



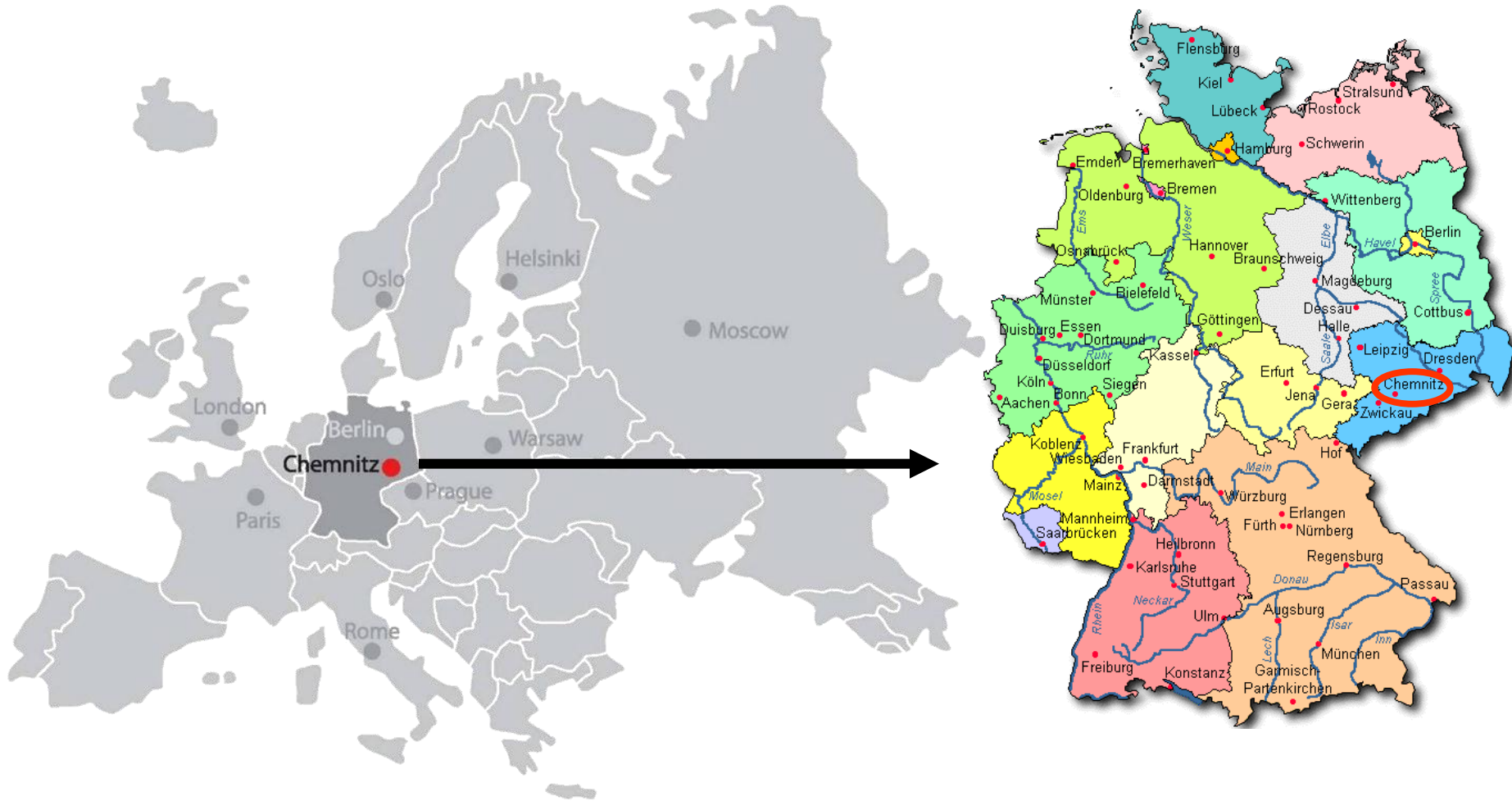
TECHNISCHE UNIVERSITÄT  
CHEMNITZ

Vice-Rector for Research and Promotion of Young Scientists  
Prof. Dr. Heinrich Lang

