The UA Ruhr – strong together in research data management

1. Research Data Management (RDM) in the University Alliance Ruhr – common goals and synergy potentials

1.1 RDM in the UA Ruhr

The UA Ruhr Universities aim for generating knowledge, preserving it long term, and making it verifiable and usable for science and society. A significant foundation for generating knowledge and thus new discoveries is the availability and accessibility of research data. Therefore, the UA Ruhr considers the responsible handling of research data as crucial for achieving high-quality and sustainable research, as well as for upholding scientific integrity. Open and transparent access to research data supports the quality of scientific work and opens up important opportunities for further research. Legal frameworks and ethical considerations are essential for balancing scientific and societal goals.

The UA Ruhr universities have firmly established sustainable and transparent management of research data through corresponding guidelines[1]. They are committed to providing the necessary IT infrastructure and consulting services as support for their scientists.

To implement this, they established local service points that collaborate within the framework of the UA Ruhr. These service points work closely with researchers in collaboration with data centres, university libraries, and research funding foundations to provide the best possible and demand-driven support for sustainable management of research data.

For the establishment and implementation of RDM, technical and non-technical infrastructures have been designed and set up. On one hand, these infrastructures fulfil the technical requirements to make more heterogeneous research data discoverable and accessible as well as to store data for at least 10 years. On the other hand, they support researchers at the UA Ruhr in navigating often complex IT applications and utilizing them according to individual needs.

The development of IT infrastructures takes place within a tense framework, where the specific needs of individual disciplines as well as the generic requirements of a diverse user base are

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[1] Policy on handling research data at the University of Duisburg-Essen https://www.uni-due.de/imperia/md/content/zentralverwaltung/verkuendungsblatt_2019/vbl_2019_18.pdf

Ruhr-University Bochum guidelines for research data management https://www.ruhr-uni-bochum.de/researchdata/rub_guidelines.html

Principles of research data management at TU Dortmund University https://www.tu-dortmund.de/en/research/research-data-management/principles-of-rdm/

considered. Moreover, this process involves combining consortial and local solutions to ensure consistency.

1.2 Common goals

With a clear focus on maximizing synergy effects, the UA Ruhr aims to use consortial solutions for cost-intensive infrastructures, such as storage infrastructure (e.g., storage consortium with RWTH Aachen and the University of Cologne), and to prospectively utilize state services in NRW for generic services. UA Ruhr also aims for developing, testing, and implementing local prototypical and long-term solutions for strategically relevant projects and their load capacity and making these usable for the entire university and, prospectively, the UA Ruhr. This approach will lead to a portfolio of complementary RDM applications and additional services that provide a reliable foundation for both generic RDM requirements of all the UA Ruhr researchers and their cooperation partners, as well as services adapted specifically to the needs of research groups.

The three universities of the UA Ruhr strive to make this portfolio accessible and usable for all the UA Ruhr researchers while operating services collaboratively. External developments are also considered and, where possible and meaningful, integrated or connected. Local development interests within the UA Ruhr can be preserved but are, whenever possible, ideally aligned with superordinate structures.

The close collaboration among the UA Ruhr universities is guided by resource efficiency and the optimal exploitation of synergies. Considering the NRW-wide RDM strategy of DH.NRW within the establishment of a "Digital Ecosystems" and the national trends of NFDI consortia, a continuous, demand-driven further development of RDM requirements and the provided infrastructures is expected. The UA Ruhr university alliance enables the distribution of associated loads and potentials among several members. This approach provides scalable and sustainable solutions quickly and efficiently for new requirements of the UA Ruhr researchers. The UA Ruhr can thus take a leading role at state level as well as within national guides such as the NFDI and support researchers to the best of their abilities in their excellent research.

1.3 Synergy potentials through joint RDM offers

The goal of the local RDM service points at the UA Ruhr universities is to support their researchers in the sustainable handling of research data in compliance with their specific disciplinary requirements and offering the necessary (software) solutions. The selection process also operates to the greatest extent possible within the landscape provided by state services and offerings such as the NFDI.

Both the collaborative provision of basic services and the expansion of the target audience for more specialized applications within each department by the UA Ruhr alliance unlock the following synergy potentials:

- Each UA Ruhr university benefits from the fundamental RDM services that meet generic requirements and are accessible to all UA Ruhr researchers. By operating as collectively as possible, specifically qualified staff are efficiently utilized.
- In addition to the basic functionalities, RDM is highly specialized and demands adjusted infrastructure and RDM processes. Each of the UA Ruhr universities develops an expert opinion and services according to their research focus and thus creates RDM resources, which in turn can be shared across the UA Ruhr. In this way, a diverse range of RDM services meets the subject-specific requirements of the UA Ruhr researchers.
- The development of RDM infrastructures also goes hand in hand with the need to enhance soft skills, which are inherently subject-, method- and domain-specific. The combination of complementary skills and experience results in a richly diversified circle of FDM experts within the UA Ruhr