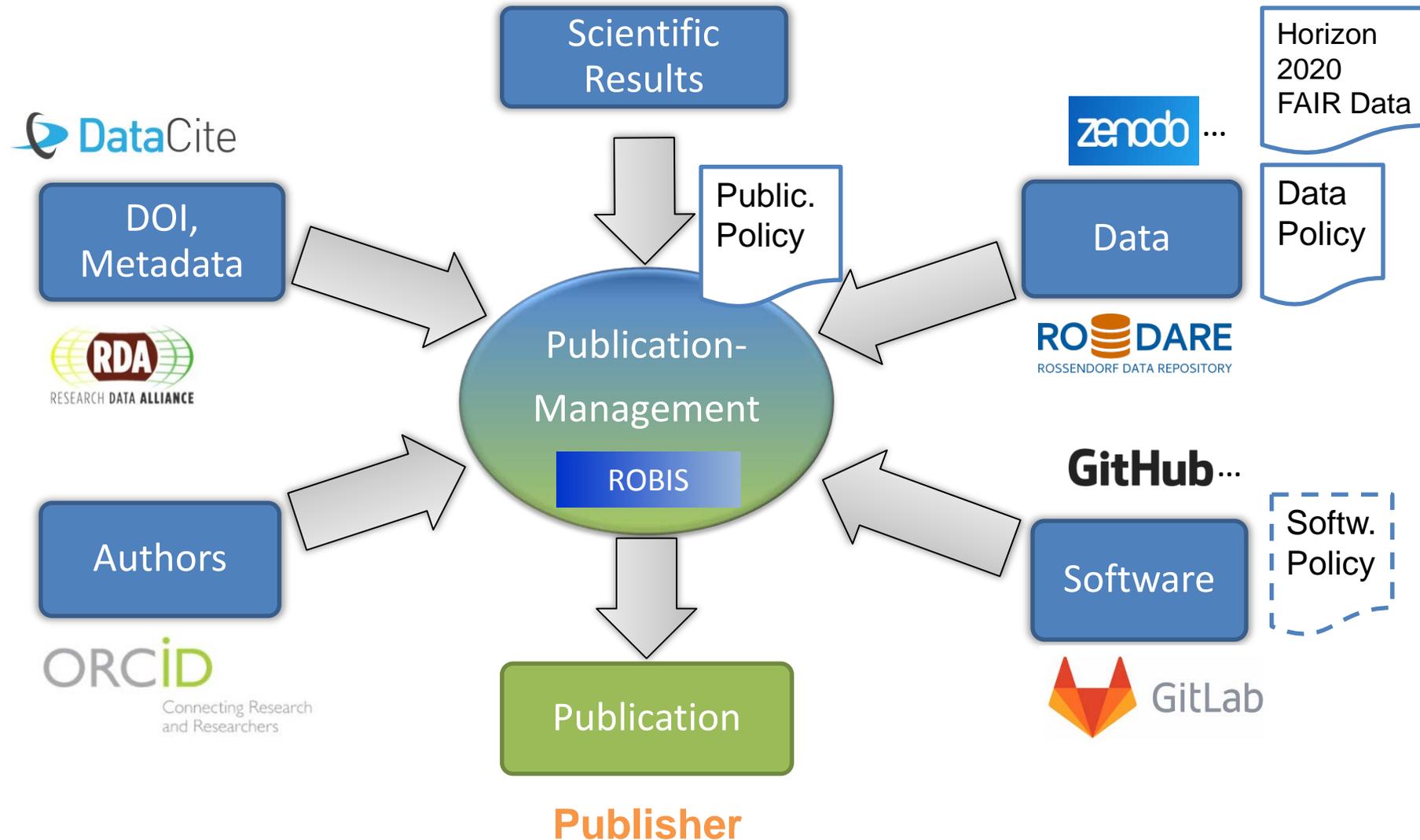


# RO DARE

ROSSENDORF DATA REPOSITORY



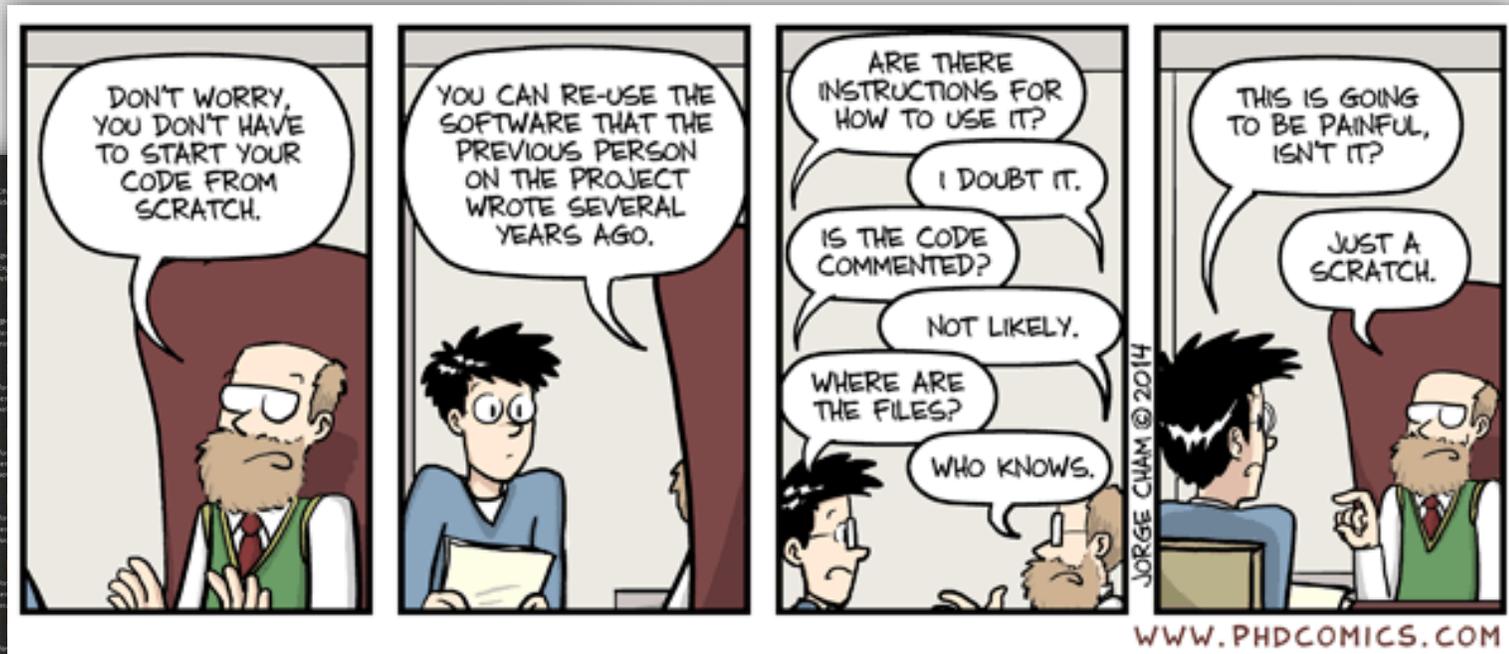
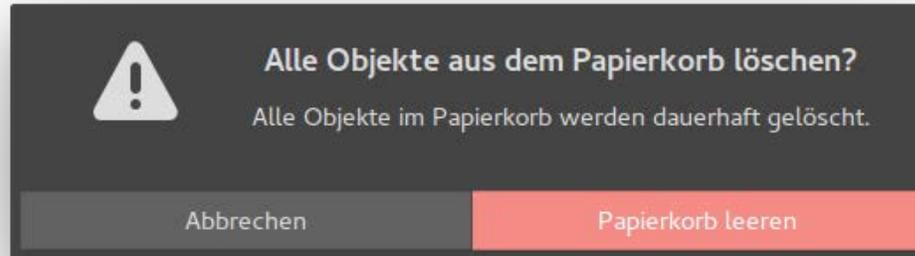
# Publication Components



# Research data and software – Where do you store it?



# Research data and software – Is it safe?



Make your data

**F**indable, **A**ccessible, **I**nteroperable and **R**e-usable

FAIR data principles

Wilkinson, M. D. et al. The FAIR Guiding Principles for scientific data management and stewardship. *Sci. Data* 3:160018 doi: 10.1038/sdata.2016.18 (2016).

# Research data and software – Where to store it?

Use the institutional research data repository @ HZDR



<https://rodare.hzdr.de>

A screenshot of the RODARE website interface. The top navigation bar is blue with the RODARE logo, a search bar, "Upload" and "Communities" buttons, and a user profile dropdown for "t.frust@hzdr.de". The main content area is white and features a "Recent uploads" section with three entries. Each entry includes a date, version, and category (Software, Dataset, or Other), a title, author information, a brief description, and an upload date. A "View" button is next to each entry. On the right side, there is a "Welcome to Rodare!" section with a megaphone icon and a "RODARE" section with a list of key features: Open Access to HZDR research data, Make your research data citeable, discoverable and visible, Improve research reproducibility, and Login with existing HZDR account. A "More" button is at the bottom of the uploads list.



