



SCIENCE
EUROPE
Shaping the future of research

WEBINAR 'JOINTLY TOWARDS SUSTAINABLE RESEARCH DATA'

2 JUNE 2021

**THE JOURNEY TOWARDS
SUSTAINABLE RESEARCH DATA:
MATURITY ASSESSMENT AS A WAY
FORWARD**

THE GERMAN RESEARCH FOUNDATION (DFG)

- Autonomous and independent self-governing organisation
- Aiming at best framework conditions: from science - for science
- Science-led according to the "bottom-up" principle
- Decision-making bodies are composed in their majority of scientists
- DFG Statutes § 1

The German Research Foundation serves science in all its branches by providing financial support for research work and by promoting national and international cooperation among researchers.



DFG

THE GERMAN RESEARCH FOUNDATION (DFG)

Scientific impact - impact for science

- Structure building and accent-setting (infrastructure funding, e.g. National Research Data Infrastructure - NFDI)
- Focussed policy/strategic initiatives (scientific advisory function, e.g. Interdisciplinary Commission for Pandemic Research)
- Member of the Alliance of Science Organisations (incl. all German Science Organisations, DFG is the representative in the EOSC Association)
- DFG President Katja Becker elected as Chairperson of the GRC Governing Board



DFG

SUSTAINABLE RESEARCH DATA: THE STARTING POINT

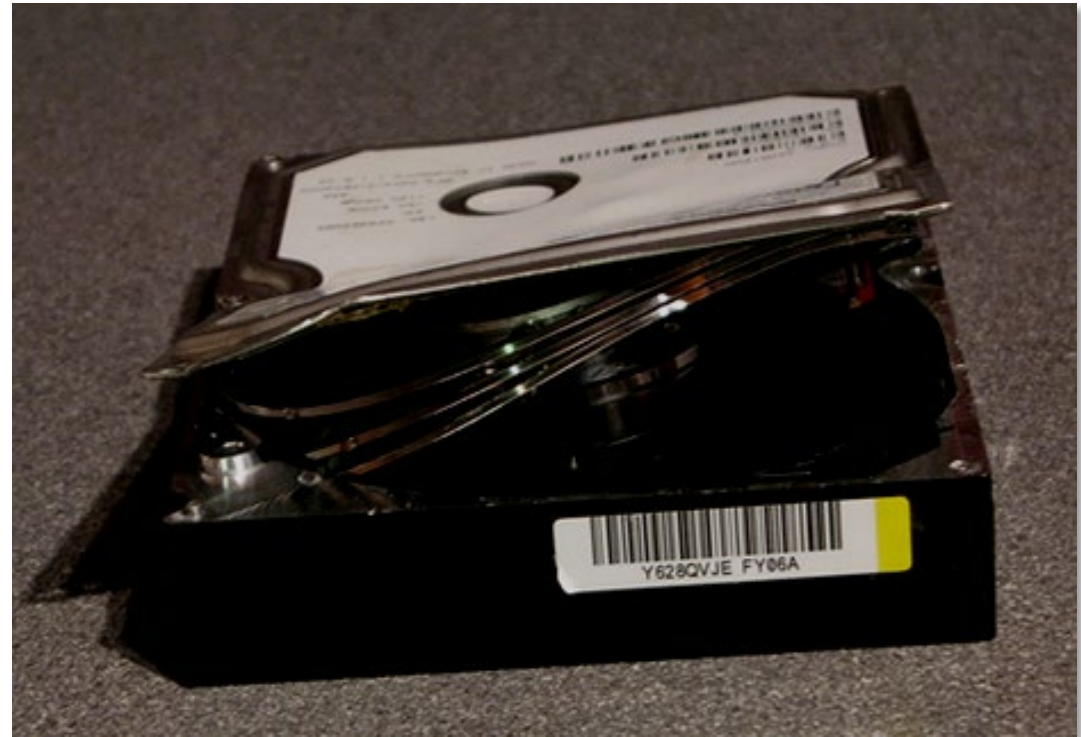
- “Sustainability” – a core requirement of Open Science and “evergreen” among the research data topics
- Challenges:
 - Complex and diverse landscape with many actors and data sources involved
 - Wide range of different needs and responsibilities on local, (inter)national and disciplinary levels
 - All actors need to recognise their role and play their part effectively



