



Opinion paper on EOSC FAIR data literacy

By the EOSC Steering Board expert group (E03756)

Independent
Expert
Report



Research and
Innovation

Opinion paper on EOSC FAIR data literacy

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This paradigm should be based on well-defined skills and competences, address new professional profiles as well as practitioner's capabilities, and reach out to three main categories of stakeholders: researchers, data science and data management professionals, who support researchers in their activities, such as data stewards, research software engineers, data curators etc. as well as policy- and decision makers.

This policy opinion paper is based on an analysis of the needs, existing policies, and good practices. It builds on a solid knowledge base, contained in

- basic EOSC documents, such as the EOSC MoU, the EOSC SRIA, the Report from the EOSC Executive Board Skills and Training Working Group;
- relevant national policies on data literacy, which have been identified in the EOSC monitoring exercise; and
- outcomes of EOSC Task Forces (Data stewardship, curricula and career paths, Research careers, recognition and credit), international initiatives like the Research Data Alliance (RDA), GoFAIR and EU-funded projects, e.g. FAIRsFAIR.

A goal of this paper is to bring the different initiatives together, and to identify and support coordination of and synergies within the EOSC tripartite governance. The following objectives and recommendations target the priorities for the short term (2022–2024) towards the general objective of open science as the new normal (see EOSC-SB opinion paper on monitoring open science). Medium (2025–2027) and longer (2028–2030) term objectives and recommendations will be addressed by the EOSC-SB later.

2. Short term objectives

The MS/AC of the EOSC-SB expert group will undertake all efforts necessary to achieve the following objectives in the period of 2022-2024. By 2024

1. open data skills and competence for researchers at all career stages accelerate a stable and solid increase of open research data shared in line with the FAIR principles and re-use of existing data;
2. sustainable support for researchers is provided in their activities by profiles of data science and data management professionals with well-defined roles and responsibilities;
3. mutual learning is widely practiced in the area of open science across Europe by creating respective networks and platforms;
4. awareness for FAIR data and data literacy is wide-spread among the European, national, and institutional decision- and policy makers by nominating, educating, and training FAIR data / EOSC Ambassadors (Champions) selected among them.

3. Recommendations

In order to reach the objectives and implement FAIR data literacy, the EOSC-SB recommends to the European Commission, the MS and AC and institutions, together with the EOSC-A, to take action in the areas below, while acknowledging that levels of

responsibility may vary between countries. With a view to use synergies, the SB recommends a regular and joint stock-taking of existing policies, programmes and activities on all levels, as well as an exchange on good practice, for instance in dedicated sessions in tripartite events.

3.1. Recommendations for implementation of EOSC FAIR-data literacy at the European level

- 1) Provide a European framework for FAIR-data skills and competences (including matrices of the specific knowledge on technical, legal, ethical, social and sustainability issues) as a key element of open science policy;
- 2) Establish a European network of institutional and national Data Competence Centres and other related organisations providing support for data management in line with FAIR principles;
- 3) Seek coherence among training and education practices across Europe, e.g., within the European Knowledge Exchange Platform and existing training catalogues developed by various European projects including the EOSC Future project and Skills4EOSC;
- 4) Strengthen the collaboration between national/regional research communities by establishing Europe-wide platforms (nodes) for mutual learning and exchange of good practice developed in specific research domains, which should build on the experiences of these communities covered e.g., by Science Clusters);
- 5) Develop mutual learning in the area of Open Science by incorporating FAIR data-related competences in the framework of European programmes of digital education as well as students and academic staff exchange (for instance, Digital Education Action Plan 2021-2027, Erasmus+ programme);
- 6) Provide European programmes for FAIR Data / EOSC Ambassadors trainings that will enable networking and stable communication and exchange.

3.2. Recommendations for EOSC implementation on national level

- 7) Strengthen national Open Science and EOSC-related policies in the area of FAIR data-literacy of researchers and data science and data management professionals, including respective skills and competences and their recognition, trainings, curricula;
- 8) Build research support staff capacity centres that provide training for new FAIR data professionals (incl. those linked to EOSC and other similar federated data spaces) based on accredited curricula in universities and provide upskilling trainings for the current professionals;
- 9) Create frameworks for recognition of open data skills and competences;
- 10) Develop discipline/domain-oriented learning programmes and training for researchers at all career stages, which include incorporating FAIR data-literacy in the curricula of MA and PhD students.

11) EOSC Steering Board delegates bring the topic 'EOSC and FAIR data literacy' to the discussion in national tripartite events and communicate national implementation strategies to the EOSC Steering Board.

3.3. Recommendations for EOSC implementation on institutional level

12) [RPOs] Incorporate FAIR data-related advanced training in the curricula of early-stage researchers (MS and PhD students);

13) [RPOs] Provide basic and upskilling trainings for researchers and data science and data management professionals (i.e., Data Stewards, Data Curators, Research Software Engineers);

14) [RPOs] Build and support data / digital competence centres that provide a reference for practitioners and users of FAIR data, EOSC and other data spaces, including training for new data professionals and upskilling training for practitioners as well as guidance for users;

15) [RPOs] Liaise with data / digital competence centres based in other countries to enable communication and exchange;

16) [RFOs] Providing financial support for data / digital competence centres;

17) [RFOs] Implement machine actionable data management plans in the application forms along with respective guidelines.

The EOSC Steering Board shall in 2024 evaluate the effectiveness and efficiency of the objectives and recommendations for the implementation of **EOSC FAIR-data literacy**.

* The ambition of the European Open Science Cloud (EOSC) is to provide European researchers, innovators, companies and citizens with a **federated and open multi-disciplinary environment** where they can publish, find and reuse data, tools and services for research, innovation and educational purposes. EOSC is not a single monolithic organisation or resource provider but is rather a federation built out of many independent organisations and resource providers as in a system of systems approach. As such, **it ensures the independence and autonomy** of resource providers. (SRIA V1.0, June 2021, Chapter 6).

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The EOSC Steering Board expert group (E03756) has developed opinion reflections on selected high-level policy issues. The outcome of these reflections have been formulated as opinion papers on 'EOSC and data literacy', 'EOSC and the commercial partners', 'FAIR data sovereignty in EOSC', and 'Monitoring Open Science'. The papers include objectives and recommendations for the period 2022 to 2024. A selection of key elements from these opinions are highlighted in a joint statement by the expert group called 'EOSC: the Transverse European Data Space for Science, Research and Innovation'. All four papers have collected input from private experts, governmental experts, and the European Commission, and were finally adopted via written procedure in November 2022.

Studies and reports

