



Implementing EOSC to Advance Open Science in Europe

Karel Luyben

President EOSC Association

***National EOSC Tripartite Event
1 June 2023, Prague, Czechia***



Science in transition

The ***Open Science*** paradigm affects the whole research cycle and all its stakeholders

It implies sharing knowledge and tools:

- ***as early as possible*** in the research process;
- ***as openly as possible***;
- ***as FAIR as possible***;

not only within a discipline but also between disciplines and society at large.



“A web of scientific insight”

- ***Web of FAIR Data and related Services***
- ***Federation of relevant existing and future data sources***
- ***Virtual space where science producers and consumers come together***
- ***An open-ended range of content and services***
- ***Based on the FAIR principles***
- ***Meeting all European data requirements***
- ***In interaction with other regions of the world***



Ten things EOSC is not ...

- ... a cloud infrastructure***
- ... synonymous to Open Science***
- ... the EOSC Portal***
- ... the EOSC Association***
- ... a new research data repository or data management system***
- ... owning the data it will help to provide access to***
- ... a new pan-European e-infrastructure***
- ... substitution of any existing data- or (e-)infrastructures***
- ... directly for individual researchers, but it is for research***
- ... in competition with anything or anybody***

 ***EOSC – additionality to the web of FAIR data***

EUROPEAN OPEN SCIENCE CLOUD

WORLD WIDE WEB

INTERNET

NETWORKS

COMPUTERS

[Modelled after: World Wide Web - Wikipedia](#)



EOSC as a policy action

The EOSC initiative is a ***policy priority of the European Union*** since 2016 driven by DG RTD and DG CNECT.

"The EOSC is recognised by the Council of the European Union among the 20 actions of the policy agenda 2022-2024 of the European Research Area (ERA) with the specific objective to deepen open science practices in Europe.

It is also recognised as the "science, research and innovation data space" which will be fully articulated with the other sectoral data spaces defined in the European strategy for data".

