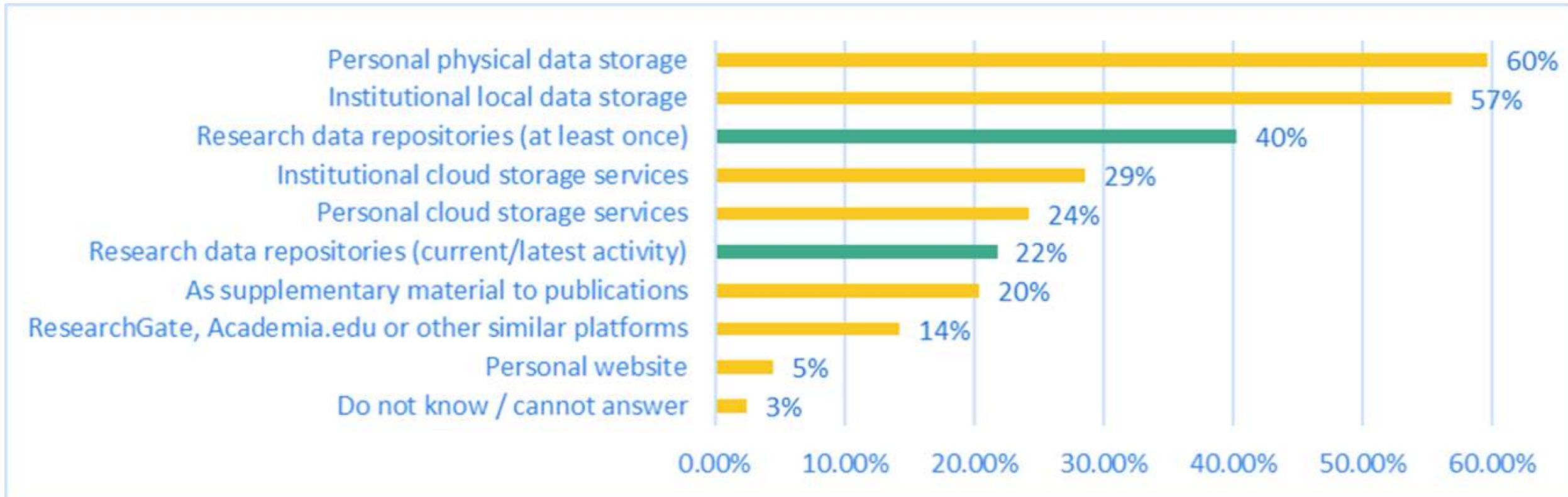# EOSC as part of the European Commission's strategy for Open Science

GE EOSC tripartite event

2 November 2022

Pantelis Tziveloglou
Open Science, DG R&I,
European Commission

Research data depositing

- **60%** stored data in **personal** physical data storage or institutional **local** data storage.

