Berlin – City of Science
Statue of Wilhelm von Humboldt in front of the Humboldt-Universität zu Berlin, which was founded in 1809.
Welcome to Berlin – the metropolis of science

Students and researchers define Berlin’s image and develop exciting new concepts

A high density of research, diversity, and excellence – Berlin is the city of the sciences. More than 191,000 students are currently enrolled in its top-notch educational institutions. Four universities and the Charité - Universitätsmedizin Berlin, seven universities of applied sciences, four arts academies and over 30 private universities make Berlin one of the largest hubs for the sciences in Europe. For international top researchers, the two elite universities in the city – Freie Universität Berlin and the Humboldt-Universität zu Berlin – are among the most attractive research locations in Germany. Furthermore, 70 non-university research institutions are also active in the fields of basic and applied research. Among them are the Who’s Who of German research organizations: the Max Planck Society, the Helmholtz Association, the Leibniz Association, and the Fraunhofer Society.

Science is a part of the city's core identity

Berlin’s eminent science and research landscape forms the strong backbone of the city as an international metropolis. More than 1,700 collaborations connect Berlin’s universities with partner universities all over the world and ensure an active transfer of knowledge. Around 20 percent of students come from overseas, most of them from China, Russia, and the US. In total, that makes more than 39,000 young minds who contribute greatly to forging the character of the city with their creativity and fresh ideas. The Einstein Foundation Berlin creates the prerequisites which enable both top-ranking domestic and international scientists and scholars as well as promising young talent to work in Berlin and continue to strengthen Berlin’s position as a science hub.

Science and business, hand in hand

One of Berlin’s most important characteristics is the close meshing of science and business. Mature and growing networks such as Berlin Partner for Business and Technology and the Enterprise Europe Network Berlin Brandenburg ensure that companies are able to find the right research partners. In ten technology parks and eight start-up centers, young technology-oriented companies will find favorable starting conditions allowing them to collaborate with universities and non-university research institutions to develop the technologies of tomorrow. Ultimately, it is the numerous new spin-offs founded straight out of its universities which make Berlin one of the most coveted metropolises in Europe for start-ups.
Facts and figures about the scientific landscape in Berlin

4 Universities
7 Universities of applied sciences

Over 30 state-recognized private colleges
4 Arts academies

191,000 Students
12,000 PhD candidates
65,000 STEM students

Over 35,000 actively involved in R&D
Over 70 Non-university research institutions

4 Institutes of the Fraunhofer Society
5 Institutes and the archive of the Max Planck Society
14 Institutes and 3 external branches of the Leibniz Association
2 Research centers and 3 external branches of the Helmholtz Association

Expenditures for research and development as a percentage of the gross domestic product

3.49% (Ranked 2)
2.93% (Second-highest in Germany)
Students of Freie Universität Berlin.
Excellent place to study

The four universities attract top academic minds
The city’s four universities are Berlin’s major flagships as a science location. Almost 125,000 students are enrolled at these institutions of higher learning. In the federal excellence initiative, the Freie Universität Berlin and the Humboldt-Universität zu Berlin were recognized for their concepts for the future. This means that they are among the eleven elite universities in Germany. Where the number of foreign guest scientists and scholars is concerned, they are among the leading universities in Germany. The human medicine institutes of both universities are united under one roof at the Charité - Universitätsmedizin Berlin.

Freie Universität Berlin is an elite university with an international focus. With around 223 courses of study, it offers a uniquely diverse range of courses in the humanities and social sciences, as well as a wide selection of degree courses in the natural and life sciences, including veterinary medicine, pharmacy, and bioinformatics.

Humboldt-Universität zu Berlin is the oldest university in the city and is one of the 20 largest universities in Germany. In addition to the humanities and social sciences, its range of courses primarily focuses on mathematics, biology, biophysics, chemistry, informatics, and 12 degree courses in agricultural sciences alone.

