

eosc

The EOOSC Association on EOOSC Sustainability and Future

PaNOOSC Closing Event, 29-30 November 2022



- Context: European Research Data Landscape
- Context Horizon Europe Co-programmed Partnership
 - Multi-Annual Roadmaps
- Working with the Ecosystem
- Policy Context: Tripartite Collaboration & ERA Actions
- Establishment of the Operational Body of EOOSC-A: ESFRI RIs Working Group
- EOOSC operations and evolution post-2027

European Research Data Landscape

DG RTD, September 2022

Prepared by:

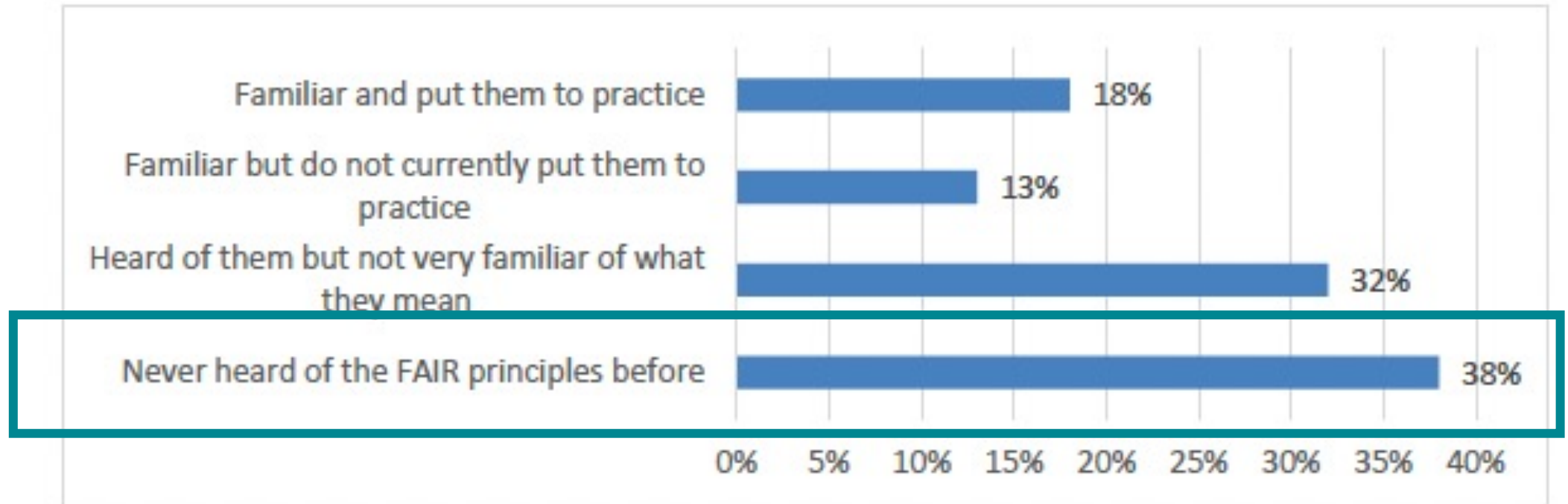
Visionary Analytics, DANS, DCC, EFIS Centre



Familiarity with FAIR Principles

European Research Data Landscape, 2022

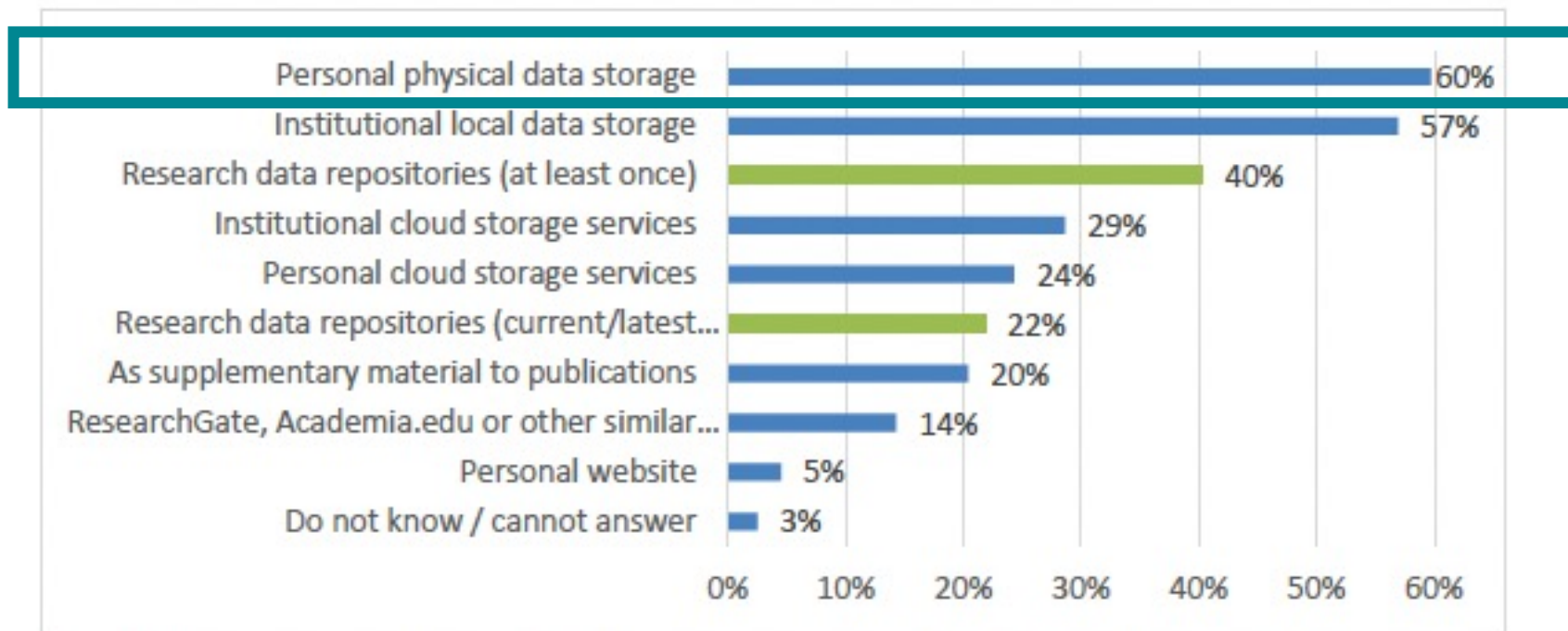
Figure 18. Familiarity with the FAIR principles in relation to the management and sharing of data



Source: authors' own elaboration, based on unweighted researchers' survey data, N=11,849.

European Research Data Landscape, 2022

Figure 12. Locations in which respondents or their research teams stored usable data during their current/most recent research activity



Note: Multiple answers could be selected by a single respondent. Results from the question ‘Have you ever stored your research data in a research data repository?’ have also been integrated into the figure. Only researchers who did not select research data repositories in the question ‘Where have you or your research team stored your usable data in your current / latest research activity?’ were asked this question. Those who selected research data repositories were automatically considered as storing data in research data repositories. Source: authors’ own elaboration, based on unweighted researchers’ survey data. Total N=10,914.



