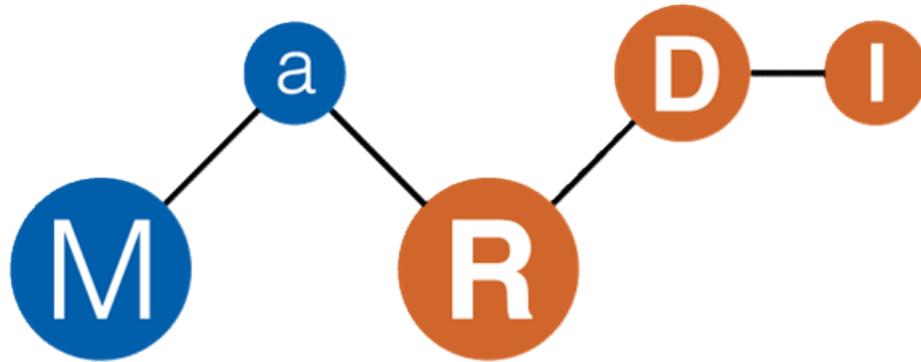


University of Stuttgart
Universitätsbibliothek



NFDI4ing

MaRDI x NFDI4ing

Using metadata interdisciplinary to describe computational experiments

„Wouldn't it be great if we would be able to combine any dataset with any other dataset we would want to?“

