



MEDICAL UNIVERSITY
OF VIENNA

Development Plan 2025 – 2030

www.meduniwien.ac.at

» Introduction

From the late 18th to the beginning of the 20th century – in the era of the first and second Vienna Schools of Medicine – the Medical Faculty of the University of Vienna set the pace for the expansion of science-based medicine. In the opening decades of the 20th century, a number of scientists working in Vienna received the Nobel Prize in Physiology or Medicine. In 1938, academic endeavour collapsed under the Nazi regime, which inflicted lasting damage on the university's international reputation. With the inauguration of the new University Hospital Vienna (or Vienna General Hospital as it was known then) building in 1992, the university began to regain its place in the international academic vanguard once more, carrying out research in a wide variety of subjects. Between 1990 and 2010, clinically-focused research in Austria was the fastest-growing branch of science worldwide, although output measured in terms of the relative citation impact was still about 25% lower than in the countries seen as innovation leaders. The factors that resulted in this positive development included Vienna's growing importance as a location after 1989; increasing internationalisation; higher national R&D expenditure, which has risen to an internationally competitive level since the turn of the millennium (up from around 1.5% of GDP in the 1990s to approx. 3.26% at present); the adoption of a modern, molecular approach in research; and the establishment of new life sciences institutions with strong international profiles in Vienna. Today, the Medical University of Vienna (MedUni Vienna) is one of Europe's leading medical schools and research institutions, and is rated as one of the best 100 medical schools in the world in the global rankings. University Hospital Vienna, MedUni Vienna's university hospital, is one of the top 30 hospitals in the world. Alongside the other public medical universities in Austria, MedUni Vienna forms the academic foundation of the country's health system. MedUni Vienna is now looking to further enhance its prominent international position in life sciences and health sciences through the infrastructure development initiative currently under way (construction of the new Campus Mariannengasse preclinical facility, the Center for Translational Medicine, the Eric Kandel Institute – Center for Precision Medicine, the Center for Technology Transfer, and the Ignaz Semmelweis Institute for Infection Research), and by capitalising on the resulting potential to recruit top-level international researchers.

Compiled in accordance with section 13(b) of the Austrian Universitätsgesetz (Universities Act) 2002 for the 2025-2027 performance agreement period, this Development Plan provides a strategic outlook up to 2030, and is based on earlier development plans prepared in accordance with the Universities Act. The measures, targets and plans presented here are subject to corresponding coverage in the budget as part of the performance agreement. In accordance with the Universities Act, this Development Plan lays the basis for the consecutive plan for the next performance agreement period (2028-2030).



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I. Current situation

With a share of 37 % of total national scientific output (clinical, pre-clinical, and health and life sciences: 58 %), medical research in Austria is above the national average in terms of productivity compared to other disciplines (source: InCites analysis, 2022). Established as an autonomous institution in 2004, when it separated from the University of Vienna, MedUni Vienna is the main driver of this strong performance.

Patient care

MedUni Vienna's academic positioning is inextricably linked with that of University Hospital Vienna (previously Vienna General Hospital), a systemically significant hospital with the most distinctive profile of any in the country, and Austria's largest medical training institution. The functioning of the "hardware" of University Hospital Vienna, as a university hospital providing routine care to around 60,000 inpatients and appointments to 1.1 million outpatients each year, depends directly on its "software" – the 1,700-plus highly qualified employees of MedUni Vienna. Due to changes in the documentation of routine care, the number of inpatients has fallen by more than 40 % since 2016 (approx. 110,000 admissions). Building on the recommendations of the Austrian Court of Audit's report on cooperation between the federal government and the federal states on healthcare, as illustrated by the example of University Hospital Vienna (Zusammenarbeit Bund-Länder im Gesundheitswesen am Beispiel des AKH Wien), in January 2016 a new basis was established for cooperation with the City of Vienna at University Hospital Vienna in the form of three far-reaching agreements: the Finance and Target Control Agreement, Cooperation Agreement, and Construction Framework Agreement. These define the long-term framework for joint management of patient care services, provide a contractual basis that underpins investments, additional clinical expense and construction projects, and specify patient care responsibilities in both qualitative and quantitative terms (see section IX). MedUni Vienna's patient care structure consists of 29 departments and two clinical institutes – located at the University Hospital Vienna campus in the city's ninth district – and the University Clinic of Dentistry Vienna. 11 of the departments comprise a number of different divisions (in accordance with section 31[4] Universities Act). Departments, clinical institutes and divisions also serve as patient care units (in accordance with section 7[4] Krankenanstalten- und Kuranstaltengesetz [Hospitals Act]).

Medical science

Medical science operations comprise 13 centres located in Vienna's ninth district. The centres are interdisciplinary and carry out both teaching and research. Run in conjunction with the University of Vienna, the Max Perutz Labs focus on molecular biology. The laboratories are based at Vienna Biocenter in the city's third district, alongside the Institute for Molecular Pathology IMP), several institutes of the Austrian Academy of Sciences and a number of spin-off companies.

Organisational units with service functions

Under the requirements for the separation of Austrian universities from federal authority, since 2004 it has been necessary to establish numerous service facilities and specialised service units to ensure the provision of service functions and infrastructure.

Category	All universities 2021	MedUni Vienna 31.12.2022
Total FTE	40,343	4,744
FTE admin.	14,330	973
Proportion admin.	36 %	21 %

Fig. 1 Administrative staff (FTE) in active service, including staff covered by third-party and special funding in accordance with the Bildungsdokumentationsverordnung (Education Documentation Order), 31 Dec. 2022

Relative to the number of staff, MedUni Vienna's administrative costs are significantly lower than those of all other public universities in Austria (see Fig. 1). The Rectorate has set up integrated task forces, which form a key element in organisational development processes.

The organisational structure (Fig. 2) includes the management bodies stipulated in the Cooperation Agreement with the City of Vienna (the Management Board, Supervisory Board, Construction Advisory Board, and Governmental Committee Working Group).

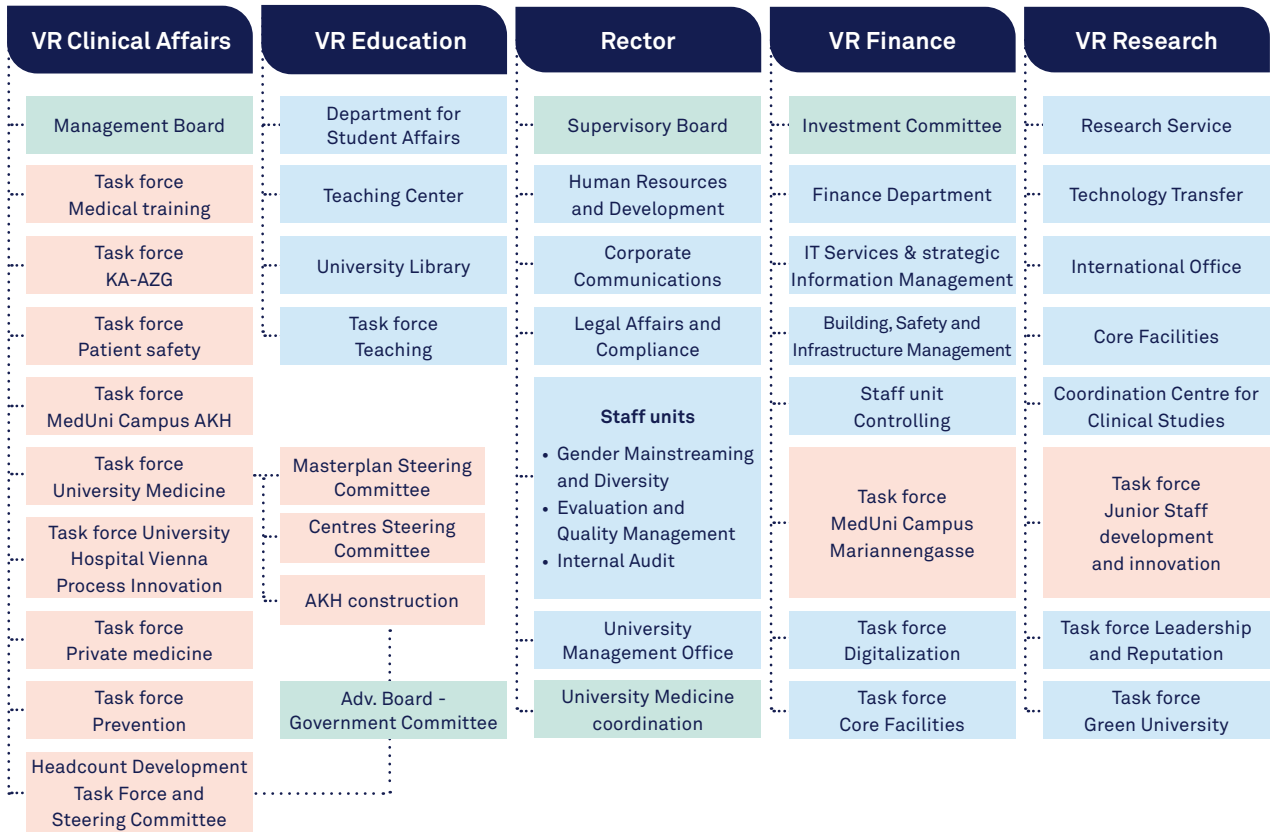


Fig. 2 Rectorate: organisational structure

There are also facilities that provide services to other organisational units (including the Teaching Center, Center for Medical Data Science, Center for Biomedical Research, the Comprehensive Centers, the Core Facilities, and the Core Facility Laboratory Animal Breeding and Husbandry), as well as the following spin-off companies, subsidiaries and associates (the university's holdings are shown in brackets):

- University Clinic of Dentistry Vienna GmbH (100 %);
- Medical University of Vienna International GmbH (100 %);
- Josephinum-Medizinische Sammlungen GmbH (100 %);
- Forensisches DNA-Zentrallabor Wien GmbH (100 %);
- FSB-GmbH (100 %);
- Karl Landsteiner University of Health Sciences GmbH (25 %);
- Max Perutz Labs Support GmbH (40 %);
- ACOMarket GmbH (16.67 %);
- ITTC- P4 GmbH (3.01 %);
- CBMed GmbH (20 %);
- Alumni Club (100 %; non-profit association).



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HR structure

As at 31 December 2022, the medical staff comprised 1,054 qualified medical specialists, 626 doctors in training (FTE), and 49 dentists. There were 1,224 academic staff with a non-medical degree (Fig. 3). There were also 973 administrative staff (FTE), and 194 employees (FTE) with technical responsibilities. The extensive patient care services provided at University Hospital Vienna have

a significant influence on the number of employees and the HR structure. With around 8,000 students, MedUni Vienna is one of the world's largest medical schools, and by far the biggest in Austria. Around 45% of specialists working in Vienna and 15% of all qualified physicians in Austria are trained here.

Category	Global budget	Total incl. external funding
Medical specialists	1,048.0	1,054.0
Doctors in specialist training	608.0	626.0
Dentists	47.3	48.5
Ward doctors	26.0	27.0
Academic staff excl. doctors	571.4	1,224.3
Administrative staff	583.0	840.2
Technical staff	125.0	194.1
Nursing staff	215.8	348.7
Laboratory staff	104.6	146.8
Other staff groups	175.8	234.3
	3,504.8	4,743.8

Fig. 3 Staff in active service (FTE), global budget and total, including third party funding (31 Dec. 2022)

As in other areas of academia, the proportion of female staff at the university is still inversely proportional to career stage. At present, around a third of all associate professors and lecturers are women, while **the proportion of female full professors is 29%** (Fig. 4). There has been a significant increase in the proportion of female staff in all academic positions since MedUni Vienna was established: in 2004, only 8.2% of full professors were

female, and the figure published in the 2019 Development Plan was 20.9%. This shows that in recent years the glass ceiling index has fallen significantly (see section VI). Most notably, the university issued a call for applications from prospective female professors for ten chairs pursuant to section 99(4) of the Universities Act. These appointments will help to significantly narrow the gap between the numbers of female and male professors.

Category	Female	Male	Proportion female
Professors sections 98, 99(1) and (4)	36	90	29%
Univ. Act Professors section 99(5)	4	4	50%
extraordinary professors	21	42	33%
Associate professors	110	179	38%
Lecturers	173	392	31%

Fig. 4 Proportion of female professors and lecturers (headcount as at 31 Dec. 2022)

Equipment, fixtures and fittings

Equipment, fixtures and fittings for clinical, preclinical and teaching operations are in need of refurbishment, since the unadjusted investment budget for University Hospital Vienna (built in 1992) for 2007-2015 did not keep pace with depreciation. Consequently, renovation of the buildings used for patient care, to be completed by 2030 on the basis of a construction master plan, was agreed in the Construction Framework Agreement. Over the next 15 years, about € 100m a year (€ 1.368bn net, including reinvestment projects amounting to € 181m until 2024, excl. previously agreed investments) will be invested in the development of MedUni Campus AKH (see sections VIII and IX). In this respect, an adjustment of € 262m for inflation was recognised in 2022. The university's departments have about 18,000 m² of floor space at University Hospital Vienna that is devoted entirely to research. Space at the clinical institutes is used for both research and patient care. Additional space is to be built (Anna Spiegel II – see section VIII) to replace research facilities that clinical departments will lose under the construction master plan for MedUni Campus AKH. The research buildings planned at MedUni Campus AKH (with 14,000 m² and 6,000 m² of usable space – see section VIII) are vital for MedUni Vienna's ongoing development. The university has around 57,000 m² of net floor space available for the medical science units located outside the University Hospital Vienna site – most of this space is rented, mainly from Bundesimmobiliengesellschaft (Federal Property Company, BIG) – as well as a further 14,000 m² at the renovated Clinic of Dentistry (including the Studies and Examinations Department in the Währinger Strasse Wing/Section 1, where renovation work has been completed).

The majority of spaces are subject to strict legal regulations pursuant to the Arbeitsinspektionsgesetz (Labour Inspection Act) and the Arbeitnehmer:innenschutzgesetz (Employee Protection Act) as well as related liabilities (see also section VIII). With this in mind, in 2013 MedUni Vienna acquired a 10,600 m² plot of land near University Hospital Vienna (between Mariannengasse and Spitalgasse) for construction of a new building. In 2015, in cooperation with the Federal Ministry of Science, Research and Economy, the plot was sold to BIG with the aim of receiving planning permission from the federal government that same year. Prompt execution of this project is extremely important to preclinical disciplines and in order to comply with the legal requirements of the Employee Protection Act and the Bundes-Behindertengleichstellungsgesetz (Equality of Disabled Persons Act) with regard to protection of students. It is also crucial in order to satisfy the requirements of research and teaching at MedUni Vienna and continue promoting strong performance in both areas.

The project was officially approved on 19 September 2017. In total, the federal government will provide € 283.9m for construction and € 55.5m for the fit-out.

A € 54m adjustment for inflation was recognised in respect of this project in 2022. The first steps towards executing the MedUni Campus Mariannengasse project, which will have 35,000 m² of usable space, have already been taken: the constitutive meeting for the tender for implementation took place on 12 October 2017, and the tender was announced on 17 October 2017. The foundation stone was laid on 17 January 2023, and construction is scheduled for completion in 2026 (see section VIII).



II. Overall strategic aims

Global developments

Positioning in the context of global developments

For the foreseeable future, global developments will be characterised by a period of disruptive change resulting from the advent of a new industrial revolution (industry 4.0 and **postgenomic medicine**) and a surge in innovation. The situation has been aggravated by further disruptive factors worldwide, including the onset of the SARS-CoV-2 pandemic in 2020, and energy supply insecurities and inflation triggered by the Ukraine crisis in 2022. These developments have affected medical schools all over the world and are the subject of wide-ranging debate (see also Wissenschaftsrat [German Science and Humanities Council], ‘Perspektiven der Universitätsmedizin’). While these changes will lead to the loss of entire value chains, it presents undreamt-of opportunities for knowledge-based services, especially in medicine. The drivers are omics technologies in molecular biology which are being developed in the wake of the Human Genome Project, and methods for processing large volumes of digital data (**deep medicine**).

In medicine, there will be major impacts on teaching (virtualisation, medical simulation), research (precision medicine, renaming of diseases, synthetic biology, gene editing, neurocognitive research, cognitive learning, additive manufacturing) and routine care (robotics, bionics, **machine learning and AI**, telemedicine). There is some outstanding analysis available on global strategic framework conditions (e.g. McKinsey Global Institute. On the cusp of a new era? October 2022; www.mckinsey.com). In spite of recent medical advances, well-known infectious diseases are still among the most frequent causes of death worldwide. The SARS-CoV-2 pandemic brought home the reality of these threats, catching many developed countries off guard. In MedUni Vienna’s view, there is a need to establish a flagship infectious disease research institute in Austria (see section VIII).

A countermovement to disruptive change can currently be observed with the rejection of enlightened scientific concepts in society – including in relation to SARS-CoV-2 – characterised by buzzwords such as “the post-truth era”, “alternative facts”, “fake news” and “filter bubbles”. As part of the discussion on the role of academic medicine (e.g. Lancet and the BMJ’s ICRAM [International campaign to revitalize academic Medicine] initiative <https://doi.org/10.1136/bmj.329.7469.787> and the recommendations of the German Science and Humanities Council on the role of university medicine; <https://www.wissenschaftsrat.de/download/2021/9192-21.html>), MedUni Vienna is also fulfilling its role as a public ambassador for science and as a leading institution in the assurance of safety and trust in medical innovation. MedUni Vienna’s national importance in this context is clear, among other reasons due to its critical mass and the high indirect economic impact of the medical research sector (see ‘Medical Research: What’s it worth?’, Health Economics Research Group, RAND Europe). Despite the launch of key European programmes such as Horizon Europe, the knowledge axis is increasingly tipping towards the Pacific region. Asia is currently the only continent where R&D spending is growing strongly (with a 43 % share of current spending at present; ‘Global R&D funding forecast 2022’), followed by the USA (20 %) and Europe (20 %) where investment is levelling off.



Universities therefore need to place greater emphasis on meeting internationally recognised and accepted criteria in order to compete globally for visibility and the best talent. These **standards and indicators** include in particular (see also the measure to introduce a **balanced score card** under “quality management”, below):

1. financial strength and infrastructure;
2. international rankings and publication output;
3. number of ERC grant recipients (and Nobel laureates);
4. proportion of women and of international students, staff and professorial appointments;
5. curriculum attractiveness (specifically student-supervisor ratio and small group teaching);
6. medical expertise, on the basis of transparent outcome parameters, and
7. general attractiveness of location.

All of MedUni Vienna’s efforts must be channelled towards achieving measurable improvements in these areas. Despite all of the challenges, MedUni Vienna currently has the potential to be a member of the “premier league” of medical schools worldwide. Implementation of solutions regarding the following matters is essential in order to realise this vision: MedUni Mariannengasse Campus and MedUni Campus AKH, the budget, cooperation with University Hospital Vienna, the Hospital Working Hours Act and care initiative (see section IX).

Positioning in the context of national systemic goals

The systemic goals in the Austrian National Development Plan for Public Universities (GUEP) 2025-2030, in the 2023 Austrian Higher Education Plan, in the Austrian federal government Pact on Research, Technology and Innovation 2024-2026, the Austrian national ERA action plan, in the strategy for Austria’s future as a location for life sciences and pharmaceuticals, in the *Zukunft Hochschule* project (Life Sciences action area) and in the national strategy for research, technology and innovation are principally addressed in the development of: infrastructure (sections IV, VIII and IX); teaching and research cooperations with other institutions (section VII); continued implementation of career track models (section III); innovation transfer (section VI); diversity (section VI); internationalisation (section VII), and basic research, personalised medicine and clinical research (section IV). MedUni Vienna’s strategy going forward is also informed by the findings of various reports from the Austrian Court of Audit on admissions procedures and training doctors, in particular its report on cooperation between the federal government and the federal states on healthcare taking the example of University Hospital Vienna (*Zusammenarbeit Bund-Länder im Gesundheitswesen am Beispiel des AKH Wien*,

www.rechnungshof.gv.at, German only);

the Institute of Advanced Studies’ paper on monitoring of Vienna and Graz medicine graduates (see section V); the Institute of Advanced Studies’ student social survey (see section V), and the Austrian Public Health Institute’s *Ärztebedarfsstudie* (study of the national need for doctors) (see section V).



The reports of the German Science and Humanities Council on digitalisation, university medicine and medical degrees are also strategically relevant (www.wissenschaftsrat.de) as are the data from the OECD (<https://www.oecd.org/els/health-systems/health-data.htm>) and Statistics Austria on the use of personnel and resources in the Austrian healthcare system (<https://www.statistik.at/en/statistics/population-and-society/health/health-care-and-expenditure/health-care-facilities-and-staff>).



In connection with the reporting system agreed between the Republic of Austria and the European Commission following conclusion of the EU infringement proceedings (*judgement of 7 July 2005 in case C-147/03, Commission/Austria for violation of the prohibition of discrimination regarding the regulation of the admission of foreign students to Austrian universities*), the comprehensive statistical studies that underline the threat to the Austrian healthcare system without a quota system (monitoring of the safeguard clause) are also highly relevant (see the Report of the Republic of Austria on the Situation in Studies with Entrance Exam Procedure published by the Federal Ministry of Education, Science and Research).



Strategic aims and profile development

- MedUni Vienna's mission statement is "*Maintaining and restoring health through expertise and innovation.*" Driven by technology, the maintenance of health (prevention) based on knowledge and innovation (safety of innovation) will take on an increasingly prominent role in relation to treatment.
- MedUni Vienna is perceived as an entity pursuing the core activities of research, teaching and patient care together, with each of these valued equally.
- MedUni Vienna has an obligation to uphold the principle of equal opportunities, and is committed to recognising and promoting individual achievement.
- The university is an internationally attractive employer of highly qualified staff, and the leading research and training institution for doctors in Austria.
- In its research activities, MedUni Vienna has focus areas with critical mass and the following strategic aims:
 - (i) excellent basic research
 - (ii) bench-to-bedside clinical application of translational research;
 - (iii) internationalisation and high staff mobility;
 - (iv) a high proportion of staff funded by external funding, and
 - (v) research outcomes that can be marketed in accordance with commercial and open science principles.
- In teaching, MedUni Vienna offers modern curricula with high-quality outcomes and the following strategic aims:
 - (i) a strong focus on practice and research;
 - (ii) high levels of mobility;
 - (iii) a strong appeal, which attracts the best students;
 - (iv) provision of lifelong learning through postgraduate courses that reflect labour market requirements,
 - (v) technological innovation, and
 - (vi) establishment of new master's programmes and a new MD/PhD programme.
- Promotion of medical humanities as the basis of medical practice, and more intensive engagement with questions of ethics, anthropology, aesthetics and the philosophy of medicine, particularly in relation to digitalisation and the use of AI-based systems for decision support, among other things.
- The university aims to excel in providing the highest quality patient care and preventive medicine, at the same time as maximising individual, personal care. On the basis of the Cooperation Agreement with University Hospital Vienna, the university is charged with providing outstanding, top-quality care for patients from across the country at the hospital, while also maintaining a range of medical services – or case mix – required for teaching, medical training and research. The strategic aims of patient care and preventive medicine are:
 - (i) optimised treatment processes;
 - (ii) medical staff with excellent clinical, academic and social/communication skills;
 - (iii) high-quality medical training;
 - (iv) positioning MedUni Vienna internationally as a place for transfer of medical know-how;
 - (v) a high degree of independence for patient care (University Hospital Vienna) within the Vienna Healthcare Group (WIGEV).
- MedUni Vienna acknowledges its chequered history, in particular during the time of the collapse of academia in the years following 1938.
- MedUni Vienna is committed to fulfilling its public responsibilities as a leading institution in Austria's health system (see sections V, VI and IX).



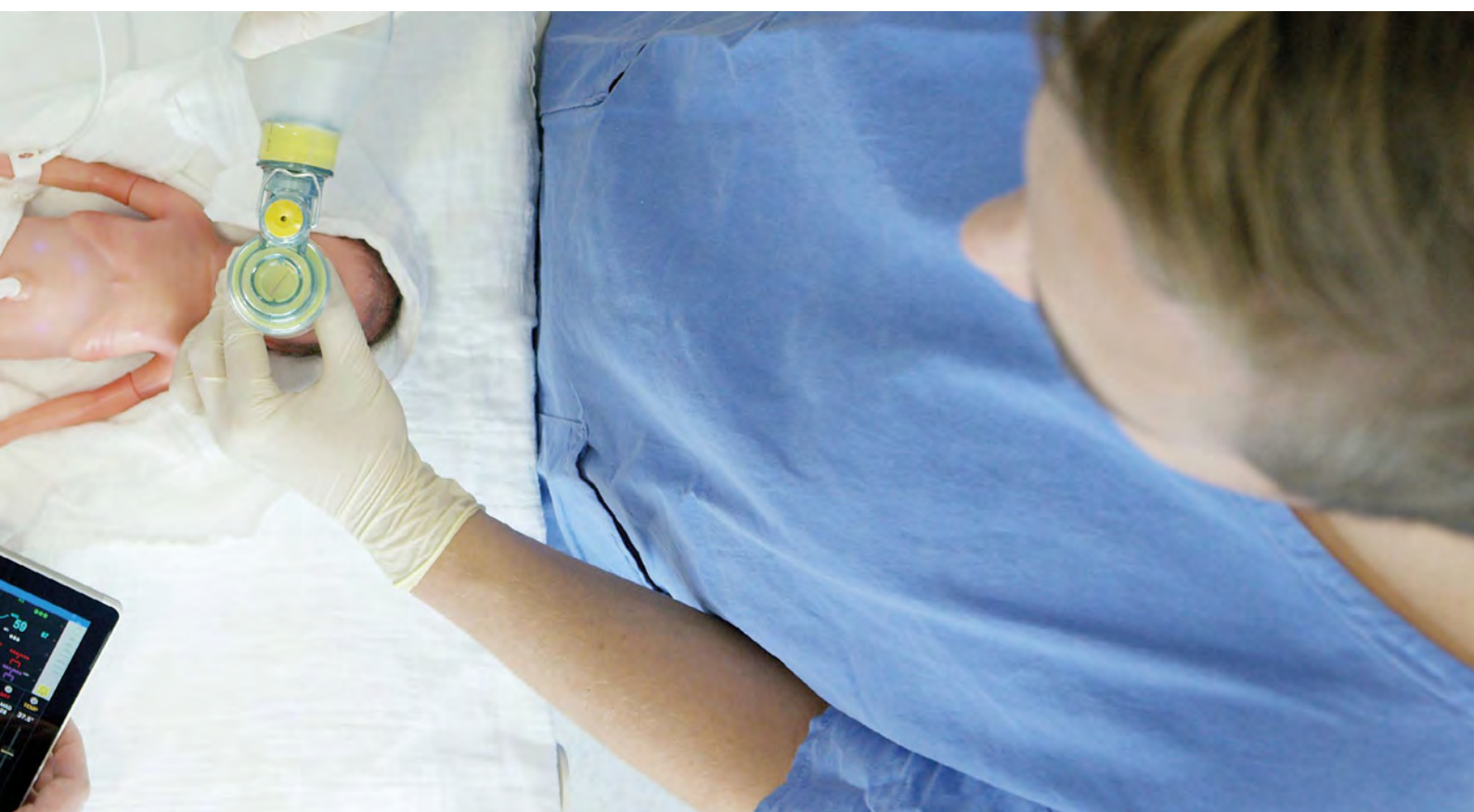
Development of the university

The following **measures** are core aspects of the development plan:

- On-schedule construction of MedUni Campus Mariannengasse (new preclinical building) by 2026; delays to implementation would directly endanger the continuation of medical education, and all preclinical and theoretical research activities, due to the existing legal risks under the Arbeitsinspektionsgesetz (Labour Inspection Act) and the ArbeitnehmerInnenschutzgesetz (Employee Protection Act) (see also the Federal Ministry of Education, Science and Research's Uni-Med-Impuls 2030 programme).
- Implementation and evaluation of the Cooperation Agreement, the Finance and Target Control Agreement, and the Construction Framework Agreement – in particular, construction of the Eric Kandel Institute – Center for Precision Medicine by 2026 and the Ignaz Semmelweis Institute – Interuniversity Institute for Infection Research at MedUni Campus AKH, and planning for the Centre for Technology Transfer (see also the Uni-Med-Impuls 2030 programme).
- Assuring maximum autonomy in patient care provided by MedUni Vienna and University Hospital Vienna in the context of the intended reorganisation of the Vienna Healthcare Group through the establishment of an independent management structure at University Hospital Vienna that is aligned with the needs of an internationally recognised university hospital.
- Implementation of the Hospital Working Hours Act (KA-AZG), with provision for improved protected time arrangements for research and teaching by means of a statutory opt-out for university clinical departments (see also the Uni-Med-Impuls 2030 programme).
- Enhancement of the infrastructure for digital medicine and precision medicine (see digitalisation strategy) through appointments, investment and construction: development of MedUni Campus AKH, Eric Kandel Institute – Center for Precision Medicine, and the Center for Technology Transfer (see also the Uni-Med-Impuls 2030 programme).
- Further development and implementation of the medical masterplan (see section IX) and Regional Health Care Structure Plan 2025. Besides its focus on tertiary care and areas of excellence, the range of care provided by the central university hospital (University Hospital Vienna) must comprise the case mix required for medical training and maintaining clinical and academic quality in accordance with the Finance and Target Control Agreement.
- Ongoing expansion and enhancement of a centre-based structure at University Hospital Vienna that can be represented in the organisational structure, in order to bundle resources and exploit synergies (see section IX).



