

VIVO
TALKS!



Welcome!

Prof. Ludo Waltman

**Open Research Information at
the Berlin University Alliance for
Responsible Research Assessment**

Berlin University Alliance

Funded by the Federal Ministry of Education and Research (BMBWF)
and the state of Berlin under the Excellence Strategy
of the Federal Government and the Länder





Open Research Information at the Berlin University Alliance for Responsible Research Assessment

Ludo Waltman

Centre for Science and Technology Studies (CWTS), Leiden University

VIVO Talks!

Berlin University Alliance

June 13, 2022



Universiteit
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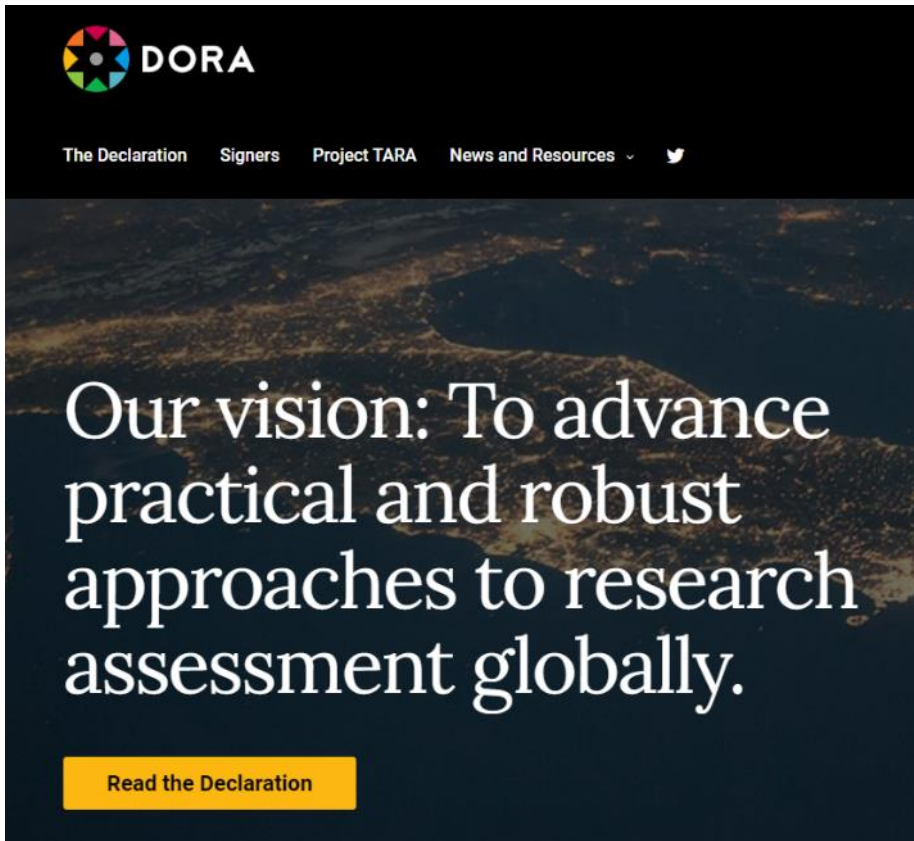
Open research information for responsible research assessment

- Responsible research assessment
- Open research information: Infrastructures
- Open research information: Dutch Open Knowledge Base
- Open research information: Guiding principles
- Conclusions and recommendations



Responsible research assessment

Responsible research assessment: Advocacy



The screenshot shows the DORA website header with a navigation menu and a main banner. The banner features a dark background with a satellite-style image of a landscape and white text.

DORA

The Declaration Signers Project TARA News and Resources

Our vision: To advance practical and robust approaches to research assessment globally.

[Read the Declaration](#)



The image shows a classical statue of a man in deep thought, with a hand holding a pair of calipers to his forehead. Below the statue is the title of the manifesto and a short description.

The Leiden Manifesto for research metrics

Use these ten principles to guide research evaluation, urge **Diana Hicks, Paul Wouters** and colleagues.

Responsible research assessment: Policy initiatives

Room for everyone's talent

towards a new balance in the recognition and rewards of academics



eua EUROPEAN UNIVERSITY ASSOCIATION

SCIENCE EUROPE

The European University Association and Science Europe join Efforts to Improve Scholarly Research Assessment Methodologies

14 May 2021

Evaluating research and assessing researchers is fundamental to the research enterprise and core to the activities of research funders and research performing organisations, as well as universities. The European University Association (EUA) and Science Europe are committed to building a strong dialogue between their members, who share the responsibility of developing and implementing more accurate, open, transparent and responsible approaches, that better reflect the evolution of research activity in the digital era.

Today, the outcomes of scholarly research are often measured through methods based on quantitative, albeit approximate indicators such as the journal impact factor. There is a need to move away from reductionist ways of assessing research, as well as to establish systems that better assess research potential. Universities, research funders and research performing organisations are well-placed to explore new and improved research assessment approaches, while also being indispensable in turning these innovations into systemic reforms.

EUA and Science Europe are committed to working together on building a strong dialogue between their members, with a view to:

- support necessary changes for a better balance between qualitative and quantitative research assessment approaches, aiming at evaluating the merits of scholarly research. Furthermore, novel criteria and methods need to be developed towards a fairer and more transparent assessment of research, researchers and research teams, conducive to selecting excellent proposals and researchers;
- recognise the diversity of research outputs and other relevant academic activities and their value in a manner that is appropriate to each research field and that challenges the overreliance on journal-based metrics;
- consider a broad range of efforts to reward and incentivise research quality as the fundamental principle of scholarly research, and establish assessment processes and methods that accurately reflect the vast dimensions of research quality and credit all scientific contributions appropriately.

EUA and Science Europe will launch activities to further engage their members in improving and strengthening their research assessment practices. Building on these actions, both associations commit to maintaining a continuous dialogue and explore opportunities for joint actions, with a view to promoting strong synergies between the rewards and incentives structures of research funders and research performing organisations, as well as universities.

The European University Association (EUA) is the representative organisation of more than 800 universities and national research infrastructures in 48 European countries. EUA plays a central role in the Bologna Process and in advising EU policies on higher education, research and innovation. Thanks to its interaction with a range of other European and international organisations, EUA ensures that the voice of European universities is heard whenever decisions are being taken that will impact their activities.
For more information from EUA, please contact [Jessica Carter](#).

Science Europe is an association of 16 major research funding organisations and research performing organisations from 22 countries with a combined research budget of approximately €16 billion per annum. The association facilitates its members joining its members and supports excellence in science and research in all disciplines, acting as a platform to develop positions on research policy issues and to address policy challenges to the European institutions, researchers, national governments, and the public.
For more information from Science Europe, please contact [Lena Stöckel](#).

NEWS | 18 January 2022 | Brussels, Belgium | Research and Innovation

Process towards an agreement on reforming research assessment

The Commission has called for organisations to express their interest in being part of a coalition on reforming research assessment.

The coalition will bring together research funding organisations, research performing organisations, national/regional assessment authorities or agencies, associations of research funders, of research performers, of researchers, as well as, learned societies and other relevant organisations, all willing and committed to implement reforms to the current research assessment system.

