



Andreas Czerniak

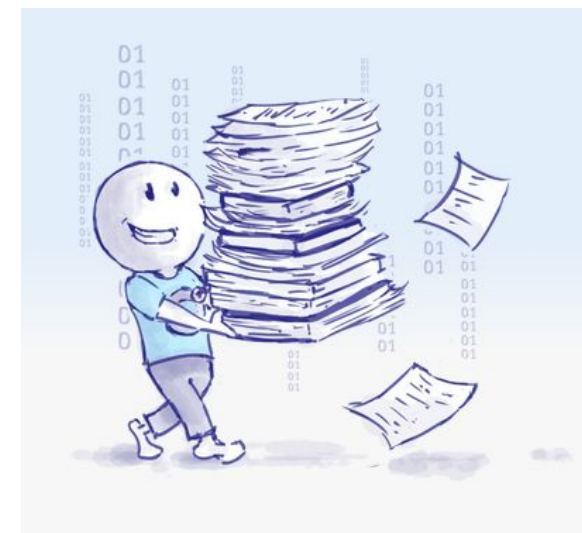
Bielefeld University Library / Germany

RDA-DE2022 - *FAIR in der Praxis*

FAIR Prinzipien aus Sicht des OpenScience Aggregators



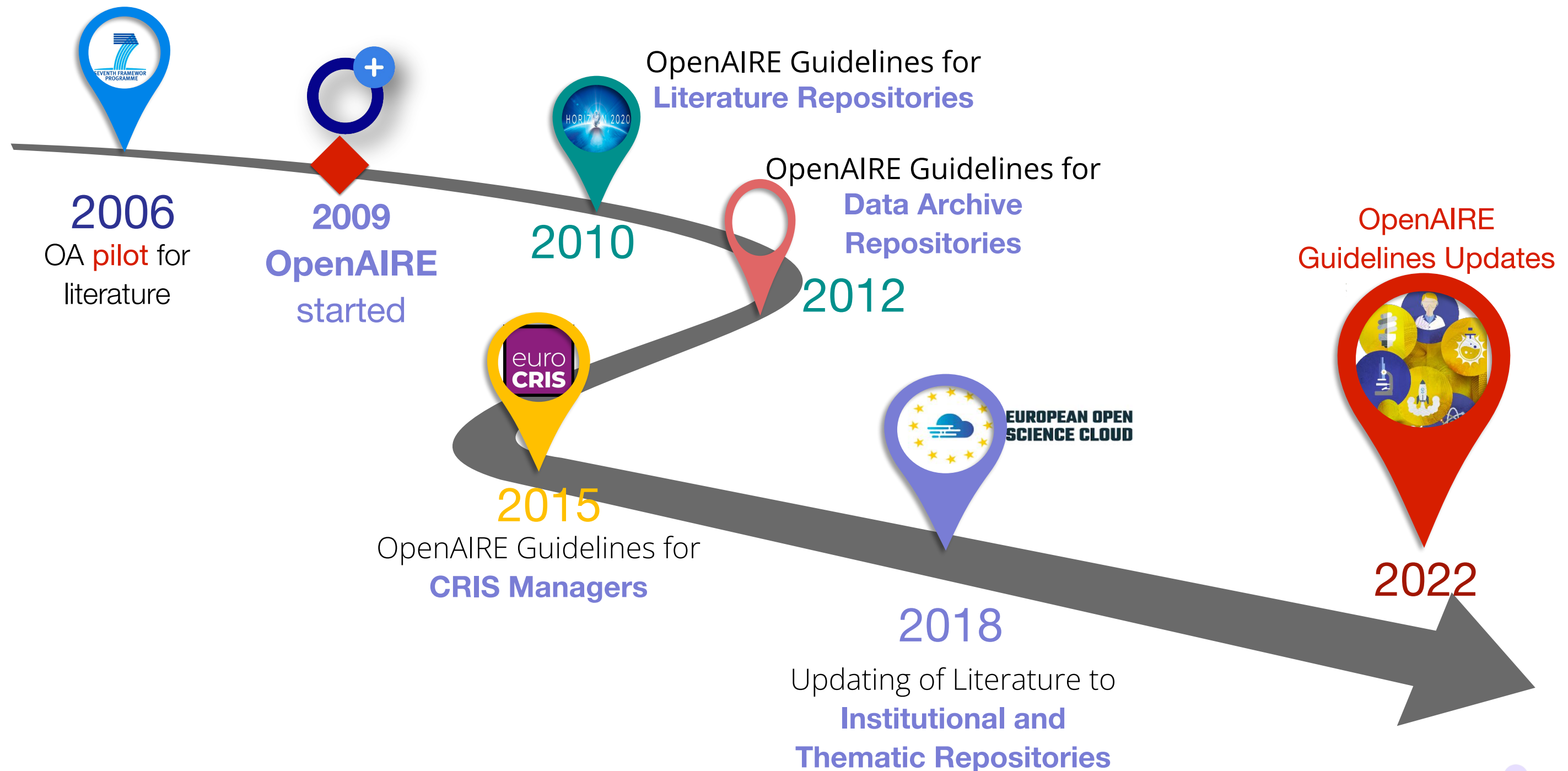
**Interoperability
Guidelines**



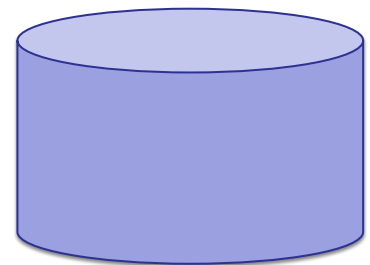
Outline

- OpenAIRE
 - Brief introduction / Guidelines
- Repository Landscape
- FAIR-principles evaluation process
- PROVIDE dashboard :: FAIR assistance service