# Stakeholder Involvement: Teaching and Learning Experiences of Technische Universität Chemnitz

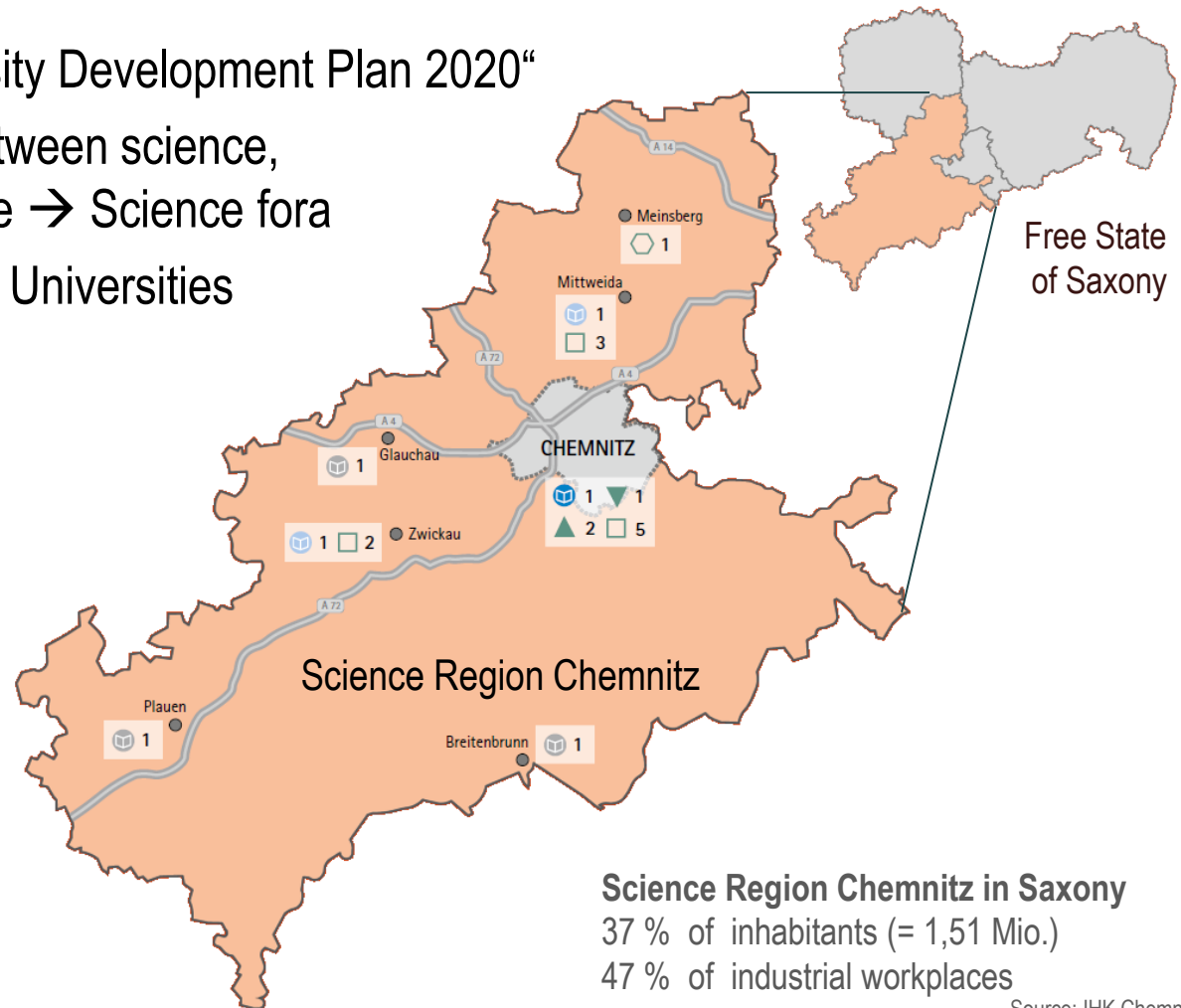
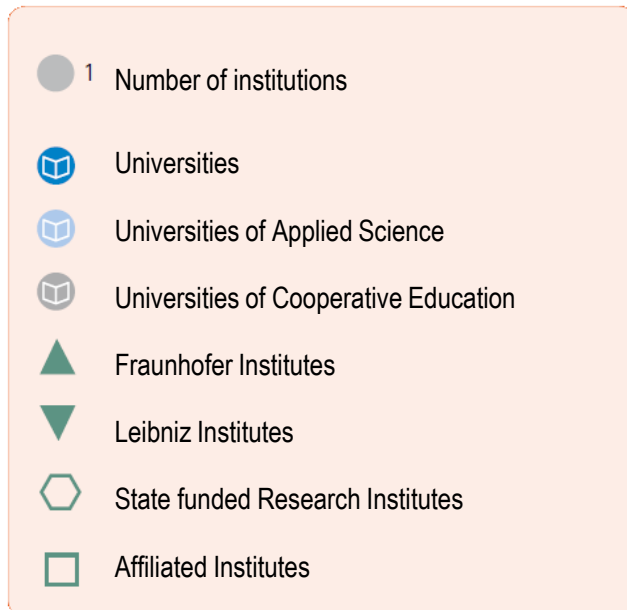


DIES-Seminar „Stakeholder Involvement in Higher Education“  
November 17th/18th, 2014 | University of Jordan



## The Science Region Chemnitz

- Definition in „Saxony University Development Plan 2020“
- Increase of the exchange between science, industries, politics and culture → Science fora
- Coordinated by the saxonian Universities



Source: SMWK, Wissenschaftsland Sachsen 2014

Source: IHK Chemnitz



## Facts and Figures



- 1836 Foundation as Royal Mercantile College
- 1900 Status Royal Technical Academy
- 1986 Status University of Technology
- 2011 175th Anniversary
  