Technische Universität Berlin (TU Berlin) in Berlin-Charlottenburg is the international calling card of the city where engineering, the natural sciences, and information technology are concerned. The TU Berlin is renowned for its vibrant startup environment. More than 20 companies are founded directly out of the TU Berlin each year.

The Berlin University of the Arts (UdK) is the home of artistic education, the fine arts, visual arts, and product design. It is one of the largest creative labs of the city. Together with the Hanns Eisler School of Music Berlin, the Berlin Weissensee School of Art, and the Ernst Busch Academy of Dramatic Art, the UdK is home to more than 5,000 students from all over the world.

Universities

- Berlin University of the Arts (UdK)
- Freie Universität Berlin (FU)
- Humboldt-Universität zu Berlin (HU)
- Technische Universität Berlin (TU)

University clinics

Charité – Universitätsmedizin Berlin
Students of the SRH Hochschule der populären Künste (hdpk) Berlin.

Photo: André Hellemans
Real-world and future-oriented

Berlin’s universities of applied sciences qualify students for the real-world economy and offer modern knowledge transfer systems.

Berlin’s seven state-run universities of applied sciences come in exactly where a close meshing of real-world teaching and application-oriented research with a transfer of knowledge to the economy are required. Almost 60,000 students are enrolled at these institutions. The range of courses at the renowned Beuth University of Applied Sciences Berlin ranges from ‘classic’ engineering disciplines such as mechanical engineering, electrical engineering and civil engineering to innovative degree courses such as media informatics, biotechnology, medical physics, food technology, screen-based media, geoinformation, and theater and events engineering. In addition to its excellent engineering degree courses, the HTW Berlin – University of Applied Sciences is also known for its extraordinarily diverse range of degree courses in the fields of technology, business, informatics, culture, and visual design. Hence, it is particularly suited to interdisciplinary research projects.

A diverse profile for all walks of life

The study profile at the Berlin School of Economics and Law focuses on economics, administration, and the administration of justice. Alice Salomon Hochschule Berlin offers degrees in the disciplines of social work, healthcare, physiotherapy, nursing, and education. The universities of the neighboring state of Brandenburg complement what Berlin offers, such as the Technical University of Applied Sciences Wildau, which is located right outside Berlin’s southern city limits. In Wildau, the practical courses focus on the fields of mechanical engineering, telematics, logistics, as well as economics and administrative science.

Top management degrees at private universities

In addition to the state universities, the science location of Berlin is also home to over 30 private universities, which, like the ESMT European School of Management and Technology or the ESCP Europe Business School Berlin, train the economic decision-makers of tomorrow with an international focus. A true think tank where political leaders go to receive their qualifications is the Hertie School of Governance with its exceedingly international profile. Furthermore, Berlin has also established itself as a coveted location for professional development and part-time further education courses. For example, the Steinbeis-Hochschule Berlin and the FOM University of Applied Sciences qualify gifted young talents for future leadership roles in business and the economy.
The humanoid robot Myon learns from experiences in its environment. It was developed in the neurorobotics research laboratory at the Beuth University of Applied Sciences Berlin.
## Universities of applied sciences and private colleges in Berlin

### Universities of applied sciences
- Alice Salomon Hochschule Berlin – University of Applied Sciences (ASH)
- Berlin School of Economics and Law (BSEL)
- Beuth University of Applied Sciences Berlin
- Catholic University of Applied Sciences Berlin (KHSB)
- Evangelische Hochschule Berlin (EHB)
- Federal University of Applied Administrative Sciences
- Hochschule für Technik und Wirtschaft Berlin – University of Applied Sciences (HTW)

### Arts academies
- Berlin Weissensee School of Art
- Ernst Busch Academy of Dramatic Art
- Hanns Eisler School of Music Berlin

