



Technische Universität Berlin

Outline



History and Campus



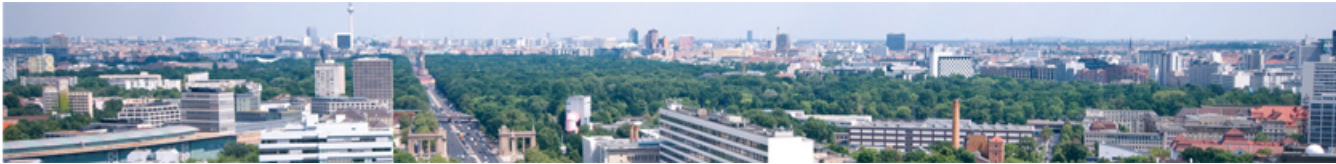
Profile



Teaching



Internationalization



History and Campus



Profile



Teaching

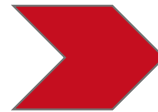


Internationalization

History and Campus



19th century



21st century



History and Campus | Origin



1770 –
1821

- Founding of the forerunner academies: Mining Academy, Building Academy, Vocational Academy



1879

- Unification into Royal Technical College of Berlin



1945 –
1946

- Closure of the Technische Hochschule Charlottenburg and re-establishment under the new name: Technische Universität Berlin

1950

- Establishment of the School of Humanities

History and Campus | Research History



Franz Reuleaux	1829 - 1905	<i>Machine kinematics</i>
Adolf Slaby	1849 - 1913	<i>Radiotelegraphy</i>
Alois Riedler	1850 - 1936	<i>Motor vehicle construction</i>
Adolf Miethe	1862 - 1927	<i>Three-color photography, the flashlight</i>
Georg Schlesinger	1874 - 1949	<i>Machine tool design and factory management</i>
Hermann Föttinger	1877 - 1945	<i>The fully automatic gear box</i>
Gustav Hertz*	1887 - 1975	<i>Laws governing the impact of an electron upon an atom</i>
Hans Geiger	1882 - 1925	<i>The Geiger Counter</i>
Dennis Gábor*	1900 - 1979	<i>Holography</i>
Eugene Wigner*	1902 - 1995	<i>Quantum mechanics</i>
Ernst Ruska*	1902 - 1988	<i>The electron microscope</i>
Konrad Zuse	1910 - 1996	<i>The first freely programmable computing machine</i>
Gerhard Ertl*	1936 -	<i>Chemical processes on solid surfaces</i>