- Quality and progress in the field of patient care will be supported by MedUni Vienna and promoted internationally (reputation of the university hospital).
- Contributing to enhancing Vienna's position as a location for medical research by expanding the existing research clusters (see section IV), construction of the institute (see section VIII) and through existing local cooperations in Vienna, in particular with the University of Vienna (Max Perutz Labs) and the Austrian Academy of Sciences (CeMM).
- Expansion of the Medical Education Environment; ongoing development of the MedAT admissions exam (see also the Uni-Med-Impuls 2030 programme).
- Ensuring and developing the quality of teaching and studyability through optimal student/supervisor ratios and teaching in small groups, especially in the degree programmes.
- MSc/PhD curriculums: expansion of programmes and cooperations with partner universities.
- Recruitment of potential ERC/START grant recipients and other support services for potential ERC/START grant recipients within MedUni Vienna.
- Expansion of attractive career models (see section III) as a key tool for supporting the development of young academics; series of measures to combat the leaky pipeline, e.g. measures designed to encourage people to return to work after parental leave; training for senior managers, increasing the proportion of female full professors to over 25%, and the proportion of female associate and extraordinary professors to over 40%.
- Further development of IP and entrepreneurship activities, as well as cooperation with businesses, particularly within the framework of the new centres based at MedUni Campus AKH (e.g. Center for Technology Transfer).
- Participation in quality assurance for medical specialist training in light of the medical education regulation.
- Improving the university's standing in global rankings (top ten in the EU, top 50 worldwide).
- Strengthening the Medical University of Vienna brand, and the reputation of the university and the university hospital (Leadership and Reputation task force).



Digitalisation strategy and digital transformation

The digital transformation consists of a series of fundamental, and interrelated, disruptive changes in the field of medicine, as well as the corporate culture and the technologies procured and used. At MedUni Vienna, steps will be taken to drive forward the digital transformation in

- (1) **teaching** (virtual/augmented reality, medical simulation, hybrid learning),
- (2) **research** (precision medicine, renaming of diseases, deep medicine, cognitive learning, additive manufacturing/3D printing, **artificial intelligence [AI] and machine learning**, complexity research),
- (3) **patient care** (robotics, bionics, holomedicine, telemedicine),
- (4) **university administration** (e.g. computer-aided facility management), in all ongoing construction projects at MedUni Campus AKH and MedUni Campus Mariannen-

gasse (computer centres, simulation centre for teaching operations) and appointments (digital/computational medicine). The latest **Annual Report (2022)** provides an up-to-date overview of digitalisation activities at MedUni Vienna (www.meduniwien.ac.at/web/en/press-meduni-wienna/annual-report/). Covered by dedicated professorships and **working groups**, particularly in imaging and data science, the focus on the topics of big data in bioinformatics, complexity, AI and machine learning will be further expanded. Digitalisation is closely linked to the topic of **precision medicine** (see the Molecular Precision Medicine master's programme [section V] and the Eric Kandel Institute [VIII]).



Generally speaking, information and data from the university and the healthcare system are to be integrated and made available under the **European Health Data Space** initiative (cooperation with the National Health Council digitalisation working group). A data governance structure provides the basis for this. University-wide enterprise architecture serves to ensure that



redundancies are avoided and that processes, and information and technology architecture are integrated in such a way that together they support the university's strategic goals. While digitisation of documents and information, computer-based implementation of digital processes and new IT platforms are all prerequisites, they are not the focus. Instead, it is a question of using the best possible digital methods for long-term success in a future shaped by digitalisation and making the most of the opportunity to positively influence and shape 21st century medicine (see below; position of the German Science and Humanities Council on data use for health research and the OECD's position on AI in science [www.



oecd.org/publications/artificial-intelligence-in-science-a8d-820bd-en.htm]).

Against this backdrop, MedUni Vienna will also encourage and support a critical examination of the changes and effects of digitalisation in general. This process will extend to the effects of the digital transformation on society and communication, while also preparing

future doctors to successfully and responsibly navigate digitalisation at work and in their private lives. In the medium term, MedUni Vienna will become a hub for digital medicine. The detailed definition and implementation of a **digitalisation strategy** (<https://www.meduniwien.ac.at/web/en/ueber-uns/strategie-und-vision/digitalisierungsstrategie/>) will be overseen by a task force. In terms of content, MedUni Vienna is guided by the findings of the German Science and Humanities Council on digitalisation and data use for health research and care

(<https://www.wissenschaftsrat.de/download/2022/9825-22.html>).



¹Digital Transformation Signals: Is Your Institution on the Journey?, EDUCAUSE Review (website), 9 October 2019, available at <https://er.educause.edu/blogs/2019/10/digital-transformation-signals-is-your-institution-on-the-journey>



Corporate governance, risk management and quality management

Corruption prevention, compliance and whistleblower protection



MedUni Vienna's Anti-corruption and Compliance Guidelines (<https://www.meduniwien.ac.at/web/en/rechtliches/compliance/>) set out the principles of separation of interests, transparency, adequate documentation and general appropriateness. They highlight potential dangers, outline recommended procedures and contain compulsory documentation and approval processes. All employees are contractually bound to observe these rules. The Guidelines define the action to be taken in cases of suspected corruption, including the duty to report and who to report to. Adherence to the Guidelines is verified by Internal Audit. Disciplinary measures are prescribed for cases of non-compliance. MedUni Vienna is committed to the establishment of an effective compliance management system (CMS) in order to minimise compliance violations through preventive measures. In addition, the EU Directive on the protection of whistleblowers and the Hinweisgeber:innenschutzgesetz (Whistleblower Protection Act) are being implemented.

Plans:

appointment of an independent compliance officer with responsibility for reviewing compliance issues and implementation of the university's compliance regulations. The officer will also field reports in accordance with the provisions of the Austrian Whistleblower Protection Act; implementation of a digital whistleblowing system; ongoing evaluation and adaptation of existing compliance guidelines; regular compliance training.

Transparency, disclosure of conflicts of interest

MedUni Vienna recognises article 9 of the Pharmig Code of Conduct at the institutional level. Business and contractual relationships between employees of MedUni Vienna and customers or suppliers in which employees have an interest, or with which they have a close relationship are forbidden. Clinical investigators, members of the ethics committee and auditors are required to declare any potential conflicts of interest to the Ethics Committee when submitting proposed research projects and studies for assessment. In addition, the University's Good Scientific Practice (GSP) guidelines, which form part of its statutes, oblige researchers to adhere to current regulations, provide for consequences in case

of academic misconduct, and govern cooperation with industry, and conflicts of interest. The appeals guidelines address the issue of bias in appeal proceedings.

Secondary employment

Staff in secondary employment must disclose such employment to the university. Secondary employment may not infringe upon an employee's duties or the university's interests. MedUni Vienna's *Rahmenbedingungen für Nebenbeschäftigungen in Privatordinationen und Privatkrankenanstalten* (General Conditions for Secondary Employment in Private Surgeries and Private Hospitals) specify in detail the medical activities that are not compatible with employment by the university, and set out conditions for secondary employment. These conditions form part of every contract with a specialist. Compliance is verified by an employee's line manager, the Human Resources and Human Resources Development Department, and Internal Audit. Non-compliance can result in disciplinary measures.

Controlling of subsidiaries and associates

In accordance with section 10 Universities Act, MedUni Vienna is entitled to establish companies, foundations and associations, to invest in companies and to be a member of associations, provided that such actions serve to support the university's performance of its duties. The university's rights to information and control are assured in the memorandums of association of subsidiaries and associates. The Rectorate is responsible for representing the university's interests as an owner of these organisations (e.g. by setting strategic goals, participating in shareholder meetings, appointing members of governing bodies, and exercising shareholder rights). In all companies in which the university has a majority stake, the annual general meeting, including the Rector as the representative of MedUni Vienna, is the most senior legal governing body (there is no supervisory board). Based on sections 1 and 2 Universities Act, the university has non-economic objectives and core responsibilities, and management must be based on the principles of efficiency, economy and expediency. The Vice Rector for Finance – with the Finance Department – and the Controlling unit are responsible for reporting. Reports containing the following information on the status of subsidiaries and associates are submitted to the University Council:

- 1) budgeted and actual statement of profit or loss;
- 2) statement of financial position;
- 3) employees at reporting date;
- 4) qualitative and quantitative results forecasts.

Budget and investment planning takes place in meetings of the finance committee. Events that may have significant effects on the management of the university or

its accounts are also reported to the University Council without delay. Standards for dealing with and managing subsidiaries and associates are defined in a subsidiaries and associates manual.

Internal control system, risk management and crisis/emergency management

A comprehensive internal control system (ICS) is in place at MedUni Vienna. The ICS manual provides a consistent set of guidelines. The elements of the ICS are stored in the ADONIS process management tool. The efficiency and effectiveness of the ICS is assessed by way of reviews conducted by the Internal Audit department, which also provides advice and support for the optimisation of business processes. Internal and external reviews of the Internal Audit department's work are to be carried out for quality assurance purposes.

The Rectorate is responsible for ensuring that an appropriate risk management (RM) system is in place to allow early identification of developments that pose a risk to the University, so that countermeasures can be taken. A separate working group has been set up by the Rectorate in the Controlling unit for this purpose. This institutionalised RM system serves to establish measures for identifying, analysing, evaluating, managing, monitoring and controlling risks to ensure the quality of the university's services and achieve MedUni Vienna's objectives. The key elements of MedUni Vienna's risk management system (e.g. RM policy, RM system organisation, risk management process, etc.) are summarised in a risk management manual. The results of the regular risk survey and evaluation are summarised in a risk report. The working group in the Controlling unit applies risk- and process-orientated audit techniques in evaluating the effectiveness of risk management.

An emergency and crisis management system (ECMS) has been established to deal with emergencies and crises. Risks identified by the RM system feed into the ECMS with the goal of minimising risks by adding corresponding concepts to the ECMS, the development of a blackout concept for MedUni Vienna being a case in point.

Quality management

Wide-ranging quality assurance processes and process management have been adopted at MedUni Vienna. These are detailed in a quality management manual. The university's teaching, research and patient care activities, and administrative operations are internally audited, and certified by external bodies according to various standards (e.g. **full audit in accordance with the Quality Assurance in Higher Education Act, accreditation valid until 2029**, ISO 9001:2015, AQ Austria, ACQUIN; **accreditation of the Medicine and Dentistry degrees in accordance with the WFME standards and ESG principles**), as well as being subject to continuous monitoring processes (e.g. by scientific/advisory boards). Research projects are evaluated by the Ethics Committee and the Animal Ethics Committee. Additional quality management measures include peer review in connection with research grants and publications, research documentation in accordance with good scientific practice and good clinical practice, establishment of advisory boards, establishment of performance criteria for teaching and research, online learning evaluation, evaluations of clinical training and performance (A-IQI) and of management processes in the context of joint operational management of University Hospital Vienna and MedUni Vienna. In addition, processes will be defined for appointment procedures, including a definition of conflicts of interest and how they are to be handled. Going forward, increased attention will be paid to the importance of the quality of administration and organisation for the internal image and performance of MedUni Vienna.

Measures:

continued application of the quality management measures outlined above at the current high level. Aims and strategies are shown in a balanced scorecard. Analysis of organisational culture and resulting measures for service, decision-making and communication processes in administrative areas are responsibilities of the Leadership and Reputation task force. Preparation of ISO certification for other administrative units.

Corporate communications

MedUni Vienna's communication activities are strategically planned and centrally managed. Issue management, stakeholder-oriented activities and the integration of all available communication channels help to ensure that communications objectives are achieved as effectively as possible. Public awareness of the MedUni Vienna brand will be strengthened by ongoing, active media relations, corporate publishing, social media activities, internal communications, events, merchandising, fundraising campaigns and Alumni Club activities.

Future measures:

- 1 ongoing implementation of the established brand strategy with a particular focus on brand engagement, employer branding, internal communication and international communication with the scientific community (focus on the Leadership and Reputation project);
- 2 enhancement of measures to increase health literacy and trust in science among the general population (see also TruSD);
- 3 further increasing the visibility of the brand at MedUni Campus AKH and at all other university sites, integration of corporate design measures at planning stage of construction projects;
- 4 continued coordination of communication activities regarding medical topics with University Hospital Vienna and the Vienna Healthcare Group; (5) expansion of media coverage analyses and analysis of social media activities for the purpose of evaluating and adapting the communication strategy;
- 6 continuation of fundraising activities;
- 7 further development of the online studio;
- 8 expansion of digital communication options (cross-media content, podcasts, video, event management tools, streaming infrastructure, etc.);
- 9 stepping up international press activities;
- 10 development of an online store to complement the existing MedUni shop in the University Hospital Vienna entrance hall, for target group-focused merchandising.



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Financial management

Financial stability and strength, alongside suitable physical infrastructure, are essential in order to be able to compete on the global stage for the best talent as staff mobility increases (see section II). MedUni Vienna faces both historically rooted challenges (in terms of the university's assets) and structural challenges (in terms of revenue) with regard to putting this essential basis in place, in order to underpin its positive development over the long term.

Assets

Negative equity of € 8.3m was reported in MedUni Vienna's opening balance as at 1 January 2004. At the same time, this opening balance included accumulated third-party capital reserves from the time of partial autonomy, amounting to € 6m; this meant that as at 1 January 2004, the global budget for the university upon separation from federal administration showed negative equity of € 14.3m.

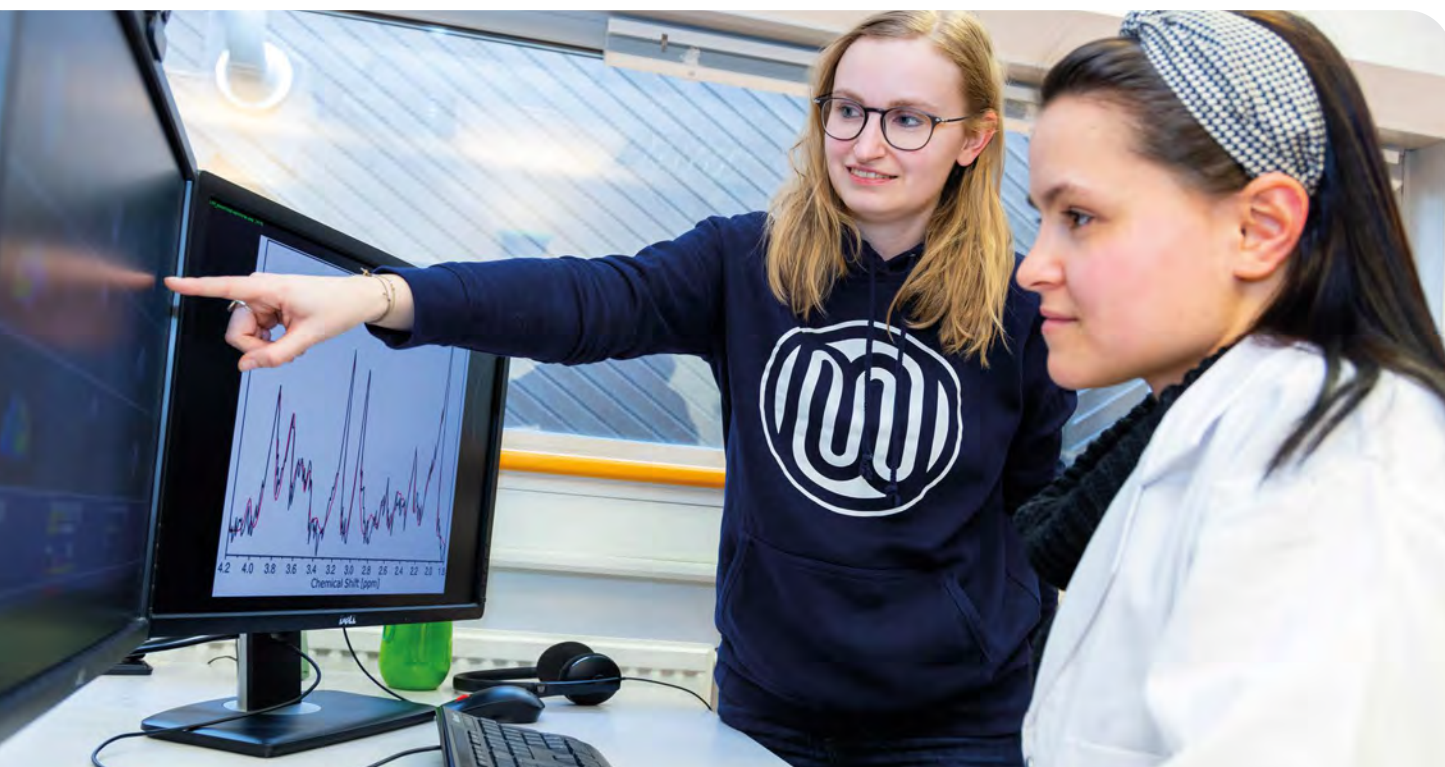
There were various reasons behind the negative balance of capital and reserves at the time of the separation from federal administration:

- (i) ownership of all equipment at University Hospital Vienna acquired up to the end of 2003, for which the federal government had borne a 40 % share of the cost of acquisition, was wholly transferred to the City of Vienna, so that MedUni Vienna was unable to recognise any assets in this regard;
- (ii) prior to the separation of the universities from federal administration, the federal government had incurred numerous financial obligations that were transferred to MedUni Vienna in the course of separation;
- (iii) the total assets of the Altes AKH (old general hospital) remained assets of the University of Vienna;
- (iv) no start-up funds were budgeted when implementing the separation from federal administration, due to a lack of accounting planning.

In spite of the adverse initial circumstances, in its 2019 financial statements MedUni Vienna reported positive equity for the first time since it became autonomous, with equity amounting to EUR 0.3m including retained earnings. This was the result of consistent growth in the university's output, and consistent annual profits. Taking into account investment grants pursuant to section 16 of the *Universitäten- Rechnungsabschluss VO* (University Financial Statements Order), MedUni Vienna's 2019 financial statements showed an equity ratio of 8.13%, which was in excess of the 8% target value stipulated in the order for the first time.

Revenue

In accordance with section 55 *Krankenanstalten- und Kuranstaltengesetz* (Hospitals Act) and the political agreement between the federal government and the City of Vienna, in addition to the global budget MedUni Vienna receives necessary funds for additional clinical expense. The amount received comprises MedUni



Vienna's share of the capital expenditure budget at University Hospital Vienna (€ 20m annually) and a cash subsidy for additional clinical expense (€ 40m annually). Although these funds are recognised in MedUni Vienna's revenue, they are not available for use for day-to-day operations. In addition, the main portion of current additional clinical expense is paid for out of the global budget, in the form of staff costs and the cost of on-call services provided by all of the doctors working in University Hospital Vienna's clinical departments. This means that a consistent share of about 90% of the budget provided by the federal government to MedUni Vienna is used to cover staff costs. The aim of future performance agreement periods must be to achieve a corresponding increase in the available global budget funds, in order to improve the university's position in global competition. In respect of staff costs, the number of staff (doctors) in the clinical departments is currently capped at 1,500 full-time equivalents (see section IX), but due to the evolution of the regional healthcare system it is not possible to comply with this limit. Any attempt to do so would inevitably result in a significant reduction in teaching, research and patient care (non-compliance with the national patient-care remit).

Budget planning and controlling

1 Global budget: the performance agreements for 2016-2021 were influenced by the contractual responsibility for joint management of University Hospital Vienna, combined with implementation of the Hospital Working Hours Act and the agreed increase in salaries for medical staff in the clinical division. A general increase in salary levels is being targeted for the 2025-2027 performance agreement. The minimum requirement for future performance agreements is maintenance of the status quo after adjustment for inflation, and continuing to achieve a balanced budget. The status quo relates explicitly to current performance and not to the university's international competitiveness. It can be assumed that in view of the challenges it faces with regard to financial strength, MedUni Vienna will be unable to compete globally as an innovation leader. A commitment to improving the university's international position can only be made given adequate funding in the global budget and payment of appropriate salaries.

For its part, MedUni Vienna continues to implement the efficiency and cost control projects initiated under the 2016-18 performance agreement. Cumulative efficiency gains of € 36.3m were agreed in the 2016-18 performance agreement, and of € 70m by 2024 in the Finance and Target Control Agreement. Funds made available as a result of efficiency gains provide support for balancing

the budget, as well as financing for strategic initiatives. In this respect, ongoing uncertainties stemming from double-digit inflation at the present time represents a risk, which MedUni Vienna is monitoring closely.

2 Third-party funding: Thanks to a range of internal initiatives, third-party funding has grown consistently from an already high level (from € 89.7m in 2016 to € 131.5m in 2022). Further increases will depend on ensuring a stable financial basis in the future, as well as on the availability of funding for basic research. Third-party funding plays a significant role in ensuring liquidity, and makes an important contribution to covering staff costs. The contribution to liquidity is due to the fact that prepayments have almost constantly exceeded current expenses for externally funded projects in recent years. A risk to liquidity, and to the university's annual profit or loss, arises from the relationship between the global budget and third-party funding, and could potentially result in a vicious circle

- inadequate global budget
- decline in scientific capability
- decline in third-party funding receipts
- cycle-related negative third-party funding total
- negative instead of positive effect on overall profit/loss
- liquidity issues, early warning report/reorganisation required.

The uncertainty surrounding future inflationary trends also represents a risk in terms of third-party funding. This risk is continuously monitored and, in the event of a negative change, the necessary countermeasures will be developed and implemented rapidly as the situation requires. In order for MedUni Vienna to develop positively and consistently over the long term as regards its sovereign duties, financial coverage for risks is both an aim and a key responsibility of financial management.

All of the projects, aims and measures contained in each development plan that have budgetary effects are therefore conditional upon corresponding coverage in the global budget for the performance agreement in question.

Public procurement and centralised service procurement

In line with European and national procurement regulations, as well as the principles outlined in the Universities Act, a centralised procurement system will be established to streamline the procurement process, especially with regard to efficiency and transparency. The goal is to create a one-stop-shop approach, achieving end-to-end processing of individual procurement procedures for and in conjunction with users. This involves expanding and coordinating the central points of contact for the management of the entire procurement process (legal, economic and organisational) with equal consideration of legal and economic criteria as well as research-related aspects and requirements. In addition to holding mandatory university-wide training courses, and concluding framework contracts and agreements, establishment of centralised procurement may involve the introduction of a dynamic procurement system. As part of this process, the level of support required for MedUni Vienna's subsidiaries and associates in terms of public procurement law is to be evaluated.

Finance and liquidity management

Building on the finance and controlling systems successfully introduced at MedUni Vienna, additional improvements have been made to management accounting by means of quarterly reporting. Reports include liquidity overviews and interim financial statements as well as brief information on subsidiaries and associates. During the financial year, quarterly financial statements are prepared showing the projected annual results for MedUni Vienna and all subsidiaries and associates. The Vice Rector for Finance and the Finance Department are responsible for quarterly reporting. The quarterly reports (including a management summary) are submitted to the Rectorate and the University Council. MedUni Vienna's annual financial statements, as well as those of the subsidiaries it controls, are audited by an independent auditor. After they are submitted, the Vice Rector for Finance submits a report to the University Council. If the university's liquidity reserves drop significantly, detailed liquidity planning measures are implemented.



Measures:

A number of the measures initiated in previous periods will be refined in terms of their content and scope of application, while the individual measures and systems will also be consolidated in long-term IT system architecture.

1 Implementation of cost-benefit analysis:

MedUni Vienna plays an operational role in the implementation project group and project management within Universities Austria (uniko). The next phase of implementation will focus on development of the cost-benefit analysis within the university. This will be underpinned by applying the 'data only once' principle in a centralised business intelligence (BI) platform, and by means of strategic information management.

2 Computer-aided facility management (CAFM):

following an interuniversity project to optimise facility management processes, the CAFM project has been extended and now has a new technological basis. Ongoing digitalisation of technical installations (in the course of new builds) and surveys of existing equipment, as well as linking of associated documents (e.g. service agreements) are aimed at optimising technical operations. Additionally, it is planned that research spaces on the University Hospital Vienna site will be mapped and managed.

3 Contract database:

this database contains copies of both general and research contracts. The system is maintained and expanded on a continuous basis – most recently, electronic HR files were integrated into the same software platform, including the digitalisation of various HR department processes as well as 'old files'. In future, possible additional uses will emerge in the course of developing and defining MedUni Vienna's system architecture/landscape, e.g. as part of the implementation of electronic invoice receipt processing.

4 Investment process: the process for signing off on investments will be accelerated by further digitalisation and also harmonised. Both the contract database and CAFM system (see also point 3) are potential options when it comes to supporting implementation – a decision to this effect will be reached once MedUni Vienna's future system architecture is created.

5 Manual for projects with third-party funding: this manual outlines legal bases, frameworks, responsibilities and processes for the management of third-party funding, and is regularly updated.

6 Continuous expansion and development of central IT infrastructure:

implementation of the Infrastructure as a Service project has begun and will be expanded to enable efficient use of IT Systems and Communications' (ITSC) infrastructure resources. A parallel computing centre has been installed to meet the increasing demand for storage capacity and computing power, and in order to make new teaching and learning platforms available while safeguarding data protection, data security and operational security. Modernisation of the RDA (research database) will be the next major project. The project will be fully embedded in the development and definition of a long-term IT system architecture/landscape.

- ### Dritte „Generation“ (Disziplin)
- Typischerweise Expertinnen/Experten (Ärzte / Med. Professionals) mit expliziter Wahl dieses Karrierewegs
 - Vielzahl von Aus- und Weiterbildungsprogrammen mit Themen zu „Medical Education“ und „Health Education“
 - Etablierung der medizinischen Ausbildungsforschung als eigenständige Disziplin („Medical Education Research“=
 - Vernetzung mit anderen Disziplinen wie Psychologie, Psychometrie oder Soziologie etc. („Learning Sciences“, Beispiel Munich Center of the Learning Sciences, MCLS)

Norman G. Fifty years of medical education research: waves of migration. Med Educ 2011; 45:785-791



MEDIZINISCHE
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Antrittsvorlesung Martin Fischer 16.06.2023
Teaching Center



III. Human resources (HR)

MedUni Vienna's academic and non-academic staff represent Austria's most important source of intellectual capital in the field of medicine. An expert organisation, MedUni Vienna is one of the largest employers in Vienna and works tirelessly to attract, retain and train the best employees.

HR strategy

The university employs 1,193 academic staff on permanent contracts, and 1,638 academic staff on limited-term contracts (see Figs. 5 and 6). Supporting talented, high-potential researchers and lecturers as early as possible, and offering them long-term opportunities at the university, plays a decisive role in enhancing MedUni Vienna's long-term prospects. As a result, MedUni Vienna's HR strategy is aimed at recruiting the best talent to work in Vienna/Austria – a leading science and medicine location.

Indefinite term employment contracts	Global budget	Total incl. external funding
Full professors (civil servant contracts)	26	26
Full professors (collective agreement)	94	94
Assistant professors (collective agreement)	2	2
Associate professors	267	267
Assistants with teaching qualification (collective agreement) without qualification agreement	59	59
Qualified medical specialists, pre-doctoral researchers (collective agreement), post-doctoral researchers (without teaching qualification)	319	349
Extraordinary professors (with and without teaching qualification)	63	63
Contract lecturers (civil servant contracts)/contract staff	396	396
University lecturers, assistant professors	324	324
Total	1,163	1,193

Fig. 5 Breakdown of academic staff with permanent employment contracts in active service (31 Dec. 2022; FTE).

Fixed-term employment contracts	Global budget	Total incl. external funding
Full professors (collective agreement)	1	1
Assistant professors (collective agreement)	6	6
Assistants with teaching qualification (collective agreement) without qualification agreement	28	40
Qualified medical specialists, pre-doctoral researchers (collective agreement), post-doctoral researchers (without teaching qualification)	958	1,591
Total	994	1,638

Fig. 6 Breakdown of academic staff with limited-term employment contracts in active service (31 Dec. 2022; FTE).

This goal is pursued through a combination of the different appointment and tenure-track procedures provided for under the Austrian Universities Act (internationally competitive selection procedures in accordance with sections 98 and 99[5] Universities Act, simplified appointment procedures in accordance with section 99[4] Universities Act and appointments in accordance with section 99[1] Universities Act) and the promotion of internationalisation, which are supplemented by attractive career models for early career researchers (see below). As a result, limited-term employment contracts primarily apply to those career stages that focus on training or qualification.

There is an intention to adapt general salary levels at MedUni Vienna from 1 January 2025 with a view to enhancing its competitiveness, subject to the budgetary framework conditions for the 2025-27 performance agreement period and the possibilities under the collective agreement for universities.

One of MedUni Vienna's overarching objectives is to provide a working environment that allows all employees to develop their skills and abilities. In order to further the university's ongoing efforts to become even more employee-friendly and efficient, an institution-wide employee survey was conducted in April 2023. The results were made available to all employees on the intranet



(<https://intranet.meduniwien.ac.at/allgemeines/mitarbeiterinnen-befragung/>).

The participation rate was 47 % and the overall mood among the respondents was positive. Cooperation between colleagues, outstanding dedication and respectful treatment by line managers all came in for particular mention. Respondents highlighted potential for improvement in the balance between routine care, research work and teaching activities, as well as the amount of support available for administrative tasks. Measures to make framework conditions more attractive, particularly for clinical practice, are another point that requires attention.

At the end of 2022, an **evaluation of the quality of training at University Hospital Vienna was carried out** for the third time since 2017. 318 out of 664 doctors in training provided important suggestions regarding the training of the next generation of physicians (see below and section IX).

HR planning

With current annual staff turnover at about 6.7 % (excl. parental leave and limited-term contracts) and 15 % of staff either on civil servant contracts or working as contract staff, the following indicators are used in ongoing HR and budget management:

- (1) Number of new career positions in accordance with the collective agreement compared with the number of staff retiring or otherwise leaving the organisation within the same period;
- (2) Ratio of limited-term to permanent contracts for academic staff (incl. full professors);
- (3) In recent years, efforts have intensified to recruit staff with potential to make ERC submissions – attractive, long-term academic career paths offered;
- (4) Assignments abroad and evaluated teaching – according to the Austrian National Development Plan for Public Universities (GUEP) these are key criteria for careers at a university (internal career model as well as sections 98 and 99 Universities Act);
- (5) Equal opportunities and measures to enhance the professional status of women (see section VI);
- (6) Employee satisfaction (surveys);
- (7) Supporting young academics (see below); and
- (8) Establishment and implementation of the inclusion project at MedUni Vienna (see VI).

