EOSC Synergy

(Project deliverable D5.2)
Landscape and gap analysis and recommendations

We are seeking feedback from the international audience participating in the workshop 'National Policies for EOSC Deployment', specifically about the general recommendations provided in Deliverable 5.2 of the EOSC Synergy project. The deliverable reports on the analysis of open science policies and related gaps in the following countries that participate in the project:

- Czech Republic
- Poland
- Portugal
- Slovakia
- Spain
- the Netherlands
- United Kingdom

The underlying indicators and data were derived from country landscape reports published in summer 2020.

We are currently collecting feedback via a Mentimeter survey (link at the bottom of this page).
Make sure to have this document at hand when filling in the survey!

To facilitate the feedback process, this document provides an abstract of the thematic areas and recommendations relevant to the workshop. A link to the full deliverable and other useful links is provided at the end of this document.

We encourage you to provide feedback during the actual workshop (May 4th, 2022) so we can discuss during the closing session some main points. However, the Mentimeter will remain open until 13 May 2022.

go.egi.eu/synergy-survey
Or go to menti.com and use the code 9898 0579

The 'EOSC Synergy gap analysis' looks at patterns and trends in the countries concerned and forms the basis for recommendations to national and international stakeholders - including the EOSC Association, its Advisory Groups and task forces as well as European Union Institutions - about the measures for alignment and harmonisation of policies to facilitate the implementation of the EOSC at national, regional and international levels. The areas addressed in the study are briefly described below.

Open Science Strategy

Open Science strategy refers to a comprehensive vision for the management of data across countries and represents a key element to ensure EOSC sustainability. This gap area addresses several topics, including: the existence of countries' policies on Open Science, FAIRness of data, services and infrastructures that promote and support Open Science, level of maturity of the scientific community in research data management practices and alignment with relevant national and international projects and initiatives.

Permanent Identifiers

Persistent identifiers (PIDs) are an important piece of the Open Science ecosystem and an indispensable part of interoperability within the EOSC framework. PIDs can be used to uniquely and persistently identify various types of entities. Examples of basic PIDs, in the Open Science and EOSC context, are identifiers for scientific publications and data collections as outputs of research. PIDs are also needed for identification of physical persons (e.g. researchers and authors of publications), data and software. Physical persons can be affiliated with an institution, therefore PIDs for institutions are also important. These are the basic types of PIDs which are currently commonly in use. However, the current development of science, with its focus on data and its electronic processing, brings the need for persistent identification of other entities, for example software artefacts, containers and workflows, as well as other entities such as research grants, projects etc.

Funding

Funding was included in the gap analysis due not only to the fundamental importance for EOSC of sustainable infrastructures in each country, but also to their availability to be used – and paid for – by users from other countries. The funding gap area addresses countries' research funding and strategy, the availability of funding for infrastructures of relevance to EOSC, and infrastructures' ability to cost and provide their services other than in return for grant funding.

Access Provisioning

Access provisioning to EOSC resources and infrastructures is a key issue to guarantee sustainability, preservation and reusability. This policy area deals with the access conditions to the infrastructures supporting the storage and processing of research data.
The following two categories have been identified and analysed in the EOSC Synergy study:
- Infrastructure Access Restrictions
- Data Repositories Restrictions

EOSC Synergy Recommendations for Open Science Strategy

G-OS 1 Define and implement, if not yet present, national strategies and policies on Open Science and FAIR data, based on Open Science principles and research data management best practices and recommendations

G-OS 2 Promote reference to EOSC in national policies as an initiative that aims to establish a trusted digital platform for the management and processing of research data, supporting EU Open Science policy.

G-OS 3 Adopt and implement National Open Science Cloud Initiatives (NOSCI) to ensure engagement and sustainability towards EOSC.

G-OS 4 Invest in the communication and dissemination of Open Science practices, namely through forums, training activities, working groups and other initiatives, promoting the share of best practices and experiences. Also promote EOSC at all levels by engaging with relevant communities and stakeholders.

G-OS 5 Encourage and reward researchers and organisations that apply Open Science and FAIR data principles.