DFG

*"Digital information lasts forever - or five years,
whichever comes first."*

Jeff Rothenberg, 1997

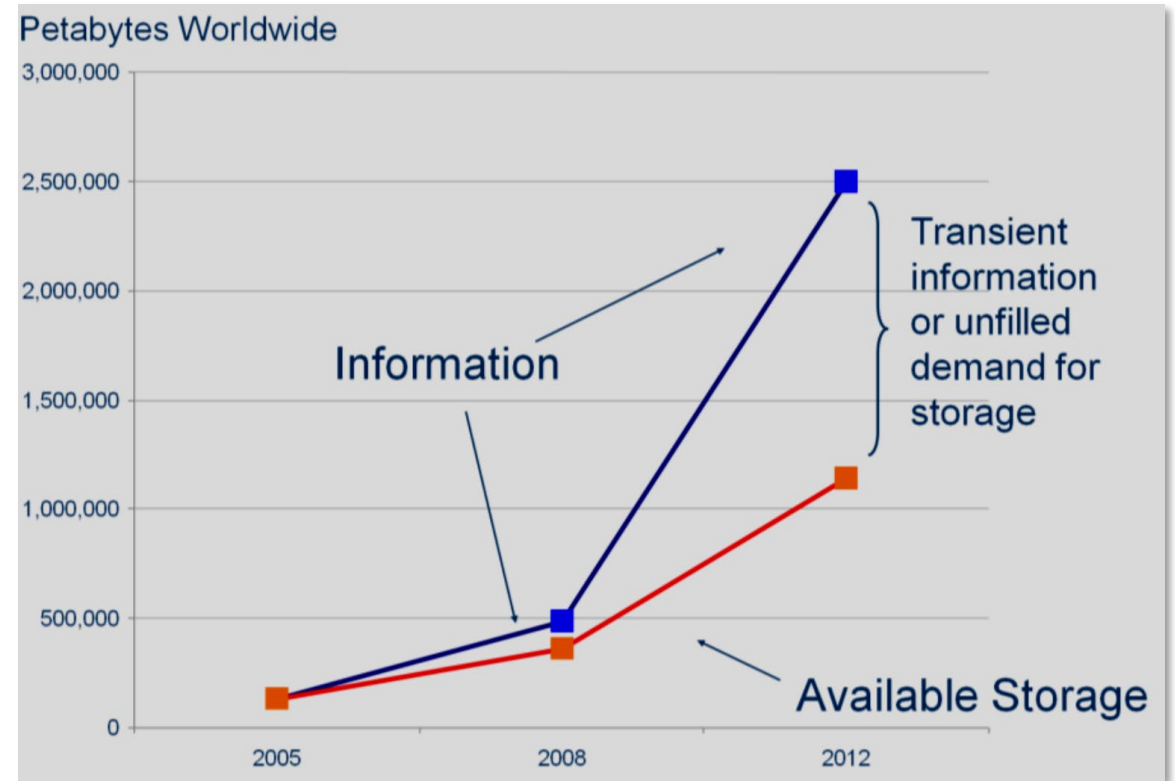


Stinging Eyes; <http://www.flickr.com/photos/martinlatter/299981441> cc: by-sa 2.0

PUBLICATIONS, STUDIES, WORKSHOPS

- Sustainable Economics for a Digital Planet: Ensuring long-term Access to Digital Information; Final Report of the Blue Ribbon Task Force on Sustainable Digital Preservation and Access, February 2010 (1)
- Who Will Pay for Public Access to Research Data? Francine Berman and Vint Cerf, SCIENCE VOL 341 9 AUGUST 2013, 616
- The Value and Impact of Data Sharing and Curation, A synthesis of three recent studies of UK research data centres; Neil Beagrie (Charles Beagrie Ltd) and John Houghton (Centre for Strategic Economic Studies, Victoria University); JISC, March 2014

Business Models for Sustainable Research Data Repositories; OECD SCIENCE, TECHNOLOGY AND INNOVATION POLICY PAPERS; December 2017 No. 47



(1) Growth of Information and Storage Trends; Projected growth of global information creation outpaces growth of available storage.

CRITICAL QUESTIONS REMAIN

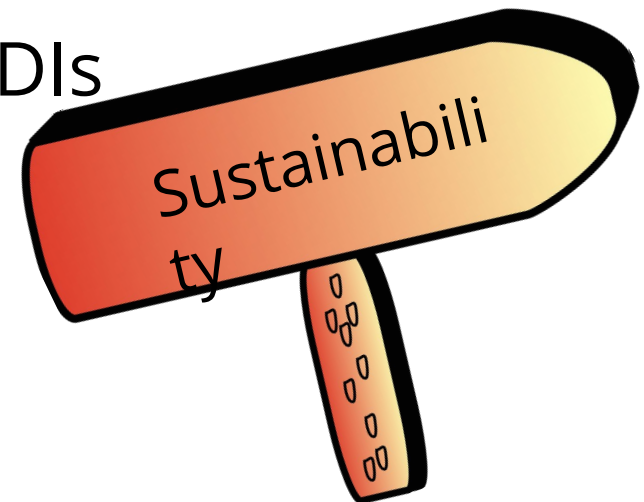
- What digital information should we preserve?
- Who will preserve it?
- Who will pay for it?

