

The **RO**  **DARE** Data Repository (InvenioRDM)  
ROSSENDORF DATA REPOSITORY

...and why we need a separate Metadata Catalogue

# The Rossendorf Data Repository (RODARE)

- Our data repository RODARE is the HZDR's institutional data repository and for every kind of datasets and types (RAW data, software, images, videos, ...)
- Available since 2018
- We provide different communities:
  - Matter,
  - Health,
  - Energy,
  - ...
- Intuitive and structured user interface
- Integrated with DataCite
- 50GB per file and 100GB per dataset (larger files and dataset are possible upon request)
- Multiple visibility levels
- Background upload directly from our filesystem(s)
- ...



## Communities created and curated by RODARE users

Search communities

Showing 0 to 10 out of 21 communities.

Sort by ▾

### Research field: Health

View

How can malignant tumors be more precisely visualized, characterized, and more effectively treated? Some 500,000 people per year in Germany develop cancer for the first time. In order to advance the battle against cancer, it is important for...

Curated by: RODARE

### Research field: Energy

View

How can energy and resources be utilized in an efficient, safe, and sustainable way? Global bottlenecks are predictable – in the reliable supply of energy and also in the production of raw materials. And with modern society's high demand for energy an...

Curated by: RODARE

### Research field: Matter

View

How do matter and materials behave under the influence of strong fields and in smallest dimensions? A particular strength of the Helmholtz Association that is especially taken benefit of in the research sector matter: the operation and the use of...

Curated by: RODARE

### Institute of Ion Beam Physics and Materials Research

View

This institute conducts materials research for future applications, e. g. in information technology and for energy conversion. To this end use is made of the various possibilities offered by the Ion Beam Center (IBC) for synthesis, modification, and...


Curated by: RODARE


# Our Contribution to Support FAIR Research: RODARE


The screenshot shows the RODARE website interface. At the top, there is a navigation bar with the RODARE logo, a search bar, and buttons for 'Upload' and 'Communities'. The user profile 'o.knodel@hzdr.de' is visible in the top right. The main content area is divided into two columns. The left column features a 'Recent uploads' section with three entries, each with a 'View' button. The right column contains three informational boxes: 'RODARE Docs' with an information icon, 'RODARE now offers usage statistics!' with a bar chart icon, and a 'Welcome to Rodare!' section with a megaphone icon. The website URL 'rodare.hzdr.de' is visible in the browser's address bar.

**Recent uploads**

- March 10, 2021 (v1) Dataset Open Access** [View](#)  
**Research data "Fluorination of graphene leads to susceptibility for nanopore formation by highly charged ion impact"**  
Creutzburg, Sascha; Hübner, René; Facsko, Stefan  
The depository contains STEM images, experimental data from charge exchange measurements and data from charge exchange simulations.  
Uploaded on March 10, 2021
- March 9, 2021 (v1) Software Open Access** [View](#)  
**PICongPU setup: LPWFA downramp injection**  
Pausch, Richard; Couperus Cabadag, Jurjen Pieter; Bastrakov, Sergei; Bussmann, Michael; Irman, Arie; Kurz, Thomas; Schöbel, Susanne; Schramm, Ulrich; Steiniger, Klaus; Ufer, Patrick; Widera, René; Debus, Alexander  
PICongPU source code and setup files used for the LPWFA downramp injection simulation study  
Uploaded on March 9, 2021
- March 2, 2021 (v1) Dataset Open Access** [View](#)  
**Data for: Experimental studies on bubble aspect ratio and corresponding correlations under bubble swarm condition**  
Liu, Liu; Zhang, Heyang; Yan, Hongjie; Ziegenhein, Thomas; Heßenkemper, Hendrik; Zhou, Ping; Lucas, Dirk  
Zip-file that contains the raw images on a study on bubble aspect ratio under swarm condition. Further information can be found in the respective paper.  
Uploaded on March 3, 2021

**RODARE Docs**   
Have a look at the restructured documentation and blog system of RODARE. We now can more easily notify about news and features. You also find tutorials there.  
Visit <https://rodare.hzdr.de/about>.

**RODARE now offers usage statistics!**   
Thanks to the great folks @inveniosoftware we are able to provide usage statistics for record views and downloads.  
[Read the blog post](#) to get more information about the new feature.

**Welcome to Rodare!**   
The new data publication platform at HZDR.  
[Read more](#) about Rodare on our overview page.

<https://rodare.hzdr.de>

Registered in:

**re3data.org**  
REGISTRY OF RESEARCH DATA REPOSITORIES



<http://doi.org/10.17616/R3BR40>



# Different Upload Types and Previews



February 2, 2021 Software Open Access

## C++ & Python API for Scientific I/O with openPMD

[Koller, Fabian](#); [Poeschel, Franz](#); [Gu, Junmin](#); [Huebl, Axel](#)  
 Other(s): [Fortmann-Grote, Carsten](#); [Stańczak, Dominik](#); [Amundson, James](#); [Donnelly, Ray](#); [Widera, René](#); [Zenker, Erik](#); [Bastrakov, Sergei](#); [Lehe, Rémi](#); [Amorim, Lígia Diana](#); [Bastrakova, Kseniia](#); [Pausch, Richard](#); [Ordyna, Pawel](#)

openPMD is an open metadata format for open data workflows in open science. This library provides a common high-level API for openPMD writing and reading. It provides a common interface to I/O libraries and file formats such as HDF5 and ADIOS. Where supported, openPMD-api implements both serial and MPI parallel I/O capabilities.

Supported by the Exascale Computing Project (17-SC-20-SC), a collaborative effort of two U.S. Department of Energy organizations (Office of Science and the National Nuclear Security Administration). Supported by the Consortium for Advanced Modeling of Particles Accelerators (CAMPA), funded by the U.S. DOE Office of Science under Contract No. DE-AC02-05CH11231. This work was partially funded by the Center of Advanced Systems Understanding (CASUS), which is financed by Germany's Federal Ministry of Education and Research (BMBF) and by the Saxon Ministry for Science, Culture and Tourism (SMWK) with tax funds on the basis of the budget approved by the Saxon State Parliament.

**Preview**

openPMD-api-0.13.2.zip

- openPMD-openPMD-api-7e746f3
  - .appveyor.yml 4.3 kB
  - .clang-tidy 920 Bytes
  - .dockerignore 2.0 kB
  - .editorconfig 530 Bytes
  - github
    - ISSUE\_TEMPLATE
      - bug\_report.md 1.2 kB
      - feature\_request.md 784 Bytes
      - install\_problem.md 724 Bytes
      - question.md 610 Bytes
    - ci
      - sanitizer
        - clang 374 Bytes
        - Leak.supp
      - spack
        - compilers.yaml 4.2 kB
        - config.yaml 24 Bytes
        - nackanes.yaml 6.9 kB

**3,961** views **211** downloads [See more details...](#)

**Publication date:** February 2, 2021  
**DOI:** [10.14278/rodare.798](https://doi.org/10.14278/rodare.798)  
**Keyword(s):** openPMD, Open Science, Open Data, HDF5, ADIOS, data, MPI, HPC, research, file-format, file-handling  
**Grants:** European Commission: EUCALL - European Cluster of Advanced Laser Light Sources (654220)  
**Related identifiers:** Cited by: [10.5281/zenodo.1167843](https://doi.org/10.5281/zenodo.1167843), [10.5281/zenodo.1069534](https://doi.org/10.5281/zenodo.1069534), [10.5281/zenodo.33624](https://doi.org/10.5281/zenodo.33624)  
**Communities:** OpenAIRE, RODARE  
**License (for files):** [GNU Lesser General Public License v3.0 only](#)

**Versions**

Version	DOI	Date
Version 0.13.2	<a href="https://doi.org/10.14278/rodare.798">10.14278/rodare.798</a>	Feb 2, 2021
Version 0.13.1	<a href="https://doi.org/10.14278/rodare.731">10.14278/rodare.731</a>	Jan 8, 2021
Version 0.13.0	<a href="https://doi.org/10.14278/rodare.702">10.14278/rodare.702</a>	Jan 3, 2021
Version 0.12.0-alpha		Sep 8, 2020

September 8, 2020 Photo Open Access

## Chronic Inflammation Prediction for Inhaled Particles, the Impact of Material Cycling and Quarantining in the Lung Epithelium

[Podlipec, Roc](#)  
**Contact person(s):** [Gregor Hlawacek](#); [Nico Klingner](#)  
**Work package leader(s):** [Rok Podlipec](#)

Correlative optical (STED) and ion (HIM) high-resolution images of lung epithelial cells interacting with metal oxide nanoparticles where the mechanism of material cycling and quarantining is studied.

**78** views **51** downloads [See more details...](#)

**Publication date:** September 8, 2020  
**DOI:** [10.14278/rodare.514](https://doi.org/10.14278/rodare.514)  
**Related identifiers:** Identical to: <https://www.hzdr.de/publications/Publ-31505>, Referenced by: <https://www.hzdr.de/publications/Publ-31504>  
**Communities:** RODARE  
**License (for files):** [Creative Commons Attribution 4.0 International](#)

**Preview**

**Files (8.6 MB)**

Name	Size	Preview	Download
e03_s02_t02_F10_LA4_CellMask_Tio2-Alexa_longTermExp_10X000.tif	655.2 kB	<a href="#">Preview</a>	<a href="#">Download</a>
md5:2be0c087d13bccd04a544b2634d09001			
e03_s02_t02_F10_LA4_CellMask_Tio2-Alexa_longTermExp_60X000.tif	368.1 kB	<a href="#">Preview</a>	<a href="#">Download</a>
md5:78bef27005a3dffc237331b98921c5b4			

**Versions**

Version	DOI	Date
Version 1	<a href="https://doi.org/10.14278/rodare.514">10.14278/rodare.514</a>	Sep 8, 2020

**Cite all versions?** You can cite all versions by using the DOI [10.14278/rodare.513](https://doi.org/10.14278/rodare.513). This DOI represents all versions, and will always resolve to the latest one. [Read more.](#)

**Share**

**Cite as**

Podlipec, Roc. (2020). Chronic Inflammation Prediction for Inhaled Particles, the Impact of Material Cycling and Quarantining in the Lung Epithelium. Rodare. <http://doi.org/10.14278/rodare.514>

Start typing a citation style...



