Open Data

the researcher perspective

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Národný workshop OpenAIRE
24 October 2018
Bratislava, Slovakia

Data sharing is important for science and society

nature International weekly journal of science

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announces.

THE LANCET

Volume 383, Issue 9913, 18–24 January 2014, Pages 257–266

Series

Increasing va
research

Dr An-Wen Chan, DPH
Prof Kay Dickersin, P
Ghersi, PhD, H Bart

Schizophrenia Research

Volume 163, Issues 1–3, April 2015, Pages 38–46

Endophenotypes in Schizophrenia

ELSEVIER

Attention/vig
a large multi
Schizophren

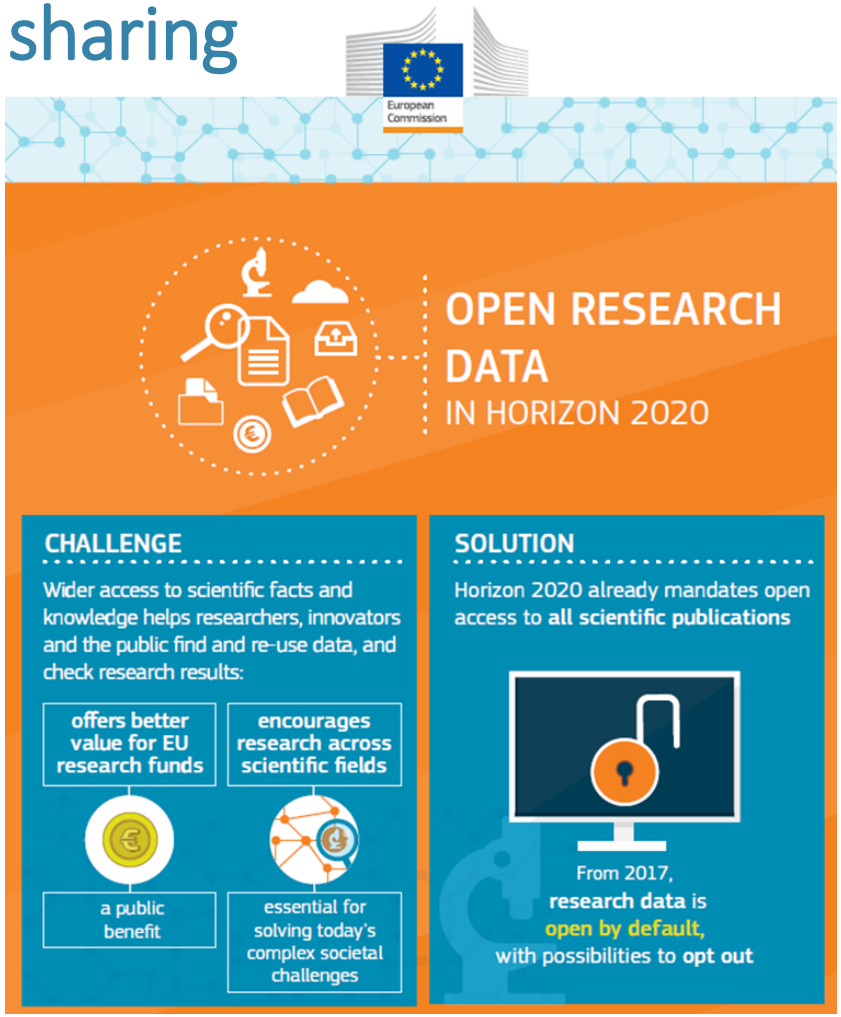
OPINION

The delay in sharing research data is costing lives

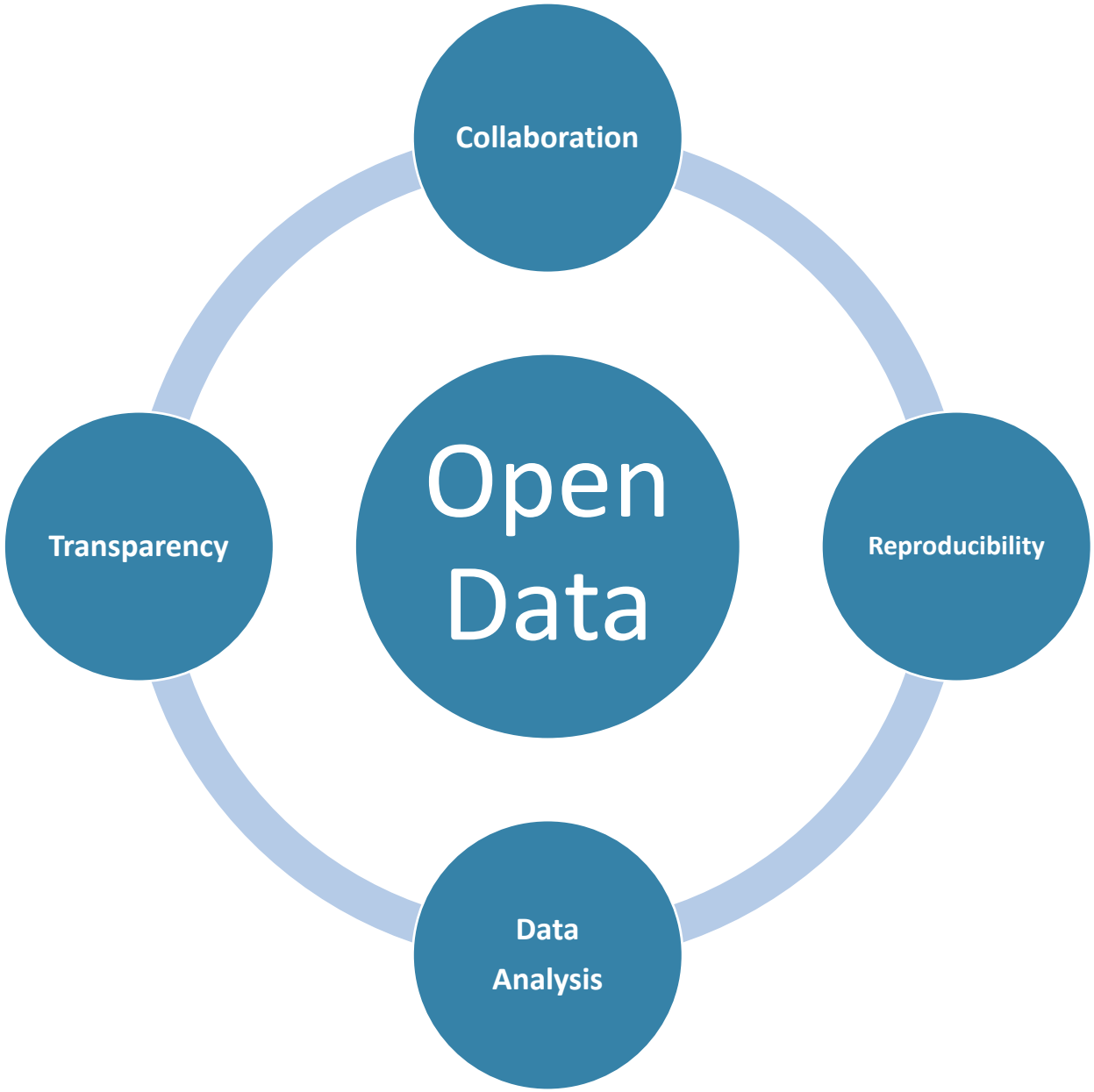
Josh Sommer

It is not uncommon for potentially life-saving research data to be published years after being generated. But the setback to progress caused by the delay in releasing data is troublesome for people who selflessly participate in trials and desperately await new therapies. Scientists need to feel greater urgency to share their findings quickly, and they need additional avenues to facilitate this process.

Funders, associations, and institutes increasingly require data sharing



"as open as possible, as closed as necessary"


Collaboration
Transparency
Open Data
Reproducibility
Data Analysis

Agenda

- Introduction to Elsevier
- Open Data – a small window on Slovakia
- Open Data – the researcher’s perspective
- Open Science Monitor
- Mendeley Data

Our mission
Lead the way in advancing science, technology and health

We support **researchers**	‘This is the most relevant new research in your area’
We support **governments**	‘This research will improve your competitiveness’
We support **pharmaceutical companies**	‘This cancer treatment looks promising’
We support **clinicians**	‘You could use this treatment to save a life’
We support **nursing students**	‘This is the area you need to improve to qualify’

Elsevier has a unique vantage point on the world of research

Primary publishing

Each year

- 1.4 million article manuscripts received by ~2,500 journals (all offer Open Access options)
- 400,000 new articles published, in addition to 14M existing articles
- 2,000 new books published

Derived and aggregated data

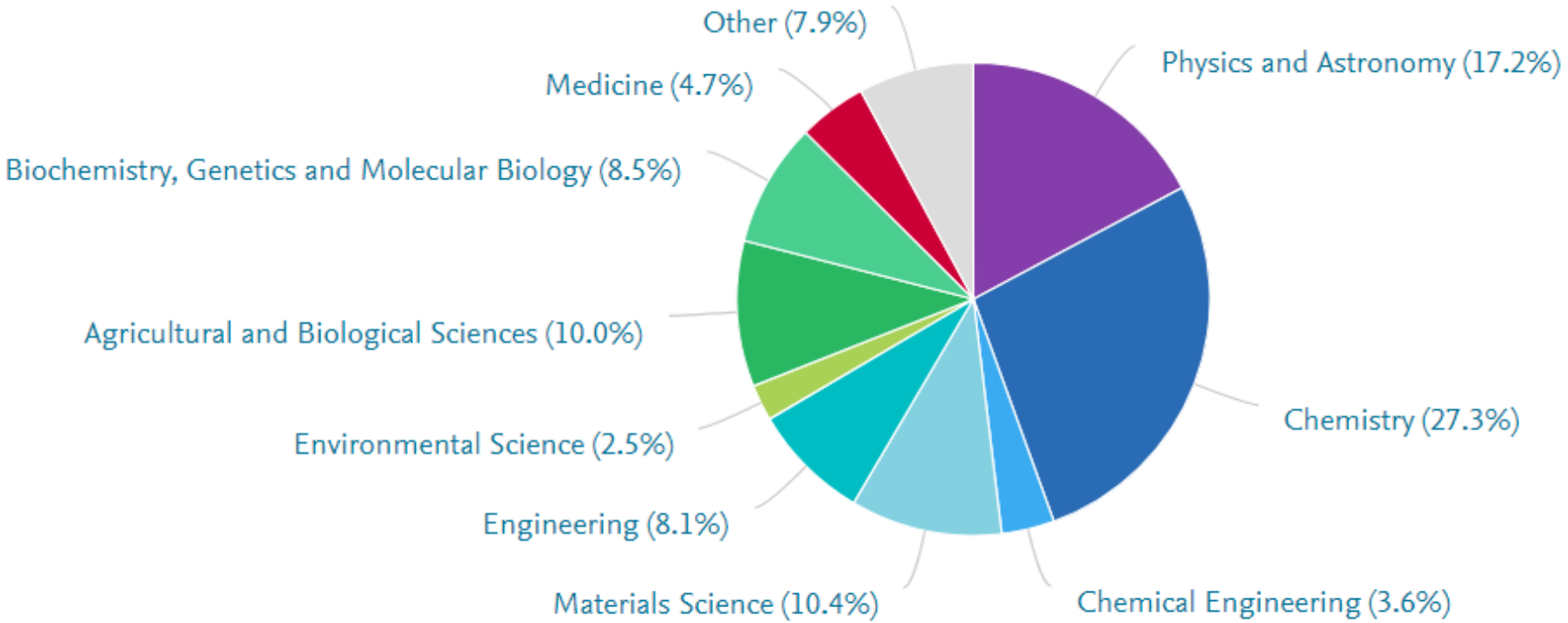
- ScienceDirect: 14M articles, ~900M digital article downloads
- Scopus: 60+M records, 22,800 titles, 5,000 publishers, 1.4B citations (back to 1970)
- SciVal: 170+ trillion metrics values
- Pure: current research information system: >200,000 researchers supported
- Mendeley: 5M users globally
- Grants:7,000 sponsors, 20,000+ active opportunities, ~5M awarded grants
- Patents: >93m records, 100 patent offices

