

Constructing tomorrow with data



**NFDI4ING**

Research data management  
in engineering sciences

# Community-driven RDM Trainings.

**Experiences on community involvement from NFDI4ING**

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Aachen

NFDI4ING S-6/CC-2

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# RDM-Trainings: Initial situation

## Lack of discipline-specific RDM trainings for engineers

- of constant and practice-orientated training
- of getting to know RDM and staying up-to-date with RDM developments
- for cultural changes in (engineering) sciences

## Demand: Request for self-paced trainings

- for getting to know (discipline-specific) RDM practices
- for finding a point of accessing FAIR Data Management

## Community-driven development of self-paced trainings in NFDI4ING

- Lack of enough resources for active trainings
- NFDI4ING's Base Service (S-6/CC-2) could not cover whole range of engineering sciences
- Taking existing materials into account
- Editing materials along engineering-specific demands



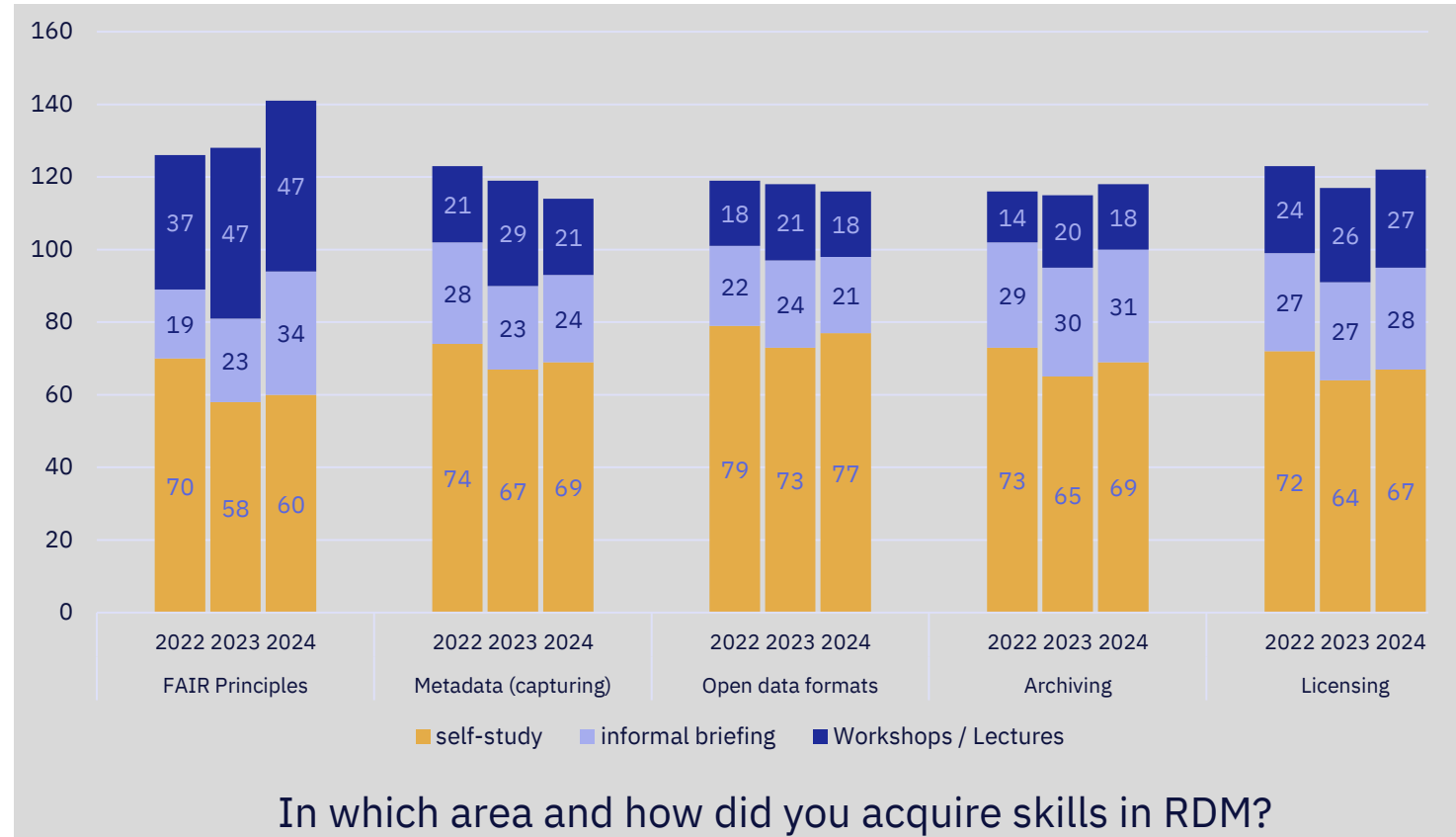
# Side note: Why self-paced trainings?

