

DINI Working Group “Electronic Publishing” (E-Pub)

**DINI CERTIFICATE FOR  
OPEN ACCESS PUBLICATION SERVICES  
2019**

DINI Schriften 3-en | Version 6.0 | August 2020

DEUTSCHE INITIATIVE FÜR NETZWERKINFORMATION E. V.



DINI Working Group "Electronic Publishing" (E-Pub)

**DINI Certificate for  
Open Access Publication Services 2019**

This document is available online at:  
DOI: 10.18452/21759

DINI Schriften 3-en  
[Version 6.0, August 2020]

In memorial of Uwe Müller

## Content

About DINI	6
1 Aims and Content of the DINI Certificate	8
1.1 Background	8
1.2 Aims and Objectives of the DINI Certificate	9
1.3 Content of the Certificate	10
1.4 DINI-ready: Modularizing the Certification Process	12
2 Criteria	13
2.1 Visibility of the Service	14
2.2 Guidelines (Policy)	16
2.3 Support of Authors and Publishers	19
2.4 Legal Aspects	22
2.5 Information Security	29
2.6 Indexing and Interfaces	32
2.7 Open Metrics (Usage Statistics)	35
2.8 Long-Term Archiving	37
Appendix A – OAI Interface Guidelines	39
A.1 OAI Protocol Conformity	41
A.2 OAI-PMH: Extended Requirements	44
A.3 Metadata Requirements (Dublin Core Simple)	59
A.4 Metadata Requirements (DataCite)	63
Appendix B – Glossary	71
B.1 Definitions of different services	67
B.2 Additional Definitions	70
Appendix C – Awarding and Evaluation	76
Appendix D – Authors	78
Endnotes	83
Aufnahmeantrag für die Mitgliedschaft in DINI e. V.	86
Legal notice	87

## About DINI

The development of modern information and communication technologies causes a change in the information infrastructures of higher education institutions and other research institutions. This change is a major topic within higher education in Germany, and more than ever requires agreements, cooperation, recommendations, and standards. The Deutsche Initiative für Netzwerkinformation (DINI, German Initiative for Network Information) supports this development.

DINI was founded to advance the improvement of the information and communication services and the necessary development of the information infrastructures at the universities as well as on regional and national levels. Agreements and the distribution of tasks among the infrastructure institutions and facilities can significantly extend the range of information technology and services. This requires the joint development of standards and recommendations.

DINI is an initiative of three organizations

- AMH (Arbeitsgemeinschaft der Medienzentren der deutschen Hochschulen; Consortium of German University Media Centers),
- dbv (Deutscher Bibliotheksverband Sektion 4: Wissenschaftliche Universallibliotheken; German Library Association, Section 4: Academic Universal Libraries),
- ZKI (Zentren für Kommunikation und Informationsverarbeitung in Lehre und Forschung e. V.; Association of German University Computing Centers).

DINI has the following goals

- Publicize and recommend best practices;
- Encourage and support the formulation, application and further development of standards as well as distribute recommendations regarding their application;

- Register and advertise Competence Centers using modern web-based technologies;
- Improve interdisciplinary exchange through congresses, workshops, expert conferences etc.;
- Advertise new funding programs and encourage new programs.

# 1 Aims and Content of the DINI Certificate

## 1.1 Background

Publishing is an important pillar for the advancement of scientific knowledge and of science as a whole. Among its characteristics are

- a. the organization of effective communication between researchers (between [✉ authors](#) and all potential recipients, i.e. securing an adequate dissemination),
- b. a high degree of trustworthiness (e.g. with regard to priority, copyrights, authenticity, and quality of content) that is communicated to the [✉ users](#) of publications (i.e. researchers), and
- c. sustainability and verifiability (persistent citations, long-term availability, traceability of the steps on the way to publication).

The present catalog of criteria translates these general expectations of scientific publishing into concrete minimum requirements of [✉ Open Access publication services](#). As platforms for the publication and presentation of scientific and scholarly works these represent important hubs in the scientific communication process. As Open Access services they facilitate the dissemination and democratization of knowledge.

The term [✉ Open Access publication services](#) comprises the following services (see also Definitions in [Appendix B](#)):

- Institutional Open Access repositories
- Cross-institutional repositories
- Disciplinary Open Access repositories
- Open Access journals

## 1.2 Aims and Objectives of the DINI Certificate

The DINI Certificate essentially serves two main goals:

- 1. Improve the publication infrastructure** for electronic publishing;
- 2. Strengthen [✉ Open Access based forms of publishing](#).**

The DINI Certificate with its underlying catalog of criteria facilitates reaching these goals in the following manner:

1. The DINI Certificate communicates **benchmarks, guidelines, and best practices**; it contributes to a general understanding of the principles of electronic scientific publishing. Its requirements support the realization of this form of publishing. Through its detailed catalog of requirements and the permanent practical evaluation, the DINI Certificate offers a basis for further discussions and the regular adaptation and editing of requirements.
2. The DINI Certificate **yields effects for [✉ operators](#)**. Minimum requirements and recommendations form a catalog of aspects (and consequently a series of steps) that must be considered when creating an [✉ Open Access publication service](#) for electronic publishing. As such, it serves to qualify personnel responsible for the implementation and operation of a publication service.
3. The DINI Certificate **yields effects for funding bodies** (supporters of information infrastructure, operating institutions). It shows what effort it takes and what degree of professionalism it requires to operate Open Access publication services, and what it costs; but it also shows what additional benefits a solid, standardized and sustainable service generates. On the other hand, funding bodies can use the DINI Certificate as a benchmark for the definition of organizational and technical bases for the Open Access publication of works.
4. The DINI Certificate **yields effects for researchers** who use Open Access publication services as [✉ authors](#) and/or *publishers*. In this sense, the DINI Certificate is an easy to recognize quality seal for consumers. It designates publication services as trustworthy partners within their institution or discipline.
5. The DINI Certificate brings about an **improvement to a publication**

**service's quality** in terms of—among others—organizational and technical sustainability, interoperability and transparency. This effect is best seen in services that are already certified. But it can also be observed in the use of the certificate as a guideline for the creation of new services, even if no official certification process follows.

6. The DINI Certificate's seal works as a **mark of quality** and encourages use of the services.

### 1.3 Content of the Certificate

The DINI Certificate's catalog of criteria and its associated certification process are aimed at [Open Access publishing services](#) and their inherent core components and processes. In this document, operators and providers of Open Access publication services are primarily considered to be scientific institutions (universities, universities of applied sciences, research institutions, etc.) and organizations (professional associations), but also non-commercial and commercial publishing entities that publish Open Access. Open Access publication services in this sense must be addressed and described with a view to the kinds of publications they are intended for (institutional, disciplinary, and formal aspects). They are characterized by the following core processes:

- Services for [authors and publishers/editors](#);
- Intake, treatment and long-term storage of the [documents](#) and [metadata](#) of a publication;
- Public availability of the publications, ensuring findability for human and machine-based access necessary for comprehensive add-on services, as well as the transfer of metadata and, where applicable, the transfer of publications.

The following core components realize or support the abovementioned core processes.

- An underlying **organizational structure** (not element of the certificate)
- The **technical basic system**;
- **User interfaces** (esp. web frontend, [deposit license](#));
- **Technical interfaces** (esp. OAI interface).

Technical and organizational implementations of Open Access publication services can vary greatly, both in terms of allocation of responsibilities and when it comes to integration in a larger, comprehensive infrastructure (stand-alone services with an individual installation of a repository or journal-processing software; use of hosting services of an internal or external service provider; integration into other elements of an institutional information infrastructure, e.g. research information systems, campus management, institutional bibliographies).

However, only the processes and components relevant to providing the service are used for evaluation and certification purposes. Even if a repository or publication service is technically and organizationally integrated into a comprehensive infrastructure, the certificate can “disassociate” itself from the actual implementation and rely on its catalog of criteria. In terms of campus management or research information systems, and when it comes to research data management and specialist information services, evaluations specifically exclude overarching elements and elements that extend beyond the publication service.

## 1.4 DINI-ready: Modularizing the Certification Process

The DINI Certificate is in principle awarded to individual [Open Access publication services](#). Applicants are in general the *operators* of an Open Access repository or persons responsible for an Open Access journal.

For a number of repositories and journals, [hosting services](#) provide the technical components; they often do this for more than one such service at a time. Consequently, responsibilities and competencies necessary for the creation and operation of Open Access publication services are located at different institutions. This specialization and centralization is set to increase in the area of Open Access publication services.

To better mirror this situation in the future, and to simplify the certification process for both the applicant and the evaluator, the DINI Certificate 2013 introduced an additional tool that is retained in this version of the certificate: **DINI-ready**. Hosting services can obtain a certification that



all of the services they operate meet certain minimum requirements of the DINI Certificate. Publication services applicants hosted by a DINI-evaluated service no longer need to answer the corresponding questions; instead, they can simply mark them as DINI-ready and no further evaluation will be performed.

## 2 Criteria

The DINI Certificate comprises eight criteria that are described in detail in this section. The criteria are:

- Criterion 1 – *Visibility of the Service* ([section 2.1](#))
- Criterion 2 – *Guidelines (Policy)* ([section 2.2](#))
- Criterion 3 – *Support of Authors and Publishers* ([section 2.3](#))
- Criterion 4 – *Legal Aspects* ([section 2.4](#))
- Criterion 5 – *Information Security* ([section 2.5](#))
- Criterion 6 – *Indexing and Interfaces* ([section 2.6](#))
- Criterion 7 – *Open Metrics (Usage Statistics)* ([section 2.7](#))
- Criterion 8 – *Long-Term Archiving* ([section 2.8](#))

The *OAI Interface Guidelines* provided in Appendix A of this document are also part of the DINI Certificate.

Each individual criterion (including those in Appendix A) is split into two sections. In the first section minimum requirements (marked with an **M**) are specified, which must be met to qualify for certification. In addition to these, recommendations (marked with an **R**) are provided to offer guidance in the sense of best-practice solutions and provide future tendencies in the development of Open Access publication services. These recommendations do not have to be met to qualify for certification with the current DINI Certificate. However, as DINI plans to continuously update the certificate it is likely that in later versions of the DINI Certificate, some of these recommendations will be minimum requirements.

Each criterion is introduced by a short paragraph that explains the criterion and the reason(s) for its being a requirement. The requirements in the respective criteria are formulated like a check list to allow answering simply with yes or no. Each point is accompanied by highlighted explanations of termini, interpretations or definitions, rationales or examples relevant to the minimum requirements and recommendations.

## 2.1 Visibility of the Service

Greater visibility and a potentially higher recognition are characteristic advantages of electronic publications, especially when published [Open Access](#). To make the most of this potential, the entire range of an underlying service's offers must be widely advertised. It has to be visible not only to the immediate and individual user—regardless of whether one wants to read a specific publication or use it in another way, or if one wants to publish a document—but also to comprehensive or discipline specific services. These can be search engines or other referencing services, as well as other automated processes. Besides the necessary technical interfaces (as described in Criterion 6 – *Indexing and Interfaces* in [section 2.6](#)) the registration of a local service with the pertinent agencies and/or listing services is crucial. These agencies serve as facilitators between different distributed Open Access publication services and comprehensive or discipline specific services.

### Minimum Requirements

**M.1-1** The entire range of services must be available online on the www.

- This refers to a service's homepage from which both publication workflow and access to already published documents are possible.

**M.1-2** The service's homepage must be referenced in a central location on the institution's homepage

- one or two clicks suffice to reach the service from the operating institution's homepage
- potential users must be guided as intuitively as possible from an institution's

**M.1-3** The service is registered and listed in the list of sources on the DINI website as well as in the Bielefeld Academic Search Engine (BASE) with a permanently available base URL.

- The base URL is the internet address where the service's OAI interface can be reached (see also [M.6-6](#) in section 2.6 – Indexing and Interfaces

- DINI list: <https://dini.de/dienste-projekte/dini-zertifikat/liste-der-repositorien/>

- BASE: <https://www.base-search.net/about/de/suggest.php>

**M.1-4** Open Access publications are clearly marked on the website.

- Limiting a search to Open Access publications (e.g. through checkboxes and faceting) is possible. Additionally
- The goal is to increase visibility of Open Access publications in publication services such as research information systems and publication databases.
- Should a publication service offer Open Access publications only

### Recommendations

**R.1-1** The service and, where applicable, its OAI interface are listed with current data in at least one additional registry.

- Among these are the list of registered OAI data providers (<http://www.openarchives.org/Register/BrowseSites>), <https://provide.openaire.eu/landing>), OpenDOAR (<http://v2.sherpa.ac.uk/opensoar/>), DOAJ (<https://www.doaj.org/>).

**R.1-2** All documents published with the service are available via links.

- This facilitates finding a document by way of search engines (robots or spiders). Documents that can only be found through a search request and that are not available via a hyperlink will not be found by search engines.

**R.1-3** Links to social media are offered on the landing page of each individual publication.

- Links from social-media services to documents increase their visibility.

**R.1-4** The service supports search engine optimization (SEO).

- To increase search engine visibility, the service supports the search engines' and initiatives' means to improve the documents' findability, e.g. support of vocabularies (e.g. [schema.org](http://schema.org)), qualified links (e.g. [signposting.org](http://signposting.org)) or guidelines (e.g. *Google Scholar Inclusion Guidelines for Webmasters*).

## 2.2 Guidelines (Policy)

Reliability and transparency play a major role when providing Open Access publication services. It is crucial for the respective operators to describe the offered services clearly and make statements on content related criteria and on the technical operations (e.g. on document types, intended users, sustainability of the service) in publicly available guidelines. Such guidelines, also referred to here as a *policy*, represent the operator's self-commitment towards both potential and actual users of the services.

