

*Research Data Management*  
**Serviceteam RDM@KIT**

ROBERT ULRICH | DR. KERSTIN VANESSA WEDLICH-ZACHODIN | KIT LIBRARY

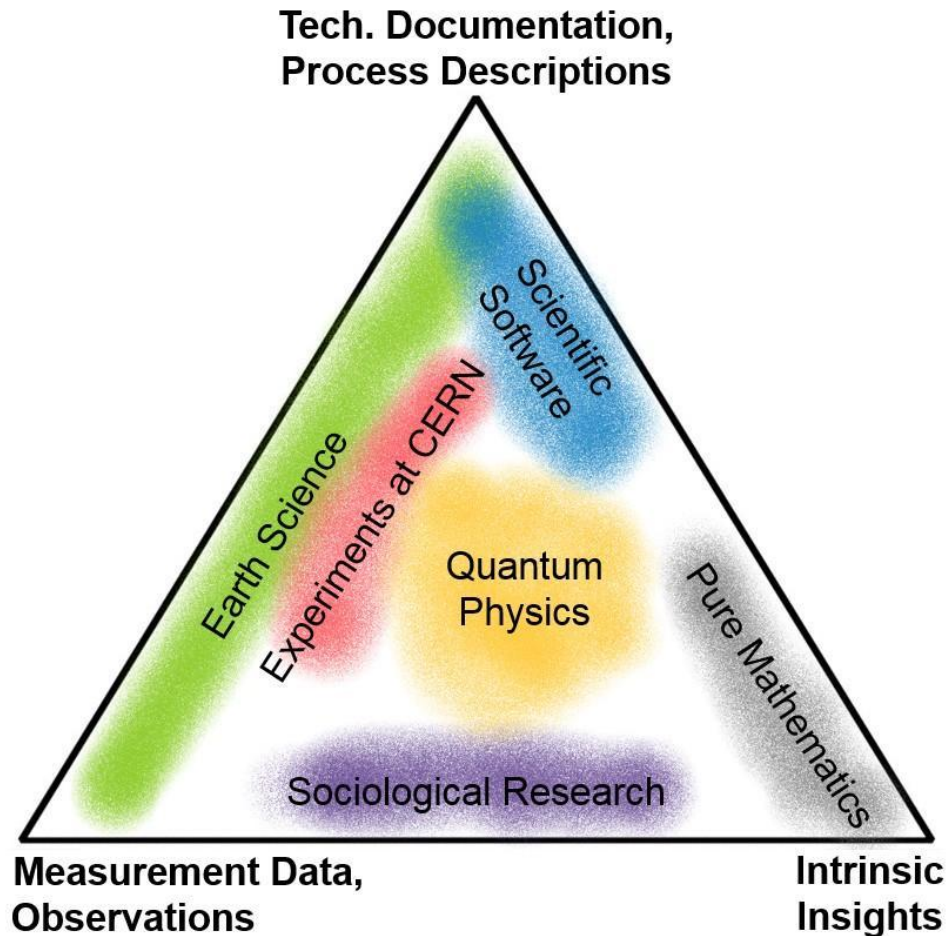


# Agenda

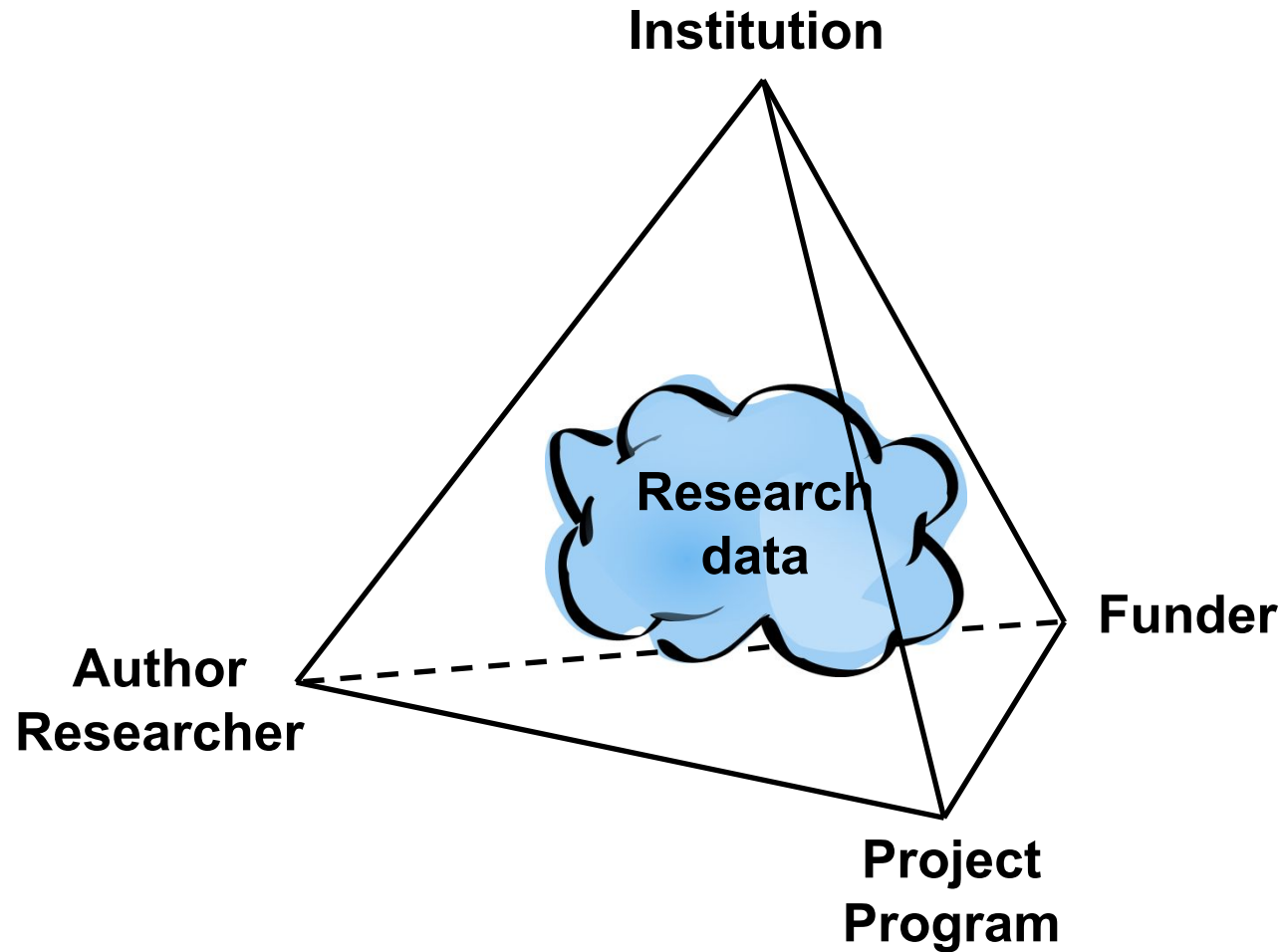
1. Research data management & Serviceteam RDM@KIT
2. Registry of Research Data Repositories
3. Research Data Management Organiser
4. Discussion and Questions

