

# Open science training and education in EOSC

The story so far



# The skills gap

In 2016 the report Realising the European Open Science Cloud identified 10 challenges and general observations, three of which highlighted a need for relevant skills:

“There is an alarming shortage of data experts both globally and in the European Union.

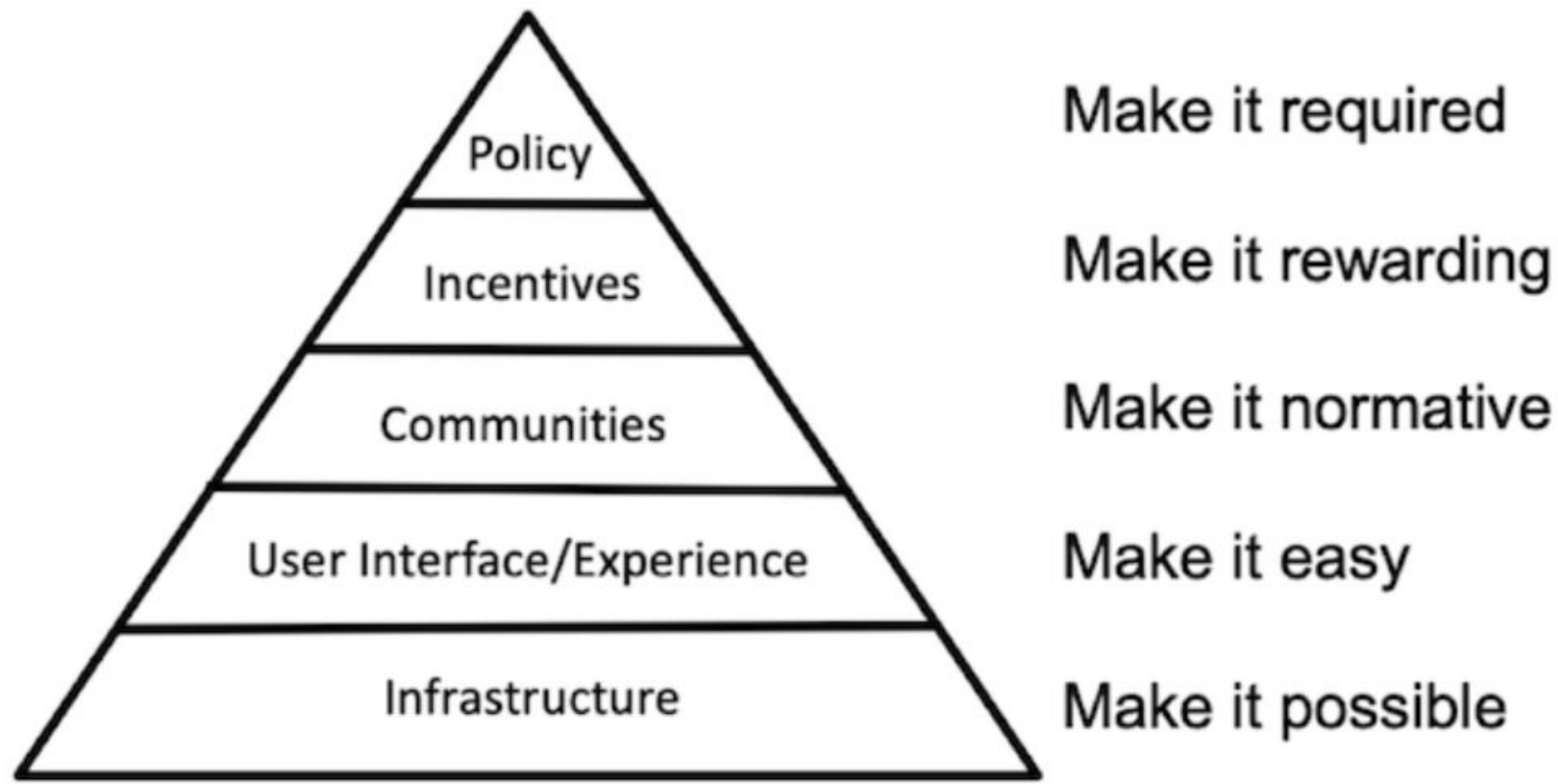
This is partly based on an archaic reward and funding system for science and innovation, sustaining the article culture and preventing effective data publishing and re-use.

