

New Developments in RADAR: Safeguarding and Publishing Research Data for Long-term Usability

RADAR Cloud

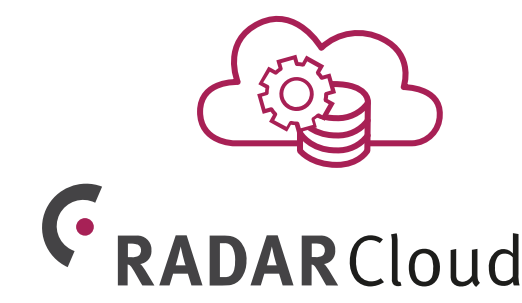
- Generic research data repository („All-in-One-Cloud“)
- Target groups: publicly funded research institutions and universities in Germany
- FIZ Karlsruhe: provider, contract partner, development, operation
- KIT and TU Dresden: data storage (3 copies on tape)
- TIB: DOI registration (DataCite)

FIZ Karlsruhe
Leibniz-Institut für Informationsinfrastruktur



RADAR Core Features:

- Archiving:**
- Secure storage without publication
 - Flexible retention period (5, 10, 15 years)
 - Flexible access management
- Publishing:**
- Secure storage with publication (DataCite DOI)
 - Unlimited retention period (at least 25 years)
 - Optional embargo period (1-12 months or unlimited)
 - Metadata indexing (RADAR, DataCite, Harvesting via OAI-PMH)
- Peer Review:**
- Secure link for reviewers









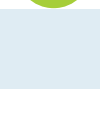
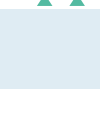




DFG Project Phase

- Interdisciplinary project team
- Goal: development of a cross-disciplinary research data repository for specific scientific fields („long-tail“)



RADAR Metadata Schema:

10 mandatory fields	Identifier ¹	
	Creator ¹	 
	Title ¹	
	Publisher ¹	 
	Production Year	
	Publication Year ¹	
	Subject Area	
	Resource	
	Rights ¹	
	Rights Holder	 
13 optional fields	Additional Title	
	Description ¹	
	Keyword	
	Contributor ¹	 
	Language ¹	
	Alternate Identifier	
	Related Identifier ¹	
	Geo Location ¹	
	Data Source	
	Software Type	
	Data Processing	
	Related Information	
	Funding Reference ¹	 

Bases on DataCite metadata schema 4.4 (¹)

Subject Specific Metadata

- Management of custom metadata schemas (XML) in RADAR backend
- RADAR-compliant schema or XSLT transformation

Statewide Research Data Portal in Brandenburg (Test Operation)

- Central provision of IT services and RDM services by IN-FDM-BB project (RADAR, RDMO)
- University of Potsdam: service provider of statewide research data portal, contractual partner for partner universities
- Partner universities: own RADAR environment and RDM workflows, optional own start pages and decentralized data storage

2021
Subject Specific Metadata (as XML)

since 2022
Publication Services for Scientific Communities

2022
FAIR Signposting

2022
Update of RADAR Metadata Schema

- ### Free Publication Services for Scientific Communities
- Target group: researchers from the subject communities of chemistry, cultural studies and history
 - Complement the portfolio of subject repositories
 - 2022: RADAR4Chem, RADAR4Culture
 - 2025: RADAR4Memory



Update of RADAR Metadata Schema (v 9.1)

- Bases on DataCite metadata schema 4.4
- Integration of further standard data: ROR, Integrated Authority File (GND)
- Integration of further licenses for research data and software



FAIR Signposting

- Typed links in HTTP link header of RADAR dataset landing pages
- Improves machine readability and actionability as important part of the Fair Digital Object (FDO) framework

Schema.org Ontology | Knowledge Graph | SPARQL Endpoint

- Optimization of Schema.org ontology compliance improves discoverability and interpretability of RADAR data publications by web search engines, e. g. Google Dataset Search
- Linked Open Data (LOD) approach by using JSON-LD and Turtle serialisation
- Daily creation of RADAR knowledge graphs based on Schema.org vocabulary
- Support of a RADAR SPARQL Endpoint for standardized querying of the knowledge graphs



FAIRness Assessment Challenge

- Participation in support measure of the EU project FAIR-IMPACT
- Significant increase of FUJI score as indicator for the FAIRness of a data publication (up to 91%)



Two Additional Data Import Options

WebDAV Support

- Convenient import of research data (files and folders)
- Maximum flexibility for organizing dataset content, even with larger data volumes
- Supported by numerous WebDAV clients (e. g. WinSCP) and operating systems

GitHub Import

- Direct import of GitHub content (public and private GitHub repositories)
- Import of the standard branch or individual branches
- Ensures long-term availability of software versions and projects
- Specific versions of a GitHub repository can be clearly referenced and cited using DOIs



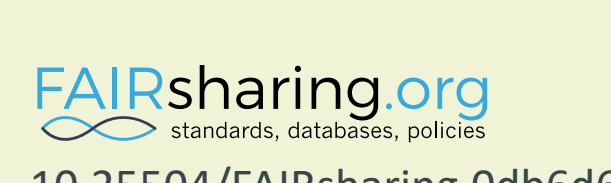
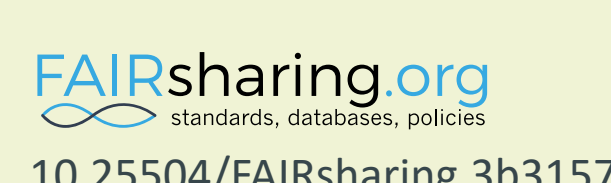
More Download Options (in Progress)

- Open dataset after publication/archiving: Selective streaming of individual files and folders from the packed .tar archive (BagIt standard)
- Enables preview of data in the future and data transfer for versioning
- .zip download of the dataset for reviewers before publication

Versioning of Datasets (in Progress)

- Editing/updating the content of a dataset*
- Automatic linking of individual versions via their DOIs
- Citation of specific versions as well as all versions of a dataset

*subsequent correction of metadata is supported since 2021



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