# What is research data?

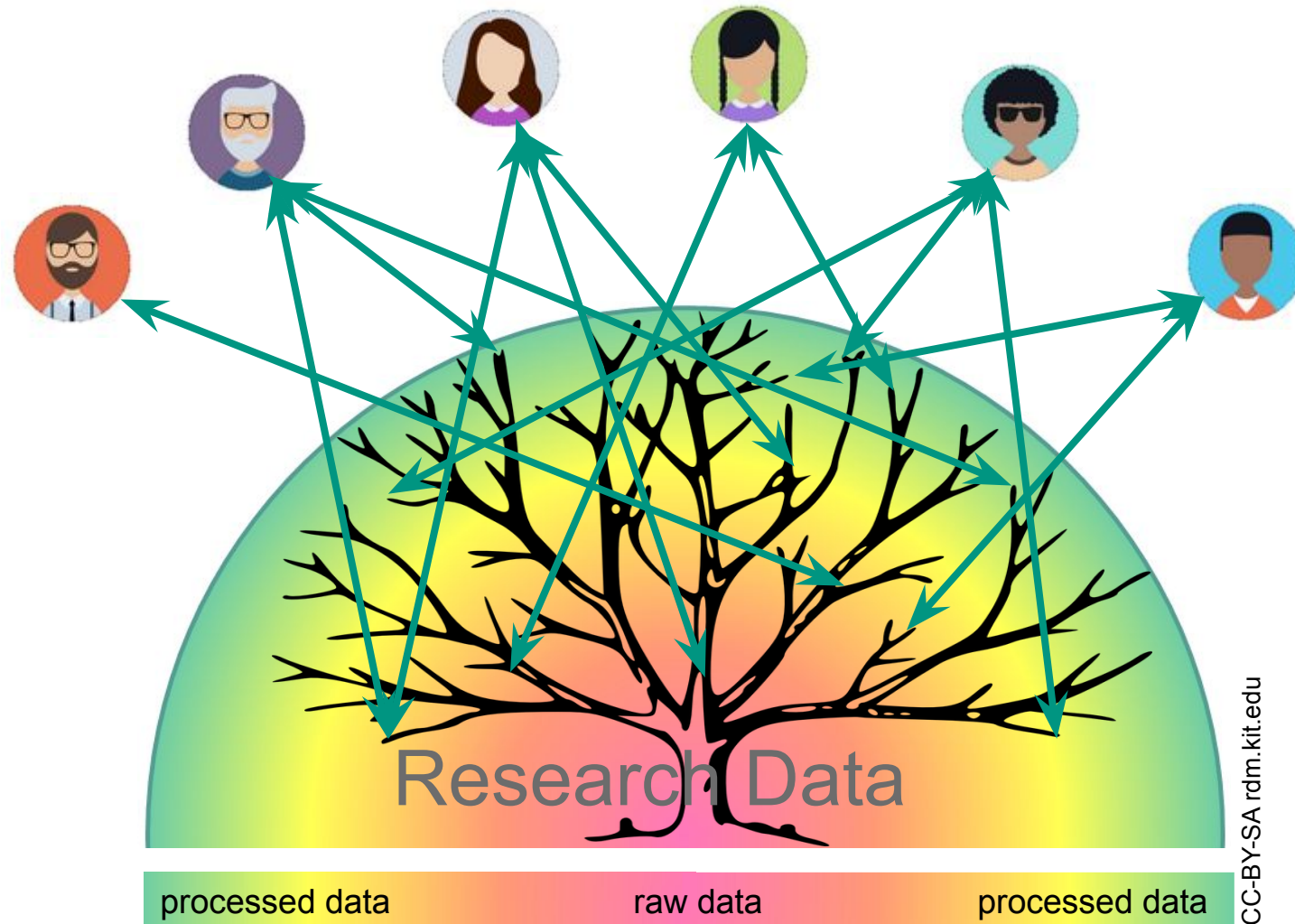
“Any definition of research data is likely to depend on the context in which the question is asked” - ANDS