- About 11,000 students in 8 Faculties  
→ thereof about 18 % from abroad
- About 2,400 employees
- State funding in 2013: 75,9 Mio. EUR
- External funding in 2013: 75.6 Mio. EUR
- 1,300 PhD students



## Family-friendliness

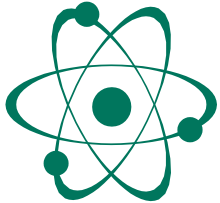
- “Audit family-friendliness University” since 2006
- Flexible working time



- Cooperation with three daycare facilities opened from 6 a.m. to 7 p.m.
- Further offers of childcare, also for short times or in case of needs
- Events for children and families, e.g. Children’s-University of Chemnitz

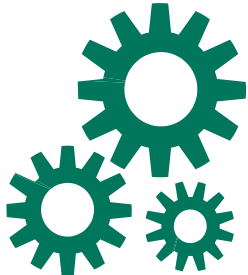


## The Faculties



**Faculty of Natural Sciences**

**Faculty of Mathematics**



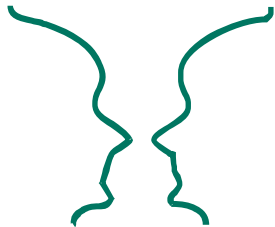
**Faculty of Mechanical Engineering**

**Faculty of Electrical Engineering and Information Technology**

**Faculty of Computer Science**

**Faculty of Economics and Business Administration**

**Faculty of Humanities**



**Faculty of Behavioural and Social Sciences**

36 Bachelor-, 56 Master-Degree Programs and Teacher Training-Elementary Schools (State Examination) as well as extra-occupational offers in continuing education



### Key characteristics of the degree programs:

- Interdisciplinarity
- Internationality
- Practical approach
- Research-based learning





## Interdisciplinary Degree Programs (Selection)

Sensorik & Kognitive Psychologie  
(Sensors and Cognitive Psychology)



Automotive Software  
Engineering \*



Elektromobilität  
(Electric Vehicle Network)

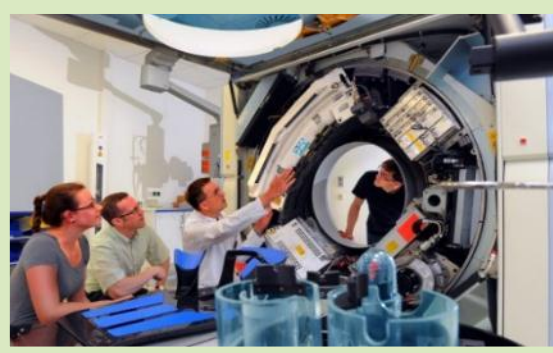


Medienkommunikation  
(Media Communication)

