

Kastodie der TU Dresden: Geschlossenes Laufrad einer Kreiselpumpe, Schnittmodell, um 1970

TECHNISCHE UNIVERSITÄT DRESDEN

## Introductory Lecture



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TECHNISCHE UNIVERSITÄT DRESDEN

## Mission statement

The Technische Universität Dresden is one of the oldest and most renowned universities in Germany.

Technische Universität Dresden holds a commanding position in research, greatly due to engineering and natural sciences.


Technische Universität Dresden combines humanities, technical and natural science subjects and medicine, to form a highly efficient university at which nearly all subjects can be studied.

21/12/2009 Technische Universität Dresden 2


TECHNISCHE UNIVERSITÄT DRESDEN

## Mission statement


1. Location & 175-year History of the university
2. Structural development after 1990
3. Facts & Figures 2004
4. Research




Location & Geography



History



Destruction in WW II




University today

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## Dresden, Germany

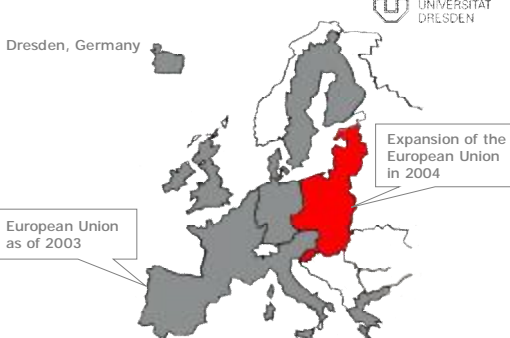


European Union as of 2003

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## Dresden, Germany



European Union as of 2003

Expansion of the European Union in 2004

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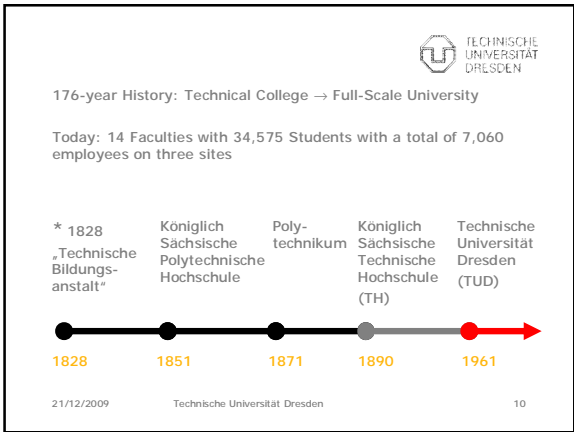
## Dresden, Germany

- City Rights in 1216
- 1485 - 1918 political & cultural center in Saxony; climax under King Friedrich August I → Dresden Barock (17th century)
- 19th century industrial development
- Disastrous firebombing in 1945, 35 000 dead, 80 % of the city destroyed, reconstruction ongoing after 60 years
- Great benefits from German unification in 1989/90
- Prospective gains from expansion of the European Union in 2004



Frauenkirche Reconstruction

Source




TECHNISCHE UNIVERSITÄT DRESDEN

Mission statement


1. Location & 175-year History of the university
2. Structural development after 1990: Between 1991 and 2003, 782 Mio. Euro was spent on new buildings and the redevelopment of existing buildings
3. Facts & Figures 2004
4. Research



3 main sites



New Lecture Hall Center




New Library



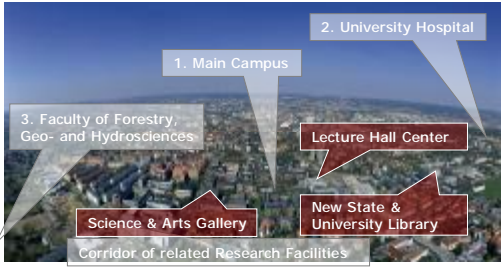
Science & Arts Gallery

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14 Faculties with 34,575 Students with a total of 7,060 employees on three main sites



- 1. Main Campus
- 2. University Hospital
- 3. Faculty of Forestry, Geo- and Hydrosciences
- Lecture Hall Center
- Science & Arts Gallery
- New State & University Library
- Corridor of related Research Facilities

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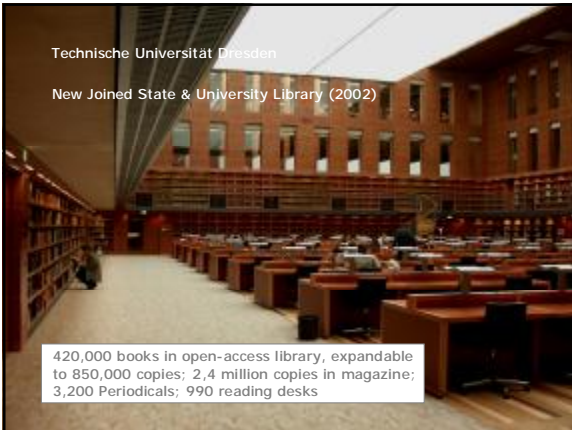
Lecture Hall Center, completed in 1998, 28. Mill. Euro  
6 Lecture Halls w/ total of 2,840 seats



