eu/sites/default/files/eosc-sria-v09.pdf

• Part 1 New Ways of Science	Science in the Digital Age becomes Open
• Part 2 Science & Data in Europe	Science contributes to the implementation of Europe Strategy
• Part 3 EOSC in the Making	Conceived in 2015, Launched in 2018, Sustainable in 2021
• Part 4 Values & Principles	Multistakeholder, Open, FAIR, Federation
• Part 5 Technical Challenges	Status, Gaps & Priorities
• Part 6 Societal Challenges	Status, Gaps & Priorities
• Part 7 Multi Annual Roadmap	Priorities & Timeline
• Part 8 Expected Impacts	Science strengthens the implementation of Europe Strategy
• Part 9 Going Global	Europe leadership at the service of Society at Large

European Open Science Cloud Objectives Tree



Core functions for EOSC right after 2020+



- Develop and govern federating core
- Manage compliance framework
- Manage trusted certification
- Manage the AAI
- Manage PID policies
- Develop outreach to stakeholders
- Monitor services and transactions
- Manage ‘EOSC’ trademark(s)
- Contribute to Horizon EU policy

EOSC-Core: functions and proposed coverage

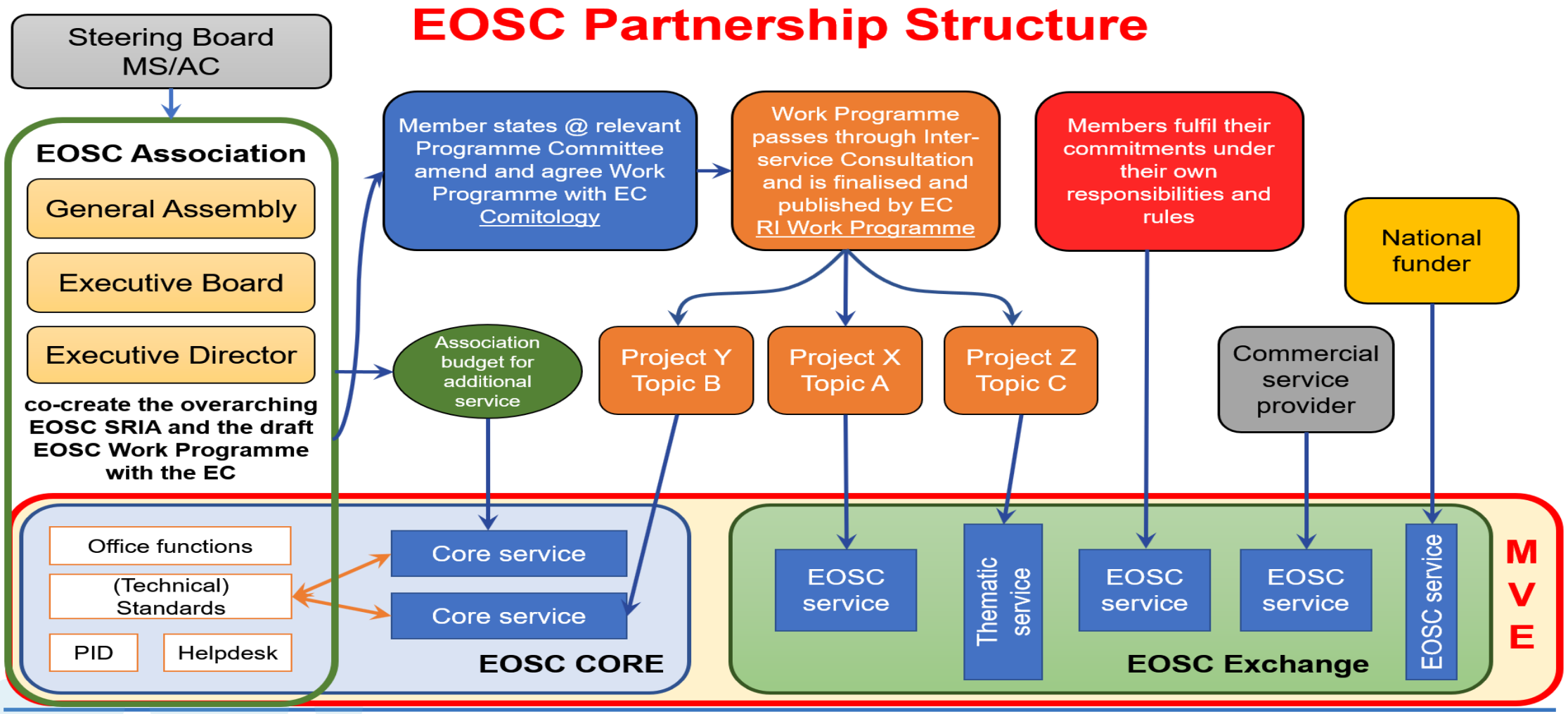
Functions

- Provides the means to discover, share, access and re-use data and initial services
- Will not store, transport or process data, at least initially
- Should be used as widely as possible → will be accessible to any authenticated user to promote open research across Europe

Proposed coverage

- Shared open science policy framework
- AAI framework
- Data access framework
- Service management framework
- Minimum legal metadata framework
- Open metrics framework
- PID services
- Help-desk

EOSC Partnership



EOSC Association

On July 29th, 2020 founding members submitted the Deeds of Association of the EOSC Association to the notary public in Brussels which marks an important development towards the sustainability of the European Open Science Cloud (EOSC) initiative.

EOSC Association Membership

- Membership applications
- Observer applications
- Mandated members

Essential Reading

- EOSC Strategic Research and Innovation Agenda - version 0.9