Agenda

- Introduction to Elsevier
- **Open Data – a small window on Slovakia**
- Open Data – the researcher's perspective
- Open Science Monitor
- Mendeley Data

Research Data Management best practices in Slovakia

- We have checked publications from Slovakia from 2013 to date in Scopus
- Of 33,364 publications (with a DOI), 646 (~2%) are linked to 1,215 datasets, according to Scholix



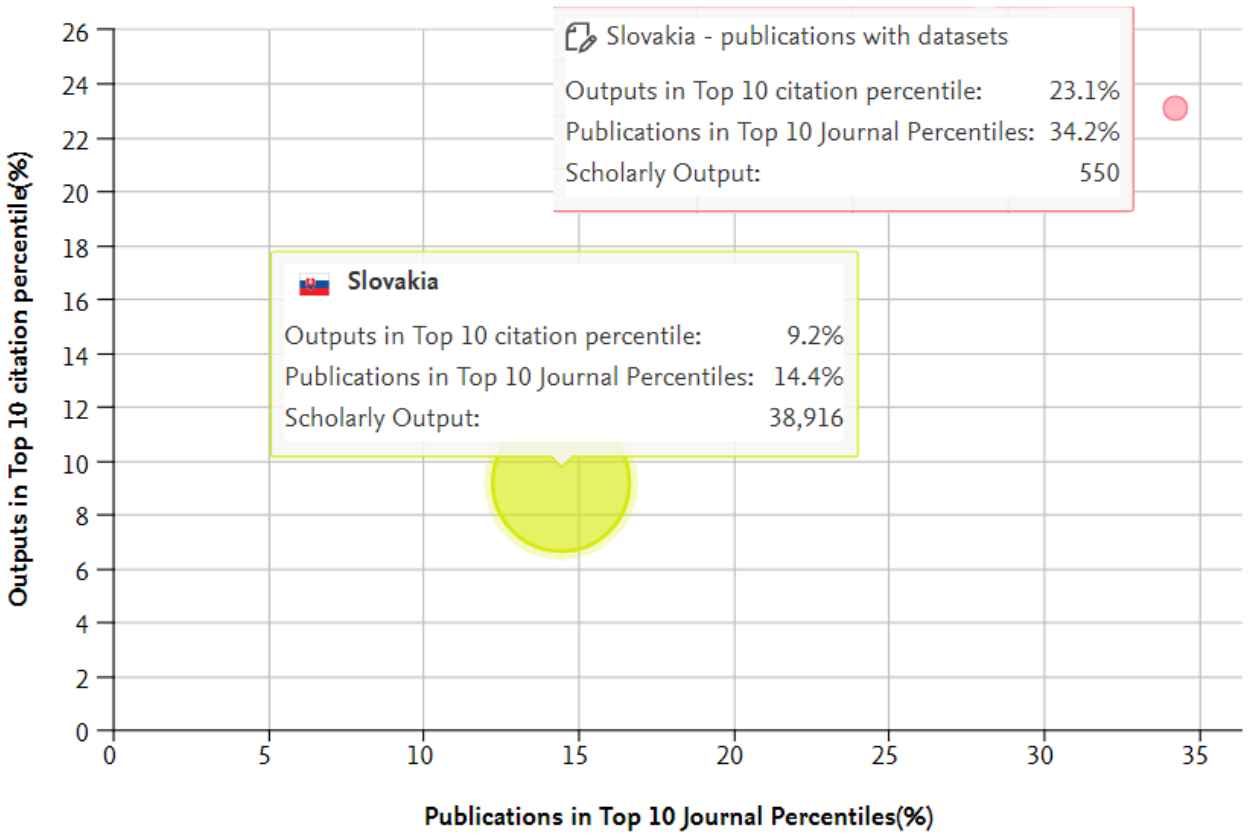
Source: Scopus, Scholix, data extracted on October 9, 2018

The impact of RDM best practices on publications

y-axis: Outputs in Top Citation Percentiles

x-axis: Publications in Top Journal Percentiles

Bubble size: Scholarly Output

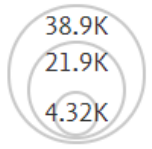


Publication Sets

Slovakia - publications with datasets

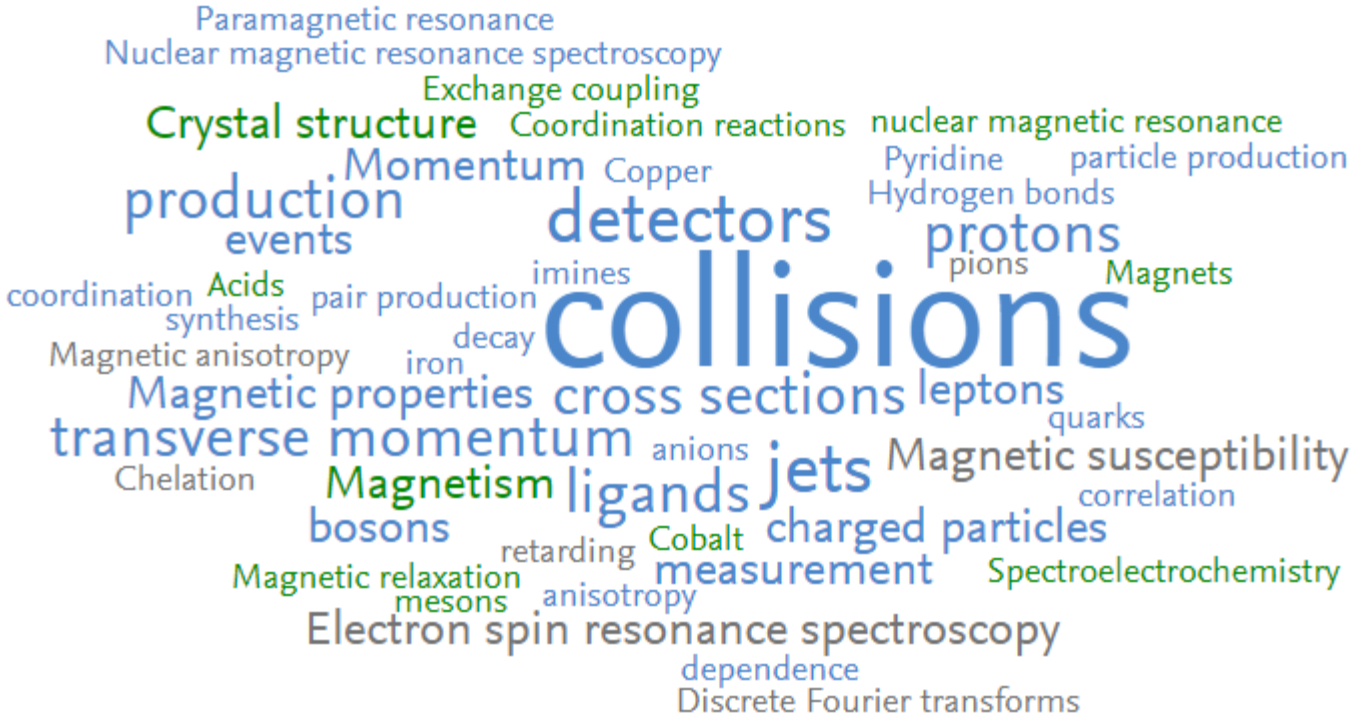
Countries and Groups

Slovakia



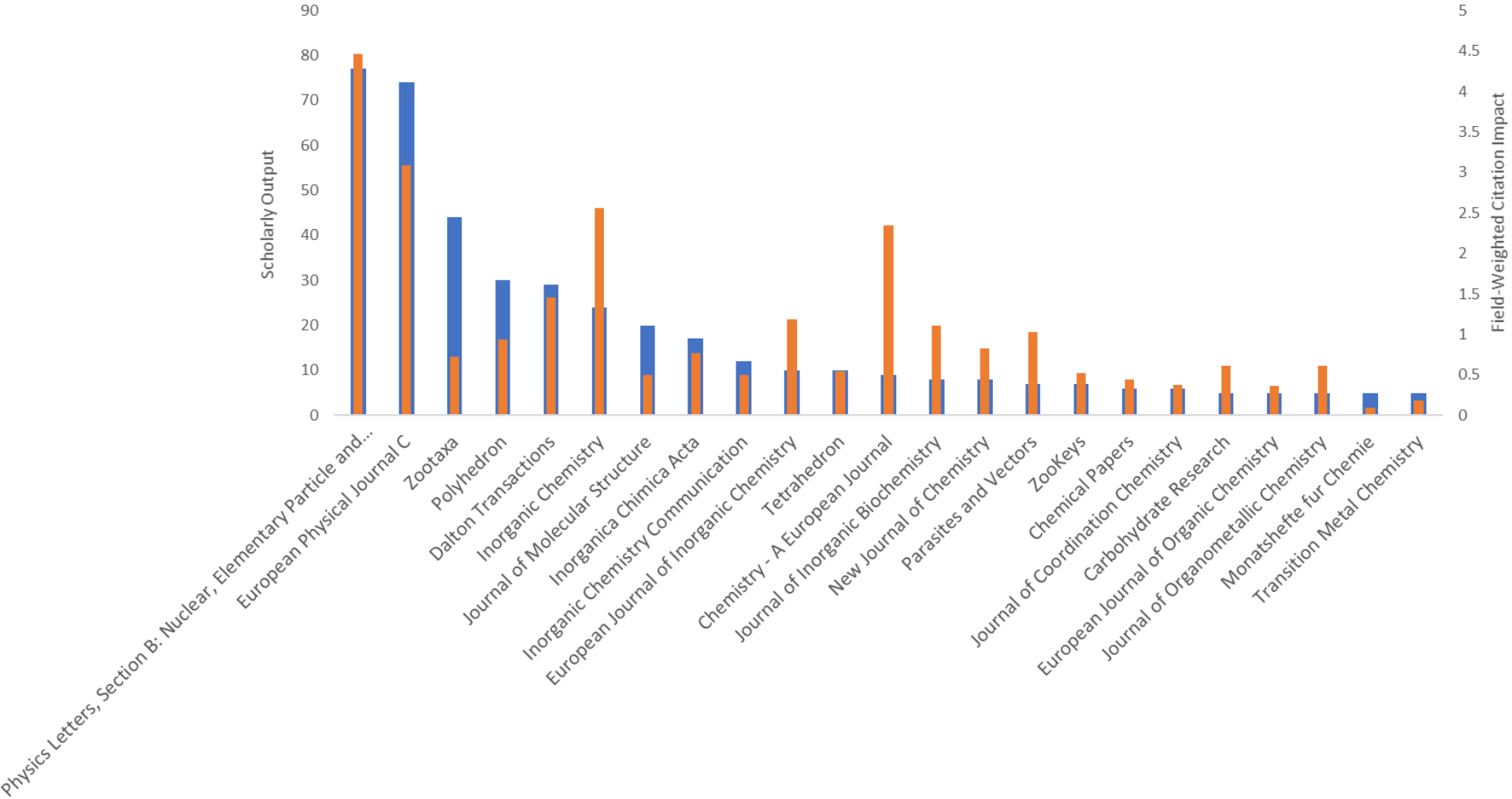
Source: SciVal, data extracted on October 9, 2018