Questions asked in the Final Report of the Blue Ribbon Task Force on Sustainable Digital Preservation and Access, February 2010

WEBINAR 'Jointly towards Sustainable Research Data'

SUSTAINABLE RESEARCH DATA: EN ROUTE

- Sustainability of research data has many facets, availability and access are crucial
- The realisation of sustainable access to research data remains a long road
- Stakeholders include RFOs, RPOs and RDIs
- How and where to continue?





SCIENCE
EUROPE
Shaping the future of research

WEBINAR 'JOINTLY TOWARDS SUSTAINABLE RESEARCH DATA'

2 JUNE 2021

**THE TOOL: COMPLEMENTARY
MATURITY MATRICES FOR
RFOs, RPOs AND RDIIs**

WHY OH WHY?

WHY ANOTHER RDM ACTIVITY AND WHY SCIENCE EUROPE?

- Long-term sustainability requires a clear understanding and acceptance of ROLES and RESPONSIBILITIES
 - SE member organisations have a common interest in improving this clarity
 - Lot going on, e.g. OECD, CODATA, RDA and EOSC – though less guidance available for RFOs
- Work undertaken by members of the Task Group on ‘Sustainable RDM’
 - Input from external experts via a validation workshop and from SE members
- Combined knowledge has provided something which is hoped will be accepted by SE members and beyond

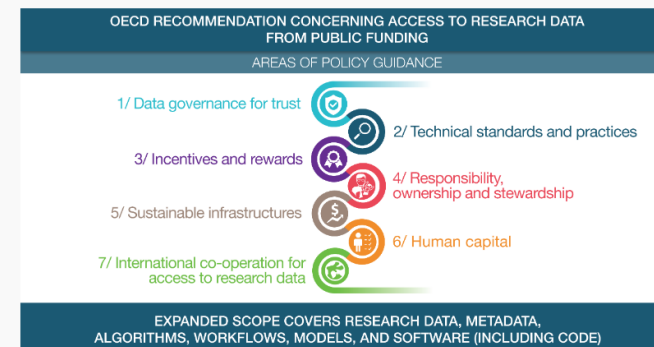
[ice Technology and Innovation](#) · Recommendation of the OECD Council concerning Access to Research Data from Public Funding

Recommendation of the OECD Council concerning Access to Research Data from Public Funding

On 20 January 2021, the OECD Council adopted a revised [Council Recommendation on Access to Research Data from Public Funding](#). The legal instrument, in force since 2006, has been updated to address new technologies and policy developments, and provides policy guidance in seven areas shown in the figure below. In addition, the revision expands the scope to cover not only research data, but also related metadata, as well as bespoke algorithms, workflows, models, and software (including code), which are essential for their interpretation.

Find out more in our blog: [Making data for science as open as possible to address global challenges](#)
Policy brief: [Why open science is critical to combatting COVID-19](#)
Analytical report: [Enhanced Access to Publicly Funded Data for Science](#)

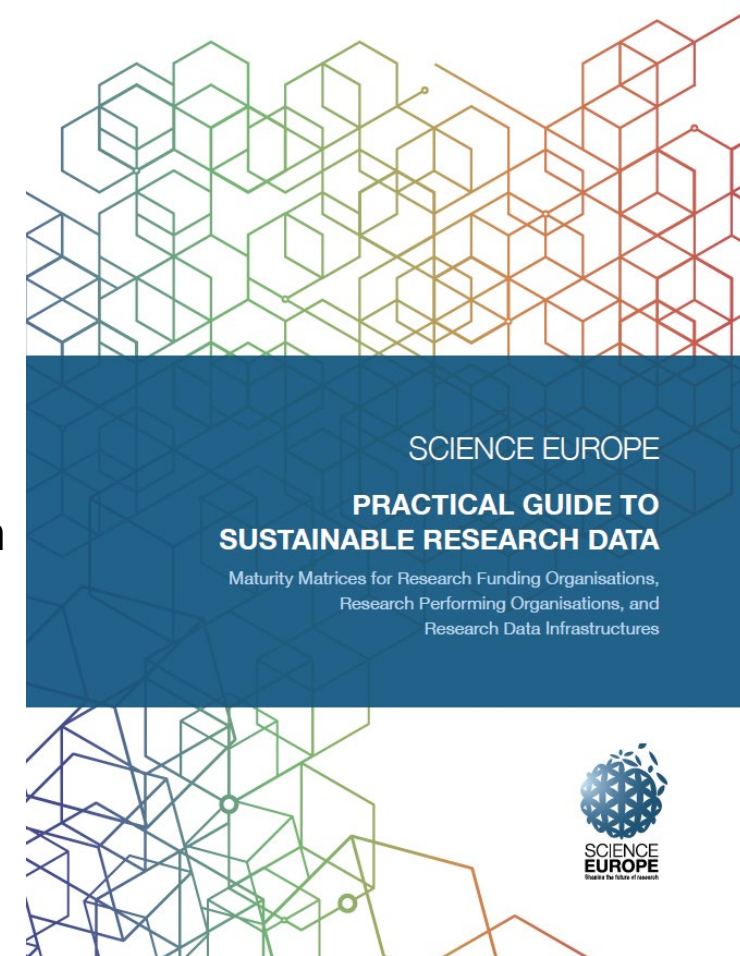
[Technology and Innovation](#)
[Open science initiatives relating to COVID-19](#)
[OECD work on open science](#)