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New Joined State & University Library (2002)



420,000 books in open-access library, expandable to 850,000 copies; 2,4 million copies in magazine; 3,200 Periodicals; 990 reading desks

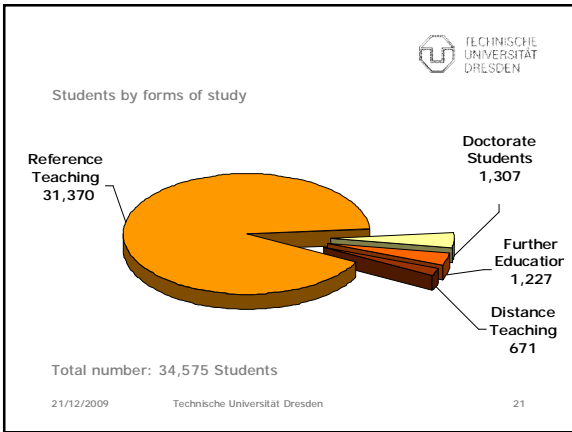
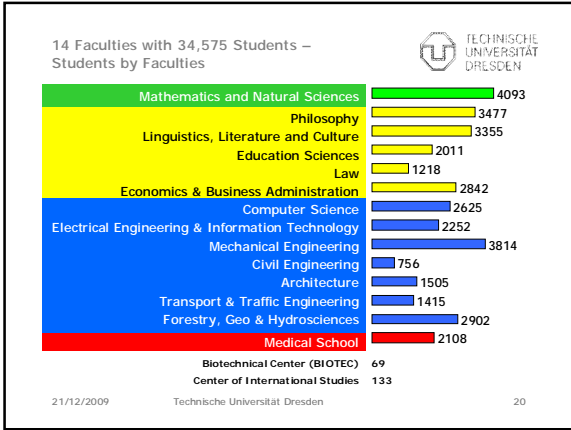
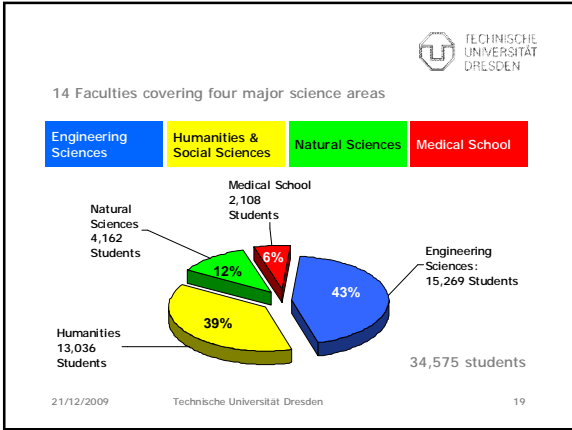

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Four major science areas	Students by Form of Study	Outside-funded projects	The university & the local economy

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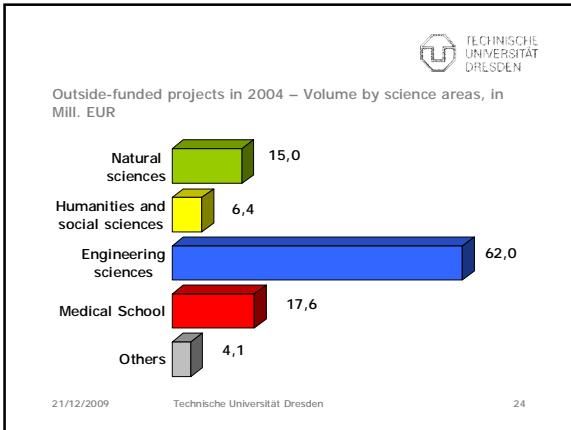
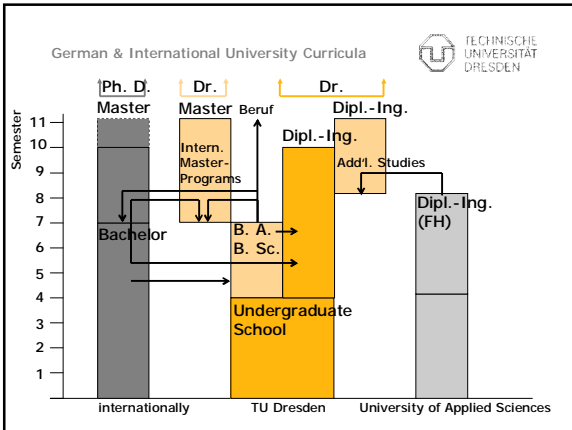
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Forms of Studies & Graduation

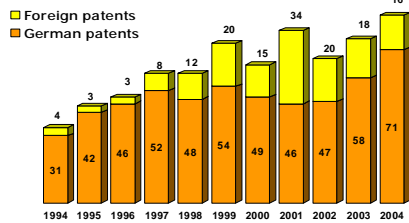
Bachelor	1. – 6. Semester	Bachelor of Arts (B. A.) Bachelor of Science (B. Sc.)
Magister/ Diplom	1.– 9./10. Semester	z. B. Dipl.-Ingenieur (Dipl.-Ing.)
Master	7. – 9./10. Semester	Master of Arts (M. A.) Master of Science (M. Sc.)