Top keywords in articles linked to datasets



Source: SciVal, data extracted on October 9, 2018

Top journals by frequency of articles with datasets



Source: SciVal, data extracted on October 9, 2018

Top institutions in Slovakia by RDM best practices adoption

	Institution	Scholarly Output	Views Count	Field-Weighte...	Citation Count
1.	Slovak Academy of Sciences	262	20,737	2.74	6,379
2.	Comenius University	260	21,473	2.54	5,865
3.	P. J. Safarik University	150	11,343	2.46	3,376
4.	Slovak University of Technology	144	5,763	0.80	767
5.	Technical University of Kosice	32	3,436	2.67	408
6.	University of SS Cyril and Methodius, Trnava	29	1,388	1.17	393
7.	Technical University in Zvolen	9	697	3.83	423
8.	University of Trnava	8	290	1.17	38
9.	Veterinary University Medicine in Kosice	8	204	0.80	16
10.	University of Presov in Presov	7	88	1.31	48
11.	Constantine the Philosopher University	6	353	1.01	36
12.	Matej Bel University	4	59	0.44	5
13.	Slovak Medical University	4	109	0.26	6

Source: SciVal, data extracted on October 9, 2018

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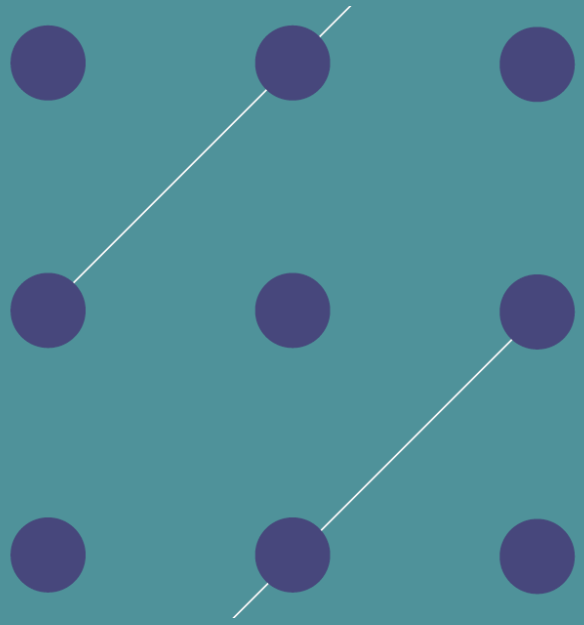
www.elsevier.com/about/open-science/research-data/open-data-report

OPEN DATA

THE RESEARCHER PERSPECTIVE



Stephane Berghmans
Helena Cousijn
Gemma Deakin
Ingeborg Meijer
Adrian Mulligan
Andrew Plume

Alex Rushforth
Sarah de Rijcke
Clifford Tatum
Stacey Tobin
Thed van Leeuwen
Ludo Waltman

CWTS Meaningful metrics

ELSEVIER

Universiteit Leiden

April 2017

Research Questions – *the researcher's perspective?*

1. How are researchers sharing data?
2. Do researchers themselves actually want to share data and/or reuse shared data?
3. Why might researchers be reticent to share their own data openly?
4. What are the effects of new data-sharing practices and infrastructures on knowledge production processes and outcomes?

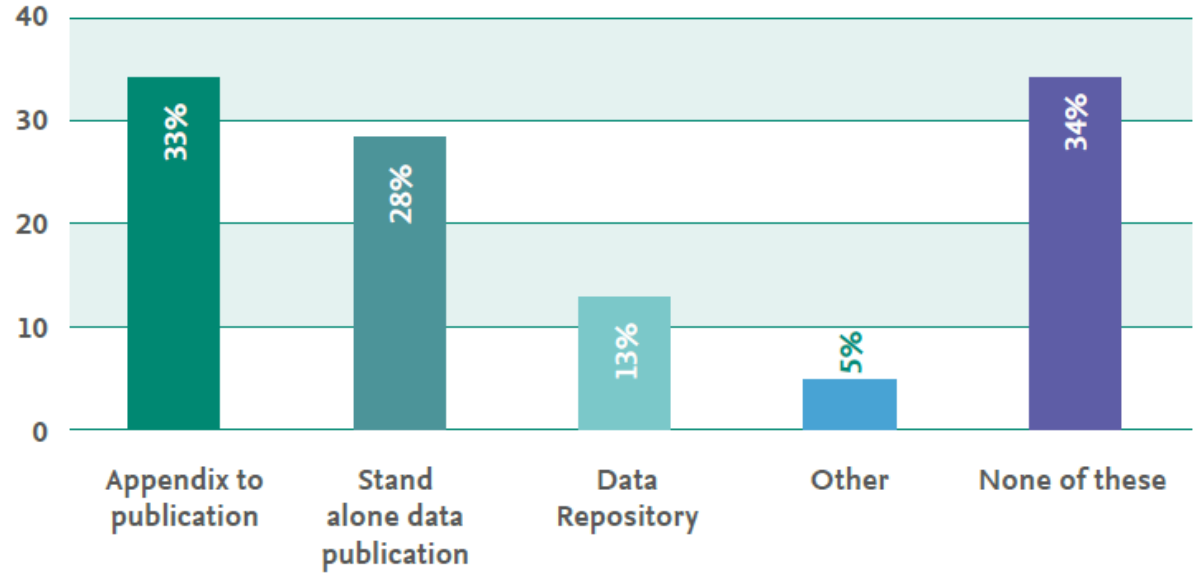
Complementary methods approach

Large-scale global survey

- How is data shared?
- How is data managed?
- How do researchers perceive data sharing?
- How do researchers perceive reusability?

A third of respondents do not publish research data

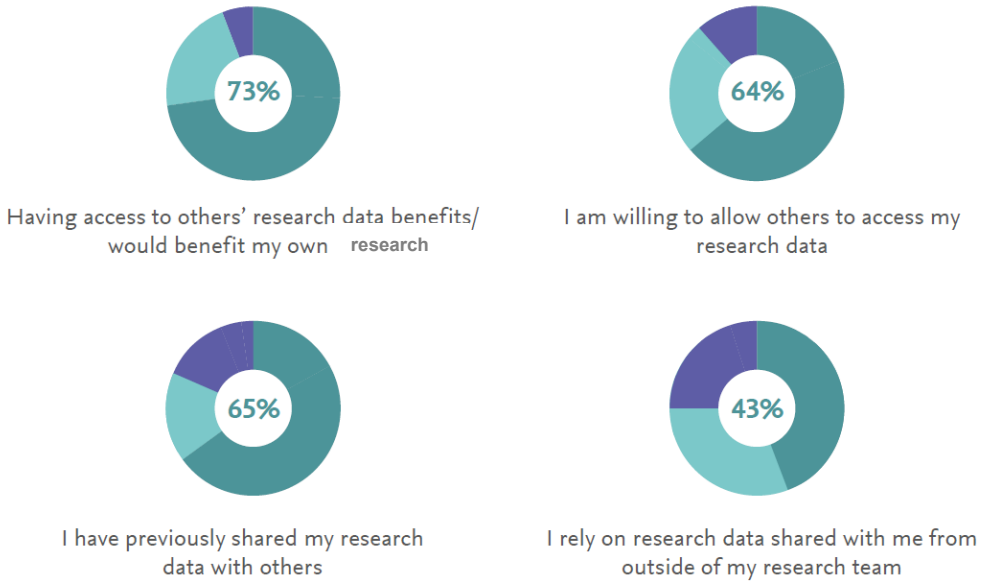
Figure 1. Dissemination of research data (%, n=1162)



Q: Have you published the research data that you used or created as part of your last research project in any of the following ways?
Note: placing data in a repository is counted as publication

The benefits of sharing research data are clear…

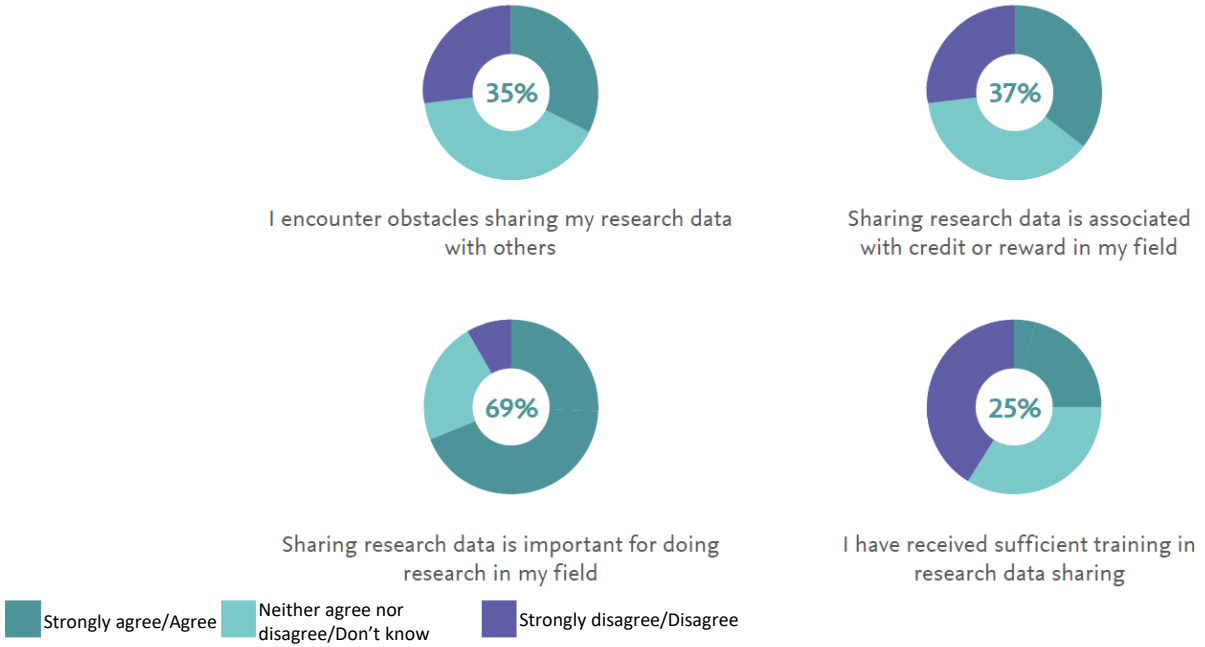
Figure 2. Attitudes towards sharing of research data (%, n=1162)



Q: To better understand your attitudes towards research data access, please think about the research data that typically is not published (e.g. not summary charts, tables or images), and indicate how much you agree or disagree with the following statements.