### Minimum Requirements

**M.2-1** The operators publicly provide a policy that describes the services.

- The policy—as a self-commitment—is a stand-alone document. A list of FAQ is not sufficient.
- The policy must be linked to directly from the service's main page and must be a document in and of itself.
- The operators in the DINI Certificate's understanding are the providers of the service who holds responsibility for the entire service. For repositories this is the responsible institution, for other services (e.g. an Open Access journal) this is typically the publisher(s) or editor(s).

The policy comprises statements on the following:

**M.2-2** A definition of the operators' rights and obligations.

- This includes a description of the service and statements on for whom and under what conditions it is provided.

**M.2-3** A definition of the authors' and publishers' rights and obligations when using the service to publish their documents.

- This includes, e.g. a statement on what copyrights the copyright holders transfer to the operators.
- See also the explanations in Criterion 4 – *Legal Aspects*, [section 2.4](#)).

---

**M.2-4** A description of the document types published via the service, and requirements with regard to the documents' content and technical quality.

- This corresponds to a collection mandate. Additional quality criteria referring to content quality (e.g. peer review, author guidelines) and technical aspects (e.g. file formats) serve primarily as guidance for potential users.

---

**M.2-5** A specification of the minimum timespan that documents published with the service will be available, plus the respective guarantee. The specified timespans do not have to be identical for all documents but can depend on document or publication type, or on a document's technical or content quality. However, the chosen value must not fall below five years. (See also Criterion 8 – *Long-Term Archiving*, [section 2.8](#))

---

**M.2-6** A statement on long-term archiving of the documents.

- This includes a description of how the long-term archiving of the publications is either planned or ensured, e.g. by way of cooperation with another institution.

---

**M.2-7** A statement on the technical operation of the service.

- This includes information on who is operating the services technically, and the service's basic performance parameters (especially availability).

---

**M.2-8** A statement on Open Access.

- This statement must clarify the position of the operators with regard to Open Access as well as point out those parts of the publications that might not be freely available in the sense of Open Access (including information about possible embargoes, requests features, etc.).
  - The majority of the publications provided must be available in the sense of Open Access.
  - Should the institution operating the service (e.g. a university) have published an
  - Open Access declaration, the policy is required to refer to it.
-

---

**M.2-9** Information on how the service deals with document versions and deletions.

- It must be noted specifically that documents cannot be altered after their publication and that a deletion is the exception (see Criterion 5 – Information Security ([M.5-6](#) and [M.5-9](#)) as well as [R.5-2](#)).

---

**Recommendations**

---

**R.2-1** Guidelines and recommendations for authors with regard to *Open Access*.

- This is especially useful in a policy if the operating institution recommends or intends a certain practice, e.g. the self-archiving of publications (the green road”), as published in an institutional Open Access declaration. Guidelines may vary according to document or publication type.

---

**R.2-2** Naming and description of the tools used to provide the service.

- This can include, e.g. the repository software, upload interfaces, versioning and authentication procedures as well as automated license definitions (for primary publications).

---

**R.2-3** Information on the conditions under which third parties may use the repository’s metadata.

- See Criterion 4 – *Legal Aspects*, [section 2.4](#), [R.4-5](#)

## 2.3 Support of Authors and Publishers

The aim is to support the entire publication process within the offered service. Those making use of the service to publish (i.e. authors and, where applicable, publishers) set great store on visible and well-structured information that answers key questions relating to electronic publishing. The relevant pages should at least be accessible via the service’s website and may additionally be provided in other formats (e.g. flyers, brochures). The information may include external resources.

---

**Minimum Requirements**

---

**M.3-1** A contact and advisory service is accessible via the website.

- Contact options may include email addresses, phone numbers, etc. or contact forms on the web pages. It is not necessary to provide all of the above options, but at least one is mandatory.
- Primary-publication services, e.g. Open Access journals, using an institution’s infrastructure must differentiate between contact with the editorial team and contact for other areas of support.

---

**M.3-2** Authors have the option to upload their documents intended for publication directly to the repository (e.g. via a web form) or to use other ways to add documents to the repository.

- For Open Access journals this includes the option to submit articles for publication. Information is provided in a central location to explain the steps involved in the process.
- This requirement is superfluous if the operating institution (or publisher in the case of journals) organizes the entire document upload process.

---

**M.3-3** Information on the relevant technical questions on electronic publishing is provided or linked to.

- This includes information and tutorials on technical implementation, e.g. on the use of applicable file formats and how to upload electronic documents to the service.

- Information on quality assurance is provided. This explicitly includes information on the code of scientific practice.
- Open Access journals additionally provide publication guidelines for the authors.

---

### Recommendations

---

**R.3-1** At least one of the following APIs is integrated to support clarification of rights:

- The SHERPA/RoMEO API for authors:
- In the event of secondary publication, this allows authors to research during the upload process the general position of their publisher on the usage rights and copyrights they retain in accordance with their publishing contract.
- For further information, see <http://www.sherpa.ac.uk/romeo/api.html>.
- Open Access API of the Electronic Journals Library (Elektronische Zeitschriftenbibliothek – EZB) for operators of the service:
- The EZB Open Access API provides the Open Access rights for the publication of full texts pursuant to *Allianz-, National- or Konsortiallizenzen*. For further information, see <https://ezb.ur.de/services/oa-ezb>
- This integration is superfluous for services pertaining solely to primary publications.

---

**R.3-2** The embedding of freely available bibliographical sources supports the upload of secondary publications.

- Among these are arXiv<sup>1</sup>, PubMed<sup>2</sup>, PubMedCentral<sup>3</sup>, Crossref<sup>4</sup>, DataCite<sup>5</sup> or INSPIRE-HEP<sup>6</sup>.

---

**R.3-3** To facilitate author identification, the entry of an Open Researcher and Contributor ID (ORCID) is optionally offered during the upload to allow authors to be linked to their ORCID.

- The ORCID API's authentication function (freely available through the public API) should be used for this to ensure an author is linked reliably to a publication.
- 

---

**R.3-4** As an alternative to independent uploads by the authors/publishers, a central institution offers an upload service to authors/publishers. Information about this should be provided on the service's website.

- This service can be offered by the operating institution (e.g. library, publishing house, editorial board of a journal). It may vary depending on the publication type.

---

**R.3-5** Workflow systems are offered to assist publishers with extensive publication projects. Information about this should be provided on the service's website.

- This largely involves systems facilitating a peer review for electronic journals or scientific conferences.

---

**R.3-6** Specific information is offered about citation of the offered electronic documents.

- This should communicate that electronic publications should be cited using a persistent identifier system. Recommendations can also be made on how to reference specific sections of a document without any page numbering.

Example: Doe, John: title, sections 2 - 4. In: editor: collection title, city, publisher, year. URL: <https://doi.org/xx.xxxx/abc> (last accessed on: date)

---

**R.3-7** The operating institution offers information about the Open Researcher and Contributor ID (ORCID) and about other author identification standards.

- The information is provided at least via the website and contains a link to the ORCID landing page (<https://orcid.org>).

---

**R.3-8** The available information or parts thereof are also provided in English.

- This is advised especially when addressing authors and/or publishers whose native language is not German.

## 2.4 Legal Aspects

Operators of an Open Access publication services require certain usage rights from authors or publishers to offer documents to the public and to facilitate their long-term archiving. This is formalized in an agreement known as a deposit license.<sup>xs</sup>

Legal requirements can differ greatly between primary and secondary publications on repositories.

Other than with [☞ primary publications](#), it must be assumed that with [☞ secondary publications](#) the copyright holders (German: Urheber\*innen) no longer hold all usage rights. Additionally, many secondary publications are added to repositories without prior direct contact to the copyright holder. Generally, the legal basis in such cases is a direct contractual agreement with the publishers or publishing houses as rights holders.

Due to the above, the following requirements differentiate in part between primary and secondary publications. Should a service offer only one of the two types of publication, the respective other's requirements do not have to be met. In principle the following applies: For primary publications, the operating institution **must** offer a deposit license or a free license has to be available that grants the necessary rights to the operators. For secondary publications, the provider **can** offer a deposit license or refer to another legal basis (e.g. alliance or national license, or other free license). If the basis for the secondary publication is a direct contact with the resp. author(s), the use of a [☞ deposit license](#) is advised.

For primary as well as for secondary publications, the operators are free to regulate additional aspects in a [☞ deposit license](#).

Special importance must be given to free licenses and the use of Rights-Statements as standardized vocabulary. The legal status of the published documents' state of protection must be transparent so users are clear about what needs to be taken into consideration when re-using a published document, and to allow for automatic re-uses of these specifications.

These and other legal aspects to be observed when operating an Open Access publication service are the subjects of this criterion. No statement or remark in this section / criterion is to be understood as legal advice or legally binding information. Bear in mind that they are based on German legislation and regulations only. All service providers are advised to cooperate with their institution's legal department and to seek additional professional advice where legal aspects are concerned. To ensure compliance with the EU's General Data Protection Regulation (GDPR), close cooperation with the institution's data security officer is advised.

### Minimum Requirements for Primary Publications

**M.4-1** The legal relationship between author(s) and publisher(s) (rights holders) and the operating institution is governed in a formal agreement (granting of rights).

- The granting of rights is formalized in a license agreement or a deposit license. The copyright holders grant non-exclusive usage rights to the operators.
- Use of Creative Commons licenses is strongly recommended as they are the current de-facto standard.
- A deposit license is not necessary if the publication is under a free license that grants the necessary rights to the operator. These are mostly Open Definition-compliant licenses such as CC BY<sup>7</sup>.

**M.4-2** The operators publish the *deposit license(s)* in the country's official language(s) where the service is based.

- The version(s) in the country's official language is/are the legally binding one(s). Other language versions are optional. Legally binding is the version the creator(s) actually agreed to.

By agreeing to the *deposit license*, the rights holders grant the following usage rights on a document and its metadata (incl. the abstract(s)) to the operators for a primary publication.

---

**M.4-3** The right to store the publication electronically and to make the publication available to the public. Where print-on-demand services are offered, the reproduction and dissemination rights must be granted *as well*.

---

**M.4-4** The right to notify and transfer the document to third parties, e.g. within the framework of national collection mandates, especially for the purpose of long-term archiving.

- In Germany, law mandates that online publications be supplied to the German National Library<sup>8</sup> and /or Regional Libraries.

---

**M.4-5** The right to copy and to convert the document for archiving purposes into additional, different electronic or physical formats while retaining the content's integrity.

- A conversion may, e.g. become necessary should the used data/file formats become obsolete and current presentation/viewing software be unable to present the document correctly.

---

The operators allow the rights holders the option of a free license:

---

**M.4-6** When registering a document, the author has the option of selecting a license that defines user rights. A preselection takes standardized license models into account; licenses conforming to the Open Definition<sup>9</sup> are encouraged.

- An Open Definition-compliant license is CC BY.

---

### Minimum Requirements for Secondary Publications

---

**M.4-7** The copyright holders express in a documentable and verifiable manner their intention to disseminate an article as a secondary publication using this service. As an alternative, the operators provide documentation confirming that separate permission to secondary publish has been granted.

- The mandate or the agreement to a secondary publication should be in a form that others can comprehend and whose integrity the service provider can verify with reasonable effort (e.g. through a *deposit license*, authentication in the repository, and agreement to grant rights, documented email exchange).

---

- Permission can also be granted through national or consortium licenses, through sublicensing agreements with the publisher, or through a public license that allow a secondary publication.

- Additionally since 2014, Section 38(4) of the German Copyright Act (UrhG) permits secondary publication subject to compliance with legal provisions. Applicability to research financed through basic funding remains uncertain. Some commentaries<sup>10</sup> advocate that all researchers financed through public funding (incl. basic funds) may invoke this regulation and employ their secondary-publication right.

---

### Minimum Requirements for Primary and Secondary Publications

---

**M.4-8** The copyright holders assure the operators that no third-party rights will be violated by publishing the document or parts thereof. Should third-party rights be asserted following publication, the copyright holders warrant that they will immediately inform the operators thereof.

- Third-party claims may refer to used content (e.g. photographs) or involved persons (e.g. joint copyright holders, co-publishers, publishing houses, funding agencies).

- For primary publications, such terms must be governed in the deposit license.

- For secondary publications, such terms are not required if the operators have reviewed the legal situation or if permission for secondary publication has been granted elsewhere (cf. [M.4-7](#)).

---

**M.4-9** A legal notice is published on the website that meets legal requirements.

- In Germany, such legal requirements are governed in the Telemedia Act (Telemediengesetz - TMG) and in state laws.

---

**M.4-10** The operators document the legal attributes of the published documents in their resp. metadata to make them accessible for machine-reading.

- Information on the conditions under which a document may be used by third parties is stored with each published document.

---

- Machine-readable information is in particular provided via the OAI interface. Additionally, machine-readable information on the rights situation is provided via the web frontend, e.g. as meta-tags in the HTML header or RDFa elements in the HTML body.

- Standardized URLs are used to mark the legal provisions. For documents under a free license, the resp. license's URL is listed in the OAI metadata. For other documents, URLs of the RightsStatements<sup>11</sup> vocabulary are used.

- Example 1, CC-BY-3.0 DE document;

OAI: <dc:rights><https://creativecommons.org/licenses/by/3.0/de/></dc:rights>

- Example 2, copyright protected document (RightsStatement);

OAI: <dc:rights><http://rightsstatements.org/page/InC/1.0/></dc:rights>

---

**M.4-11** The legal attributes of the documents are available in machine-readable form on the web frontend to make them accessible for users.