[EOSC Strategic Implementation Plan](#), p.4

Find

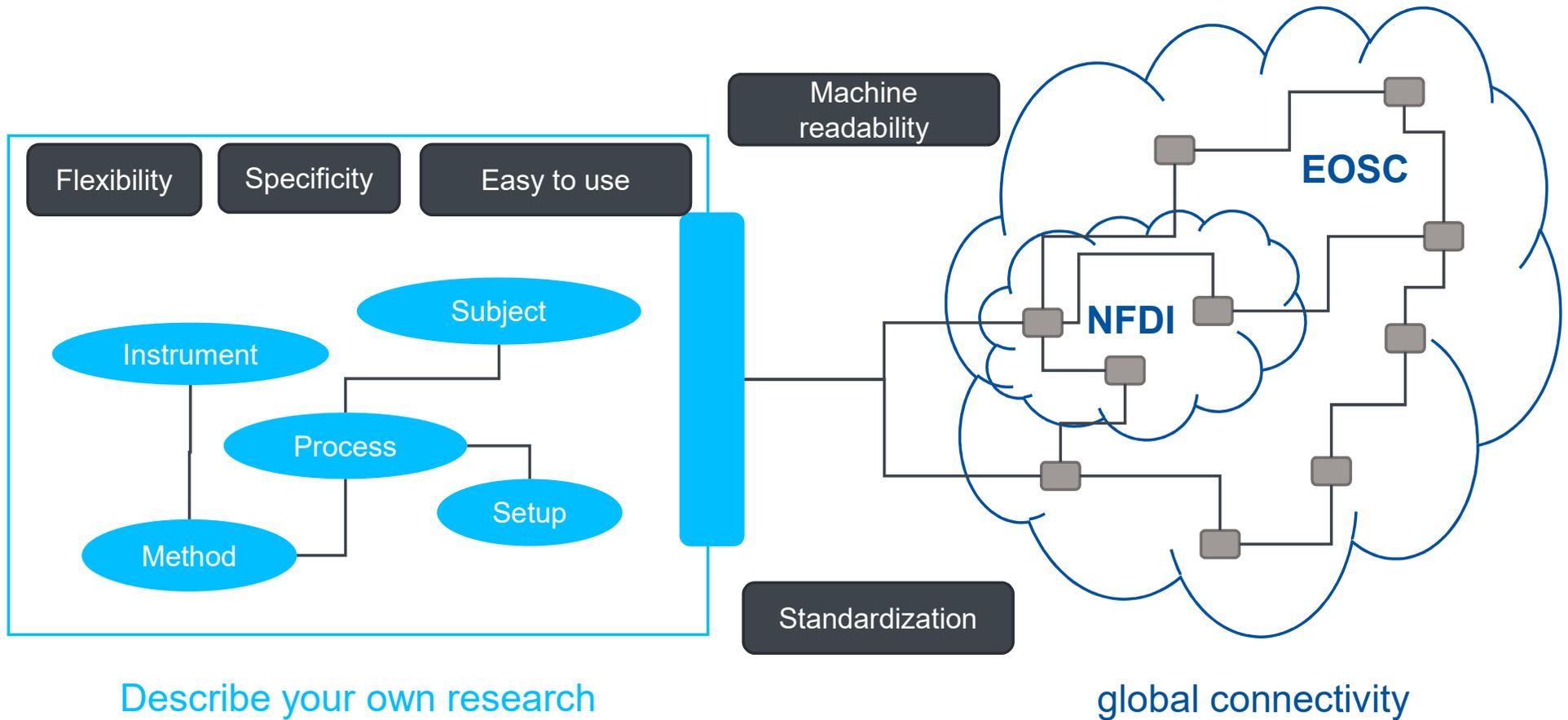
Use

Understand

Combine

Requirements

Specificity vs. interoperability



Approaches to standardize Metadata

SCHEMA BASED

Like [DataCite-Metadatas](#)-Scheme

Defining a set of keys and valid values

Good for validation

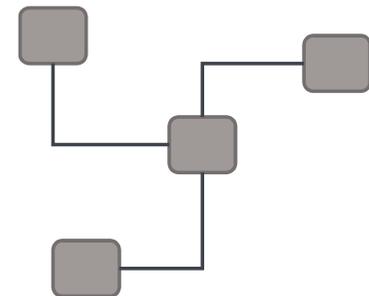


ONTOLOGY BASED

Like Wikidata / Schema.org

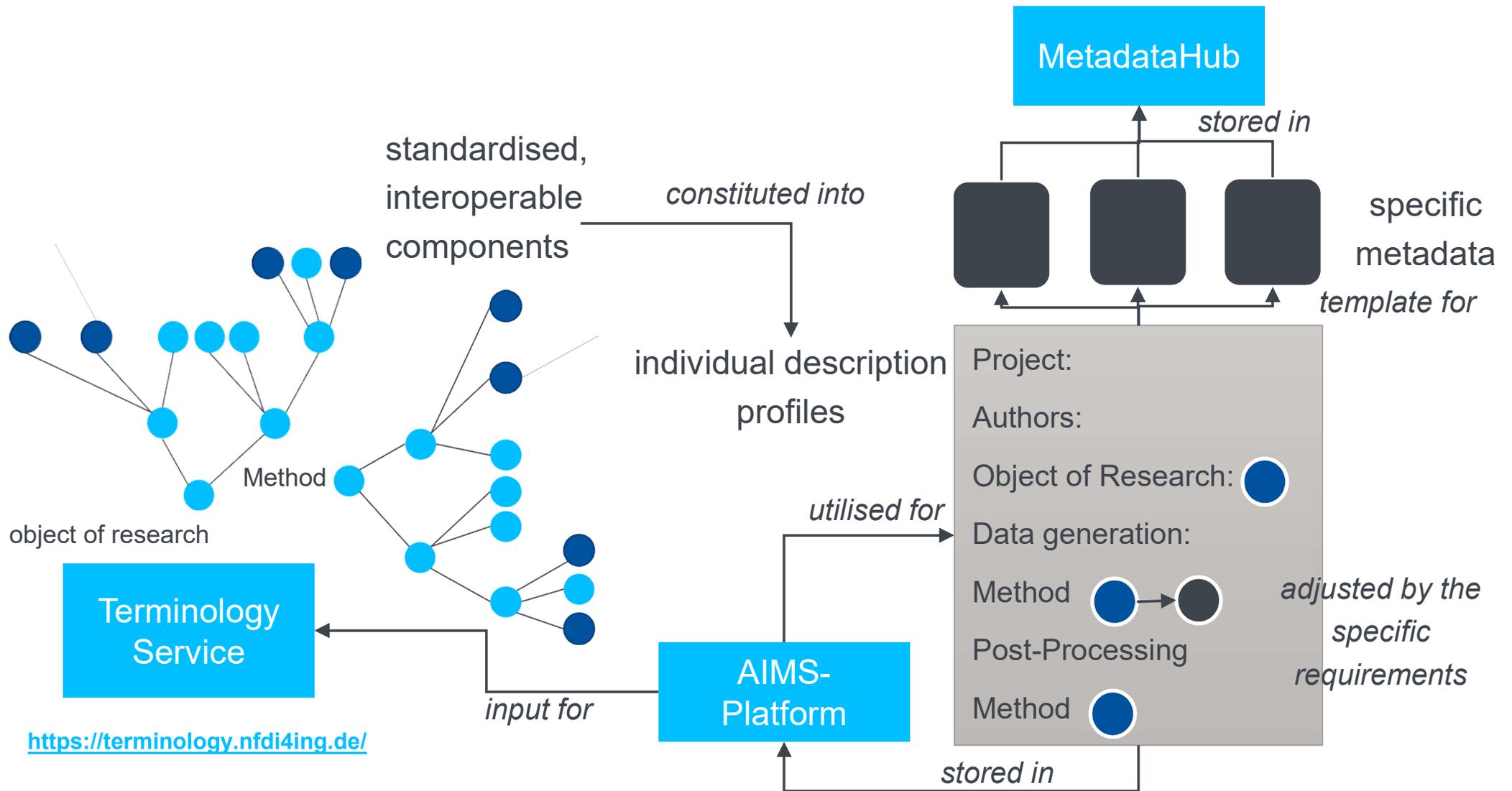
Modelling Classes, Relations and Instances

