[Development Plan] 2030

Goals of a leading Life Sciences and Sustainability University

BOKU UNIVERSITY

BOKU University

Development Plan 2030

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1. Overall strategic goal and positioning on university policy priorities

1.1. BOKU – a leading Life Sciences and Sustainability University in Europe

In its 151st year of existence, BOKU University is at the beginning of a decisive phase in which it wants to fully exploit its potential as a leading institution in Life Sciences and Sustainability Research in Austria and Europe. This Development Plan 2030 is based on clearly defined, participatory strategic goals that outline BOKU's ambitious plans for the coming years. BOKU is not only focusing on expanding its scientific expertise and excellent teaching, but also on its responsibility towards society and the economy:

Leading Life Sciences and Sustainability University in Austria and Europe

In view of urgent global challenges such as the climate and energy crises, biodiversity loss, and resource scarcity, BOKU strives to be recognized as a leading Life Sciences and Sustainability University at both the national and the international level.

These challenges require sustainable developments and scientific excellence, which are pursued in the six BOKU-typical fields of competence ("Ecosystem Management and Biodiversity", "Agricultural Production and Food", "Sustainable Materials and Technologies", "Biotechnology", "Landscapes, Water and Infrastructures", and "Resources and Social Dynamics"). BOKU thus covers the entire spectrum of Life Sciences along value chains and focuses on future topics such as climate protection, biodiversity, bioeconomy, nutrition and health, biopharmaceuticals and bio-based materials as well as habitats and infrastructures.

Research and innovation at the highest level

BOKU attaches great importance to scientific excellence, measured by its high scientific output, which will also anchor it among the top Austrian universities in the future and make it more visible in an international context. It strives for a balanced relationship between basic and applied research; qualitative growth is reflected in a stronger focus on excellence programs, both at the national and the EU level.

BOKU's high level of innovation is reflected in the continued increase in patent applications and spin-offs.

Through its work, BOKU aims to make a decisive contribution to the competitiveness of Austria as a business and science location: it wants to make a significant contribution to the sustainable transformation to a climate-neutral economy and society and strengthen the country's scientific relevance in the major future areas of Life Sciences. In doing so, BOKU develops highly relevant solutions for practical applications as well as conducting essential basic research.

Studying at the highest level and lifelong learning

Students are at the heart of BOKU's educational mission. As a university, it aims to educate critically thinking, innovative, and passionate people who, as pioneers, develop sustainable economic systems and contribute to overcoming global challenges.

In its degree programs, BOKU combines natural sciences, engineering, economics, and social sciences and focuses on inter- and transdisciplinary education. Even at the Bachelor's and the Master's level, it is very important to BOKU that students receive an all-encompassing scientific education based on the latest teaching strategies and research findings and that they are taught and applied with this in mind. The study programs are characterized by practical relevance and prepare students for the job market of the present and future. The high level of student satisfaction at BOKU must be maintained, examination activity and supervision ratios improved, and the compatibility of studies and work taken into account.

BOKU attaches great importance to providing its doctoral students with the best possible support and is pushing ahead with the expansion of structured, program-specific, and predominantly English-language doctoral training. The proportion of doctoral students employed in doctoral schools is to be continuously increased. With regard to the development of student numbers, quality and quantity must be carefully balanced. The aim is to achieve moderate growth in student numbers that goes hand in hand with expanding internationalization.

In its continuing education strategy, BOKU pursues the principle of lifelong learning, especially in the context of social transformations. Supported by its continuing education academy, it aims to develop needs-oriented courses based on external and internal analyses and to adapt to the changing life and work situations of students as a reliable companion. In doing so, it focuses on compact continuing education formats and pursues an international approach, reinforced by cooperation in strategic networks.

Expanding internationalization

BOKU is striving to establish itself even more strongly as an international university by expanding its range of English-language courses – in particular by introducing an English-language Bachelor's degree program – and by further increasing the proportion of international students. With the aim of strengthening its far-reaching international network, it wants to consolidate its position as an attractive research and study location in one of the most livable and safest cities in the world.

BOKU emphasizes the engagement of its members in international activities, strives for membership in global networks, and is committed to the transfer of its academic knowledge and technology transfer with industry partners. It also focuses on integrating international and intercultural aspects into its curricula and emphasizes the mobility of its staff and students.

Expanding excellent cooperative infrastructures

BOKU emphasizes the essential role of a high-quality, service-oriented cooperative research infrastructure for excellent research. The aim is to acquire and share research infrastructures across locations and departments. Modern equipment and method platforms also make study programs more attractive.

The BOKU Core Facilities, established in 2019, centralize large-scale equipment and scientific platforms, which relieves the departments and makes them more attractive for research collaborations. These core facilities need to be further professionalized and consolidated in terms of personnel. New research infrastructures are also planned in various scientific areas.

BOKU would like to network more closely with European research infrastructures and integrate them into international projects. Close cooperation with other universities and research institutions is being sought in order to create synergies. All of this underlines BOKU's intensive focus on expanding and optimizing its research infrastructure, with cooperation and networking as key factors.

Best employer – diversity and inclusion

BOKU emphasizes the university's role as an attractive employer and pursues a comprehensive approach to promoting employee satisfaction and retention. A modern recruiting and onboarding process aims to attract the best talent and underlines the importance of the "BOKU spirit" – a community characterized by passion, collaboration, caring, and sharing. The aim is to further improve the current positions in the various rankings by further expanding the current instruments such as bonuses, further training opportunities, health promotion, but also appreciation, values, transparent communication, etc.

BOKU emphasizes the values of inclusion, equal opportunities, participation and social responsibility and pursues a diversity-oriented and participatory organizational culture. "Sustainable diversity" is identified as a key topic that is closely linked to the United Nations Sustainable Development Goals (SDGs) and focuses on strategic goals such as equality, work-life balance, inclusion, social integration, intergenerational equity, and ethnic diversity.

BOKU's diversity-oriented gender equality approach aims to achieve a balanced gender ratio, reduce gender-specific barriers and integrate gender dimensions into research and teaching. BOKU is committed to an inclusive and barrier-free working environment and strives for a higher representation of people with disabilities and other underrepresented groups in all areas.

Overall, BOKU attaches great importance to diversity, equality, and inclusion in order to create a future-oriented and modern study and work environment for all BOKU members.

Consistent further development of organizational and communication structures

The organizational structure of a modern university must be flexible, transparent, and efficient in order to meet both current challenges and future requirements in an increasingly complex educational landscape. It is important to find the right balance between flexibility and stability and to integrate interdisciplinarity, diversity, and sustainability as core principles.

For a sustainable BOKU, it is crucial to align the organizational structure more closely with the university's specific areas of expertise and thus make them more visible to the outside world. The current 15 departments will therefore be bundled according to BOKU's areas of expertise and merged into six departments from the start of 2025 (see Chapter 3). This will also ensure that resources and expertise are optimally utilized and further developed. At the same time, departments will be given more budgetary and personnel autonomy and receive professional support and relief in administrative matters – in particular by appointing their own department managers under the leadership of the academic department heads. This will enable the individual departments to react more flexibly and in a more targeted manner to their specific needs, use their expertise more effectively, and focus more on their core academic competencies.

BOKU recognizes that an effective, open, and transparent communication structure is crucial for the success and adaptability of the institution. The recently introduced communication tools such as Round Tables, Town Halls, Open Space, etc. will be used and further developed as permanent facilities. A new website and a separate intranet will bring further improvements in internal and external communication. BOKU relies on participatory decision-making, which enables the active involvement of employees, students, and other interest groups in key decisions. This not only promotes commitment, but also strengthens the sense of community. Clear and transparent communication channels between the different hierarchical levels are essential to build trust and ensure the smooth running of the university. Feedback mechanisms drive innovation and ensure a close connection between university management and the grassroots. Externally, BOKU attaches great importance to targeted communication that reaches both the scientific community and the general public, thus strengthening its image and promoting cooperation. With planned public relations work, it strengthens its ties with graduates and stakeholders and thus raises its profile.

Overall, BOKU's communication strategy aims to deepen internal cooperation, increase the satisfaction of all university members, and strengthen its position both nationally and internationally through an optimal and future-oriented communication structure.

High social responsibility

BOKU recognizes its role and responsibility in society. As a leading Life Sciences and Sustainability University in Austria and Europe, it aims to play a key role in shaping the social discourse on sustainability. In

order to meet the immense socio-ecological challenges of the 21st century and to bring about significant changes both within the university structures and in society, BOKU pursues an interdisciplinary, transformative approach. One focus of this approach is cooperation in inter-university projects and projects with other educational institutions and stakeholders to implement the UN Sustainable Development Goals (SDGs) in Austria (e.g. UniNEtZ) and to establish an Austrian Center for Transformation (see Chapter 5).

In the spirit of "responsible science", BOKU emphasizes the need for ethical and sustainable research that also considers the impact on society and the environment. Transparency and the involvement of the public in the research process are essential. Accordingly, BOKU's commitment to Citizen Science, where science and society are more closely interlinked with a focus on achieving the SDGs, among other things, is formative for BOKU. BOKU is also committed to the concept of open science, which opens up the scientific process from idea generation to publication and promotes the openness of research results and data (open data). Among other things, BOKU is strengthening its open innovation strategy by raising awareness of open innovation among students and researchers.

As a leading sustainability university, BOKU attaches great importance to providing its students with an interdisciplinary and transdisciplinary education in the core competencies of sustainability. It aims to ensure that all graduates acquire essential skills for sustainable development and actively participate in tackling global challenges. Aspects of gender equality, diversity, and social inclusion must be taken into account and disadvantaged groups must be given special support.

BOKU as an organization is also committed to sustainability goals. It focuses on the economical use of resources and the use of renewable energies and has set itself the goal of reducing two thirds of its annual CO_2 emissions by 2030 (reference year 2019). By 2040, BOKU aims to achieve a state of net zero emissions by reducing 90 % of annual emissions and offsetting unavoidable residual emissions through climate protection projects.

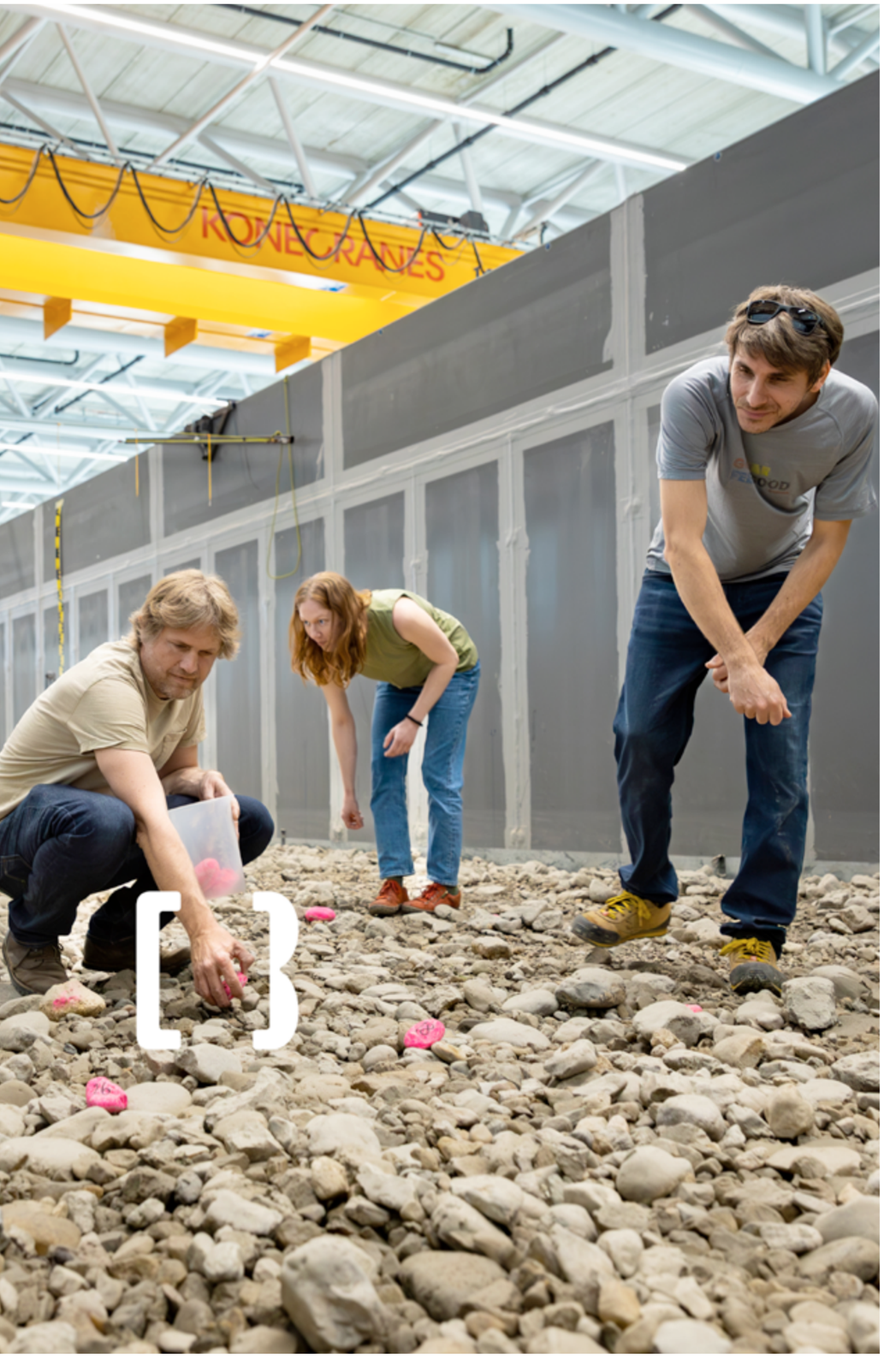
Another pillar of the BOKU sustainability strategy is Sustainable Diversity. BOKU considers diversity to be an integral part of sustainable development processes and consciously links it to the SDGs. The BOKU diversity strategy and the anchoring of equality, inclusion, and anti-discrimination not only demonstrate the university's commitment to social responsibility, but also the strategic approach of seeing diversity and sustainability as central elements of the university culture.

In the interests of transparency and communication, BOKU attaches great importance to providing information about its progress in the area of sustainability and social responsibility through regular reports and events and actively involving stakeholders in the dialog.

Overall, BOKU's strategic direction for the 2030 time horizon reflects the university's ambition and commitment to be at the forefront of research, education, and

innovation in the field of Life Sciences and Sustainability. Through its focused efforts on excellent research, innovation, education and social responsibility, BOKU is positioning itself as an institution that both responds to current challenges and proactively drives future developments. As a community of all students and staff, it lays the foundation for an inclusive, innovative and responsible future that offers the next generation an environment worth living in and a more sustainable society and economy.

The objectives outlined above are not only important for the institutional success of BOKU, but also for its role in society and its impact on the global discourse. They are to be achieved with measures in all university fields of action, which are explained in more detail below.



2. Personnel | Human Resources

2.1. General orientation of the HR strategy

The most important factor in an expert organization such as a university is a sufficient number of highly qualified staff with comprehensive expertise in their field. Modern personnel planning must therefore ensure that staff-related skills are secured, developed, maintained, and utilized. Professors, academic staff, and general university staff are performing increasingly complex university tasks in research, teaching, and administration. The Human Resources strategy is based on the BOKU vision and mission, the goals and strategies derived from them, and the fields of expertise typical for BOKU. Maintaining and expanding excellence in research and teaching, supported by modern administration, is essential. This will maintain competitiveness and enable the desired qualitative growth.

The appointment of outstanding university professors and the development and promotion of young academics is therefore a central task in the further development of BOKU (see GUEP system objective 4, implementation objective 4a). The rapid growth of the university in recent years, necessitated by the strong demand for knowledge in BOKU's fields of expertise, makes the active search for, and the retention and career development of highly qualified scientists and general university staff an important task. However, a number of new framework conditions and developments are making it more difficult to achieve these goals:

- Increasing competition from other universities
- Increased competition from the private sector, especially for technical staff
- Tightening budgets due to comparatively high cost trends
- Above-average number of retirements, especially among professors and associate professors by 2030:
  44 university professors and 38 associate professors
- Change in the entitlements of employees

BOKU strives for transparent, competitive, attractive work and career opportunities for both university professors and young academics. A series of (personnel) measures are necessary in order to achieve the goals in research (professional development in the BOKU competence fields) as well as in teaching (continuous improvement of the supervision ratio – see GUEP system objective 3, implementation objective 3a – and ongoing adaptation and [re]development of BOKU studies) under the above-mentioned framework conditions. The expansion of targeted further education offers, the concrete description of career paths, the expansion of management training, the expansion of exchange programs with other universities, etc. should contribute to achieving these objectives.

Excellent research and teaching is supported by a targeted administration. This guarantees the basis for the internal cohesion of the "expert organization BOKU". Sufficient and

highly qualified general staff, especially in administration and in the technical/laboratory area, are therefore essential for research and teaching and subsequently important for maintaining and expanding BOKU's competitiveness. Technical support is provided through the implementation of the BOKU digitalization strategy (see chapter Digitalization) and the associated availability of modern IT tools and workflows (digital transformation).

In the coming years, BOKU will focus more strongly on further developing itself as an attractive employer as well as on employee retention and maintaining/strengthening employee satisfaction. The latter is to be achieved, among other things, through measures based on the results of the employee survey conducted in the fall of 2023 [results not yet known at the time of going to press].

2.2. Future personnel strategy

Following a significant increase in the number of professors – including professorship equivalents and §99(5,6) career post holders – in the 2019–2021 and 2022–2024 performance agreement periods, the most important goal of a future personnel strategy is to maintain this number of staff in terms of quality and quantity in the short and medium term and to increase it in the longer term in line with the various tasks and objectives – based on budgetary possibilities. The same applies to other academic staff, technicians/laboratory assistants, and general university staff as a whole. In view of an above-average number of retirements, tight budgets and an expected ongoing tense situation on the labor market, this represents a major challenge.

The need to create focal points in order to be able to take up new topics ("emerging fields"), to further expand existing competencies and to increase attractiveness and competitiveness – while at the same time fulfilling the performance indicators, in particular the active studies (basic indicator 1) – very clearly demonstrates the scope and complexity of these challenges. It will no longer be possible to master these challenges through personnel measures alone, but this will require far-reaching considerations and activities to bring the entire university operations in line with these requirements. The further intensification of digitalization in administration, teaching, and research; the optimization of existing processes and structures; targeted further education; but also reallocations and much more are just a few examples. The new positions required for this can only be created in accordance with available budget funds or through additional financing and will therefore only be filled in specific cases.

Replacements for university professorships until 2030

Due to the age structure, a total of 44 §98, §99(3) and §99(4) professorships will become vacant by 2030 as a result of retirements. 42 associate professors are also due to retire. In order to create the necessary generational change, achieve the desired supervision ratio and ensure the thematic further development of the BOKU fields of competence, these may have to be filled with new objectives and specialist focal points in accordance with the attached job plan (Annex: Planned development of university professors). Tight public sector budgets and increasing international competition make it difficult to fill all §98 professorships as such. Here, as with the replacement of professors, we will have to rely on §99(5,6) career positions and, in some departments, occasionally on §99(4) professorships for excellent inhouse academics. It should be noted that the former have a significantly lower teaching load, at least initially, due to the legal situation. In the case of the latter, a procedural guideline coordinated with other universities is needed, and the Universities Act (UG 2002) urgently needs to be amended so that the internal group of applicants is expanded and academics with habilitation and an active employment contract at BOKU are also admitted to apply.

Other scientific staff

In order to compensate for the reduction in teaching obligations by replacing associate professors and assistant professors, to promote young academics and to retain them at BOKU or attract them to BOKU, it is also necessary to consistently fill and occasionally increase the number of positions for other academic staff.

In the area of third-party funding, BOKU's current strategy of increasing the number of permanent contracts must be implemented, newly introduced personnel development programs (see Personnel Development and Promotion of Young Researchers at BOKU) must be consistently developed further, and the career model for particularly outstanding researchers must be expanded. This is intended to further strengthen the competitiveness of young, outstanding scientists for applications for public-sector budget-financed career positions, but also for other institutions, both nationally and internationally.

General university staff

In order to further strengthen the new professorships, cooperatively used research infrastructures (e. g. Core Facilities, BOKU Research Farm, BOKU Research Forest), and individual technical priorities, a few new positions for technicians are to be created as needed, but redeployment is also to be made possible. Positions that become vacant due to retirements or other departures are to be filled so that they remain available to BOKU.

In the key areas of administration, a small number of new positions will also have to be created in line with demand, with vacancies resulting from retirements or other departures being filled. Redeployment may also occur in this area.

2.3. Personnel selection and recruitment

At BOKU, the following groups of people are targeted by the recruitment processes:

- General university staff
- Scientists including staff for third-party funded projects and student employees
- University professors
- Lecturers
- Tutors

Job advertisements for general and academic staff, including staff for third-party funded projects, are carried out by BOKU Human Resources Management. The appointment of university professors in accordance with §98 is carried out by the Rector. The basis for this is a ranked proposal prepared by the appointment committees appointed by the three curia (university professors, other scientific staff, students), whereby international appointed reviewers by the university professors in the Senate provide input for the committee's work. The appointment of university professors in accordance with §99(4) is also carried out by the Rector. In this case, a working group appointed by the Rector, which is also composed of representatives of the curia, prepares the appointment proposal – similar to the §98 procedure on the basis of hearings and external reviews.

The selection and employment of persons seeking career positions in accordance with §99(5,6) is regulated in a guideline issued by the Rectorate.

The recruitment of lecturers and tutors is assigned to the BOKU study services department as part of teaching supervision.

Positions are advertised on the basis of appointment commitments and target agreements with the organizational units, which are discussed annually in the course of personnel planning or arise at short notice (e. g. employees on leave, etc.).

Due to the increasing competitive pressure on the labor market and the various legal requirements for employers, BOKU's internal regulations need to be revised in order to speed up the recruiting processes and to allow contact with potential employees as early as possible. This should prevent suitable candidates from choosing other employers before BOKU has made contact.

Since September 2015, all academic job advertisements have been published on EURAXESS.eu in order to increase international visibility and fulfill the requirements of § 107 UG 2002. In order to provide a complete and clear central career portal for all job offers, all BOKU job advertisements and the job portal of the BOKU Alumni Association can be found under the BOKU job exchange. There, potential applicants have access to the following job advertisements:

- Job offers – scientific & general staff
- Job offers – professorships

The individual job offers are linked to the corresponding detailed job descriptions and application details. A modern, digital application management system is currently being developed to speed up the recruitment process.

2.4. Personnel development

Personnel development serves the further development of job-related skills – with the aim of optimally supporting BOKU employees in fulfilling their university tasks. It pays particular attention to onboarding, internal knowledge management, the promotion of junior staff, and management development.

The staff development program is aimed at all groups of employees at BOKU: it addresses both third-party and globally funded staff as well as academic and general university staff. The terms "permanent staff" or "project staff" have no significant relevance, as the contribution of each individual counts for the overall success of the university.

