

eosc

# Introduction

Opportunity Area Expert Groups

Ilire Hasani-Mavriqi

EOSC Focus

Graz University of Technology



# eosc HE EOSC-related projects

## INFRAEOSC 2021

AI4EOSC  
EOSC Focus  
EOSC4Cancer  
EuroScienceGateway  
FAIRCORE4EOSC  
FAIR-EASE  
FAIR-IMPACT  
RAISE  
Skills4EOSC

### Neighboring Projects

BY-COVID (2021-EMERGENCY-01)  
E-IRGSP7 (2021-DEV-01-05)  
StRESFRI3 (2021-DEV-01)  
WorldFAIR (2021-ERA-01-41)

## INFRAEOSC 2022

AquaINFRA  
Blue-Cloud 2026  
CRAFT-OA  
GraspOS  
RDA Tiger  
SciLake

## INFRAEOSC 2023

EOSC Beyond  
EOSC ENTRUST  
EVERSE  
OSCARS  
OSTrails  
SIESTA  
TITAN

## INFRAEOSC 2024

CLIMATE-ADAPT4EOSC  
Datagems  
FAIR2Adapt  
EOSC Data Commons  
EOSC EDEN  
EOSC FIDELIS  
EOSC Gravity  
EOSC Lumen  
EOSC RAISE Suite

Projects awarded under the Destination INFRAEOSC calls of the Horizon Europe (HE) framework program (within the context of the EOSC Partnership)



# Join the discussion!

You can participate both [on-site](#) and [online](#)

1. Go to [slido.com](https://www.slido.com)
1. Use the code [#2600 118](#) or use the QR code
1. On-site participants: state in your question if you would like to ask your question live



WiFi network: EOSC

WiFi password: EOSCBerlin2024

# eosc Collaboration across INFRAEOSC projects

## Annual Coordination Meetings organized by the EC



**2023 Coordination meeting of  
EOSC-related projects funded  
under Horizon Europe**

15-16 June 2023  
Meeting report

European Commission: Directorate-General for Research and Innovation, 2023 *coordination meeting of EOSC-related projects funded under Horizon Europe – 15-16 June 2023 – Meeting report*, Publications Office of the European Union, 2023, <https://data.europa.eu/doi/10.2777/774837>

# eosc Facilitation of Collaboration by the EOSC Focus Project

EOSC Focus (support the co-programmed EOSC Partnership) has put in place initiatives to support and assist projects and to structure cross-project coordination

<https://eosc.eu/>

<https://eosc.eu/horizon-europe-projects/>

<https://eosc.eu/eosc-focus-project/>

## Interviews with representatives from HE EOSC-related projects

- Interview results are mapped to the **Strategic Research and Innovation Agenda (SRIA) Action Areas** to create the **EOSC Macro-Roadmap**
- EOSC-related projects are clustered by their contributions to:
  - identify synergies, technical challenges and potential gaps in EOSC implementation priorities
  - showcase their EOSC-related impact



Interviews led to the formation of the **Opportunity Area Expert Group**

# eosc EOSC Macro-Roadmap



**eosc | Macro-Roadmap**

Search

All resources Contributions **Project results** Task Force deliverables

Macro-Roadmap area Q1 - 2024

Macro-Roadmap year

Type of result

Project

Clear all filters

With support of **eosc** Focus  
Funded by the European Union

Training Material on AI-related aspects like technical aspects, DEEP EOSC platform, the AI marketplace, the use cases in the AI4EOSC project etc.

**AI4 | eosc** **eosc | AquaINFRA**

Project result  
Enhanced AI platform for the EOSC

Project result  
Virtual Research Environment (VRE) for freshwater research

The EOSC Macro-Roadmap is an **interactive catalogue** featuring results from HE EOSC-related projects, EOSC-A Task Force deliverables, and selected in-kind contributions from EOSC-A members



# eosc Opportunity Area Expert Groups

<https://eosc.eu/eosc-opportunity-area-expert-groups/>



OA Expert Group:  
Persistent Identifiers



OA Expert Group: Metadata,  
Ontologies and Interoperability



OA Expert Group:  
FAIR Assessment and Alignment



OA Expert Group:  
User and Resource Environments



OA Expert Group: Skills, Training,  
Rewards, Recognition and Upscaling



OA Expert Group:  
Open Scholarly Communication

## OA Expert Groups are a bottom-up initiative of the HE EOSC-related projects

**Focus on Collaboration:** Leverage the existing overlap of expertise to identify areas where concrete collaboration can take place, and transform these into an incremental work plan with evolving time horizons and priorities