# Who is the owner of the research data?



# n:m-relationship between research data, researchers and their publications

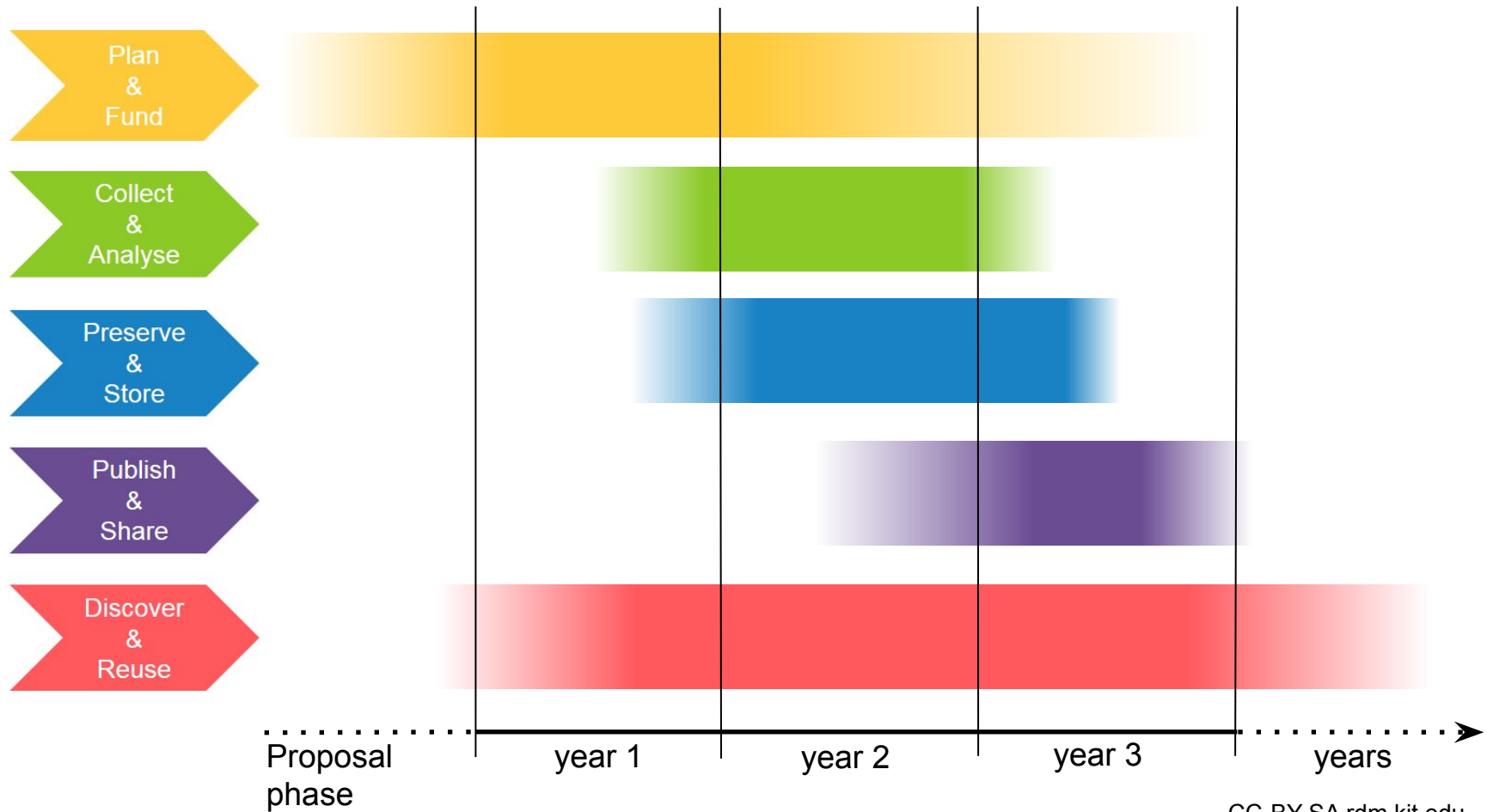


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# Research data lifecycle



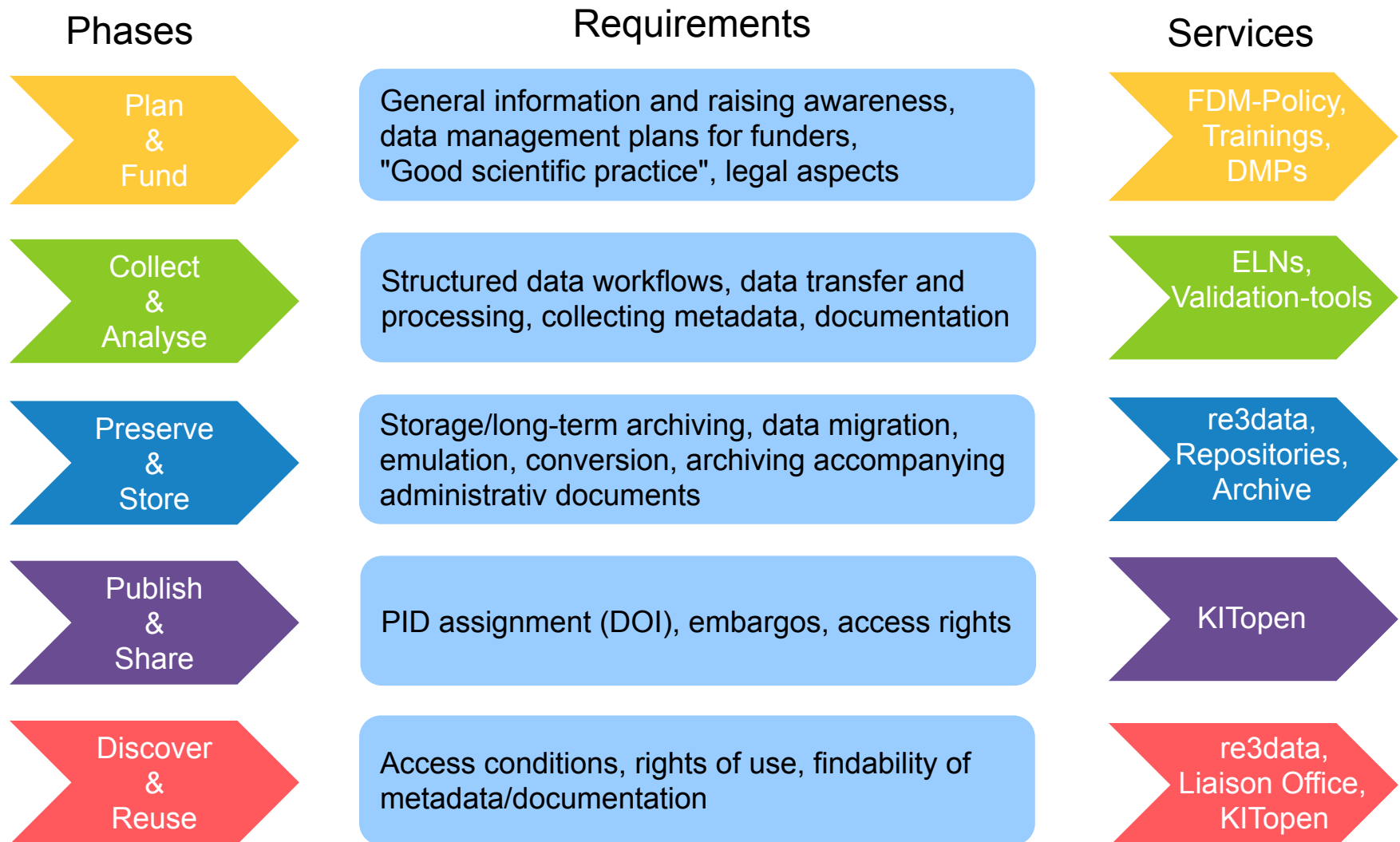
# Schematic example project with a duration of 3 years



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# Research data management

## Service landscape at KIT





1. Research data management starts with the planning of research projects and includes the acquisition, processing, and storage of research data. It guarantees access or access restrictions, reproducibility, and reuse of research data.
2. The researchers shall be responsible for research data and compliance with specific standards. Coordination of research data management shall be in the responsibility of the heads of institutes and other scientific organizational units.
3. KIT shall provide advice relating to research data management in research projects, from planning to execution to beyond the completion of the project. Advice shall consider discipline-specific requirements, such as the selection of suited repositories and data formats.
4. KIT shall provide appropriate storage facilities for research data. For this purpose, it shall make available controlled accesses and an appropriate infrastructure.
5. KIT shall support free access to research data taking into account ethical, legal, economic, and contractual framework conditions.



Website: [rdm.kit.edu](http://rdm.kit.edu), [forschungsdaten.info](http://forschungsdaten.info)

Email: [contact@rdm.kit.edu](mailto:contact@rdm.kit.edu)



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# re3data.org

REGISTRY OF RESEARCH DATA REPOSITORIES

GridKA School

🔍 2019



## Mission

global registry of research data repositories

covers all academic disciplines

presents repositories and portals for the  
permanent storage and access of research data  
sets to researchers, funding bodies, publishers  
and scholarly institutions.