- A description of the conditions under which third parties may use a document is available for every document.

- Should a document be under a free license, a link to the license text is offered.

- For other documents, *RightsStatements* vocabulary URLs are used.

- Example 1: CC BY 3.0 DE document; Web frontend (one of the following variants or a combination thereof):

(1) [CC Icon] (Note: The CC icon must not stand alone!)

(2) CC BY 3.0 DE

(3) Creative Commons Attribution 3.0 Deutschland

- Example 2: Document copyright protected through (*RightsStatements*); Web frontend (one of the following variants or a combination thereof):

(1) [RightsStatements-Icon] (Note: The CC icon must not stand alone!)

(2) In Copyright

(3) Copyright protected

---

## Recommendations for Secondary Publications

---

**R.4-1** The operators document the results of the clarification of copy-right issues.

- This refers to, e.g. a publishing house's permission, a clause in the author-publisher contract, or another legal basis which makes it clear that such a secondary publication is allowed (see Minimum Requirement [M.4-7](#)). In case of a conflict, this facilitates verification of the legal validity of the secondary publication.

- This can be noted in the repository metadata, in spreadsheets, a ticketing system (with archiving functionality), on paper or other forms.

- During the certification process, the form of documentation must be made clear to the evaluators.

---

**R.4-2** The copyright holders grant the operators the right to copy and to convert the document for archiving purposes into additional different electronic or physical formats while retaining the content's integrity.

- A conversion may, e.g. become necessary should the used data/file formats become obsolete and current presentation software be unable to present the files correctly.

---

## Recommendations for primary and secondary publications

---

**R.4-3** If a *deposit license* is used to grant rights, it should additionally be available online in English.

- Other language versions are optional. Legally binding is the version the creator(s) actually agreed to.

---

---

**R.4-4** The operators are allowed to transfer rights granted in the *deposit license*, in full or in part, to third parties and to transfer non-exclusive copyrights to other repositories without the specific consent of the copyright holders.

- This is necessary, e.g. in case the operators cease the provision of (parts of) the service or changes its legal status, while still assuring open public access to the documents through a third party, e.g. an institution specializing in long-term archiving.

---

**R.4-5** The operators license the documents' metadata under CC0 or the Open Data Commons Open Database License (ODbL)

- This free license allows the exchange of metadata between different services and service providers. This is a pre-condition for the development of add-on services that will enhance the attractiveness and visibility of the services.
- For inclusion in the policy, see Criterion 2, *Guidelines (Policy)*, Recommendation [R.2-3](#)
- For technical integration in the OAI interface, see [R.A.1-3](#), section A.1.1

## 2.5 Information Security

To guarantee a reliable service that satisfies the general requirements of scientific publishing, the underlying technical system and the organizational structure must meet basic criteria with regard to information security. These are specified in the *Common Criteria* as published in the international standard ISO/IEC 15408. The main contents are fail safety, operational safety, and trustworthiness of the technical infrastructure, as well as availability, integrity and authenticity of the published documents. The service must be secure against attacks, misuse, operating errors, and technical malfunctions and failures. Organizational and technical measures must be taken to ensure this.

### Minimum Requirements

---

**M.5-1** A security concept exists for the technical system that forms the basis for the service.

- This concept identifies and qualifies possible risks and describes technical, organizational and personnel-related provisions to adequately counter these risks. A central hotline and all contacts with their respective responsibilities for the system's security are named.
- The security concept is made available to the evaluators during the certification process.

---

**M.5-2** There is an operations concept in place that includes a technical maintenance plan.

- The operations concept contains descriptions of all tasks, actions and processes necessary to operate the system, as well as the corresponding roles and interfaces.
- The operations concept is made available to the evaluators during the certification process.

---

**M.5-3** There is written documentation available on the technical system and all of its components needed for the operation of the system.

- This documentation does not have to be published (at least not in its entirety). Security-relevant elements are for internal use only.

- The documentation is made available to the evaluators during the certification process.

---

**M.5-4** All data and documents are regularly saved in a back-up procedure.

- At what interval back-ups are run depends largely on how often changes are made to the data, i.e. how often new publications are uploaded. It is advised to run a daily and a weekly back-up procedure.

---

**M.5-5** Autonomous software regularly monitors the availability of the servers that are necessary for the service's operation.

- If operation depends on other additional services (e.g. authentication via LDAP), these services should be monitored as well.

---

### Persistent Identifiers and Versioning

---

**M.5-6** Documents uploaded to the publication service will not be altered.

- Changes to the content of published documents will be considered subsequent versions that do not overwrite or render inaccessible earlier editions.

---

**M.5-7** Every document (and every version) uploaded to and published by the publication service is assigned a  *Persistent Identifier* (PI).

- Available PI systems are e.g. DOI, URN and Handle.

---

**M.5-8** Persistent identifiers are provided on the service's website and in the exported metadata as primary identifiers in the form of an operable URL.

- This requires a resolving service's URL to be added to the persistent identifier. (e.g. <https://doi.org/10.18452/1503> or <https://nbn-resolving.org/urn:nbn:de:kobv:11-100239432>).

- As for the metadata export, see also Criterion 6 – *Indexing and Interfaces*, section 2.6, Minimum Requirement [M.6-6](#).

- The persistent identifier is made available in human-readable and machine-readable form on the website, and in machine-readable form via OAI (Dublin Core element *identifier*).
- 

---

**M.5-9** Documents are only deleted as an exception and subsequently documented publicly under the persistent URL of the original document.

- This could be the case should the publication constitute a criminal offense.
- In all cases, withdrawal or locking of the document is to be preferred over deletion.
- It is advised not to delete duplicates but to redirect one document's URL to that of the other.

---

### Encryption

---

**M.5-10** Data exchange between web servers and users' web browsers during login and the publication process takes place using current TSL technologies, e.g. SSL.

---

### Recommendations

---

**R.5-1** The individual document's integrity is regularly verified through internal processes using a hash value.

---

**R.5-2** Upon publication of a new version of a document, the older version is marked as not current and links to the new version.

- This information is made available in human-readable and machine-readable form on the website, and in machine-readable form via OAI (Dublin Core element *relation*).

## 2.6 Indexing and Interfaces

To find a document that is published electronically outside the local system, it is crucial for it to be indexed with descriptive metadata which can be automatically processed and have working URLs. At the core of this are referencing and other additional services that third parties provide by using the data and documents provided by the service. This criterion describes the pre-conditions to fulfill these requirements.

### Minimum Requirements

**M.6-1** There is a written policy containing the indexing regulations for documents that is available online to users.

- It is of relevance, e.g. who does the indexing—library personnel or the authors—or if indexing is performed automatically.
- This policy may vary depending on the publication type.

**M.6-2** Every document is represented in an indexed form that employs the means and methods of the *Dublin Core element set*.

- It is not mandatory for these metadata to also be stored internally in this format.

**M.6-3** All documents are classified using the [Dewey Decimal Classification](#) (DDC), at least in accordance with the *German National Bibliography's subject headings*.

- See <https://www.ddc-deutsch.de>, <https://nbn-resolving.org/urn:nbn:de:101-2014050500> and section [A.2.2. Sets for DDC Groups](#)

**M.6-4** All documents are assigned document or publication type descriptions following DINI's recommendations in Common Vocabulary for Publication and Document Types (*Gemeinsames Vokabular für Publikations- und Dokumenttypen*).

- See <https://nbn-resolving.org/urn:nbn:de:kobv:11-100109998> and section [A.2.3 – Document and Publication Type Set](#).

**M.6-5** There is a web interface allowing users to access all published documents and their respective metadata.

- This interface allows access to the entire holdings of a service.

**M.6-6** An OAI interface is integrated that complies with the requirements of OAI-PMH 2.0 and of the DINI OAI Guidelines.

- For the DINI OAI Guidelines, see [Appendix A](#) of this document.

**M.6-7** A direct export of individual metadata records resp. of search results in at least one suitable data format is available on the website.

- Among others, these are BibTex<sup>12</sup>, EndNote<sup>13</sup> or micro formats such as COinS<sup>14</sup>, This function serves the seamless data transfer into reference-management programs such as Citavi<sup>15</sup> or Zotero<sup>16</sup>.

### Recommendations

**R.6-1** In addition to the German National Bibliography's subject headings, verbal (uncontrolled keywords) or an (interdisciplinary or intradisciplinary) classificatory subject indexing is performed.

- Examples are GND<sup>17</sup>, LoC Subject Headings<sup>18</sup>, CCS<sup>19</sup>, MSC<sup>20</sup> and PACS<sup>21</sup>.
- Authors may assign keywords themselves.

**R.6-2** English keywords are assigned to all metadata sets.

- Authors may assign keywords themselves.

**R.6-3** Short summaries or abstracts in English and German are offered in all metadata sets.

- These may be requested from the authors or extracted from the full texts.

**R.6-4** The metadata (e.g. of parts of the holdings) are provided in additional metadata formats and are available via the OAI interface.

- These may be subject or publication-type specific metadata formats for relevant technical or archiving information that facilitate additional services by third parties: One of these is the XMetaDissPlus<sup>22</sup> for the delivery of metadata to the German National Library.

---

**R.6-5** Metadata are made publicly available via additional interfaces.

- E.g. SRU/W<sup>23</sup> or specified APIs as well as ResourceSync<sup>24</sup> and Signposting<sup>25</sup>.
- 

**R.6-6** Authors' names are linked to norm data.

- Links are offered to, e.g. the Gemeinsame Normdatei (GND)<sup>26</sup>, to facilitate author identification.
  - To link to ORCID<sup>27</sup>, authentication is used via ORCID's public API and the authenticated ORCID IDs are displayed. Implementation of "authenticate" and "display" are free of charge via the public API.
  - For the integration of ORCID, see also [R.3-3](#) in Criterion 3 - *Support for authors and publishers*.
- 

**R.6-7** A SWORD API is used for the (semi-)automated import of data into the publication service.

- SWORD<sup>28</sup> is mostly used to transfer publication data from publishers to repositories for secondary publications.

## 2.7 Open Metrics (Usage Statistics)

Keeping and making access statistics public can be the qualitative, quantitative or technological basis for the evaluation of a service. On the level of individual objects (e.g. articles), information on access, mentions in social media or on the frequency of citations can mirror a document's impact.

If possible, open metrics should be considered for use.

### Minimum Requirements

---

**M.7-1** The service keeps a consistent access log as per legal regulations.

- This is usually a web-server log.
- 

**M.7-2** Web-server logs are anonymized or pseudonymized for long-term storage.

- This is prescribed by law in Section 15(3) and Section 13(1) of the German Telemedia Act (TMG).
- 

**M.7-3** Automatic access is not logged for usage statistics of individual documents or data.

- This can be done e.g. by evaluating the web-server log's user agent field, by comparing hits to the robots.txt, by using lists of known robots, or by employing heuristic methods.
  - This requirement only applies if statistics are published.
- 

**M.7-4** There is publicly available documentation describing the criteria and standard applied to create the statistics.

- Currently, COUNTER<sup>29</sup> is considered the standard. If access figures are published that were not determined by this standard, the documentation must contain a notice stating that these figures are not comparable to those of other services. This is especially the case if access figures are provided for each document.
- This requirement only applies if statistics are published.

---

## Recommendations

---

### Usage figures

---

**R.7-1** Access statistics are listed with every document as dynamic metadata and are publicly available.

- Access figures (e.g. per month) can be linked to from a document's landing page.
- 

**R.7-2** Access to individual documents is counted using the COUNTER standard.<sup>30</sup>

---

**R.7-3** Data transfer to a service provider such as OpenAIRE is supported.

- The respective provider's requirements must be supported; see <https://www.openaire.eu/guides-usage-statistics>.
- 

### Alternative Metrics

---

**R.7-4** Alternative metrics on the documents are provided. In most cases, this requires a DOI.

- Crossref offers a free API for this: <https://www.crossref.org/services/event-data/>.
- 

### Citations

---

**R.7-5** Citation figures are displayed for the documents. In most cases, this requires a DOI.

- OpenCitation offers a freely usable corpus as a dump or via an API; see <http://opencitations.net>.

## 2.8 Long-Term Archiving

This certificate focuses on Open Access publication services and not on digital long-term archives as dealt with in the DIN 31644 "Information and Documentation Criteria for Trustworthy Digital Long-Term Archives". However, certain questions on long-term archiving are also valid for services considered in this document, especially since the published documents are often transferred to a long-term archiving institution requiring adequate pre-conditions to be met.

---

### Minimum Requirements

---

**M.8-1** A minimum time span of no less than five years is defined for the availability of documents and their resp. metadata published via the service.

- This definition must form part of the service's policy (see Criterion 2 – *Guidelines (Policy)*, [section 2.2](#), Minimum Requirement [M.2-5](#)).
- 

**M.8-2** The original files and possible additional archive copies are free of any technical protection.

- This includes, above all, mechanisms of a Digital Rights Management (DRM), password protection, or limitations regarding the use of the document (copy and paste, printing). Protective measures are barred as they may interfere with long-term archiving strategies (e.g. migration, emulation).
- 

**M.8-3** There are regulations in place for the deletion of documents.

- This regulation includes the conditions and the procedures for the deletion of documents, and on the data that may have to be stored beyond a date of deletion. This definition must form part of the service's policy (see Criterion 2 – *Guidelines (Policy)*, [section 2.2](#) and recommendation [R.8-3](#)).

