

## WHY SHOULD I MAKE MY RESEARCH DATA FAIR?

**Your research data is valuable**, because you invest energy, time and effort to generate it, analyze it and possibly publish it in the future.

**Your data is also valuable to other scientists** because it helps **advance science and humanity** itself.

In the course of your project you probably generate various kinds of data and although you know your data inside out when you actively work with it, you might be **overwhelmed when it comes to managing** it.

A good starting point for **research data management** in your project are the **FAIR Principles** (<https://www.go-fair.org/fair-principles/>). They provide **guidelines** that help you tackle your data, make it **understandable** and make it **sharable**.

## WHAT DOES FAIR STAND FOR?

**F**indable: Data are described by **rich metadata**; (meta)data are indexed in search engines and are assigned unique **Persistent IDentifiers** (PIDs).

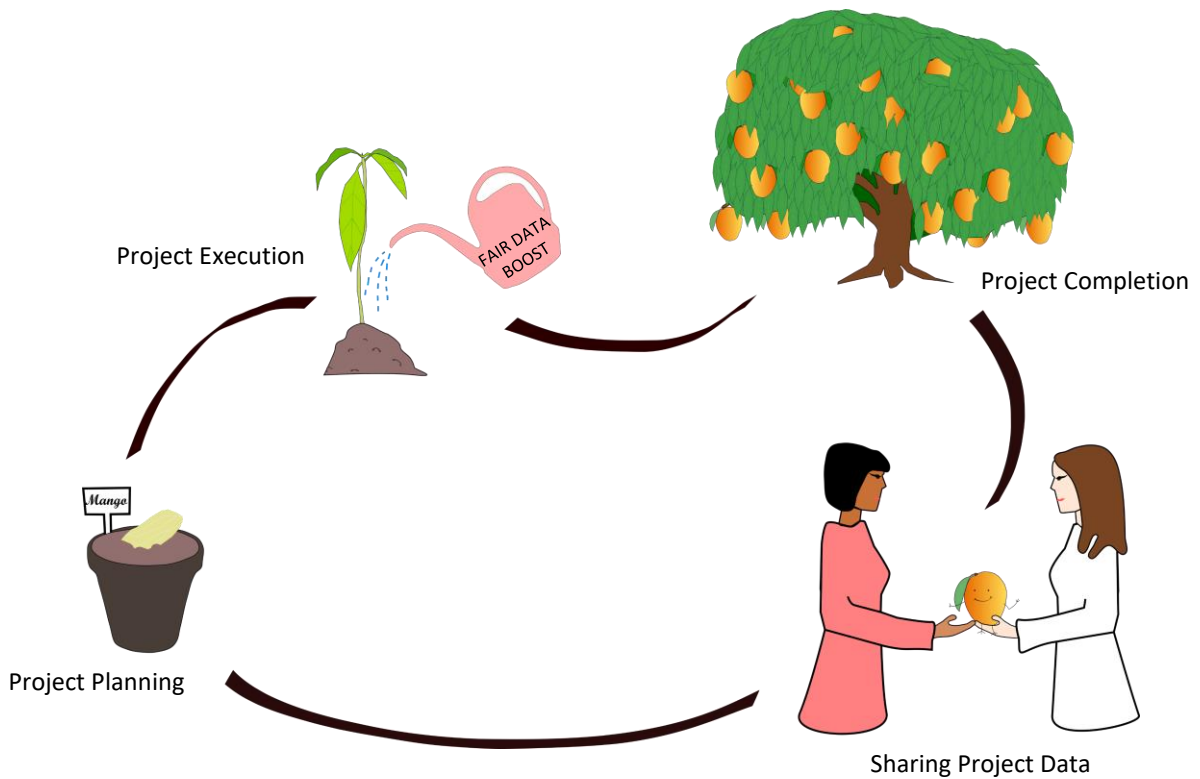
**A**ccessible: **Access** to the (meta)data is as **permanent and browser-based** as possible; any **restrictions** on the data are **clearly defined**.

**I**nteroperable: Whenever possible, **open formats and standards for data and metadata** are used. This enables (meta)data to be opened in different IT environments.

**R**eusable: The data has **open and clear licenses**; the data is described and contextualized (= **clearly documented**) so other researchers can understand, interpret and use the data.

**REMEMBER!** FAIR data is not necessarily open data.  
**Make sure your data is as open as possible but still as closed as necessary!**

To ensure you and others can get the most out of your data, try to **follow the FAIR Principles in all phases of your research project life cycle:**



## QUICK START GUIDE TO MAKING YOUR DATA FAIR



### Project Planning

- Get to know the Good Research Practice DFG Guidelines and the FAIR Principles.
- Write a Data Management Plan and keep it up-to-date.
- Think about legal and ethical aspects and clarify them as soon as possible.

