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Doctoral School NRW Development Plan (2025–2030)

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Preamble

Together with the supporting universities, the Doctoral School NRW (PK NRW) forms the structure for enabling and promoting quality-assured and excellent doctorates in the research profiles of the universities of applied sciences (UAS) in North Rhine-Westphalia. This innovative, state-wide structure ensures a uniformly high quality of all processes, from admission to the PK NRW, through doctoral programs and the composition of supervision teams, to the dissertation.

Research in the context of the PK NRW covers most of the relevant research fields at the supporting universities and offers a wide range of opportunities for interested parties and active researchers. The doctoral program at the PK NRW opens up new perspectives and access to external funding opportunities, such as for graduate colleges, for research at the supporting universities.

The attractiveness of the UAS is significantly increased by the Doctoral School NRW for students, professors, and research assistants alike.

Doctoral candidates benefit from up-to-date and structured doctoral programs, a highly qualified support team, transparent and reliable processes, and a statewide community of researchers from various disciplines. Interdisciplinary research groups, publications, research stays, conference visits, joint supervision, and assessment and examination with domestic and foreign universities ensure integration into the national and international scientific community.

Application-oriented interdisciplinary, transdisciplinary, and disciplinary research at the doctoral level increases the state's innovative strength. The PK NRW strengthens discipline-forming and profession-oriented research in newly academized professional fields and their scientific areas. Participatory and transformation-oriented research is particularly well suited to promoting social innovation. Overall, research at the PK NRW addresses key social challenges and contributes to sustainable development.

The traditionally high level of openness of universities of applied sciences to pioneering students, combined with the non-discriminatory and supportive structures of the PK NRW, is leading to an increase in the number of doctoral graduates from this group. Graduates of the PK NRW are prepared for career paths both outside and within the academic system. By promoting its own scientists in the early stages of their careers, the PK NRW supports new career paths to university of applied sciences professorships.

The PK NRW, in association with the supporting universities, sees itself as an independent player in the academic system when it comes to doctorates. It enriches the higher education system with regard to doctorates by offering an expanded range of subjects, innovative research approaches, team-based doctoral supervision, comprehensive supervision agreements, social openness, and statewide cooperation. The research performance of UAS and their competitiveness are enhanced.

Part I

1   Development of the Doctoral School NRW Development Plan

This research training group development plan (KEP) was drawn up on the basis of planning principles that were discussed with the person in charge of Equal Opportunities Affairs, the Executive Board, the Academic Advisory Board, the directors' conference, the Doctoral School Senate, and the Board of Supporters, and approved by the latter two bodies. The Executive Board then drafted a proposal for the general section and the structure of the departmental sections and made it available to the departments. The departments discussed both internally and provided feedback to the Executive Board on the general section and developed the specific KEP sections for the departments. This resulted in a first draft, which was submitted to the members of the Doctoral School Senate, including the department directors, the Doctoral Candidate Representatives, and the Staff member for discussion and comment. The comments were considered for the overall draft and were largely incorporated into the present version. The Board of Supporters was given the opportunity to comment and express requests for changes. Finally, the research training group development plan was approved by the Doctoral School Senate on May 5, 2025, and the Board of Supporters on June 26, 2025.

2   Structure, Governance, and Financing

The doctorate at the PK NRW is conducted in a collaborative effort between the university and the PK NRW. Professors from the supporting universities are accepted into a department at the PK NRW after being sent by the university and providing evidence that they meet the academic criteria. Doctoral candidates become members of a department by enrolling at the university and at the PK NRW or by submitting an application. The departments decide on their regulations, including the doctoral degree regulations, and on the admission of new professorial members. The department's doctoral examining committee manages the doctoral procedures on the basis of the doctoral degree regulations. The doctoral degree is awarded by the department of the PK NRW. The Doctoral School Senate, elected by all members, decides on the central regulations, while the Executive Board carries out legal reviews, manages the PK NRW, and represents it externally. The Board of Supporters supervises and elects the Executive Board together with the Doctoral School Senate. Research and supervision are carried out primarily at the universities and with the infrastructure available there.
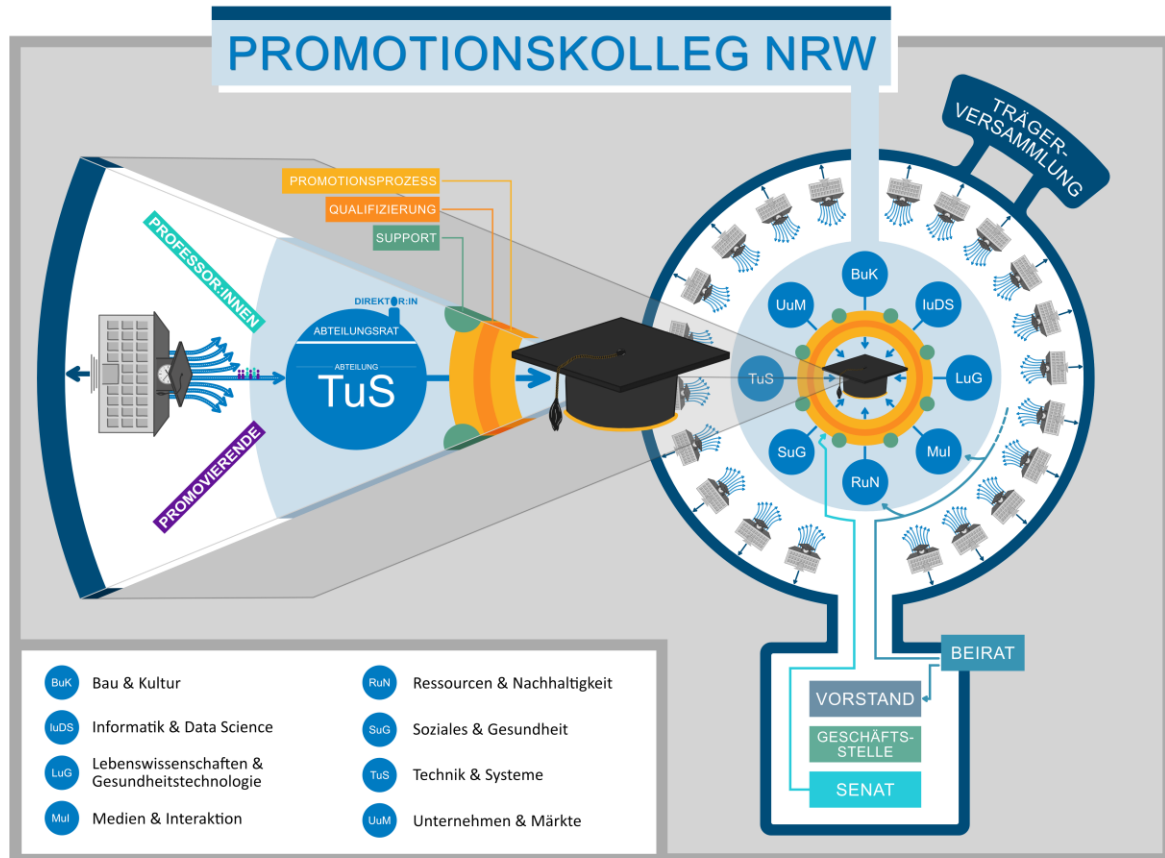
Fig. Organizational structure of the PK NRW

The basic funding of the PK NRW is provided jointly by the supporting universities (50%) and the Ministry of Culture and Science of the State of North Rhine-Westphalia (MKW) (50%). The supporting universities contribute their share by paying membership fees and additional expenses for the teaching relief of supervising professors. The amount of the membership fees is based on the number of students, the number of professors participating in the PK NRW (members and associates), and the number of doctoral candidates. The costs directly related to the number of doctoral candidates (doctoral studies, support measures for doctoral candidates, and compensation for teaching relief for supervising professors) are allocated according to the number of doctoral candidates per university. The remaining costs (staff costs for the office, material costs, compensation for the reduction in teaching load for department directors, and doctoral positions) are allocated according to the number of students (50%) and the number of participating professors (50%) per university. The 50 percent share of the MKW is allocated to the PK NRW, which also makes reimbursements to the universities.