# General Workflow

## Upload

Background upload

SFTP URL

Rodare allows you to upload files via SFTP from registered servers. If your files already reside on a storage location which is accessible via one of the registered servers you can trigger an upload via the file browser. Navigate to the file and click upload file. Learn more about the background upload feature.

Filter by name...

15 elements per page

- ..
- .ssh
- Documents
- git
- mozilla
- presentations
- Sicherung
- test
- windows
- .bash\_history (414 Bytes) [upload file]
- .gitconfig (59 Bytes) [upload file]
- 2014-15.pdf (716.3 KB) [upload file]
- 2015-16.pdf (799.1 KB) [upload file]
- Bild1.emf (4.9 MB) [upload file]
- Bild1.wmf (6.2 MB) [upload file]

## Describe

Basic information

Digital Object Identifier: e.g. 10.1234/rodare

Publication date: 2018-09-23

Title

Authors: Family name, given names; Affiliation; ORCID (e.g., 0000-0002-1825-0097)

Description

Version

Language: e.g. 'eng', 'fr' or 'Palaot'

Keywords

## Publish

RO DARE

April 18, 2018

### Shibboleth-Authenticator for Invenio

Frust, Tobias

Publication date: April 18, 2018

DOI: 10.14478/ro-dare-14

Related identifiers: <https://github.com/tobiasfrust/shibboleth-authenticator>

Comments: Department of Information Services and Computing, IKT/LABE

License (for files): CC BY-SA General Public License 3.0

Versions: Version v0.1.2 (1478) on Apr 18, 2018

Name	Size
shibboleth-authenticator-v0.1.2.zip	77.0 kB

Cite as: Frust, Tobias (2018, April 18): Shibboleth-Authenticator for Invenio (Version v0.1.2). Rodare. <http://dx.doi.org/10.14478/ro-dare-14>

# Checklist before publishing

## Chose a license

Use standard licensing frameworks  
Make your data Open Access wherever possible

## Chose appropriate file format

Use non-proprietary, machine-readable formats  
Consider Community standards



## Check for privacy, confidentiality

Make sure you do not violate privacy or confidentiality

## Make it reusable

Describe your data as detailed as possible with metadata

## Licensing of research data

Tell other researchers under which conditions they may reuse your data

We suggest the usage of  **creative commons**

### Attribution 4.0 International (CC-BY-4.0):

You are free to:

- **Share** — copy and redistribute the material in any medium or format
- **Adapt** — remix, transform, and build upon the material for any purpose, (even commercially).

Conditions:

- **Attribution** — give appropriate credit, provide a link to the license

### Attribution-NonCommercial 4.0 International (CC-BY-NC-4.0)

Additional Condition:

- **NonCommercial** — You may not use the material for commercial purposes.

## Cite your data as you did with papers before

Improve research reproducibility by publishing all associated research results along with your publication



Each upload receives a Digital Object Identifier (DOI):

- Resolvable
- Persistent
- Globally unique
- Metadata attached

### Cite as

Bieberle, André, & Neumann, Martin. (2018). Data set to illustrate advanced process-synchronized computed tomography for the investigation of periodic processes [Data set]. Rodare. <http://doi.org/10.14278/rodare.8>

Start typing a citation style...

# DOI Versioning

Upon first publishing, two DOIs are registered:

- One DOI represents the **specific version** of your record
- Another DOI represents **all versions** of your record

Afterwards RODARE registers a new DOI for every new version.

When do I create a new version?