#### Further reading:

- **Project planning guidelines** (internal Confluence platform): <https://confluence.team.uni-bonn.de/x/rE8bC>
- **Good Research Practice**: <https://doi.org/10.5281/zenodo.6472827>
- **FAIR Principles**: <https://www.go-fair.org/fair-principles/>
- More about **Data Management Plans** (internal Confluence platform): <https://confluence.team.uni-bonn.de/x/rE8bC>
- Decision tree for **legal aspects in Germany** (in German): <https://doi.org/10.5281/zenodo.3368292>
- Fact Sheet **Personal Data**: <https://doi.org/10.5281/zenodo.4035991>



### Project Execution

- Establish folder and file naming conventions in your team, write them down and stick to them.
- Set up a routine to check for trash files and whether the files are ordered and properly named.
- Choose file formats that are open, broadly used and established in your discipline.
- Version your files and make sure to backup all your data on a regular basis.
- Document your data from the start. Prepare a readme.txt file, data dictionary and/or code book to help you keep track of how you analyze your data.

#### Further reading:

- **Project execution guidelines** (internal Confluence platform): <https://confluence.team.uni-bonn.de/x/6FAbC>
- Recommended **file formats**: <https://www.ukdataservice.ac.uk/manage-data/format/recommended-formats>
- **Data documentation guidelines**: <https://ukdataservice.ac.uk/learning-hub/research-data-management/#document-your-data>
- **README: File & Folder Schema** by MIT Libraries Data Management Services: [https://www.dropbox.com/s/ritd1mwyaz2dh6/Sample\\_README\\_fileOrg.docx?dl=0](https://www.dropbox.com/s/ritd1mwyaz2dh6/Sample_README_fileOrg.docx?dl=0)
- **File naming convention worksheet**: <https://resolver.caltech.edu/CaltechAUTHORS:20200601-161923247>
- **README file template**: [https://www.forschungsdaten.uni-bonn.de/en/media/author\\_dataset\\_readmetemplate.txt](https://www.forschungsdaten.uni-bonn.de/en/media/author_dataset_readmetemplate.txt)
- **Raw data, versioning and backup**: <https://doi.org/10.5281/zenodo.4041556>
- Learn **git**: <https://git-scm.com/book/en/v2>
- **Duplicati**: A backup software recommended by the University IT and Data Center (HRZ): <https://confluence.team.uni-bonn.de/x/e4xwAw>
- What if you lost your data? **A risk assessment activity**: <https://hdl.handle.net/2142/114425>

## QUICK START GUIDE TO MAKING YOUR DATA FAIR



## Project Completion and Sharing Project Data

- Select consciously which data to preserve and share.
- Remember to check for inconsistencies in the files and file names. Clean up your data.
- Confirm that the dataset and its documentation are comprehensible.
- Make sure that you chose file formats that are open or at least widely used in your community.
- Where will you publish the data and metadata?
- Pick a license for your data and software. Will the data be open or the access has to be restricted?
- Where will you archive your dataset for the longer-term? Make sure the data is stored securely!

How FAIR is your data?: <https://ardc.edu.au/resources/working-with-data/fair-data/fair-self-assessment-tool/>  
How FAIR is your software?: <https://fair-software.eu/>

## Further reading:

- **Project completion guidelines** (internal Confluence platform): <https://confluence.team.uni-bonn.de/x/9IAbC>
- What are **metadata**?: <https://data.research.cornell.edu/content/writing-metadata>
- Repository Registry **re3data**: <https://www.re3data.org/>
- **Data and software license selector**: <https://ufal.github.io/public-license-selector/>
- Assistant: **Creative Commons Mixer**: <https://ccmixer.edu-sharing.org/>
- **Project close-out checklist** : <https://resolver.caltech.edu/CaltechAUTHORS:20200519-142758925>
- **Generalist Repository Comparison Chart**: <https://doi.org/10.5281/zenodo.3946719>
- **Research data repositories at the University of Bonn**: [https://www.forschungsdaten.uni-bonn.de/en/services/data-repositories?set\\_language=en](https://www.forschungsdaten.uni-bonn.de/en/services/data-repositories?set_language=en)

DO YOU HAVE QUESTIONS? NEED MORE HELP?  
GET IN CONTACT! [researchdata@uni-bonn.de](mailto:researchdata@uni-bonn.de)

