Welcome to the NFDI4Ing Community Survey 2023.

Engineering sciences play a key role in developing solutions for the technical, environmental, and economic challenges of our modern society. FAIR data, data quality and research data management (RDM) are therefore becoming increasingly important in order to document the associated research processes and to make research results and data accessible in a transparent and sustainable manner.

The way we do research is changing. NFDI4Ing wants to accompany you in this process of change. In order to best support you in managing your research data, we would like to ask for your help and feedback.

Your answers will help us to improve our tools and services according to your needs and wishes regarding the handling of research data.

Filling out the survey will take about 10 - 15 minutes.

We would appreciate it if you could share the survey link with your colleagues.

If you have any questions about the survey, please contact k.wermbter@tu-braunschweig.de (Katja Wermbter).

Thank you for your support and your participation in this survey.

Section A: Research Data Management (RDM): Knowledge and application

A1. **First, it is about your knowledge of different aspects of research data management (RDM) and their fields of application. Which statements are true? (Multiple selection possible, mark as applicable)**

	Never heard	Known by name	Sporadically applied by me	Systematically applied by me
FAIR principles	☐	☐	☐	☐
Versioning of software & documents (e.g. with Git, Subversion)	☐	☐	☐	☐
Documentation for re-use	☐	☐	☐	☐
Collecting metadata	☐	☐	☐	☐
Open data formats	☐	☐	☐	☐
Licensing (e.g. of research data)	☐	☐	☐	☐
Policies (e.g. guidelines / data policies)	☐	☐	☐	☐
Publication / Data repositories	☐	☐	☐	☐
Archiving	☐	☐	☐	☐
Data management plan	☐	☐	☐	☐
Metadata standards	☐	☐	☐	☐
Persistent identifiers for referencing and citation (e.g. DOI)	☐	☐	☐	☐

A2. **In which area and how did you acquire skills in RDM? (Multiple selection possible, mark as applicable)FAIR principles**

Self-study	☐
Informal briefing	☐
Workshops / Lectures	☐

A3. **In which area and how did you acquire skills in RDM? (Multiple selection possible, mark as applicable)Versioning of software & documents (e.g. with Git, Subversion)**

Self-study	☐
Informal briefing	☐
Workshops / Lectures	☐

A4. **In which area and how did you acquire skills in RDM? (Multiple selection possible, mark as applicable)Documentation for re-use**

Self-study	☐
Informal briefing	☐
Workshops / Lectures	☐

A5. **In which area and how did you acquire skills in RDM? (Multiple selection possible, mark as applicable)Collecting metadata**

Self-study	☐
Informal briefing	☐
Workshops / Lectures	☐

A6. **In which area and how did you acquire skills in RDM? (Multiple selection possible, mark as applicable)Open data formats**

Self-study ☐
Informal briefing ☐
Workshops / Lectures ☐

A7. **In which area and how did you acquire skills in RDM? (Multiple selection possible, mark as applicable)Licensing (e.g. of research data)**

Self-study ☐
Informal briefing ☐
Workshops / Lectures ☐

A8. **In which area and how did you acquire skills in RDM? (Multiple selection possible, mark as applicable)Policies (e.g. guidelines / data policies)**

Self-study ☐
Informal briefing ☐
Workshops / Lectures ☐

A9. **In which area and how did you acquire skills in RDM? (Multiple selection possible, mark as applicable)Publication / Data repositories**

Self-study ☐
Informal briefing ☐
Workshops / Lectures ☐

A10. **In which area and how did you acquire skills in RDM? (Multiple selection possible, mark as applicable)Archiving**

Self-study ☐
Informal briefing ☐
Workshops / Lectures ☐

A11. **In which area and how did you acquire skills in RDM? (Multiple selection possible, mark as applicable)Data management plan**

Self-study ☐
Informal briefing ☐
Workshops / Lectures ☐

A12. **In which area and how did you acquire skills in RDM? (Multiple selection possible, mark as applicable)Metadata standards**

Self-study ☐
Informal briefing ☐
Workshops / Lectures ☐

A13. **In which area and how did you acquire skills in RDM? (Multiple selection possible, mark as applicable)Persistent Identifier for Referencing and Citation (e.g. DOI)**

Self-study ☐
Informal briefing ☐
Workshops / Lectures ☐

A14.

