



Forschungsdaten-  
management

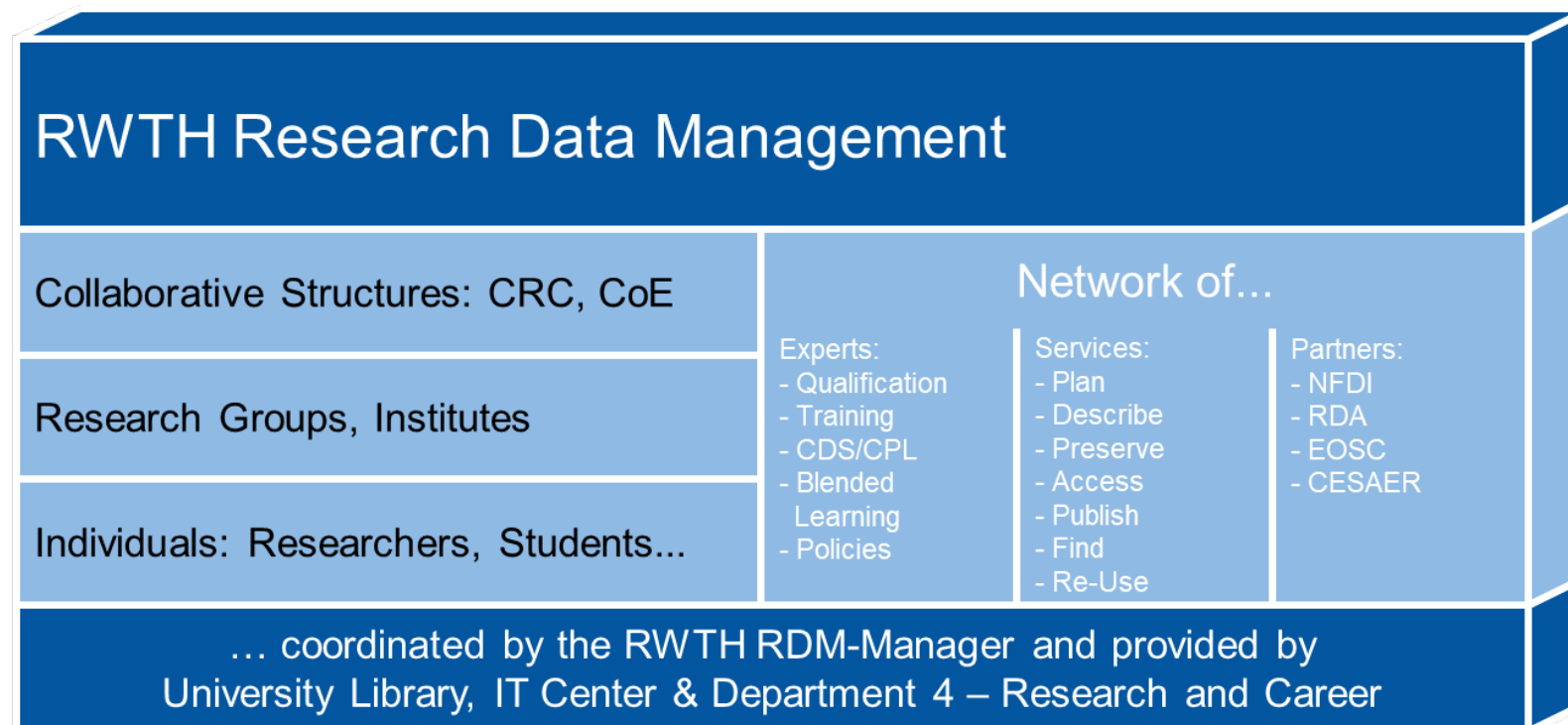
# **Data Stewardship at RWTH Aachen University with the best practice example *Fuel Science Center***

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## Research Data Management – Network-based Approach

RWTH Aachen is dedicated to **Open Science** and the **FAIR** principles in managing research data. Researchers are advised and assisted in following **standards and well-defined processes**. The university provides **professional training, personal support and technical infrastructure** for managing, storing, sharing and publishing research data.



# Vision for Research Data Management (RDM) at RWTH Aachen University

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RWTH Aachen University aims to implement a state-of-the-art research data management (RDM) to support **Open Science** and implement the **FAIR** principle (Findable – Accessible – Interoperable – Re-usable). The processes and services are integrated **seamlessly into the international research landscape**. With the integration facilitated by the teamwork of users and partners, we improve the **quality of research** as well as the **productivity and motivation of the researchers**.