# Powerful Search

— In a free text search, the entered term is compared with all metadata fields in all records.

— Combined simple, phrase or field search also possible:

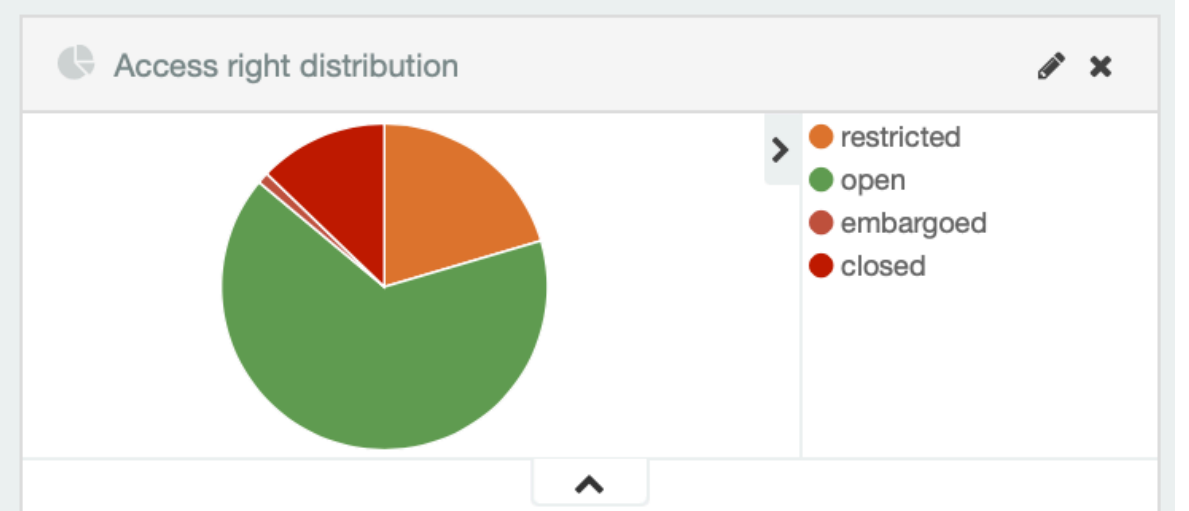
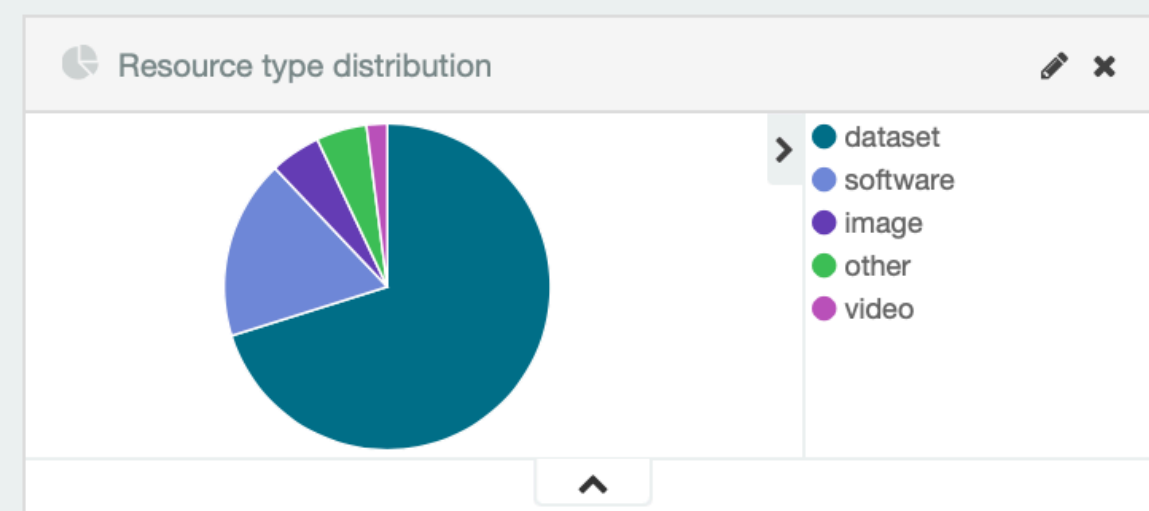
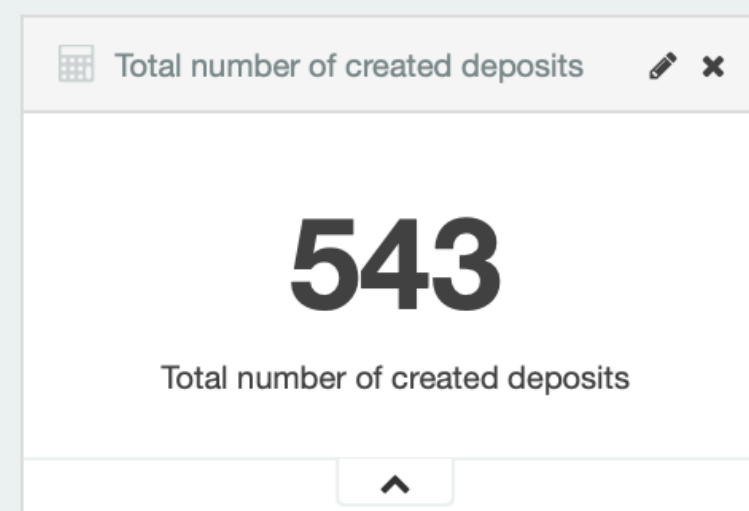