In which area of RDM are you aware of training opportunities at your institution? (Multiple selection possible, mark as applicable)

FAIR principles

Informal briefing ☐
Self-study ☐

A15.

In which area of RDM are you aware of training opportunities at your institution? (Multiple selection possible, mark as applicable)

Versioning of software & documents (e.g. with Git, Subversion)

Informal briefing ☐
Self-study ☐
Workshops / Lectures ☐

A16.

In which area of RDM are you aware of training opportunities at your institution? (Multiple selection possible, mark as applicable)

Documentation for re-use

Informal briefing ☐
Self-study ☐
Workshops / Lectures ☐

A17.

In which area of RDM are you aware of training opportunities at your institution? (Multiple selection possible, mark as applicable)

Collecting metadata

Informal briefing ☐
Self-study ☐
Workshops / Lectures ☐

A18.

In which area of RDM are you aware of training opportunities at your institution? (Multiple selection possible, mark as applicable)

Open data formats

Informal briefing ☐
Self-study ☐
Workshops / Lectures ☐

A19.

In which area of RDM are you aware of training opportunities at your institution? (Multiple selection possible, mark as applicable)

Licensing (e.g. of research data)

Informal briefing ☐
Self-study ☐
Workshops / Lectures ☐

A20.

In which area of RDM are you aware of training opportunities at your institution? (Multiple selection possible, mark as applicable)

Policies (e.g. guidelines / data policies)

Informal briefing ☐
Self-study ☐
Workshops / Lectures ☐

A21.

In which area of RDM are you aware of training opportunities at your institution? (Multiple selection possible, mark as applicable)

Publication / Data repositories

Informal briefing ☐
Self-study ☐
Workshops / Lectures ☐

A22.

In which area of RDM are you aware of training opportunities at your institution? (Multiple selection possible, mark as applicable)

Archiving

Informal briefing ☐
Self-study ☐
Workshops / Lectures ☐

A23.

In which area of RDM are you aware of training opportunities at your institution? (Multiple selection possible, mark as applicable)

Data management plan

Informal briefing ☐
Self-study ☐
Workshops / Lectures ☐

A24.

In which area of RDM are you aware of training opportunities at your institution? (Multiple selection possible, mark as applicable)

Metadata standards

Informal briefing ☐
Self-study ☐
Workshops / Lectures ☐

A25.

In which area of RDM are you aware of training opportunities at your institution? (Multiple selection possible, mark as applicable)

Persistent Identifier for Referencing and Citation (e.g. DOI)

Informal briefing ☐
Self-study ☐
Workshops / Lectures ☐

A26. **Do you yourself teach in the field of RDM? (e.g. within the framework of workshops/lectures)**

No ☐
Yes ☐

Section B: Research Data Management (FDM): Need for services and support

B1. **Do you know NFDI4Ing?**

No ☐
Yes, I have heard of it before. ☐
Yes, I am a user. ☐
Yes, I am actively involved in NFDI4Ing or NFDI. ☐

B2. **Did you already receive support from NFDI4Ing in dealing with research data or did you use services of NFDI4Ing?**

No ☐
Yes ☐

B3. **Which tools or services by NFDI4Ing have you already used? (Multiple selection possible, mark as applicable)**

Betty's (Re)SearchEngine ☐
Terminology Service ☐
Data Collections Explorer ☐
RMDO (Planung, Implementation und Organisation von FDM) ☐
Education Repository ☐
Journal (ing.grid) ☐
NFDI4Ing Data Quality Metrics ☐
Mission Statement ☐
NFDI4Ing Knowledge-Base ☐
Jarves ☐
NFDI4Ing FAQ ☐
Alex' Action Items ☐
NFDI4Ing Special Interest Group (S.I.G.) ☐
Seed Funds ☐
NFDI4Ing Community Meetings ☐
other ☐
don't know ☐

B4. **Which other tools or services by NFDI4Ing have you already used?**

B5. **Now we would like to know which of the NFDI4Ing's partner projects or featured tools/platforms you have already used?**

Coscine ☐

Kadi4Mat ☐

NFDI4Ing GitLab (NFDI4Ing is using the GitLab instance of the RWTH Aachen) ☐

re3data ☐

don't know ☐

B6. **In what areas of research data management (RDM) would you like to see support? (Multiple selection possible, mark as applicable)**

