

A National Research Data Infrastructure (NFDI) for Germany

Objectives of the NFDI

An impulse for discussion

ABOUT THE COUNCIL

- Founding resolution 2013, establishment 2014
- Advisory board of the Joint Science Conference
- Initially a four year pilot phase, long-term financing, if necessary, after evaluation
- 24 members, nominated using the same process as for the German Council of Science and Humanities
- The composition of the Council *“reflects our conception that the future of scientific information infrastructures is a **joint task** of the providing institutions, the scientific users, the funders, and related national and international stakeholders.”* (Joint Science Conference paper 13.48, 2013)

TASKS OF THE RfII

- Increase transparency in the development processes
- Strengthen self-organisation in the sciences
- Identify potential synergies, increase use
- Help avoid parallel structures and any associated double funding; strengthen networking
- Become involved in international debates
- Identify new areas of action and needs for action
- Know-how transfer, conferences, workshops, etc.

INFORMATION INFRASTRUCTURES ARE A PART OF THE RESEARCH INFRASTRUCTURE

Research infrastructures are scientific infrastructures that serve research (systems, resources, facilities and services).

Such infrastructures include:

- a. Large-scale facilities or instruments used for research purposes
 - b. Knowledge resources such as (digital or non-digital) collections, archives, libraries, databases
 - c. Information and communication technology infrastructures such as computers, computer networks (grid, cloud computing), software and connections
 - d. Software
 - e. Other infrastructures used in a comparable manner for research
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2016: RECOMMENDATIONS REGARDING RESEARCH DATA MANAGEMENT

- 05/2016 - Submission to the Joint Science Conference
- 06/2016 - Research policy discussion of the Joint Science Conference
- 04/2017 - Examination of feasibility by the Joint Science Conference
- Current: Assignment to shape the NFDI /Concept for the ministerial panel of the Joint Science Conference (to be delivered in the autumn of 2017)



THE NATIONAL RESEARCH DATA INFRASTRUCTURE (NFDI) IS...(?)

- *designed* as a managed process,
- *functionally* a demand-driven system,
- *institutionally and in terms of personnel* a network of expertise,
- *geographically* a distributed network consisting of nodes,
- *in legal terms* an entity whose rules are adopted by its participants,
- *for users*: a service portfolio.

The goal of the NFDI is to provide a reliable and sustainable service portfolio covering the generic and community-specific needs for research data management in Germany.

NATIONAL RESEARCH DATA INFRASTRUCTURE (NFDI)

Key Points

- **Users.** The construction of the NFDI is driven by demand. Scientific communities therefore need to organise their “voices” and act as stakeholders.
 - **Access Phases.** Communities and infrastructure providers form consortia in order to join the NFDI. The subsequent access phases are individually tailored to each consortium.
 - **Consortia.** Partnerships are oriented towards an optimum of user-oriented services (incl. ex-post integration of data + services).
 - **Governance.** The NFDI possesses a full-time management as well as boards to set the regulatory framework. These entities are distinct from the consortia.
 - **Financing.** Organisational + personnel costs are financed without competition in existing funding paths - on a permanent basis where appropriate.
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NATIONAL RESEARCH DATA INFRASTRUCTURE (NFDI)

Added value

- Ensured sustainability, quality, interoperability, and good usability of digital and analogue research data.
 - Research data services are available for scientists across disciplines, organisations, and federal states.
 - Shared interests are represented collectively – particularly in matters of access to and the integration of international resources.
 - Synergies are achieved in terms of technology costs and regulatory burdens.
 - Push for Qualification: NFDI offers fields of application to develop the required research data management expertise.
 - The consortia model provides for a co-evolution of a data culture and quality controlled services.
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What are NFDI “consortia”?

- They are responsible for research data services with long-range planning *for entire thematic or disciplinary domains*,
- act as a *harmonisation body* for a scientific community,
- bring together the relevant stakeholders to form a *nationwide network* in which users and providers cooperate over the long term and build capacity,
- offer *sustainable services*, determine and channel needs, and develop consensus-based standards,
- *contribute to synergies* in the framework of the NFDI through collaboration with other consortia in order to cover generic needs, and
- *continue to grow* - which means they are designed to integrate as many projects as possible within their domain.

Such structures do presently not exist in Germany.