**Approach:** adaptive and dynamic, continuously evolving to integrate new projects and members. Open and flexible engagement, aiming for barrier-free access and complementary efforts

Milestones: joint session at the EOSC Symposium, EOSC Winter School

**Facilitation: EOSC Focus & EOSC-A:** Individual OA meetings, EOSC Forum groups, and

Join OAs



# eosc EOOSC Winter School 2024

## Objectives

- Provide an environment where well-defined technical topics can be discussed in detail
- Integrate the outputs of EOOSC-A TFs into HE EOOSC-related projects

## Approach

- Presentations, group work, mapping exercises, demonstrators and hackathons

## Main results

- Translation of the “Opportunity Areas for technical collaboration” into concrete actions to be implemented by the projects collaboratively
- The positive experience is expected to be repeated in future editions

*Organised by the EOOSC Association with the support of the EOOSC Focus project, HE EOOSC-related projects, and local organisers from the EOOSC project consortium*

Rey Mazón, M., & Hasani-Mavriqi, I. (2024). Report on the EOOSC Winter School 2024. EOOSC

Association. <https://doi.org/10.5281/zenodo.11165100>

<https://eosc.eu/eosc-focus-project/winter-school-2024/>



eosc | Focus

Report on the  
EOOSC Winter  
School

2024

29 January -  
1 February 2024  
Thessaloniki, Greece







**Get ready for the EOSC Winter School 2025 – stay tuned for more updates!**



Slido Access Code: #2600118



# Panel discussion



**Ilire Hasani-Mavriqi (Chair),**  
EOSC Focus  
TU Graz



**Tibor Kálmán,**  
GWDG, Germany  
OA1: Persistent  
Identifiers



**Wolmar Nyberg  
Åkerström,**  
NBIS,  
SciLifeLab/ELIXIR  
Sweden  
OA2: Metadata,  
Ontologies &  
Interoperability



**Chris Schubert,**  
TU Wien, Austria  
OA3: FAIR  
Assessment &  
Alignment



**Björn Grüning,**  
Galaxy  
Europe/University  
of Freiburg,  
Germany  
OA4: User &  
Resource  
Environments



**Celia van  
Gelder,**  
Health-RI, the  
Netherlands  
OA5: Skills,  
Training,  
Rewards,  
Recognition and  
Upscaling



**Suzanne  
Dumouchel,**  
Director of the  
EOSC-A, OPERAS  
RI, CNRS, France  
OA6: Open  
Scholarly  
Communication



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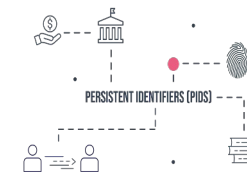
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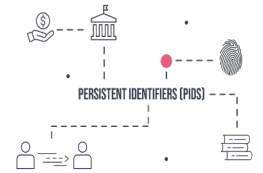
WiFi network: EOSC

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# eosc Main Goals in OA1: PIDs

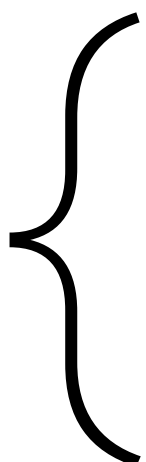


- Regular EOSC **PID policy updates** - responsibilities and control/review mechanisms.
- Promote/setup an **advisory body** - with a mandate to agree on **standards & assess compliance**
- Establish a forum for **engagement with PID providers**, and as a first objective, discuss EOSC Community consensus on **standardisation** of APIs and identifier metadata
- Build **ecosystem upon existing PID services**
  - Promote extension and reuse of existing PIDs (do not reinvent the wheel)
  - Shift focus from creating PID systems to build services on top of them
- Explore the **federation of research graphs**, and querying over federated graphs defining use cases to visualise value (exploiting the potential of PID graphs)



- **PID policy updates** and mandated authority for interim **assessing** EOSC PID **compliance**
  - Clarify how to formalise assessing authority role within EOSC for **achieving** PID providers' **trust**
- Drafting document(s) specifying **requirements** for new projects **how to comply** with the EOSC PID Policy (for MAR/WPs)
- **Landscape of existing PID services** and suggestions for their extensions and improvements
- Midterm: **exploiting** added **value of PID graphs** and mapping the potential of their federation for the EOSC ecosystem

# Metadata, Ontologies & Interoperability



## Semantic artefacts, mappings, crosswalks...

Integrate and advance developments around metadata and ontologies to enable data and service level interoperability

## Not covered in-depth by most projects

Technical implementation concerns that should translate to the wider EOSC are—with some exceptions—not covered in-depth by the HE-INFRAEOSC projects.

