NFDI ToolTalk:

re3data – The place to be for research data repositories in NFDI

April 17, 2023, 4 p.m.

Nina Weisweiler
Helmholtz Association, Helmholtz Open Science Office / Helmholtz Metadata Collaboration / re3data COREF

https://doi.org/10.5281/zenodo.7837286

Global Registry of research data repositories…

…across **all research disciplines**

… presents **repositories** for the **permanent storage** and **access** of research data sets to researchers, funding bodies, publishers, scholarly institutions, and other service providers.

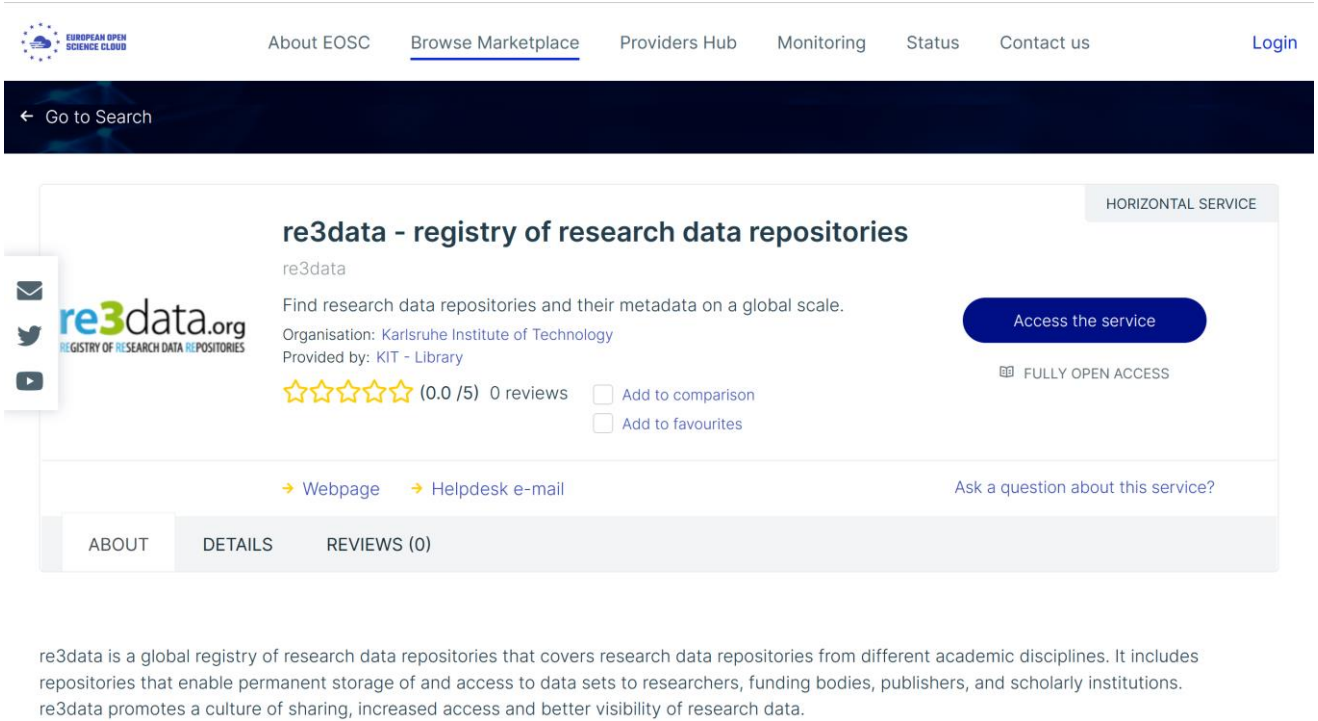
…promotes a culture of **sharing, increased access and better visibility** of research data.

Networks and integrations

re3data is a **central reference point and metadata source** for other service providers on a global scale:

- OpenAIRE's Open Science Observatory
- European Open Science Monitor
- F-UJI Automated FAIR Data Assessment Tool
- DARIAH-EU Data Deposit Recommendation Service
- DataCite Commons
- …

Connected via the EOSC Marketplace



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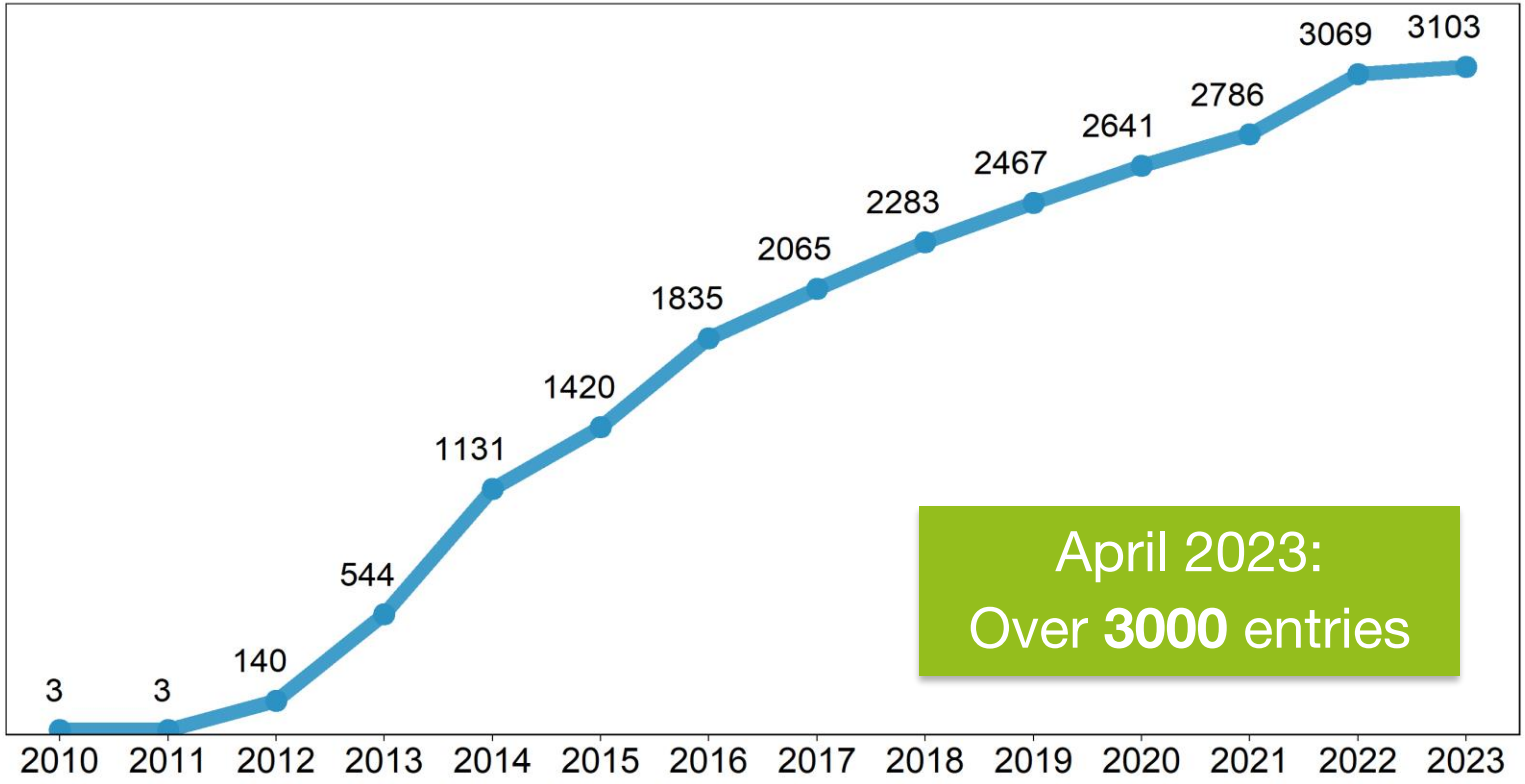
Number of repositories indexed in re3data per year:



April 2023:
Over **3000** entries

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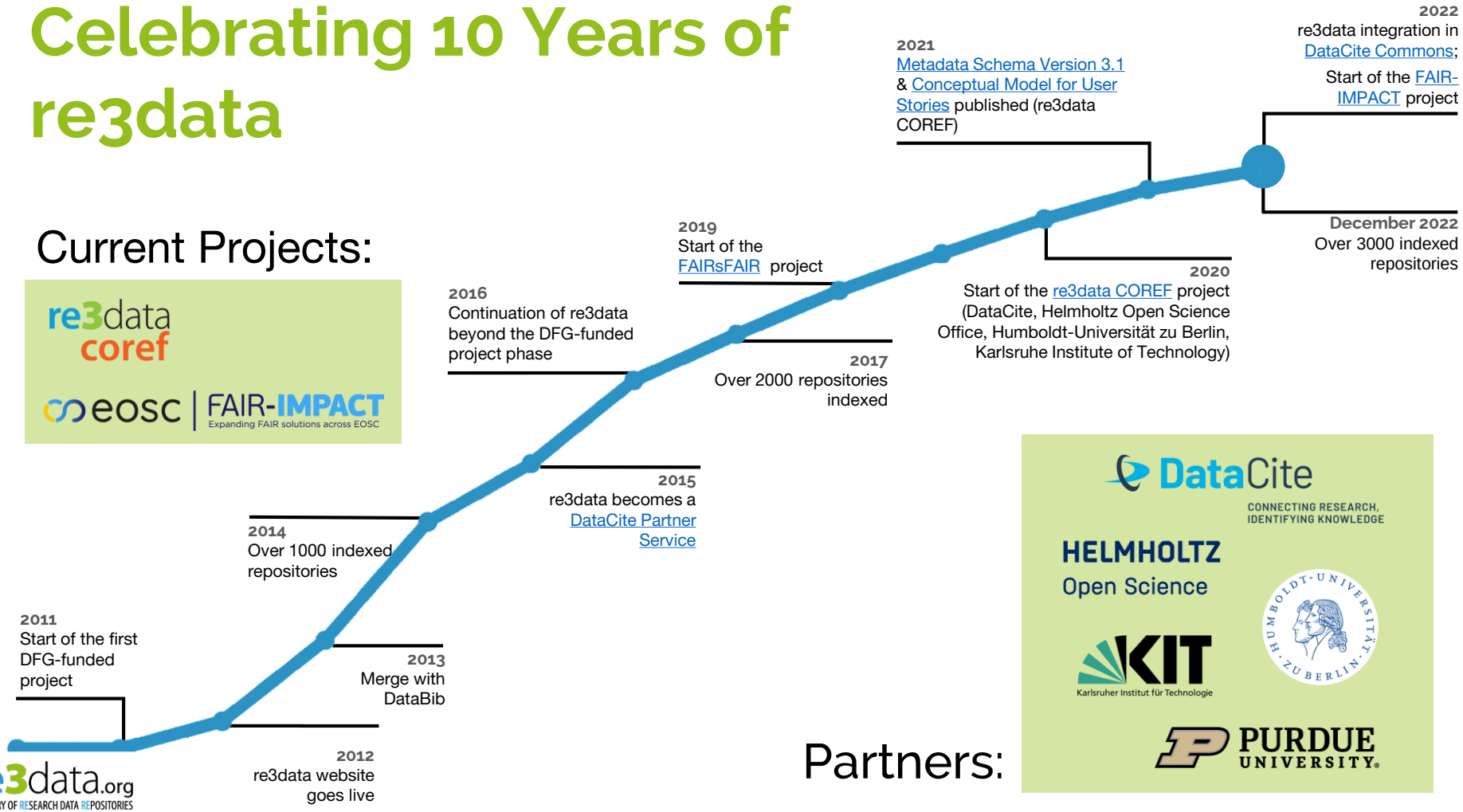
Celebrating 10 Years of re3data



Current Projects:

re3data coref

eosc | FAIR-IMPACT
Expanding FAIR solutions across EOSC

Partners:

DataCite
CONNECTING RESEARCH, IDENTIFYING KNOWLEDGE

HELMHOLTZ Open Science

KIT Karlsruher Institut für Technologie

HUMBOLDT-UNIVERSITÄT ZU BERLIN

PURDUE UNIVERSITY

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Further develop & enhance re3data: re3data coref

COMMUNITY DRIVEN OPEN REFERENCE FOR RESEARCH DATA REPOSITORIES

Conceptual Service Model

- Embed the registry within the research community and infrastructure landscape to meet the emerging needs for a trusted repository reference.

