Bremen's Interdisciplinary Data Competence Center DataNord: An Integrative Approach for Data Literacy in Research

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As data becomes an increasingly vital resource in science, society, and the economy, the need for strong data competencies continues to grow. The interdisciplinary data competence center *DataNord*, established in 2023, provides a scalable and integrative model for promoting responsible, data-driven research and strengthening data literacy among researchers. Anchored in the U Bremen Research Alliance, DataNord brings together universities, non-university research institutions, and infrastructure providers – connecting regional expertise with broader initiatives, such as the National Research Data Infrastructure.

DataNord operates across three interconnected pillars: learning, research, and networking. Based on comprehensive need assessments (2020–2023), its activities are tailored to researchers in Bremen, spanning all disciplines and skill levels. The structured training program Data Train offers basic training in research data management and data science. At the University of Bremen's Data Science Center, an interdisciplinary team of data scientists delivers flexible training modules and operates a centralized helpdesk for personalized consultation, closely connected with data steward services.

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In the "Research Academy", interdisciplinary projects foster advanced data expertise in collaborative settings. Networking activities serve both individual and systemic levels: formats like the "Data Community Club" promote peer-to-peer exchange, while broader initiatives such as the "Research Data Day" and a Citizen Science project connect academia with society, industry, and policy stakeholders – broadening DataNord's reach.

This integrative approach strengthens data culture and creates a collaborative ecosystem in which knowledge transfer, innovation, and digital sovereignty can flourish. With its regional focus and national integration, DataNord serves as a best practice example for sustainable, future-proof data competence infrastructures in Germany and beyond.

Keywords: Data Train, Research Data Management, Data Science, Data Services

1 Background: The Relevance of Data Competencies in a Changing World

As digital transformation accelerates, the value of data continues to rise. Data processing and analysis methods – especially those involving Artificial Intelligence (AI) – have become essential tools for generating new insights and supporting a wide range of social and economic processes. A solid understanding of how these tools work, where they can be applied, and what their limitations are is crucial for responsible use. At the same time, critical reflection on the ethical, legal, and societal aspects of data technologies is necessary to mitigate risks and address emerging challenges. Political frameworks such as the European Union's AI Act[1] and the German government's Data Strategy[2] explicitly acknowledge and respond to these concerns.

Data skills are also becoming increasingly vital in the job market. According to the World Economic Forum's Future of Jobs Report 2025[3], AI and big data are among the fastest-growing areas of expertise. By 2030, 39 % of workplace skills are expected to change in this direction, and AI alone is projected to create 11 million new jobs.

In the research landscape, the reuse of data across disciplines – paired with transparent, innovative analysis methods – is key to tackling complex societal challenges. This was clearly demonstrated during the COVID-19 pandemic and remains central to fields like climate research (Conner et al. 2023). The FAIR principles provide a foundational framework for responsible data handling (Wilkinson et al. 2016). Since 2019, both national and international initiatives have been working to build infrastructures to support FAIR data

1 https://artificialintelligenceact.eu/; *Visited on March 24, 2025.*
2 https://www.bmi.bund.de/SharedDocs/downloads/DE/veroeffentlichungen/2023/datenstrategie.pdf?__blob=publicationFile&v=4; *Visited on March 24, 2025.*
3 https://www.weforum.org/publications/the-future-of-jobs-report-2025/; *Visited on March 24, 2025.*

practices – among them, Germany's National Research Data Infrastructure (NFDI), with 26 discipline-specific consortia, the European Open Science Cloud (EOSC) and Gaia-X. Moreover, major funding agencies, such as the German Research Foundation (DFG), now require detailed data management plans outlining how data will be handled throughout the research lifecycle[4].

Despite these developments, many researchers still lack the skills to handle data effectively. Mons (2020) reports that PhD students spend up to 80 % of their time on "data wrangling" – cleaning and organizing data – rather than on actual research. The European Commission's Expert Group on FAIR Data calls for the professionalization of data science and stewardship roles throughout the research lifecycle (European Commission. Directorate General for Research and Innovation 2018). The German Council for Information Infrastructures stresses the need for ongoing training (Rat für Informationsinfrastrukturen 2019), while the Stifterverband (2021) identifies data literacy as a critical skill for the future. In line with this, the German Science and Humanities Council encourages academic institutions to establish dedicated training and support services (German Science and Humanities Council 2022).