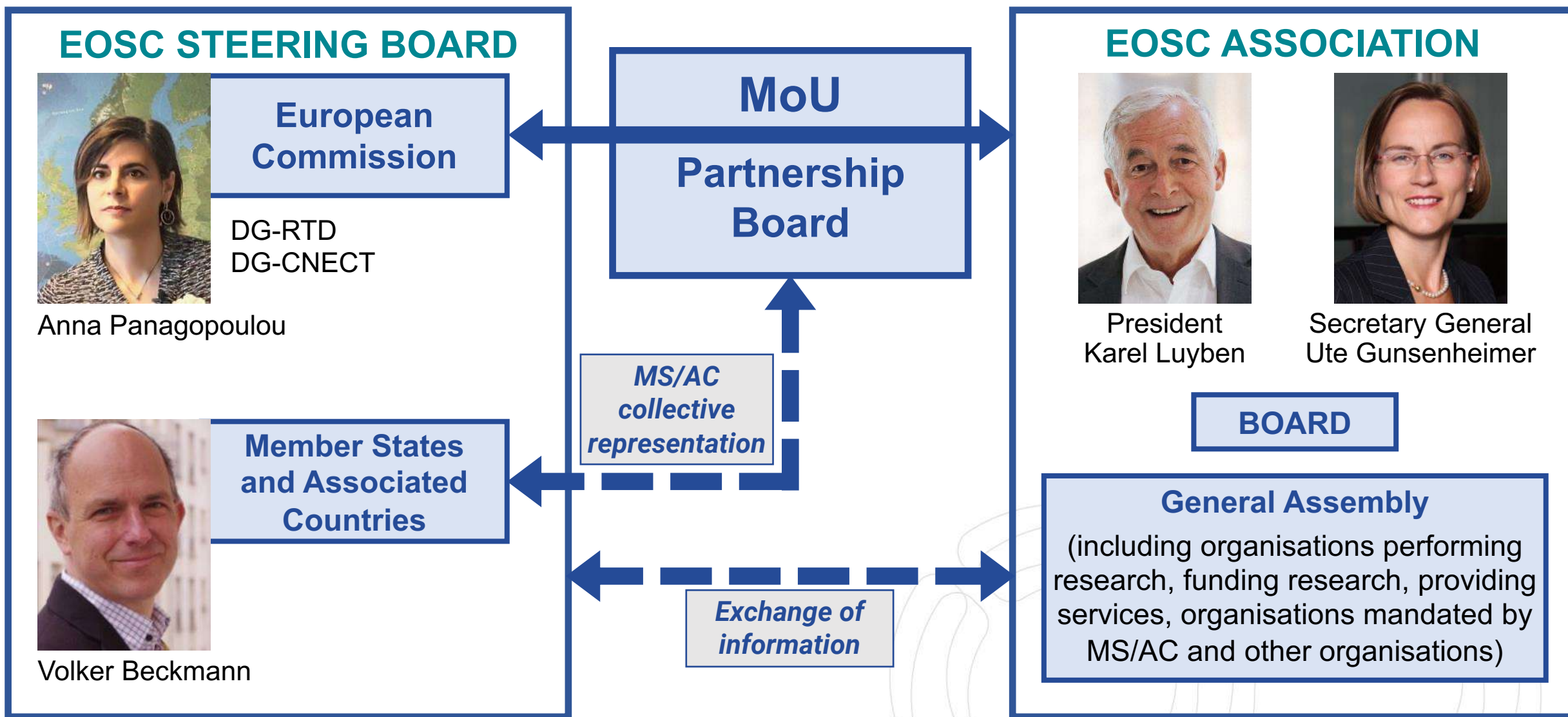
European Commission website

research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/our-digital-future/open-science/european-open-science-cloud-eosc_en

Horizon Europe co-programmed EOSC Partnership

- Launched June 2021
- One billion euros commitment by the European Union and the EOSC Association





Strategic Research and Innovation Agenda



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

Multi-annual roadmap sets priority activities and outcomes grouped by three implementation levels – European, National, Institutional

Three phases of MAR

- 2021-2022: development towards a functional federation of infrastructure
- **2023-2024: expansion to production that generates added value**
- 2025-2027: expansion to develop impact from Open Science

Steering Coordination to Leverage the Ecosystem

Stakeholder Engagement

Policy makers
Research funders
Research performers
Service providers
Projects
Researchers
Etc.

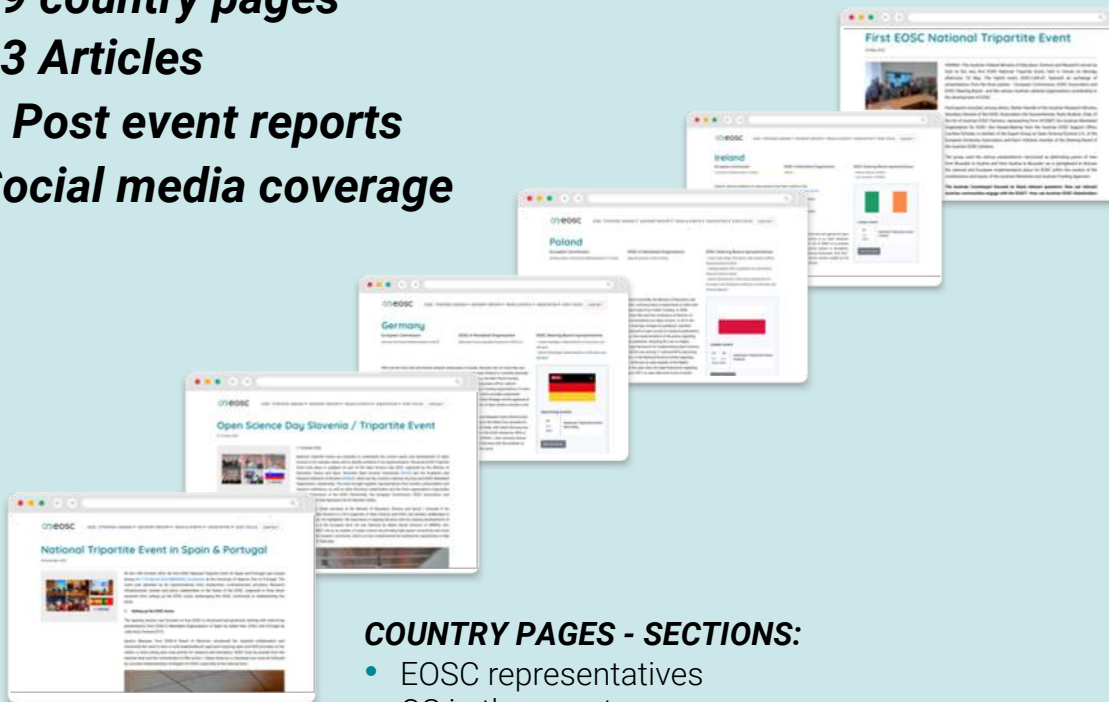


Awareness
Policies
FAIR Data
Infrastructure
Services
Results

National Tripartite Events

MAIN RESULTS:

- **21 countries targeted in NTE** (July 2022-April 2023)
- **1683 participants in National and NTE** (July 2022-April 2023)
- **+ 30 preparatory meetings**
- **29 country pages**
- **13 Articles**
- **6 Post event reports**
- **Social media coverage**



COUNTRY PAGES - SECTIONS:

- EOSC representatives
- OS in the country
- Coordination structures
- Policies
- Practices & Use Cases

2022



 **1293**

Participants

 **177**

Speakers & moderators

 **16**

Countries targeted

March & April 2023



 **390**
Participants

 **85**
Speakers & moderators

 **5**
Countries targeted

UPCOMING TRIPARTITE EVENTS (May - September 2023)



February 2023

M	T	W	T	F	S	S
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28					

March 2023

M	T	W	T	F	S	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

April 2023

M	T	W	T	F	S	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

May 2023

M	T	W	T	F	S	S
1	2	3	4	5	6	7

Delivering on the EOSC Partnership Requirements

- EOSC Partnership Monitoring Baseline established and AAP “instutionalised”
- Multi-Annual Roadmap 2025 – 2027 consulted
- Tripartite Events owned by the countries
- Discussion on the future of EOSC post-2027 in full swing
- EOSC Focus is delivering
- Collaboration with HE INFRAEOSC Projects taking shape
- Housekeeping within EOSC-A addressed
- Task Forces continue to deliver
- The voice of the community is being broadcast

What do we concretely aim for?

- Researchers performing publicly funded research make relevant results available, as openly as possible;
- Professional data stewards are available in research-performing organisations in Europe to support RDM for Open Science;
- Research data produced by publicly funded research in Europe is FAIR (by design);
- The EOSC Interoperability Framework supports a wide range of FAIR digital objects including data, software and other research artefacts;
- EOSC Federation is populated with a valuable corpus of interoperable data;
- EOSC (version x) is operational and provides a stable infrastructure, supporting the research process and helping to address societal challenges;
- The scope of EOSC is widened to serve the public and private sectors;
- EOSC is a valuable and valued resource to a wide range of users from the research and education, public and private sectors (including for-profit).

- After an initial period of many projects without much convergence (2015-2020) we have to see that we get our aims sufficiently developed in the present period of convergence (2021-2026).
- For this it is essential that we get a Minimal Viable EOSC (MVE / EOSC-EU-node) operational asap and as good as possible aligned with work done by all the relevant communities (European, National and Institutional).



Tasks on the way to create EOSC

Operational and development tasks in discussion with the EC

1. Deploying and operating the EOSC EU node
(Core, Exchange, FAIR Data Federation)
2. Maintaining and updating the EOSC EU node and expanding the EOSC federation
(with elements that are close to the 'market')
3. Enabling a 'web of FAIR data and services' for science
4. Develop, prototype and test new elements supporting the evolution of the EOSC Core and Exchange and the tools enabling the federation
(focus on elements that can be made ready for the 'market')
5. Enabling Open Science policies and the uptake of Open Science practices

EOSC ‘helicopter view’

Slide from M. Schouppe (EC)

EOSC-SB meeting #16, Stockholm, 26 April 2023,
and 24 May 2023 Tripartite event on EOSC post-2027