---

## Recommendations

---

**R.8-1** Long-term availability of the documents is ensured.

- To ensure this, the operators cooperate with a DIN 31664-certified service or are certified according to this norm (see also Criterion 2 – *Guidelines (Policy)*, section 2.2, [M.2-6](#)).

---

**R.8-2** Open file formats facilitating long-term availability are used to store documents.

- This includes PDF/A, ODF, TXT.

---

**R.8-3** A basic metadata set is kept for deleted documents.

- The set contains the identifier, the date of deletion and the reason for deletion
- This allows providing information on a document's landing page via the OAI interface that the document in question did in fact exist and has been deleted (see also Minimum Requirement [M.A.2-4](#) - *OAI-PMH*: extended requirements, appendix A.2).

## Appendix A – OAI Interface Guidelines

Appendix A contains the requirements for the OAI interface with regard to the DINI Certificate 2019. As is the case with the eight main criteria, the minimum requirements in this section must be met by an Open Access publication service to be certified (see also Criterion 6 – *Indexing and Interfaces*, section 2.6, Minimum Requirement [M.6-6](#)).

Since its publication in 2001, the so-called OAI protocol has become the standard for machine-based and asynchronous exchange of bibliographical metadata between repositories and providers of comprehensive services. In this context, the OAI interface is identified as a functional software component that acts as a [data provider](#) in the sense of the protocol, i.e. it delivers metadata to [service providers](#) when it receives requests in line with the protocol. Such an OAI interface is part of the basic components of many repository software<sup>31</sup> solutions and many other systems that manage metadata<sup>32</sup>.

With regard to the requirements that have to be met, the OAI protocol offers interoperability at a low level. This has led to widespread dissemination and general acceptance of the protocol in a relatively short time. The downside of this is that , it reduces the service providers' options as the protocol specifications say little about the structure and quality of the metadata.

The individual metadata sets must only be made available in the standard format *Dublin Core Simple* whose specification allows that each of the fifteen metadata elements is optional and may be omitted, but may also be used any number of times. Metadata sets cannot be addressed without a *dc:identifier*, thus rendering it mandatory for all intents and purposes. Alongside the *Dublin Core Simple* format, we also recommend data exports using *DataCite* as this allows more semantic structure to be exported. When assigning a DOI, we recommend *DataCite* over other formats since it has already been implemented in an increasing number of repositories, it is easy to read and understand, and offers a degree of flexibility in terms of format definitions (see also [section A.4](#)).

Recommendations are available for the elements' inner structure<sup>33</sup>, but they are not binding. And while the OAI protocol includes a mechanism for the logical separation or structuring of a *data provider's* data (the so-called *sets*) that permits the selective *harvesting*, it is up to the data providers' operators to define and name these *sets*.

To build a high-quality service based on utilizing data<sup>34</sup> harvested using the OAI protocol, additional specifications are called for that will fill the gaps (intentionally) left open by the OAI protocol's specifications. The specifications (see sections [A.2](#) to [A.4](#)) refer mostly to a definition of the *set* structure and the individual metadata element's content in *Dublin Core* or *DataCite* format. Additionally, some requirements are listed in section A.1 that are taken from the protocol's specifications.

Similar to the DINI Certificate's main criteria, the OAI Guidelines list minimum requirements and additional recommendations that the *data provider* of a service is not required to meet to be DINI-certified. However, these recommendations (marked in each section) mirror current best-practice solutions. They are recommended for application in OAI interfaces to optimize the metadata's quality and re-use.

These OAI Guidelines follow and are largely compatible<sup>35</sup> to the guidelines created by the DRIVER EU project and developed by the Open AIRE EU<sup>36</sup> project.

## A.1 OAI Protocol Conformity

Prerequisite for a functioning data exchange via OAI is a protocol-compliant interface, i.e. compliant with the specifications of the *OAI Protocol for Metadata Harvesting* (OAI-PMH) in its current version 2.0<sup>37</sup>. There are different ways to automatically check existing OAI interfaces' protocol conformity.<sup>38</sup> This verification is done especially if an OAI interface is registered as a data provider with the OAI.

The list below emphasizes a few requirements that apply to every OAI interface meeting the protocol specifications. These requirements are given special attention as problems can occur in their implementation.

### Minimum Requirements

**M.A.1-1** The OAI interface complies with protocol specification version 2.0.

- All other minimum requirements in this section are derived from this.

**M.A.1-2** The OAI interface is persistently available under the registered base URL.

- This is a prerequisite for reliable use of the interface by the service providers, and it ensures the minimization of communication problems, specifically aborted harvesting processes.
- Of equal importance is the interface's performance to avoid time-out situations.

**M.A.1-3** All replies by the OAI interface are well formed in the XML sense and valid with regard to the XML schema defined in the OAI specification and other XML schemata used for metadata formats.

- This requires a uniform and valid character coding for the entire OAI interface (and all datasets).
- Difficulties arise regularly with error messages in the XML stream sent by databases or applications.
- Even XML-valid error messages can disrupt the incremental harvesting and should be avoided.

---

**M.A.1-4** The OAI interface supports incremental harvesting correctly.

- Pre-condition for this is that every record contains the time of creation or last update of the metadata in the timestamp element and not, e.g. the date of publication of the described document. Timestamps with fluid time zones (i.e. with no time zone assigned) must be avoided. The time must be given in UTC and in a uniform structure in all documents (London normal time as “GMT” or “Z” or as “+0000”), mixed forms must be avoided.
- This allows service providers to regularly update their data without having to harvest all metadata records. For this, the data provider must support the parameters *from* and *until* for the OAI requests *ListRecords* and *ListIdentifiers* and deliver the correct subsets of the data accurate to at least the day (YYYY-MM-DD).

---

**M.A.1-5** The OAI interface uses set information in a consistent form.

- This includes especially that all sets with records assigned to them are delivered with the *ListSets* request, and that all records replying to *ListRecords* and *ListIdentifiers* requests qualified by the set parameter belong to the respective data set according to their header information.

---

### Recommendations

---

**R.A.1-1** Operators check the OAI interface at regular intervals with manual tests and validate it with automated tools.

- This ensures early identification of internal problems involving the OAI interface.
- See [footnote 22](#).

---

**R.A.1-2** When making considerable changes to the OAI interface, information is given to the registries where the OAI interface or the service is registered.

- This allows service providers to react adequately to changes.
  - Relevant alterations in the sense of this recommendation are version changes, a change to the base URL, or software migrations for the service.
  - For the relevant registries, see also Criterion 1 – Visibility of the Service in [section 2.1](#).
- 

---

**R.A.1-3** The reply to the *Identify* OAI request offers extensive information on the service.

- This includes especially an administrator’s valid email address in the element *adminEmail* and a short description of the service in English in the element *description*.
- The legal (copyright) conditions of the metadata collection are described in the description element under the *metadataPolicy* tag (in accordance with E.4-5).

---

**R.A.1-4** The element *provenance* is used in the *About* container for the individual metadata records that are delivered with *ListRecords* and *GetRecord* requests.

- Additional information on the metadata’s sources can be provided in this container. For more information, see <http://www.openarchives.org/OAI/2.0/guidelinesprovenance.htm>.

---

**R.A.1-5** The descriptive information in the OAI responses is in English.

- This includes, e.g. the elements in the response to the *Identify* request and the set descriptions with the element *setName* in the response to the *ListSets* request.

## A.2 OAI-PMH: Extended Requirements

The additional requirements described in this section refer mostly to the set structure that the delivered metadata are placed in (sections A.2.1 to A.2.4). The structure serves to provide additional standardized information on the documents and to allow selective search queries. This facilitates a better interoperability between services and the providers of comprehensive services that are based on them. Further sections contain recommendations on how to deal with deleted documents and records (A.2.5), and on flow control (A.2.6).

### Minimum Requirements

#### A.2.1 Open Access Document Set

Services not only publish Open Access documents, but also documents that are only available, e.g. to a user group within an institution. For providers of additional services, it is important to discern and select between Open Access and non-OA documents. To facilitate this, the respective status should be identified in the metadata.

**M.A.2-1** A *setSpec* set exists that states “open\_access” and contains all metadata records of Open Access documents, i.e. the full text is freely available worldwide via a hyperlink.

- Services that offer only Open Access publications must also meet this requirement. In this case the set contains all metadata records.

#### A.2.2 Sets for DDC Groups

To enable a rough disciplinary grouping of metadata sets and the respective documents, in Germany the German National Bibliography's subject groups as used by the German National Library have become the norm. They are based on the Dewey Decimal Classification (DDC) and in principle use its first two items<sup>39</sup>.

To allow an external service provider using the OAI protocol to perform a pre-selection by subject, the subject groups that the service assigned to the documents must also be assigned to the OAI interface's set structure.

**M.A.2-2** There is a set structure in accordance with Table 1, and all metadata records—like the documents—fare assigned a *setSpec* according to the table used.

- It is possible to assign each record to more than one DDC class.

**Table 1: Name and description of the sets for the subject structure**

<b>setSpec</b>	<b>setName</b>	<b>German Description</b>
<b>ddc:000</b>	Generalities, science	Allgemeines, Wissenschaft
<b>ddc:004</b>	Data processing, computer science	Informatik
<b>ddc:010</b>	Bibliography	Bibliografien
<b>ddc:020</b>	Library & information sciences	Bibliotheks- und Informationswissenschaft
<b>ddc:030</b>	General encyclopedic works	Enzyklopädien
<b>ddc:050</b>	General serials & their indexes	Zeitschriften, fortlaufende Sammelwerke
<b>ddc:060</b>	General organization & museology	Organisationen, Museumswissenschaft
<b>ddc:070</b>	News media, journalism, publishing	Nachrichtenmedien, Journalismus, Verlagswesen
<b>ddc:080</b>	General collections	Allgemeine Sammelwerke
<b>ddc:090</b>	Manuscripts & rare books	Handschriften, seltene Bücher
<b>ddc:100</b>	Philosophy	Philosophie
<b>ddc:130</b>	Paranormal phenomena	Parapsychologie, Okkultismus

setSpec	setName	German Description
<b>ddc:150</b>	Psychology	Psychologie
<b>ddc:200</b>	Religion	Religion, Religionsphilosophie
<b>ddc:220</b>	Bible	Bibel
<b>ddc:230</b>	Christian theology	Theologie, Christentum
<b>ddc:290</b>	Other & comparative religions	Andere Religionen
<b>ddc:300</b>	Social sciences	Sozialwissenschaften, Soziologie, Anthropologie
<b>ddc:310</b>	General statistics	Allgemeine Statistiken
<b>ddc:320</b>	Political science	Politik
<b>ddc:330</b>	Economics	Wirtschaft
<b>ddc:333.7</b>	Natural resources, energy and environment	Natürliche Ressourcen, Energie und Umwelt
<b>ddc:340</b>	Law	Recht
<b>ddc:350</b>	Public administration	Öffentliche Verwaltung
<b>ddc:355</b>	Military science	Militär
<b>ddc:360</b>	Social services, association	Soziale Probleme, Sozialdienste, Versicherungen
<b>ddc:370</b>	Education	Erziehung, Schul- und Bildungswesen
<b>ddc:380</b>	Commerce, communications, transport	Handel, Kommunikation, Verkehr
<b>ddc:390</b>	Customs, etiquette, folklore	Bräuche, Etikette, Folklore
<b>ddc:400</b>	Language, linguistics	Sprache, Linguistik

setSpec	setName	German Description
<b>ddc:420</b>	English	Englisch
<b>ddc:430</b>	Germanic	Deutsch
<b>ddc:439</b>	Other Germanic languages	Andere germanische Sprachen
<b>ddc:440</b>	Romance languages French	Französisch, romanische Sprachen allgemein
<b>ddc:450</b>	Italian, Romanian, Rhaeto-Romantic	Italienisch, Rumänisch, Rätoromanisch
<b>ddc:460</b>	Spanish & Portuguese languages	Spanisch, Portugiesisch
<b>ddc:470</b>	Italic Latin	Latein
<b>ddc:480</b>	Hellenic languages Classical Greek	Griechisch
<b>ddc:490</b>	Other languages	Andere Sprachen
<b>ddc:491.8</b>	Slavic languages	Slawische Sprachen
<b>ddc:500</b>	Natural sciences & mathematics	Naturwissenschaften
<b>ddc:510</b>	Mathematics	Mathematik
<b>ddc:520</b>	Astronomy & allied sciences	Astronomie, Kartografie
<b>ddc:530</b>	Physics	Physik
<b>ddc:540</b>	Chemistry & allied sciences	Chemie
<b>ddc:550</b>	Earth sciences	Geowissenschaften
<b>ddc:560</b>	Paleontology, paleozoology	Paläontologie

setSpec	setName	German Description
<b>ddc:570</b>	Life sciences	Biowissenschaften, Biologie
<b>ddc:580</b>	Botanical sciences	Pflanzen (Botanik)
<b>ddc:590</b>	Zoological sciences	Tiere (Zoologie)
<b>ddc:600</b>	Technology (Applied sciences)	Technik
<b>ddc:610</b>	Medical sciences, medicine	Medizin, Gesundheit
<b>ddc:620</b>	Engineering & allied operations	Ingenieurwissenschaften und Maschinenbau
<b>ddc:621.3</b>	Electric engineering	Elektrotechnik, Elektronik
<b>ddc:624</b>	Civil engineering	Ingenieurbau und Umwelttechnik
<b>ddc:630</b>	Agriculture	Landwirtschaft, Veterinärmedizin
<b>ddc:640</b>	Home economics & family living	Hauswirtschaft und Familienleben
<b>ddc:650</b>	Management & auxiliary services	Management
<b>ddc:660</b>	Chemical engineering	Technische Chemie
<b>ddc:670</b>	Manufacturing	Industrielle und handwerkliche Fertigung
<b>ddc:690</b>	Buildings	Hausbau, Bauhandwerk
<b>ddc:700</b>	The arts	Künste, Bildende Kunst allgemein
<b>ddc:710</b>	Civic & landscape art	Landschaftsgestaltung, Raumplanung

