

Data Management Plan, FAIR and open research data

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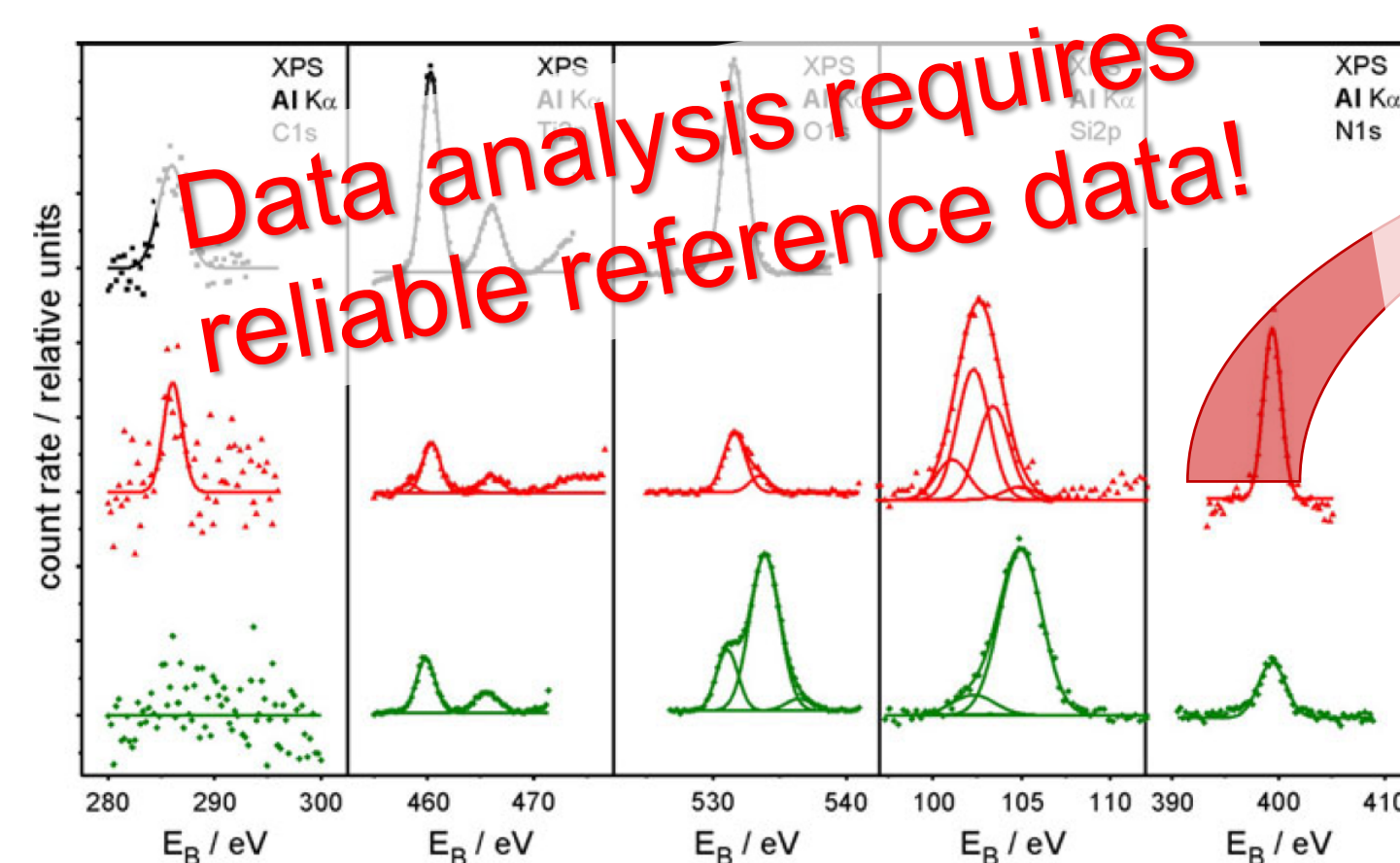
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WHY Open Research Data

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Plasma Chem Plasma Process (2013) 33:839–853



**354 paper reviewed.
Not a single one provides
complete set of values.
Instead:
wrong citations & inconsistencies**

More than 350 publication out of over 3 decades,
none states all details of their analysis.