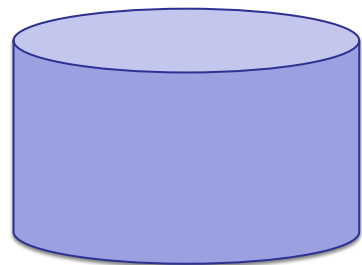
OpenAIRE: Open Access, Data, and Science



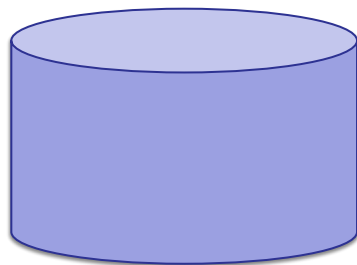
Landscape of Repositories types



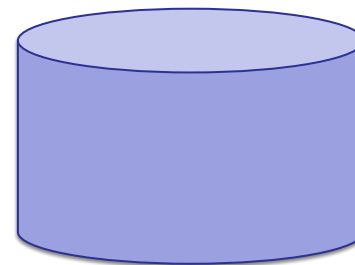
Institutional/
thematic/literature
repositories



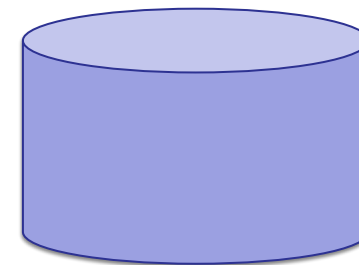
Journals/
publishers



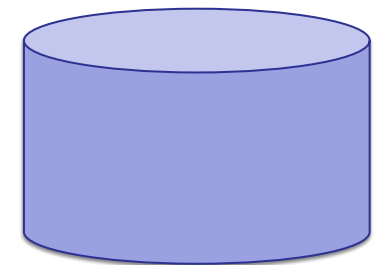
Data
repositories



Software
repositories

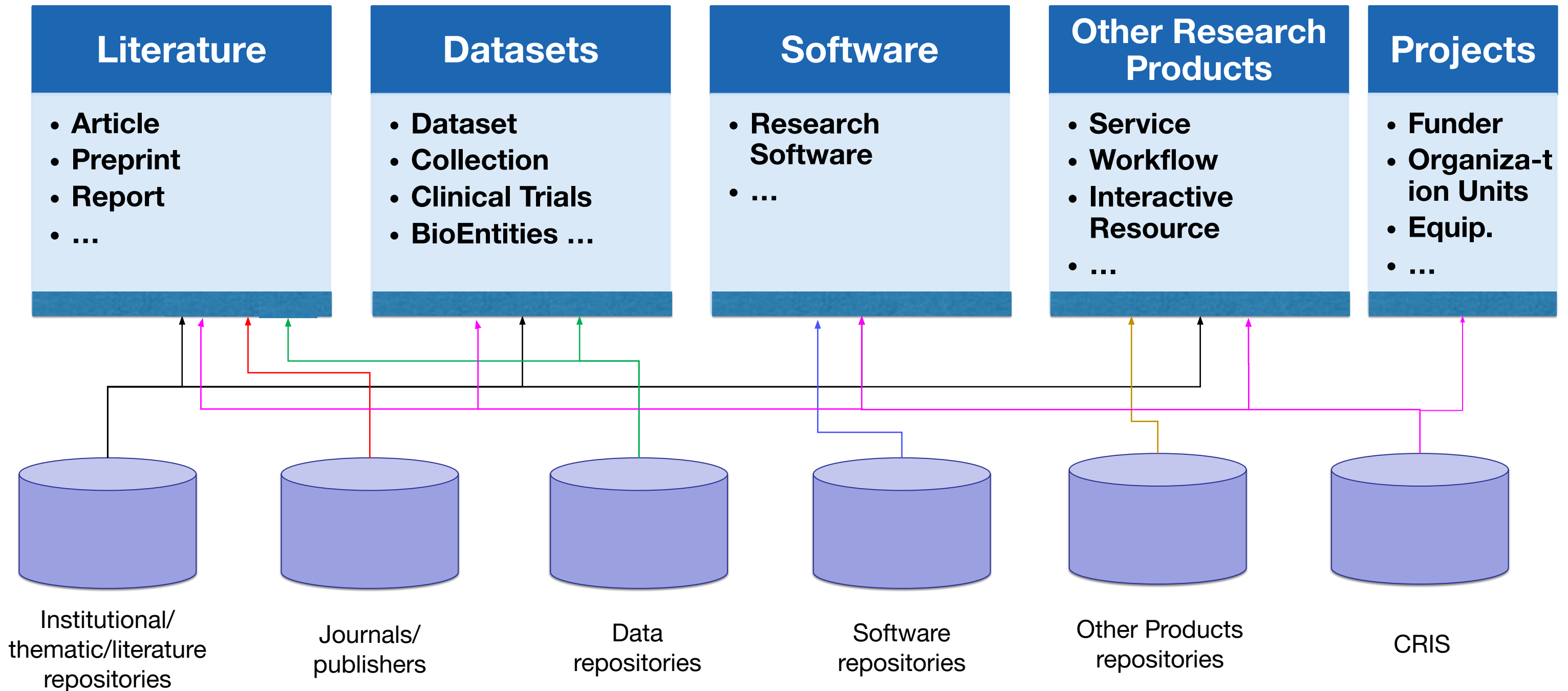


Other Products
repositories



CRIS

Repository types and research output



used Persistent Identifiers (PIDs)

Resource ID

- DOI
- ARK
- Handle
- IGSN
- PURL
- URL
- URN
- OAI-PMH ID

alternative PIDs

- ARK – Archival Resource Key
- arXiv – arXiv.org identifier
- bibcode – Astrophysics Data System bibliographic codes; bibcodes can be resolved via <http://adsabs.harvard.edu/abs/bibcode>
- DOI – Digital Object Identifier
- EAN13 – European Article Number, now renamed International Article Number, but retaining the original acronym, is a 13-digit barcoding standard which is a superset of the original 12-digit Universal Product Code (UPC) system.
- EISSN – International Standard Serial Number (electronic Version)
- Handle – Handle
- IGSN – International Geo Sample Number; a 9-digit alphanumeric code that uniquely identifies samples from our natural environment and related sampling features.
- ISBN – International Standard Book Number
- ISSN – International Standard Serial Number; a unique 8-digit number used to identify a print or electronic periodical publication.