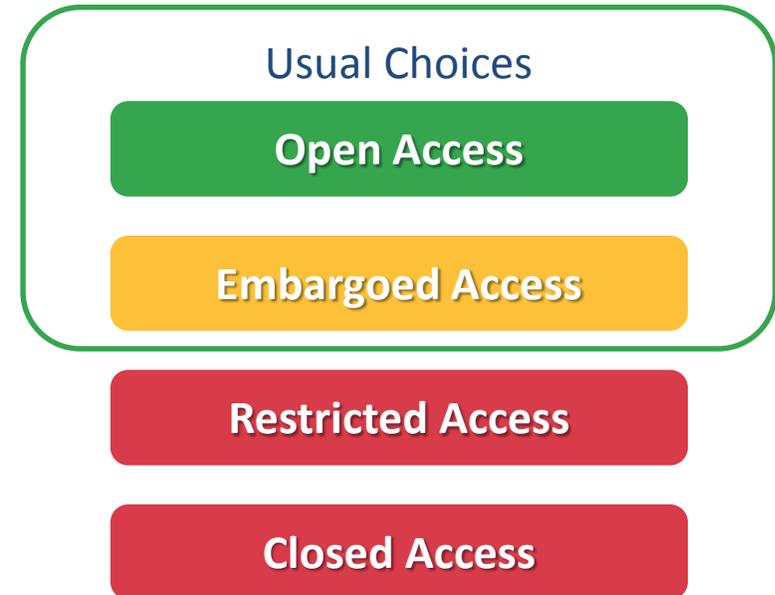
- If you wish to **add, edit** or **update files** of your record after it has been published
- Not necessary if you change metadata of your upload

## Versions

Version v1.0.8	10.14278/rodaretest.19	Apr 17, 2018
Version v1.0.7	10.14278/rodaretest.18	Apr 17, 2018
Version v1.0.6	10.14278/rodaretest.17	Apr 17, 2018

**Cite all versions?** You can cite all versions by using the DOI [10.14278/rodaretest.16](https://doi.org/10.14278/rodaretest.16). This DOI represents all versions, and will always resolve to the latest one. [Read more.](#)

# Multiple Visibility Levels



# Ingest of large data via Background Upload

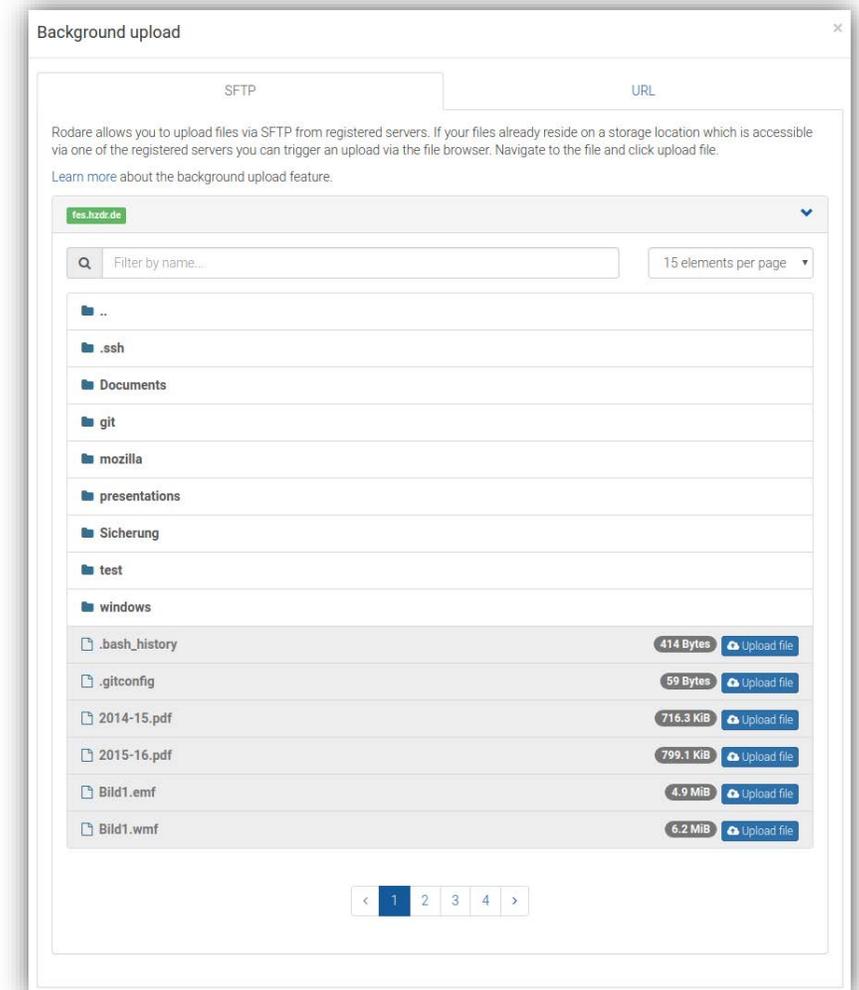
You have data on one of the central storage server you wish to publish?