To ensure excellence and innovation in research, robust support structures are essential. In response, the German Federal Ministry of Education and Research (BMBF), as part of Germany's national Data Strategy and Action Plan for Research Data, launched a nationwide initiative in June 2022 to establish data competence centers at universities and research institutions[5] well aligned with the National Research Data Infrastructure – NFDI. The goal is strengthening data competencies in sciences and data-driven research in Germany – together.

2 DataNord: An Interdisciplinary Data Competence Center for the Bremen Region

The interdisciplinary data competence center DataNord[6] has been established for the Bremen region. It is one of eleven national centers funded by the BMBF since November 2023, as part of a nationwide initiative to run for three years. As the only center of its kind in Northern Germany, DataNord plays a key role in promoting interdisciplinary learning and collaborative research – driving innovation within Bremen and beyond.

4 https://www.dfg.de/en/news/news-topics/announcements-proposals/2022/info-wissenschaft-22-25; *Visited on March 24, 2025.*

5 https://www.bmbf.de/SharedDocs/Bekanntmachungen/DE/2022/06/2022-06-21-Bekanntmachung-Datenkompetenzzentren.html; *Visited on March 24, 2025.*

6 https://www.datanord-bremen.de; *Visited on March 24, 2025.*

DataNord is being developed under the umbrella of the U Bremen Research Alliance (UBRA), a regional collaboration network of the University of Bremen and twelve non-university research institutes – including all four major German research organizations (Helmholtz Association, Leibniz Association, Fraunhofer Society, and Max Planck Society) as well as the German Research Center for Artificial Intelligence (DFKI). The initiative cooperates with three additional regional partners including the Bremen University of Applied Sciences (see Figure 1). By bringing together these diverse partners, DataNord serves as a microcosm of the German research landscape and offers a scalable role model for nationwide developments in the academic system.

At the national level, DataNord collaborates closely with the twelve NFDI consortia UBRA members are currently involved, the ten other data competence centers, and broader networks such as state-level research data management (RDM) initiatives, NFDI e.V., and infrastructure providers like the German Network for Bioinformatics Infrastructure (de.NBI). Its collaborative model follows a structure similar to the NFDI, bringing together core institutional partners actively shaping the center's activities, alongside associated partners – both regional and national – who benefit from its services and contribute their expertise.

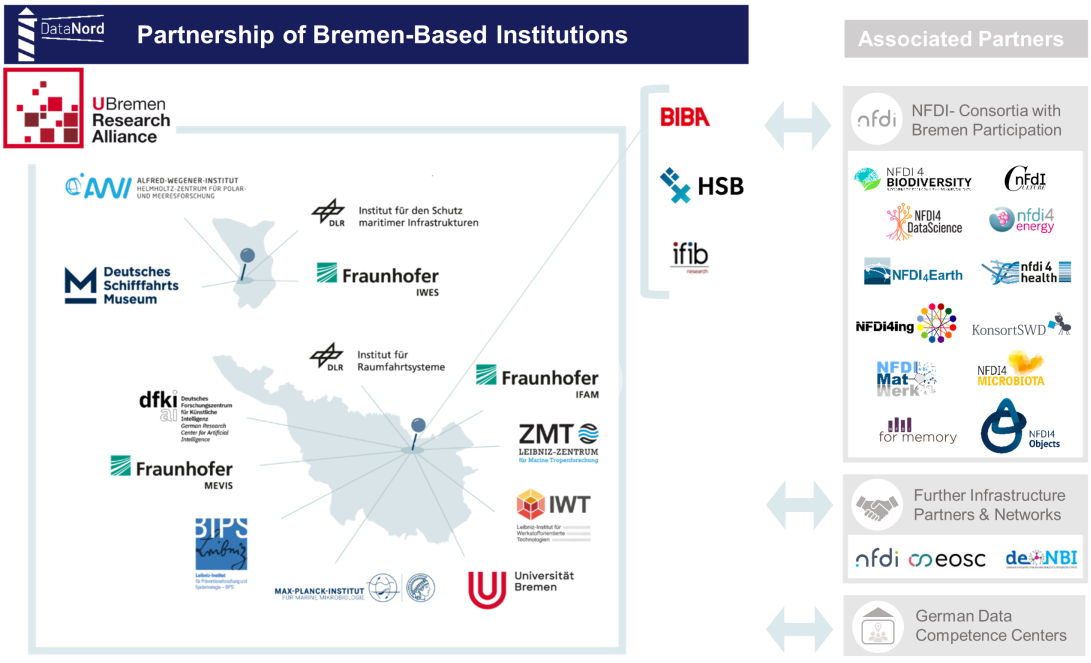

Figure 1: DataNord's core institutional partners (left), as well as associated partners such as the NFDI-consortia, data competence centers, infrastructure partners and networks (right).

