

# Assessing FAIRness

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# Why should we assess FAIRness?

- Assessing the “compliance” with the FAIR principles is in itself a bit strange, since they are not a standard
- However, if we formulate suitable criteria for each of the concepts and/or the principles, it is possible to test against these
- The FAIRness of different data sets from one producer, or found in a given repository, can then be compared
- Funders and other stakeholders are interested in scoring outcomes, as a type of Key Performance Indicator (KPI)
- BUT:
  - Reaching 100% FAIR is often unrealistic – aim for “FAIR enough”!
  - High FAIRness says nothing about quality or fitness-for-use of the data!

# Machine-actionable assessment tools

There are several recent and on-going projects that are working on “automatic” systems for FAIRness assessment – compare Barbara’s presentation!

- FAIR Metrics (<https://github.com/FAIRMetrics>)
- FAIRness Scorer (<https://github.com/envri-fair/fairness-scorer>)
- FAIR Implementation Matrix (<https://osf.io/n7uwp/>)
- ...

To prepare for running such tests needs a high level of understanding of technical aspects of data management.

# Assessment tools for humans

There are several tools that are intended for human use

- These are often combining training on FAIR concepts with the actual FAIRness evaluation
- This doesn't make them any less useful!
- Good tools include
  - ANDS FAIR self-assessment tool  
<https://www.ands-nectar-rds.org.au/fair-tool>
  - OzNome 5 Star Data Rating tool  
<http://oznome.csiro.au/5star/>
  - FAIRDAT assessment tool (prototype)  
<https://www.surveymonkey.com/r/fairdat>
  - How FAIR is your data?  
<https://forms.gle/eBagszpWKVz5NKpp7>

# Criteria for evaluation

- A number of working groups of the Research Data Alliance (RDA) are looking into FAIRness assessment criteria
- One of these, the [FAIR Data Maturity Model WG](#) has made a comparison of a number of approaches:
  - Big Data Readiness
  - FAIR Metrics
  - FAIR Evaluator
  - Data Stewardship Wizard
  - FAIR data assessment tool
  - FAIR enough? Checklist to evaluate FAIRness for researchers
  - Checklist for Evaluation of Dataset Fitness for Use
  - Support Your Data
  - Fairness assesment tools for crediting/rewarding researchers data sharing activities
  - NCEI/CICS-NC Data Stewardship Maturity Matrix
  - WMO Stewardship Maturity Matrix for Climate Data (SMM-CD)
  - NCEI/ESIP-DSC Data Use and Services Maturity Matrix

Source: [FDMM collaborative GoogleSheet](#)

# Example of outcome:F3

## F3 metadata clearly and explicitly includes the identifier of the data it describes

1 Is the dataset identifier included in all metadata records/files describing the data?

No  
Yes

5 Please provide the IRI of the metadata

7 Whether the metadata document contains the globally unique and persistent identifier for the digital resource

10 Are the metadata linked to the dataset through a persistent identifier?

Never /NA  
If mandatory  
Sometimes  
Always

1 ANDS-NECTAR-RDS-FAIR data assessment tool

5 FAIR Metrics Questionnaire

7 FAIR Evaluator

10 RDA-SHARC Evaluation

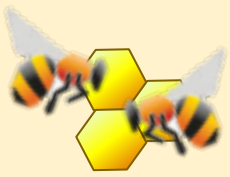
Source: [FDMM collaborative GoogleSheet](#)

# Suggested minimal criteria: F3

F3. metadata clearly and explicitly include the identifier of the data it describes

Presence of globally unique and eternally persistent identifier in the metadata

- **NO** globally unique and eternally persistent identifier
- Globally unique and eternally persistent identifier (e.g. DOI)



# Try it yourself!

**Split up into groups of 3-4 people and try out one of these tools (30 mins):**

- ANDS FAIR self-assessment tool  
<https://www.ands-nectar-rds.org.au/fair-tool>
- OzNome 5 Star Data Rating tool  
<http://oznome.csiro.au/5star/>
- FAIRDAT assessment tool (prototype)  
<https://www.surveymonkey.com/r/fairdat>
- How FAIR is your data?  
<https://forms.gle/eBagszpWKVz5NKpp7>