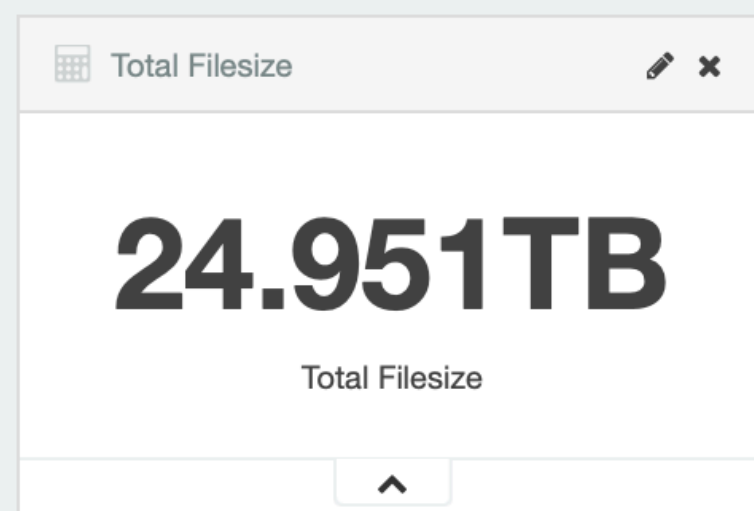
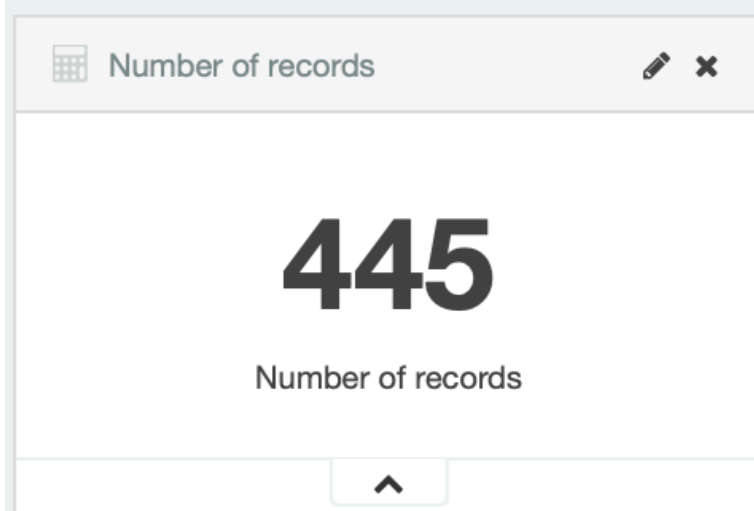
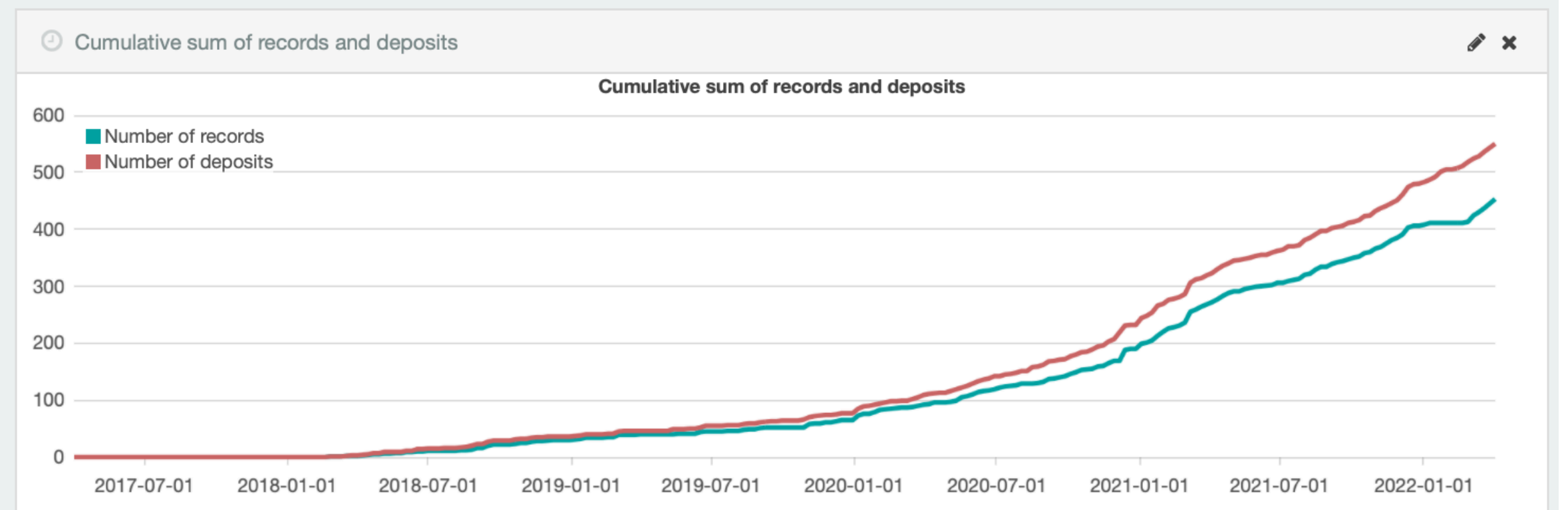
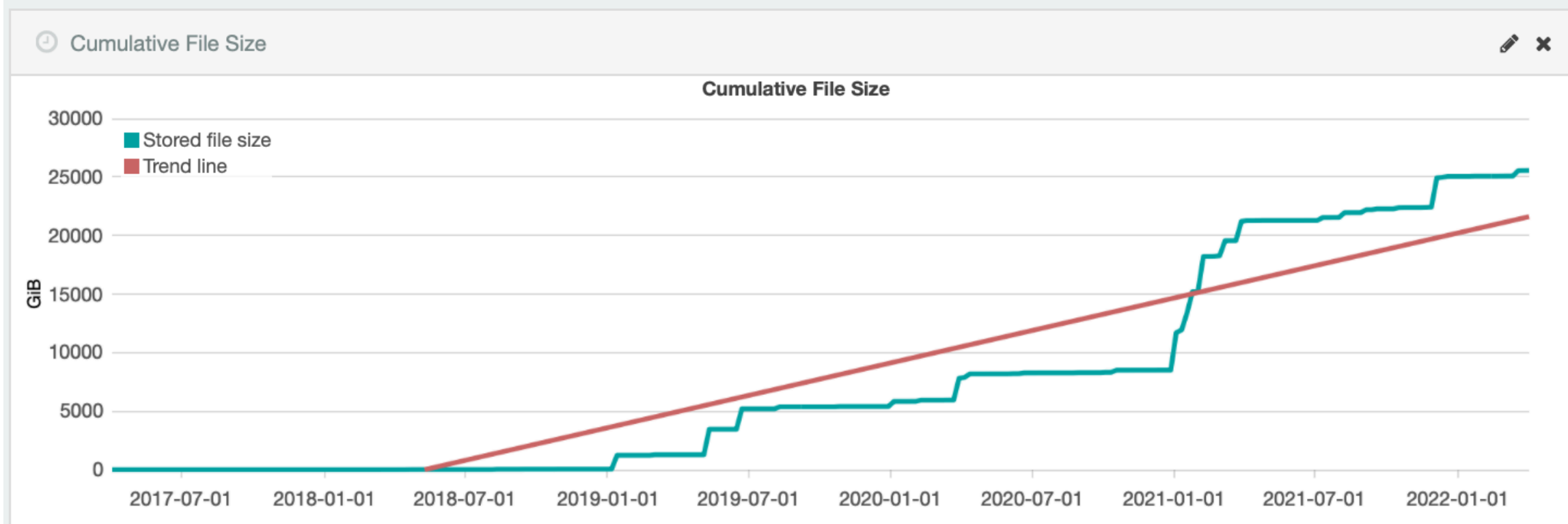
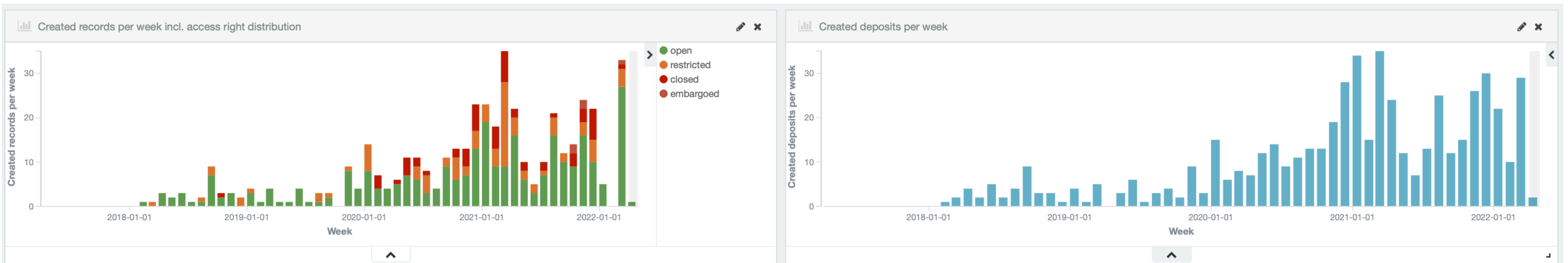
**Example:** +title:"open science"  
-title:policy or e.g. title:(-open +science)