G-OS 6 Require the submission of DMPs as standard, following the requirements and guide from Science Europe, ensuring the existence of national services and infrastructures to support this.

G-OS 7 Require research data to be deposited in trustworthy repositories as standard, assuring data preservation, access and distribution. Also ensure that there are services and infrastructures to support this requirement.

G-OS 8 Implement national competence centres in key areas, considering, if needed, a distinction between local, thematic, and digital areas.

G-OS 9 Ensure optimal levels of data storage, preservation, and maintenance, especially through federation of infrastructures and services.

EOSC Synergy Recommendations for PIDs

G-PID 1 A PID standard should be recommended by EOSC for every PID type for assigning new PIDs, to avoid assignment of multiple identifiers per object. However, systems should support multiple standards so as to be compatible with other PID types already assigned.

G-PID 2 Creation and adoption of national policies for PIDs for the identified important artefact types (publications, datasets, physical persons, institutions, projects, grant numbers, software, software containers, software pipelines/workflows, ...) should be supported.

G-PID 3 International coordination of the national policies is highly recommended for compatibility reasons.

G-PID 4 Raise awareness and support standardisation and use of PIDs for 'uncommon' artefacts such as software, containers, workflows, institutions, research projects and grants.

G-PID 5 For PIDs for institutions, we recommend using ROR as a usable standard; mapping of national IDs for ROR should be possible in all Synergy countries.

EOSC Synergy Recommendations for Funding

G-FU1 Ensure confidence in the level and longevity/stability/continuity of national and, where possible, also international funding for research, Open Science, EOSC and research-related infrastructures in each country, addressing all cost categories (operational costs, capital investment/capacity expansion, support costs – support staff, HR, accounting etc – and in particular skills development).

G-FU2 Coordinate funding for national strategies for OS/EOSC/RI/DI/e-Inf/related skills and training at European level.

G-FU3 Ensure investment strategies are in place in each country for Open Science, EOSC, research infrastructure, data infrastructure, e-Infrastructure and related skills and training; for each area, coordinate funding policies and investment plans with overall research strategy and funding plans, at the country and at the European level.

G-FU4 Ensure service providers are able to calculate and justify their service unit costs so providers can provide their services across borders and get reimbursed.

G-FU5 Adress infrastructures' legal and funding structures such that they are able to receive non-grant revenues in return for service usage.

EOSC Synergy Recommendations for Access Provisioning

The analysis of the country reports revealed some issues in the access criteria for both the data and service providers and consumers. Moreover, access restrictions are also linked to sustainability in some cases. In general, the access restrictions relate to differences in implementation of relevant policies in individual countries. The proposed recommendations are thus similar to the ones already presented under the general Open Science strategy and Funding; the recommendations here focus primarily on cross-border harmonisation.

G-AW 1 Increase the uptake of the implementation and fulfilment of Data Management Plans and FAIR principles in a coordinated way across countries. In order to ease the access to data and services by the researchers, data providers must work on ways to ensure these points. Research Infrastructures should include the obligation and evaluation of DMPs and (automatic) mechanisms for the evaluation of FAIR principles should be provided, assessing the quality of the data deposited. This will facilitate the uptake of FAIR data and metadata searching.

G-AW 2 Harmonise policies, licensing, and procedures for storing and accessing data and resources at national and international level. National policies should align with international policies to minimise impacts and effort on making data and services FAIR and to facilitate requesting resources at different international initiatives.

G-AW 3 Analyse sustainable models to fund (international/cross-border) access. Several models are being implemented and prototyped, with complexities and differences. The model of Virtual access from the EC is complex to implement and only addresses newcomers, so it does not contribute to fund sustainability. There is a need to define clear paths for implementing such revenue channels. Moreover, there is a need for higher-level commitments on the support of access from international collaborations, potentially by shares.

Useful Links

D5.2 Deliverable (full): **https://digital.csic.es/handle/10261/246111**

EOSC related glossary: **https://eosc-portal.eu/glossary**

Individual country landscape reports?: **https://www.eosc-synergy.eu/landscape-reports**

Mentimeter questionnaire **https://www.menti.com/qonvq6vqmb**

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Or go to menti.com and use the code 9898 0579