- **40%** of researchers occasionally stored data in **research data repositories**.
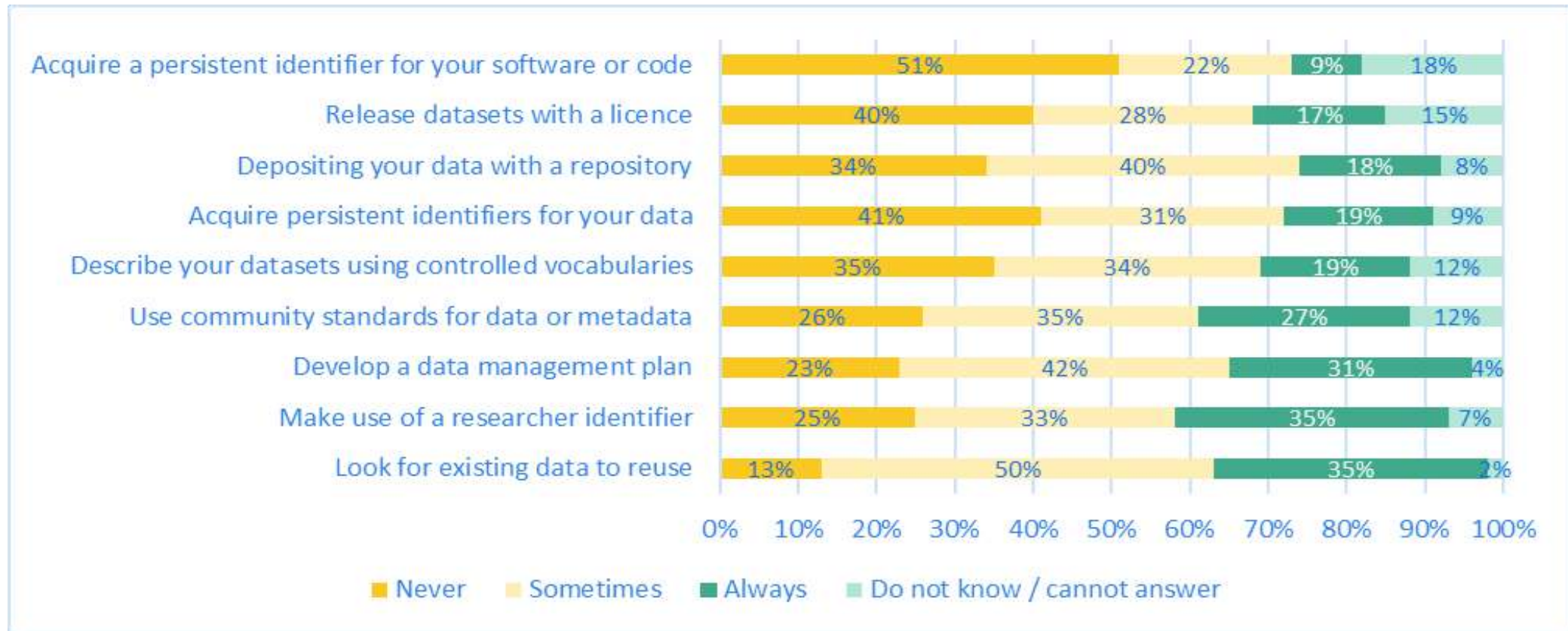
Awareness of FAIR

