



Collaborative work in NFDI

Dataset Documentation

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Task Force Evaluation und Reporting Collaborative Work in NFDI

Data as per 2024-07-09

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Introduction

The non-profit association National Research Data Infrastructure (NFDI) promotes science and research through a National Research Data Infrastructure. Its aim is to develop and establish an overarching research data management (RDM) for Germany and to increase the efficiency of the entire German science system. After a two-and-a-half year build up phase, the process of adding new consortia, each representing a different data domain, has ended in March 2023. NFDI now has 26 disciplinary consortia, and one additional basic service collaboration (Base4NFDI). Now the full extent of cross-consortial interaction is beginning to show.

The attached table of jointly documented cross-consortial collaborations is based on a White Paper ratified by the NFDI association's consortia assembly in January 2023. It defines collaborations as "the exchange of information on or development of common approaches to managing the research data of at least one domain." From the perspective of the consortia assembly, "A necessary condition for any collaboration is that activities are on behalf and in line with the strategic aims of a consortium and are not activities by individuals within them only."¹ As the consortia were established in three separate rounds with roughly a year in between, some consortia have had more opportunities to participate in the NFDI association than others which shows in their higher levels of interaction. We expect these differences to diminish over time with further updates of this dataset.

The tabular overview of the collaborations was created as a collaborative work in which all consortia had the opportunity to enter joint activities. Nevertheless, this document does not claim to be complete. Instead, it is constantly updated to reflect the evolving state of NFDI; future collaboration will be published in updated versions.

Summary

The data collected collaboratively by the consortia cover 330 collaborations of various types, which were divided into two different tables with respect to their initiation and/or lead. Cross-consortial collaborations (table 'Collaboration_of_Consortia_2024.csv') are bi- or multilateral collaborations that are initiated and/or organised by at least one consortium. Collaborations within the NFDI association (table 'Collaboration_in_NFDI_Association_2024.csv') cover those, which are initiated and/or organised by an

¹ Amelung, L. et al. (2023). White Paper: Interim Report Reference. Zenodo. <https://doi.org/10.5281/zenodo.7688729>

association organ. Activities relating to basic services and Base4NFDI are also listed in this table to reflect the NFDI-wide nature of basic services.

In total, 144 cross-consortial collaborations took place until 2024-07-09, which means almost a doubling by number compared to the last publication of this collaborations overview in 2023.²

50 of those collaborations were bilateral, 92 multilateral with 3 or more consortia participating, and 2 collaborations involved all consortia. Compared to the collection of collaborations until 2023 this means a slight increase of the proportion of multilateral collaborations by 5 %. The median number of consortia participating in multi-consortial collaborations continues to be 4. While most collaborations between consortia are single events (51 %), 26 % of them take place regularly, 22 % only irregularly. This reflects the current predominance of cross-consortial collaborations as events of various types (98). Nevertheless, more long-term collaboration, such as alliances (6), projects (9), joint services (11), and interest groups (14), are being established within the NFDI network. Taken together, the data demonstrate that the consortial work within the NFDI is becoming more intense and has led to a dense network of collaborations - both within and across domains (Fig. 1).