## “EOSC approach” to metadata and ontologies

A shared point of departure and frame of reference for current and future EOSC projects to support productive discussions, effective integrations and sustainable results across project timelines.

EOSC Focus  
EOSC Focus  
EOSC Focus  
OA 2 Session – Wednesday Morning  
EOSC Focus  
OA 2 Session – Wednesday Afternoon

**Web of FAIR services (and data)**  
Scenarios around service discovery and composition and examples of how to describe them, FAIR signposting, DCAT-AP.

**Tools for mappings & crosswalks**  
User interfaces and “smart” solutions to generate and execute data transformation from one format to another.

**Enabling future collaboration**  
Fora for “groups” such as EOSC-A, RDA, incentives, resources and coordination.

→ **Want more hands-on collaborative work**  
Future EOSC-A Task forces could support coordination, discussions across projects, creating opportunities for hands-on collaborative work etc.

→ **Look beyond EOSC**  
Help projects engage with research communities and actively liaise and align with global initiatives.

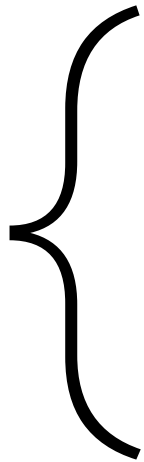
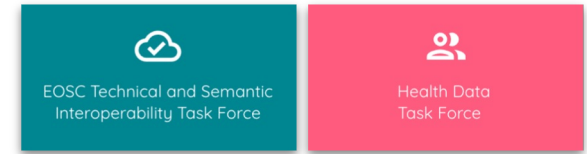
Funded by the European Union

EOSC Focus  
Report on the EOSC Winter School  
2024  
23 January - 1 February 2024  
Thessaloniki, Greece

Draft inventory of Opportunity Area 2 activities.xlsx

EOSC  
Winter School 2025  
The week of 20 - 24 January 2025 / Spain  
Save the date!  
EOSC Focus

# Metadata, Ontologies & Interoperability



## Semantic artefacts, mappings, crosswalks...

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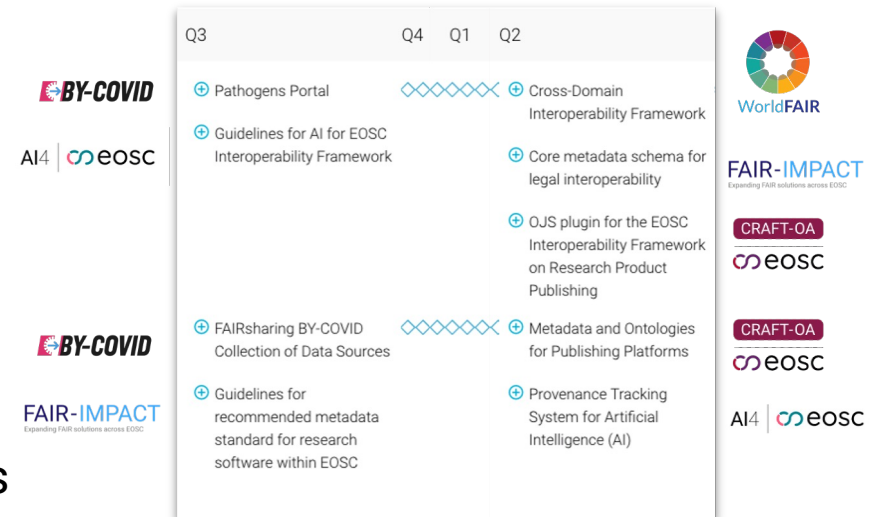
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### Macro-Roadmap 2023-Q3–2024-Q2