Main EOSC tasks for the future

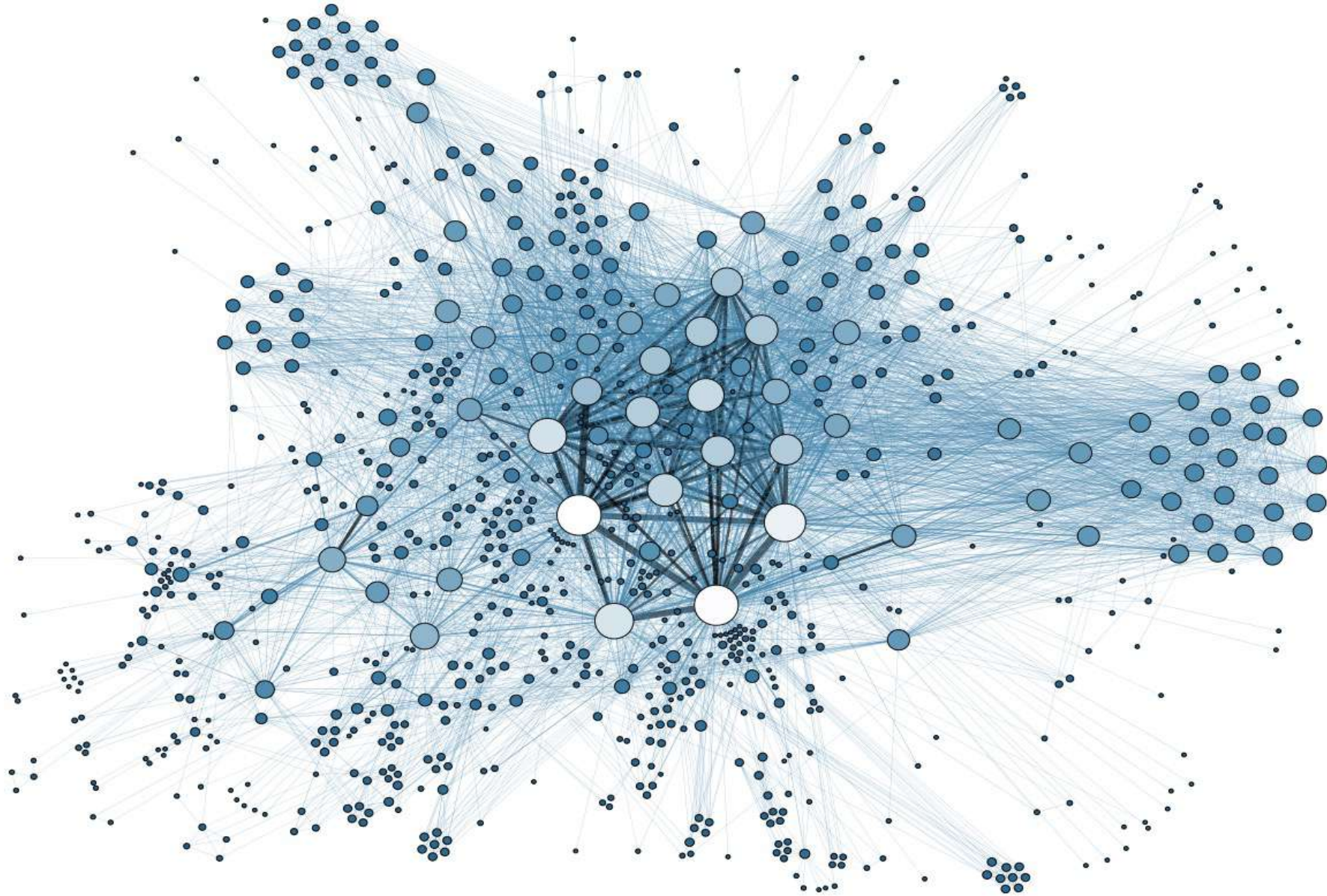
Task 1: Deploying and operating the EOSC EU node
(Core, Exchange, FAIR Data Federation)