eosc Importance of FAIR data

European Research Data Landscape, 2022

Figure 19. Importance of findable, accessible, interoperable and reusable data

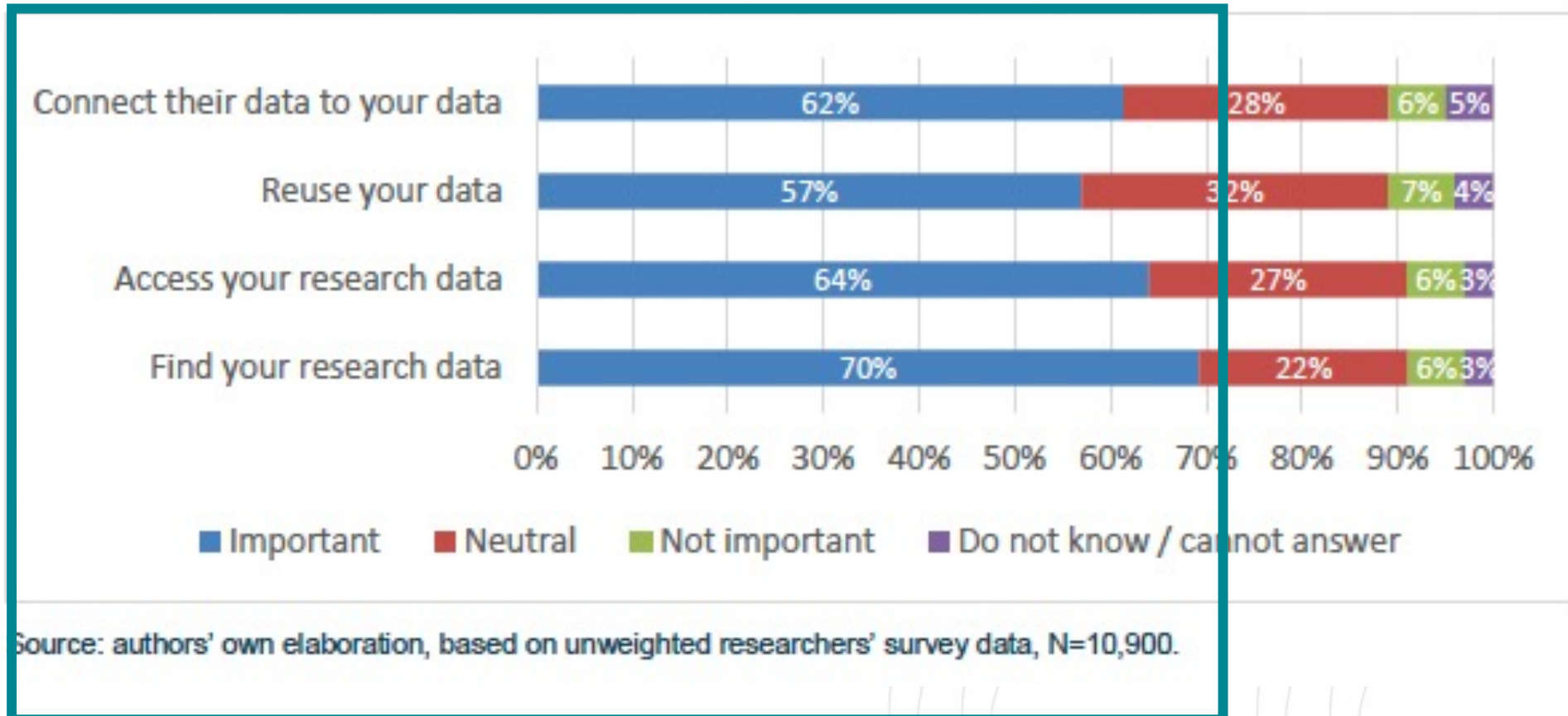
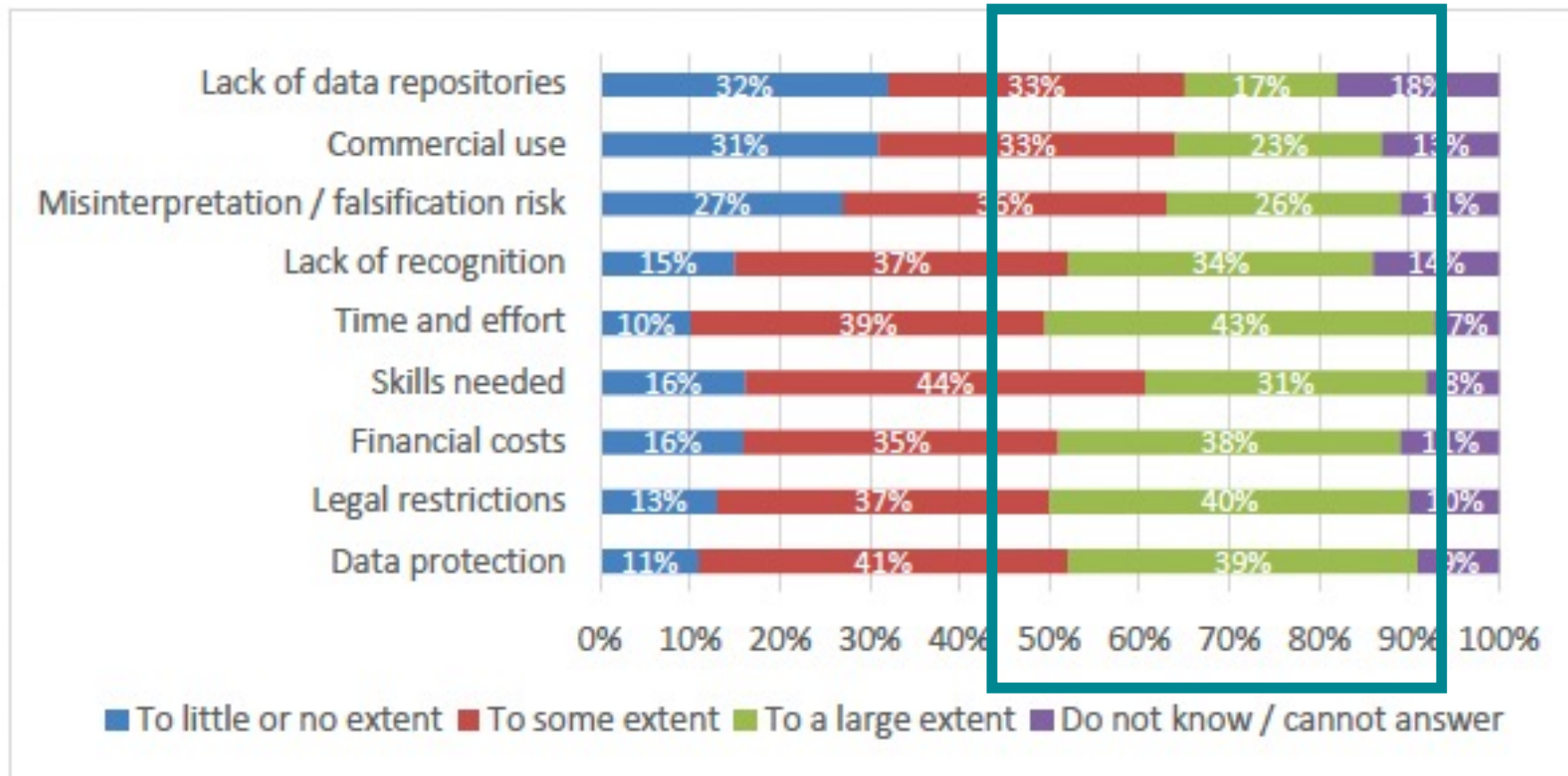


Figure 21. Obstacles to the management and sharing of research data



Source: authors' own elaboration, based on unweighted researchers' survey data, N=9,898 (selected at least one option).

Horizon Europe Co-Programmed EOSC Partnership

2021 - 2030

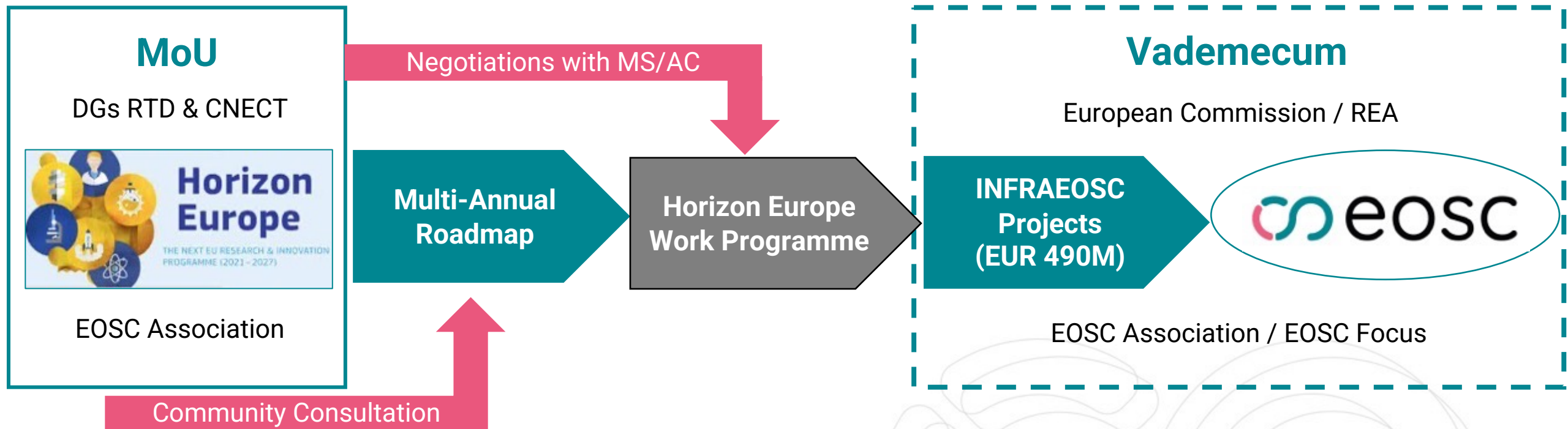


eosc Content of the MoU (2021 – 2030)