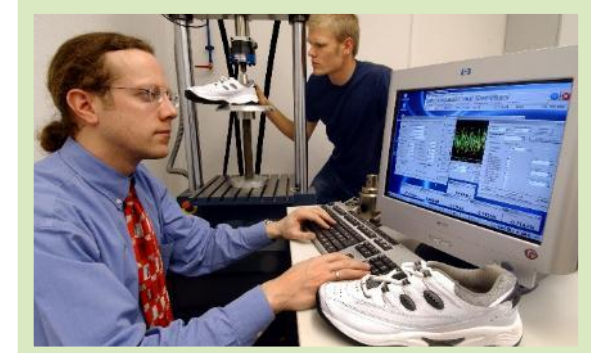


\* in English language

Medical Engineering



Sports Engineering



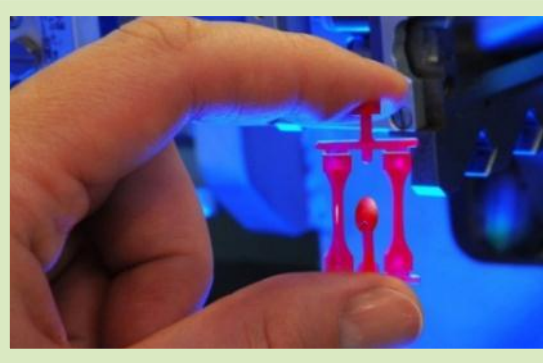




Information &  
Communication Systems \*



Micro- and Nano Systems \*



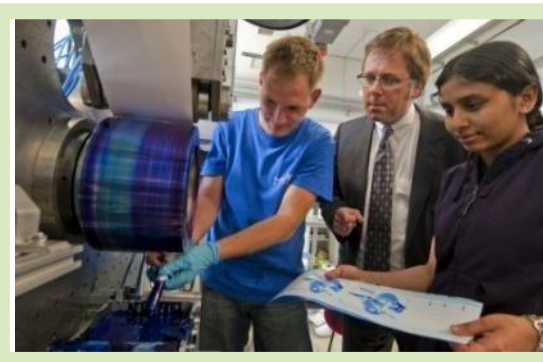
Automotive Software  
Engineering \*



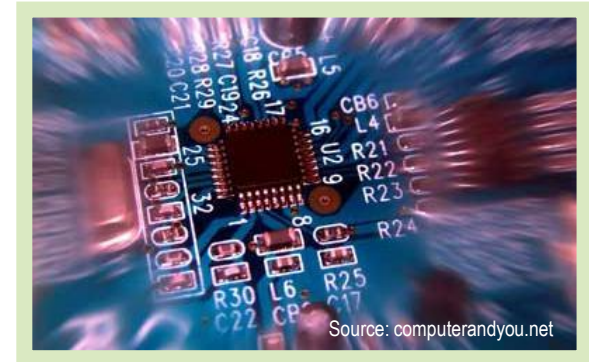
Production Systems



Print & Media Technology \*



Embedded Systems \*



Source: computerandyou.net

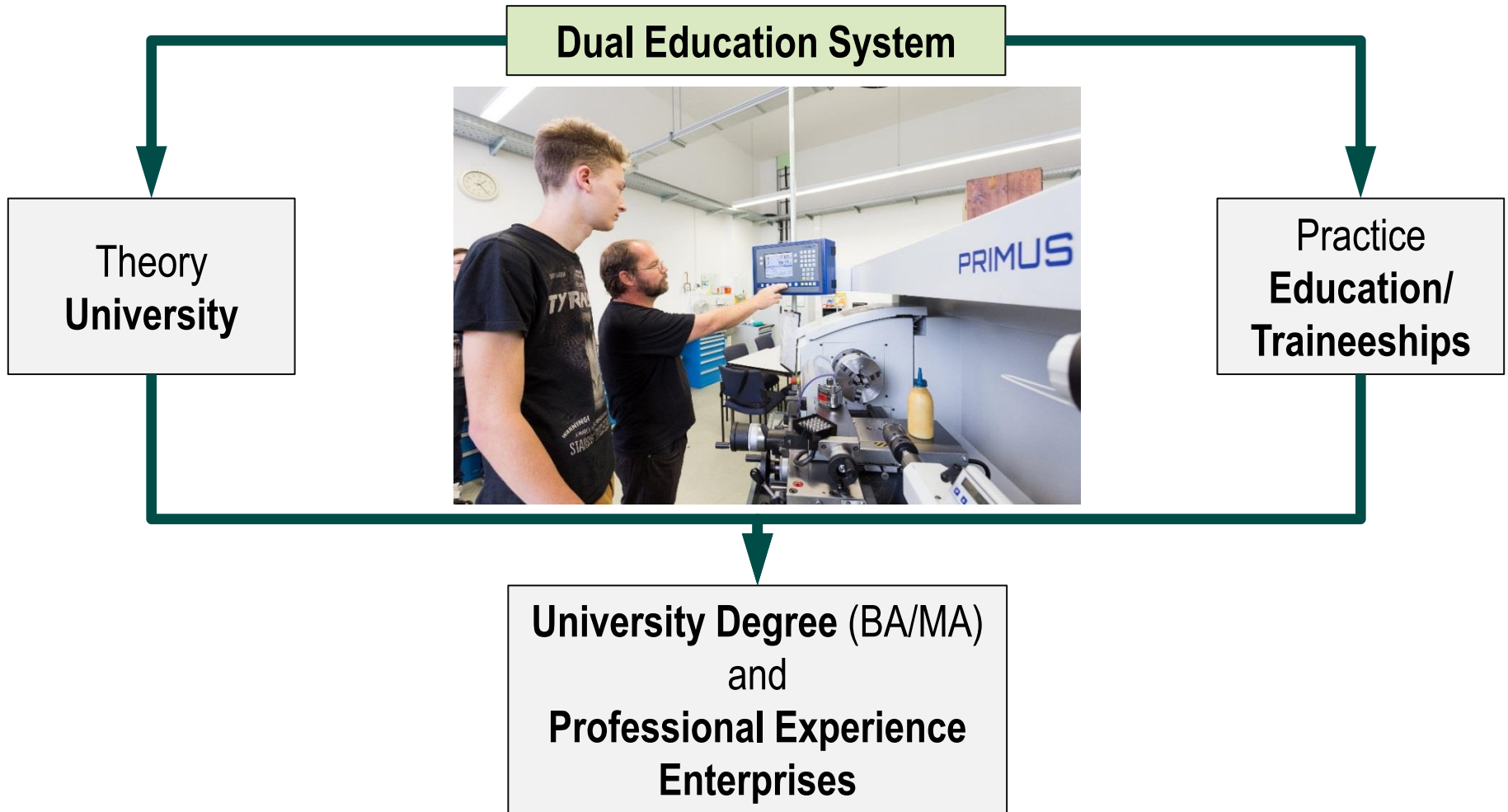
In preparation: MERGE Technologies



\* in English language



## The Dual Education System



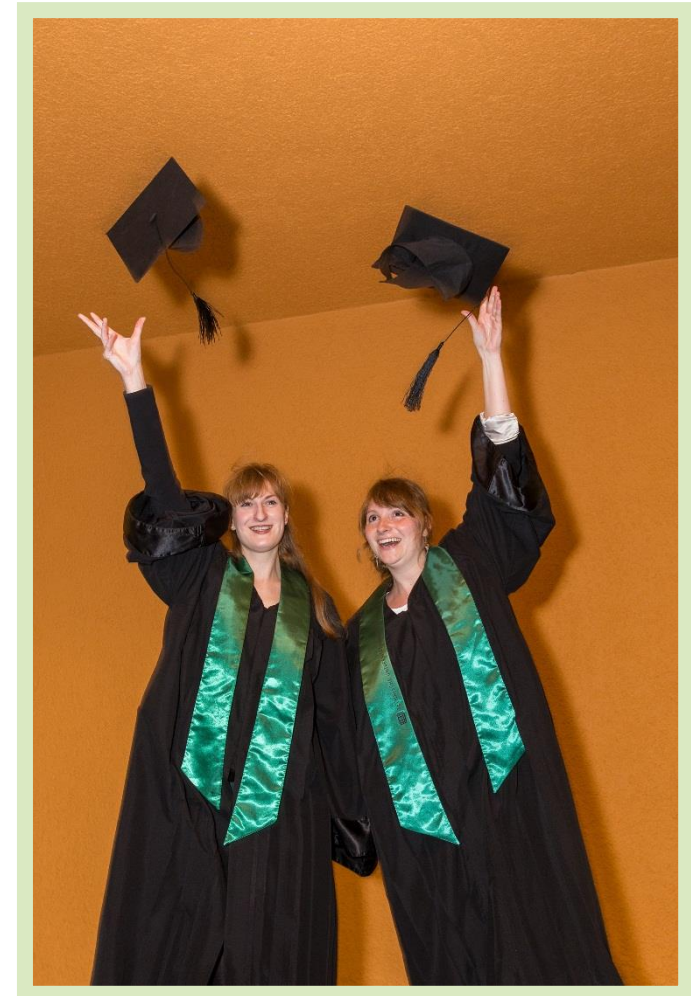


- Junior research groups
- Research training groups
- Graduate schools
- Further training according to soft skills for postgraduates
- Centre for the Promotion of Young Scientists
- Career Service
- ...





- Optimal conditions for PhD students, Postdocs, Habilitates and Junior-Professors
- Interdisciplinary offers in continuing education
- Information about PhD and Habilitation
- Consultation in interdisciplinary matters of PhD and Postdoc-phase
- Individuell attendance in extra challenging phases
- Networking for interdisciplinary exchange
- Support for professional goal setting and career development





## Extra-occupational Offers in Continuing Education

- For specialists and managers
- Developed for practice
- Blended learning



B.Sc. Public Sector Management



MBA Beziehungsmarketing/  
Customer Relationship Management



MBA Eventmarketing



MBA Production Management



New Offers



B.A. Integrative Lerntherapie  
(Integrative Learning Therapy)



M.A. Integrative Lerntherapie  
(Integrative Learning Therapy)



M.Sc. Klinische Gerontopsychologie  
(Clinical Gerontopsychology)

- Extra-occupational studies with University qualification
- Seminars, courses and modules (in German language)

In cooperation with TUCed





## Lifelong Learning

- From Children's-University of Chemnitz to Seniors' College



## Research Excellence and Relevance

Cluster of Excellence, Research Centres, Collaborative Research Centres, Research Groups, Graduate Centres, ...



