



OTTO VON GUERICKE
UNIVERSITÄT
MAGDEBURG

interdisciplinary. international. strong research profile.

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educate and change

“The expectations of the potential of the university community are multifaceted and tangible.” (Professor Dr.-Ing. Jens Strackeljan)

Sixteen horses, but one pump holding together two hemispheres with an invisible yet powerful strength; then a slight movement of the hand and a little air and the seemingly insuperable force holding them together was overcome. Even over 350 years after the impressive demonstration of the existence of the vacuum, the famous hemisphere experiment by Otto von Guericke has lost none of its fascination or persuasive power. The ultimate in scientific communication that showed impressively how knowledge creates an advantage, that science provides insight.

Otto von Guericke University Magdeburg is strongly committed to fulfilling its responsibility for social progress and thus honouring the man to whom it owes

its name: as a site of trailblazing teaching and character formation, as a place of internationally oriented research, as an interface for the successful transfer of knowledge and technology, as an “incubator” for successful start-ups and as the driver of innovation and catalyst for a whole region.

As an institution with a clearly established profile, the University of Magdeburg has defined its areas of research emphasis in engineering, the natural sciences and medicine. In addition to these we consider mathematics, economics, and the social sciences and humanities as essential disciplines for a modern university in the information society. We aim to continue building upon the interdisciplinary links between ►



Interdisciplinary, international and with a strong research profile, the University of Magdeburg drives innovation throughout the region and beyond.



► our strengths and areas of focus. The expectations of the potential of the university community to find workable and sustainable solutions for pressing social issues, are multifaceted and tangible. But it is not simply the amount of third-party funding acquired that is indicative in this respect of the growing importance of Otto von Guericke University Magdeburg to the region and beyond. Joint projects with the city and its residents that seek to respond to the pressing issues and challenges of civil society form the foundations for social cohesion.

Since it was founded in 1993, Otto von Guericke University Magdeburg has become established in the field of top-level international research, and has become renowned far and wide as a provider of innovative

teaching and a reliable partner for companies in the region. The university community is characterised by strong international networks, dynamism, motivation and innovative partnerships that make the University of Magdeburg a resilient and innovative institution that is capable of coping with future challenges.



Professor Dr.-Ing. Jens Strackeljan

study and graduate

Students are trained to deal with the opportunities and challenges of a constantly changing society.

Over 14,000 students from 100 nations study on our compact campus. The young men and women following our strongly interdisciplinary Bachelor's and Master's degree programmes are trained to be highly skilled professionals. They are prepared, as creative and critically-minded individuals, to deal with the opportunities and challenges of a constantly changing society. In addition to wide-ranging specialist knowledge they acquire key skills such as the ability to problem solve, and are both conscientious and team-minded.

Students at the University of Magdeburg benefit from fantastic facilities and an excellent student/teacher

ratio. As a result of maintaining constant close contact with research, they are able to develop and test their ideas and innovative business models practically through start-up workshops and laboratories.

The university's teaching focuses on a variety of technical and scientific study programmes, vocational education, teacher training and interdisciplinary economics and humanities programmes. Groundbreaking combinations such as medicine and technology enable students to play their part in shaping a sustainable society. Dual study programmes strengthen transfer-oriented cooperation with businesses in the region. A successful grant culture testifies to the ►



The learning environment at the university is distinguished by modern teaching and excellent facilities in the lecture theatres and laboratories.



► university's stable regional roots, which are maintained in tandem with its international outlook. Not least thanks to a close-knit network of cooperations with other universities in the state, students here will find a flexible environment and ideal conditions for studying.

A good 16 per cent of all students at the University of Magdeburg arrive from other countries, such as China, Brazil, India, New Zealand, Ukraine and Columbia, and find a home here for a while. As part of a well-crafted and constantly developing intercultural learning environment, they enrich the life of the university in many different ways.

Every year, over 2,500 graduates leave the University of Magdeburg after successfully completing their degrees, and begin their careers, around 200 of them as licensed physicians. A growing and resilient alumni network continues to link them to their alma mater. They remain part of a lively university community, help to support the generations that follow them and benefit beyond their time as students in different positions from the know-how and resources of the University of Magdeburg.

research and apply

The university has the potential and the responsibility to be a pioneer.

Otto von Guericke University Magdeburg is one of Germany's strongest universities in terms of research. Interdisciplinary, internationally networked and fundamental, its research projects are increasingly also defined by the applied transfer of scientific insights to industry and society.