- Six Recommendations for Implementation of FAIR Practice - official publication
- A Persistent Identifier (PID) policy for the European Open Science Cloud - official publication
- Landscape of EOSC-related Infrasructures and Initiatives - official publication
- FAIR Metrics for EOSC - 2nd Draft out for comments
- Solutions for a Sustainable EOSC - Ironlady Draft *(log in to the EOSC Liaison Platform to view or request a copy: info@eoscsecretariat.eu)*
- PID Architecture for the EOSC - Draft for consultation
- EOSC AAI Architecture - Draft for consultation
- Scholarly Infrastructures for Research Software - Draft for consultation
- EOSC Rules of Participation - Draft 0.5

EOSC and National Open Science Cloud Initiatives

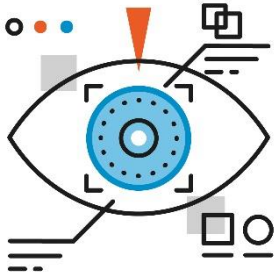
The EOSC is a federated ecosystem of research infrastructures, e-infrastructures and services that allows the scientific community to share and process publicly funded research results and data across borders and scientific domains. Research infrastructures, e-infrastructures and service providers play a vital role for the EOSC.

- EOSC initiative supports the operational framework for governance by focusing on coordination between relevant national initiatives, as well as research infrastructures, e-infrastructures and thematic services, and their federation into the EOSC.
- NI4OS-Europe project provides a model for the establishment of National Open Science Cloud Initiatives in South East Europe, which have as an ultimate goal to support the EOSC governance.

National Open Science Cloud Initiative

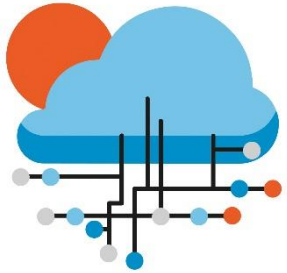
> A NOSCI is a coalition of national organisations that have a prominent role and interest in the European Open Science Cloud (EOSC). The main aim of NOSCI is the promotion of synergies at national level, and the optimization/articulation of their participation to European and global challenges in this field of OSC. National Initiatives are envisaged to play a prominent role in Member States and Associated Countries and facilitate EOSC governance.