— Filter function on:

- Access Rights,
- File types,
- Keywords,
- Upload types.

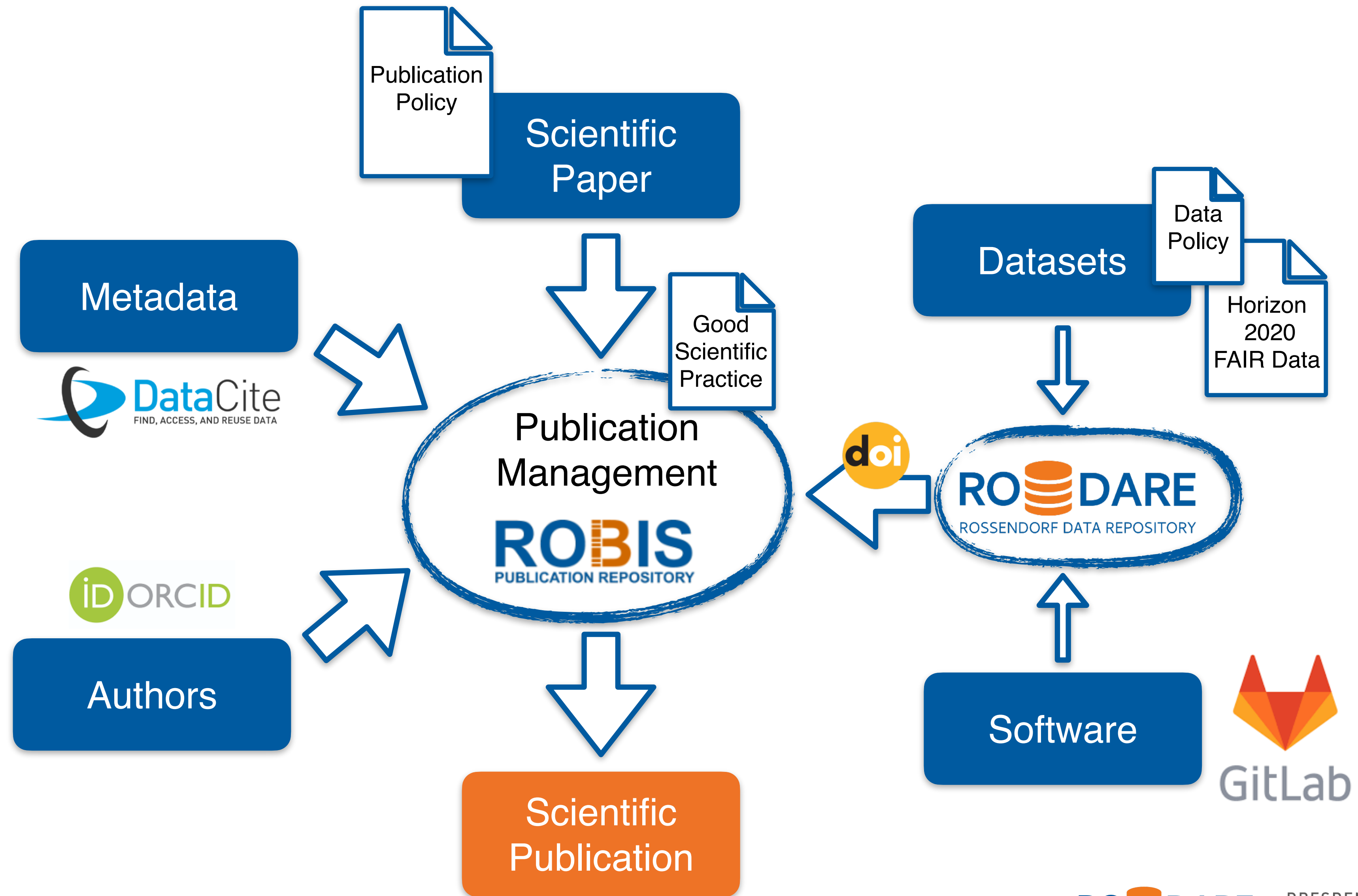
The screenshot displays the RODARE search results page. The browser address bar shows 'rodare.hzdr.de/search?page=1&size=20&q='. The page header includes the RODARE logo, a search bar, and navigation links for 'Upload' and 'Communities'. A 'Log in' button is also present. The search results are filtered to show 'All versions'. On the left, there are filter panels for 'Access Right' (Open: 220, Restricted: 87, Closed: 56, Embargoed: 5), 'File Type' (Zip: 102, Pdf: 31, Txt: 23, Xlsx: 23, Png: 13, Csv: 11, Gz: 10, Opj: 10, Tif: 9, Jpg: 7), 'Keywords' (Flow: 37, Ray: 33, Tomography: 29, X: 29, Electron: 28, Phase: 27, Beam: 26, Data: 26, Two: 25, Ultrafast: 25), and 'Type' (Dataset: 284, Software: 31, Image: 22+). The main content area shows 'Found 368 results.' and a pagination control. The first result is 'A user-friendly R Platform for Optimizing Mineral Processing' (March 24, 2022, Dataset, Open Access) by Ben Said, Borhane; Pereira, Lucas; Tolosana Delgado, Raimon; Rudolph, Martin. The second result is 'Data synchronizator of Where2test pipeline' (March 24, 2022, 1.0.0, Software, Open Access) by Abdussalam, Wildan. The third result is 'Data publication: Development and Biological Evaluation of the First Highly Potent and Specific Benzamide-Based Radiotracer [<sup>18</sup>F]BA3 for Imaging of Histone Deacetylases 1 and 2 in Brain' (March 10, 2022, v2, Dataset, Open Access) by Clauß, Oliver; Schäker-Hübner, Linda; Wenzel, Barbara; Toussaint, Magali; Deuther-Conrad, Winnie; Gündel, Daniel; Teodoro, Rodrigo; Dukic-Stefanovic, Sladjana; Ludwig, Friedrich-Alexander; Kopka, Klaus; Brust, Peter; Hansen, Finn K.; Scheunemann, Matthias. The fourth result is 'Reaction cross sections <sup>54</sup>Fe(n, $\gamma$ )<sup>55</sup>Fe and <sup>35</sup>Cl(n, $\gamma$ )<sup>36</sup>Cl at keV neutron energies investigated by Accelerator Mass Spectrometry' (March 3, 2022, v1, Dataset, Restricted Access) by Slavkowska, Zuzana; Wallner, Anton; Reifarth, R.; Bott, L.; Brückner, B.; Erbacher, P.; Fifield, Keith; Froehlich, Michaela; Göbel, K.; Al-Khasawneh, K.; Koll, Dominik; Lachner, Johannes; Merchel, Silke; Pavetich, Stefan; Reich, M.; Rugel, G.; Thomas, B.; Tims, S. G.; Volkandt, M.; Weigand, M. The fifth result is 'Reaction cross sections <sup>54</sup>Fe(n, $\gamma$ )<sup>55</sup>Fe and <sup>35</sup>Cl(n, $\gamma$ )<sup>36</sup>Cl at keV neutron energies investigated by Accelerator Mass Spectrometry' (March 30, 2022, v1, Software, Open Access).

# RODARE Statistics: Records, Filesize, Resource Types, Access Rights, ...





# Components of the HZDR Publication Infrastructure



# Checklist Before Publishing

## Choose a license

Use standard licensing frameworks  
Make your data Open Access wherever possible

## Choose 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 Research Data

Tell other researchers under which conditions they may reuse your data...

We suggest the usage of 

## 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).

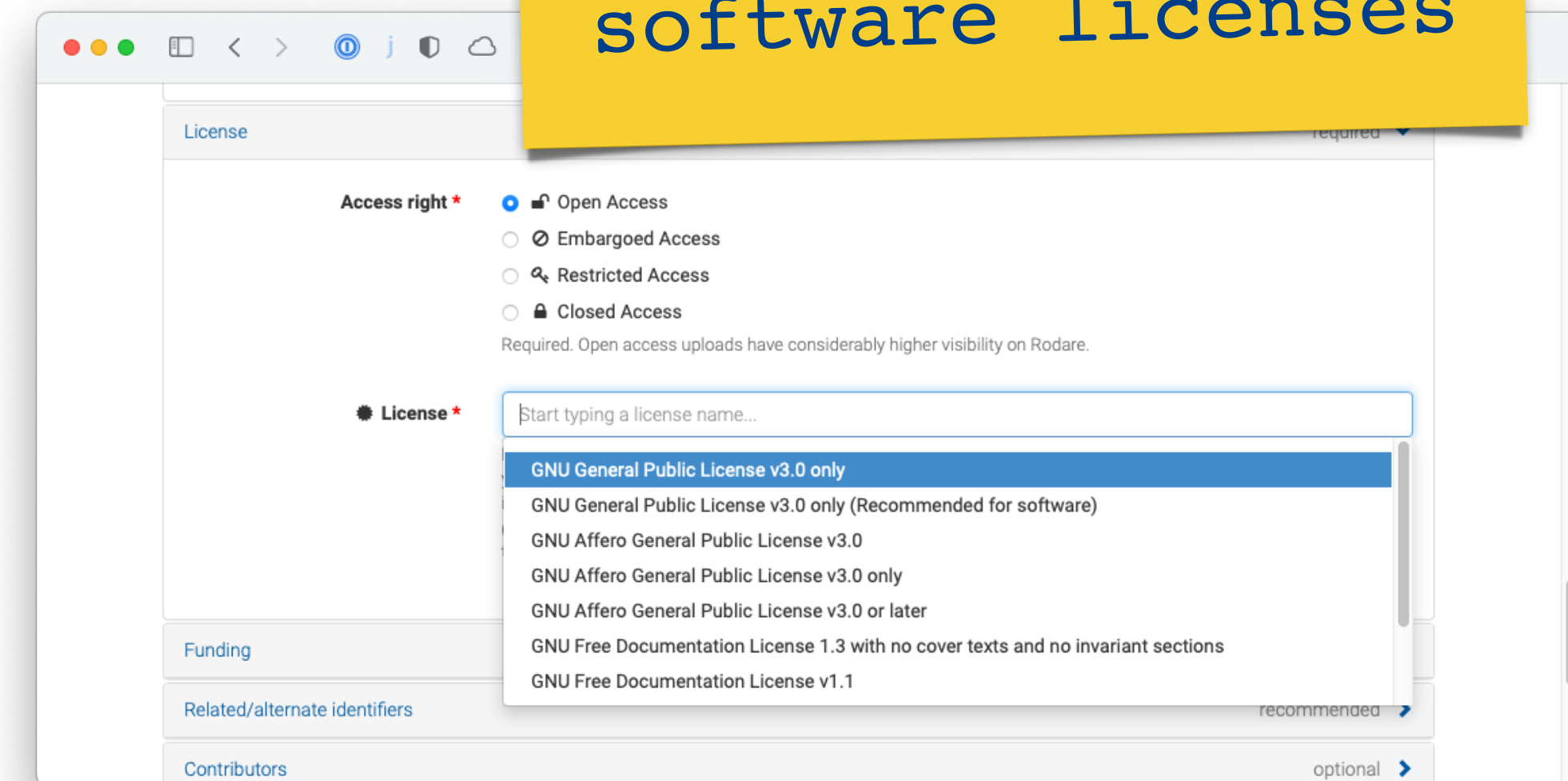
Conditions:

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

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

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

Rodare supports  
also various  
software licenses

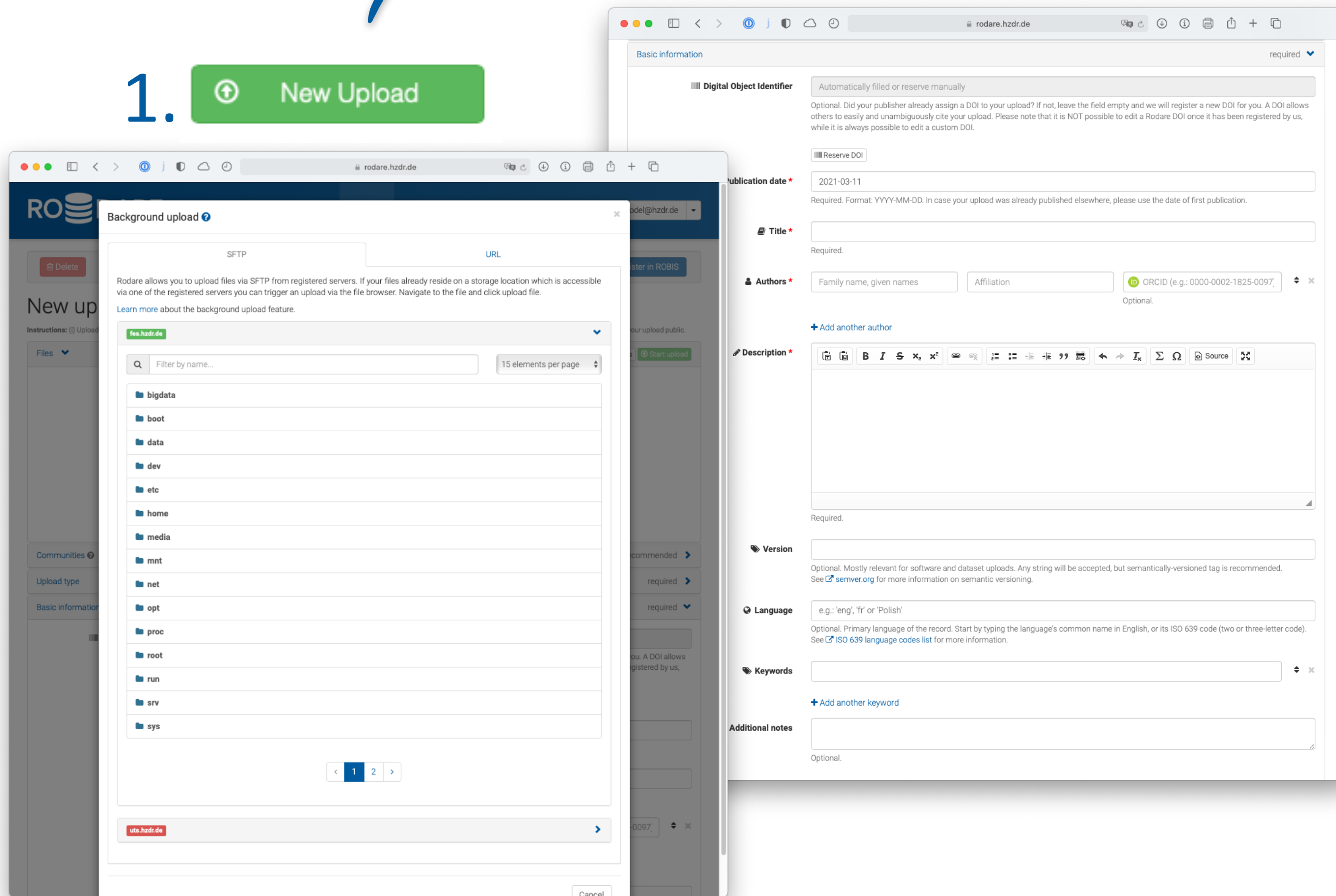


# General Workflow...

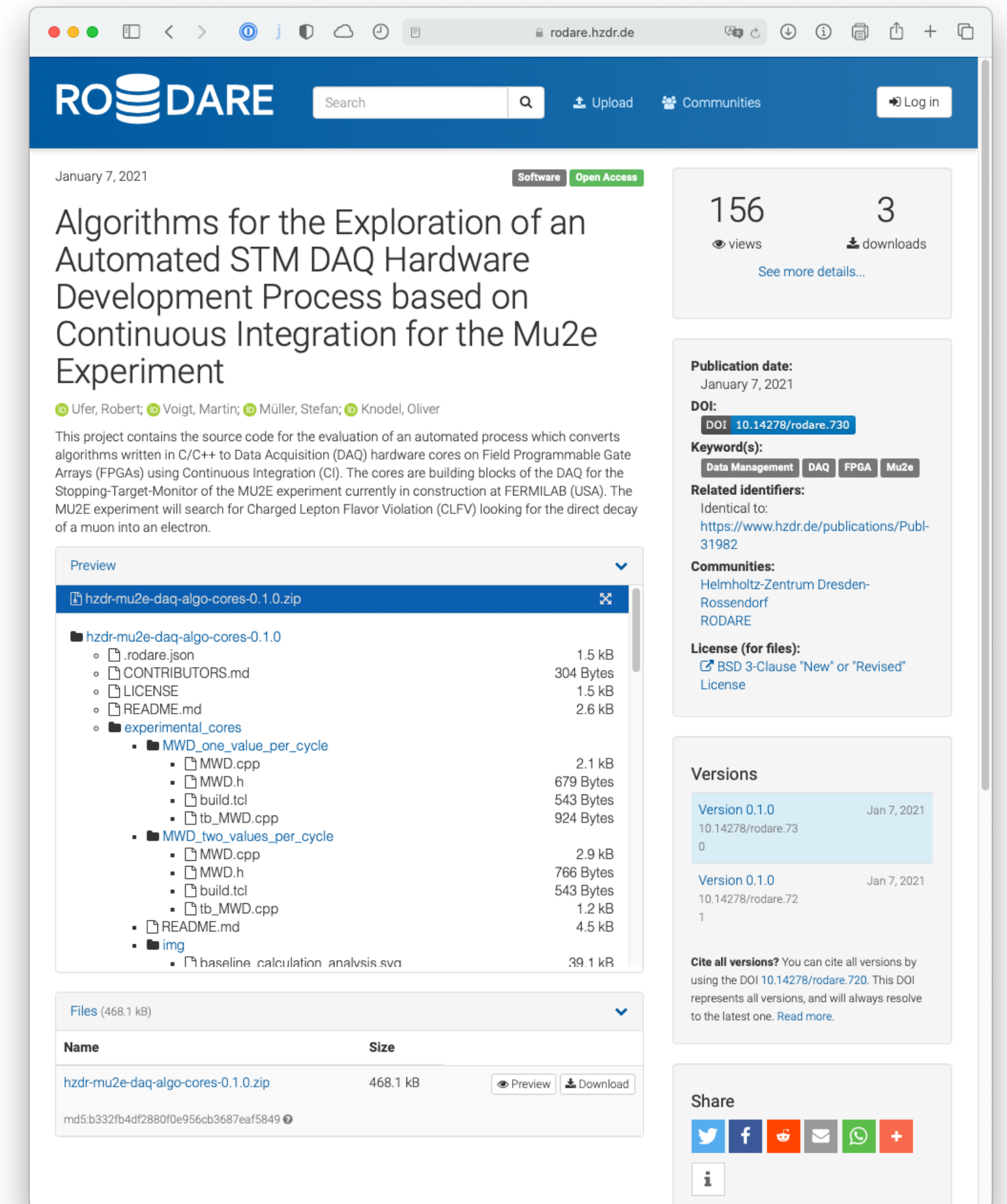
1. 

2. Describe

3. Publish



The image shows two overlapping screenshots of the RODARE interface. The foreground screenshot is the 'Background upload' dialog, showing a file browser with a tree view of directories like 'bigdata', 'boot', 'data', 'dev', etc. The background screenshot is the 'Basic information' form for a new upload, with fields for Digital Object Identifier, Publication date, Title, Authors, Description, Version, Language, and Keywords.



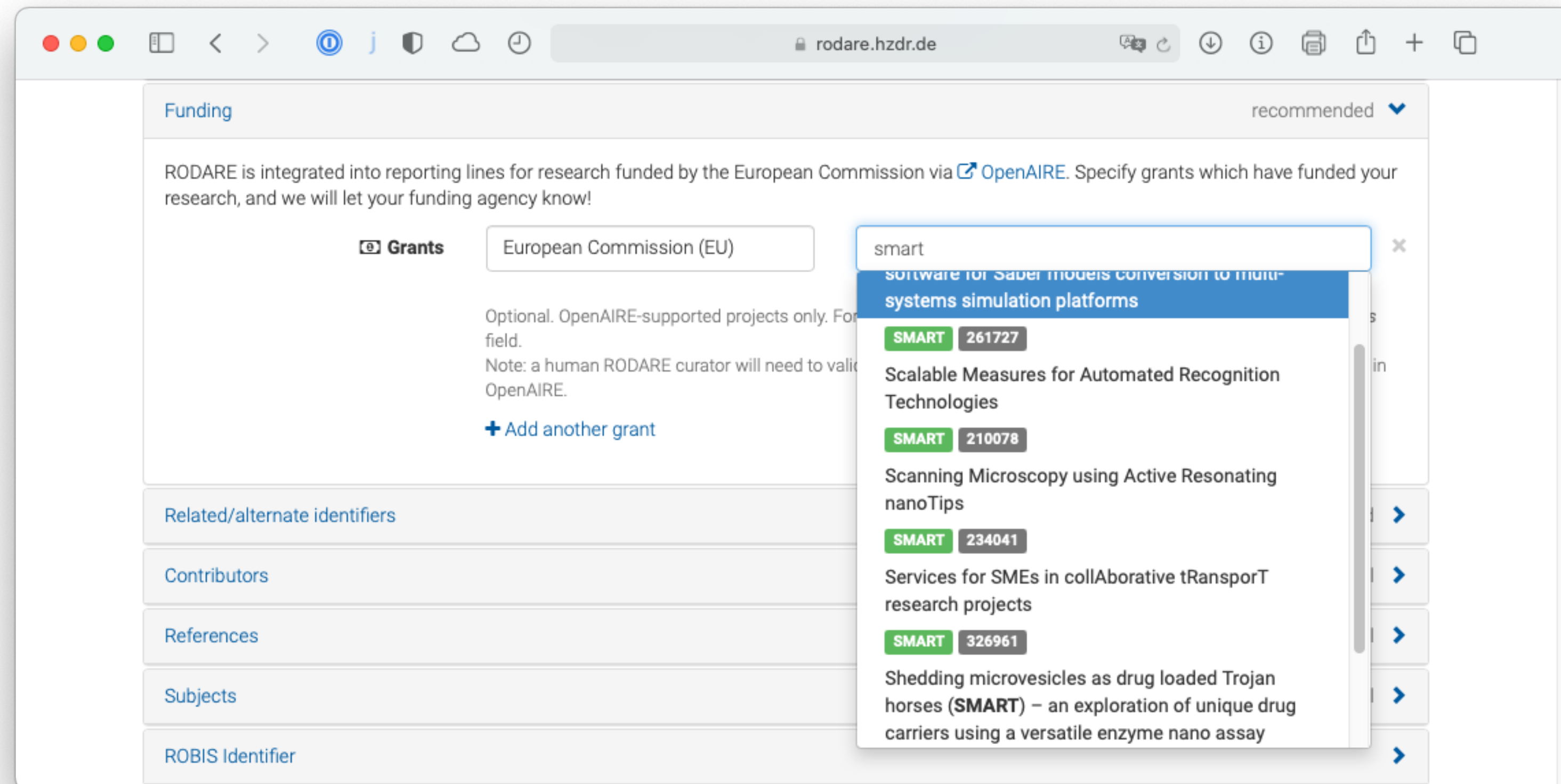
The image shows a screenshot of a published RODARE record. The record is titled 'Algorithms for the Exploration of an Automated STM DAQ Hardware Development Process based on Continuous Integration for the Mu2e Experiment'. It includes a list of authors, a description, a preview of the file 'hzdr-mu2e-daq-algo-cores-0.1.0.zip', and a table of versions. The record has 156 views and 3 downloads.