## Strategic elements:

- RDM as key factor to accelerate interdisciplinary research.
- Integrate data as early as possible into a structured and supported RDM data life cycle.
- Ease of use and low barriers to entry are crucial for RDM to be adopted by researchers.
- RDM needs people! Education and training is a key element – start early.
- RDM is a question of trust. Transparency is important.

# Aims of the Data Stewardship at RWTH Aachen University

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## Aims

- 1.) Establishment, implementation and further development of a data management concept for the respective project or institute. A unique structure for the researchers should be created, which follows the guidelines of good research practice.
- 2.) Direct support of the researchers in their work to enable quality assurance of the data and to act as a multiplier for RDM at RWTH Aachen University and in their discipline.
- 3.) Linking function and creation of an information channel between the researchers and central RDM team.

## Tasks

Differ widely depending on

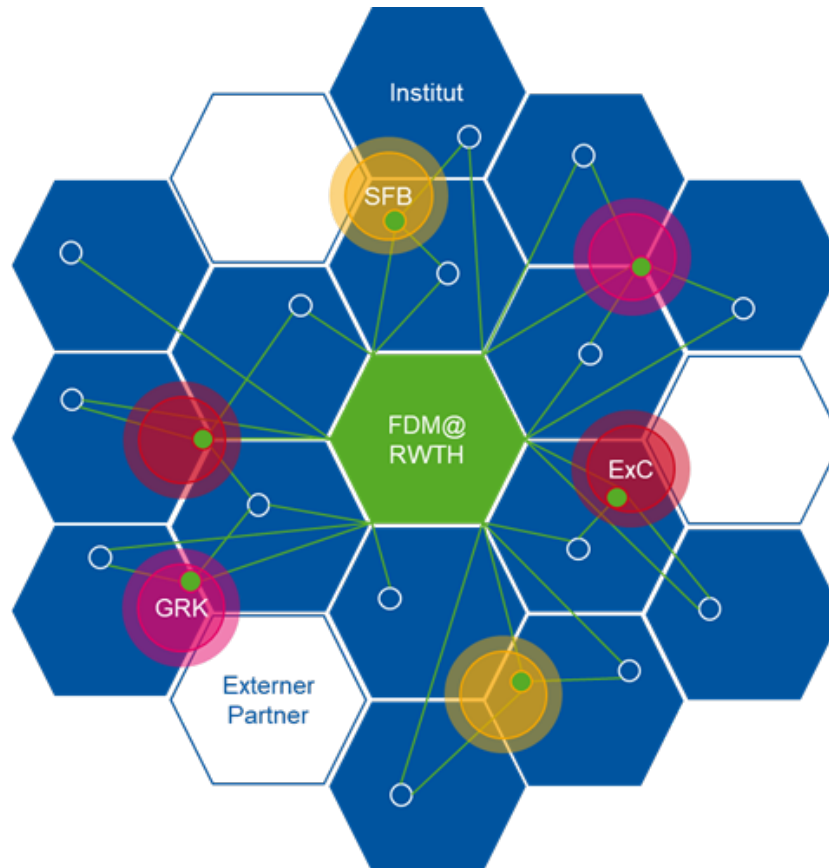
- the focus of the project
- the working methods of the researchers
- the researchers needs

# New structures for RDM at RWTH Aachen University

## Open RDM Network Meeting



Mailing list



Workshop



Tandem: RDM expert – Data Steward



Blended Learning

# Tasks


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## Tasks of the central RDM team

- Coordination of the Data Stewards
- Organisation of the open RDM network meeting
- Time for exchange  
Data Steward Coordinator – Data Steward
- Organisation of workshops