### Private colleges (selection)
- BAU International Berlin – University of Applied Sciences
- bbw University of Applied Sciences (bbw)
- BTK – University for Art & Design Berlin
- Business School Berlin – Hochschule für Management (BSP)
- Dekra Hochschule für Medien Berlin
- design akademie berlin – SRH Hochschule für Kommunikation und Design GmbH
- DFFB – German Film and Television Academy Berlin
- EBC University Berlin – University of Applied Sciences
- ESCP Europe Business School Berlin (ESCP)
- ESMOD Berlin – International University of Art for Fashion (ESMOD)
- European School of Management and Technology (ESMT)
- FOM University of Applied Sciences
- Games Academy – Hochschule der digitalen Gesellschaft (GA)
- GISMA Business School
- Hertie School of Governance (HSG)
- H:G University of Health & Sports, Technology & Arts (H:G)
- HMKW – University of Applied Sciences for Media, Communication and Business
- HWTK – University of Applied Sciences (hwtk)
- Mediadesign – Hochschule für Kommunikation und Informatik
- Medical School Berlin – Hochschule für Gesundheit und Medizin (MSB)
- Psychologische Hochschule Berlin (PHB)
- Quadriga University of Applied Sciences
- SRH Hochschule der populären Künste (hdpk)
- SRH University Berlin (SRH)
- Steinbeis-Hochschule Berlin (SHB)
- Touro College Berlin
The interactive map provides an overview of the diverse scientific landscape and can be accessed via the QR Code and on the website www.braincity.berlin
New photovoltaic technologies are being developed at the Competence Centre for Thin-Film- and Nanotechnology for Photovoltaics Berlin.
Science and scholarship of the highest caliber

Cutting-edge basic research and impetus for technological development
The over 70 non-university research institutions account for around 18,000 jobs in Berlin. Together with the state-run universities, they form an important basis for Berlin’s economic development. This is because the great research potential of the facilities has developed into a significant location factor over the past few years which attracts primarily technology-oriented companies. Four institutes of the Fraunhofer Society, five institutes and the archives of the Max Planck Society, two research centers and three external branches of the Helmholtz Association, as well as 14 institutes and three external branches of the Leibniz Association are all located in Berlin.

Diversity of research optimal for interdisciplinary collaboration
As part of their core services, the non-university research institutions have traditionally also provided knowledge and technology transfer and contract research. Numerous small- and medium-sized enterprises as well as large companies from Berlin and the whole of Germany benefit from this transfer of knowledge – but most of all young spin-offs which work on research contracts together with the institutes. One of Berlin’s most prominent strengths is the diversity of the research being conducted and wide spectrum of scientific expertise, which ranges from materials research, production technology and informatics all the way to healthcare research and biomedicine. Thanks to this exceptional diversity, Berlin is the ideal location for groundbreaking research that is heavily dependent on interdisciplinary collaboration.

Cutting-edge research in the humanities
But it is not only the natural sciences which are strongly represented. With the Center for Modern Oriental Studies, the Center for Literary and Cultural Research, the Centre for General Linguistics, and the Dahlem Humanities Center of the Freie Universität, internationally recognized, cutting-edge research in the humanities also takes place in Berlin. As is the case in the natural sciences, researchers from all over the world come together in Berlin to conduct research on the latest issues.
Center for Photonics and Optics in Berlin-Adlershof, Germany’s largest science and technology park.

Photo: Berlin Partner – Wuestenhagen
Non-university research institutions

Fraunhofer Society
- Fraunhofer Institute for Open Communication Systems FOKUS
- Fraunhofer Institute for Production Systems and Design Technology IPK
- Fraunhofer Institute for Reliability and Microintegration (IZM)
- Fraunhofer Institute for Telecommunications HHI

Helmholtz Association
- German Aerospace Center (DLR)
- Helmholtz-Zentrum Berlin für Materialien und Energie (HZB)
- Max Delbrück Center for Molecular Medicine (MDC)

