

Survey: National EOSC-supporting policies and investments

Introduction

This document contains a short-list of questions for the monitoring of investments and policies and their impact on EOSC readiness. These questions will be asked to the EOSC Steering Board members, i.e. to the representatives of the EU member states and associated countries in the EOSC governance. The survey questions have been developed by the EOSC Steering Board's subgroup-A. The purpose of this document is to show what questions are going to be asked, and what information is intended to be gathered through this survey.

Recalling the objectives of the EOSC Steering Board Subgroup-A

- A.) Benchmarking of activities on international, national, regional, and institutional level
 - 1. developing and implementing policies and supporting EOSC-ready infrastructures and initiatives; and
 - 2. providing contributions/investments and financing of EOSC relevant policies, infrastructures, and initiatives.
- B.) Monitor the benefits of MS/AC policies to the whole EOSC and the benefits of EOSC to the national research communities.

In this context, **the goals** are to

- Understand what contributions will be made by MS/AC to further develop EOSC, in synergy with the implementation of the SRIA on a European level, and reach a collective understanding on how to assess these contributions, building on the experience acquired by the Member States when communicating ex-ante commitments in response to Commissioner Gabriel's invitation in July 2020;
- Evaluate how MS/AC support their organisations nationally, what are their data-related policies and financing mechanisms? What do MS/AC do on country level to advance FAIR and EOSC?
- Evaluate how national funding (other than from members of the EOSC Association) complements the contributions provided by the Association members; and
- Work together with the EOSC Association, and liaise with the EC, so that the benchmarking and monitoring is strategic, fit for its purpose of an overall coordination of the implementation and operationalisation of the EOSC ecosystem in line with the SRIA priorities, and without duplication.

Annual survey to the EOSC Steering Board

Please refer to the *EOSC Glossary*¹ for an explanation of the terms used in this survey, or to this document in which EOSC-SB specific guidance is available. The glossary will be developed by the EOSC Future project by consulting stakeholders on missing definitions.

SECTION 1 EOSC policies and financial investments

Clarification: Policies provide an important impetus to the implementation of open science practices. The purpose of this section is to understand the prevalence and effective implementation at national level.

1. Are there EOSC-relevant policies in place at national or regional level? (Multiple choice):

- There are one or more policies relevant for the EOSC in place

If this box is checked:

- Policy most relevant for EOSC in place since: dd/mm/yyyy
 - Latest update of the policy most relevant for EOSC: dd/mm/yyyy
 - Link(s) to EOSC-relevant policy/policies: [text field]
-
- Policy in planning
 - One or more of the open science policies explicitly mentions EOSC
 - Policy addresses Open access to data, data management and/or FAIR
 - Policy addresses FAIRisation of data
 - Policy addresses Open access to software
 - Policy addresses Preservation and reuse of scientific information
 - Policy addresses Infrastructures that include aspects of open science
 - Policy addresses Skills and competencies
 - Policy addresses Incentives and rewards
 - Policy addresses Citizen science
 - Other [text field]

Explanation question 1:

1. “Policy” can be understood here in a wider sense, e.g., also recommendations, regulations, laws can be considered as a policy
2. At national / regional level should be understood as being applicable to all RPOs/RFOs at this level.

Examples:

1. Country X has a law that makes it mandatory to have all data from publicly funded research openly available: check the box on “Policy addresses Open access to data”

¹ The EOSC Glossary is available in Zenodo: <https://doi.org/10.5281/zenodo.4472643> (Version December 2020)

2. Country Y has in several of its regions an open science policy: tick the according boxes and mention under “Other” that the policy is only applicable in some regions
3. Country Z does not have open science policies, but its largest RPO has an open science policy: don’t tick any of the boxes

2. Do the EOSC-relevant policies in place include measures to ensure implementation? (Multiple choice)

- Action plan
- Concrete objectives
- Indicators to monitor progress
- Associated financial planning

3. Are the financial contributions to the EOSC at national level linked to the policies and actions mentioned above?

[YES / Partly / NO / In planning]

Examples:

1. If only a part of the financial contributions to EOSC is linked to the policies/regulations/recommendations/laws mentioned above, check the “Partly” answer

4. Total amount of national EOSC contribution [in million €] spent in 2020: (Text)

Explanation question 4:

1. Please report here the contributions *paid* in the calendar/fiscal year prior to the current year (we assume that you fill out this survey at the end of a year; if, however, you provide information, e.g., in January, you might give the answer for the year that ended 13 months ago).
2. Include only public investment, not contributions from the private sector.
3. For multi-year funding schemes, for which you have problems to get the exact number for one year, provide the best estimate (e.g., total amount of funding scheme divided by the number of years this programme is running).
4. In cases where funding addresses EOSC relevant issues among others (non-earmarked funding to EOSC), provide a best estimate as to what amount of money of the funding will be used for EOSC activities.