2.1 Interdisciplinary Collaboration Concept: Building on Bremen's Strength

DataNord brings together interdisciplinary expertise from the core institutional partners, NFDI consortia, and regional infrastructure centers (see Figure 1). Based on the research priorities of its partners, DataNord focuses on five scientific profile areas: (1) Environmental and Marine Sciences, (2) Social Sciences, (3) Material and Engineering Sciences, (4) Health Sciences, and (5) Humanities.

By creating synergies across institutional boundaries, DataNord consolidates deep expertise in RDM and data science. Its interdisciplinary approach makes best use of Bremen's existing data-related structures and builds upon them. Shared methods and cross-cutting research questions help in bridging disciplinary boundaries, creating new opportunities for collaboration in research and education while breaking down disciplinary silos.

The organizational structure of DataNord is anchored in the UBRA, which provides strategic direction through governance structures at both the scientific and administrative level. Since 2019, UBRA's "Lead Project RDM and Data Science" has connected data initiatives across Bremen and, through its Working Group "Research Data" (AG Forschungsdaten), created a platform for exchange and joint action among local stakeholders (see joint white papter: Pigeot et al. 2021).

At the core of DataNord are two established initiatives: the University of Bremen's Data Science Center (Steinmann, Thöricht, et al. 2023), which offers customized training and consulting through an interdisciplinary team of data scientists, and the UBRA "Data Train" program (Hörner et al. 2021), which equips early-career researchers with basic skills in data science and RDM, while also offering structured networking opportunities.

In addition, DataNord benefits from the broad methodological and applied expertise of its partners. Highlights include the BIPS's strength in managing sensitive health data, the DFKI's leading role in developing and applying AI methods, Fraunhofer MEVIS's experience in designing tools for AI collaboration with industry, and the AWI's "Data Flow from Observations to Analysis & Archives" (O2A) framework, which enables seamless integration from data acquisition to archiving. In addition, DataNord complements the development of a comprehensive RDM service at Bremen University of Applied Sciences, supported by the BMBF as part of the "FDM@HSB" project[7]. Finally, DataNord draws on the expertise of renowned research data centers such as PANGAEA (Earth and Environmental Sciences) and Qualiservice (Social Sciences), which contribute deep knowledge in data archiving, reuse, data protection, and research ethics. The State and University Library Bremen complements these efforts with its expertise in open access, data publishing, long-term archiving, and metadata management.

7 https://www.hs-bremen.de/forschen/forschungs-und-transferprofil/forschungsprojekt/fdmhsb-forschungsdatenmanagement-der-hochschule-bremen-fdm-hsb/; *Visited on March 24, 2025.*

2.2 An Integrative Model for Connecting Regional and National Initiatives

DataNord brings together local actors that are actively involved in broader initiatives such as the NFDI or EOSC, positioning itself as a key interface for regional coordination and dynamic exchange between regional and national activities. In this role, DataNord positions itself as the "on-site" hub for NFDI activities, with a focus on the (interdisciplinary) application of data science methods and acts as the central point of contact for data-related activities in the Bremen region.

One outstanding example of how regional and national efforts are connected is the *Data Train* program, which has emerged as a model of good practice. From the beginning, Bremen-based NFDI consortia have been actively involved in shaping the program by contributing to both teaching and conceptual design. In turn, Data Train offers have been made accessible to NFDI communities across Germany wherever possible – with >36 % of participants coming from outside the region during the last three years. Under the umbrella of DataNord, this collaborative model is being expanded to include all partners as well as additional associated partners, including complementary data competence centers. This nationwide collaboration is emphasized by the joint publication of a training handbook with NFDI4Health (Dierkes et al. 2023) and by contributions to the development of the "RDM-Learning Objective Matrix" (Petersen et al. 2022, 2023; Petersen et al. 2025).

The University of Bremen acts as a Data Science Center and plays a key role in linking regional and national helpdesk structures. As the first point of contact for the DataNord network, its helpdesk handles many inquiries directly and, when needed, either reaches out to specialized services for additional expert input – such as those offered by NFDI consortia, PANGAEA, Qualiservice, or other data competence centers – or connects researchers with them. In doing so, it increases the visibility of these services within the region and helps in expanding the target groups. By maintaining close collaboration with other regional and national initiatives, it is ensured that support is efficient, seamless, and tailored – minimizing barriers and administrative overhead for researchers while enhancing the overall consultation experience.