Research at the university focuses on the neurosciences and the field of dynamic systems. Scientists benefit from umbrella structures that promote cooperation in these areas in the form of the Leibniz Science Campus Center for Behavioral Brain Sciences (CBBS) and the Center for Dynamic Systems (CDS). The STIMULATE research campus, a flagship project that

is renowned far beyond the campus of the University of Magdeburg, brings together all of the partners and projects involved in medical technology research and development in the region. The aim of the Immunology, Infectology & Inflammation Health Campus (GC-I³) is to reach a more detailed understanding of immunological processes and, resulting from this, to develop new and improved treatment methods for common diseases. Scientists from over 20 institutes and clinics at the university have come together to pool their skills in the field of inflammation medicine.

The research successes of the university are exemplified by strong cooperations with external research ►



The anechoic chamber for measuring electromagnetic compatibility is the largest chamber of its kind at a university in Germany.



► partners, such as the Fraunhofer Institute for Factory Operation and Automation (IFF), the Max Planck Institute for Dynamics of Complex Technical Systems (MPI), the Leibniz Institute for Neurobiology (LIN) and the German Center for Neurodegenerative Diseases (DZNE). Based in the immediate vicinity of the campus, this strong and successful network also has a concrete, physical dimension.

With international research projects, sustainable networks and innovative partnerships, the University of Magdeburg has the potential – and the responsibility too – to be a pioneer in overcoming social, health, ecological and economic challenges.

know and heal

Medicine at the university combines research, teaching and healthcare provision

The Faculty of Medicine at Otto von Guericke University and the University Hospital are united under the umbrella of Magdeburg University Medicine, which provides an organisational home for their close cooperation in research, teaching and healthcare provision.

With modern and research-oriented teaching, the Faculty of Medicine ensures that its site is an attractive one for training around 1,500 prospective medical doctors. In addition, approximately 30 students graduate each year from the international Master's degree programme in Immunology. Around 5 percent of the students come from non-European countries. University lecturers provide practical training involving the 11 academic partner teaching hospitals in the region.

Within the faculty, immunology including the molecular medicine of inflammation, and the neurosciences, have become successfully established as the university's focal areas for research. On the Immunology, Infectology & Inflammation Health Campus (GC-I³), scientists are working with international colleagues and on an interdisciplinary basis on better understanding and treating common inflammation-related diseases such as heart attacks, strokes and allergies.

As an institution under public law, Magdeburg University Hospital has responsibility for healthcare for the entire region. The approximately 4,200 employees – doctors, scientists, nurses and administrative staff – at this full-service hospital deliver patient care ►



Around 1,500 young women and men are training to become medical doctors on the modern medical campus.



► throughout the north of Saxony-Anhalt. Magdeburg University Medicine is thus one of the largest employers and – through the incorporation of the Technical College for Health Professions with its 250 trainees – is one of the most important providers of training for the healthcare and nursing professions in the region.

Highly skilled employees in the 26 clinics provide cutting-edge medical care using state-of-the-art technology. Interdisciplinary treatment in centres ensures the provision of highly skilled medical care for patients from a catchment area that reaches far beyond Saxony-Anhalt's borders. In surgical and non-surgical fields, the university boasts unique features such as

robot-assisted surgery, its perinatal centre, and minimally-invasive radiology and neuroradiology, as well as in the interdisciplinary treatment of cancers.

transfer and start up

The University of Magdeburg is on its way to becoming a renowned bridge for knowledge transfer with a reputation beyond its own region.

From research into practice, from the university campus into commercial enterprises: as the driving force behind the development of top-class technologies with importance for the future, Otto von Guericke University Magdeburg has successfully positioned itself at the interface between science and industry. With the expertise of engineering faculties that are strong in research and through effective cooperations with economics and the humanities, professionalised transfer structures and established processes support the region's companies in the implementation of innovative ideas. Moreover, a tightly-knit network of start-up workshops, so-called "incubators", ensures an excel-

lent start-up climate on the university campus. Here students will find the perfect conditions, appropriate structures and necessary know-how to develop business ideas, make prototypes and test products for commercial viability.

Among the focal areas for research transfer at the university are the fields of medical technology, automotive, digital engineering, fluidised bed technology and renewable energies. The Transfer and Start-Up Centre at Otto von Guericke University Magdeburg, or TUGZ for short, is the main structure in this regard, and acts as a capable facilitator and reliable interface ►



Institutes of the University of Magdeburg and small and medium-sized companies are able to research, test and implement interdisciplinary, innovative technologies in the experimental factory.