- ISTC – International Standard Text Code; a unique “number” assigned to a textual work. An ISTC consists of 16 numbers and/or letters.
- LISSN – The linking ISSN or ISSN-L enables collocation or linking among different media versions of a continuing resource.
- LSID – Life Science Identifiers; a unique identifier for data in the Life Science domain. Format: urn:lsid:authority:namespace:identifier:revision
- PISSN – International Standard Serial Number (print version)
- PMID – PubMed ID
- PURL – Persistent Uniform Resource Locator
- UPC – Universal Product Code is a barcode symbology used for tracking trade items in stores. Its most common form, the UPC-A, consists of 12 numerical digits.
- URL – Uniform Resource Locator
- URN – Uniform Resource Name
- WOS – Web of Science accession number

<https://guidelines.openaire.eu>

Guidelines for inst.&them. repository manager

related Persistent Identifiers (PIDs)

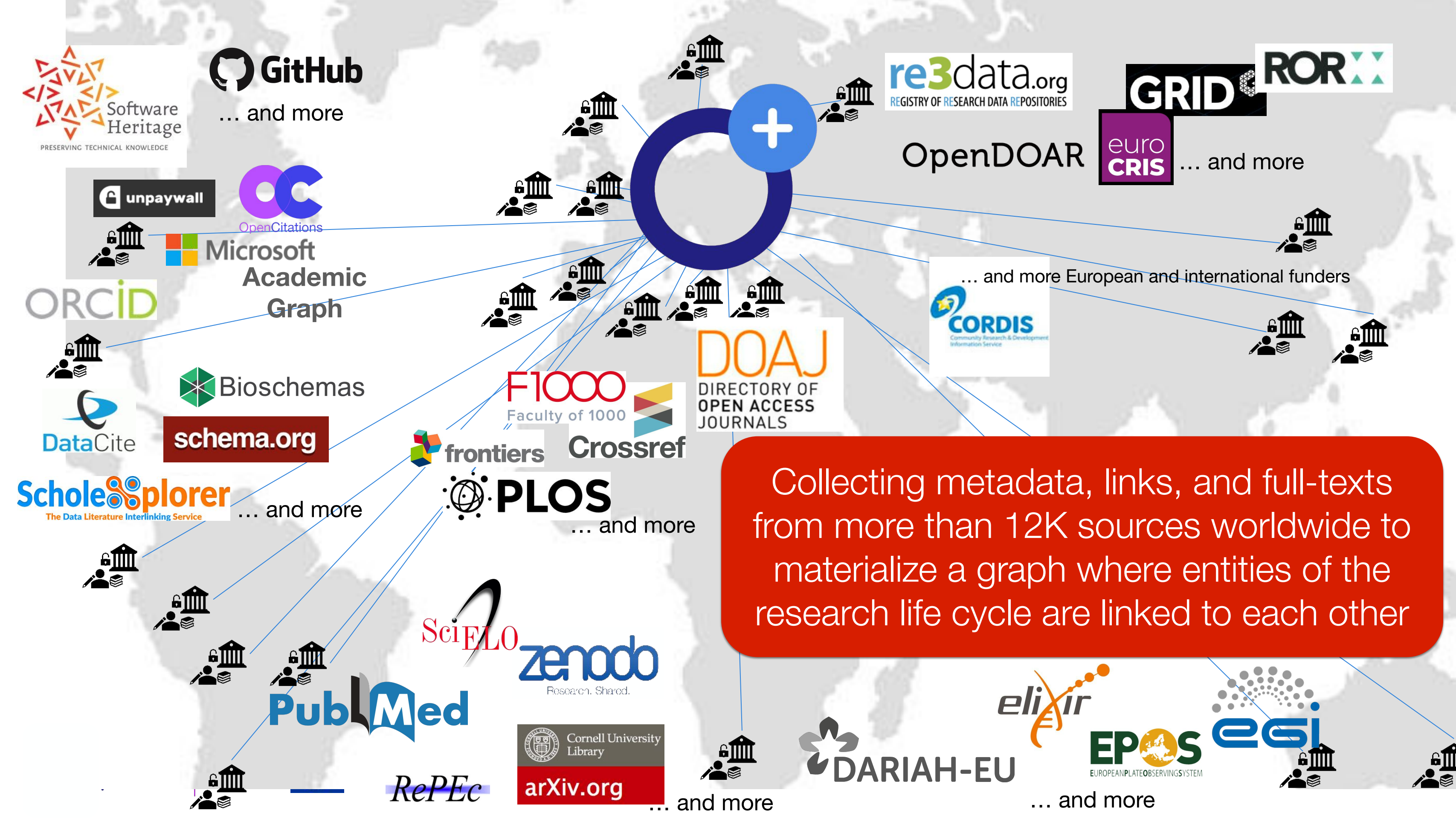
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relations

