



SCIENCE
EUROPE
Shaping the future of research

IMPLEMENTING OPEN SCIENCE

2021 EURODOC CONFERENCE

IMPROVING DOCTORAL TRAINING IN EUROPE

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Secretary General

Science Europe

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38 Member Organisations in 28 countries

SCIENCE EUROPE

European association representing the interests of major public research performing (RPOs) and research funding organisations (RFOs) that foster excellent, ground-breaking research in Europe.

Map of Science Europe Member Organisations



Science Europe advocates science and the scientific community to help build the European Research Area and shape the global scientific agenda.

OPEN SCIENCE

- **Open Science is making research and research outputs accessible for other researchers as well as for society.**

Transparent and
accessible knowledge

Collaborative
approach

Sharing research
outputs and making
them interoperable

Open standards and
processes

- **Open Science aims to increase the efficiency and reproducibility of science, making science more reliable and responsive to societal challenges.**

COMPONENTS OF OPEN SCIENCE

A practical classification

“Framework”:

- Access to research outputs, activities, tools and knowledge
- Research Recognition Systems
- Research Infrastructures and supporting infrastructures
- Policy and legislation
- Investment and finance

“In practice”:

- Research publications and data
- Research ethics and integrity
- Peer review/research assessment
- Research careers
- Transparency of the research process
- Equality, diversity and inclusion
- Public engagement
- Citizens Science

Underpinned by Research culture and Values

WHAT DOES SCIENCE EUROPE DO TO PROMOTE OPEN SCIENCE?

- Science Europe is committed to fostering Open Science, issuing positions and guidelines for:
 - Open Access to research publications
 - Data sharing and research data management
 - EU Legislation (Copyright, General Data Protection Regulation, Digital Services Act)
 - Coordination of policies (Generation of Open Access Principles 2013; Plan S principles, 2018)
 - Research Assessment
 - Research Ethics and Integrity
 - **Research Culture**

OPEN ACCESS TO RESEARCH PUBLICATIONS

- Science Europe Member Organisations are all committed to ensuring that the results of publicly funded research are freely available.

Common principles towards OA

Development of OA policies within SE Member Organisations (OA mandate for funded/affiliated researchers)

Advocacy towards OA

Exchange of best practices on policies and tools supporting OA

Joining forces with other stakeholders working towards OA and with the European Commission

Science Europe
Principles on
Open Access to
Research Publications
UPDATED MAY 2015



OPEN ACCESS MONITORING

Guidelines and Recommendations
for Research Organisations
and Funders

BRIEFING
PAPER

MAY
2021

Science Europe
Briefing Paper

Open Access
to Academic
books

Science Europe
Recommendation
for the Disclosure
of Publication Fees

RESEARCH DATA MANAGEMENT

- Sharing and re-use of research data are essential to verify research findings and foster new research.
- Science Europe promotes data sharing by:

Promoting the **alignment of research data management policies and practices across research stakeholders in Europe**

Supporting researchers with **clear guidance on how to plan the management of their data from the very beginning and throughout the research process**

Providing guidance to **reviewers of data management plans and institutional data stewards**



- **SE RDM Guide** recommended in the Framework Programme

Practical Guide to the International Alignment of Research Data Management - Extended Edition (January 2021)



(link embedded in the image)

(first edition January 2019)

Content:

GUIDANCE FOR ORGANISATIONS:
CORE REQUIREMENTS FOR
DATA MANAGEMENT PLANS

GUIDANCE FOR ORGANISATIONS:
CRITERIA FOR THE SELECTION OF
TRUSTWORTHY REPOSITORIES

GUIDANCE FOR RESEARCHERS:
Translating the Core Requirements into a DMP template
Guiding the Selection of Trustworthy Repositories