Metadata Schema

- Revision and enhance the re3data metadata schema for the description of research data repositories.

Technical Infrastructure

- Implement new features and the updated metadata schema.
- Provide the necessary technical infrastructure and services.

Quality & Transparency

- Conduct a comprehensive study on quality assurances at research data repositories to improve re3data metadata information.
- Improve re3data metadata quality, trust and transparency.

Community Building

- Extensive outreach activities, networking and policy development.

DataCite

HELMHOLTZ Open Science

HUMBOLDT-UNIVERSITÄT ZU BERLIN

KIT Karlsruher Institut für Technologie

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EU Projects with re3data participation

2019-2022:

Tools for finding and selecting FAIR enabling repositories to researchers and other stakeholders

Integration of repository information into DataCite Commons

- re3data as a metadata source
- Linking repositories with other entities of the PID graph

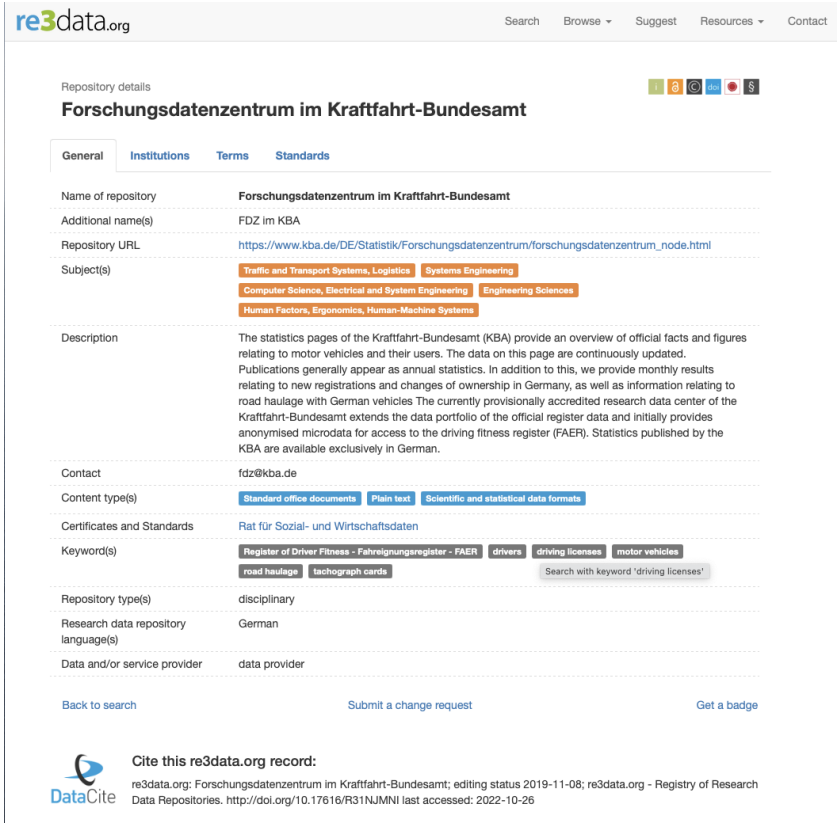
Launched in Summer 2022:

Practical implementation of the FAIR principles across all domains through FAIR-enabling practices, tools and services.

More at: https://fair-impact.eu/

What is a “repository” in re3data?

- We refer to all re3data entries as “repositories”:
  - Repositories in re3data are defined as “[...] a subtype of a sustainable information infrastructure providing long-term storage of and access to research data.”(Metadata Schema for the Description of Research Data Repositories, Version 3.1)
- The re3data registration policy is intentionally inclusive to cover a broad range of infrastructures for research data.



Registration Policy

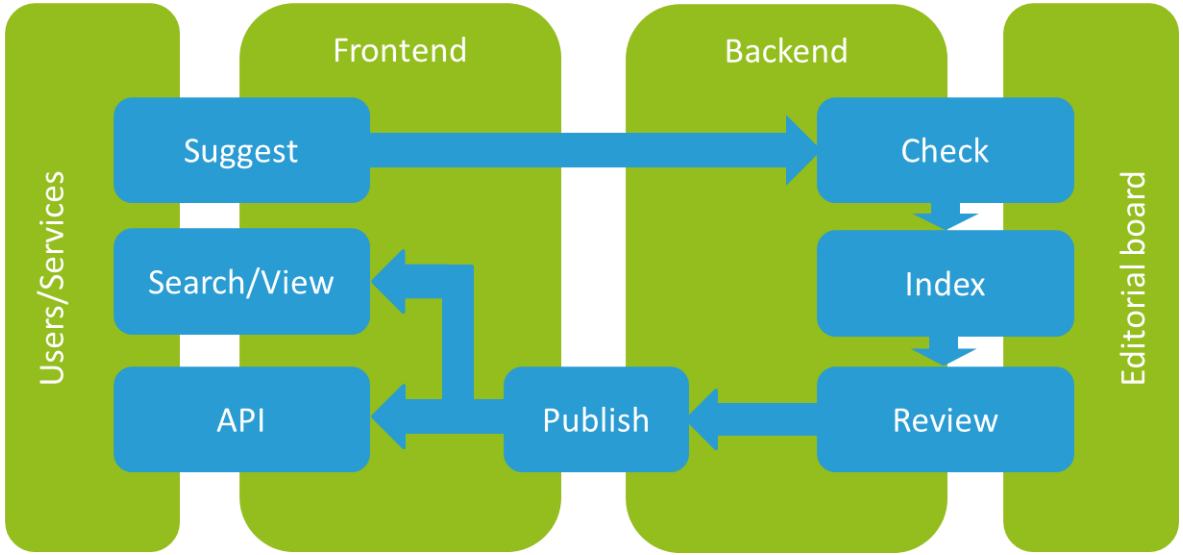
re3data.org Registration Policy

To be registered in re3data.org a research data repository must

- be run by a legal entity, such as a sustainable institution (e.g. library, university)
- clarify access conditions to the data and repository as well as the terms of use
- **have focus on research data**