- IsCitedBy (indicates that B includes A in a citation)
- Cites (indicates that A includes B in a citation)
- IsSupplementTo (indicates that A is a supplement to B)
- IsSupplementedBy (indicates that B is a supplement to A)
- IsContinuedBy (indicates A is continued by the work B)
- Continues (indicates A is a continuation of the work B)
- IsDescribedBy (indicates A is described by B)
- Describes (indicates A describes B)
- HasMetadata (indicates resource A has additional metadata B)
- IsMetadataFor (indicates additional metadata A for a resource B)
- HasVersion (indicates A has a version B)
- IsVersionOf (indicates A is a version of B)
- IsNewVersionOf (indicates A is a new edition of B, where the new edition has been modified or updated)
- IsPreviousVersionOf (indicates A is a previous edition of B)

- IsPartOf (indicates A is a portion of B; may be used for elements of a series)
- HasPart (indicates A includes the part B)
- IsReferencedBy (indicates A is used as a source of information by B)
- References (indicates B is used as a source of information for A)
- IsDocumentedBy (indicates B is documentation about/explaining A)
- Documents (indicates A is documentation about/explaining B)
- IsCompiledBy (indicates B is used to compile or create A)
- Compiles (indicates B is the result of a compile or creation event using A)
- IsVariantFormOf (indicates A is a variant or different form of B, e.g. calculated or calibrated form or different packaging)
- IsOriginalFormOf (indicates A is the original form of B)
- IsIdenticalTo (indicates that A is identical to B, for use when there is a need to register two separate instances of the same resource)
- IsReviewedBy (indicates that A is reviewed by B)
- Reviews (indicates that A is a review of B)
- IsDerivedFrom (indicates B is a source upon which A is based)
- IsSourceOf (indicates A is a source upon which B is based)
- IsRequiredBy (indicates A is required by B)
- Requires (indicates A requires B)
- IsPublishedIn (indicates that A is published in B)

<https://guidelines.openaire.eu>

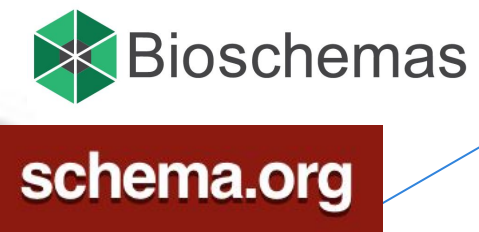
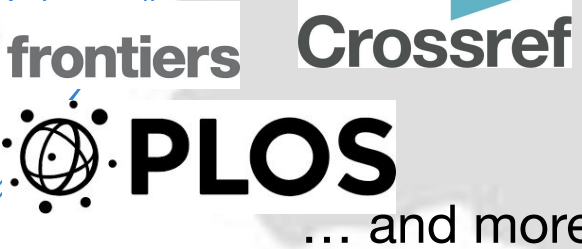