GUIDANCE FOR REVIEWERS:
Evaluation Rubric for Data Management Plans

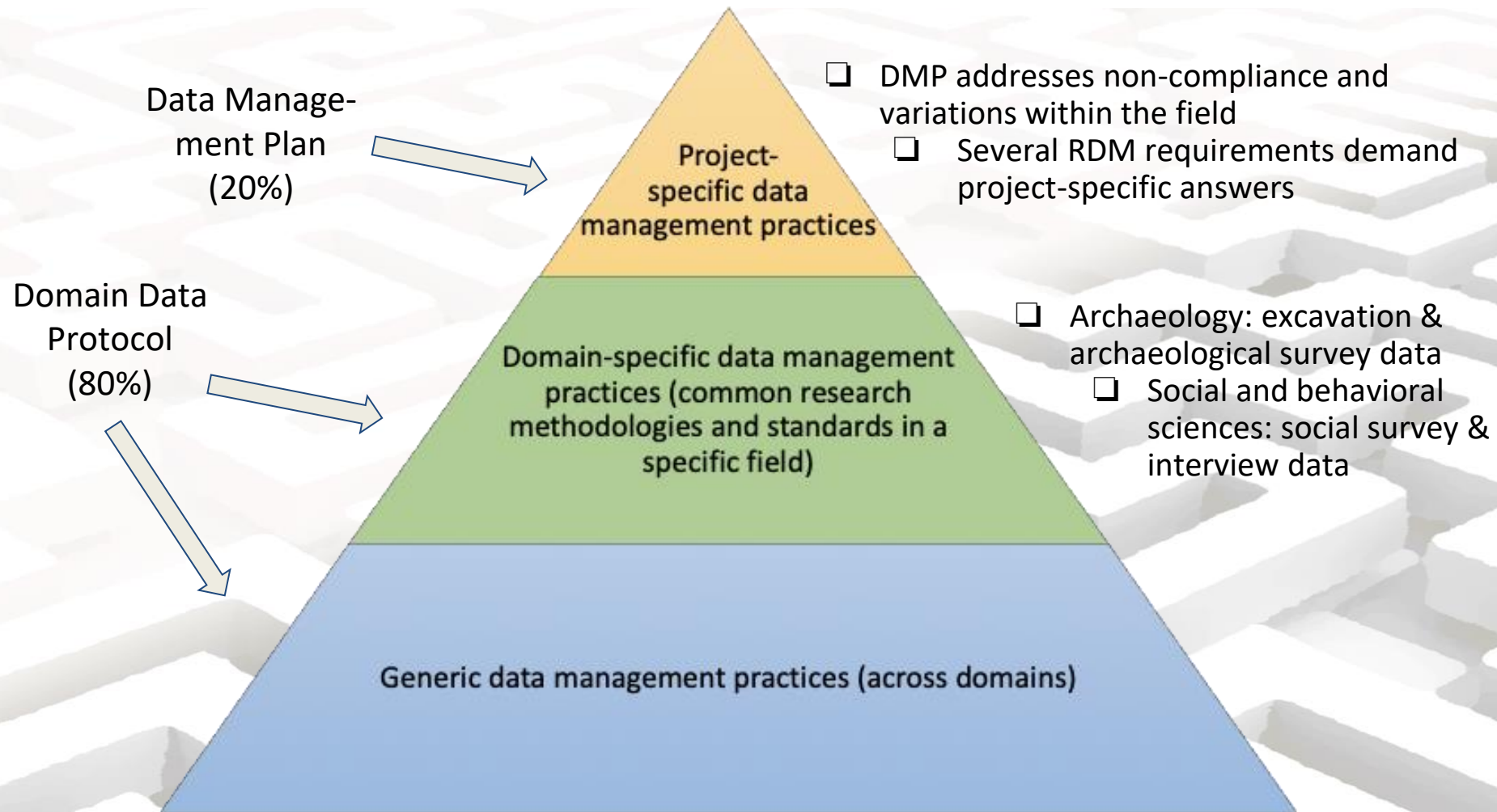
New 2021 !!

