FAIR Principles for Research Hardware

Taxonomy:

# Research Hardware in scholarly commons

RDA Plenary 2022

**“Where possible and reasonable, this includes making the research data, materials and information on which the results are based, as well as the methods and software used, available and fully ex- plaining the work processes. Software programmed by researchers them- selves is made publicly available along with the source code. ”**

*– Deutsche Forschungsgemeinschaft. (2022). Guidelines for Safeguarding Good Research Practice. Code of Conduct. https://doi.org/10.5281/zenodo.6472827*

Open science scientometrics, when they exist, do not have hardware.

## Why his hardware  missing ?

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Little Awareness

Hardware is complex

What do I mean with hardware is complex?

# Hardware complexity

**Open Flexure microscope**

**Modulatory**

- Actuators
- Optics
- Illumination
- Motors

**Different type of data**

- PCB (electronics)
- 3D printed parts
- Bought components

- Assembly description
- Documentations
- Versioning

- Firmware
- Software

# Hardware complexity

Datasets | Documentation | Software

- Different type of data:
  - Different licenses
  - Data organisation
  - Metadata ?

# FAIR principles for Research Hardware

- Embrace this complexity
- Guide different stakeholder on how to recognise Hardware publication
- Raise awareness

Little Awareness

Hardware is complex

How to raise awareness and work with this complexity? Define FAIR for RH !

# FAIR Principles for Research Hardware

Taxonomy:

- Definition of research hardware
- Analysis of current practices and gaps in research hardware lifecycle:
- Documentation
- Dissemination channels
- Maintainability
- Interoperability of hardware metadata schemas and academic metadata
- Definition of FAIR principles for research hardware
- Identification of practical means of achieving FAIR research hardware
- Contributor recognition systems

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**Persistent Identification of Instruments WG**

Taxonomy: Natural Sciences

Datacite

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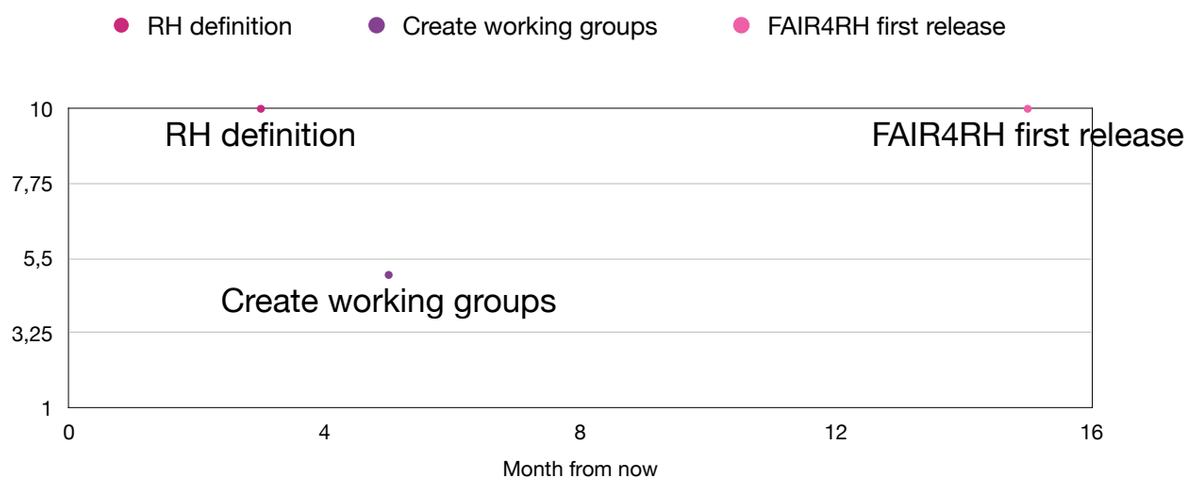
## Research Data Management in Engineering IG

Taxonomy: Engineering and Technology

Importantly, we will put lots of energy into making our work as inclusive as possible and available to everyone. Our outcomes will also take Global South needs, achievements, and practices into account.

**Therefore, involving communities from the Global South is one of the primary objectives of this group.**

# Loose timeline



# Join us !!

- Monthly meeting, minutes on etherpad document
- Work asynchronously in google doc
- 24 members (8 active, 2022-05-10)