Supporting young academics and career development

In order to offer attractive career opportunities to early-stage academics, outside the career promotion measures set out in the Universities Act and the collective agreement, an *internal career model* has been developed, taking into account MedUni Vienna's specific HR structure. This performance-based model is designed to help researchers at the start of their careers to acquire academic qualifications, and incorporates aspects of

gender mainstreaming and women's advancement.

A major component of the internal career model is its integration with the existing doctorate programmes.

After the award of a doctorate, and following a call for applications, a needs-based **internal career agreement (ICA)**, including career phases abroad, can be offered.

The objective is to reach the development goals set out in the agreement within three years. On fulfilment of the ICA, the employee gains the right to take up an indefinite-term position that bears the honorary title of extraordinary professor.

Special career prospects were opened up through the establishment of an ICA focused specifically on teaching.

The development goal is to promote the international competitiveness required to obtain a professorship.

In addition, academic staff already employed at the university may be awarded a **"qualification agreement" (section 99[5-6] Universities Act)** or a chair under section 98 or section 99(1) Universities Act within the tenure track framework. Tenure track professorships in accordance with section 99(5) Universities Act are awarded in strategic, innovative areas under a competitive, international procedure. They are used for the recruitment and retention of ERC and Austrian Science Fund Start award winners. Associate professors and associate university professors also have the option of applying for a professorship by means of a **simplified procedure (section 99[4] Universities Act, see Annex)** on the basis of defined criteria. In future, these criteria will be advertised for strategically significant individual professorships (also as a career opportunity following a professorship in accordance with section 99[1] Universities Act).

The development goal is to obtain an internationally competitive full professorship. Efforts will be made to minimise salary disparities among academic staff and to provide access for qualified employees outside the Associate Professor and Associate University Professor categories.

Measures:

The various career opportunities and the corresponding processes in place are evaluated on an ongoing basis in line with the EU Agreement on Reforming Research Assessment. Aligned to the recommendations of MedUni Vienna's professorial mission statement, guidelines for appointments, particularly those related to life phases, will be further developed.

Advancement of women

In addition to the Frauen netz.werk Medizin (for women in advanced stages of their careers) and Schrittweise (a programme for early-stage researchers) mentoring programmes, the focus is also on the implementation of targeted appointments of female professors (section 99[4] Universities Act); see section VI.

Career development for young researchers

MedUni Vienna provides a special service for PhD students (pre-docs) and post-docs to support its young researchers at an early stage in their careers. There are different measures in place to promote ongoing career development such as a tenure track for internal career models (at a statutory level by extending section 99[4] Universities Act or within the university); career counselling activities focusing on various areas, support measures – such as mentoring programmes – and further training and education to foster skills development are offered.

Career opportunities in teaching and patient care

The option of applying for an ICA with a focus on teaching was introduced in 2022 to offer career prospects to junior researchers who are particularly committed to teaching at MedUni Vienna. A similar distinction will be made for the clinical part of the triple track.

Recruitment of ERC high-potentials under section 99(5) Universities Act

This proposal involves active recruitment of outstanding academics with the potential to receive ERC or START funding. An ERC or START application is expected within two to three years of recruitment at the latest. The objective is greater internationalisation of the faculty and the strengthening of MedUni Vienna's research clusters and comprehensive centres. Measures are being introduced to bring about and enhance the international visibility of the comprehensive centres (certification, networking).

General university staff

Being awarded expert status and the option to move to a higher pay grade by taking on management responsibility are key career development opportunities for general university staff. Human Resources Development offers a comprehensive training programme to promote their professional development. Besides skills development, internal knowledge transfer at events led by experts from the Rectorate's service centres is also a priority.

Subject allocations of chairs in accordance with section 98(1) Universities Act

In the course of the 2025-27 performance agreement period, 14 professors will retire or receive emeritus status. They will be replaced by the 20 professorships (some new and some in order to fill vacancies) described below. The actual budget situation for 2025-27 will be a decisive factor in whether all of the listed chairs can be filled (see “financial management”, above). In the period up to and including 2030, it is expected that a further

21 professors will retire or be granted emeritus status. Irrespective of this, all of the professorships stated in the Development Plan 2022-24 (University Gazette for the 2014/15 academic year, vol. 13, no. 15) and the 15th Development Plan (2019-24) (University Gazette for the 2017/18 academic year, vol. 14, no. 15) which have not been advertised before this Development Plan comes into force will be retained.

Vacancies and new preclinical professorships (2025-27):

- 1 Pharmacology:** from 1 October 2025
at the Center for Physiology and Pharmacology
- 2 Quantitative Synthetic Biology:**
from 1 January 2025
jointly with the University of Vienna
(Max Perutz Labs)
- 3 Forensic Medicine:** from 1 October 2025
at the Center for Forensic Medicine
- 4 Systems Biology:** from 1 October 2027
jointly with Austrian Academy of Sciences/CeMM
- 5 Nursing Science:** from 1 January 2025
at the Center for Public Health
- 6 Artificial Intelligence in Medical Therapeutics:**
from 1 January 2027
at the Center for Medical Data Science
- 7 Cardiovascular Precision Medicine:**
from 1 January 2025
at the Core Facilities and the Department
of Medicine II

Vacancies and new clinical professorships (2025-27):

- 8 Dentistry:** from 1 October 2025
at the University Clinic of Dentistry Vienna
- 9 Ophthalmology:** from 1 April 2025
Department of Ophthalmology and Optometry
- 10 Pediatric Cardiology:** from 1 April 2025
at the Department of Paediatrics and
Adolescent Medicine
- 11 Orthopaedics:** from 1 October 2025
Department of Orthopedics and Trauma Surgery
- 12 Prosthetic Dentistry:** from 1 October 2026
at the University Clinic of Dentistry Vienna
- 13 Endocrinology and Metabolism:**
from 1 October 2027
at the Department of Medicine III
- 14 Laboratory Medicine:** from 1 October 2027
at the Department of Laboratory Medicine
- 15 Pathology:** from 1 October 2027
at the Department of Pathology
- 16 Cardiology:** from 1 October 2027
at the Department of Medicine II
- 17 Radiation Oncology:** from 1 October 2027
at the Department of Radiation Oncology
- 18 Gerontology:** from 1 January 2026
- 19 Tropical Medicine:** from 1 January 2025
- 20 Virology:** from 1 October 2027

Chairs that are scheduled to become vacant (2028-30):

Public Health, Allergology, Neuropharmacology, Hygiene, Gastroenterology and Hepatology, Experimental Oncology, Cellular and Molecular Tumour Biology, Pathobiology of the Nervous System, Nephrology, Histology, Cell and Developmental Biology, Neurology, Clinical Infectiology, Neurosurgery, Pediatric and Adolescent Surgery, Vaccinology, Biomedical Research, Epidemiology, Cardiothoracic Anaesthesia and Intensive Care Medicine, Paediatric Nephrology and Gastroenterology, Personalised Medicine

Opportunity hiring

The university's statutes provide for the possibility of appointing chairs in accordance with section 99a Universities Act. This enables highly-qualified researchers to be brought to Vienna in a process known as opportunity hiring. The number of positions without specific subject dedication within the meaning of section 99a Universities Act is limited to a maximum of 5 % of the positions for university professors according to section 98 Universities Act, the number of which is specified in the annex to the Development Plan.

Clinical framework conditions

Hospital Working Hours Act and working hours agreement (KA-AZG)

Implementation of the Hospital Working Hours Act represents a major challenge for all Austrian hospitals. MedUni Vienna has taken a leading role by developing specific new shift models. Unfortunately, cherry picking and increased use of a strategy of shuffling services in order to make savings continues to be seen among other care providers.

MedUni Vienna and its departments at the University Hospital Vienna make a major contribution to care for seriously ill patients from all over Austria, and for this purpose the university is maintaining structures that are increasingly being reduced by other bodies. Meeting these responsibilities is also possible due to a high degree of willingness to make use of the "opt-out" solution. A special regulation was created for the university hospitals in accordance with amendment No. 129/2017 to the Universities Act regarding their research and teaching tasks (Section 29[5] Universities Act) – initially limited until 31 December 2021 – to the Hospital Working Hours Act (Section 110[1][1] Universities Act), which allows a works agreement to still authorise an average weekly working time of 60 hours, provided that the individual employee agrees to it in writing in advance and that hours over and above the average weekly working time of 48 hours are exclusively dedicated to research and teaching tasks conducted for the university during normal working hours. This special regulation to the Hospital Working Hours Act now applies indefinitely, in accordance with the Universities Act, Federal Law Gazette I No. 93/2021, as amended.

In connection with the implementation of the Hospital Working Hours Act and the works agreement, the Rectorate established a "KA-AGZ-BV" working group alongside the boards for the organisation of duty roster models. The working group comprises two representatives of the Works Council, two doctors' representatives in accordance with section 34 Universities Act, three representatives of the Rectorate and one representative of the clinic directors. In accordance with the Hospital Working Hours Act, a 48-hour model applies automatically in the absence of a supplementary company agreement. Appropriate measures have been taken to ensure that working hours are organised in accordance with the law.

Medical training

(See also section IX). As part of the work of a task force for medical training set up by the Rectorate, structural and organisational standards for training doctors are already being developed and optimisation measures implemented in cooperation with the medical directorship of University Hospital Vienna. The Medical Training Taskforce and the Evaluation and Quality Management Unit evaluated clinical training at University Hospital Vienna again in 2022. All doctors in specialist training were asked to take part in the evaluation. At 47.89%, the response rate was higher than it had been in the two previous surveys. The evaluations reflected a slight deterioration in virtually all of the areas covered by the survey owing to the pandemic and the current difficult overall conditions (across all organisational units) compared with 2019. As a general point, some aspects of training were viewed particularly critically, though the main points of criticism were similar to those raised in 2017 and 2019 (specifically time available for training, planning and organisation of daily work processes, delegation of administrative tasks). A number of the aspects that were evaluated positively relate to independent medical activity (skills and independence, evaluation/employee discussion and climate of cooperation).

In the coming years, **measures** for implementation of new medical training at University Hospital Vienna (e.g. templates for training schedules, information brochures, SOPs for training specialists, rotation management, monitoring of clinical logbooks), as well as regular evaluation of training for doctors (conducting surveys, staff appraisals, internal audits, evaluation interviews as an integral part of staff appraisals) will continue and measures for improving the quality of training will be derived from them.

In future, University Hospital Vienna will also be providing training for individuals who are looking to qualify as general practitioners. Collaboration with other institutions and departments will help to improve the processes and quality of medical training. The reduced overall number of services and cases, which is resulting in bed and operating theatre closures due to staff shortages, currently pose a challenge in terms of medical training. Supplementary measures include cooperations with international fellowship programmes, and optimised integration of the existing doctorate/PhD programmes with training, resulting in transparent training paths. The Physician Researcher Pathway offers improved scientific education during clinical specialist training, based on the integration of research and clinical activities by creating and structuring funded “protected time”. This instrument will enable high potentials to achieve the qualifications needed to take up competitively funded research posts at an early stage in their career, and open up possibilities for them in terms of international career mobility and the ICA.

HR development

Based on an AQA Focus Audit, in 2011 MedUni Vienna received HR development and HR management certification (see the 2016-18 Development Plan). Since then, measures have been introduced in order to actively facilitate improvements in work-life balance and make career re-entry easier: the families service; groups for family caregivers and fathers taking parental leave; Family Day; individual coaching. MedUni Vienna has been continuously certified by family-friendly university audits since 2001. The audit is a management instrument that supports family-friendly organisation of working and studying conditions. MedUni Vienna is also a signatory to the *Familie in der Hochschule* (Family in the University) charter. The following priorities, **projects** and **measures** will be pursued based on the results and feedback from the employee surveys and the action plan drawn up as part of the European Commission's HR Excellence in Research Award:

Overarching: Onboarding measures

Social and professional integration of new employees under the banner of Welcome@MedUni Vienna; support for dual career pairings from abroad with the Dual Career Service; regular employee appraisals as a central plank of participatory leadership at MedUni Vienna; training programmes for the development of transferable skills and events for internal knowledge transfer for academic and general staff; evaluation to realign the range of health promotion and preventive health care services and measures.

Staff with leadership responsibilities

Development of a leadership mission statement with measures to be derived from it as part of the Leadership and Reputation task force; programme for newly appointed professors with leadership responsibilities; continuing education opportunities for heads of organisational units and departments in the form of an annual

OUP seminar programme and a leadership curriculum for potential managers to prepare them for future leadership roles; seminars on the development of management and leadership skills, gender and diversity skills including bias training, as well as courses on bullying, sexual harassment and discrimination under the HR and HR Development Department's continuing education programme.

Research staff

Career development opportunities for early-career researchers and career counselling; mentoring programmes for different target groups and career phases; career service for PhD students and postdocs; continuing education opportunities based on the European Competence Framework for Researchers related to academic methods, management, leadership and personal skills, and gender and diversity; promoting the development of teaching skills for the professionalisation of teaching through offers from the Teaching Centre (see section V) and further development of post-doctoral qualification guidelines.

For general staff

Bespoke curriculums for managers and assistants to develop soft skills and promote internal networking; continuing education courses covering management, leadership and personal skills, gender and diversity, languages and IT/digitalisation.

Remote working guidelines

The existing guidelines were adapted in consultation with the Works Council committees.

Offboarding

The goal is to establish a structured exit process that also involves the implementation of structured exit interviews to determine the reasons for leaving.

Internationalisation plans

(see also sections V and VII.). Employees are encouraged to build up international experience as part of their qualification agreements and internal career agreements. To enshrine the internationalisation drive in MedUni Vienna's institutional career model, a six-month work placement at a teaching and/or research institution – preferably abroad – is a mandatory element of the ICA. MedUni Vienna offers a mobility grant specifically for these six months as an additional support **measure**.

The International Office acts as partner for help with queries and issues relating to internationalisation and international cooperation. Its remit covers Erasmus+ staff mobility, dual-career services, adjunct professorships (strategic involvement of international experts based on the American model), temporary integration of international colleagues in roles such as observers, fellows, visiting scientists and holders of post-graduate scholarships, as well as collaborative development of a range of international roles and collaborations in teaching and research.

Recruitment and employer attractiveness

MedUni Vienna's HR strategy is aimed at recruiting the best talent to work in science and medicine in Vienna/Austria. As part of its efforts to position itself as an attractive employer, MedUni Vienna has aligned itself to various initiatives, including the European Commission's Human Resources Strategy for Researchers, for which the university received an HR Excellence in Research Award from the European Commission in 2022. By accepting the award, MedUni Vienna confirms its commitment to the principles set out in the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers. The university also ensures continuous improvement of working conditions under the charter by submitting and implementing action plans on a regular basis.

To strengthen the university's attractiveness as an employer, there are plans to launch a social media presence in the coming years that is specifically aligned to the target demographic.

Applicant management

- (1) **Non-academic recruitment:** Advertising the vacancy on the internal jobs platform and/or in external print media, on the website and in the University Gazette. For management roles, cooperation with a recruitment agency as necessary.
- (2) **Academic recruitment:** Advertising the vacancy on the website and in the University Gazette; advertisements in daily newspapers (e.g. Die Zeit) and specialist publications (e.g. Nature, Science) as required; for highly qualified positions, publication in EURAXESS. Alignment of the PhD programme with international standards, which include a joint recruitment process for PhD candidates. All current PhD programmes with specific research themes are to be given the opportunity to participate in a joint recruitment process with an international call for applications.

As part of the various digitalisation projects in place at the Medical University of Vienna, the software solutions for recruiting and an applicant management system integrated into electronic personnel files are to be implemented over the next few years. Effective applicant management ensures timely processing of applications as well as a shorter and optimised time to hire – this key metric defines the time until a suitable candidate is appointed to a vacant position. Rapid processing of applications helps to create a positive candidate experience, while also increasing employer attractiveness for the university. This applies in particular to appeals procedures.

Employee protection

Employee protection is implemented in line with legal responsibilities (section 29[4] Universities Act)

- (1) for the preclinical departments and the University Clinic of Dentistry Vienna, in cooperation with external preventive staff and occupational physicians;
- (2) in University Hospital Vienna departments, the responsibility for all employees working in patient care lies with the University Hospital Vienna business unit.



IV. Research

Current situation

MedUni Vienna is Austria's largest research institution in the field of life sciences – one of the strong points of the country's university and business landscape. The university's research activities have expanded continuously since it became an autonomous legal entity (see Fig. 7).

In particular, this is reflected in the recruitment of leading international researchers, developments in bibliometric indicators (e.g. citations and h-indices), the acquisition of third-party funding, and participation in excellence programmes.

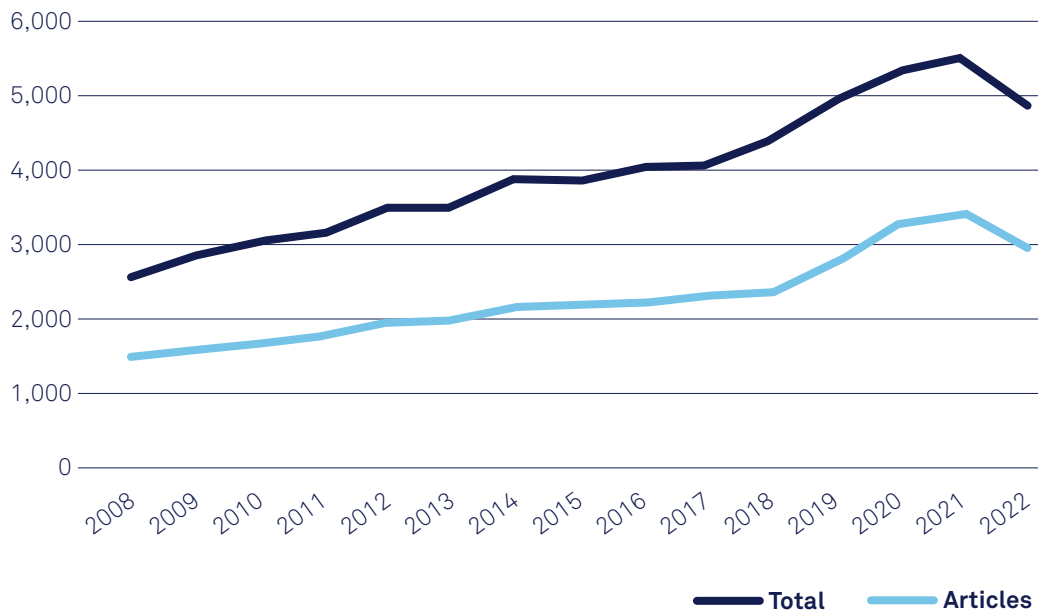


Fig. 7: MedUni Vienna publications, indicator: Web of Science documents, period: 2008-2022, dataset: InCites dataset, updated 24 Feb. 2023 (incl. ESCI documents). The number of publications is roughly similar to that in 2019. The slowdown in the number of publications in the last couple of years, which has also been observed around the world, was a result of the Covid-19 pandemic.

Potential, international benchmarking and profile-building

Austria is a European leader in terms of research and development (R&D) spending, which accounts for 3.26 % of GDP. 70.3 % of this expenditure is attributable to the business sector, followed by higher education institutions, which account for 21.8 % of the total (source: Austrian Research and Technology Report 2022). However, Austria ranked behind Switzerland, the Netherlands, Germany and the UK in an analysis of those countries' R&D spending on basic research per researcher and per capita (see J. Janger, et al. [2019], International differences in basic research grant funding – a systematic comparison). A comparison of MedUni Vienna with leading international institutions, such as Karolinska Institutet, shows that these have more generous budgets and also generate more output. However, when it comes to the proportion of top publications, MedUni Vienna is able to keep pace with selected benchmark institutions (Karolinska Institutet, Heidelberg University and the University of Zurich). Overall, based on its current research performance, MedUni Vienna's position in research-focused university rankings is satisfactory, but below potential due to budgetary constraints, the large number

of students at the university and the heavy burden of patient care services. Although the university's output factors are rising, it is becoming increasingly difficult for MedUni Vienna to maintain its position in the face of growing international competition. This positive development, despite being at a financial disadvantage compared with other institutions worldwide, is due to strategic profile-building and recruitment in recent years, and underlines MedUni Vienna's status as one of Austria's best universities. MedUni Vienna received 94 out of 100 points in the Citations category of the 2022/2023 Times Higher Education (THE) rankings. Fig. 8 shows results from the QS World University Rankings for the medicine subject area. The weightings used are 40 % for Academic Reputation, 10 % for Employer Reputation (employability), 25 % for Citations and 25 % for H-index. This again shows that scientific output is keeping pace with that of top institutions. Employer Reputation, measured by means of a survey, is the only weak point. This metric is highly dependent on location and budget, and is difficult for MedUni Vienna to influence on its own.

Medical University/ Faculty	Ranking 2023	Academic Reputation	Employer Reputation	Citations per Paper	H-Index Citations	Int. Research Network
Vienna	68	72.8	52.5	92.2	86.4	61.4
Graz	201 – 250	53.6	43.8	90.4	79.4	65.2
Innsbruck	251 – 300	49	40.6	90.6	79.3	49.9
Harvard	1	100	100	95.5	100	100
Oxford	2	95.2	95.7	97.3	93.8	95.4
Cambridge	5	93.8	94.7	94.9	89.4	75.8
Karolinska	7	93.7	71.6	91.3	90.6	85.9
Heidelberg	36	77	70.9	90.5	88.7	72.8
Charité	51	87	74.3	82.7	74.3	44.8
Zürich	56	70.3	68.3	91.1	87.3	68.5

Fig. 8: Comparison of MedUni Vienna with selected benchmark institutions (QS World University Rankings 2022)

MedUni Vienna currently has five research focuses in line with its strategy of targeting specific focus areas. There is a corresponding research cluster for each focus. These are not independent organisational units, but rather platforms for academic integration. By contrast, clinical centres (known as Comprehensive Centers – see section IX) are internal hospital organisational units, where patients receive interdisciplinary care (see section IX). The five established research clusters are:

Immunology/Allergies/Infectious Diseases/Inflammation; Cancer Research/Oncology; Medical Imaging; Medical Neuroscience; and Cardiovascular Medicine. Publication output confirms the academic critical mass of these five clusters (see analysis, Fig. 9), with each scoring above 1.3 in the InCites Normalized Citation Impact category (InCites data set, March 2023). The university's first research platform, Transplantation, was set up to promote interdisciplinary collaboration.

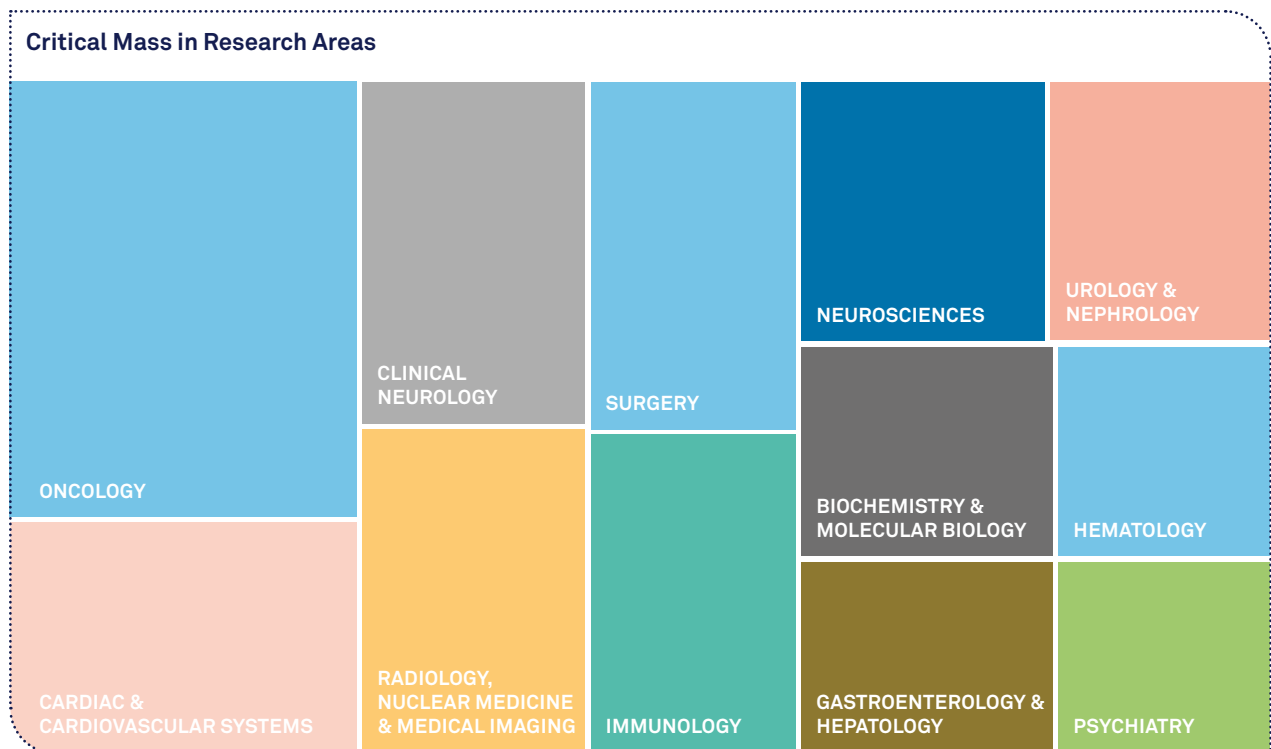


Fig. 9: Key academic focuses at MedUni Vienna (InCites analysis, 2018-2022)

Another means of enhancing Vienna's profile as a research location is participation in domestic research networks, including the following projects:

- (i) Austrian Biomedicine – Correlated Multimodal Imaging Node (Austrian Euro-Biomedicine Node);
- (ii) the Austrian Platform for Personalised Medicine (ÖPPM);
- (iii) projects with MedUni Graz including the CBmed GmbH Center for Biomarker Research in Medicine;
- (iv) VRVis research centre for virtual reality and visualisation (VRVis Zentrum für Virtual Reality und Visualisierung Forschungs-GmbH);
- (v) Complexity Science Hub Vienna;
- (vi) projects with the Austrian Academy of Sciences (ÖAW): Center for Molecular Medicine (CeMM; cooperation agreement relating to education, infrastructure, etc.) and the Institute of Molecular Biotechnology (IMBA; e.g. stem cell bank);
- (vii) projects with the University of Vienna: Max Perutz Labs and part-ownership of Max Perutz Labs Support GmbH; the Institute for Ethics and Law in Medicine; joint cluster projects and facilities;
- (viii) projects with Vetmeduni Vienna: the Messerli Research Institute focusing on human-animal interactions, and a joint virtual cancer research platform (integration of LBI);
- (ix) project with TU Wien: the ViCEM medical engineering platform;
- (x) cooperation agreement with the Research Institute of Molecular Pathology (IMP);
- (xi) projects with the Medical University of Innsbruck, Medical University of Graz and Johannes Kepler University Linz: coordination regarding biobanks, the Clinical Trials Coordination Centre, Ethics Committee, contract formulation, etc. There is also a project implemented in partnership with MedUni Graz, MedUni Innsbruck, Johannes Kepler University Linz and Vetmeduni Vienna, namely the interuniversity Ignaz Semmelweis Institute for Infection Research.

Large-scale research infrastructure

Shared infrastructure plays a key role in the life sciences. MedUni Vienna participates in the Austrian Federal Ministry of Science, Research and Economy's infrastructure database, shares large devices with the University of Vienna and the ÖAW (known as Vienna Life Science Instruments or VLSI), and invested in setting up the following shared infrastructure and core facilities at an early stage: Genomics (with CeMM), Flow Cytometry, Imaging, Proteomics, the 7 Tesla MR Centre, and the Preclinical Imaging Lab (PIL). Operated in cooperation with the University of Vienna, three joint facilities have been set up, focused on research into microbiomes, the metabolome, and applied medical radiochemistry.

Data storage and data processing remain central to the university's large-scale investment plans, especially given the massive amounts of data produced and processed in connection with imaging and genome analysis, and as a result of developments in AI. Involvement in European infrastructure programmes such as Better Biology Makes Reality Interesting (BBMRI), Euro-BiolMaging, the European Molecular Biology Laboratory (EMBL), the ELIXIR life-sciences infrastructure initiative and the European Synchrotron Radiation Facility (ESRF) opens up networks for participation in European programmes and access to research infrastructure which is not available in Austria.

Development milestones will include

- (i) the start of operations at the renovated animal breeding facilities in Himberg (financed through the special economic stimulus programme);
- (ii) continued development of MedUni Campus Mariannengasse and MedUni Campus AKH, including new core facilities (see sections VIII and IX);
- (iii) the entry into service of the hybrid operating theatre for large animals;
- (iv) continued participation in the MedAustron cancer therapy centre, including 15 T preclinical imaging and further joint facilities run in cooperation with the University of Vienna; and
- (v) implementation of research-related initiatives under the digitalisation strategy, including participation in the Vienna Scientific Cluster (VSC) high-performance computing centre, as well as modernisation of the RDA, the data repository, etc.



Research services

Researchers at MedUni Vienna receive support from the Ethics Committee, the Center for Medical Data Science, the Clinical Trials Coordination Centre (CTCC), Laboratory Animal Breeding and Husbandry Core Facility, the Center for Biomedical Research, the Center for Medical Physics and Biomedical Engineering, the University Library, biobanks, the Research Service unit, the Technology Transfer Office (TTO), the International Office, the Legal Affairs and Compliance department, the IT Systems and Communications (ITSC) and IT4Science teams, as well as other organisational units with service functions. Under the ongoing HSRM project, which is aimed at harmonising contracts, the goal is to achieve efficiency gains in contract performance and conclude master agreements with industrial and other partners (in consultation with other medical universities). The Services for Researchers brochure is regularly updated.