NOSCI Operational aspects - Overview



Governance & Organization

Definition of Strategy



Infrastructures & Services

Sustainability

- **Sets** the framework of co-operation and **guides** activities of NOSCI members
- **Proposes** rules and recommendations in the form of commitments
- **Draws** the needs and agrees on national EOSC implementation
- **Ensures** continuation of NOSCIs in the short and long term

Options for Setting up a NOSCI

Top down

Central decision of the related ministry or national research funding organisation

Bottom up

Initiative by researchers, OS stakeholders and actors in the country

Hybrid

Combination of previous two, independently of who initiated it

Setting up a NOSCI

Steps for setting up a NOSCI	A. Stakeholders identification and engagement
	B. Designing of workflows and communication between stakeholders
	C. Communication to wider public
	D. Drafting of National Roadmap
	E. Establishment and Sustainability
	F. EOSC liaison and communication

Setting up a NOSCI - workflow

A. Stakeholders identification & engagement	Identify national organisations that have a prominent role in EOSC.
	Make contact with diverse national research scientific communities interested and active in EOSC.
	Manage to get consensus towards a common strategy for OSC in the country.
	Collaborate with Pan-European initiatives that could provide links with other research and e-infrastructures nationally.
	Approach relevant Ministries with the proposed NOSCI MoU agreement, and try to get their support.

Setting up a NOSCI - workflow

B. Designing of workflows and communication between stakeholders	Hold an inaugural meeting of the consortium.
	Hold working meetings and divide work in Task Forces / Working Groups.
	Involve from the beginning the Ministries, as they might have already established Working Groups or Task Forces for Open Science. Check whether merging of efforts is feasible.

Setting up a NOSCI - workflow

C. Communication to wider public	Communicate current Open Science Cloud status in the country and inform about the EOSC and its advancements.
	Hold an official inauguration event of the NOSCI targeted at wider public, with the support from the Ministries.
D. Drafting of National Roadmap	Agree on a common roadmap for a national strategy for OSC and implementation actions.
	Define and adopt in the Strategy any national and institutional level policies.
	Reflect in the strategy the value of the EOSC
	Use this document to define the structure of the initiative, its decision mechanisms and internal organisation.

Setting up a NOSCI - workflow

E. Establishment & Sustainability	Consider and define the form that NOSCI can have.
	Perform a cost-benefit analysis, complementary to the strategy.
	Seek national funding programme by proposing a national-level project.
Possible formats of the NOSCI	Legal entity
	Public private partnership - cooperation
	Appointed by the government / ministry – experts
	Collaboration through an MoU

Setting up a NOSCI - workflow

NOSCI MoU

The description of appropriate tools and methods to establish the NOSC initiative.
The collaboration with the relevant European and international initiatives: EOSC Association, EuroHPC, OpenAIRE, PRACE, RDA, EUDAT and EGI.
The decision mechanisms and internal organization.
The initial activities and guiding actions of the agreement.
The development and implementation of the National Open Science Strategy, with reference to the national roadmap.

Setting up a NOSCI - workflow

Draft Articles MoU

1. Purpose of the Agreement and Objectives

2. Activities and guiding actions

3. Decision mechanisms and internal organization aspects

4. Entry into force, duration, changes and withdrawal

5. Public information and public relations

Setting up a NOSCI - workflow

F. EOSC liaison & communication	Communicate progress to Ministries and EOSC representatives.
	Define national representation and liaison with the EOSC Association.
	Link to national monitoring mechanisms / bodies.

Stakeholder identification and engagement

- EOSC-related national organisations
- Scientific communities
- Open Science national stakeholders
- NGIs, NRENs, and national HPC initiatives
- OpenAIRE NOADs
- Relevant Ministries

Designing of workflows and communication between stakeholders

- Inaugural meeting of the initiative
- Task Forces / Working Groups
- Relevant Ministries
- National representation & liaison with the EOSC Association

Communication to wider public

- Open Science Cloud status in the country and goals
- Open Science Cloud related national communities & wider public

