FWF

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NEUES ENTDECKEN
TALENTE FÖRDERN
IDEEN UMSETZEN

WIR. FÖRDERN. ZUKUNFT.

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Austrian Science Fund (FWF)
Research Data Management

Online Workshop, 08.06.2021

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FWF Open Science Manager

Mandatory Data Management Policy from 01.01.2019

1. **Mandatory Data Management Plan (DMP) for all FWF projects** (Research Data Management (fwf.ac.at)
2. **Mandatory Open Access Policy for research data** (Open Access to Research Data (fwf.ac.at)

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FWF- Research Data Management

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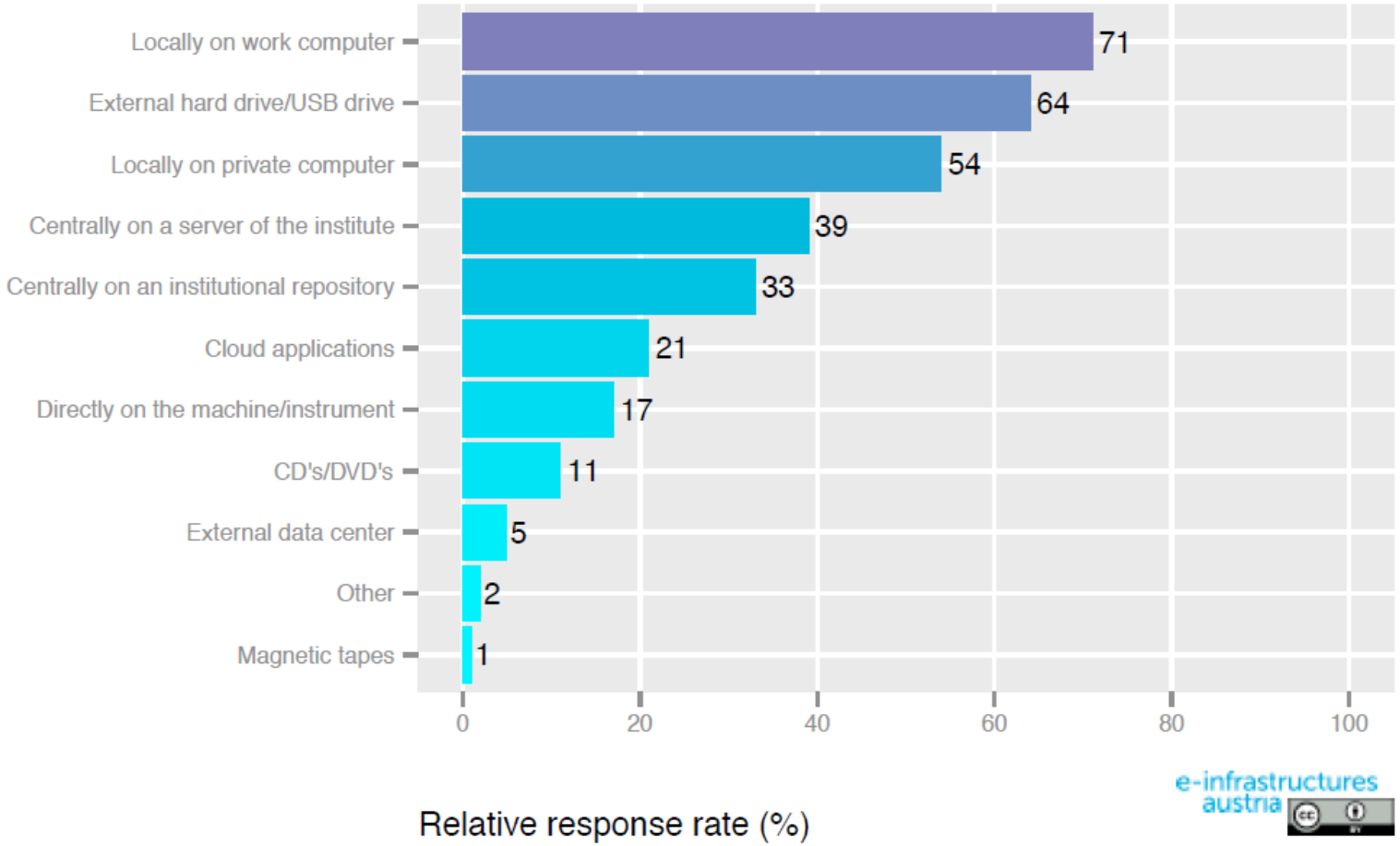
Where do you usually store your research data?