Good for linking



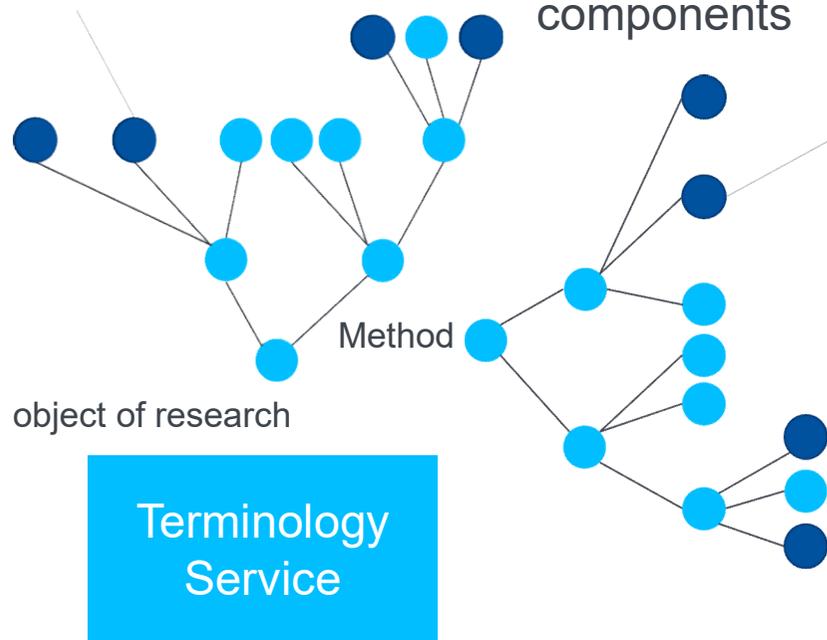
Metadata4Engineering – Activities in NFDI4Ing