The distribution of costs within the supporting universities is monitored and adjustments are made if necessary. It is expected that the MKW will support the PK NRW with the awarding of PK research colleges or other elements in addition to basic funding. This support is to be provided exclusively by the MKW.

3 Strategic Goals

3.1 Members and Graduates

The eight departments of the PK NRW continue to develop quantitatively and qualitatively. If the scientific policy and financial conditions are favorable, 800 professorial members and associate professors and 1,000 doctoral candidates are expected by 2030. Given this dynamic growth, the structure and governance may need to be adjusted.

3.2 Research and Transfer

Research within the PK NRW network is being expanded and further developed. The focus is on application-oriented, interdisciplinary, and transdisciplinary research in the departments' Key Research Areas, as well as the development of new scientific disciplines within the profile of the UAS. In addition to application-oriented research questions, however, the focus is also on basic research topics in order to find sustainable solutions to current social challenges, such as coping with demographic change or contributing to the achievement of the Sustainable Development Goals (SDGs). In order to tackle the complexity of social problems, doctorates with different disciplinary approaches and different methodological approaches are required, which are worked on in research clusters. In the long term, this is also achieved through thematic graduate colleges with interdisciplinary and transdisciplinary approaches, possibly also with partner institutions outside the PK NRW.

The PK NRW supports digitization through research in all its departments as well as across departments, and also keeps an eye on the risks arising from digitization. This can be linked to successful research at the PK NRW, such as on cybersecurity, AI and chatbots, assistance systems, or supportive robotics for vulnerable groups.

Whenever possible, transfer and implementation are considered and planned for in the research design. To this end, partnerships are formed with social groups and actors with a high level of implementation competence, and research is conducted in co-design in order to strengthen professional action in the context of transformation, change, and innovation processes. Research aims at social transformation and is characterized in particular by the involvement of relevant non-scientific actors, even at the stage of identifying research questions.

The special structure of the PK NRW in association with the supporting universities is used to apply for funding projects.

3.3 Internationalization

The PK NRW networks with international scientific and non-scientific researchers and organizations. It is fundamentally open to all countries and regions, but also particularly welcomes scientific cooperation with researchers and institutions in the Global South. In addition, the PK NRW is aware of the sensitive interrelationship between academic freedom and cooperation with critical countries, particularly with regard to the protection of human rights and compliance with export control law. The international developments of the Coalition for Advancing Research Assessment (CoARA) are being monitored and reviewed for transferability to the PK NRW.

The PK NRW is developing an internationalization strategy by 2027 that includes the provision of the necessary funds and structures.

3.4 Responsibility in Science

Ethical implications are addressed as part of the research concept in all research projects. Particular emphasis is placed on the transparency of the research process, which is conducted in accordance with the rules of fairness and good scientific practice.

3.5 Sustainability

The PK NRW is committed to the well-being of future generations and the protection of nature. It focuses its research on the sustainable use of resources and the support of sustainable structures for the preservation of the environment, the climate, and biodiversity. It investigates developments in relation to social sustainability as well as intergenerational and intragenerational justice.

In the qualification courses for doctoral candidates, reference is made to and emphasis is placed on research into sustainability, and specific events such as lecture series are offered that address the topic of sustainability in the sense of the Sustainable Development Goals and also focus on the systemic nature of sustainability. The PK NRW cooperates with the supporting universities and other scientific institutions in the field of sustainability and is committed to the goals of the Sustainability Alliance of UAS in North Rhine-Westphalia (NAW.NRW). To this end, it systematically and actively establishes collaborations with the research clusters of the Sustainability Alliance in order to work together with doctoral candidates, as well as associate and professorial members in research groups. On the one hand, this is intended to advance research in the field of sustainability issues and, on the other hand, to establish and expand cooperative research expertise on sustainability among doctoral candidates and other researchers.

In addition, the office operates in an energy- and resource-efficient manner. It ensures fair conditions for suppliers and subcontractors in its procurement activities. It keeps an eye on its carbon footprint in all its activities.

3.6 Digitalization

The PK NRW sees digitalization as key to the resource-efficient and competitive production of goods, including food, effective and user-friendly administration, transparent and truthful social communication, efficiency and quality in healthcare, and self-determined living, especially for people with disabilities or in old age. Accordingly, the PK NRW systematically addresses the opportunities and challenges of digitalization in training, Research, and governance structures.

Increasing digitalization is leading to radical social changes, which are resulting in increased demands in all areas. The PK NRW takes this into account in its educational mission. The PK NRW's qualification programs provide doctoral candidates with the skills they need to handle research data professionally and play a responsible role in shaping the digital working world. For example, the PK NRW researchers make their research data available to others, accessing and helping to shape regional and national research data infrastructure initiatives. They benefit from the research data available there and incorporate it into their current research.

In its own processes, the PK NRW digitization guarantees reliability, transparency, and user-friendliness for doctoral candidates, supervisors, reviewers, examiners, and staff members. In this light, the digitization of all processes is being consistently pursued. Through digitization, the PK NRW counteracts the disadvantage of being a spatially distributed organization. At the same time, however, it

considers personal exchange to be indispensable and promotes it through appropriate face-to-face formats.

To simplify membership applications and renewals, the system is linked to the research information systems of the supporting universities. The student secretariats of the supporting universities are given access to the KISS doctoral school information and control system to simplify enrollment and re-registration.

Data protection issues are a high priority. The PK NRW draws on professional expertise in this area. The General Data Protection Regulation (GDPR) is implemented in all processes.

When it comes to data security, the PK NRW works together with the supporting universities, in particular the University of Bochum, and external experts. This is done in accordance with the agreement on cybersecurity (VzC) between the MKW and the universities. The PK NRW is involved in the Hochschul-IT-Service.nrw (HITS), which is currently being established, and makes use of its capabilities.

3.7 Inclusion and Diversity

In all its planning and measures, the PK NRW takes into account that people are different.

Doctoral candidates must possess the knowledge and skills necessary for a successful doctorate. The PK NRW offers an inclusive environment in which all doctoral candidates are equally supported, regardless of gender, ethnicity, social background, religion, physical abilities, sexual orientation, and other characteristics. This also applies to professors and administrative staff. Through targeted measures and guidelines, we prevent all forms of discrimination and create a diverse and equitable Research and doctoral environment that ensures equal opportunities and respect.

The Doctoral School NRW takes into account the fact that not all people can be assigned to a binary gender classification. In order to be inclusive of everyone, gender-inclusive language is used and the * spelling is used, except in legally binding documents.