→ **No reproducibility!**

Wrongly cited values, inappropriately conducted analysis.

→ **Code of Conduct for Research Integrity?**

Plasma Chem Plasma Process (2013) 33:839–853

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Table 3 Literature values of binding energy and chemical shift for the Si 2p structure of Si–O–N–compounds in XPS

Peak	Tetrahedron	Bonding unit	Binding energy/eV	Chemical shift/eV	References
Si 2p	Si–Si ₄	Si	98.3	0.00	35
	Si–Si ₃ O	Si ₂ O	99.3	0.95	35
	Si–Si ₃ N	Si ₃ N	99.5	1.20	37
	Si–Si ₂ O ₂	SiO	100.1	1.75	35
	Si–Si ₂ N ₂	Si ₂ N ₂	100.7	2.40	37
	Si–SiO ₃	Si ₂ O ₃	100.8	2.48	35
	Si–SiN ₃	SiN	101.8	3.50	37
	Si–O ₄	SiO ₂	102.2	3.90	36
	Si–N ₄	Si ₃ N ₄	103.3	5.00	37
	Si–H ₄	SiH ₄	107.3	9.00	39

Table 4 Literature values of binding energy and chemical shift for the O 1s and N 1s structures of Si–O–N–compounds in XPS

Peak	Tetrahedron	Bonding unit	Binding energy/eV	Chemical shift/eV	References
O 1s	O–Si ₂	SiO ₂	532.2		36
N 1s	N–Si ₃	Si ₃ N ₄	397.8	0.00	
	N–Si ₂ O ₁	(H ₃ SiO)N(SiH ₃) ₂	399.6		38
	N–Si ₁ O ₂	(H ₃ SiO) ₂ N(SiH ₃)	401.1		
	N–O ₃	(H ₃ SiO) ₃ N	403.1	5.55	

**Reference values combined
from several selected sources.
(JIGSAW-APPROACH?)!**



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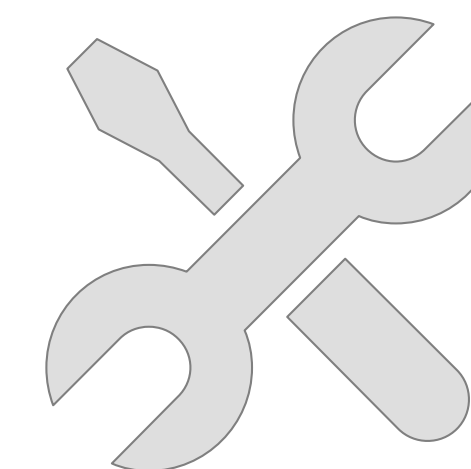
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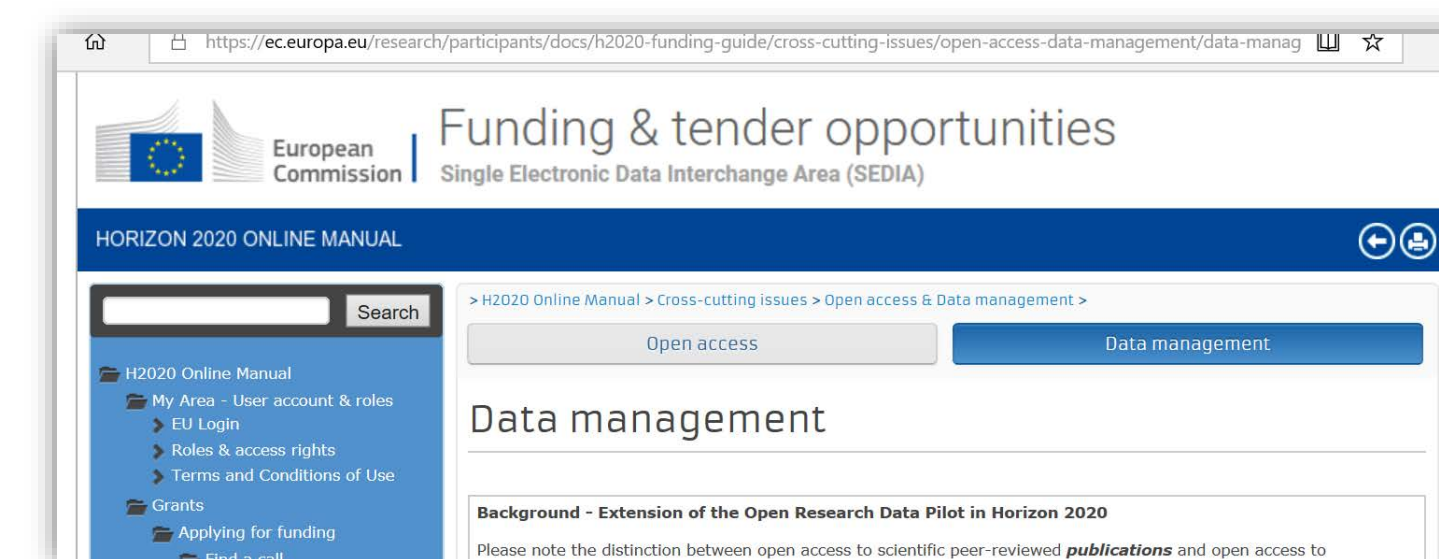