No support needed ☐

Overall process of RDM ☐

RDM procedure (e.g. plan RDM in the context of a research project) ☐

Data collection ☐

Data preparation/analysis ☐

Data organisation ☐

Data standardisation ☐

Data publication ☐

Data sharing (e.g. with colleagues) ☐

Metadata collection ☐

Data archiving ☐

Data reuse ☐

no answer ☐

B7. **What type of support did you receive or what type of service did you use?**

Organisation and Technology ☐

Exchange and Events ☐

Further education/training and counselling ☐

no answer ☐

Other ▼

Other

[ ]

B8. **What services would you like to see from NFDI4Ing? (Multiple selection possible, mark as applicable)**

I do not need any services ☐

Advice on general questions regarding the handling of research data ☐

Advice on publishing and citing research data ☐

Advice on technical issues (e.g. metadata, standards, long-term archiving) ☐

Advice on legal issues (e.g. limitations on access, handling of sensitive data, use of licenses) ☐

Assistance with specific matters (e.g., submitting a manuscript to a journal that specifies publication of research data). ☐

Assistance in the creation of a data management plan, if one is requested by the funding agency ☐

A secure and reliable storage space for my research data ☐

Other - in the next step you have the opportunity to specify your needs more precisely ☐

B9. **What other services would you like to see from NFDI4Ing?**

Section C: Research Data Management (RDM): Data and Software

C1. **Do you know and use software (online or offline) to support research data management?**

No, I am not aware of any of such software. ☐

Yes, I am aware of such software, but I do not use it. ☐

Yes, I use such software. ☐

C2. **What software (online or offline) do you know to support research data management?**

C3. **What software (online or offline) do you use to support research data management?**

C4. **Where do you store your research data? (Multiple selection possible, mark as applicable)**

Private computer ☐

Office/Work computer ☐

Server in the institute (or equivalent) ☐

Server of the university (parent institution) ☐

External at a scientific institution ☐

Externally with a commercial provider ☐

no answer ☐

C5. **Where do you store your research data in addition to the previously mentioned? (Multiple selection possible, mark as applicable)**

Electronic storage (e.g. USB memory sticks, flash memory cards such as SD cards) ☐

Optical storage (e.g. CD, DVD, BluRay) ☐

Magnetic storage (Magnetic tape, Magnetic cards, Floppy Disk) ☐

Photographic storage (e.g. Microform, Photographic paper) ☐

no answer ☐

Section D: Research Data Management (RDM): Work Flow and Strategy

D1. **Do you follow a data management plan (DMP) in your research projects?**

No, I was not aware of this possibility. ☐

No, I do not plan to do it in the near future. ☐

No, but I intend to. ☐

Yes ☐

D2. **Are you aware of any research data repositories?**

No ☐

Yes, multidisciplinary repositories (e.g. Zenodo, Figshare) ☐

Yes, subject specific repositories ☐

Yes, institutional repository (provided by your university) ☐

D3. **Have you ever used data from a research data repository yourself?**

No, I was not aware of this possibility. ☐

No, I do not plan to do it in the near future. ☐

No, but I intend to do. ☐

Yes ☐

D4. **In principle, would you be willing to publish your research data in a repository?**

No, I do not plan to do it in the near future. ☐

Yes ☐

D5. **Have you already published data yourself using a research data repository?**

No, I was not aware of this possibility. ☐

No, I do not plan to do it in the near future. ☐

No, but I intend to. ☐

Yes ☐

D6. **What are the reasons why you have not yet published research data in repositories? (Multiple selection possible, mark as applicable)**

No data generated or available ☐

Data not relevant ☐

Lack of knowledge about the exact process or lack of opportunity ☐

Effort for data preparation too high ☐

Not allowed by my institution (e.g. restrictions due to data protection) ☐

Not permitted by the client (e.g. restrictions due to data protection) ☐

Publication is not required ☐

Publication has no added value ☐

no answer ☐

D7. **Did you yourself already submitt or provide research data in combination with your manuscript to a journal?**

No, I was not aware of this possibility. ☐

No, I do not plan to do it in the near future. ☐

No, but I intend to. ☐

Yes ☐

D8. **Have you cited research data yourself yet?**

No, I was not aware of this possibility. ☐

No, I do not plan to do it in the near future. ☐

No, but I intend to. ☐

Yes ☐

Section E: Research Data Management (RDM): Governance concepts in the Engineering Sciences

E1. **Does your institution have recommendations or rules for handling research data?**