setSpec	setName	German Description
<b>ddc:720</b>	Architecture	Architektur
<b>ddc:730</b>	Plastic arts, sculpture	Plastik, Numismatik, Keramik, Metallkunst
<b>ddc:740</b>	Drawing & decorative arts	Grafik, angewandte Kunst
<b>ddc:741.5</b>	Comics, cartoons	Comics, Cartoons, Karikaturen
<b>ddc:750</b>	Painting & paintings	Malerei
<b>ddc:760</b>	Graphic arts, printmaking & prints	Druckgrafik, Drucke
<b>ddc:770</b>	Photography & photographs	Fotografie, Video, Computerkunst
<b>ddc:780</b>	Music	Musik
<b>ddc:790</b>	Recreational & performing arts	Freizeitgestaltung, Darstellende Kunst
<b>ddc:791</b>	Public performances	Öffentliche Darbietungen, Film, Rundfunk
<b>ddc:792</b>	Stage presentations	Theater, Tanz
<b>ddc:793</b>	Indoor games & amusements	Spiel
<b>ddc:796</b>	Athletic & outdoor sports & games	Sport
<b>ddc:800</b>	Literature & rhetoric	Literatur, Rhetorik, Literaturwissenschaft
<b>ddc:810</b>	American literature in English	Englische Literatur Amerikas

setSpec	setName	German Description
<b>ddc:820</b>	English & Old English literatures	Englische Literatur
<b>ddc:830</b>	Literatures of Germanic languages	Deutsche Literatur
<b>ddc:839</b>	Other Germanic literatures	Literatur in anderen germanische Sprachen
<b>ddc:840</b>	Literatures of Romance languages	Französische Literatur
<b>ddc:850</b>	Italian, Romanian, Rhaeto-Romanic literatures	Italienische, rumänische, rätoromanische Literatur
<b>ddc:860</b>	Spanish & Portuguese literatures	Spanische und portugiesische Literatur
<b>ddc:870</b>	Italic literatures Latin	Lateinische Literatur
<b>ddc:880</b>	Hellenic literatures Classical Greek	Griechische Literatur
<b>ddc:890</b>	Literatures of other languages	Literatur in anderen Sprachen
<b>ddc:891.8</b>	Slavic literatures	Slawische Literatur
<b>ddc:900</b>	Geography & history	Geschichte
<b>ddc:910</b>	Geography & travel	Geografie, Reisen
<b>ddc:914.3</b>	Geography & travel Germany	Geografie, Reisen (Deutschland)
<b>ddc:920</b>	Biography, genealogy, insignia	Biografie, Genealogie, Heraldik
<b>ddc:930</b>	History of the ancient world	Alte Geschichte, Archäologie
<b>ddc:940</b>	General history of Europe	Geschichte Europas

setSpec	setName	German Description
<b>ddc:943</b>	General history of Europe Central Europe Germany	Geschichte Deutschlands
<b>ddc:950</b>	General history of Asia Far East	Geschichte Asiens
<b>ddc:960</b>	General history of Africa	Geschichte Afrikas
<b>ddc:970</b>	General history of North America	Geschichte Nordamerikas
<b>ddc:980</b>	General history of South America	Geschichte Südamerikas
<b>ddc:990</b>	General history of other areas	Geschichte der übrigen Welt

### A.2.3 Document and Publication Type Set

Document type and publication type are a document's important metadata. For a service provider to request certain document types (e.g. dissertations), data providers must ensure a corresponding set structure. The basis for this set structure is the common vocabulary developed for the metadata format XMetaDissPlus and for the DINI Certificate. It is published in the DINI Recommendation *Gemeinsames Vokabular für Publikations- und Dokumenttypen*.<sup>40</sup>

**M.A.2-3** There is a structure in accordance with Table 2, and all metadata records are assigned a *setSpec* according to the document and publication types.

- As stated in the DINI Recommendation *Gemeinsames Vokabular für Publikations- und Dokumenttypen*, assigning a document to more than one document or publication type is recommended (see Example 1 below).

Table 2: Name and description of the sets for the formal structure

setSpec	setName	German Description
<b>doc-type:preprint</b>	Preprint	Preprint
<b>doc-type:workingPaper</b>	WorkingPaper	Arbeitspapier
<b>doc-type:article</b>	Article	Wissenschaftlicher Artikel
<b>doc-type:contributionToPeriodical</b>	ContributionToPeriodical	Beitrag zu einem Periodikum
<b>doc-type:PeriodicalPart</b>	PeriodicalPart	Teil eines Periodikums
<b>doc-type:Periodical</b>	Periodical	Periodikum
<b>doc-type:book</b>	Book	Buch, Monografie
<b>doc-type:bookPart</b>	BookPart	Teil eines Buches oder einer Monografie
<b>doc-type:Manuscript</b>	Manuscript	Handschrift oder Manuskript
<b>doc-type:StudyThesis</b>	StudyThesis	Studienarbeit
<b>doc-type:bachelorThesis</b>	BachelorThesis	Abschlussarbeit (Bachelor)
<b>doc-type:masterThesis</b>	MasterThesis	Abschlussarbeit (Master)
<b>doc-type:doctoralThesis</b>	DoctoralThesis	Dissertation oder Habilitation

setSpec	setName	German Description
<b>doc-type:conferenceObject</b>	ConferenceObject	Konferenzveröffentlichung
<b>doc-type:lecture</b>	Lecture	Vorlesung
<b>doc-type:review</b>	Review	Rezension
<b>doc-type:annotation</b>	Annotation	Entscheidungs- oder Urteilsanmerkung
<b>doc-type:patent</b>	Patent	Patent, Norm, Standard
<b>doc-type:report</b>	Report	Verschiedenartige Texte
<b>doc-type:MusicalNotation</b>	MusicalNotation	Noten (Musik)
<b>doc-type:Sound</b>	Sound	Ton
<b>doc-type:Image</b>	Image	Bild
<b>doc-type:MovingImage</b>	MovingImage	Bewegte Bilder
<b>doc-type:StillImage</b>	StillImage	Einzelbild
<b>doc-type:CourseMaterial</b>	CourseMaterial	Lehrmaterial
<b>doc-type:Website</b>	Website	Website
<b>doc-type:Software</b>	Software	Software, Programme
<b>doc-type:CartographicMaterial</b>	CartographicMaterial	Kartographisches Material

<b>setSpec</b>	<b>setName</b>	<b>German Description</b>
<b>doc-type:ResearchData</b>	ResearchData	Forschungsdaten
<b>doc-type:Other</b>	Other	Verschiedenartige Ressourcen, nicht textgeprägt
<b>doc-type:Text</b>	Text	Text

**Example 1: Possible set information in the header as given in response to ListRecords, GetRecords or ListIdentifiers requests.**

Example 1 shows a possible header of a record provided via the OAI-PMH that meets the requirements listed above. The record belonging to this header describes a published Open Access scientific article in mathematics.

```
<identifier>oai:MyRepository.de:423569</identifier>
<timestamp>2013-10-01T12:45:01Z</timestamp>
<setSpec>open_access</setSpec>
<setSpec>doc-type:article</setSpec>
<setSpec>doc-type:Text</setSpec>
<setSpec>ddc:510</setSpec>
<setSpec>status-type:publishedVersion</setSpec>
```

---

#### A.2.4 Publication Status Set

---

Open Access publication services may contain documents at various different stages of a publication process. A correlation may exist between this status and a document's quality. Consequently, a rough identification of a document's status or version is preferable. As in different fields of science, there are different methods of contextual evaluation and quality-assurance processes, meaning that only a very rough structure of an evaluation status is prescribed that includes peer review and other reviewing methods such as an editorial review. The set structure follows the *Version Vocabulary*<sup>41</sup> in the DRIVER Guidelines.

---

**R.A.2-1** There is a set structure in accordance with Table 3, and all metadata records are assigned a *setSpec* according to the documents' status in the publication process.

---

**Table 3: Name and description of the sets for the evaluation status**

setSpec	setName	German Description
status-type:draft	draft version	Eine frühere Version, die als in Arbeit befindlich in Umlauf gesetzt wurde.
status-type:submittedVersion	submitted version	Die Version, die bei einer Zeitschrift eingereicht wurde, um durch Fachleute begutachtet zu werden.
status-type:acceptedVersion	accepted version	Die Version, die vom Autor/ von der Autorin erstellt wurde, in die die Anmerkungen der Gutachter*innen eingeflossen sind und die zur Veröffentlichung angenommen wurde.
status-type:publishedVersion	published version	Die Version, die veröffentlicht wurde.
status-type:updatedVersion	updated version	Eine Version, die seit der Veröffentlichung aktualisiert wurde.

### A.2.5 Deleted Documents

In principle, documents that are published by a service are not to be deleted.

However, there may be reasons justifying a document's deletion in certain cases, see also [M.2-5](#). Incremental harvesting by service providers may not reveal information about deleted documents—and deleted metadata records—to OAI based service providers.

The OAI protocol's specifications do not lay down which information a data provider has to provide for deleted documents, but offer a number of options that every data provider can define as a *deleting strategy* and must transmit with the replies to OAI *Identify* requests.

**M.A.2-4** One of the values “persistent” or “transient” is selected as Deleting Strategy for the data provider.

- The OAI-PMH permits the options “no”, “persistent” and “transient”. If “no” is selected, no information on deleted documents is transmitted, which can lead to inconsistent data on the service provider's side.
- If the option “transient” is used for deleted documents, the corresponding metadata records have to be available for at least one month after deletion indicating that the document has been deleted.

### A.2.6 Data Flow Control

The OAI protocol offers data flow control to avoid having to deliver large amounts of data in response to OAI requests. The data provider can define a *harvest batch size*, i.e. the maximum number of metadata records to be delivered in one batch to *ListRecords* or *ListIdentifiers* requests. If the number of hits is greater than the number defined, a *Resumption Token* is transmitted with the reply, which permits continuation of the delivery. The protocol specifications leave it to the data provider to decide what size of packages to deliver, for how long to continue a delivery, or whether to use this option at all.

---

**M.A.2-5** Functionality of the resumption token is guaranteed.

- As problems with the handling of resumption tokens may occur (unanswered or incorrect follow-up requests), functionality should be tested explicitly.
- If a data package is delivered incomplete, the resumption token usually delivered at the end of a package will be missing. To allow repetition of a data package, it must be possible to use resumption tokens repeatedly, leading to the same result.

---

**R.A.2-2** The *harvest batch size* (i.e. the maximum number of data sets in response to a *ListRecords* OAI request) is no less than 100 and no more than 500.

- Smaller data packages increase the number of required OAI requests, in turn unnecessarily increasing communication duration and the risk of errors. Larger packages carry the risk of transmission errors.

---

**R.A.2-3** The *resumption token's* life span is at least 24 hours.

- The attribute *lifeSpan* describes the time in which the data provider guarantees the continuation of incomplete replies. If this time span is too short, it can cause the cancellation of the entire harvesting process as it expires before the previous reply has been delivered completely.

---

**R.A.2-4** The attribute *completeListSize* is used.

- This describes the entire result list's size which includes important information for the steering and controlling of the entire harvesting process. According to the OAI protocol, however, this is optional.

## A.3 Metadata Requirements (Dublin Core Simple)

The minimum standard in the OAI protocol states that metadata must be in the Dublin Core Simple format. However, no specifications are given for the precise usage of the individual elements and their inner structures. The following requirements and recommendations on the use of Dublin Core for the OAI interface serve to secure a minimum of interoperability on a metadata level.

---

### Minimum Requirements

---

**M.A.3-1** The Dublin Core formatted metadata sets (oai\_dc) contain at least the elements *creator*, *title*, *date*, *type* and *identifier*, including their respective contents.

- The elements are necessary for a minimal description of electronic academic documents.
- This requirement only applies when the elements make sense within the set's context.

---

**M.A.3-2** In every used DC element, exactly one value is referenced.

- Every DC element can be used multiple times within a metadata set.
- Every author's name should be listed in a single *creator* element, every keyword in one single *subject* element, every URL in a single *identifier* element, etc.
- This allows a clear separation of the individual elements and the correct indexing.

---

**M.A.3-3** Every record referring to full text contains at least one *identifier* element with an operable URL based on a [🔗](#) *persistent identifier*.

- This operable URL may lead to a [🔗](#) *landing page* or directly to the full text.
- To transform a persistent identifier (e.g. URN or DOI) into a working URL, the resolving service's base URL must precede it (see Criterion 5 – *Information Security*, [section 2.5](#), Minimum Requirements [M.5-7](#) and [M.5-8](#)).

- Additional *identifier* elements may contain differing URLs for a document’s landing page or for alternative versions (e.g. in a different file format), or they may contain different identifiers (e.g. ISBN, ISSN, INSPIRE ID, arXiv Identifier). Identifiers of alternative versions may be added in the *relation* element.

---

**M.A.3-4** The *creator* element has the inner structure: last name, first name.

- The same is true for the *contributor* element when it contains a personal name.