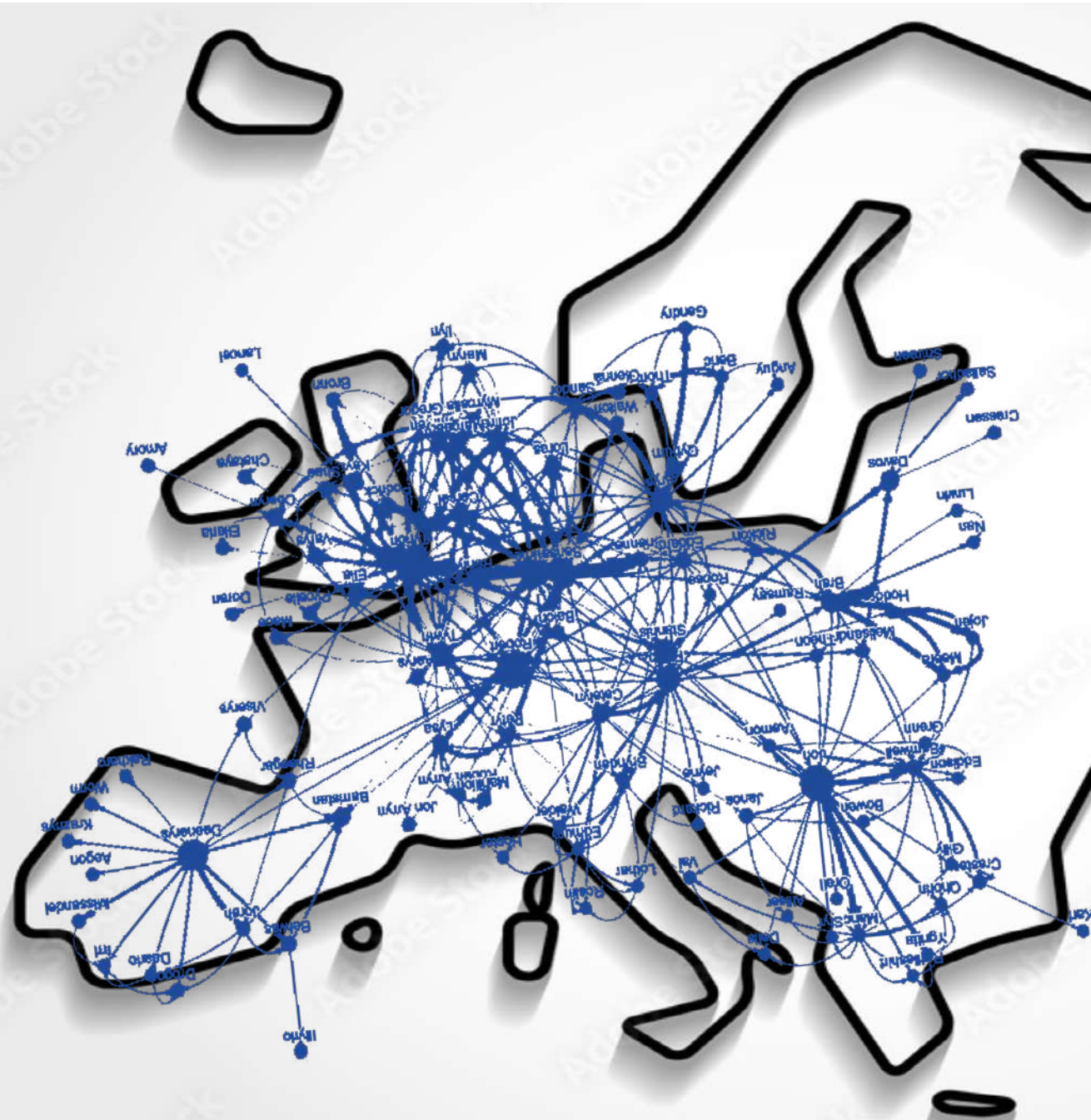
Task 2: Maintaining and updating the EOSC EU node and
expanding the EOSC federation
(with elements that are close to the ‘market’)

Task 3: Enabling a ‘web of FAIR data and services’ for
science

Task 4: Develop, prototype and test new elements
supporting the evolution of the EOSC Core and
Exchange and the tools enabling the federation
(elements that can be made ready for the ‘market’)

Task 5: Enabling Open Science policies and the uptake of
Open Science practices







Getting ahead of the curve and advancing to the next level, means:

- Take advantage of ongoing EU and national policy making
- Understand the evolving objectives of the funders of this transition
- Realise that FAIR is the most important requirement;
- Educate staff and 'train the trainer';
- Create 'Data/Digital Competence Centres';
- Connect to other relevant initiatives at domain-specific levels as well as on the national level
- Join this powerful movement to make Open Science the new normal



EOSC Association AISBL

Rue du Luxembourg 3
BE-1000 Brussels, Belgium
+32 2 537 73 18
info@eosc.eu | www.eosc.eu
Reg. number: 0755 723 931
VAT number: BE0755 723 931

THANKS