Additionally, DataNord serves as a regional networking platform for contributors committed to national initiatives, thereby integrating their expertise. Examples include NFDI networking meetings, the UBRA Working Group "Research Data", and the Data Community Club (see Section 4.3).

In this way, DataNord is a catalyst for innovative, data-driven, and interdisciplinary research and training in the Bremen region – while also maintaining strong ties to national structures and amplifying its impact far beyond the regional level.

3 Approach, Target Group, and Topics

DataNord takes an interdisciplinary and holistic approach, offering tailored support for researchers at all career stages – from doctoral candidates and postdocs to senior researchers and professors – and across varying levels of data expertise. Common threads across the diverse partner institutions include a shared methodological knowledge in data science and a comprehensive focus on data handling throughout the entire research data lifecycle: from data collection and processing, to preparing data for automated analysis, applying AI methods, and ensuring data are made available according to the FAIR principles. This also involves promoting a broader cultural shift toward a "FAIR data culture", while addressing ethical, legal, and social considerations. Through targeted science communication and close collaboration with external partners, DataNord facilitates the transfer of knowledge into society, industry, public administration, and policy making.

All of DataNord's offers are aligned with the specific needs of the Bremen research community. These were identified through a series of assessments: over 70 guided interviews in 2020, a quantitative survey with more than 500 participants in 2021, and a follow-up network survey in early 2023 as part of the DataNord conceptual phase involving 82 selected experts from the partner institutions and disciplines.

The results highlighted the diversity of research data used within the network – reflected in the interdisciplinary composition of the center. Accordingly, DataNord addresses a wide range of data types. The most common data sources mentioned include observations, experiments, simulations, and archival data (such as texts or samples). In the social sciences, additional formats – such as survey and interview data, social media content, as well as image, video, and audio data – are in particular relevant. Frequently used file types include text-based formats (e.g. log files from behavioral tracking or sensor data) and image files (e.g. MRI scans or microscopy images).

The data analysis methods range from data visualization tools, statistical and mathematical techniques, as well as methods for cleaning, processing, to integrating datasets. Although AI methods are not yet widely adopted, interest in their use is high – highlighting a growing demand and a clear need to close the existing AI skills gap.

Based on these insights, DataNord's activities are designed to reflect the diversity of data and methods used in the region. Activities are offered in coordinated, interdisciplinary and discipline-specific formats, tailored to varying levels of expertise. Data science methods are particularly well suited for interdisciplinary training, as their technical foundations remain consistent across fields – even as their applications differ. This makes them an ideal vehicle for cross-disciplinary skills development. The impact of DataNord's activities on building data science competencies is illustrated in Figure 2.