OpenDOAR

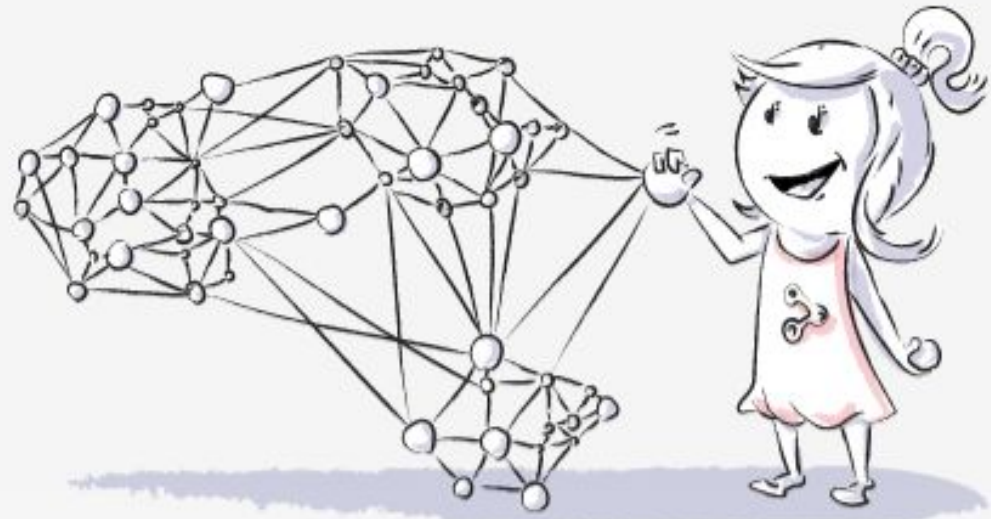


... and more

... and more European and international funders

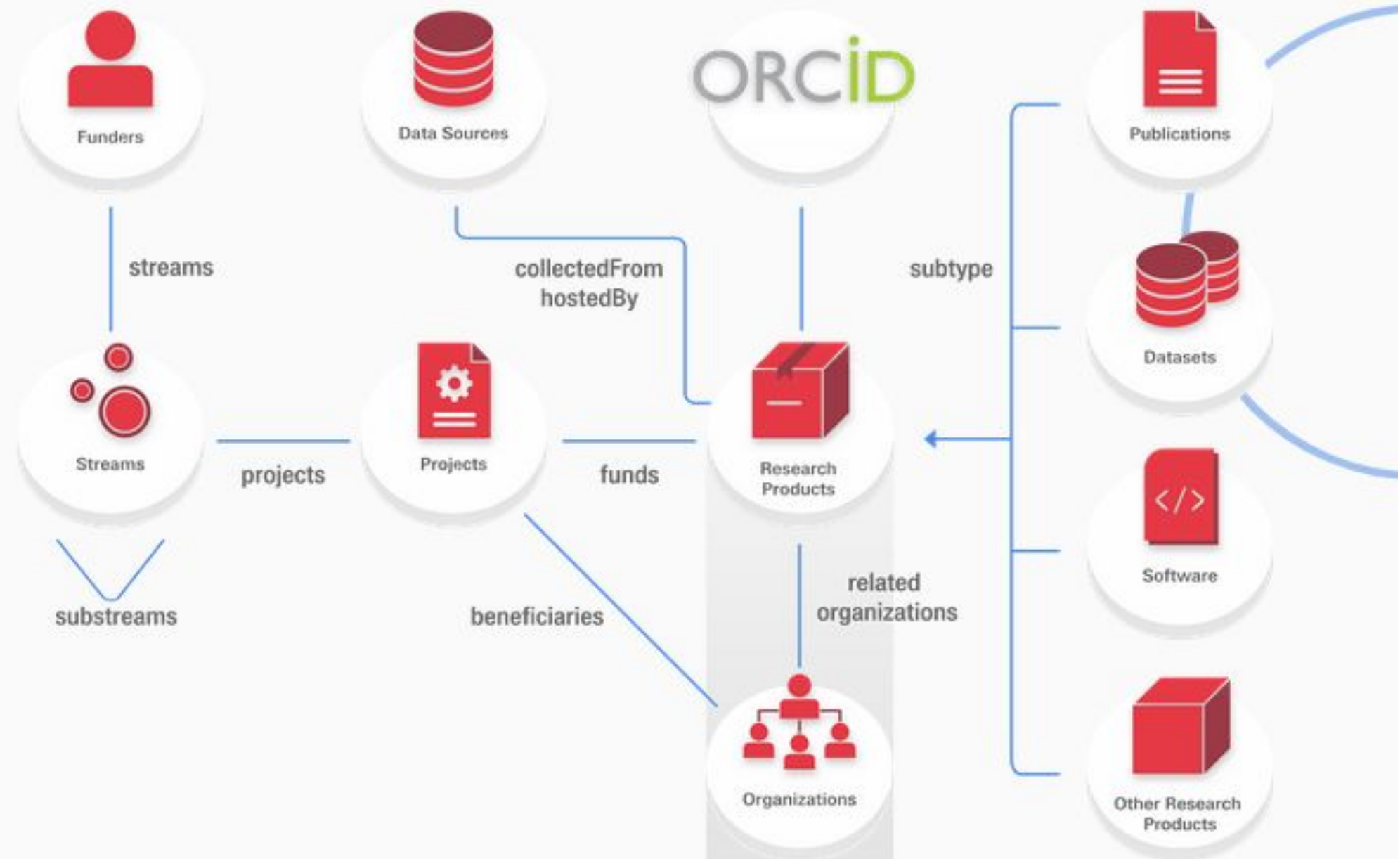


OpenAIRE graph



>450Mi harvested records
>500Mi bi-lateral links
>13Mi+ full-texts

>130Mi dedupl. Research Products



<https://graph.openaire.eu>
<https://doi.org/10.5281/zenodo.3516917>
<https://develop.openaire.eu>