## Tasks of the Data Stewards

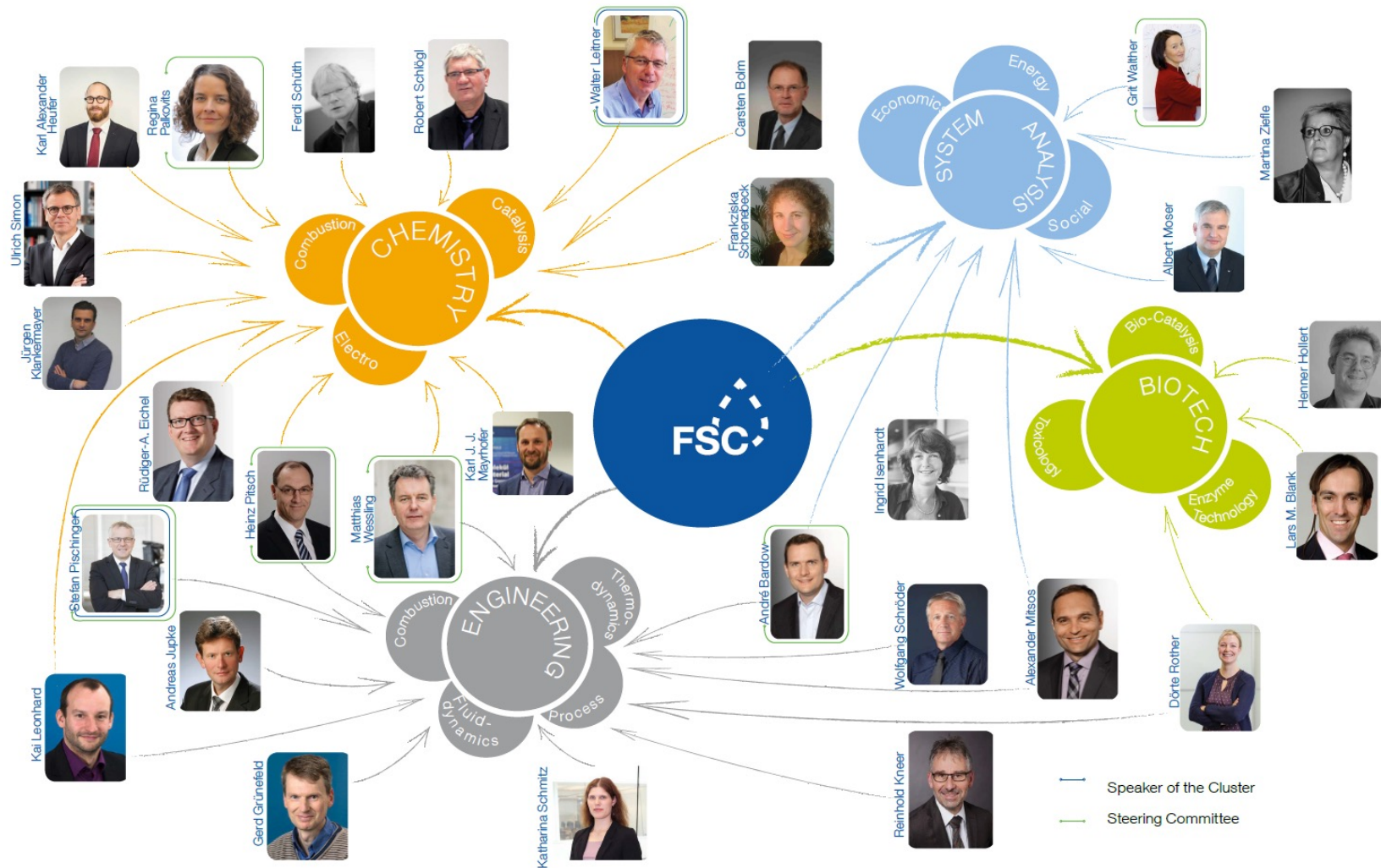
- Exchange with and report to the Data Steward Coordinator
- Participation in the open RDM network meeting
- RDM support at the CRC/ ExC/ institute/ ...
- Discipline-specific consultation and training
- Individuell help for researchers with tasks  
– like data organisation, ...
- Introduction and improvement of IT-based processes  
like ELN, integration platform
- Unification and standardisation of metadata, ....
- Guidance and information about RDM tasks i.e.  
DMP template, policy, preservation concept, RDM newsletter, ...
- Relief of the researchers from organisational overhead



Differ widely depending on

- the focus of the project
- the working methods of the researchers
- the researchers needs

# The Fuel Science Center- Interdisciplinary data management



## Cluster of excellence (EXC2186)\*

- Research in alternative, fluid fuels based, renewable energy and regenerative resources
- Contributions to the assurance of energy supply and environmental protection
- Interdisciplinary: Chemo-, electro- and biocatalysis, process and system technology, combustion research and engine technology as well as social and communication sciences