PRACTICAL GUIDE TO SUSTAINABLE RESEARCH DATA – JUNE 2021

- Promoting the creation of “institutional data agendas” in
 - research performing organisations
 - research funding organisations
 - research infrastructures
- Proposing a framework on six main elements to create strategic agendas:
 - ORGANISATIONAL ENGAGEMENT AND COMMITMENT
 - POLICY ENVIRONMENT
 - FINANCIAL ASPECTS
 - TRAINING
 - TECHNICAL PREPAREDNESS
 - COMMUNICATION AND AWARENESS RAISING
- Links with other major initiatives: EOSC, Research Data Alliance, Data Stewardship Wizard, FAIRsFAIR



Why does a domain approach to data management make sense? Thinking about food... why not to look at archaeology !?



DATA SHARING AND INTEROPERABILITY AT EUROPEAN LEVEL: THE EUROPEAN OPEN SCIENCE CLOUD (EOSC)

- **The EOSC:**
 - Is an initiative started by the European Commission and developed together with research stakeholders
 - Aims at federating existing and future research data infrastructures to allow seamless access to data for researchers, promoting research data to be FAIR (findable, accessible, interoperable and re-usable)
 - Has been set up as a European Partnership within the Horizon Europe Framework Programme. The EOSC Association manages the Partnership in close collaboration with stakeholders including research funders, researchers associations, research performing organisations, universities, research infrastructures, data providers, scholarly publishers, etc.
 - Science Europe has been involved in EOSC's development since 2017, and contributes to its development supporting its members.

Plan S : strong principles being implemented by 26 funders since 2021



- ⦿ Research results are a public good and should be immediately available so as to accelerate science
- ⦿ **No more paywalled publications**
- ⦿ Open Access must be **immediate: no embargo periods**
- ⦿ Publication under a **CC-BY license** by default, **no copyright transfer** (*Principle 1*)
- ⦿ No 'hybrid' model of publication, except as a transitional arrangement with a defined endpoint