3.8 Equality, Compatibility of Family and Doctorate

The PK NRW creates the conditions for equal access to doctoral opportunities for all genders. Gender equality is a cross-cutting task. The PK NRW aims for 50% female participation in all areas, i.e., among members and associates in the departments, employees in the administrative office, members of academic self-governing bodies, and in leadership positions in departments, bodies, committees, and the administrative office, even where there are currently large differences in gender distribution. A distribution based on the cascade model (aligning the proportion of women with the proportion at the previous qualification level or, in the case of functions and Bodies or Boards or Committees, with the total population) will be overcome in the long term. The PK NRW's reporting is gender-sensitive. Gender-sensitive goals and measures are defined and reviewed on the basis of the equality plan, which also includes the equality plans of the departments and the administrative office.

In its role as an employer and as an institution promoting young academics, the PK NRW promotes the compatibility of family and career as well as family and doctorate and ensures the necessary framework conditions. Compatibility focuses on the entire spectrum of family compatibility, from childcare and education to the care of affiliated members in need of support and nursing.

3.9 Quality Assurance and Evaluation of Qualification and Supervision

Taking into account recognized differences in academic culture that are also common at universities, the Doctoral School NRW places particular emphasis on high, comprehensive quality standards in regulations, processes, and academic assessments. In doing so, it promotes the reputation of the doctorate at the PK NRW and supports and promotes the high reputation of German doctorate.

The criteria for the admission of professorial members are reviewed and, if necessary, adjusted, also with regard to differences in academic culture. In doing so, both the academic standards applicable across all types of higher education institutions and UAS-specific criteria relating to interdisciplinarity, transdisciplinarity, participation, transfer, innovation, and impact are taken into account.

The PK NRW regularly collects data on the research output of its departments and their members and affiliated members. The evaluation of teaching and supervision is carried out in accordance with the criteria, processes, and intervals described in the evaluation regulations. The interim evaluation to be held in 2027 is of particular importance, as it will examine additional criteria required by the state in addition to evaluating doctoral activities. Doctorate success and failure will also be given special consideration. The PK NRW also participates in a Germany-wide process of coordinating UAS-specific quality criteria for Research and doctorate, as well as in national and European networks for quality development in the doctorate field.

3.10 Cooperation and Networking

Cooperation between the departments of the PK NRW has led to the formation of research communities across universities and university types, which conduct research on joint projects and share research infrastructures and research data infrastructures. Cross-departmental research with multidisciplinary approaches and diverse methodological approaches benefits from regular scientific exchanges between the departments. The PK NRW actively promotes internal networking among scientists and exchanges with institutions outside the PK NRW.

In addition, regular consultations take place between the research managers of the supporting universities and the PK NRW in order to make strategic and operational decisions regarding the research orientation and thus ensure the coherence of research at the supporting institutions. Other issues concerning the supporting universities and the PK NRW are prepared for decision in the supporting institutions' assembly in small joint meetings involving the chancellors and, if necessary, other university departments. Strategic decisions are made by the Board of Supporters after consultation with the PK NRW Executive Board.

There are established routines and secure data exchange for enrollment and re-registration at the supporting universities and synchronization with the PK NRW.

3.11 Personnel and Organizational Development

The PK NRW considers its employees to be a valuable resource. It conducts needs analyses to identify the strengths and weaknesses of its employees and the organization as a whole. Through offerings tailored to the specific requirements and needs of its employees, it promotes skills and holistic personal development and offers opportunities for professional advancement. To ensure effective collaboration with professors and doctoral candidates, it implements programs for leadership development, problem-solving skills, and resilience. Team spirit and effective collaboration are specifically promoted.

Organizational structures and processes are regularly reviewed and adapted in terms of efficiency, the promotion of doctorates and innovation, and user-friendliness.

Part II

4 Goals and Measures of the Departments

4.1 Department of Construction and Culture

The Department of Construction and Culture (BuK) offers the structured doctoral program "Built Environment and Cultural Heritage," which includes a lecture series, seminars, workshops, and an annual research colloquium. Current developments and the resulting requirements in the doctoral program are regularly discussed at the annual department meetings. There, ongoing research activities and doctoral projects are presented and analyzed together in participatory workshops. In addition, the department's annual research colloquium specifically identifies the specific requirements for the further academic qualification of doctoral candidates.

All suggestions from internal departmental events, as well as their evaluation results, experiences, and insights from doctoral candidates and professors from their scientific work, are evaluated by the Executive Board. In close cooperation with the Department board and the doctoral examining committee, these results are used to continuously develop the doctoral program and the research concept.

4.1.1 Doctoral Program and Qualification Measures

The BuK department uses the research colloquia in particular to exchange ideas with doctoral candidates in order to determine their respective needs with regard to their doctorates and then to define specific qualification measures. Various seminars and workshops, including cross-departmental ones, are designed to teach doctoral candidates basic methodological skills for scientific work. In the Department of Construction and Culture, this includes skills in data collection and analysis, digital documentation and analysis, and knowledge of simulation techniques.

4.1.2 Research Concept

As with the Doctoral School NRW in general, the Department of Construction and Culture also focuses on application-oriented, knowledge-generating research as well as interdisciplinary and transdisciplinary research. The two Key Research Areas of the department, 'Construction and Infrastructure' and 'Culture and Space', typically address topics and issues from different disciplinary perspectives in order to further develop them.

To date, interdisciplinary and transdisciplinary issues have emerged in particular in the areas of mobility, building culture, urban space, and the construction and real estate industry, with interdisciplinary research within the key research areas to be continued and intensified. In addition, the department also encourages interdisciplinary work between the key research areas.

Interdisciplinary collaboration takes place in particular on issues relating to major societal challenges, such as cross-neighborhood concepts for heat and water supply and disposal in the context of climate change adaptation, or the application of new and digital technologies and human-environment interaction. Innovation potential is seen above all in the overlap between cultural studies and theoretical issues on the one hand and engineering issues on the other.

In addition, a large part of the research work in the Department of Construction and Culture is carried out in cooperation with industrial partners, but also with authorities such as monument preservation offices and custodial institutions, which allows innovations to be specifically promoted and societal challenges to be effectively addressed.

The department's profile is shaped by its in-depth examination of the following topics:

- Resource-saving and low-resource construction using renewable raw materials, especially wood
- Nutrient recovery and pollutant detection and removal in the context of circular construction
- Digital and minimally invasive (construction) condition assessment
- Sustainable mobility and transport concepts
- Historical building research and digital technologies in monument preservation
- Cultural heritage and cultural landscape and their sustainable development
- Housing and urban transformation processes

4.1.3 Scientific Achievements (Publications and Third-Party Funding) and Transfer

Publication concept

The BuK department will continue to focus on promoting and supporting the successful presentation and publication of research results. Professors in the department are active in various national and international expert committees and are involved in organizing specialist events, conferences, and congresses. This participation opens up excellent opportunities to integrate doctoral candidates and interested colleagues into the scientific network.

The department encourages doctoral candidates to participate in relevant seminars in order to deepen their skills in writing scientific texts. In addition, they are expected to publish in international journals in order to familiarize themselves with international standards of scientific communication. Doctoral candidates are also encouraged to participate in conferences beyond the minimum required by the doctoral program and thus to produce further publications in conference proceedings.