What will be developed within NFDI4Ing



What will be developed within NFDI4Ing

standardised,
interoperable
components



<https://terminology.nfdi4ing.de/>

Metadata4Ing

Ontology for
engineering research

Collecting Comptency Questions

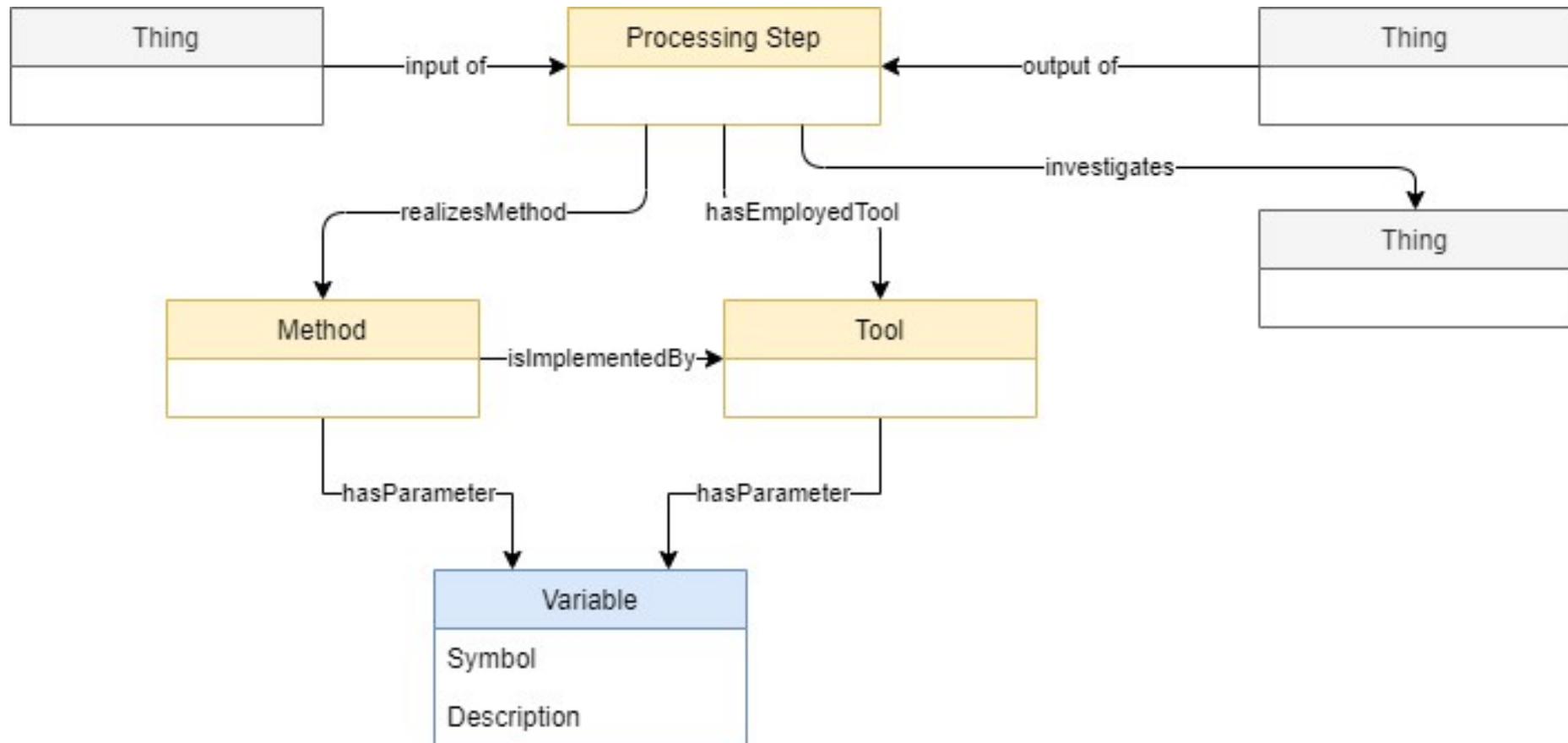
Requirements analysis

- What accuracy can be expected for a correlation/model with respect to a certain thermodynamic property, and how can the accuracy/uncertainty statement be traced back through the workflow by which the correlation/model was generated?   0
#81 · created 2 months ago by Martin Thomas Horsch HPC CC 42 Wärmetechnik/Verfahrenstechnik updated 2 months ago
-
- Wie wurde das System modelliert (mathematisch/DGL, agent-based, ...)?  0
#53 · created 5 months ago by JohnDOEbug HPC Input updated 2 months ago
-
- Auf welchem Gebiet wurde das Modell gerechnet?  0
#50 · created 5 months ago by JohnDOEbug HPC Input updated 2 months ago
-
- Welches sind – soweit anwendbar – die Lizenzbedingungen für Software, Modell und generierte Daten?  0
#44 · created 5 months ago by Martin Thomas Horsch HPC Output updated 2 months ago
-
- Welche Literatur/Publicationen gibt es jeweils zum use case und zum Modell?  0
#40 · created 5 months ago by Martin Thomas Horsch HPC Input updated 2 months ago
-
- Welche Granularität hat das verwendete Modell (elektronisch, atomistisch, mesoskopisch oder Kontinuum)?  0
#36 · created 5 months ago by Martin Thomas Horsch HPC Input updated 2 months ago
-
- Auf welchem Gitter wurde das Modell gerechnet?   1  7