Drafting of National Roadmap

- National strategy for Open Science
- Value of the European Open Science Cloud

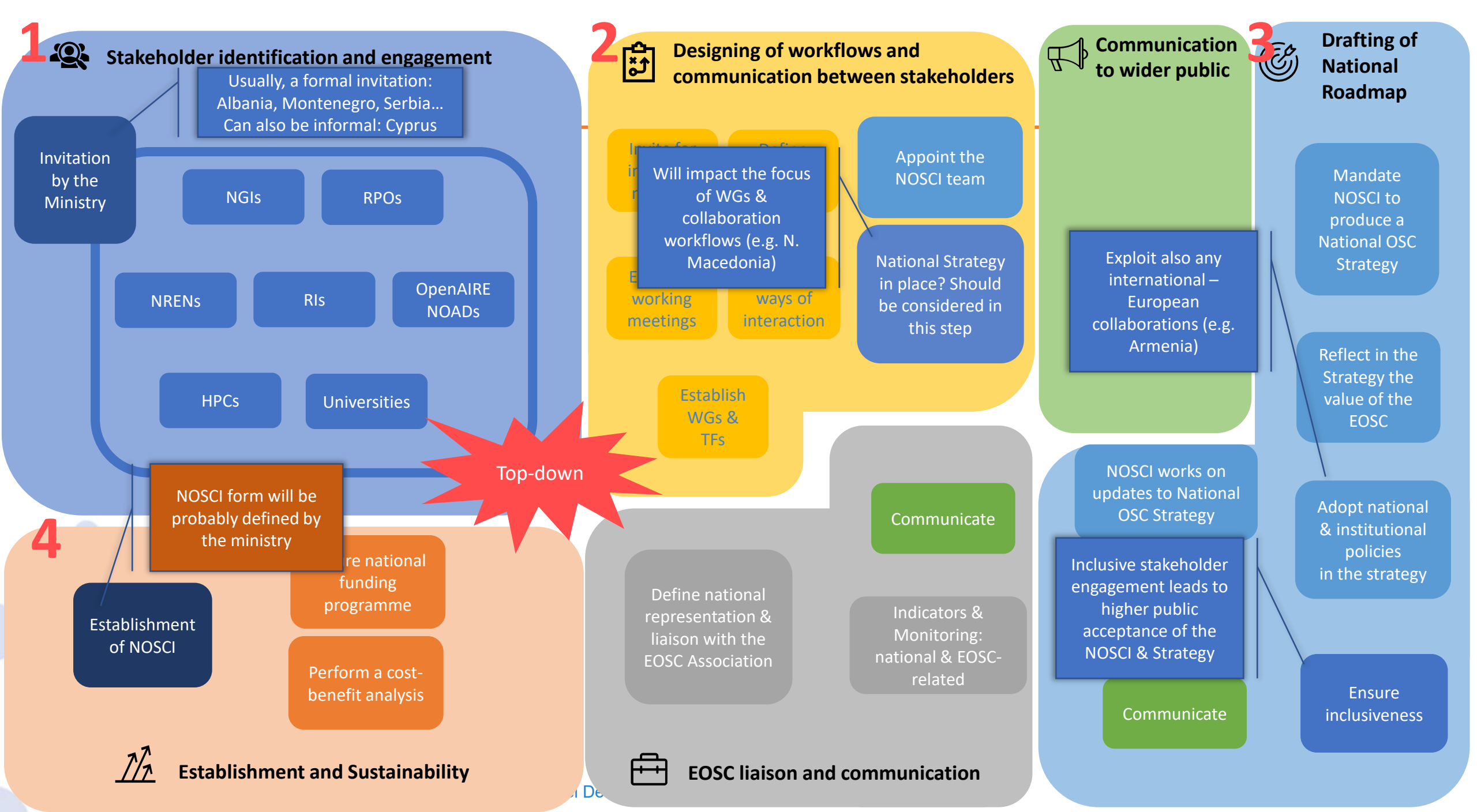
- National funding programme
- NOSCI's form
- Cost-benefit analysis