HOW to do it? - Guidelines & tools



Information:

- Horizon 2020 online manual
- <https://www.openaire.eu/>
- <https://www.fosteropenscience.eu/>
- <https://www.rd-alliance.org/>

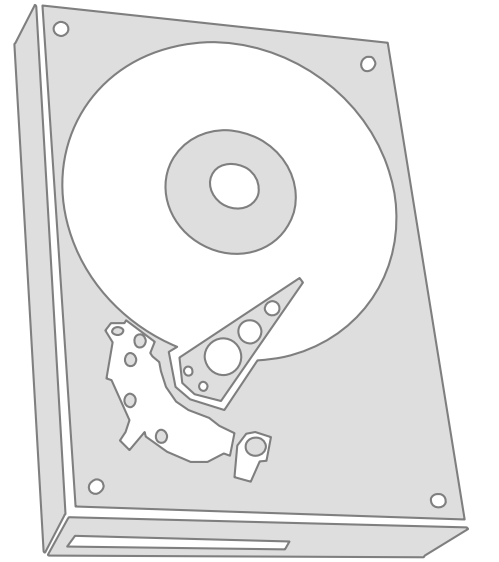


Implementation:

- <https://dmponline.dcc.ac.uk/>



How we store and archive data



DMP ONLINE My Dashboard Create plans Reference Help Language Sebastian Dahle

❖ Store & archive all data (& notes) at Storage Area Network (SAN),

❖ Publish all data that relates to any form of publication on Zenodo,

❖ Mutually link dataset and publication using each others DOI.

1. Data summary (7 / 7)

2.1 Making data findable, including provisions for metadata (0 / 0)

2.2 Making data open (0 / 0)

In general terms, your research data should be 'FAIR' that is findable, accessible, interoperable and re-usable. These principles precede implementation choices and do not necessarily suggest any specific technology, standard or implementation-solution.

Specify why data is made openly available? Open data is not open provide rationale for doing so

The selection of data for publication is carried out such that quality and reproducibility are ensured, making openly available all data that offers a potential for any kind of reuse. Therefore, all data used in any publication (journal article, conference contribution, BLOG post etc.) will be made openly available and linked to via DOI from the original publication.