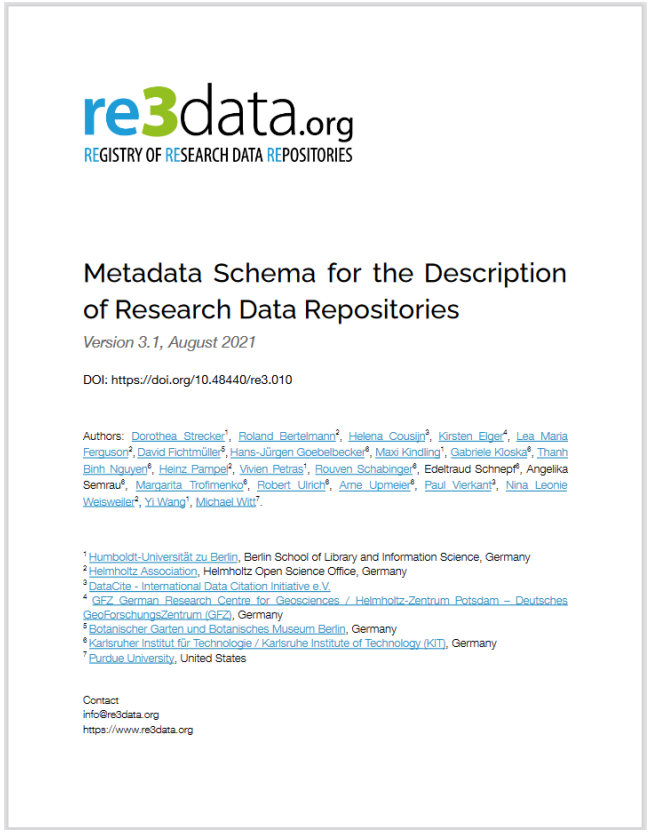
A research data repository is a subtype of a sustainable information infrastructure which provides long-term storage and access to research data that is the basis for a scholarly publication. Research data means information objects generated by scholarly projects for example through experiments, measurements, surveys or interviews.

Editorial Workflow



Workflow for new repository suggestions and change requests for re3data

re3data Metadata Schema



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Metadata Schema for the Description of Research Data Repositories

Version 3.1, August 2021

DOI: https://doi.org/10.48440/re3.010

Authors: Dorothea Strecker[1], Roland Bertelmann[2], Helena Cousijn[3], Kirsten Elger[4], Lea Maria Ferguson[2], David Fichtmüller[5], Hans-Jürgen Goebelbecker[6], Maxi Kindling[1], Gabriele Kloska[6], Thanh Binh Nguyen[6], Heinz Pampel[2], Vivien Petras[1], Rouven Schabinger[6], Edeltraud Schnepf[6], Angelika Semrau[6], Margarita Trofimenko[6], Robert Ulrich[6], Arne Upmeier[6], Paul Vierkant[3], Nina Leonie Weisweiler[2], Yi Wang[1], Michael Witt[7].

[1] Humboldt-Universität zu Berlin, Berlin School of Library and Information Science, Germany
[2] Helmholtz Association, Helmholtz Open Science Office, Germany
[3] DataCite - International Data Citation Initiative e.V.
[4] GFZ German Research Centre for Geosciences / Helmholtz-Zentrum Potsdam – Deutsches GeoForschungsZentrum (GFZ), Germany
[5] Botanischer Garten und Botanisches Museum Berlin, Germany
[6] Karlsruher Institut für Technologie / Karlsruhe Institute of Technology (KIT), Germany
[7] Purdue University, United States

Contact
info@re3data.org
https://www.re3data.org

Strecker S., et al. (2021): Metadata Schema for the Description of Research Data Repositories: version 3.1, https://doi.org/10.48440/re3.010