Version	DOI	Date
Version 0.1.0	10.14278/rodare.730	Jan 7, 2021
Version 0.1.0	10.14278/rodare.720	Jan 7, 2021



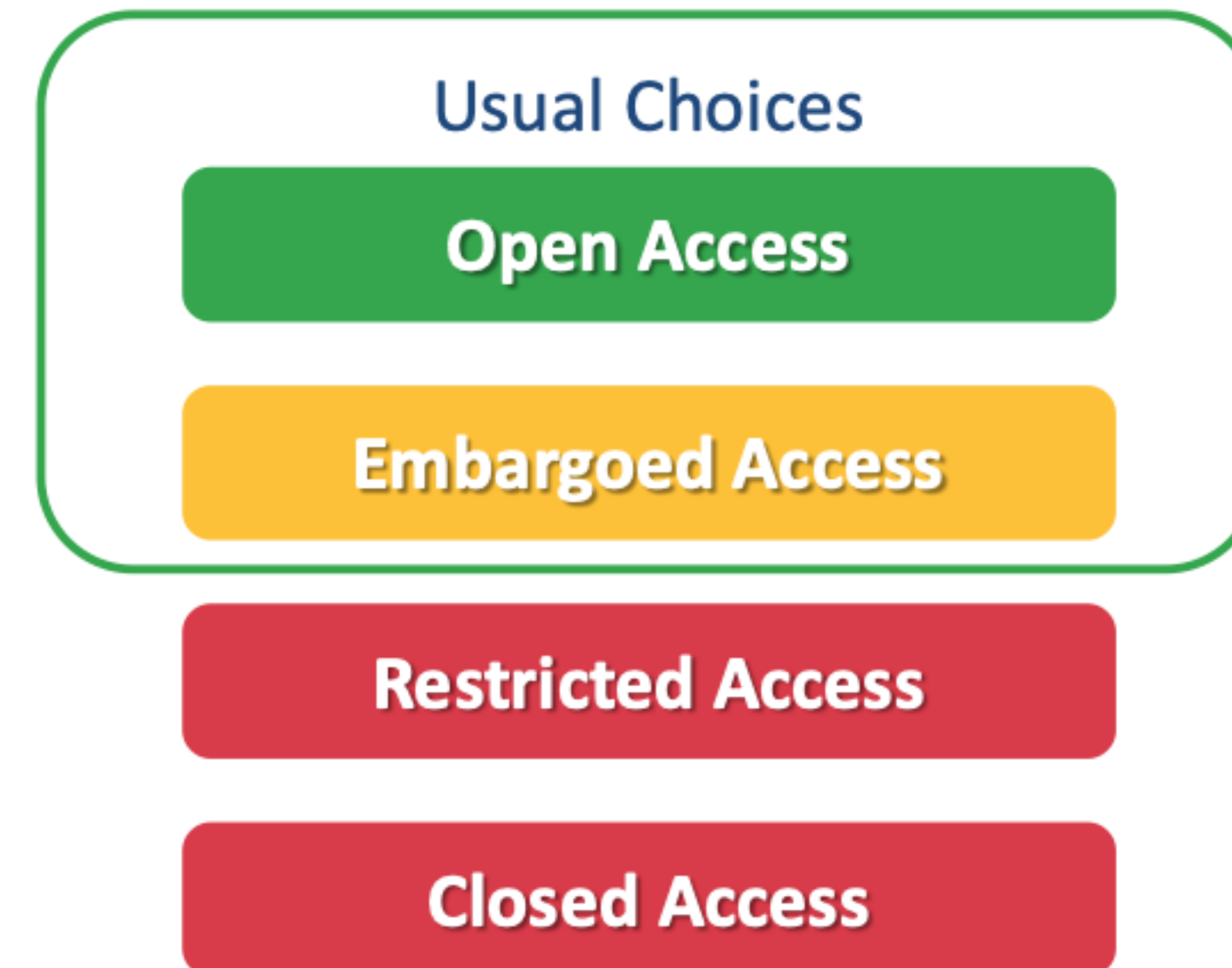
# OpenAIRE Integration

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



# Multiple Visibility Levels

- We know that not everything can be made publicly available. Therefore, RODARE supports four different levels of visibility for your uploads:



- The DOI landing page of a record with the corresponding metadata (DataCite) are always visible.
- The embargo period can be extended.



# DOI Versioning

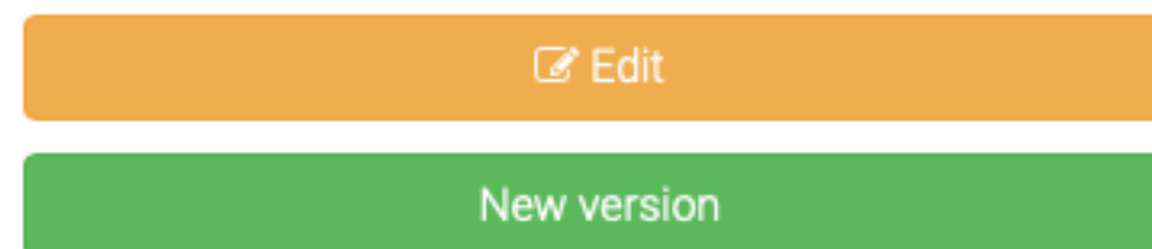
Each upload receives a Digital Object Identifier (**doi**):

- Resolvable, Persistent, Globally unique and Metadata attached!

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 only change metadata of your upload.

**Publication date:**  
January 7, 2021

**DOI:**  
DOI 10.14278/rodare.730

**Keyword(s):**  
Data Management DAQ FPGA Mu2e

**Related identifiers:**  
Identical to:  
<https://www.hzdr.de/publications/Publ-31982>

**Communities:**  
Helmholtz-Zentrum Dresden-Rossendorf  
RODARE

**License (for files):**  
[BSD 3-Clause "New" or "Revised" License](#)

**Versions**

Version 0.1.0 10.14278/rodare.730	Jan 7, 2021
Version 0.1.0 10.14278/rodare.721	Jan 7, 2021

**Cite all versions?** You can cite all versions by using the DOI [10.14278/rodare.720](#). This DOI represents all versions, and will always resolve to the latest one. [Read more.](#)

# Citing Research Data

Improve research reproducibility by publishing/linking **all** associated research results along with your publication:

- **Related Identifier** field to show dependencies:

Related identifiers  [+ Add another related identifier](#)

- ✓ cites this upload
- is cited by this upload
- is supplemented by this upload
- is a supplement to this upload
- is referenced by this upload
- references this upload
- is previous version of this upload
- is new version of this upload**
- has this upload as part
- is part of this upload
- documents this upload
- is documented by this upload
- is compiled/created by this upload
- compiled/created this upload
- is identical to this upload
- is an alternate identifier of this upload

- Additional free-text fields on **References** and **Subjects**.



**Publication date:**  
April 16, 2021

**DOI:**  
DOI [10.14278/rodare.939](https://doi.org/10.14278/rodare.939)

**Keyword(s):**  
metadata HELIPOINT project lifecycle FAIR

**Related identifiers:**  
Identical to:  
<https://www.hzdr.de/publications/Publ-32537>  
Supplementary material:  
[10.14278/rodare.947](https://doi.org/10.14278/rodare.947)

**Communities:**  
Helmholtz-Zentrum Dresden-Rossendorf  
RODARE

**License (for files):**  
[Creative Commons Attribution 4.0 International](#)

**Versions**

Version 0.1.0	Jan 7, 2021
<a href="https://doi.org/10.14278/rodare.73">10.14278/rodare.73</a>	
0	
Version 0.1.0	Jan 7, 2021
<a href="https://doi.org/10.14278/rodare.72">10.14278/rodare.72</a>	
1	

**Cite all versions?** You can cite all versions by using the DOI [10.14278/rodare.720](https://doi.org/10.14278/rodare.720). This DOI represents all versions, and will always resolve to the latest one. [Read more.](#)

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**Cite as**

[1]Ufer, Robert, Voigt, Martin, Müller, Stefan, and Knodel, Oliver, "Algorithms for the Exploration of an Automated STM DAQ Hardware Development Process based on Continuous Integration for the Mu2e Experiment". Rodare, 07-Jan-2021.