**Smart Systems  
and Materials**



**Energy-efficient  
Production Processes**



**Human Factors  
in Technologies**

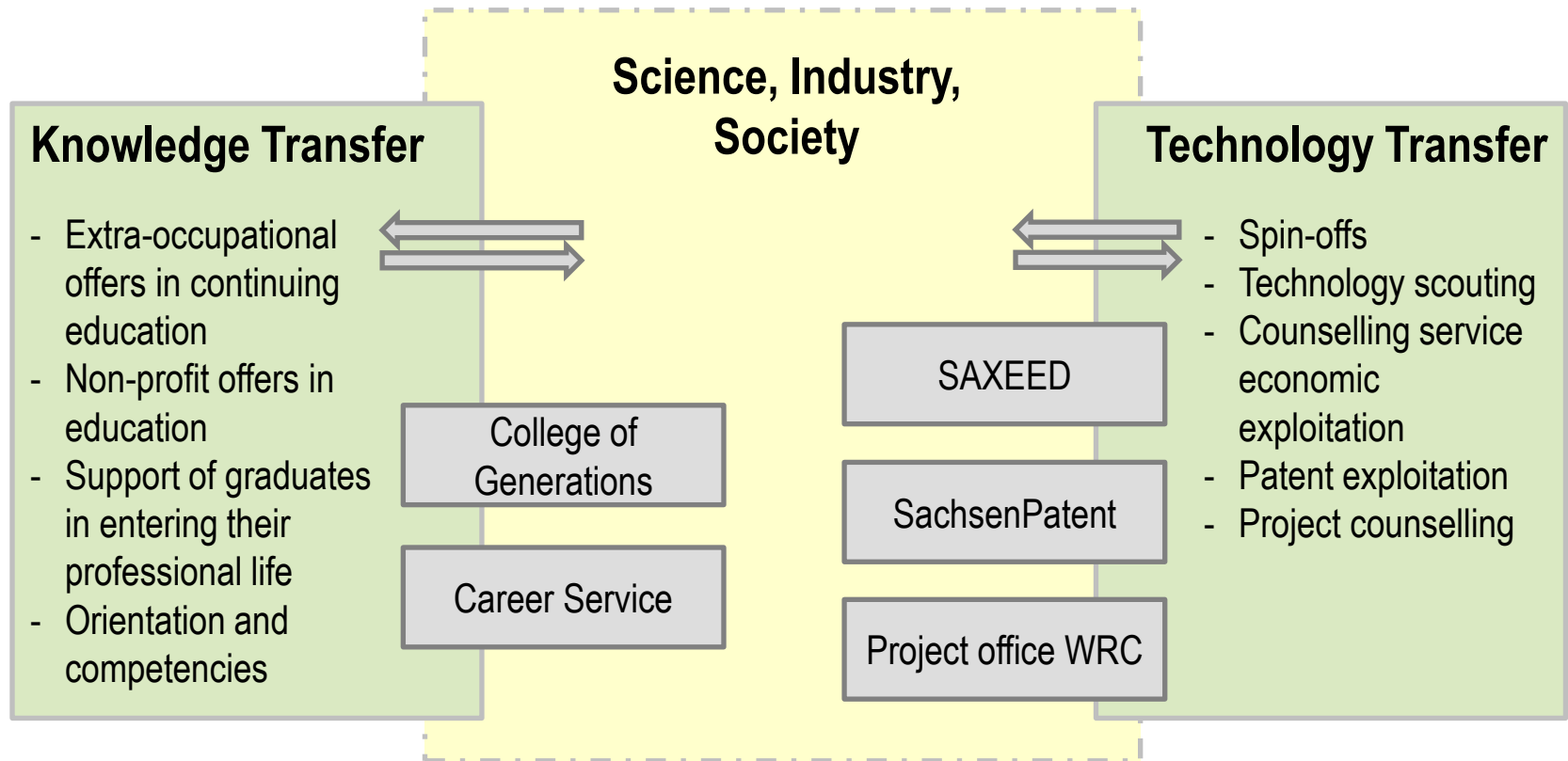
Key Areas of Technische Universität Chemnitz

Research Profiles of the Faculties

Fundamental and Application-oriented Research of the Professorships

Centre for Knowledge and Technology Transfer

Advisory Board (Industry and Science)







## Mentoring & Qualification for University Start-up Ventures

- Network of four educational institutions | Leadership: TU Chemnitz
- Since 2006 over 700 start-up projects and business concepts, 200 companies have emerged
- Individualized support during the entire start-up process
- Support of entrepreneurs with the first draft of a business idea through the completion of a business plan and acquisition of financial aid
- TU Chemnitz as the currently sole role model state University for start-up support in Saxony



Mr.Snow





- Technische Universität Chemnitz
- Fraunhofer, Leibniz

- Techno-Park | Incubator
- Technology Companies
- Affiliated Institutes

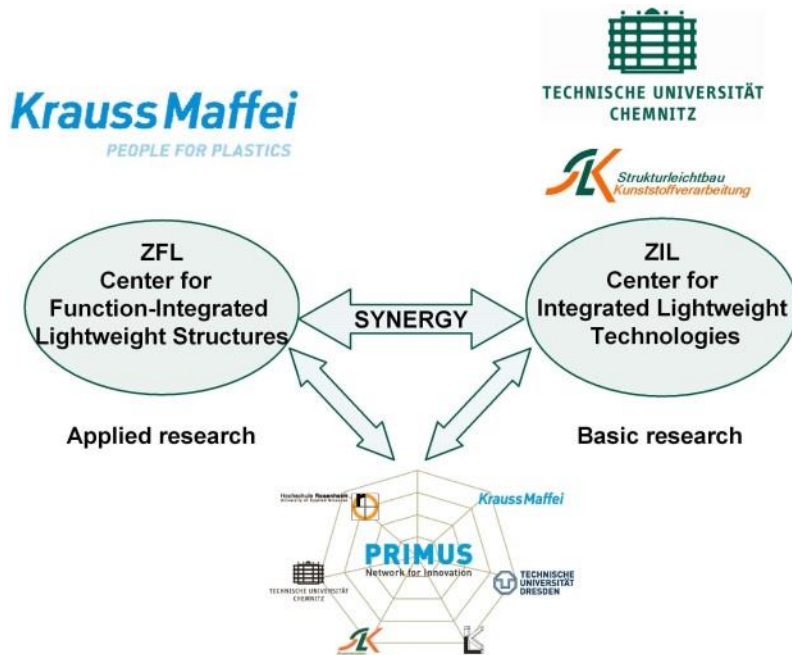
- Research Cooperation
- Technology Regulars' Table
- Spin-offs
- Personnel Transfer