→ Use the **Background Upload** feature and let RODARE do the work for you

Initial default file size limits:

- 50 GiB per file
- 100 GiB per dataset

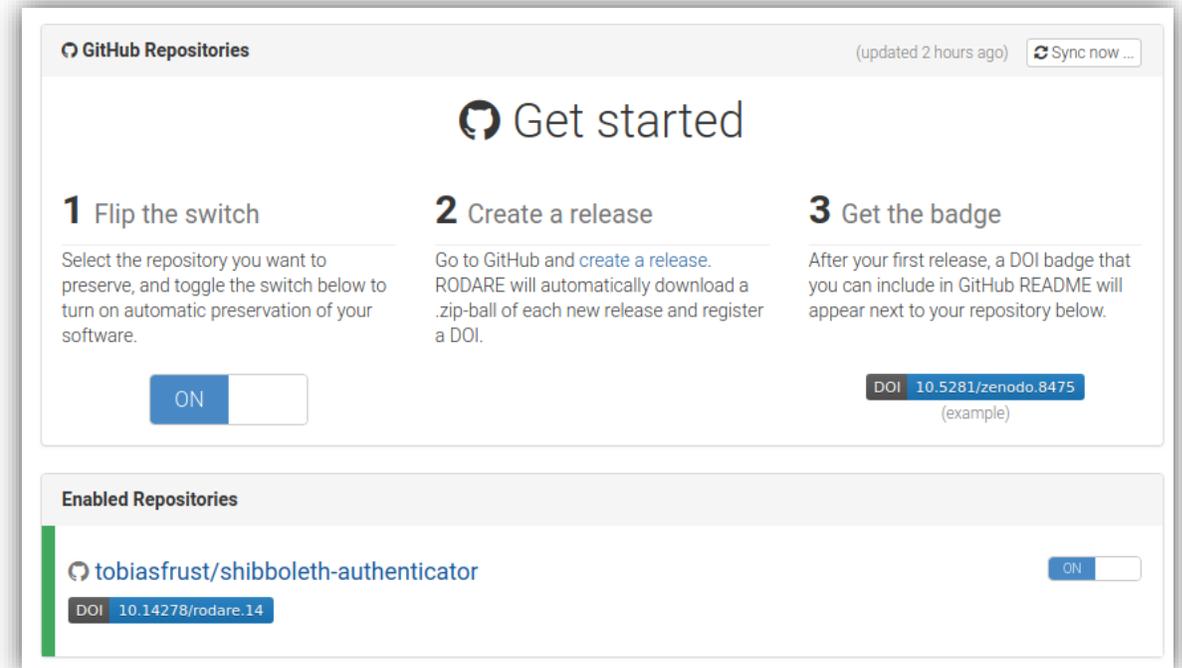
**Contact us** for larger datasets!



# Software preservation - Integrated with GitHub

Make your software citable via RODARE:

- RODARE automatically downloads a `.zip-ball` of each new release
- Add a file called `.rodare.json` into the root of your git repository
- For each release a DOI is registered
- Use the DOI to cite your software in academic literature



The screenshot displays the GitHub RODARE interface. At the top, it says 'GitHub Repositories' with a '(updated 2 hours ago)' timestamp and a 'Sync now ...' button. The main heading is 'Get started' with a GitHub logo. Below this are three numbered steps:

- 1 Flip the switch**: Select the repository you want to preserve, and toggle the switch below to turn on automatic preservation of your software. A toggle switch is shown in the 'ON' position.
- 2 Create a release**: Go to GitHub and [create a release](#). RODARE will automatically download a `.zip-ball` of each new release and register a DOI.
- 3 Get the badge**: After your first release, a DOI badge that you can include in GitHub README will appear next to your repository below. An example badge is shown: `DOI 10.5281/zenodo.8475` (example).

Below the steps is a section titled 'Enabled Repositories'. It lists one repository: `tobiasfrust/shibboleth-authenticator`. A toggle switch for this repository is also in the 'ON' position. Below the repository name, a DOI badge is shown: `DOI 10.14278/rodare.14`.

## Integrated with ROBIS

- Publications must be registered in ROBIS
- RODARE and ROBIS are integrated
- Before publishing you will be redirected to ROBIS
- Enter some additional information
- Nothing needs to be entered twice
- Afterwards, you can directly publish your upload in RODARE

 Register in HZDR publication repository



### Data set to illustrate advanced process-synchronized computed tomography for the investigation of periodic processes

Bieberle, A.; Neumann, M.