Source: Bauer B. et al (2015): Researchers and Their Data. Results of an Austrian Survey- Report 2015.Online: https://services.phaidra.univie.ac.at/api/object/o:409318/diss/Content/get

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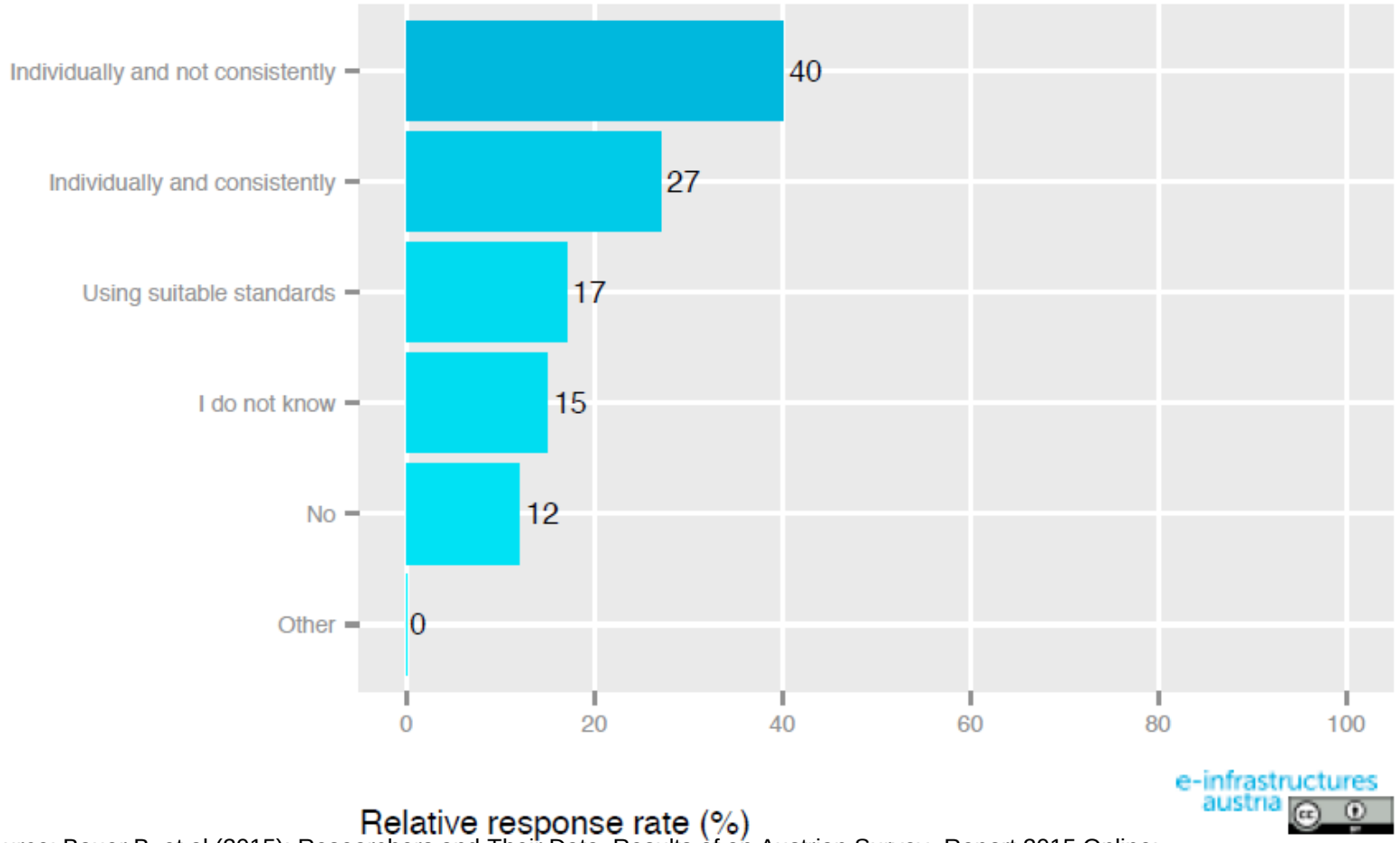
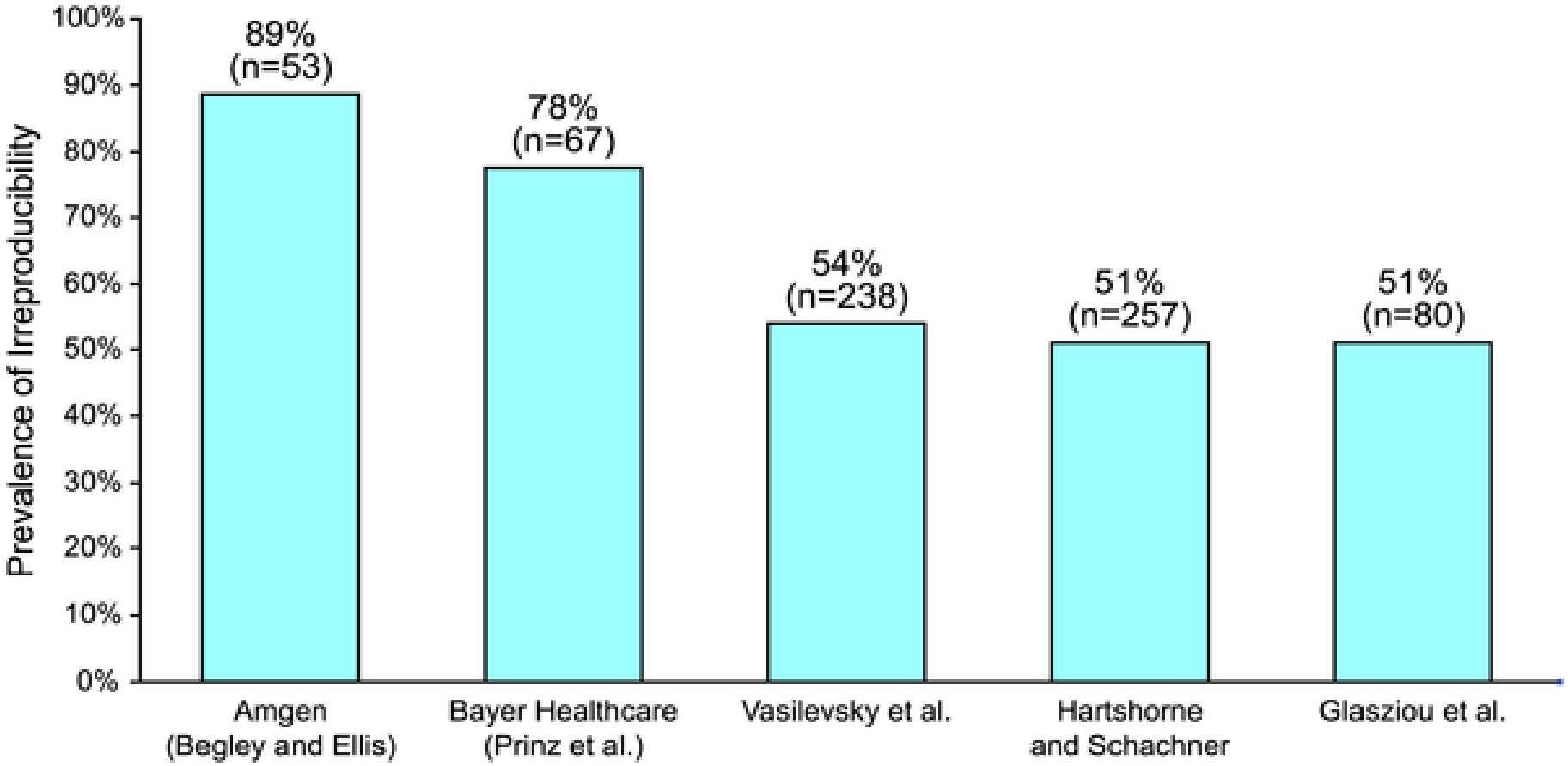
Do you normally document your research data?