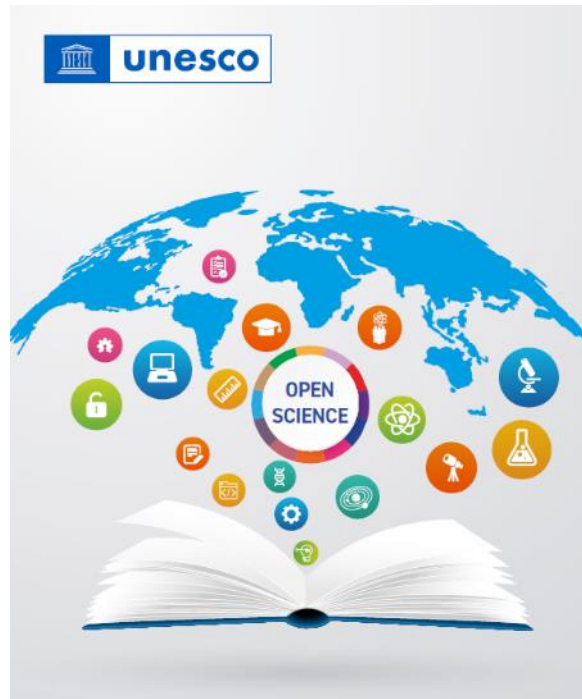
This follows a year of extensive consultations with stakeholders, as described in this [report](#).

The coalition will remain open to new members at all time.

[Access the call for expression of interest](#)

Organisations that express their interest will be involved in the drafting process of the agreement on reforming research assessment, including discussions on its governance and in other preparatory activities.

Responsible research assessment and open science



**UNESCO Recommendation
on Open Science**

Reviewing research assessment and career evaluation systems in order to align them with the principles of open science. Considering that a commitment to open science requires time, resources and efforts that cannot be automatically converted into traditional academic output, such as publications, but which can have a significant impact on science and society, evaluation systems should take into account the wide breadth of missions within the knowledge creation environment. These missions come with different forms of knowledge creation and communication, not limited to publishing in peer reviewed international journals.

Encouraging responsible research and researcher evaluation and assessment practices, which incentivize quality science, recognizing the diversity of research outputs, activities and missions.

How to facilitate responsible research assessment

To facilitate responsible research assessment, we need research analytics that are

Transparent

Pluralistic

Democratic

This requires openness of research information

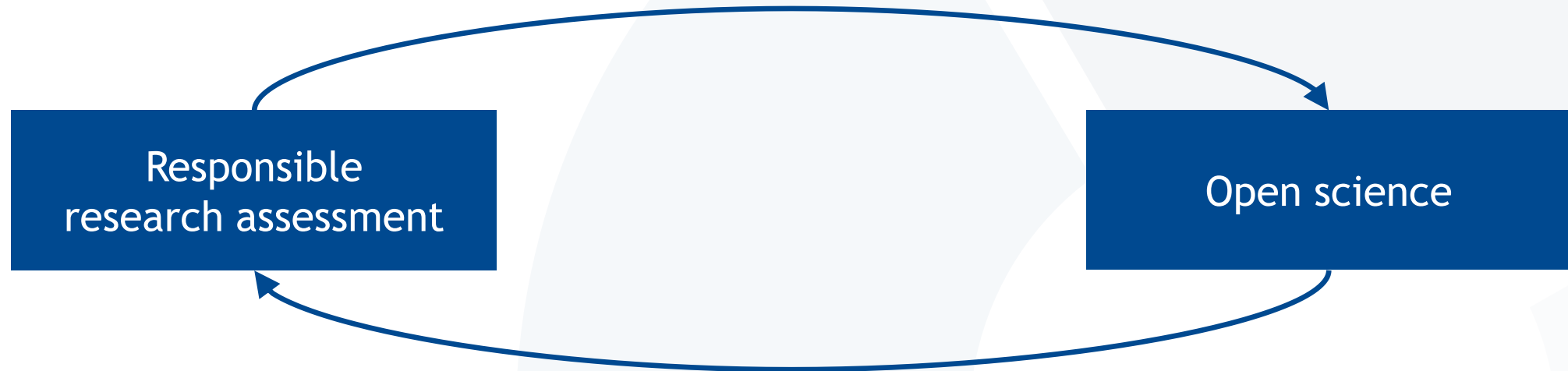
Responsible research assessment and open science

Recognizing and rewarding open science practices

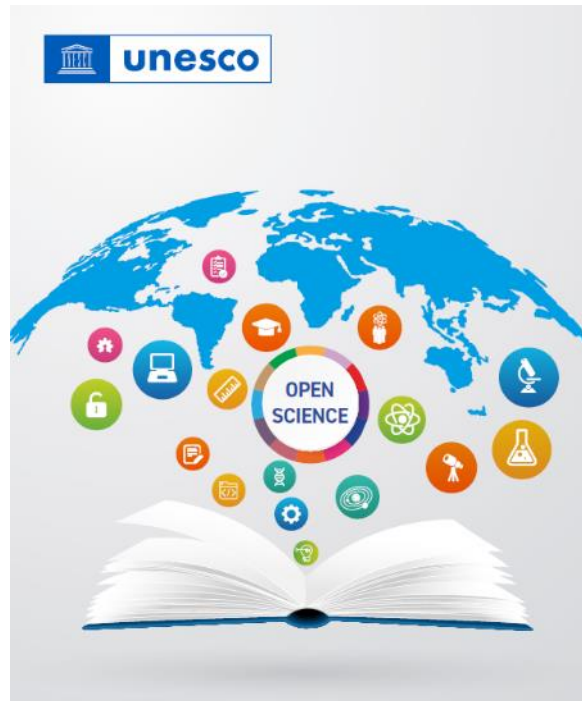
Responsible
research assessment

Open science

Making research information openly available



Infrastructures for open research information



**UNESCO Recommendation
on Open Science**

Open science infrastructures refer to shared research infrastructures (virtual or physical, including major scientific equipment or sets of instruments, knowledge-based resources such as collections, journals and open access publication platforms, repositories, archives and scientific data, current research information systems, open bibliometrics and scientometrics systems for assessing and analysing scientific domains, open computational and data manipulation service infrastructures that enable collaborative and multidisciplinary data analysis and digital infrastructures) that are needed to support open science and serve the needs of different communities. Open labs, open science platforms and repositories for publications, research data and source codes, software forges and virtual research environments, and digital research services, in particular those that allow to identify unambiguously scientific objects by persistent unique identifiers, are among the critical components of open science infrastructures, which provide essential open and standardized services to manage and provide access, portability, analysis and federation of data, scientific literature, thematic science priorities or community engagement. Different repositories are adapted to the

PubMed

ORCID

ROR

OpenCitations

Crossref

DataCite
FIND, ACCESS, AND REUSE DATA

OpenAlex

Europe PMC

OpenAIRE

LENS.ORG
Solving The Problem Of Problem Solving™

CWTS
Meaningful metrics

Open research information: Infrastructures

Initiative for Open Citations (I40A)

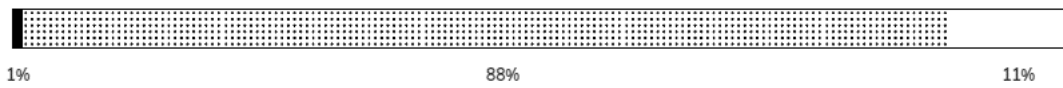
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- Press

Initiative for Open Citations

The Initiative for Open Citations **I40C** is a collaboration between scholarly publishers, researchers, and other interested parties to promote the unrestricted availability of scholarly citation data.

.....

How many citations are open today?



As of May 2022, the fraction of publications with open references has grown from 1% to 89% out of 59.6 million articles with references deposited with Crossref.

Coverage of open citation data approaches parity with Web of Science and Scopus

Posted on [October 27, 2021](#) by [David Shotton](#)

Guest blog post by Alberto Martín-Martín, Facultad de Comunicación y Documentación, Universidad de Granada, Spain <albertomartin@ugr.es>

In this post, as a contribution to [Open Access Week](#), Alberto Martín-Martín shares his comparative analysis of COCI and other sources of open citation data with those from subscription services, and comments on their relative coverage.