With the BOKU Training Pass, BOKU established a unique selling point for staff development at Austrian universities at an early stage. Its implementation in 2015 was a significant milestone for internal knowledge management and compliance at BOKU: in addition to the training program in which internal lecturers provide information about BOKU-specific processes and framework conditions, the training passport also contains documents on central guidelines and regulations, which are also made available to employees through e-learning-supported self-(learning) tests.

As a central platform, the BOKU Training Pass bundles all internal course offerings and teaches skills that are divided into the following categories: Research and Science, Teaching and Didactics, Leadership and Management, Language and Methods, Admin and Security as well as Health and Self-Management. In addition, the BOKU Training Pass documents the annual staff appraisals where individual development needs are discussed. In order to live up to its claim as a facilitator of adequate professional skills, the BOKU Training Pass also requires continuous coordination with the need for further training events and consistent processing.

Digitalization in personnel development was implemented at an early stage with the help of the in-house programmed software for the BOKU Training Pass. From registration to course evaluation, the internal training program has long been handled digitally (paperless) and is continuously optimized. In the future, part of the online program created during the COVID-19 pandemic is to be permanently maintained in order to continue to take advantage of the opening of virtual interactive learning spaces and thus location-independent course participation. In addition, the increased use of location- and time-independent digital offerings (e-learning courses) in central competence areas are to be checked and low-threshold offers for building digital skills (including security standards and data protection) should continue to be provided in the BOKU Training Pass.

The professional onboarding of BOKU employees is supported by a virtual Welcome Center. Important information and services are clearly summarized, continuously updated, and available before starting work. BOKU also participates in the Dual Career Service of the WWTF (Vienna Science and Technology Fund) to support international colleagues relocating to Vienna. The service operates across all universities and in close coordination with regional contact points. In this way, synergy effects can be utilized optimally.

Management development will continue to be a central task of personnel development in the future. The principles of personnel management at BOKU are binding for all management levels. They cover the five core areas:

- Role model
- Fostering a culture of mental responsibility

- Setting goals and achieving them
- Transparent communication and participation
- Trust, appreciation, and respect

These principles of leadership work need to be reminded on a regular basis. It is also necessary to supplement the current range of management development courses in a needs-oriented and target group-specific manner. Existing gaps need to be closed, particularly in the area of career positions. As a start, a network platform was created in 2023 for career position holders who are in the qualification phase.

The promotion of young talent and careers also remains a core area of HR development. It is important to note that traditional career development measures, such as the description of career models, will not be sufficient. A new challenge – especially for general university staff – will be to offer attractive employment conditions (keyword Generation Z). A key building block for this was already laid in 2022 with the company agreement on remote work from home ("Home Office"). In addition, more part-time jobs and shared leadership models will need to be established.

BOKU focuses on early career orientation for young scientists. The "Shape your career" program launched in 2020 supports the targeted and strategic orientation of career planning. On the one hand, it enables the best possible preparation for an academic career; on the other hand, it also takes into account permeable career models outside the academic career. In this respect, BOKU's academic career model was also categorized within the European Framework for Research Careers:

- R1 – First Stage Researcher (until the time of the doctorate)
- R2 – Recognised Researcher (postdoc status, but not yet fully independent)
- R3 – Established Researcher (certain degree of independence developed)
- R4 – Leading Researcher (leading in the field of research)

This categorization ensures optimal international and intersectoral comparability of career levels.

2.5. Career model – §99(5,6) and §99(4) professors

Career positions according to §99(5,6)

With effect from 1 October 2016, the UG amendment BGBl I 131/2015 created the legal framework for so-called §99(5,6) professorships (tenure track) for the first time in accordance with §99(5) UG 2002. The announcement of tenure-track positions allows the university a certain degree of strategic flexibility and control over its professorial appointment policy.

Following an intensive internal discussion process, a new Rectorate procedural guideline came into force on 1 September 2018, and the existing works agreement was repealed. The guideline was evaluated internally in 2022/23 and published in an adapted form in May 2023 (Verfahrensrichtlinie Laufbahnstellen 2023).

The guideline ensures an internationally competitive, transparent, and objective selection process for the recruitment of highly qualified junior researchers.

The procedural guideline regulates the selection procedure and career path for tenure-track professorships, which offer highly qualified early career researchers with a doctorate a career perspective that leads from assistant professorship to associate professorship. §99(5,6) professorships are aimed at scientists with a doctorate/PhD who, as a rule, have been working outside BOKU for one to two years after their doctorate, are on their way to habilitation or have already successfully completed it. Expected are: outstanding publication achievements as well as international orientation and recognition; willingness and ability to lead an own research group including the necessary financing (third-party funds); enthusiasm for excellent teaching; supervision of theses within the scope of legal possibilities; promotion of junior scientists; as well as the willingness to participate in knowledge transfer in the sense of BOKU's social responsibility.

Since mid-2019, a total of 30 career positions have been advertised internationally at BOKU. During the selection process, either the Vice-Rector for Research or the Vice-Rector for Teaching chairs the selection committee. The implementation of the qualification agreements prepared by the candidates with the mentors is monitored by a Qualification Advisory Board.

The main aim of the 2023 revision was to streamline the selection process, increase the involvement of external committee members and reviewers and potentially shorten the individual career steps in the case of existing exceptional achievements.

In the future, more female candidates will be actively invited to apply during the selection process. The department offering the position must conduct research in the relevant research field and actively invite at least three qualified and eligible female candidates to apply in order to increase the number of qualified female applicants.

At least one gender-balanced member of the five-member selection committee must not be a member of BOKU. The applications pre-selected by the committee are evaluated by three international experts. In addition to the expert opinions, the final selection process of the committee will, as before, take into account the assessments from the candidates' presentations and interviews.

The postdoc phase from the start of the position can be significantly shortened in the case of exceptional achievements such as Venia Docendi, management of a Christian Doppler laboratory or acquisition of highly competitive funding (e. g. ERC Starting Grant, ERC Consolidator Grant, FWF START Prize, WWTF Vienna Research Group) and no longer necessarily has to be two years. This means that successful applicants can achieve assistant professorship status earlier than before.

The qualification phase as an assistant professor can also be completed more quickly if the same criteria are met, as certain criteria of the qualification agreement can be regarded as already fulfilled. In these cases, the time required

to achieve the associate professorship can therefore also be shortened.

BOKU intends to advertise up to 50 career positions by 2030 in the course of replacements and new appointments in the area of professorships and equivalents. The Rectorate reserves a further 10 career positions as a strategic reserve.

§99(4) professorships

UG 2002 provides §99(4) professorships for highly qualified inhouse associate professors. The corresponding procedure for appointments is currently laid down in BOKU's statutes (see also Personnel Selection). As already mentioned at the beginning, BOKU will develop regulations in coordination with other universities in order to place a stronger focus on quality assurance and transparency, as suggested in the evaluation study commissioned by the BMBWF (Reichert et al. 2023). The advertisement of a §99(4) professorship must be carried out in a department according to objectively comprehensible principles and ensure the selection of the best-suited applicants. Criteria for the establishment of §99(4) positions are generally an excellent internal applicant situation in a larger department, combined with internal competition between outstanding scientists, the associated development and support of a new (emerging) subject area, and the strengthening of a field of competence or the profile development of BOKU (see chapter Research). Over the next six years, up to 12 such positions will be made possible at BOKU. The subject focus of the §99(4) professorships to be advertised will be based on the BOKU fields of competence.

From BOKU's point of view, a change in the law is necessary in order to expand the internal circle of applicants accordingly and also to admit persons with habilitation and an active employment relationship at BOKU to apply.

§99a professorships

The BOKU statutes stipulate a corresponding procedure in accordance with the law. The possibility of establishing such professorships has not been used to date. In the interests of fair and transparent competition, no such positions are planned in the near future.

Promotion of young talents

As already mentioned, the further development of research and teaching at BOKU is inextricably linked to the quality and career advancement of researchers at career levels R1 (doctoral students) and R2 (recognized researchers). With the establishment of program-specific BOKU doctoral schools and the accelerated creation of §99(5,6) professorships (see above), BOKU has already taken important steps in recent years.

The creation of BOKU doctoral schools has significantly improved the training and support of doctoral students (see Chapter 3, BOKU doctoral schools). Numerous career development offers that go beyond the curriculum have already been jointly designed by DocService and Human Resources Development and are being continuously expanded. Tailor-made additional qualifications, for which certificates are also awarded in some cases, have also been created for R2 researchers and are being further developed. In addition, support and services for applications for national and European career funding opportunities will be strengthened by the Research Support (see Chapter 3, Third-party funding strategy) and an incentive system will be developed to provide attractive career prospects at BOKU for R2 researchers who have successfully acquired excellent personal grants (e. g. ERC Starting Grant, ERC Consolidator Grant, FWF START Prize, WWTF Vienna Research Group) or headed a Christian Doppler Laboratory.

2.6. Family friendliness and flexible working hours

BOKU is highly responsive to the needs of employees with care responsibilities. In addition to flexible working hours for general university staff, various part-time options are available for all employees in order to find individual solutions for different care situations. On the employer side, all part-time needs are taken into account if they can be reconciled with operational requirements. Creative solutions are encouraged. In the case of career positions, parental leave extends the qualification period so that family planning does not result in a career break. At the Türkenschanze campus, the parent-managed association "BOKU Kindergarten" operates a recognized day care center in accordance with the Vienna Day Care Center Act to provide care for children of BOKU students and employees from the age of one until they start school as part of university operations. Since July 2022, the company agreement on remote work ("Home Office") has offered the possibility of making individual remote work arrangements in consultation with the respective supervisors. In addition, the possibility has been created to switch to working from home for longer periods (e. g. 14 days) in unfavorable situations such as heat waves, construction work, etc.

BOKU has negotiated corresponding company agreements for the requirements and modalities of study leave, educational leave, and sabbaticals. In addition, BOKU provides all those affected and responsible with detailed guidelines for planning and organizing career breaks and for returning to work after a longer period of absence, e. g. due to illness. This also applies to those returning after parental, care, and family hospice leave, as well as parental and part-time care leave.

2.7. Health at the workplace

BOKU is committed to the objectives defined in the joint committee of the WHO and ILO and the implementation of the necessary measures and was therefore awarded the seal of approval for workplace health promotion (BGF) in 2019. It is also committed to continuous improvement by implementing measures to promote, maintain, and restore health. These efforts are also reflected in the introduction of a globally recognized health and safety management system, ISO 45001. The system

was initially introduced and certified as a pilot project at the Department of Chemistry and is currently being rolled out to the entire BOKU. The process is continuously being reviewed through both internal and external audits.

In addition to the Health Committee, the meetings of the Employee Protection Committee and the safety representatives' regular meetings, "Environment, Health, and Safety" (EHS) meetings have been established as instruments for planning and exchanging information in the interests of continuously promoting the health and safety of all employees. In these meetings, the Employee Protection and Health staff unit exchanges information with representatives of the workforce, university management, the safety representatives, occupational psychology and occupational medicine, the Coordination Office for Gender Equality, Diversity and Disability and others.

The evaluation and ongoing follow-up evaluation of mental stress, as well as the development of the resulting measures and the resulting implementation plan for these measures, is the responsibility of the university management and the BGF, as well as occupational psychology, occupational medicine, and safety engineering.

BOKU is a member of the Executive Board of the "Network of Health-Promoting Universities" and the "Safe Universities" forum, which serves the national and international exchange of experience.

A series of measures ensures that the targets set are achieved:

- Regular evaluation and inspection of workplaces and their adaptation to the requirements of a safe and healthy workplace.
- Recurring evacuation and fire extinguishing training to ensure the health and safety of employees in the event of an emergency.
- As part of the BOKU Training Pass, annual training sessions are offered on various topics with the aim of maintaining the performance and health of all employees (explosion protection in the company, correct labeling of hazardous substances, instruction for instructors, etc.).
- BOKU promotes exercise, healthy eating habits, and increasing one's physical and mental resilience through a comprehensive range of training courses and seminars as well as numerous events.
- Occupational psychology consultations are available on an ongoing basis.
- Employees can take advantage of anonymous and free advice on topics such as stress management and prevention, dealing with conflicts, emotional problems, mobbing, etc.
- In the event of acute problems at work with superiors and colleagues, those affected can turn to so-called "trusted advisors" as a first point of contact.

Part-time reintegration (WIETZ): The statutory WIETZ enables returning BOKU employees to re-enter work more gently. In close cooperation with the occupational physicians, HR management and the health and accident insurance provider for public employees (BVAEB), we advise and support people who wish to take advantage of the WIETZ offer.

Occupational health consultations: They are available to employees for questions about ergonomics, health promotion, maternity protection, vaccinations required for the workplace, individual consultations, etc.

The safety expert and the fire protection manager are consulted on the health-friendly technical design of workplaces, particularly during the planning stage or in the event of constructional changes.

These measures will continue to be promoted and – where possible – expanded in the future in order to provide safe and healthy workplaces and maintain or improve employees' ability to work.

As is becoming increasingly apparent, unresolved conflicts have a negative impact on employees' health and ability to work. Long periods of sick leave are often the result. Based on a new and modern "Code of Conduct", a conflict management system is being developed to help prevent conflicts from arising in the first place. If conflicts can no longer be resolved, a disciplinary system should ensure clear rules and transparent procedures.

The retirement age is increasing, not least due to legal regulations. This age group will therefore require special attention in the future with regard to work and workplace design. Suitable measures will therefore be included in the work program for evaluating mental stress in the workplace.

The topic of "working in a changing climate" will pose a particular challenge in the future, as climate change will have a massive impact on both health and performance. In addition to the measures already implemented (e. g. with regard to remote work from home during hot spells), a working group will draw up further proposals for measures with the help of experts.

ANNEX

Table 1: Planned development of university professors according to §98 para. 1 UG (permanent)

Current professional dedication (alphabetical)[1]	free from (planning data)	Actual stock[2] 2022	Planning status at the end of the LV period 2022–2024[3]	2025–2027[4]	2028–2030[5]
Agricultural marketing and innovation management of natural resources	01.10.45	1	1	1	1
Agricultural systems engineering**	01.01.24	1	1	1	1
Analytical chemistry	01.10.30	1	1	1	1
Applied Physics and Biomaterial Sciences	01.10.36	1	1	1	1
Applied statistics	01.10.33	1	1	1	1
Business management of sustainable agricultural systems	01.10.32	1	1	1	1
Business administration and business management of the timber industry**	01.10.28	1	1	1	1
Bioanalytics and organic trace analysis	01.10.30	1	1	1	1
Biobased fiber materials (natural fiber materials)	01.10.33	1	1	1	1
Biochemistry	01.10.27				1
Bioinformatics	01.10.29	1	1	1	1
Organic farming (formerly: organic agriculture)		1	1	1	1
Biomolecular Modeling and Simulation	01.10.42	1	1	1	1
Biophysics of nanosciences	01.10.32	1	1	1	1
Biotechnology of Biopharmaceutical Technology	01.10.30	1	1	1	1
Soil science / soil microbiology	01.10.25	1	1	1	1
Botany and vegetation ecology			1	1	1
Digital transformation in agricultural and forestry technology (Smart Farm and Forest Operations) (§98 Stiftungsprofessur)	01.10.28	1	1	1	*
Digitalization and automation of the transport and mobility system (§98 Stiftungsprofessur)	01.10.41	1	1	1	1
Downstream processing	01.10.48	1	1	1	1
Energy technology and energy management	01.10.42	1	1	1	1
Development research	01.10.30	1	1	1	1
Forest entomology and pathology	01.10.33	1	1	1	1
Functional fungal genomics	01.10.28	1	1	1	*
Horticulture	01.10.37	1	1	1	1
Geology (hydrogeology, regional geology, quaternary geology)	01.10.29	1	1	1	1
Geotechnics	01.10.26	1	1	1	1
Global Waste Management	01.10.36	1	1	1	1
Wood, pulp, and fiber chemistry	01.10.34	1	1	1	1
Hydrobiology and water management	01.10.33	1	1	1	1
Hydrology and integrative water management	01.10.29	1	1	1	1
Engineering biology and landscaping	01.10.36	1	1	1	1
Integrative Biodiversity Research Molecular Methods	01.10.32	1	1	1	1
Structural engineering	01.10.27	1	1	1	1
Regional water management and soil physics	01.10.44	1	1	1	1
Land information and surveying	01.10.31	1	1	1	1
Landscape architecture	01.10.28	1	1	1	1
Landscape development, leisure and tourism	01.10.25	1	1	*	
Landscape planning		1	1	1	1
Food biotechnology	01.10.25	1	1	1	1
Food quality assurance	01.10.37	1	1	1	1
Food technology	01.10.45	1	1	1	1
Mathematics			1	1	1

Current professional dedication (alphabetical)[1]	free from (planning data)	Actual stock[2] 2022	Planning status at the end of the LV period 2022–2024[3]	2025–2027[4]	2028–2030[5]
Meteorology and climatology	01.10.48	1	1	1	1
Microbial Cell Design	01.10.27				1
Molecular biology of plants				*	
Molecular Plant Physiology	01.10.30	1	1	1	1
Sustainable Design and Building (BMLRT Endowed Professorship for Sustainable Design and Building – New European Bauhaus)				1	1
Sustainable Georesources and Applied Geology	01.10.34	1	1	1	1
Sustainable land use and global change	01.10.36	1	1	1	1
Sustainable use of resources	01.10.33	1	1	1	1
Nanobiotechnology	01.10.36	1	1	1	1
Nanobiotechnology Supramolecular structures	01.10.40	1	1	1	1
Natural hazards and risk management	01.10.25	1	1	1	1
Livestock ecology	01.10.29	1	1	1	1
Public law	01.10.38	1	1	1	1
Economics of multifunctional forest management systems	01.10.25	1	1	*	
Organic chemistry	01.10.47	1	1	1	1
Crop cultivation and grassland management**	01.10.26	1	1	1	1
Plant breeding**	01.10.27	1	1	1	1
Process technology of renewable raw materials	01.10.39	1	1	1	1
Spatial research and planning	01.10.36	1	1	1	1
Resource-efficient building construction	01.10.52	1	1	1	1
Urban water management, industrial water management and water protection	01.10.31	1	1	1	1
Social ecology		1	1	1	1
Wood technology	01.10.42	1	1	1	1
Animal nutrition and feed science	01.10.34	1	1	1	1
Animal breeding and population genetics**	01.10.25	1	1	1	1
Environmental and resource policy	01.10.29	1	1	1	1
Environmental Biotechnology – Technical Microbiology	01.10.33	1	1	1	1
Environmental toxicology and isotope application	01.10.26	1	1	1	*
Transportation for sustainable development	01.10.31	1	1	1	1
Economics, economic policy, and agricultural policy	01.10.31	1	1	1	1
Forest monitoring	01.10.39	1	1	1	1
Forest ecology			1	1	1
Forest ecosystem management	01.10.28	1	1	1	1
Viticulture and fruit growing	01.10.33	1	1	1	1
Wildlife biology and hunting management	01.10.36	1	1	1	1
Zoology	01.10.28	1	1	1	1

1) Any professional assignments after the position becomes vacant must be discussed in the overall context of the fields of competence and the departmental evaluations and will be determined in an adapted form if necessary.

2) Reporting date 31 December 2022

3) Anticipated planning status as at 31 December 2024

4) Anticipated planning status as at 31 December 2025 (1st year of the LV period)

5) Anticipated planning status as at 31 December 2028 (1st year of the LV period)

*) Type of replacement and subject dedication to be determined by the Rectorate in consultation with the departments.

**) Subject-specific dedication will be aligned in particular in connection with the evaluation of agricultural sciences, process still underway at the time of going to press.

Table 2: Planned development of university professors according to §98 para. 1 UG (fixed-term) and §99

		Actual stock[2]	Planning status		
Current professional dedication (alphabetical)[1]	free from (planning data)	2022	at the end of the LV period 2022–2024[3]	2025–2027[4]	2028–2030[5]
Agricultural meteorology (§99[3])	2025 / after pos. eval. 1.10.2028	1	1	1	*
Alpine Systems Engineering (§99[4])	01.10.34	1	1	1	1
Animal Cell Factory Design (§99[3])	01.10.29	1	1	1	1
Aquatic ecosystem modeling (§99[3])	01.10.29	1	1	1	1
Bioprocess Engineering (§99[4])	01.10.34	1	1	1	1
Soil science and soil protection (§99[4])				1	1
Soil protection and soil management (§99[3])	01.10.25	1	*		
Chemistry of lignocellulosic materials (§99[3])	01.10.36	1	1	1	1
Forestry technology (§99[3])	01.10.32	1	1	1	1
Functional ecology of mountain forests (§99[4])	01.10.30		1	1	1
Glycobiochemistry (§99[3])	01.10.24	1			
Rural sociology and rural regional development (§99[3])	01.10.36	1	1	1	1
Agricultural plant protection (§99[3])	01.10.31	1	1	1	1
Microbial Cell Factory Design (§99[3])	01.10.27	1	1	1	
Molecular biotechnology (§99[3])	01.10.30	1	1	1	1
Molecular glycobiology (§99[4])	01.10.33	1	1	1	1
Multifunctional planning of forest resources (§99[3])	2024 / after pos. eval. 1.10.2031	1	1	1	1
Sustainability of animal production systems (§99[3])	01.10.27	1	1	1	*
Natural product technology (§99[3])	2024 / after pos. eval. 1.10.2025	1	1	*	
Numerical Mechanics of Materials – Structural Bonding in Civil Engineering, endowed professorship (§99[1] 5 years)			1	1	1
Ecophysiology of plants (§99[3])	01.10.30	1	1	1	1
Physical chemistry of wood and wood-based materials (§99[3])	01.10.24	1			
Plant & Microbe Metabolomics (§99[3])	2026 / after pos. eval. 1.10.2030	1	1	1	1
Protein biochemistry (§99[3])	01.10.27	1	1	1	
Social-ecological metabolism (§99[4])	01.10.30	1	1	1	1
Environmental history (99[4])			1	1	1
Hydraulic engineering and hydraulic modeling (§99[3])	01.10.31	1	1	1	1
Cell biology (§99[3])	2024 / after pos. eval. 1.10.2030	1	1	1	1

1) Any professional assignments after the position becomes vacant must be discussed in the overall context of the fields of competence and the departmental evaluations and will be determined in an adapted form if necessary.