**Export**

[BibTeX](#) [CSL](#) [DataCite](#) [Dublin Core](#)  
[DCAT](#) [JSON](#) [JSON-LD](#) [GeoJSON](#)  
[MARCXML](#) [Mendeley](#)



# REST-API with DataCite Metadata



rodare.pages.hzdr.de/rodare-api-docu/?python#create

**RODARE**

- Search
- Introduction
- Authentication
- Quickstart
- Depositions API**
  - List
  - Retrieve
  - Create**
  - Update
  - Delete
- Records
- Background Upload API

### Create

This API endpoint can be used to create a new deposition in RODARE.

#### HTTP Request

POST `https://rodare.hzdr.de/api/deposit/depositions`

#### Headers

Content-Type: application/json

#### Data

Either an empty JSON object `{}` or a deposition metadata container.

- Example: `{"metadata": {"upload_type": "dataset"}}`

#### Scopes

```
Python cURL

import requests
url = 'https://rodare.hzdr.de/api/deposit/deposition'
headers = {'Content-Type': 'application/json'}
r = requests.post(url, data={}, headers=headers,
                  params={'access_token': ACCESS_TOKEN})
r.json()
```

rodare.hzdr.de/api/r

Raw Parsed

```
{
  id: 730,
  doi: "10.14278/rodare.730",
  conceptdoi: "10.14278/rodare.720",
  stats: - {
    version_volume: 5031301,
    unique_downloads: 6,
    version_views: 328,
    volume: 2808456,
    version_unique_downloads: 8,
    downloads: 6,
    version_downloads: 11,
    version_unique_views: 175,
    views: 205,
    unique_views: 134
  },
  updated: "2021-01-08T15:05:34.037745+00:00",
  metadata: - {
    description: "<p>This project contains the source code for the evaluation of a</p>",
    doi: "10.14278/rodare.730",
    communities: - [
      - {
        id: "hzdr"
      },
      - {
        id: "rodare"
      }
    ],
    creators: - [
      - {
        name: "Ufer, Robert",
        orcid: "0000-0003-4317-138X"
      },
      - {
        name: "Voigt, Martin",
        orcid: "0000-0001-5556-838X"
      },
      - {
        name: "M\u00e4\u00dfler, Stefan",
        orcid: "0000-0001-6273-7102"
      },
      - {
        name: "Knodel, Oliver",
        orcid: "0000-0001-8174-7795"
      }
    ],
    access_right: "open",
    related_identifiers: - [
      - {
        scheme: "url",
        relation: "isIdenticalTo",
        identifier: "https://www.hzdr.de/publications/Publ-31982"
      },
      - {
        scheme: "doi",
        relation: "isVersionOf",
        identifier: "10.14278/rodare.720"
      }
    ],
    resource_type: - {
      title: "Software",
      type: "software"
    },
    publication_date: "2021-01-07",
    license: - {
      id: "BSD-3-Clause"
    }
  }
}
```



# OAI 2.0 API to Provide Harvesting

**OAI 2.0 Request Results**

[Identify](#) | [ListRecords](#) | [ListSets](#) | [ListMetadataFormats](#) | [ListIdentifiers](#)

You are viewing an HTML version of the XML OAI response. To see the underlying XML use your web browsers view source option. More information about this XSLT is at the [bottom of the page](#).

**Datestamp of response** 2022-04-01T15:18:32Z

**Request URL** https://rodare.hzdr.de/oai2d



**OAI 2.0 Request Results**

[Identify](#) | [ListRecords](#) | [ListSets](#) | [ListMetadataFormats](#) | [ListIdentifiers](#)

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**Datestamp of response** 2022-03-29T10:52:26Z

**Request URL** https://rodare.hzdr.de/oai2d

Request was of type ListSets.

**Set**

**setName** OpenAIRE

**setSpec** openaire [Identifiers](#) [Records](#)

**Set**

**setName** OpenAIRE data sets

**setSpec** openaire\_data [Identifiers](#) [Records](#)

**Set**

**setName** OpenAIRE

**setSpec** user-ecfunded [Identifiers](#) [Records](#)

**Set**

**setName** Helmholtz-Zentrum Dresden-Rossendorf

**setSpec** user-hzdr [Identifiers](#) [Records](#)

**Set**

**setName** Rodare

**setSpec** user-rodare [Identifiers](#) [Records](#)

**OAI 2.0 Request Results**

[Identify](#) | [ListRecords](#) | [ListSets](#) | [ListMetadataFormats](#) | [ListIdentifiers](#)

You are viewing an HTML version of the XML OAI response. To see the underlying XML use your web browsers view source option. More information about this XSLT is at the [bottom of the page](#).

**Datestamp of response** 2022-04-01T15:19:36Z

**Request URL** https://rodare.hzdr.de/oai2d

Request was of type ListMetadataFormats.

This is a list of metadata formats available from this archive.

**Metadata Format**

**metadataPrefix** marcxml

**metadataNamespace** http://www.loc.gov/MARC21/slim

**schema** http://www.loc.gov/standards/marcxml/schema/MARC21-2003.xsd

**Metadata Format**

**metadataPrefix** marc21

**metadataNamespace** http://www.loc.gov/MARC21/slim

**schema** http://www.loc.gov/standards/marcxml/schema/MARC21-2003.xsd

**Metadata Format**

**metadataPrefix** datacite4

**metadataNamespace** http://datacite.org/schema/kernel-4

**schema** http://schema.datacite.org/meta/kernel-4.1/metadata.xsd

**Metadata Format**

**metadataPrefix** datacite3

**metadataNamespace** http://datacite.org/schema/kernel-3

Request was of type ListRecords.

**OAI Record: oai:rodare.hzdr.de:194**

**OAI Record Header**

**OAI Identifier** oai:rodare.hzdr.de:194 [oai\\_dc](#) [formats](#)

**Datestamp** 2020-03-23T10:14:51Z

**setSpec** user-hzdr [Identifiers](#) [Records](#)

**setSpec** user-rodare [Identifiers](#) [Records](#)

**Dublin Core Metadata (oai\_dc)**

**Author or Creator** Knodel, Oliver

**Author or Creator** Gruber, Thomas

**Author or Creator** Müller, Stefan

**Author or Creator** Juckeland, Guido

**Date** 2019-11-06

**Description** Top-Level Architecture of the...

**Resource Identifier** https://rodare.hzdr.de/record/194

**Resource Identifier** 10.14278/rodare.194

**Resource Identifier** oai:rodare.hzdr.de:194

**Language** eng

**Relation** url:https://www.hzdr.de/publicat...

**Relation** doi:10.14278/rodare.193

**Relation** url:https://rodare.hzdr.de/commu...

**Relation** url:https://rodare.hzdr.de/commu...

**Rights Management** info:eu-repo/semantics/openAccess

**Rights Management** https://creativecommons.org/licenses/by-nc/4.0/legalcode

**Subject and Keywords** data management

**Title** HZDR Data Management Strategy — Top-Level Architecture

**Resource Type** info:eu-repo/semantics/conferencePoster

**Resource Type** poster

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/ Communities / **RODARE - Rossendorf Data Repository**

**RODARE - Rossendorf Data Repository**

Rodare is the institutional research data repository at HZDR (Helmholtz-Zentrum Dresden-Rossendorf). Rodare allows HZDR researchers to upload their research software and data... [read more](#)

Datasets **438**

[Datasets](#) [About](#)

Search datasets...

**438 datasets found** Order by: Relevance

**Numerical framework for a morphology adaptive multi-field two-fluid model in ...**

This development is further maintained under the following software publication: <https://doi.org/10.14278/rodare.767> A solver for multiphase flows based on the incompressible...

**Data publication: Reservoir computing on epidemic spreading: A case study on ...**

Python scripts and relevant data required for reproducing the figures in the article

**Data publication: Impact of intervention on the spread of COVID-19 in India: ...**

This contains a set of MATLAB scripts and data that were used to generate the figures and results in the manuscripts.

**Dataset: spatially resolved temperature distribution in a rare-earth-doped tr...**

Dataset of glass-ceramic temperature-dependent fluorescence emission used for the calibration of the time measurements of spatially resolved temperature distribution in...

**Data publication: Optimal test-kit-based intervention strategy of epidemic sp...**

This contains all the python script and related data required for reproducing the results presented in the article

**Dataset for Bubble identification from images with machine learning methods**

This dataset contains the annotated training images and synthetic test images for the publication "Bubble identification from images with machine learning methods".



# Technical Background: RODARE → Zenodo → Invenio

- Rodare is build on top of Zenodo, an interdisciplinary open research data repository service.
- Zenodo is built on the foundation of the [Invenio](#) digital library and adds a couple of features to the Invenio framework:

- Persistent identifiers (DOIs),
- Communities,
- GitHub integration,
- OpenAire support,
- ...