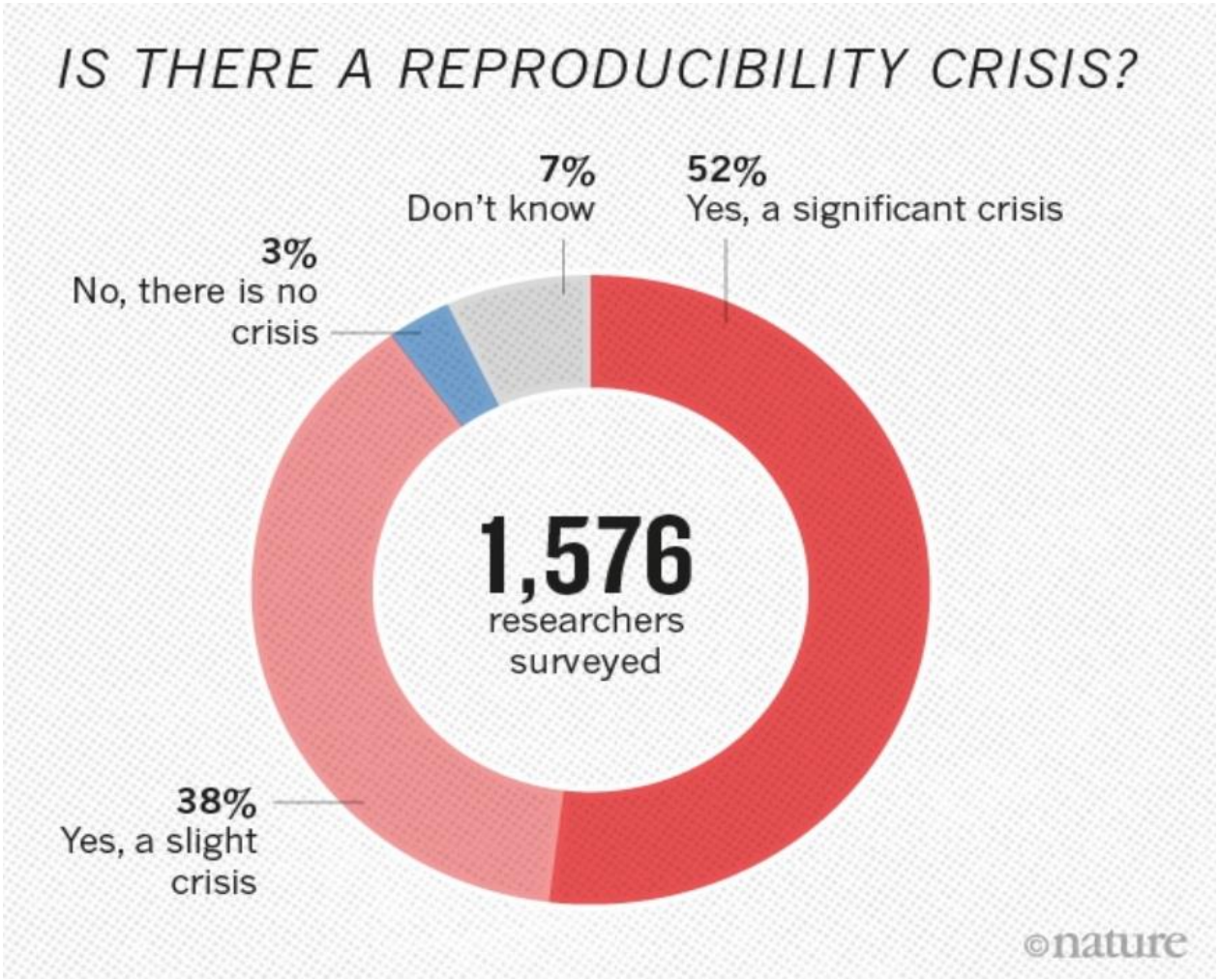
e-infrastructures austria

Source: Bauer B. et al (2015): Researchers and Their Data. Results of an Austrian Survey- Report 2015.Online: https://services.phaidra.univie.ac.at/api/object/o:409318/diss/Content/get