- **The MoU is established between the Partners**
 - The EU represented by the Commission
 - The EOSC Association (“Partners other than the Union”), including its constituent entities (members)
- **The MoU is a contractual arrangement, not legally binding**
- **Scope & objectives**
 - To contribute to the objectives defined in the SRIA incl. the KPIs to measure progress
 - Expected financial and in-kind commitments by the partners (490 MEUR + 500 MEUR)
- **Governance: Partnership Board**
 - Composition: Representatives appointed by the Partners other than the Union, Commission officials and Representatives of the Steering Board
- **Commitments of the EC**
 - To duly take into account the input and advice from EOSC-A when defining call topics relative to the scope and objectives of the SRIA
- **Commitments of EOSC-A**
 - In-kind contributions
 - Monitoring and Reporting

eosc SRIA 1.1 and MAR 2023-24

The Work Programme Design and Delivery Process



eosc SRIA 1.1 and MAR 2023-24 / New Priorities

Key areas of emphasis alongside ongoing priorities like EOSC Core and Exchange

- Data quality
- Support for research software
- Infrastructure for sharing sensitive data
- Long-term data preservation
- Trusted Digital Repository networks

eosc SRIA 1.1 and MAR 2023-24 / HE RI WP

From **Sep 2022 DRAFT** “Horizon Europe Work Programme 2023-2024”






INFRA-2023-EOSC-01	Type of Action	New Budget in MEUR	Old Budget in MEUR
● Build on the science cluster approach to ensure the uptake of EOSC by research infrastructures and research communities	RIA	25.00	24.00
● Development of community-based approaches for ensuring and improving the quality of scientific software and code	RIA	8.00	8.00
● Planning, tracking, and assessing scientific knowledge production	RIA	8.00	10.00
● Next generation services for operational and sustainable EOSC Core Infrastructure	RIA	10.00	10.00
● EOSC Architecture and Interoperability Framework	CSA	3.00	4.00
● Trusted environments for sensitive data management in EOSC	RIA	15.00	8.00
Total Budget		69.00	64.00


● = MAR 2023-2024 related

“Old Budget”
from March 2022

eosc SRIA 1.1 and MAR 2023-24 / HE RI WP

From **Sep 2022 DRAFT** “Horizon Europe Work Programme 2023-2024”

INFRA-2024-EOSC-01	Type of Action	New Budget in MEUR	Old Budget in MEUR
 FAIR and open data sharing in support of the mission adaptation to climate change	RIA	16.00	8.00
 Supporting the EOSC Partnership in further consolidating the coordination and sustainability of the EOSC ecosystem	CSA	4.00	3.00
 Enabling a network of EOSC federated and trustworthy repositories and enhancing the framework of generic and discipline specific services for data and other research digital objects	CSA	5.00	5.00
 Long-term access and preservation infrastructure development for EOSC, including data quality aspects	RIA	8.00	8.00
 Innovative and customizable services for EOSC Exchange	RIA	28.00	7.00
Total Budget		61.00	31.00

 = MAR 2023-2024 related

“Old Budget”
from March 2022

Multi-Annual Roadmap 2025 - 2027

Brainstorming has started!

Strategic Research and Innovation Agenda (SRIA)

of the European Open Science Cloud (EOSC)

Version 1.1 – 1 November 2022

EUROPEAN PARTNERSHIP



eosc Work Plan 2023 / EOSC Partnership

Multi-Annual Roadmap 2025 – 2027 and SRIA 1.2

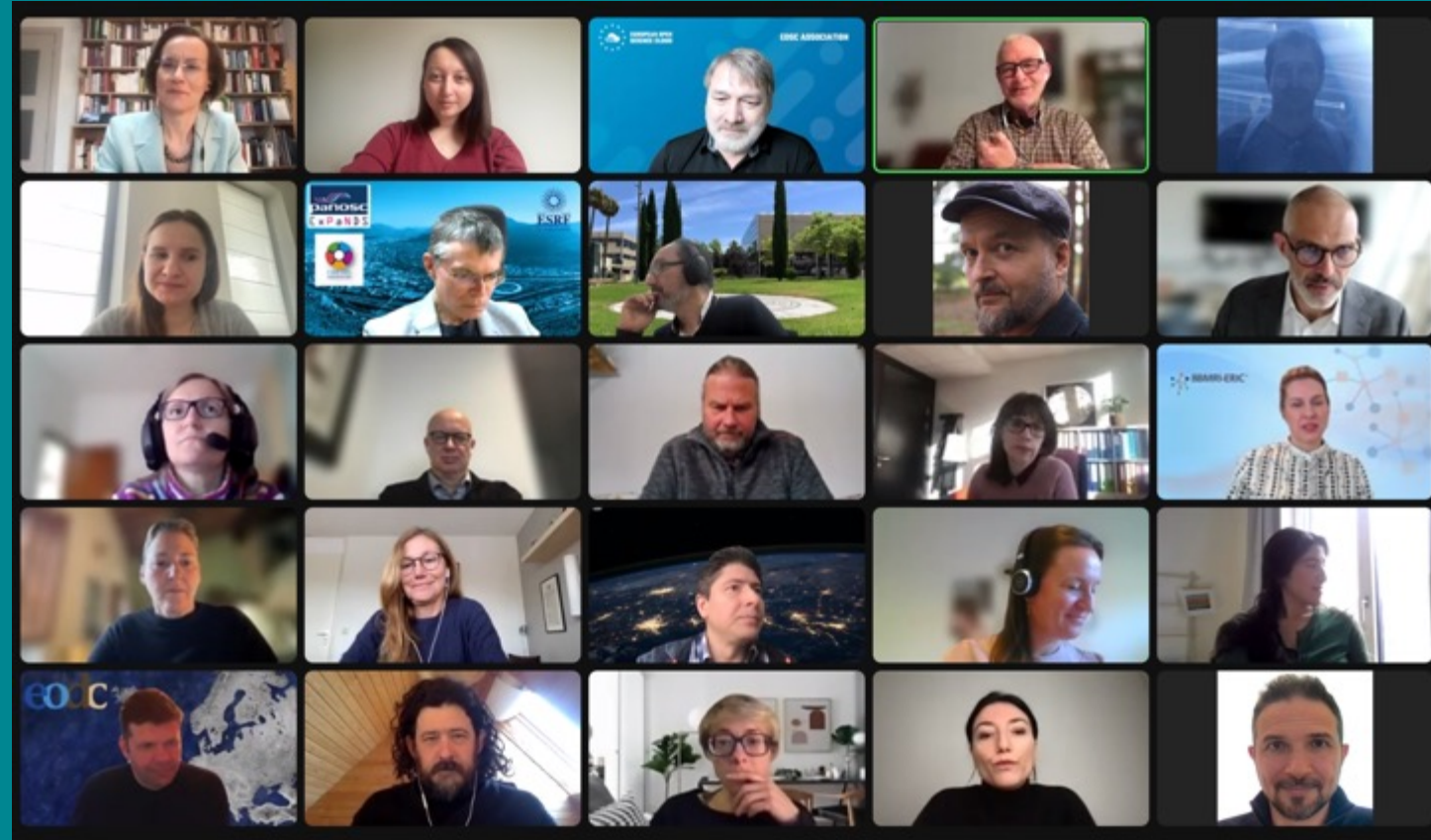
- 30.11.2022 TF invited to send in ideas / headlines
- 02.12.2022 EOSC-A Board brainstorms on possible 2025-2027 orientations
- 09.12.2022 First draft orientations sent to EC
- 19.12.2022 EOSC Partnership Board meeting / agreement of approach and timing for the updated SRIA 1.2 including the MAR 2025-2027
- February Consultation with further input by EC, Board, Task Forces
- March/April Consolidated version of the SRIA 1.2 for sharing with EC
- Before summer Draft final version for adoption by the Partnership Board