Examples:

1. Country X invested last year 1 M€ in a programme “Advancing EOSC”. In addition, there is a 5-year programme running, with a total investment to EOSC of 5 M€. And last year, investment of 1 M€ was performed to accelerate research, of which you estimate that 25% are directly beneficial for EOSC. The total amount to report for country X would be $1 \text{ M€} + 1 \text{ M€} + 0.25 \text{ M€} = 2.25 \text{ M€}$
2. Country Y has decided last year to invest 5 M€ in the upcoming year, and invested last year 1 M€ in a programme “Advancing EOSC”. The total amount to report for country Y would be $0 \text{ M€} + 1 \text{ M€} = 1 \text{ M€}$.

3. Country Z provided 1M€ to the research performing organisation RPO-Z to advance EOSC. RPO-Z used 0.5 M€ of this money for an open call to research groups to perform EOSC-relevant activities. The former is considered an EOSC investment to be reported here, the latter not.
4. In Country Q, a company provides 1 M€ to advance EOSC. For the time being, we would not include this as national funding.

5. What was the amount of funds allocated in 2020 to current EOSC Association Members (including Mandated Organisations)

Explanation question 5:

1. The amount reported here, is part of the amount reported in question 4. Thus, it has to be \leq than the answer to question 4. Also, the sum of the answers to question 5 and 6 has to be \leq than the answer to question 4.
2. If it is difficult to disentangle investment to members / non-members of the association, provide a best estimate.

Examples:

1. Country X invested 1 M€ to advance EOSC in a research or e-infrastructure, which is equally owned and operated by 3 members of the EOSC association and 1 non-member. The amount to report in question 7 would be 0.75 M€.

6. How much of the funds were allocated in 2020 to organisations which are now not members of the EOSC Association?

Explanation question 6:

1. The amount reported here, is part of the amount reported in question 4. Thus, it has to be \leq than the answer to question 4. Also, the sum of the answers to question 5 and 6 has to be \leq than the answer to question 4.
2. If it is difficult to disentangle investment to members / non-members of the association, provide a best estimate.

Examples:

1. Country X invested 1 M€ to advance EOSC in a research or e-infrastructure, which is equally owned and operated by 3 members of the EOSC association and 1 non-member. The amount to report in question 8 would be 0.25 M€

7. What were the sources for the estimate? Please add links to documents supporting the choice(s) in the “Other”-field. (Multiple choice)

- Input/calculations from ministry.
- Input from RPO.
- Input from RFO.
- Existing documents.
- Other (free text)

Explanation question 7:

The aim here is to find out whether the funding information in response to questions 4-6 was derived directly at the ministry, or whether additional input from RPOs/RFOs was necessary.

8. The estimate includes government contributions from which levels? (Multiple choice response)

- National level
- Regional level
- Direct governmental investment at institutional level
- Other (free text)

Explanation question 8:

1. In some countries the regional level rather than the national government has the authority for investments.
2. With “investment at institutional level” we refer to investments by the government directly to, e.g., RPOs, research infrastructures, etc. See also the examples for question 6 for further clarification.

9. If the national funds included earmarked funding (explicitly for EOSC and open science-related activities), how much was calculated (in million €)?

Explanation question 9:

1. The sum of the answers to question 9 and question 10 should be equal to the amount given as answer to question 4

Examples:

1. Earmarked money such as the German investment in the *Nationale Forschungsdateninfrastruktur* (NFDI)

10. If the national funding included non-earmarked funding (i.e., national funding not explicitly given for EOSC- or Open Science-related activities, but [partly] used for EOSC-relevant activities), how much was calculated? (Text response)

Explanation question 10:

1. In most countries, investment to the EOSC is most likely through non-earmarked funding. This means, the investment is not explicitly labelled and limited to EOSC activities, but includes important aspects.
2. The sum of the answers to question 9 and question 10 should be equal to the amount given as answer to question 4

Examples:

1. Country X invested last year 1 M€ to accelerate research in general, of which you estimate that 25% are directly beneficial for EOSC. This would amount to 0.25 M€ of non-earmarked funding.
2. Country Y provides to its RPOs an annual amount of 100 M€ to conduct research. There is no relation of the funding with respect of the RPOs' participation in the EOSC. This budget would not qualify as EOSC- or Open Science-related funding.