...but obstacles remain

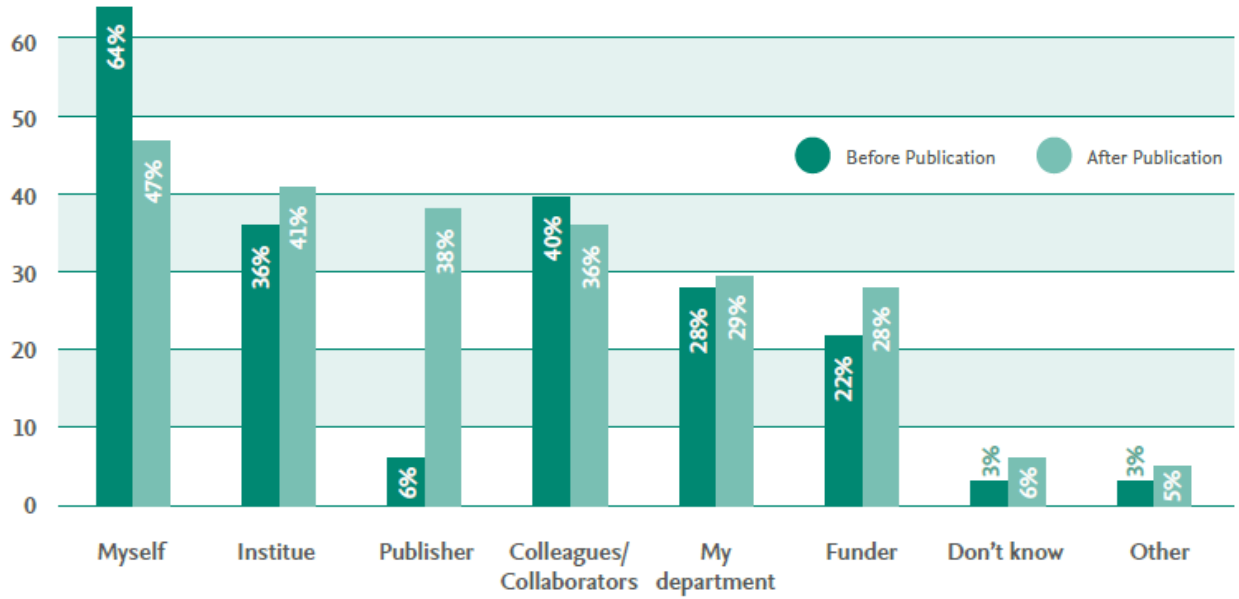
Figure 2. Attitudes towards sharing of research data (%, n=1162)



Q: To better understand your attitudes towards research data access, please think about the research data that typically is not published (e.g. not summary charts, tables or images), and indicate how much you agree or disagree with the following statements.

Whose data is it anyway?

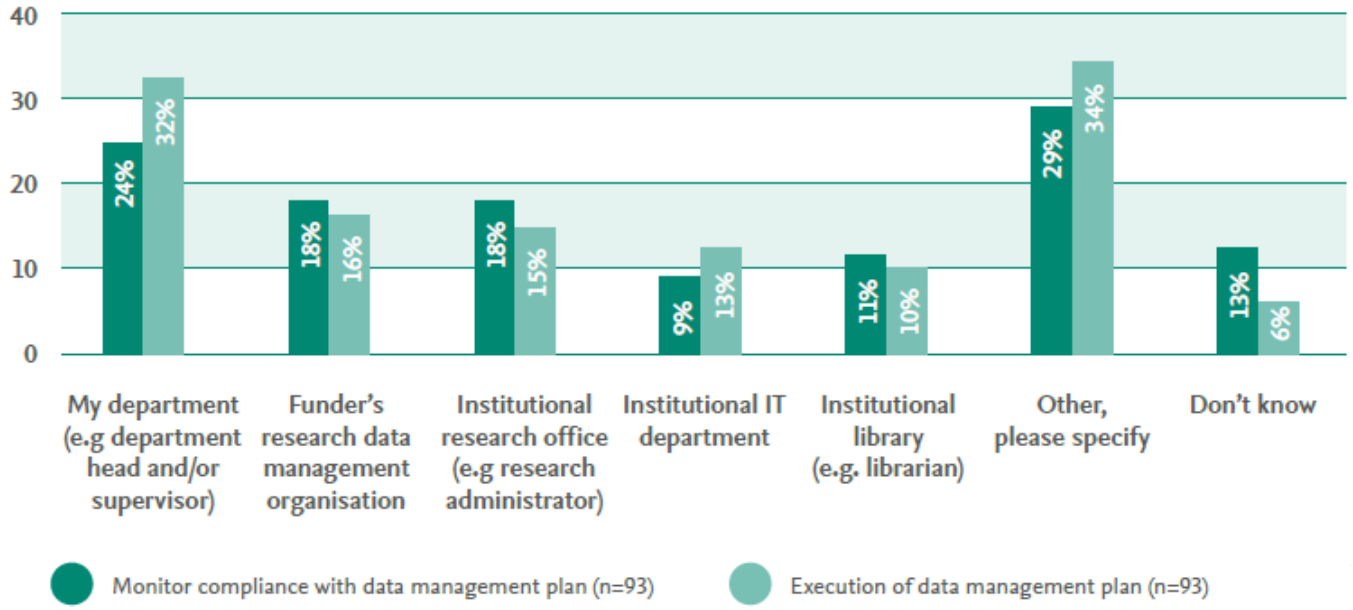
Figure 3. Research data ownership before and after publication (%, n=1162)



Q: Who do you believe 'owns' the research data that you have made or will make available to others as part of your last research project?

Who is responsible for acting on data management plans?

Figure 4. Execution and monitoring of research data management (%)



Q: *[Respondents indicated they are mandated to archive your research data and are provided with a research data management plan to follow.]* Who is responsible for the execution of the research data management plan? Who is responsible for monitoring compliance of the research data management plan?

Insights from large-scale global survey

Key findings:

- Dissemination of data is primarily contained within the current publishing system, even though one third of the researchers do not publish their data at all.
- Data management requires significant efforts; training and resources are required.
- Open data mandates from funders or publishers are not perceived as a driving force to improving data management training or planning.
- Research data is perceived as personally owned and decisions on sharing are driven by researchers, not by institutes or funders.
- Researchers have little awareness of reuse licenses and proper attribution, thereby making it less rewarding to make data reusable.

Researchers see data sharing as important…
but are not always in a position to put it in practice

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Open Science Monitor

Mendeley Data

Open Science Monitor

Tracking trends for open access, collaborative and transparent research across countries and disciplines

The Open Science Monitor aims to:

- provide data and insight to understand the development of open science in Europe
- gather the most relevant and timely indicators on the development of open science in Europe and other global partner countries

It will also support European Commission initiatives such as the Open Science Policy Platform and the European Open Science Cloud.

Study Coordination: david.osimo@lisboncouncil.net
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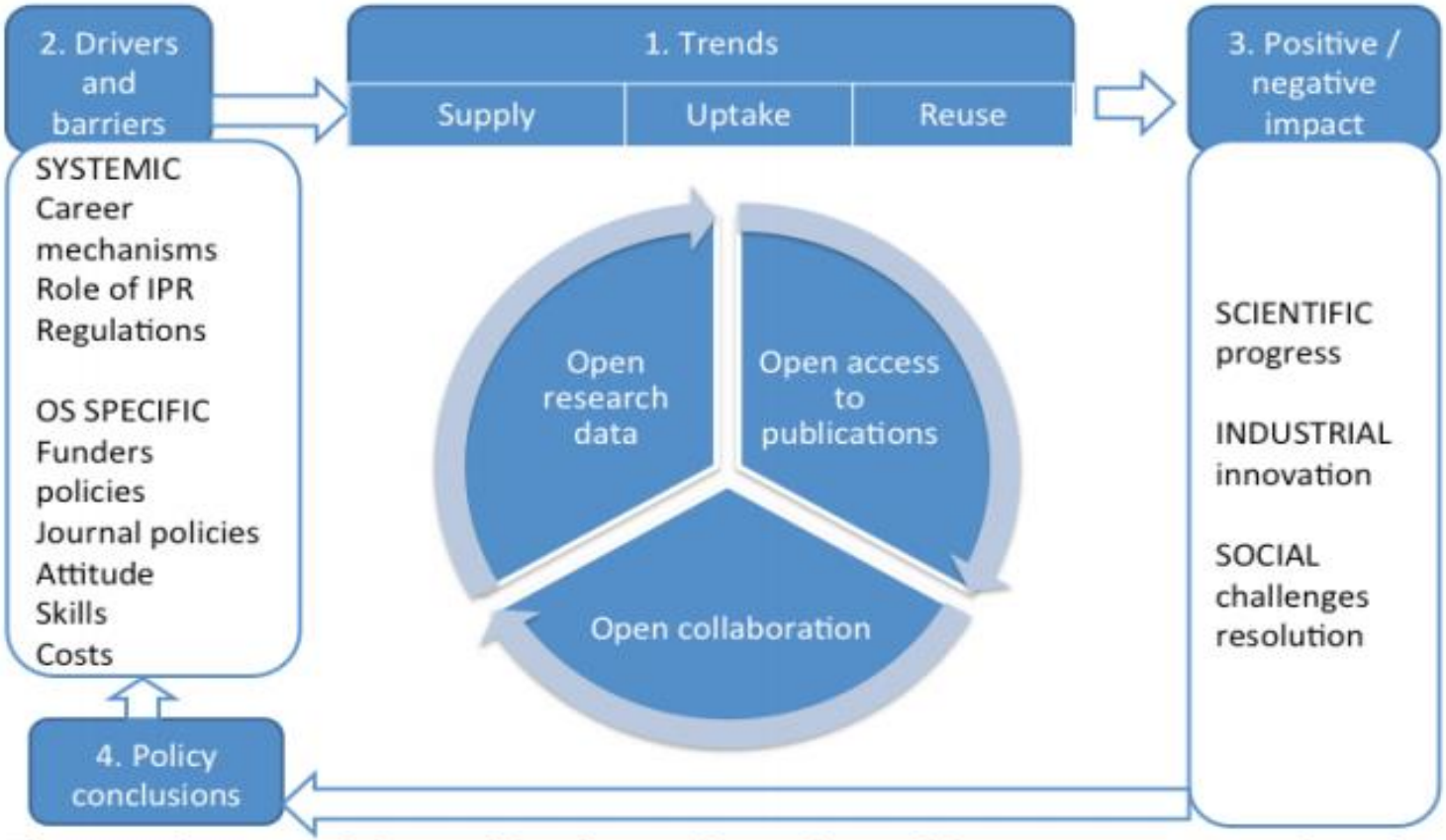
thelisboncouncil