394 experts  
28 Co-chairs

27 deliverables published

Wide dissemination of results

### Semantic interoperability

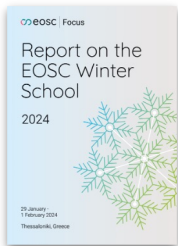
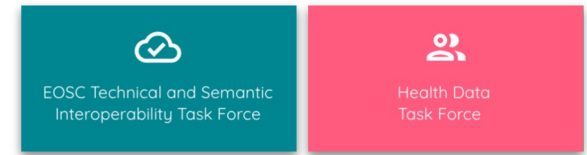
DOI: [10.5281/zenodo.10843882](https://doi.org/10.5281/zenodo.10843882)  
 Developing and implementing the semantic interoperability recommendations of the EOSC Interoperability Framework  
 March 27, 2024



Key Contributions to the EOSC Landscape:

# Opportunities to engage in OA2

Towards an “EOSC approach” to metadata, ontologies and interoperability?



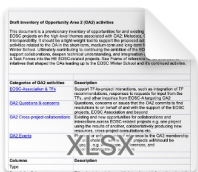
## Hands-on community of implementers

Track implementation concerns and leverage experts from across the EOSC projects to find answers and to discover and improve on existing solutions.



## Integration of project and task force outputs

Find and pave paths to how recommendations, tools and solutions from EOSC (and beyond) can be integrated, reused and aligned across project and timelines.

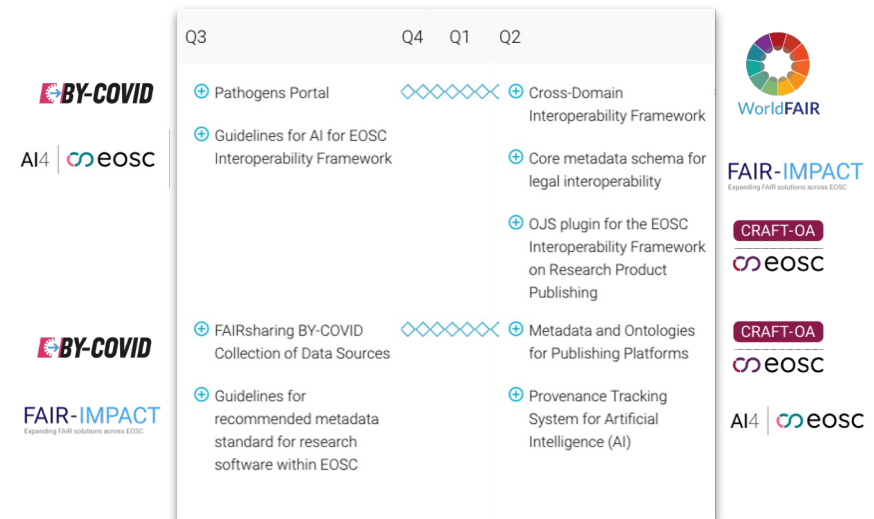


Draft inventory of Opportunity Area 2 activities.xlsx

## Channel for collaborations and events

Advertise and discover opportunities to collaborate, respond to requests for input, and take part in physical or online events.

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394 experts  
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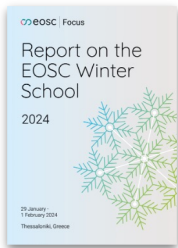




Key Contributions to the EOSC Landscape:

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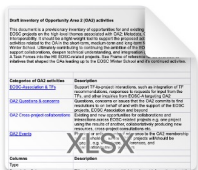
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Draft inventory of Opportunity Area 2 activities.xlsx

### Channel for collaborations and events

Advertise and discover opportunities to collaborate, respond to requests for input, and take part in physical or online events.

