Implementation of the FAIR Principles with RADAR

Findable		
F1	(Meta)data are assigned a globally unique and eternally persistent identifier.	• DOI (DataCite) assigned to every published dataset • Internal RADAR ID assigned to every archived dataset
F2	Data are described with rich metadata.	• Generic RADAR metadata schema (10 mandatory, 14 optional fields) based on DataCite • Metadata are automatically checked for completeness • Optional discipline-specific annotations • Descriptive and technical metadata stored with data as TAR files (BagIt, OAIS-compliant AIP)
F3	Metadata clearly and explicitly include the identifier of the data they describe.	• Persistent identifier is mandatory; <identifierType> assigned automatically • Optional alternative identifiers (e.g., institutional)
F4	(Meta)data are registered or indexed in a searchable resource.	• Metadata searchable via the RADAR portal • Indexed in DataCite, Google, etc. • Harvesting via OAI-PMH and integration into search portals (e.g., BASE, B2Find) • Daily RADAR Knowledge Graph (Schema.org) with SPARQL endpoint
Accessible		
A1	(Meta)data are retrievable by their identifier using a standardized communications protocol.	• (Meta)data accessible via landing page (https) • Access via REST API • Metadata harvestable via OAI-PMH (RADAR OAI provider)
A1.1	The protocol is open, free, and universally implementable.	• Use of established, well-documented standards (https, REST, OAI-PMH)
A1.2	The protocol allows for an authentication and authorization procedure, where necessary.	• Metadata openly available and reusable (CC0) • RADAR role-based access control model enabling differentiated access to datasets • Embargo options for time-restricted access (including indefinite)
A2	Metadata are accessible, even when the data are no longer available.	• Landing page remains available even if dataset is no longer accessible
Interoperable		
I1	(Meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation.	• XML-based metadata schema based on the DataCite Kernel, continuously developed • Mappings to DataCite and Dublin Core • Landing pages support machine processing through Signposting and standards-compliant RO-Crate metadata files.
I2	(Meta)data use vocabularies that follow FAIR principles.	• ORCID for person identification • ROR for organizations • Crossref Funder Registry for funders • GND authority data • TS4NFDI terminologies (NFDI basic service) • DFG subject classification (GEPRIS)
I3	(Meta)data include qualified references to other (meta)data.	• Linking to related (meta)data via persistent identifiers.
Re-Usable		
R1	Meta)data are richly described with a plurality of accurate and relevant attributes.	• Comprehensive dataset description using all elements, types, and attributes of the metadata schema • Metadata schema includes a dedicated version element.
R1.1	(Meta)data are released with a clear and accessible data usage license.	• Metadata licensed under CC0 (public domain) • Mandatory dataset license (e.g., Creative Commons 4.0 or standard software licenses) • Rights holder must be specified • Acceptance of RADAR terms of use required
R1.2	(Meta)data are associated with detailed provenance.	• Upload, archiving, and publication restricted to registered and authorized data providers • Metadata schema supports detailed provenance information (e.g., contributors, data source, software, processing steps) • Landing page includes citation recommendations
R1.3	(Meta)data meet domain-relevant community standards.	• Discipline-agnostic RADAR metadata schema tested across domains • Integration of discipline-specific schemas possible

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