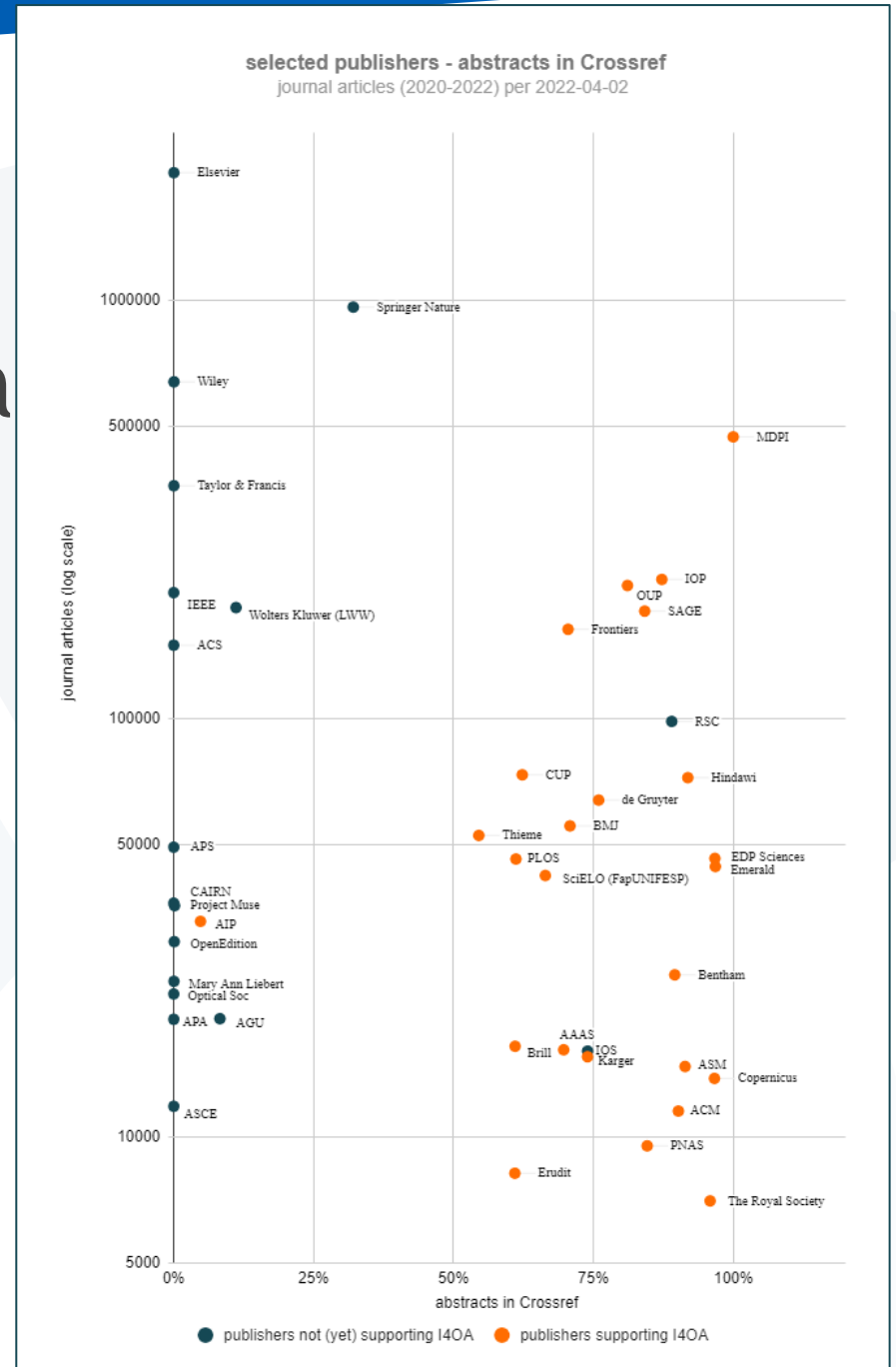
Initiative for Open Abstra

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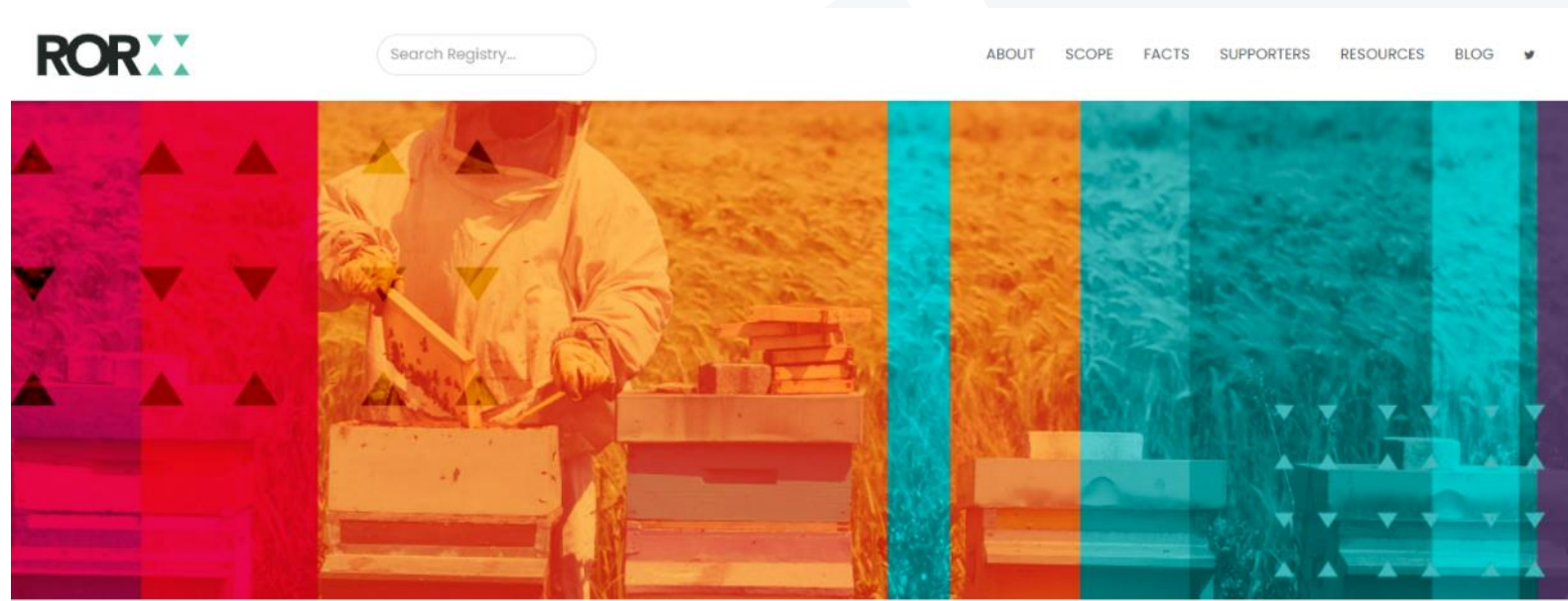
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Initiative for Open Abstracts

The **Initiative for Open Abstracts (I4OA)** is a collaboration between scholarly publishers, infrastructure organizations, librarians, researchers and other interested parties to advocate and promote the unrestricted availability of the abstracts of the world's scholarly publications, particularly journal articles and book chapters, in trusted repositories where they are open and machine-accessible. I4OA calls on all scholarly publishers to open the abstracts of their published works, and where possible to submit them to Crossref.



Research Organization Registry (ROR)



Welcome to the Research Organization Registry Community

ROR is a community-led project to develop an open, sustainable, usable, and unique identifier for every research organization in the world.