# Awareness about RDM and RDM-Services

- Advantages of RDM have been identified and communicated (e.g., talks, tutorials etc.)
- Visibility of RDM activities in the FSC-Cluster:
  - High effort of communication required - Strategies to "reach" over 30 partners in the FSC cluster
- Publications and RDM activities are distributed at the FSC social media accounts (e.g. Twitter, LinkedIn, Newsletter, RDM-Blog).
- Visibility of the data steward as contact person: interview in collaboration with RWTH IT-marketing group
- Individual help offered by the data steward: researchers are supported to fulfil the FAIR-requirements (Findable/Accessible/Interoperable/Re-usable) in their daily work
- Third-party funding and publications



### RDM Policy

- Policy clarifies responsibilities of the steering committee of the cluster as well as of all researchers
- Policy includes concrete recommendations and further information about RDM
- Has to be discussed with a lot of stakeholders

### Key-Performance-Indicators

- Statistical evaluation of RDM results
- For example: How many data management plans have been produced? How often is data linked to publications?

### Data Management Software FURTHRmind\*

- Software links raw data, processed data and metadata to be published in peer-reviewed journals
- Digital storage and access to full data
- Less problems with fluctuating staff or journal requirements; re-use of data is elevated (increase of paper output)
- Advantage of remote-access solutions: time- and place independent team-work (including external partners)
- Has to be conceptualized specifically for every test bench (requires a lot of preliminary work)

\*<https://www.furthr-research.com>


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### Publications

- Good-Practice-Publication about „Contemporary research data and communication management“: Rosenberg, J., Roth, H., Ballerstedt, H., Maaßen, N., Schwarz, A., Blank, L.M., Wessling, M. (2020). Contemporary research data and communication management – examples of best practice, *Zenodo*, doi: [10.5281/zenodo.4084713](https://doi.org/10.5281/zenodo.4084713).
- Publication about the concept of data stewardship at the RWTH Aachen University: Hausen, D., Rosenberg, J., Trautwein-Bruns, U., Schwarz, A. (2020). Data Stewards an der RWTH Aachen University – Aufbau eines flexiblen Netzwerks; Bausteine Forschungsdatenmanagement, *Bausteine Forschungsdatenmanagement, Nr.2*, S.20-28, doi: [10.17192/bfdm.2020.2.8278](https://doi.org/10.17192/bfdm.2020.2.8278).

## Work Package 6

- Development and implementation of an interdisciplinary template for data management plans (DMPs) for the very diverse disciplines of the cluster
- Additional, elaborated (service and help) information was added to the template (to help the researchers producing their DMPs)
- Implementation in „RDMO“ (Research-Data-Management-Organizer, DFG- Project)

Language ITV

### Questionnaire for project *Testprojekt*

#### Frame / Project assignment

A data management plan (DMP) is required for your project. The following questions have been agreed with your organizational unit and will help you to develop the DMP. Please answer as precise and project-specific as possible. You can specify or correct your information for the duration of the project. The completed DMP is due at the end of the project, although you may be required to submit interim versions.

Research Data Management (FDM) is one of the principles of [good scientific practice](#) as formulated by the DFG. Correct and easily accessible research data are necessary for the traceability and reproducibility of research processes and their results. The DMP covers the entire life cycle of [research data](#) from planning, collection, processing, and documentation to storage and access for others. DMPs help to maintain a smooth and high-quality scientific operation, even in [complex collaborations](#) and with fluctuating personnel. Helpful information on DMPs and the FDM can be found in the [teaching videos](#) of the FDM team at RWTH Aachen University.

**Which subproject/working group is your project assigned to?**

## „Planning“ DMP productions and updates

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Usage planning: Meetings and decisions at management level required!

- Who has access to which DMPs? (Experience example: full access rights for data steward, IT administration, institute management, working group management; invitation / cooperation to jointly fill out the DMP for all users possible)
- How often should the DMPs be updated? (Example: in the first three months of a project, annually, at the end of a project, termination of the employment)

## Personal experiences

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- High communication effort: "Driving forward" decisions, tutorials, information, announcing deadlines, inquiries, personal individual advice....
- Implementation speed: Depending on the size of the cluster / SFB / institute etc. FSC (over 30 partners with 75 research working groups at different institutes)
- Support required: from management levels, group leaders, etc.
- "Tool dependency"

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# Thank you for your attention!