A lack of core intermediary expertise has created a chasm between e-infrastructure providers and scientific domain specialists.”

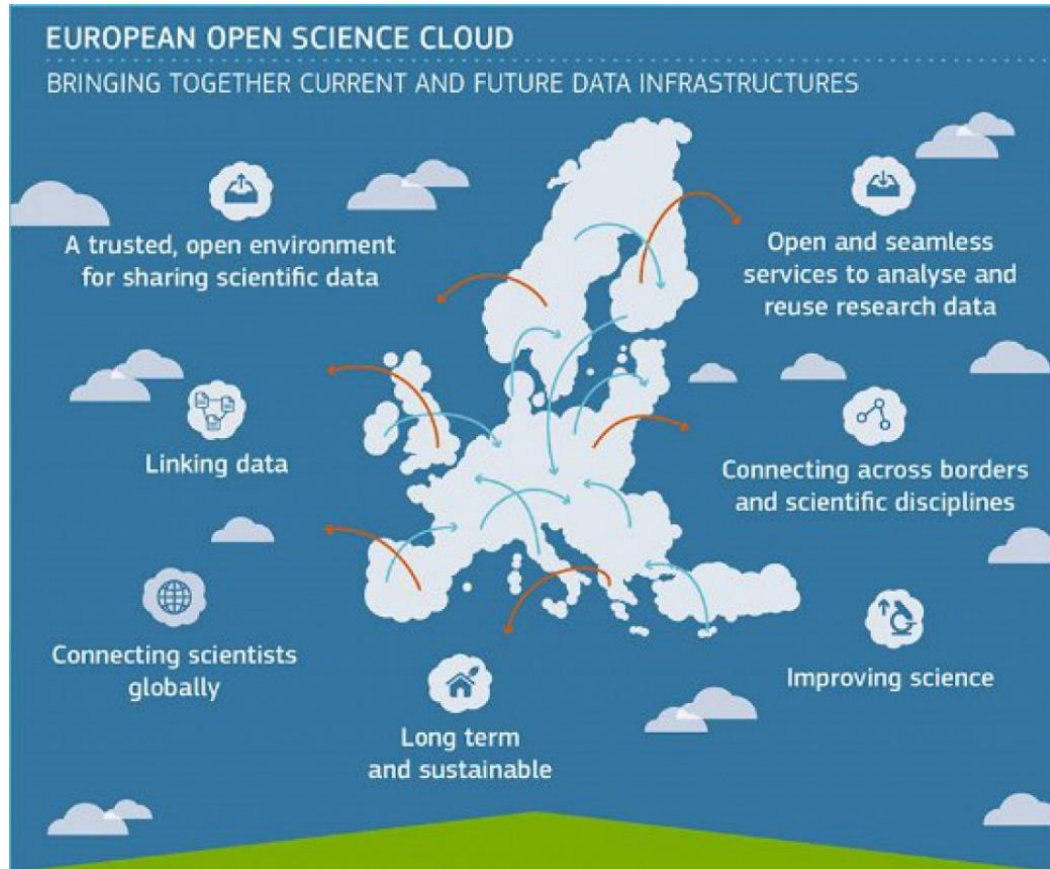
**"500,000 data scientists  
needed in European open  
research data"**

Realising the European Open Science Cloud (2016)  
[https://ec.europa.eu/research/openscience/pdf/realising\\_the\\_european\\_open\\_science\\_cloud\\_2016.pdf](https://ec.europa.eu/research/openscience/pdf/realising_the_european_open_science_cloud_2016.pdf)





# EOSC - The European Open Science Cloud



Enabling the digital transformation of research: towards more of data-intensive, collaborative and cross-disciplinary science

“A web of FAIR data and services”

“A process not a project”

[ec.europa.eu/research/openscience/index.cfm?pg=open-science-cloud](https://ec.europa.eu/research/openscience/index.cfm?pg=open-science-cloud)

# EOSC Strategic Research and Innovation Agenda

Three overarching objectives:

- 1. Ensure that Open Science practices and skills are rewarded and taught, becoming the 'new normal'**
2. Enable the definition of standards, and the development of tools and services, to allow researchers to find, access, reuse and combine results
3. Establish a sustainable and federated infrastructure enabling open sharing of scientific results