► between science and industry. Focussing on stimulating technology-oriented business start-ups, the TUGZ analyses potential, identifies target groups and multipliers, and organises direct access by regional industry to university resources. Reliable networks and effective cooperations – not least with the innovation and start-up centres in the region – help to achieve stable partnerships with industry and ensure that newly developed methods, scientific findings and innovative technologies can be rapidly integrated into the economy.

The University of Magdeburg has made great inroads into positioning itself as a renowned bridge for knowledge transfer in Germany. A key aspect of this is the

development of the Magdeburg Science Port technology quarter. The main focus of this campus extension is the strong research orientation at the University of Magdeburg towards medical imaging technology within the framework of the STIMULATE research campus. Otto von Guericke University Magdeburg is thus strengthening the transfer of technology and knowledge to society with an innovation strategy that is clearly aligned to its interdisciplinary profile, and is a catalyst and driver of innovation for a whole region.

act and impact

The University of Magdeburg impacts on society through its strengths and expertise.

For a long time excellent research and an attractive teaching offer have been far from the only core activities of Otto von Guericke University Magdeburg. Responding to pressing societal issues takes a university that is able to influence civil society as an interdisciplinary knowledge organisation and take responsibility beyond the confines of its campus for dealing with complex societal challenges. This “third mission” has long been part of the core values of the university: since it was founded, the University of Magdeburg has been a catalyst and reliable partner for industry, culture, politics and society. What is new is the significance of the third mission as a defining parameter and distinguishing performance indicator.

The University of Magdeburg takes part in active exchanges with the public, communicates scientific insights, organises children’s universities, brings the generations together in its senior citizens study programmes and is successfully professionalising the transfer of technology to regional industry. It is committed to sustainable strategic action, is making its mark effectively in terms of equality, creates opportunities for lifelong learning and is dedicated to finding ways of combining work and family life. School pupils, of course, receive assistance when it comes to choosing a programme of study and a career, refugees who are interested in studying benefit from services to help them integrate, whilst graduates are supported in ►



The Science Port in the immediate vicinity of the university campus has developed into a hub for the transfer of knowledge and technology.



► trying out business ideas and on their path to independence. The university's obligations within the context of the third mission mean a change of perspective: research and teaching are evaluated and designed with reference to their impact on society. When students become involved in social projects, this also has a dividend for teaching, and if a research project becomes a start-up, the university has an impact on society.

The third mission of Otto von Guericke University Magdeburg is an across-the-board undertaking, which – closely linked to the strengths and expertise of the university in terms of research and teaching – provides important incentives and sends powerful signals. Posi-

tioned and networked in this way, Otto von Guericke University Magdeburg makes a significant contribution to the sustainable development of the region far beyond the limits of the state capital.