Management of third-party funding

The levels of third-party funding acquired by MedUni Vienna are relatively high and have grown steadily over recent years. However, it is anticipated that the conditions for clinical research in Austria will become tougher, and approval rates for peer-reviewed grants from the Austrian Science Fund and the EU will continue to fall. As a result, steps will have to be taken (e.g. expanding the Research Service unit and buying in consulting services for the preparation of funding applications) in order to maintain levels of participation in domestic programmes and Horizon Europe, and to increase European Research Council (ERC) programme applications. Particular emphasis will be placed on networking and training for remote project managers and research secretaries.

Participation in excellence programmes

At € 131.5m (2022), MedUni Vienna has one of the highest third-party funding budgets of any university in Austria. The university attracts around 10 % of the FWF's budget (2021) – a disproportionately high amount. MedUni Vienna's participation in European programmes in the fields of research (particularly framework programmes such as Horizon 2020 and Horizon Europe, including the ERC) and teaching (Erasmus) in accordance with the Austrian National Development Plan for Public Universities (GUEP) is particularly important. As outlined in the course of the strategic ERA Dialogue consultation meetings with the ERC, according to the Austrian Research Promotion Agency (FFG) MedUni Vienna is the most successful Austrian life sciences/health organisation participating in Horizon 2020 and has obtained total funding of around € 72m (including Innovative Medicines Initiative [IMI] projects). MedUni Vienna ranks third among Austrian universities in this regard. Participation

in excellence programmes has continued to increase as a result of raising the profiles of the research clusters, which were involved in the following programmes in 2022:

- (i) **Immunology:** three FWF Doctoral Programmes (DKs), three FWF Special Research Programmes (SFBs), one FWF doc.funds programme, one Ludwig Boltzmann Institute (LBI), one ERC Consolidator grant;
- (ii) **Cancer Research:** two ERC Advanced Grants, one ERC Synergy Grant, one ERC Starting Grant, one FWF SFB, one FWF doc.funds programme, one LBI;
- (iii) **Medical Imaging:** LBI for Applied Diagnostics (lbi:ad), one ERC Consolidator Grant, one ERC Proof of Concept (PoC) Grant;
- (iv) **Medical Neuroscience:** one ERC Consolidator Grant, one ERC Starting Grant, one ERC Synergy Grant, one ERC Advanced Grant, one ERC POC Grant and one FWF doc.funds programme;
- (v) **Cardiovascular Medicine:** one LBI.

In spite of the increased competition, MedUni Vienna researchers also achieved a number of successes under the Horizon Europe programme. By the end of 2022, 30 projects had been submitted or were at the contract preparation stage. The university intends to continue supporting participation in the following excellence programmes:

FWF special programmes: MedUni Vienna headed the following FWF-funded large-scale projects in 2022:

Doctoral Programmes (DKs; no new grants available): Molecular, Cellular and Clinical Allergology (MCCA): Winfried Pickl;

Special Research Programmes (SFBs):

Metabolic Regulation of Tissue Integrity: Thomas Weichhart; RNAdeco: Chemical Decoration of RNA: Michael Jantsch; Regulation of T-Cell-Mediated Immunity by Histone Deacetylases: Wilfried Ellmeier; Inflammation and Thrombosis, Johannes Schmid;

doc.funds Programmes: Medical Neuroscience: Johannes Berger; Molecular and Cellular Control of Tissue Homeostasis in Health and Disease – TissueHome: Karl Kuchler; Malignant Diseases: Gergely Szakacs.

Christian Doppler Laboratories (CDLs): MedUni Vienna participated in a total of 12 CDLs in 2022: CDL for Immunometabolism and Systems Biology of Obesity-Related Diseases, Omar Sharif, Boehringer Ingelheim International GmbH; CDL for MR Imaging Biomarkers, Wolfgang Bogner, Siemens Healthcare Diagnostics GmbH, Vitaflo Deutschland GmbH, Brainlab AG; CDL for Inner Ear Research: Function Preservation and Regeneration, Christoph Arnoldner, MED-EL Elektromedizinische Geräte GmbH; CDL for Artificial Intelligence in Retina, Hrvoje Bogunovic, Heidelberg Engineering GmbH; CDL for Personalised Immunotherapy, Matthias Preusser, Roche Austria GmbH; CDL for Multimodal Analytical Imaging of Aging and Senescence of the Skin, Florian Gruber, Chanel Parfums Beauté; CDL for Portal Hypertension and Fibrosis in Liver Disease, Thomas Reiberger, Boehringer Ingelheim International GmbH; CDL for Applied Metabolomics, Alexander Haug, Lukas Kenner, Siemens Medical Solutions USA, Inc.; CDL for Arginine Metabolism in Rheumatoid Arthritis and Multiple Sclerosis, Gernot Schabbauer, Bio-Cancer Treatment International Limited; CDL for Molecular Stress Research in Peritoneal Dialysis, Klaus Kratochwill, Zytoprotec GmbH; CDL for Clinical Molecular MR Imaging, Siegfried Trattning, Siemens AG Österreich; CDL for Innovative Optical Imaging and its Translation to Medicine, Rainer Leitgeb, Carl Zeiss Meditec Inc., Exalos AG.

ERC grants: numerous MedUni Vienna employees have received one or more ERC grants.

Starting Grants: Thomas Klausberger (Hippochronocircuitry), Alwin Köhler (NPC Genexpress), Bernhard Baumann (Optimalz), Stephane Ciochi (ventral-Hippocampus), Sarah Melzer (PeptidesAndFear), Thomas Vogl (EarlyMicroAbs), Dimitris Tsiantoulas (The B-Miracle)

Consolidator Grants: Igor Adameyko (Stemming from nerve), Alwin Köhler (NPC-BUILD), Wolfgang Bogner (GLUCO-SCAN).

Advanced Grants: Maria Sibilica (TNT-Tumors), Tibor Harkany (Secret-Cells), Erwin Wagner (CSI-Fun), Tibor Harkany (FOODFORLIFE), Eva Schernhammer (CLOCKrisk).

Synergy Grants: Oskar Aszmann (Natural BionicS), Igor Adameyko (coordinator of KILL-OR-DIFFERENTI-AT), Joanna Loizou (DDREAMM).

Proof of Concept Grants: Tibor Harkany (SECRET-DOCK) and Bernhard Baumann (OPTIMEYEZ).

Ludwig Boltzmann Institutes: successful integration of several LBIs over the past few years; ongoing: LBI for Cardiovascular Research (coordinator: Johann Wojta), LBI for Arthritis and Rehabilitation (coordinator: Tanja Stamm); LBI for Hematology and Oncology (coordinator: Peter Valent)

Vienna Science and Technology Fund (WWTF): four MedUni Vienna projects were awarded funding under the 2022 Life Sciences Call, which was titled Public Health; the university is also a partner in another WWTF-funded project. A total of seven projects headed by MedUni Vienna which received funding as part of the 2020 Life Sciences Call are currently in progress.

European Reference Networks (ERNs) for rare and complex diseases: MedUni Vienna is a full member of two ERNs and a member of 15 associated national centres (ANCs), meaning that it is represented in 14 of the 24 Reference Networks. For the ANCs and the centres that are not currently members of an ERN, the aim is to become a full member of the ERN concerned as soon as possible, in order to benefit from these European networks as effectively as possible in terms of patient care and research. The university is also supporting moves to accelerate and remove bureaucracy in the Austrian ERN designation process. MedUni Vienna is acting as a coordinator for the submission of a tender under the call for proposals for a Joint Action on 'Direct grants to Member States' authorities: support ERNs integration to the national healthcare systems of Member States' (EU4H-2022-JA-05; AWP ref. HS-g-22-16.02).

Strategies, objectives and development measures

The focus here is on the development and differentiation of the research clusters, new research platforms and the integrative interdisciplinary areas of translational medicine and precision medicine, within the overarching topic of “integrative preventive medicine” (Fig. 10). The university’s first research platform, Transplantation, was set up to promote interdisciplinary collaboration, and support the development of new technologies and networking opportunities. With this in mind, the aim is to further refine the distinctive features of the research clusters (with a focus on disease entities) and research platforms (focusing on technology, which is relevant for all of the research clusters). The establishment of new platforms for medical imaging, digital medicine, and metabolomics and metabolism is also planned. Future research strengths have been identified and are regularly assessed. Continued improvements to put in place high-performance, modern infrastructure will be vital in enabling the university to exploit this potential. The foundations required in order to realise further potential are the continued development of infrastructure for research based on genome discoveries, and of data storage and computing power, imaging (high-field MRI, the Preclinical Imaging Lab/radiopharmacology) and biobanks (BBMRI); access to large-scale research infrastructure in Austria and abroad through initiatives and facilities such as Euro-Biomed, EMBL, ESRF, CERN via MedAustron, and Elixir (for big data in life sciences research), Vienna Scientific Computing (VSC) and Vienna Life Science Instruments (VLSI); as well as the planned Center for Translational Medicine and Therapies and Center for Precision Medicine at MedUni Campus AKH.

Focused on infectious disease research, the **Ignaz Semmelweis Institute** is an interuniversity organisational unit set up in 2022 by the Medical University of Graz, the Medical University of Innsbruck, the Medical University of Vienna, the University of Veterinary Medicine Vienna and the Johannes Kepler University Linz in accordance with section 20(c) Universities Act. Part of the Federal Ministry of Education, Science and Research’s UniMed-Impuls 2030 programme, the creation of the institute is intended to deepen and institutionalise scientific collaboration in the fields of infectious disease, microbiology and epidemiology. The institute specialises in research into infectious diseases, and its work will be primarily research-led in order to facilitate cutting-edge collaboration with other universities and non-university research institutions as well as other institutions focusing on related subjects in Austria and abroad. The institute will be located at MedUni Campus AKH.

Plans:

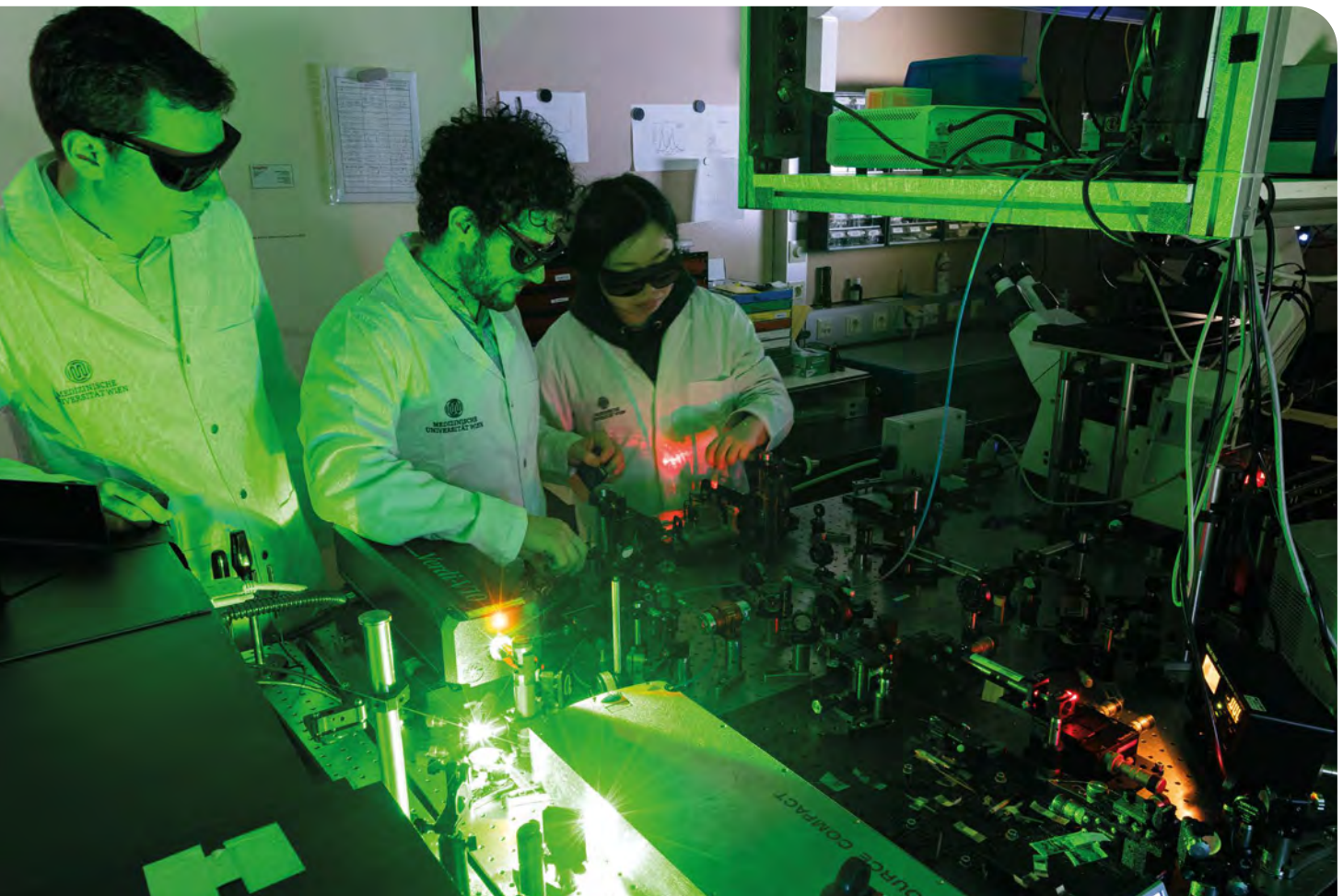
- (i) continued implementation of research-related projects under the Federal Ministry of Education, Science and Research Uni-Med-Impuls 2030 programme;
- (ii) expansion of digital medicine research activities (data mining, bioinformatics, integrated genomics, radiomics, artificial intelligence, machine learning);
- (iii) continued focus on clusters and platforms;
- (iv) establishment of new research platforms (e.g. for digital medicine, metabolomics and metabolism, as well as regular analysis of potential for research into new topics and the evaluation of research focuses);
- (v) Vienna Prevention Project (see section IX),
- (vi) expansion of Core Facilities, Joint Facilities and large-scale research infrastructure – continued high level of reinvestment;
- (vii) implementation of research-related projects in line with the digitalisation strategy;
- (viii) enhancement of the Data Clearing House, which is responsible for handling questions related to data sharing in the form of open data and assessment to ensure sufficient pseudonymisation and anonymisation;
- (ix) expansion of the unit specialising in data protection in research, part of the Legal and Compliance department – close cooperation with IT4Science and the Research Service; drafting a research policy for the treatment of research data at MedUni Vienna; supporting researchers by offering advisory services and templates (e.g. data management plans, checklists for the preparation of declarations of consent, etc.);
- (x) continued financing of current networks and platforms, development and expansion of networks in order to capitalise on potential synergies;
- (xi) expansion of current services, especially in connection with IT4Science, biobanks and the CTCC;
- (xii) helping researchers to obtain funding from competitive programmes designed to promote excellence as well as EU grants (e.g. by expanding the Research Service and procuring services externally), and offering incentives for success (e.g. proportional

additional financing for contributions to Core Facilities and the Animal Breeding and Husbandry Core Facility, transparent and simplified settlement);

- (xiii) expansion of structured doctoral programmes in terms of recruitment, training and networking;
- (xiv) implementation of the HR Excellence in Research Award;
- (xv) implementation of a new research documentation system to support the preparation of the intellectual capital report, documentation for performance-based allocation of funding, and various reports;
- (xvi) establishment of the Ignaz Semmelweis Institute - Interuniversity Institute for Infection Research.

The doctoral programmes place a particular emphasis on career development for **early-stage researchers** (see sections III and V). The PhD Programme (N094) and the Doctoral Programme in Applied Medical Science (N790) encourage the continued development of independent academic research skills and provide development and support for young researchers. All PhD students are categorised as early-stage researchers and are employed by the university. They follow structured programmes throughout their studies. There will be an increased emphasis on joint, transparent invitations for applications, selection procedures and related educational measures (international PhD recruitment).

The **measures** taken will include implementing the action areas for the European Human Resources logo and establishing the necessary structures and programmes. The targeted use of tenure track positions (section 99[5] Universities Act) as a means of attracting and retaining high potentials will be further expanded. See section III for information on career support measures for young researchers.



Development of key research focuses

MedUni Vienna's strengths, which are built on its research clusters and research platforms, lie in translational and clinical research in combination with basic biomedical research. The future trends of personalised and digital medicine are clearly visible as interdisciplinary topics running through all of the clusters. All activities

fall within the scope of integrative precision medicine as a strategic objective, in accordance with the university's mission (see section II and Fig. 10). The construction projects at MedUni Campus Mariannengasse and MedUni Campus AKH (see sections VIII and IX) are essential for the continued enhancement of scientific excellence and the application of research findings.

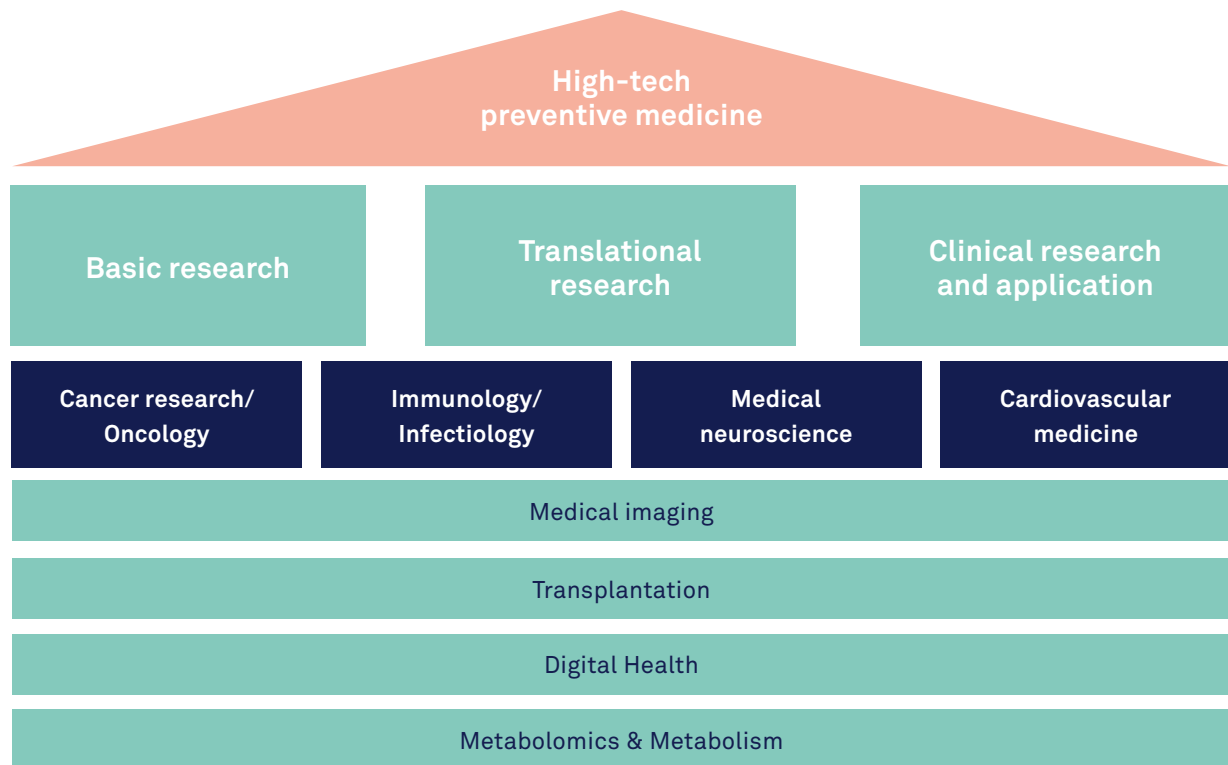


Fig. 10: Organisation of MedUni Vienna's key research focuses

The university's additional key strengths and horizontally integrated focuses, which are fostered and supported in various ways, are:

- (i) infectious disease research;
- (ii) microbiome research (in collaboration with the University of Vienna);
- (iii) orphan and rare diseases;
- (iv) intensive care and emergency medicine, and
- (v) patient safety. Other technological fields which will be enhanced across the university include regenerative medicine, RNA biology and epigenetics.



V. Teaching

According to the Austrian Universities Act, the direct link between research and teaching is the defining feature of a university. Correspondingly, the objectives of teaching at MedUni Vienna are

- (1) providing education based on actively acquired scientific **knowledge** and, consequently, also laying the foundations for lifelong learning (LLL), and
- (2) teaching **practical clinical skills** for the purpose of training students to enter the medical profession (see also *Perspektiven der Universitätsmedizin* [Perspectives in University Medicine] for the recommendations of the German Wissenschaftsrat [Science and Humanities Council]). As a result of disruptive global changes (see section II, and 'Medical school education at the turning point?':



<https://www.springermedizin.at/medical-school-education-at-the-turning-point/15488760>,

professional attitudes, mindsets and LLL will play an increasingly significant role in future as opposed to purely technical skills determined by current trends. MedUni Vienna has a wide range of undergraduate degree and continuing education programmes which fit

the profile of a medical university, including degrees in medicine and dentistry, a medical informatics master's programme, relevant PhD and doctoral programmes, postgraduate continuing education courses and certificate courses. Following the major higher education reform in 2002/2003 and the transition from the "old" Medicine doctoral programme (N201), the Medicine degree programme (N202) at MedUni Vienna has evolved into a modern, highly effective, internationally recognised course. The curriculum was last accredited in 2016, with accreditation valid until 30 September 2023. It is currently in the process of being re-accredited (valid until 2030). As part of the Teaching task force's work, it produced a wide-ranging **Teaching White Paper** – a core element in the university's future strategy

(<https://intranet.meduniwien.ac.at/allgemeines/news/news-detail/white-paper-lehre-praesentiert-zukunft-der-lehre-an-der-meduni-wien/>).

The document outlines

- (1) the current organisational structure for teaching;
- (2) the current framework for the Medicine degree programme;
- (3) opinions put forward by the Teaching task force, and
- (4) specific proposals.



Medicine and Dentistry degree programmes

Background: Due to the shortage of nursing and administrative staff, the current structure of the Austrian healthcare system requires an unusually high number of qualified doctors (in international terms) to be deployed in positions for which they have not received appropriate training. The modest level of attractiveness of the working conditions in Austria is underlined by the fact that, in comparison with the OECD average, the country employs only a relatively small number of physicians trained abroad and is actually a net producer of graduates, who primarily go on to work in EU member states. Comprehensive structural and quality measures would need to be taken in the healthcare system to address this situation (Institute for Advanced Studies [IHS] medical graduate monitoring for Vienna/Graz, and **study** by Österreichische Bundesinstitut für Gesundheitswesen [ÖBIG] and Gesundheit Oesterreich GmbH [GÖG] into the **number of physicians required** in the Austrian health service; **Statistics Austria data:**



www.statistik.at/statistiken/bevoelkerung-und-soziales/gesundheit/gesundheitsversorgung-und-ausgaben/einrichtungen-und-personal-im-gesundheitswesen).

Before a selective admissions procedure was introduced in 2006, the university had up to 16,000 students, about ten times the number studying medicine at Harvard Medical School, but graduation rates were comparatively low, at only about 30% to 60%. Austria had two to three times as many doctors and

medical graduates relative to the size of its population than comparable countries. In 2005, the Austrian media was still reporting on a glut of doctors, the Austrian Medical Chamber ran a media campaign to try to deter people from studying medicine, and the Austrian health institute ÖBIG was predicting that there would be 20,000 unemployed doctors by 2010. The decades-long surplus of poorly paid and inefficiently deployed physicians had a problematic effect: healthcare institutions were established in line with local labour market policies rather than purely on the basis of medical necessity. The demand for places on medicine degree programmes is still strong – about eight times as many candidates apply to take the MedAT entrance exam at MedUni Vienna than there are study places available. In **comparison with other EU and OECD countries**, the number of doctors and medical graduates per capita is still very high in Austria (see <https://www.oecd.org/health/bycountry/austria/>). It is the care provision structure that is flawed – vertically (hospital doctors versus general practitioners), horizontally (urban centres versus rural areas), and in terms of opportunities after doctors qualify (according to graduate surveys, around 30% of an average medical degree class would currently like to work abroad due to the less-than-attractive working conditions in Austria).



The tensions in the Austrian health system are having an impact almost exclusively on public providers of direct patient care. Private or partially private structures, and areas not involved or only partly involved in care provision have hardly been affected, or in some cases have actually been strengthened by these developments. In real terms, the quality of working conditions and the level of remuneration for direct public care provision is inadequate, which is increasingly leading to a brain drain in the public sector. Despite the large number of medical graduates and doctors (**Austria currently has around 47,000 doctors compared with about 20,000 in 1990**), shortfalls are on the rise, particularly in specialisations where there has traditionally been a lack of staff. At any given time, several departments at Austrian university hospitals will have had to close beds or wards due to a lack of patient care staff. The country's universities highlighted the fault lines running through the public health system several years ago



(https://www.bzh.bayern.de/fileadmin/user_upload/Publikationen/Beitraege_zur_Hochschulforschung/2021/2021-4-Mueller.pdf).

The most problematic areas include inadequate remuneration for direct public patient care services, as well as doctors moving into areas of private medicine that are only partly related to patient care, cherry picking of medical services, international competition for young doctors, a lack of respect including threats to doctors when combating the Covid-19 pandemic, shortcomings in structurally weak regions, as well as rigid structures and shortages in postgraduate training.

Measured in terms of the number of medical degree programme graduates, Austria is an international leader, and it produces far more graduates relative to its population size than comparable countries. With 760 graduates each year, MedUni Vienna trains about the same number of physicians as the Charité university hospital (operated under a partnership programme between Humboldt-Universität zu Berlin and Freie Universität Berlin) – the largest in Germany, and twice as large as MedUni Vienna – and around four times as many as Harvard Medical School.

Domestic demand for graduates – EU quota system

The demand for medicine and dentistry graduates is influenced by health policies and the higher education environment. The current number of graduates differs only slightly in comparison to the number before the introduction of a **selective admissions procedure**. Since the introduction of an admissions procedure in 2006 (2006-2012: Swiss EMS aptitude test; MedAT since 2013) following a ruling in EU infringement proceedings (*Judgement of 7 July 2005, Case C-147/03, Commission v. Austria: Failure of a Member State to fulfil obligations - Articles 12 EC, 149 EC and 150 EC - Conditions of access to university education - Discrimination*) and the consequent restriction of the number of available study places, there has been a significant and constant increase in the number of degree programme applicants from EU member states, to a total of 8,600 in 2020. The debate on the number of study places centres on the approximately 2,000 places available at Austria's public (currently 1,850, due to increase to 2,000 by 2028) and private universities (approx. 200), which contrasts with the 12,000 places available on medicine degrees in Germany (limit on the number of places available [numerus clausus system] and specific aptitude tests including **TMS** and **HAM-Nat**) and approx. 1,300 master's degree places in Switzerland (**EMS** admissions test, master's degree places). A key structural issue for Austria as an EU member state and part of the German-speaking region is its location as a neighbouring country of Germany, which is ten times larger, and of Switzerland, which is more attractive in terms of quality. Under these circumstances, the EU Commission took this structural problem into account by granting a derogation that allows 75% of study places to be allocated to Austrian citizens living in the country – a measure that would otherwise contravene EU law. The quota regulation for the Medicine degree programme states that 95% of the specified number of study places are to be reserved for applicants who hold equivalent status to EU citizens in terms of access to the degree programme, and of this quota, 75% of the places are to be reserved for holders of university entrance qualifications issued in Austria. Due to the European Commission's 2017 **moratorium on the quota regulation for dentistry degrees** (lifting of quotas), the quota-based procedure for dentistry programmes no longer applies. Carried out by the Austrian Medical Chamber, the Federal Ministry of Health and the Federal Ministry of Science, Research and Economy, the 2012 study into demand for doctors in Austria (Ärzt:innenbedarfsstudie) predicts a shortage of doctors from 2025, on the basis of various scenarios, despite the country having Europe's

highest number of doctors per capita and a record number of practising physicians. Given the current structure of healthcare provision, the decisive factors are primarily regional distribution, choice of specialism, the wave of people entering retirement, the efficacy of care provided by private practitioners who do not have direct contracts with health insurance funds (Wahl-Ärzt:innen), and the emigration of doctors. According to a 2015 IHS study, only a small proportion of German graduates of Austrian universities intend to go into medical practice in Austria, compared to 80% of Austrian graduates. According to the European Commission, the current quota system for medicine degrees is appropriate in order to ensure that the Austrian public health system remains efficient. However, the Commission has called on Austria to monitor the situation closely and to report every five years on whether the restrictions should remain in place. Future developments in dental care provision following the removal of the quota system for admissions to dentistry programmes is a special case. Although the number of applicants did not change significantly after the quota regulations were lifted, in 2019 the proportion of applicants receiving a study place for the first semester with an Austrian school-leaving certificate (Matura) was significantly below the abolished quota.

The principle of research-led teaching

Teaching, research and patient care have equal status as pillars of the triple-track strategy and are therefore closely connected with one another. In order to closely link teaching with research – a defining feature of a university – teaching staff adapt their courses to reflect the current state of research and include recent findings. Teaching is carried out by practising researchers, who combine all course contents with the latest findings. Students are introduced to independent scientific research methods and integrated into real-life research projects in the course of writing their obligatory undergraduate and master's theses. They also have the opportunity to participate in research projects (some of which are international) and gain practical experience of research processes. Research on medical teaching is likewise integrated into degree programmes. As preparation for this, familiarising students with the fundamental principles of academic research is a key element of curriculums, and is covered in special study modules (SSMs), which form a sub-curriculum running in parallel with the main curriculum. In the SSMs, students learn about the fundamentals of the scientific method, as well as planning, conducting and evaluating scientific studies. They are also introduced to specific academic research methods.