Plan S : strong principles being implemented by 26 funders since 2021

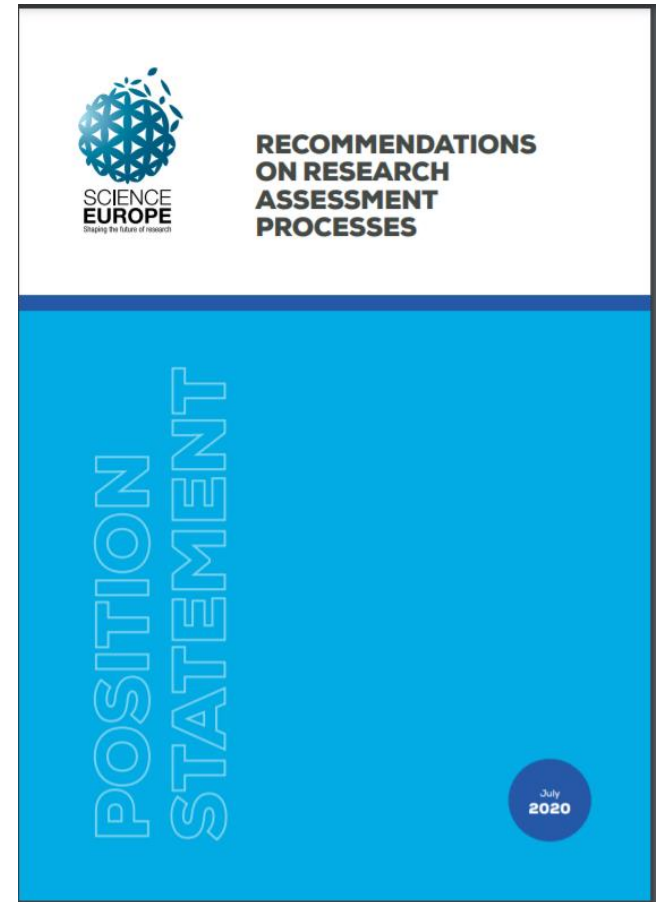


- ⦿ Pricing, contracts and publication fees should be transparent and reasonable (*Principle 5*)
- ⦿ **Funders** commit to support such publication fees, individual researchers do not pay (*Principle 4*)
- ⦿ **Multiple routes** to OA compliance (*Principle 5*)
- ⦿ A commitment to assess research outputs based on their **intrinsic merit** and NOT their venue of publication or quantitative metrics, following e.g. DORA (*Principle 10*).



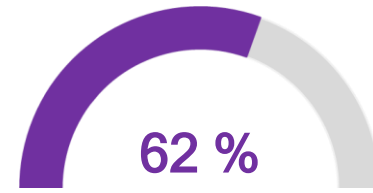
RESEARCH ASSESSMENT FOR PROJECT SELECTION

- 2020 Recommendations on research assessment processes:
- “Organisations should consider broadening the spectrum of research outputs and activities that are considered during the assessment of candidates, research proposals, and/or research institutes.”
- Science Europe promotes to include researchers’ Open Science activities in the criteria for research assessment.



(Link embedded in image)

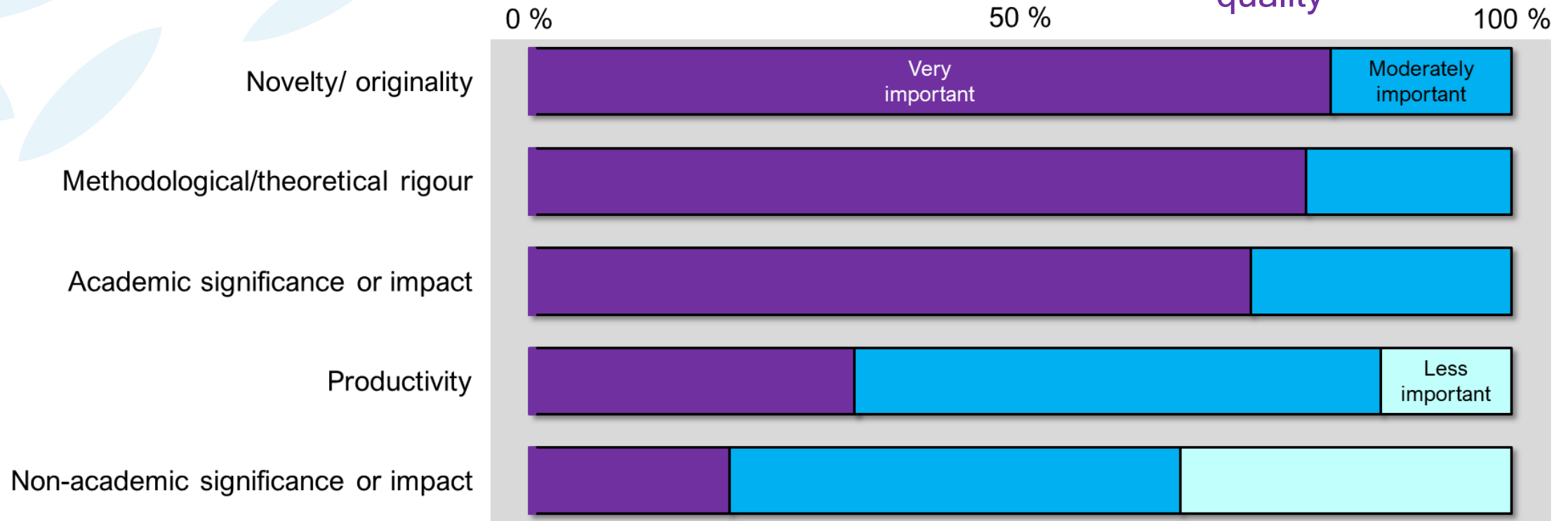
How do organisations understand research quality?