2) Reporting date 31 December 2022

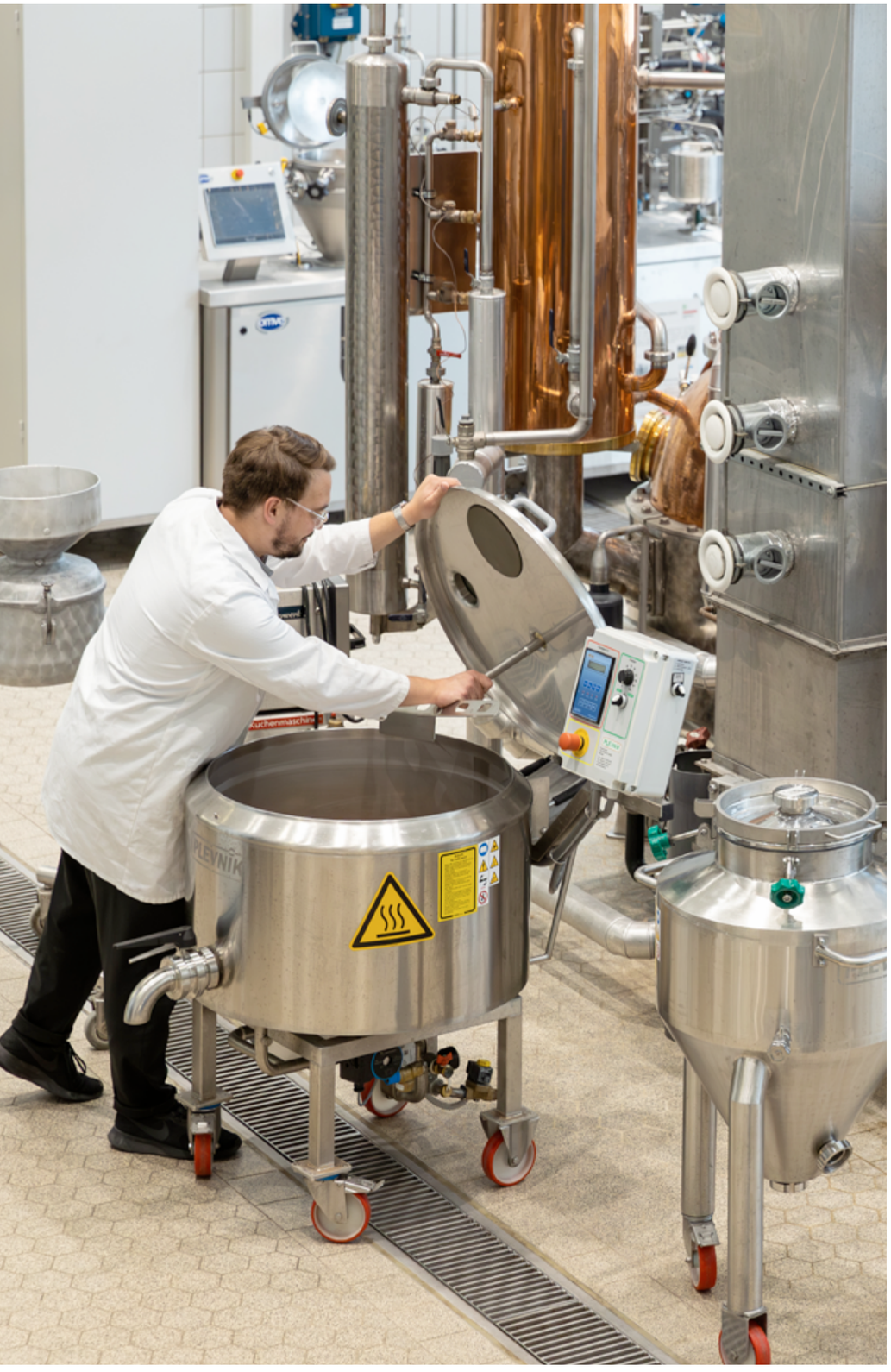
3) Anticipated planning status as at 31 December 2024

4) Anticipated planning status as at 31 December 2025 (1st year of the LV period)

5) Anticipated planning status as at 31 December 2028 (1st year of the LV period)

*) Type of replacement and subject dedication to be determined by the Rectorate in consultation with the departments.

**) Subject-specific dedication will be aligned in particular in connection with the evaluation of agricultural sciences, process still underway at the time of going to press.



3. Research

BOKU has a unique position in the Austrian university landscape thanks to its clear research and teaching profile. According to the CWTS Leiden Ranking 2023, which only evaluates the research performance of universities, BOKU is the most successful Austrian university in the category “Life and Earth Sciences” and currently ranks sixth in the German-speaking world (behind ETH Zurich, TU Munich, Georg-August-Universität Göttingen, University of Zurich, and University of Basel). BOKU’s clear profile is reflected in its mission and thematic areas of expertise, which are consistently developed through appropriate appointment and personnel policies as well as investments in research infrastructure as part of the performance agreements (GUEP system objective 1).

BOKU’s mission can be summarized as follows:

- Safeguarding and improving livelihoods
- Management and protection of natural resources
- Safeguarding nutrition and health
- Sustainable social and technical transformation

Based on this mission, BOKU has defined six fields of competence that are future-oriented and closely interlinked and that are not represented by any other Austrian university in this breadth and depth in research and teaching (GUEP system objective 1, field of action 1b):

- Ecosystem management and biodiversity
- Agricultural production and food
- Sustainable materials and technologies
- Biotechnology
- Landscapes, water, and infrastructure
- Resources and social dynamics

These areas of expertise each fulfill five key criteria:

- They provide the technical basis for the implementation of BOKU’s mission.
- They enable systemic research along entire value chains.
- They are dealt with by several departments on an interdisciplinary basis.
- They are based on excellent basic and applied research in a balanced relationship.
- They form the basis for research-led teaching and for BOKU’s typical education along the three pillars of natural sciences, engineering, economics, and social sciences.

For BOKU, high-level research in these fields of competence is the basis and guideline for the future and always follows an interdisciplinary approach to topics and process chains. Basic research is the basis for successful problem-oriented research, and this interplay of excellent basic and applied research drives the ongoing innovative development of these university-wide research priorities and the research profile of BOKU. As part of the annual Intellectual Capital Report (“Wissensbilanz”),

the areas of expertise are regularly evaluated in terms of publication output and third-party funding structure and income. Further developments and prioritization are carried out as part of the development plans to be drawn up every three years, which cover a planning horizon of two performance agreement periods (GUEP system objective 1, implementation objective 1b). In the future, BOKU will also participate in rankings in which research performance is a key criterion (CTWS Leiden Ranking, Times Higher Education Ranking, Shanghai Academic Ranking of World Universities, and U-Multirank).

Teaching and research at BOKU are currently organized and implemented by 15 departments and 74 institutes. The departments form the basic administrative structure that ensures the necessary continuity and flexibility in research. Together they represent the fields of competence. The 15 departments are grouped together below. This grouping largely corresponds to the six future BOKU departments (Department of Ecosystem Management, Climate and Biodiversity; Department of Agricultural Sciences; Department of Biotechnology and Food Sciences; Department of Natural Sciences and Sustainable Resources; Department of Landscape, Water, and Infrastructure; Department of Economics and Social Sciences), which will form the new basic administrative structure from the beginning of 2025.

- Department of Integrative Biology and Biodiversity Research
- Department of Forest and Soil Sciences
- Department of Sustainable Agricultural Systems
- Department of Crop Sciences
- Department of Agricultural Biotechnology, IFA-Tulln
- Department of Applied Genetics and Cell Biology
- Department of Biotechnology
- Department of Food Science and Food Technology
- Department of Chemistry
- Department of Materials Science and Process Engineering
- Department of Bionanosciences
- Department for Space, Landscape, and Infrastructure
- Department of Water-Atmosphere-Environment
- Department of Civil Engineering and Natural Hazards
- Department of Economics and Social Sciences

Three centers support the departments in the areas of sustainability, bioeconomy, and agricultural sciences by (i) bundling internal communication; (ii) coordinating cross-departmental projects, thematic forums and initiatives; and (iii) supporting communication with the relevant stakeholders in society and the economy:

- Center for Global Change & Sustainability
- Center for Bioeconomy
- Center for Agricultural Sciences

Other networking initiatives include the (i) cross-departmental *Cluster for Development Research*, which brings together the specialist and methodological expertise at BOKU that contributes to the transition towards ecological, economic, and social sustainability in the Global South; (ii) the *Energy Cluster*, a BOKU-wide platform that aims to improve internal networking and raise the profile of BOKU energy research; (iii) the Consumer Sciences Initiative, which networks and strengthens expertise in analyzing consumer behavior and researching opportunities and obstacles to changing consumption in a sustainable direction; (iv) the *Life Cycle Assessment* initiative for the holistic, quantitative evaluation of the environmental impact of infrastructure, products, and services; and (v) the *Data Science@BOKU* initiative, which contributes to internal BOKU networking in the areas of programming, big data, high-performance computing, efficient use of computer clusters, machine learning, and artificial intelligence. In 2023, the *BOKU Biodiversity Cluster* was founded, which will network and bundle the technical and methodological expertise of ten BOKU departments in the field of biodiversity research.

3.1. Top goals for 2030 in research

In the course of preparing the Development Plan 2030, the Rectorate, Senate, University Council, and department heads agreed on the following top goals and sub-goals in the area of research and innovation:

BOKU is the best Life Sciences and Sustainability University in Austria

BOKU is the best Life Sciences and Sustainability University in Austria and is recognized as such both nationally and internationally. BOKU meets the major global challenges (climate crisis, biodiversity crisis, energy crisis, scarcity of resources, food security, health crisis, natural hazards) with sustainable developments and scientific excellence in the six fields of expertise typical of BOKU.

BOKU conducts research and innovation at the highest level

BOKU has the highest scientific output of SCI and SSCI publications per professorship or professorship equivalent of all Austrian universities. The proportion of publications that belong to the top 10% in the respective subject area is to be continuously increased.

Basic research and applied research are well balanced at BOKU.

BOKU is one of the top three universities in Austria in terms of third-party funding revenue. The aim is to maintain this level of income from third-party funding and to focus on qualitative growth and

competitively awarded funds with a focus on e. g. FWF, FFG, CDG, WWTF, ÖAW, state and federal funding, as well as EU funding.

BOKU's high level of innovation (service inventions, patent applications, spin-off start-ups) will be maintained. BOKU:BASE is established at all locations and is involved in creating synergies between science and industry at the Vienna and Tulln locations.

Doctoral training at the highest level

The expansion of interdisciplinary, cross-departmental, and program-specific doctoral schools will be actively continued. By 2025, more than half of doctoral students with employment contracts will be studying at doctoral schools.

Expansion of competitive cooperative infrastructures as a basis for research and teaching

The BOKU Core Facilities are being moderately expanded and are well established.

The research infrastructures BOKU Landscape Innovation Lab, BOKU Research Farm and BOKU Research Forest are being designed and implemented.

The greenhouses and plant growth chambers at all BOKU locations are being modernized.

In order to achieve the above-mentioned top objectives and sub-objectives, the appropriate framework conditions for research at BOKU must be established in the next two performance agreement periods. These include the continuous further development and adaptation of the fields of competence (GUEP system objective 1); the expansion of high-quality cooperative and competitive research infrastructures (RTI Strategy 2030, objective 1); the continuous adaptation and further development of the third-party funding strategy and administrative support (GUEP system objective 2); the strengthening of career support for researchers at career levels R1–R3 incl. further development of the BOKU doctoral schools and creation of §99(5,6) professorships (tenure track) (GUEP system objective 4); as well as expansion of knowledge and innovation transfer and location advantages (GUEP system objective 5) and national and international research cooperation (GUEP system objective 6). These projects are to be implemented against the backdrop of a major wave of retirements and new appointments by 2030. In order to achieve the stated objectives and to strengthen BOKU in the Austrian and European competitive environment, the new basic administrative structure (six departments) must be implemented, as described above.

3.2. BOKU fields of competence

BOKU claims to be a leader in research and teaching in the six strategically defined fields of competence. The aim is therefore to further strengthen BOKU's typical research areas and to expand research excellence at an international level with the highest possible national and international networking. Excellent inter- and transdisciplinary research and innovation in BOKU's typical areas of expertise are essential for overcoming the complex and pressing global challenges (Grand Challenges) and for a sustainable social and technological transformation. The current social conditions and global challenges are a great opportunity for BOKU to continuously develop its research profile and consolidate its clear positioning in the Austrian university landscape. A unique selling point – and typical of all BOKU fields of competence – is the comprehensive research competence along value and process chains, taking into account the natural science, technical, economic, and social science aspects. This enables systemic research approaches and analyses as a basis for designing alternative solutions and options for action.

The development of research topics is a continuous bottom-up process to which all researchers contribute primarily within the framework of research projects. New, innovative research approaches are expressly encouraged and are increasingly being actively supported by funding bodies. Disciplinary excellence should contribute to inter- and transdisciplinary approaches. BOKU aims to combine research excellence in the sense of hypothesis-driven, primarily knowledge-oriented basic research with the applied, solution- and problem-oriented research practiced at BOKU.

The six fields of competence at BOKU are presented below. Several departments contribute to each field of competence in research and teaching. Information on the current research topics and current projects of the 15 BOKU departments can be found on the website of the "Departments of the University of Natural Resources and Life Sciences, Vienna".

Competence field of ecosystem management and biodiversity

The central task in this field of expertise is to research the functions of ecosystems and their biodiversity and physiogeographical diversity as well as the development of concepts for their conservation, restoration, and sustainable management. Research focuses on ecological processes and their dynamics as well as the interactions between the geosphere, hydrosphere, atmosphere and biosphere.

The understanding of material cycles and the underlying abiotic and biotic interactions as well as feedback effects between ecosystems and the climate forms the basis for sustainable forestry and agriculture, soil protection, water protection and management, protection against natural hazards, wildlife management, land and resource use as well as nature-based solutions for the conservation, improvement, and restoration of ecosystems and their services.

Future focal points include research into the effects of climate change on ecosystems and ecosystem services and feedback effects between ecosystems and the climate. The development of adaptation options and resilient systems to safeguard natural resources and their sustainable use will play a central role. Other research focuses include social, ecological, and geo-oriented long-term research, research into and promotion of biodiversity and soil health in agricultural systems, forest systems, near-natural ecosystems, urban ecosystems, and inland waters, as well as DNA-based approaches and digitization projects in the

sense of continuous data collection and analysis as a basis for ecosystem modelling and climate impact research.

Competence area agricultural production and food

BOKU is the only Austrian university to comprehensively cover the entire food supply chain from primary production including important upstream chains, processing, logistics, and trade to consumers, minimizing food losses and closing material cycles in research and teaching. Central tasks are the further development of agricultural production in the context of food security in times of increasing demand for raw materials as well as economic, socio-cultural, and ecological challenges such as climate crisis, water and nutrient scarcity, extreme events, soil degradation, and biodiversity loss. Research includes yield formation, stress resilience and protection as well as precision breeding of crops, plant health, breeding, nutrition, husbandry and management of livestock as well as system-oriented organic and conventional agriculture in Europe and the Global South. Central topics also include food authenticity, safety and hygiene as well as food processing, quality and acceptance. Furthermore, the effects of economic and social framework conditions on primary production and the food sector are examined.

Future research priorities include the transformation of the agricultural and food system, prevention and adaptation strategies in the context of climate change and resource scarcity, sustainability assessment of agricultural systems, the use of information technologies, remote sensing and artificial intelligence in agriculture, the further development of breeding and cultivation methods and animal husbandry systems, alternative protein sources as resource-saving foods, and the development of new processes and technologies for the production of innovative foods and the avoidance of food waste.

Competence area sustainable materials and technologies

In this field of expertise, research is conducted into the (bio)chemical, microbiological and physical conversion and upgrading of renewable raw materials from agriculture and forestry as well as new bio-based materials and their material and conceptual use. With the aim of a sustainable circular economy, resource-efficient technologies including modern, highly specific conversion processes and production methods, digital image capture and processing methods, new recycling and upcycling processes to reduce residues, new biorefinery-specific separation, cleaning and analysis processes as well as material characterization methods on various length scales are to be developed.

Future research priorities include biorefinery and the development of new recyclable and composite materials from renewable raw materials; the further development of biogenic materials based on cellulose and lignin; the new development and (biotechnological) production of bioplastics, biocomposites, textiles, pulp and paper products, wood recyclables and wood hybrid materials as well as mineral resources; the generation of platform chemicals and active ingredients from renewable raw materials using chemical or cell or enzyme-based biotechnological processes (green chemistry) and bioactive plant metabolites. In addition, aging, degradation, decomposition and mineralization processes of (bio)materials are being investigated. Other future BOKU focal points are energy technology with a focus on renewable energies and the holistic analysis of technological development processes including life cycle analyses and technology assessment as well as spatial and environmental planning dimensions of energy and resource transition.

Biotechnology competence field

Biotechnological research at BOKU is based on the integration of biosciences and process engineering – with the aim of refining and utilizing biological and chemical raw materials, cells, and organisms. The end products are commodities such as food and animal feed, organic basic and fine chemicals, pharmaceuticals (biologics), active ingredients as well as bio-composites and functionalized nanoparticles. BOKU is the only university in Austria that researches all biotechnologically relevant prokaryotic and eukaryotic organisms and covers the entire biotechnological process chain, from bioinformatic analysis and editing of genes, structural and functional characterization, engineering and modelling of biomolecules, cell engineering to bioprocess engineering (upstream and downstream processing) and quality control of products.

Future research focuses on the design and production of innovative biologics (e. g. immunotherapeutics, vaccines, cell therapies in the fight against cancer, strategies for regenerative medicine); the increased use of systems biology findings as a basis for the design and development of new synthetic biological concepts; enzyme, cell, and metabolic engineering for the production of valuable substances; the digitalization of bioprocesses and model-based process development with increased use of artificial intelligence and machine learning; the development of diagnostic procedures and biosensors; as well as food-grade cell factories.

Competence area landscapes, water, and infrastructure

This area of expertise focuses on the sustainable and resource-conserving planning and design of living and economic spaces, buildings, and infrastructures as well as protection against natural hazards. Research covers the areas of protection and development of natural and cultural landscapes, recording, planning, and design of urban, suburban, small-town, and rural living spaces and the necessary infrastructures. This field of expertise deals with the systemic relationships between space, landscape, buildings, and infrastructures as well as the socio-economic processes involved in their creation.

Important research areas include nature conservation, land use, water bodies, recreational and leisure uses, mobility, landscape planning and landscape architecture, spatial planning including spatial energy planning and environmental planning, integrative water management,

construction technology, resource-efficient and sustainable planning, construction and maintenance of buildings and infrastructure including soil management, residual material and waste management, earth observation, and protection against natural hazards.

Future research priorities include climate protection, climate impact assessment, and climate change adaptation, biodiversity conservation, innovative and transdisciplinary research and planning processes, natural hazard analyses and risk management, spatial, technical, and social aspects of the energy transition and the water-energy-food nexus, digitalization and automation of transport and logistics, digital and automated planning including life cycle analyses, management, construction and maintenance of buildings and civil engineering structures with the application of AI-based solutions, as well as the development of innovative nature-based green-blue infrastructures.

Competence area resources and social dynamics

This area of expertise covers the management and distribution of scarce natural, biogenic and social resources at company, sectoral, regional, and global levels. The focus is on agriculture, forestry and the timber industry, integrative water management as well as food, transportation, energy, waste and recycling management. Various research approaches are used in the analyses, with an integrated perspective in the interplay of methods and content playing a central role. For example, empirical social research examines the cognitive and political processes as well as the networks of actors. Sustainable production, transport and distribution options are determined in operational and economic optimization processes. Finally, the calculation and simulation of material and energy flows are used to illustrate society's consumption of resources and the effects of consumption on the environment and nature. This field of expertise develops concepts and methods that both explain social phenomena and support sustainable transformation processes towards a resource-conserving, climate-neutral society. Life cycle analyses help to make production and consumption patterns more sustainable.

In future research priorities, the integrated perspective is to be expanded in order to gain new insights into complex social transformation processes and to support operational, regional, and sectoral developments. Integrated and sustainable solutions for climate protection, water and food security, biodiversity, and soil conservation as well as resource consumption will be developed and social phenomena such as the marginalization of groups and normative principles in the inter- and intragenerational distribution of resources will be investigated.

3.3. BOKU doctoral schools

The quality of doctoral studies at BOKU has been further developed over the last five years. The implementation goals defined in GUEP system objective 4b (comprehensive structured doctoral programs, integration of doctoral students into the research environment, establishment of doctoral students as R1 researchers with an employment relationship, creation of career support services) have already been comprehensively implemented as part of the BOKU doctoral schools that have been developed.

The BOKU doctoral schools focus on specific interdisciplinary research areas along the six fields of competence. Although the main focus of the doctoral studies is still on concrete research work and writing a dissertation, the research is complemented by a defined interdisciplinary, exclusively English-language training program at doctoral level and an intensive exchange between the students and the faculty of the doctoral schools. DocService coordinates and serves doctoral students and university staff involved in doctoral training. It organizes networking activities such as annual retreats, workshops, training and further education activities and supports doctoral students in administrative matters (e.g. attending scientific conferences and research stays).

The doctoral schools are to be moderately expanded with the objectives of (i) continuously improving the quality of doctoral education at BOKU by promoting and integrating interdisciplinary and internationally oriented teaching and research approaches; (ii) comprehensively reflecting research areas of the BOKU fields of competence in the curricula of the doctoral schools; (iii) ensuring a critical minimum size (> 20 students per doctoral school); (iv) continuously developing offers and certificates for additional qualifications for R1 and R2 researchers; (v) increasing the visibility, internationalization, and mobility of BOKU doctoral students; (vi) guaranteeing quality assurance through regular, exclusively international evaluations; and finally (vi) increasing the proportion of students with employment contracts in BOKU doctoral schools to > 50 % by 2025.

The BOKU doctoral schools established in recent years have made a major contribution to networking within BOKU and have significantly increased interdisciplinary cooperation in research and teaching across departmental and location boundaries. This development is evidenced by the bibliometric evaluation of publications involving several institutes, which are documented in the annual certified sustainability reports. In 2023, ten doctoral schools were active at BOKU:

- Biomolecular Technology of Proteins (BioToP)
- Bioprocess Engineering (BioproEng)
- Advanced Biorefineries, Chemistry & Materials (ABC&M)
- Biomaterials and Biointerfaces (BioMatInt)
- AgriGenomics
- Human River Systems in the 21st Century (HR21)
- Hazards and Risks in Alpine Regions under Global Change (HADRIAN)
- Build like Nature: Resilient Buildings, Materials and Society (Build.Nature)
- Transitions to Sustainability (T2S)
- Social Ecology (DSSE)

The establishment of these programs was based on an international review. The Rectorate funds the training and networking

costs of the doctoral students involved and can extend existing programs after a four-year term and a positive international review. This comprehensive range of doctoral schools is unique in Austria and underlines BOKU's commitment to research-led and interdisciplinary teaching at all levels.

3.4. Research infrastructure

The basis for excellent and competitive research is an efficient, service-oriented research infrastructure that meets international standards (RTI Strategy 2030, Objective 1). BOKU strives to acquire research infrastructures across departments and locations and to use them cooperatively (GUEP system objective 2, implementation objective 2c; Austrian Research Infrastructure Action Plan 2030). In addition, BOKU undertakes to document existing and new research infrastructures and equipment in the BMBWF research database (GUEP implementation objective 2c). A high-quality, service-oriented research infrastructure also offers students state-of-the-art equipment and methodological platforms as part of research-led teaching, making BOKU's courses more attractive, especially in the Master's and doctoral programs.