Impact of the selective admissions procedure

The admissions process was audited by the Austrian Court of Audit in 2019/2020. Three indicators for the Medicine and Dentistry degree programmes were applied to determine the effects of the admissions process:

- (1) the proportion of students taking exams,
- (2) the proportion of students graduating within the standard number of semesters (incl. "tolerance" semesters), and
- (3) the average duration of study.

The Austrian Court of Audit "saw these indicators as, comparatively speaking, the most suitable for monitoring over the long term to enable a direct analysis of the impact." Within ten years of the introduction of the selective admissions procedure, the proportion of students taking exams at Austria's medical universities had increased to more than 85%, compared with 57% at other universities. The proportion of students graduating within the standard number of semesters (incl. "tolerance" semesters) had also increased, to 69%, while at other universities this figure was 30%. The average duration of study is just over 12 semesters.

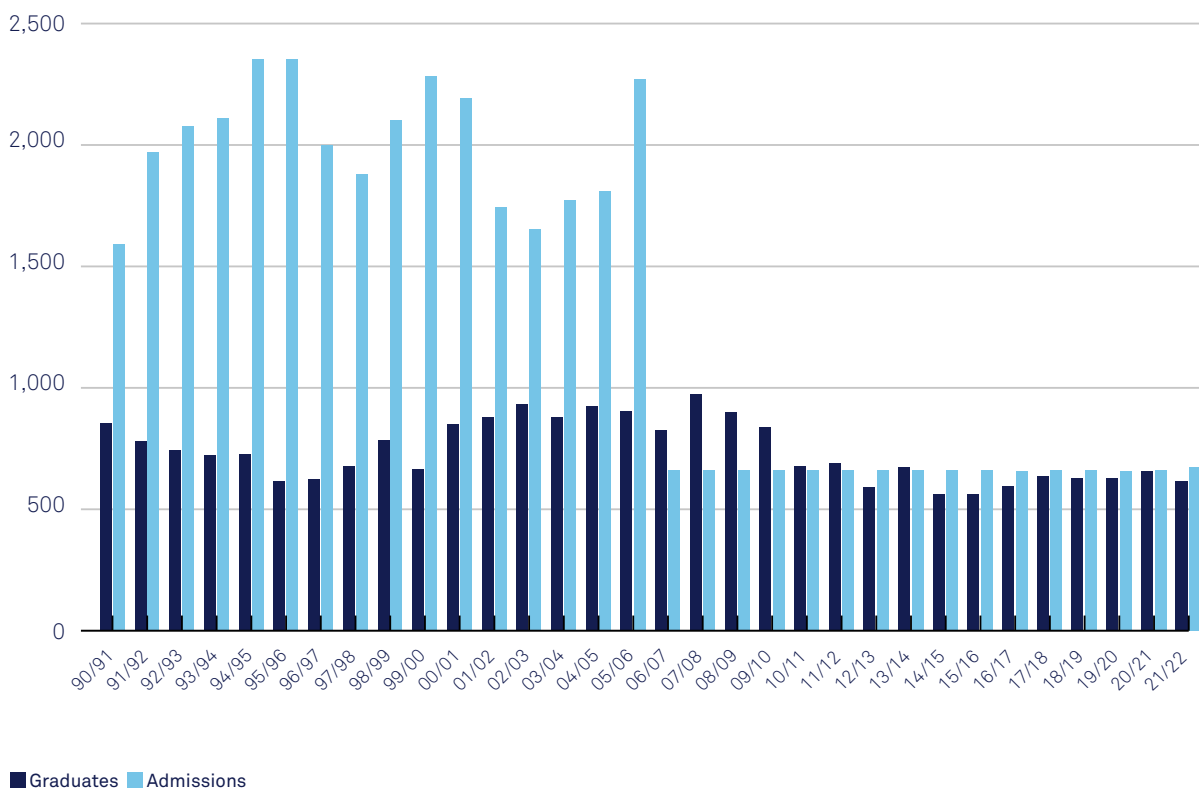


Fig. 11: Number of new admissions to and graduates of the Medicine degree programme

This positive trend can be traced back to the effects of the admissions procedure and the structure of the curriculum (guaranteed internship placements, seminar places and examination dates). A longer duration of study due to increased student numbers, coupled with the resulting teaching capacity shortages, would heighten the risk of students dropping out of degrees, especially students from socially disadvantaged backgrounds. The **Court of Audit** stated “...that the key performance indicators used to evaluate the impact of the selective admissions process on the Medicine and Dentistry degree programmes have improved in recent years.

The potential influence of other factors (e.g. changes to the curriculums) on the change over time must not be underestimated. Nevertheless, it is plausible that students selected in the admissions process on the basis of aptitude are more suitable for the programmes and therefore may make a significant contribution to improving these key performance indicators.”

In place for more than a decade, **MedAT** is a tried-and-tested, legally secure procedure that satisfies EU regulations and allows for an objective assessment of applicants' suitability – including social skills – for admission to medicine degree programmes. Similar admission procedures are now firmly established in most countries in the Western world. There is no evidence whatsoever to suggest that this generation's social or emotional skills are less well developed. Many students voluntarily provided key services for the healthcare system during the Covid-19 pandemic, and also beforehand. Compared with the past, in today's world the topics of dealing with emotions and social decision-making play a more important role in degree programmes. Social skills have formed part of the MedAT exam since 2015.

Accreditation and quality of the Medicine degree programme

The Medicine degree programme was re-accredited in accordance with the World Federation for Medical Education (WFME) standards and ESG principles, as well as the recommendations of the German Council of Science and Humanities for the first time in 2016. The programme was also unconditionally re-accredited until 30 September 2023 by the Accreditation, Certification and Quality Assurance Institute (ACQUIN). According to ACQUIN, the Medicine degree programme provides training which meets the requirements of professional practice as well as the standards for quality improvement in basic medical education. The first re-accreditation encompassed the major restructuring of the Medicine degree programme following its introduction in 2002 and the introduction of the Clinical Practical Year (CPY) in 2013/14. The second **re-accreditation process** was carried out by the German accreditation agency AHPGS in 2023, in accordance with the WFME Global Standards and ESG criteria.

The Medicine curriculum is based on the **Austrian Competence Level Catalogue** for Medical Skills. The catalogue reflects an agreement by Austria's medical universities to compile a joint catalogue of minimum requirements for medical skills and abilities broken down into three competence levels: clinical clerkship competence, clinical practical year competence and medical licensure competence. The Austrian Catalogue of Clinical Learning Objectives was also taken into account when designing the Medicine degree programme. A *Hochschulraumstrukturmittel* (higher education area structural funds, HRSM) project funded by the Federal Ministry of Education, Science and Research, the **Catalogue of Clinical Learning Objectives** was drawn up using a Delphi method involving experts from all public medical universities/faculties, with a view to harmonising their curriculums. Regular refinement of the Catalogue of Clinical Learning Objectives is a key strategic objective. The high quality of education is reflected in the outstanding success that students have enjoyed in domestic and international competitions (e.g. the Paul Ehrlich Contest, *Ars docendi* and *Ars legendi*, *Atlas der guten Lehre* (Atlas of Good Teaching)). After submitting entries to the Federal Ministry of Education, Science and Research's Digitalisation and Social Transformation programme, funding has been secured for teaching projects in this area. These projects are in the process of being implemented and introduced in the core curriculums.

Measures:

- (i) Re-accreditation of the Medicine degree programme in 2023 and of the Dentistry degree programme in 2027;
- (ii) ongoing implementation of recommendations made during the re-accreditation processes in 2016 and 2023;
- (iii) implementation of topics covered in the Teaching White Paper: development of the teaching culture, the role of teaching in the medical career path, development of clinical teaching, joint training, interprofessional teaching, medical simulations, digitalisation of teaching and a focus on digitalisation in curriculum development, hybrid education; assessment including enhancement of the Medicine degree by means of an internationally comparable final examination; development of competence-based evaluation and introduction of new evaluation software (evasys); evaluation by means of graduate surveys. Efforts will be made to harmonise assessment in core areas of medical education.
- (iv) planning and implementation of staffing requirements for teaching at MedUni Campus Mariahilf including a simulation centre and virtual reality lab; enhancement of the CPY and of the fifth year of the degree programme, in particular:
 - (a) quality assurance measures for teaching departments with site visits; (b) simplifying the management of documentation of achievement of learning goals (logbooks) for teaching staff and students; (c) review of the learning objectives in the logbook for the fifth year of the degree programme; and (d) increasing flexibility in the personal design of learning objectives;
- (v) continuation of graduate monitoring and making use of the results – launched in 2017, the ‘Graduate/Student Monitoring’ HRSM combined project is designed to support analysis of the career entry profiles of graduates in the Austrian labour market. The aim is to collect data relating to different degree subjects at 12 universities on graduates’ entry into professions and their first five years of work (see section VI for further information on the social dimension);
- (vi) digitalisation (see also the Federal Ministry of Education, Science and Research’s Uni-Med-Impuls 2030 programme): implementation of all necessary course contents in the Medicine degree programme, in order to provide future physicians with effective training in digital skills, knowledge and communication (DSKC) and patient safety. Execution of the project over the next three years (Federal Ministry of Education, Science and Research call for digital and social transformation initiatives, project lead: MedUni Vienna), followed by continued implementation based on the results;
- (vii) hybrid education, distance learning and teaching: hybrid teaching refers to the interweaving of face-to-face teaching with digital media and platforms. It incorporates aspects of e-learning and takes the form of blended learning for the purposes of these measures (see Teaching White Paper). Improved options for recording lectures, and making recordings available for download for longer periods. Digital Microscopy – an extensive national project resulting from the Federal Ministry of Education, Science and Research’s Digital and Social Transformation call – is being implemented at several universities, including at MedUni Vienna; further expansion of a teaching and research field focused on digital teaching, educational technology, digital medicine and digital skills, cognitive learning, medical simulation and mixed reality. The three highest-priority joint projects between the medical universities and the Faculty of Medicine at Johannes Kepler University Linz that will be implemented over the next few years are the refinement of the joint admissions process, the Digital Knowledge and Skills project, and the Digital Microscopy project. Other priorities include international academic networking on the topic of digital skills and knowledge, as well as collaboration regarding international recommendations aimed at satisfying the training needs of future physicians. In connection with hybrid teaching environments, digital exams will also be further enhanced. The required resources will have to be defined and corresponding structural support established. The digitalisation task force’s teaching working group has identified 12 teaching projects that will be successively implemented over the next few years based on the White Paper and the Uni-Med-Impuls 2030 programme;
- (viii) improvement of the situation regarding thesis supervision;
- (ix) alignment of the curriculums according to international quality indicators based on the WFME standards and European standards, and, based on this, development of quality indicators for the teaching career model.

Dentistry degree programme

80 new students are accepted on to the Dentistry degree programme every year via the MedAT-Z admissions process. Several major reviews of the curriculum have been completed in recent years and these have made it one of the most up-to-date dentistry degree programmes offered anywhere in the world, thanks mainly to innovative teaching approaches and a strong practical focus. In 2020, the Dentistry degree programme was accredited by way of a process similar to the one in place for the Medicine degree programme.

The programme has been **accredited until 30 September 2027** in accordance with the WFME Global Standards and ESG criteria. Both ensure that social aspects form part of the accreditation procedure. The degree programme was awarded unconditional accreditation.

Measures:

The Dentistry degree programme will be further enhanced on the basis of the accreditation process, taking into account factors such as improvements in mobility. The Dentistry programme has a special status, as it permits graduates to enter independent professional practice immediately. In view of the lifting of quota regulations for the programme admissions process in 2019, pursuant to the decision by the EU Commission, the programme will be monitored over the coming years. The long-term effects of this may include too few Austrian students being admitted to the programme, resulting in a declining number of licensed and practising dentists in Austria. The evaluation will be conducted jointly with the Austrian Dental Chamber, and by means of graduate surveys. The recommendations from the 2020 accreditation process will be implemented through measures related to the Dentistry programme curriculum and organisational set-up. The university aims to have the programme re-accredited, with the process due to be initiated in 2026.



Doctoral programmes

In the 2022/23 winter semester, **1,399 doctoral candidates** were under supervision in the structured doctoral programmes. There are currently **28 research themes**. The university's career development strategy reflects the view that doctoral programmes lay the foundations for an academic career. At present there are two doctoral programmes, the Doctoral Programme in Applied Medical Science (N790) and the PhD Programme (N094). Both are taught in English. N094 encourages the continuing development of independent academic research skills as well as providing training and support for early-stage researchers. The university regards PhD students as early-stage researchers who receive an education geared towards a career in scientific research. The PhD Programme promotes the development of independent academic research skills for medical careers. The MD/PhD programme, a programme of excellence enabling highly gifted students to begin PhD studies before graduating from their medical degree, was introduced in 2009. Prospective participants are required to apply for a place, and a committee makes the final decision on admission.

A new MD/PhD separate from the current programme is due to be established, and the corresponding legal framework and curriculum-related requirements drawn up. Funding provided for doctoral students in clinical training in the form of Physician Researcher Pathway scholarships has been evaluated; the scholarships have been awarded annually since their introduction. In order to enhance cooperation with the University of Vienna, a joint English-language PhD programme with a strong international profile has been created. This programme is based on identical curriculums to be approved by the two universities. Options for further joint PhD programmes are being evaluated. The first PhD call based on a competitive recruitment process took place in 2022. In 2019/20, the university successfully participated in the PromoLi initiative for the first time, and awarded places on MedUni Vienna doctoral programmes to outstanding applicants with disabilities or chronic illnesses.

Plans and measures:

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| <ul style="list-style-type: none"> (i) Establishment of a new MD/PhD programme (planned as a postgraduate programme); (ii) established in 2009, the current MD/PhD programme is set to be retained and enhanced by taking compatibility with the CPY into account; (iii) support for the Young Scientists Association (YSA) incl. with the annual symposium; (iv) introduction of a peer mentoring programme for doctoral students; (v) offering seminars for supervisors; (vi) reduction in the average time required to write doctoral theses (currently 4.3 years) and evaluation of PhD programmes incl. analysis of time taken to write doctoral theses as well as formulation of corresponding measures; (vii) establishment of a doctoral theses database (see section on the University Library); | <ul style="list-style-type: none"> (viii) recognition of curriculum elements between doctorate programmes; (ix) employment contracts for all doctoral candidates at MedUni Vienna, if they are not already employed or receiving a scholarship; (x) expansion of structured PhD programmes (see section IV). PhD positions will be advertised and applicants will be able to apply through international calls, with positions available on all programmes. Alignment of the PhD Programme with the harmonised recruitment process is designed to play a part in providing additional quality assurance for the programme, boosting the university's attractiveness as an international centre and increasing international visibility; (xi) Physician Researcher mobility programme; (xii) continuation of the Physician Researcher Pathway scholarships and regular evaluation. |
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Master's degree programmes

Medical informatics: Introduced in 2006, the Medical Informatics master's programme is currently seeing a slight upturn in the number of new enrolments. In view of the fact that digital medicine content increasingly forms part of the Medicine degree programme curriculum and such topics are also becoming more attractive for life sciences professions, the goal is to expand the master's curriculum by implementing a dual track model that will add a second track aimed at students with life sciences and bioscience backgrounds, alongside the current medical informatics track. The majority of courses will be designed as joint courses for both tracks, and there will be additional introductory courses for each of the student groups. Course requirements will be based on the students' education backgrounds (informatics or life sciences), while the objective of joint teaching is to develop the skills required for effective communication between the two occupational groups. The current cooperation with TU Wien and the University of Vienna will be continued, and intensified where appropriate. The intention is to establish a formal partnership with the University of Vienna to replace the current informal arrangements.

Measures: In view of this development, work is under way on a plan designed to open up the master's curriculum to students without an informatics background, as well as to expand the target group by means of internationalisation (courses to be held in English), coupled with quality controls. Overall, the aim is to create an education model that addresses all aspects of digital medicine and the resulting demand for trained experts as far as possible. Regarding core informatics topics, the intention is to cooperate efficiently with a technical university.

Medical Biotechnology: This cooperation with the University of Natural Resources and Life Sciences, Vienna (BOKU) will continue. MedUni Vienna provides teaching services (including the chair for Biotechnology) and courses are attended by MedUni Vienna doctoral programme participants and graduates of the master's programme at BOKU.

Molecular Precision Medicine: Based on programmes at other universities around the world, MedUni Vienna introduced the Molecular Precision Medicine master's programme in cooperation with the University of Vienna (lead: MedUni Vienna). Students develop the skills required to analyse large data sets and genomic information using bioinformatics and data mining techniques, and are taught how to critically evaluate them according to ethical and health economics criteria. With advanced molecular and mechanistic understanding of human diseases, graduates of this postgraduate programme have the skills required to pursue careers in basic, clinical or biomedical research in science or industry (e.g. the biotechnology or pharmaceutical industries). The degree is coordinated by the Max Perutz Labs, which are an ideal coordination platform for this programme in view of their current research projects in this field and the experience gained through coordinating the Molecular Biology master's programme at the University of Vienna. This international master's programme in Molecular Precision Medicine is taught in English and uses an international recruitment procedure. Now firmly established, the degree programme is currently designed for 25 students. A gradual increase in the number of students (to less than 50) is planned, although this will depend on the availability of resources and the need for a strict focus on providing education of the highest quality.

Establishment of new master's degree programmes: Expansion of the range of master's degrees on offer beyond the two existing programmes is planned. The aim is to launch two new master's programmes, and a Senate working group is in the process of determining the related priorities. Partnerships with other universities, e.g. with TU Wien in the field of biomedical engineering, are also being evaluated.

Academic study of psychotherapy and master's degree in psychotherapy: The amended Austrian Psychotherapiegesetz (Psychotherapy Act) will provide for bachelor's and master's programmes in psychotherapy at public universities. As a result, the university is evaluating the feasibility of introducing a master's programme in psychotherapy. MedUni Vienna's current psychotherapy training programmes are continuing education courses that form part of the training portfolio, which will be retained and, if necessary, expanded.

Postgraduate teaching – lifelong learning

Lifelong learning, practical general background knowledge and attitudes to change, as opposed to tangible technical knowledge, are becoming more and more significant in today's world of disruptive change brought about by advances in biotechnology and information technology, particularly for academic staff in the early stages of their careers. Consequently, continuing education is an important core activity at MedUni Vienna, alongside research, teaching and patient care. On an individual level, postgraduate education results in increased income and has a lasting effect on life satisfaction. There are also synergies with the Alumni Club, existing internationalisation activities, and networking activities such as the university's membership of the Austrian University Continuing Education and Staff Development Network (AUCEN) and the European Universities Continuing Education Network (EUCEN). MedUni Vienna's postgraduate programmes are also designed to open up greater access to the tertiary education sector and to be compatible with part-time study. Continuing education programmes at MedUni Vienna are not only aimed at university graduates, but also at people with university entrance qualifications and relevant professional experience. Planned future developments at MedUni Vienna include new curricular (continuing education programmes) and non-curricular education and training courses. The university introduced **35 continuing education courses** in the 2022/23 academic year. In accordance with the 2021 amendments to the Universities Act, 17 curricular programmes will be reclassified as continuing education courses that confer the title of Akademische Expertin/Akademischer Experte (Academic Expert), while the others will be adapted to form a curriculum for which

graduates will be awarded the title "Master of Science (Continuing Education) (MSc CE)". In terms of topics, the continuing education courses are consolidated to form a portfolio: occupational medicine (four courses), dentistry (four courses), psychotherapy (six courses) and intensive care, all of which are backed up by national and international cooperations, which in turn allows further key areas of the health sector to be covered. Future plans concern amendments related to the organisational plan for the continuing education curriculums, as well as adjustments regarding the range of programmes offered. This will include new psychotherapy programmes, with a variety of courses aimed primarily at medical professionals. Collaborations with external institutions and partners will be expanded to involve **continuing education programmes for healthcare workers**. There will also be a stronger focus on interprofessional training for different groups of healthcare workers, which will be reflected in the curriculums. In parallel, enhanced quality assurance measures will be implemented, including an internal audit and an internal audit report.

Measures:

In the coming years, there will be a focus on the continuation of research-led teaching, quality assurance measures for continuing education and stakeholder involvement, which will support the development of integrated care through enhancement of the portfolio by means of courses on health professions that are aligned with patient care requirements.

Other teaching-related plans, measures and objectives

Avoiding drop-outs

Because implementation of an introductory and orientation period (STEOP) in the meaning of section 66(1) Universities Act is not compulsory for degree programmes with selective admissions procedures (in the meaning of section 71c and 71d Universities Act), the current introductory phase in the curriculums of the undergraduate Medicine and Dentistry degree programmes will be retained (see order of the Rectorate, 2016). The **drop-out rate** has stood consistently at around **5.5%** since the introduction of the selective admissions procedure in 2006 (*Drop-out study, Kirnbauer, 2015*). Moderators are available to help Dentistry and Medicine degree students with organisational matters in the first semester, and a comprehensive mentoring programme from the third semester onwards was introduced in 2009 (*Hofhansl et al., 2010, Senior-Mentoring für Studierende an der MedUni Wien: Konzeption und Evaluation eines Pilotprojekts [Senior mentoring for students at MedUni Vienna: planning and evaluation of a pilot project]*). The senior mentoring programme was followed by a peer mentoring programme, both of which have been successfully implemented. The number of drop-outs has fallen steadily since the university introduced the selective admissions procedure. Thanks to the university's management of study places, all students are guaranteed a place and supervision in all seminars, internships, etc. if they achieve the necessary grades. This also ensures that they can complete their degree within six years or within the tolerance semester period. According to the Student Monitoring (STUDMON) study, the drop-out rate for students who started their degrees in the 2014/2015 academic year was 2.7% by the 11th semester (IHS, Dec. 2021).

Measures:

Establishment of a system to monitor progress made by students on their degrees is planned. If study-related circumstances prevent students from completing their degree, they are actively offered support as a means of providing individual assistance (mentoring). Data on the various year groups and their exam performance is also monitored. Other services include supervision seminars, such as Supervision für Studierende im klinischen Alltag (Supervision for students in day-to-day clinical practice) and Klinische 1x1 (Clinical Practice 101). MedUni Vienna offers "graduation scholarships" that are intended to support part-time students who have reached the closing stages of their degrees and enable them to complete their studies in the near term. The mentoring programmes, as well as professional peer and senior mentoring, will continue to be supported, and the range of student advice services and seminars will be expanded further.

Promotion of general practice

MedUni Vienna is making every effort to play its part in addressing the shortage of young academics and taking corresponding action by implementing suitable measures within the scope of the Medicine degree programme. As a rule, students can currently spend two to four months in general practice during their CPY, working on the basis of a training plan. The Austrian public health insurance fund ÖGK has so far invited applications for 50 **scholarships** for students who have reached at least the third year of their degree – the scholarships are intended to encourage them to train in a particular profession and then remain within the statutory health insurance system. In order to make this path more attractive, MedUni Vienna offers the **CPY programme of excellence in general practice**. As part of the programme, internships can also be completed at different types of organisation, including the Ärztefunkdienst emergency call service and mobile home-care providers. There is also the option of working as an intern at other Viennese healthcare facilities. The internships are accompanied by training courses, networking events and support from experienced mentors. Students also receive an expense allowance. Initially offered only in Vienna, the programme was extended to Lower Austria in the 2020/2021 winter semester. Alongside moves to promote general practice, the Covid-19 pandemic has highlighted a shortage of doctors in the public health service (medical officers) in many European countries. Since 2021, MedUni Vienna has been collaborating with public healthcare providers to offer CPY places in Austria's federal provinces (currently Lower Austria, to be followed by other provinces), in order to give students an insight into this area during their studies.

Measures:

The programme of excellence in general practice is a Uni-Med-Impuls 2030 project. MedUni Vienna will continue to expand the content of the programme, extend it to other federal provinces, and carry out further evaluation. This is conditional on the university's partners continuing to include the programme in provincial target control agreements and set aside funds for expense allowances for students in private practice in their budgets; support for the efforts of the ÖGK and the federal provinces to retain scholarships for students working as GPs in rural areas in their current form; promoting CPYs in the public health service and working to identify partners in the federal provinces.

Mobility

Promoting international student mobility is an established strategic element of teaching in tertiary education (see also the Federal Ministry of Education, Science and Research higher education area mobility strategy). MedUni Vienna is one of the most successful universities in Austria, and the proportion of graduates in a given year who have completed a degree-related stay abroad is above the **mobility target of 26%** (see The Austrian University Plan 2030, p.15 [German only]). Medicine programme students spend time abroad for their degrees in their fifth and sixth years of study. In the 2022/2023 academic year, **777 students** took part in MedUni Vienna international exchange programmes. International mobility periods are primarily completed and funded through Erasmus+/the Swiss-European Mobility Programme (SEMP). MedUni Vienna also offers grants to students who complete placements abroad at selected partner universities. In addition, students can spend mobility periods abroad as free movers, or build up their experience

through the Eurasia-Pacific UniNet, ASEA-UNINET and Africa-UniNet programme tracks. Potential new **foreign partner universities** for the Dentistry degree programme are evaluated on an ongoing basis. The aim is also to enable Medical Informatics and Molecular Precision Medicine degree students to gain international experience, and to receive funding through established support programmes. The introduction of the new career model is expected to prompt a further increase in mobility among teaching staff. MedUni Vienna is committed to meeting its responsibilities in terms of giving Austria's young generation the ability to adopt a joined-up, global and innovative mindset and to forge international partnerships (see The Austrian University Plan 2030). This is reflected in the large number of degree-related stays abroad. The regular evaluation of mobility programmes includes a focus on quality standards and mobility objectives, as well as other elements from the Erasmus+ Charter and social aspects such as sustainability and inclusion.

Measures:

International mobility periods remain a core component of contemporary teaching, although this is clearly also dependent on regional and global political conditions and events. The university will continue to regularly evaluate its student mobility partnerships and collaborations, and will adapt them as required. Qualitative and quantitative aspects, strategic goals, initiatives, stimulus and papers from domestic and European opinion leaders all feed into this assessment, as do current – and, in some cases, future – challenges facing society as a whole (see The Austrian University Plan 2030, Erasmus Charter for Higher Education [ECHE], etc.). Paving the way for international degree-related mobility periods on a comprehensive scale, and making mobility more sustainable and inclusive, is both a goal and a challenge that MedUni Vienna is committed to addressing. To do so, the university makes use of funding from Erasmus+ and the Austrian Agency for Education and Internationalisation (OeAD) and capitalises on the opportunities they offer. Mobility measures are refined by way of regular consultation between the

stakeholders concerned (student representatives, International Office, curriculum management, relevant peer groups, etc.) – an approach that benefits all those involved. MedUni Vienna is a member of Eurasia-Pacific Uninet and ASEA-UNINET, and uses its full allocation of places in both of these networks. MedUni Vienna intends to boost mobility among teaching staff under Erasmus+ by implementing new career models, including the internal career agreement for teaching, and in collaboration with partners. Staff mobility is one of the criteria in the internal career agreement for teaching. There will be a stronger emphasis on promoting domestic and international mobility on the Dentistry degree over the next few years, even though mobility will be more complicated to implement, in view of the fact that the programme represents a form of professional training, and there must be an emphasis on comparability in terms of the quality of training provided. Students will also have the opportunity to complete parts of their 72-week placement at primary dental practices, provided that the quality of training can be assured.

University Library

In a complex, constantly shifting scientific landscape, libraries are key partners for researchers and teaching staff. In addition to long-established areas of library operations, new challenges are constantly emerging, such as the open access movement, prevention of plagiarism, the role of a teaching library, advice on publishing, and AI. In its role as an information provider, the library has excellent networks of contacts both at home and abroad. Information and ideas are regularly shared at management level within the **Forum of Austrian University Libraries** (ubifo). The University Library is also one of the 90-plus organisations that make up the Austrian Library Network. The rapidly growing complexity of the information landscape also calls for increased utilisation of synergies, as well as the exchange of services, including at a superregional level. The aim is to strengthen and enhance these links (see target 1a GUEP, p.15).

MedUni Vienna is committed to promoting the principles of **open access** (OA) – the university signed the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities in 2022 (see target 5a GUEP). Since 2016, the library has enabled publication of open access papers in numerous journals from respected publishers either free of charge or with significantly reduced article processing charges (APCs) on the basis of transformative agreements. As a member of the Austrian Academic Library Consortium (KEMÖ), the library is working to further expand the options available for OA publication. The library is also involved in negotiations as part of a consortium that will ensure the long-term security of contracts, safeguarding future access to licensed media as well as options for OA publication for MedUni Vienna researchers. The MedUni Vienna library is also participating in the Austrian Transition to Open Access project (AT2OA2, duration: 2021–2024). Regarding Austrian Science Fund (FWF) funding for publications, the changeover from project funding awarded to specific individuals to project funding through research institutions (change from section 26 to section 27 Universities Act) means that the FWF funding for OA publications will be processed through the library in future.

The library operates the institutional **MedUni Vienna ePub repository**, which contains OA publications by MedUni Vienna authors, MedUni Vienna student theses, as well as literature from the medical history collections.

The repository also enables MedUni Vienna researchers to use green open access publishing. In future, the aim is to expand the repository to include further collections and publications, making it a kind of “memory” for the university.

The goal of the history of medicine branch of the library is to **preserve and maintain MedUni Vienna’s cultural heritage**. It stocks literature and provides support for research on the first and second Vienna Schools of Medicine, which are major focuses in its collections. A key aspect of the branch’s social mission is to play a significant part in knowledge transfer by means of presentations centred on its medical history collection. Thanks to its location in the Josephinum, the branch is in a position to support the museum it shares a building with by providing exhibits and expertise. It places a strong emphasis on continuous, state-of-the-art, detailed cataloguing and conservation of the historic collections and the Josephinum library using modern metadata management tools, as well as on the systematic retrospective cataloguing of the Neuburg Library.