The requirements for high-quality scientific publications in national and international journals are primarily communicated to doctoral candidates by the supervisory team. The supervising professors are assisted in this by their own experience as regular peer reviewers in relevant publications. Some affiliated members of the Department of Construction and Culture are already active as peer reviewers and can pass on the experience they have gained in this regard with regard to changing requirements and methods in publishing.

Members of the department who have not yet worked as peer reviewers, or have done so only rarely, should be encouraged to do so through direct exchange of experiences. Advanced doctoral candidates can be involved in the peer review process, provided this is expressly permitted by the relevant journals, in order to learn to recognize and avoid weaknesses in the writing of scientific papers. The department considers it useful for doctoral candidates to submit at least one article to a peer-reviewed journal in order to learn how to deal constructively with different types of criticism and queries.

Strategy for acquiring third-party funding

In addition to the acquisition of third-party funding by individual researchers, there are plans to apply for graduate colleges or programs and to jointly acquire third-party funding projects from within the department. The annual department meetings will be used as a network to identify common research areas and possible synergies, discuss new calls for proposals and best practices in the application process, and discuss joint applications.

In particular, the state-of-the-art technical equipment in the laboratories and testing facilities at the universities of the department members opens up excellent opportunities to acquire third-party funding within the research network. The existing cooperation with universities is also to be expanded.

Strategy for transfer and translation

Close cooperation between department members and industry partners or social actors ensures that the research and doctoral topics worked on in the department are transferred into practice. Increased exchange within the department is intended to promote this transfer in the future.

4.1.4 Integration into National and International Structures

The proportion of international doctoral candidates in the department is currently 30%. Thanks to the international doctoral candidates, contacts with foreign institutions have already been established. The focus here is on collaborations with countries in the Global South. German doctoral candidates (foreign students educated in Germany) and professors are encouraged to participate in international conferences and publish in international journals, and stays abroad are promoted through references to international mobility programs (DAAD, etc.).

The German research landscape offers excellent opportunities to attract international students through scholarships. In the future, there are plans to systematically disseminate information on funding opportunities—in particular from the DAAD and other institutions—within the department. The department is also involved in acquiring a research cluster and raising funds for a graduate college.

4.2 Department of Computer and Data Science

4.2.1 Doctoral Program and Qualification Measures

Since September 2023, the Department of Computer and Data Science (IuDS) has been offering two doctoral programs: one on "AI and Data Science," which deals with scientific and technical approaches to generating knowledge from data, and a second on "Applied Computer Science and Business Informatics," which is primarily aimed at prospective doctoral candidates interested in the research areas of cyber security, visual computing, or business informatics.

Both doctoral programs will initially continue in their existing form and content until a sufficient cohort of successful graduates is available to enable evaluations to be carried out. At the same time, initial best practice examples will be used to increase the visibility of the doctoral programs.

The technical qualification measures included in the doctoral programs are continuously adapted to the current state of knowledge. This is absolutely necessary in this extremely dynamic field of knowledge ( ) and is primarily supported by the participating scientists in the department's four Key Research Areas (FSP). There are currently no plans to further expand the range of doctoral programs. Existing cooperative doctoral projects will be completed and, as far as possible and desired, integrated into the scientific activities of the FSP.

4.2.2 Research Concept

The IuDS department deals with a wide range of issues relating to digitalization and develops solutions using scientific methods. In particular, it addresses applied problems in computer science that are often interdisciplinary in nature or can only be solved using interdisciplinary and transdisciplinary methodological approaches. The IuDS department currently has four Key Research Areas covering the following topics:

- Cyber Security
- AI and Data Science
- Visual Computing
- Business Informatics

First, we will examine how the four FSPs have developed and how they are in demand among doctoral candidates. At the same time, their content is continuously being developed in order to always be able to convey the current state of Research in the respective fields. The profiles of the individual FSPs are being further developed with the aim of increasing their visibility. However, this should not lead to the exclusion and/or demarcation of interdisciplinary and transdisciplinary research projects, which are already being worked on to a visible extent. The participating scientists in the IuDS department pursue the SDG mission statement and will make diverse contributions to it within the framework of the research projects they lead.

A further focus of future activities will be on the traceability of our own research and the excellence, novelty, and reproducibility of research results. In doing so, we will support the principles of national and international initiatives on open science and open data, as well as GIT and NFDI, and actively communicate these to young scientists. We will take up the ideas of the CoAra initiative and continue to follow its development with interest.

4.2.3   Scientific Achievements (Publications and Third-Party Funding) and Transfer

Regardless of the doctoral programs and FSP, the IuDS department pursues a clear publication strategy in quality-assured publication media. Doctoral candidates are encouraged to regularly present and discuss their (interim) results to a specialist audience from their peer group. Depending on the subject area, this can take place in peer-reviewed journals or at appropriately ranked conferences. Quality-assured open access media should be given preference. At the same time, young scientists are also enabled to present their research results in a way that is tailored to their target audience, so that they can also discuss them with the general public and thus contribute to the further development of society (third mission).

In addition to traditional training courses on scientific writing, the IuDS department also offers innovative topics such as "Where (not) to publish? – How to identify predatory publishers" with the support of local language centers. These offerings will be further developed and expanded as the number of doctoral candidates continues to grow. A member of the IuDS department ( ) has already successfully acquired an EU-funded Marie Sklodowska-Curie Doctoral Network (MSCA) on the topic of "Brain-Computer Interface (BCI) Technologies" (called DONUT) with various European partners. Comparable activities to attract doctoral candidate networks or graduate colleges will continue to be promoted in the IuDS department. At the same time, however, initiatives across departmental boundaries are also supported, as interdisciplinary and transdisciplinary research is a high priority in the department.

4.2.4   Integration into National and International Structures

As already mentioned in section 4.2.3, the IuDS department is already successfully participating in an MSCA measure with various European partners. In addition, many members continue to work intensively with international cooperation partners, including in cooperative doctoral procedures, or are themselves associated with or co-opted by international universities. Within this framework, international professorial partners are already involved in the supervision of doctoral projects conducted by the PK NRW and in the qualification of doctoral candidates, thereby contributing to the continuation of international cooperation. These activities are to be further expanded.

In addition, procedures are being developed to simplify the recognition of work performed by doctoral candidates within the framework of this international cooperation. Overall, the international networking of the IuDS department is being further expanded in order to gain international partners as multipliers of the department's scientific activities and results.

4.3 Department of Life Sciences and Health Technologies

4.3.1 Doctoral Program and Qualification Measures

In the doctoral program "Life Sciences and Health Technologies" (LuG), current developments in the field are communicated to doctoral candidates and the entire department through a lecture series. The lecture series is designed so that the professors in the department report on their current research in their respective sessions, placing it in the broader professional context of the department and highlighting interdisciplinary connections.

The current needs of doctoral candidates with regard to qualification measures are determined and implemented in close contact with them: At the annual departmental meeting, doctoral candidates have the opportunity to discuss common and individual needs for methodology workshops and other professional qualification measures. Individual requests from doctoral candidates and their supervisors to the Coordination team are also taken into account. The needs identified are recorded and discussed in the Department board so that the content of the doctoral program can be adapted on an ongoing basis. The teaching of research methods and methods relevant to doctoral candidates is therefore an integral part of the doctoral program and is constantly updated on the basis of needs assessments. All offerings are also available to department members pursuing cooperative doctoral degrees. With its doctoral program, the department focuses on agile event offerings and the individualized promotion of doctoral candidates' interests in their career paths in science and industry, while adhering to the highest scientific standards.