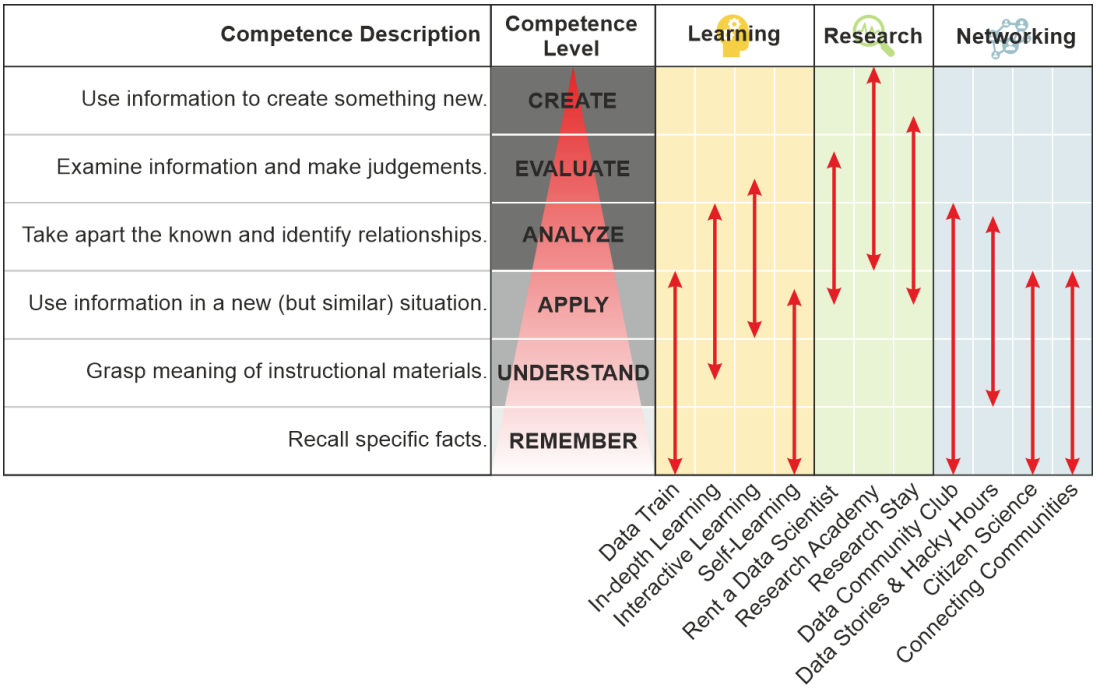

Figure 2: Overview of how DataNord's activities contribute to the development of data competencies, based on the revised Bloom's taxonomy (Bloom et al. 1956). Notably, the *Research Academy* projects are particularly significant, as they play a central role in enabling participants to reach the highest level of proficiency: *Creating*.

Professors and senior researchers were identified as a particularly hard-to-reach group, often due to limited time and differing priorities. To meet their needs – such as time efficiency, immediate research benefit, and strategic relevance – DataNord offers flexible, high-level formats like individual consultations, advanced networking, and research-focused projects (Figure 3). By involving them not only as learners but also as mentors and contributors (e.g., in the Research Academy or as Data Train lecturers), DataNord fosters leadership engagement and positions them as role models – reinforcing data literacy as a leadership priority across institutions.

4 Offers and Activities

4.1 Learning

Data Train: Launched in 2021, the structured training program *Data Train* forms the basis of DataNord's learning activities with more than 8,000 participations so far. Recognized as a "Good Practice in FAIR Competence Education" in Europe (Garbuglia, Saenen, and Gaillard 2022), the program focuses on providing cross-disciplinary funda-

mentals in RDM, data science, ELSA (ethical, legal, and social aspects), and critical thinking. It consists of three structured learning "tracks": the Starter Track and two hands-on Operator Tracks "Data Steward" and "Data Scientist", focusing on the specific skill sets researchers need to manage and analyze research data, respectively. The courses are delivered by volunteer experts from the DataNord network, who share their knowledge with the broader research community. From the beginning, the program has been closely associated with the NFDI (see Section 2.2).

In-Depth Learning: In addition to the basic training provided by Data Train, a team of five data scientists, covering the regionally anchored scientific profile areas (see Section 2.1), offers modular in-depth courses. These flexible "learning modules" follow a building-block approach and can be offered multiple times per year. The aim is to create a diverse portfolio of training options tailored to different skill levels. Emphasis is placed on hands-on learning that encourages participant interaction and practical data work. Each module is closely aligned with the research areas of DataNord's partner institutions. On-demand formats are also available, specifically designed to meet the needs of graduate schools, departments, or research institutes.

Interactive Learning: The aim is to spark enthusiasm for data science methods through accessible, engaging, and practice-oriented formats. Offerings range from low-threshold lunch-time sessions like "Data Snacks" to immersive Summer/Winter Schools, Data Hacks, and gamified formats that create an intensive and interactive learning environment. Participants work directly with real (often their own) data, gaining practical skills in data science methods as well as soft skills such as teamwork, communication, and peer-to-peer networking.

Self-Learning: As part of the Data Train program, a curated catalog of selected digital self-learning resources covering research data management and data science topcis – called the Digital Toolkit – is being developed and made openly accessible. It consists of both newly created and existing materials and enables flexible, self-paced learning tailored to individual needs. In addition, teaching materials from the advanced training modules are being prepared as Open Educational Resources (OER), making them reusable and adaptable for other institutions. These OERs can also be integrated into university teaching, addressing the growing demand in the DataNord network for training resources for university lecturers.