- More than **1/3** of the respondents have **never heard** of the FAIR principles.
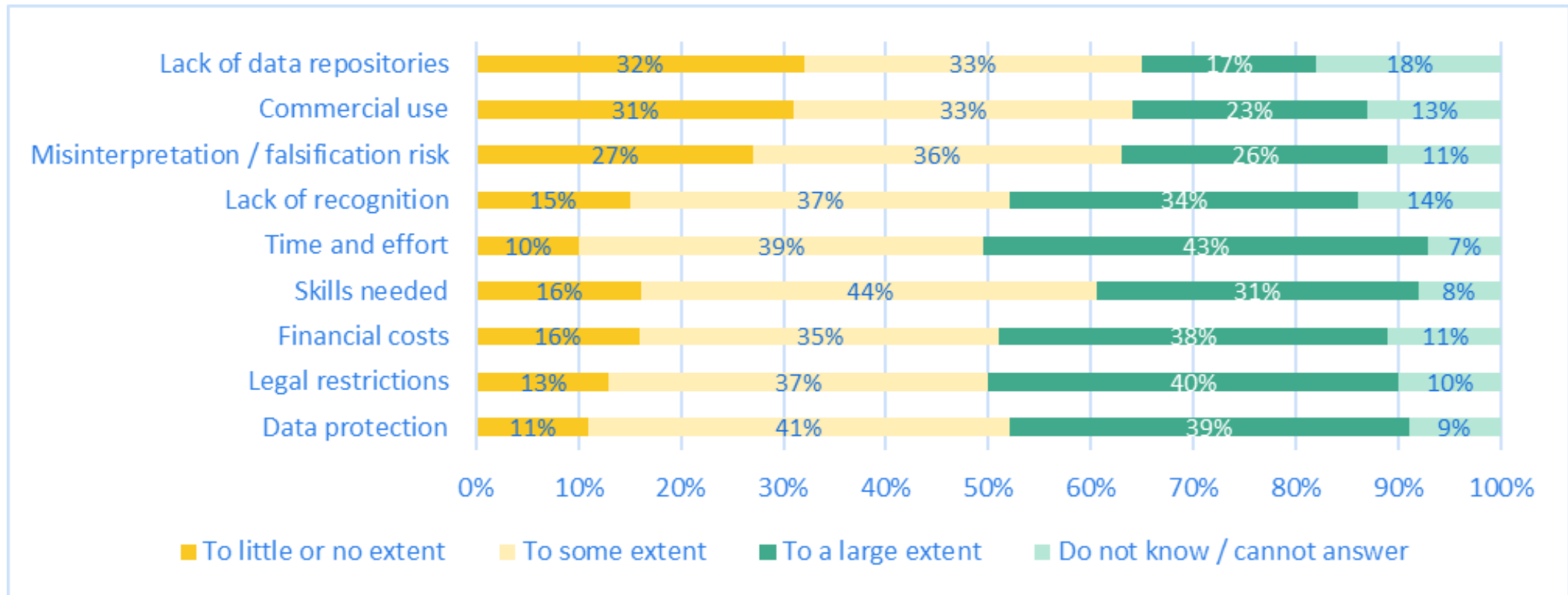
FAIR aligned practices