Open funding data

Funding Covid-19 research:
Insights from an exploratory analysis using open data infrastructures

Alexis-Michel Mugabushaka (<https://orcid.org/0000-0003-4624-568X>)¹

Nees Jan van Eck (<https://orcid.org/0000-0001-8448-4521>)²

Ludo Waltman (<https://orcid.org/0000-0001-8249-1752>)²

¹ European Commission, DG RTD, Unit G2¹

² Centre for Science and Technology Studies (CWTS), Leiden University, The Netherlands

Figure 7: Overlap of Crossref, Scopus, and WoS in terms of Covid-19 publications with funding data (considering only publications indexed in all three databases)

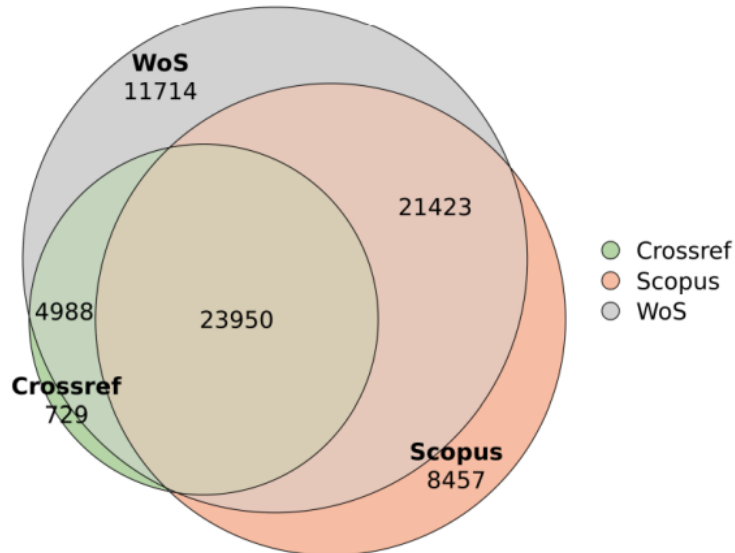
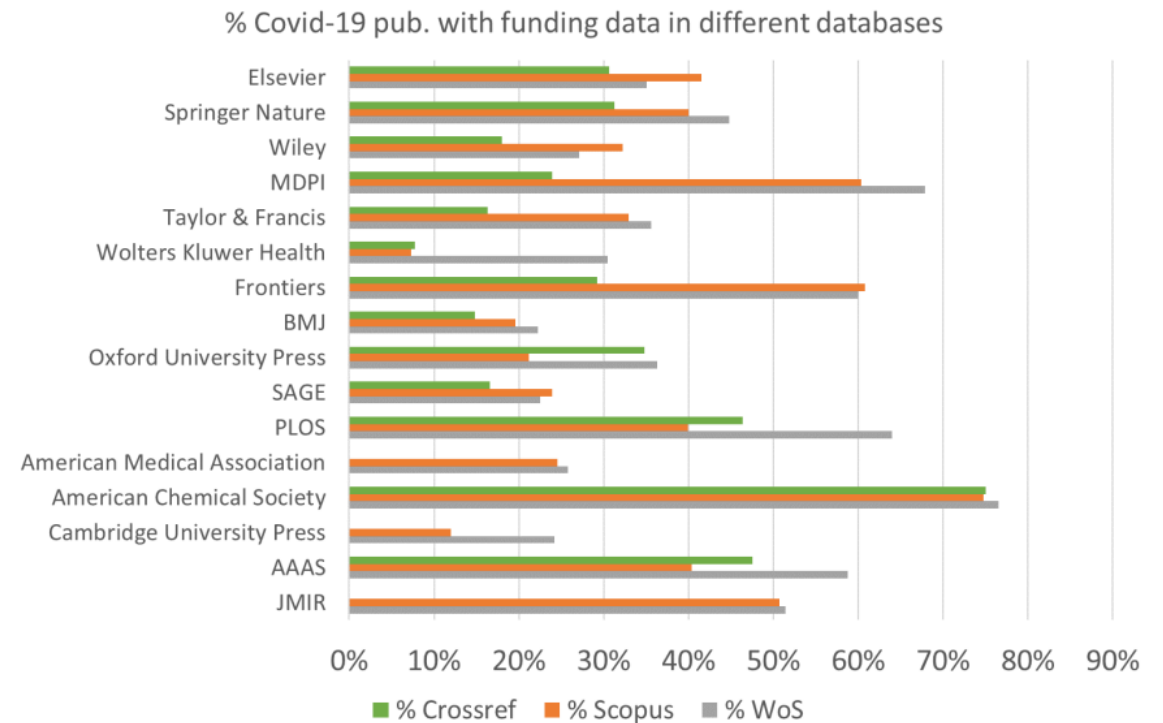


Figure 8: Percentage of Covid-19 publications with funding data, breakdown by publisher and database (considering only publications indexed in all three databases)

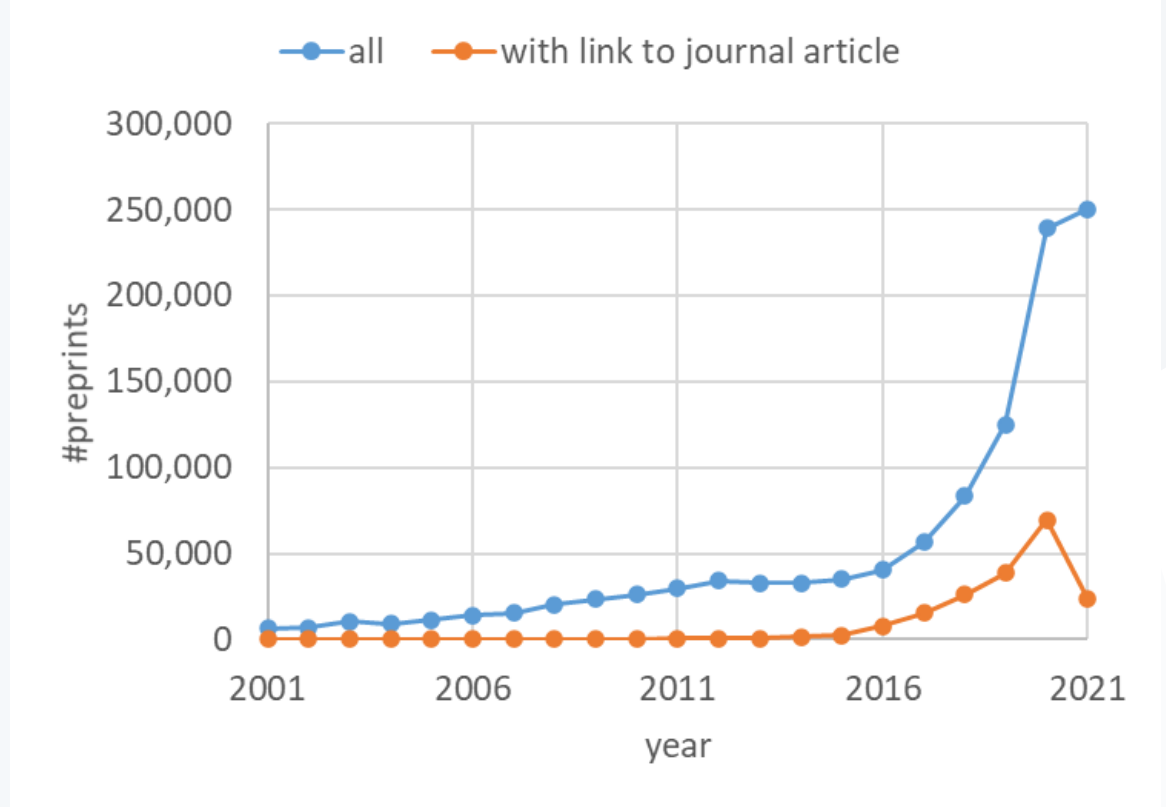


Keeping the scholarly record connected

Building Stronger Chains Together: Keeping Preprints Connected to the Scholarly Record