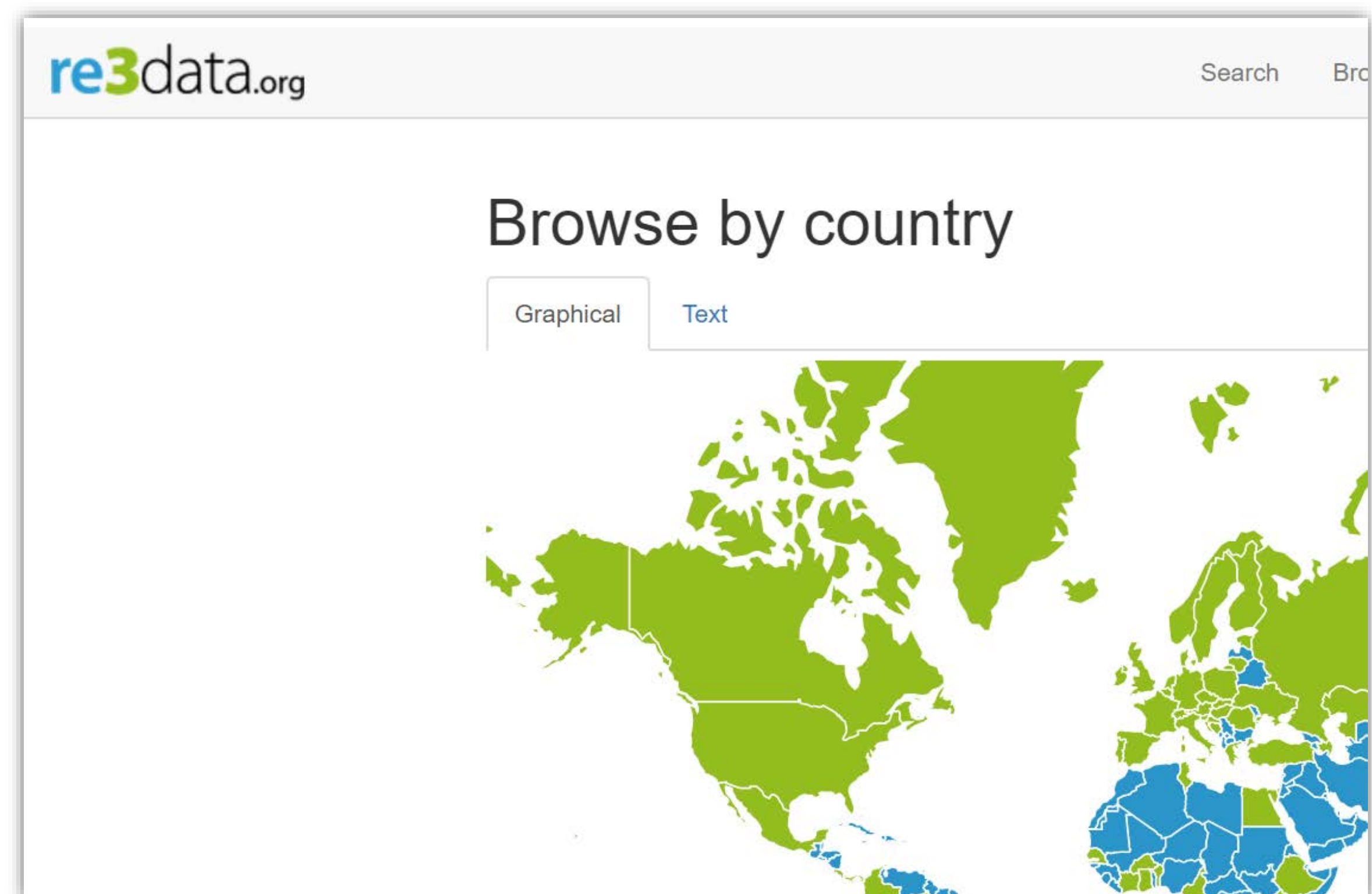
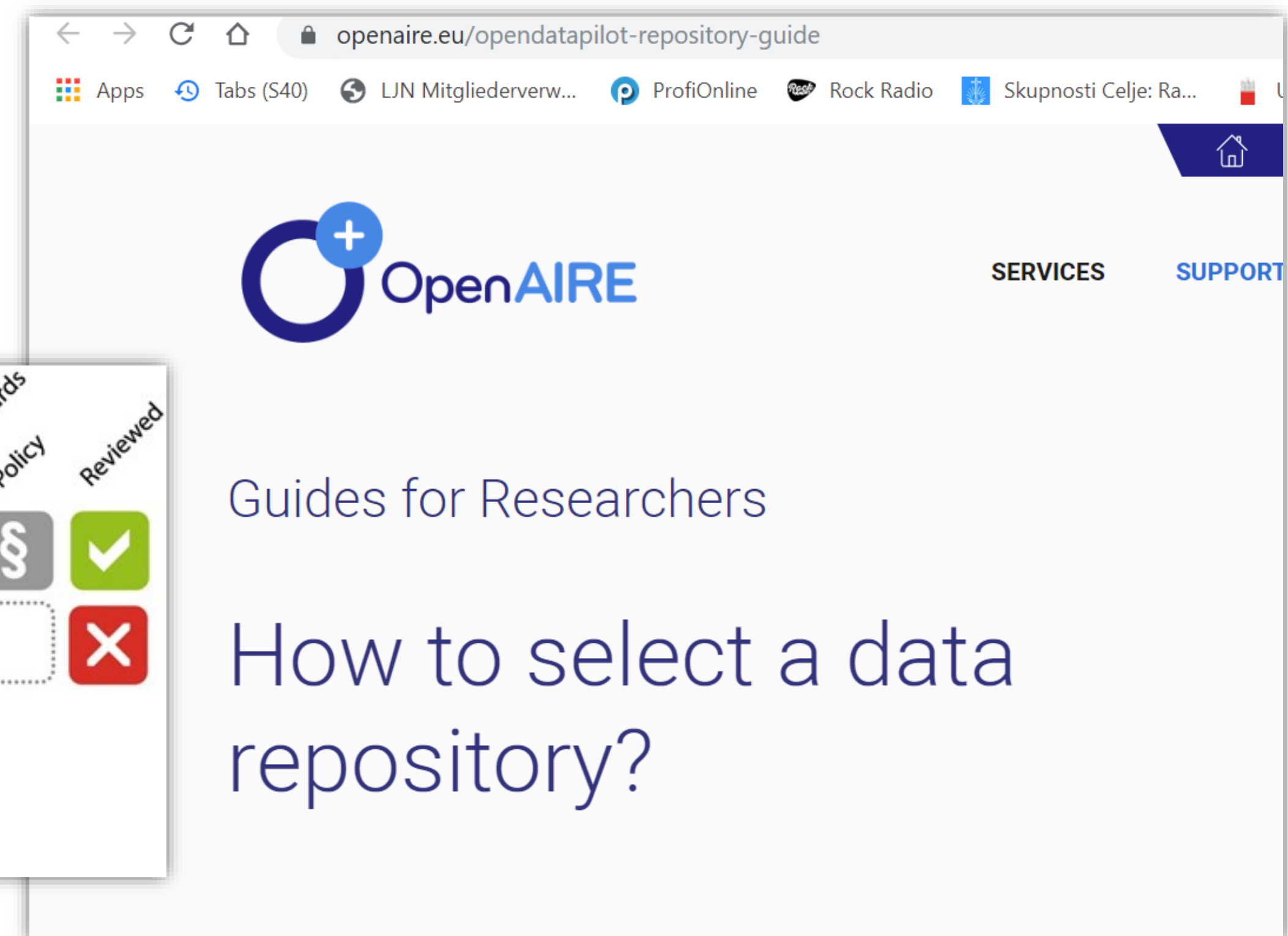
EC