- Around **3/4s** develop **DMPs** but other FAIR-aligned practices are less common.

- Allocating PIDs to data or software/code are the least common practices.

Practice	Never	Sometimes	Always	Do not know / cannot answer
Acquire a persistent identifier for your software or code	51%	22%	9%	18%
Release datasets with a licence	40%	28%	17%	15%
Depositing your data with a repository	34%	40%	18%	8%
Acquire persistent identifiers for your data	41%	31%	19%	9%
Describe your datasets using controlled vocabularies	35%	34%	19%	12%
Use community standards for data or metadata	26%	35%	27%	12%
Develop a data management plan	23%	42%	31%	4%
Make use of a researcher identifier	25%	33%	35%	7%
Look for existing data to reuse	13%	50%	35%	2%

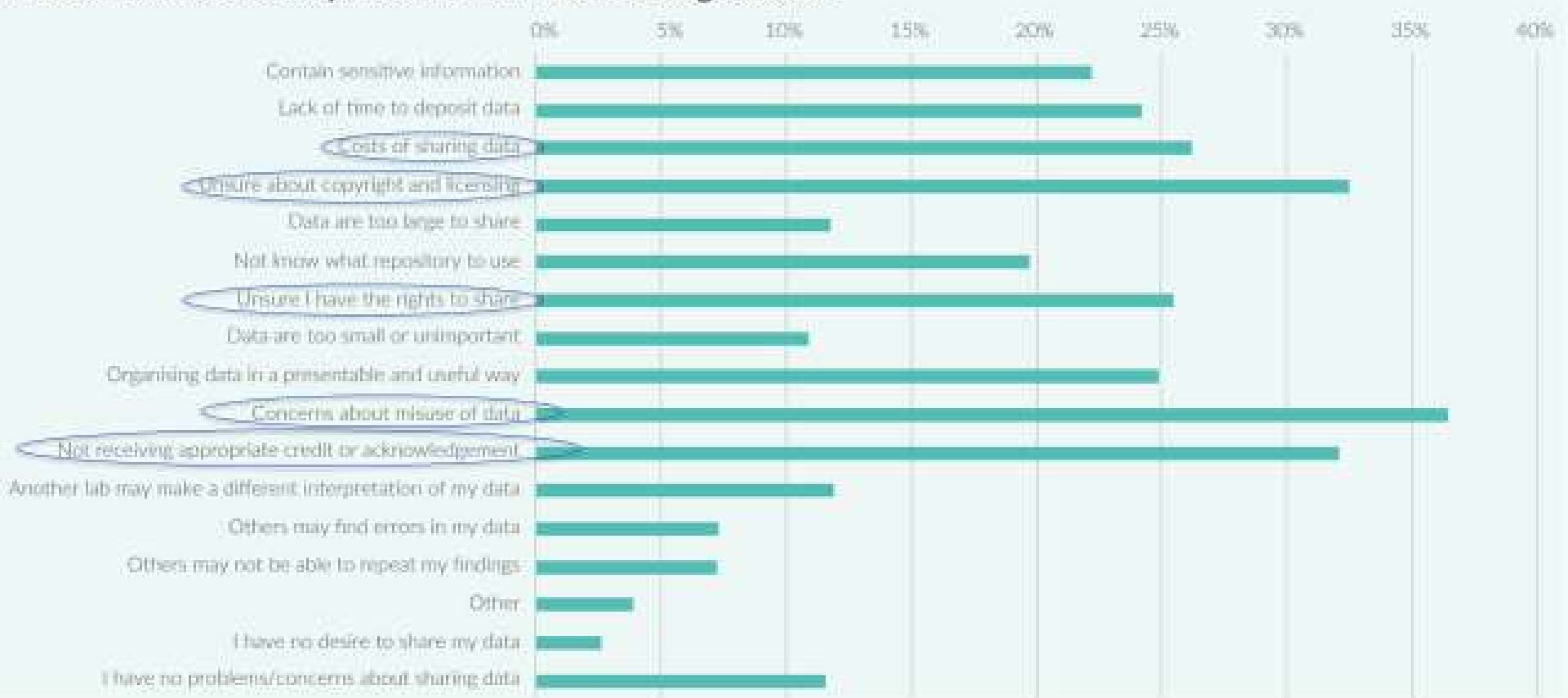Legend: ■ Never ■ Sometimes ■ Always ■ Do not know / cannot answer