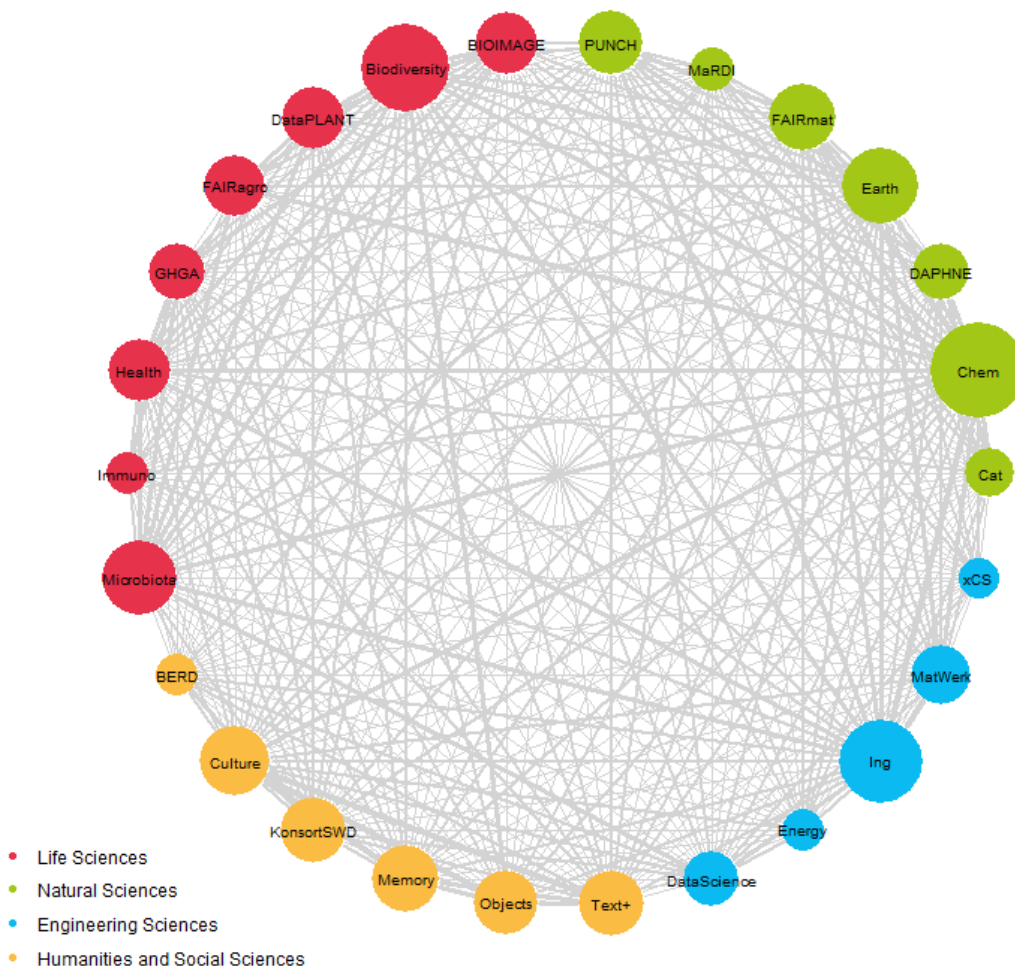


Fig. 1: Circle network graph of cross-consortial collaborations based on data in 'Collaboration_of_Consortia_2024.csv'. The graph is undirected and does not discriminate between lead consortia and participating consortia. The size of the nodes visualises the total number of connections. Line width is the log₂ of the number of links, to improve readability. The colour code refers to the [DFG Classification of](#)

² Amelung, L., et al. (2023). Collaborative work in NFDI. <https://doi.org/10.5281/zenodo.8296725>

[Subject Areas and Review Boards \(2024-2028\)](#). Connections to the NFDI directorate, Base4NFDI and to collaborators outside of NFDI are not included. The number of links is 560. R code for this figure is available with this publication.

Within the context of the NFDI association, which by definition cover all consortia, 86 collaborations took place in total, which are 11 more compared to the last publication of this collaborations overview in 2023³. More than 47% of the collaborations take place on a regular basis (quarterly or more frequently with a further 26 % not indicating a precise frequency but reporting “regular” meetings.), in comparison to cross-consortial collaborations, which mostly consist of single events or irregular meetings.

Reading Guide

This section briefly explains the types of information and the categories used in the tables below and in the dataset. The types of collaboration are specific to activities within the NFDI association or activities between consortia. They are therefore described separately.

Common Attributes for both tables

Name

The column *Name* mentions the title by briefly describing the collaboration.

Affiliation of Lead/Chair

The column *Affiliation of Lead/Chair* lists the consortia or association bodies that the actors initiating and/or organising the collaboration are affiliated with.

The affiliation can often not be clearly determined. For example, persons might be associated with multiple consortia or have different roles within the NFDI association. Therefore, individual persons might contribute beyond a given consortium depending on the context of the collaboration. The information in the tables in almost all cases reflects the determination of the consortia. However, in some instances it was adjusted in favour of other organs or committees, which - in the Task Force’s opinion - better represent the affiliation of the persons involved, or which were formally responsible for the initiation of a collaboration. This is especially the case for basic service proposals that are chaired by member institutions and whose authors are members of various consortia. Nevertheless, it is the sections that formally submit the basic services for evaluation, and are therefore mentioned in the table. Definitions for *Affiliation of Lead/Chair* will be revised for future versions of this dataset.

Other, non NFDI-actors (individuals and organisations not acting as part of one consortium), are not listed but appear as ‘na’ / empty cells in the table. Their contributions are dearly appreciated and data on their role is available for other reporting purposes.

Sorting of the consortia in this column is arbitrary.