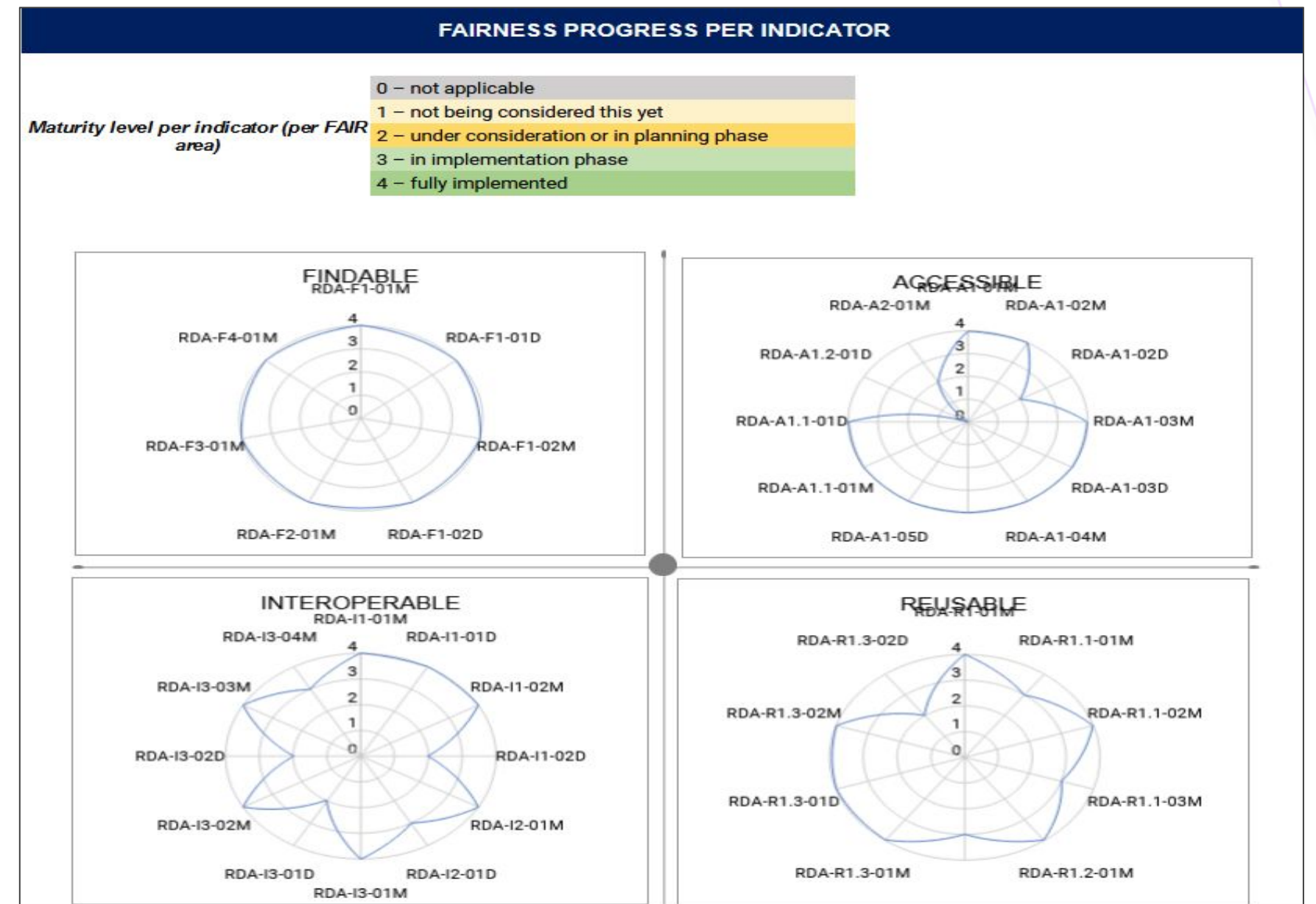
FAIRification

based on **Research Data Alliance** -
FAIR Data Maturity Model:
specification and guidelines
[<https://doi.org/10.15497/RDA00050>]

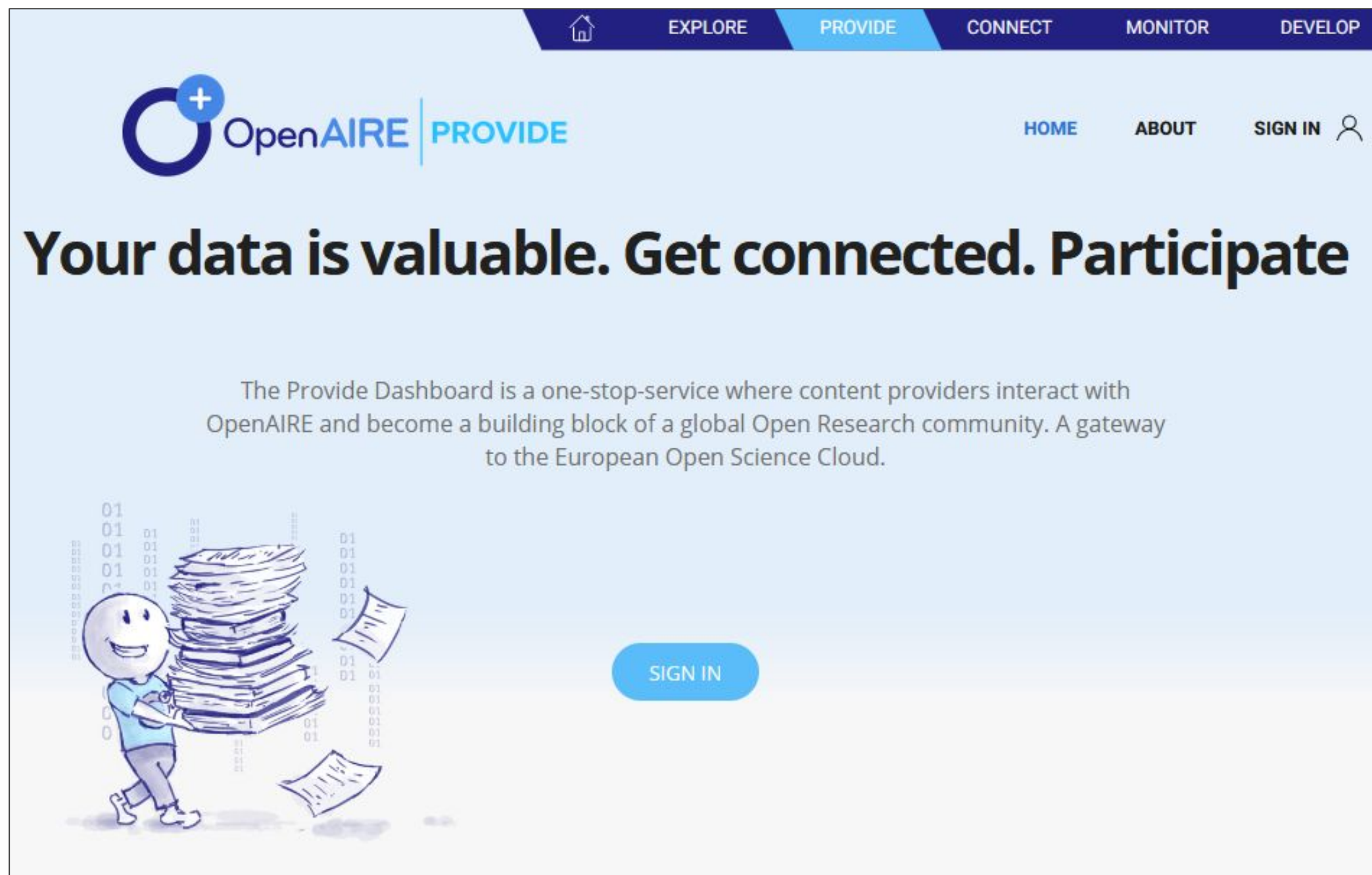
- Findable
- Accessible
- Interoperable
- Reuseable

Evaluation of “OpenAIRE Guidelines for
institutional and thematic repository
managers 4.0”

[<https://doi.org/10.5281/zenodo.1299203>]