Barriers

- **Time, effort & financial costs** required for RDM and data sharing are seen as a challenge

- **Data protection and legal restrictions** are also seen as big obstacles

- **Lack of recognition** also seen as a major barrier

Problems/concerns respondents have with sharing datasets

Concern	Value
Contain sensitive information	~22%
Lack of time to deposit data	~24%
Costs of sharing data	~26%
Unsure about copyright and licensing	~34%
Data are too large to share	~12%
Not know what repository to use	~20%
Unsure I have the rights to share	~25%
Data are too small or unimportant	~11%
Organising data in a presentable and useful way	~24%
Concerns about misuse of data	~37%
Not receiving appropriate credit or acknowledgement	~35%
Another lab may make a different interpretation of my data	~13%
Others may find errors in my data	~8%
Others may not be able to repeat my findings	~8%
Other	~4%
I have no desire to share my data	~3%
I have no problems/concerns about sharing data	~13%

Open Science: a Political Priority of the Union

2016 Council Conclusions on the '**Transition Towards an Open Science System**'

2018 EC Recommendation on '**Access to and Preservation of Scientific Information**'

2020 EC Communication on the '**New ERA**'

2021 Council Recommendation on a '**Pact for R&I in Europe**'

2021 Council Conclusions on the '**Future Governance of the ERA**' including the '**ERA Policy Agenda**'

2022 Council Conclusions on '**Research Assessment and Implementation of Open Science**'

European Commission

Open Science & EOSC in the ERA Policy Agenda '22-'24
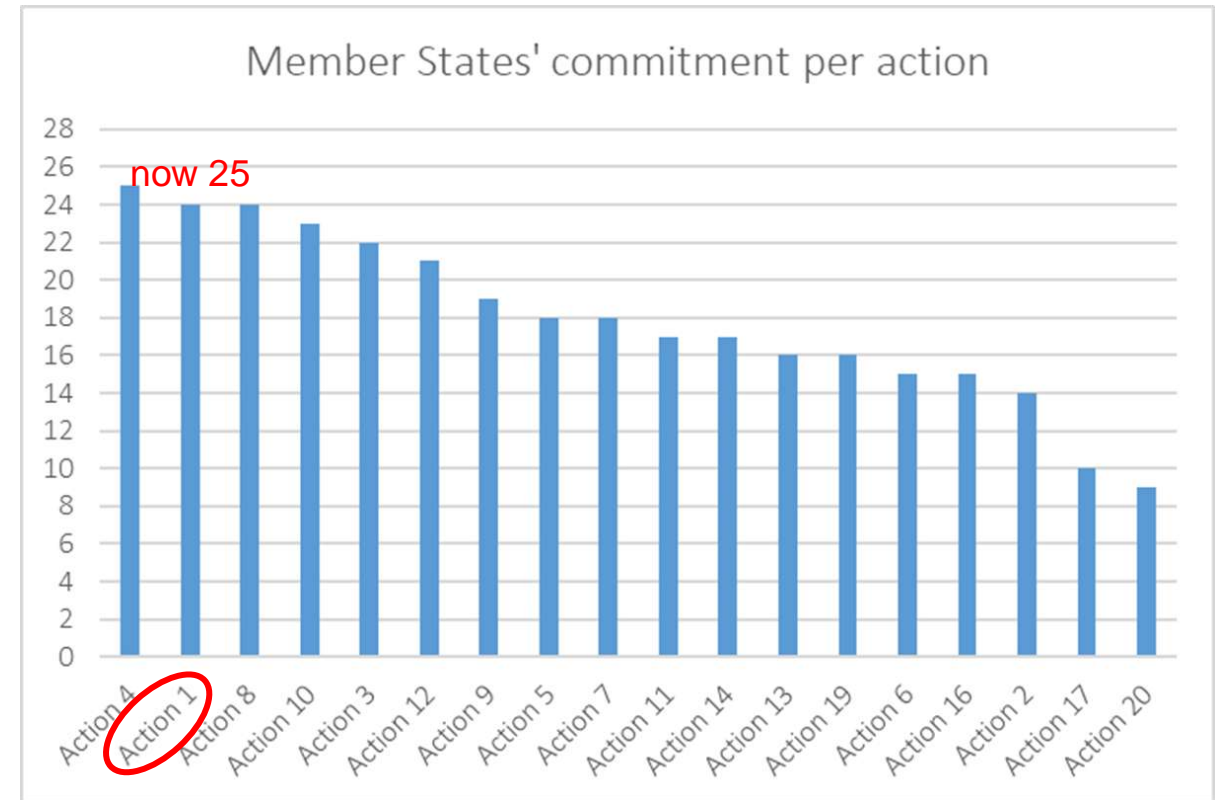
ERA priority area:

"*Deepening a truly functioning internal market for knowledge*"

ERA agenda action 1:

"*Enable the open sharing of knowledge and the re-use of research outputs, including through the development of the* **European Open Science Cloud**"

Three outcomes by end of 2024:

1. Deploy Open Science principles & identify best practices
2. Deploy EOSC core components/services; infrastructure federation & interoperability
3. Establish a monitoring capacity for contributions/practices related to EOSC

Member States' commitment per action

now 25

Action 4, Action 1, Action 8, Action 10, Action 3, Action 12, Action 9, Action 5, Action 7, Action 11, Action 14, Action 13, Action 19, Action 6, Action 16, Action 2, Action 17, Action 20