Participating in the ORD Pilot does not necessarily mean opening up all your research data. Rather, the ORD pilot follows the principle "as open as possible, as closed as necessary" and focuses on encouraging sound data management as an essential part of



Repository selection

- Functionality
- Topics
- Ease of use
- Pricing



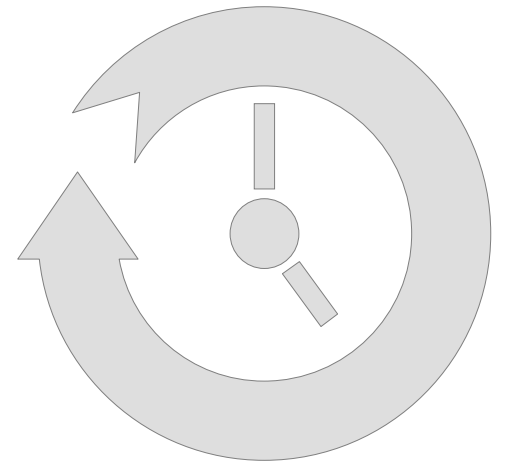
What to include in a Data Management Plan?



- Summary & Purpose
- Types, formats, origins, expected sizes
- Findability
- Accessibility
- Interoperability
- Re-usability
- Resources & responsibilities
- Security and ethics



The implementation is manageable



...as always: Keep It Simple.

- Set up procedures in the beginning
- Collect data and metadata together
- Have routines in place for curation and publication



Our impressions and suggestions

❖ Data Management Planning & Open Research Data are absolutely worthwhile



❖ Platforms, services & support are readily available



❖ Standardized procedures & mandatory training are strongly suggested



WHAT DO YOU THINK?



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