4.2 Research

"Rent a Data Scientist" – Data Consulting Services: To complement the region's existing RDM support services with targeted data science expertise, an interdisciplinary team of data scientists is establishing a centralized data science consulting service at the University of Bremen's Data Science Center. In close collaboration with local data

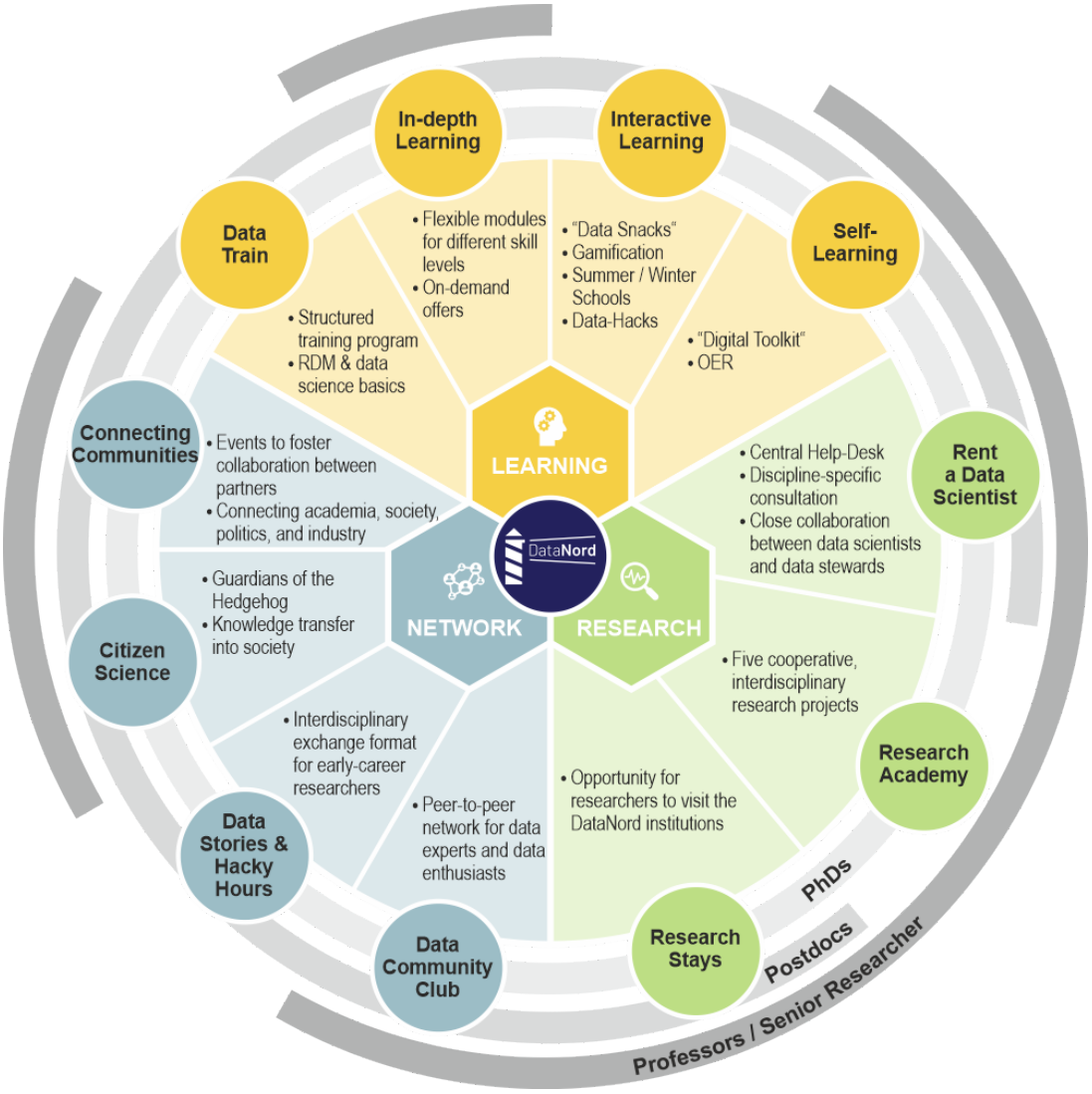

Figure 3: Overview of DataNord's activities across the three central areas – learning, research, and networking – and their alignment with key target groups (doctoral candidates, postdocs, and professors/senior researchers). All three groups also participate in citizen science initiatives, helping to facilitate knowledge transfer to society. While students are not the primary audience, selected learning activities are made accessible to them as well.

stewards, the helpdesk supports researchers throughout the entire data lifecycle – from the proposal stage to research practice. The helpdesk service is offered at three levels: (1) *Exploration* – Short consultations for proposal writing or research-related questions (e.g., creating DMPs, code fixes); (2) *Guidance* – In-depth support for specific data analysis or data management questions through regular meetings over weeks or months (e.g., assistance with implementing mixed-methods designs or analyzing geospatial data); (3) *Realization* – Long-term, project-based collaboration following the "Rent an Expert" concept, where a data scientist takes on key project tasks (e.g., responsibility for data

analysis as part of a publication). With this flexible and integrative consulting approach, DataNord ensures researchers receive tailored and efficient support.