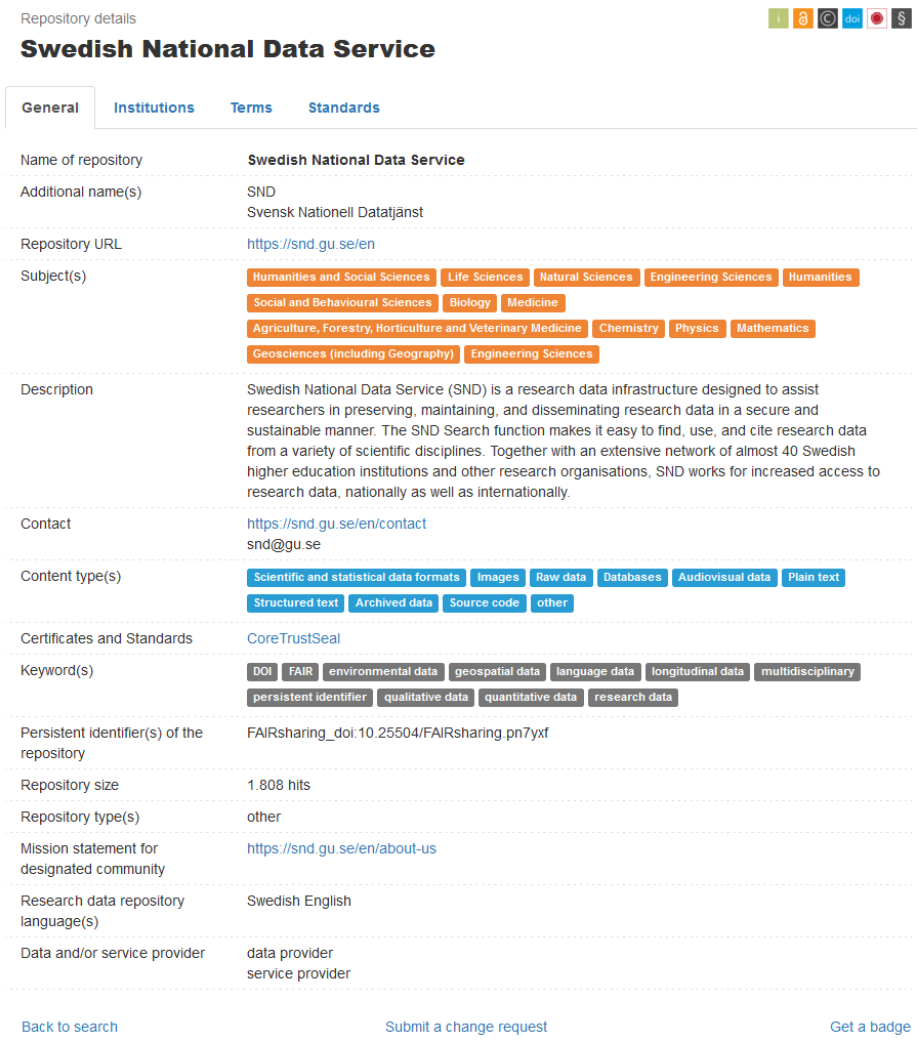
42 Properties on…

- General information
- Responsibilities
- Policies
- Legal aspects
- Technical standards
- Quality standards
- DOI for repository descriptions
- Since 2020: ROR IDs for institutions

Version 3.1 of the Metadata Schema:
https://www.re3data.org/schema

General

- Additional name(s)
- URL
- Subject(s)
- Description
- Contact information
- Content type(s)
- Certificates & Standards
- Keyword(s)
- Repository identifier(s)
- Size
- Repository type(s)
- Mission statement URL
- Repository language(s)
- Provider type



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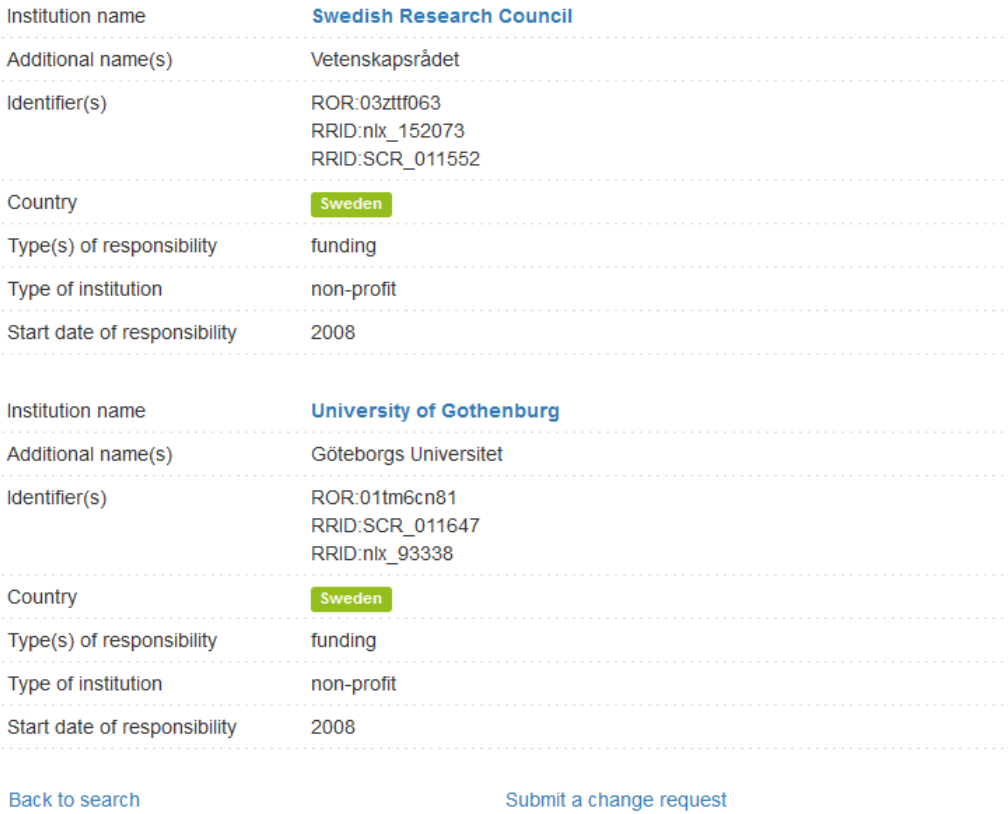
Institutions

- Institution name & URL
- Additional name(s)
- Institution Identifier(s)
- Contact information
- Country
- Responsibility type(s)
- Institution type(s)
- Responsibility start date
- Responsibility end date



Institution name	**Swedish Research Council**
Additional name(s)	Vetenskapsrådet
Identifier(s)	ROR:03zttf063 RRID:nlx_152073 RRID:SCR_011552
Country	Sweden
Type(s) of responsibility	funding
Type of institution	non-profit
Start date of responsibility	2008

Institution name	**University of Gothenburg**
Additional name(s)	Göteborgs Universitet
Identifier(s)	ROR:01tm6cn81 RRID:SCR_011647 RRID:nlx_93338
Country	Sweden
Type(s) of responsibility	funding
Type of institution	non-profit
Start date of responsibility	2008

Back to search Submit a change request

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Terms

- Policies
- **Database access**
- **Data accesses**
- **Data uploads**
- Data upload licenses

Policies (2)

Policy Name	CoreTrustSeal assessment
Policy Name	Data policy of the information system PANGAEA

Database access

Type of access to research data repository	open

Database licenses (1)

Database License	CC0

Data access (1)

Type of access to data	open

Data licenses (4)

DataLicense	CC
DataLicense	other

Access (property)	*Open Access*		*Restricted Access*		*Closed Access*
Access to Repository (20.1 databaseAccessType)	open		open or restricted		closed
Access to Data (22.1 dataAccessType)	open (embargoed, restricted, closed)		restricted (embargoed, closed)		closed
Data Upload (24.1 dataUploadType)	open or restricted	closed	open or restricted	closed	-