The University Library is a highly specialised **service facility** that provides support throughout the student life cycle with an extensive portfolio of services, which in turn contributes to improvements in the quality and efficiency of teaching (see target 3a GUEP). All library services are refined in line with the current needs of the various stakeholders as part of a continuous improvement process (in accordance with ISO 9001:2015). Text- and image-generating artificial intelligence are expected to have a palpable impact on libraries. These new technologies will have an influence on publishers’ policies, predatory publishing, copyright-related matters, and ultimately on the results of academic literature research. The library has identified this topic as a key future action area and a focus of attention across all departments (see target 3a GUEP).

Besides offering a broad range of services, the library is also a place for meeting and sharing ideas – making it a focal point of campus life. “Library as place” is a contemporary approach that is already part of everyday practice at many universities. In the context of the construction master plan for University Hospital Vienna, the library will have to constantly adapt its layout and use of space in this regard.

Improving the quality of teaching

MedUni Vienna is committed to the principles of systematic quality assurance and continuous quality development. At the Medical University of Vienna, both take place in the framework of a process-driven quality management system (QMS), which ensures the transparency of operations and is geared towards achieving

continuous improvement. Quality management at MedUni Vienna is not a distinct responsibility assigned to a specific unit – MedUni Vienna employs a variety of different elements and instruments for quality assurance and development purposes, and these are embedded in several university facilities.

Measures:

The 2022-2024 performance agreement defines specific priorities for the refinement of and quality assurance in teaching and learning structures (including internationalisation) by means of the following measures, all of which will be continued or repeated:

- (1) re-accreditation of the Medicine and Dentistry degree programmes;
- (2) regular reviews of the Austrian Catalogue of Clinical Learning Objectives;
- (3) measures to improve studyability;
- (4) continuation of measures to enhance social dimension mainstreaming – “university and family” audit;
- (5) expansion of the Junior Scientist programme;
- (6) implementation of the plans of the Teaching task force, which are set out in the teaching strategy (White Paper) and coordinated within the university.

These measures will be complemented by the following activities:

- (1) Teaching task force, which addresses current issues (such as the influence of new technologies/innovations, examinations, etc.) as well as the initial results of the meta-evaluation and lecturer survey, so that they can be embedded in the university’s strategy;
- (2) young researchers task force, which is committed to establishing teaching, and in particular teaching quality, as a permanent criterion in the career model; the internal career agreement for teaching has now been established;
- (3) e-didactics is a core element in teaching-staff development, and all teaching staff have access to corresponding development programmes, which are mandatory for the internal career agreement for teaching;
- (4) online evaluation of elements of the curriculum, which is used extensively for the Medicine and Dentistry degree programmes;
- (5) evaluation of examinations using an evaluation wheel to obtain student feedback at regular intervals on examinations they have taken (e.g. SIPs, ePTM);
- (6) monitoring performance in teaching at the individual organisational level as part of the performance-based allocation of funds for teaching;
- (7) Teaching Center activities aimed at ensuring improvements in teaching quality through professionalisation, integration of new media and implementation of international Best Evidence Medical Education standards;
- (8) quality assurance for teaching organisation and development; Teaching Center ISO certification.

Improvements in teaching quality at MedUni Vienna are guided by the related recommendations of the Austrian Higher Education Conference. The steps taken include broad-based information for students on registration, examination organisation, performance assessment and the supervision of academic work, as well as the following **measures**:

- (1) curriculum design has been enhanced by embedding academic skills at an early stage by means of specialisation in optional electives;
- (2) course and exam formats are aligned and geared towards the types of learning objective (constructive alignment);
- (3) enhancement of teaching by means of a strong focus on teaching activities in staff selection and development;
- (4) support for teaching staff in connection with knowledge transfer by means of didactic training for teaching staff and coordinators, with exam design support provided by the curriculum commission and curriculum director concerned, as well as the Teaching Center;
- (5) feedback to teaching staff on the results of course evaluations;
- (6) clearly defined responsibilities regarding support for teaching staff in connection with the planning, coordination and enhancement of the quality of their teaching;
- (7) ensuring student-focused teaching through the close involvement of the Austrian National Union of Students and by means of a tutor system. The regular fixed meetings with class representatives should also be mentioned in this regard.

Due for completion in 2026 and scheduled to enter operation in autumn 2027, **MedUni Campus Mariannengasse** will take the quality of teaching for preclinical subjects to new levels. The logistics preparations, the relocation of preclinical teaching operations for the Medicine and Dentistry degree programmes as well as other programmes without interruption to regular teaching operations, and the start of teaching at the new facility make this project one of the biggest initiatives that the university will undertake over the next few years.

Measures:

Continuation of the measures outlined above; relocation and start of teaching operations at MedUni Campus Mariannengasse; consideration and implementation of the recommendations from the full audit in 2022.

Good teaching practice and careers

Teaching, evaluation results and didactic training are key criteria in the current career models. With the implementation of the internal career agreement for teaching, the internal career path has been expanded to include the option of specialising in teaching. In addition to the primarily academic focuses of the internal career agreement, corresponding criteria for teaching performance must also be met, including time spent teaching abroad (e.g. Erasmus). This will serve to further reinforce the pivotal role of teaching as one of the university's primary functions.

Measures:

retain the internal career agreement for teaching as a focus in the careers of academic staff, and evaluate the performance criteria.



Course evaluation system

MedUni Vienna uses a standard evaluation tool – acquired from Graz University of Technology – to evaluate its courses; the tool is based on the MedCampus platform (CAMPUSonline). The university anticipates that it will no longer be able to carry out course evaluations (as well as other evaluations, such as examination and TAN-based evaluations) through MedCampus from the end of 2024. With this in mind, work is currently under way on developing a MedCampus interface to connect with Electric Paper's **evasys system**. One of the objectives is to extend the use of online questionnaires to all types of evaluation. As part of this project, in April 2018 Graz University of Technology (TU Graz) set up a special interest group and a focus group in conjunction with participating Austrian and German universities to jointly design the evaluation process. MedUni Vienna is acting as a pilot for all Austrian universities. The evasys software was purchased in 2021, and, after training courses had been held, the system went live with the changeover to Campus 3.0. The technical and administrative requirements were met and the software entered operation at the end of 2022. Since then, teaching staff from all degree programmes and electives have been able to carry out evaluations of their courses using solution-based surveys in evasys. TU Graz plans to upgrade the interface to include additional types of evaluation. To this end, MedUni Vienna took over as the lead for the follow-up evasys-MedCampus project, entitled 'Requirement for team teaching', in December 2022. Further requirements for evaluations (e.g. module evaluation) will be implemented gradually on the basis of this project.

Measures:

enhancing the course evaluation system to include assessment of the achievement of learning and course objectives, the medical skills acquired, and suitability for entry into continuing education.



VI. Social responsibility

MedUni Vienna is committed to meeting its social responsibility (third mission or, in the field of medicine, in fact its fourth mission). Outlined in this chapter, the university implements **its environmental, social and governance (ESG)** principles in a wide variety of areas.

Under the first pillar, the environment, MedUni Vienna focuses on sustainability and decarbonisation (see below for details), as well as environmental medicine.

The second pillar – social – is particularly important, as equal opportunities constitute one of the core values that defines the organisational culture at MedUni Vienna. People with a range of different competencies and perspectives work in cooperation at MedUni Vienna, and all of them enjoy equal status. The organisation also actively promotes diversity and inclusion. The work of MedUni Vienna is characterised by mutual respect and positive interaction between all members of the university (management, executives and employees). For the university to be successful, it is essential that the diversity of staff and students alike is viewed as a resource, as well as a source of potential for the development of the individuals that work at MedUni Vienna and of society as a whole. Further details can be found in the information on equal opportunities and diversity, development and career opportunities, organisational culture and work-life balance, inclusion at MedUni Vienna, the social structure of graduates, and social dimension mainstreaming below, and under Staff development (see section III).

The third pillar, governance, which encompasses responsible behaviour in research, teaching, administration and management, forms the basis of decision-making processes and actions. Guidelines and principles reflect the values of integrity and transparency, as well as ethical conduct. See below for more information on responsible science, medical humanities and data protection. Details relating to corporate governance, risk and quality management including good scientific practice guidelines can be found in section II.

Equality and diversity

MedUni Vienna's diversity strategy is guided by an intersectional approach which recognises that various **diversity categories** with a strong underlying social dimension such as gender, age and socio-economic status often apply simultaneously and overlap. This approach to addressing the topic of diversity avoids stereotyping and is shaped by numerous different characteristics, which are perceived by individuals as defining identity, but, at the same time, also as structurally embedded causes of unequal treatment. The university believes it has a duty to create a framework that fosters a working environment defined by **respect and tolerance**. Diversity management at MedUni Vienna follows a comprehensive approach which, in addition to "development and career opportunities", also includes the "organisational culture and work-life balance" and "integration of gender and diversity in research and teaching content" action areas. Monitoring and evaluation is an integral part of all of the diversity management measures in place at MedUni Vienna. To ensure that different perspectives are incorporated into idea-generation processes and the design of diversity management measures, MedUni Vienna established a steering group at the point that diversity became an active topic of discussion. This ensures that employees outside management and the department in question are given an opportunity to participate in the design of diversity management measures. As a result, this steering group comprises various stakeholders who are involved in one or more topic areas. The range of seminars relating to gender and diversity competences is also being expanded with a view to promoting awareness and skills development among managers at MedUni Vienna.

Development and career opportunities

This action area includes a range of programmes and measures to help individuals better overcome structural barriers pertaining to socially impactful categories of difference. Here, the focus is on gender, a category which remains one of the most important aspects of diversity. Implementing and evaluating the plan for **women's advancement and equal opportunities**, as outlined in the Statutes of MedUni Vienna, is an objective designed to promote achievement of the 50 % gender ratio specified in the Universities Act and the Bundes-Gleichbehandlungsgesetz (Equal Treatment Act) at all levels of the university's hierarchy. MedUni Vienna is making consistent progress towards this goal (see Fig. 4). Even so, women are still underrepresented at the top levels of MedUni Vienna's organisational hierarchy (see fig. 12). The glass ceiling index has fallen significantly over the past few years. Most notably, the university issued a call for applications from prospective female professors for ten chairs pursuant to section 99(4) Universities Act. Such appointments help to significantly narrow the gap between the numbers of female and male professors.

The specific **measures** on offer for female employees at different career levels include: career coaching group for young female researchers in the first year of their PhD; "schrittweise": – a curriculum for female early-stage researchers; CONNECT – a curriculum for women in the early stages of their careers; Frauen netz.werk Medizin: mentoring for (senior) postdocs; career coaching; networking events.

In line with MedUni Vienna's intersectional approach to diversity, one focus of the development measures in this area is on expanding the English-language programme for non-German-speaking employees.

Percentage of woman in management roles 2015 – 2022

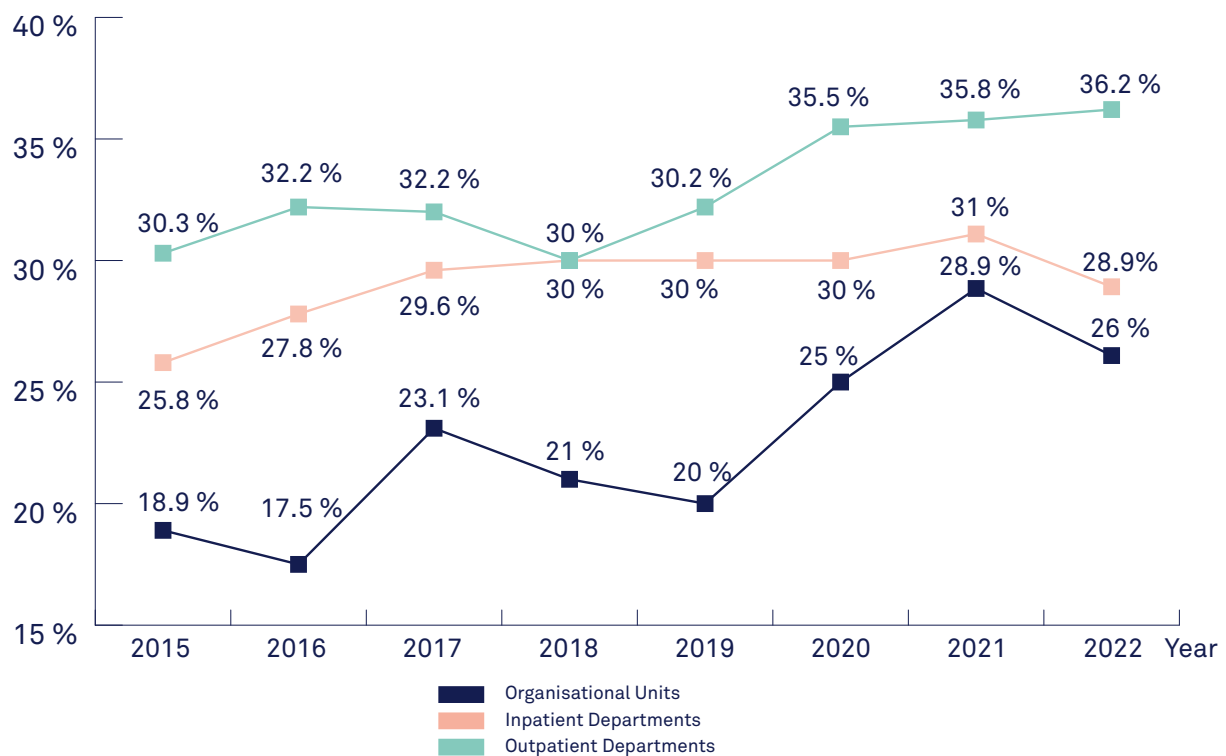


Fig. 12: Proportion of women in management positions at MedUni Vienna (Gender Equality Plan 2022)

https://www.meduniwien.ac.at/web/fileadmin/content/ueber_uns/pdf/220123_MedUni_GEP_2021_V09_RZ_ANSICHT_WEB_navi.pdf

Organisational culture and work-life balance

This action area aims to raise awareness of structural inclusion and exclusion mechanisms, as well as barriers, by reflecting on existing structures and cultures. The overarching goal is to develop and implement the processes needed to initiate change and remove **structural barriers**. It also includes a focus on the compatibility of employees' and students' work, study and caregiving responsibilities. The university believes it has an obligation to give due consideration to family caregiving responsibilities when designing professional duties and degree programmes. Frameworks to support the improvement of compatibility between work (or study) and family caregiving responsibilities are being developed (see also the section on HR development, above). A **compatibility officer** will be appointed to implement and develop such measures. Parenthood has a different impact on the careers of men compared with women. While 75% of male professors at MedUni Vienna have children, among female professors the proportion is just 60% (figures as at 31 Dec. 2018). This shows that women with children are still underrepresented, especially at senior career levels. Measures relating to work-life balance are developed and implemented as part of our ongoing participation in the "university and family" audit. As part of this process, one of the key focuses is the appointment of professors and continuous reflection and sensitisation of all of the parties involved. MedUni Vienna is also implementing measures designed to effectively strengthen and consolidate awareness of diversity among employees.

Specific measures include expanding the range of courses on gender and gender medicine; workshops on bias reflection for different target groups; guidelines and materials (on topics including diversity-sensitive language); bundling, networking and visualisation of topics; public relations work (Women's Day, Gender Research Day, International Day of Women and Girls in Science); Veronika Fialka Moser Diversity Award; diversity seminars; unconscious bias brochure; development of a leadership mission statement as part of the work of the Leadership and Reputation Task Force; implementation of further targeted appointments of female professors to chairs pursuant to section 99(4) Universities Act where appropriate, as a meaningful way to help close the gender gap for female professors.

Inclusion at MedUni Vienna

The **"physical/mental abilities" diversity category** and impairment is one area that MedUni Vienna will be focusing on more closely in coming years. MedUni Vienna has established a Disability Services Office as well as an advisory board to support and integrate employees and students with disabilities. The Statutes of the Medical University of Vienna stipulate how the advisory board is to be formed and what its duties are. The board must be made up of members with and without disabilities, in equal numbers, all of whom are university staff or students. The duties of the advisory board are to advance the integration of people with disabilities who are studying or working at the university into all aspects of university life. This includes adaptations to make buildings step-free, appropriate fit-outs in research and teaching facilities, and disability-friendly design of courses and the MedAT admissions tests. The Inclusion@MedUni Vienna project is being set up with a focus on the topic of employees with disabilities to complement the above structures. The aim is to establish a central point of contact and advice centre for all matters relating to employees with disabilities to help drive cultural change and make the university a more attractive and welcoming employer for people with disabilities.

Integration of gender and diversity in research and teaching content

At the level of the gender dimension in research and teaching, **gender medicine** has been established as a distinct discipline with its own chair at the university. There is also an ongoing process of integrating gender and diversity-related topics across the spectrum of research and teaching at MedUni Vienna.

Specific measures include elective lecture series covering changing topics related to gender medicine; coverage of gender medicine at various points in the compulsory curriculum; networking platform for teaching and support staff; integration of gender/diversity experts in the curriculum development process (a working group that meets regularly has been set up for this purpose); "How does gender/diversity come into my teaching?" workshops for teachers as part of the university's medical teaching programme; repository of materials related to gender/diversity in research. As a shared priority, diversity management measures will also be pursued within joint management of University Hospital Vienna.

Social distribution of graduates

Parents' educational backgrounds have a major influence on the educational choices made by their children (Austrian Integration Fund 2016 research report). To a large extent, by the time children are in primary school, social inclusion and educational choices have already been determined. Every year, the educational background of the parents of applicants – and, ultimately, those who go on to gain a place at the university – is mapped out using an education index based on data gathered during the admissions process. The survey of parents' educational backgrounds (conducted using the UStat 1 form) takes place at MedUni Vienna. The results are also checked as part of the Austrian Court of Audit evaluation of the admissions process. In 2022, **around 60% of first-year students had parents with a medium**

or low-level educational background while 37% were found to have an advanced educational background. The psychometric analysis conducted as part of the MedAT admission tests, and those on fairness (incl. social status) in particular, are presented in a report each year. MedUni Vienna was involved in the evaluation of access regulations in accordance with sections 71b, 71c and 71d Universities Act, which was conducted by the Institute of Advanced Studies (IAS) on behalf of the Federal Ministry of Education, Science and Research. The findings of the IAS report indicated that students from a lower-level educational background have had a higher graduation rate since the admission procedure's introduction, after adjustment for the curriculum reforms and the study place restrictions.



Social dimension mainstreaming strategies and measures

Each year, MedUni Vienna collects and analyses data on the social background of applicants and students. The

university also takes part in the studies commissioned by the Federal Ministry of Education, Science and Research on student's social situations, and compares the results with the measures taken.

Measures:

- (i) **Annual graduate surveys;**
- (ii) Fair admissions process and regular evaluation of the fairness of the MedAT tests;
- (iii) Diversity: individual support for disabled applicants, provision of preparation materials free of charge, greater distribution of information on medical degrees and the school admissions process, and on the subject of parents without a high level of education, collaboration with the provincial education departments;
- (iv) Consideration of the social dimension in curriculum accreditations;
- (v) Compensation for clinical practice year (CPY) expenses by the hospital provider in accordance with the Universities Act and for CPYs in private practice by project partners such as the federal states and Austrian health insurance fund (ÖGK),
- (vi) Regional distribution of clinical internship placements to allow students to do CPYs near their place of residence (approx. 1,600 places in Austria);
- (vii) Grants programme for periods of study abroad;
- (viii) Low student/teacher ratio;
- (ix) Mentoring programmes, participation in the MORE project, guaranteed share for MedUni Vienna from the social fund for low-income students and students with caregiver responsibilities, work opportunities for students as tutors and students in emergency situations as well as students forced to leave their home country;
- (x) Support for applicants with refugee status regarding recognition of foreign qualifications, cooperation with Vienna Social Fund;
- (xi) Projects to remove social barriers – Junior Scientist Programme, Children's University, equal opportunities measures and students' needs integrated into family-friendly university audit;
- (xii) Annual applications for PromoLi grants for PhD students with disabilities or chronic illnesses.
- (xiv) Development of the joint admissions process in terms of social diversity, barrier-free admission procedures and continuous evaluation of the fairness of the admissions process methodology with regard to social fairness (educational background); all locations – Linz, Vienna, Graz and Innsbruck – are working together on the social dimension of the admissions process.

Technology and knowledge transfer

With more than **15 licences issued a year** over the past ten years, MedUni Vienna ranks among the Austrian leaders in IP commercialisation. Over **1,000 invention and technology registrations** have been processed by the Technology Transfer Office (TTO), and over **70 patent applications** are submitted each year (average for the last ten years, including renewals). Cooperation agreements with more than 30 partner institutes in Austria and abroad (excluding cooperations with industry) have resulted in joint inventions. The breadth of its commercialisation activities is one of MedUni Vienna's particular strengths. Alongside inventions in the fields of medical technology and pharmaceuticals, the university has successfully commercialised know-how, scientific discoveries, software and biological materials (technologies without patent rights). In future, greater attention will be paid to the interface between IT and medical and pharmaceutical research to drive the development of solutions and innovative medical products. Going forward, the university's "open innovation" approach, which centres on the involvement of patients, families, healthcare professionals, companies and the general public, will play an important role in driving technological advances in medicine and healthcare. MedUni Vienna will foster knowledge transfer at every stage of the innovation chain, increase the institution's visibility as a prospective knowledge and transfer partner to industry and society alike, and deepen its involvement in national and international networks relating to IP and transfer topics, the European University Hospital Alliance being a case in point.

In order for an idea to be exploited commercially, it is important that researchers are equipped with related competencies. The university organises courses on intellectual property rights and project management, as well as other training and networking opportunities (e.g. Knowledge Transfer Centre East, the Fellowship Programme, the Entrepreneurship Center Network [ECN], INiTS). The TTO also offers support for establishing spin-off companies, as do external partners such as INiTS, the ECN, Austria Wirtschaftsservice (aws) and wings4innovation. Special coaching and training measures are provided via the iLab programme, which is run in cooperation with the University of Vienna with the aim of increasing the number of digital start-ups, and the Building a Biomedical Business programme in cooperation with ISTcube and the University of Vienna.

The following aims and measures are planned:

- (1) Expansion of the TTO's range of commercialisation activities (knowledge transfer) to include a specific focus on digital innovation;
- (2) Training and awareness events on the topic of IP rights;
- (3) Integration of IP rights topics and the commercialisation of research findings in teaching;
- (4) Awards for inventors and outstanding achievements;
- (5) Expansion of Austrian and international technology and knowledge transfer networks;
- (6) Active role in Knowledge Transfer Center East/follow-up programmes;
- (7) Active role in wings4innovation;
- (8) Continuous improvement of commercialisation processes;
- (9) Regular development opportunities for technology transfer managers;
- (10) Use of professional technology transfer infrastructure (Inteum software, market databases, technology platforms);
- (11) Increased use of external partnerships to generate innovative solutions, products and knowledge (open innovation),
- (12) Entrepreneurship collaboration projects (e.g. Inits, IST Cube, University of Vienna),
- (13) Establishment of a Center for Technology Transfer at MedUni Campus AKH;

Alumni Club

The Alumni Club is a knowledge, dialogue and career platform for all students and graduates of Medical University of Vienna, as well as current and former employees. The club currently has around 700 paying members (as at 1 Feb. 2022). A broad-based programme including podium discussions on current topics, interdisciplinary symposiums and scientific seminars, coaching programmes and attractive cooperation partners as well as exclusive cultural events help to promote networking between members. Club members have the opportunity to link professional practice with academic dialogue, while maintaining ties with one another and 'their' university. The Alumni Club is an important network available primarily to students from the start of their studies. Members are also able to use the Alumni Lounge in the entrance area of University Hospital Vienna for free. The lounge has a screen that can be used for Webex meetings and video conferences.

Responsible Science

Responsible science comprises a range of aspects of the dialogue between science, business and society. Based on the categories referenced by European programmes and in the Federal Ministry of Science, Research and Economy's document on responsible science, as well as the indicators developed in the MoRRI project, the following areas of activity were defined: public engagement, science literacy and education, gender equality, ethics, and open access. Reforms related to research assessment, especially in the evaluation of researchers, will be extended to include responsible science.

- (i) In the areas of **public engagement and science literacy and education** there are a range of focuses (the Long Night of Research, when MedUni Vienna attracts the most visitors of any institution in Vienna; the teddy bear hospital; the Children's Medical University; Cancer School, Cancer Update, the Krebs bei Frauen Forum; MeinMed events; media cooperations; talks at adult education colleges; participation in various health fairs; and a publishing series covering various topics including allergies, high blood pressure, diabetes and immunisations). Many of MedUni Vienna's experts are regularly approached for interviews by the media. Other initiatives include the annual Cancer Research Run which attracts more than 3,000 runners each year, as well as various activities that give patients and patient organisations the opportunity to get involved in projects and patient care structures. A ten point programme to strengthen trust in science and democracy in Austria (TrusD) is actively supported: Medical University of Vienna researchers have become science ambassadors, making appearances at

schools, adult education centres and events such as the Long Night of Research, the Children's Medical University and MeinMed. Established training programmes for university employees such as media, interview and presentation training as well as social media courses designed to enhance communication and media skills will be further expanded.

- (ii) The university ensures that it meets the **ethical responsibilities** associated with conducting medical research, having established an Ethics Committee and a Committee for Animal Experimentation, through its involvement with the Federal Chancellery's Bioethics Committee, and through its mandatory Good Scientific Practice and Compliance guidelines.
- (iii) **Open access and open data** are complex topics in medicine. While research findings, and the results of clinical studies in particular, ought to be publicly accessible, patient data must be protected. There are other challenges too, related to the necessary IT investments (terabytes of data are generated at MedUni Vienna daily), and the financial burdens of open access and open data, which have not been resolved.
- (iv) On **gender equality**: see Equality and diversity above.

The following measures will be pursued:

- (1) **Public engagement, science literacy and education:** the wide range of activities described above will be continued and expanded;
- (2) **Open access and open data – taking an active role in designing the corresponding internal and Ministry of Science, Research and Education digitalisation projects;**
- (3) **On research assessment:** evaluation of assessment and evaluation criteria in recruitment and career development, in line with the DORA principles and the European Agreement on Reforming Research Assessment.

Sustainability

Meduni Vienna is fully aware of its responsibility to society when it comes to the implementation of the United Nations Sustainable Development Goals (SDGs) and in terms of combating the climate crisis in particular. Its main contribution relates to SDG 4 (Quality Education), while people undergoing graduate and postgraduate education and training at MedUni Vienna play a key role in achieving SDG 3 (Good Health and Well-Being). As part of this, the university contributes through research and innovation, and through its strategic focus on innovative preventive healthcare in particular. Research findings, technology transfer, research infrastructure and the framework conditions for clinical trials go towards supporting SDG 9 (Industry, Innovation and Infrastructure) and SDG 17 (Partnerships for the Goals). The climate crisis, loss of biodiversity, land use and other factors such as global warming not only influence the incidence of infectious diseases – they also have a wide-ranging impact on physical and mental health, as well as nutrition. Active steps and measures are being taken across the board in research, teaching and administration to help the university meet its responsibilities in this regard. The university's sustainability goals are to be developed, implemented and evaluated in accordance with a health-in-all-policies strategy. Particularly close attention is paid to its underlying environmental and sustainability goals when it comes to new buildings, infrastructure projects and procurement. The Green University Task Force is to deliver specific projects and best practice examples to reflect observation of the environmental criteria used to measure ESG performance. The **twin transformation**, i.e. digital and green transformation, has the potential to bring about a rethink when it comes to the implementation of sustainability strategies in medicine and research. Digital transformation has the potential to contribute to environmental sustainability in the health sector and at universities alike by optimising the use of resources, enhancing energy efficiency and ushering in more sustainable healthcare and collaboration.

Data protection

In the course of implementing the General Data Protection Regulation (GDPR), numerous measures were put in place to further improve data protection at the Medical University of Vienna. Regular training courses and information events, as well as the creation of FAQs, are intended to provide employees with the knowledge they need to ensure they handle data correctly. Digitalisation in research and medicine remains a special challenge, particularly in connection with personalised medicine and telemedicine. Because legal developments follow those in technology, laws and decisions must be scrutinised in terms of their compliance with data protection law. The established functions of the data protection officer, the internal university Data Protection Committee and the data clearing house have important duties in cooperation with IT Systems and Communications (ITSC). The data clearing house plays a significant role in underpinning data security when exporting personal data. The guidelines that extend to data protection and information security and the processes related to them are evaluated on an ongoing basis and updated as required.

Medical humanities

The term medical humanities applies to a range of subject areas, questions and approaches relating to medicine. These are primarily associated with the humanities and cultural sciences, as well as the arts and aesthetics. Among the areas covered by the discipline are the importance of self-reflection, patient security, deeper engagement with ethics, patient safety, exploration of the history and philosophy of medicine, art and literature, as well as cultural and medical anthropology. Medical humanities is presented as an exhibition featuring changing themes (medical comics, visualisation of stressful situations in everyday clinical practice). As core disciplines of medical humanities, medical history and bioethics are institutionally anchored in the historic **Josephinum** and the Institute for Ethics and Law in Medicine (see section VII) where Vienna's museum of medical history, the Ethics, History of Medicine and Historical Collections units and the **UNESCO Chair of Bioethics** are brought together under one roof. The Josephinum serves as the gateway to the history of Viennese medicine, while also contributing to MedUni Vienna's fulfilment of its fourth mission in terms of its treatment of public history.

Ultimately a question of engaging with social and cultural contexts across all medical disciplines, the field of medical humanities is currently covered in around 600 hours of compulsory and elective modules. An example in this regard is structured communication training for students on the Medicine degree programme, which continues over the course of several semesters with the support of patient actors. As in other countries, efforts are being made to anchor the history of medicine and bioethics more deeply in the compulsory curriculum, not least with regard to the lessons learnt from the history of the 20th century.