Yes ☐
No, but it's planned. ☐
No, I don't know. ☐

E2. **Does your institution offer you support and advice on how to handle research data?**

Yes ☐
No, but it's planned. ☐
No, I don't know. ☐

E3. **Does your institution have a data steward?**

"Data stewards are experts in research data management. They are employed at research institutions to support researchers in the sustainable handling of their data. Decentralised or embedded data stewards work at the faculty, institute or project level and help researchers with discipline-specific requests. Data stewards' tasks primarily include consultation, training, needs assessment and requirements engineering." (translated definition from https://forschungsdaten.info)

Yes ☐
No, but it's planned. ☐
No, I don't know. ☐

E4. **Does your institution offer further training on RDM?**

Yes ☐
No, but it's planned. ☐
No, I don't know. ☐

E5. **What kind of support is available at your institution for the management of research data?**

☐ (text box)

E6. **In which way would you like to see more support from your institution? (Multiple selection possible, mark as applicable)**

Support from e.g. Data Stewards ☐
Formal policies for handling research data ☐
Further Education ☐
General software service within the framework of research data management ☐
Software service for publications ☐
Software service for archiving ☐
Software service for versioning (e.g. Gitlab) ☐
Other ▼

Other

(text box)

Section F: Socio-economic information

F1. **Which engineering subject area do you belong to? (DFG Classification of Scientific Disciplines)**

DFG 41 (Mechanical and Industrial Engineering) ☐

DFG 42 (Thermal Engineering/ Process Engineering) ☐

DFG 43 (Materials Science and Engineering) ☐

DFG 44 (Computer Science, Systems and Electrical Engineering) ☐

DFG 45 (Construction Engineering and Architecture) ☐

no answer ☐

F2. **Which engineering review board do you belong to? (DFG Classification of Subject Areas)**

[401] Production Technology ☐

[402] Mechanics and Constructive Mechanical Engineering ☐

[403] Process Engineering, Technical Chemistry ☐

[404] Fluid Mechanics, Technical Thermodynamics and Thermal Energy Engineering ☐

[405] Materials Engineering ☐

[406] Materials Science ☐

[407] Systems Engineering ☐

[408] Electrical Engineering and Information Technology ☐

[409] Computer Science ☐

[410] Civil Engineering and Architecture ☐

no answer ☐

F3. **In which field of activity do you mainly work?**

Research ☐

Teaching and Further Education ☐

Administration ☐

Library Services and Infrastructure ☐

Private Enterprise ☐

no answer ☐

F4. **In which area of activity do you work second-order?**

Research ☐

Teachung and Further Education ☐

Administration ☐

Library Services and Infrastructure ☐

Private Enterprise ☐

no answer ☐

F5. **Which status group do you belong to?**

Student Assistant ☐
PhD student / Research Assistant ☐
Postdoc ☐
Associate Professor / Private Lecturer ☐
Junior Professorship ☐
Professor ☐
Research Management ☐
no answer ☐
Other ▼

Other

☐

F6. **How many years have you been working in research?**

< 3 years ☐
3 to 6 years ☐
6 to 10 years ☐
> 10 years ☐

F7. **Which facility or institution do you belong to?**

University (of Technology) ☐
Technical University ☐
University of Applied Sciences ☐
Non-university research institution ☐
Agency ☐
Company (Economy) ☐
no answer ☐

F8. **In which federal state is your institution located? (If applicable, this does not mean the federal state of the head office)**

Baden-Württemberg ☐
Bavaria ☐
Berlin ☐
Brandenburg ☐
Bremen ☐
Hamburg ☐
Hesse ☐
Mecklenburg–Western Pomerania ☐
Lower Saxony ☐
North Rhine-Westphalia ☐
Rhineland-Palatinate ☐
Saarland ☐
Saxony ☐
Saxony-Anhalt ☐
Schleswig-Holstein ☐
Thuringia ☐
is not located in Germany ☐
no answer ☐

F9. **What age group do you belong to?**

18 to 24 years

25 to 30 years

30 to 35 years

35 to 40 years

40 to 45 years

> 45 years

F10. **When were you born? Please state your year of birth.**

F11. **Please indicate your gender.**

female

male

non-binary

no answer

Thank you very much for your participation in our community survey. We will publish the results of the survey on the NFDI4Ing website.

In case you want to get notified about the results, please consider subscribing for our newsletter.