Since 2019, BOKU Core Facilities (CFs) have been gradually established, thus creating user-friendly large-scale equipment infrastructures and scientifically consistent method platforms bundled in one place, which are shared by several departments as well as by external cooperation partners and interested parties. An adequate management structure and servicing by staff scientists and technicians will enable methodological expertise to be built up and maintained in the long term and the use and utilization of the infrastructures to be improved. Rules of procedure regulate operations and ensure a structured exchange with the Rectorate regarding equipment and new acquisitions. The BOKU CFs relieve the departments of administrative tasks and routine activities (such as equipment maintenance, repairs or equipment training), increase the attractiveness of BOKU for public and private cooperation partners and increase the chances of national and European project submissions. They also provide an extremely attractive environment for spin-offs and start-ups in the BOKU:BASE Labs.

In 2023, eight BOKU Core Facilities (BOKU CFs) will be established and in operation:

- Biomolecular & Cellular Analysis
- Food & Bio Processing
- Multiscale Imaging
- BioIndustrial Pilot Plant
- Mass Spectrometry
- Analysis of Lignocellulosics
- Bioactive Molecules – Screening and Analysis
- Bioinformatics

The PPMS (Pasteur Platform Management System) equipment booking software has been introduced across the board and is currently being linked to BOKU's accounting and invoicing systems in order to simplify invoicing for the various funding bodies and clients. This is based on elaborated usage and service price categories that meet the requirements of both the individual CFs and the national and European funding bodies.

The operation of these CFs is to be further professionalized and consolidated in terms of personnel in the following performance agreement periods 2025–2027 and 2028–2030 in order to continuously improve the service provided to BOKU researchers. This includes technical and methodological support as well as the mandatory preparation of cost estimates for the use of CFs in research project applications. The integration of further existing large-scale equipment into CFs (e. g. electron microscopes into the CF Multiscale Imaging) must be implemented, or purchases of large-scale equipment with cross-departmental use must only be made within the framework of the CFs. Furthermore, the acquisition of large-scale equipment by the BOKU CFs will be coordinated with other CFs of public institutions in the greater Vienna area, and the establishment of a network of Austrian core facilities (knowledge exchange, service standardization, quality assurance, etc.) will be sought. In the next performance agreement period 2025–2027, the CF Material Testing and Characterization is to be established at the Türkenschanze site. In addition, a joint strategy regarding data management, data storage, and data exchange with users is to be developed and implemented for all BOKU CFs. The repository based on Invenio, which is being developed for the storage of Open Research Data (ORD) and Open Educational Resources (OER) at BOKU, should be shared.

Furthermore, BOKU undertakes to establish and further expand efficient, service-oriented research infrastructures that meet international standards in the areas of landscape and spatial research, agricultural sciences, forest and soil sciences as well as terrestrial and aquatic ecosystem research and river research. In accordance with GUEP system objective 2 (implementation objective 2c), these research infrastructures should also be organized across departments and locations, used cooperatively and presented visibly and should create added value for research and research-led teaching through an adequate management structure and service provision.

Specifically, the BOKU Landscape Innovation Lab is to be established over the next few years – with the aim of driving forward spatial and landscape-related research in an innovative way and visibly strengthening BOKU in this research area. The lab's research infrastructure will enable and promote the digitization of spatial and landscape-related data, the representation of and interaction with spatial data, and the generation of physical objects from digital data.

In the field of agricultural sciences, all field and open areas with the associated infrastructure of buildings, greenhouses, machines and equipment as well as the service personnel of the Groß-Enzersdorf Experimental Farm are to be bundled at all locations and a new department-independent, service-oriented, multifunctional (systemic agricultural research, teaching, knowledge transfer) form of organization (BOKU Research Farm) is to be established. The necessary infrastructure and technical equipment must be adapted and modernized in order to advance strategically important topics such as the further development of sustainable agriculture, its adaptation to climate change, the promotion of biodiversity in agricultural systems, the improvement of resource

efficiency (soil, water, nutrients, energy) and the digitalization of agricultural production processes and research methods. The modernization of the glasshouses of the BOKU Research Farm at the Tulln and Groß-Enzersdorf sites must be coordinated with the necessary adaptations of the glasshouses and greenhouses at the Türkenschanze and Muthgasse sites.

Furthermore, a department-independent multifunctional form of organization (BOKU Research Forest) is to be established, which enables the systemic investigation of ecological processes in the various components of the forest ecosystem (geosphere, hydrosphere, biosphere, and atmosphere). Based on the Rosalia training forest, a central, internationally visible hub for research and teaching activities in the field of forest ecosystem research and management is to be established. The research infrastructure must be adapted or expanded and the services provided to researchers must be improved in order to carry out climate change simulations on a large scale and under field conditions and to assess the effects of global change on the provision of ecosystem services and the general resilience of forest ecosystems. Increased cooperation with the Austrian Federal Forests and the Federal Research Center for Forests in these research areas should be sought.

The inter-university scientific research center WasserClusterLunz, which is funded in equal parts by BOKU, the University of Continuing Education Krems, and the University of Vienna (GUEP system objective 2, implementation objective 2c; Austrian Research Infrastructure Action Plan 2030), provides infrastructure for research on aquatic ecosystems from the microscopic level to the processing of entire water catchment areas in the context of global change and the sustainable use and rehabilitation of aquatic ecosystems. A continuous improvement of the instrumental equipment is to be ensured in the course of cross-university infrastructure applications.

Networking with European infrastructures is essential for the research and application areas being worked on in the BOKU research infrastructures Research Farm and Research Forest and in the Lunz Water Cluster in order to ensure high quality standards, further develop measurement methods and technologies in the long term and guarantee the best possible access to infrastructures and data (Austrian Research Infrastructure Action Plan 2030). The aim is therefore to integrate these three BOKU research infrastructures within the framework of ESFRI (European Strategy Forum on Research Infrastructures) into a European infrastructure for long-term ecological research (eLTER RI, Integrated European Long-Term Ecosystem, critical zone and socio-ecological system Research Infrastructure), possibly to combine them with other Austrian locations and establish them as LTER locations or LTER clusters of categories 1–3 in 2025 or 2026. The respective BOKU research infrastructures are to be adapted and modernized in accordance with the criteria for the categorization of future locations or clusters developed in the course of the ESFRI-LTER process. In addition, the ESFRI-LTER process aims to establish the Topic Center Actionable Knowledge at BOKU. Within the framework of ESFRI, BOKU is also considering participating in the national node of E-RIHS (European Research Infrastructure for Heritage Science). The aim is to contribute to the documentation and preservation of cultural heritage by providing access to state-of-the-art laboratories, instruments, data and archives, especially in connection with research on heritage science, the history of landscape architecture, environmental history, material ageing, dating and identification, and wood preservation.

Furthermore, BOKU will continue the monitoring and research program on spectral UV radiation and the resulting thickness of the ozone layer at the Hoher Sonnblick observatory. The measurements are carried out in accordance with the quality requirements of the Network for the Detection of Atmospheric Composition Change and provide a valuable contribution to international measurement programs (e.g. ACTRIS).

In addition, BOKU has submitted the lead application for Austria's participation in the ERIC DANUBIUS-RI, a Europe-wide distributed and already existing research infrastructure for interdisciplinary studies on river-sea systems, to be founded in 2023/24. The participation includes the establishment of a supersite Upper Danube together with other universities (University of Vienna, TU Wien, University of Innsbruck) and research institutions (WasserCluster Lunz, UBA). BOKU researchers will also use the European infrastructures ACTRIS-RI (Aerosols, Clouds and Trace Gases Research Infrastructure) to research aerosols, clouds and trace gases in the atmosphere and ESRF-RI (European Synchrotron Radiation Facility Research Infrastructure) to elucidate the structures of molecules and materials.

Since 2023, BOKU has been operating the new BOKU River Lab, which, due to its design and dimensions, represents a globally unique research infrastructure in the field of river research. It enables model experiments in two large laboratory areas on a scale of up to 1:1 at a flow rate of up to 10,000 liters/second without pumps and will enable new innovative research opportunities in the fields of constructive hydraulic engineering, river research, integrative flood risk management, river restoration, sediment transport and river morphology, sustainable hydropower, ecology and biodiversity of rivers as well as waterway and low water management. In this context, the flagship project DREAM (Danube River Research and Management) of the Danube Strategy EUSDR is to be further developed. The Institute of Hydraulic Engineering and Hydrometric Testing of the Federal Office for Water Management is also active in the hydraulic engineering laboratory.

In the area of high-performance computing, BOKU will remain active as co-owner of the Vienna Scientific Cluster (VSC), which provides its users with supercomputer resources and corresponding services. VSC-4 and VSC-5 are currently in use, and the expansion stage VSC-6 is to be planned and implemented in the next few years. In addition, BOKU supports cooperation and networking of the VSC with European HPC initiatives, networks and projects (e. g. EuroCC 2).

BOKU has also committed to working with other Austrian universities and non-university research institutions to

further develop the data infrastructure with connections to the VSC and the HPC infrastructure of GeoSphere Austria as part of GEOCLIM+ and to support and promote cooperation. The aim is the joint, interdisciplinary use and integration of geodata (data with a spatial reference, e. g. earth observation data, climate data, environmental data, socio-economic data, etc.) in research and teaching. This should also lay the foundation for participation in international programs such as EOSC (European Open Science Cloud), EGI (European Association of Providers of Computing and Storage Resources and Data Analysis Services) or Horizon Europe (GUEP system objective 5, implementation objective 5a).

BOKU has been a member of the Complexity Science Hub Vienna (CSH) since 2023. The CSH association promotes research into complex systems and their central, fundamental properties. The participation supports the development of interdisciplinary, data-driven, multidimensional analysis methods and models in order to analyze different scenarios, identify tipping points, and demonstrate the possibilities of alternative, transformative developments.

Furthermore, BOKU, together with TU Wien and the University of Vienna, will organize the Danube Centre for Atomistic Modelling (DaCAM), which is a hub of the Centre Européen de Calcul Atomique et Moléculaire (CECAM). CECAM is an organization dedicated to the promotion of basic research in the field of advanced computational methods in atomic and molecular modelling.

Finally, BOKU has been accredited with the AMDC (Austrian Micro Data Center) of Statistics Austria since 2023 and thus enables its researchers to submit applications for online access to specified microdata as part of specific research projects.

3.5. Third-party funding strategy and project support

BOKU belongs to the top three third-party funded universities in Austria. R&D revenue has risen steadily in recent years and reached a new high of 63.7 million euros in 2022 (Intellectual Capital Report 2022). Due to the volume of new projects acquired since 2021, it can be assumed that R&D revenue will continue to rise in the coming years. However, an analysis of funding sources and funding bodies shows that the proportion of competitively acquired research projects and excellence programs has stagnated or decreased in recent years (see Intellectual Capital Reports 2016–2022). Due to the fact that the constant quantitative growth is already reaching spatial and personnel limits in some departments, the third-party funding structure must be adjusted. The aim is therefore to increase the proportion of competitively acquired research projects and excellence programs (GUEP system objective 2, implementation objective 2a) in order to improve the national and international competitiveness of BOKU and to ensure a clear differentiation from universities of applied sciences (GUEP system objective 1, institutional differentiation).

For internationally visible basic research, excellence-oriented and competitively awarded funds are essential. A key measure for improving the quality of research is regular participation in the three funding streams of the excellence initiative *excellent=austria*, which is intended to run until 2030 (RTI Strategy 2030). If successful, BOKU will use these initiatives to bundle internal areas of strength, to make them more visible and improve national cross-linking, and to promote innovative, risk-taking basic research with high future potential in its areas of expertise. The funding lines to be used include Clusters of Excellence to establish cooperative and/or interdisciplinary, internationally oriented cutting-edge research as well as Emerging Fields to enable the development of research fields and communities that are not yet established but are forward-looking. Moreover, BOKU will regularly submit applications to calls for FWF Distinguished Professors in order to expand research fields by appointing leading researchers with additional funding.

In addition, BOKU will intensify its efforts to obtain further excellence-oriented research programs at national and European level (GUEP system objectives 2a & 2b). The FWF program area “Cooperation” (special research areas, research groups) offers excellent opportunities for developing BOKU’s profile and bundling outstanding research capacities and resources which should be used more intensively in the future, as well as calls for proposals from the WWTF in the areas of Life Sciences or environmental systems research that are important for BOKU. FWF Individual Projects and Individual Projects International remain an important pillar for funding basic research, and their share must be increased in the coming years. In order to create scope for high-risk basic research at BOKU (GUEP system objective 2, implementation objective 2a), the FWF program element 1000 Ideas, which enables the implementation of unconventional and as yet unestablished research ideas, should be used more intensively alongside Emerging Fields.

At European level, thematically oriented basic research is funded in Horizon Europe Pillar 2. Here, BOKU is striving to make greater use of the offer in clusters 1 (Health), 5 (Climate, Energy, Mobility) and 6 (Food, Bioeconomy, Natural Resources, Agriculture and Environment), to take on more coordination and to significantly increase the project funds raised (GUEP system objective 2, field of action 2b). In addition, the aim is to increase topic-related submissions in Pillar 1 (ERC Synergy Grant). BOKU will participate in the design of the follow-up framework program of Horizon Europe (FP10).

Basic research and research excellence are the basis for the successful acquisition of competitively awarded applied research projects. In this context, the application-oriented programs of the FFG and the Christian Doppler Laboratories (CDLs) of the CDG, which are important for BOKU, should be mentioned. BOKU is striving to maintain or slightly expand the high proportion of Christian Doppler Laboratories (leads and module leads). A more even distribution across the fields of competence should be aimed for. Together with successfully acquired projects within the framework of the FFG’s thematic programs (e. g. energy, city, environment; materials and production, nanotechnologies; mobility; transnational calls), CDLs should strengthen BOKU’s

thematic priorities and cooperation with industry. With its significant scientific participation in four FFG-COMET centers, BOKU has already succeeded in building up and focusing competencies in the long term through excellent cooperative research with industry. BOKU is co-owner of the COMET centers acib (Austrian Centre of Industrial Biotechnology GmbH), Wood K plus (Kompentenzzentrum Holz GmbH), FFoQSI (Austrian Competence Centre for Feed and Food Quality, Safety & Innovation) and BEST (Competence Centre for Bioenergy and Sustainable Technologies) and will support applications from these COMET centers for further funding periods. This also applies to the COMET Projects and COMET Modules program lines. Furthermore, BOKU supports participation in EU partnerships and EU missions (GUEP system objective 2, implementation objective 2b).

The further development of quality in research at BOKU is inextricably linked to the quality and career advancement of researchers at career levels R1 (doctoral students), R2 (Recognized Researcher) and R3 (Established Researcher). With the establishment of program-specific BOKU doctoral schools and the accelerated creation of §99(5,6) professorships (tenure track), BOKU has already taken the first important steps in recent years. Due to the impending wave of retirements, the promotion of young academics will remain a central task in the coming years. In the context of BOKU's third-party funding strategy, greater use must therefore be made of appropriate national and European career support programs that offer career prospects to young academics (GUEP system objective 4). The aim is therefore to make greater use of the following funding opportunities: FWF program tracks doc.funds, ESPRIT, Erwin Schrödinger, Elise Richter and START Prize as well as the WWTF program Vienna Research Groups for Young Investigators. At European level, the offerings in Pillar 1 of Horizon Europe (ERC Starting, Consolidator and Advanced Grants as well as the Marie Skłodowska-Curie programs) should be used more intensively. Internal incentives, such as making it easier to reduce time limits or shorten tenure-track procedures, should support the use of the programs.

In addition to the FWF, FFG, and EU funding programs described above, which provide important instruments for future quality enhancement and also contribute to the competitive indicator 2a which has an impact on the budget (except for the COMET program line of the FFG), public authorities (federal, state, and local) and companies (often also as part of EU-INTERREG projects) will continue to contribute to BOKU's R&D revenues in the future. The Climate and Energy Fund and the Forest Fund are important funding channels for BOKU. The development of R&D revenues per area of expertise will be analyzed annually and also reported in the Intellectual Capital Reports. In accordance with the targets for increasing the quality of research, the cost reimbursement guideline must be evaluated and adjusted at regular intervals, and the funds flowing to the central administration must be earmarked for quality-enhancing research projects.

In order to achieve the described increase in quality in basic and applied research, to enable successful participation in the aforementioned program tracks and to secure it in the long term, the corresponding framework conditions must be created or continuously improved. In addition to the quality of researchers, this includes the continuous further development of support structures, including the associated, adequate equipment to support research activities (GUEP system objective 2, implementation objective 2b). The Research Service is the central point of contact for researchers on topics such as national and European funding and program landscapes, project planning, application development and submission, creation of data management plans, open data, electronic project registration, support with hearings, intellectual property, patents, spin-offs, doctoral schools, documentation of research achievements as well as research prizes and awards. The internal structures required to support researchers have been gradually improved in recent years and are continuously being adapted in order to cope with the increasingly complex funding landscape and changing legal framework conditions. With regard to the acquisition of third-party funding and the necessary increase in quality, the target group-oriented preparation of information and support from the Research Service is a key pillar. Services for national and European programs such as consulting, training measures, and the organization of information events will be strengthened, with a focus on the FWF, FFG, Christian Doppler Laboratories, and Horizon Europe. Measures to support applications in the area of contract research have already been taken. With regard to career programs, the focus will be on supporting researchers at career stages R1 and R2.

A key aspect in the improvement of support structures is the cooperation and coordination of the Research Service and the service units Legal Department, Controlling, Accounting, and the Service Unit for Project Accounting & Audits in project application development and submission. Continuous improvement of processes and servicing as well as a reduction in processing times by the service units must be implemented. The processes and responsibilities are described in the manual "Acquisition and processing of third-party funded projects at BOKU" which is regularly adapted by the aforementioned service facilities. In addition to the continuous improvement of processes, strengthening the (project) management skills of researchers is a key factor in the successful acquisition and management of projects, e. g. through the mandatory certificate for third-party funding management for all new researchers with global budget funding and a contract of at least three years. An important project is the complete redesign of the electronic project file of the current Research Information System (FIS) into a process management system, which will significantly improve usability for researchers. The Service Center for Project Accounting & Audits will focus on quality-assured accounting of EU and FFG research projects as well as support for all EU and FFG audits (first and second level control).

In terms of research documentation, FIS has been completely reprogrammed (FIS3+) and will offer a user-friendly, modern interface with new import and export functions and interfaces from the beginning of 2024, allowing, for example, the output of researcher profiles, publication lists, and third mission activities in various formats. Project applications and evaluations of

individuals and organizational units or other quality assurance processes (e. g. habilitation procedures) can now be better supported. BOKU's research performance is presented in a more modern way and visibility is increased. Information for researchers via the BOKU Research eNewsletter and BOKU Magazine will be continued.

3.6. Open Science

Open Science opens up the scientific process from the initial idea to the final publication in order to make it as comprehensible as possible and usable for everyone. Participation in knowledge and knowledge creation should be made accessible to as many people as possible. BOKU is committed to the Open Science Policy Austria and the UNESCO Recommendation on Open Science. In addition, BOKU is continuously developing its own Open Science guidelines so that the openness of research results and research data becomes the standard. The framework conditions must therefore be designed in such a way that free and transparent access to research results is guaranteed for science and society.

BOKU supports the FWF and uniko initiatives cOAlition S and Open Science Austria and, as a signatory of the Berlin Declaration, advocates open access to scientific literature. The proportion of Open Access (OA) publications at BOKU has risen continuously in recent years and currently stands at > 70 %, which means that a high degree of general visibility and availability has already been achieved and the university as a whole is more clearly perceived with its scientific achievements. BOKU supports the Directory of Open Access Journals (DOAJ), a directory of OA journals with a strict quality assurance procedure, and participates in the cross-university project "Austrian Transition to Open Access 2", which aims to develop supporting measures for the complete transformation from closed access to open access of scientific publications. Furthermore, BOKU will implement the FWF's OA policy with regard to the administration of the OA lump sum and supports the negotiation of OA agreements with the most important scientific publishers and the negotiation of corresponding consortial publishing contracts or agreements.

The next logical step in the expansion of open science is open access to research data (open data) and its metadata, which is available online to the public in unprocessed (raw data) and/or processed form as a scientific result, open for reuse. The possible reuse and reproducibility of research results ensures a further important contribution to transparency in scientific research. BOKU is involved in the cross-university project "RIS Synergy" from the BMBWF's Research Data Cluster which is working on concepts for an improved exchange of research (meta)data between research institutions and funding bodies while ensuring data standards and data quality. In addition, BOKU has improved its support structures in order to better support researchers in both project submission and implementation. This applies, for example, to the creation of data management plans (DMPs), which are required by important public funding bodies when research projects are submitted. DMPs support the planning and organization of research projects and document the life cycle of research data in line with the FAIR principles for findability, accessibility, usability and reusability of research data. Important topics such as data protection, copyrights and licensing are also taken into account. The Research Service provides numerous information and support services: BOKU-internal seminars and information events, updates on innovations in the various funding programs as well as specific services for coordinators of and partners in Horizon Europe applications. Furthermore, BOKU is developing a joint repository for storing and archiving research data and free and open materials for teaching and education, so-called Open Educational Resources (OER), in which these are available in accordance with the FAIR principles "as open as possible, as closed as necessary". The repository is based on InvenioRDM, an open source solution that is being implemented via the "Shared RDM Services" project (also associated with the Research Data Cluster) with the help of other project partners. In this context, BOKU is following the process of the European Open Science Cloud (EOSC) and will consider the future connection of the repository to be developed to EOSC (GUEP system objective 5, implementation objective 5a).

In the coming years, BOKU will also improve awareness of open innovation among students and researchers as part of the Federal Government's Open Innovation (OI) strategy and implement specific measures (e. g. training and courses). The implementation of Open Innovation is also supported by the Citizen Science activities at BOKU. A first step towards OI is the establishment of a BOKU materials platform that enables the documented exchange of research materials between research institutions underpinned by material transfer agreements.

3.7. National and international strategic partnerships

National and European partnerships in the area of research infrastructure were described above. The aim of further strategic alliances between BOKU and other universities, non-university research institutions or commercial enterprises is to improve competitiveness and the framework conditions for research and teaching. BOKU's future policy is to enter into a small number of well-structured partnerships with clear objectives.

BIOS Science Austria

The basic idea of BIOS Science Austria is to form a strategic alliance of the Life Sciences in Austria. Its goals are the joint use of resources in defined subject areas, the maintenance or generation of critical parameters, and communication with stakeholders. In addition to BOKU, the core partners of BIOS Science Austria are the University of Veterinary Medicine Vienna, AIT, and ministries (BMBWF, BML and BMK). Institutions of these ministries such as AGES, BFW and UBA are also part of the alliance.

Climate Change Centre Austria

The Climate Change Centre Austria (CCCA) is the contact point for research, politics, media, and the public for all questions relating to climate research in Austria and it promotes a sustainable climate dialog. As a coordinating institution for the promotion of climate research in Austria,

the CCCA pursues the following objectives: (i) increasing climate research competencies and capacities; (ii) strengthening the quality and quantity of climate research and intensifying the use of its results in Austria; and (iii) providing scientifically sound advice to politics and society on issues relating to the assessment of climate effects, the design of climate policy, and measures for climate adaptation and damage prevention. The CCCA is organized as an association and currently has 26 institutional members. BOKU currently provides the chairman and hosts the office.