62 %

of organisations do not have a formal definition of research quality

Novelty/originality
Methodological/Theoretical rigour
Academic Significance/Impact



Main Challenges that research organisations face during assessment processes



1. Research organisations describe the need for continued effort in **combating all forms of bias, discrimination, and unfair treatment**
2. Pressure exerted on assessment systems by limited funds and/or positions makes distinguishing and **ranking proposals/applicants of similar quality** (particularly around funding thresholds) more difficult.
3. The **cost and efficiency of assessment systems** is a major challenge (particularly for those that have moved towards more **qualitative assessments**).
4. **Balancing the effort and time of both applicants and reviewers.**

Science Europe Position Statement & Recommendations



TRANSPARENCY

Assessment processes must be clear and transparent at all stages



EVALUATING ROBUSTNESS

Assessment processes should be monitored and evaluated, and best practices shared



BIAS, DISCRIMINATION & UNFAIR TREATMENT

Research organisations should publicly show how they address bias, discrimination and unfair treatment



COST, EFFICIENCY & APPLICANTS' EFFORT

Assessment processes should be streamlined and standardised to improve efficiency for all involved



BROADENING THE POOL OF REVIEWERS

Research organisations should consider broader selection criteria for reviewers and suitably recognise their work



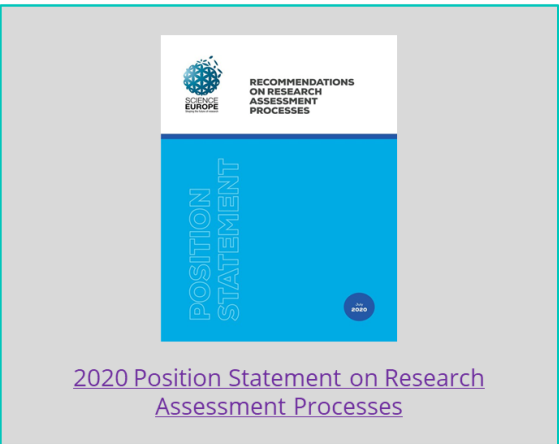
QUALITATIVE ASSESSMENTS

Assessment processes should enable evaluations to focus on content and consider a wide range of research outputs and activities



NOVEL APPROACHES

Research organisations should consider novel approaches to assessments in an evidence-based manner and share their experiences



[2020 Position Statement on Research Assessment Processes](#)

www.scieur.org/assessment



More collective action is needed to safeguard the sustainability and health of the system.

All stakeholders should be involved in the process of further change.

Reform should encourage mutual adaptation and shared responsibility, but maintain some degree of flexibility to account for the variety of approaches to assessment.

Next steps for Science Europe



Activity on the recognition systems of research (2021-2022)



To develop scenarios for possible recognition systems that reposition the values of quality research assessment systems centrally in the policies and practices of RFOs and RPOs.

Scoping Questionnaire on Research Culture and the values that underlie research systems.



To promote a broad 'culture' perspective across priority areas, linking topics of: team science, research integrity, transdisciplinarity to foster healthy and quality-driven research cultures across Europe.

FINAL REMARKS ON OPEN SCIENCE: OPPORTUNITIES FOR DOCTORAL EDUCATION

- **Open Science is today the best way to ensure optimal use of research investments and their results. Surely, it requires investments and changes in the way research is conceived, performed and assessed.**
- **It benefits the research mission, enhancing its processes and transparency of the research activity. It fosters inter/intra/supra/multi/disciplinary.**
- **Doctoral education and training is crucial to making open science ‘the new normal’**
- **Research related to Covid-19 has demonstrated that it is possible to generalise Open Science to other fields.**
- **Concerted action by research and societal stakeholders is necessary to make Open Science the ‘new normal’ in doctoral education and training.**