---

**M.A.3-5** Document or publication types according to the DINI Recommendations Common Vocabulary for Publication and Document Types (*Gemeinsames Vokabular für Publikations- und Dokumenttypen*) are assigned to all documents using the *type* element.

- The DINI Recommendation supports the listing of a value from the Dublin Core Type Vocabulary in a *type* element of its own.
- For vocabulary, see the [first column in table 2](#), section A.2.3 (above).

---

**M.A.3-6** Every record contains at least one DNB subject group in a subject element, and the document is listed in that group.

- For vocabulary, see the [first column in table 1](#), section A.2.2 (above).

---

**M.A.3-7** The *language* element’s content is listed according to ISO 639-2 or ISO 639-3.

- For German the code is “ger” (ISO 639-2) or “deu” (ISO 639-3), for English it is “eng” in both cases.

---

**M.A.3-8** The *date* element’s content is listed according to ISO 8601.

- The corresponding format is YYYY-MM-DD.

---

### Recommendations

---

**R.A.3-1** The *identifier* elements’ order in a metadata record mirrors their importance. The preferred value is given first.

- Many service providers read the position as a marker for the priority given to a URL. From the Open Access publication service operator’s perspective, the link to the landing page is usually the preferred one.

- Formally, the order of elements is of no importance in Dublin Core, but adhering to the rule above has proven to be practicable to “recommend” the preferred URL to the service provider.

---

**R.A.3-2** The *contributor* element is used and contains the name of a person or institution that was involved in the creation of the document described.

- This may be the referee of a dissertation or the editor of a collection.

---

**R.A.3-3** An additional *description* element can be used for an extensive bibliographic description of the document to allow sufficient citation of the document. The Guidelines for Encoding Bibliographic Citation Information<sup>42</sup> will be followed.

- This is to ensure all necessary bibliographic data are available for correct citation according to current and accepted citation standards. This is especially relevant where these bibliographic data cannot be provided adequately in “Simple Dublin Core” via the OAI interface.

---

**R.A.3-4** The *relation* element is used to name objects that are related to the document described.

- Relations may be hierarchical structures (*isPartOf*) or updates (*isVersionOf*).

---

**R.A.3-5** The *subject* element is used for descriptions of a document’s content.

- In general, the content is described using keywords, or notations from classification schemas.

---

**R.A.3-6** The *date* element is used only once in a metadata record.

- The publication date is to be preferred over other dates (e.g. upload date or date of creation) as it has the greatest priority for users.

---

**R.A.3-7** If an aggregating service makes multiple services’ metadata available, the aggregating service has to offer the option to harvest each service individually. This can be done by grouping sets or separate base URLs.

- The aggregator’s interface should allow listing and correlating of the included independent services and their resp. institutions.
- Special emphasis is to be put on the aggregated data’s normalization, up-to-dateness and duplicate checks.

---

**R.A.3-8** A direct link to the full text is supplied in an *identifier* element.

- Use of a persistent identifier (incl. preceding resolver) is to be preferred (see [M.3-3](#)).
- Other than a link to the landing page, this additional direct link to the full text allows it to be used for external add-on services (e.g. comprehensive full-text searches, text mining).

---

**R.A.3-9** In addition to the document or publication type, an appropriate pair of values from the hierarchically structured COAR Resource Type Vocabulary is given in a *type* element.

- THE COAR Resource Type Vocabulary facilitates international harmonization of document and publication types; see <https://www.coar-repositories.org/activities/repositoryinteroperability/coar-vocabularies/deliverables/>.
- The type is defined through referencing of the concept URL and label in accordance with [http://vocabularies.coarrepositories.org/documentation/resource\\_types](http://vocabularies.coarrepositories.org/documentation/resource_types).

---

**R.A.3-10** For the *creator* element, author identifiers (e.g. ORCID ID) will be integrated in the following inner structure: Carberry Josiah; <https://orcid.org/0000-0002-1825-0097>; <https://myAuthorIdentifier/xyz>.

- This recommendation applies to the *contributor* element as well if a person’s name is listed in it and if one or more author identifiers are available. (See [M.A.3-2](#) and the examples in [A.4](#).)

---

**R.A.3-11** The *rights* element is used to describe the legal (copyright) situation of an object. This includes the Open Access status as well as the license conditions.

- See [M.4-10](#)

## A.4 Metadata Requirements (DataCite)

The OAI protocol names Dublin Core Simple as mandatory. However, everyday practice has shown that this format’s advantage of flexibility leads to a certain lack of precision, in turn resulting in a lesser quality of the metadata when, for instance, similar content is assigned to different Dublin Core tags, or if the contents’ context cannot be clearly identified (e.g. which identifier is used for authors or which classification is used), or if assembled content cannot be deconstructed into its individual elements. The elements’ commutativity, combined with the lack of a specification of an inner structure, leads to various implementations outside of the specification.

Adequate and structured metadata formats have been available for a long time and are used to varying degrees. Advantages of the DataCite format are:

- Growing relevance of assigning DataCite DOIs for resources in repositories and the resp. metadata.
- Option to describe complex data content in a granular metadata representation.
- Clarity and readability of the format
- Flexibility with regard to changes to the format’s definition
- OpenAIRE compatibility.

---

### Recommendations

**R.A.4-1** In addition to a description in Dublin Core Simple formatted metadata sets, the object is described by metadata that adhere to the DataCite Metadata Schema in at least version 4.2 (<https://schema.datacite.org/meta/kernel-4.2/>)

- The data format is usually named `oai_datacite` in OAI.

---

**R.A.4-2** As a minimum, the properties *identifier*, *creator*, *title*, *publisher*, *publicationYear* and *resourceType* are given.

- These must be filled identical to the fields in Dublin Core.
- According to the DataCite Schema, the *identifier* field must contain a valid DOI.

## Code-Example

```
<?xml version="1.0" encoding="UTF-8"?>
<resource xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="
http://datacite.org/schema/kernel-4" xsi:schemaLocation="http://datacite.org/schema/kernel-4
http://schema.datacite.org/meta/kernel-4.2/metadata.xsd">
  <identifier identifierType="DOI">10.0000/example</identifier>
  <creators>
    <creator>
      <creatorName nameType="Personal">Miller, Elizabeth</creatorName>
      <givenName>Elizabeth</givenName>
      <familyName>Miller</familyName>
      <nameIdentifier schemeURI="http://orcid.org/" nameIdentifierScheme=
"ORCID">0000-0001-5000-0007</nameIdentifier>
      <affiliation>University XY</affiliation>
    </creator>
  </creators>
  <titles>
    <title xml:lang="en-US">Scientific paper</title>
    <title xml:lang="en-US" titleType="Subtitle">subtitle</title>
  </titles>
  <publisher xml:lang="en">University XY</publisher>
  <publicationYear>2014</publicationYear>
  <subjects>
    <subject xml:lang="en-US" schemeURI="http://dewey.info/"
subjectScheme="dewey">000 computer science</subject>
  </subjects>
  <contributors>
    <contributor contributorType="ProjectLeader">
      <contributorName>Carberry, Josiah</contributorName>
      <givenName>Josiah</givenName>
```

```
      <familyName>Carberry</familyName>
      <nameIdentifier schemeURI="http://orcid.org/" nameIdentifierScheme=
"ORCID">0000-0002-1825-0097</nameIdentifier>
      <affiliation>University XY</affiliation>
    </contributor>
  </contributors>
  <dates>
    <date dateType="Updated" dateInformation="Updated version 2">2019-05-08</date>
  </dates>
  <language>en-US</language>
  <resourceType resourceTypeGeneral="Text">report</resourceType>
  <alternateIdentifiers>
    <alternateIdentifier alternateIdentifierType="URL"> https://some-dummy-url.com
  </alternateIdentifier>
  </alternateIdentifiers>
  <relatedIdentifiers>
    <relatedIdentifier relatedIdentifierType="arXiv" relationType="IsReviewedBy"
resourceTypeGeneral="Text">arXiv:0706.0001</relatedIdentifier>
  </relatedIdentifiers>
  <formats>
    <format>application/pdf</format>
  </formats>
  <version>4.2</version>
  <rightsList>
    <rights xml:lang="en-US" rightsURI="https://creativecommons.org/licenses/by/4.0"
>CC BY 4.0</rights>
    <rights xml:lang="en-US" rightsURI="info:eu-repo/semantics/openAccess"
>Open Access</rights>
  </rightsList>
  <descriptions>
    <description xml:lang="en-US" descriptionType="Abstract"> Abstract information
  </description>
    <description descriptionType="SeriesInformation">Journal of Technology,
Vol 6, No 2 (2018)
  </description>
  </descriptions>
  <geoLocations> </geoLocations>
  <fundingReferences> </fundingReferences>
</resource>
```

## This is what the code looks like in Dublin Core:

```
<dc:title>Scientific paper : subtitle</dc:title>
<dc:creator>Miller, Elizabeth; https://orcid.org/0000-0001-5000-0007;
https://myAuthorIdentifier/xyz</dc:creator>
<dc:contributor>Carberry, Josiah; https://orcid.org/0000-0002-1825-0097
</dc:contributor>
<dc:subject>000 computer science</dc:subject>
<dc:subject>ddc:000</dc:subject>
<dc:description>Abstract information</dc:description>
<dc:description>Journal of Technology, Vol 6, No 2 (2018)</dc:description>
<dc:publisher>University XY</dc:publisher>
<dc:date>2014</dc:date>
<dc:type>report</dc:type>
<dc:type>doc-type:report</dc:type>
<dc:identifier>http://some-dummy-url.com</dc:identifier>
<dc:identifier>https://dx.doi.org/10.0000/example</dc:identifier>
<dc:language>eng</dc:language>
<dc:rights>info:eu-repo/semantics/openAccess</dc:rights>
<dc:rights>https://creativecommons.org/licenses/by/4.0</dc:rights>
```

## Appendix B — Glossary

In this section the most important terms used in this document are named and defined for their use in this document. The first part covers especially the different services that the certificate does or does not cover. This is followed by additional definitions.

### B.1 Definitions of different services

#### **Cross-Institutional Repository**

A cross-institutional repository collects data from various different institutions or faculties. It can hold every kind of scientific publication or qualification thesis.

#### **Current Research Information System (CRIS)**

A current research information system comprises integrated documentation and reporting systems that represent a research institution's infrastructure and accomplishments. These systems aid in creating reports for and in the steering of research institutions. They also serve to foster transparency of the research system and communication between researchers and the public.<sup>43</sup>

#### **Digital Collection**

The term digital collection often describes repository systems that present collections of digital objects in a higher education and academic environment. This comprises especially materials such as digitized books and journals, maps, photographs, paintings, music, autographs (manuscripts, letters, postcards), etc., materials that are often objects of cultural heritage, and historic sources. Accordingly, these services are especially provided in the humanities and by scientific libraries, museums and archives; they complement publication repositories. Usually, the contents are available  *Open Access*.

#### **Disciplinary Open Access Repository**

A disciplinary Open Access repository largely contains Open Access documents of a certain scientific/scholarly discipline. This includes every kind

of scientific publication (qualification theses, reports, secondary publications, etc.) and other materials. Disciplinary Open Access repositories offer publications by authors from various different institutions.

### **Hosting Service**

A hosting service is a service for the sciences. Hosting—in the sense of the DINI Certificate—is carried out by [Technical Operators](#) of [Open Access publication services](#) and includes, at the least, the technical provision, administration and maintenance of the [service](#) that is hosted. Additionally, hosting may include further support, creating visibility, consulting services. The character of and responsibility for a [service](#) is defined by the [operator](#) that hires the Hosting Service. Hosting Services—assuming the role of [technical operators](#) of [services](#)—cannot be directly certified. However, it can be acknowledged beforehand that certain minimum criteria of the DINI Certificate are fulfilled for all of the [services](#) that they host. These criteria are marked as DINI-ready. This makes certification much easier for the [operators](#).

### **Institutional Open Access Repository**

An institutional repository largely holds Open Access full texts of an institution. This includes every kind of scientific/scholarly publication by members of this institution (in particular habilitations, dissertations, Bachelor's and Master's theses. ) as well as other results (reports, secondary publications, etc.) and materials.

### **Open Access Journal**

An Open Access journal is a scientific journal largely containing Open Access articles that fit the journal's profile. At least the majority of articles has undergone a peer-review process. The journal may also contain supportive materials and/or research data. The journal is published by at least one scientist/scholar or a scientific/scholarly institution, or one closely attached to science.

### **Open Access Publication Services/ Service / Publication Service**

Open Access publication services are the DINI Certificate's objective. They are comprehensive services for the publication and online provision

of scientific and scholarly publications. The service or publication service caters to producers (authors) as well as to recipients (readers) and contains both the technical infrastructure (i.e. hard and software with certain specificities) and the organizational and legal frame.

In the document on hand Open Access publication services are usually termed "service".

- At the certification's focus are the following services:
- Institutional Open Access repositories
- Cross-institutional repositories
- Disciplinary Open Access repositories
- Open Access journals

The following services are not the primary objectives of the certification based on the current 2019 version of the DINI Certificate.

- Digital Collections
- Specialized Information Service (SIS)
- Research-Data Repositories
- Research Information Systems (CRIS)
- University Bibliographies

So-called [Hosting Services](#) play a special role.

### **Research-Data Repository**

A research-data repository allows researchers to archive and present their research data in digital form. These data can have different formats (depending on discipline) and can be either the basis for or the result of a research process.

### **Specialized Information Service (SIS)**

Specialized information services are an evolution of special collections and virtual subject libraries. The German Research Foundation (*Deutsche Forschungsgemeinschaft* – DFG) funds the set-up and development of information structures at scientific libraries so as to improve the supply of specialized information.