Horizon 2020 EOSC-related Projects

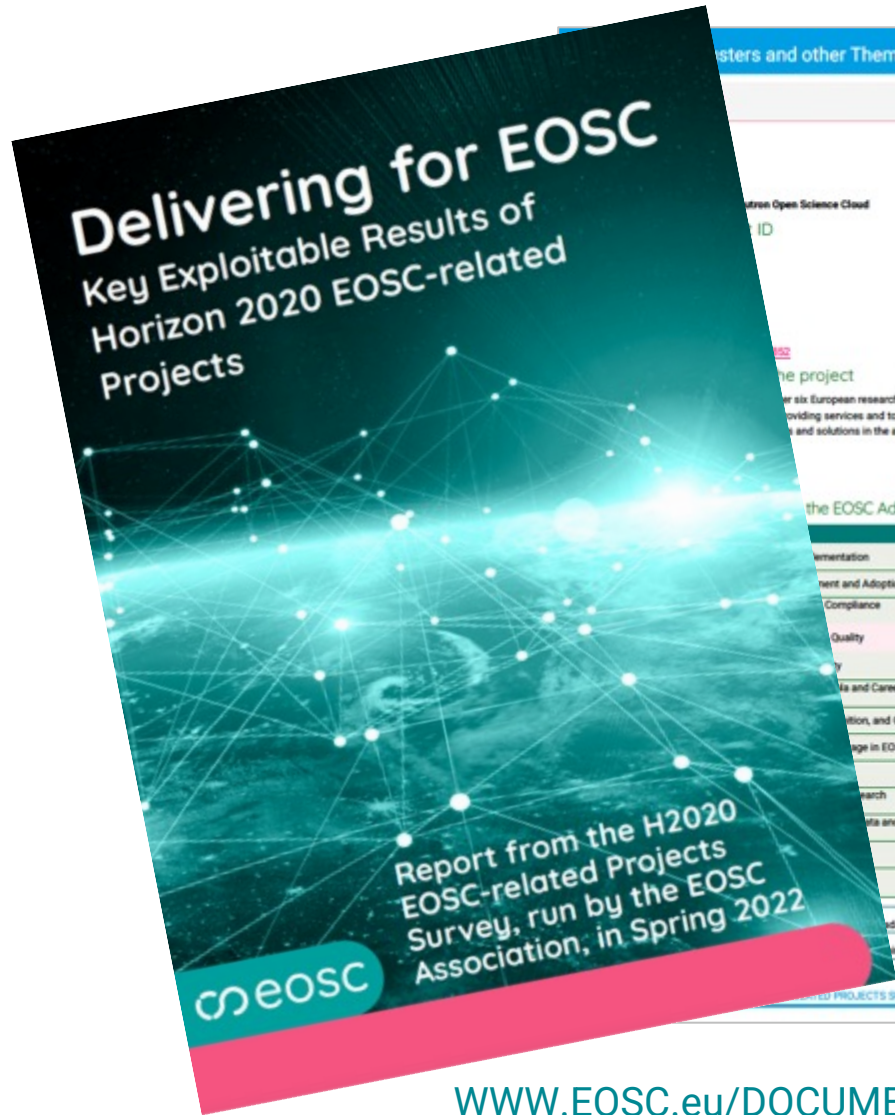
Key Exploitable Results

Objectives

- To support the realisation of the impact potential of on-going H2020 EOSC-related projects
- To capture your views on the EOSC-Association's role
- To promote a culture of collaboration among projects and with the Association



eosc Delivering for EOSC Brochure



WWW.EOSC.eu/DOCUMENTS

...sters and other Thematic Projects

...tron Open Science Cloud
ID

... project
... six European research infrastructures to contribute to the realisation of a data commons providing services and tools for data storage, analysis and simulation. The project works to ... and solutions in the area of FAIR data policy, data management and data services.

... the EOSC Advisory Groups (AGs) and Task Forces (TFs)

	KER #1	KER #2	KER #3	KER #4	KER #5	KER #6
Implementation	✓	✓			✓	
Deployment and Adoption	✓	✓	✓		✓	
Compliance			✓	✓		✓
Quality		✓	✓			✓
...y	✓	✓				✓
...a and Career	✓				✓	
...tion, and Credit		✓		✓	✓	
...age in EOSC	✓		✓	✓	✓	
...earch	✓	✓	✓	✓	✓	✓
...ata and	✓	✓	✓	✓	✓	✓
...-data and data quality	✓	✓	✓	✓	✓	✓

AG3: Research careers and curricula

...ing EOSC

...ED PROJECTS SURVEY REPORT



IR-compliant Data Policy for Research Infrastructures

... policy is an update of the PanData Data Policy (2016) providing a blueprint for the open access and neutron sources in Europe.

KER #2 Federated Search API + data portal

PANOSC aims to provide open data for the EOSC. The federated search API and portal provides an easy way to search for open data across the photon and neutron facilities via one single portal.

Exploitability
Operational service

... data analysis platforms (e.g. ...)

... platforms was used for remote COVID-19 confinement period and since then.

KER #4 Umbrella'd community AAI

The Umbrella'd community AAI is based on the AARC blueprint architecture and ready for the EOSC AAI federation and is used for community services.

Exploitability
Operational service

...e-learning platform

... form is an updated version using the H2020 project forces with the ExPatEdG

KER #6 Experiment simulators (VINYL)

Simulation of experiments (VINYL) including MuSTAG and G4SYS which are now the de facto tools used for designing almost all beamlines world-wide; and SIMEX which builds on the outcomes of the EUALL project.

Exploitability
Operational service

...y Harmonisation

...ledge Centre

- Discovery/Access Platform
- Authentication and Authorization Infrastructure (AAI)
- Virtual Research Environment (VRE)
- Validation Tool or Other

AG3: Research careers and curricula

...ED EOSC-RELATED PROJECTS SURVEY REPORT

...nd EOSC Governance

... FAIRSFAR
... For Data Preservation in Europe

...nate and implementation of the FAIR principles in the EOSC by ... to support research data management and ensure that European

...ory Groups (AGs) and Task Forces (TFs)

	KER #1	KER #2	KER #3	KER #4	KER #5	KER #6
Implementation	✓	✓			✓	
Deployment and Adoption	✓	✓	✓		✓	
Compliance			✓	✓		✓
Quality		✓	✓			✓
...y	✓	✓				✓
...a and Career	✓				✓	
...tion, and Credit		✓		✓	✓	
...age in EOSC	✓		✓	✓	✓	
...earch	✓	✓	✓	✓	✓	✓
...ata and	✓	✓	✓	✓	✓	✓
...-data and data quality	✓	✓	✓	✓	✓	✓