Federal Environment Agency

Research projects are jointly developed and carried out as part of the strategic cooperation between BOKU and the Federal Environment Agency (UBA). The steadily growing networks show a broad diversification of content that extends far beyond the two institutions' core natural science topics and deep into socio-political as well as social and economic science topics. The strategic cooperation also sees itself as a communication platform for picking up on content relevant to science, society and the public and presenting it for debate in freely accessible formats.

Disaster Competence Network Austria

The Disaster Competence Network Austria (DCNA) was founded as an association for the thematic networking of research partners and for the dissemination and transfer of university research results in the field of natural hazards and disaster protection. The currently 20 full members (universities and non-university research institutions) see themselves as complementary and synergistic partners in this initiative who want to use their expertise to promote the transfer of scientific findings into practice together with aid and emergency organizations and the responsible ministries. The long-term development goal is to create a platform for coordinating, pooling, and jointly implementing research projects in the field of disaster management at a national level in order to create synergies and added value.

Wildlife research

The Institute of Wildlife Biology and Hunting Management at BOKU and the Research Institute of Wildlife Ecology at the University of Veterinary Medicine Vienna maintain scientific facilities in the field of wildlife research in Vienna. Networking and the use of synergies in research and teaching are to be continued and expanded.

Drilling Overdeepened Alpine Valleys (DOVE)

BOKU is the Austrian lead partner of the successful "International Continental Scientific Drilling Program" initiative. In this program, the subsurface of mountain valleys is being comprehensively researched for the first time worldwide and data is being collected to secure the alpine water supply and to research long-term alpine climate change and the risk to alpine habitats. BOKU is part of a globally unique team of national and international geoscientists researching resources in the (Eastern) Alps.

Living Collaborative Innovation Hub

The Living Collaborative Innovation Hub is an urban development project to design a CO_2-neutral ecosystem in Vienna, in which new concepts for new construction, refurbishment of existing buildings, circular economy, decarbonization, and mobility are to be developed and implemented. In addition to BOKU, TU Wien is participating in this inter-university flagship project on the topics of smart cities and the urban circular economy.

European Bioeconomy University

The European Bioeconomy University (EBU) alliance, an association of BOKU with Wageningen University, Paris Institute of Technology of Life, Food and Environmental Sciences, University of Eastern Finland, University of Hohenheim, University of Bologna, Swedish University of Agricultural Sciences, and Warsaw University of Life Sciences, acts as a think tank for knowledge generation in the field of bioeconomy – with the aim of supporting the transition to bioeconomy in the European Union through relevant and responsible research, training of experts, and knowledge transfer to society and the economy.

Association for European Life Science Universities

As the most important Life Sciences university in Austria, BOKU is also a leading member of the Association for European Life Sciences (ICA), an association of over 60 European Life Sciences universities that focus on circular bioeconomy, sustainable use of natural resources, environmental protection, and rural development in research and teaching.

4. Teaching

With the combination of natural sciences, engineering, economics and social sciences – the three-pillar principle at BOKU – the university has an interdisciplinary and transdisciplinary, future-oriented range of courses. The fields of competence (see Chapter 3) describe the subject-related and content-related focal points for research-led teaching in the degree and continuing education programs offered.

As a leading life sciences and sustainability university in Austria, BOKU is aware of its special social responsibility to offer university education and further education at the highest level in the area of its core competencies. BOKU therefore aims to make important contributions to the following system goals of the GUEP: institutional profiling and differentiation of the range of courses offered (GUEP system goal 1), increasing internationalization and mobility (GUEP system goal 6), and improving the quality and efficiency of university teaching (GUEP system goal 3).

BOKU educates students at the highest level

On the one hand, the aim is to provide students with professional expertise in their university studies. On the other hand, it is a central concern of BOKU that all graduates acquire basic competencies for sustainable development in relation to the SDGs and future skills. BOKU sees its students as future leaders, decision-makers, and multipliers who can develop and implement solutions from local to global level for the major challenges of the 21st century (e. g. climate change, biodiversity loss, urbanization, sustainable resource use, food security, and sustainable development). Sustainability, an ethical approach to the use of natural resources, and aspects of diversity and gender equality are important for education at BOKU. For this reason, such socio-politically significant and interdisciplinary cross-cutting topics are integrated into the new model curricula. The university creates corresponding offers both in university didactic training for lecturers (e. g. ESD certificate from the Alliance of Sustainable Universities) and curricular and extra-curricular offers for students (in particular through contemporary formats, the development and visualization of student competencies, and support for student sustainability initiatives).

BOKU strengthens internationalization in teaching

BOKU's responsibility and potential in this regard does not only extend to the training of highly qualified graduates for the Austrian and international labor market. In times of global challenges to restore and secure the ecological basis of life, social coherence, and the peaceful coexistence of states and regions, further internationalization of BOKU teaching is expedient. It is important for BOKU to attract international students and lecturers. This implies the expansion of English-language study programs (e. g. also

through the establishment of an English-language Bachelor's program), language courses, intercultural and international competencies in the curricula as well as complementary non-traditional and innovative mobility formats. As a result, BOKU intends to increase its involvement in study programs aimed at national and international students from disadvantaged social backgrounds and regions of the world that are particularly affected by global change.

BOKU is committed to inclusive access to higher education

With its current range of courses and its broadly applied approach, BOKU is predestined to create opportunities for students from disadvantaged social backgrounds (GUEP Objective 3a, Social Dimension). Underrepresented groups such as students from educationally disadvantaged backgrounds, foreign students with a migration background, or groups with specific requirements (students with children, students with a disability or chronic illness, working students) are specifically addressed.

4.1. Studies and study programs

The current range of study programs includes 7 Bachelor's and 35 Master's programs as well as 12 doctoral programs (see appendix: table "Current range of study programs").

BOKU's study programs are continuously reviewed and adapted by the Rectorate and Senate to ensure that their content is up-to-date with regard to scientific progress, social and labor market requirements as part of BOKU's internal quality assurance. In addition, the didactic conception and studyability of the courses offered are continuously reviewed, taking into account the changing living environments of students, and further developed as far as possible.

This means in particular for teaching:

- Quality circles with the responsible committees and service facilities at BOKU lead to the strategic adaptation and continuous further development of the study programs.
- Research-led teaching is based on BOKU's six fields of competence.
- Services and support are provided for teachers in the area of teaching development and didactics.
- In the course of their studies, students should be enabled to deal with changing circumstances in an innovative, flexible, and networked-thinking way.

Particular attention is also paid to maintaining the three-pillar principle of Bachelor's and Master's degree courses. Here, particular attention is paid to the balance of natural science, technical, social science and economics subjects, and the anchoring of technical subjects in the context of digital transformation (GUEP system objective 3) in the degree programs is being examined and pursued (see in detail: Teaching and learning environments). In line with GUEP system objective 3, BOKU continues to focus on the development of future-proof curricular formats and studies as well as the improvement of structural studyability, which is closely linked to the organization of studies.

The introduction of new degree programs or the consolidation of existing ones is implemented on the basis of the new model curricula after a strategic review. The cooperation of all BOKU committees and service units involved is ensured through regular meetings in the interests of transparency and quality assurance. The replacement of professorships is planned and continuously updated in close coordination with the adjustments to the courses offered at BOKU.

4.2. Development of student numbers

The number of students increased slightly in the 2023/24 academic year (10,206) compared to 2022/23 (10,130). There was a significant increase of approx. 12 % in Bachelor's students in the first semester. Examination activity (16 ECTS/year) is currently around 60 % and is to be increased through projects to improve studyability in cooperation with the Rectorate, Senate, and Student Services. Fortunately, BOKU graduates are in high demand both nationally (KOAB study[1]), and internationally thanks to their excellent education.

BOKU supports education and training by sharpening its profile and implementing the new model curricula for the modularization of the current Bachelor's and Master's degree programs. The introduction of new Master's degree programs such as "Climate Change and Societal Transformation", "Green Building Engineering" and "Green Chemistry" has been a first step in this direction, in particular strengthening the internationalization of teaching offerings. Based on further analyses, BOKU intends to make its range of courses even more attractive and sharpen them, taking into account social requirements and the further development of its research expertise. In line with the internationalization goals, the implementation of an English-language Bachelor's program and the realization of thematically appropriate international Master's programs in cooperation with universities in key regions are being pursued.

4.3. Student Life Cycle

Parallel to the restructuring of the range of courses (modularization, review of ECTS equity), BOKU is working on further improving key aspects of the student life cycle in accordance with GUEP system objective 3 which focusses on access to studies, the start of studies, the course of studies, and the interface to the labor market. The improvement of structural studyability (GUEP 3a) is being driven forward at BOKU by a joint project of the Senate and the Rectorate. In order to support students in their study progress along the student life cycle, measures are being taken in the fields of study organization, curricular design, and advice/

1) The Cooperative Project Alumni Studies (KOAB) is being coordinated by the Institute for Applied Statistics. More than 50 universities from the German-speaking area regularly take part in it.

support for students and lecturers, which are offered not only to first-semester students but also to higher-semester students if required.

In addition, BOKU relies on measures to address young people well before the so-called student life cycle. These are reflected, for example, in the activities of the BOKU Kindergarten, the children's university, school activities, and participation in the Vienna Daughters' Day.

A stronger presence and advertising in schools and increased cooperation with the secondary education sector as well as the assumption of social responsibility by involving young people from educationally disadvantaged backgrounds with difficult access to higher education are seen as fields of activity. In addition, the focus is on the professionalization of study guidance and the promotion of degree courses. As part of this guidance, online self-assessments are also available for prospective students. In the introductory phase of the study program, students are supported in reflecting on their choice of a study program through the STEOP courses in the individual degree programs and through the online orientation course to "get to know university life". In the already established "Club Bachelor", first-year students are supported during the course of their studies to familiarize themselves with university life at BOKU, to network with other students, and to get to know existing offers for first-year students.

In order to make it easier for national and international students and new employees to settle into university life, a "Welcome Center" is planned in the spirit of a welcoming culture. Awareness-raising measures and further training such as professionalization of international language skills and intercultural competencies for all BOKU employees will be offered more frequently.

BOKU takes its social responsibility seriously and – in accordance with the GUEP framework – takes measures to reach students from underrepresented groups in particular. A corresponding adaptation of studies to improve the compatibility of studying and working is being promoted and communicated accordingly.

4.4. Quality assurance in teaching

Using quality assurance instruments, in particular the newly established quality circles at the level of the seven study working groups, the course of studies and the associated organizational and didactic requirements are continuously reviewed with the participation of the relevant stakeholders. The insights gained from this are implemented by the relevant management committees in order to close the quality loops at degree course level in a timely manner. There are also plans to use quality assurance tools to coordinate cross-departmental and strategic issues, facilitate an early exchange between the relevant groups, and thus better coordinate the work of the responsible governing bodies. The coordination of teaching development between the governing bodies and participating service facilities at a strategic level is to be strengthened and supported by appropriate instruments such as the newly created study board.

A monitoring system is being set up to carry out cohort analyses and, e.g., individual analyses of student success. BOKU is active in university-relevant QM networks such as the national QM network, the DeGEval university working group, the QM network of the Euro League of Life Sciences, and others. Participation in the ATRACK (Graduate Tracking) and KOAB (Cooperative Project Alumni Studies) projects provides BOKU with sound evidence for the discussion and further development of curricula. Relevant topics in this regard are the labor market performance of graduates from the various subject areas, the skills required in professional life and existing skill deficits. In addition, the exchange that takes place at expert level promotes the reflection and further development of quality assurance instruments.

4.5. Teaching and learning environments

As part of the strategic development of teaching, BOKU pays particular attention to current developments that are expected to substantially change the university's teaching and learning environments:

- Consideration of the realities of students' and lecturers' lives when organizing their studies, e.g. employment, care responsibilities, etc.

- Use of digital transformation in teaching within the framework of balanced didactic concepts with corresponding face-to-face and digital components, mixed formats such as blended learning or flipped classroom, practical and project-based units

- Exploring the sensible use of artificial intelligence (AI) in university teaching and learning formats, including performance assessment

- Supplementing the definition of good scientific practice for seminar papers and theses with regard to the use of AI tools

- Further internationalization of teaching and learning, possibly also by expanding cooperation with partner universities in Austria, Europe, and beyond (e. g. EPICUR, ELLS, EBU)

BOKU works continuously and as proactively as possible on the design of its future teaching and learning environments in order to guarantee students and teachers an optimal legal and didactic framework. The "Mission Statement for Teaching and Learning at BOKU" is updated and expanded as a framework.

Central influencing aspects of an innovative teaching and learning strategy are new forms of teaching and learning (e. g. hybrid teaching, distance learning), current requirements such as the latest technological developments (AI), open educational resources (OER), and internationalization. The understanding and added value of these new forms of teaching and learning and their implementation at BOKU should be used in a future-oriented manner. A study carried out on the use of digital teaching formats shows that there is a great need on the part of students to make teaching flexible and multimodal. In this context, however, the reality of teaching staff's lives must also be taken into account.

To meet the new challenges posed by AI, an orientation framework for teaching has been developed that can be continuously adapted to current requirements. The digital teaching, learning, information, communication, and examination tools for lecturers and students are based on two complementary systems: the campus management system BOKUonline and the e-learning platform BOKUlearn. Among other things, this will enable electronic student records, teaching assignments, scheduling and room planning, the documentation of all courses, examination and evaluation management as well as the provision of interactive teaching and learning materials, including lecture recordings and comprehensive plagiarism checks.

BOKU supports national and international efforts to promote Open Educational Resources (OER) and thus contributes to strengthening efforts for high-quality open educational resources that serve to achieve “SDG 4 – Quality Education”. Creating and publishing OER materials, establishing a repository and making OER materials available via the OER Hub Austria is seen as forward-looking. To support the use, creation, and publication of OER, advisory services, training courses, and information material will be made available.

The further development of inter-institutional clustering in teaching (GUEP system objective 1) will continue to be promoted. Cooperation with national and international universities in Europe and worldwide already exists in teaching. In addition to BOKU’s participation in the Master’s degree program “Green Chemistry” (together with TU Wien and the University of Vienna) and at the European University EPICUR, this also includes several degree programs within the ELLS, EBU, CASEE and ERASMUS-MUNDUS consortia networks as well as multilateral Master’s degree programs with leading European, New Zealand, and African universities (e. g. IMSOGLU, NARMEE, LWM).

4.6. Continuing education

Continuing education is one of the tasks of universities as defined by the Universities Act and plays a key role in lifelong learning. In addition, as a University of Life Sciences and Sustainability, BOKU is particularly challenged in terms of scientific effectiveness and social participation, especially against the backdrop of vital transformation processes (Grand Challenges, SDGs, food security, etc.). This area is therefore of great importance to BOKU.

In order to fulfill this mandate, BOKU creates the best possible framework conditions for the successful career development of graduates within the framework of the legal requirements and its university autonomous regulations. The Continuing Education Academy supports the university management and academics strategically, conceptually, and in the application and implementation of the courses.

The content of future courses is based on requirements that are identified on the basis of potential analyses and priorities, or are brought to BOKU from outside. The fields of competence form the basic professional focus. The departments and scientists at BOKU, with the scientific expertise of their researchers and lecturers and their connection to specialist communities, form the basis for all BOKU continuing education programs.

Austrian universities are called upon to support companies in their efforts to map their resource consumption and jointly contribute to decarbonization along the entire value chain in a healthy balance between ecological sustainability, competitiveness, affordability, and security of supply. Against this background, BOKU will expand its range of continuing education courses on resource efficiency, sustainability, and the assessment of the ecological impact of measures in order to offer corresponding training courses at an excellent level.

4.7. BOKU as a companion

BOKU assumes its responsibility to take into account the changing employment and life situations of students and employees and to expand its lifelong learning programs. This makes it possible to continually update qualifications that have already been acquired in order to keep pace with the economic, ecological, and social transformation. BOKU will focus on more compact continuing education formats, which are increasingly in demand on the labor market and which also better match the time capacities of interested parties to ensure the best possible part-time study options.

Educational and professional biographies are not only increasingly developing individually, but also internationally. Against this background and in order to develop and utilize possible synergies, the area of university continuing education is also involved in an international context, focusing on strategic cooperation networks and projects at BOKU (EPICUR, EBU, ELLS, etc.).

ANNEX

Table 3: List of established full Bachelor's, Master's and diploma degree programs[1] (as of winter semester 2023/24)

ISCED-4	ISCED 4 field of study	Name of the study program	SKZ[2]	Type of study	Notes
488	Int. pr. focus on economics, administration and law	Agriculture and food industry	457	Master	
512	Biochemistry	Erasmus Mundus in Plant Breeding (emPLANT+)	502	Master	English-language, international cooperation, ERASMUS MUNDUS
522	Natural habitats and wildlife	Wildlife ecology and wildlife management	223	Master	National cooperation (VMU Vienna)
522	Natural habitats and wildlife	Environmental and bioresource management	227	Bachelor's degree	
522	Natural habitats and wildlife	Environmental and bioresource management	427	Master	
531	Chemistry	Green Chemistry	652	Master	English-language, national cooperation (TU Wien, University of Vienna)
588	Int. pr. focus on natural sciences, mathematics and statistics	Food and biotechnology	217	Bachelor's degree	
588	Int. pr. focus on natural sciences, mathematics and statistics	Environmental Sciences (EnvEuro)	449	Master	English-speaking, international cooperation
588	Int. pr. spct. natural sciences, mathematics and statistics	International Master in Soils and Global Change	472	Master	English-language, international cooperation, ERASMUS MUNDUS
588	Int. pr. spct. natural sciences, mathematics and statistics	Climate Change and Societal Transformation	635	Master	English-speaking
711	Chemistry and process engineering	Biotechnology	418	Master	English-speaking
712	Environmental protection technologies	Applied Limnology	448	Master	English-speaking, Y-program (international cooperation or national)
721	Foodstuffs	Food science and technology	417	Master	
721	Foodstuffs	Safety in the Food Chain	451	Master	English-speaking, international cooperation
721	Foodstuffs	JD Sustainability in Agriculture, Food Production and Food Technology in the Danube Region	501	Master	English-language, international cooperation, ERASMUS MUNDUS
722	Materials (glass, paper, plastic, and wood)	Wood and natural fiber technology	226	Bachelor's degree	
722	Materials (glass, paper, plastic, and wood)	Wood technology and management	426	Master	
731	Architecture and urban planning	Landscape planning and landscape architecture	219	Bachelor's degree	
731	Architecture and urban planning	Landscape planning and landscape architecture	419	Master	
732	Construction, building construction and civil engineering	Environmental engineering	231	Bachelor's degree	
732	Construction, building construction and civil engineering	Cultural engineering and water management	431	Master	
788	Int. pr. spct. engineering, processing, industry, and construction	Natural Resources Management and Ecological Engineering	416	Master	International cooperation
788	Int. pr. spct. engineering, processing, industry, and construction	Water Management / Environmental Engineering	447	Master	English-speaking
788	Int. pr. spct. engineering, processing, industry, and construction	NAWARO	471	Master	Y-program (international cooperation or national)
788	Int. pr. spct. engineering, processing, industry, and construction	Alpine natural hazards / torrent and avalanche control	477	Master	
788	Int. pr. spct. engineering, processing, industry, and construction	Green Building Engineering	519	Master	English-speaking

ISCED-4	ISCED 4 field of study	Name of the study program	SKZ[2]	Type of study	Notes
811	Plant cultivation and animal husbandry	Agricultural sciences	255	Bachelor's degree	
811	Plant cultivation and animal husbandry	Phytomedicine	422	Master	
811	Plant cultivation and animal husbandry	Crop sciences	455	Master	
811	Plant cultivation and animal husbandry	Livestock science	456	Master	
811	Plant cultivation and animal husbandry	Viticulture, oenology, and wine industry	498	Master	International cooperation
811	Plant cultivation and animal husbandry	Organic Agricultural Systems and Agroecology	500	Master	Y-program (international cooperation or national)
812	Horticulture	International Master in Horticultural Sciences	454	Master	International cooperation
821	Forestry	Forestry	225	Bachelor's degree	
821	Forestry	Forest sciences	425	Master	
821	Forestry	Mountain Forestry	429	Master	English-speaking
821	Forestry	DDP MSc European Forestry	452	Master	English-language, international cooperation, ERASMUS MUNDUS
888	Int. pr. spct. agriculture, forestry, fisheries, and veterinary medicine	JDP EM in Animal Breeding and Genetics	450	Master	Y-program (international cooperation or national)

1) In the sense of §7 UG, sorted according to ISCED 4 (ISCED-F 2013); Y-program: Y-programs are study programs that can either be studied entirely at BOKU (national program) or as an international program in cooperation with a foreign university, but otherwise have an identical curriculum.