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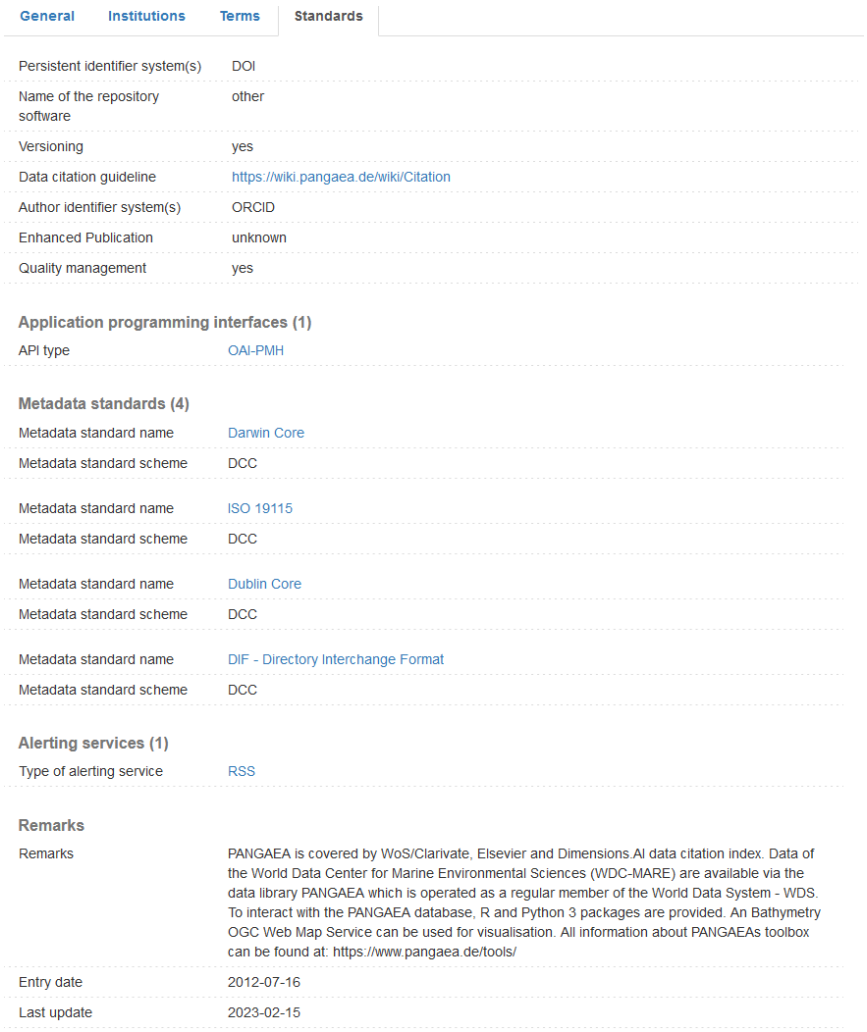
Standards

- PID system(s)
- Repository software
- Versioning
- Data citation guideline with URL
- Enhanced publication (allows links between publications and data)
- Quality management
- API type(s)
- Metadata standards
- Syndication services
- Further remarks
- Entry date
- Last update



General | Institutions | Terms | Standards

Persistent identifier system(s)	DOI
Name of the repository software	other
Versioning	yes
Data citation guideline	https://wiki.pangaea.de/wiki/Citation
Author identifier system(s)	ORCID
Enhanced Publication	unknown
Quality management	yes

Application programming interfaces (1)

API type	OAI-PMH

Metadata standards (4)

Metadata standard name	Darwin Core
Metadata standard scheme	DCC
Metadata standard name	ISO 19115
Metadata standard scheme	DCC
Metadata standard name	Dublin Core
Metadata standard scheme	DCC
Metadata standard name	DIF - Directory Interchange Format
Metadata standard scheme	DCC

Alerting services (1)

Type of alerting service	RSS

Remarks

Remarks	PANGAEA is covered by WoS/Clarivate, Elsevier and Dimensions.AI data citation index. Data of the World Data Center for Marine Environmental Sciences (WDC-MARE) are available via the data library PANGAEA which is operated as a regular member of the World Data System - WDS. To interact with the PANGAEA database, R and Python 3 packages are provided. An Bathymetry OGC Web Map Service can be used for visualisation. All information about PANGAEAs toolbox can be found at: https://www.pangaea.de/tools/
Entry date	2012-07-16
Last update	2023-02-15

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Input: Keeping records up-to-date

- Automated updates (e.g. CoreTrustSeal)
- Reviews by the editorial team
- Change requests:

Contact	https://nanohub.org/about/contact
Content type(s)	Databases · Audiovisual data · Software applications · Standard office documents · other
Keyword(s)	Nanomaterial Registry · nanoBIO · nanoscience · nanotechnology · simulation · thermalhub
Persistent identifier(s) of the repository	RRID:SCR_013963 OMICS_27120
Repository size	6.139 resources
Repository type(s)	disciplinary
Mission statement for designated community	https://nanohub.org/about
Research data repository language(s)	English
Data and/or service provider	data provider service provider

Back to search

Submit a change request

Submit a change request

Make changes to the properties that need an update. The editorial board will review the submitted record and put it online