4.3.2 Research Concept

The researchers in the LuG department deal with processes or structures of living organisms or those in which living organisms are involved. The research contributes to preserving the health of humans, animals, plants, and the environment, improving quality of life, and strengthening the country's technological innovation and economic performance. The department is dedicated to major societal challenges (health, sustainability, climate) and has long-term labor market potential. The range of methods covers broad areas of natural and engineering science equipment and analysis and also extends into the humanities and social sciences. The methodological work and theoretical tools are therefore often highly interdisciplinary, but have a clear connection to living organisms.

Due to the current growth in the department's staff and the accompanying and expected future increase in the diversity of topics, the department is setting new goals in the design of its Key Research Areas (currently: "Biomedicine" and "Biogenic Resources in Value Creation Networks" as well as the "Biomaterials" and "Computational Life Sciences" platforms). Particular focus will be placed on diverse and innovative methods in order to further promote joint research in interdisciplinary cooperation projects among department members.

4.3.3 Scientific Achievements (Publications and Third-Party Funding) and Transfer

The LuG department considers networking among its members to be an essential prerequisite for attracting third-party funding. It contributes to this by creating spaces and opportunities for exchange, such as extending the annual departmental meeting to a two-day networking event. These meetings focus on providing information about current research activities, identifying areas of professional interest, and getting to know each other personally. In this way, a basis for the joint acquisition of research funding has been and will continue to be created.

In the past, joint research projects have already been initiated, resulting in publications. This will be expanded in the future by the growing number of doctorates in the department. Joint publications are

the result of doctorates carried out across UAS. The doctoral program (e.g., through courses in scientific writing) and their supervisors, who already have a strong publication record, enable doctoral candidates to produce high-quality publications and place them in appropriate journals. The department encourages its members to publish more in the area of open access, possibly through a joint publication fund.

Ideas, knowledge, and technology are already being transferred between the department's professors and their numerous partners in the field. These contacts will be further expanded and deepened through the involvement of doctoral candidates. Training doctoral candidates in the field of science communication is also a good idea in this context.

4.3.4 Integration into National and International Structures

Many of the department members already have excellent national and international networks. At the national level, there are good contacts with universities through the numerous cooperative doctorates that are still being carried out. On the other hand, the department's executive board has initiated networking with UAS institutions in other federal states (BayWiss, Promotionsverband Baden-Württemberg, and TH Mittelhessen), which can be expanded as needed in the coming years . Contact us is also being sought with UAS doctoral associations in other federal states that are currently being established.

In addition to the international networking of individual department professors, the doctoral program has also accepted its first foreign doctoral candidates. Integration into the department is proving to be unproblematic: emails for information and in a consulting context are mostly sent in English or bilingually, the 2024 department meeting was already conducted predominantly in English, and the doctoral program also contains mostly English-language elements. In particular, the mutual exchange among doctoral candidates, e.g., at the departmental meeting, and the contacts made as a result help them to overcome the challenges of living and working in Germany by interacting with peers. The participation of professors and doctoral candidates from the department in international conferences and their contacts with universities abroad ensure that highly qualified international doctoral candidates are recruited in the long term. Consequently, doctorates in the department with foreign supervisors, reviewers, and examiners are also conceivable.

4.4 Department of Media and Interactions

The Department of Media and Interactions has successfully commenced its work; the necessary structures and bodies or committees have been established or further developed, and the doctoral programs have been launched, enabling the first doctoral procedure to be successfully completed at the end of 2024. In addition to integrating ongoing work that was started before the Right to confer a doctorate was obtained, a good number of doctoral candidates have already been accepted who want to complete their doctoral theses entirely within the framework of the two doctoral programs. This confirms the attractiveness of the programs. The establishment of the supervision teams has helped the members of the department to grow closer together. Building on these initial successes and on a solid foundation, the department will continue to develop.

The department aims to further increase the number of professorial members within a limited framework. The focus of activities will be on supporting current members in continuing to meet the membership criteria, as necessary, and supporting associates in meeting the membership criteria for the first time. A new onboarding program for new members and networking activities for existing

members will provide a framework for this. The qualification of associates will also contribute to increasing the currently unsatisfactory proportion of women among the professorial members.

4.4.1 Doctoral Program and Qualification Measures

It is essential that the content and methods used in the department's courses and Key Research Areas are up to date. The professorial members and associate members therefore regularly participate in national and international conferences in their respective fields and are involved in the relevant professional associations. The doctoral programs ensure that doctoral candidates also participate in professional exchanges.

The content of the courses is regularly updated. The results of course evaluations are incorporated into the methodological development. The content requirements of doctoral candidates (e.g., methods) are regularly surveyed and taken into account in planning whenever possible. Each year, a current overarching theme is chosen for the lecture series, and internal and external speakers are invited to present their current Research projects. The mandatory attendance of recognized conferences for doctoral candidates promotes exchange with scientists from other national and international institutions.

In addition, an annual meeting with members of the Executive Board, the evaluation officer, and doctoral student representatives is established to analyze the status and decide on objectives for the further development of the program content.

In order to open up the path to membership to more associates, needs will be assessed and, based on this, qualification and support measures will be developed and implemented. Particular attention will be paid to gender equality, as the proportion of women among the members is currently significantly lower than among the associates. Professorial members and associates will be offered a forum for collegial exchange/coaching on the question of what constitutes good doctoral supervision. This complements the central offering of the doctoral college with subject-specific aspects on the one hand and ongoing quality improvement beyond the initial qualification on the other.

4.4.2 Research Concept

The MuI department deals with current issues of high social significance, focusing on people and systematically taking ethical and social aspects into account. Five Key Research Areas have been defined as part of the establishment of the department. Initially, varying numbers of members have become active in these areas. The department does not intend to broaden its scope in the near future, but would first like to strengthen the existing Key Research Areas. Approximately the first third of the term of this development plan will be used to expand the existing structures, while the second third will be used to evaluate the individual Key Research Areas with regard to, among other things, membership strength, research activities with special consideration of doctoral studies, etc., as well as the Key Research Areas as a whole. The aim is to draw up recommendations for further development (this may also include mergers or redefinitions) and, in the last third, to implement these structures.

Within this framework, the Key Research Areas will increase the visibility of their activities, in particular ongoing doctoral projects. The doctoral candidates should benefit from this by promoting exchange between doctoral candidates at different locations. For associates, there should be greater opportunities to become involved in supervision as mentors and to qualify for membership.

4.4.3 Scientific Achievements (Publications and Third-Party Funding) and Transfer

The professorial members and the majority of the associates in the department have a high number of high-quality publications. Other associates should be supported within the Key Research Areas to

meet the publication target of the membership criteria if they are interested and need support. This applies in particular to professors who have recently been appointed after a long period in industry. An onboarding program should be developed for them.

The same applies mutatis mutandis to the acquisition of third-party funding. At the same time, networking formats should be offered that enable partnerships across research areas for interdisciplinary publications and third-party funding applications. The department sees interdisciplinarity as a particular strength.

The department aims to increase the visibility of online publications in particular. The role of the doctoral program should also be made visible in appropriate places. Spin-offs are already strongly supported at most of the supporting universities. The department would also like to support doctoral candidates in this regard. The doctoral programs already allow spin-offs to be recognized as achievements in the elective area. However, given the extensive range of offerings at the universities, it makes sense to first assess the need for further offerings in order to avoid unnecessary redundancies.

