

Basic Goals and Principles

Basic recommendations and assumptions to develop and activate a FAIR Dataspace for the Helmholtz Association

Description

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Motivation for this Recommendation:

The Helmholtz Association is determined to make their data available according to the FAIR principles, thus making it findable, accessible, interoperable and reusable. This is expressed in the “Recommendations for Policies of the Helmholtz Centers on Research Data Management” [1].

In order to achieve interoperability of datasets among various data infrastructures (DIS) within the Helmholtz Association,

- a common and agreed procedure to refer to common information is needed
- common semantic concepts need to be implemented
- common data exchange containers and formats need to be defined and implemented
- common interfaces and data exchange protocols need to be agreed upon

These following recommendations aim to describe procedures to achieve the above-mentioned goals, and identify activities and the relevant stakeholder groups to implement these. This implies that the identified stakeholders assume certain responsibilities in order to make these recommendations work.

As these goals require certain decisions to be made, we describe the decision processes from high-level to lower levels, resulting in agreed procedures. We then describe the conduct of these procedures with respect to the involved stakeholder groups, their responsibilities and the actions to be taken.

The activities may be prioritized for implementation in a specific order or for a particular stakeholder group, either because they are simple to set up, or because they are prerequisites for other recommended activities. These decisions have to be made on a case by case basis, in order to move forward establishing the envisioned data space.

Basic FAIR Implementation Recommendations

Implement the **FAIR building blocks**:

- common use of **PID metadata** to harmonize common metadata (M)
- common use of **standardized interfaces** in repositories and data products to harvest and exchange data (I)
- common use of **semantic resources** (S), e.g. vocabularies, ontologies
- use of **data containers**, e.g. FDOs or data crates, to achieve machine actionability (C)

Other important topics where harmonize procedures are important are:

- well defined **licenses** (L)
- **quality** assessment and control (Q)
- **provenance** tracking (P)
- stakeholder **roles and responsibilities** (R)
- **valuing RDM engagement** (V) by treating published data similar to other publications including DOIs and author references, citable, with licenses and credits to the authors. This includes accountability for publishing credit systems and others. Data citations improve the data set author's score.

A very important precondition for the implementation of these recommendations is the **presence of skilled and highly trained data management personnel**, such as data stewards, data curators, and developers for data management and processing tools.

References

[1] Empfehlungen für Richtlinien der Helmholtz-Zentren zum Umgang mit Forschungsdaten, 2019, Helmholtz Open Science, <https://os.helmholtz.de/open-research-data/forschungsdaten-policies/>

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