Implementing EOSC

A **community-driven process**

Gradual implementation based on mutual **alignment at European, national and institutional levels**
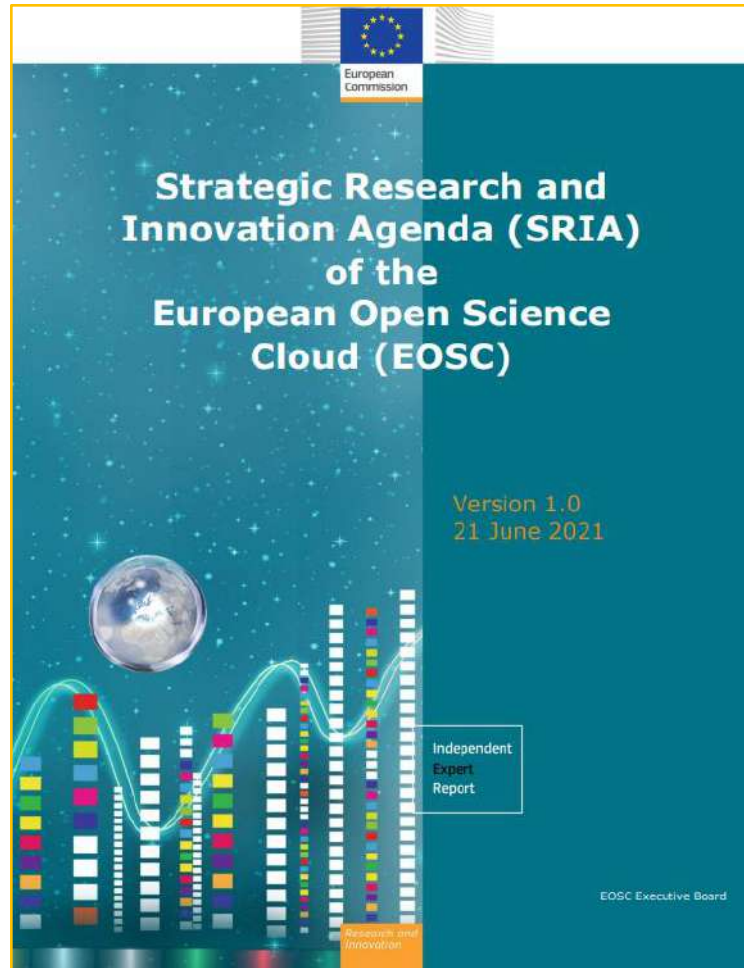
EOSC Tripartite governance: Steered by the European Commission, the Member States & Associated Countries and the EOSC Association representing the voice of the community

EOSC European Partnership: Pooling resources through Horizon Europe grants & procurement plus in-kind additional activities by the members of the EOSC Association

Courtesy of the EOSC Association.

EOSC Strategic R&I Agenda and roadmap

2021-2022:   Functional federation of infrastructures

2023-2024:   Expansion to support/serve full cycle of
workflows for scientists

2025-2027:   Expansion to wider public/private sectors

continuous: Web of FAIR data & services for science

3 implementation levels:

- European (Horizon Europe)
- National / regional (additional activities)
- Institutional (additional activities)

EOSC tripartite collaboration
a level playing field for EOSC implementation & coordination