Smoke-free MedUni Vienna

MedUni Vienna and University Hospital Vienna, including all ancillary buildings and outdoor spaces, were declared a smoke-free zone in 2020. In line with its responsibilities as a leading healthcare institution, MedUni Vienna initiated the move and supported it with accompanying measures. Experts from the Center for Public Health offer smoking cessation support. A guide entitled *Risiko Rauchen – wie Nikotin wirkt, warum es abhängig macht und wie man die Sucht besiegt* (Smoking risks – how nicotine works, why it makes you addicted and how you can beat addiction to it; written by Michael Kunze and Gerda Bernhard) was published by MANZ Verlag in cooperation with MedUni Vienna.

Forensic medicine

MedUni Vienna plays a significant role in performing court-ordered autopsies in Austria. As the funds provided for fulfilling this public duty do not by any means cover the costs, these activities are supported by significant cross-financing from the global budget. Above all, staff costs (including as a result of aspects such as the establishment of night shifts) are not fully met by the fees charged, and in recent years investments in existing buildings and systems have been financed from third-party funds and global budget funds, which were not compensated for. The aim is to ensure that the **costs of court-ordered autopsies** – which are currently not provided for by law – are met. The Center for Forensic Medicine intends to set up a **violence protection facility** for victims of violence as part of the Austrian government's National Action Plan for Protection against Violence. This will lower the threshold for access to professional injury documentation and evidence preservation services which can then be used by medical institutions such as general hospitals, surgeries, group practices and primary care centres to ensure proper documentation of more complex injury patterns in victims of violence. To begin with, specially trained general practitioners will provide standard medical care under forensic medical supervision that also extends to standby duties. Additional specialist forensic medicine officers will be made available once the facility becomes fully operational. Examinations of children believed to have been affected by violence will be carried out in cooperation with the Forensic Child and Adolescent Examination Centre (FOKUS) at the Department of Pediatrics and Adolescent Medicine. Implementation is conditional on the allocation of full funding for medical and administrative staff, premises and material resources by the federal government.





VII. Internationality and partnerships

MedUni Vienna sees itself as a systemically important institution for Austria in the knowledge-based society and when it comes to tackling the global challenges of the 21st century. Accordingly, internationality and interdisciplinary exchange are core assets in the university's profile. Mobility experiences and assignments abroad offer all employees the opportunity to network internationally and are necessary for building a successful

academic career. The goal of the university's various partnerships is to strengthen core activities in research, teaching and patient care. In terms of the extent of cooperation, partnerships range from a letter of intent through to the formation of a legal entity. MedUni Vienna has strong international ties – at the institutional, organisational unit and individual employee levels (see Fig. 13).

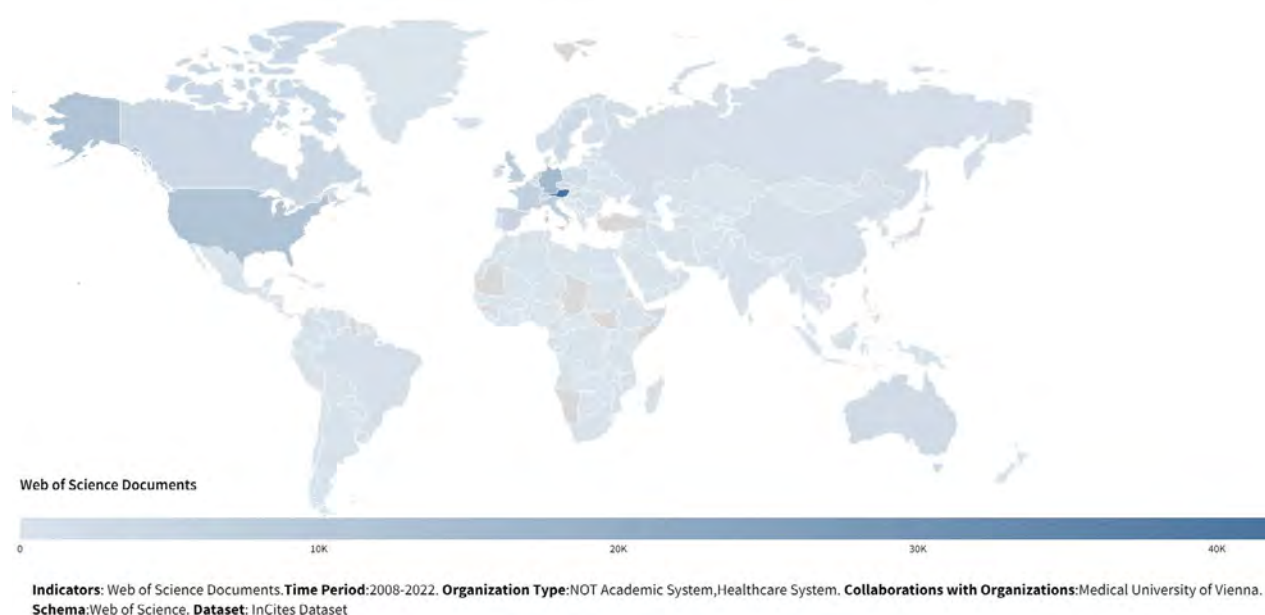


Fig. 13: MedUni Vienna's global partnerships:
Darker colour indicates greater cooperation density (InCites database, 2023)

Below is an overview of the domestic and international partnerships which serve to enhance Austria's visibility as a life sciences location and fully exploit the resources and synergies of the respective organisations. MedUni Vienna has expanded its international activities substantially since it became an autonomous legal entity.

Coordinated, reviewed and continuously fine-tuned by the International Office, additional student and employee mobility measures are part of the university's internationalisation strategy.

Domestic institutional partnerships

The university's most important research partners in terms of publication output are the University of Vienna, the Medical University of Graz, the Medical University of Innsbruck, Vetmeduni Vienna and the Austrian Academy of Sciences (InCites analysis). MedUni Vienna also has ties with all of these institutions through various strategic partnership projects. In addition, the university interacts with a wide range of partner organisations and plays an active role in numerous networks (alphabetical order):

- **Center for Biomarker Research in Medicine (CBmed):** K1 Competence Center specialising in systemic biomarker research in personalised medicine.
- **Research Center for Molecular Medicine (CeMM):** cooperation agreement on full integration over the medium term
- **Complexity Science Hub Vienna** (with AIT, TU Wien, Graz University of Technology, Vienna University of Economics and Business, Vetmeduni Vienna, Central European University, the Austrian Economic Chamber and University for Continuing Education Krems: scientific management of complexity research centre by MedUni Vienna.
- **Austrian Bioluminescence, correlated multimodal imaging:** Austrian hub of the Euro-Bioimaging ESFRI (with the University of Vienna, TU Wien, ISTA, Vetmeduni Vienna, Vienna BioCenter Core Facilities, etc.)
- **Digitalisation projects in teaching and research:** cooperation with the Medical University of Graz, the Medical University of Innsbruck and the Medical Faculty at Johannes Kepler University Linz as part of calls, the Uni-Med-Impuls 2030 programme, and digital transformation (incl. digital skills, digital microscopy, RDA)
- **Dual career service networking within the framework of the Austrian Network for Dual Career (ANDC)** and the Vienna Science, Research and Technology Fund (WWTF)
- **Ethics Committee:** platform of the ethics committees for the implementation of the CTR and close coordination
- **Research cluster projects with the University of Vienna:** continuation of internationally peer-reviewed projects as seed financing for scientific partnerships in key competence areas.
- **Institute of Molecular Biotechnology GmbH (IMBA):** stem-cell biobanking collaboration
- **Research Institute of Molecular Pathology (IMP):** cooperation agreement
- **Universitäres Gründerservice Wien GmbH (INiTS):** cooperation agreement on university spin-offs
- **Institute for Ethics and Law in Medicine (IERM)** – interdisciplinary research platform operated in cooperation with the University of Vienna: alongside the joint Patient Safety postgraduate programme, which has been running since 2012, the institute is also participating in the establishment of a clinical forensic victim protection clinic at the Department of Pediatrics and Adolescent Medicine.
- **Interuniversity Cooperation Centre for Water and Health:** cooperation with TU Wien and Karl Landsteiner University of Health Sciences (KLU).
- **Institute of Science and Technology Austria (ISTA):** research collaboration (networking within the framework of the Cluster of Excellence application in neuroscience, sequencing, etc.), cooperation on the sharing of expertise at and use of large-scale research infrastructure, and collaborative entrepreneurship (IST Cube and ilab)
- **Joint facilities** with the University of Vienna
- **Joint PhD programmes** with the University of Vienna
- **Clinical Trials Coordination Centre network:** partnership to facilitate knowledge exchange between the clinical trials coordination centres at Austria's medical universities.
- **Life Science Region Austria (LISA) and LISA Vienna:** joint events and wide-ranging collaboration with the Austrian and Vienna Life Science Cluster
- **Max Perutz Labs:** joint University of Vienna and Medical University of Vienna research centre at the Vienna Biocenter with a focus on a mechanistic understanding of fundamental biomedical processes through the analysis and reconstruction of complex biological systems across different scales. Ongoing development as an interuniversity organisational unit in accordance with section 20(c) Universities Act.
- **Max Perutz Labs Support GmbH** (in partnership with the University of Vienna): cooperation on the shared use of the buildings, space and other facilities at

Vienna Biocenter. The University of Vienna holds a 60 % share in the joint venture, and MedUni Vienna the remaining 40 %.

- **MedAT:** cooperation on admission procedures with the Medical University of Graz, the Medical University of Innsbruck and the Medical Faculty at Johannes Kepler University Linz
- **MedAustron:** one of the country's most advanced centres for ion beam therapy and ion beam research, based in Wiener Neustadt. An agreement is in place with MedUni Vienna for cooperation on radiotherapy and radiobiology
- **Messerli Research Institute** (in cooperation with Vetmeduni Vienna and the University of Vienna): established in 2010, principally funded by Switzerland's Messerli Foundation.
- **Molecular Precision Medicine:** master's programme set up with the University of Vienna
- **Platform for comparative pathology** (with Vetmeduni Vienna): a means of continuing the successful cooperation within the scope of the Ludwig Boltzmann Institute (LBI) for Cancer Research.
- **Austrian Platform for Personalised Medicine:** MedUni Vienna is the host organisation of this association for building networks in the field of personalised medicine; funded by the Austrian Federal Ministry of Science, Research and Economy.
- **Postgraduate programmes:** external cooperation partners for the teaching of postgraduate programmes (e.g. occupational medicine, psychotherapy programmes, intensive care training)
- **Vienna Center for Engineering in Medicine (ViCEM):** medical technology platform managed jointly with TU Wien to promote cooperation in the field of medical technology.
- **Vienna Life Science Instruments (VLSI):** operated with the University of Vienna and the institutes of the Austrian Academy of Sciences working in the life sciences): cooperation for sharing large devices
- **Zentrum für Virtual Reality und Visualisierung Forschungs-GmbH (VRVis):** K1 Competence Center for visualisation and imaging
- **Knowledge Transfer Center East:** networking and exchange with Viennese universities – as well as with all Austrian universities and universities of applied sciences on a regular basis – on intellectual property, commercialisation and start-ups



International partnerships

Measured in terms of publications, MedUni Vienna's participation in international cooperations has remained consistently high over the last five years (2018-2022). Around **67% of all publications from MedUni Vienna indexed in Web of Science** and published in 2022 stem from international collaboration projects. The university has the most joint publications with institutions in Germany (7,401) and the USA (6,125). In the USA, Harvard (1,101) is the most frequent collaboration partner, followed by Cornell University (725). In Europe, Berlin's Charité university hospital (1,169) and the University of Hamburg (1,106) are the two partners that the university collaborates on the most publications with. MedUni also reported significant numbers of co-publications with various other leading European academic medical institutions including Karolinska Institutet (815) and the University of Zurich (795). The university has well-established global research and teaching partnerships with top universities and hospitals, especially in the USA and Western Europe. It also pursues strategic institutional partnerships, especially with institutions in Eastern European countries (focusing on knowledge transfer and research) and in selected Asian countries (focusing on mobility and research). The goal is also to establish a cooperation with the Seoul-based **International Vaccine Institute** (IVI), which was founded on the initiative of the United Nations. IVI has a regional office for Europe in Stockholm and a branch office in Vienna. The joint PhD Programme with **Nanyang Technological University** in Singapore was established following the signing of an implementation agreement in May 2014. The International Network of Medical Universities and Departments of Postgraduate Medical Education in the Field of Molecular Allergology and Immunology (INUNIMAI) was founded in 2013 to promote collaboration in teaching and research with Eastern European as well as North and Central Asian countries. MedUni Vienna is also a founding member of Africa UniNet, a network to promote academic cooperati-

on between Austria and Africa. Initiated in 2020, these activities will be supported by the chair of tropical medicine based in Lamberene, which was established jointly with the University of Tübingen, as well as our active role in the European and Developing Countries Clinical Trial Partnership (EDCTP). The university will build on its membership of the **European University Hospital Alliance** (EUHA) in particular for strategic purposes. MedUni Vienna has been an associate member of the **European University Alliance for Global Health** (EUGLOH) since 2022 and is establishing various collaborations as a result. In addition, MedUni Vienna has also been an associate member of the European Patient Safety Foundation since 2021. This European platform promotes knowledge exchange and best practices for innovative and sustainable solutions to improve patient safety. MedUni Vienna has been a full member of the Association of Academic Health Centres (AAHC) since 2022. The activities of Medical University of Vienna International GmbH (**MUVI**) enhance the university's international visibility. Knowledge transfer and international partnerships are among the core tasks of an internationally-aligned research institution. As a subsidiary of MedUni Vienna, MUVI implements healthcare management projects, principally in the Arab world and Asia. The main focus is knowledge transfer in the areas of hospital management, training and education, and patient care.

Mobility

In line with the Federal Ministry of Science, Research and Economy's higher education mobility strategy, international mobility is an important aspect of university management.

Measures (see also section V):

- (i) **Undergraduate** outward mobility is high. The number of partner institutions for Erasmus programmes is constant, as is the number of students who come to MedUni Vienna through Erasmus programmes and collaborations. There is a continuing trend among students to organise places outside existing university cooperations as non-Erasmus "free movers".
- (ii) For **early-stage researchers**, an assignment abroad is fundamental to building an academic career. Placements at foreign research institutions are rewarding, formative experiences. The career track models call for at least six months of mobility experience. The university intends to further promote mobility among teaching staff and has now introduced this as a criterion in the internal career agreement for teaching. MedUni Vienna is a member of the ASEAN European Academic University Network and Eurasia Pacific UNINET. It also runs programmes with Slovakia, the Czech Republic and as part of the Central European Exchange Program for University Studies (CEEPUS) and the Trans-European Mobility for University Studies (TEMPUS) schemes.
- (iii) **Observerships and fellowships** (incoming): observers build on their expertise in a specific discipline without receiving hands-on training. Anyone with a degree in medicine can apply to become an observer. The focus of an observership is on gaining clinical experience as well as insights into Austrian tertiary healthcare. An average of 200 observers are approved every year and are integrated into organisational units for up to six months. Fellows are not given duties as part of a healthcare team, but are able to acquire hands-on experience under supervision. On average, 50 fellows complete a clinical or research fellowship each year.
- (iv) **Guest and adjunct professorships:** currently 20 guest professorships are awarded each year. Guest professors are appointed for a period of two to 12 months and are authorised to use the title of Guest Professor. This does not result in an employment relationship or in classification as a Professor pursuant to section 94(2)(1) Universities Act. The honorary title of Adjunct Professor is awarded to distinguished personalities who have close ties with MedUni Vienna. Nominees should have an excellent reputation and academic track record. The award of the title strengthens the university's scientific network and enhances the visibility of partnerships. It is bestowed for a period of three years and does not give rise to a legal relationship or financial commitment by MedUni Vienna. More than 100 adjunct professorships have been awarded to date.



VIII. Real estate management

MedUni Vienna is working towards establishing an integrated campus which will create a comprehensive, single-site research and teaching complex in Vienna's ninth district. This complex comprises three major real estate investment projects, for which budgets have already been partially approved:

- (1) MedUni Campus Mariannengasse;
- (2) expansion of MedUni Campus AKH comprising the Center for Translational Medicine, Eric Kandel Institute – Center for Precision Medicine, Center for Technology Transfer, and Ignaz Semmelweis Institute – Interuniversity Institute for Infection Research;
- (3) renovation of MedUni Campus AKH (construction masterplan) (Fig. 14).

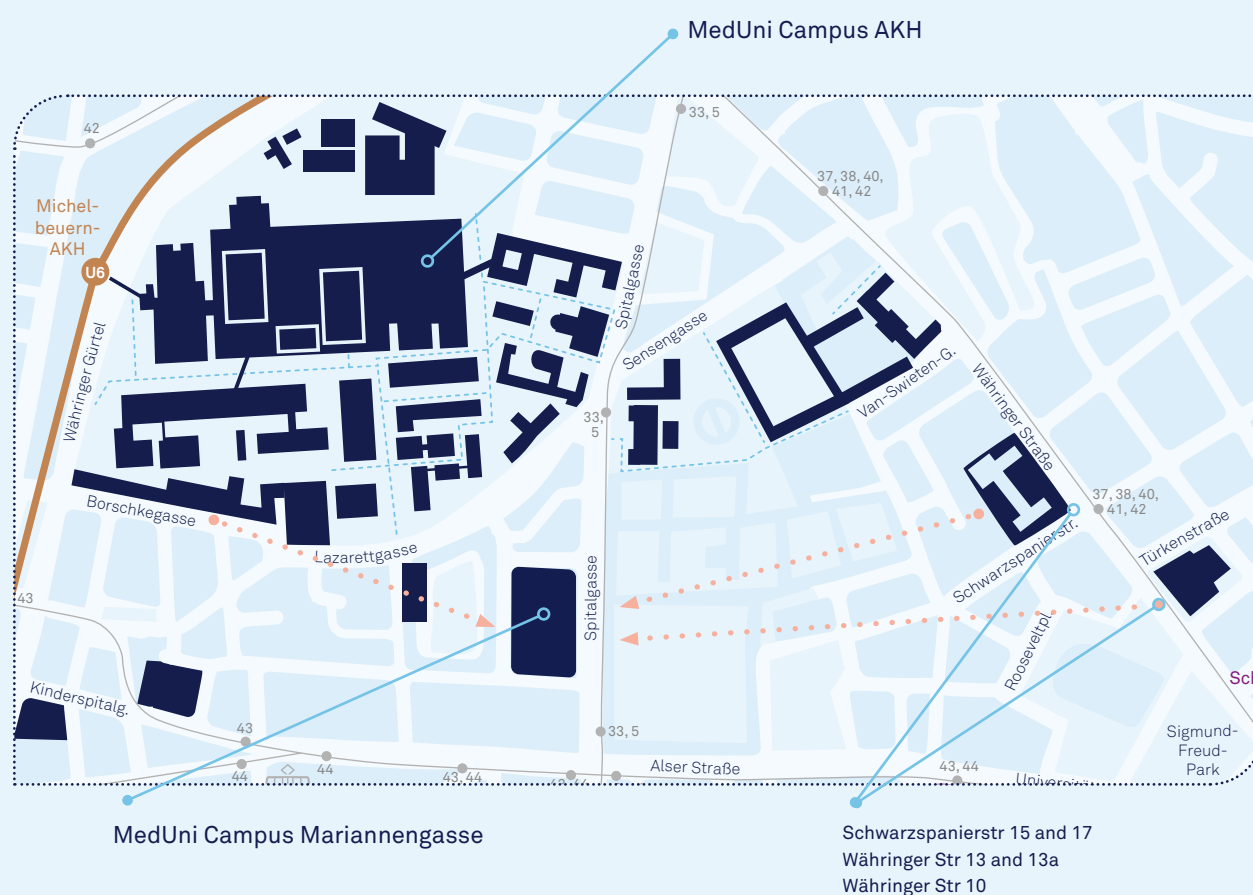


Fig. 14: The MedUni Campus in the ninth district: preclinical site (MedUni Campus Mariannengasse); hospital and Center for Translational Medicine, Eric Kandel Institute – Center for Precision Medicine, Ignaz Semmelweis Institute – Interuniversity Institute for Infection Research, Center for Precision Medicine, and Center for Technology Transfer (MedUni Campus AKH).

MedUni Campus Mariannengasse

MedUni Campus Mariannengasse (approx. **35,000m²** floor space – currently 25,000m²; implemented in collaboration with BIG, financing by means of additional rental income) is an essential project from both an operational and a strategic perspective (see also the Federal Ministry of Education, Science and Research's Uni-Med-Impuls 2030 programme).

- (i) **Operational goal:** alleviating the acute qualitative and quantitative shortage of space and addressing the urgent need for renovation work on the existing building to improve fire protection and employee protection, as well as to comply with the requirements of the Equality of Disabled Persons Act with regard to the protection of students. The project therefore provides the basis for fulfilling crucial legal requirements.
- (ii) **Strategic goal:** bringing together separate preclinical sites at a location in close proximity to MedUni Campus AKH, with planned translational research facilities which will operate between the preclinical and clinical units. The result will be a comprehensive research and teaching complex (the MedUni Campus) that brings the full scope of research activities together physically – from preclinical through translational to clinical research (Fig. 14). The following research units will be relocated from various sites and integrated at MedUni Campus Mariannengasse: Center for Physiology and Pharmacology, Center for Anatomy and Cell Biology, Center for Pathobiochemistry and Genetics, Center for Medical Physics and Biomedical Engineering, Center for Cancer Research. There will also be office space for the facility management group that will be created for operations at MedUni Campus Mariannengasse, as well as for the teaching management team responsible for the relevant organisational units, and the Austrian National Union of Students (ÖH). MedUni Campus Mariannengasse will also feature new facilities that are currently unavailable at the existing sites. These include the establishment of a state-of-the-art simulation centre for teaching operations, self-study areas that meet contemporary requirements, various communication and common-room areas for interaction between members of research and functional units, and a modern cafeteria on the ground floor. Locating core medical science activities at MedUni Campus Mariannengasse and the resulting synergy effects will promote the efficient use of available resources, and also interdisciplinary research – especially thanks to the structure and design of the buildings, which will facilitate interdisciplinary communication. A task force involving representatives of the centres

(including the Teaching Center) at MedUni Campus Mariannengasse and ancillary bodies (incl. student organisations) has been set up for this purpose. Creating flexible structures allows for adaptation to future developments with respect to technological and space considerations. The plans that are being made will therefore lay the foundations for long-term use. Offering up-to-date working, teaching and study spaces which comply with fire protection and workplace health and safety requirements, the building will provide an environment for MedUni Vienna staff and students that enables continued excellence in teaching and research.

In summary, MedUni Vienna's new MedUni Campus Mariannengasse will address the following objectives and challenges:

- (i) more efficient use of space through optimisation and concentration on functional focus areas;
- (ii) ensuring that spaces meet users' requirements over the long term by increasing flexibility in space usage (via standardisation of room profiles) and implementing design approaches that will accommodate changes to technical facilities;
- (iii) centralisation of selected functions and related infrastructure from organisational units with a view to ensuring efficient use of available financial resources.

Plans/schedule:

Following approval for the project and its financing in September 2017 (see section I), the call for submissions for an EU-wide, non-open, two-stage competition for implementation, with subsequent negotiations for the award of overall planning services, was launched in October 2017. The planning phase and approval of the architectural plans were followed by the formation and signing of the tenancy agreement. The **foundation stone was officially laid on 17 January 2023**, formally marking the start of construction at the MedUni Campus Mariannengasse site. Construction is scheduled for completion in 2026, followed by the fit-out and relocation of the units that will be based there.

MedUni Campus AKH

About 20,000 m² of building land on the University Hospital Vienna site will become free in the next few years. This will enable the future development of research-driven medicine in Vienna, despite the site's location in a heavily built-up urban area. The building plots will be used to expand the MedUni Campus AKH site, by extending the biomedical research landscape in close collaboration with University Hospital Vienna. The following construction projects for expanding the research facilities at the MedUni Vienna site are planned as part of the MedUni Campus AKH:

- (1) Center for Translational Medicine;
- (2) Eric Kandel Institute – Center for Precision Medicine;
- (3) Center for Technology Transfer;
- (4) Ignaz Semmelweis Institute - Interuniversity Institute for Infection Research.

Center for Translational Medicine

Approx. **13,600 m²** (financed through the Construction Framework Agreement): MedUni Vienna's internationally competitive translational research facilities and patient care in phase 1-4 clinical trials (see also the Federal Ministry of Education, Science and Research's Uni-Med-Impuls 2030 programme) is one of its most widely recognised strengths. However, there is currently a lack of adequate infrastructure for the effective implementation of translational research findings in treatments, which is vital if the university is to remain competitive on the international stage. The university requires a central building as a hub for the synergistic activities of various patient care departments and institutes in clinical trials. The centre will therefore bundle various centralised activities of the research clusters and facilitate rapid translation by means of an integrated phase I and II centre. To acquire large international phase II and III trials in future, it will be necessary to place even greater emphasis on phase I trials in particular. The following units and facilities will be integrated into the centre: project-focused research laboratories, screening platforms, a preclinical research facility including GLP toxicology, GMP units, a clinical phase I and II trial centre, bioinformatics, office space, meeting, seminar and teaching rooms, store rooms, common rooms, and spaces for communication and interaction. The project is scheduled for completion in 2026.

Eric Kandel Institute – Center for Precision Medicine (CPM)

Approx. **8,000 m²** (financed through the EU ERRF grant): Precision – or personalised – medicine, a term used to describe individually tailored treatments using cutting-edge technologies such as genome sequencing,

is set to be the most significant trend in 21st-century medicine. Large-scale precision medicine initiatives have been launched all over the world – see President Obama's 2015 State of the Union address, EU initiatives (<http://tinyurl.com/EU-pers-medicine>, www.eatris.eu) as well as UK (www.genomicsengland.co.uk), Dutch and Scandinavian/Nordic (www.scilifelab.se, www.fimm.fi) initiatives. In Austria, too, precision medicine will open up opportunities for improving healthcare, delivering greater cost efficiency and strengthening the knowledge economy. MedUni Vienna is ideally placed to occupy a leading position in the development and application of precision medicine. Several project-based initiatives are currently under way, notably in the field of oncology and in collaboration with the Center for Molecular Medicine (CeMM), which is playing a pioneering international role in molecular medicine. The upgrading of precision medicine infrastructure is therefore an important large-scale research infrastructure project in the context of the European Research Area (see also the Federal Ministry of Education, Science and Research's Uni-Med-Impuls 2030 programme). Building the CPM is designed to consolidate precision medicine technologies at MedUni Vienna. The CPM will have a genome centre for cost-effective sequencing of the genomes of all patients taking part in clinical trials, a well-equipped biobank and facilities for processing the large amounts of data which are generated in the field of precision medicine. Supported by the central pillars of advanced technologies and data science, the CPM will lead and take part in international and domestic precision medicine initiatives. Bundling the four components of the CPM at a single site will generate synergies and enable the university to establish a position as an international innovation leader in the rapidly expanding field of precision medicine, while at the same time ensuring that scientific advances can be quickly implemented in clinical practice. The following physical sub-units and facilities are planned: genome centre, biobank, core facilities, high-performance computer centre link, bioinformatics, project-specific research laboratories, office space and meeting rooms, store rooms and common rooms. Financing totalling €90 million was secured in 2021, €75 million of which came from the European Recovery and Resilience Facility (ERRF). A building rights and construction agreement taking into account the deadlines set by the European Commission was concluded with the City of Vienna and University Hospital Vienna.



Center for Technology Transfer

A Technology Transfer Center (TTC), industry and start-up centre for collaborative projects based on a rental or public-private model at MedUni Campus AKH is currently in the planning stages; approx. 13,500 m² (see section IX).

Ignaz Semmelweis Institute - Interuniversity Institute for Infection Research

The institute is a joint (interuniversity) organisational unit of the Medical University of Graz, the Medical University of Innsbruck, the Medical University of Vienna, the University of Veterinary Medicine Vienna and the Johannes Kepler University Linz in accordance with section 20(c) Universities Act. Creation of the institute as part of the Federal Ministry of Education, Science and Research's Uni-Med-Impuls 2030 programme is intended to deepen and institutionalise scientific collaboration in the fields of infectiology, microbiology and epidemiology. The institute conducts scientific research into infectious diseases. The tasks of the Ignaz Semmelweis Institute will be primarily research-led to facilitate cutting-edge collaboration with other universities and non-university research institutions, as well as other related institutions in Austria and abroad. An addition to MedUni Campus AKH, when completed the institute will provide space for around 10-12 working groups as well as a range of amenities including core facilities and S3 laboratories.

MedUni Campus AKH (renovation of the main building)

The 2015 construction masterplan forms the basis of the Construction Framework Agreement entered into by the federal government and the City of Vienna, which was signed in 2016. The projects to be implemented as part of this agreement, and the phasing plan, are essential for MedUni Vienna's clinical division.

The construction masterplan sets out clear objectives, which form the basis for planning and implementation:

- (i) Floor space reduction: University Hospital Vienna's net floor spaces will be altered, taking into account structural and service adaptations, in order to optimise the use of space.
- (ii) Centralisation: the use of peripheral buildings will be reduced. Assessment of whether functions can be relocated to the central building will therefore be carried out.
- (iii) Life-cycle cost saving: the processes at University Hospital Vienna will be standardised and aligned where professional considerations permit. Operational cost savings will be achieved in order to part-finance the necessary investments in modernisation.





IX. Patient care

MedUni Vienna is committed to fulfilling its public responsibility as a leading institution in Austria's health system (see also sections V, VI and IX), and to promoting excellence in clinical medicine as the foundation for outstanding clinical and translational research.

The university plays an active role and takes clear public positions in relation to debates on

- (i) the national demand for doctors, density of physicians, specialisations with shortages;
- (ii) care services performed by inpatient institutions and the primary care segment;
- (iii) care services performed in the public and private sectors;
- (iv) medical education and
- (v) research-limited medical education;
- (vi) cooperation between different groups of healthcare workers in the health system, and
- (vii) global and regional migration of doctors and patients.