Leibniz Association
- Ferdinand-Braun-Institut, Leibniz-Institut für Höchstfrequenztechnik (FBH)
- German Institute for Economic Research (DIW)
- German Institute for International Educational Research (DIPF)
- German Rheumatism Research Centre Berlin (DRFZ)
- GESIS – Leibniz-Institute for the Social Sciences
- Leibniz Institute for Crystal Growth (IKZ)
- Leibniz Institute for Zoo and Wildlife Research (IZW)
- Leibniz-Institut für Analytische Wissenschaften – ISAS
- Leibniz-Institut für Molekulare Pharmakologie (FMP)
- Leibniz Institute of Freshwater Ecology and Inland Fisheries (IGB)
- Leibniz-Zentrum Allgemeine Sprachwissenschaft (ZAS)
- Leibniz-Zentrum Moderner Orient (ZMO)
- Max-Born-Institute for Nonlinear Optics and Short Pulse Spectroscopy (MBI)
- Museum für Naturkunde – Leibniz Institute for Research on Evolution and Biodiversity Science (MfN)
- Paul Drude Institute for Solid State Electronics (PDI)
- Social Science Research Center Berlin (WZB)
- Weierstrass Institute for Applied Analysis and Stochastics (WIAS)

Max Planck Society
- Archives of the Max Planck Society
- Fritz Haber Institute of the Max Planck Society (fhi)
- Max Planck Institute for Human Development (mpib)
- Max Planck Institute for Infection Biology (mpiib)
- Max Planck Institute for Molecular Genetics (molgen)
- Max Planck Institute for the History of Science (mpiwg)

Other establishments (selection)
- BAM Federal Institute for Materials Research and Testing
- Berlin-Brandenburg Academy of Sciences and Humanities (BBAW)
- Berlin Institute of Health (BIH)
- PTB – National Metrology Institute of Germany
- Robert Koch Institute (RKI)
- Zuse Institute Berlin (ZIB)
Optimization of a wind turbine in the wind tunnel at the institute for fluid mechanics at the TU Berlin.
Science and business, tightly integrated

Short communication paths and a large number of platforms ensure intensive collaboration and networking

Berlin is where science and business converge. It is above all innovative companies which profit from Berlin, one of the largest and most diverse regions in Europe for science and scholarship, as this is where they encounter optimal circumstances for research and development. That is because this is where they can recruit and utilize the great number of potential young and talented scientists and managers for the development of their own products, market-ready services, or innovative business models. Around 80 percent of university lecturers in Berlin work together with commercial companies, and around 50 percent of the companies here collaborate with scientific institutions. The focal points of research in Berlin include health management, energy technology, traffic and mobility, optics and microsystems, as well as information technology. But basic physical and chemical research, materials technology, as well as the creative industry are also central fields of innovation in the city. To ensure functioning knowledge networks, Berlin Partner für Wirtschaft and Technologie and the knowledge transfer offices at the universities in Berlin and non-university research institutions which were set up specifically for this purpose also provide experienced and competent points of contact. Special collaboration platforms such as www.berlin-innovation.de also provide help with finding the right partners for specific collaborative projects. For international cooperations, the Enterprise Europe Network provides expert assistance.

Knowledge transfer through spatial proximity

For Berlin, being located close to scientific institutions and the related networking possibilities are of central importance where location factors are concerned. This is because it is only when companies and research institutions are physically located close by that a vibrant and genuine transfer of knowledge can arise. This is also exactly why the areas around the science and technology park Adlershof in the southeastern region of Berlin and the Biotech Park Buch in the north of the city have developed into internationally renowned locations of the future, and are extremely attractive as locations for companies from, e.g. the energy technology and photonics industries, but also from the health management and life sciences sectors. New high-tech locations are emerging in the southwest of Berlin, in the center of Berlin, in the City-West region, as well as at Tegel airport. An additional eight technology-oriented startup centers with their tailored consulting services also provide ideal conditions for entrepreneurs.
The Accelerator APX, a joint venture of Axel Springer and Porsche, offers support for pre-seed and seed start-ups.