AG3: Research careers and curricula

...ED EOSC-RELATED PROJECTS SURVEY REPORT

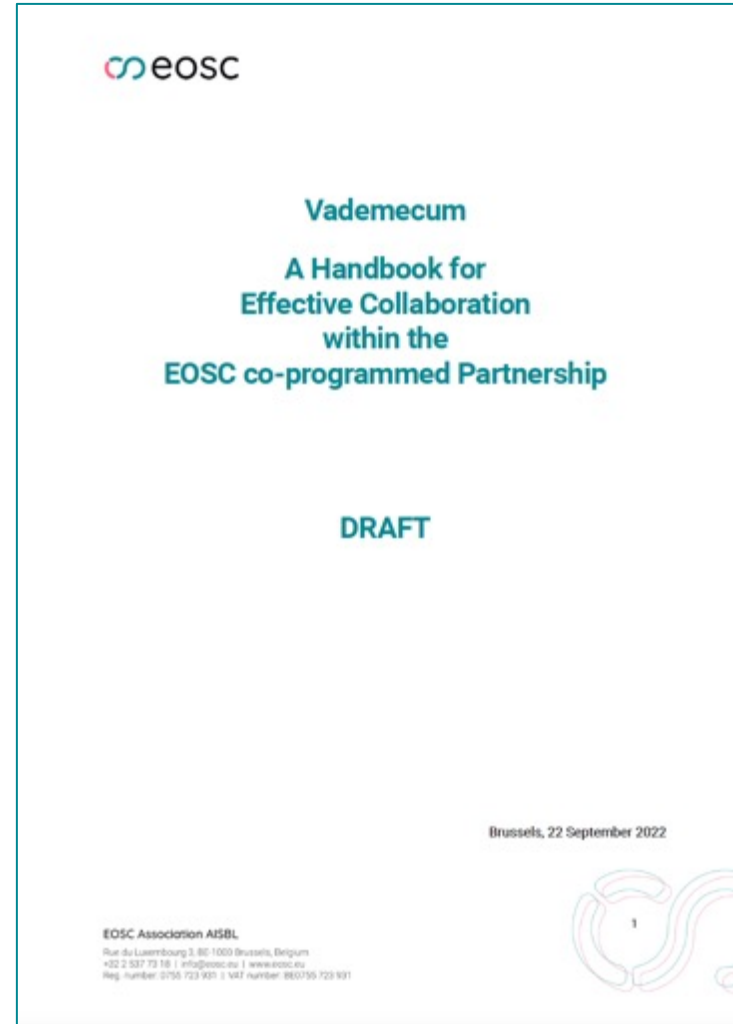
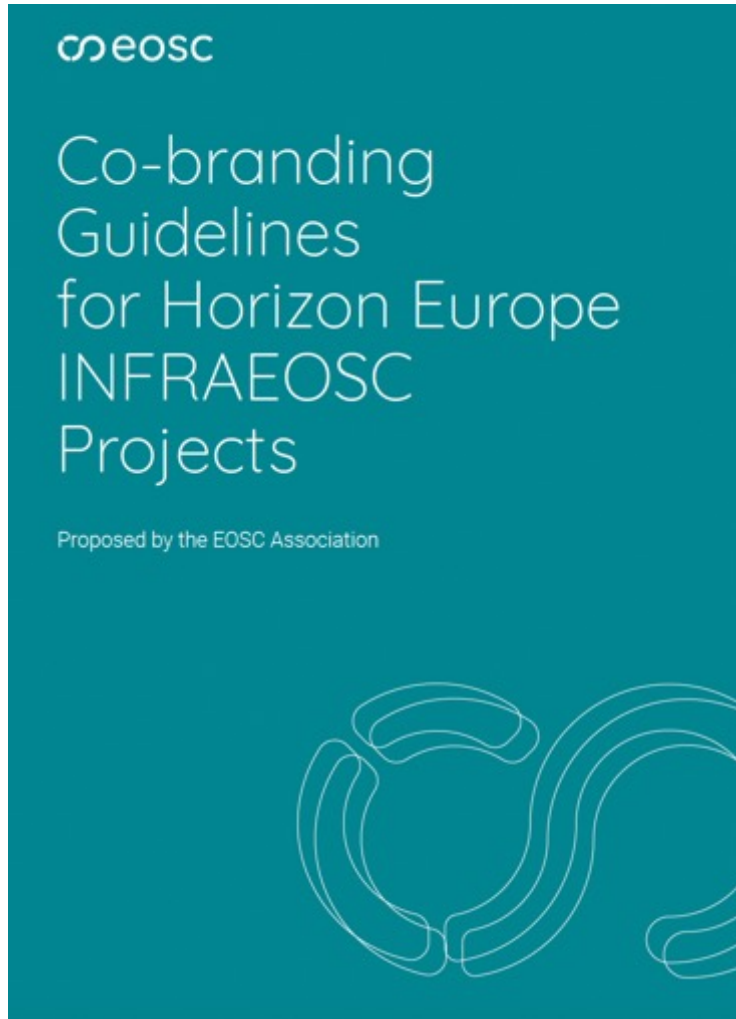
Collaboration with HE INFRAEOSC Projects

Joint meeting in Brussels, 30 September 2022



eosc Co-branding Guidelines & Vademecum

Two Key Documents for Collaboration



eosc 2021- INFRAEOSC Projects

AI4 | eosc

eosc | FAIR-EASE | eosc | Focus

eosc | cancer | Skills
4 eosc

eosc | RAISE | eosc | FAIR-IMPACT

eosc | FAIRCORE4EOSC

eosc | EuroScienceGateway

eosc 2022- INFRAEOSC Projects

Still in Grant Preparation Phase

Acronym	Coordinator
GraspOS	Ioannidis Yannis
CRAFT-OA	BARGHEER Margo
Blue-Cloud 2026	MUSCELLA Silvana
AquaINFRA	HANSEN Henning Sten
RDA TIGER	ASMI Ari
SciLake	VERGOULIS Thanasis



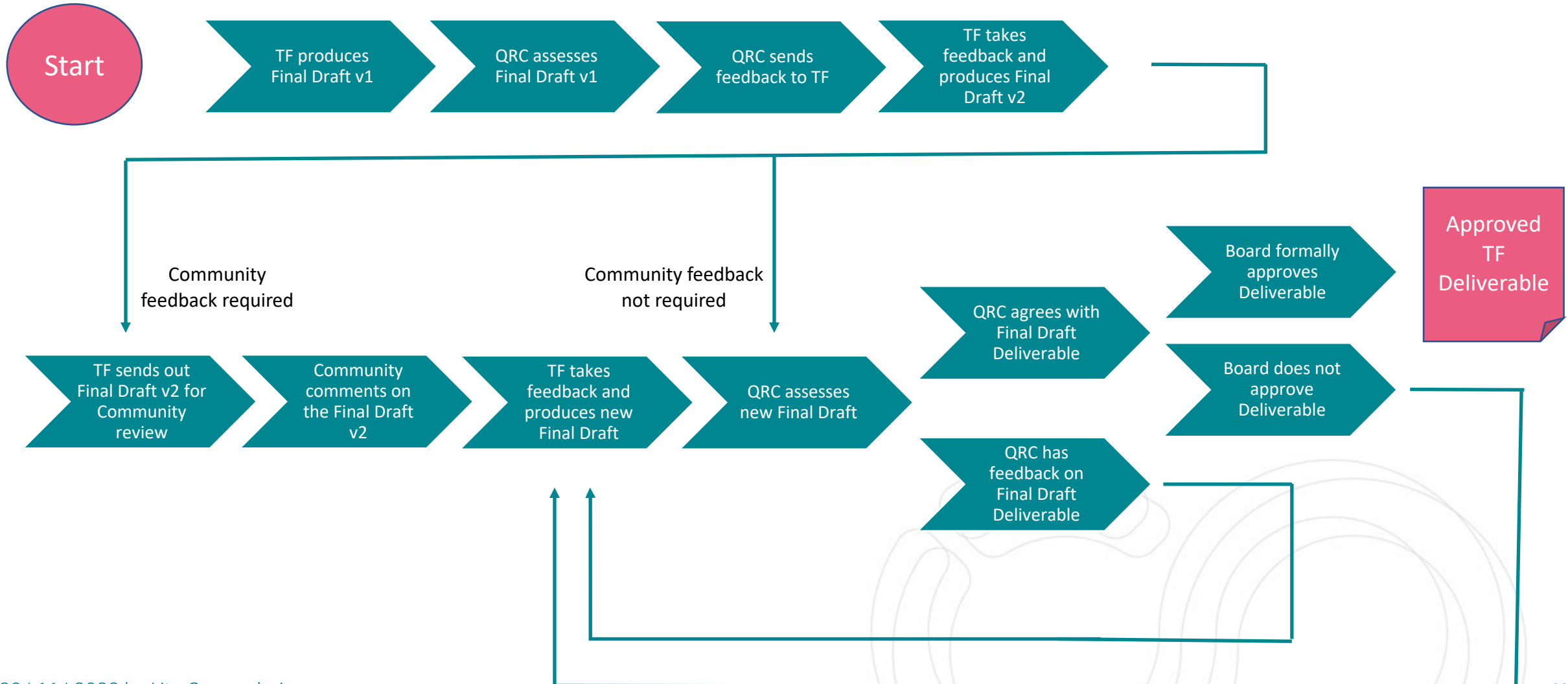
The 13 EOSC Task Forces - the Brain Trust of EOSC-A

- Supporting their work
- Quality Review Process
- Major Deliverables in the Pipeline
- EOSC-A Task Forces @ Symposium



TF Document Quality & Review Board Process

Process with optional Community feedback



eosc Task Forces Productivity

> **CLOSED MEETINGS**
> **PUBLIC SESSIONS**

> Monday 14 November, 15:00 – 16:30 CET
 > Tuesday 15 November, 16:00 – 18:30 CET

TASK FORCE

Joint TF REA + AG data stewardship / upskilling session – closed meeting

TASK FORCE

EOSC Association TF Infrastructure Software Quality – closed meeting

> Tuesday 15 November, 20 - 21 & Wednesday 16 November 12:30 -14

TASK FORCE

EOSC-A TF SI Subtask Metadatastandards – closed meeting

TASK FORCE

Loss to ...