³ See FN 2

Frequency

The column *Frequency* indicates how often a given collaboration is or was active. The options were slightly adapted, expanding on those suggested in the White Paper⁴. Defined values are:

- regularly (frequency is not defined in detail)
- weekly
- bi-weekly
- tri-weekly
- monthly
- bi-monthly
- quarterly
- semi-annually
- annually
- biennially
- single event
- irregularly

Status

The column *Status* indicates the current state or condition of a collaboration. *Future* collaborations should only be registered when concrete steps to collaborate have already been taken.

- ongoing
- on-hold
- completed
- future

Output

The column *Output* describes (planned) tangible results of a collaboration. Entries can include one or more outputs, which can be described but are not restricted to the following values:

- Published Scientific Paper
- White Paper
- Memorandum of Understanding (MoU)
- Service
- Code
- Workshop / Conference
- NFDI association (e.g. assuming responsibility in the Consortia Assembly)
- Standard Operating Procedures (SOP)
- other types

Collaboration of Consortia

Participating Consortia

In contrast to the collaborative formats in the NFDI association, the cross-consortial collaboration among different consortia are mainly initiated and self-organised by one or more consortia. These formats can also

⁴ See FN 1

include the NFDI association's Directorate/Office and/or sections. Other, non NFDI-actors (individuals and organisations not acting as part of one consortium), are not listed here, but their contributions are explicitly appreciated and data on their role is available for other reporting purposes.

Type

There are different types of collaborations among consortia. These formats are less formalised than within the NFDI association and are defined as follows:

- **Events** (and corresponding subtypes)
 - **Conference organisation:** is a bigger event organised by two or more NFDI consortia
 - **Conference participation:** describes some kind of (collaborative) participation in external conferences, or a contribution to conferences organised by another NFDI consortium
 - **Lecture series:** recurring lectures and talks with educational components
 - **Panel discussion:** public informative exchange between discussion partners
 - **Workshop:** interactive meeting with a clear agenda around a specific topic, can be recurring
 - **Hackathon:** frame for joint IT developments
 - **Local networking:** informal networking event (e.g. regional) with or without a topic
- **Interest group:** a number of people working on a selected topic, with different outputs (project proposal etc.), can be timely restricted
- **Joint service:** joining forces to develop and offer shared services
- **Alliance:** collaboration resulting in a shared framework for long-term collaboration (e.g. MoU, Letter of Interest)
- **Project:** a joint, funded endeavour

Collaborative formats in the NFDI association

Participation

The participation is not reported for formats within the NFDI association. Given the structure of many association activities which rely on association member organisations and not on consortia (e.g. membership in sections is not attributed by consortia), there are no valid data on consortia participation regarding most activities. In principle, most association collaboration activities are open to all consortia.

Type

There are various formats of collaboration that are initiated by association bodies and in which people from the consortia work together: These formats can be categorised as task force, jour fixe, bodies of the NFDI association, section, workshop, event and project which will briefly be presented in the following:

- **Task Force:** Task forces consist of people from interested consortia who work in order to reach specific goals in a limited period of time
- **Jour Fixe:** The various Jour Fixes are permanently established meetings in which persons from the Directorate and the consortia and sections exchange views on specific topics.
- **Bodies of the NFDI association:**
The NFDI association comprises five association bodies: General Assembly, Board of Trustees, Scientific Senate, Consortia Assembly, and Directorate whereby the latter two initiate and strengthen collaborations which were recorded in the table

- The Directorate is the executive body of the NFDI association. It coordinates the other bodies of the association, supports the strategic cooperation across the consortia and represents the association externally
- In the Consortia Assembly, elected spokespersons of the consortia according to the articles of association work together to determine the substantive and technical principles for the work of the consortia. It is the central body for the coordination between all consortia and is responsible, for example, to implement standards determined by the Scientific Senate
- **Section:** According to §23 of the statutes, sections are legally dependent departments of the NFDI association in which cross-sectional topics are dealt with that affect several consortia according to the statutes. Official participation in the sections is only open to NFDI member organisations and their representatives, therefore people working in sections do not necessarily have an affiliation with a consortium
- **Event:** self-explanatory and mainly according to the types for bi- and multilateral collaboration
- **Workshop:** self-explanatory and mainly according to the types for bi- and multilateral collaboration resp. (as subtype of event)
- **Project:** a joint, funded endeavour
- **Basic Service:** Proposal submitted for a Base4NFDI-funded basic service for any of the three stages (initialization, integration, ramping up for service)

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