- Introduction to RDM topics on own pace and on individual demand
- NFDI4ING survey 2022 – 2024: Majority prefers **self-study** to acquire RDM skills  
(Results relatively constant over areas and over years)

NFDI4ING survey raw results:

- 2022: <https://doi.org/10.5281/zenodo.10597988>
- 2023: <https://doi.org/10.5281/zenodo.10598900>
- 2024: <https://doi.org/10.5281/zenodo.14614242>

*Special thanks to Katja Wermbter (TU Braunschweig) for gaining this insight from the survey data!*





# Overview of NFDI4ING's self-paced training modules



- Link:  
<https://education.nfdi4ing.de>
- Tiles: One module per topic (DLC phases / cross-topic)
- Learning objectives oriented at the Learning Objective Matrix for compatibility  
(rf. <https://doi.org/10.5281/zenodo.7034477>)
- Openly accessible (no registration required)

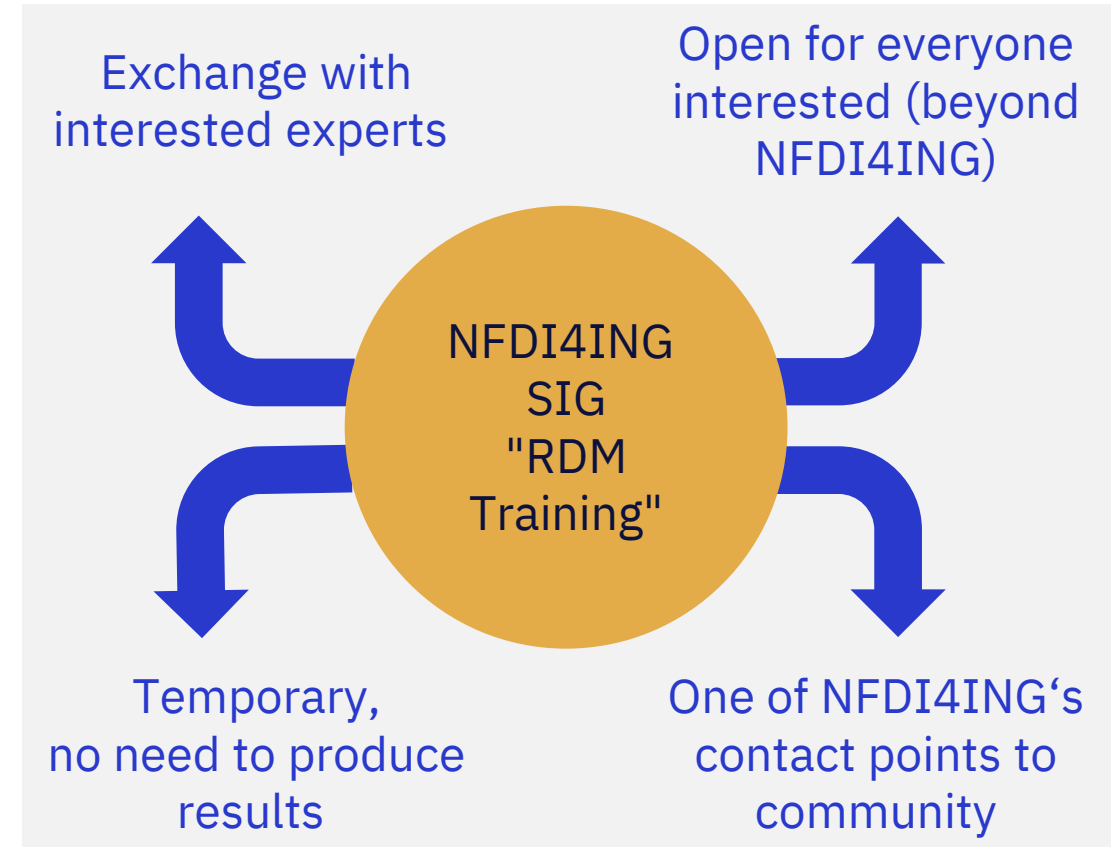


# Community involvement by 'Special Interest Group'

'Special Interest Group' (SIG) is:

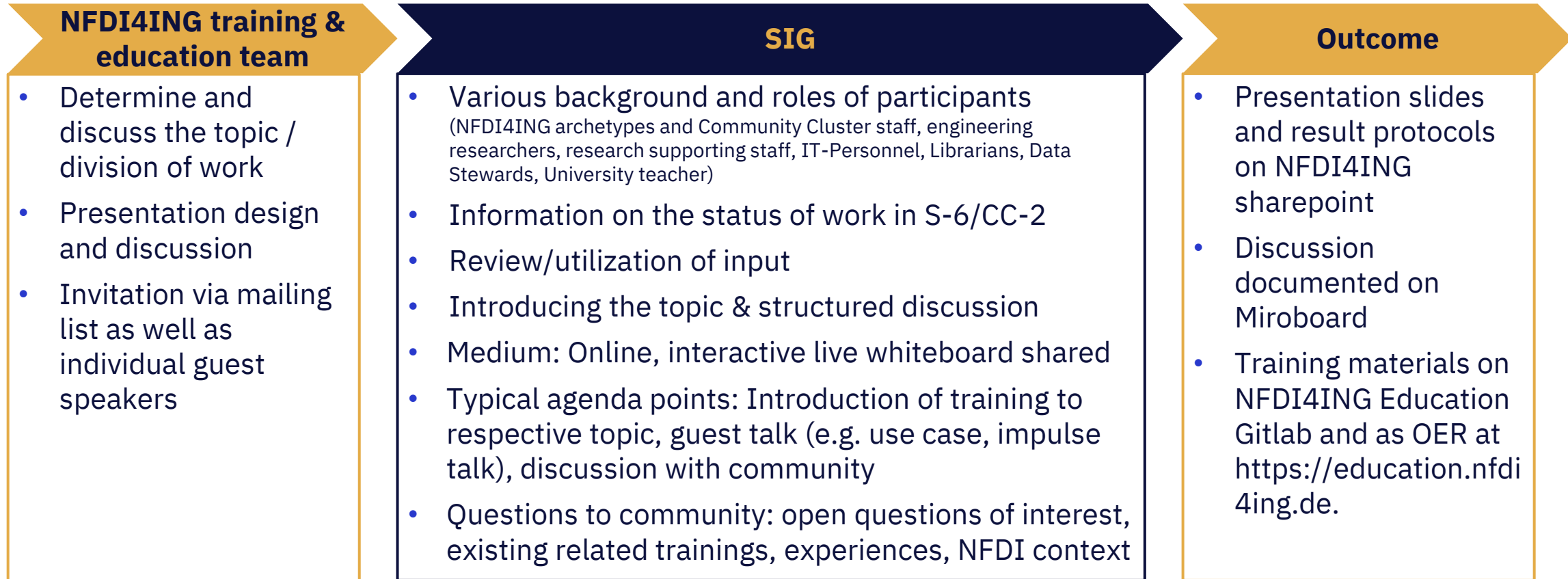
- a format for community engagement
- open for everybody with knowledge and interest on trainings
- temporary limited for work on a general theme
- monthly exchange and work on specific topic
- generate recommendations for the work inside the work package 'Training' of NFDI4ING
- one gateway to bring and discuss results with the community