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

# Registration Policy

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**







# Metadata



41 properties on

General information

Responsibilities

Policies

Legal aspects

Technical standards

Quality standards

# Web

URL: <https://www.re3data.org/>

Search  
Facettes & Filters  
Widget & Badges  
API



# Enabling FAIR Data: Repository finder

URL: <https://repositoryfinder.datacite.org/>

Focused on publications

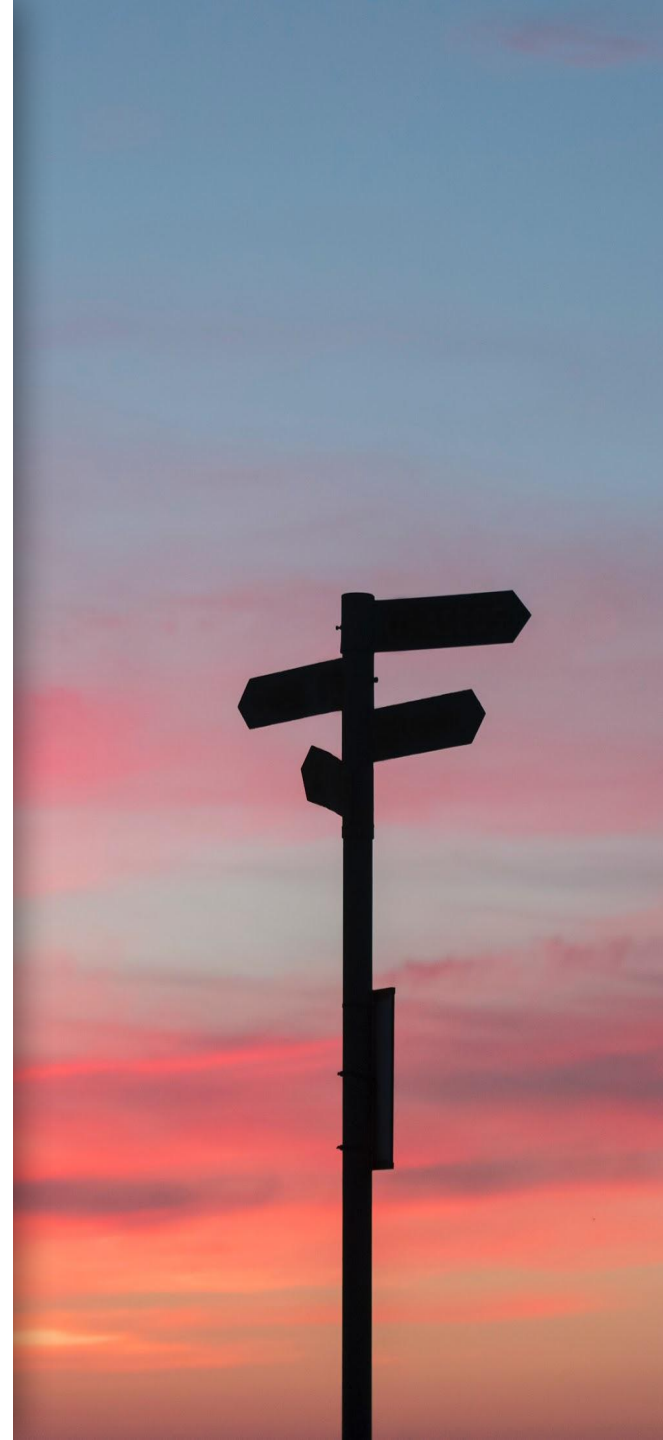
Participation of the scientific community

Challenges:

- Selection criteria

- User Interfaces

- Data basis







# Sustainability

Service of  DataCite

Partners





## Editorial board

Co-lead: [Michael Witt](#) (Purdue)

Co-lead: [Gabi Kloska](#) (KIT)

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[Iris Lindenmann](#) (Universität Basel)

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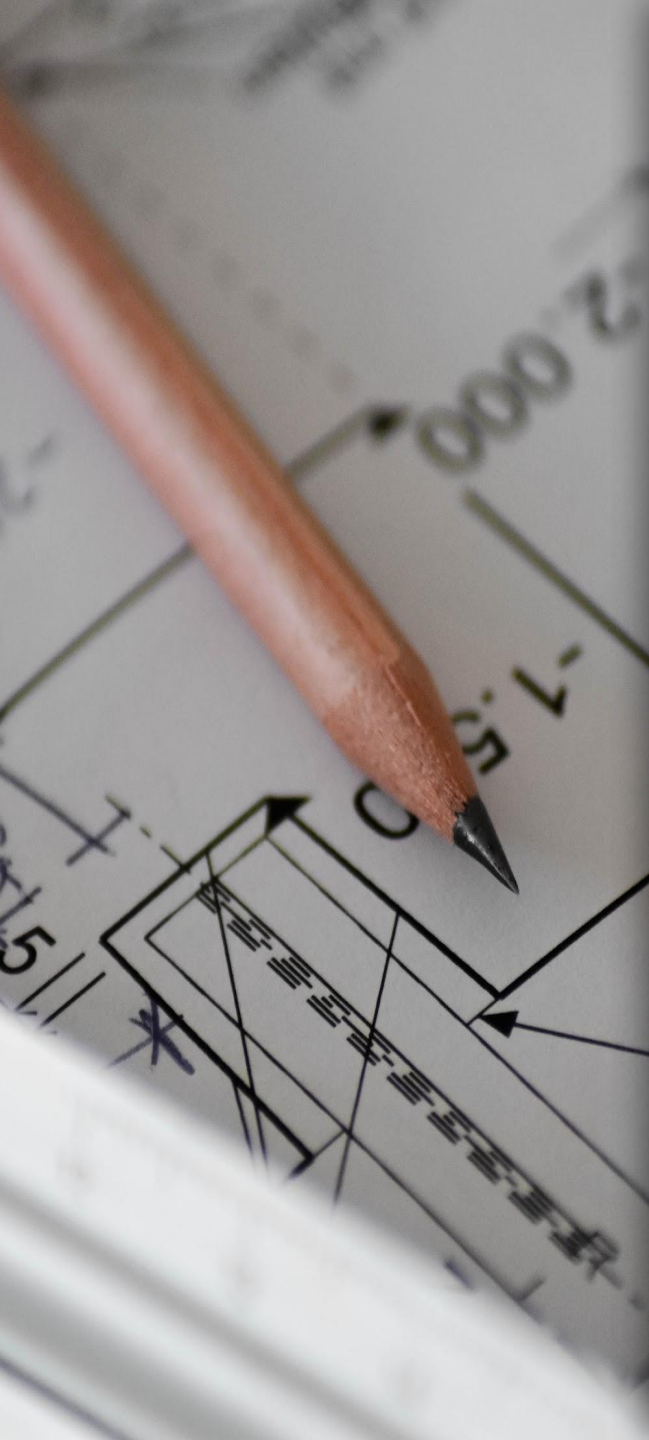
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[Sarah Williams](#) (Illinois)

