**Recommendation **

Recommendation to decompose complex semantic metadata according to community-recognized frameworks

Description

Status: Under development, Date: 2025/07/07 10:18, Version: 001

Motivation for this Recommendation:

Many metadata elements, e.g., a measured quantities or methods, are complex, meaning they combine terms from different categories into a single compound concept. In other words, they consist of multiple metadata components drawn from different categories.

For example, the variable air temperature (°C) does not only specify the measured quantity (temperature) but also includes additional components: the measurement context (air) and the unit (°C).

Because most metadata elements leave room for interpretation regarding which information they should capture, it is crucial to establish binding standards. Such standards must clearly define which components belong to a given metadata element.

The individual components of a metadata element can either be stored in separate fields or, alternatively, combined into a single text string within one field, following a community-agreed syntax.

Recommendation

[shortened from below]

[Format: Wer! macht was! wo! wann! unter welchen Voraussetzungen!]

Binding Convention:

	mandatory	**conditional**	**optional**
Helmholtz FAIR Principle			

Precondition for Implementation:

Related Recommendations

Parent:

Dependent:

Other: none

Contributors

Names of contributors to this recommendation

Content

1. Explanation of the Background and Benefits of the Recommendation

About

History and structure

Current Use of …

Motivation

2. Possible alternative solutions

3. Consideration of the advantages and disadvantages of implementing the recommendation

(quality of content, limitations, interoperability, sustainability: expected future dissemination / technical availability / funding)

4. The Recommendation

Instruments/Devices Manufacturers' names should always be reported as they were *valid at the time of production*. In practice, this means using the name that appears on the instrument label or in the official manual.

- If an instrument is marketed under a brand name, the brand (e.g., Thermo Scientific) not the parent company name (Thermo Fisher Scientific) should be used. If no brand is indicated, the official company name should be given.
- If the instrument was produced by a subsidiary company, use the subsidiary's name at the time of production (e.g., Spectra GmbH), not the later acquirer (X Corp.). Subsequent changes, such as company sales, mergers, or renamings, should *not* be reflected in the metadata.
- In general, the most granular level available (e.g., the concrete brand or subsidiary rather than only the corporate group) should be recorded to ensure precision and avoid ambiguity.

Instrument model names and numbers should be reproduced exactly as they are written on the instrument label or in the accompanying manual, including spaces, special characters, and capitalization. This ensures consistency and guarantees that identical instruments are always represented in the same way across datasets.

5. Naming of communities that have already implemented the recommendation

6. Documentation of the test to validate correct implementation

7. Examples of Instances

Comment: HIER ERLÄUTERN, WIE in XML oder JSON dokumentiert werden; Beispiel.. V´Wie verpackt, um im Protokoll zu packen. unterschiedlich je nach Metadatenschemata; z.B. PANGAEA "kommasepariert in einem Feld" vs SMS or Registry"

8. Further Information

References

Relevant Community Recommendations

9. History of this document

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Last update: **2026/03/30 13:53**