Contact for prospective students:  
 Mail: Technische Universität Dresden  
 Akademisches Auslandsamt  
 D - 01062 Dresden, Germany  
 Homepage: <http://www.tu-dresden.de/aaa>  
 Email: [auslaenderstudium@mailbox.tu-dresden.de](mailto:auslaenderstudium@mailbox.tu-dresden.de)

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Patent applications (innovation promotion) 1994 - 2004,  
from 1993 including Medicine



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25

Local Industries:

Information technology



Pharma & Biotechnology



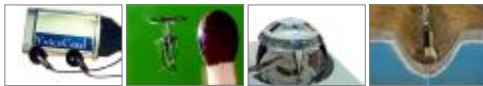
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26

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Information  
Technology

Materials  
Sciences

Transport &  
Infrastructure

Water, Energy  
& Environment

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27

Main topic of research:

### Information System Technology

- High performance computing
  - International Centre for Computational Logic (ICCL)
  - projects join up with IBM, SAP AG, SIEMENS and other partners
- Display technology
  - BMBF-project "OLED"
  - patents join up with NOVALED GmbH and SYSTEMONIC AG
- Mobile communications engineering
  - mobile and ubiquitous computing join up with VODAFONE, SAP AG, DaimlerChrysler and IBM
- Integrated faculties:
  - Electrical Engineering and Information Technology
  - Mechanical Engineering and Traffic Engineering
  - Mathematics and Natural Sciences

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28

Main topic of research:

### Materials Sciences

- Light-weight construction and technical textiles
  - SFB 639 "Textile-reinforced composite components for function-integrating multi-material design in complex lightweight applications"
  - Center for integrated natural materials
- Biomaterials and molecular bioengineering
  - Biotechnological Centre "BIOTEC" cooperates with Max-Planck-Institute for Cell Biology and Genetics;
  - course of study "Molecular Bioengineering"
  - "Max-Bergmann-Zentrum" centre of biomaterials cooperates with Leibniz Institute of Polymer Research Dresden
- Medical material research & nanotechnology
  - European graduate seminar "Advance Polymeric Materials"

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29

Main topic of research:


### Transport, Infrastructure and Population

- "transport engineering"
  - Institute of Transrapid-technologies joins up with ThyssenKrupp AG
  - Interdisciplinary Research Centre of Excellence for High Performance Railways and Magnetic Levitation Systems
- automobile electrics and electronics
  - DaimlerChrysler Center of Competence EE-Architecture
  - Simulation of combustion engines joins up with BMW and other partners
- studies on migration, economic and social developments
  - Study course "Conservation and Urban development" (Master's program)
  - Institute of Ecological and Regional Development (IOER)
  - Research about revitalization

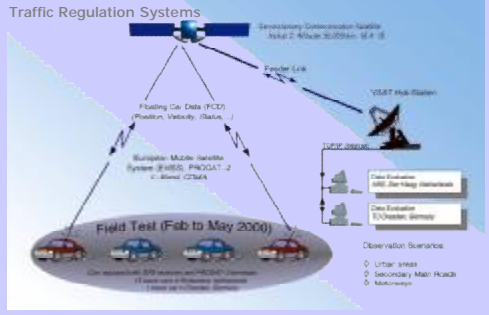
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30


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### Traffic Regulation Systems



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Main topic of research:

### Water, Energy and the Environment

- Research about flood risk management
  - "Water Competence Centre" founded in 2003 join up with Industry (Gelsenwasser AG)
  - European Research Project "Floodside"
- Environmental research
  - "Tropical Forestry"
  - Development of rural areas
  - conservation of energy
- Integrated faculties:
  - Forestry, Geo- and Hydrosiences
  - Architecture and Civil Engineering
  - Mechanical Engineering and Traffic Engineering
  - Economics and Business Administration

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Further Main Topics of Research and Education:

- Social change, culture and education
  - collaborative research centre "Institutionality and historicity"
  - European Research Training Group programme "Institutional orders, scripts and symbols"
- Live- and health sciences
  - Research foundation "Public Health, Saxony"
  - Centre of Innovational Competence (ZIK)
- Training for teachers
- Economics and business administration

Research and Education at Dresden University of Technology:

**flexible and international**

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Thank you very much!

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