Studies reporting the prevalence of irreproducibility



Source: Freedman LP, Cockburn IM, Simcoe TS (2015) The Economics of Reproducibility in Preclinical Research. PLOS Biology 13(6): e1002165. https://doi.org/10.1371/journal.pbio.1002165
https://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.1002165



Source: Baker, M (2016): 1,500 scientists lift the lid on reproducibility. Nature 533, 452-454. https://www.nature.com/news/1-500-scientists-lift-the-lid-on-reproducibility-1.19970

Why research data management?

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- Ensure FAIR data – findable, accessible, interoperable and re-useable
- Avoid data loss
- Save time and resources
- Acceleration of the research process
- New insights through the consolidation of data
- Creation of higher-value data products (e.g. indices, databases) by merging data
- Good research practice
- …

International Data Management Policies and Plans

- NIH Data Sharing Policy and Pan
- Welcome Trust Policy on data, software and materials management and sharing
- SNF Data Management Plan
- Horizon 2020 Data Management Template
- NWO Data Management Protocol
- ERC Data Management Template

DMP Funder mandates

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Country	Organisation	With grant application	After grant approval	After start of project	DMP updates	Final DMP at end of project
AT	Austrian Science Fund (FWF)	N/A	✓	N/A	✓	✓
FR	French National Research Agency (ANR)	N/A	N/A	✓ within 6 months of project launch	✓ for projects longer than 30 months an update is requested halfway through the project	✓
FI	Academy of Finland (AKA)	✓	N/A	N/A	✓	✗
IE	Irish Health Research Board (HRB)	N/A	N/A	✓ within 6 months of the grant starting	✗	✓
NL	Dutch Research Council (NWO)	N/A	✓ within 4 months of grant approval	N/A	✗	✗
PL	Polish National Science Centre (NCN)	✓	N/A	N/A	✗	✓
SE	Swedish Research Council (VR)	N/A	✓ before research project starts	N/A	✓	✗
CH	Swiss National Science Foundation (SNSF)	✓	N/A	N/A	✓	✓

Source: Science Europe (2020): Implementing Research Data Management Policies Across Europe: Experiences from Science Europe Member Organisations https://www.scienceeurope.org/our-resources/implementing-research-data-management-policies-across-europe/

Alignment

Source: Science Europe (2021): Practical Guide to the International Alignment of Research Data Management - Extended Edition - Science Europe. https://www.scienceeurope.org/our-resources/practical-guide-to-the-international-alignment-of-research-data-management/

DMP Evaluation Rubric

DMP Question	DMP Guidance	Performance Levels	
GENERAL INFORMATION			
Guidance for Researchers		**Sufficiently Addressed The DMP…**	**Insufficiently Addressed The DMP…**
Administrative information	• Provide information such as name of applicant, project number, funding programme, version of DMP.	• Contains the minimal information required to identify the applicant and the references of the project.	• Provides no or limited information, which makes it hard to identify who is responsible for the project.
1 DATA DESCRIPTION AND COLLECTION OR RE-USE OF EXISTING DATA			
Guidance for Researchers		**Sufficiently Addressed The DMP…**	**Insufficiently Addressed The DMP…**
1 a **How will new data be collected or produced and/or how will existing data be re-used?**	• Explain which methodologies or software will be used if new data are collected or produced. • State any constraints on re-use of existing data if there are any. • Explain how data provenance will be documented. • Briefly state the reasons if the re-use of any existing data sources has been considered but discarded.	• Gives clear details of where the existing data come from and how new data will be collected or produced. It clearly explains methods and software used. • Explains, if existing data are re-used, how these data will be accessed and any constraints on their re-use. • Explains clearly, if applicable, why new data must be collected, instead of re-using existing data.	• Provides little or no details on where the data come from and what data will be collected or re-used. • Does not, if applicable, provide sufficient rationale for generating new data.
1 b **What data (for example the kind, formats, and volumes) will be collected or produced?**	• Give details on the kind of data: for example, numeric (databases, spreadsheets), textual (documents), image, audio, video, and/or mixed media. • Give details on the data format: the way in which the data is encoded for storage, often reflected by the filename extension (for example pdf, xls, doc, txt, or rdf).	• Clearly describes or lists what data types will be generated (for example numeric, textual, audio, or video) and their associated data formats, including, if needed, data conversion strategies. • Explains why certain formats have been chosen and indicates if they are in open and standard format. If a proprietary format is used, it explains why.	• Provides no or little details on what data types will be generated and does not provide a valid reason for this omission (for example a statement that no data will be produced or generated). • Only lists/describes the kinds of data without specifying their formats.