Objectives

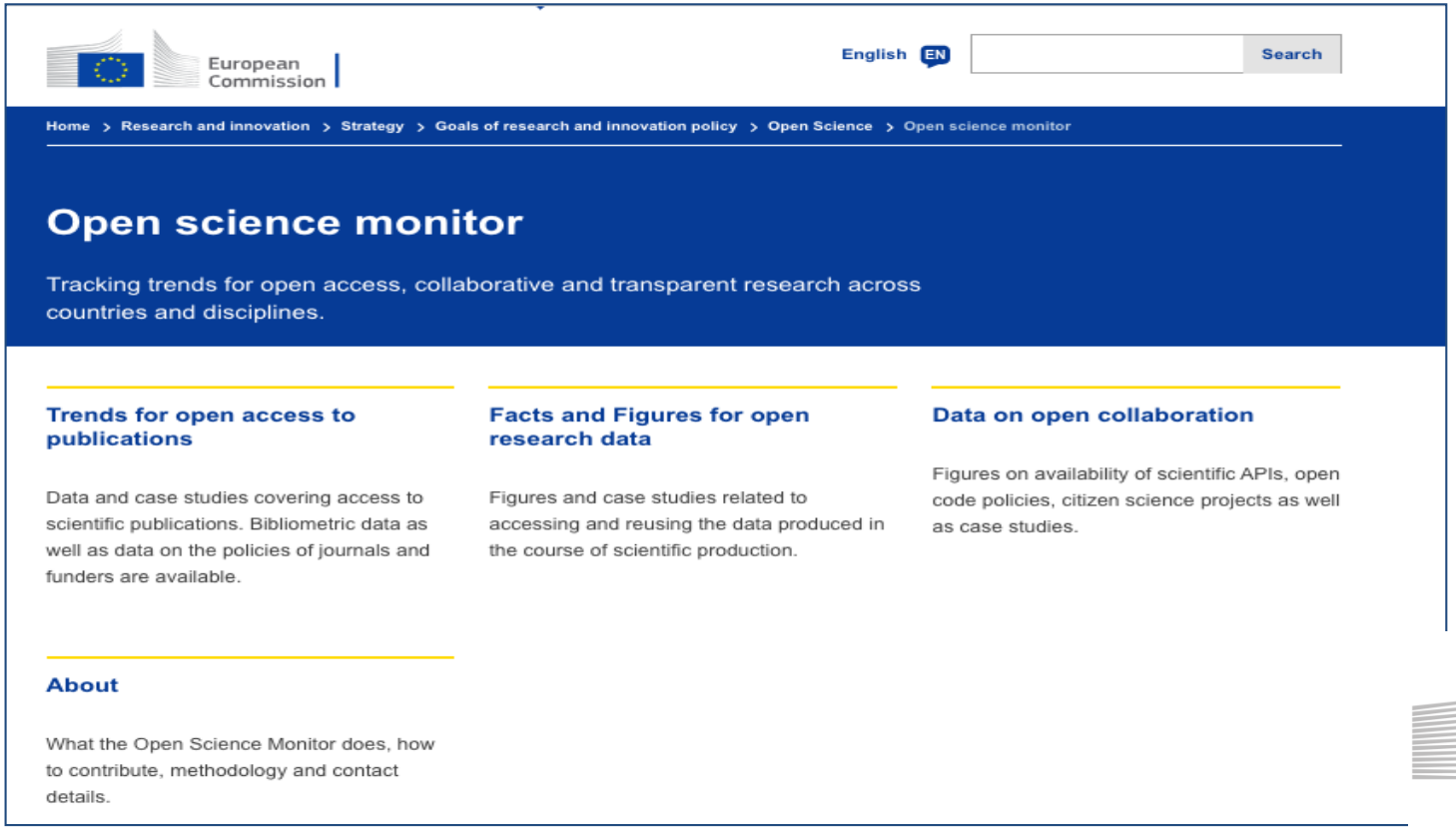
1 - **Metrics** on the open science **trends** and their development.
2 - **Assessment of the drivers** (and barriers) to open science adoption.
3 - **Impacts** (both positive and negative) of open science
4 – **Policy conclusions**



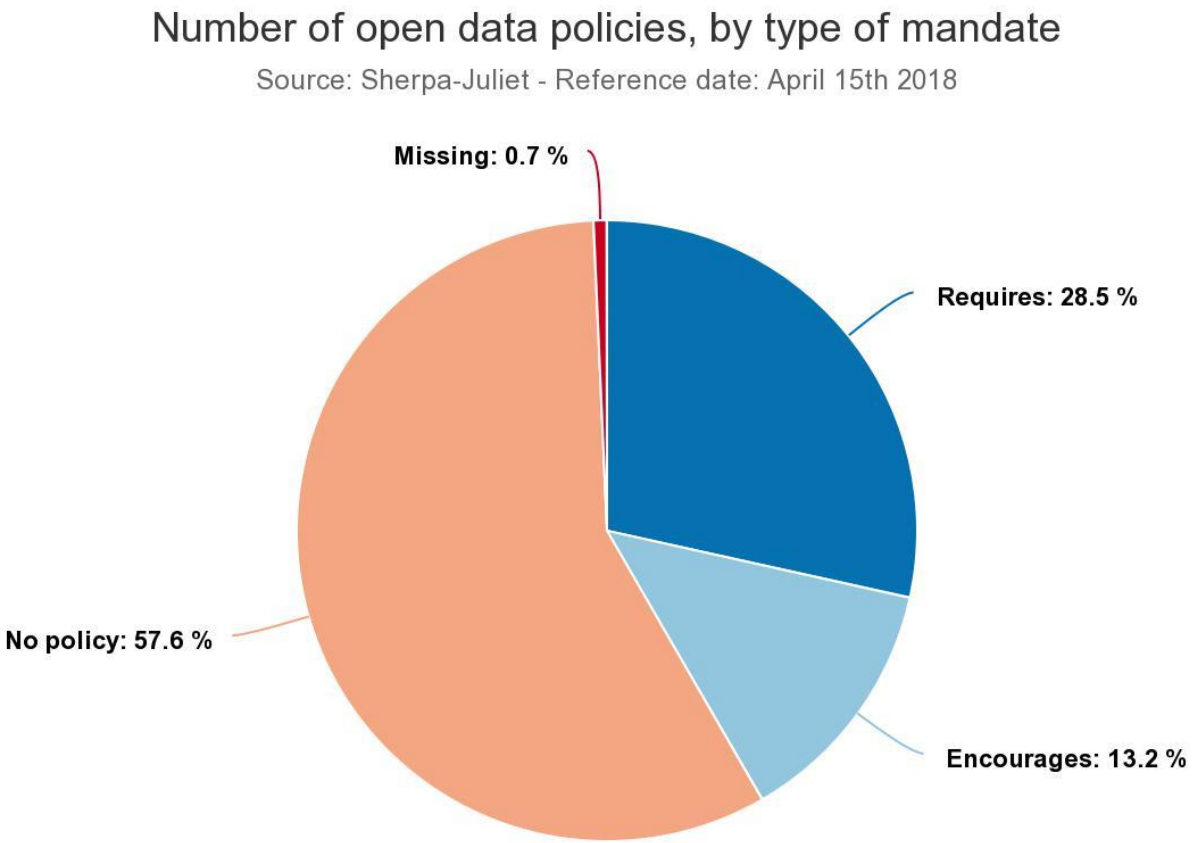
Open Science Monitor

Updated indicators published on the EC website:

https://ec.europa.eu/info/research-and-innovation/strategy/goals-research-and-innovation-policy/open-science/open-science-monitor_en