11. Did *European Structural and Investment funds* contribute to the EOSC relevant investment, and if so, how much was calculated (in million €)?

Explanation question 11:

1. See here for a description of this type of funding: https://ec.europa.eu/info/funding-tenders/funding-opportunities/funding-programmes/overview-funding-programmes/european-structural-and-investment-funds_en

12. Were one or more of the following EOSC-relevant activities considered in your funding? (Multiple choice response)

- Provision of making FAIR data searchable with the EOSC.
- FAIRisation of data.
- Open data from government and non-profit organizations (Public Sector Information Directive).
- Further EOSC-relevant activities targeting data.

If a box is checked here, a field opens in which you can indicate million euros spent for each activity in 2020

Explanation question 12:

Here you can provide more granularity to overall funding information given in response to questions 4-6. For example, if a funding programme in your country mentions explicitly one of the options given here, you can tick that box.

13. Were one or more of the following service-related activities considered in your funding? (Multiple choice response)

- Services provided by computing- and data centres.
- Services provided by National network (NREN).
- Support for the private sector to participate in EOSC-relevant activities.
- Further EOSC-relevant activities targeting services.

If a box is checked here, a field opens in which you can indicate million euros spent for each activity in 2020

14. Were one or more of the following infrastructure-related activities considered in your funding? (Multiple choice response)

- E-infrastructures like computing and data centres.
- National Research infrastructures.
- National contributions to international organisations contributing to the EOSC development, incl. European Research Infrastructures.
- Further EOSC-relevant activities targeting infrastructures.
- Other (free text)

If a box is checked here, a field opens in which you can indicate million euros spent for each activity in 2020

SECTION 3 EOSC practices

Clarification: Besides the extent to which policies are in place and implemented, this section aims to capture progress in open science practices that may or may not be a consequence of existing policies.

15. Has your country appointed a Mandated Organisation to the EOSC Association? (Y/N/in planning)

- Yes
- No
- In planning

16. Is there any official national monitoring or mapping exercise of one or several of the following open science elements? (Multiple choice)

- Open Access to data, data management and/or FAIR
- FAIRisation of data
- Open Access to software
- Preservation and reuse of scientific information
- Infrastructures that include aspects of open science
- Skills and competencies
- Incentives and rewards
- Citizen science
- Monitoring or Mapping exercise in planning
- No monitoring takes place
- Other [text field]

17. If there is a monitoring indicated in the previous question, how is it reported? If possible, please add link to the monitoring exercise or national dashboard in the last field.

- Periodic reports
- Mapping exercise
- Dashboard
- Please provide a link/links to the national monitoring/mapping [text field]

18. In which open science dimensions do you have use cases and best practices to present? (Multiple choice):

- Open Access to data, Research data management, and FAIR
- FAIRisation of data
- Open access to software
- Preservation and reuse of scientific information
- Infrastructures that include aspects of open science
- Skills and competencies
- Incentives and rewards
- Citizen science
- None
- Other (text box)

19. If you indicated occurrence of an open science use case in the previous question, please provide a description.

[Text box]

Recommendations on how to calculate national financial contributions to the EOSC

These recommendations were developed in the EOSC-SB workshop on 3 March 2022 and confirmed via written procedure by 11 March. The recommendations are due for the **first EOSC-SB survey launched on 3 December 2021**. The full list of survey questions is available on the EOSC.eu web site.¹ Contact point for this document is the EOSC-SB sub-group on national contributions to EOSC via Thomas.Neidenmark@ec.europa.eu.

Definitions²

Open Science means an approach to the scientific process based on open cooperative work, tools, and diffusing knowledge.³

Open Science practices⁴ include:

- **early and open sharing** of research (for example through preregistration, registered reports, pre-prints, or crowdsourcing);
- **research output management** including research data management;
- measures to ensure **reproducibility** of research outputs;
- providing **open access** to research outputs (e.g., publications, data, software, models, algorithms, and workflows) through deposition in trusted repositories;
- participation in **open peer-review**; and
- **involving all relevant knowledge actors** including citizens, civil society, and end users in the co-creation of R&I agendas and contents (such as citizen science).

Policy can be understood here in a wider sense, e.g., also recommendations, regulations, laws can be considered as a policy. At national/regional level should be understood as being applicable to all Research Performing Organisations/Research Funding Organisations at this level.