Objectives and prerequisites for joining the NFDI

Discussion paper, January/April 2017

Statements regarding the prerequisites

- for scientific communities
- for infrastructure partners
- for collaboration in consortia

Goal: Internal discourse in scientific organisations, scientific societies, academies, departmental research, infrastructure facilities, joint initiatives...



 Rat für
Informations
Infrastrukturen

Diskussionspapier, April 2017

Schritt für Schritt – oder: Was bringt wer mit?

Ein Diskussionsimpuls zu Zielstellung und Voraussetzungen für den Einstieg in die Nationale Forschungsdateninfrastruktur (NFDI)

Mit diesem Diskussionspapier wendet sich der Rat für Informationsinfrastrukturen (RfII) an alle, die sich – als Forschende, als Daten- und Informationsexperten, als wissenschafts-politische Akteure – für das Management von Forschungsdaten engagieren. Das Papier soll Impulse zu einer koordinierten Weiterentwicklung der Forschungsdatenlandschaft in Deutschland geben. Unter anderem hat der RfII 2016 die schrittweise Schaffung einer „Nationalen Forschungsdateninfrastruktur (NFDI)“ vorgeschlagen.³ Eine solche NFDI entsteht nicht als konkurrierender Neubau neben dem bereits Existierenden, sondern soll – so die Vision – vorhandene Aktivitäten vernetzen, ergänzen und erweitern und insbesondere die Nachfrageseite, also die wissenschaftlichen Nutzer, aktivieren und einbeziehen.

Der RfII setzt nichts um, die Gemeinsame Wissenschaftskonferenz (GWK) hat ihn in der Rolle eines Beraters für Politik und Wissenschaft eingesetzt. Zur Rolle des RfII kann jedoch das Initiieren eines Diskussionsprozesses gehören. In diesem Sinne bereitet der vorliegende Diskussionsimpuls mögliche nächste Schritte auf dem Weg zu einer NFDI vor.

JOINING THE NFDI

Communities/Prerequisites

- Critical mass and highly dynamic formation/high level of formation
 - Horizontally with respect to the pillars of university/non-university research
 - The ability to speak out + ability to organise opinion formation and decision-making processes nationwide
 - Crystallisation points (examples): Review boards of the German Research Foundation/Senate commissions, scientific societies, “councils”, or sufficiently networked and successful joint initiatives.
 - Willingness to organise the management of research data
 - Determine needs on a sound basis and across a wide range
 - Prioritise the reuse of data
 - Advance the development of digital analysis capabilities
 - Maintain and refine quality standards
 - [...]
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JOINING THE NFDI

Infrastructure Partners/Prerequisites

- Relevant experience in handling digital research data (and the associated analogue data, if necessary)
 - General suitability
 - Service orientation
 - Sustainability of basic structures
 - A personnel development concept oriented towards future needs
 - Ensured user services as well as fair access/equal treatment
 - Competencies
 - For the development of generic as well as services adequately tailored to the needs of the disciplines
 - In terms of the scientific needs of the partner community and scientific communities
 - Verifiable, ideally an evaluated/certified level of quality
 - [...]
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JOINING THE NFDI

Prerequisites for all consortia

- Association with university as well as non-university research and possibly with other cultural institutions or other public, non-scientific institutions
 - Common objectives and agreements
 - Establishment of a suitable service portfolio
 - Agreement on a common governance structure (or on a concept for this purpose)
 - Concept for international integration and/or connection of the service portfolio
 - Willingness to collaborate on general topics in the NFDI
 - Interest in an interdisciplinary exchange and interoperability issues
 - Participation in the expert forums of the NFDI
 - Promoting acceptance for forms of digital work among researchers and the potential benefits of the NFDI
 - [...]
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CURRENT AND UPCOMING TOPICS OF THE RfII

- Further development of the NFDI process
(in cooperation with the committees of the Joint Science Conference)
- Monitoring international research data and research infrastructure policies

Starting in the winter of 2017:

- Data quality
 - Occupational profiles and competencies
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**THANK YOU VERY MUCH FOR YOUR
ATTENTION**

www.rfii.de

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Contact: info@rfii.de

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Pictures:

Slide 18: Wörner, Bayerisches Hauptstaatsarchiv

A set of slides on current recommendations is available as additional material.