Editorial assistant: [Matthew Kroll](#) (Purdue)



## Community Driven Open Reference

Further collect and analyse **community use cases**

Extend metadata schema and **improve interoperability and reuse**

Improve technical infrastructure & **APIs**

Improve **quality** and **transparency**

Community building & supporting policies



**So Long, and [Thanks](#) for All the  
Fish**

**Next stop: RDMO**



# How to create a data management plan with RDMO (Research Data Management Organiser)

A tool for planning, implementation and administration of research data management



Leibniz-Institut für  
Astrophysik Potsdam

# What is a data management plan (DMP)?

- Plans typically state :
  - What data will be created and how
  - An outline of the plans for sharing and preservation
    - What is appropriate given the nature of the data?
    - Do any restrictions apply?
- Other contents of a DMP:
  - Administrative framework
  - Documentation
  - Personnel responsibilities
  - Methods for handling data
  - Expenses/Budget
  - Partner & Service Provider
  - IT infrastructure
  - Data retention after end of project
  - Access and usage rights

# Why develop a data management plan (DMP)?

- To find and understand your data when you need to use it
- To ensure continuity if project staff leave or new researchers join
- To avoid unnecessary duplication e.g. re-collecting or re-working data
- To maintain the data underlying publications, allowing for validation of results
- Data sharing leads to more collaboration and advances research
- Your research is more visible and has greater impact
- Other researchers can cite your data so you gain credit
- It is required by most funding bodies such as DFG, BMBF and EU H2020

European Commission (Horizon 2020): Provision of a [data management plan](#) when submitting an application; Guidelines on [FAIR data management](#)

DFG (German Research Foundation): Providing detailed information on [the handling of research data](#)

BMBF (Federal Ministry of Education and Research): [Utilization plan for project results](#)

Funder	BMBF	DFG	EU Horizon 2020
<b>What to archive?</b>	research data	research data	research data, unpublished data, programming code
<b>Where to archive?</b>	data archive/ repository	free choice of repository	free choice of repository
<b>When to archive?</b>	after project end	within 12 months after project ends	as soon as possible
<b>General terms and conditions</b>	data need to be longterm-archiv ed/ preserved for the scientific community	primary data have to be stored for 10 years in their institution of origin	a data management plan and making data openly available after the project ends is mandatory for all projects with start date after 01/2017

More information: <https://www.forschungsdaten.info/support/english-pages/funder-guidelines/>



## ***Idealistic*** view of a DMP:

- Optimization of data management from the earliest stages of new project, during its whole lifetime, and beyond.
- Guidelines for the different stakeholders on how to handle the data acquired/used in the project.
- Planning of data publications and long-term preservation.
- Increase of quality and efficiency of scientific work.
- Beneficial to the researcher, the institution, and the funder.

## ***Realistic*** view of a DMP:

- Data management plans are seen as
  - pure obligation in the application process
  - static document, to be filed and forgotten
- Existing tools focus on providing templates
  - producing text documents
  - no actionable DMP
- Existing tools are central web sites
  - limited customization (local institution, research field)
  - transfer of possible sensitive information

# Tools

- DMPonline (by the Digital Curation Centre, DCC)
  - <https://dmponline.dcc.ac.uk>
  - Initially tailored to the situation in the UK, but also H2020
- DMPTool (by the California Digital Library, CDL)
  - <https://dmptool.org>
  - Targeted towards the situation in the US
- DSW (Data Stewardship Wizard, a joint [ELIXIR CZ](#) and [ELIXIR NL](#) project )
  - <https://ds-wizard.org/>
  - Focused on FAIR Open Science
- RDMO (by AIP, FHP, and KIT, funded by the DFG)
  - <https://rdmorganiser.github.io>
  - Organiser instead of plan, local instead of central