Through its cooperation with the City of Vienna, MedUni Vienna is also involved in complex questions concerning Versorgungsregion Ost (the Eastern Provision Region) in the **Austrian Health Care Structure Plan** (ÖSG) and the Regional Health Care Structure Plan (RSG) (see University Hospital Vienna's 2022 annual report for details). Notably, in relation to the exceptional circumstances brought about by the Covid-19 pandemic, the expertise and authoritative input of MedUni Vienna's medical and non-medical academic staff have strengthened the university's position as a systemically important institution in the Austrian health system.

Current situation

Cooperation with the hospital provider

Long-term structural and financial frameworks for MedUni Vienna and University Hospital Vienna's clinical operations ("University Medicine Vienna") were defined with the signing of the Cooperation Agreement between MedUni Vienna and the City of Vienna/Vienna Hospitals Association (KAV), the Finance and Target Control Agree-

ment, and the Construction Framework Agreement on 27 January 2016.

The **Cooperation Agreement** contains the operational model developed in the *University Medicine Vienna 2020* project, and provides a formal framework for the cooperation between MedUni Vienna and University Hospital Vienna as a business unit of KAV, and fulfilment of responsibilities in research, teaching and patient care. It provides the foundation for joint strategic and operational decisions to be made by the partners. Under the Cooperation Agreement, a dual management structure was implemented for the purpose of achieving effective, efficient joint management of University Hospital Vienna and MedUni Vienna's patient care segment, without impinging on the partners' respective areas of authority and responsibilities. The structure consists of a Supervisory Board (with four members) as a strategic supervisory and management committee, and a Management Board (with two members) as the operational management body, both of which have an equal number of appointees from each of the two partners. This structure has proved itself successful in the first few years of joint management. Measures and plans have been implemented on the basis of consensus, in close consultation between the partners, in spite of their different interests. In light of its national patient-care remit, international focus and need to sustain an innovation- and research-friendly environment, providing care for patients from abroad and other federal states is also essential. A decision-making structure that is as flexible and decentralised as possible is clearly important for the university hospital. As a result, the university will continue to pursue the establishment of an independent management structure at University Hospital Vienna that achieves maximum autonomy for the site and is better aligned to the requirements of an international university hospital than the current management model. There is an ongoing discussion process to this effect with the relevant parties within the City of Vienna administration and the federal government.

In force until 31 December 2024, the **Finance and Target Control Agreement** provides for the establishment of a partnership-focused system for the management of structures, administration and the use of resources in MedUni Vienna's patient care segment and University Hospital Vienna, and assures funding for MedUni Vienna's patient care. This is intended to create the basis for the very best research, teaching and patient care at the hospital and in MedUni Vienna's clinical division, through expanding and underpinning the principles of cooperati-

on and coordination while ensuring efficiency and effectiveness throughout the system. It was agreed that the federal government, in addition to providing staff for medical services, would pay annual compensation of €40m to the City of Vienna as a cash subsidy for additional clinical expense. The number of doctors to be provided by MedUni Vienna was capped at 1,500 full-time equivalents (FTE). **MedUni Vienna is currently exceeding the contractual requirements (over 1,600 FTE at present)**, while in nursing care there is currently a shortfall of over 300 FTE in provision from the City of Vienna. For agreed investments (purchasing and renewing equipment, IT, and related construction measures), funds amounting to €495.8m were provided by both parties to the contract. 33% of this funding is borne by the federal government and 67% by the City of Vienna. In the Finance and Target Control Agreement, the parties defined economic and innovation policy targets, organisational policy targets, care provision policy targets, research and teaching policy targets, and staff policy targets.

The **Construction Framework Agreement** (see section VIII) concluded between the federal government and the City of Vienna assures financing for adaptation, extension and new building works at University Hospital Vienna. The agreement ends on 31 December 2030. The total costs of the construction projects amount to €1,368m. The federal government is covering between 50% and 33% of the cost of each project. A project list provides the basis for implementation of construction works. It includes projects for the parent and child centre, operating theatres, accident and emergency, nursing care, and outpatient clinics and outpatient procedures, as well as research facilities at a cost of €132.9m. About €100m of this sum is for a new research centre for translational medicine.

The investment management process for agreed investments is set out in detail in the Cooperation Agreement. The Management Board has established an Investment Committee to reach decisions in this regard, composed of an equal number of representatives of each of the parties, and supported by a joint administration services unit. In the medium term, the existing AKIM system will need to be adapted in connection with digital precision medicine projects (it was in this context that the Digital Process Innovation Task Force was established at University Hospital Vienna). Implementation of joint targets and the monitoring and control of adherence to the Finance and Target Control Agreement is the responsibility of the Supervisory Board and Management Board. A monitoring system will be introduced for this purpose. A key management process in joint operational management is the target agreement meetings between the Management Board and the individual clinical departments. The Management Board has also agreed rules for a joint corporate identity for MedUni Vienna and University Hospital Vienna, and developed a composite logo. The shared identity is to be expanded step by step and supplemented by a shared communications concept, with the aim of raising the visibility of MedUni Vienna and University Hospital Vienna as part of joint operational management.

In view of the expiry of the Finance and Target Control Agreement on 31 December 2024, the implementation and effectiveness of joint management as set out in the Cooperation Agreement due to be evaluated, with negotiations for the extension and/or new arrangements to be initiated in good time.

During negotiations, **MedUni Vienna's focus will be on the following points:**

- Ensuring demand for doctors (**adjusting the upper limits** to reflect the status quo) is met and defining clear regulations in the event of necessary overruns
- Determining demand for healthcare and administrative staff on the part of the City of Vienna and ensuring that is met
- Determining the use of funds for additional clinical expense for research and teaching purposes (maintenance of research facilities, service contracts for specific manufacturers, etc.)
- Allocation of funds for additional clinical expense to research and teaching, in particular the Vienna Prevention Project (see below)
- Adjustment of investment funds for additional clinical expense for inflation and adjustment of the proposal right in line with the share of financing
- Ensuring transparency and mandatory disclosure of information regarding procurement processes for agreed investments
- Safeguarding the national patient-care remit including international patients and guest patients
- Implementation of Regional Health Care Structure Plan 2025 adopted on the basis of the Medical Masterplan
- Redefinition of relevant key indicators
- Ensuring sufficient study places at Vienna Healthcare Group (WiGeV) teaching hospitals to meet MedUni Vienna's requirements, and safeguarding the quality of training
- Establishment of an independent IT operations centre at University Hospital Vienna to increase transparency of services and investments, as well as clarification of invoicing procedures
- Implementation of the Technology Transfer Center (TTC) and Ignaz Semmelweis Institute (see section VIII)

Human resources in the patient care segment

The Cooperation Agreement stipulates that an average of at least 30 % of the normal working hours of MedUni Vienna doctors working in patient care are devoted to university teaching and research, in accordance with section 29(5) Universities Act. In order to boost the time available for research and teaching, in the works agreement of 16 September 2015 (pursuant to the Hospital Working Hours Act) it was agreed that from 1 January 2017, average weekly working hours for patient care activities may not exceed 48 hours. The “opt-out” clause (an option for individual staff to agree to an average of up to 60 working hours per week, in accordance with the Hospital Working Hours Act) is based on the stipulation

that the working time exceeding an average of 48 hours a week is exclusively dedicated to research and teaching-related duties (including administrative tasks for the university). This supports the performance of research and teaching duties within legal working hours, as specified in section 29(5) Universities Act. This rule will remain in place under the special provision regarding the Hospital Working Hours Act for university clinics in section 110 Universities Act. To enable implementation, the electronic shift management tool has been adapted so that research and teaching hours can be recorded. More detailed aspects of implementation have been defined by a working group in consultation with the Works Council.

Other healthcare responsibilities

In addition to its involvement in patient care at University Hospital Vienna, MedUni Vienna provides other healthcare services, principally the following:

- Autopsies ordered by state prosecutors and courts at the Center for **Forensic Medicine**; this requires corresponding amendment of the Gebührenanspruchsgesetz (Austrian Fees Entitlement Act), in consultation with the Federal Ministry of Science, Research and Economy and the Federal Ministry of Justice.
- The Austrian **Newborn Screening** Program for Inherited Metabolic and Endocrine Disorders: all newborns have been screened for rare hereditary disorders since the mid-1960s under initiatives of the Federal Ministry of Health. This prevention programme is carried out centrally for the whole of Austria by the Department of Paediatrics and Adolescent Medicine. Early detection within the first few days of a baby's life is critical for successful treatment.
- Dental, oral and maxillofacial medical care provided by a wholly-owned subsidiary (**Universitätszahnklinik Wien GmbH**).
- Integration of telemedicine applications into research and patient care.
- **Diagnosis-related** laboratory testing (in particular in the Center for Virology, Center for Pathophysiology, Infectiology and Immunology, Center for Anatomy and Cell Biology, Center for Physiology and Pharmacology and Center of Pathobiochemistry and Genetics), the results of which are used for research and teaching purposes (research data collection).
- An **outpatient clinic for vaccination** and another outpatient clinic at the Center for Pathophysiology, Infectiology and Immunology.
- **Forensic DNA analysis** provided by a wholly-owned subsidiary (Forensisches DNA-Zentrallabor Wien GmbH).
- A clinical forensic **victim protection clinic** at the Department of Pediatrics and Adolescent Medicine, which is to be expanded to create an abuse prevention centre under the National Action Plan for Protection against Violence in cooperation with the violence protection facility at the Center for Forensic Medicine (see section VI).
- Operation of the **Spenderdatei Wien** donor register within the scope of the Austrian Stem Cell Transplantation Registry on behalf of Gesundheit Österreich GmbH, by the Department of Blood Group Serology and Transfusion Medicine.
- Performing functions on public health provision and management committees.

Integration of basic and clinical research

Research and development at medical universities can be divided into experimental, translational and clinical medicine, all three of which are well established (see section IV). Due to the growth of personalised/precision approaches to diagnosis and treatment, the area of translational medicine is to be expanded. In line with this trend, MedUni Vienna is establishing a Center for Translational Medicine (see sections II and VIII), where work will focus on the development of therapies derived from experimental research. The Center for Translational Medicine, which will be based in a new building at MedUni Campus AKH as set out in the Construction Framework Agreement, will drive forward the integration of basic and clinical research. The scientific community at MedUni Campus AKH and MedUni Campus Mariannengasse – including neighbouring institutions such as CeMM, St. Anna Kinderkrebsforschung, private laboratories and start-ups – employs in the region of 20,000-30,000 experts. The university aims to promote partnerships with the basic research institutions at Vienna Biocenter (e.g. Max Perutz Labs, IMP and IMBA) in the city's third district, as well as translation into clinical applications in cooperation with established businesses and start-ups.

Vienna Prevention Project

Rising life expectancy and a significant increase in age- and lifestyle-related illnesses mean that people in Austria are experiencing more and more years of poor health. As this poses major challenges for our healthcare system, there is an urgent need to improve health maintenance of the elderly and targeted disease prevention measures. Such interventions require an in-depth biological and clinical understanding of the most important age- and lifestyle-related diseases.

A MedUni Vienna initiative, the Vienna Prevention Project has the aim of conducting regular examinations of a representative sample of the Viennese population. The most advanced molecular and clinical medicine methods will be applied to bring about a better overall understanding of the person-by-person differences in the progression of various diseases and the relationships between them. Under the project, molecular properties and changes in them over time will be correlated with clinical phenotypes and the appearance of symptoms. The primary goal is to identify new predictive markers and starting points for personalised preventive

healthcare. This cohort and the knowledge gained from it will serve as both the basis and comparative cohort for specific new studies at MedUni Vienna. The samples and clinical data collected during the project will also be made available internationally for study purposes through collaborations, and establish the Vienna Prevention Project as an international reference for research in the field of preventive healthcare and precision medicine.

To establish the Vienna Prevention Project, a total of 10,000 people – representative of the entire Viennese population and aged between 18 and 58 (divided into age groups of 18-28, 29-38, 39-48 and 49-58) – will be selected at random from a stratified register and invited to participate. After an initial screening process, the test subjects will be examined on a regular basis (every 1-2 years) over the next 30 years and data on additional important factors such as lifestyle recorded. A cohort of 40,000 people acting as a comparison group will be recruited for initial screening and exclusively linked to public health data. One specific focus of the Vienna Prevention Project will be on blanket screening for diseases with a view to advancing contemporary, precision preventive medicine. As a result, participants can continue to be diagnosed and treated in line with present guidelines, if there are clinical indications that this is necessary. This will also enable the Vienna Prevention Project to build up important insights into the effectiveness of personalised, precision preventive medicine. The overarching goal for the project and the data gleaned from it is to help increase the number of healthy life years for the Austrian population and to improve public health and preventive healthcare from a medical and health economics perspective. At present, the data collected from the Austrian population is not sufficient. This means that a key basis for decision making which permits conclusions to be drawn about public healthcare issues is lacking. The Prevention Task Force was set up to implement the project.



Central development measures

Development measures principally relate to the contents of the agreements between the federal government, the City of Vienna and MedUni Vienna.

- (i) **Medical Masterplan and Regional Health Care Structure Plan (RSG) 2025:** In the University Medicine Vienna 2020 project, MedUni Vienna and University Hospital Vienna drew up a Medical Masterplan (MMP), finalised on 15 September 2015, based on the agreements between the federal government, the City of Vienna and MedUni Vienna. The MMP forms the basis of the flagship concept which positions MedUni Vienna and University Hospital Vienna at the top of a structured chain of care provision, coordinated with the Wiener Städtische Krankenhäuser hospitals (hospitals that receive funding from the Vienna Health Fund), for Vienna and (eastern) Austria. The MMP is a means of strategic service planning, taking account of research and teaching as well as projected demographic changes. It provides for the expansion of intensive care with a corresponding reduction in standard care. The MMP serves as the basis for further planning for the strategic orientation of patient care and clinical research, medium and long-term medical focus areas, the future organisational structure, provision of human resources and facilities, and investment decisions. It is a rolling plan intended to be adapted to changing conditions. Besides forming the basis for planning at University Hospital Vienna, the results of the evaluated MMP, particularly with regard to intensive care beds, were adopted as objectives in the RSG 2025. The Management Board established a task force and a joint steering group to implement the MMP, monitor performance and present changes in patient care, research and teaching requirements.
- (ii) The project to **optimise planning of staff requirements and deployment for all occupational groups in the patient care segment**, as provided for in the Finance and Target Control Agreement, has been completed. The main objective is to ensure efficient and demand-driven deployment of human resources for patient care, research, and teaching, which are inextricably linked. The staff requirement for actual provision in 2016/17 and for implementation of the 2020 MMP were calculated: the medical-services target requirement to meet the actual services provided in 2016/17 while maintaining the opt-out arrangements amounts to 1,378 FTE (excl. research and teaching). Given the upper limits for personnel resources set out in the Finance and Target Control Agreement it is therefore not possible to implement either the 2020 MMP or provide the agreed amount of teaching and research at current staffing levels. As a result, the upper limits must be adjusted and supplemented by an automatic financing mechanism under the current funds for additional clinical expense.
- (iii) **Monitoring of service provision:** Section C (care provision policy targets) of the Finance and Target Control Agreement between the federal government and the City of Vienna (concluded on 27 Jan. 2016) defines upper limits for University Hospital Vienna's proportion of the total inpatient services (25%; currently 25%) and outpatient services (28%; currently 36%) provided by the KAV hospitals. Under the Finance and Target Control Agreement, University Hospital Vienna/MedUni Vienna's patient care segment ("University Medicine Vienna") is intended to serve a leading university hospital with growth potential in the provision of healthcare for the population of Vienna, as well as an internationally recognised research and teaching institution with strong potential for innovation. However, the findings of the monitoring reports, the report on optimising staff requirement planning and staff deployment at University Hospital Vienna and the report on the results of evaluation of the 2020 MMP show that, over the long-term, it is not possible to secure and develop the provision of high-quality, patient-focused, modern medical and nursing care which satisfies demand on the basis of current service levels, and simultaneously expand university research and teaching, as well as strengthen the greater Vienna region's position as a centre of science and healthcare, under the current conditions, while at the same time achieving the target values contained in the Finance and Target Control Agreement (upper limits for University Hospital Vienna's proportion of care provision within the Vienna Healthcare Group, limits on staffing levels, minimum research and teaching quota). Trends at MedUni Vienna and University Hospital Vienna show that the proportion of care provided by University Hospital Vienna within the Vienna Healthcare Group has remained stable and the prescribed limit of 25% has been adhered to. A change in the case mix is required in some specialisms because patients who do not necessarily require treatment

at a tertiary centre are displacing patients with highly complex conditions. This acts as a hindrance to areas of excellence in patient care.

The proportion of outpatient services provided by University Hospital Vienna within the Vienna Healthcare Group is currently 36 %, rather than the 28 % agreed for the City of Vienna. This shows that MedUni Vienna is providing significantly more outpatient care than originally contractually agreed. An improvement in this situation as a result of the commencement of operations at Vienna's Krankenhaus Nord (Floridsdorf Hospital) has not materialised, as many areas of provision were transferred without the creation of additional services/resources. The monitoring reports categorically state that it is not possible to implement either the 2020 MMP or the agreed amount of teaching and research at current staffing levels.

Despite the increased effectiveness and efficiency of clinical operations at University Hospital Vienna/ MedUni Vienna (University Medicine Vienna), and the increased focus on effectiveness in research and teaching as well as healthcare, the federal government and the City of Vienna – as the contractual partners – must therefore make a fundamental decision on the way forward if these goals are still to be pursued as a priority. Monitoring Report 6.0 confirmed that it was possible to undo the Gordian knot of the contractually agreed but, in actual fact, excessive – in terms of personnel – upper limits and figures for University Medicine Vienna over the course of several reporting periods, including open decisions on the way forward. The RSG 2025 directly gave rise to standardised service planning as a normative framework for healthcare provision in Vienna, which can be used by contractual partners as a guide to determine the resources needed for service provision in future. The outcome is that the framework conditions and the associated healthcare issues are bundled at a higher level and standardised for healthcare provision in Vienna. Its implications for the Finance and Target Control Agreement need to be clarified by the contractual partners. The strong degree of interconnectedness as well as the interactions and tensions between the objectives of the Agreement are still visible and are yet to be resolved.

(iv) **Cooperations:** Cooperations play an especially important role in managing inpatient service provision, whereby the central focus is on active management of patient streams. Examples include the Vienna Cancer Center (VCC) as well as cooperations with the Pflgewohnhaus Baumgarten care home, the Kuratorium Wiener Pensionisten (KWP) care home provider, collaboration with the Austrian Workers' Compensation Board (AUVA) in trauma surgery, participation in the preclinical emergency doctor system, and the transfer of patients from Accident and Emergency to hospitals of the Vinzenzgruppe. This approach is consistent with the Finance and Target Control Agreement, which states that the regional structure for medical care provision is to be streamlined so that overcapacities can be reduced and synergies exploited. The services that are to be provided in coordination and cooperation with hospitals funded by the Vienna Health Fund should be identified.

(v) **Upstream healthcare centre:** MedUni Vienna is involved in the establishment of a medical care centre that integrates acute general medical care upstream of University Hospital Vienna. The following goals are being pursued through the project: providing patient-oriented care at the best point of care through targeted allocation of suitable outpatients (frequencies) to the medical centre; optimal (careful) use of staff and infrastructure without overburdening diagnostics with minor cases; returning the emergency department and specialist outpatient clinics at University Hospital Vienna to their core tasks; supporting the training of general practitioners and specialists in these new care structures.

(vi) **Detailed planning and implementation of the parts of the construction master plan relevant to academic activities:**

- **Relocation of some research facilities from the main University Hospital Vienna building:** This process must also take into account the importance of the proximity of clinical departments to research facilities and staff rooms for MedUni Vienna's success as a research institution. All of the research areas to be relocated are due to move to new spaces on the University Hospital Vienna campus (the **Anna Spiegel 2** building) in the course of implementing phase 6 of the Construction Framework Agreement. The reorganisation of research space will make an

additional, lasting contribution to enhancing the quality of clinical research.

- **Staff rooms:** The construction master plan provides for staff rooms in University Hospital Vienna to be allocated, first and foremost, according to their function. In addition, when implementing the construction master plan, the value and importance of the individual work spaces currently available adjacent to outpatient clinics needs to be taken into account: the short distances are extremely beneficial to joint academic and clinical operations.

- **Research buildings** (see section VIII): The MedUni Campus AKH concept comprises the following research buildings:

(1) **Center for Translational Medicine:** funding will be provided under the Construction Framework Agreement.

(2) **Eric Kandel Institute – Center for Precision Medicine:** funding comes from the European Resilience and Recovery Facility, with additional funds provided by the Federal Ministry of Education, Science and Research and MedUni Vienna. Space for the building will be made available on the University Hospital Vienna site.

(3) **Center for Technology Transfer:** this centre, an office and laboratory building, is to be built by a private investor and/or public investors and will house space rented to start-ups, SMEs and multinational pharmaceutical companies. The Center for Translational Medicine and the proximity to University Hospital Vienna will make MedUni Campus AKH especially attractive to businesses. Additionally, the research building of the

(4) **Ignaz Semmelweis Institute** - the Interuniversity Institute for Infection Research (see VIII) is to be built at MedUni Campus AKH as part of the Federal Ministry of Education, Science and Research's Uni-Med-Impuls 2030 programme. The implementation of the construction projects is supported by the MedUni Campus AKH task force and the strategy and decision-making committee for the development of the project specifications under the implementation of the construction master plan at University Hospital Vienna).

- **Formation of centres:** The university is setting up interdisciplinary clinical centres (Comprehensive Centers) in a step-by-step process, ensuring that patient care, research and teaching are at the leading edge of scientific practice. The following centres have already been established: the Comprehensive Cancer Center (CCC), the Comprehensive Center for Pediatrics (CCP), the Comprehensive Center for Cardiovascular Medicine (CCVM), the Comprehensive Center for Clinical Neurosciences and Mental Health (C3NMH), the Comprehensive Center for Perioperative Medicine (CCPM), the Comprehensive Center for Infection Medicine (CCIM) and, as of 1 January 2023, the Comprehensive Center for Chest Diseases (CCCD), the Comprehensive Center for Musculoskeletal Disorders (CCMSD) and the Comprehensive Center for Inflammation and Immunity (CCII).

Plans are being developed for further comprehensive centres, such as the Comprehensive Center for Integrated Diagnostics (CCID), the Comprehensive Center for Rare and Undiagnosed Diseases (C2RUD) and the Comprehensive Center for Metabolism. To support the implementation and further development of the centre-based structure, including the development of evaluation criteria and the analysis of suggestions for new centres, a working group for the centre-based structure was established as part of the University Medicine taskforce, and a joint steering committee has been established by the Management Board. Detailed arrangements regarding management structure, the integration of the facilities involved, and the representation of different professional groups will be set out in rules of procedure. All centres of this type will undergo assessments of their success as part of target agreement reviews involving their management committee, the Management Board and the Rector. For this purpose, key indicators for clinical performance, scientific development and teaching performance must be defined and evaluated. The aim is to further expand and strengthen the existing comprehensive centres through (i) the establishment of subject-specific professorships, and (ii) better international positioning and networking with similar national and international comprehensive centres in order to enhance the visibility of the comprehensive centres and MedUni Vienna.

- (vii) **Medical training** (see section III, HR)

- (viii) **Patient safety:** Work on establishing and expanding patient safety as a focus area will continue. MedUni Vienna will take a leading role in this regard. A task force set up for this purpose, as well as a joint steering group with University Hospital Vienna, define interdisciplinary projects in patient care, research and teaching and assess the degree to which they can be implemented. Existing projects (simulation and skills training, wet labs) will be integrated into this new focus area. Close cooperation is already taking place with the Digital Health and Patient Safety research areas, for which there is also a Ludwig Boltzmann Institute of the same name. Further measures will address communication of the patient safety strategy, the development of a patient safety learning objectives catalogue for medical students, design and ongoing development of training and development programmes in the field of patient safety (e.g. a patient safety continuing education course), and the integration of staff safety in the context of the legal framework. In addition, indicators to measure success in the area of patient safety will be defined and established. MedUni Vienna is also an associate member of the European Patient Safety Foundation.
- (ix) **Private medical care:** Together with University Hospital Vienna, MedUni Vienna aims to continuously improve infrastructure for private care by allocating 12 % of the hospital to privately paid care. In addition, facilities at the hospital have been made available to head physicians for consultations with private patient, for which clear regulations in respect of transparency and compliance rules have been defined. The aim is to increase the head physicians' loyalty to the hospital and the university, at the same time as strengthening the MedUni Vienna brand. An implementation task force has been set up to this effect.
- (x) **Joint management work packages:** In implementation of the Cooperation Agreement between MedUni Vienna and the City of Vienna/University Hospital Vienna, the Management Board has drawn up a work programme which further develops areas for collaboration, and defines projects for optimisation and the exploitation of potential synergies. Working groups have been set up, composed of equal numbers of representatives of MedUni Vienna and University Hospital Vienna, to execute the 11 work packages that are specified in the Cooperation Agreement (administration of clinical trials, HR management, IT, buildings management, employee protection [the City of Vienna bears responsibility for staff in University Hospital Vienna's clinical segment] and safety plans, controlling, communications and public relations, legal, quality management, risk management and external submissions). The step-by-step implementation of the approaches devised by the working groups has continued in accordance with the action and implementation plan, and has been expanded to encompass additional areas in order to improve efficiency in joint operational management. Work packages have either been completed or are in the process of being finalised ahead of their transferral to operational implementation.
- (xi) **Initiative to safeguard against nursing staff shortages:** MedUni Vienna, the Vienna Healthcare Group and Vienna Social Fund collaborated to produce a **position paper** that outlines possible solutions to the shortage of nursing staff in the Austrian healthcare system. Among the measures it proposes are recruiting carers from abroad, bringing carers out of retirement and introducing improvements to framework conditions, such as simplifying the legal requirements for employment permits and the recognition of overseas qualifications. To address this issue, a task force and joint steering group for staff development were established by the Management Board, which are responsible for quantitative and qualitative reporting of staff shortages in certain clinical areas and the changes in staffing levels in the individual professional groups, analysing this data and the root causes of the staff shortages, developing possible measures, and monitoring and evaluating their implementation. In addition, an **endowed professorship for Nursing Science** has been established at MedUni Vienna.



X. Annex

Table 1:

Planned changes in numbers of professors in accordance with section 98(1)
Universities Act (permanent)

Subject	Current	Planned		
	2022	At end of 2022-2024 performance agreement period	2025 – 2027	2028 – 2030
Medicine	101	100–120	100–120	100–120

Table 2:

Planned change in numbers of professors in accordance with sections 98(1) and
99 Universities Act (temporary)

Subject	Current	Planned		
	2022	At end of 2022-2024 performance agreement period	2025 – 2027	2028 – 2030
Medicine	7	Up to 28	Up to 35	Up to 35

Table 3:

Overview of change in numbers of professors

Category	Current	Planned		
	2022	At end of 2022-2024 performance agreement period	2025 – 2027	2028 – 2030
Section 98				
Section 98, fixed-term appointments lasting more than three years or permanent appointments	101	100 – 120	100 – 120	100 – 120
Section 98 appointments limited to a maximum of three years				
Section 99(1)				
Section 99(1), fixed-term appointments lasting more than three years or permanent appointments	2	Up to 8	Up to 15	Up to 15
Section 99(1) appointments limited to a maximum of three years	5	Up to 20	Up to 20	Up to 15
Section 99(3)				
Section 99(4)				
Associate professors	9	Up to 25	Up to 35	Up to 45
Lecturers	9	Up to 20	Up to 25	Up to 30
Section 99(6)				
Section 99a		Up to 5	Up to 5	Up to 5
Total				
Change				

Table 4:

Overview of planned changes in numbers of career position holders and lecturers, full-time equivalents

Category	Current	Planned		
	2022	At end of 2022-2024 performance agreement period	2025 – 2027	2028 – 2030
Planned positions eligible for qualification agreement in accordance with section 13b(3) Universities Act				
Assistant professorship	8	Up to 25	Up to 25	Up to 25
Associate professorship	0	Up to 5	Up to 15	Up to 20
Section 99(6) professorship				
Total career positions				
Change				
Lecturer				
Total				
Change				

Table 5:
Current degree programmes

1. List of established full-time degree programmes

ISCED 4	ISCED 4 study field	Programme title	Ref. no.	Type of degree	Notes
	481	Medical Informatics	936	Master's	
	721	Medicine	202	Undergraduate	
	724	Dentistry	203	Undergraduate	
		Molecular Precision Medicine		Master's	

2. Full-time degree programmes established in cooperation with other educational institutions

ISCED 4	ISCED 4 study field	Programme title	Ref. no.	Type of degree	Notes
		None			

3. Established doctoral/PhD programmes

Programme title	SKZ1	SKZ2	Type of degree	Notes
Doctoral Programme of Applied Medical Science	790	202	Doctorate	
Doctoral Programme of Medical Science	090	202	Doctorate	
PhD	094	202	Doctorate	
Joint PhD programme with NTU Singapore			Doctorate	

Table 6:
Planned changes to degree programmes

1. Programmes scheduled to be introduced, or introduced in revised form

No.	Programme title	Scheduled implementation	Relation to research/ advancement and appreciation of the arts	In cooperation with other tertiary institutions
1				
2				

2. Programmes scheduled to be discontinued

No.	Programme title	Scheduled implementation	Relation to research and Development Plan
	Medicine 201	Feb. 2021 - END Covid Order	No relation to research
	Doctoral Programme in Medical Science N090	Enrolment not possible since WS 2007; 20 doctoral candidates currently enrolled	

All numbers, ranges and targets stated in the tables are subject to corresponding coverage in the budget under the performance agreement.

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