→ ***SIG concept can also be reused by other communities or consortia***





# Community integration: How our SIG is working





# GitLab as provisioning platform for trainings allows community integration (feedback/contributions)

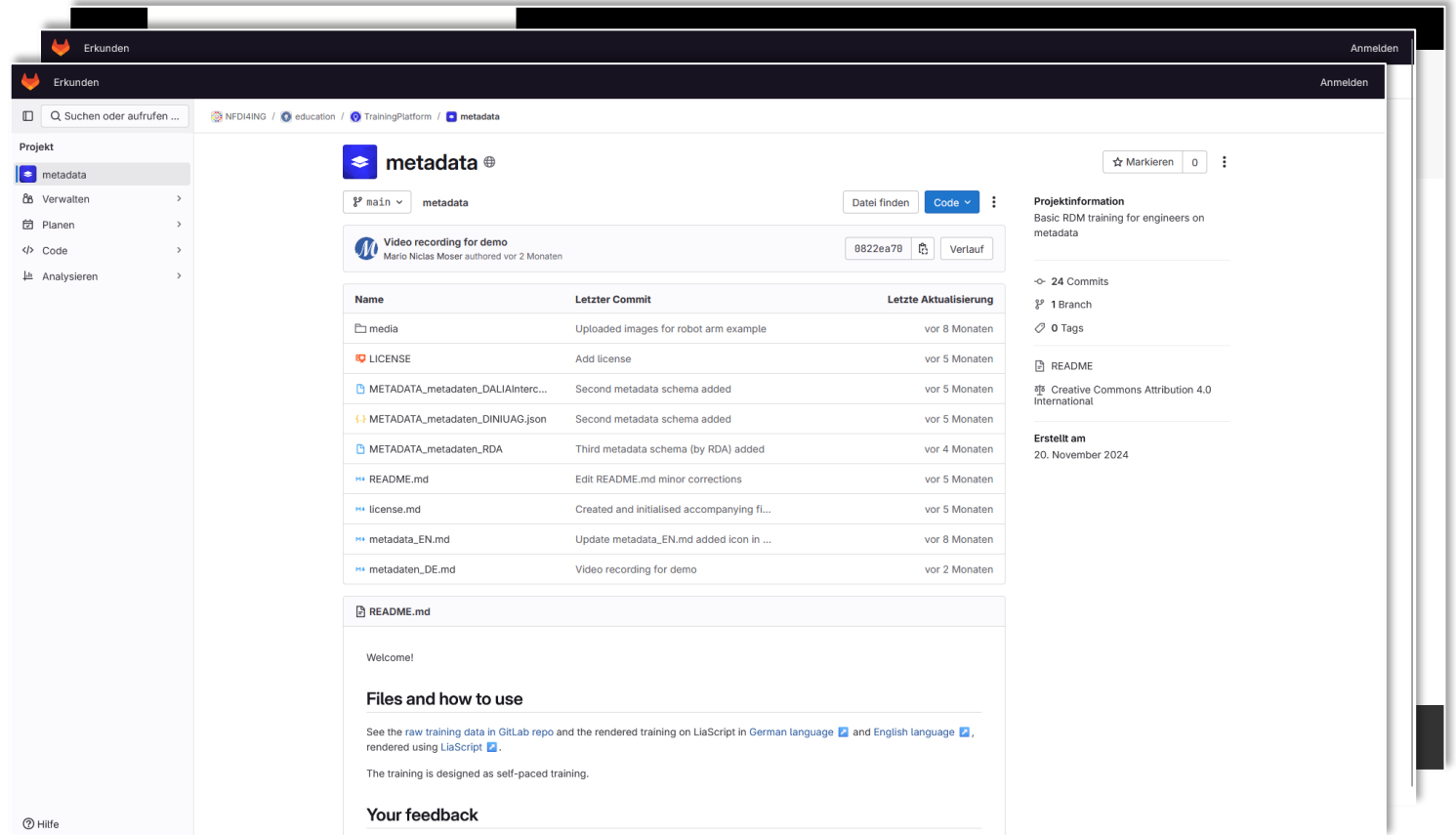
Trainings implemented in **LiaScript**  
(Markdown dialect, text-based format)

## Provisioning in **GitLab**

- Files accessible without registration (read only)
- Single Sign On (DFN): Open for various universities in Germany
- Versioning of trainings

## Community integration in GitLab

- Users can provide feedback in form of **Issues**
- Contributors can be added, can contribute content via **Merge Requests** (4 eye principle)





# Conclusion: Our experiences and lessons learned

## Basic RDM training for engineers for self-paced learning

- Based on existing materials and community expertise
- Open and FAIR
- Provides a sustainable foundation for maintenance and further development

## Community Involvement

- SIG format effective for early & direct feedback
- Formalized SIG process reduces workload for preparation & conduction
- Although, Community interaction via GitLab remains largely unused

## Challenges

- Engaging engineering scientist or experts is challenging (solution: personal invitation for guest talks)
- High effort required to incorporate community input
- Balancing examples: too specific vs. too generic



# Thank you.

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## Further links and contacts

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## Materials

This presentation: DOI [10.5281/zenodo.16947841](https://doi.org/10.5281/zenodo.16947841)

CoRDI 2025 extended abstract:

DOI [10.5281/zenodo.16736166](https://doi.org/10.5281/zenodo.16736166)



# Discussion:

## What would you like to know or mention?

### Community Involvement

- How to involve experts and researchers effectively and efficiently?
- What incentives encourage active contribution to training materials?
- Which forms of community participation have you used?
- Positive or challenging experiences in co-developing and maintaining trainings?

### Self-paced Learning Materials

- Which initiatives also use self-paced materials?
- What works well and is well received by researchers?

### Discipline-specific RDM Trainings

- What makes your trainings discipline-specific?
- How to balance discipline-specific vs. general content?

### Sustainability & Reusability

- Challenges in implementing open, FAIR training resources?
- How to organize long-term maintenance and development?
- How to improve findability, interoperability, and reusability?