This data set contains raw data and data read-in routines used for the publication:

#### "Advanced process-synchronized computed tomography for the investigation of periodic processes"

Object of investigation: A centrifugal pump that impeller rotates at 1480 rpm and that is operated in gas-liquid two phase flow.

Used CT imaging system: HireCT (high resolution gamma-ray computed tomography) scanner of the HZDR

**Keywords:** Tomographic imaging, synchronized data acquisition, multiphase flow, centrifugal pump

[Tippfehler melden](#)

#### ■ Forschungsdaten im HZDR-Daten-Repositorium RODARE

Publication date: 2018-04-12

DOI: [10.14278/rodare.7](https://doi.org/10.14278/rodare.7)

License: CC-BY-4.0

Energieeffiziente Prozesse

Genehmigung durch Leiter erteilt

**RODARE: 8/7** [Trigger-Update](#)

#### Downloads:

- [Veröffentlichung im HZDR-Daten-Repositorium RODARE - Id 7](#)

Publ.-Id: 27335 - [Permalink](#) - Eintrag am 12.04.2018 13:41 - [Dr. Bieberle, André](#)

## Coming soon: OpenAIRE integration

Rodare will soon be integrated into reporting via OpenAIRE.

- Specify your grants in the upload form
- All grants available in OpenAIRE can be found
- Dataset will automatically be registered in OpenAIRE



Funding recommended ▾

RODARE is integrated into reporting lines for research funded by the European Commission via [OpenAIRE](#). Specify grants which have funded your research, and we will let your funding agency know!

**Grants**

Optional. OpenAIRE-supported projects only. For other funding agencies, please contact your funding agency.  
Note: a human RODARE curator will need to validate your upload.

[+ Add another grant](#)

Related/alternate identifiers

Contributors

References

Subjects

[Delete](#)

critical pipework in the nuclear power generation and petrochemical industries  
**TOMOGRAPHYEOR** 237739  
Multifrequency **Tomography** of the Reionization Epoch  
**TOMOMECH** 297921  
Nanomechanics of natural materials from combining **tomography** and finite element modelling  
**TOMOSLATE** 623082  
New uses for X-ray **Tomography** in natural building stones: characterization, pathologies and restoration of historical and recent roofing slates  
**TOMOCON** 764902  
Smart **tomographic** sensors for advanced industrial process control

# HZDR Data Policy

- Will take effect in **May 2018**
- Includes instructions for:
  - Responsibilities
  - Data Management Plan (DMP)
  - Embargo period
  - Licensing of research data
  - ...





# Live Demo



Thank you!

Start early

Use existing tools

**Publish your research data**

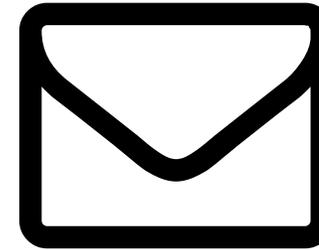
## How to get in contact?



**GitLab@HZDR issue tracker:**  
<https://gitlab.hzdr.de/rodare/rodare>



**Chat via Mattermost@HZDR:**  
<https://mattermost.hzdr.de/rodare>



**Mail to:**  
[rodare@hzdr.de](mailto:rodare@hzdr.de)



**Read the FAQ:**  
<https://rodare.hzdr.de/faq>

# Best practices for file formats

## Guidelines for choosing formats

- Non-proprietary
- Unencrypted
- Uncompressed
- In common usage by the research community
- Adherent to an open, documented standard
  - Interoperable among diverse platforms and applications
  - Fully published and available royalty-free
  - Fully and independently implementable by multiple software providers on multiple platforms without any intellectual property restrictions for necessary technology
  - Developed and maintained by an open standards organization with a well-defined inclusive process for evolution of the standard.

## Some preferred file formats

- **Containers:** TAR, GZIP, ZIP
- **Databases:** XML, CSV
- **Geospatial:** SHP, DBF, GeoTIFF, NetCDF
- **Moving images:** MOV, MPEG, AVI, MXF
- **Sounds:** WAVE, AIFF, MP3, MXF
- **Statistics:** ASCII, DTA, POR, SAS, SAV
- **Still images:** TIFF, JPEF 2000, PDF, PNG, GIF, BMP
- **Tabular data:** CSV
- **Text:** XML, PDF/A, ASCII, UTF-8
- **Web archive:** WARC

From <https://library.stanford.edu/research/data-management-services/data-best-practices/best-practices-file-formats>

# HZDR Data Management Concept