4.4.4 Integration into National and International Structures

The members work and publish internationally and are internationally networked. The aim is to increasingly involve professors from abroad in doctoral studies in accordance with the possibilities offered by the doctoral degree regulations. The members promote the department internationally. The existing international partnerships of the supporting universities also contribute to this. The first step is to evaluate how the integration of foreign doctoral candidates can be supported, for example by offering individual courses in English.

4.5 Department of Resources and Sustainability

The Department of Resources and Sustainability (RuN) is focusing its further development on its core task of providing doctoral candidates with a good environment for their academic qualifications. Here, the members of the department are working on developing and establishing structures for a growing number of professorial members and doctoral candidates, as well as associate professors, which will enable the smoothest possible process for obtaining a doctorate. The RuN department is committed to creating transparency in order to simplify formal procedures such as the formation of supervision teams, review panels, and examination boards in accordance with doctoral degree regulations.

4.5.1 Doctoral Program and Qualification Measures

The RuN department is open to cooperative doctorates as well as university members, but focuses its development efforts on the further development of its own doctoral program as an integral part of the RuN department's doctoral process. At the core of the doctoral program is, among other things, mandatory participation in the lecture series. Here, doctoral candidates should be able to broaden their scientific horizons and place their own work in an interdisciplinary context.

The in-person doctoral colloquium is a central component for active exchange among doctoral candidates and with other supervisors, within which they present their own research progress and engage in academic discussion. Currently, the doctoral colloquium takes place annually. The department is working on formats to offer it several times a year.

The department is gathering initial experience with the implementation of the doctoral colloquium from those that have already taken place. It is regularly subjected to critical evaluation by both supervisors and doctoral candidates. In addition, the experiences and design of doctoral programs in other departments are taken into account in its further development.

4.5.2   Research Concept

The members of the RuN department contribute to innovation and solutions to societal challenges through their research. Currently, the focus is on "Energy Systems," "Materials and Interfaces," "Security of Supply and Resilience," and "Circular Value Creation." They contribute to several development goals in line with the UN SDGs, including, but not limited to, affordable and clean energy (SDG 7), clean water (SDG 6), sustainable consumption and production (SDG 12), and sustainable cities and communities (SDG 11). The departmental structure pays particular attention to the interface between technical possibilities and ecological, economic, and social necessities and compatibilities. The cross-cutting function of sustainability contributes to integrating technology assessment into the doctoral process.

The professorial and doctoral candidate members as well as the associate professors of the department constantly contribute current and application- and knowledge-oriented research questions from their universities to the department. This results in the further development of the Key Research Areas themselves as well as their networking. During closed-door meetings of the professorial members, the further development of the Key Research Areas is synergistically advanced in order to improve the potential for improved third-party funding for the individual actors through cooperation and/or joint research activities.

4.5.3   Scientific Achievements (Publications and Third-Party Funding) and Transfer

The department has begun to develop joint strategies for acquiring third-party funding. Due to the special structure of the funding landscape, there are not too many options open to pure university consortia from a single federal state. Graduate colleges (e.g., from the DFG) play an outstanding role here. Consortia have already been formed for this purpose from two of the department's Key Research Areas. Here, the RuN department would like to work together with other players in the Doctoral School NRW to ensure that the Doctoral School NRW becomes an institution eligible to apply for such formats. Thanks to their application-oriented research, universities of applied sciences are ideal players for significantly advancing transfer in the sense of the third mission in Germany. This process is further strengthened by the networking of various universities and interdisciplinary research areas in the RuN department. Other achievements, in particular the publication strategy, are related to internationalization and will be addressed in the next chapter.

4.5.4   Integration into National and International Structures

One component of the doctoral program is the integration of doctoral candidates into an international scientific environment. The department encourages its members, especially doctoral candidates, to present their research results at international scientific conferences and to publish their findings in recognized international peer-reviewed journals. The department has already successfully organized a "special session" for its doctoral members at the "Conference on Sustainable Development of Energy, Water and Environmental Systems" and will proactively seek further opportunities for its doctoral candidates. Conferences offering the opportunity to publish in "special issues" of peer-reviewed journals are also proactively identified in order to participate in them in a targeted manner. Furthermore, the aim is to increase the proportion of internationally staffed supervision teams. The supervision agreements also stipulate that doctoral candidates can integrate a stay abroad into their doctoral studies. The department supports this by providing relevant Contacts.

4.6   Department of Social and Health Affairs

4.6.1   Doctoral Program and Qualification Measures

The Department of Social and Health Affairs (SuG) is responsible for the doctoral program "Shaping social and health change." In addition to the requirements specified in the framework doctoral degree regulations (RPO), this program requires a course to deepen research methods as well as elective courses in three of six content areas. Current developments in the field are incorporated into both the lecture series and the courses designed to deepen knowledge of methods and content. The steadily increasing number of doctoral candidates has led to a reorganization of the departmental colloquium. This now takes place at least twice per semester, alternating between in-person and online formats. The multidisciplinary perspectives of the participants have proven to be very stimulating so far. Due to the increasing number of doctoral candidates, the organization and content of the doctoral colloquium will be continuously reviewed and, if necessary, further developed in the coming years.

The special profile of the SuG department is reflected in the lecture series, the in-depth content events, and the methodology events. In the lecture series, members of the department present their research, in particular methodological aspects, for discussion. This demonstrates the broad range of topics and methods in the fields of social affairs and health that are represented in the department. The in-depth courses focus on specific current research topics, which are prepared by members of the department in the form of specialist events (most recently on the topics of usage research, participation research, addiction – municipalities – users). Based on initial experiences with the specialist event on "Participation research from a multidisciplinary perspective," whose contributions will be used to create a special issue for the peer-reviewed journal Sozialer Fortschritt (Social Progress) by 2026, corresponding publications from specialist events in the SuG department are to be produced in the future (see below 4.6.3) in order to contribute the research results to the respective specialist discourse. The methodology events focus specifically on the methods frequently used in current doctoral projects (e.g., working with reviews, participatory research, sequence analysis, grounded theory, narrative analysis evaluations, and multivariate analyses). In the future, formats will be developed that allow doctoral candidates to express their specific interests in methodological events in a participatory manner. In addition, the (methodology-oriented) doctoral program will be linked to the internationalization strategy of the SuG department.

In addition to doctorates under its own Right to confer a doctorate, the SuG department also intends to continue promoting cooperative doctorates. A detailed doctoral program in social work has been developed for cooperative doctoral candidates, which has been coordinated in particular with the Faculty of Education at the University of Duisburg-Essen (UDE). It is intended to provide a framework for cooperative doctoral candidates, but is voluntary. Its relevance for doctoral candidates in the SuG department will be reviewed in the coming years with a view to further developing it if necessary. The development of cooperative doctorates will continue to be monitored in the SuG department. Depending on these experiences, the SuG department may consider the conceptual integration of cooperative doctorates.