Research Funding Organisation (RFO) is understood as an institution with significant responsibility for managing public research funding, i.e., which has a responsibility and authority to launch calls for proposals and grant money to scientific research.

Research Performing Organisation (RPO) is understood as an academic institution receiving public funding for performing scientific research.

Non-earmarked funding should be read as “non-EOSC earmarked funding”. That is the funding scheme did/does not explicitly mention EOSC, but contributed to, or aimed at, making data interoperable to improve EOSC readiness.

Recommendations

The EOSC-SB gives **recommendations** about what to include in responses to the survey. Obviously, the final decision on what investments a country considers to be EOSC-relevant contributions remains with the EOSC-SB country representative. **We rely on the expertise, best effort, and good judgement of the country representatives to the expert group.**

- ✓ When deciding on whether an investment can be counted as **EOSC-relevant contribution**, you can start with the question: “*did this type of funding exist before and/or independently of EOSC-related activities?*” If that is the case the investment might not be included here. (“**If in doubt, leave it out**”).
- ✓ Include in your calculation contributions that help to increase the **EOSC readiness**.⁵

¹ <https://eosc.eu/news/launch-first-eosc-steering-board-survey-national-contributions-eosc>

² Definitions are under discussion.

³ Horizon Europe (HE) Regulation and Model Grant Agreement: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/agr-contr/unit-mga_he_en.pdf

⁴ HE programme guide: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/other/events/20210421/open-science_en.pptx

⁵ See some additional guidance as discussed in the EOSC-GB in 2020: the Note to the attention of the EOSC-GB delegates on 6 October 2020 (in the Meeting channel → 2022-03-03 Workshop folder → Best practice examples).

- ✓ How broad shall we consider the term “EOSC-relevant investment”? Mainly investments in open and FAIR digital objects (such as open access to data), data stewards, making repositories/data EOSC ready, etc. are relevant to increase the EOSC readiness. A list of EOSC-relevant contributions will be compiled as the survey is. Based on this list the discussion can contribute to an agreed definition of 'EOSC-relevant investment'. This discussion will prepare the next survey round.
- ✓ With the development of EOSC, the fraction of investment that is relevant for EOSC in your country will grow. You can ask the question: ‘**what fraction of investment in the NREN (National Research and Education Network), RIs (Research Infrastructures), etc., is due to EOSC activities in my country?**’ Consider what **new** investments contribute to EOSC readiness. Include (part of) funding for upgrades, but not funding for operating costs (only in exceptional cases). Include support for (new) interoperability activities (metadata, etc.) to make data FAIR (investments in activities making or aims to make data open and reusable and interoperable).
- ✓ To address investment into EOSC-readiness through ESFRI (European Strategy Forum on Research Infrastructures) and other international research infrastructures which have a clear, written, and actual commitment to EOSC, **please count 2% of this annual investment into the national EOSC contribution**. Please point this out explicitly in the survey by using the comment fields.
- ✓ Consider contributions paid in the **calendar/fiscal year 2020**.
- ✓ Consider **financial contributions, not in-kind** contributions. However, see the next point.
- ✓ How to deal with co-financing activities? Co-financing by RPOs can be in-kind (for example, the RPO provides FTEs / infrastructure at the same amount as the funding received from the national/regional government). These RPOs are not necessarily EOSC-Association members (in which case their contributions would be counted by the EOSC-A monitoring). Thus, in this case, where co-financing is provided by RPOs which are not EOSC Association members, this can be included as EOSC-relevant investment but should be made explicit in the survey. —> please use the comment fields in the survey for pointing this out.
- ✓ Include only **public investment in this first survey**, not contributions from the private sector.
- ✓ For multi-year funding schemes, for which you have problems getting the exact number for one year, provide the best estimate (e.g., the total amount of funding scheme divided by the number of years this programme is running).
- ✓ In cases where funding addresses EOSC relevant issues among others (non-EOSC-earmarked funding to EOSC), provide the best estimate as to what amount of money of the funding will be used for EOSC activities.
- ✓ How to motivate RPOs to provide information to the EOSC-SB survey? Inform where necessary that (i) the collected information will support the alignment of investments in Open Science-relevant policies and tools and provide arguments for continued commitments by all involved in the EOSC ecosystem, and (ii) the EOSC tripartite governance⁶ engages the Commission, the MS/AC and the EOSC-A in coordinating survey efforts and work to avoid duplication of survey questions.

⁶ Read more about the EOSC and its governance: https://ec.europa.eu/info/research-and-innovation/strategy/strategy-2020-2024/our-digital-future/open-science/european-open-science-cloud-eosc_en