*Nobel prize laureate



Gustav Hertz*



Franz Reuleaux



Ernst Ruska*



Konrad Zuse



Georg Schlesinger



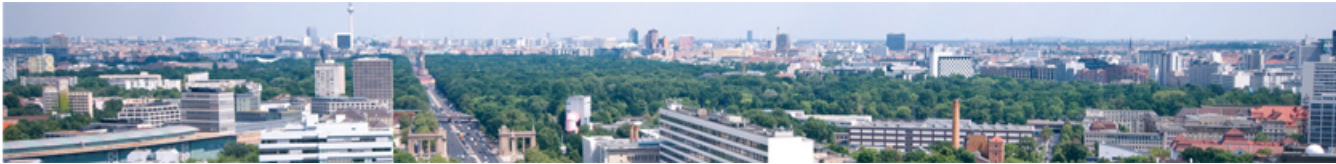
Hans Geiger



Dennis Gábor*



Gerhard Ertl*



History and Campus



Profile



Teaching

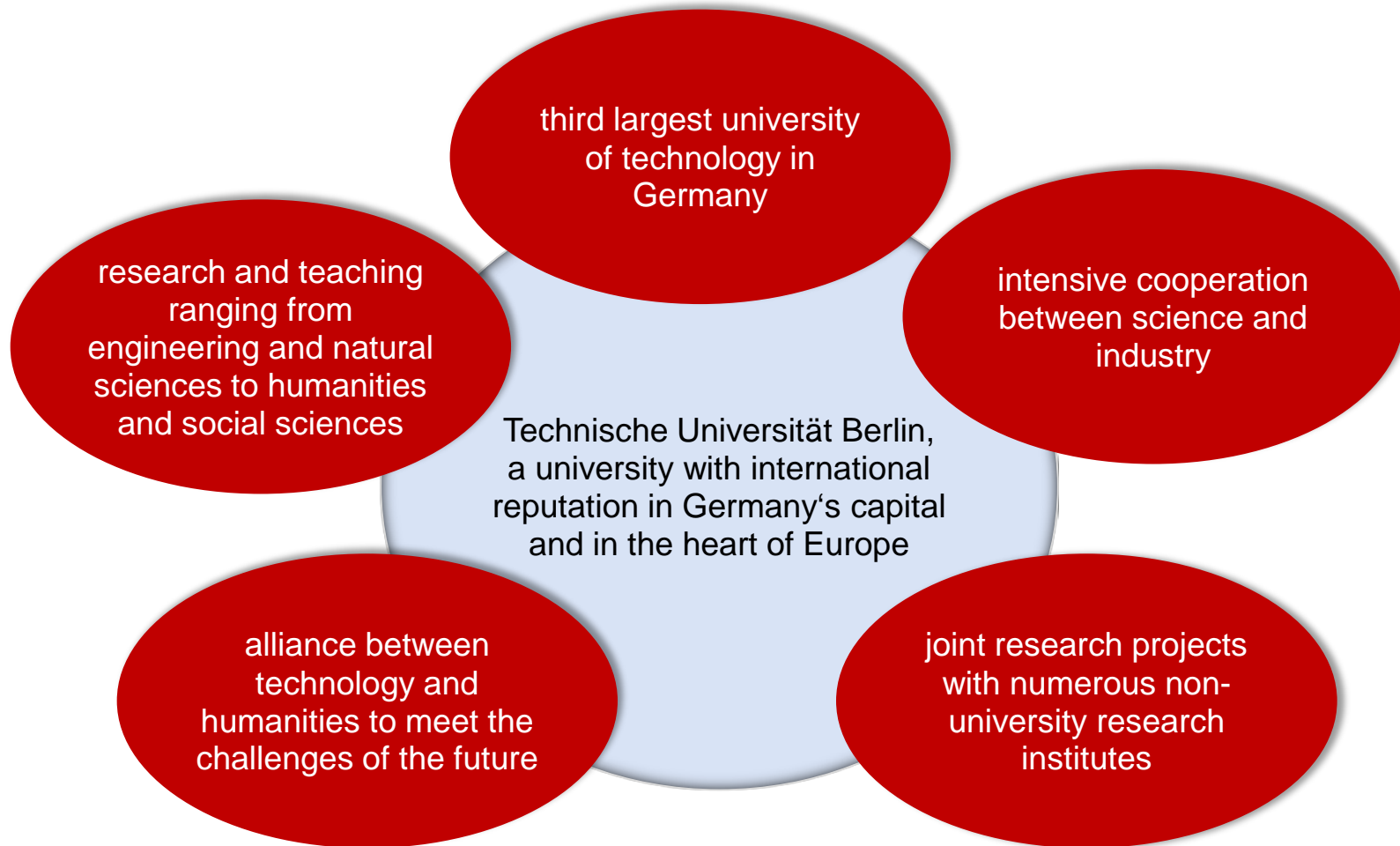


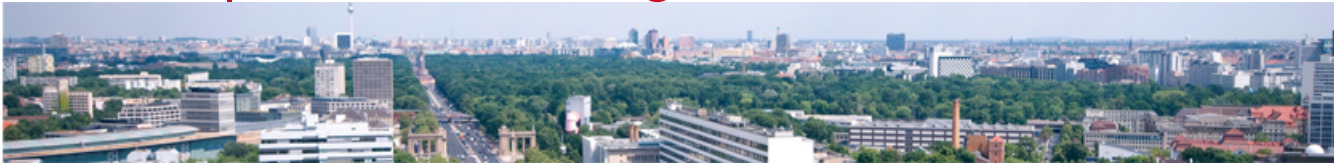
Internationalization



- around 600 000 m² base area distributed over several locations in Berlin
- 122 buildings (19 000 rooms)

Profile | TU Berlin in short

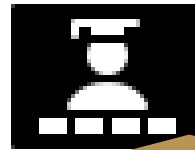




Staff



355
Professors



363
Visiting professors and
associated lecturers



2727
Scientific staff
Financed by third-party funds:
1719 (63%)



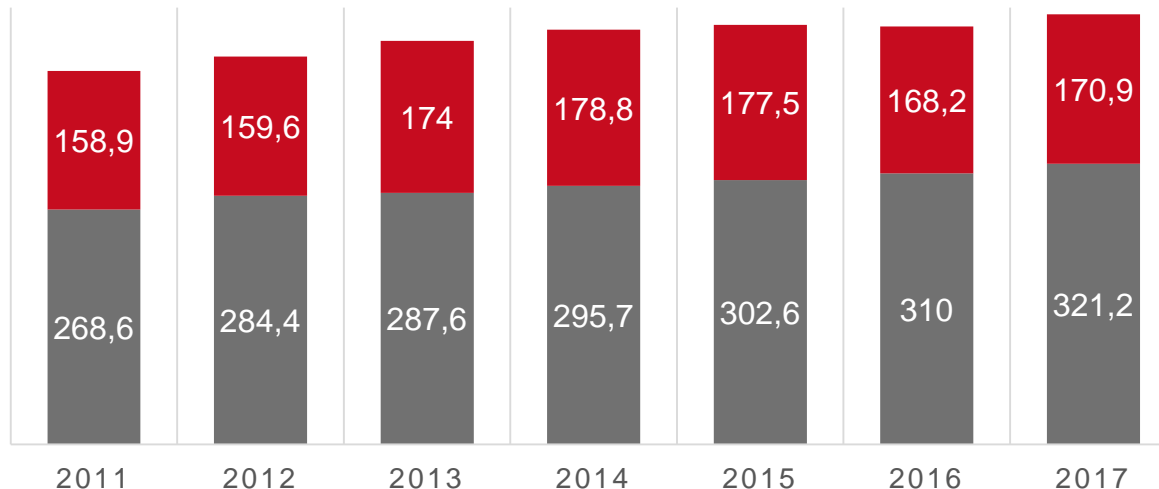
2121
Other employees
Financed by third-party
funds: 248 (12%)

Profile | TU Berlin in figures (2016)

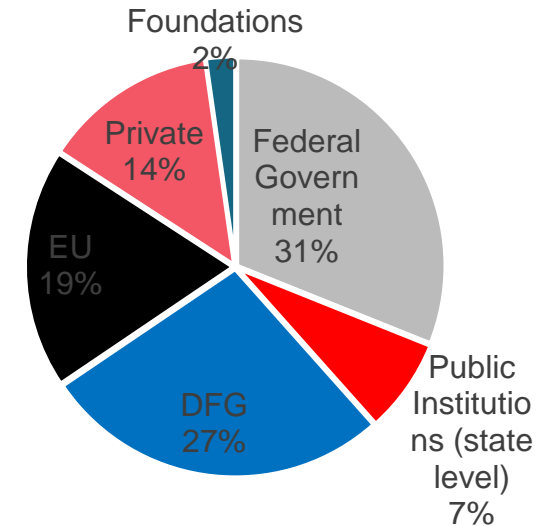


FUNDING IN MILLION €

■ state funding ■ external funding



Split up external funding



- In 2017: about 480,000 € of external fundings acquired per professor
- In the past 8 years: a total rise of funding of more than 15%