> 14:30 – 16:00 EOSC AAI Implementation

Day 2
 Task Forces Breakout Sessions
 9:00 – 10:30

Task Force	Title
FAIR Metrics and Data Quality	Community-driven Governance of FAIRness Assessment
FAIR Metrics and Data Quality	FAIR Evaluation / Assessment Tools: Towards an "Apples to Apples" Comparisons
Fair Metrics and Data Quality	Towards a Data Quality Framework for EOSC
Financial Sustainability	Progress Report
	Discussion paper submitted
	Charter reviewed, but not in template
	2 Deliverables in the pipeline
Data Stewardship Curricula and Career Paths	2 Deliverables in the pipeline (24.11. and early December)
AAI Architecture	Architecture Report in the pipeline still for November
FAIR Metrics and Data Quality	Survey in the pipeline

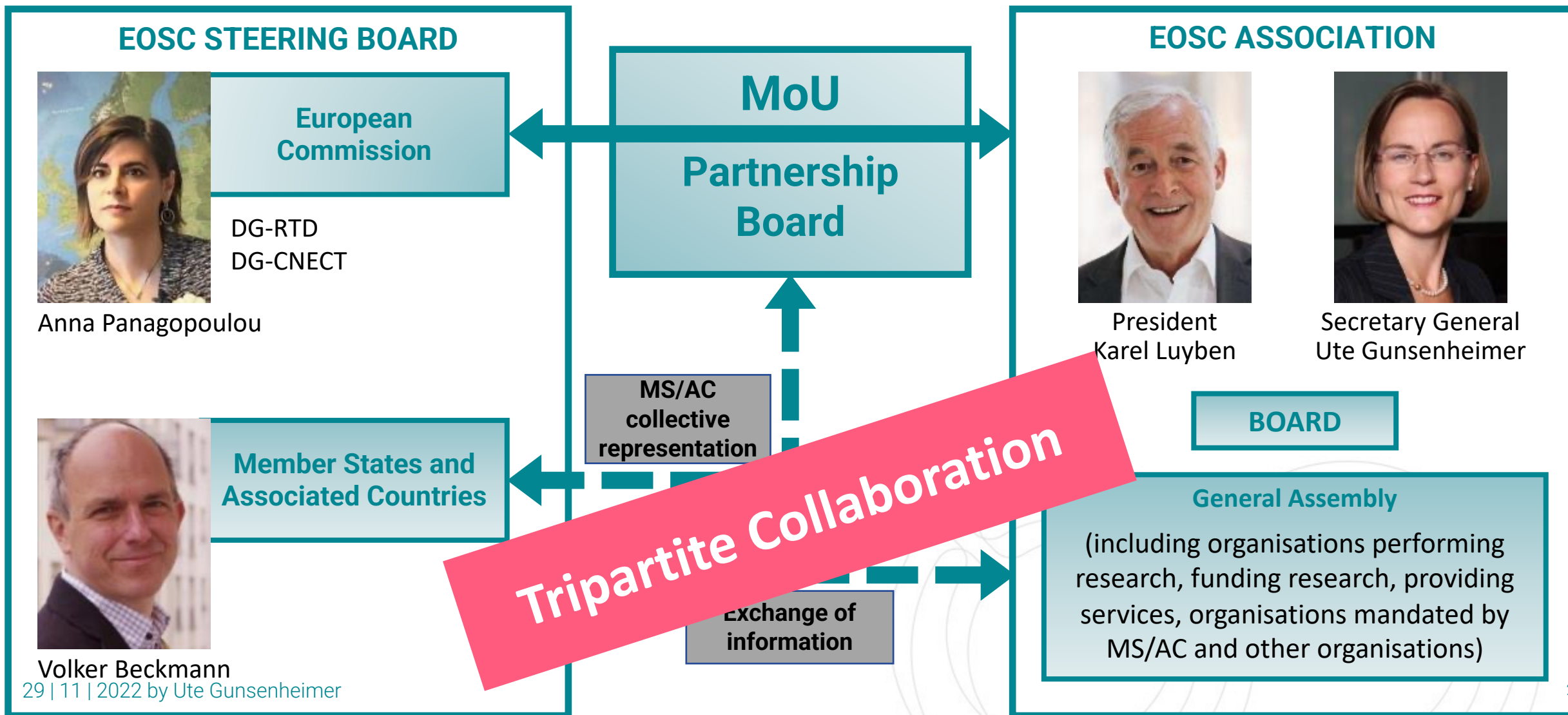
Policy Context

Tripartite Collaboration & ERA Actions



eosc EOSC Partnership

Tripartite Collaboration



eosc **4. ERA Actions**

Summer of Commitments



Member States' Commitment to 20 ERA Actions

Status: 23/09/2022

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	16	17	19	20	Total
Austria (AT)																			13
Belgium (BE)																			18
Bulgaria (BG)																			7
Croatia (HR)																			4
Cyprus (CY)																			11
Czechia (CZ)																			18
Denmark (DK)																			14
Estonia (EE)																			18
Finland (FI)																			11
France (FR)																			17
Germany (DE)																			18
Greece (EL)																			6
Hungary (HU)																			14
Ireland (IE)																			9
Italy (IT)																			14
Latvia (LV)																			8
Lithuania (LT)																			14
Luxembourg (LU)																			0
Malta (MT)																			5
Netherlands (NL)																			16
Poland (PL)																			11
Portugal (PT)																			18
Romania (RO)																			8
Slovakia (SK)																			10
Slovenia (SI)																			13
Spain (ES)																			17
Sweden (SE)																			10
Total	24	13	22	25	18	15	18	24	19	23	17	21	16	17	15	10	16	9	2810

Strengthening the Collaboration with ESFRI Forum

ICRI 2022




eosc Tripartite Events

eosc 

23 May 2022
Tripartite Event | Austria

eosc 

28 September 2022
Tripartite Event | Ireland

eosc 

4 October 2022
Tripartite Event |
Nordic & Baltic Countries


eosc 

6 October 2022
Tripartite Event | Greece


eosc 

10 October 2022
Spain
EOSC

**Journées
EOSC-France
4 / 5 Avril 2022**

eosc 

11 October 2022
Tripartite Event | Slovenia

eosc 

24 October 2022
Tripartite Event | Poland

eosc 

2 - 4 November 2022
Tripartite Event | Georgia

eosc 

24 November 2022
Tripartite Event | Germany

eosc National Tripartite Event - Germany

Karlsruhe & Online, November 24th



KEYNOTES / IMPULSE LECTURES

Mario Brandenburg (Parliamentary Secretary of State, Ministry of Research and Education)

Anna Panagopoulou (Director European Research Area and Innovation, European Commission)

Karel Luyben (EOSC-Association President)

Lars Bernard (Deputy Chair German Council for Scientific Information Infrastructures (RfII))

Kathrin Winkler (Deutsche Forschungsgemeinschaft (DFG, German Research Foundation))

NFDI SECTIONS IMPULSES

Michael Diepenbroek (Speaker)

Ulrich Sax (Deputy Speaker section-ELSA)

Brigitte Mathiak (Deputy Speaker section-metadata, Gesis)

Peter F. Pelz (Speaker section-edutrain)

Panel discussion

Ute Gunsenheimer (EOSC-Association Secretary General)

Raphael Ritz (Head of Data Division at the Max-Planck Computing and Data Facility (MPCDF), NFDI-Consortium FAIRmat, Head of RDA-DE, EOSC Task Force)

Roland Bertelmann (Head of Helmholtz Open Science Office, NFDI-Consortium NFDI4Earth)

Andrea Herdegen (BMBF/EOSC Steering-Board)

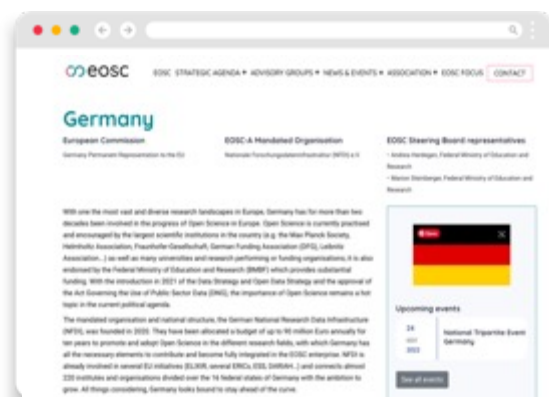
York Sure-Vetter (NFDI-Director)



120 Total number of participants



14 Total number of speakers & panellists





Paper D: Establishment of Operational Body “ESFRI RIs Working Group”

Suzanne Dumouchel, Director EOSC-A

Decision / Open Voting



Paper D: Establishment of an ESFRI RIs WG

Establishment of an ESFRI RIs Working Group as EOSC-A Operational Body

17

Plus 3:

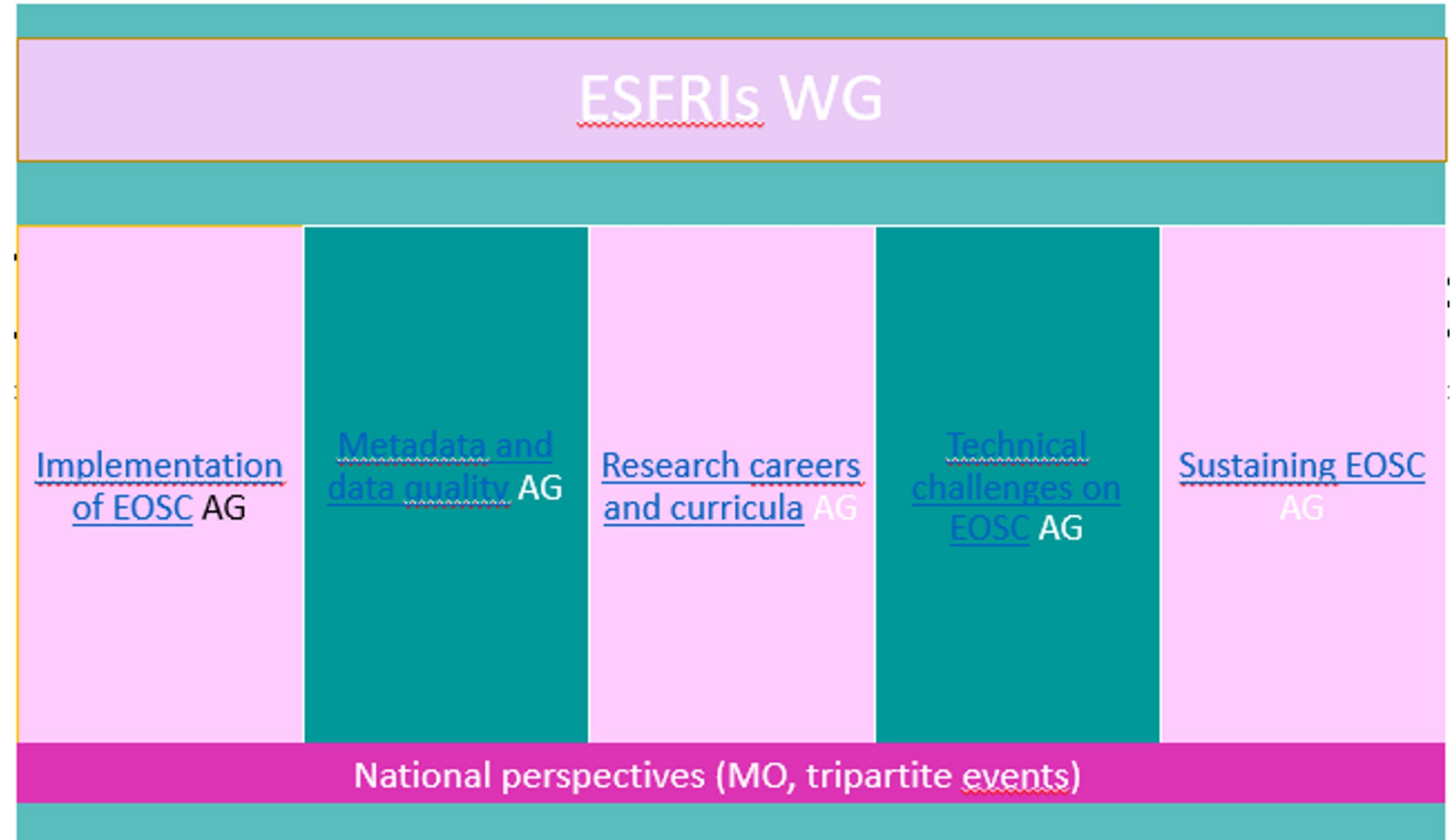
- EBRAINS
- FAIR
- ELI ERIC

Organisation Acronym	EIRO Forum	ERIC	ESFRI	ENVRI-FAIR	EOSC-Life	ESCAPE	SSHOC	PaNOSC	EOSC Future	Approved
BBMRI-ERIC		ERIC	ESFRI		EOSC-Life				EOSC Future	Member
CERN	EIROforum		ESFRI			ESCAPE			EOSC Future	Mandated Member
CESSDA		ERIC	ESFRI				SSHOC		EOSC Future	Member
CLARIN		ERIC	ESFRI				SSHOC		EOSC Future	Member
DARIAH ERIC		ERIC	ESFRI				SSHOC		EOSC Future	Member
EATRIS		ERIC	ESFRI		EOSC-Life				EOSC Future	Observer
EMBL	EIROforum		ESFRI		EOSC-Life				EOSC Future	Member
ESRF	EIROforum		ESFRI					PaNOSC		Member
ESS		ERIC	ESFRI					PaNOSC		Member
ESS ERIC		ERIC	ESFRI				SSHOC			Observer
EURO-BIOIMAGING		ERIC	ESFRI		EOSC-Life					Member
ILL	EIROforum		ESFRI					PaNOSC	EOSC Future	Member
Instruct-ERIC		ERIC	ESFRI		EOSC-Life					Observer
LifeWatch ERIC		ERIC	ESFRI	ENVRI-FAIR					EOSC Future	Member
OPERAS			ESFRI							Member
PRACE			ESFRI							Member
XFEL	EIROforum		ESFRI					PaNOSC		Member

eosc Paper D: Establishment of an ESFRI RIs WG

Purpose of the Working Group

- Strengthen the role of scientific communities in EOSC
- Contribute to the engagement of researchers as future users of EOSC
- Contribute to the technical discussions related to specific disciplines in building EOSC



eosc Paper D: Establishment of an ESFRI RIs WG

Responsibilities

This preliminary list of the WG's responsibilities is proposed jointly by the EOSC-A Board and the representatives of the Science Cluster projects:

- Work towards an EOSC strategic plan for ESFRI RIs that can feed into the SRIA to highlight the community's needs.
- Synchronise with TF activities – especially the REA TF – to ensure uptake by the ESFRI RIs of the findings and recommendations coming from the TFs.
- Facilitate information sharing between the H2020 and HE projects and the ESFRI RIs.
- Contribute to EOSC-A's engagement with the community of researchers.
- Support emerging communities and ESFRI RIs that are not part of the SCs.
- Increase interdisciplinarity and interoperability between the ESFRI RIs in the EOSC context.
- Build or develop the link with potential data spaces and the EU Missions.

Position of EOSC according to the European Commission



Health



Industrial &
Manufacturing



Agriculture



Finance



Mobility



Green Deal



Energy



Public
Administration



Skills



EOSC: a crosscutting data space for Research and Innovation

“EOSC is the basis for a science, research and innovation data space that will bring together data resulting from research and deployment programmes and will be connected and articulated with the sectoral data spaces”

(European Data Strategy, COM(2020) 66 final)