Photo: APX/Dominik Tryba
Berlin, the startup metropolis

Where ideas become a reality
Berlin is the undisputed startup capital of Germany. Every 20 hours, a startup is founded in Berlin. The capital of Germany has long risen up the ranks to become one of the most coveted locations around the world. Today, there are already 60,000 people working in startups in Berlin. Berlin is a top location for large companies that develop and test new digital business models with their own innovation laboratories. The sciences are also firmly integrated into this dynamic start-up culture in Berlin. Academic startups which emerge in the direct periphery of the universities – founded by students, graduates and scientists – contribute significantly to the positive startup atmosphere in the city.

Startups in all major fields of the future
Industry surveys show the success of Berlin’s startup scene: More than 80 percent of academic startups in the city are already turning a profit in their second fiscal year. Hence, they are a significant driving force behind the economic development of the city. Core sectors here include software and ICT services, the industrial sector, non-technical and technical research, media, and design. Almost 25 percent of academic startups already have the international markets firmly in their sights during their startup phase. During their entrepreneurial endeavors, they utilize proprietary patents, thus binding know-how in the city over the long term. And one other thing is also particularly remarkable: Women are involved in more than 40 percent of these startups.

Networking and good infrastructure as major factors for success
Numerous companies maintain regular contact with universities, where they utilize the infrastructure or forge partnerships for R&D. What this means is that know-how not only flows from the university to the young companies directly during the startup phase. But there are also other forms of collaboration. A functioning funding infrastructure – for example as part of the Germany-wide EXIST program or the funding programs of the Investitionsbank Berlin (IBB) – provide startups with valuable help in this regard. Furthermore, with its numerous technology and startup centers, Berlin offers the perfect basic parameters when searching for the right place for your own company.
Founder and CEO of ResearchGate Ijad Madisch speaking to Chancellor of Germany Angela Merkel.

Photo: Martin Miseré/ResearchGate
Diversity meets internationality

In Berlin, the sciences are firmly anchored in the urban environment of an international metropolis. Berlin is cosmopolitan and international. The most important contributing factor for the rapid population growth over the past few years lies in how attractive it is to people from all over the world who wish to play an active role in shaping the future. The scientific landscape plays a huge role in this – through 30,000 foreign students who have chosen Berlin as the place for their studies, and also through world-class scientists and scholars from all over the world who work in graduate schools or non-university research institutions as members of excellence clusters. And most of all through research-oriented companies who also attract talented minds from all over the world to come to Berlin. Research-oriented companies in the city alone employ 17,000 scientists and 11,000 highly qualified experts.

A high quality of life for researchers and their families
Scientists and scholars value not only the excellent research environment in Berlin. They also come here because Berlin is an extremely livable and tolerant city, and has a lot to offer people from all walks of life no matter what their tastes may be. Berlin is also among the five most family-friendly cities in Europe. Particularly for those working in academia or research who move to live here for extended periods of time, good infrastructure where childcare and schools are concerned are also an important advantage. Furthermore, the city offers cultural experiences of an international caliber.

A meeting place for international scientists and scholars
Berlin is well established as an international meeting place. With almost 140 top meetings per year, Berlin is ahead of London, Singapore, and New York. With more than 130,000 events, Berlin’s event calendar sees more than 10 million participants each year. One of the most important drivers of positive development are the scientific conventions and congresses. Just the fields of medicine, science, and research alone regularly account for 10 to 15 percent of Berlin’s annual event schedule. Berlin invests a great deal in the sciences. In return, the city receives an exceptional high degree of internationality, innovation, as well as a large number of highly qualified jobs, which arise as a result of successful collaboration between science and business. Berlin as a major city benefits from its versatility, its diverse facets, and its many faces. This firmly connects Berlin to the sciences in the city, its institutions, and the people who work there, because just like Berlin, the sciences are a prominent promoter of diversity, vibrancy, and creativity.