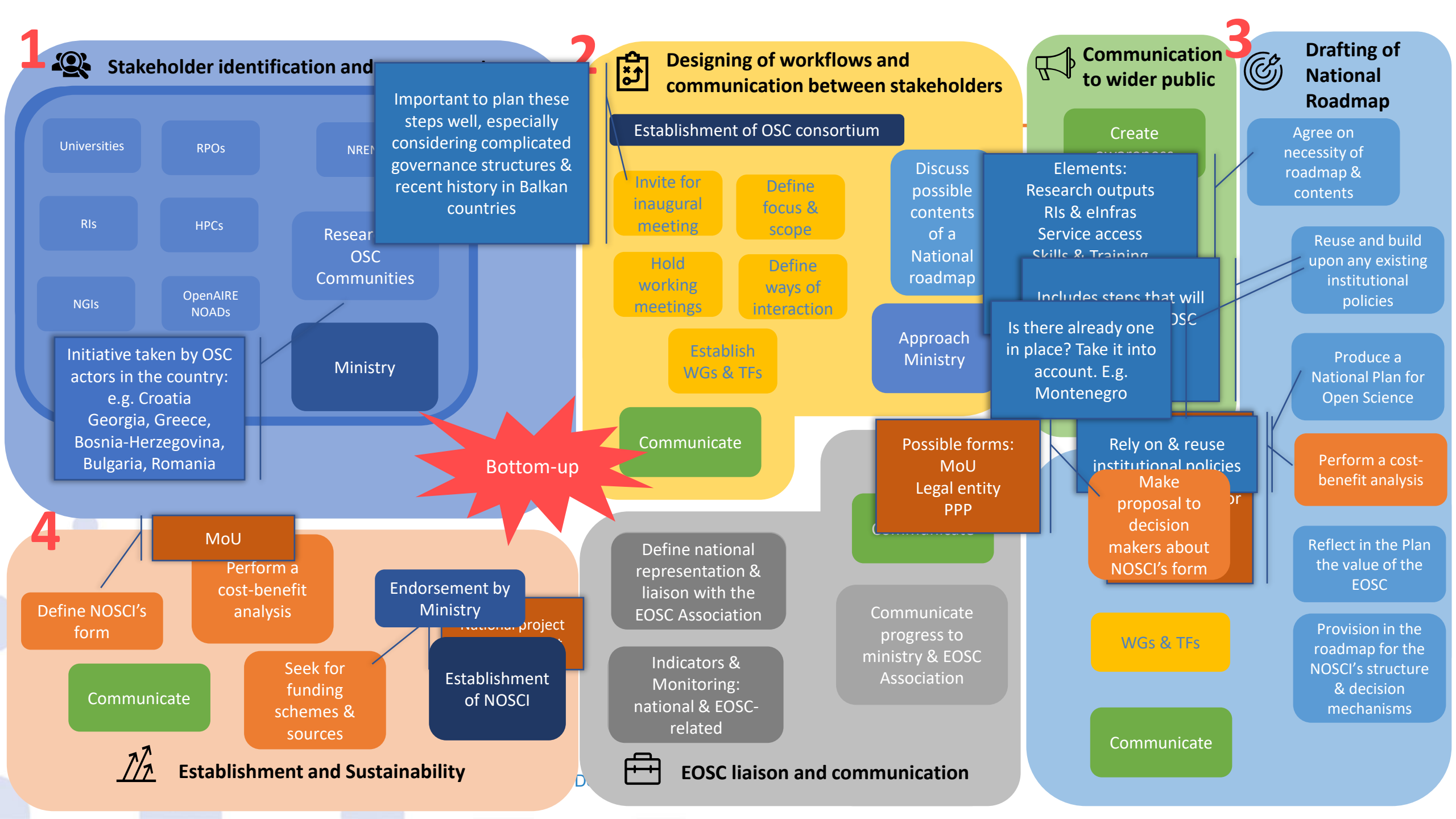
Establishment and Sustainability

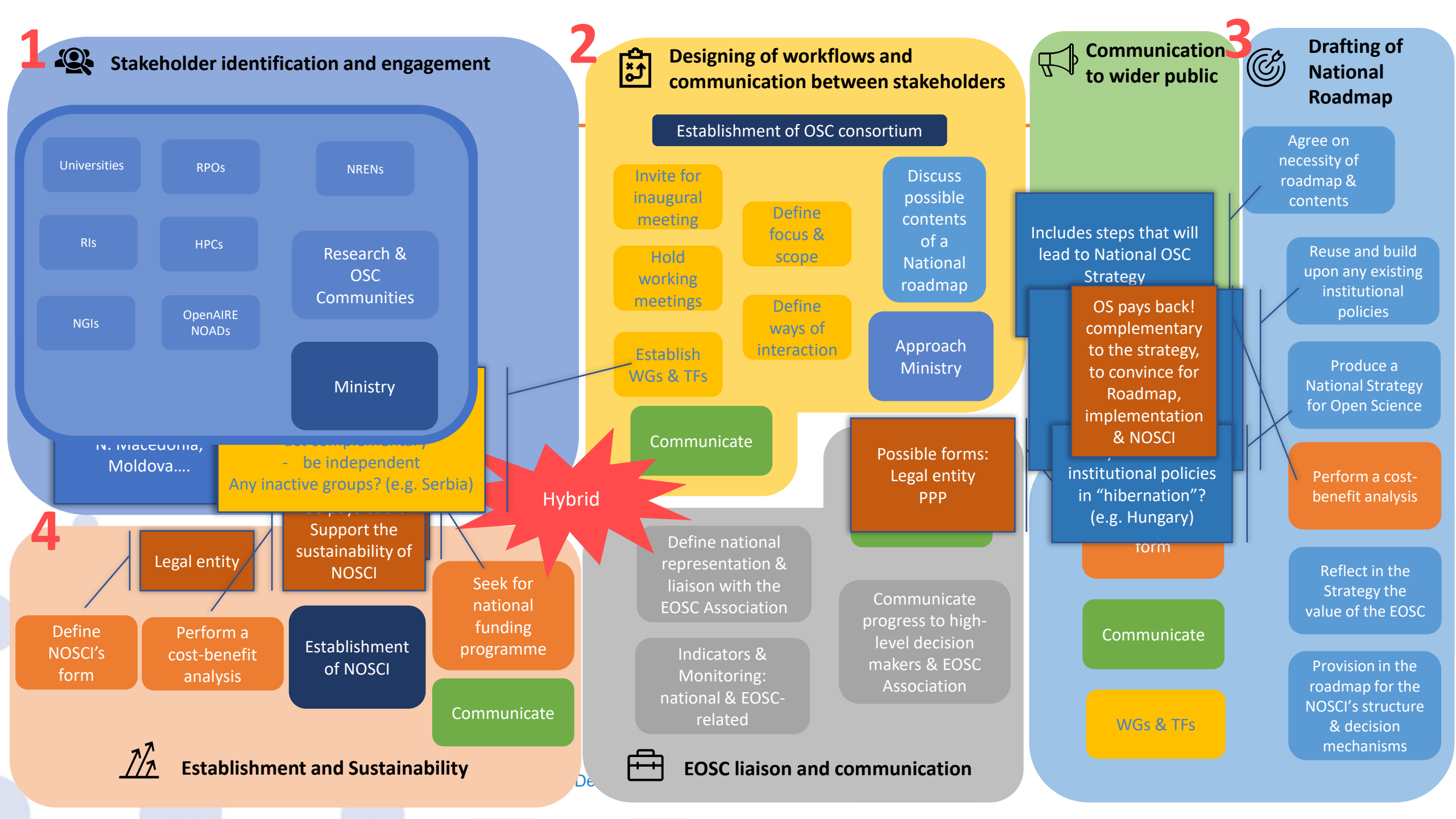
- National monitoring mechanisms / bodies for assessment
- Progress communication to Ministries & EOSC representatives

EOSC liaison and communication

- National & institutional policies
- Structure, decision mechanisms & internal organisation


1
Stakeholder identification and engagement
Usually, a formal invitation: Albania, Montenegro, Serbia… Can also be informal: Cyprus
Invitation by the Ministry
NGIs
RPOs
NRENs
RIs
OpenAIRE NOADs
HPCs
Universities
NOSCI form will be probably defined by the ministry
Top-down
2
Designing of workflows and communication between stakeholders
Will impact the focus of WGs & collaboration workflows (e.g. N. Macedonia)
working meetings
ways of interaction
Appoint the NOSCI team
National Strategy in place? Should be considered in this step
Establish WGs & TFs
Communication to wider public
Exploit also any international – European collaborations (e.g. Armenia)
3
Drafting of National Roadmap
Mandate NOSCI to produce a National OSC Strategy
Reflect in the Strategy the value of the EOSC
Adopt national & institutional policies in the strategy
Ensure inclusiveness
NOSCI works on updates to National OSC Strategy
Inclusive stakeholder engagement leads to higher public acceptance of the NOSCI & Strategy
Communicate
4
Establishment of NOSCI
re national funding programme
Perform a cost-benefit analysis
Establishment and Sustainability
Communicate
Define national representation & liaison with the EOSC Association
Indicators & Monitoring: national & EOSC-related
EOSC liaison and communication