# eosc SRIA priorities for skills and training

**Priority 1:** Developing the next generation of Open Science and data professionals

**Priority 2:** Bridging the education gap: coordinating and aligning curricula for students and researchers

**Priority 3:** Building a trusted and long-lasting knowledge hub of learning materials and related tools

**Priority 4:** Influencing national Open Science policy for skills by supporting strategic leaders

Supported by detailed Multi-Annual Roadmap (MAR)

<https://eosc.eu/sria-mar/>

# EOSC Association Task Forces 2021-2023

Addressing key areas of implementation <https://eosc.eu/eosc-task-forces/>

## AG Sustaining EOSC

- TF Financial Sustainability
- TF Rules of Participation Compliance Monitoring

## AG Research Careers and Curricula

- TF Data Stewardship, curricula and career paths
- TF Research Careers, Recognition and Credit
- TF Upskilling countries to engage in EOSC
- TF Researcher Engagement & Adoption

## Technical Challenges

- TF AAI
- TF Infrastructures for quality research software
- TF Technical Interoperability of Data and Services
- TF Long-term Data Preservation

## AG Metadata and data quality

- TF FAIR metrics and data quality
- TF Semantic Interoperability
- TF PIDs



# Task Force Chairs

## Upskilling chairs

Jessica Lindvall (SE, NBIS/ELIXIR-SE)  
Sabina Anderberg (SE, Stockholm University)  
Helen Clare (UK, JISC)  
Zisis Kozlakidis (FR, BBMRI)

## Data stewardship chairs

Ilire Hasani-Mavriqi (AT, TU GRAZ)  
Celia van Gelder (NL, DTL/ELIXIR-NL)  
(Vera Matser, UK, EMBL-EBI)

## Research careers, credit & recognition chairs

Francesca Di Donato (IT, CNR)  
Gustav Nilsson (SE, Karolinska Institutet)

## Researcher engagement & adoption

Sverker Holmgren (SE, Chalmers University)  
Franciska de Jong (NL, CLARIN-ERIC)



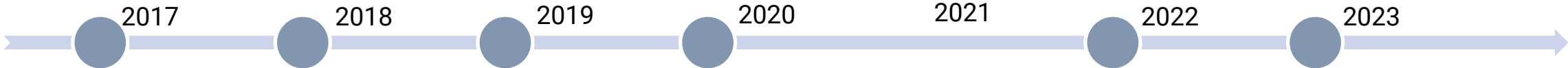
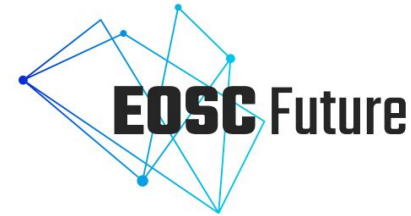