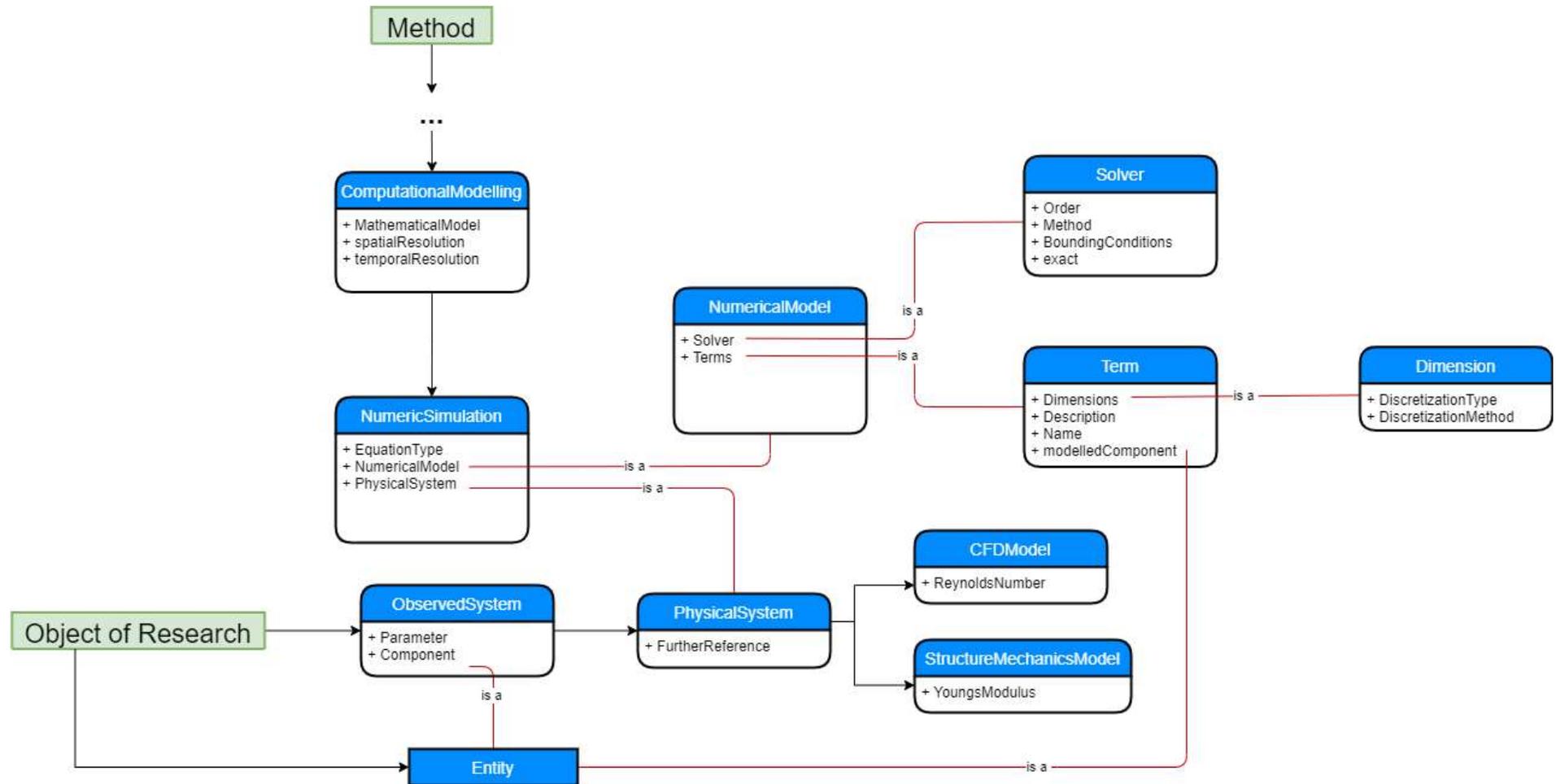
<https://git.rwth-aachen.de/nfdi4ing/metadata4ing/kompetenzfragen/-/issues>

Idea (modularity, standardization)