General

Repository name: nanoHUB

Repository name language: English

Additional names — Text: nanoHUB.org

Language: English

Repository url: https://nanohub.org/

Subjects — Name: 31 Chemistry

Scheme: DFG

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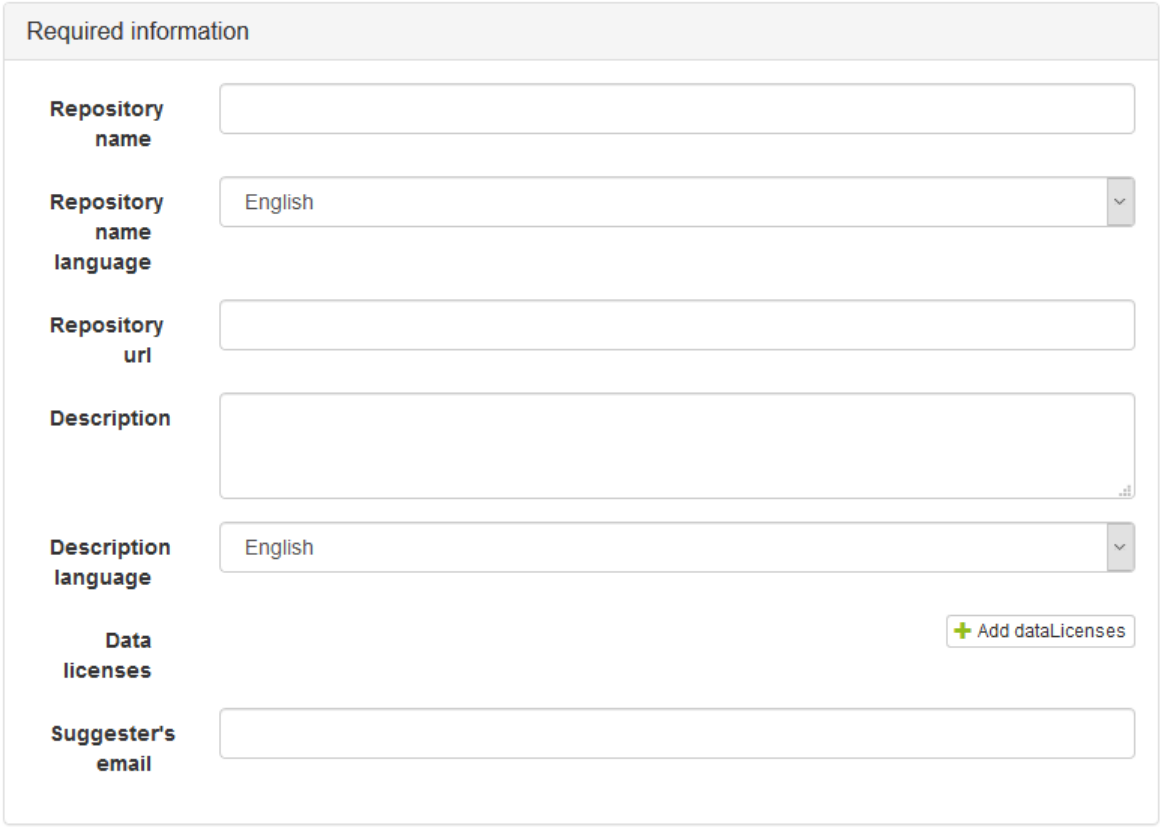
Input: Required information



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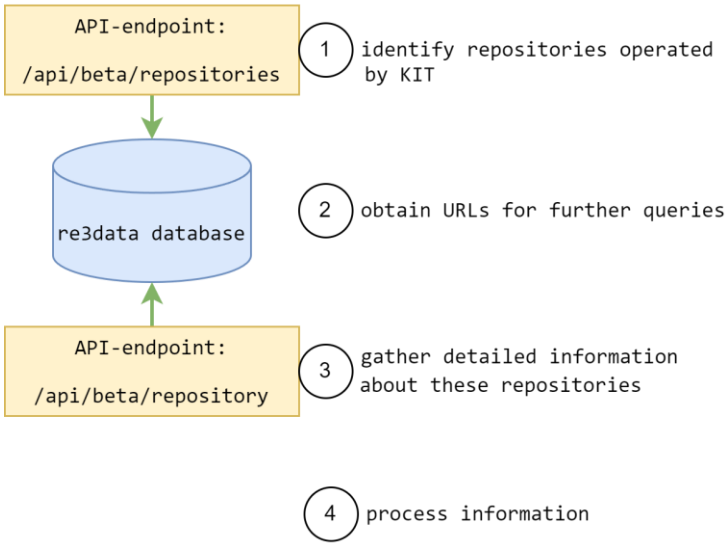
Output: Querying the re3data API

- re3data metadata is available under a CC0 via an open API and a GUI: https://www.re3data.org/search
- In our GitHub repository, we show examples for using the re3data API that can be adapted to fit other use cases: https://github.com/re3data/using_the_re3data_API

Schematic overview of a possible query process:



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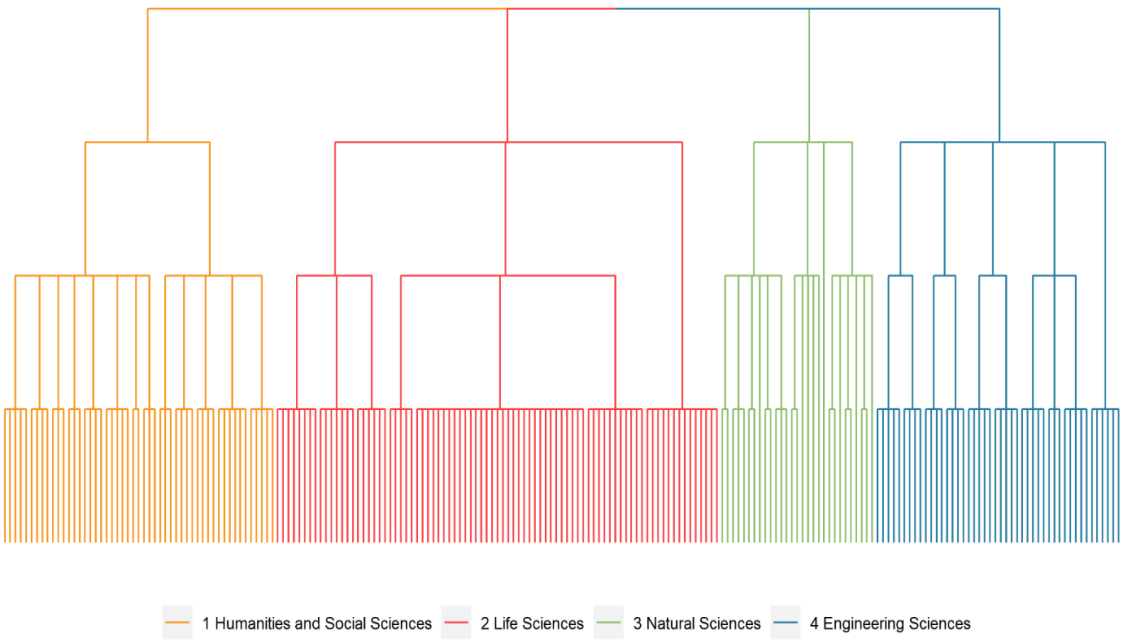
Subject classification: Gaining an overview



re3data applies the DFG Subject Areas to…

1. describe repositories in adequate depth, enabling users to find an RDR that suits their specific needs.
2. create separation between repositories, enabling users to distinguish RDR based on their disciplinary focus.