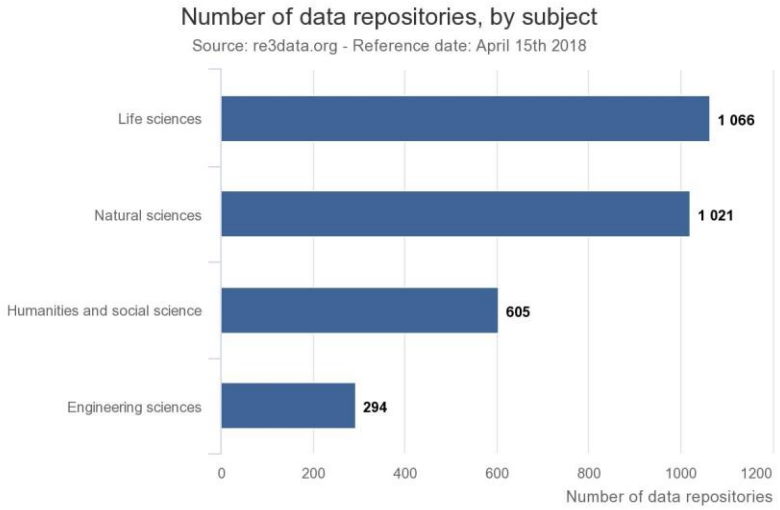


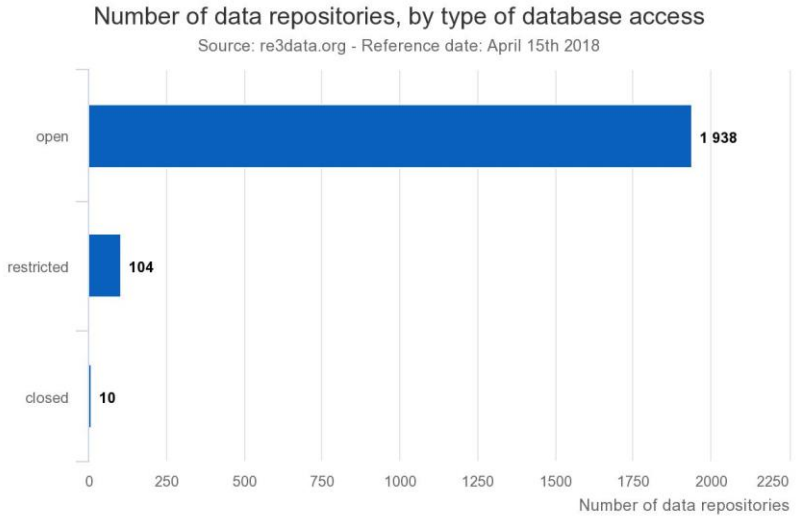
Open Research Data

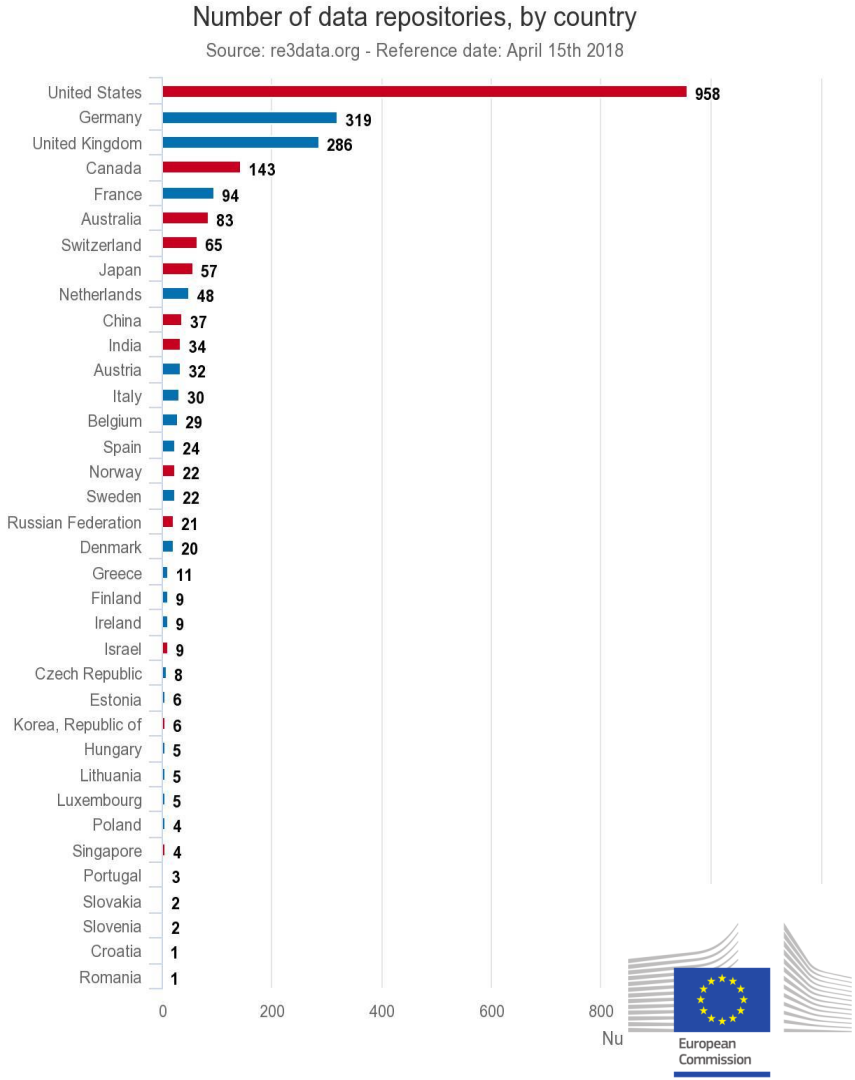


Source: Sherpa-Julliet database

Open Research Data







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European Commission

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We embrace, support and enable the principles of Open Science

Elsevier partners with the research community to empower open science. Working together, we can achieve a more inclusive, collaborative and transparent world of research. We believe open science can benefit research and society and drive research performance. Here are some of the ways in which we are supporting open science.

There are more options for researchers to share more kinds of research outputs than ever before. We support a more open and inclusive research experience through our journals, tools and platforms.

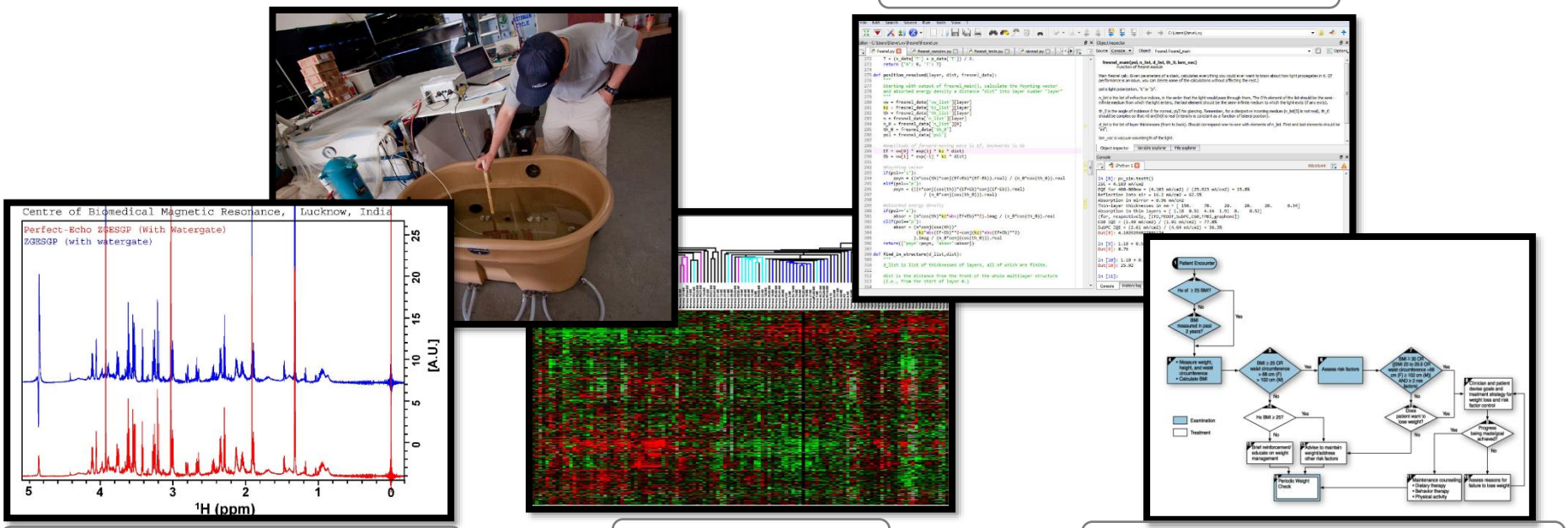
We provide platforms and partner in programs that facilitate collaboration. We help bring other stakeholders, including the public, into the world of research.

We are helping raise the bar on reproducibility, enabling researchers to share their methods and data and to gain more complete insights into research performance.

Elsevier: when we talk about data, we really talk about the following:

Machine & environment settings

Scripts, analyses, algorithms



Raw data

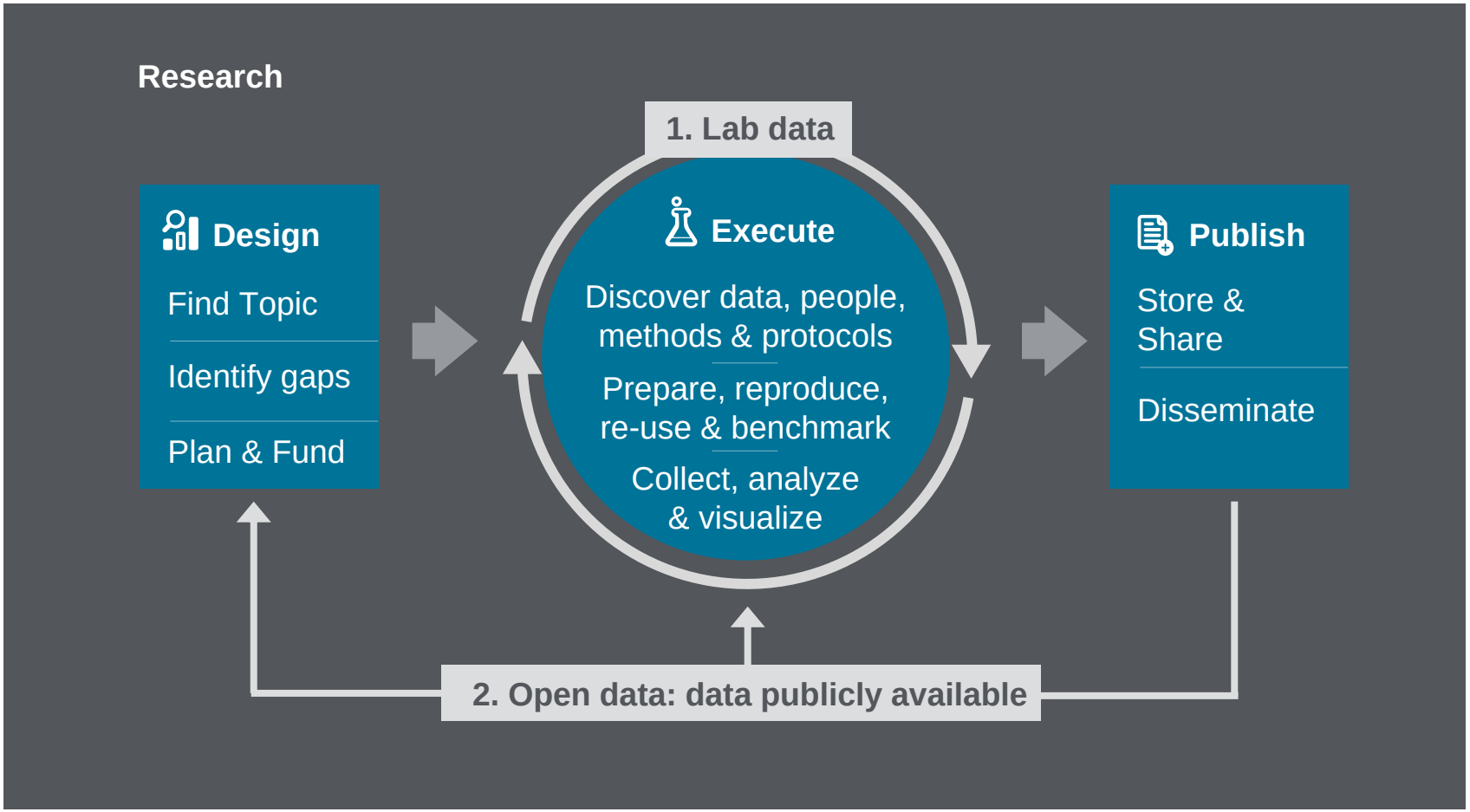
Processed data

Protocols, methods, workflows

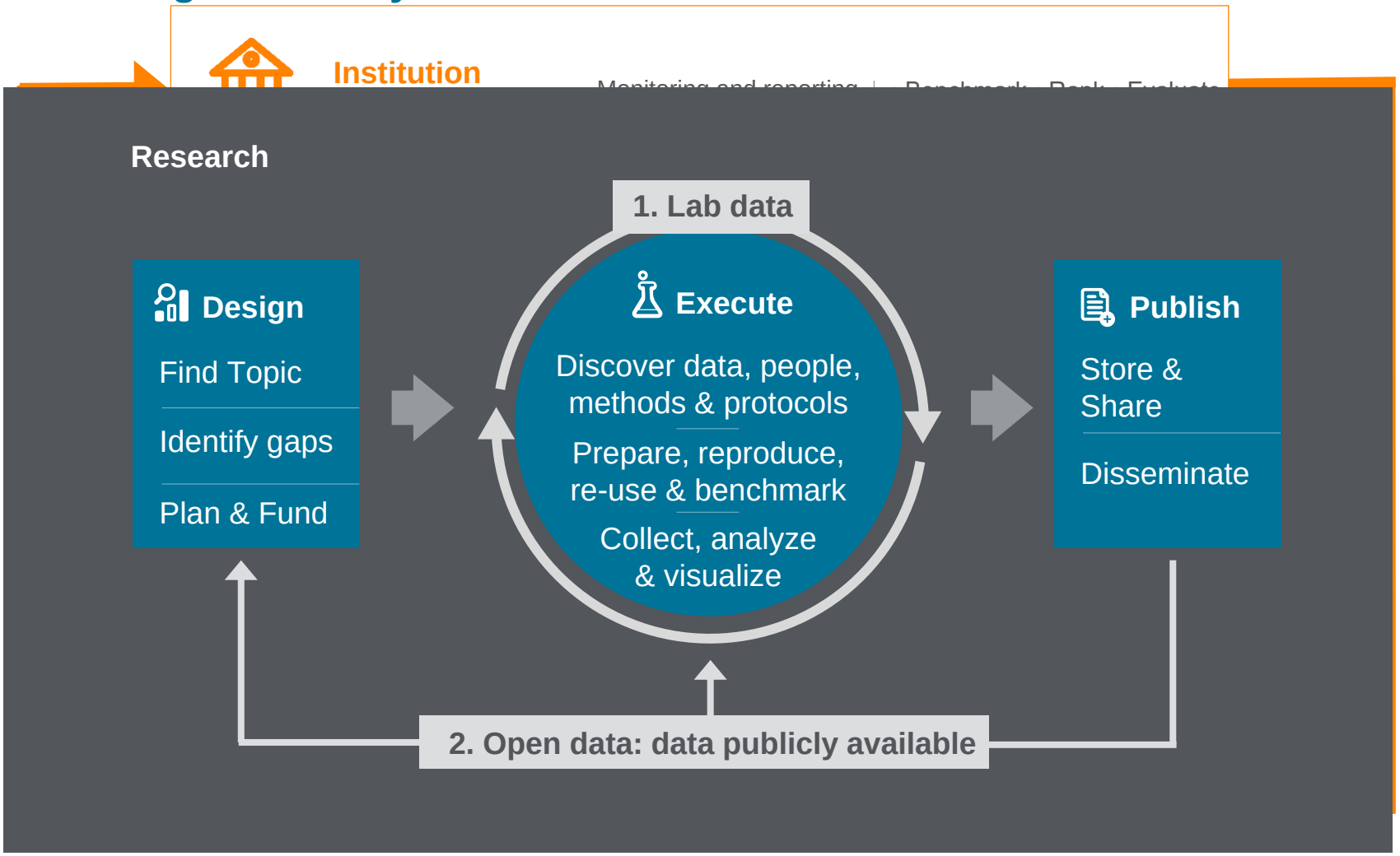
Full provenance needed

Note: images for illustrative purpose only

Zooming in on data: the data life cycle



Zooming in on data: taking the institutional lens, we can speak of 3 interlocking data life cycles

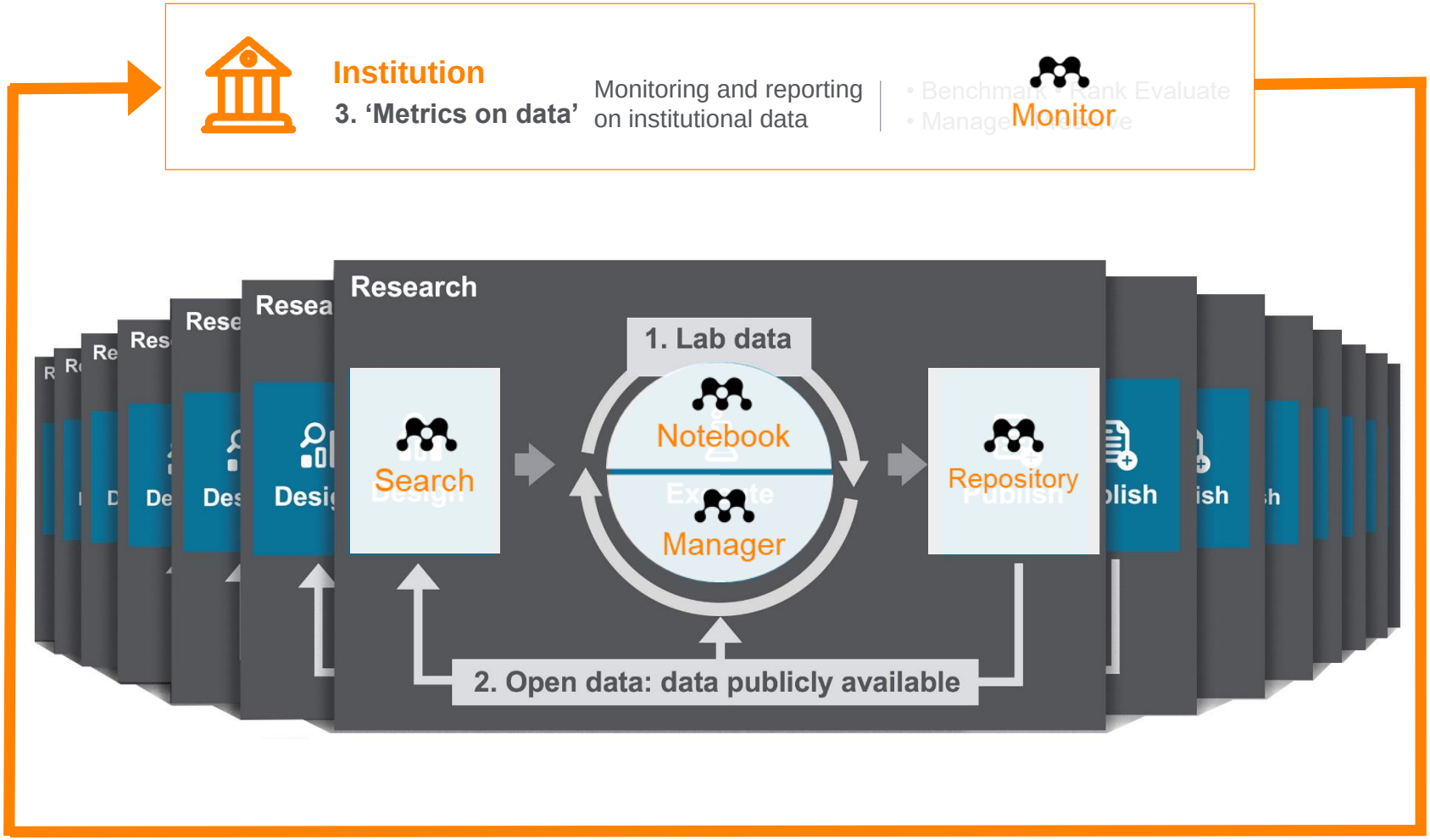


Re-using research data improves outcomes for the research life cycle

- This means improving the research data life-cycles: (1) within the lab and (2) to the world at large
- This also means keeping track of the institutional data lifecycles, and (3) reporting on them

Mendeley Data

A modular, cloud-based platform designed for research institutions, to manage the entire lifecycle of research data



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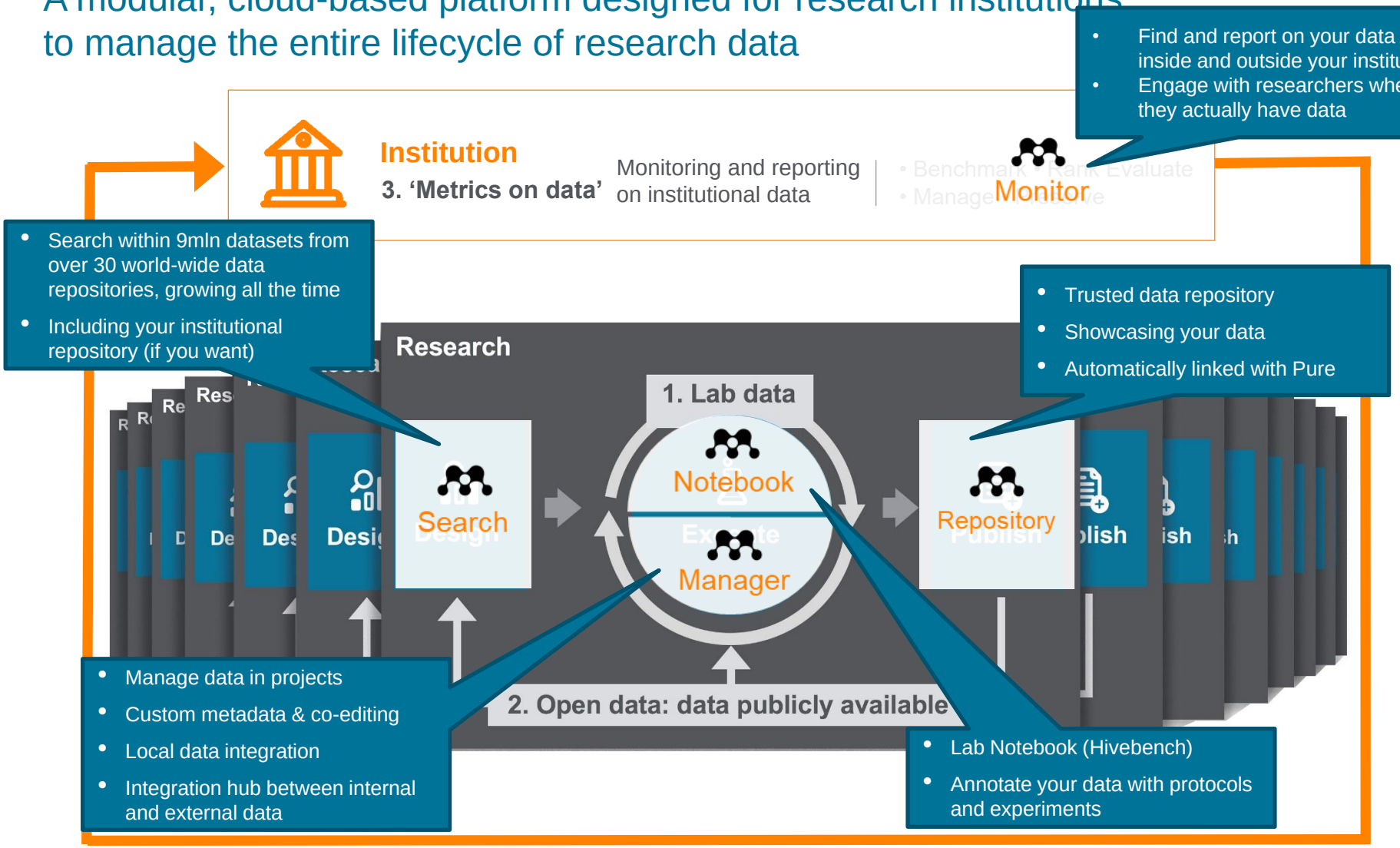