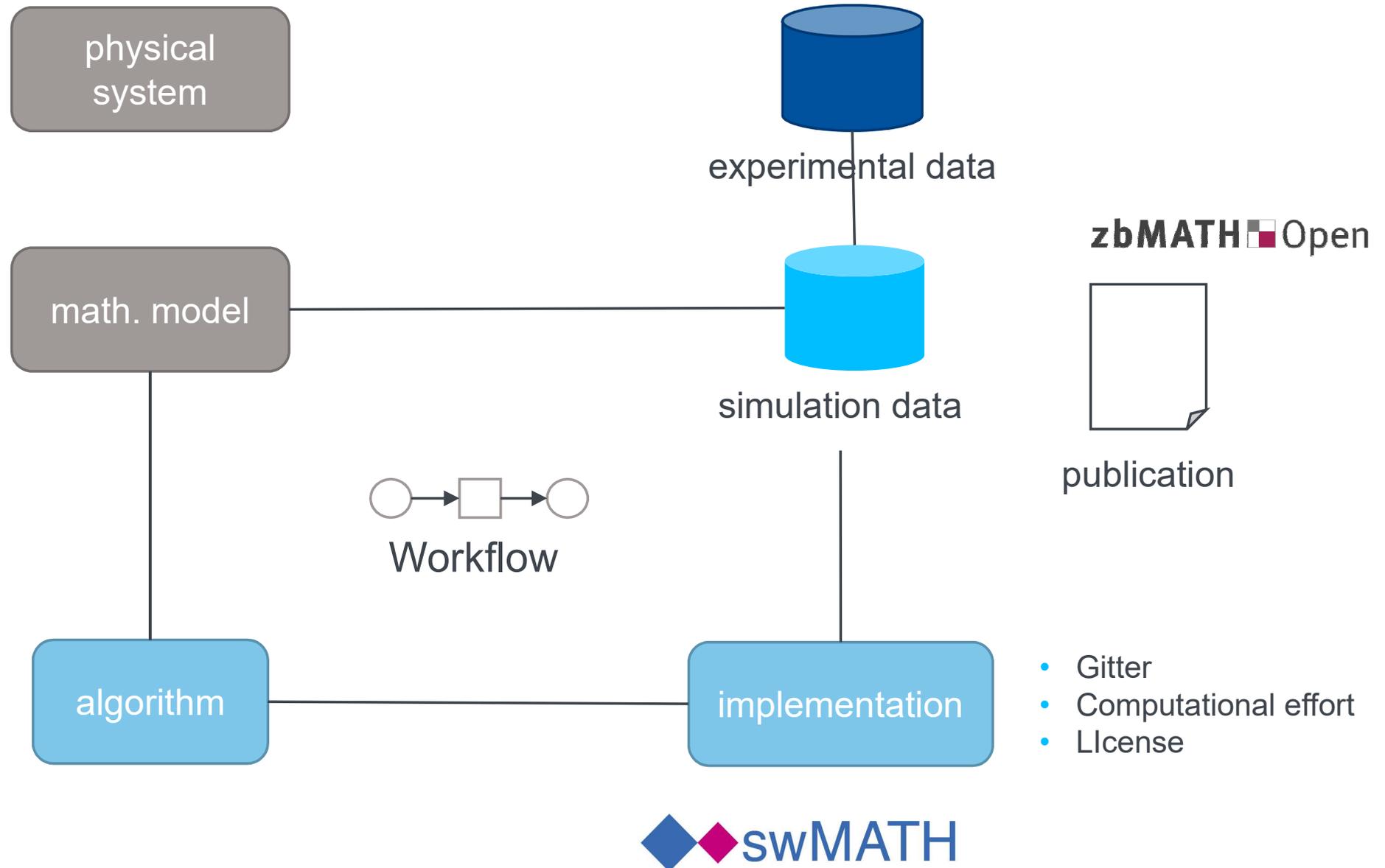
Excerpt of Metadata4Ing



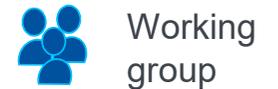
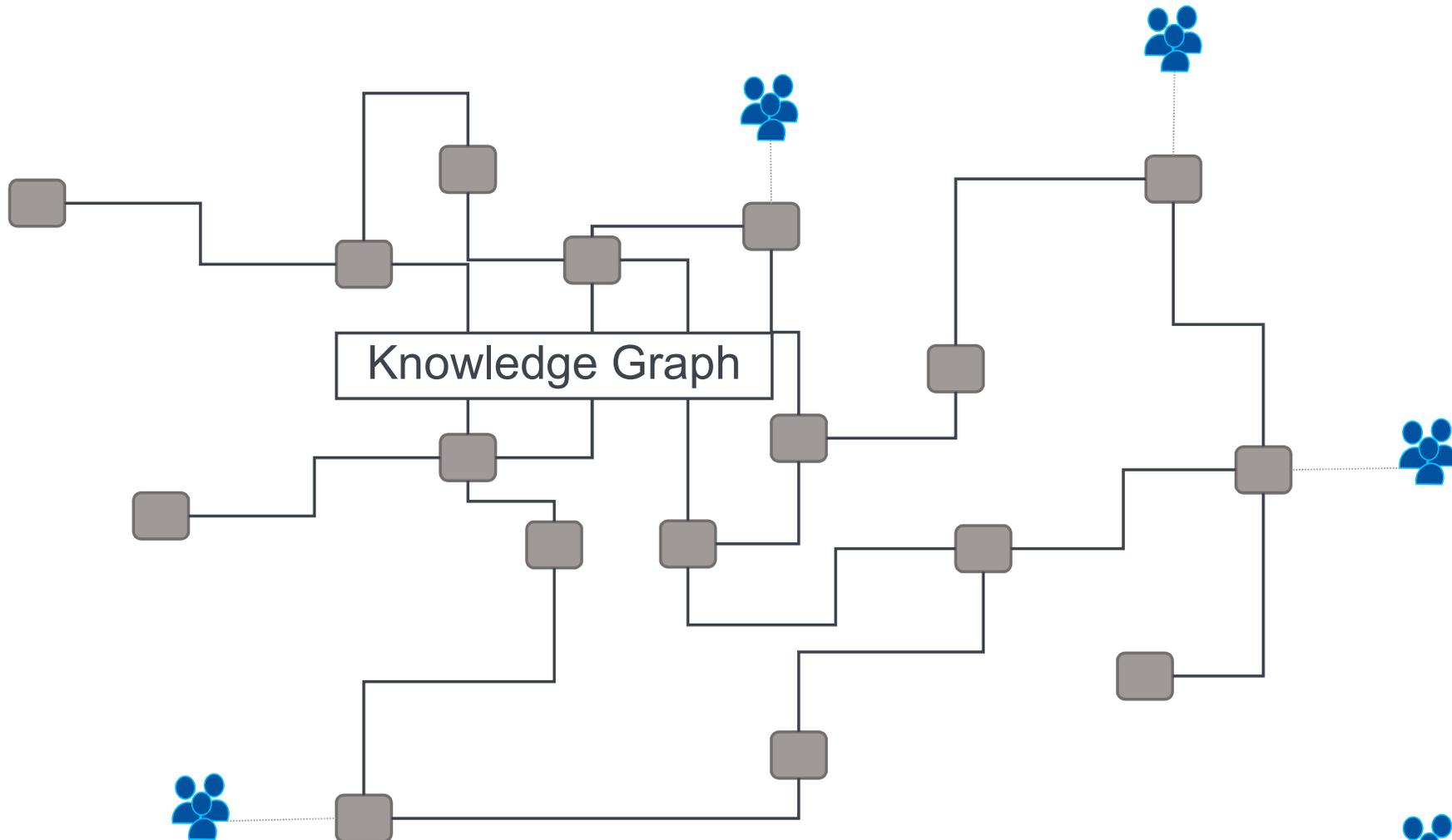
Idea (specificity, flexibility)



Linking Mathematical and Engineering Results



Collaboration across disciplinary boundaries



Working group

Collaboration within NFDI

Cross-consortial section (Meta)daten, Terminologien, Provenienz

Section concept:

https://docs.google.com/document/d/1rl1X_Kq3Wemrx_Vo9tFgRW58cd4Znkgq7a1DNov0z2s/edit#

List of participants (no MaRDI representative so far):

<https://docs.google.com/spreadsheets/d/1qmOiZ6yr52blLNsgEansRDbEgHq5M3AHwd2K61pCHuM/edit#gid=680289441>

Mailing list: <https://lists.nfdi.de/postorius/lists/section-metadata.lists.nfdi.de/>



University of Stuttgart
Germany

Thank you!



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