# A timeline of training in EOSC



**EOSC Skills & Training**  
Executive Board Working Group

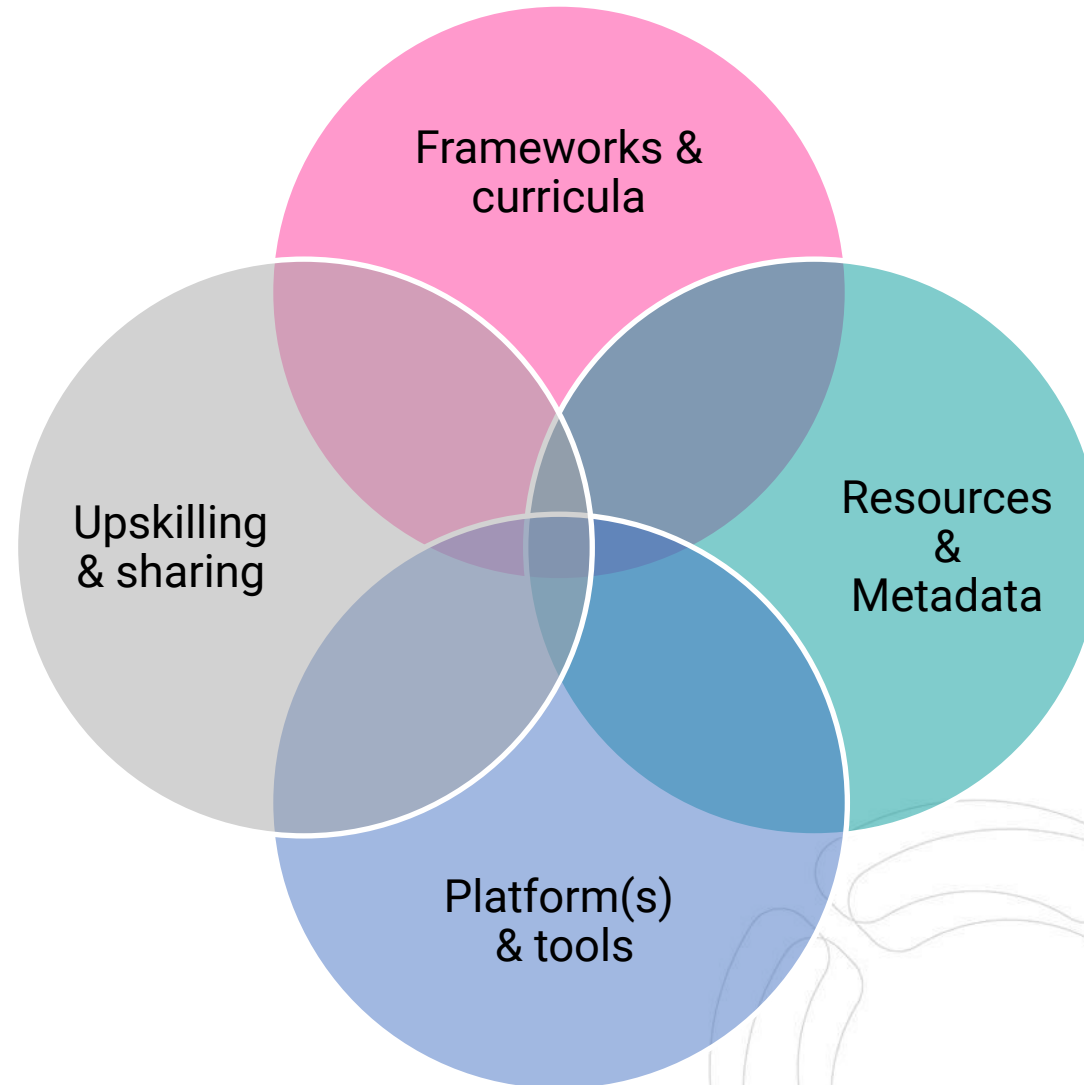
**EOSC Advisory Groups**



Regional projects

Cluster projects

# Areas of training activity in EO SC\*



\* Not exhaustive!

# Upskilling Countries to Engage in EOSC

- **Aligning and supporting** existing EOSC initiatives on a national/domain basis
- Promoting the **exchange of approaches** across the member states and regions, organisations and groups
- Leveraging information from EOSC Task Forces, projects and initiatives to help nations to identify and **implement paths to improvement** or “upskilling”



## Activities

- Regular monthly sharing presentations
- Blog posts
- Widening participation activities



## Key findings

- Context matters
- Flexibility and adaptability are needed
- Collaboration is key
- Knowledge exchange accelerates progress
- Recommendations for widening countries



## Next steps

- Final report
- Joint paper on engagement strategies
- EOSC Winter School
- Continued activities under EOSC umbrella



## Activities

Three subgroups:

- Institutional Perspectives
- National Perspectives
- Perspectives of Thematic Communities at the International/European level



## Key findings

- Very broad area covered
- While also crucial for future success of EOSC, there is a need to focus limited resources
- Focus area: Research Performing Organisations



## Next steps

- The need to focus on engagement of RPOs has been noted by EOSC-A Board
- Workshop planned for Spring 2024 to inform future engagement

# Researcher Engagement and Adoption

- To formulate and communicate a solid EOSC's value proposition for EOSC.
- To capture and understand the needs and expectations of researchers with respect to EOSC.
- To create the conditions to enable them to increase their engagement of EOSC as users and service/data providers.
- To involve them in a participative process to further improve EOSC services and value proposition, and act as champions for new communities.
- To provide recommendations on how to speed up the EOSC engagement and adoption for national / EU / institutions

# Research Careers, Recognition and Credit

- To address incentives and rewards for researchers to manage and share their data, code and other research outputs, activities, and processes
- These incentives and rewards will be based on making criteria of Open Science and FAIR principles an integral part of academic career progression and grant assessment processes
- The Task Force will identify various research stakeholders groups and their specific roles and responsibilities in support of embedding incentives and rewards for researchers in assessment processes