By MICHELE AVISSAR-WHITING | JUN 7, 2022 | 3 COMMENTS

AUTHORITY | INFRASTRUCTURE | PEER REVIEW | TECHNOLOGY



Participation Reports



Find a member

Learn more

Richer metadata makes content useful. **Make sure your work can be found.**

The Royal Society

7,625
Total registered content items

Content type: Journal articles



Reports 1 Journal articles 7,624

Journal articles

Search by title

Current content

References

96%

ORCID IDs

95%

Funder Registry IDs

75%

Funding award numbers

68%

Crossmark enabled

100%

Text mining URLs

100%

License URLs

100%

Similarity Check URLs

100%

Abstracts

95%

Participation Reports



Find a member

Learn more

Richer metadata makes content useful. **Make sure your work can be found.**

American Psychological Association (APA)

29,213
Total registered content items

Content type: Journal articles



Journal articles 20,729 Datasets 6,797 Books 136 Book chapters 1,551

Journal articles

Search by title

Current content

References

1%

ORCID IDs

66%

Funder Registry IDs

36%

Funding award numbers

27%

Crossmark enabled

1%

Text mining URLs

1%

License URLs

18%

Similarity Check URLs

75%

Abstracts

0%



Ludo Waltman
Professor of Quantitative
Science Studies

Open
Access



Findable
Accessible
Interoperable
Reusable

Publications should be FAIR

📅 October 26, 2020 • 📄 Opinion & Commentary • ⌚ 3 min read

Scholarly data sets are increasingly expected to be FAIR (findable, accessible, interoperable, and reusable). To fully realize the benefits of open access to the scholarly literature, Ludo Waltman argues that publications should be FAIR as well.

PID graphs



Introducing the PID Graph

Author: Martin Fenner (DataCite) & Amir Aryani (Swinburne University)

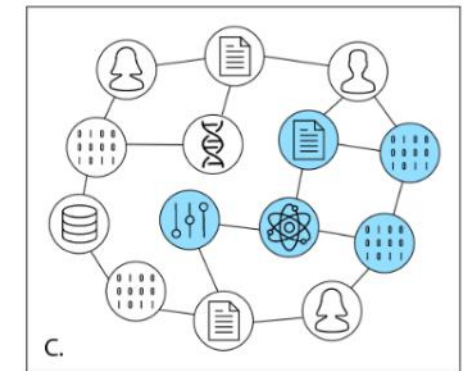
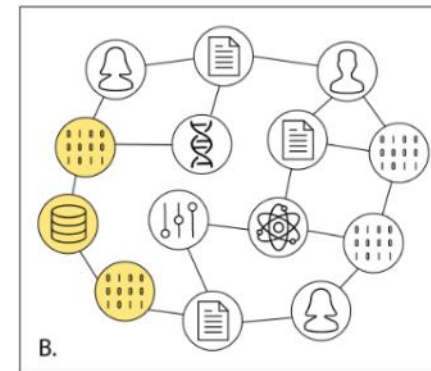
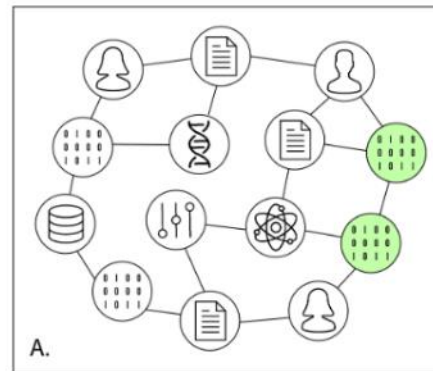
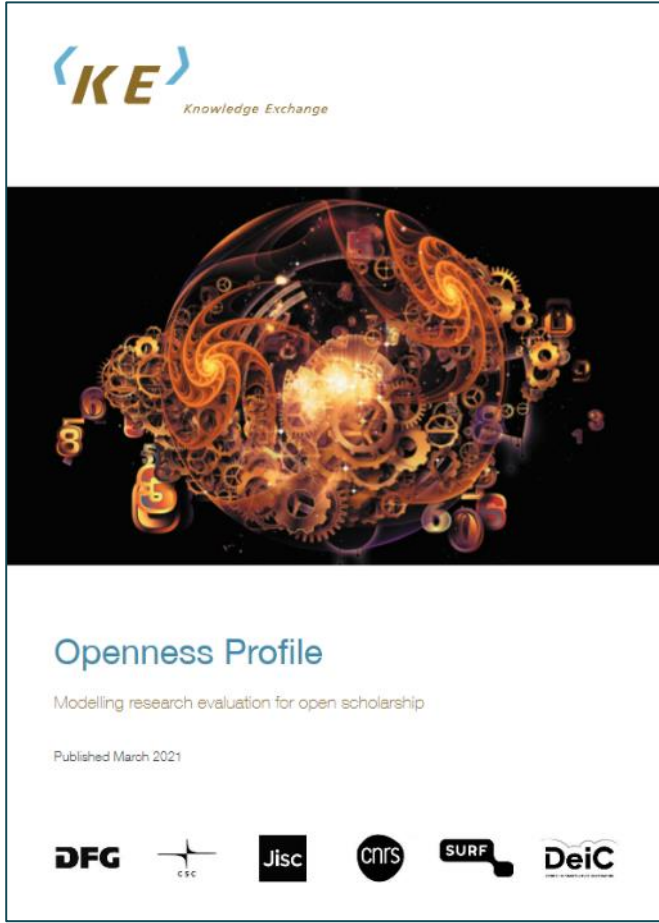


Fig 1. A schematic representation of the PID graph with digital objects connected by PIDs, showing three use cases: A: Different versions of software code, B: Datasets hosted by a particular repository, C: All digital objects connected to a research object.

Openness profiles



Openness Profile RAiD

Narrative: context/relevance

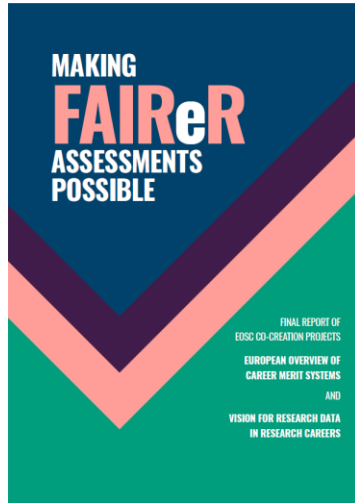
Contributions to Open Scholarship

- ported from ORCID record

 - structured content with PIDs
 - (DOI, ORG iD, Grant iD)
- manual entry, text + URL