4.6.2   Research Concept

In 2020/21, the SuG department developed a research concept in a participatory process. This concept bundles the current research activities of its members into four overarching Key Research Areas:

- social and health policy research,
- health services research,
- profession and professionalization research, and

- Inequality, participation, and involvement research

The four Key Research Areas are interdisciplinary and transdisciplinary in nature and correspond to the disciplines of social, human, and health sciences. They address complex empirical and theoretical questions that can be viewed from different perspectives. Based on the Key Research Areas, in-depth events are regularly organized that focus on the current research interests of the members. In addition, temporary research collaborations in the form of flagship projects in the individual Key Research Areas are given special emphasis. Currently, these are:

- In the Key Research Area "Social and Health Policy Research," the DemSoz project (Social welfare reform "from below") Representation of weak interests through social work as democratization of social policy?, duration 11/2021-04/2025), which is anchored as a joint project at the TH Köln and the UDE, involves several doctoral candidates and professorial members of the SuG department through workshops and conferences.
- In the TransCareTech project (Transformation in Care and Technology, duration 11/2021-4/2025), which is based at Bielefeld University of Applied Sciences and in the Key Research Area "Health Services Research," members from various departments of the PK NRW are cooperating.
- In the Key Research Area "Professions and Professionalization Research," a research collaboration on subject-oriented research perspectives in social work is emerging. Two specialist conferences were held in preparation for this: in December 2023, "Current developments and discourses in the context of addressee, user, and (non-)use research," and in September 2024, "Addiction – Community – Users." These activities are intended to lead to a research collaboration.
- The Health Department at Bochum University of Applied Sciences has several projects in the context of urban health that can be assigned to the Key Research Area "Inequality, Participation, and Involvement Research." For example, the Stifterverband approved a junior research group on community urban mental health, and an innovation community on urban health is being established in the Ruhr area and Bremen as part of the DATIpilot funding program. Further doctorates can be assigned to the field of urban and community health.

The temporary research collaborations are intended to reflect the dynamics of research development in the SuG department and are continuously updated. The research activities of the members are primarily shaped by five central social challenges:

1. Changes in gainful employment (flexibilization, subjectification, blurring of boundaries, intensification, and precariousness) are leading to social upheaval that must be addressed in the social and health sectors.
2. Demographic change is having a twofold impact on the social and health sectors due to an increase in life expectancy and a decline in the fertility rate: On the one hand, this is associated with an increase in chronic diseases and multimorbidity, which places greater demands on health and social systems. On the other hand, there is a decline in skilled workers, which also requires new training and care concepts.
3. Migration processes due to flight from war, displacement, poverty, and the effects of climate change pose further significant challenges for social and health care systems.
4. The increase in social and health inequalities and the systematic discrimination against individual members of society and communities stand in the way of efforts to create an inclusive society.
5. Digitalization continues to place increased demands on health and social systems and on skilled workers. These demands are evident at the ethical, professional, and organizational levels.

The members of the SuG department conduct both applied and basic research. They use a variety of qualitative and quantitative methods as well as the integration of both methods (mixed methods) of

empirical social research. A particular concern and goal is the involvement of young scientists (doctoral candidates and postdocs) in research projects and the acquisition of funds to finance doctorates, which will continue to be pursued.

4.6.3 Scientific Achievements (Publications and Third-Party Funding) and Transfer

The SuG department's publication concept aims for a mix of high-ranking peer-reviewed publications in national and international journals, contributions to the development of scientific discourse through monographs, edited works, and essays in anthologies and relevant publications without peer review, as well as publications in practice- and policy-oriented publications with a focus on transfer.

The SuG department encourages publication in peer-reviewed journals, e.g., by publishing special issues or promoting cumulative doctorates.

The 'Research Afternoon' format, which the SuG department organizes regularly, promotes cooperation among members, e.g., with regard to the organization of in-depth events, joint publication projects, or the acquisition of third-party funding. In addition, information events on third-party funding acquisition are held.

The SuG department does not yet have its own transfer strategy. Nevertheless, its members are involved in various transfer processes. These activities need to be expanded into a strategy.

4.6.4 Integration into National and International Structures

The SuG department works together with the AG Promotionsförderung (doctoral promotion working group) of the DGSA (German Society for Social Work), which offers its own doctoral colloquia for social work. In addition, there is close Research and doctoral cooperation with the Faculty of Education at the University of Duisburg-Essen. The department members are involved in the respective national and international professional associations and organize, among other things, in-depth events or methodology events in collaboration with them. International research cooperation takes place through the participation of department members in international conferences or the invitation of guest researchers from abroad. These international research activities are still in the development stage and are to be expanded by means of an internationalization strategy.

So far, it has not been possible to attract doctoral candidates from abroad. In the future, this would mean converting the doctoral program to English-language events.

4.7 Department of Technology and Systems

4.7.1 Doctoral Program and Qualification Measures

The formats of the qualification measures are currently being adapted to include a stronger thematic focus and more interaction in small groups. This will allow trends and current developments to be worked out and discussed in more concrete terms, and development paths to become more visible.

Due to the frequency of the lectures and the sometimes long travel distances, the lecture series of the Department of Technology and Systems is held via video conference. The first series of lectures covered a wide range of topics, which did not always address the interests of all doctoral candidates equally. In order to raise the profile of the program, the upcoming lecture series will be grouped thematically into three coordinated lectures by different speakers. This will allow doctoral candidates to network according to the principle of knowledge and contribute more specifically to the thematic blocks of the lecture series, especially in the second and third lectures of a block.

The doctoral candidate colloquia take place in small groups and in person. In contrast to video conferences, this allows doctoral candidates to receive more direct feedback on their own presentation, lecture, and discussion style. Due to the long travel distances, this requires a spatial clustering of the colloquia, e.g., East Westphalia, the Ruhr area, and the Cologne-Bonn area. Contrary to the comments on the lecture series, it is not necessary to group the colloquia by topic. Rather, doctoral candidates should master the challenge of communicating their research questions, their methodological approach, or their publication concept—in other words, the entire complexity of a doctoral project—in a concise and comprehensible manner, even to doctoral candidates who are not directly involved in the subject area.

The subject-specific events are grouped by topic and also take place in person, but in a lunch-to-lunch format. Subject-specific input is linked to tasks that are worked on in small groups and culminate in presentations. The subject-specific events can be combined with technical excursions.

4.7.2 Research Concept

Research in the Department of Technology and Systems continues to be conducted through third-party funded projects, and the research output is largely visible in the publications of the doctoral candidates who work on these third-party funded projects. In order to sharpen and further develop the department's research profile, the aim is to bundle the doctoral topics through the doctoral program and thus promote closer exchange between the project managers involved. However, this disciplinary profiling is not intended to be a departure from interdisciplinarity. Above all, it should be effective across departments. The differentiation of the doctoral program via a pillar model as outlined below, in conjunction with the further development of doctoral candidate colloquia and specialist events described in the previous section, serves as an instrument for profiling.

The department continues to offer only one doctoral program, namely Cyber Physical Systems. This open and, at the same time, meaningful cross-sectional topic has proven its worth. Further development and profiling will take place via a pillar model within this program. Two pillars are planned, covering the topics of automation, sensor technology, networking, and human and bio-mechatronics. The third pillar will focus on the resilience of technical systems, which can incorporate interdisciplinary aspects and thus open up space for transdisciplinary approaches. The thematic pillars are differentiated primarily in the doctoral candidate colloquia and specialist events.

4.7.3 Scientific Achievements (Publications and Third-Party Funding) and Transfer

Acquiring third-party funding has not yet been discussed in the department's bodies or committees. Third-party funding continues to be handled by the supporting universities, including in cooperative applications with other actors from the PK NRW. From this, it can be hypothetically deduced that there is currently no need for a separate strategy for acquiring third-party funding within the department. This is supported by the fact that the professorial members of the Department of Technology and Systems have a level of third-party funding that is well above the state average.