## University Bibliography

A university bibliography serves to display an institution's entire publication output (Open Access full texts as well as metadata only). Occasionally, institutional repositories are used for this purpose, but to date the amount of available full texts is small.

## B.2 Additional Definitions

### Aggregator

An aggregator is a service that collects (harvests) data from independent data providers (typically via OAI-PMH) before enhancing and basing comprehensive services on them. Data can be regrouped according to regional, disciplinary or any other aspect (e.g. type of publication).

Popular services are the retrieval but also the OAI-PMH-based forwarding of aggregated data. Here, branding of the originating repository, normalization effects, updating, and control of doubles are crucial to the quality of the service.

A known aggregator in Germany is the Bielefeld Academic Search Engine (BASE)<sup>44</sup>. National aggregators are also present in Sweden (SWEPUB<sup>45</sup>), Norway (NORA<sup>46</sup>), Ireland (RIAN<sup>47</sup>), the Netherlands (NARCIS<sup>48</sup>), and at European level (OpenAIRE).<sup>49</sup>

### Author/Publisher

In most cases these are the creators and copyright holders of the content offered by a [service](#). For publications with more than one creator where the usage rights have been transferred to only one, this one person holds the right to publish the content.

In addition, a publisher is the entity which publishes a journal, i.e. its *operator*.

### Creator

A creator is who created a work. In the understanding of this Certificate, these are the [authors](#) who created a [document](#). The creator is the [rights holder](#) of a [primary publication](#). If a work is published by a publishing house, the creator transfers all [usage rights](#) to the publishing

house that is then the sole [rights holder](#). Under certain circumstances, e.g. by granting non-exclusive copyrights or pursuant to Section 38 of the German Copyright Act (UrhG), creators retain the secondary publication right for the [document](#).

Other legal bases for secondary publication include, in particular, the reversion of non-exclusive rights to the author after an agreed period (agreement), Open Access rights from formal agreements (in particular alliance or national licenses), a general Open Access-friendly publishing policy, permission granted by a publishing house, and the presence of a Creative Commons license.

### Data Provider

Data providers, in the OAI-PMH's understanding, deliver data, i.e. offer [documents](#)' [metadata](#) via the OAI interface.

### Deposit License

Formal agreement in which the rights holder (i.e. the [author](#) or the publisher) grants certain [usage rights](#) to the [operator](#) of an [Open Access publication service](#) in order to allow the [operator](#) to make the respective [documents](#) publicly available and to archive them. Moreover, in this agreement the rights holder excludes any infringement of third-party rights. Synonyms used here are *formal agreement* and *granting of rights*.

### Dewey Decimal Classification (DDC)

DDC is a globally used universal classification system to index content.<sup>50</sup> The German National Bibliography's subject headings are based on the DDC.

### Document

Smallest logical entity that is published by *Open Access publication services*, usually a test-based scientific or scholarly work with clearly named creators. Synonyms used in this text: electronic *document*, *publication*, *work*. The term is to be used comprehensively, and can be replaced by the term *object*, especially in services that focus on data, images, and other digital artefacts.

### Document Server

Technical infrastructure of an Open Access publication service, characterized by basic infrastructure components (e.g. network, server, operating system, file system, database, communication system) and the document server software (e.g. DSpace, EPrints, LibreCat, MyCoRe, OJS, OPUS). Synonyms used in this text: publication server, repository.

### Landing Page

Web page containing metadata of and links to a document's full-text files plus additional functions and information (e.g. social network links, export of bibliographical data in machine-readable formats, print-on-demand services, document-related metrics). Usually the landing page is generated dynamically, its content coming from a database. Synonyms used here are *jump-off page*, *splash page*, *front page*, *front door*.

### Metadata

Data for the characterization of an object (in this text mostly [☞ documents](#)). Typically, these are divided into descriptive, technical and administrative metadata. Descriptive metadata contain information for formal and subject classification. Metadata can be coded in different formats and are interchangeable. Internally stored metadata do not have to be made available to the public in full (e.g.: administrative metadata). Relevant standards for electronic publications are Dublin Core<sup>51</sup>, MARC<sup>52</sup>, MODS<sup>53</sup>, DataCite<sup>54</sup> and, especially for data exchange with the German National Library, XMetaDissPlus<sup>55</sup>.

### Offer

An offer to provide a *service* comprises all of the content publishers make available via the platform.

### Open Access

Worldwide free access to scientific information, especially to scientific and scholarly publications in electronic form and online, as defined, e.g. in the 2003 Berlin Declaration<sup>56</sup>. A worldwide movement with numerous national and international initiatives is dedicated to the dissemination and

to the achievement of the goals of the Berlin Declaration.

Typically, two forms of Open Access are differentiated: The green and the golden roads. The first describes the additional publication of documents already published elsewhere (usually by a publishing house) or slotted for publication as a parallel, [☞ secondary publication](#) in a freely available version – usually in a repository. The golden way is the [☞ primary publication](#) with Open Access, e.g. in an Open Access journal.

### Open Access Declaration

These are scientific/scholarly institutions' guidelines on how to deal with *Open Access*. They state, e.g. that Open Access is a desirable publication paradigm for the respective institution, and they encourage authors to publish their documents Open Access.

### Operator

Institution that is responsible for the provision of an *Open Access publication services*. It offers the service to various user groups and answers to the users, even if responsibilities are divided internally or even outsourced. Used synonyms in this document are *provider* and *service provider*.

### Persistent Identifier (PI)

Worldwide unambiguous and unchangeable (persistent) name of a digital information object, (for this text) usually an electronic [☞ document](#). Persistent identifiers are especially useful for the citation of electronic publications, as they are permanent (unlike a URL). There are different PI systems available, e.g. URN, DOI and Handle. A PI's syntactical structure is defined in a formal description of the structure. PIs and related URLs must be registered (typically centrally) to facilitate the resolving service that reroutes requests for a URN to the actual target URLs.

### Primary Publication

This is the (chronologically) first publication of a document. A primary publication can, e.g. be a dissertation that is published on a repository, or a scientific article that is published in an Open Access journal. See also [☞ secondary publication](#).

## **Publisher – See Author**

### **Publishing House**

A scientific publishing house duplicates and disseminates scientific findings and materials in both analog and digital form. Here, ancillary services (e.g. QA) and offers accompany the actual publishing tasks. A publishing house can be a commercial enterprise of any size, or a non-profit publishing entity within a scientific institution.

### **Rights Holder**

Rights holder is the owner of [usage rights / copyrights](#) of a work. Rights holders can be natural persons (usually the [creator](#)) or a legal person (e.g. a publishing house). A *document* should only be published on a publication service with the consent of the rights holder.

### **Secondary Publication**

Parallel or chronologically removed publication of an already published document on a repository. These are often articles already published in journals or collections, which—depending on the publishing contract—can be made publicly available on repositories as *Open Access* secondary publications. (Pre-prints are a special case as they make content available on repositories before they are published.) See also [primary publication](#).

### **Service Provider**

A service provider in the DINI Certificate's context offers comprehensive *services* using distributed data that are aggregated via the OAI protocol (e.g. harvester).

### **Subject Headings of the German National Bibliography**

Rough classification of documents into approx. 100 different classes. They are based on the [Dewey Decimal Classification](#) and represent a simplified use of this comprehensive system.<sup>57</sup>

### **Technical Operator**

Institution tasked by the [operator](#) of a [service](#) to provide and operate

technical infrastructure (hardware and software). Technical operators are often [hosting services](#). Technical operators and [operators](#) can be identical or under the responsibility of the same legal body.

### **User**

In the DINI Certificate's context a natural person who uses services offered by an *Open Access publication service*, especially as the producer (author, publisher) or recipient (reader, researcher) of [documents](#).

### **Usage Rights / Copyright**

In the DINI Certificate's context, these are rights that are granted to *operators or users* of documents or their metadata that are published by *Open Access publication services*. Based on German copyright law, usage rights are originally held by the creators, i.e. the authors, and therefore must be transferred with appropriate processes.

## Appendix C — Awarding and Evaluation

The German Initiative for Network Information (DINI) or a working group authorized by DINI is responsible for the awarding of the DINI Certificate for Open Access publication services. The certificate's seal shows the year of its version. The certificate acknowledges that the certificated repository meets the minimum requirements for DINI-certified Open Access publication services.

A fee is charged after application for the DINI Certificate:

1. Non-profit organizations  
DINI members €100.00  
others €200.00
2. Profit organizations  
DINI members €300.00  
others €500.00

The operator/provider of the Open Access publication services applies to DINI for certification by completing an online form on the DINI website.<sup>58</sup> This form has the structure of a checklist and contains the minimum requirements as well as the recommendations laid down in section 2 of this document. Application for certification is only possible based on the latest published version of the catalog of criteria. By completing the form, the provider states that and to what extent the Open Access publication service meets the criteria of the DINI Certificate. Further explanations and clarifications can be added in designated fields in the form, as well as URLs or other options on how or where to receive additional information.

Since the publication of the DINI Certificate 2013, hosting services for Open Access publication services can apply for the acknowledgment that they are “DINI-ready”, i.e. that all of the services they host meet certain minimum requirements. DINI enters into an agreement with the respective host organizations, which specifies both sides' privileges and obligations. Operators employing a DINI-ready hosting service state this in the application form, and do not have to answer the questions relating

to these already met requirements (see [section 1.4](#) of this document).

After the online form has been completed and submitted, the application and supplied data will be verified; generally two reviewers will be appointed for this who must be granted access to the services to be certified. The provider must be prepared to answer questions from reviewers. Communication between applicant and reviewer will be deemed confidential unless specified otherwise. On-site visits will only take place in exceptional cases. Any additional during the certification process must be covered by the provider. DINI will inform the provider about possible additional costs beforehand.

The certification process should generally be completed within two months. The duration of the certification process depends in part on how quickly the provider answers any questions the reviewers may have. This process may take longer if any of the criteria are not met.

The DINI Certificate expires upon publication of the third subsequent version of the criteria catalog. Upon publication of the present version (criteria catalog for the certificate Open Access publication services 2019), all of the certificates based on the criteria catalog for 2010 or prior to that will expire. As this limitation of validity for existing certificates is new, a transitional period is available until September 30, 2020. Up until then, operators can decide whether or not to reapply for certification based on the current version of the criteria catalog.

As the certificate shows the year of the version, it will always be clear which standards applied to an Open Access publication service certification, even if a more recent certificate version exists. DINI is entitled to revoke a certificate if a provider fails to meet minimum requirements after being certified.

The provider of the certified service is entitled to call

it a “DINI-certified Open Access publication service”, and to display the DINI Certificate's seal on a web page or in other applicable forms. Any misuse of the seal or certificate will be prosecuted in accordance with applicable laws.

## Appendix D – Authors

This document is published under the Creative Commons license CC-BY. See <https://creativecommons.org/licenses/by/4.0/deed.de>.

The following persons are authors of the current version of this document (in alphabetical order):

- **Uwe Müller †** (Chair of DINI Working Group “Electronic Publishing”)  
German National Library  
<https://orcid.org/0000-0002-2461-8396>
- **Frank Scholze** (Chair of DINI Working Group “Electronic Publishing”)  
Karlsruhe Institute of Technology, KIT-Library  
[frank.scholze@kit.edu](mailto:frank.scholze@kit.edu)  
<https://orcid.org/0000-0003-3404-1452>
- **Ursula Arning**  
ZB MED – Information Centre for Life Sciences  
[arning@zbmed.de](mailto:arning@zbmed.de)  
<https://orcid.org/0000-0002-7953-0666>
- **Daniel Beucke**  
Göttingen State and University Library  
[beucke@sub.uni-goettingen.de](mailto:beucke@sub.uni-goettingen.de)  
<https://orcid.org/0000-0003-4905-1936>
- **Ute Blumtritt**  
Chemnitz University of Technology, Library  
[Ute.Blumtritt@Bibliothek.TU-Chemnitz.de](mailto:Ute.Blumtritt@Bibliothek.TU-Chemnitz.de)  
<https://orcid.org/0000-0003-4209-3893>
- **Kim Braun**  
Carl von Ossietzky Universität Oldenburg, Library and Information System  
[kim.braun@uni-oldenburg.de](mailto:kim.braun@uni-oldenburg.de)  
<https://orcid.org/0000-0002-2629-9392>

- **Arvid Deppe**  
University of Kassel  
[deppe@bibliothek.uni-kassel.de](mailto:deppe@bibliothek.uni-kassel.de)  
<https://orcid.org/0000-0001-7190-9535>
- **Gernot Deinzer**  
University Library of Regensburg  
[gernot.deinzer@ur.de](mailto:gernot.deinzer@ur.de)  
<https://orcid.org/0000-0002-7462-3847>
- **Martin Fenner**  
DataCite  
[martin.fenner@datacite.org](mailto:martin.fenner@datacite.org)  
<https://orcid.org/0000-0003-1419-2405>
- **Bruno Klotz-Berendes**  
FH Münster University of Applied Sciences, Library  
[klotz-berendes@fh-muenster.de](mailto:klotz-berendes@fh-muenster.de)  
<https://orcid.org/0000-0002-9058-7479>
- **Isabella Meinecke**  
Staats- und Universitätsbibliothek Hamburg Carl von Ossietzky  
[isabella.meinecke@sub.uni-hamburg.de](mailto:isabella.meinecke@sub.uni-hamburg.de)  
<https://orcid.org/0000-0001-8337-3619>
- **Heinz Pampel**  
Helmholtz Association, Helmholtz Open Science Office, Potsdam  
[heinz.pampel@os.helmholtz.de](mailto:heinz.pampel@os.helmholtz.de)  
<https://orcid.org/0000-0003-3334-2771>
- **Jochen Schirrwagen**  
Bielefeld University, Library  
[jochen.schirrwagen@uni-bielefeld.de](mailto:jochen.schirrwagen@uni-bielefeld.de)  
<https://orcid.org/0000-0002-0458-1004>
- **Karolin Bove**  
Leipzig University, Library  
[bove@ub.uni-leipzig.de](mailto:bove@ub.uni-leipzig.de)  
<https://orcid.org/0000-0003-1226-8867>