Data Management at FWF

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Before 2019:

- **Application:**

  When planning your budget, please note the FWF's Open Access Policy, including point VI "Open Research Data". This means that, depending on the research topic, [...] funds should be budgeted to ensure the preparation, archiving, open access and subsequent use of research data in repositories.

- **Program Stand-Alone Publications:**

  For new publication formats such as apps, wikis, software, databases, videos, etc., the FWF grants a lump sum up to a maximum of 50,000.00 EUR.

Open Research Data Pilot (2016)

- 41 applications; 12 projects funded in 2017
- Aim: The pilot aims to create role models and to gain experiences with open access to research data so that in line with the concept of Open Science open research data becomes the norm for all FWF projects in the future
- Austrian Science Fund (FWF) Open Research Data (ORD) Pilot Report

Research Data Management

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From **1 January 2019**, the FWF **requires a data management plan** (DMP) supplemental to **all approved grant proposals**. A DMP outlines how the data for a specific project will be collected, organised, stored, backed-up, preserved, shared, archived and disposed.

The FWF has defined **a minimum set of questions** that comprise the **DMP** and that are to be addressed in the DMP template. The FWF DMP is in line with Science Europe's "Core Requirements for Data Management Plans".

Exceptions

The FWF recognises that some projects will not generate or analyse research data [1] and similar materials. In these cases, a short explanation is required (see DMP template(pdf, 817KB) / DMP template(docx, 35KB)).

Workflow

- The DMP must be **submitted together with the public relations (PR) abstracts and the FWF Funding Agreement** once the FWF Board has approved a grant contribution.
- The DMP is a **prerequisite for the start** of the project and will be checked for completeness by the FWF.
- It must be written in the **same language as the grant proposal**.
- The DMP should only contain the most important information and must not exceed a length of 10,000 characters (including spaces).
- If further information is necessary, it can be provided by links to external sources.

Financing

Within grant proposals, **costs for the preparation, archiving, open access and later use of research data in repositories can be requested**. For further information, see the application guidelines for grant proposals.

DMP-Template

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	Data Officer	*Who is responsible for the data management and the DMP of the project (name/email address)?*
I	**Data Characteristics**	
I.1	**Description of the data**	*What kinds of data/source code will be generated or reused (type, format, volume)?* *How will the research data be generated and which methods will be used?* *How will you structure the data and handle versioning?* *Who is the target audience?*
II	**Documentation and Metadata**	
II.1	**Metadata standards**	*What metadata standards (if any) will be in use and why? (see Digital Curation Centre)*
II.2	**Documentation of data**	*What information is needed for the data to be findable, accessible, interoperable and re-usable (FAIR) in the future?* *Is the data machine-readable?* *How are you planning to document this information?*
II.3	**Data quality control**	*What quality assurance processes will you adopt?* *How will the consistency and quality of data collection be controlled and documented? (This may include processes such as repeat samples or measurements, standardised data capture, peer review of data or representation with controlled vocabularies.)*
III	**Data Availability and Storage**	
III.1	**Data sharing strategy**	*How and when will the data be shared and made accessible?* *What repository will you be using?* *What persistent identifier will be used?*
III.2	**Data storage strategy**	*What data are to be preserved for the long-term, and what data will not be stored? How and where will the data be stored and backed up during the research?* *How and where will the data be stored after the project ends?* *For how long will the data be stored?* *Are there any costs that need to be covered for storage?* *At what point during or after the project will the data be stored?* *Are there any technical barriers to making the research data fully or partially accessible?*