 - without PIDs (events, blog posts, etc.)
- manual entry, descriptive text

 - for items without PID or URL
 - see OS-CAM for examples



STEPS FOR REALISING THE VISION FOR FAIRer ASSESSMENTS

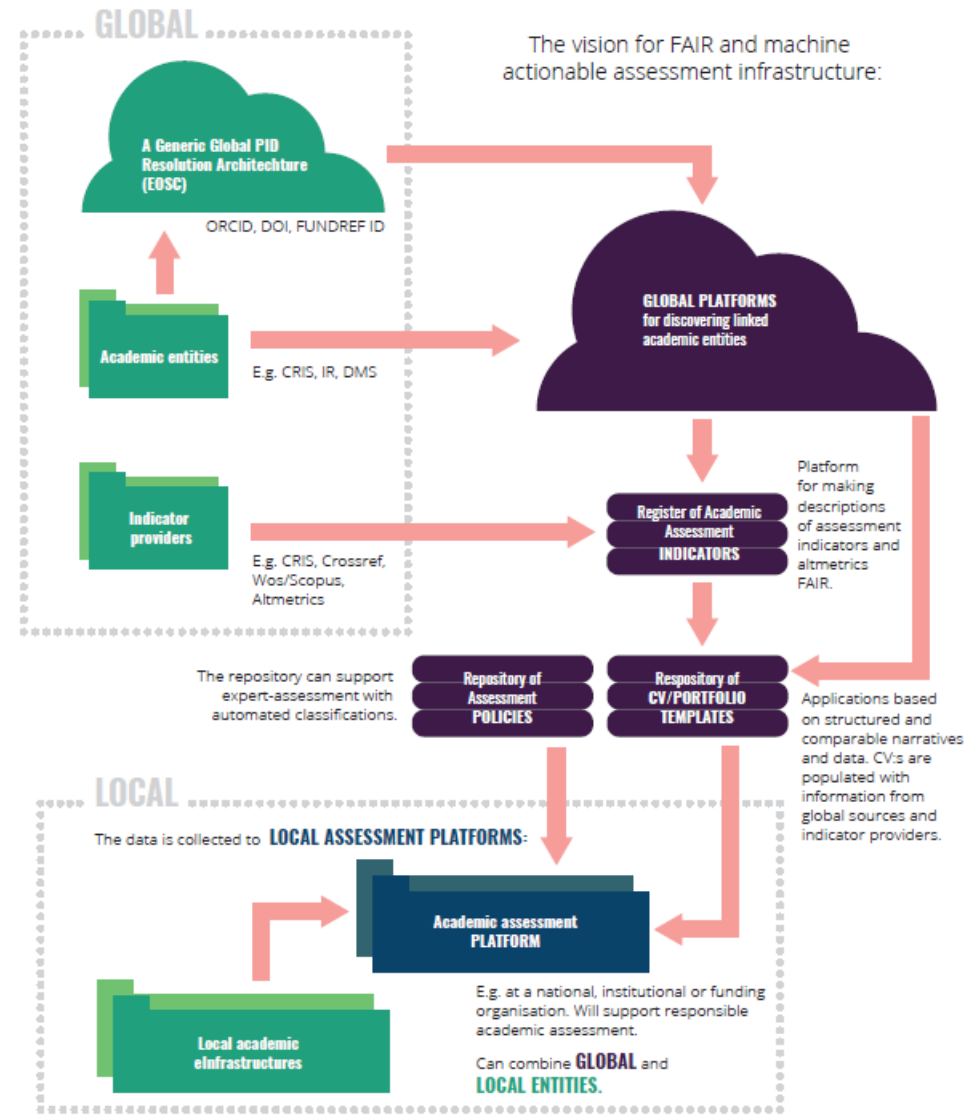


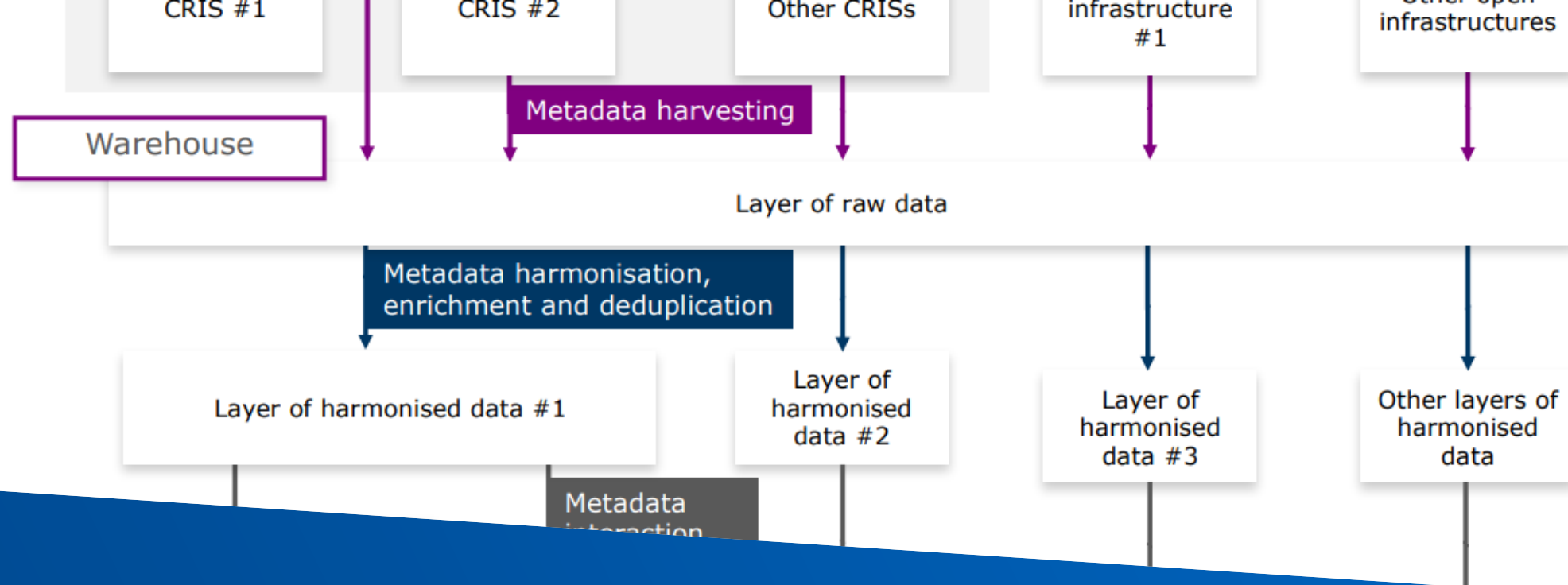
FAIRer ACADEMIC ASSESSMENTS

<p>Recognise and value diversity and disciplinary differences of academic work</p> <ul style="list-style-type: none"> ◆ Outputs ◆ Missions ◆ Impacts 	<p>Diversity needs to be represented in information supporting assessment</p> <ul style="list-style-type: none"> ◆ Data models and structures ◆ FAIR and transparent data ◆ Integrated eInfrastructure 	<p>Diversity of outputs, activities and missions need to be included among assessment criteria</p> <ul style="list-style-type: none"> ◆ Recruitment ◆ Promotion ◆ Funding
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TECHNICAL VISION OF THE FAIRer ASSESSMENT eINFRASTRUCTURE

◆ ALREADY EXISTING PLATFORMS ◆ RESEARCH INFRASTRUCTURE ECOSYSTEM ◆ LOCAL ASSESSMENT PLATFORMS





Open Research Information: Dutch Open Knowledge Base

Open Working

Open Working from 4TU.ResearchData & TU Delft Library (Since 2017)

HOME

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DATA CHAMPIONS

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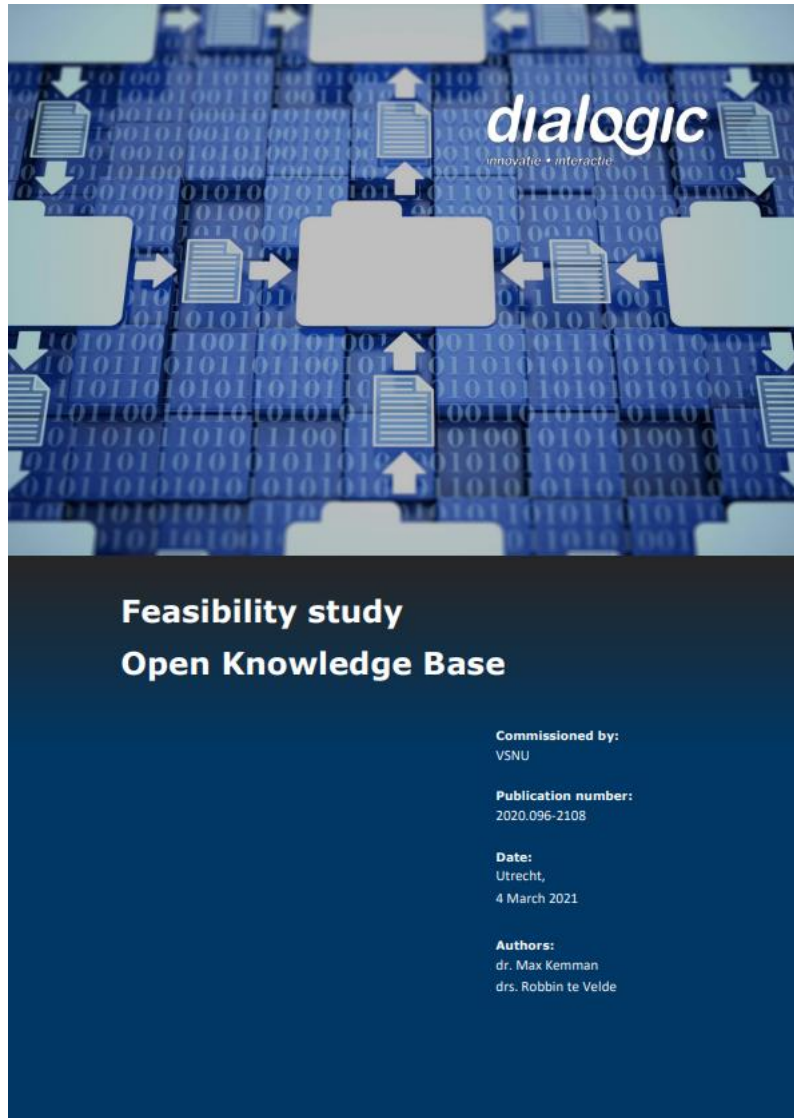
MAY 29, 2020