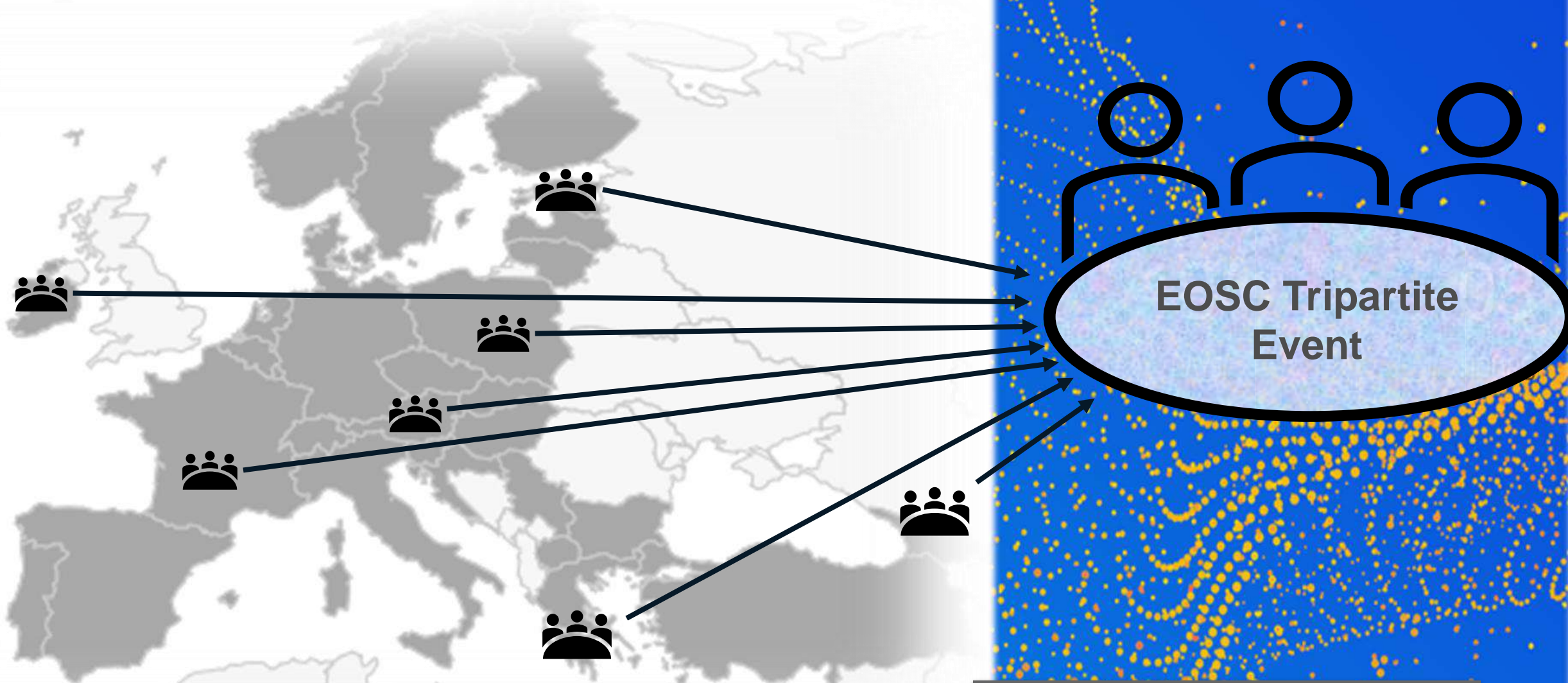Consensus in 2021 to accelerate implementation of

- the deployment of a viable EOSC platform for use by the research communities;
  ☞ *EOSC procurement (upcoming)*

- the deployment of a single joint capacity to monitor the uptake of open science and respective contributions to the EOSC;
  ☞ *EOSC Observatory (ongoing)*

- alignment of policies, investments, and practices at European, national/regional, and institutional levels to foster synergies and leverage effects of the conducted actions.
  ☞ *EOSC tripartite catalogue (under development)*

MS/AC
(of the EOSC-SB)

European Commission
(on behalf of the EU)

EOSC Association
(on behalf of the research community)

EOSC Tripartite Collaboration

European Commission

Coordination of outcomes of National EOSC tripartite events

EOSC SYMPOSIUM 2022
14 to 17 November

EOSC Tripartite Event

https://eosc.eu/tripartite-collaboration

https://events.eoscfuture.eu/Symposium2022

Thank you

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European Commission

1. Deploy Open Science principles & identify best practices

Motivation: Open Science (OS) practices and skills become the 'new normal'.

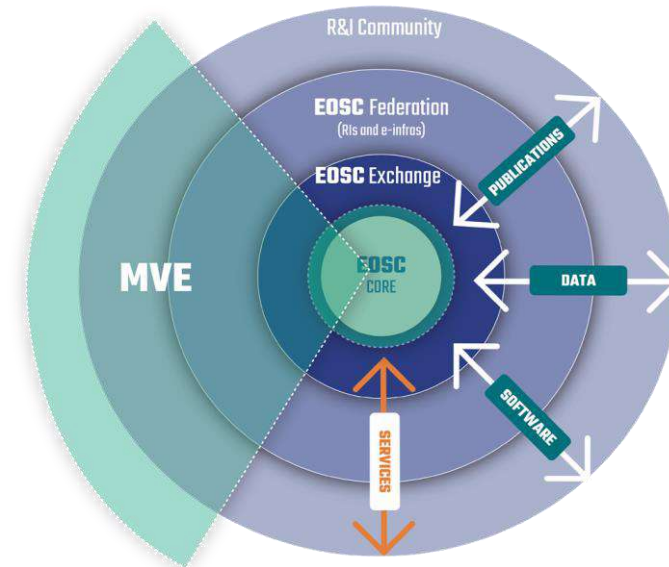**The action includes the following types of activities:**