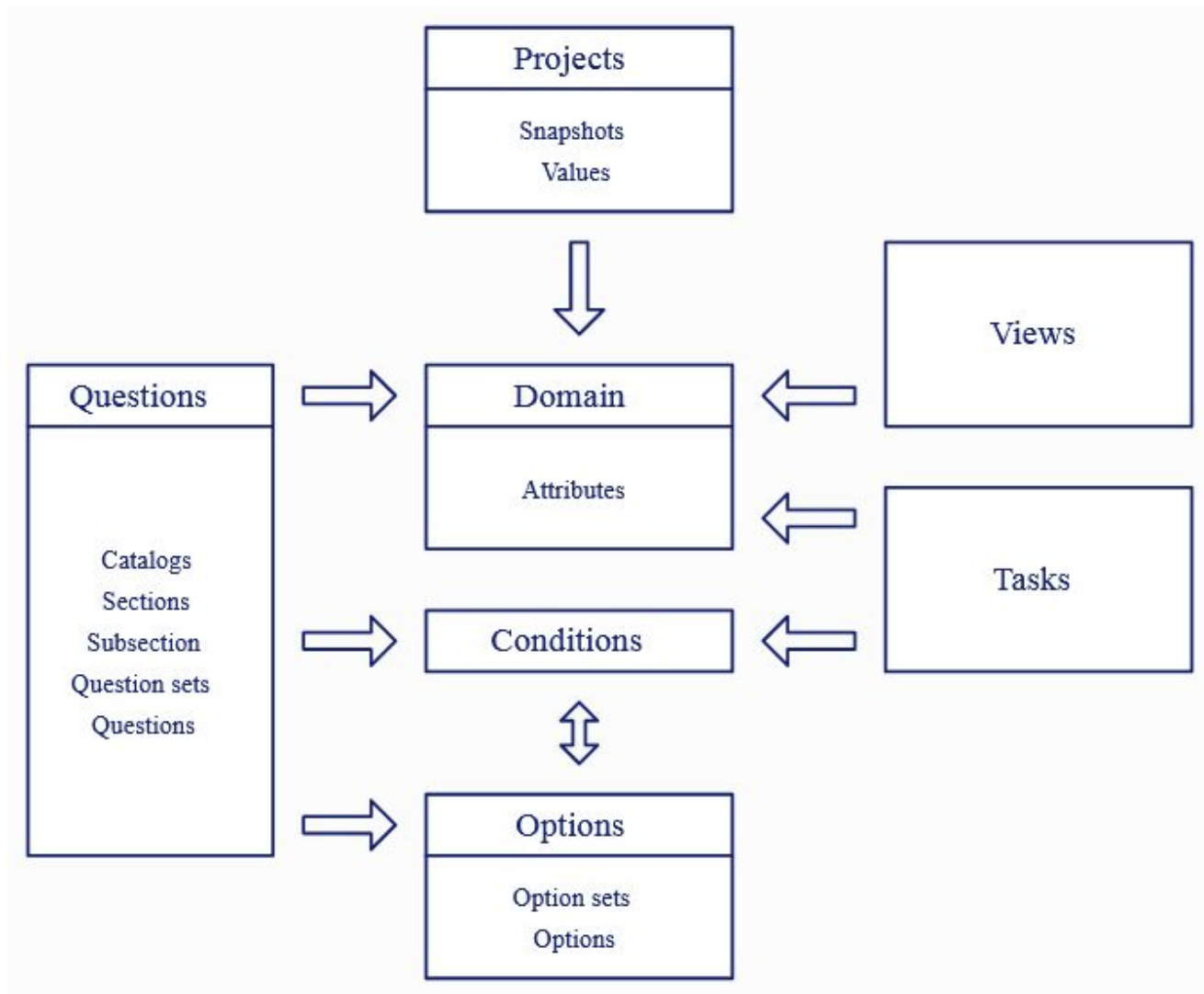


# RDMO - An organiser instead of a DMP

- Support of the RDM over the whole lifetime of the project
- Engage all stakeholders
- Collect all necessary information for a sustainable RDM
  - Guided questionnaire
  - Controlled vocabularies
  - Checkboxes, dropdowns, sliders
- Export in different formats using predefined views
- Identify follow up tasks
- Interfaces to other software, APIs
- Local instead of central (can be independently operated and customized)
- Open source



# Overview of the RDMO data model



# Questionnaire for project *Research Data Management Organiser (RDMO)*

## Technical classification / Data

Please fill in the form for each dataset. The different datasets will be referred to in following questions. You can add a new dataset using the green button. Once created, you can edit or delete datasets using the buttons in the top right corner.

Anforderungen\_FDMP Anforderungen\_RDMO Sourcecode and Dokumentation Add dataset

### What is the actual or expected size of the dataset?



- ☐ less than 1 GB
- ☐ 1 GB to 1 TB
- ☐ 1 TB to 100 TB
- ☐ more than 100 TB
- ☐ exact size:
- ☒ not yet defined

### How much data is produced per year?

Optional. This is only of concern if the data production rate reaches TB scale.

Back Skip

Save

Save and proceed

## Progress



## Navigation

Please note that using the navigation will discard any unsaved input.

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## Overview

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[Technical classification](#)
[Data](#)
[When does data collection or cr...](#)
[→ What is the actual or expected si...](#)
[Which file formats are used?](#)
[Which tools, software, technolog...](#)
[Are different versions of the data...](#)
[Data usage](#)
[Metadata and referencing](#)
[Legal and ethics](#)
[Storage and long-term preservation](#)

## Research Data Management Organiser

Planung, Umsetzung und der Verwaltung des  
Forschungsdatenmanagements

Pilotphase



### Willkommen bei RDMO auf [forschungsdaten.info](https://forschungsdaten.info)

Das Ziel ist es mit RDMO unter dem Dach von [forschungsdaten.info](https://forschungsdaten.info), eine Webapplikation bereitzustellen, die die strukturierte Planung, Umsetzung und Verwaltung der Daten in einem wissenschaftlichen Projekt unterstützt. Zusätzlich sollen die gesammelten Informationen in strukturierter Form für Anforderungen von Förderern oder für Berichte ausgebenbar sein.

Diese Webseite befindet sich derzeit in der Pilotphase.

Wenn Sie mehr über das Forschungsdatenmanagement erfahren wollen, besuchen Sie <https://www.forschungsdaten.info/>.