Profile | Faculties



Faculty I
Humanities

7 institutes / centers

Faculty II
Mathematics and Natural Sciences

6 institutes

Faculty III
Process Sciences

6 institutes

Faculty IV
Electrical Engineering and Computer Science

6 institutes

Faculty V
Mechanics Engineering and Computer Sciences

7 institutes

Faculty VI
Planning - Building - Environment

8 institutes

Faculty VII
Economics and Management

3 institutes

Central Institutes

Central Institute
El Gouna

Central Institute
School of Education



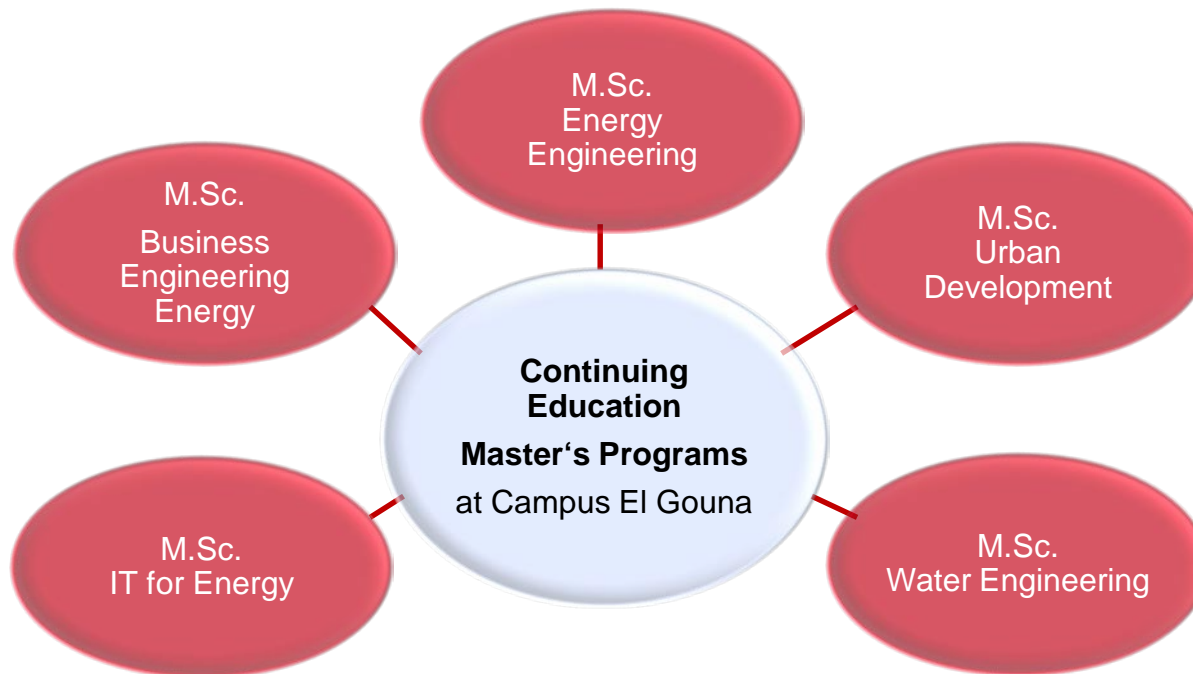
SETUB
School of Education
TU Berlin

Profile | Central Institute El Gouna (Egypt)

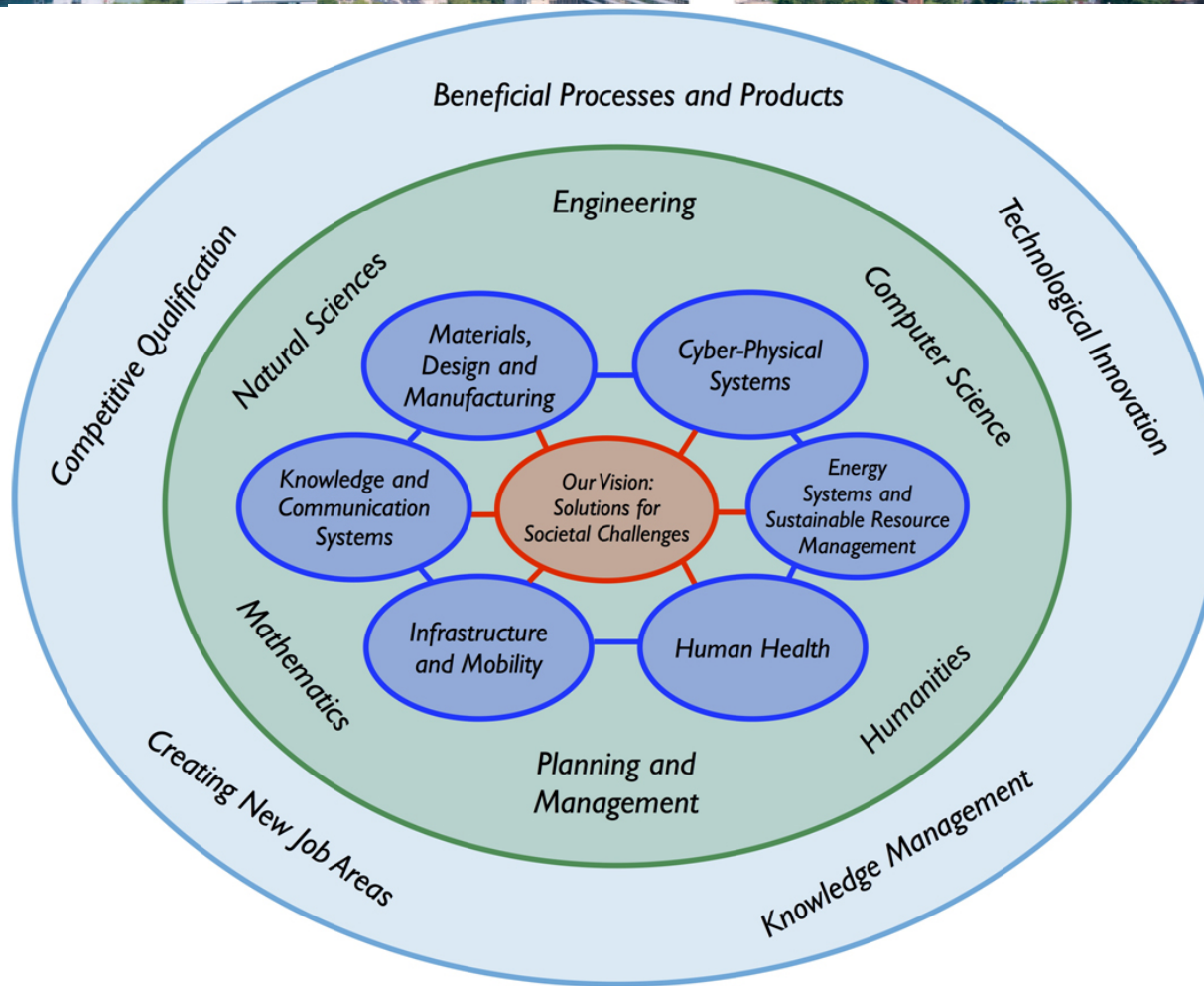


Main focus of the degree programs and research:

Growth of population and climate change require new strategies to tap new living spaces, water and energy.