|    | A   | B  | C |
|----|---|--|---|
|    | <b>Draft inventory of Opportunity Area 2 (OA2) activities</b>     |  |   |
| 1  |   | This document is a provisional inventory of opportunities for and existing collaborations across EOSC projects on the high-level themes associated with OA2: Metadata, Ontologies & Interoperability. It should be a light-weight tool to support the proposed actions and shared activities related to the OA in the short-term, medium-term and long-term following the EOSC Winter School. Ultimately contributing to continuing the ambition of the EOSC Winter School to support collaborations, deepen technical understanding, and integration of deliverables of EOSC-A Task Forces into the HE EOSC-related projects. See <a href="#">Frame of reference</a> for an overview of initiatives that shaped the OAs leading up to the EOSC Winter School and it's continued activities. |   |
| 2  |   |  |   |
| 3  | <b>Categories of OA2 activities</b>                               | <b>Description</b>   |   |
| 4  | <a href="#">EOSC-Association &amp; TFs</a>                        | Support TF-to-project interactions, such as integration of TF recommendations, responses to requests for input from the TFs, and other inquiries from EOSC-A targeting OA2   |   |
| 5  | <a href="#">OA2 Questions &amp; concerns</a>                      | Questions, concerns or issues that the OA2 commits to find resolutions to on behalf of and with the support of the EOSC projects, EOSC Association and beyond  |   |
| 6  | <a href="#">OA2 Cross-project collaborations</a>                  | Existing and new opportunities for collaborations and interactions across EOSC-related projects e.g. one project using the results of another, collaboratively producing new resources, cross-project consultations etc.   |   |
| 7  | <a href="#">OA2 Events</a>  | Physical or online events of relevance to the OA2 membership and stakeholders, where EOSC projects will/should be engaged, e.g. workshops, conferences, and dissemination/outreach webinars  |   |
| 8  |   |  |   |
| 9  | <b>Columns</b>  | <b>Description</b>   |   |
| 10 | Type  |  |   |
| 11 | Description/links   | Title, short description and link to relevant information about the activity   |   |
| 12 | Contact(s)  | Name and contact information to the person who is coordinating for OA2, proposed the activity for OA2, or responsible for the activity externally  |   |
| 13 | Status  | If relevant, current status (ongoing, blocked, closed)   |   |
| 14 | Start (date)  | When the activity/consultation is expected to open and when projects should be prepared to provide feedback  |   |
| 15 | Finish (date)   | When the activity/consultation is expected to close, e.g. final date for providing feedback  |   |
|    | [Project short name] (from <a href="#">Project and contacts</a> ) | Some version of a <a href="#">responsibility assignment (RACI) matrix</a>  |   |
|    |   | <b>From Wikipedia:</b><br><i>R – Responsible (also recommender):</i> Those who are responsible for the correct completion of the task. There is at least one role with a participation type of responsible, although   |   |

Draft inventory of Opportunity Area 2 activities.xlsx

## eosc Main Goals in OA3: FAIR Assessment & Alignment



- **Advance FAIR Assessment and Implementation:** Enhance knowledge on FAIR assessment tools, methods, and implementation profiles to assist project-specific use cases and communities
- **Align Data Preservation and Data Quality Practices:** Promote alignment between data long-term preservation and data quality recommendations
- **Promote Interoperability and Metadata Standards:** Facilitate the definition and adoption of common metadata schemas to ensure interoperability by the role of data provenance in federated environments
- **Collaborate for Impact:** Identify synergies with the Data Spaces initiative, Research clusters to strengthen FAIR Digital Objects practices with the EOSC task force's

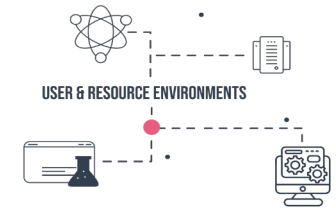
# eosc Key Contributions of OA3 to the EOSC Landscape



- Assessing the **adoption and impact** of FAIR in diverse DOs
- Defining common mechanisms for defining and **adopting metrics**
- Guidance on mechanisms for **metadata consumption** (signposting) and **interchange** (RO-Crate)
- FAIR **governance** mechanisms, incl. **data quality & long term preservation**
- Development **metadata criteria** for transparency levels and community standard development



# eosc Main Goals in OA4: User & Resource Environment



**Main objective:** providing support to help harmonize and disseminate the progress of systems and VRE services. This helps projects streamline certain developments, join efforts to address bigger challenges or develop state-of-the-art EOSC use-cases.

Following EOSC's key values, following the "**reuse now, rebuild later**" concept.

The OA4 working group, taking into account the common interest regarding the VRE, have all decided to share details about the major challenges, the latest developments, and even to share the challenges that could be addressed through joint efforts.

OA4 team will also be able to act as a technical validator, testing and consolidating solutions to support the activities of EOSC-A Task Forces.