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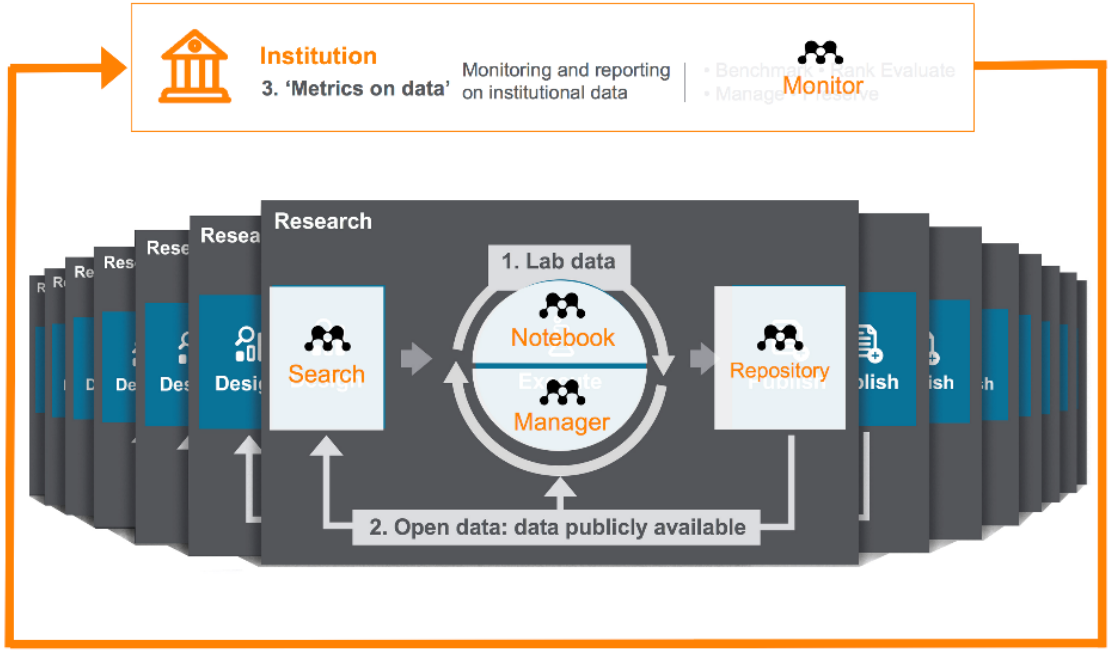


Benefits for researchers:

- **Prevent re-work**: save time searching, collecting and sharing data
- **Comply** with funders' mandates
- **Improve impact**: increase data reuse

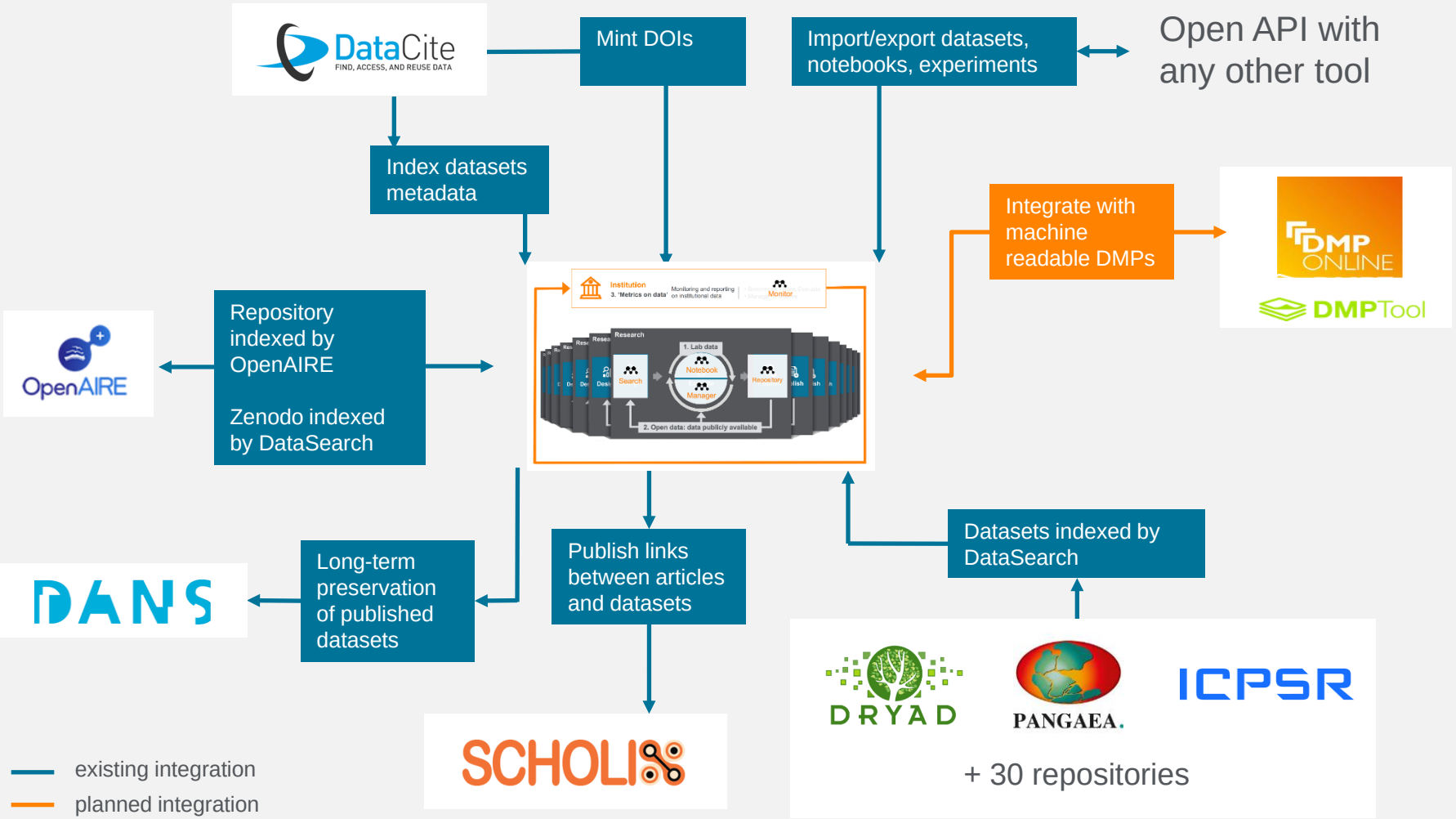
Benefits for institutions:

- **Keep track** of your data inside and outside your institution
- **Showcase** institutional research outputs
- **Improve** collaborations within/across institutions

How we deliver:

1. **System** is integrated with the researcher workflows: we make it simple & obvious
2. **Researchers** keep working like they do today while avoiding additional bureaucracy & administration
3. **Data** remains at and owned by institution
4. **Open** system & open API's; modular approach enables integrations across many research data solutions

Mendeley Data already integrates through open APIs with the global Research Data Management ecosystem



Example of partners

UNIVERSITÀ DEGLI STUDI DI MILANO

MANCHESTER 1824

The University of Manchester

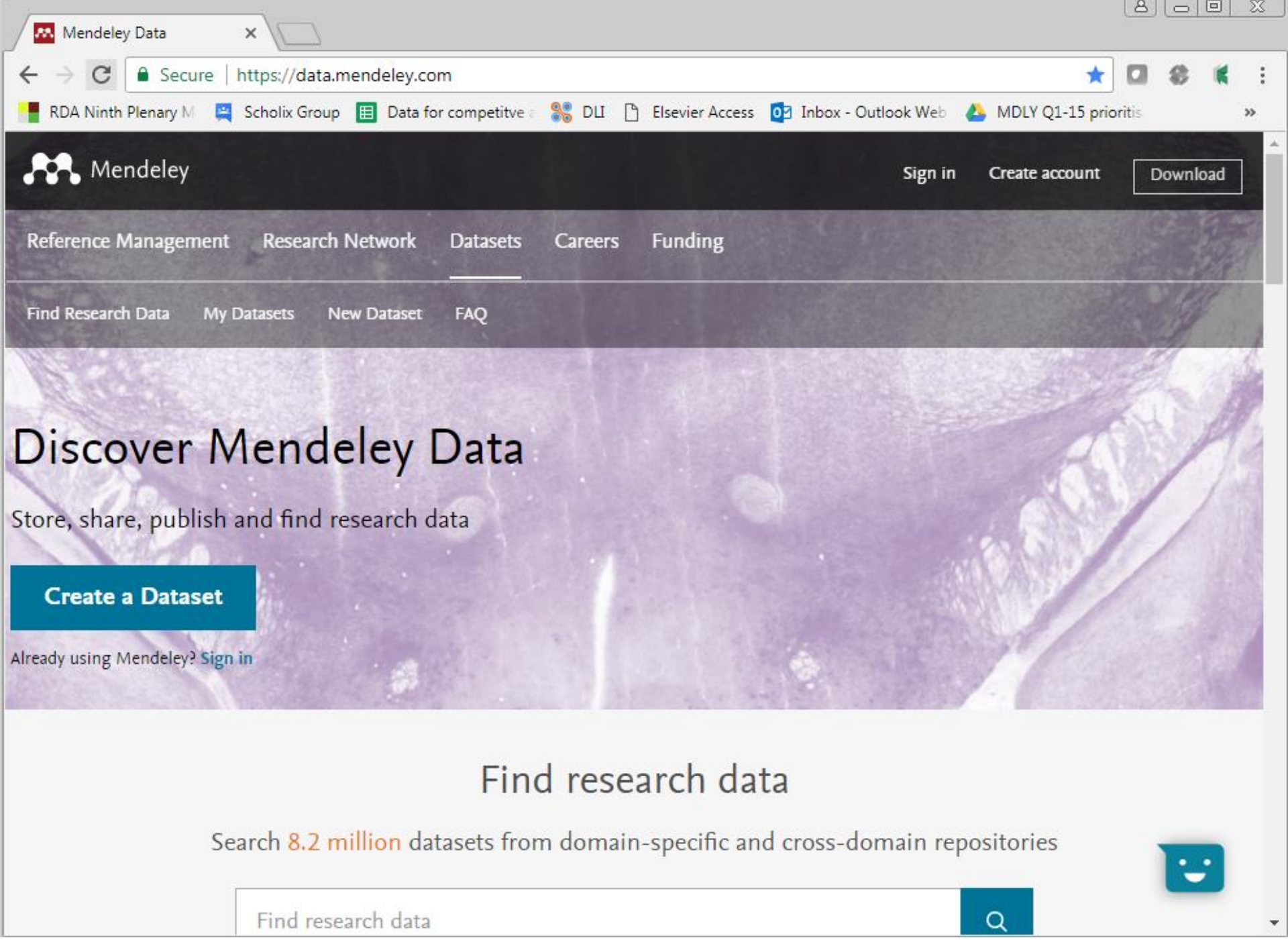
UNIVERSITY OF HULL

Source: Hull University

UNIVERSITÀ CATTOLICA del Sacro Cuore

MONASH University

Rensselaer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RDA Ninth Plenary M
Scholix Group
Data for competitve
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Find research data

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Happy to answer any question…

Thank you

For further information: s.berghmans@elsevier.com; +32.471.781900