- Textiles and Plastics
- Electronic Systems
- Metal intensive Technologies
- MERGE Technology Centre

- Common Infrastructure
- Strong Visibility
- Modern Equipment
- Short Tracks

### Innovation Networks



### Guest lectureships | Honorary professors | Entrepreneurship



### Smart Systems Campus



## Challenges

- Heterogeneity of first-year students (different educational biographies)
- New, flexible study models – f.e. part-time studies, e-learning, blended-learning (alternatives to on-campus studies or full-time studies)
- Family-friendly University
- Life-long learning
- Development of Excellence
- Diversity
- Increasing networking between science and industry
- ...





**Knowledge provides  
Impact**

**Knowledge creates  
Progress**

**Knowledge designs  
Tomorrow**

[www.tu-chemnitz.de](http://www.tu-chemnitz.de)



TECHNISCHE UNIVERSITÄT  
CHEMNITZ

## The City of Chemnitz

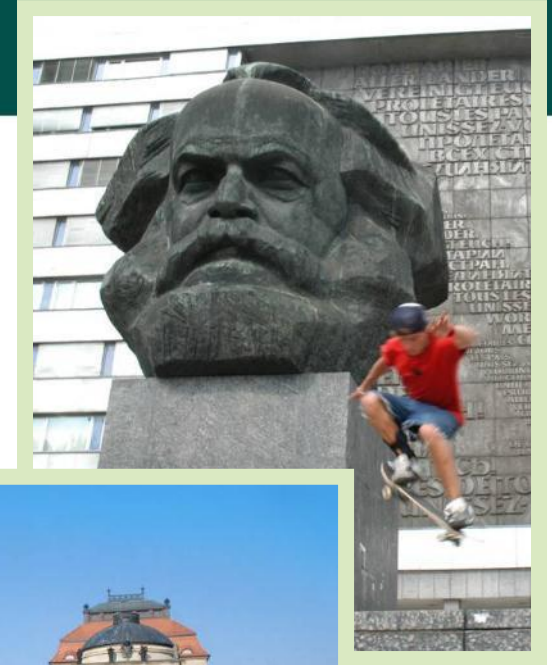
- More than 240,000 inhabitants
- Area of more than 220 km<sup>2</sup>
- More than 60 m<sup>2</sup> of parks/green space per inhabitant  
→ Greenest city in East Germany

**An impressive city with an over 850 years old tradition**





## Impressions | City of Chemnitz







## Facts and Figures

- Prospering, future-oriented and modern Technical University
- Competitive and excellent research
- Attractive, future- and practice-oriented degree programs
- Indispensable partner for the economic, cultural and societal development of the region
- Regional, national and international oriented and cross-linked
- Lifelong learning
- Cutting-edge infrastructure for research, teaching and further training
- State-of-the-art and service-oriented administration
- Highly committed to equal opportunities, intercultural dialogue and family-friendliness

## Merge Technologies for Multifunctional Lightweight Structures

- Germany's first and only Federal Cluster of Excellence in the field of lightweight structures
- Merging of serial technologies for the resource efficient production of lightweight structures with high functional and power density
- 35 Scientists from 6 Faculties of TU Chemnitz, Fraunhofer Instituts IWU and ENAS in Chemnitz and affiliated Instituts, 3 scientists from TU Dresden
- 6 Integrating research areas in the fields of plastics, metal, textile and smart systems
- Budget: 34 Mio. EUR
- Period: 2012 - 2017

[www.tu-chemnitz.de/MERGE/](http://www.tu-chemnitz.de/MERGE/)



## Energy efficient Product- und Processinnovations in Production Technology

- State Excellence Initiative of the Free State of Saxony
- Vision for almost completely emissions-free production
- 85 Scientists from 6 Faculties of TU Chemnitz, Fraunhofer Institut Machine Tools and Forming Technology IWU
- 6 Research areas with 24 sub-projects
- Budget: 35 Mio. EUR
- Period: 2009 - 2014