Visit our blog for more information!

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Icons: Facilitating the selection process of suitable research data repositories

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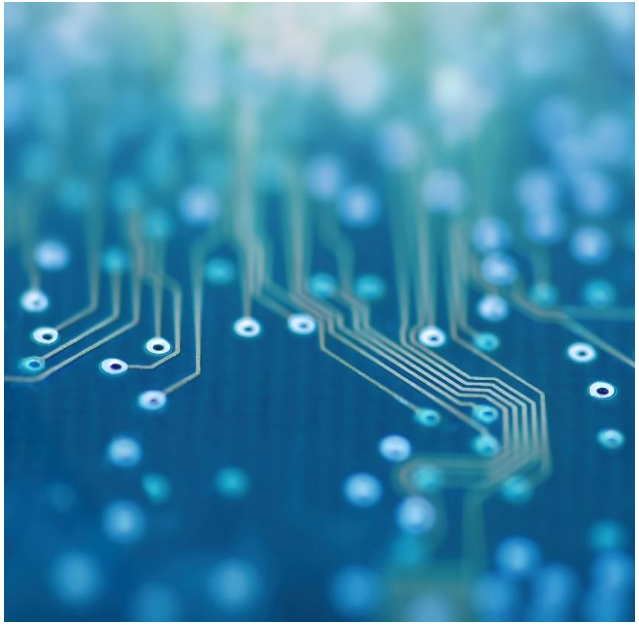
Research data repositories: Essential infrastructures for FAIR data management

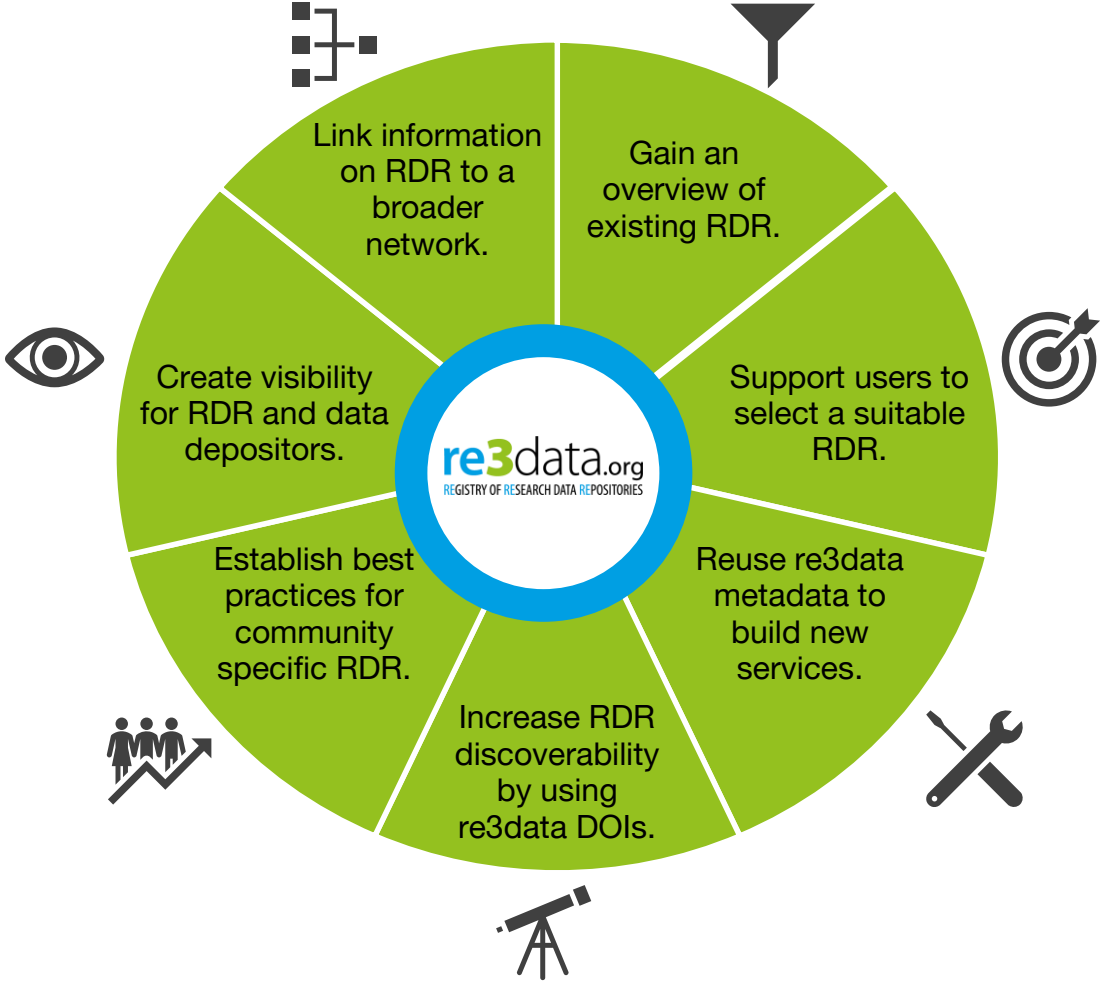
RDR generate, consolidate and maintain metadata, ensuring that valuable research data can be systematically reused over the long term.



Challenges:

- Practices and customs in RDM vary widely across research disciplines.
- A multitude of tools and services makes it harder for users to find and choose what they need.
- Users are confronted with scattered and unstructured information.

re3data can help the NFDI solve these challenges:



Join in and have your data repositories listed!

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Any questions?

Contact us!

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Mail: info@re3data.org
Mastodon: @re3data@openbiblio.social
Twitter: @re3data

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