- Mainstream OS across national <u>research funding programmes</u>;
- Co-develop a <u>catalogue of Open Science best practices</u> across the Member States and Associated Countries;
- Intensify EOSC outreach and engagement including through <u>national EOSC tripartite events</u>;
- Establish a critical mass of <u>data scientists, data stewards</u> and general FAIR data-literacy in Europe;
- Provide services, <u>tools and data on the usage, quality and impact of research outputs</u> and on the uptake of open science practices.

With support of the EOSC tripartite governance
involving the EC and the MS/AC involved in the EOSC Steering Board and the EOSC Association involved in the EOSC European co-programmed Partnership

2. Deploy the EOSC platform, federate data infrastructures in Europe and improve interoperability of research data

Motivation: Provide all European researchers with seamless access to a rich portfolio of FAIR data and services in all relevant domains (from data handling to computing, processing, analysis and storing).
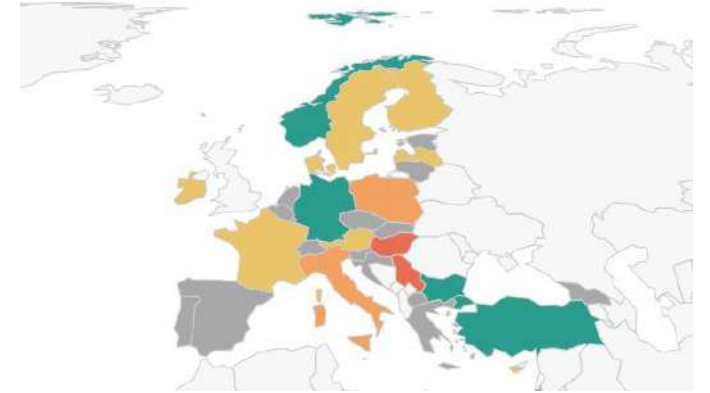

The action includes the following types of activities:

- Procure the 'EU node' of the EOSC federation with functionalities available 24/7;
- Increase the connection of national/regional research infrastructures to the EOSC federation;
- Develop community frameworks for interoperability of research data and quality control of EOSC resources;
- Develop sustainability options over the long-term to evolve the platform and advance the Web of FAIR research data

3. Establishment a monitoring capacity to support MS/AC and other EOSC stakeholders in tracking EOSC contributions

Motivation: Assess trends over time of the
uptake of Open science practices across Europe.
Elaborate or adjust policies

Four layers of data to support EOSC/Open Science monitoring in Europe:

1. <u>EOSC-readiness by the member states and associated countries</u>
   (national policies and investments to the EOSC via surveys co-defined with MS and AC);

2. <u>Progress of the EOSC European Partnership</u> along on its Key Performance Indicators;

3. <u>In-kind contributions by the EOSC Association and its members</u> to the EOSC partnership;

4. <u>Other Open Science practices</u>, policies, infrastructures, data and services in Europe

European Research Data Landscape study 2022

- Objectives:
  - To collect data on data **production** and **consumption** by scientific disciplines and relevant sub-disciplines
  - To collect and analyse information on **data deposition practices**, data typology and volume
  - To collect data on the level of maturity with respect to **FAIR data** implementation
  - To assess responsiveness and readiness of research data repositories in terms of implementation of FAIR principles
- Scope:
  - All fields of science; geographically covering EU **Member States**, H2020 **Associated Countries**, and **UK**
  - Survey of **researchers**: 15066 responses
  - Survey of **research data repositories**: 316 responses
  - Desk research; case studies; FAIRness assessment