

# Remit and Terms of Reference for the Reference group for the implementation of the National Strategy for Data Management Based on the FAIR Principles (FAIR Reference group)

Second mandated period: 2023-01-01 - 2024-12-31

## 1. Background for the Remit

A systematic digitization in all phases of research and development allows research results to be easily shared and used more quickly and efficiently. Research data can be reused and used by other researchers, and results can be reproduced for a better understanding and control of outcomes. This promotes more effective and better research and increases trust in research. However, it requires a systematic description of the data, where the data is stored, and, most importantly, who has access to the data.

The European Commission has therefore launched a series of political and strategic initiatives aimed at supporting better utilization of research data by research and society at large, including within the European Open Science Cloud (EOSC). EOSC aims to establish a Web of FAIR data (*F*indable, *A*ccessible, *I*nteroperable, *R*eusable)<sup>1</sup>, making it easier to find and reuse research data across European countries.

In 2018, the Ministry of Higher Education and Science published a strategy for national collaboration on digital research infrastructure, recommending the development of a data management strategy based on the FAIR principles (hereinafter referred to as 'the strategy'). This strategy was published in 2021, after which the FAIR Reference group was established with a first mandated period from 2021-08-27 to 2022-12-13.

The strategy aims, among other things to establish a basis for decisions on national implementation and funding of a data management practice based on the FAIR principles. This means that data should be findable, accessible, interoperable, and reusable, and that the conditions for the use of data, should be clearly stated. Through this, it is aimed to significantly increase the amount of research data from Danish public research institutions that adhere to the FAIR principles. Denmark should be a proactive participant in the European development towards better utilization of the value of research data, including following EOSC policies and standards.

The implementation of the strategy requires that those who produce research data adopt a new practice. There is still a need to coordinate and monitor this work, and therefore, the FAIR Reference group has had its mandate period extended until the end of 2024. This remit covers the focus areas to be addressed in relation to the strategy – including the preliminary work that was submitted to The Ministry of Higher Education and Science<sup>2</sup>.

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<sup>1</sup> The FAIR Principles: <https://www.go-fair.org/fair-principles/>

<sup>2</sup> Ultimo 2022 the FAIR Reference group submitted a report with recommendations to The Ministry of Higher Education and Science: <https://zenodo.org/record/7575581#.Y-JNay8631x>

## 2. Purpose of the Reference group

The Reference group is tasked with gathering information about the progress of implementation of the FAIR strategy at universities and other research institutions, as well as communicating successes, outstanding issues, and challenges. The Reference group is not responsible for the implementation itself but coordinates the implementation of the strategy at the national level, and reports on progress through monitoring the progress.

This work includes several focus areas for the universities' work with the strategy. Some focus areas involve research funding organizations, while others involve DeiC (Danish e-Infrastructure Consortium), which plays an active role in collaborating with the universities. Special attention is given to the part of the implementation that requires national coordination across all involved parties (research institutions, foundations, DeiC, etc.).

## 3. Structure and foundation of the FAIR Reference group

The FAIR Reference group and its remit are established by the Ministry of Higher Education and Science. It represents universities and other research institutions, as well as public and private organizations. The Reference group will meet 6-8 times a year or as needed, with the first meeting in the mandated period scheduled for the first half of 2023. DeiC will provide secretariat support and will cover any associated expenses.

To support the implementation of the strategy, the Reference group can create and/or reorganize existing working groups that address various focus areas related to implementation of the strategy. The working groups established by the Reference group will report to the Reference group.

After the final report has been submitted by the Reference group, The Ministry of Higher Education and Science will decide whether to extend the Reference group's mandate further.

The chairperson of DeiC's board serves as the chairperson of the Reference group.