Profile | Core areas in research and education



Profile | Collaborative Research (selection)



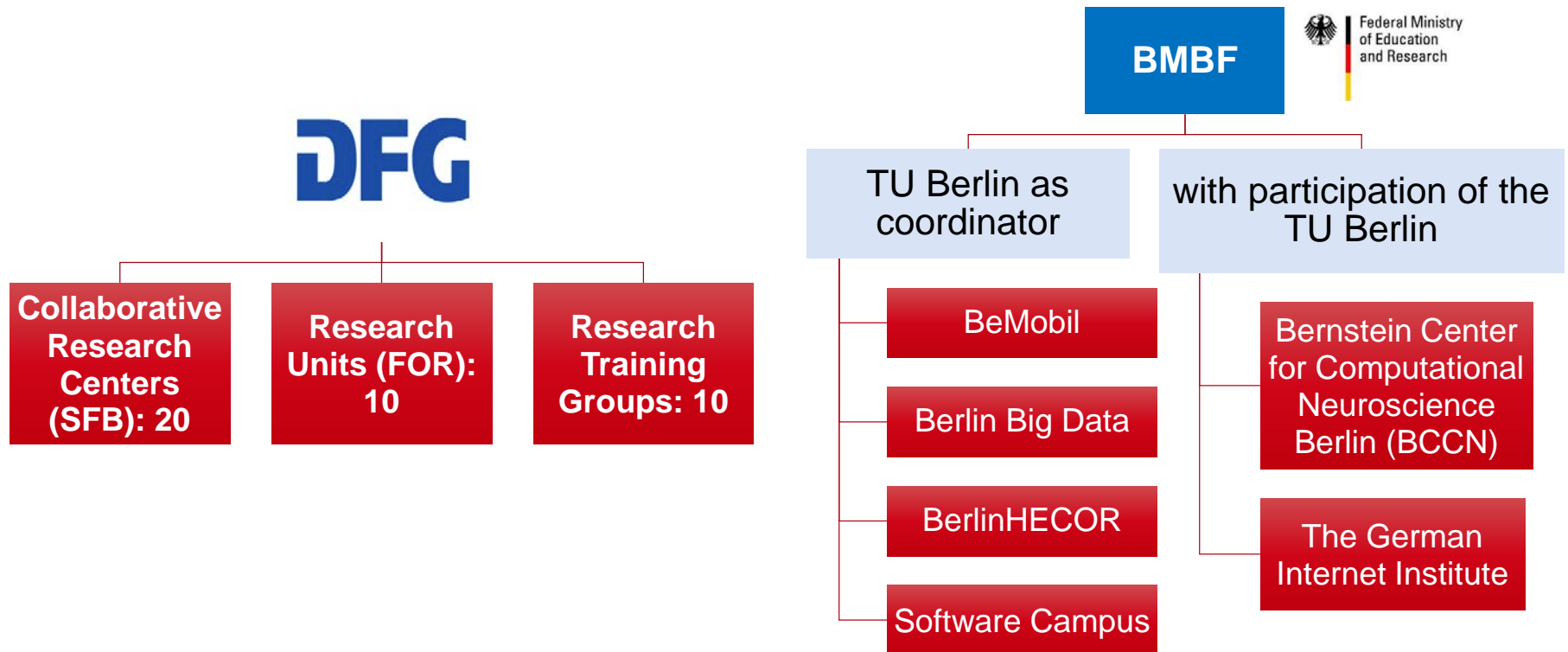
TU Berlin coordinates three Einstein Centers

- Einstein Centers are a Programme line of the Einstein Foundation
- Einstein Centers bundle and harness interdisciplinary scientific expertise in particularly innovative research fields
- The programme offers top research alliances in Berlin the opportunity to establish cross-institutional research and teaching networks
- The aim is to generate new research priorities beyond the existing clusters and schools

ECMath - Einstein Center for Mathematics Berlin:
The common platform for excellent mathematics in Berlin



Profile | Collaborative Research (selection)



and others (e. g. EU Research and Innovation Projects such as Horizon 2020 and FP7)



German Excellence Strategy 2019

- Funding programme of the Federal Government and State Governments
- Aims to promote leading edge research at outstanding universities sustainably
- In total 533 Mio. € per year are provided
- A University Alliance has to be successful in at least three Clusters of Excellence to apply for the title of „University of Excellence“
- In a Cluster of Excellence interdisciplinary research at an internationally competitive level is conducted
- TU Berlin is host to three out of seven Clusters of BUA



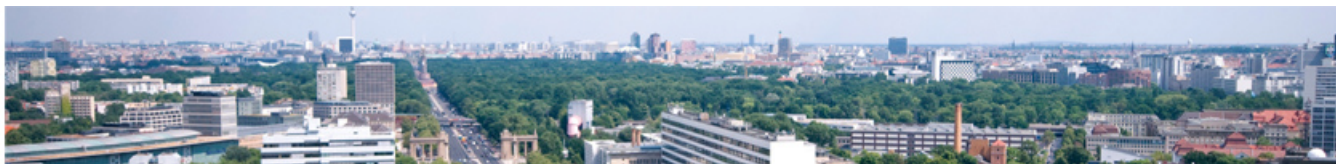


German Excellence Strategy 2019 University of Excellence

On 19 July 2019, the four partner universities of the Berlin University Alliance (BUA) – Freie Universität Berlin, Humboldt Universität zu Berlin, Technische Universität Berlin und Charité Universitätsmedizin – were jointly awarded the title of University of Excellence