"Research Academy" – Collaborative Research: As part of the DataNord Research Academy, five collaborative research projects tackle interdisciplinary questions in data science, drawing on diverse datasets. These projects bring together 34 researchers from ten DataNord partner institutions and are rooted in at least two of DataNord's thematic focus areas (see Chapter 2). This setup sparks new collaborations across disciplinary and institutional boundaries motivating researchers to think out of the box and to leave their comfort zones. Researchers at all career stages are intentionally involved, with both professors and postdocs taking on leadership roles. This cross-level collaboration fosters mutual learning and facilitates the exchange of expertise across generations. By embedding skill development directly within the research process, data science competencies are built in a deep and lasting way – going well beyond what traditional training formats typically achieve (see Figure 2). The knowledge and capabilities developed within these projects are shared with the wider research community through learning and networking opportunities. The Research Academy intentionally extends DataNord's service portfolio to prepare the next generation of data scientists and to shape a strong, future-oriented data culture in academia.

Research Stays: To foster international collaboration in data science, DataNord offers research stays – particularly for early-career researchers – at its partner institutions. These stays provide access to Bremen's data infrastructure, technical expertise, and methodological know-how. Just as importantly, they promote the exchange of data, perspectives, and ideas, paving the way for new research questions and innovative approaches. This two-way knowledge exchange strengthens long-term partnerships and supports the spread of data science skills and practices well beyond the region.

4.3 Networking

Data Community Club: Building on the existing data steward network of the UBRA, and inspired by the Data Champion Concepts from the University of Cambridge and TU Delft, a Data Community Club is being established in Bremen. This club brings together data experts – such as data scientists and data stewards – with data enthusiasts and data champions from various disciplines, creating a platform for exchange on RDM, data science, and related topics. In regular peer-to-peer meetings, practical approaches and solution strategies are discussed, with the aim of sustainably embedding data competencies into workflows across the entire data lifecycle. To incentivize and recognize outstanding contributions related to research data – as well as dedicated efforts to promote FAIR data practices – DataNord awards an annual "*Data Champion Award*" with a prize of €1,500.

Data Stories & Hacky Hours: *Data Stories* are part of the Data Train program and offer a platform for exchange between academia and industry. Inspiring talks from companies (e.g., Airbus) and researchers showcase real-world applications of RDM and data science. Informal networking fosters conversation and connection between participants and experts. *Hacky Hours* are regular, informal meetups between experts and users – open to all, with a focus on PhD students and postdocs. In a peer-to-peer format, early-career researchers discuss case-specific methods, exchange experiences, and receive targeted support for project-specific questions from experts. This interdisciplinary exchange bridges disciplinary and methodological gaps and enables innovative solutions.

Citizen Science: DataNord leverages Citizen Science as an innovative way to strengthen data literacy among both the public and researchers. Led by the Leibniz Institute for Prevention Research and Epidemiology – BIPS, and in collaboration with the Igelfreunde e.V. network and NFDI4Biodiversity, the project "Guardians of the Hedgehogs – Together for the Protection of Our Spiky Neighbors" engages citizens in tracking the hedgehog population in Bremen. Participants learn how to collect, document, and analyze data systematically. The collected data are made available according to the FAIR principles, and can be used in further scientific studies.

Connecting Communities: This activity strengthens collaboration within the DataNord consortium and promotes knowledge transfer across academia, society, policy, and industry. The *UBRA "Working Group on Research Data" serving as "DataNord Sounding Board*" plays a key role by bringing together representatives from all DataNord partner institutions. It coordinates regional activities in RDM and data science, connects Bremen-based NFDI consortia, and fosters synergies for joint initiatives. A key event in this effort is the *Research Data Day*, which offers researchers, data experts, and enthusiasts an annual platform to discuss best practices and current challenges. In addition, DataNord supports the regional networking of NFDI consortia through targeted events. The regional implementation of the *OneNFDI vision* of the NFDI Association was taken up by the "RDM and Data Science" lead project of the UBRA and has been further developed in the framework of DataNord. The Data Science Center is also driving the establishment of a network of the national data science community and, in this context, e.g., organized a nationwide workshop in 2024 that included a dedicated session for the data competence centers (Steinmann, Nowotka, et al. 2023; Pfuhl et al. 2024).