# eosc Key Contributions of OA4 to the EOSC Landscape



- Improve user environments to increase EOSC **end-users across disciplines** (e.g. Life Sciences, Climate, Biodiversity)
- Leverage resource environments to offer **versatile solutions** through tools, services and infrastructures available from EOSC Providers such as Galaxy and EGI
- Integrate with EOSC Exchange **horizontal services** (i.e. IaaS, SaaS) being procured in the EOSC EU Platform
- Share **guidelines** for VRE and a **common training framework** across INFRAEOSC projects (TaaS - Training Infrastructure as a Service)
- Establish **trusted VREs** supported by relevant EOSC projects such as ENTRUST and OSCARS

# Main Goals in OA5: Skills, Training, Rewards, Recognition and Upscaling





## **EOSC GO1: Ensure that Open Science practices and skills are rewarded and taught, becoming the 'new normal'**

OA5 main objectives:

- Enhanced integration and understanding of OA5 related activities in EOSC projects, EOSC member organisation and member states
- Collaboratively advance the OA5 related work in EOSC context, thereby focussing on sustainable solutions
- Currently >60 expert members
  - several EOSC projects, 4 Task Forces, others (funders, RIs, university of applied sciences, ..)
- Together we have quite a good overview about and insight in what has been done, what is going on, what is planned and what is needed for EOSC skills & training and rewards & recognition;
  - in particular we want to tackle this beyond project boundaries and also take it beyond the projects lifetimes (sustainability)
- The 2024 Winterschool resulted in OA5 themes & accompanying activities for short-term, mid-term, long-term ([report](#))

 Data Stewardship Curricula and Career Paths Task Force

 Research Careers, Recognition and Credit Task Force

 Upskilling Countries to Engage in EOSC Task Force

 Researcher Engagement and Adoption Task Force

  SCIENCE-CLUSTERS.eu  
Research Infrastructures for Open Science

 EuroScienceGateway

 EVERSE

 FAIR-IMPACT  
Expanding FAIR solutions across EOSC

 Focus

 cancer

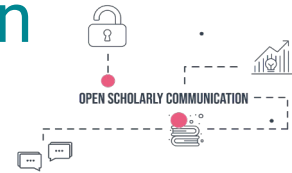
# OA5 Thematic Working Groups

## OA5 themes

Training material, Learning Paths, Curriculum  
 Training Catalogue/Training Infrastructure  
 Engagement  
 Accreditation/Recognition/Assessment  
 EOSC Skills & Training Strategy

- Key contributions of OA5 to the EOSC landscape
  - Support a robust **network of Competence Centres** operating at both national/local levels (Skills4EOSC & beyond) and within Research Infrastructures (OSCARS & beyond).
  - Work towards **harmonizing curricula for Data Stewards and other professional roles involved in Open Science**, connecting EOSC-related projects and Task Forces.
  - Further discussion on aligning **quality assurance framework and certification** mechanisms for trainers and trainees, building on efforts that are going on in Skills4EOSC, ELIXIR, GTN etc.
  - Support a **catalogue of FAIR-by-Design Training resources** federated with National/regional/thematic catalogues.
  - Help establishing a **governance model** to maintain the updated Network of Competence Centres and their products.
  - Work with EOSC-A to establish an **Advisory Group** on skills/training and define recommendations about how to connect Competence Centres and EOSC nodes.

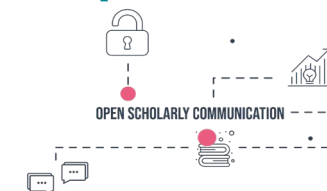
## eosc Main Goals in OA6: Open Scholarly Communication



- Role of machine actionability of the digital objects in Open Scholarly Communication (what are our observable data points?)
- Explore AI opportunities and risks for Open Scholarly Communication
- EOSC Support for Diamond OA: putting Diamond OA high on the stakeholders' agenda as it is still very underfunded.
- Advocate for Diamond OA as an equitable, scholar-led, and cost-controlled model for the future of Open Scholarly Communication
- Address the challenge that a higher level of bibliodiversity (disciplines, languages, publishing and research assessment practices) will correlate for some time with lower levels of standardisation and integration.



## eosc Key contributions of OA6 to the EOSC landscape



- Better inclusion of scholarly communication and publication topics in the FAIRisation perspective (metadata are needed in any case and securing the link between data and publications)
- Addressing the research careers and training related to EOSC
- **The Diamond node provided to the EOSC Federation (DIAMAS, CRAFT-OA)**
- **To be discussed: An open scholarly communication node** provided to EOSC Federation (OS Trails and SCI-Lake + from the perspective of the collaboration between OpenAIRE and OPERAS)