Doodle out

Select your preferred times

We'll let you know when the organizer picks the best time

12 options



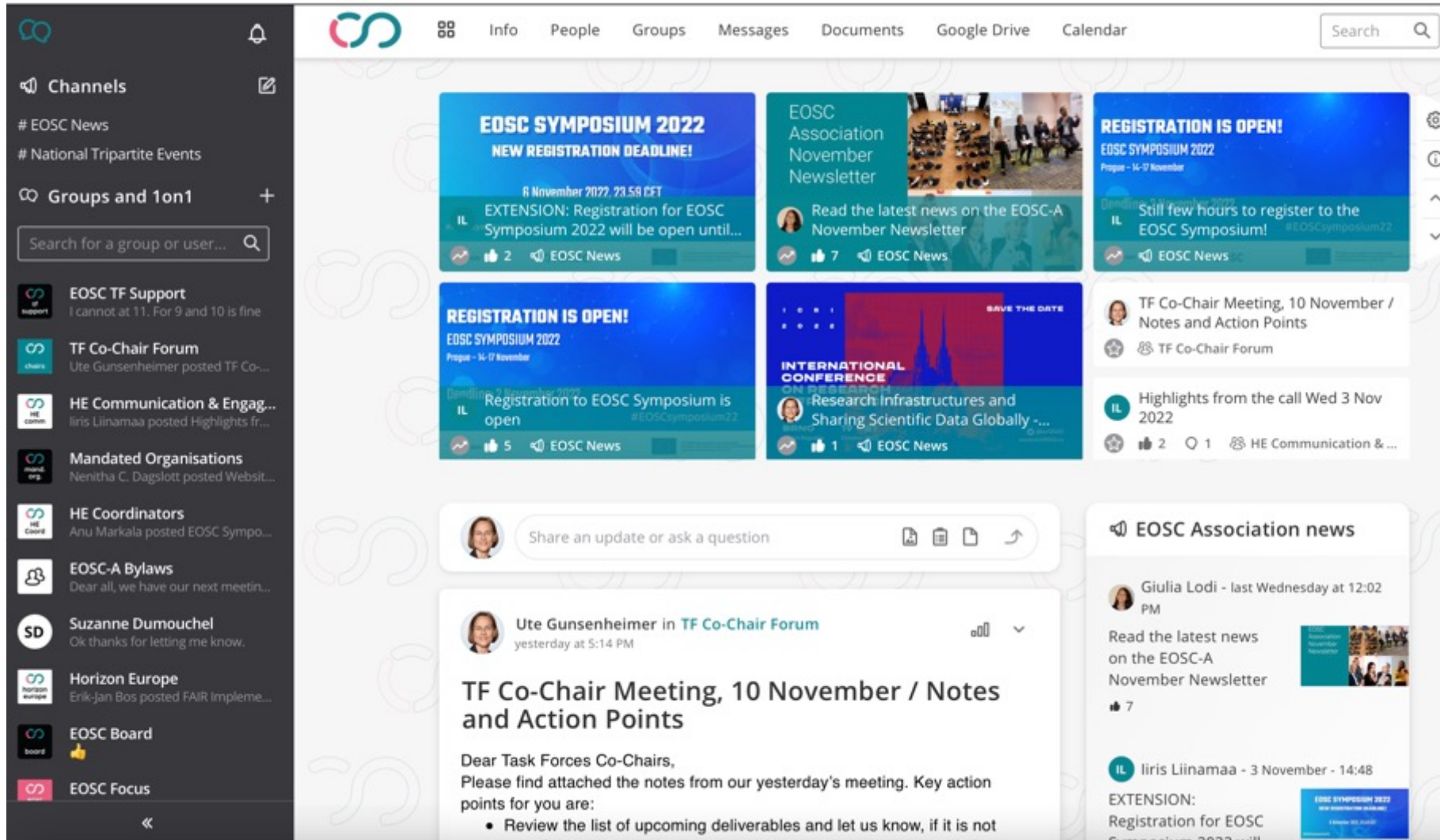
Order by

Date | **Most popular**

	WED 25 JAN 9:30 AM 11:00 AM	THU 26 JAN 9:30 AM 11:00 AM	THU 26 JAN 10:00 AM 11:30 AM	THU 26 JAN 10:30 AM 12:00 PM	THU 26 JAN 11:00 AM 12:30 PM
Y You	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	✓ 4	✓ 1	✓ 1	✓ 1	✓ 2
FD Franciska de Jong	✗	✗	✗	✗	✗
Anca Hienola	✓	✗	✗	✗	✓
GL Giovanni Lamanna	✓	✓	✓	✓	✓
AG Andy Gotz (ESRF)	✓	✗	✗	✗	✗

Community Engagement Platform “EOOSC Forum”

A tool to manage stakeholders engagement



EOSC operations and evolution post-2027

For discussion in the EOSC Tripartite event on 14 November 2022



New process of strategic reflection

Why such a reflection now? - to allow the following timeline:

- 2023-2024: discussion and exploring retained options
- 2025: be ready to incorporate the best scenario into 'FP10'
- 2028: expected launch of 'FP10' incl. necessary EOSC Post-2027 provisions

Scope of reflection:

- Models for governing, operating, evolving and sustaining the EOSC Federation 'in the making'

First milestone:

- Tripartite discussion back-to-back with EOSC Symposium 2022
based on supporting paper jointly elaborated by EOSC Association and EC services

Where do we plan to be by 2027?

Open Science is increasingly ‘becoming the normal’ at European, national and institutional levels

- OS policies and investments are better aligned at European and national levels with demonstrated impact
- Open Science best practices, use cases and activities are catalogued and disseminated;
- A common Open Science monitoring mechanism is deployed, operated and feeds into the ERA Monitoring Mechanism; baselines and trends on investments, policies, digital research outputs, open science skills and infrastructure capacities related to EOSC are available

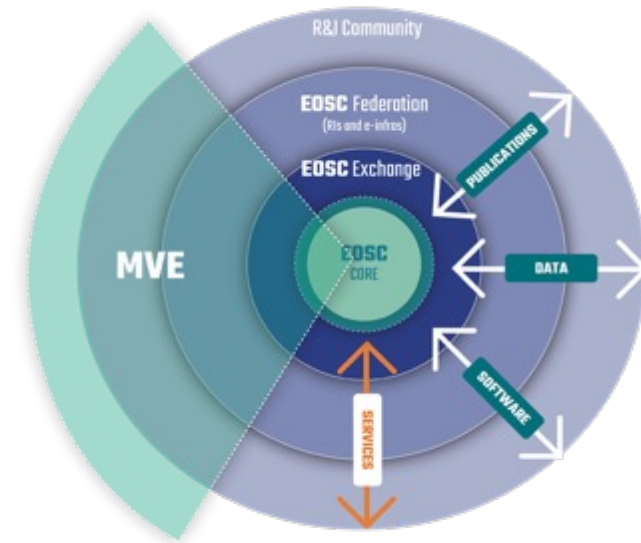
EOSC progressively enables a ‘Web of FAIR data for science’

- Policies are in place which require FAIR to be implemented including through Data Management Plans; DMPs are standardized across disciplines and can link to interconnected graph of science events
- FAIRification toolkits and quality description frameworks are available for further uptake by the research community
- ⁴²A network of EOSC-federated, trustworthy FAIR-enabling repositories is available

Where do we plan to be by 2027?

Minimum Viable EOSC operations to serve researchers in Europe are deployed and operated

- Known basic elements being prototyped include:
 - ✓ EOSC Rules of Participation
 - ✓ EOSC Authentication and Authorization Infrastructure
 - ✓ EOSC Policy on Persistent Identifiers and its compliance framework,
 - ✓ EOSC Interoperability Frameworks
 - ✓ EOSC common search and access engine for FAIR research objects,
 - ✓ EOSC monitoring and accounting modules
 - ✓ EOSC Security Coordination
- EC procurement for “Managed Services for the EOSC Platform”:
to build and deploy an operational, secure, cloud-based EOSC infrastructure, including a federated EOSC Core platform and EOSC Exchange, offering high quality professional services and superior user experience, for a large number of users, with functionalities available 24/7



EOSC is progressively connected to the wider public sector and the commercial sector through various data spaces

Indicative questions to support the strategic discussion

Where do we plan to be **by 2027**?

What **governance** do we need for the EOSC federation post-2027?

What **funding** sources and tools to cover what EOSC operations/development?

Do we need to evolve the current **partnership** in FP10?

What process and milestones in the period **2023-2024**?

Feedback from the Tripartite discussion in Prague

- EOSC implementation steering by research projects is too fragmented
- In-kind contributions at national and institutional levels are massive but a complementary approach is needed once EOSC operations will have to be sustained
- There will be a need for financial contributions in a hybrid mode, at EU and MS levels
- Need for 'game changer' in 2027: will have to manage and sustain an operational EOSC capacity
- EOSC is unique and may well require novel approach in terms governance, financing and legal implementation
- Need to get feedback/reflections by the three parties on the current supporting paper early in 2023, also having in mind to reduce the range of options
- Identify a few scenarios of governance and funding models and develop related SWOT analyses
- Meet again at tripartite level in 2023 to decide on next steps

eosc Reflection of the Reflection Paper

Reflections on the Supporting Paper: EOSC operations and evolution post-2027

- 28.11.2022 EOSC-A General Assembly, presentation of the Supporting Paper and launch of consultation
- 15.12.2022 EOSC-SB meeting / invitation to share reflections in writing
- End January Compilation
- February EOSC-SB meeting
- Start work on reflections
- Agree on the format of reflections
- by Eastern

Call for Action:
Send your Reflections by
email to info@eosc.eu by
02.01.2023

Reflections shared with the three parties

Possible indicative timeline

- 20.03. Draft SWOTs submitted for review to EOSC-SB
- 29.03. Deadline for providing feedback
- 06.04. Final SWOTs shared with Tripartite
- 07.-10.04. Easter break