Source: https://www.fwf.ac.at/de/forschungsfoerderung/open-access-policy/forschungsdatenmanagement/

DMP-Template

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IV	Legal and Ethical Aspects	
IV.1	**Legal aspects**	*Are there any legal barriers to making the research data fully or partially accessible?* *Who owns the data?* *What licence for reuse are you planning to attach to the data?* *Are there any restrictions on the re-use of the data? If so, why?*
IV.2	**Ethical aspects**	*Are there any ethical barriers to making the research data fully or partially accessible?* *If applicable, how are you planning to deal with sensitive data during and after the project?* *Consider "Ethics for researchers" published by the European Commission or "The European Code of Conduct for Research Integrity".*

No data will be generated or analysed	*The FWF recognises that some projects will not generate or analyse research data and similar materials. In these cases, a short explanation is required.*

	Data Officer	*Who is responsible for the data management and the DMP of the project (name/email address)?*
I	**Data Characteristics**	
I.1	**Description of the data**	*What kinds of data/source code will be generated or reused (type, format, volume)?* *How will the research data be generated and which methods will be used?* *How will you structure the data and handle versioning?* *Who is the target audience?*
II	**Documentation and Metadata**	
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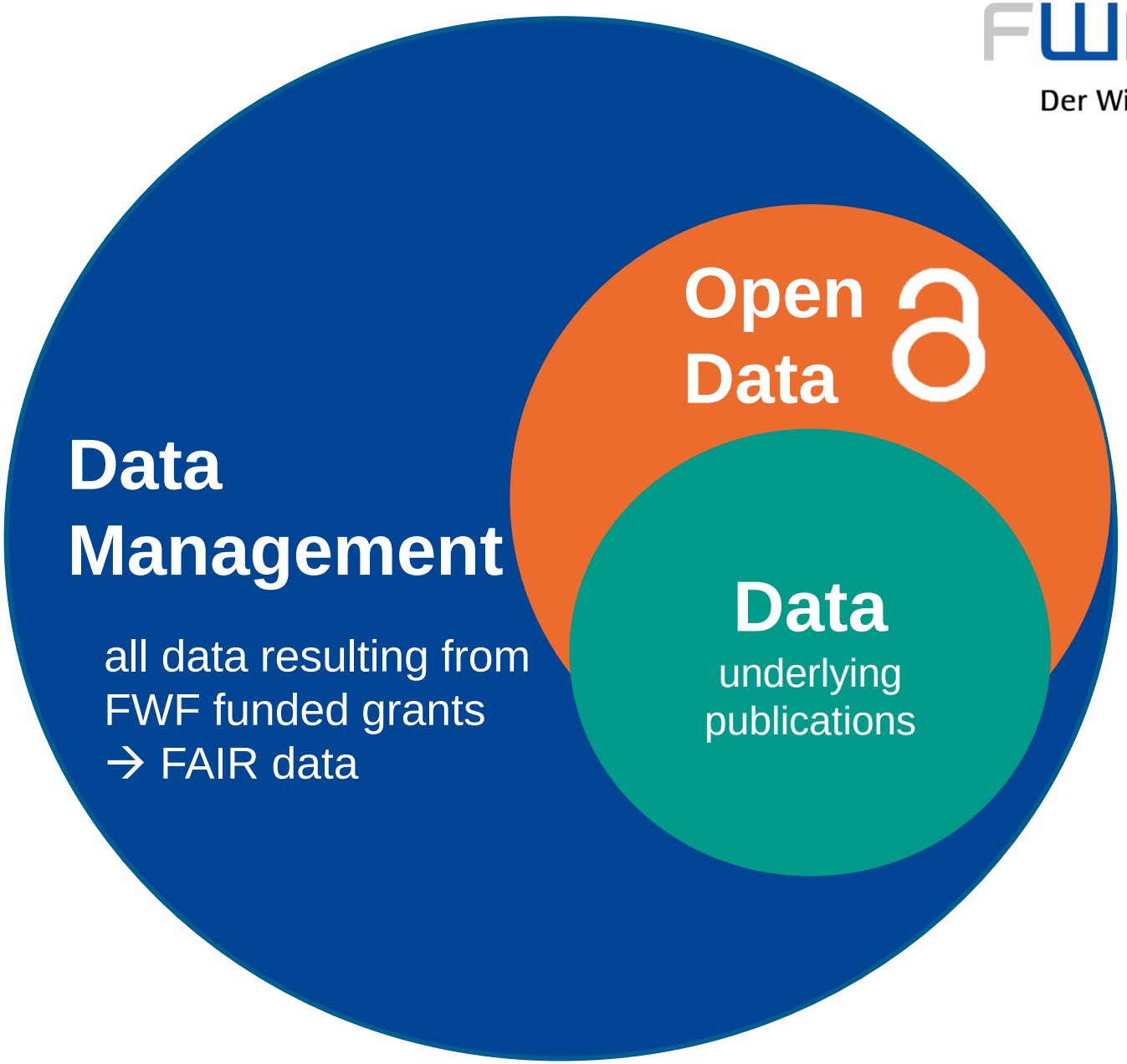
Data Management
all data resulting from FWF funded grants
→ FAIR data
Open Data
Data
underlying publications