1
Stakeholder identification and
Universities
RPOs
NREN
RIs
HPCs
Resear
OSC
Communities
NGIs
OpenAIRE
NOADs
Ministry
Initiative taken by OSC actors in the country: e.g. Croatia Georgia, Greece, Bosnia-Herzegovina, Bulgaria, Romania
Important to plan these steps well, especially considering complicated governance structures & recent history in Balkan countries
2
Designing of workflows and communication between stakeholders
Establishment of OSC consortium
Invite for inaugural meeting
Define focus & scope
Hold working meetings
Define ways of interaction
Establish WGs & TFs
Communicate
Discuss possible contents of a National roadmap
Approach Ministry
Elements:
Research outputs
RIs & eInfras
Service access
Skills & Training
Includes steps that will
OSC
Is there already one in place? Take it into account. E.g. Montenegro
Bottom-up
3
Communication to wider public
Create
Drafting of National Roadmap
Agree on necessity of roadmap & contents
Reuse and build upon any existing institutional policies
Produce a National Plan for Open Science
Perform a cost-benefit analysis
Reflect in the Plan the value of the EOSC
Provision in the roadmap for the NOSCI's structure & decision mechanisms
Rely on & reuse institutional policies
Make proposal to decision makers about NOSCI's form
WGs & TFs
Communicate
Possible forms:
MoU
Legal entity
PPP
4
MoU
Define NOSCI's form
Perform a cost-benefit analysis
Endorsement by Ministry
Seek for funding schemes & sources
Establishment of NOSCI
Communicate
Establishment and Sustainability
Define national representation & liaison with the EOSC Association
Indicators & Monitoring: national & EOSC-related
Communicate progress to ministry & EOSC Association
EOSC liaison and communication


1
Stakeholder identification and engagement
Universities
RPOs
NRENs
RIs
HPCs
Research & OSC Communities
NGIs
OpenAIRE NOADs
Ministry
Moldova....
- be independent
Any inactive groups? (e.g. Serbia)
2
Designing of workflows and communication between stakeholders
Establishment of OSC consortium
Invite for inaugural meeting
Define focus & scope
Discuss possible contents of a National roadmap
Hold working meetings
Define ways of interaction
Approach Ministry
Establish WGs & TFs
Communicate
Hybrid
3
Communication to wider public
Drafting of National Roadmap
Includes steps that will lead to National OSC Strategy
Agree on necessity of roadmap & contents
Reuse and build upon any existing institutional policies
OS pays back! complementary to the strategy, to convince for Roadmap, implementation & NOSCI
Produce a National Strategy for Open Science
institutional policies in "hibernation"? (e.g. Hungary)
Perform a cost-benefit analysis
form
Reflect in the Strategy the value of the EOSC
Communicate
Provision in the roadmap for the NOSCI's structure & decision mechanisms
WGs & TFs
4
Legal entity
Support the sustainability of NOSCI
Seek for national funding programme
Define NOSCI's form
Perform a cost-benefit analysis
Establishment of NOSCI
Communicate
Establishment and Sustainability
Possible forms: Legal entity PPP
Define national representation & liaison with the EOSC Association
Communicate progress to high-level decision makers & EOSC Association
Indicators & Monitoring: national & EOSC-related
EOSC liaison and communication

Important to consider

- Relation between NOSCI and National OSC Strategy
  - Strategy can impose the setting up of a NOSCI
  - NOSCI supports the development of Strategy
- Relation between NOSCI and Mandated Organisation
  - The NI4OS-Europe mission: the official representation in the EOSC Association goes through the NOSCIs
  - NOSCI may not have the legal form to represent → MoU option!
  - Mandated organization may already have been appointed, before the existence of NOSCI
    - Does this make the setting up of NOSCI obsolete? No! Important for implementation & expansion
  - Country decides not to mandate an organization
    - The existence of NOSCI even more important for supporting inclusion and collaboration with EOSC

Conclusion

The proposed steps are considered as important elements that can **be combined, adapted and adjusted.**

Monitoring indicators at early stages will help the assessment of the establishment status of the NOSCI

An **efficient way of starting the establishment of a NOSCI** is through an **MoU**.

Thanks!

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https://ni4os.eu/contact-us

National Initiatives for Open Science in Europe – H2020 Research and Innovation action – contract no. 857645