## Activities

- Review of landscape and identifying gaps for TF to address
- Development of recommendations



## Key findings

- Research assessment a very active and fast-moving space
- Recommendations to EOSC Board and to the EOSC Association via position paper



## Next steps

- Defining role for EOSC in supporting CoARA activities
- Joint paper on engagement strategies



## Activities

- Actively engage with stakeholders and build on previous work: build, connect & consolidate
- Ensure a co-creation process between theoretical development and implementation examples



## Key findings

- Recommendations for Data Stewardship Skills, Training and Curricula with Implementation Examples from European Countries and Universities
- Data Stewardship Career Paths: State-of-the-Art Report and Recommendations



## Next steps

- Working with RDA special interest group on Professionalising Data Stewardship
- Skills4EOSC producing a curriculum for data stewards

# Data Stewardship, curricula and career paths

- Focus on the Data Steward role and their core activities
- Work on data stewardship job roles and curricula to ensure these are recognised and aligned across Europe
- Develop recommendations for potential career paths taking into account appropriate recognition and rewards for data management activities



# EOSC projects



## Team Building - One EOOSC

- Speed-dating for Projects and TF
- Building Unity and Alignment in EOOSC

## Task Forces and Projects' Results and mutual learning

- Discussing and Analyzing projects' Reports and Results
- Discussing and Analyzing TF' Reports and Results (Deliverables)

## Outreach and Communication

- Engagement Strategies and Methods
- Impact and Importance of Effective Communication
- Role of EOOSC-A in Facilitating Communication
- Supporting and enabling a user-centric EOOSC
- OA support

## EOOSC Impact and sustainability

- Overall Impact of EOOSC
- SRIA 2.0

## 6 Opportunity Areas (OA)

1. PIDs

2. Metadata, ontologies & interoperability

3. FAIR metrics & certification

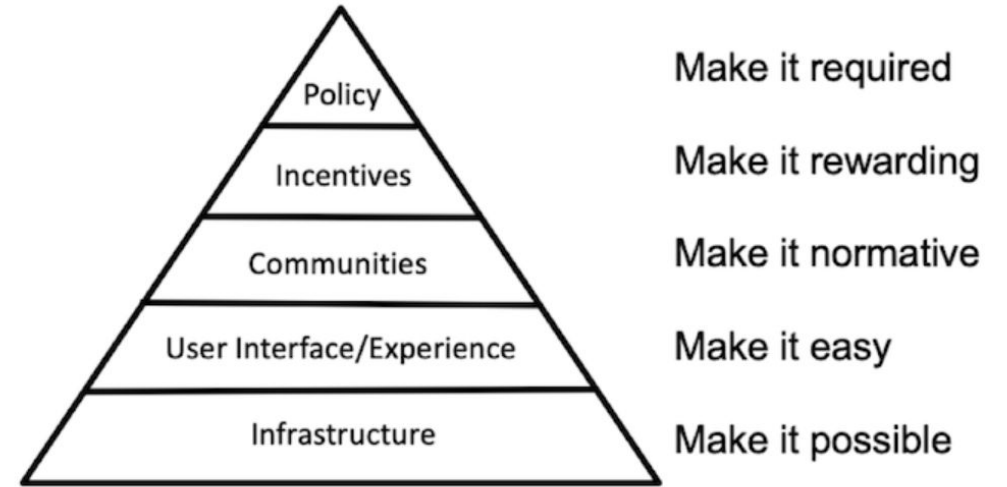
4. User & resource environments

5. Skills, training, rewards, recognition and upscaling

6. Scholarly Communication

# Concluding remarks

- EOSC is supporting the development of skills, reward, recognition and upscaling
- Guided by the SRIA and MAR
- Aim to complement existing activities not duplicate
- Many partners from e-infrastructures are involved and play an integral role






Upskilling Countries to Engage  
in EOSC Task Force

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

# Thank you!

Helen Clare, Jisc  
[helen.clare@jisc.ac.uk](mailto:helen.clare@jisc.ac.uk)

 [0000-0002-6656-3012](https://orcid.org/0000-0002-6656-3012)

LinkedIn: [www.linkedin.com/in/helenclare](https://www.linkedin.com/in/helenclare)