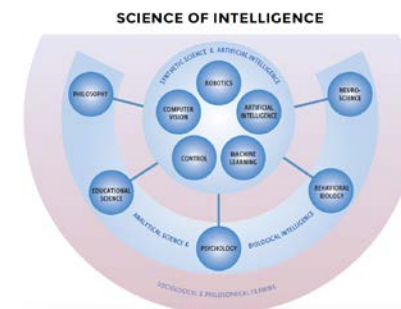
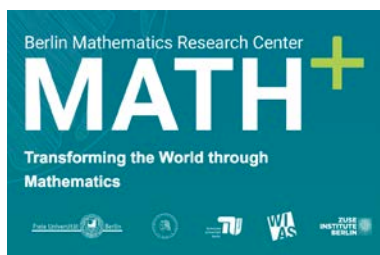


Profile | Collaborative Research (selection)



German Excellence Strategy 2019

3 Clusters of Excellence for TU Berlin out of 7 Clusters for Berlin in total



A cross-institutional and transdisciplinary Cluster in order to explore and further develop new approaches in application-oriented mathematics

A Cluster with five interdisciplinary research areas on the elucidation and evolution of catalytic networks. The aim is to understand how reactants, intermediates, and reaction products come into customized contact with the various catalysts involved

A Cluster focusing on the better understanding of intelligence in all its facets. The aim is to fundamentally advance our ability to construct intelligent technological artifacts for applications of societal importance.

Profile | Strategic Partnerships R&D



non-university research institutions, i.a.:



MAX-PLANCK-GESELLSCHAFT



industry and private investors, i.a.:

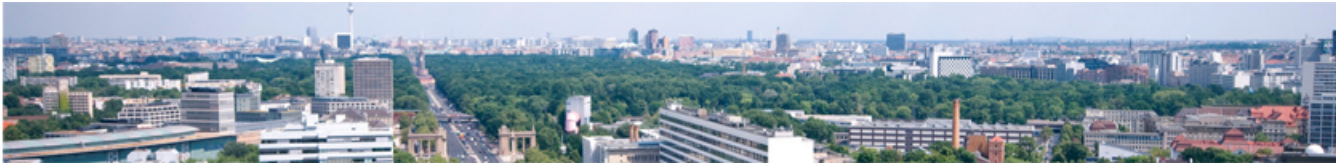


Profile | Entrepreneurship – Start-ups and Spin-offs



- Currently 20 PhD projects
- 35 Tech startups per year
- 150+ Tech startups since 2007
- More than 80% of startups are still in business
- Labeled as „The Entrepreneurial University - EXIST“ („Die Gründerhochschule“) by the Federal Ministry for Economic Affairs and Energy
- Currently No. 2 in GER of EXIST-Universities





History and Campus



Profile

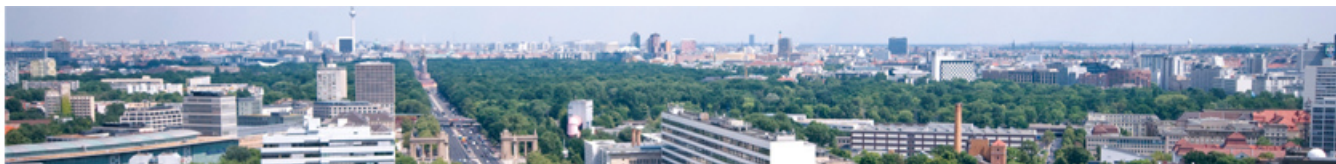


Teaching



Internationalization

Teaching | Facts and figures



Students: 35.570



Male:
23.572
(66,3 %)

Female:
11.995
(33,7 %)

Doctorates: 636

**Post doctoral
lecture qualification: 14**

International students: 9443 (26,6%)

Degree Programs: more than. 150

Double Degrees: 38



(with universities in Argentina, Brazil, Chile, China, France, Republic of Korea, Poland, Russia, Serbia)

Programs in English: 26

Teaching | Courses in English



Architecture - Typology, M.Sc.

Building Sustainability - Management Methods for Energy Efficiency, M.B.A.

Business Engineering Energy, M.Sc.

Computational Neuroscience, M.Sc.

Computer Science, M.Sc.

Energy Engineering, M.Sc.

Energy Management, M.B.A.

Environmental Planning, M.Sc.

European Studies

European and International Energy Law, M.B.L.

Geodesy and Geoinformation Science, M.Sc.

Global Production Engineering, M.Sc.

ICT Innovation, M.Sc.

Industrial and Network Economics, M.Sc.

Information Systems Management, M.Sc.

Innovation Management, Entrepreneurship and Sustainability (IMES), M.Sc.

IT for Energy, M.Sc.

Polymer Science, M.Sc.

Process Energy and Environmental Systems

Scientific Computing, M.Sc.