2) without header codes indicating the type of study

Table 4: Ordinary studies established in cooperation with other educational institutions[3]

ISCED-4	ISCED 4 field of study	Name of the study program	SKZ[2]	Type of study	Notes
522	Natural habitats and wildlife	Wildlife ecology and wildlife management	223	Master	national cooperation (VMU Vienna), admission: BOKU
588	Int. pr. spct. natural sciences, mathematics and statistics	Environmental Sciences (EnvEuro)	449	Master	English-speaking, international cooperation
712	Environmental protection technologies	Limnology and Wetland Management	448	Master	English-speaking, Y program (international cooperation or national)
721	Foodstuffs	JD Sustainability in Agriculture, Food Production and Food Technology in the Danube Region	501	Master	English-language, international cooperation, ERASMUS MUNDUS
721	Foodstuffs	Safety in the Food Chain	451	Master	English-speaking, international cooperation
788	Int. pr. spct. engineering, processing, industry, and construction	Natural Resources Management and Ecological Engineering	416	Master	English-speaking, international cooperation
788	Int. pr. spct. engineering, processing, industry, and construction	NAWARO	471	Master	Y-program (international cooperation or national)
811	Plant cultivation and animal husbandry	Organic Agricultural Systems and Agroecology	500	Master	English-speaking, Y-program (international cooperation or national)
811	Plant cultivation and animal husbandry	Viticulture, oenology, and wine industry	498	Master	International cooperation
812	Horticulture	International Master in Horticultural Sciences	454	Master	English-speaking, international cooperation
821	Forestry	DDP MSc European Forestry	452	Master	English-language, international cooperation, ERASMUS MUNDUS
888	Int. pr. spct. agriculture, forestry, fisheries, and veterinary medicine	JDP EM in Animal Breeding and Genetics	450	Master	English-language, international cooperation, ERASMUS MUNDUS

ISCED-4	ISCED 4 field of study	Name of the study program	SKZ[2]	Type of study	Notes
588	Int. pr. spct. natural sciences, mathematics and statistics	International Master in Soils and Global Change	472	Master	English-language, international cooperation, ERASMUS MUNDUS
711	Chemistry and process engineering	Advanced Biorefineries: Chemistry and Materials (ABC&M)	761	Doctorate	In English, national cooperation with TU Wien and University of Vienna
512	Biochemistry	Erasmus Mundus in Plant Breeding (emPLANT+)	502	Master	English-language, international cooperation, ERASMUS MUNDUS
711	Chemistry and process engineering	Green Chemistry	652	Master	In English, national cooperation with TU Wien and University of Vienna, admission: TU Wien

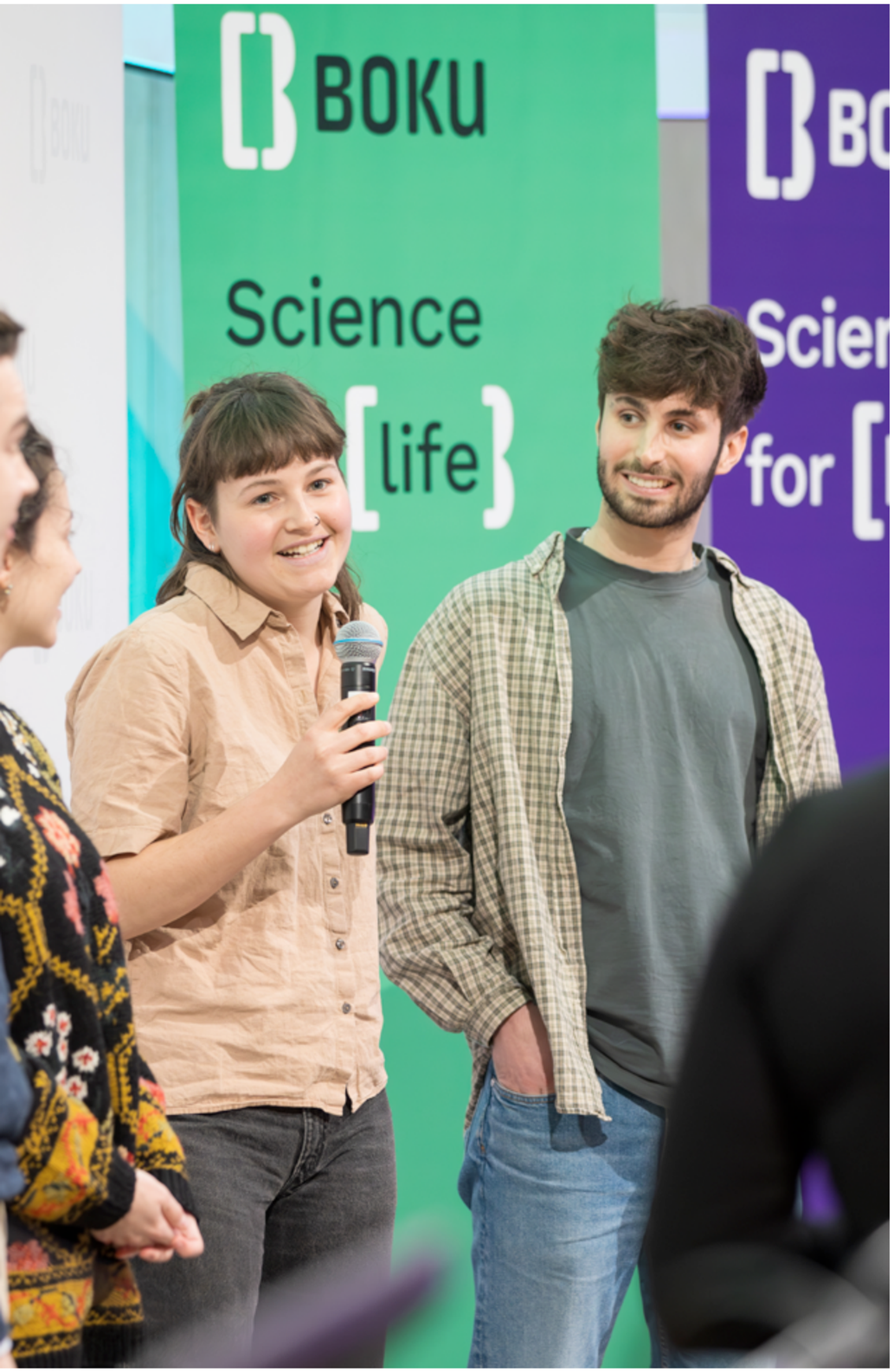
2) without header codes indicating the type of study

3) within the meaning of § 51 para. 2 no. 26 and 27 UG, as amended by Federal Law Gazette I no. 177/2021 and other cooperations

Table 5: Doctoral/PhD programmes in progress

Name of the study programme	SKZ[2]	Type of study	Notes
Doctoral programme in social and economic sciences	784	Doctorate	
Doctoral programme in soil culture	788	Doctorate	
Biomolecular Technology of Proteins (BioToP)	755	PhD	In English, also for the specialisation Food and Biotechnology (study code: 788 915)
Advanced Biorefineries: Chemistry and Materials (ABC&M)	761	Doctorate	English speaking
Bioprocess Engineering (BioproEng)	762	Doctorate	English speaking
Human River Systems in the 21st Century (HR21)	763	Doctorate	English speaking
Transitions to Sustainability (T2S)	764	Doctorate	English speaking
AgriGenomics	765	Doctorate	English speaking
Biomaterials and Biointerfaces (BioMatInt)	766	Doctorate	English speaking
Build like Nature: Resilient Buildings, Materials and Society (BUILD.NATURE)	767	Doctorate	English speaking
Hazards and Risks in Alpine Regions under Global Change (HADRIAN)	768	Doctorate	English speaking
Social Ecology (DSSE)	769	Doctorate	English speaking

2) without header codes indicating the type of study programme



5. Social responsibility

5.1. Comprehensive equality approach and diversity strategy

Gender mainstreaming has been in use at BOKU for many years and includes the further development of the advancement of women by integrating gender equality aspects into work content and processes, but also the active involvement of men to achieve equality and the associated awareness-raising. The aim is to promote equality for all employees in different life contexts and social circumstances and to anchor it in their consciousness. However, social responsibility also means perceiving and recognizing the diversity of university members as a potential and an enrichment. Diversity includes the naming and recognition of group and individual characteristics such as culture (ethnicity), age, gender, sexual orientation, long-term health impairment or disability, and religion (ideology). At BOKU, the focus is on reducing discrimination, promoting equal opportunities, and creating an appreciative and productive overall atmosphere.

With the equality plan anchored in the statutes, BOKU pursues a comprehensive equality approach in the sense of four overarching goals: (i) a balanced gender ratio in all areas and hierarchical levels; (ii) creation of an appreciative diversity culture; (iii) removal of structural barriers; and (iv) integration of the gender and diversity dimension into research content and research-led teaching. In order to further promote this development, particularly with regard to a balanced gender ratio in all areas and hierarchical levels, a series of goals are defined and measures are continuously implemented or prepared:

- Improving career opportunities for third-party funded academic employees with a doctorate by implementing a directive published in 2023 that creates the possibility of permanent employment contracts.
- Promoting the compatibility of work/studies on the one hand and care responsibilities on the other (e. g. through support during the re-entry phase for BOKU members after years of childcare, various childcare options, remote work [“Home Office”], choice of meeting dates, etc.).
- Implementation of the “Recommendations of the Austrian Higher Education Conference on the broadening of gender competence in higher education processes”.
- Increasing the gender and diversity competence of all BOKU members (especially those in management positions) through targeted training and awareness programs.
- Gender- and diversity-specific teaching (gender/diversity dimension in the curricula, gender- and diversity-specific visiting professorship, gender- and diversity-based didactics).
- Coaching and programs to promote careers and mobility, awareness-raising, information and training events.

- Removing barriers through various diversity measures to enable an open university culture for students and staff.
- Promotion of disadvantaged groups through inclusive access to higher education (first generation academics, foreign students with a migration background, and groups with specific requirements); see chapter on teaching and international affairs.
- Increasing the proportion of female academics along the career path from doctorate onwards, with a focus on habilitations, career positions, and professorships.
- Motivating female employees to take on management tasks.
- Support for women's networks at BOKU (e. g. "Professorinnen im Dialog", "Habilitand*innen" network) and their exchange with networks at other universities.
- Targeted promotion of studies in which the proportion of women is still low. Creation of "role models" (e. g. female inventor of the year).
- Motivating girls to get interested in MINT subjects (annual Daughters' Day, Women in Technology – FIT, etc.).

In addition to the Gender Equality Plan, BOKU has developed a diversity strategy that defines six core strategic goals in line with the concept of "sustainable diversity", which are closely linked to the UN's Sustainable Development Goals (SDGs). They include equality and anti-discrimination; reconciliation of study, work and other areas of life; accessibility and inclusion; social inclusion; intergenerational equity; ethnic diversity; and multilingualism. The goals contribute to the implementation of various SDGs by targeting poverty reduction, health, education, gender equality, decent work, reduced inequalities, and peace.

In terms of increased inclusion, BOKU aims to create a more inclusive and barrier-free environment for students and staff, to increase the representation of people with disabilities and underrepresented groups and to promote equality and accessibility in research and teaching. For example, a gender- and diversity-sensitive recruiting and onboarding process is to be established.

The organizational unit "Coordination Office for Equality, Diversity, and Disability", which is not bound by instructions, was established in the 2019–2021 course of studies. The aim is to continuously improve measures in the area of anti-discrimination with regard to gender and diversity-specific quality assurance. For example, regular surveys are carried out among BOKU members on experiences of discrimination, and self-administration-related procedures and processes are reviewed and adapted.

Other examples of BOKU's intensive engagement with this topic include support services for BOKU members who are affected by discrimination and/or sexual harassment; the promotion of gender/diversity research and teaching through the annual Inge Dirmhirn Award; gender and diversity-specific BOKU courses and events; and the mentoring program for women in the forestry and timber industry.

The equality and diversity reports and the presentation of developments in the annual Intellectual Capital Report show in an objective format which goals have been achieved and which priorities need to be set.

5.2. Implementation of the Sustainable Development Goals

The UN Sustainable Development Goals (SDGs), published in the 2030 Agenda in September 2015 and ratified by the Council of Ministers in January 2016, are largely reflected in BOKU's mission and areas of expertise. Tackling the socio-ecological, global challenges of the 21st century and finding solutions to the associated urgent issues of the future requires a networked, interdisciplinary, and transdisciplinary approach. As set out in the GUEP, the uniko Agreement for Sustainability, and the Universities Act 2002, universities are called upon to play an active role in tackling these challenges. With its clear research profile and a long and successful history of inter- and transdisciplinary research, BOKU is committed to making a significant contribution to achieving the SDGs at the national and international levels. It fulfills this social responsibility by (i) initiating and supporting social transformation processes in direct and solution-oriented cooperation with social actors such as state administration and politics, business, interest groups, media and a broadly understood civil society; (ii) research contributions to the SDGs and their implementation; and (iii) research-based teaching on sustainable development. The continuous consideration of the SDGs, which affect all BOKU fields of competence to a large extent, should lead to the further promotion and deepening of inter- and transdisciplinary university activities and networks.

At BOKU, the Center for Global Change and Sustainability coordinates initiatives for sustainable solutions at all levels. It networks relevant researchers from inside and outside BOKU, offers support in teaching, and promotes discourse with society. The focus areas of the Center for Global Change and Sustainability (Climate Change, SDGs & Grand Challenges and Sustainable Universities) are located at the interface of science and society. The Center acts as an innovation driver, pool of experts, networker, and service point and supports sustainable projects and initiatives (e. g. BOKU compensation projects, foresight projects). The Center is responsible for the creation and continuous development of the BOKU sustainability strategy and the annual preparation of the GRI-certified BOKU Sustainability Report, which publishes ongoing progress based on sustainability indicators in the areas of teaching, research, exchange with society, operations and organizational culture. In the areas of energy and buildings, resource management and sustainable mobility, the Environmental Management Network supports the implementation of the BOKU sustainability strategy.

BOKU is committed to implementing and realizing sustainability in all its strategic fields of action as a guiding principle and ethical compass and to further developing it in cooperation with other universities as part of the Alliance of Sustainable Universities in Austria. In this

way, it strives for a comprehensive and far-reaching transformation in its own area and thus fulfills its social responsibility to act as a role model and catalyst for a socio-ecological transformation towards a sustainable, i.e. future-proof and livable society. BOKU plays a pioneering role in the Austrian university landscape in this respect.

As a founding member of the Alliance of Sustainable Universities in Austria, BOKU is not only striving for a comprehensive and far-reaching transformation in its own university environment, but is also involved with other universities in cross-university sustainability initiatives and their further development. One successful example is the interdisciplinary and cross-university project "UniNEtZ – Universities and Sustainable Development Goals", which plays a key role in shaping the socio-ecological transformation. BOKU is not only home to the coordination office of the Alliance of Sustainable Universities in Austria, but also provides the UniNEtZ Council Chair. In addition, the CCCA office has been based at the Center for Global Change and Sustainability since the association was founded in 2014.

In the first project phase of UniNEtZ (2019–2021, UniNEtZ I), an options report was developed that shows how the 17 goals of the 2030 Agenda for Sustainable Development can be implemented in Austria. Based on these principles, scientists, artists, and students are working on concrete contributions to the transformation in the second phase (2022–2024, UniNEtZ II). For example, many doors have already been opened to important decision-makers (e. g. through parliamentary cooperation or exchanges with the Interministerial Working Group IMAG on the 2030 Agenda and the Sustainability Coordinators' Conference), and promising collaborations have been prepared and launched.

The aim of the transformation efforts is directed "outwards" towards society on the one hand, and "inwards" on the other, in the sense of a (self-)transformation of the universities. In the second project phase, the 17 SDG groups were supplemented by five focus areas aimed at transformation in the fields of action (i) transdisciplinary dialog with society, (ii) research, (iii) teaching, and (iv) governance as well as scientific support and monitoring of societal transformation.

There is great potential in the internal and external transformation processes already initiated by UniNEtZ and the collaborations that have been established, which are to be continued and expanded beyond the second project phase. Against this background, BOKU wants to use the results and successful networking from the two UniNEtZ project phases to actively pursue the goals of sustainable development together with the other Austrian universities and anchor them in their development plans. The establishment of the Austrian Center for Transformation (ACT) will play an important role in this context.

In the actual performance agreement period 2022–2024, BOKU, together with the Universities of Innsbruck and Graz and the University of Applied Arts Vienna, has committed itself to designing ACT and developing an organizational form. ACT is intended to address, coordinate, bundle and further strengthen the core concern of a comprehensive socio-ecological transformation and the specific role of universities and non-university research institutions in corresponding transformation processes. In particular, ACT is to be institutionalized and strengthened as a central scientific point of contact for public institutions and high-ranking political, economic and social decision-making bodies. ACT should be structured as an open association that other universities can join with the same rights and obligations.

ACT should focus on transformation research (analytical reflection of socio-ecological and technical change processes), transformative research (disciplinary research that participates and intervenes), and third mission (transdisciplinary dialogues with social target groups), and actively shape the translation and availability of results and findings of scientific research in the area of the Grand Challenges. Specifically, ACT is intended to be an interface between actors in disciplinary and interdisciplinary basic and application-oriented research and actors in third mission and transformative research. ACT is not intended to duplicate the disciplinary and interdisciplinary basic and application-oriented research at Austrian universities and research institutions. However, ACT should support and coordinate third mission and transformative research as well as the development of transformative and transdisciplinary teaching. In addition, ACT should translate research results for society and thus ensure their visibility and communication.

Furthermore, the existing networks Alliance of Sustainable Universities in Austria, Climate Change Centre Austria, Working Group for Socio-Ecological Transformation, and the UniNEtZ project will be invited to integrate into ACT – with the aim of jointly strengthening the topic of socio-ecological transformation in science and society and coordinating external and internal communication. This should also avoid duplication, bundle structures, simplify administrative agendas and make them cost-efficient, as well as ensuring long-term funding.

5.3. Discourse within BOKU and with society

BOKU promotes the discussion of ethical issues in connection with BOKU's social mission as a University of Life Sciences and Sustainability. In this context, the Ethics Platform serves as a driving force and source of inspiration for a systematic and participatory discourse. All departments, scientific initiatives and committees delegate members to the Ethics Platform. The Ethics Platform offers the opportunity to discuss and raise awareness of responsibility in connection with BOKU's social mission as a University of Life and its commitment to the principles of sustainability.

The Ethics Platform also continuously identifies ethical issues that become apparent in research and raises awareness of the ethical principles and values set out in the BOKU Ethics Charter. It supports opinion-forming processes at BOKU with discourses on research freedom and responsibility, the benefits and risks of research projects, and innovative research priorities. Lecture, discussion and training events organized by the Ethics Platform

provide impulses for the perception of social responsibility by BOKU members.

The BOKU Ethics Committee supports employees in two types of research projects: (i) those on or with humans in order to minimize risks for study participants and protect their essential interests; and (ii) research projects on or with animals in order to minimize adverse effects on animal welfare and, in the case of interventions in the ecosystem, to assess whether the welfare of any animals that may be significantly affected is sufficiently safeguarded. With the establishment of an institutionalized review procedure on the aforementioned topics by the Ethics Committee, BOKU is responding to the increasing demands of national, European, and international research funding institutions and scientific journals to submit statements from ethics committees on research funding applications or publications.

BOKU supports the implementation of Open Science, i.e. the comprehensive use of scientific knowledge by creating the most barrier-free access possible to research results and research data (GUEP system objective 5). Activities in the area of Open Access and Open Data will be continued and further strengthened (see Chapter 3).

Knowledge transfer from BOKU to society takes place via many channels: for example, via the internet and social media, through high-profile reporting on radio, TV, print and online portals, as well as through panel discussions and information and training events. BOKU regularly takes an active part in the KinderUni, the Long Night of Research, the Youth Entrepreneurship Week, and the European Researchers' Night and has established numerous public discussion formats (Students in Discourse, Green Salon). In addition, BOKU organizes an annual Sustainability Day and a Future Conference on current topics (e. g. energy and transport transition, food security, etc.). An important prerequisite for successful science communication are appropriate support structures, which have been successively expanded in recent years. An internal training program has been established and courses are offered on an ongoing basis to support BOKU members in engaging openly, effectively, and critically in social debates and communicating their research work.

Science communication includes – in addition to scientific lectures (science to science) at national and international events – presentations to practitioners (science to practice) or the general public as well as popular science publications (science to public). These activities are documented and categorized in BOKU-FIS. In general, it should be noted that BOKU's media presence has increased significantly in recent years. This applies to traditional media such as newspapers, APA, radio and television as well as social media channels such as Facebook, Instagram, X, and TikTok.

In addition to science communication, transdisciplinary and transformative research in particular, which develops and provides system, target, and transformation knowledge for sustainable development together with stakeholders in society, is also seen as an important part of the exchange with society at BOKU.

In general, BOKU considers interaction with broad sections of society to be essential in order to fulfill its social responsibility as a university. Cooperation with NGOs, regional actors, and stakeholders from administration, politics, and interest groups is essential in order to take up issues from society or develop them together with society. A special form of knowledge transfer is policy advice, which is to be additionally supported at BOKU by the three networking centers (Center for Bioeconomy, Center for Agricultural Sciences, Center for Global Change and Sustainability) and will also be made visible in BOKU-FIS in the future. BOKU researchers also contribute knowledge to society by participating in committees and advisory boards or through research collaborations with economic and other social actors.

5.4. Citizen Science

In Citizen Science, scientific projects are carried out with the help or under the sole responsibility of interested citizens in compliance with scientific criteria. BOKU has been able to further expand its pioneering position in the field of Citizen Science in recent years. Not only is it the coordinating body of the national citizen science platform "Österreich forscht" and the associated Citizen Science Network Austria (CSNA), it is also the only university in Austria to offer regular training courses in the field of citizen science for BOKU researchers and external persons. In order to anchor Citizen Science in the center of society, new partnerships have been entered into with the CSNA's Citizen Science strategy and new initiatives have been launched with existing partner institutions. In addition, together with IIASA, BOKU is a founding member of the Citizen Science Global Partnership, which is committed to achieving the UN Sustainable Development Goals through Citizen Science. By organizing the European Citizen Science Conference 2024 together with the Natural History Museum Vienna, BOKU will further raise its profile in the field of Citizen Science internationally.

5.5. Cooperation with industry, technology transfer and entrepreneurship

Universities play a key role in the continuous innovation process, which is of central importance for our economy and society as a whole. The culture of joint research between universities and industry is strengthened through the networking of research and business/industry partners (GUEP system objective 5). Numerous long-standing and successful collaborations with partners from a wide range of subject areas show that BOKU is a reliable partner for industry with strong third-party funding. BOKU scientists conduct research together with business partners in Christian Doppler laboratories, COMET competence centers (acib, FFoQSi, Wood K plus, BEST), bilateral industry projects, and numerous other national and European projects including Horizon Europe (see also Chapter 3, Third-party funding strategy). In general, BOKU strives to continuously develop these collaborations with industry. To this end, it will strengthen (i) the targeted use of national and European competitive funding programs; (ii) participation in strategic research collaborations; (iii) the joint use of infrastructure such as core facilities; and

(iv) institutionalized dialogue with partners and stakeholders.

As a University of Life Sciences and Sustainability, BOKU makes significant scientific contributions along the six fields of competence and along entire value chains. BOKU is a source of ideas and impetus as well as a partner in the development of new processes and products, continuously encouraging its employees and students to implement their research results and ideas and supporting them throughout the entire process. It promotes and strengthens an entrepreneurial mindset with a focus on the challenges of our time, which are e. g. reflected in the SDGs.

The steady increase in the number of service inventions, patent applications, and commercialization projects in recent performance agreement periods and the growing interest in spin-offs reflect the awareness of BOKU researchers of the (economic) significance of their own research results. As a result, technology transfer has been intensified, professionalized, and strategically realigned, and advice and support for spin-offs has been continuously improved (GUEP system objective 5, implementation objective 5b). Finally, a common umbrella was established for all entrepreneurship activities: *BOKU Activities Supporting Entrepreneurship* (BOKU:BASE) and integrated into the Research Services organizational unit as a new department. This not only fulfills the legal and contractual requirements as a basis and basic prerequisite for knowledge and technology transfer, but also aims to promote entrepreneurial thinking and action even more strongly.

The BOKU:BASE offer is divided into three areas: BOKU:BASE Research & IP offers start-up coaching and intensive support for researchers from the start-up idea to the maturity phase of the company. It also supports networking with relevant partners. BOKU:BASE Education & SDG helps with activities on the topic of entrepreneurship in teaching, e. g., in the visualization or redesign of relevant courses, and in the development of the cross-cutting topic of entrepreneurship in the course of the modularization of Bachelor's degrees or additional qualifications (certificates). BOKU:BASE Labs & Infrastructure is the point of contact for the provision of laboratories and premises for spin-offs and start-ups at the Türkenschanze, Muthgasse and Tulln campuses.