WHAT & WHO?

WHAT DO THE MATRICES DO & WHO ARE THEY AIMED AT?

- A tool to help research organisations in:
 - Assessing how developed their RDM activities are
 - What further steps they could consider to improve RDM and ensure long-term sustainability
- Matrices developed to support three types of research organisation
 - Research FUNDERS (RFOs)
 - Research PERFORMERS (RPOs)
 - Research DATA INFRASTRUCTURES (RDIs)
- Matrices are complementary and share a common structure
 - Six ACTION AREAS
 - Three PROGRESSION STEPS
 - Additional guidance for FURTHER ADVANCEMENT AND ALIGNMENT



THE SIX ACTION AREAS

- 1) Organisational engagement and commitment
 - 2) Policy environment
 - 3) Financial aspects
 - 4) Training
 - 5) Technical preparedness
 - 6) Communication and awareness raising
- Common across all organisation types, though with different emphasis within each type, e.g. Financial Aspects
 - RFOs - relates to funding of and investment in RDM and RDIs
 - RPOs - access to RDM funding for the RPO and how the funding is used to support data sharing and interoperability
 - RDIs - development and implementation of business models for sustainable funding streams

PROGRESSION STEPS



Acknowledged need to take action in a given area and plans on how to proceed developing or developed

Groundwork completed in a given area to achieve sustainability of research data, though more refinement is needed

The action area now addressed at a mature level within the organisation

Collaboration with (inter)national partners in order to align approaches and achieve a level playing field (at a national or an international level, with different disciplines)

EXAMPLE – FUNDER’S ENGAGEMENT AND COMMITMENT

Maturity level areas	Progression steps			Further advancement and alignment
	Plans to develop	Development ongoing	Developed on organisational level	
Organisational Engagement and Commitment	<ul style="list-style-type: none"> RFO takes first steps towards considering RDM issues and defining where it needs to act. RFO determines the scope of its activities, including looking to others for guidance and best practices. 	<ul style="list-style-type: none"> RFO sees effective RDM as part of its strategic objectives and develops a comprehensive strategy⁹ to include policy, funding, technical infrastructure, and training as appropriate. RFO ensures that RDM objectives are developed within the context of related organisations. 	<ul style="list-style-type: none"> RFO has an RDM strategy. RFO actively engages in RDM issues, including financial support for policy implementation, training, and, where appropriate, the provision of infrastructure for long-term data preservation. RFO is in dialogue and collaboration with related RFOs, RPOs, and RDIs at (inter)national level to advance practical RDM issues. 	<ul style="list-style-type: none"> RFO seeks alignment on RDM policies and practices amongst RFOs, RPOs, and RDIs at (inter)national level. RFO engages in dialogue and collaboration at (inter)national level for policy, training, provision of RDI and so on. RFO helps to provide a level playing field at (inter)national level.

HOW SHOULD MATRICES BE USED?

- Within an organisation to assess current position and help identify potential 'next steps'
 - Helps the organisation to develop its 'agenda for research data'
- Between organisations to help foster collaboration, align approaches and develop shared understanding and responsibility
 - As level of maturity advances the level of inter-organisational collaboration is expected to increase
- There is no one 'right answer'
 - Interpretation and application will vary depending on organisational policies and needs and/or external factors
 - Organisations will need to identify what level to achieve in any given area – don't have to reach same level in each area and some actions might not be within the scope of the organisation's mission or mandate

ACKNOWLEDGEMENTS

- My fellow authors – Tommaso Boccali (RPOs) and Elisabeth Sølsnes (RDIs)
- Other members of the Task Group on Sustainable Research Data, and colleagues within the wider Working Group on Data Sharing and Supporting Infrastructures for their valuable input and feedback
- All those who provided feedback via the validation workshop held in January 2021
- And Marie Timmermann, who kept us focused and on track