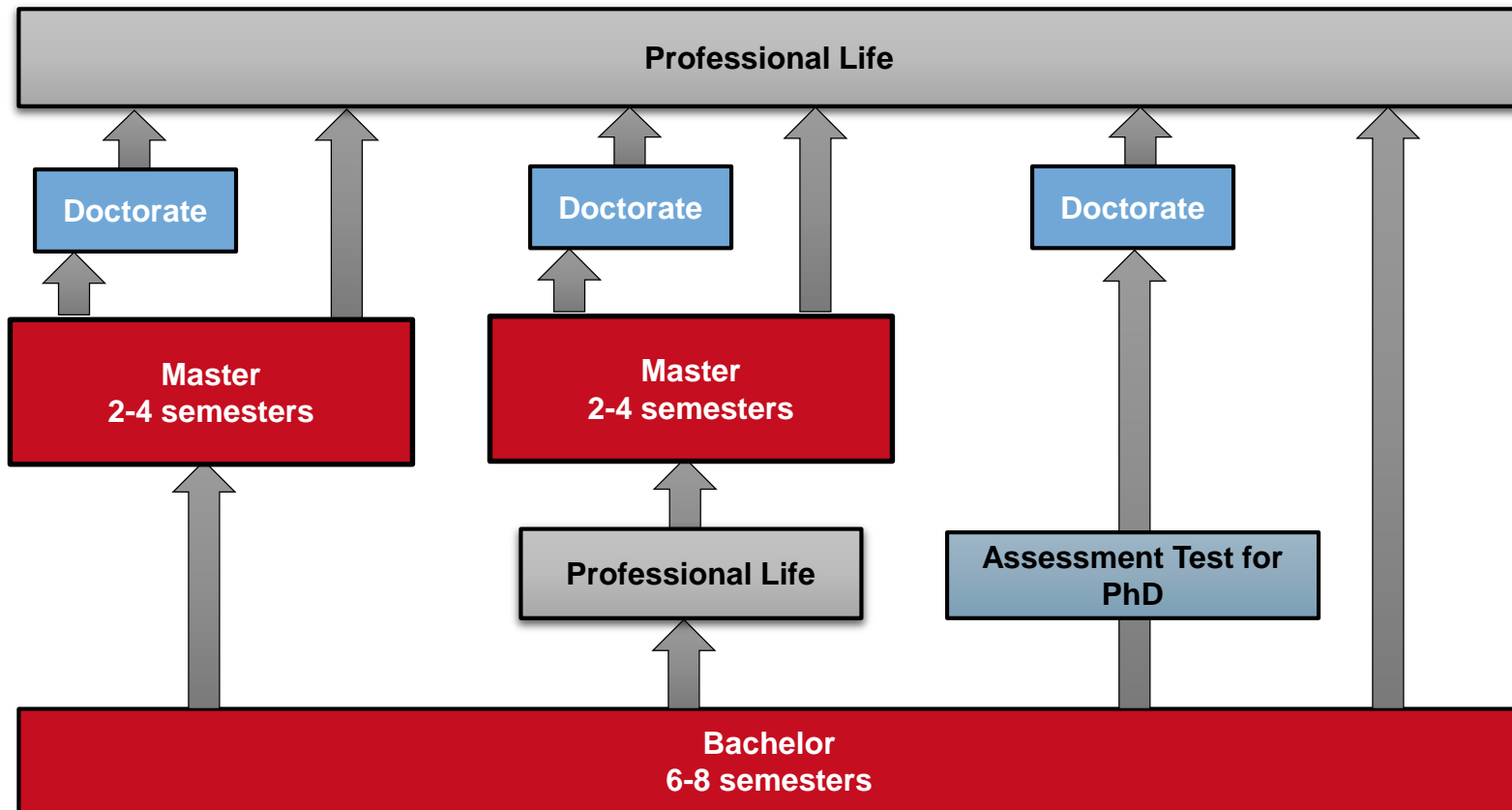
Space Engineering, M.Sc.

Sustainable Mobility Management, M.B.A.

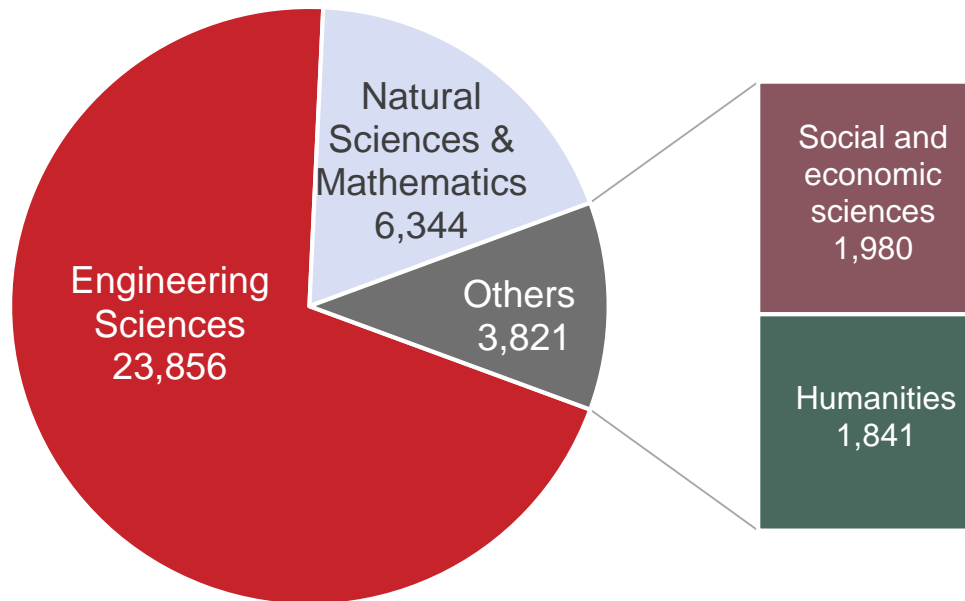
Urban Development, M.Sc.

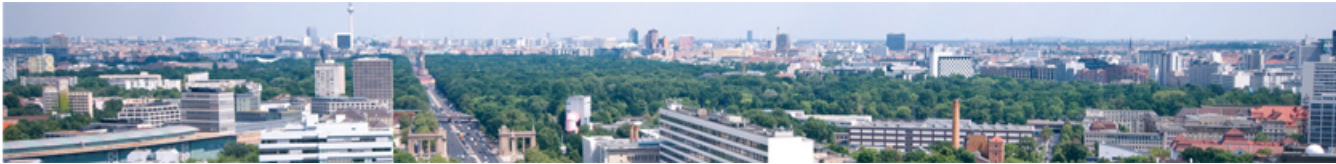
Urban Management, M.Sc.

Water Engineering, M.Sc.