Anmelden

Mit GitHub Login

#### RDMO auf [forschungsdaten.info](https://forschungsdaten.info)

Ziel ist es im Rahmen von [forschungsdaten.info](https://forschungsdaten.info), ein Werkzeug zur Verfügung zu stellen, das die strukturierte Planung des Forschungsdatenmanagements unterstützt und zusätzlich die bestmögliche Ausgabe eines Datenmanagementplans ermöglicht.

#### Kontakt

[kontakt@forschungsdaten.info](mailto:kontakt@forschungsdaten.info)

#### RDMO

<https://rdmorganisier.github.io> <https://github.com/rdmorganisier/rdmo>

#### Impressum

Diese Webseite wird vom Karlsruher Institut für Technologie (KIT) in Kooperation mit der Universität Konstanz betrieben. Es gilt das Impressum des KIT.

Give it a shot! Thank you for your attention 😊

- Demo instance: [rdmo.aip.de](https://rdmo.aip.de)
- forschungsdaten.info instance: [rdmo.forschungsdaten.info](https://rdmo.forschungsdaten.info)
- Website: [rdmorganiser.github.io](https://rdmorganiser.github.io)
- GitHub organisation: [github.com/rdmorganiser](https://github.com/rdmorganiser)
- RDMO source code: [github.com/rdmorganiser/rdmo](https://github.com/rdmorganiser/rdmo)
- RDMO questionnaire: [github.com/rdmorganiser/rdmo-catalog](https://github.com/rdmorganiser/rdmo-catalog)
- Documentation: [rdmo.readthedocs.io](https://rdmo.readthedocs.io)
- Mailinglist: [rdmo@listserv.dfn.de](mailto:rdmo@listserv.dfn.de)
- Twitter: [@rdmorganiser](https://twitter.com/rdmorganiser)
- Slack: [rdmo.slack.com](https://rdmo.slack.com)
- GitHub issues: [github.com/rdmorganiser/rdmo/issues](https://github.com/rdmorganiser/rdmo/issues)

Login <https://rdmo.aip.de/account/login/>

Username

Password

☐ Remember Me

Login

If you have not created an account yet, then please [sign up](#) first.

If you forgot your password and want to reset it, click [here](#).

Alternatively, you can login using one of the following third party accounts:



## Project RDMO

The project aims to develop a tool to support the planning of the research data management. In addition, the tool will create a textual data management plan.

The project is funded by the German Research Foundation.

## Contact

[rdmo-team@listserv.dfn.de](mailto:rdmo-team@listserv.dfn.de)  
<https://rdmorganiser.github.io>

## Open Source

RDMO is published on:  
<https://github.com/rdmorganiser/rdmo>

## Impressum & Datenschutz

rdmo.aip.de is a service by the [Leibniz-Institute for Astrophysics Potsdam \(AIP\)](#). The imprint of the AIP can be found at <http://www.aip.de/en/impressum>.

Protection of your privacy is important to us. rdmo.aip.de follows the Data Protection Statement of the AIP, which is accessible at [here](#).



## My Projects

Name

Role

Created

## My Data

### Name

Kerstin Wedlich

### ORCID ID

## My Groups

## Options

Create new project

## Import

Select xml file

Upload

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## Create new project

### Title

The title for this project.

### Description

A description for this project (optional).

### Catalog

The catalog which will be used for this project.

Create project

Cancel

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Protection of your privacy is important to us. rdmo.aip.de follows the Data Protection Statement of the AIP, which is accessible at [here](#).

## RDM training








### Description

Fundamentals of research data management

### Tasks

No active tasks found.

### Views

View	Description	
<a href="#">Bielefeld</a>	DMP template from the University of Bielefeld.	
<a href="#">CITEC DMP</a>	DMP template from the University of Bielefeld for CITEC funded research projects.	
<a href="#">DMPonline template</a>	Template from DMPonline, online <a href="https://dmponline.dcc.ac.uk">https://dmponline.dcc.ac.uk</a>	
<a href="#">DMPTool template</a>	Template from DMPTool, based on "NSF-GEN: Generic", online: <a href="https://dmptool.org">https://dmptool.org</a>	
<a href="#">Horizon 2020 FAIR Data Management Plan template</a>	Template for Horizon 2020, from "Guidelines on FAIR Data Management in Horizon 2020", online: <a href="http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf">http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf</a>	
<a href="#">new</a>	None	
<a href="#">SNF Template</a>	DMP of the SNF (Switzerland)	

### Options

[Update project information](#)

[Delete project](#)

[Answer questions](#)

[View answers](#)

[Create snapshot](#)

[Add member](#)

[Export project as XML](#)

[Back to projects overview](#)

### Snapshots

No snapshots found.

### Members

User	E-Mail	Role
------	--------	------

## Questionnaire for project *RDM training*

### General / Topic

What is the main research question of the project?

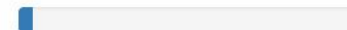
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Skip

Save

Save and proceed

### Progress



### Navigation

Please note that using the navigation will discard any unused input.

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### Overview

#### General

##### Topic

→ What is the main research questi...

Which research field(s) does this ...

[Project schedule](#)

[Project partner](#)

[Other requirments](#)

[Content classification](#)

[Technical classification](#)

[Data usage](#)

[Metadata and referencing](#)

[Legal and ethics](#)

[Storage and long-term preservation](#)