What is an Open Knowledge Base anyway?

The recent contract signed between the Dutch research institutions and the publishers Elsevier mentions the possibility of an Open Knowledge Base (OKB), but the details are vague. This blog post looks some more about definitions of an OKB within the context of scholarly communications and elements that need to be taken into account in building one.

Readers may also be interested in [contributing to the consultation](#) that is being run as part of the [Dutch Taskforce on Responsible Management of Research Information and Data](#). The VSNU will also be commissioning a feasibility study on the topic.

Authors: Alastair Dunning, Maurice Vanderfeesten, Sarah de Rijcke, Magchiel Bijsterbosch, Darco Jansen (all members of above taskforce)



An Open Knowledge Base for the Netherlands

Report of a Community Workshop

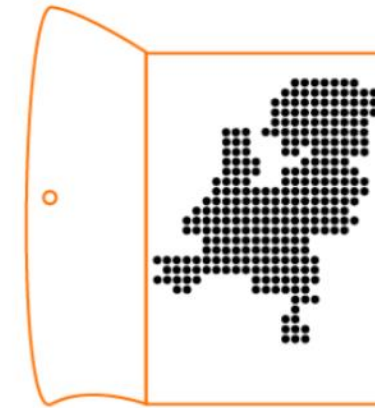
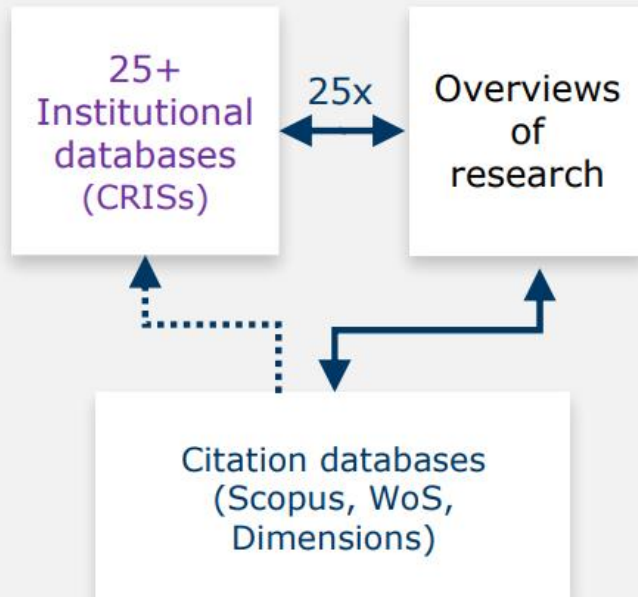
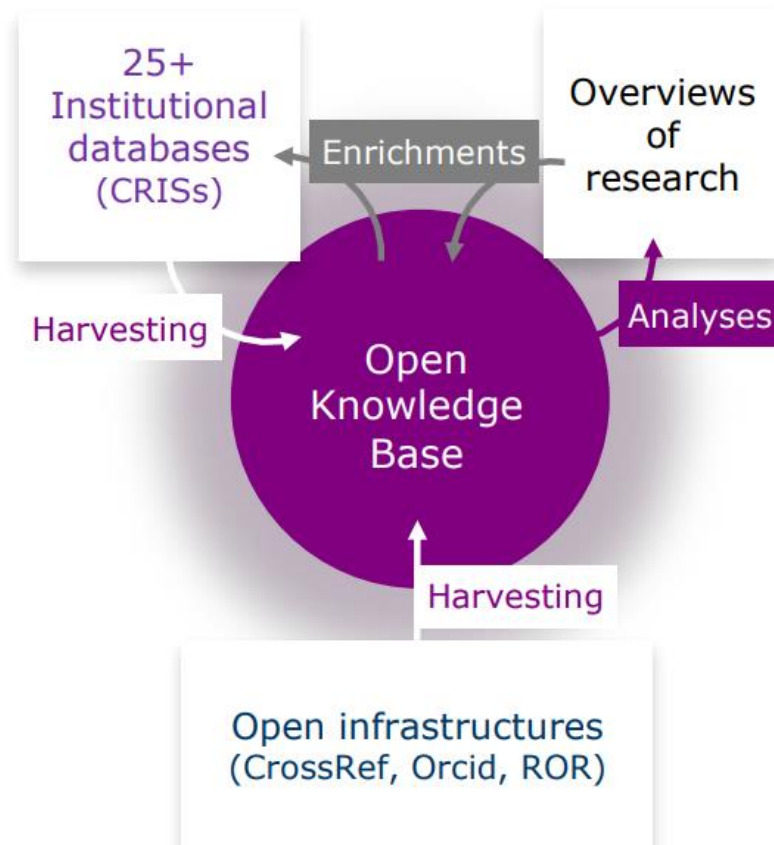