Teaching | Students by subject (Summer 2017)





History and Campus



Profile

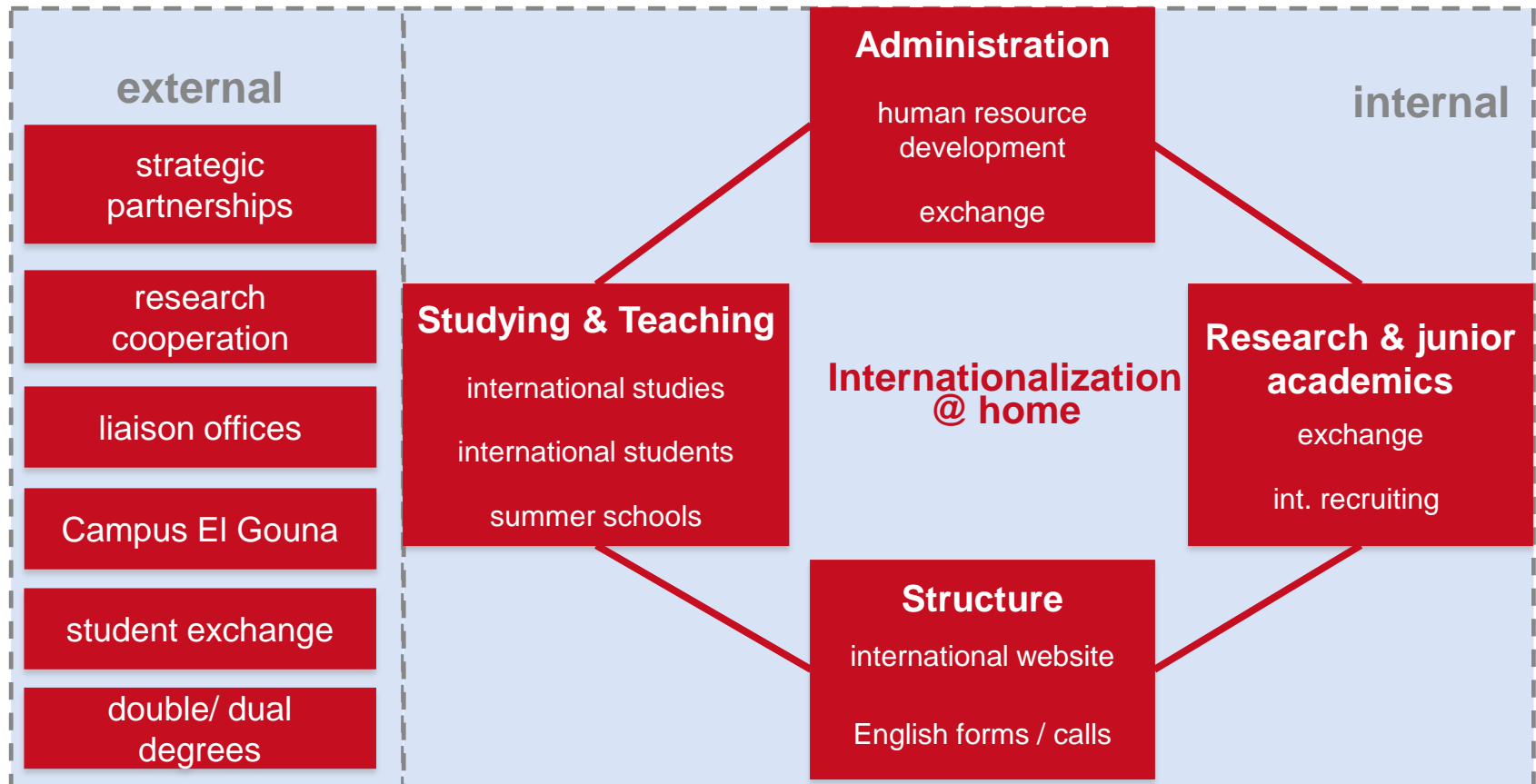


Teaching



Internationalization

Internationalization | Fields of action



Internationalization | International cooperation



Institutions with an existing student exchanges, dual degree programs or Memoranda of Understanding

Internationalization | Facts and figures



Student body

- 26,6 % international students



Professorships

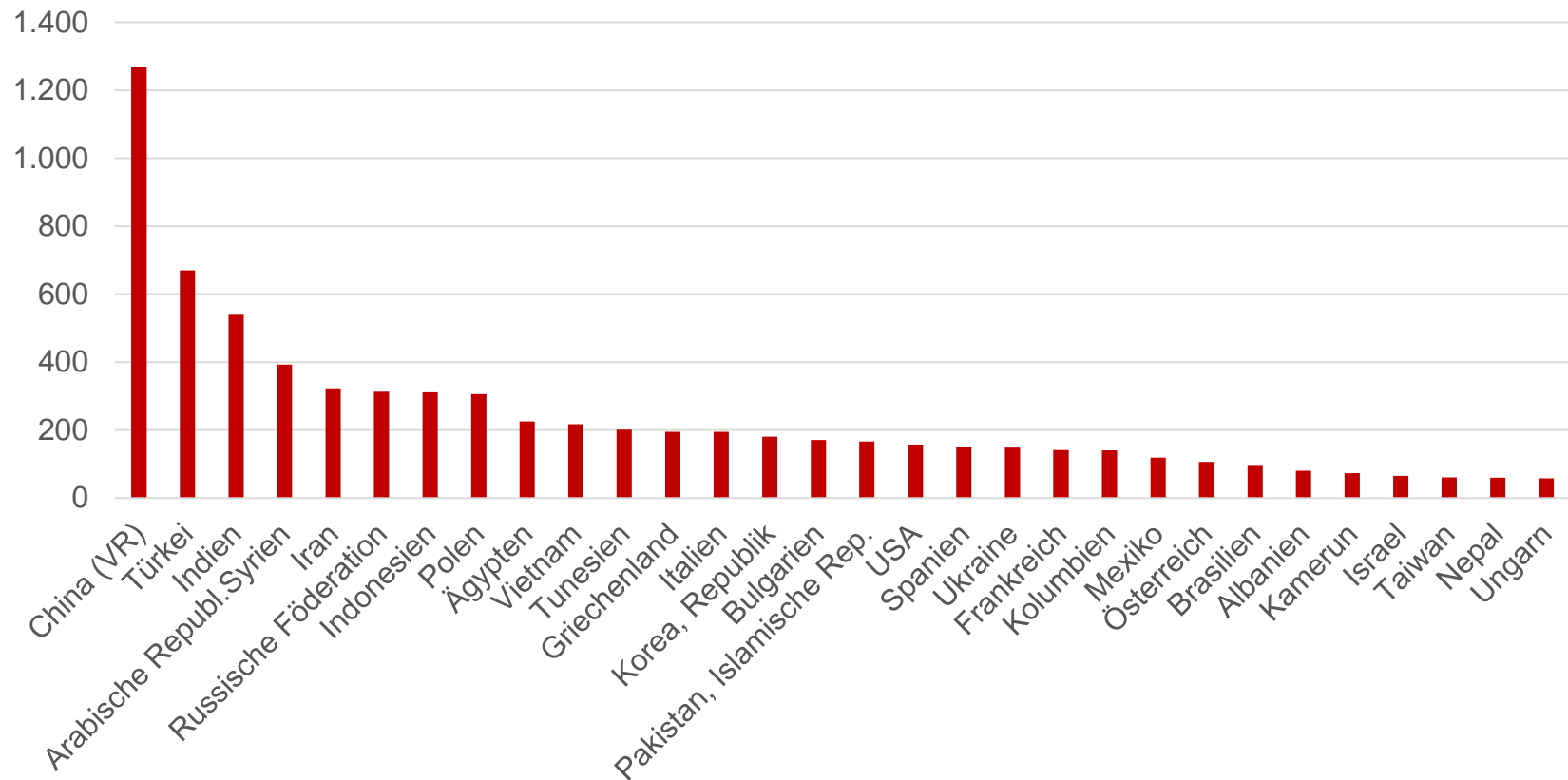
- 6 % international professors
- more than 16 % international research associates