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Open Access to Research Data

Demand for Open Research Data

“Open scientific research data should be easily discoverable, accessible, assessable, intelligible, useable, and wherever possible interoperable to specific quality standards.” G8 Science Ministers Statement (2013)

“The benefits from opening up research data for scrutiny and reuse are potentially very significant; including economic growth, increased resource efficiency, securing public support for research funding and increasing public trust in research.”
Concordat on Open Research Data UK (2016)

OECD Principles and Guidelines for Access to Research Data from Public Funding (2007)

A. Openness
B. Flexibility
C. Transparency
D. Legal conformity
E. Protection of IP
F. Formal responsibility
G. Professionalism
H. Interoperability
I. Quality
J. Security
K. Efficiency
L. Accountability
M. Sustainability

Open Access Policy to Research Data

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The Austrian Science Fund (FWF) expects open access to research data [1] collected and/or analysed using FWF funds for projects approved from 1 January 2019 under the new guidelines.

Open access is mandatory for research data on which the research publications of the project are based. Research data are all data necessary to reproduce and to verify the results of the publications, including the associated metadata. These data should be published as soon as possible, but at the latest together with the corresponding research publication. If, **for legal, ethical or other reasons, open access to these data is not or only partially possible, this must be explained** in the Data Management Plan (DMP). (see Research Data Management).

Open Access Policy to Research Data

Open access to all other research data from a project is at the discretion of the principal investigator. This includes curated data that cannot be directly assigned to a publication or raw data, including the associated metadata. In any case, such data must also be described in the Data Management Plan (DMP), (see Research Data Management).

Open Access Policy to Research Data

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Criteria for Open Research Data

All research data and their metadata should be findable, accessible, interoperable and reusable (fulfil the FAIR Principles) and the following criteria must apply:

- Institutional, discipline-specific or interdisciplinary repositories (such as Zenodo, Dryad or Open Science Framework) can be used for archiving. The selected repositories must be **listed in re3data.** In addition, certified repositories (e.g., CoreTrustSeal) and those that meet the "Criteria for the Selection of Trustworthy Repositories"of Science Europe are explicitly recommended.
- Data should be deposited in such a way that it **can be re-used without restrictions** (e.g., CC BY or a similar open licence). For further information on open licences, see "How to License Research Data".
- Deposited datasets must be **citable by means of a persistent identifier** (e.g., DOI). For further information on the citation of data, see "The Joint Declaration of Data Citation Principles".

Further information:

- FWF Open-Access-Policy
- Research Data Management at FWF
- @FWFOpenAccess @KatharinaRieck