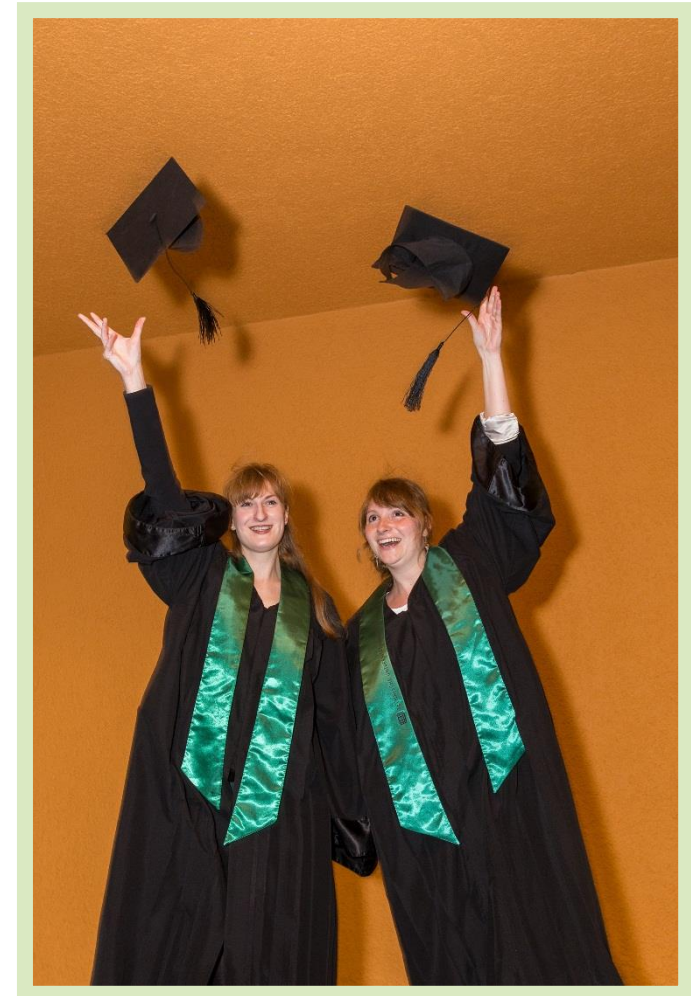


[www.eniprod.eu](http://www.eniprod.eu)





- Optimal conditions for PhD students, Postdocs, Habilitates and Junior-Professors
- Interdisciplinary offers in continuing education
- Information about PhD and Habilitation
- Consultation in interdisciplinary matters of PhD and Postdoc-phase
- Individuell attendance in extra challenging phases
- Networking for interdisciplinary exchange
- Support for professional goal setting and career development



## Equal Opportunities

- Promotion of women as an integral part of human resource development (especially in MINT)
- Successful participation in the program for female professors announced by the Federal Ministry of Education and Research
- Research-Oriented Standards on Gender Equality (DFG) (realization at TUC 2008 - 2013)
- Scholarships for re-entries
- About 45 % female students
- Activities in order to increase the percentage of female students, especially technical degree programs





## International Affairs

- Cooperation with more than 130 Universities World Wide
- Students from more than 70 countries
- International networks – f.e. Member of the Academic Consortium for the 21st Century (AC21)
- International personalities
- International exchange programs
- International research training groups

**DAAD**

Deutscher Akademischer Austausch Dienst  
German Academic Exchange Service



Education and Culture DG

Lifelong Learning Programme



Academic Consortium 21





## One University – Four Locations



Straße der Nationen



Central Campus – Reichenhainer Straße

Wilhelm-Raabe-Straße

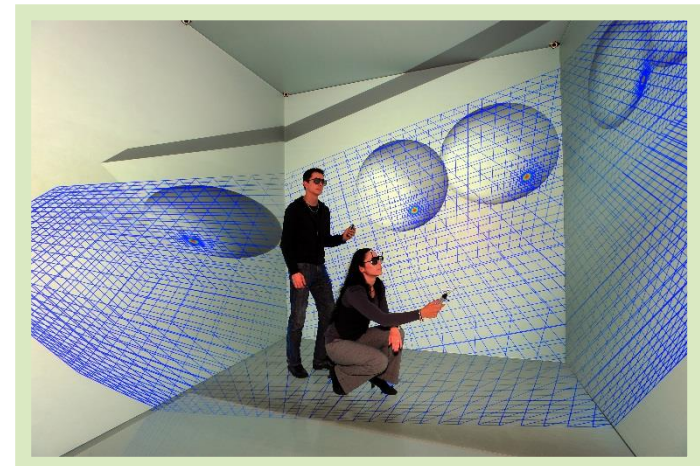


Erfenschlager Straße



**University of Short Tracks**

- Sustainable development regarding size, design and profil  
(appropriate number of students, professor/student-ratio and infrastructure)
- Support of success- and demand-oriented teaching with a distinctive profile of graduates  
(enhancement of graduation rate, establishment of transdisciplinary degree programs and development of a graduate profile)
- Optimized support of transdisciplinary research activities  
(clustering, enhancement of publication activities, promotion of young scientists and researchers)







- Provision of regional added value by transfer of knowledge and technology  
(strengthening of partnerships, centre of knowledge and technology transfer)
- Enrichment of academic life by diversity of people and ideas  
(internationalization, implementation of the task for provision of equal opportunities, enhancement of the share of women, further development of family-friendly framework conditions)