For doctoral candidates, a cumulative doctorate undoubtedly offers earlier bibliometric visibility in the scientific community due to the usually larger number of publications. In addition, conference participation, which is often associated with publications, provides good networking opportunities. Nevertheless, two-thirds of doctoral candidates currently aim to write a monograph as their dissertation at the time of admission as a doctoral candidate. This group is expected to have a lower publication output and will therefore be provided with more information about opportunities for pre-publication or secondary publication in the future. On the part of professors, the DFG code stipulates that co-authorship with doctoral candidates under their supervision is subject to the condition that they make a

substantial contribution of their own. With regard to code-compliant handling, the department, for example in the departmental meeting, will discuss how the term "substantial contribution" is to be interpreted.

During the start-up phase of the PK NRW, transfer and translation will continue to be carried out via the established structures of the supporting universities. Doctoral projects and related research projects make use of, for example, transfer companies located on campus, science-to-business centers, start-up labs, collaborations with Fraunhofer Institutes, or large-scale Third Mission projects. The department is therefore not currently developing its own transfer strategy.

4.7.4 Integration into national and international structures

Experience shows that the internationalization of research takes place through personal contacts and face-to-face meetings. The Department of Technology and Systems set the tone for this at an early stage.

In 2022, shortly after the PK NRW was founded, the Department of Technology and Systems initiated a two-week interdisciplinary and international summer school with Tel Aviv University on the cross-cutting topic of resilience, with around 20 participants. The summer school was financially supported by the State Chancellery of North Rhine-Westphalia. The findings from the summer school were presented in a portrait exhibition in the foyer of the state parliament. The summer school shows that the PK NRW is able to find international partners for cooperation at a high scientific level.

In 2023, the Department of Technology and Systems participated in a DFG delegation trip to various universities in the USA. This initial contact led to an exchange with a faculty at Florida Agricultural and Mechanical University, which is currently establishing a summit that took place for the first time in South Africa in 2024 and will be held in Hungary and then in the USA in the following years. The PK NRW has the opportunity to participate in and help shape a thematic focus suitable for several departments at this new summit. The format of this summit has its own international publication series.

4.8 Department of Business and Markets

4.8.1 Doctoral Program and Qualification Measures

The lecture series and doctoral colloquia are central components of the doctoral program of the Department of Business and Markets (UuM) "Change and Resilience." Both formats are designed to give doctoral candidates insight into topics beyond their own research and thus offer interdisciplinary approaches to economics-centered issues. The onboarding event provides them with insights into the specifics of the doctorate at the PK NRW and identifies individual needs. The subject-specific and methodological training of doctoral candidates is tailored to their needs in close cooperation with the members and supporting universities. In addition, interdisciplinary workshops are offered, such as on publication strategy or applying to national and international conferences, as well as opportunities for research networking within the department. All qualification measures are also open to cooperative doctoral candidates. In its Strategy 2030, the department has set itself the goal of striving for an attractive and high-quality program of events with very good evaluation ratings and a high utilization rate.

Doctoral candidates and professors continuously contribute current and application-oriented research topics to the department. In this way, the doctoral program can be adapted to new developments in business, society, and science—in line with the topics represented by the members. Possible adjustments could include, for example, a name change or a new weighting or development of program

components. The implementing provisions of the departmental doctoral regulations (APO) will be updated in the event of structural changes in the ratings of publication bodies. If fundamentally different needs arise in different areas of focus within the department, additional doctoral programs may be developed. An internal departmental guideline for good doctoral supervision, developed by professorial members and doctoral candidates, will serve as the basis for quality assurance in supervision in the coming years.

4.8.2 Research Concept

The department currently has three Key Research Areas: "Building key factors and work design in times of change," "Uncertainty, resilience, and institutional change," and "Value chain and operations management." They are united by the tension between dynamic change, to which companies and markets are increasingly exposed in terms of social, technological, and political aspects, and the simultaneous need for stability. Against this backdrop, the department aims to describe, explain, and predict the mechanisms and consequences of the changes described above, while also addressing the need for stability and predictability at the levels of people (focus area 1), systems (focus area 2), and processes (focus area 3), and to derive recommendations for action for business, society, and politics.

In its "Strategy 2030," the department has set itself the goal of becoming "THE network platform for professors in applied research in economics in North Rhine-Westphalia." To this end, the base of professorial members, their networking among themselves and in the research landscape is to be strengthened. Specifically, a new format for exchange has been developed in the form of the Digital Research Lunch. In order to reflect the full range of research interests represented in the department, the "Strategy 2030" also provides for members to organize themselves into specialist groups. These are intended to intensify cooperation within the individual disciplines in the form of joint publications, specialist conferences, and research projects. Through corresponding workshops at the last departmental meetings and closed-door conferences, the following specialist groups have emerged so far: "FACTS (Finance, Accounting, Controlling, Tax, Sustainability)", "Demand on Digital Markets", "Operations" and "WOP (Business Psychology, Organization, Human Resources)". In the future, the specialist groups are to be transferred to new Key Research Areas and serve as a basis for a revision of the departmental doctoral program by the Department board.

4.8.3 Scientific Achievements (Publications and Third-Party Funding) and Transfer

Due to the trend toward cumulative dissertations in the field of economics, the department expects to receive predominantly submissions of this type. Since publications are an inherent part of these, the department's doctoral degree regulations (APO) define the framework for this and thus make an important contribution to the department's publication concept. According to the APO, which goes beyond the requirements of the RPO in this regard, at least three publications must be submitted, two of which must be accepted or published in recognized and peer-reviewed publications. These publications are defined by their inclusion in the JourQual rating and equivalent. Exceptions to publication and acceptance criteria, as well as to the regulations on the visibility of individual achievements in multi-author publications, only apply to high ratings, thus providing incentives to publish high-quality work. The "Strategy 2030" also formulates further quality targets for doctorates and operationalizes this via the ratings of the associated publications. To this end, the department is developing a publication concept to make all of the department's publications, especially monographs and the cover texts of cumulative dissertations, more visible. This can be achieved, for example, through an online series of publications by the university library at one of the supporting universities. In addition, Strategy 2030 defines target corridors for joint publications by associated professors and professorial members.

4.8.4   Integration into National and International Structures

The department places particular emphasis on promoting research activities on a global level. A first step in this direction is the research lunch on the topic of internationalization, where professors who are particularly active in the international arena share their experiences with members. International publications are a fundamental building block for increasing the scientific impact of research work, as required by the APO. To strategically implement internationalization in the department, the position of an internationalization officer will be established. Another focus is on supporting doctorates with international supervision teams and promoting research stays abroad. To this end, the department supports the establishment of contacts with renowned international research institutions. In order to increase the attractiveness for international doctoral candidates, the proportion of English-language courses in the doctoral program will also be gradually expanded. These measures will help to integrate the department more closely into the international academic discourse and appeal to a diverse group of doctoral candidates.

Adopted following a resolution by the Doctoral School Senate on May 5, 2025, and a resolution by the Board of Supporters on June 26, 2025.

Bochum, June 26, 2025

The Chairman of the Executive Board

signed *Sternberg*

(Prof. Dr. Martin Sternberg)

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