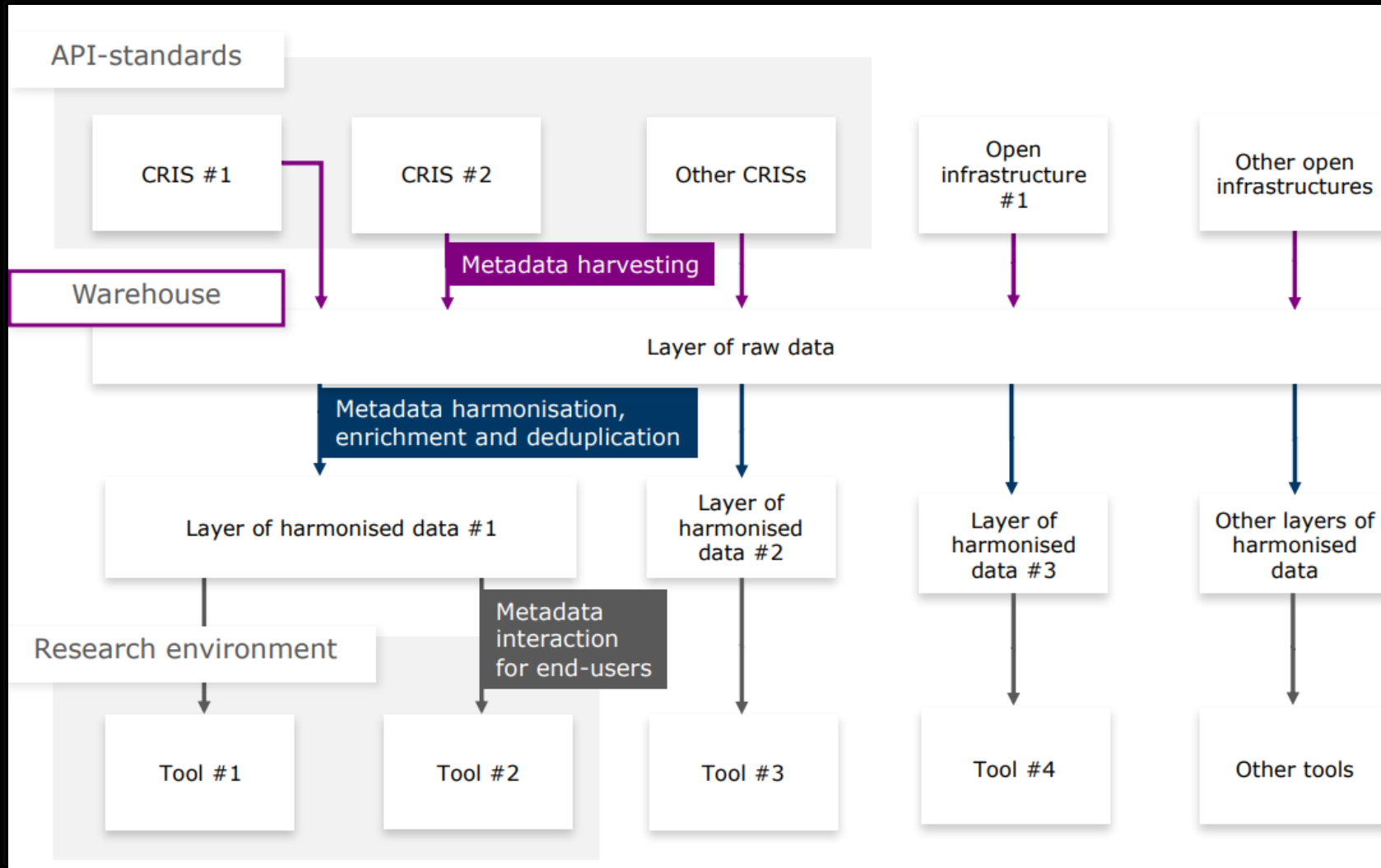
Image adapted from original by Fien Robbe at the Noun Project under a CC BY License

Current situation



Proposal





Three models for an Open Knowledge Base

API-standards model

Standards and guidelines of metadata that each organization should provide through an openly available API

Warehouse model

Centralized data warehouse where metadata is collected from API-endpoints and other endpoints and other open infrastructures, and is deduplicated and harmonized

Research environment model

Expansion of the warehouse model with the addition of research intelligence services and tools that demonstrate the utility of the data stored in the OKB

Seven Guiding Principles for Open Research Information



Open Research Information:
Guiding principles

Seven Guiding Principles for Open Research Information



Magchiel Bijsterbosch (SURF)
Alastair Dunning (Delft University of Technology)
Darco Jansen (Universiteiten van Nederland, UNL)
Max Haring (University of Amsterdam)
Sarah de Rijcke (Leiden University)
Maurice Vanderfeesten (Vrije Universiteit Amsterdam)

February 2022

Introduction

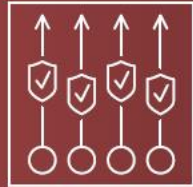
Picture this:

- A postdoctoral researcher in marine biology is hired on the basis of her impressive h-index and citation count;
- A university committee decides which NWO Gravity proposal to submit, based on a predictive analytics tool that utilises global trends in grant awards;
- A government panel for the Dutch *Nationaal Groeifonds* makes its selection based on metrics provided by a commercial company;
- A journal editor publishes controversial research, hoping to raise the impact factor of her journal.

But what if not all publishing venues for marine biology are equally well covered by the underlying data sources? And what if her high scores resulted from choosing a large commercial publisher over an academic society to publish the work? And how about potential biases included in the algorithms that shaped the decision of the university committee? And did the metrics of the commercial company

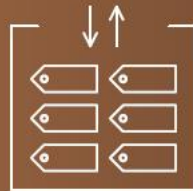
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GP1.
Trusted and
transparent provenance



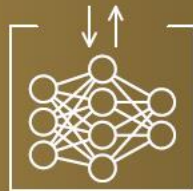
“Within any infrastructure or service for research metadata, the provenance of the metadata, and the related algorithms, must be clear.”

GP2.
Openness
of Metadata



“Knowledge institutions must release metadata related to research output as openly as possible, ideally as CC0.”

GP3.
Openness
of Algorithms



“Algorithms and other techniques and methodology used to analyse and report on scholarly outputs must be available for public inspection.”

GP4.
Enduring access
and availability



"Knowledge institutes and third-party services must facilitate complete, non-discriminatory and enduring access to primary metadata and enriched metadata without functional, technical, legal, or financial limitations."

GP5.
Open Standards
& Interoperability



"All stakeholders must agree to work towards common definitions and open standards for exchanging and describing both metadata and algorithms."

GP6.
Open collaboration
with Third parties

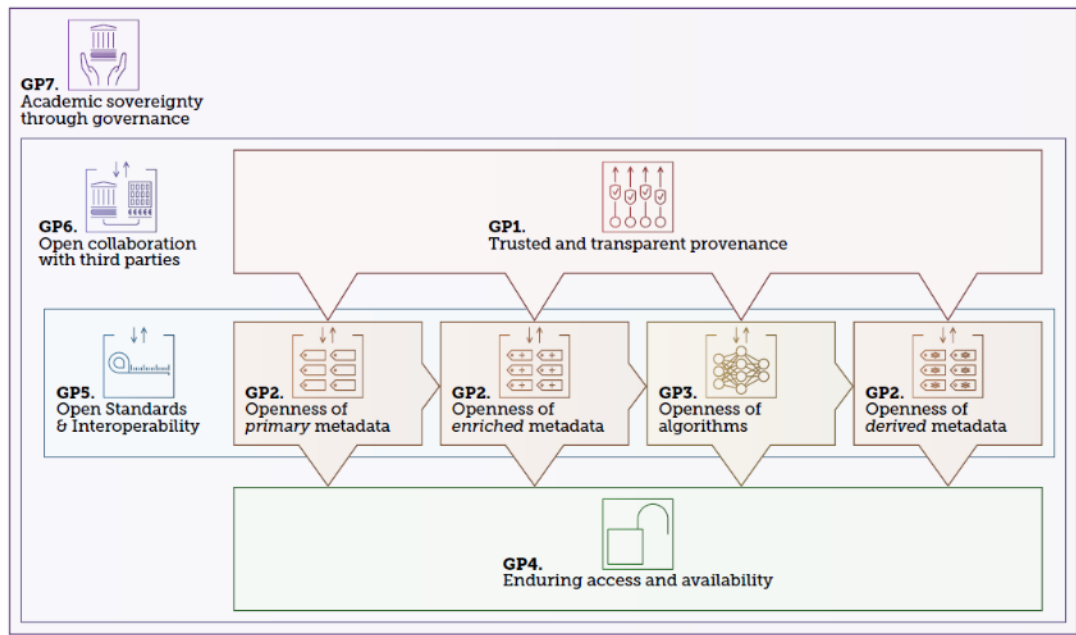


"Knowledge institutions and third parties must engage in open collaboration where innovation, competition, and public value are recognised and respected cornerstones."



GP7.
Academic sovereignty
through governance

“A suitable governance structure must be established in order to fully implement the principles, and to ensure that stakeholders remain engaged and share accountability towards the community goals and values.”



c o n c l u s i o n



Conclusions and recommendations

Conclusions and recommendations

- Recognize the crucial role of **open research information** in the transition toward more responsible research assessment practices
- Take advantage of **infrastructures for open research information** and actively support the further development of these infrastructures
- Adopt **guiding principles for open research information** to make sure you stay on track

THANK

YOU



Thank you for your attention!