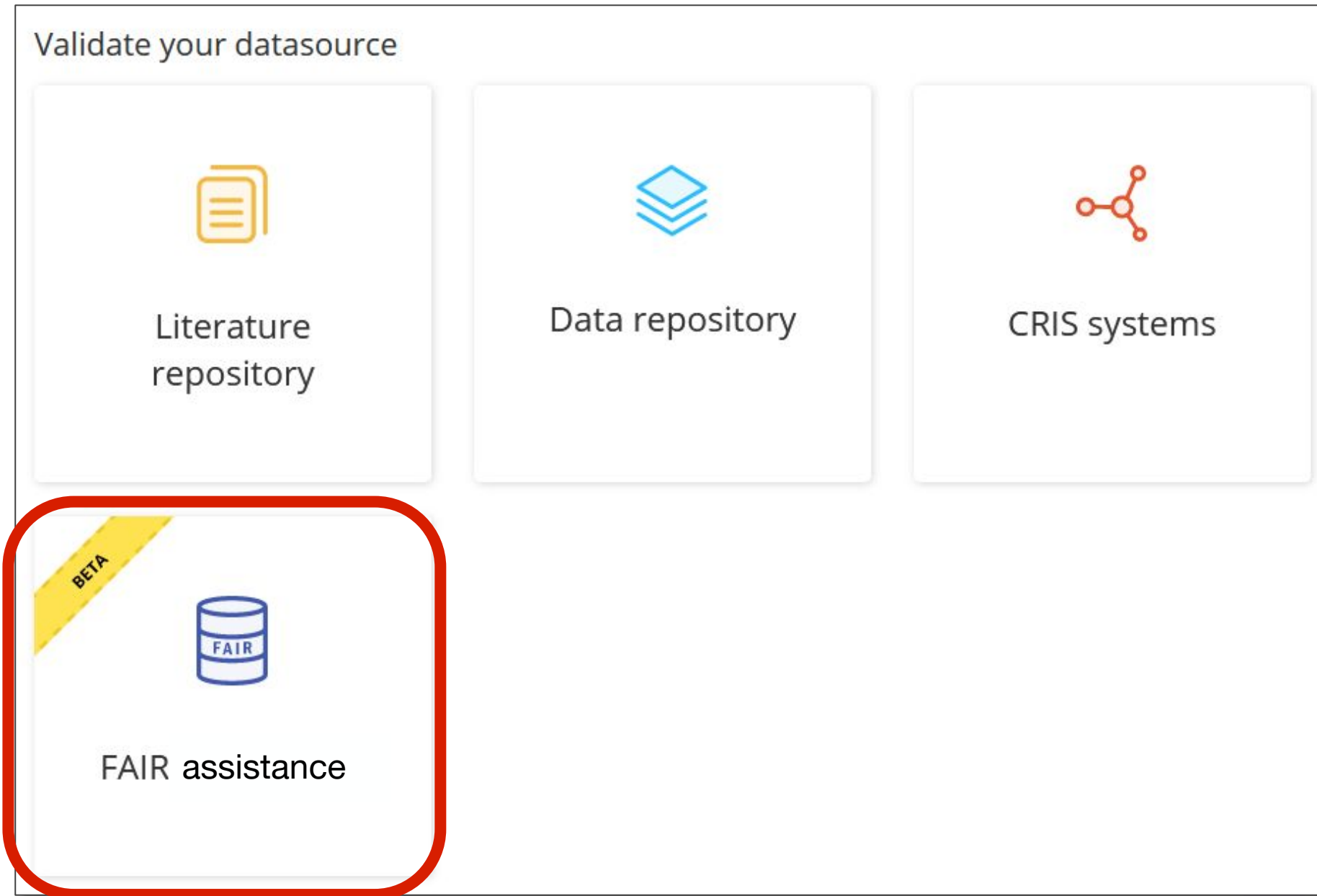


PROVIDE



<https://provide.openaire.eu>

PROVIDE



<https://provide.openaire.eu> -> **Validator**

PROVIDE

Run compatibility test

1

Select datasource

2

Select guidelines

3

Select parameters

4

Finish

☐ Select base URL from one of your registered repositories

-- none selected --

☒ or enter new

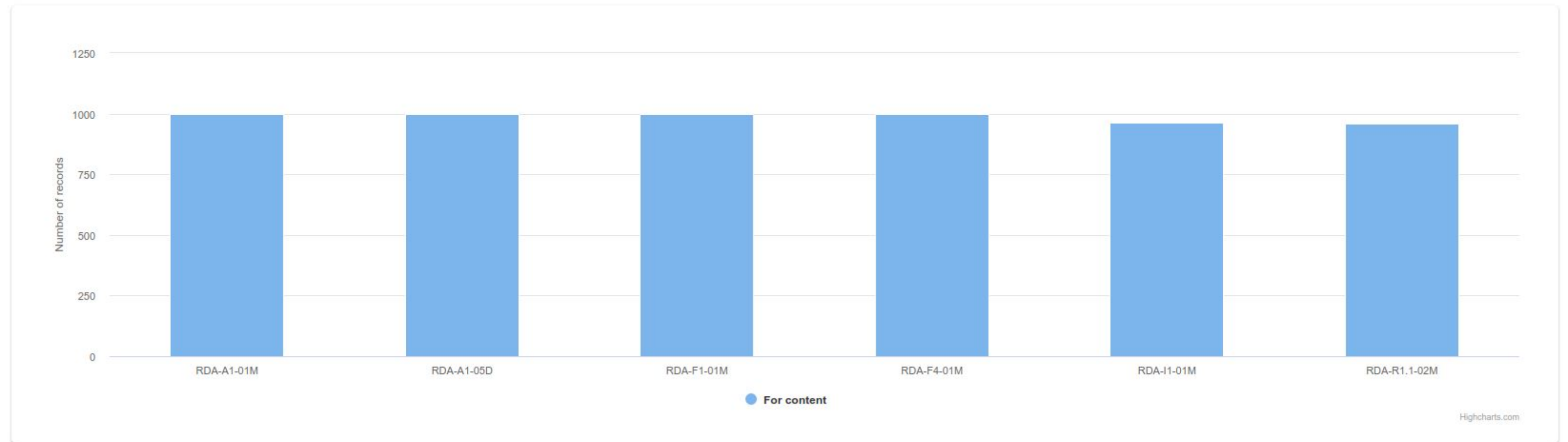
<https://pub.uni-bielefeld.de/oai>

PROVIDE - fair results 1/2

Validation results for

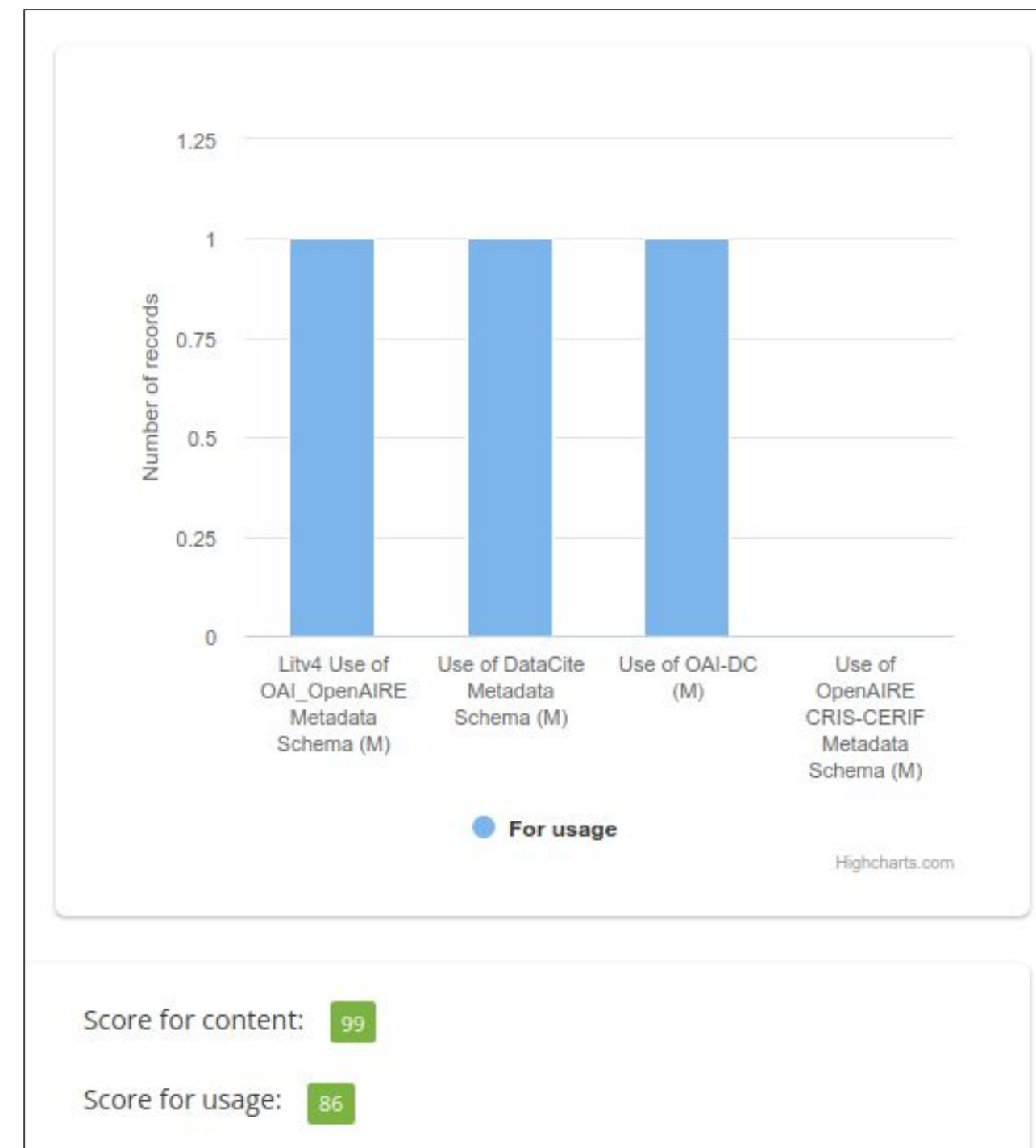
<https://pub.uni-bielefeld.de/oai>

by openaire-helpdesk@uni-bielefeld.de



PROVIDE - fair results 2/2

FOR CONTENT		FOR USAGE		
RULE NAME	RULE DESCRIPTION	RULE WEIGHT	# OF RECORDS	STATUS
RDA-A1-01M	Metadata contains information to enable the user to get access to the data.	9	1000/1000	✓
RDA-A1-05D	Data can be accessed automatically (i.e. by a computer program)	9	1000/1000	✓
RDA-F1-01M	Metadata is identified by a persistent identifier.	5	1000/1000	✓
RDA-F4-01M	Metadata is offered in such a way that it can be harvested and indexed.	5	1000/1000	✓
RDA-I1-01M	Metadata uses knowledge representation expressed in standardised format.	9	962/1000	✗ View Errors
RDA-R1.1-02M	Metadata refers to a reuse license	5	961/1000	✗ View Errors



Lessons learned

- The adaptation of the *Guidelines for Institutional & Thematic Repository Manager* with regard to the **RDA FAIR Data Principles** was a challenge but possible.
- The evaluation of the guidelines has shown that the elements follow mostly the FAIR principles.
 - Common understanding is needed!
- Not yet covered elements could be identified through the OpenAIRE Research Graph.

Outlook

- more FAIR elements are being covered
- Practical support for repository and CRIS managers in a more automated way
 - Broker service
 - API service
- sharing novelties during monthly Community Calls
<https://www.openaire.eu/provide-community-calls>



@openaire_eu
#OpenAIRE-Nexus

THANK YOU

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