5 Quality Management

To ensure continuous improvement and future-oriented, adaptive development, the following quality assurance measures have been implemented: (1) *Establishment of an Expert Panel:* The UBRA Working Group "Research Data", serving as the DataNord Sounding Board, supports the strategic development of services and contributes to quality assurance through expert feedback and governance measures. (2) *Evaluation and Optimization*

of Training Programs: All training formats are regularly evaluated to enable ongoing improvements based on participant feedback. Involvement in and alignment with published competency frameworks (Demchenko et al. 2022; Engelhardt et al. 2022; Petersen et al. 2025), also help to ensure the quality of the offerings. (3) *Quality Control in Consulting Services*: For complex inquiries, the helpdesk team applies the four-eyes principle to ensure well-founded, high-quality advice. (4) *Regular Internal Feedback Sessions*: Within the consulting team, continuous reflection sessions are held to exchange experiences and identify best practices. (5) *Cross-regional Knowledge Exchange*: Ongoing collaboration with other data competence centers, NFDI consortia, and regional initiatives enables mutual knowledge transfer and systematic comparison of best practices in both consulting and training. All parties benefit by identifying successful concepts and emerging developments early, co-developing them, and integrating them into their own offerings. (6) *Staff Development*: Ongoing professional development for staff helps to maintain a high standard of expertise and service quality. (7) *Monitoring of Usage and Participation*: Systematic tracking of user engagement and participant numbers supports the evaluation and strategic planning of offerings.

An important upcoming step towards long-term quality assurance is the planned certification of the Data Train program. Through the Academy for Continuing Education at the University of Bremen, a structure is being established for regular quality reviews of the program's modules. In addition, assignments will be introduced to quantitatively assess participants' learning progress after completing a course. These evaluations will help measure training effectiveness and serve as key indicators of the program's impact.

6 Conclusion & Outlook

Data literacy is no longer a niche skill – it's a core requirement for innovation, interdisciplinary collaboration, and progress across science, society, and the economy. DataNord plays a key role in empowering researchers to use research data efficiently, responsibly, and effectively.

With its interdisciplinary approach, strategic focus on regional strengths, and close alignment with national initiatives, DataNord serves as a best-practice model for other regions in Germany. It is already putting into action at the regional level what is being pursued nationally: the widespread development of data skills across all scientific disciplines. Close collaboration with NFDI consortia, partner data competence centers, and existing networks among its member institutions ensures that developed structures and concepts can be scaled beyond Bremen – strengthening the national research data strategy. DataNord is already making a significant contribution to the networking and advancement of the data competence landscape at national level with interoperable and supra-regionally accessible services such as Data Train.

DataNord also creates a space for interdisciplinary collaboration and innovation, enabling excellent research while actively promoting societal and economic progress. Through its work in promoting critical engagement with AI, communicating data-driven insights clearly, and training a new generation of data-savvy professionals, DataNord strengthens digital sovereignty and fosters knowledge transfer into industry.

Looking ahead, expanding DataNord's services in line with evolving needs will be key. The demand is growing. For instance, it is already clear that there is a strong demand for university lecturers to be trained in integrating data science topics and skills into their teaching – concepts and courses are being developed accordingly. At the same time, DataNord is pursuing long-term sustainability, aiming to secure and further develop its structures and staff in a reliable and future-proof way. Given the long-term relevance of data competence centers, their strategic planning must also be long-term – supported by sustainable, yet flexible and agile governance models that allow service offerings to continuously adapt to changing demands.

In the long run, DataNord has the potential to become a key driver in advancing data science skills in research, helping to ensure that scientists remain capable and confident in an increasingly data-driven world. The future of research is data-driven – and DataNord is building the foundation to ensure that today's and tomorrow's scientists are ready for it.

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Authorship Contributions

Lena Steinmann and Tanja Hörner were primarily responsible for developing and writing the manuscript. Uta Bohnebeck, Rolf Drechsler, Frank Oliver Glöckner, and Iris Pigeot played a key role in shaping the conceptual foundations of DataNord, as presented in the manuscript, and contributed through critical feedback and revisions. All authors reviewed and approved the final version of the manuscript.

Conflict of Interest

The authors declare that there are no conflicts of interest related to this work.

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