The BOKU:BASE offers are open to all doctoral students, researchers and members of BOKU and serve to put knowledge and innovation into practice, including the founding of companies (spin-offs, start-ups). Through a supportive and transparent approach, a long-term relationship between BOKU and the spin-off company is sought. With the establishment of the joint umbrella, suitable offers and awareness measures can now be continuously created and coordinated for all members. For example, BOKU:BASE offers workshops for students as part of the BASE:ACADEMY, supports networking activities (e.g. Joint Forces, students' innovation centre, ClimateLaunchpad, etc.) and offers space for the realization of student ideas (Open BASE Space). Researchers can take advantage of a comprehensive range of consulting services in connection with setting up a company (concretization of the business idea, concept validation business model / business plan, negotiation of license agreements, advice on funding bodies and financing, legal form and classification under trade law, development of a protection strategy, etc.). BOKU:BASE also supports networking and creates awareness for technology transfer and entrepreneurship at BOKU through annual competitions (Invention of the Year, Inventor of the Year, Start-up of the Year, Innovation Award).

The BOKU Core Facilities also provide an attractive environment with high-quality and well-serviced research infrastructure. These framework conditions not only promote innovation within BOKU, but also strengthen the innovative power of the BOKU locations – among other things through cooperation with industry and highly qualified graduates (GUEP system objective 5, implementation objective 5c). The Muthgasse site is an example of synergy-creating cooperation between the university and industry. University research and innovation, laboratories for spin-offs and access to BOKU's research infrastructure form a unique ecosystem here in the future-oriented Muth quarter, which will become an internationally visible biotech hub through further infrastructure projects. The "Biotech-Hub Muthgasse – BOKU at the center" is listed as a "Vienna 2030 flagship project" of the Vienna Chamber of Commerce. A strategic positioning as a leading regional institution is also being developed for the Tulln site.

The dynamic development in the field of entrepreneurship at BOKU makes it necessary to further develop and constantly adapt the property rights and exploitation strategies, including licenses, patents, and spin-offs. This also applies to the conception and establishment of investment management for spin-offs.

6. International

Internationalization has always been a *conditio sine qua non* for BOKU due to its unique selling point in the field of life sciences in Austria. The long-standing internationalization strategy, which has integrated corresponding (further) developments in the national and international environment, encompasses the areas of study, teaching, and research. It also makes a contribution to social development.

6.1. Internationalization strategy

The first strategy for internationalization was developed back in 1998/99 and expanded in 2009 to include the focus on “Research for Development”.

The most important goal of BOKU’s internationalization strategy is to contribute to overcoming global challenges and international crises through worldwide cooperation, to reduce global inequality, and to provide underrepresented groups with access to university education. Central principles are equal opportunities and equality under the motto: “Leave No One Behind”.

The objectives of other relevant strategies, such as the European Strategy for Universities 2022, the Higher Education Mobility and Internationalization Strategy 2020–2030 (HMIS 2030), the Austrian University Development Plan (GUEP), and the BMBWF’s Higher Education Plan (HoP), are taken into account in a standardized and quality-assured process when developing this strategy and the BOKU Language Policy Plan, which has been in place since 2012. Strategies of the European University Alliance EPICUR, of which BOKU has been a member since 2019, as well as BOKU’s internal sustainability and diversity strategy are also incorporated here.

6.2. Potential for cooperation

Based on the six BOKU fields of competence, international visibility in research, teaching, and social responsibility is to be further expanded.

As the only university in Austria to offer learning and teaching opportunities on the sustainable use of natural resources from Bachelor’s to doctoral level, international networking has always been essential for further development. Thanks to this strong international positioning, BOKU not only has experience in cooperating with different countries and lives a cosmopolitan culture (“global mindset”), but also promotes excellence in teaching and research through internationalization.

In the future, the potential of existing cooperation agreements, networks, doctoral schools, and alumni will be used even more to achieve capacity development at the institutional level, both at BOKU and at the various partner institutions (universities, research institutions, civil society organizations, NGOs, local stakeholders,

etc.). A participatory approach to research, teaching, and third mission is important to BOKU when it comes to cooperation. The transdisciplinary approaches, based on expertise in the natural sciences, technical, and socio-economic sciences offer numerous opportunities.

Through its fields of expertise, BOKU has the potential to offer solution-oriented research worldwide and to address the global challenges of our time. In the spirit of "Think Global, Act Local", BOKU's teaching and research offerings are made accessible in Europe and worldwide (e. g. to third-country nationals, refugees, empowerment of women from non-OECD countries). This is a central focus of BOKU's internationalization strategy and a contribution to the implementation of the United Nations Sustainable Development Goals.

6.3. Further development of university internationalization strategies

In order to further develop internationalization at BOKU in a target-oriented manner, essential values and objectives with regard to internationalization are also required, which must be developed and carried forward by the members of the university:

- Striving for excellence
- Assuming national and international responsibility (e. g. capacity building projects) for global challenges relating to society, the environment, and multidimensional sustainability
- Transparency and cooperation in inter- and transdisciplinary approaches
- Innovative concepts through strategic partnerships and cooperation with stakeholders
- General open-mindedness and appreciation of diversity (including academic and administrative support for migrants, refugees, and underrepresented groups in general, as well as temporary incomers studying in Austria)

Through its areas of expertise, BOKU offers approaches to solving the global challenges of our time. With capacity-building measures, BOKU also wants to support processes for the implementation of equal opportunities at other universities in order to contribute to the development of socially acceptable ecological solutions. In this context, it will be essential to strengthen BOKU's visibility as one of Europe's leading Life Sciences and Sustainability Universities with scientific, technical and economic-social expertise and to sharpen the regional focus of the internationalization strategy.

The primary goals of BOKU's internationalization strategy are therefore:

- Assuming social responsibility in the context of major global challenges by intensifying cooperation in teaching and research in disadvantaged priority regions and the associated capacity building.
- Setting priorities taking into account BOKU-specific competencies (e. g. cooperation in research and teaching in and with reference to mountain regions).
- Strengthening "internationalization at home" by expanding the English language offer at Master's and Bachelor's level as well as virtual and real mobility offers for all BOKU members (incl. blended learning, further education, and training; peer-to-peer didactics training; teacher ambassadors).
- Further development of internationalization in the organizational culture (e. g. development of a real Welcome Center and the integration of international experiences and aspects in teaching, research, and administration to promote sustainable diversity).
- Greater visibility and recognition of the benefits of regional cooperation projects (e. g. with local communities, leadership positions of BOKU alumni in the international job market), but also increasing the visibility of internationalization within the university (e. g. through regular presentations of foreign partner institutions and international achievements in teaching and research).
- Promotion of academic exchange to further develop the research profile (recruitment of top international scientists and excellent doctoral students as well as further development of internationally oriented doctoral studies).

6.4. Promoting mobility in studies, teaching, and research

By implementing comprehensive internationalization in teaching and research, BOKU is fulfilling its social responsibility for sustainable development. This begins in teaching by integrating international and intercultural aspects into the curricula. The needs of partner universities and interested potential students will be met by a comprehensive range of international and English-language study programs at Master's and doctoral level. Implementation at Bachelor's level is being worked on.

For example, BOKU is the Austrian leader in the EU excellence program Erasmus Mundus Joint Master. This further strengthens the excellent employability of BOKU alumni as well as the intercultural and international skills of all BOKU members in teaching and research. Exchange, integration, and training of students are important components of internationalization. The aim is to achieve greater equality of opportunity, empowerment of women, and a good quality of life for everyone in these regions. BOKU members should be supported in their careers by increasing mobility. Experience abroad in teaching and research is a prerequisite for possible next academic career steps (application for tenure-track positions or professorships).

A prerequisite for the active integration of international students and staff are appropriate entry and residence conditions – BOKU is therefore involved in relevant committees ("Forum Fremdenrecht", OeAD etc.) and implements or supports relevant measures (scholarship offers, additional advice, reducing administrative hurdles while maintaining quality assurance, etc.). The focus of BOKU's activities in this area is always "Mind Circulation". BOKU's "science diplomacy" activities should also be seen in this context, e. g. networking with Austrian embassies abroad and foreign representative authorities in Austria as well as cooperation

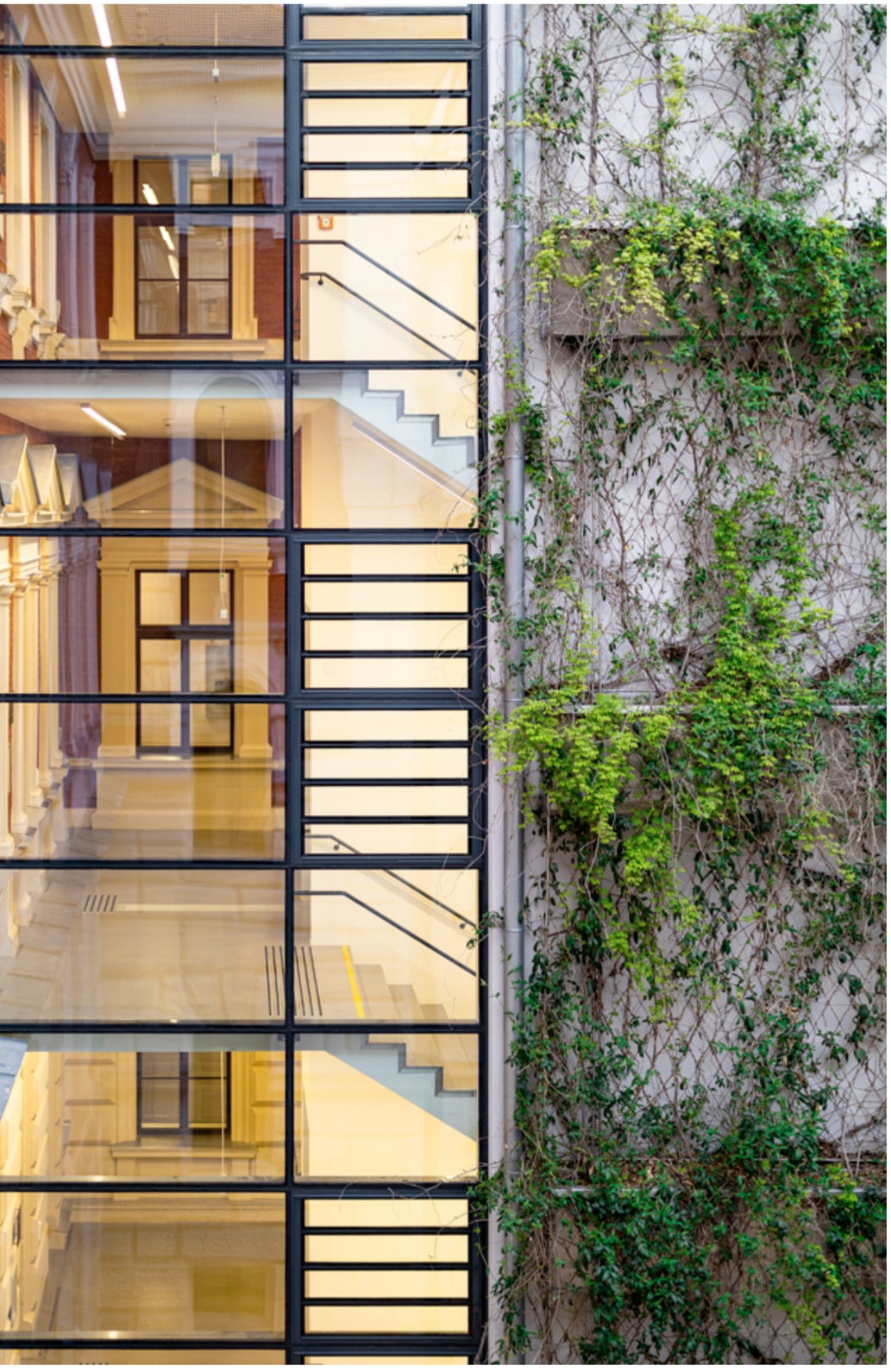
with ministries, scholarship-awarding organizations, NGOs and BOKU alumni in Austria and abroad.

6.5. Utilization of international memberships

The basis for BOKU's success and international recognition is the commitment of all BOKU members to international activities. Memberships in strategically relevant networks, leadership and participation in initiatives in the European Research and Higher Education Area as well as coordination and involvement in capacity development and research for development (e. g. BOKU is the Austrian leader in the number of Africa UniNet or APPEAR projects) are essential for BOKU's international reputation. In this area, the BOKU Cluster for Development Research offers a platform for interdisciplinary exchange and project development.

BOKU actively assumes responsibility for tackling global challenges, both through the transfer of academic knowledge to society (e. g. through third mission activities as part of EPICUR) and through the transfer of know-how and technology to industrial partners. Equally important is the recognition and inclusion of other diverse knowledge systems outside academia and mutual learning in transdisciplinary research and teaching collaborations.
In order to achieve synergy effects in teaching, continuing education and research, cooperation with international organizations (especially those based in Vienna, such as IAEA or UNEP; but also other non-university partner institutions such as the CGIAR research centers) will be further promoted.

Thanks to BOKU's strong involvement in regional networks (such as Africa-UniNet, ICA, CASEE, GCUA, ASEA-UNINET, Eurasia-Pacific Uninet, CEEPUS and ELLS) and in networks that match BOKU's areas of expertise (such as Oenoviti, EPSO, ISEKI, etc.) as well as through cooperation with strategic partner universities (e. g. in EPICUR and for Erasmus Mundus Master's, international Joint Degree Master's, Cotutelle doctorates) and partner organizations worldwide, BOKU is one of the leading Life Sciences and Sustainability Universities in the world.
BOKU is recognized as one of the leading Life Sciences and Sustainability Universities in Europe (e. g. in EPICUR and for Erasmus Mundus Masters, international Joint Degree Masters, Cotutelle doctorates), and partner organizations worldwide and will continue to expand this position in the future.



7. University real estate management

The provision of infrastructure that qualitatively and quantitatively meets the current and future requirements of the university is a cross-cutting issue for achieving the strategic goals in research, teaching, and studies. The dynamic developments of recent years in general and at BOKU in particular – such as digitalization, new teaching, learning and working formats, the promotion of interdisciplinarity and local and cross-location cooperation – require constant adaptation and further development of BOKU's infrastructural facilities. This means that both existing and future areas and rooms must be designed to be as agile and future-oriented as possible in terms of their technical equipment and layout, adaptability, and expandability, thus ensuring productive and effective use.

7.1. Framework conditions and guidelines

The availability of a modern spatial infrastructure is the basis and prerequisite for high-quality performance in teaching, research, and administration.

7.2. Changing teaching, learning and working environments

BOKU tries to offer the best possible infrastructural framework conditions in the changing world of work and study.

In recent years, the need for teaching and learning environments has evolved and the needs of students have changed. BOKU places a particular focus on creating student spaces, flexible, interactive, varied, and inspiring environments at existing locations to promote effective learning and creative exchange. As most of the existing buildings date from periods when this type of space was not important, identifying potential spaces and locations is a major challenge. Student spaces are intended to be an essential addition to existing traditional learning environments. Through adaptable design, technical equipment, availability, and flexibility, innovative teaching and learning spaces should be available to students as independently of time as possible in order to provide the best possible support for future-oriented education.

The changing teaching and learning environments can only be reflected with difficulty in the existing space and for the most part are not yet present. At Muthgasse, for example, there are no attractive student areas such as learning zones, project rooms, exchange areas or similar, as the open spaces (e. g. assembly halls of the buildings) serve as escape routes, making it difficult to make them more attractive – also in terms of occupational safety. BOKU offers full-time, face-to-face courses that are supplemented by digital teaching formats. Existing rooms have been technically upgraded and expanded for hybrid teaching. Meeting rooms have also been equipped with digital media.

For BOKU – as for all other universities – the COVID-19 pandemic posed a wide variety of challenges, which were also

characterized by lockdowns and remote work from home at BOKU. In particular, however, laboratory operations and scientific experiments continued during this time in order to maintain teaching and research operations with a practical component in the best possible way. Being a technically and scientifically oriented university with laboratory and workshop operations means that even post-COVID-19, remote work from home office is possible only in certain areas from an organizational point of view.

The COVID-19 pandemic has also shown that interaction and cooperation, especially in the scientific field, but also exchange with students in teaching and, last but not least, on a human level, is not possible to the extent that is considered necessary at BOKU.

Like other employers, BOKU faces the challenge of attracting employees in the general and scientific fields to BOKU and keeping them at BOKU. An attractive working environment is increasingly becoming a decisive criterion for employees. The offer of working from home is not only in demand, but often taken for granted – especially by applicants. In the course of 2021, BOKU concluded a works agreement on remote work ("Home Office") with the works council for general staff and the works council for academic staff, offering flexible scope for all areas of BOKU. BOKU has thus reacted quickly to the changes in order to continue to be an attractive employer.

The changing realities of new working environments can currently only be reflected to a limited extent in the existing BOKU buildings. As in the past, existing space resources will continue to be utilized and occupied in the best possible way. Since there was already an acute shortage of space at many locations before the COVID-19 pandemic, especially in offices, the increased home office – triggered by the COVID-19 pandemic – has helped to ease the space situation for the time being. In order to achieve efficient space utilization concepts and the best possible space management, various aspects need to be taken into account. The overarching goal is to ensure fair and needs-based use. This includes meeting the space requirements of the individual organizational units in order to meet their specific needs. The spatial bundling of the various research areas by bringing together related disciplines and departments within one building will enable effective networking. This promotes the exchange of knowledge and interdisciplinary collaboration. The optimization of passenger traffic flows through intelligent planning and design of the building will create efficient routes and connections to optimize passenger traffic. The experiences of the COVID-19 years will also be incorporated into future planning in both the scientific and administrative areas. The increase in working hours that are not spent at the workplace and the maintenance of the partial shift from F2F communication to online formats as well as hybrid work situations will also represent future framework conditions.

BOKU plans to evaluate these permanent changes on an ongoing basis over the coming years, to adapt the infrastructural environment (where possible) in line with requirements, and to reflect the changed teaching, learning and working environments in the best possible way in future plans for new buildings and renovations.

At the same time, BOKU continues to drive forward the digitization of its building stock. This will provide comprehensive information for safer, more efficient and more sustainably managed building operations. Furthermore, the digitized building stock is intended to enable barrier-free and easy access and orientation to and within the buildings at the locations.

Against the backdrop of scarce resources, working on the efficient use of space remains a key challenge. The planned further development of space management, with a particular focus on demand-oriented and balanced allocation of space, is a prerequisite for increasing space efficiency. The further digitalization of space management is also a prerequisite for this. The creation of centrally managed duty room pools for project staff (where possible) and the use and allocation of course rooms during lecture-free periods by the event management team will help to ensure that rooms are used appropriately.

7.3. Sustainable, circular-economy, standard-setting buildings

In the past, BOKU already paid great attention to energy efficiency and contributing to the achievement of climate targets in new buildings, renovations and other construction projects in the interests of prudent use of public funds.

Optimization processes already established in the area of operational management will be continued and expanded in the coming LV periods 2025–2027 and 2028–2030. With the expansion of the existing energy monitoring system, the monitoring system for operating costs, energy consumption and environmental accounting will be refined as a basis for further energy measures and ongoing monitoring. This system also forms the basis for BOKU's sustainability report, which has been published and audited annually since 2020. When planning, analyzing, and implementing efficiency measures, internal university expertise is used and shared across the university. Furthermore, the implementation of an improved Computer Aided Facility Management (CAFM) is planned in order to enable a better linking of planning data with room, personnel and facility data as well as property and building master data in the future.

Future construction projects will also be based on the premises of sustainable and circular construction. This includes taking environmental aspects into account and minimizing the ecological footprint throughout the entire construction process. Energy efficiency plays a central role here by using modern technologies and concepts to reduce energy consumption and use renewable energies as well as paying attention to the quality of building materials and their environmental compatibility. Above all, high-quality materials that are durable and conserve resources should be used. At the same time, user comfort must be guaranteed, for example by ensuring good indoor air quality and acoustic insulation. Overall, the premises are based on the pursuit of efficient use of space, sustainable construction and the creation of a pleasant working environment. In this way, the requirements should meet the needs of the users and at the same time be

environmentally conscious and sustainable. In the area of facility management, there should be a stronger focus on core operational tasks. The aim is to improve quality while at the same time increasing cost efficiency. Where necessary, this focus should also involve external services and be accompanied by appropriate training and personnel development programs for employees.

7.4. Campus developments

BOKU currently consists of three main locations in Vienna's districts 18 and 19 and in the city of Tulln. In its location strategy, BOKU pursues the goal of merging organizational units, particularly those that are dislocated, onto the university's three campus locations (Türkenschanze, Muthgasse, and Tulln) and creating sufficient adequate space as well as a targeted functional integration of the locations into the respective urban environment. Locations and reorganizations of organizational units are not only aimed at space efficiency, but in particular at promoting scientific exchange within the departments and across departmental boundaries. Both are carried out taking into account the special conditions at the BOKU locations, such as accommodation in historical buildings with sometimes limited possibilities for influencing spatial design or expected lifespan with regard to the operational safety of the buildings.

The planning and implementation of the corresponding measures, such as merging or closing locations, are based on upcoming expansions of space at existing locations and necessary renovation measures. The implementation schedule is designed for the long term and requires the availability of additional funds and the corresponding consensus with and approval from the relevant ministries, especially for larger new construction and renovation projects. In particular, the professorships appointed in recent years and the integration of the Institute for Social Ecology have led to an increase in space requirements at the Türkenschanze site, which has already been reflected in the OST development plan for some time and for which suitable space would already be available. In addition, the high dynamics in the area of third-party funding have led to additional space requirements at the Muthgasse site, which can no longer be realized in the existing building. BOKU is therefore endeavoring to find solutions for office and laboratory space in the near future.

Campus Türkenschanze

In the search for expansion space at the Türkenschanze site, the "Borkowskigasse" project was defined with the municipality of Vienna and implemented in 2022. Together with BIG (Bundesimmobiliengesellschaft) and the responsible municipal authorities of the City of Vienna, a feasibility study was prepared, which assumes around 9,000 square meters of usable space. A zoning procedure has been initiated in coordination with BIG and the City of Vienna. At the same time, the possibility of a subsequent use of the "Modul" has been explored since winter 2022 and a space and function program has been developed for this purpose, which currently makes the new building obsolete from BOKU's point of view. The reuse of existing buildings and thus the conservation of resources is of particular concern to BOKU.

The vegetation house located directly on the Türkenschanze site is in a very poor technical condition and can no longer be renovated. A new building was planned for this BOKU in-house project in the medium term in 2023, which was to be developed in coordination with the Chair of Botany. As it is proving very difficult to find a new professor, the project has been postponed until the next academic year.

The evaluation of the structural fire protection in the Wilhelm Exner House has shown that "full protection" of the building is necessary. This includes creating accessibility in the alarm system (acoustic and visual) and in the rescue of users. In the course of the surveys, it was determined that the structural measures need to be extended. As the current users would have to move out of the existing building, a concept was developed so that the critical or laboratory-intensive infrastructure would only have to be relocated once and any replacement quarters would have to be adapted in a way that conserves resources as much as possible (for example, expensive laboratory infrastructure would not only be built for interim use for 2–3 years at a replacement location). The refurbishment measures can only begin once the "Modul" or another suitable new building has been occupied. The tenant renovations planned for this refurbishment (thermal and technical refurbishment and improvement measures to be borne by the tenants) will not be covered by BOKU's current budget. Furthermore, the general refurbishment of the former administration building at the Türkenschanze site is pending. In order to make the most efficient use of the construction site facilities required for the adaptation of the "Modul", the renovation of the administration building should be timed to coincide with the "Modul" project.