- **Thomas Severiens**  
Jade University of Applied Sciences, Wilhelmshaven  
[thomas@severiens.de](mailto:thomas@severiens.de)  
<https://orcid.org/0000-0001-6303-5073>
- **Friedrich Summann**  
Bielefeld University, Library  
[friedrich.summann@uni-bielefeld.de](mailto:friedrich.summann@uni-bielefeld.de)  
<https://orcid.org/0000-0002-6297-3348>
- **Tobias Steinke**  
German National Library  
[r.steinke@dnb.de](mailto:r.steinke@dnb.de)  
<https://orcid.org/0000-0002-3999-1687>
- **Marco Tullney**  
Leibniz Information Centre for Science and Technology University  
Library (TIB)  
[marco.tullney@tib.eu](mailto:marco.tullney@tib.eu)  
<https://orcid.org/0000-0002-5111-2788>
- **Paul Vierkant**  
DataCite  
[paul.vierkant@datacite.org](mailto:paul.vierkant@datacite.org)  
<https://orcid.org/0000-0003-4448-3844>
- **Michaela Voigt**  
Technische Universität Berlin, University Library  
[michaela.voigt@tu-berlin.de](mailto:michaela.voigt@tu-berlin.de)  
<https://orcid.org/0000-0001-9486-3189>
- **Nadine Walger**  
German National Library  
[n.walger@dnb.de](mailto:n.walger@dnb.de)  
<https://orcid.org/0000-0002-0075-625X>
- **Jan Weiland**  
ZBW – Leibniz Information Centre for Economics  
[j.weiland@zbw.eu](mailto:j.weiland@zbw.eu)  
<https://orcid.org/0000-0002-3167-0870>

- **Alexander Weimar**  
Library Service Centre Baden-Wuerttemberg (BSZ)  
[alexander.weimar@bsz-bw.de](mailto:alexander.weimar@bsz-bw.de)
- **Stefan Wolf**  
Library Service Centre Baden-Wuerttemberg (BSZ)  
[stefan.wolf@bsz-bw.de](mailto:stefan.wolf@bsz-bw.de)

Translation by

- **Kim Braun**, Oldenburg

Proofreading and adaption by

- **Andrew Rennison**, Hamburg

Typesetting and layout by

- **Ramina Kalashnykova**, Düsseldorf

Additional authors of earlier versions:

- Dörte Bange
- Margo Bargheer
- Stefan Buddenbohm
- Sammy David
- Susanne Dobratz
- Stefan Gradmann
- Thomas Hartmann
- Ulrich Herb
- Eberhard Hilf
- Wolfram Horstmann
- Nikola Korb
- Elmar Mittler
- Katja Mruck
- Marianna Mühlhölzer
- Peter Schirnbacher
- Birgit Schmidt
- Silke Schomburg
- Matthias Schulze
- Heinrich Stamerjohanns
- Bert Wendland
- Christoph Ziegler
- Dennis Zielke

Special thanks for support and cooperation goes to:

- **Claudia Walther**, DINI-Geschäftsstelle, Göttingen  
[claudia.walther@sub.uni-goettingen.de](mailto:claudia.walther@sub.uni-goettingen.de).

## Endnotes

- <sup>1</sup> See <https://arxiv.org>.
- <sup>2</sup> See <https://www.ncbi.nlm.nih.gov/pubmed>.
- <sup>3</sup> See <https://www.ncbi.nlm.nih.gov/pmc/>.
- <sup>4</sup> See <https://www.crossref.org>.
- <sup>5</sup> See <https://datacite.org>.
- <sup>6</sup> See <http://inspirehep.net>.
- <sup>7</sup> See <http://opendefinition.org/licenses/>.
- <sup>8</sup> See Act on the German National Library (Gesetz über die Deutsche Nationalbibliothek - DNBG), for further details cf. [https://www.dnb.de/EN/Professionell/Sammeln/Koerperliche\\_Medienwerke/koerperliche\\_medienwerke\\_node.html#doc314418bodyText2](https://www.dnb.de/EN/Professionell/Sammeln/Koerperliche_Medienwerke/koerperliche_medienwerke_node.html#doc314418bodyText2).
- <sup>9</sup> See <http://opendefinition.org/licenses/>.
- <sup>10</sup> Cf. E.g. Wandtke/Grunert (2014): Section 38 Articles on collections. Recital 17. In: Wandtke, Bullinger (Hrsg.): Commentary on copyright law. 4th revised edition. Munich: C.H. Beck, 2014. and: Section 38 Articles on collections. Recitals 45 – 51. In: Loewenheim et al. (Hrsg.). Copyright; Commentary. 5th revised edition. Munich: C.H. Beck, 2017.
- <sup>11</sup> See <https://rightsstatements.org/vocab/1.0/>.
- <sup>12</sup> See <http://www.bibtex.org/>.
- <sup>13</sup> See <http://www.endnote.com/>.
- <sup>14</sup> See <http://de.wikipedia.org/wiki/COinS>.
- <sup>15</sup> See <https://www.citavi.com/>.
- <sup>16</sup> See <http://www.zotero.org/>.
- <sup>17</sup> See [https://www.dnb.de/EN/Professionell/Standardisierung/GND/gnd\\_node.html](https://www.dnb.de/EN/Professionell/Standardisierung/GND/gnd_node.html).
- <sup>18</sup> See [https://en.wikipedia.org/wiki/Library\\_of\\_Congress\\_Subject\\_Headings](https://en.wikipedia.org/wiki/Library_of_Congress_Subject_Headings)
- <sup>19</sup> See [https://en.wikipedia.org/wiki/ACM\\_Computing\\_Classification\\_System](https://en.wikipedia.org/wiki/ACM_Computing_Classification_System).
- <sup>20</sup> See [http://de.wikipedia.org/wiki/Mathematics\\_Subject\\_Classification](http://de.wikipedia.org/wiki/Mathematics_Subject_Classification).
- <sup>21</sup> See <http://publish.aps.org/PACS>.
- <sup>22</sup> See [https://www.dnb.de/EN/Professionell/Standardisierung/Standards/standards\\_node.html](https://www.dnb.de/EN/Professionell/Standardisierung/Standards/standards_node.html).

- <sup>23</sup> See [https://en.wikipedia.org/wiki/Search/Retrieve\\_via\\_URL](https://en.wikipedia.org/wiki/Search/Retrieve_via_URL).
- <sup>24</sup> See <http://www.openarchives.org/rs/toc>.
- <sup>25</sup> See <http://signposting.org/>.
- <sup>26</sup> See [https://www.dnb.de/EN/Professionell/Standardisierung/GND/gnd\\_node.html](https://www.dnb.de/EN/Professionell/Standardisierung/GND/gnd_node.html).
- <sup>27</sup> See <https://orcid.org/>.
- <sup>28</sup> See [https://en.wikipedia.org/wiki/SWORD\\_%28protocol%29](https://en.wikipedia.org/wiki/SWORD_%28protocol%29).
- <sup>29</sup> See <https://www.projectcounter.org/>.
- <sup>30</sup> See <https://www.projectcounter.org/> and DINI paper titled “Usage statistics of electronic publications” by the DFG Open Access statistics project and the DINI electronic publishing working group available in German here: <https://nbn-resolving.org/urn:nbn:de:kobv:11-100101174>
- <sup>31</sup> Examples include DSpace (<https://www.dspace.org/>), EPrints (<https://www.eprints.org/>), MyCoRe (<https://www.mycore.de/> - in German) and OPUS (<https://www.kobv.de/opus4/> - in German).
- <sup>32</sup> Examples include library systems or electronic journal systems such as Open Journal Systems (<https://pkp.sfu.ca/ojs>).
- <sup>33</sup> Examples include the formatting of dates or the coding of languages.
- <sup>34</sup> Primarily comprehensive referencing services with search and browsing features
- <sup>35</sup> See <https://guidelines.openaire.eu/en/latest/>.
- <sup>36</sup> See <https://www.openaire.eu/>.
- <sup>37</sup> Details are available here: <http://www.openarchives.org/OAI/openarchivesprotocol.html>.
- <sup>38</sup> Primarily the repository explorer (see <http://oai.clarin-pl.eu>) and the DINI validator (see <https://validator.dini.de> – in German). The latter verifies conformity with the OAI specification and compliance with the OAI policy from the DINI certificate.
- <sup>39</sup> See [https://www.dnb.de/EN/Professionell/DDC-Deutsch/ddc-deutsch\\_node.html](https://www.dnb.de/EN/Professionell/DDC-Deutsch/ddc-deutsch_node.html).
- <sup>40</sup> See <https://nbn-resolving.org/urn:nbn:de:kobv:11-100109998> (in German). The discrepancy where setSpec is written in both upper and lower case is due to the varying use in different sources (e.g. Dublin Core Type Vocabulary and Publication Type Vocabulary in the DRIVER Guidelines). This inconsistency was retained for reasons for compatibility.
- <sup>41</sup> See <https://wiki.surfnet.nl/display/DRIVERguidelines/Version+vocabulary>.
- <sup>42</sup> See <http://www.dublincore.org/specifications/dublin-core/dc-citation-guidelines/>.
- <sup>43</sup> See <https://www.dini.de/ag/fis/> (in German).
- <sup>44</sup> See <https://www.base-search.net/>.
- <sup>45</sup> See <http://swepub.kb.se/>.
- <sup>46</sup> See <http://www.ub.uio.no/nora/search.html>.
- <sup>47</sup> See <http://rian.ie/>.
- <sup>48</sup> See <https://www.narcis.nl/>.
- <sup>49</sup> See <https://www.openaire.eu>
- <sup>50</sup> See [https://www.dnb.de/EN/Professionell/DDC-Deutsch/ddc-deutsch\\_node.html](https://www.dnb.de/EN/Professionell/DDC-Deutsch/ddc-deutsch_node.html).
- <sup>51</sup> See <http://dublincore.org/documents/dces/>.
- <sup>52</sup> See <http://www.loc.gov/marc/>.
- <sup>53</sup> See <http://www.loc.gov/standards/mods/>.
- <sup>54</sup> See <https://schema.datacite.org/>.
- <sup>55</sup> See [https://www.dnb.de/EN/Professionell/Standardisierung/Standards/standards\\_ode.html](https://www.dnb.de/EN/Professionell/Standardisierung/Standards/standards_ode.html).
- <sup>56</sup> See <https://openaccess.mpg.de/Berliner-Erklaerung>.
- <sup>57</sup> See [https://www.dnb.de/EN/Professionell/DDC-Deutsch/ddc-deutsch\\_node.html](https://www.dnb.de/EN/Professionell/DDC-Deutsch/ddc-deutsch_node.html)
- <sup>58</sup> See <https://dini.de/dienste-projekte/dini-zertifikat/fragebogen/> (in German).

# Aufnahmeantrag für die Mitgliedschaft in DINI e.V.

(auch online unter <https://dini.de/mitgliedschaft/mitgliedsantrag/>)

## Angaben zum Antragsteller:

Name: .....

Vorname: .....

Sind Sie Bevollmächtigte/r der antragstellenden Institution? Ja  Nein

Institution: .....

URL der Institution: .....

## Die antragstellende Institution ist Mitglied in:

AMH  dbv  ZKI  Wissenschaftseinrichtungen und -organisationen

Anzahl der Beschäftigtenvollzeitäquivalenz (BVZÄ): .....

## Weitere Angaben: (entweder zu Ihrer Person oder der Institution):

Anschrift: .....

Straße, Nummer: .....

PLZ, Ort: .....

Telefon: .....

Fax: .....

E-Mail-Adresse: .....

## Wer soll Mitglied werden?

Hochschule  Institution  Fachgesellschaft  Sie selbst

## Welche Art der Mitgliedschaft wünschen Sie?

(Zur Definition der Mitgliedschaft siehe Satzung § 3)

Ordentliches Mitglied  Assoziiertes  Mitglied

## Bemerkungen:

.....  
.....  
.....  
.....

Ort, Datum

Unterschrift

## LEGAL NOTICE

The online version of this publication is available via the following link:  
DOI: 10.18452/21759

**Publisher:** Deutsche Initiative für Netzwerkinformation e. V.

### Contact details

DINI – Deutsche Initiative für Netzwerkinformation e. V.

Geschäftsstelle | c/o Niedersächsische Staats- und Universitätsbibliothek  
Göttingen | Platz der Göttinger Sieben 1 | 37070 Göttingen |  
Tel.: 0551 39-33857 | E-Mail: [gs@dini.de](mailto:gs@dini.de) | <https://www.dini.de>

**Last updated:** August 2020

DEUTSCHE INITIATIVE FÜR NETZWERKINFORMATION E. V.

All of the texts used in this publication, excluding citations, are licensed under a Creative Commons “Attribution 4.0 International” (CC BY 4.0) agreement. See <https://creativecommons.org/licenses/by/4.0/>.