connect and network

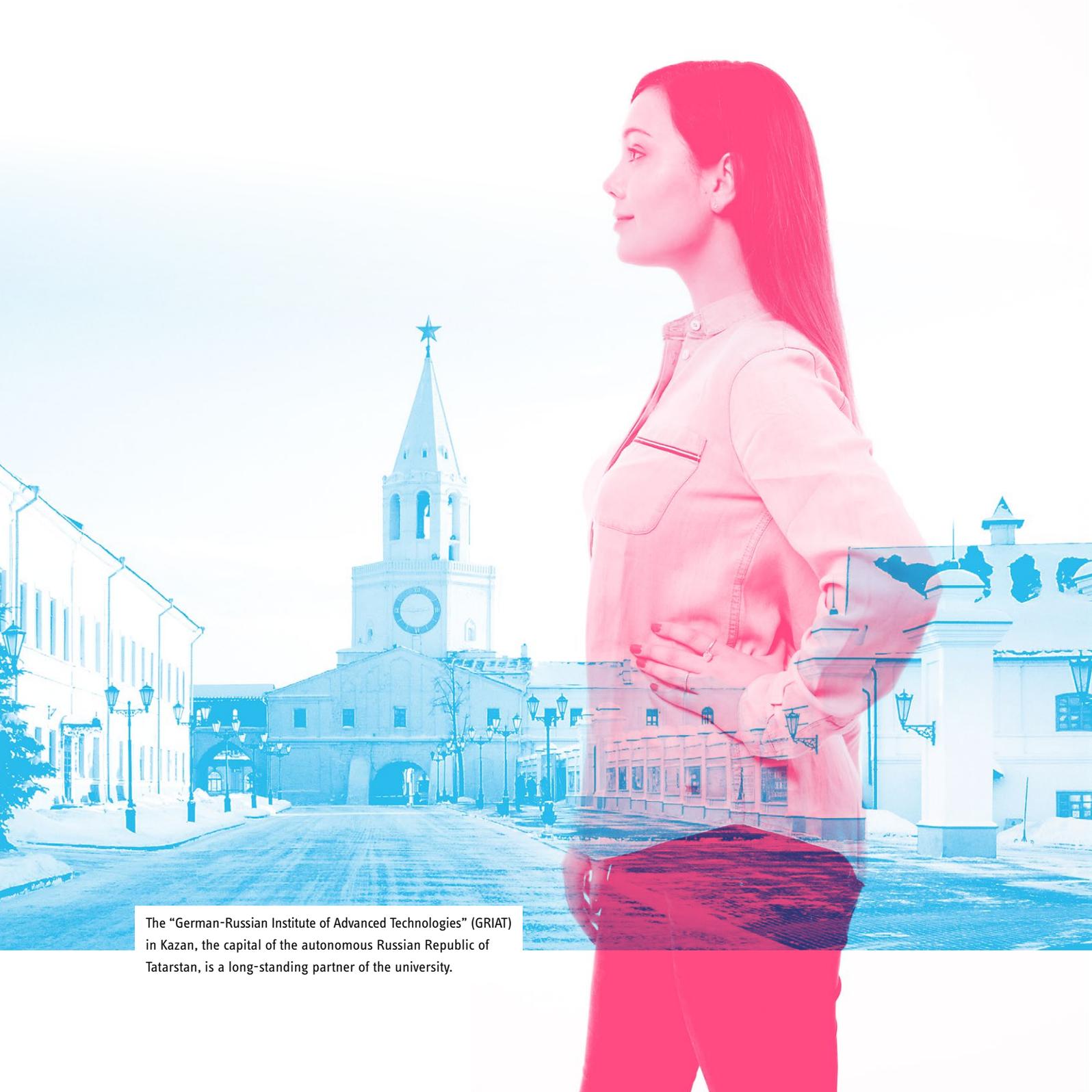
Internationalism safeguards the capacity for innovation.

A cosmopolitan attitude and integration skills are a self-evident part of everyday life at Otto von Guericke University Magdeburg. Research, teaching, studying and life are a joint, global responsibility on our highly international campus.

Around 11 percent of the teachers and visiting academics at the University of Magdeburg come from other countries, and at over 16 percent, the proportion of international students is well above the national average. Like hardly any other institution in the region, the University of Magdeburg acts as a draw to young and extremely well educated people and makes for an international atmosphere in the state capital of Magdeburg.

300 partnerships in over 60 countries around the world are a clear sign that the university is committed to internationalisation in research and teaching. A multitude of study and exchange programmes with universities and research institutions around the globe, responsibility accepted in strategic partnerships such as the European city network EUniverCities, and worldwide research cooperations make the University of Magdeburg an important hub in a worldwide network. Outstanding conditions and resilient support structures attract scientists and academics from all over the world.

The successful research at the university is fed by new stimuli and ideas, and the continuous exchanges ►



The “German-Russian Institute of Advanced Technologies” (GRIAT) in Kazan, the capital of the autonomous Russian Republic of Tatarstan, is a long-standing partner of the university.



► in global networks. The large number of graduate schools provides international doctoral candidates with outstanding scientific and personal support. Their objective is to intensively prepare doctoral researchers for the complex "science" labour market and simultaneously support their early scientific independence.

The University of Magdeburg also supports the mobility of its students. More than 150 young men and women complete a semester abroad every year supported by the university's exchange programmes. Away from familiar structures and cultures, they gain new experiences, discover new horizons, people and possibilities at the partner universities, and have the opportunity to develop their personalities.

The University of Magdeburg is facing up to the many and varied opportunities and great challenges of internationalisation with a lively culture of welcome and, through established networks, supports the young researchers and students who have found a new temporary home in Magdeburg in a multitude of ways.





In its 10,200 m² of floor space, the university library has 690 reading desks and forms the centrepiece of the campus.

facts and figures

Nine faculties

Electrical Engineering and Information Technology

Faculty of Humanities

Computer Science

Mechanical Engineering

Mathematics

Natural Sciences

Process & Systems Engineering

Economics and Management

Faculty of Medicine

14,000 students

2,500 graduates every year

200 professors

2,600 international students

credits

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