- Zenodo itself is built and operated by [CERN](#) and [OpenAIRE](#).
- Many organizations adapted Zenodo and keeping the clones up to date is a challenge: **InvenioRDM** solves that problem:
  - InvenioRDM scales from 1 to 100 million records, 1 byte or several petabytes.
  - It runs on bare-metal, VMs and container platforms such as Kubernetes and OpenShift.
  - 🚀 March 3, 2022: InvenioRDM v8.0 Released



# The InvenioRDM (Research Data Management) Project



The screenshot shows the InvenioRDM website interface with a grid of featured institutions and their RDM services:

- CERN Document Server:** CERN official repository for publications, articles, reports and multimedia content in HEP. Includes buttons for Library, Multimedia, and Repository.
- CERN Open Data:** Discover open Research datasets and software of LHC experiments. Visualise events and run and your own analysis. Includes a Data button.
- HEPData:** The Durham High Energy Physics Database (HEPData) has been built up over the past four decades as a unique open-access repository for scattering data from experimental particle physics. It currently comprises the data points from plots and tables related to several thousand publications including those from the Large Hadron Collider (LHC). Includes a Data button.
- INSPIRE:** Run by a collaboration of CERN, DESY, Fermilab, IHEP, and SLAC, and interacts closely with HEP publishers, arXiv.org, NASA-ADS, PDG, HEPDATA and others. Includes a Repository button.
- Zenodo:** Zenodo is an open home for the long-tail of science, enabling researchers to share and preserve any research outputs. Includes a Data button.
- Aristotle University of Thessaloniki:** A.U.Th. library and Information Center have...



HELMHOLTZ ZENTRUM  
DRESDEN ROSSENDORF



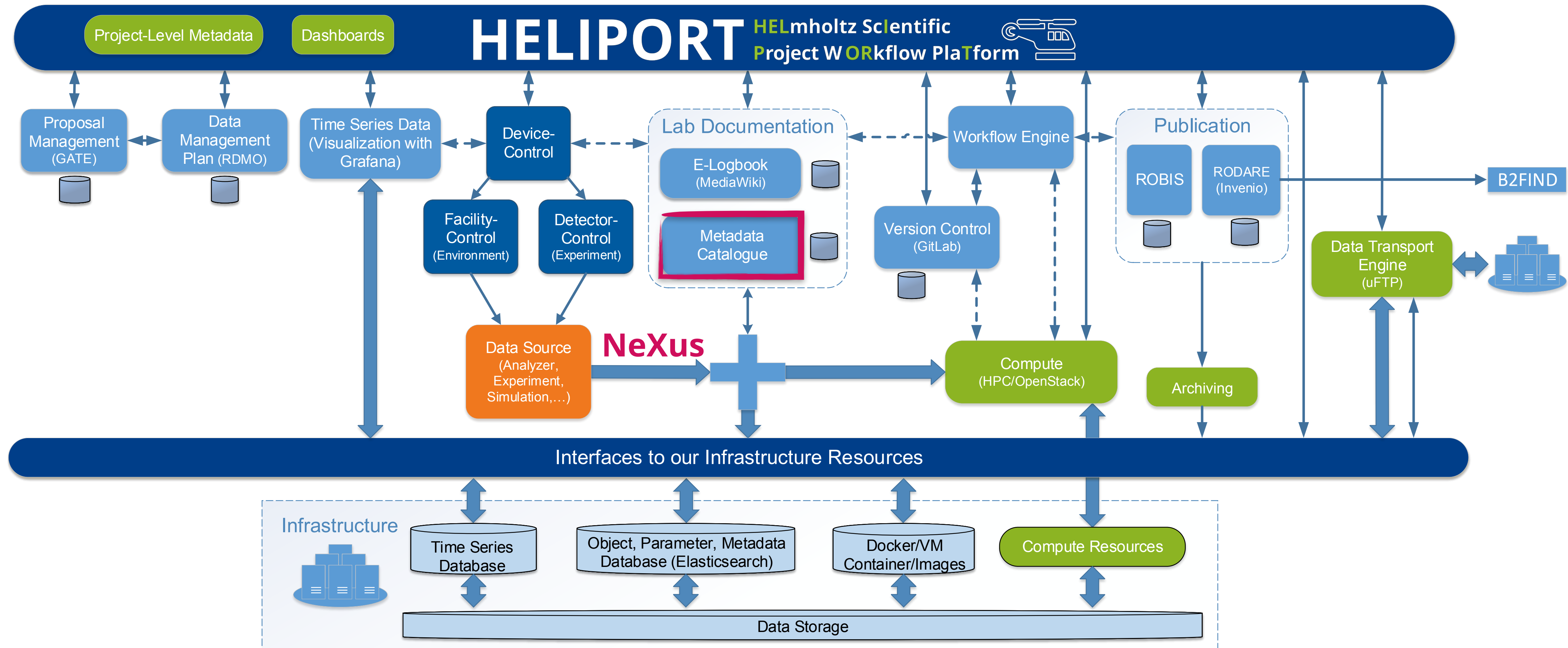


**But, in our data repository RODARE we have only the conscious data publications...**

**...and the metadata for the data publications are based on DataCite**



# HZDR (Metadata) Infrastructure





# HZDR Metadata Repository

## Requirements:

- We need a dedicated metadata catalogue for the experiment specific metadata
- Our experiments come from a wide variety of fields: Health, Matter and Energy
- Only a small proportion of experiments use standardised beamlines with a fixed set of metadata...
- We need a *flexible* set of different metadata schemes
- Advanced metadata search with the opportunity to filter for experiment specific fields (keys and values)
- Proposal information is available as structured metadata
- Different visibility levels would be desirable
- Preview feature for datasets (HDF5, ...)
- Flexible, but powerful data ingest
- User REST API for metadata/data requests, OAI 2.0 API for harvesting

## First Examples

- THz source at the ELBE accelerator
- Laser particle Acceleration experiment with Nexus/HDF5

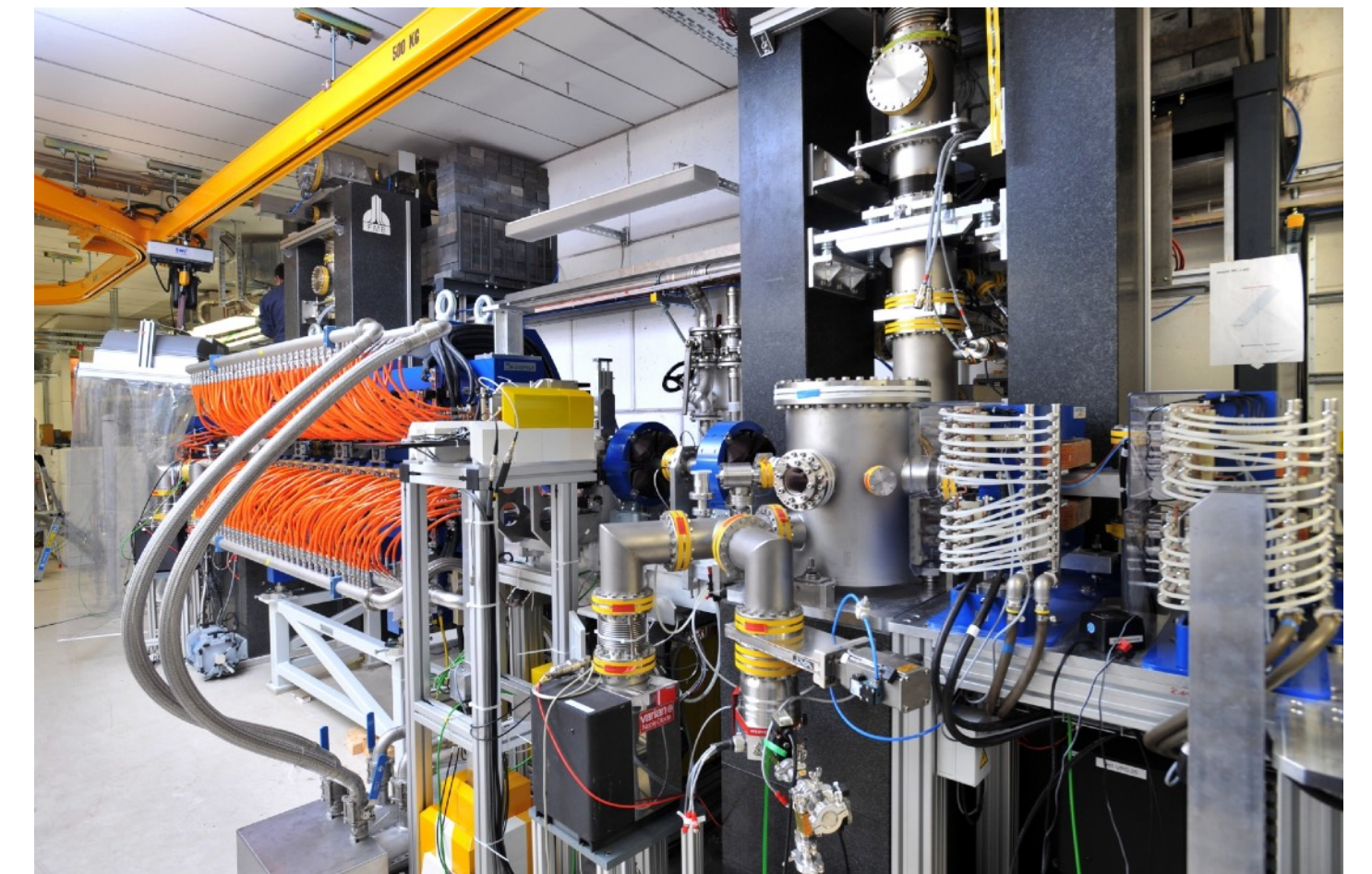


Foto: HZDR/F. Bierstedt



# Conclusions

- **RODARE** is powerful data repository based the Invenio framework
- The **InvenioRDM** project provides a turn-key research data management repository
- Metadata for each record is based on Invenio DataCite
- Experiment-specific metadata schemas are not provided and a separate metadata catalogue (SciCat or ICAT) should be considered...

**RODARE**