## 4. Composition of the Reference group

- Chairperson of the board of DeiC (Chairperson of the Reference group)
- Four management representatives from universities, appointed by 'Danish Universities'
- One representative from 'Danish Universities' secretariat
- One representative appointed from DeiC
- Three to four representatives from private and public Danish foundations
- A representative appointed from 'Independent Research Fund Denmark.'
- Vice director for Research and Research-Based Innovation, Agency for Higher Education and Science

## 5. Deliverables of the FAIR Reference group

The FAIR Reference group will annually submit an action plan and status report to The Ministry of Higher Education and Science, which is the instructing authority. Danish Universities simultaneously receive the action and status reports for informational purposes.

The action plan is to be developed, based on contributions from the working groups established by the Reference group. The action plan must be submitted to The Ministry of Higher Education and Science by March 1<sup>st</sup> each year. Subsequently, the Reference group must prepare a status report describing progress in the action plan. This report must be submitted to The Ministry of Higher Education and Science by the 15<sup>th</sup> of December each year.

When reporting on the progress, of the universities in implementing the strategy's focus areas, it should be explained how and to what extent the implementation is coordinated nationally. Special attention is given to the following focus areas, but is not limited to:

#### **Policies, tools, and research support for FAIR data management**

1. *How do different disciplines implement FAIR principles in research practices? For example, in their specific workflows, tools, etc., possibly drawing inspiration from/in collaboration with international research environments?*
2. *What policies and motivating/supportive measures exist to support access to and reuse of research data, including the use of Persistent Identifiers (PIDs) for digital research objects (data, software, instruments, publications, etc.)?*
3. *Describe best practices for data governance and policies/guidelines for overseeing overall data responsibility, even after researchers have left the institution and/or project funding has ceased.*

#### **Establishing FAIR infrastructure and long-term preservation**

4. *What infrastructure is available for the long-term preservation (10+ years) of research data of any kind at the national level, and how is coherence and collaboration ensured between research institutions, DeIC, and the National Archives regarding long-term preservation?*
5. *How can services for data management planning continue to be developed nationally and internationally, and how can data management plans be made machine-readable, and be used in connection with the submission of research data to the National Archives?*
6. *Elaborate on how research institutions work with security infrastructure (Authentication, Authorization, and Accounting Infrastructure, AAAI) specifically and especially for sensitive data, with the aim of also making these FAIR.*

#### **Financial plan for FAIR data**

7. *EU programs (e.g., Horizon Europe) require grant recipients to develop data management plans in connection with grant applications. To what extent can national research funding organizations benefit from following this practice?*
8. *Can the research data that is the basis for published research results, be required to be made available according to FAIR principles after the project's completion, at a minimum with metadata and a Persistent Identifier (PID), even when the data is not openly accessible?*
9. *What costs related to data management can be included in budgets?*

### **Plan for structuring and developing FAIR competencies and knowledge**

10. *What competence profiles have research institutions established for the Data Stewardship research support function for researchers? How have research institutions built the Data Stewardship research support function for researchers?*
11. *To what extent is there interest in developing and offering the research support function collectively at the national level? For example, under a central or decentralized national competence center.*
12. *Is there interest among research institutions in national coordination of educational offerings (not research support) within FAIR research data management? Can a potential national collaboration aim at division of labor, specialization, and joint national offerings of educational programs, such as through a competence center under the auspices of DeiC? This includes education at all levels, from bachelor to further education of scientific staff.*
13. *How are incentive structures or merit systems currently used nationally or internationally for FAIR data management practices at research institutions?*

### **Security aspects of FAIR data collaboration**

14. *What are the security requirements in connection with storage and sharing of data?*
15. *In light of research groups' needs to work nationally and internationally with sensitive data, which requires strong and flexible governance, elaborate on the national and international solutions/services that can support this need.*
16. *Can a better understanding of the various degrees of data sensitivity be provided? This includes not only sensitivity personal data, but also agreements, dual-use preprints, IPR, etc., including researchers' own criteria for how the sensitivity of their data can be understood.*

### **Valuation of data**

17. *What criteria for the value (curation) of data and economic models are applied by local, national, and international data storage services to assess the preservation rationale, economics, and sustainability thereof?*