Alumni

- award winning alumni network maintains contacts with TU alumni from over 130 countries

Internationalization | Students by country of origin

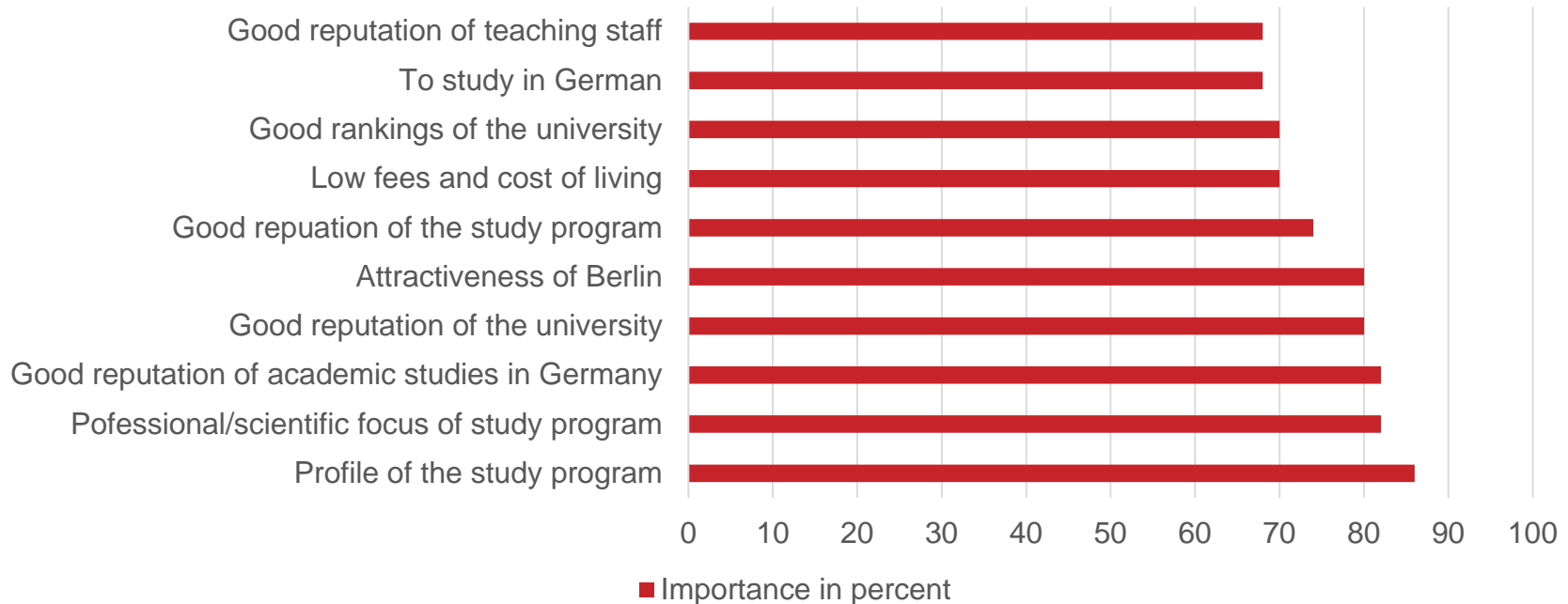


(Summer 19, top 30 countries of origin)

Internationalization | Reasons to study at TUB



Importance in percent: 0 % = not important, 100 % = very important



Survey among 300 international students in december 2015

Internationalization | Alumni Network



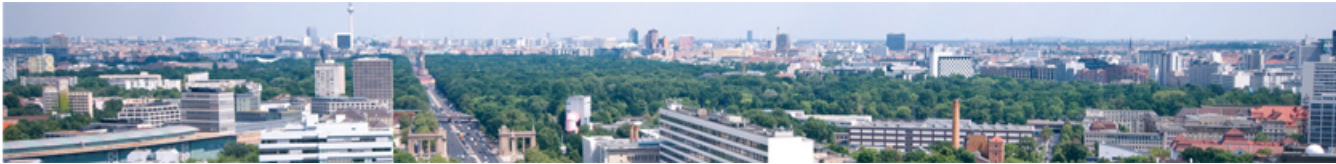
Worldwide approx. 5000 contacts outside of Germany in 138 countries

Internationalization | TUB Summer and Winter University



- We offer courses in both summer and winter of 2 to 12 weeks
- Classes are taught in English and participants can earn European Credit Points (ECTS) for their studies
- 4 four-week-terms in summer, one in winter
- different courses with innovative topics (e.g. „blue engineering“)
- course fees include a four-week academic program and course materials, class excursions, a fantastic cultural program, a ticket for public transportation and opportunities to interact with students from around the world





Thank you for your attention!