Campus Muthgasse

As part of the purchase of Muthgasse I and II by BIG in 2015, an investment and refurbishment budget of EUR 14 million was agreed for the two buildings between Nussdorfer Lände 11 and Muthgasse 18, which was used both for the maintenance of the landlord's own facilities and for user requirements. To this end, the former management (VAMED) drew up a list of the technical refurbishments, which was supplemented by the requirements from the fire protection report. These two documents were used to derive an expected operational safety for a further 15 to 20 years at the time of purchase. The measures implemented between 2020 and 2022 included the replacement of the fire alarm control panels and the building management system, the construction of fire bulkheads, the repair of fire dampers, the replacement of elevators, the creation of escape routes, the replacement of ventilation units and chillers, as well as barrier-free access. In order to maintain the operational safety of the Muthgasse buildings, expensive and extensive maintenance and repair work will also have to be carried out in the coming years. As there is currently no adequate development space of sufficient size for the entire site (around 70,000 square meters of usable space) available at the Muthgasse

site, site development considerations have been started together with BIG at the Campus Althangründe educational development area. These considerations are to be examined in more detail in the coming years and a tailor-made space and function program is to be developed, which will serve as the basis for further steps with the responsible ministries.

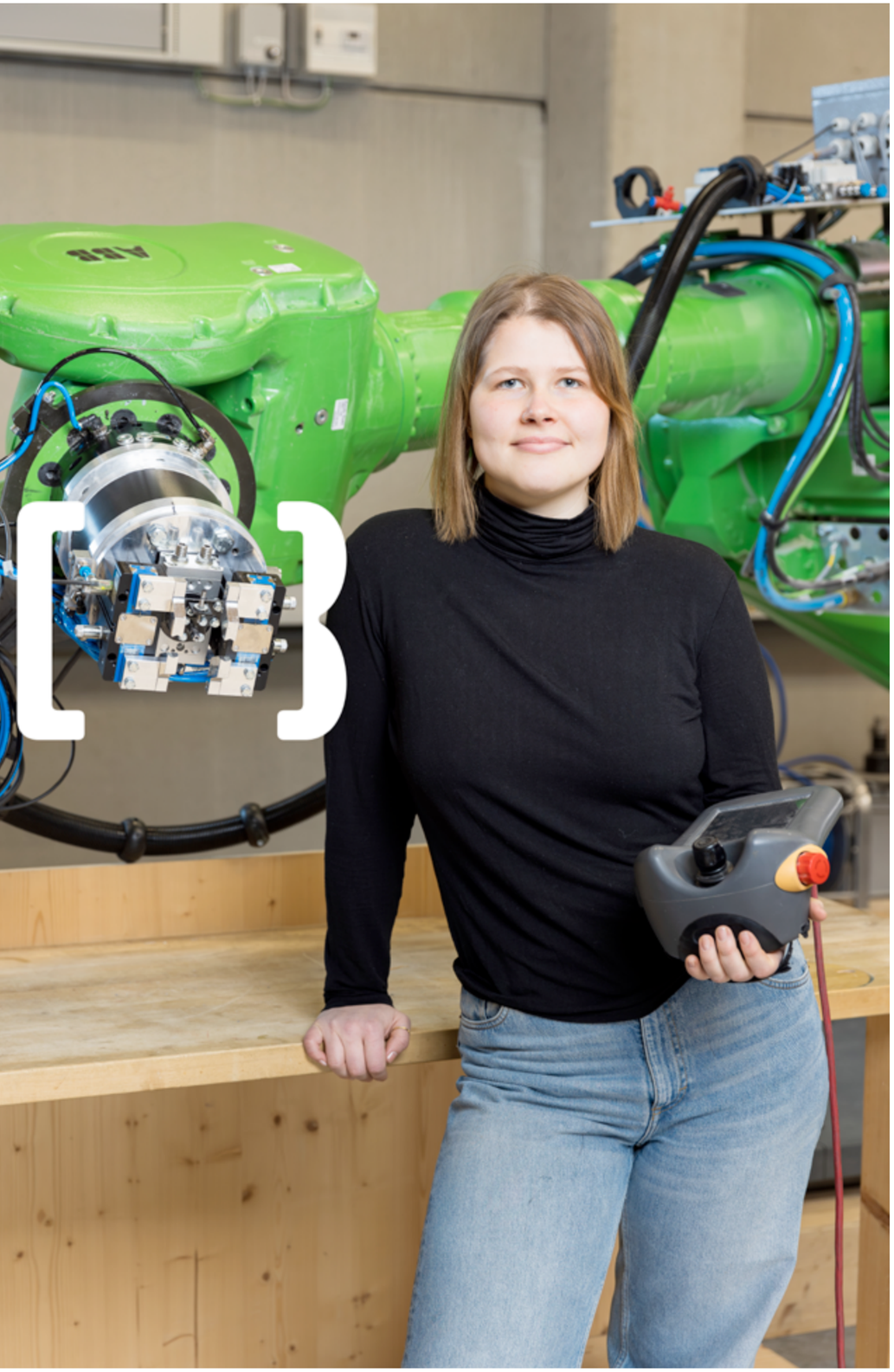
Campus Tulln

Over the next few years, the focus of the infrastructure measures at the Tulln campus will be on securing open research areas around the existing campus and maintaining the operational capability of the IFA Tulln building.

Infrastructure across locations

BOKU is continuing its efforts to replace and reinvest in its ageing research equipment infrastructure. Access to and the provision of modern equipment infrastructure has a direct impact on the ability to appoint top researchers from Austria and abroad, to publish in the most renowned journals and publication media in the respective subject area and to attract competitive third-party funding projects. BOKU's existing areas of expertise are to be strengthened and further expanded through ongoing investments and investments made in the context of appointments. Where possible and appropriate, large-scale equipment infrastructure will be acquired in the BOKU Core Facilities, which, like the BOKU research sites (BOKU Research Farm, BOKU Research Forest, BOKU River Lab), will be used cooperatively. Some of the buildings at the BOKU Research Farm in Groß-Enzersdorf are in a very poor technical condition. The BIG is prepared to implement measures. A utilization concept is currently being examined. The BOKU-owned Hubert-Kuhn-Haus in the BOKU Research Forest Rosalia is also in need of renovation due to its age. Due to a lack of budget, only the most necessary maintenance work has been carried out so far. Further options and financing concepts are currently being examined. There are also plans to revitalize the glasshouses and greenhouses at all locations in order to create optimal conditions for plant research and cultivation.

The main objective in the area of IT infrastructure is to ensure the best possible provision of services to university members in a dynamic environment from an IT perspective with constantly changing framework conditions (e. g. IT trends such as cloud solutions, social changes, legal standards such as the General Data Protection Regulation). Early recognition of changes and proactive action are therefore key. In addition to necessary reinvestments in the basic IT infrastructure and its expansion due to the ongoing digital transformation, particular attention will continue to be paid to the area of IT security. Equally important is early and targeted communication with users regarding the further development of the IT infrastructure and IT services.



8. Digitalization

Universities play an important role in the vision of a “digitally responsible society” because, as institutions of teaching, science, research, and innovation, they are active shapers of the digital transformation for a society worth living in. The focus is always on people and their needs as well as the resulting requirements for the digitalization process. The strategic framework for this can be seen in the context of the “Digital Action Plan Austria” (DAA). Universities shape the digital transformation process in such a way that it expands opportunities in research, teaching, and organization.

The aim now is to implement “digital networking to support people”. In accordance with Guiding Principle 8 of the Digital Roadmap Austria, BOKU wants to actively develop and implement new digital opportunities in research and teaching. The BOKUdigital digitalization offensive also includes core university administrative processes that are simple, user-friendly, and therefore transparent and efficient. The digitalization offensive was therefore developed and promoted in the 2019–2021 and 2022–2024 performance agreements and will also play a key role in the upcoming performance agreements.

The aim is to further expand successful models of (inter)university cooperation, such as the joint use of large-scale scientific IT infrastructure (high-performance computer VSC [Vienna Scientific Cluster] and high-performance network ACOnet [Austrian Academic Computer Network]), to improve IT security in data processing and information transfer and to continue the development and expansion of IT systems that enable easier use of BOKU information technology services regardless of time and location. Particular attention must always be paid to simplicity, user-friendliness, and security.

On the one hand, the BOKUdigital digitalization offensive forms the package of measures from the BOKU IT strategy bundled in the performance agreement in the sense of maximizing the benefits for the core processes of research and teaching. On the other hand, for the same reasons, it is also an essential pillar of the BOKU digitalization strategy, as it is a prerequisite for its smooth implementation in all areas of the university.

The continuation of the digitalization offensive continues to be based on the tried-and-tested “three-pillar model”:

- Digital transformation: frequently repetitive processes must be optimized, digitally mapped, and made accessible without barriers, among other things with the aim of largely paperless administration (digital workflows).
- Risk minimization: ensuring sustainable IT security management to maximize the stability of the BOKU IT infrastructure; optimizing data security and availability, increasing line capacities, expanding redundant networks.
- Standardized service models: relief for researchers and teaching staff through central solutions in the areas of IT infrastructure (end-point management)

and support (IT service group). Creation of transparent and compatible processes in order to exploit synergies and save costs.

Since the start of the digitalization offensive in 2019 – following a significant increase in personnel and budgetary resources in the IT area and the development of a new SAP OMS system – a total of 38 projects have been implemented and a further 31 projects have been launched. The subsequent BOKUdigital 2.0 work program must be implemented consistently. Above all, the following challenges need to be tackled head-on:

- Maintaining and expanding the resilience of BOKU's IT infrastructure in order to be able to meet the increased requirements in terms of business continuity in the course of digitalization measures
- Ongoing adjustment of the information security status to the growing threat situation (computer crime)
- Increasing the competitiveness of BOKU in the competition for good employees
- Implementation of the SAP Strategy developed in 2023
- Conversion to SAP S/4HANA according to SAP FI/CO for financial accounting and SAP HCM for human resources (focus: digital personnel file)
- Dealing with and using AI (artificial intelligence)
- Digital equity to enable all university members to actively participate in digitalization
- Promotion of international exchange and cooperation between researchers through the possibilities offered by digital technologies (long-term and short-term research stays, workshops, conferences, etc.)
- Participation in European and international open science processes (in particular the European Open Science Cloud – EOSC)
- Strengthening national Open Science and Open Access initiatives (e.g. Open Science Austria – OSA14)

The future goal is therefore to use the experiences and findings of recent years (especially the COVID-19 pandemic) and to further develop the existing or newly created systems in order to support the university's core processes of research, teaching, and administration even more than before by means of (process) technical and organizational measures. In addition to (new) digital workflows, particular attention will also need to be paid to expanding those systems that improve studyability and thus increase the number of active examinations.

While the networking of devices is a basic prerequisite for almost all aspects of digitalization in the current sense, the networking of people remains the key factor for the actual success of active, responsible, and sustainable participation in the social transformation process of digitalization.

With its digitalization strategy, BOKU is therefore making a clear commitment to actively and innovatively shaping the far-reaching change processes resulting from the digital evolution and actively promoting the digital skills of its employees and students.

9. List of acronyms

ABC&M	Doctoral School Advanced Biorefineries: Chemistry and Materials
acib	Austrian Centre of Industrial Biotechnology GmbH
ACOnet	Austrian Academic Computer Network
ACTRIS	Aerosol, Clouds and Trace Gases Research Infrastructure
AgriGenomics	Doctoral School AgriGenomics
AMDC	Austrian Micro Data Center
AT2OA	Austria Transition to Open Access
BEST	Competence Centre Bioenergy and Sustainable Technologies GmbH
BIOS Science Austria	Association for the promotion of life sciences
BioToP	Doctoral School Biomolecular Technology of Proteins
BioproEng	Doctoral School Bioprocess Engineering
BioMatInt	Doctoral School Biomaterials and Biointerfaces
BOKU:BASE	BOKU Activities Supporting Entrepreneurship
Build.Nature	Doctoral School Build like Nature: Resilient Buildings, Materials and Society
CAFM	Computer Aided Facility Management
CASEE	ICA's regional network for Central and Eastern Europe
CCCA	Climate Change Centre Austria
CDG	Christian Doppler Society
CECAM	Centre Européen de Calcul Atomique et Moléculaire
CEEPUS	Central European Exchange Programme for University Studies
CF	Core Facility
COMET	Competence Centres for Excellent Technologies
CSH	Complexity Science Hub
CSNA	Citizen Science Network Austria
CWTS	Leiden Centre for Science and Technology Studies
DaCAM	Danube Centre for Atomistic Modeling
DCNA	Disaster Competence Network Austria
DOVE	Drilling Overdeepened Alpine Valleys
DREAM	Danube River Research and Management
DSSE	Doctoral School for Social Ecology
EBU	European Bioeconomy University Alliance
ELLS	Euroleague for Life Sciences
eLTER	European infrastructure for long-term ecosystem research
EODC	Earth Observation Data Centre
EOSC	European Open Science Cloud
EPICUR	European Partnership for an Innovative Campus Unifying Regions
EPSO	European Plant Science Organisation
ERC	European Research Council
ERASMUS	European Community Action Scheme for the Mobility of University Students
ESFRI	European Strategy Forum on Research Infrastructures
EURAXESS.eu	Platform for researchers, entrepreneurs, universities and businesses
EuroCC 2	European network of National Competence Centres for High Performance Computing
FFG	Research Promotion Agency
FFoQSi	Austrian Competence Centre for Feed and Food Quality, Safety & Innovation GmbH
FWF	Fund for the Promotion of Scientific Research
GCUA	Global Challenges University Alliance
GEOCLIM+	Project to expand the EODC and CCCA data centres
GUEP	Austrian University Development Plan
gW/N	Centre for Global Change and Sustainability
HADRIAN	Doctoral School Hazards and Risks in Alpine Regions under Global Change
HMIS	Hazardous Materials Identification System
Horizon 2020	EU programme for research and innovation
HPC	High Performance Computing
HR21	Human River Systems in the 21st Century
ICA	Association for European Life Sciences Universities
INTERREG	Community Initiative of the European Regional Development Fund
AI	Artificial intelligence
KOAB	Cooperation project graduate studies
LCA	Life Cycle Assessment
MINT subjects	Mathematics, computer science, natural sciences, technology
MUG I	Emil Perels House
MUG II	Armin Szilvinyi House
NARMEE	Natural Resources Management and Ecological Engineering
NAWAROS	Renewable raw materials

ÖAW	Austrian Academy of Sciences
OeAD	Austrian Exchange Service
OER	Open Educational Resources
ORD	Open Research Data
SCI/SSCI	Science Citation Index / Social Science Citation Index
SDGs	Sustainable Development Goals of the UN
T2S	Doctoral School Transitions to Sustainability Horizon
UBRM	Environmental and bioresource management
UFT	University and Research Centre Tulln
UniNEtZ	Universities and Sustainable Development Goals
VSC	Vienna Scientific Cluster
WIETZ	Reintegration part-time work GmbH
Wood K plus	Wood competence centre
WWTF	Vienna Science, Research and Technology Fund

10. List of internet links

2 Personnel / Human Ressources

2.3 Personnel selection and recruitment

Directive of the Rectorate: https://boku.ac.at/fileadmin/data/H05000/H17900/Wissenschaftliche_Karriere/Verfahrensrichtlinie_99_5_Laufbahnstellen_052023.pdf

BOKU Job Market: https://boku.ac.at/pers/themen/jobboerse

2.5 Career model – §99(5,6)- and §99 (4)-Professors

Procedural guideline for career posts 2023: https://boku.ac.at/fileadmin/data/H01000/mitteilungsblatt/MB_2022_23/MB19/Verfahrensrichtlinie_99_5_Laufbahnstellen_052023.pdf

2.7 Health in the workplace

Coordination Centre for Equality, Diversity and Accessibility: https://boku.ac.at/besondere-organe-und-einrichtungen/koordinationsstelle-fuer-gleichstellung-diversitaet-und-behinderung

3 Research

CWTS Leiden Ranking 2023: https://www.leidenranking.com/ranking/2023/list

Department of Integrative Biology and Biodiversity Research: https://boku.ac.at/dibb

Department of Forest and Soil Sciences: https://boku.ac.at/wabo

Department of Sustainable Agricultural Systems: https://boku.ac.at/nas

Department of Crop Sciences: https://boku.ac.at/dnw

Department of Agrobiotechnology, IFA-Tulln: https://boku.ac.at/ifa-tulln

Department of Applied Genetics and Cell Biology: https://boku.ac.at/dagz

Department of Biotechnology: https://boku.ac.at/dbt

Department of Food Science and Food Technology: https://boku.ac.at/dlwt

Department of Chemistry: https://boku.ac.at/chemie

Department of Materials Sciences and Process Engineering: https://boku.ac.at/map

Department of Bionanosciences: https://boku.ac.at/nano

Department of Landscape, Spatial and Infrastructure Sciences: https://boku.ac.at/rali

Department of Water-Atmosphere-Environment: https://boku.ac.at/wau

Department of Civil Engineering and Natural Hazards: https://boku.ac.at/baunat

Department of Economics and Social Sciences: https://boku.ac.at/wiso

Centre for Global Change & Sustainability: https://boku.ac.at/wissenschaftliche-initiativen/zentrum-fuer-globalen-wandel-nachhaltigkeit

Centre for Bioeconomy: https://boku.ac.at/zentrum-fuer-biooekonomie

Centre for Agricultural Sciences: https://boku.ac.at/wissenschaftliche-initiativen/zentrum-fuer-agrarwissenschaften

Cluster for Development Research: https://boku.ac.at/nas/idr/cluster-for-development-research

BOKU Energy Cluster: https://boku.ac.at/boku-energiecluster

Life Cycle Assessment: https://boku.ac.at/boku-lca-plattform

Data Science@BOKU: https://boku.ac.at/rali/stat/data-science-boku

BOKU Biodiversity Cluster: https://boku.ac.at/boku-biodiversitaetscluster

3.2 BOKU fields of expertise

Departments of the University of Natural Resources and Life Sciences, Vienna: https://boku.ac.at/departments

3.3 BOKU doctoral schools

BOKU Doctoral Schools: https://boku.ac.at/docservice/doktoratsstudien/doktoratsschulen

3.4 Research infrastructure

BOKU Core Facilities: https://boku.ac.at/cf

BOKU Core Facility Biomolecular & Cellular Analysis: https://boku.ac.at/cf/bmca

BOKU Core Facility Food & Bio Processing: https://boku.ac.at/cf/fbp

BOKU Core Facility Multiscale Imaging: https://boku.ac.at/cf/msi

BOKU Core Facility BioIndustrial Pilot Plant: https://boku.ac.at/cf/bipp

BOKU Core Facility Mass Spectrometry: https://boku.ac.at/cf/ms

BOKU Core Facility Analysis of Lignocellulosics: https://boku.ac.at/cf/alice

BOKU Core Facility Bioactive Molecules – Screening and Analysis: https://boku.ac.at/cf/bmosa

BOKU Core Facility Bioinformatics: https://boku.ac.at/cf/binf

ESFRI (European Strategy Forum on Research Infrastructures): https://www.esfri.eu/

ERIC DANUBIUS-RI: https://www.danubius-ri.eu/

ACTRIS-RI (Aerosols, Clouds and Trace Gases Research Infrastructure): https://www.actris.eu/

ESRF-RI (European Synchrotron Radiation Facility Research Infrastructure): https://www.esrf.fr/

BOKU River Lab: https://iwa.boku.ac.at/

EUSDR: https://navigation.danube-region.eu/

Clusters (VSC): https://vsc.ac.at/home/

EuroCC 2: https://eurocc.fccn.pt/en/eurocc-project/

EOSC (European Open Science Cloud): https://open-science-cloud.ec.europa.eu/

EGI (European grouping of providers of computing and storage resources and data analysis services): https://www.egi.eu/

Danube Centre for Atomistic Modelling (DaCAM): https://dacam.boku.ac.at/

Centre Européen de Calcul Atomique et Moléculaire (CECAM): https://www.cecam.org/

3.5 Third-party funding strategy and project support

acib (Austrian Centre of Industrial Biotechnology GmbH): https://acib.at/

Wood K plus (Kompentenzzentrum Holz GmbH): https://wood-kplus.at/

FFoQSI (Austrian Competence Centre for Feed and Food Quality, Safety & Innovation): https://www.ffoqsi.at/

BEST (Competence Centre for Bioenergy and Sustainable Technologies: https://best-research.eu/

3.6 Open Science

Open Science Policy Austria: https://www.bmbwf.gv.at/Themen/HS-Uni/Hochschulgovernance/Leitthemen/Digitalisierung/Open-Science/Open-Science-Policy-Austria.html

UNESCO Recommendation on Open Science: https://www.unesco.org/en/open-science/about

cOAlition S: https://www.coalition-s.org/

Open Science Austria: https://www.osa-openscienceaustria.at/

Berlin Declaration: https://openaccess.mpg.de/Berliner-Erklaerung

“Austrian Transition to Open Access 2” project: https://www.at2oa.at/at2oa2_home.html

“RIS Synergy” project from the research data cluster: https://forschungsdaten.at/ris/

FAIR principles: https://www.go-fair.org/fair-principles/

“Shared RDM Services” project: https://forschungsdaten.at/sharedrdm/

European Open Science Cloud (EOSC): https://open-science-cloud.ec.europa.eu/

Open Innovation Strategy (OI) of the Federal Government: https://openinnovation.gv.at/

3.7 National and international strategic partnerships

BIOS Science Austria: https://www.bios-science.at/

Climate Change Centre Austria (CCCA): https://ccca.ac.at/

Strategic cooperation between BOKU and the Federal Environment Agency: https://boku.ac.at/fos/themen/strategische-kooperation-boku-umweltbundesamt

Federal Environment Agency (UBA): https://www.umweltbundesamt.at/

Network Austria (DCNA): https://dcna.at/

European Bioeconomy University (EBU): https://european-bioeconomy-university.eu/

Association for European Life Sciences (ICA): https://www.ica-europe.info/

4.2 Development of student numbers

Cooperation project graduate studies (KOAB): https://boku.ac.at/universitaetsleitung/rektorat/stabsstellen/qm/themen/absolventinnenstudien-an-der-boku

4.5 Teaching and learning environments

Study on the use of digital teaching formats: https://short.boku.ac.at/zukunftsstudien.html

5.3 Discourse within BOKU and with society

BOKU Ethics Platform: https://boku.ac.at/ethikplattform

5.4 Citizen Science

Citizen science platform “Österreich forscht”: www.citizen-science.at

5.5 Co-operation with industry, technology transfer and entrepreneurship

BOKU:BASE: https://base.boku.ac.at/

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