Research at Technische Hochschule Ingolstadt
R+D-Institutions in Germany

Based on www.research-in-germany.de

Basic research
- Public (basic) funding

Applied research
- Third party funding
  - Companies
  - Cluster
  - Universities of applied sciences
  - Fraunhofer
  - Universities
  - Helmholtz Association
  - Leibniz Association
Bavaria – Science, Education and Innovation

Research institutions
- 13 Max Planck Institutes
- 8 Fraunhofer Institutes
- 2 Helmholtz Centers
- 5 Leibniz Institutes

Institutes of Higher Education
- 17 public Universities of Applied Sciences
  ≈ 110,000 students,
  ≈ 2,300 professors
- 11 Universities

(map of Universities and Universities of Applied Sciences and their respective research institutes)
Research in Cooperation with Industry and University Partners

Example CISS I

Specifications and basics

Universities

Basic research on physics
Impact sound simulation

SME

Prototypes
Supervision
Transfer

Suppliers

Algorithms
Mech. integration

Airbag systems

OEMs

Volkswagen
Audi

Universities

Technische Hochschule Ingolstadt
Southampton

SME

Computer Simulation Technology

Suppliers

Benteler
Continental

Basic research on physics
Impact sound simulation
Research Center (ZAF)
Research turnover doubled over the past 5 years

- Research activities of the university bundled in the Research Center (ZAF)
- App. 100 scientific and 13 administrative employees
- App. 4m € contract volume in 2013
- More than 80 regional, national, and international partners
- Co-operative PhD programmes with selected partner universities (25 successful PhDs)

Bavarian prize for innovation
- 2002 (Prof. König, Prof. Wellnitz) and
- 2008 (Prof. Brandmeier)

6 Best Paper Awards
Research Center (ZAF)

Structure

CARISSMA
Large Scale Research Facility

Institutes

Institute for Vehicle Safety Systems (AUREA)

Institute of new Energy Systems (InES)

Institute for Innovative Mobility (MOREA)

Further Competencies

Production and Automation Technology

Materials and Surface Technology

Aviation

Logistics and Marketing

Business Start-ups and Entrepreneurship

Graduate School
INSTITUTES

INSTITUTE OF VEHICLE SAFETY SYSTEMS (AUREA)

INSTITUTE FOR INNOVATIVE MOBILITY (MOREA)

INSTITUTE OF NEW ENERGY SYSTEMS (INES)

TECHNOLOGY AND RESEARCH FIELDS

PRODUCTION AND AUTOMATION TECHNOLOGY

MATERIALS AND SURFACE TECHNOLOGY

AVIATION

LOGISTICS AND MARKETING

BUSINESS START-UPS AND ENTREPRENEURSHIP

GRADUATE SCHOOL
CARISSMA-Research Center
Germany’s competence centre for research in car safety

CARISSMA-Research

- **Goal**: realisation of a global safety system by connecting the sensor systems (see, hear, feel, communicate)
- 7 years research in car safety by the competence field car mechatronics
- Comprehensive cooperation network (more than 30 partners of industry)
- **Technology transfer**: 3 introductions into series production within the last 4 years (e.g. CISS tech.)
- 14 professors involved

CARISSMA-Building

- **Go-Ahead**: recommended by scientific board in summer 2010
- **Unique Feature**: first research building for a university of applied sciences
- **Construction Start / Operation**: Oct. 2013 / 2016
- **Costs**: Building, heavy equipment, land acquisition: some 28m €
- **Location**: Campus
- **Facilities**: 10 Laboratories (app. 1.000 m²), universal test area (app. 625 m²), free test area
**University Development**

**Extension – Research Center CARISSMA**

- **Extension**
  - Volume app. 52m €
  - Completion fall/winter 2014

- **Current Campus**
  - Audi Academy
  - Hotel and Convention Centre
  - Museum for Concrete Art
  - Kavalier Dalwigk Museum

- **Research Centre**
  - App. 28 m €
  - Start of construction: 2014
  - Completion 2015/16
  - Open space in the industrial park

- **Villa Heydeck**
  - For office use and events in particular for Executive Education
Cooperating Universities in PhD education
In Germany, Europe and Australia

Germany: 14 cooperating universities
Europe: 4 cooperating universities
Australia: 1 cooperating university

Formal agreements with RMIT in Australia and De Montfort University in U.K. (in preparation)
Defining a research topic, working plan, and time schedule in close consultation with the THI supervisor (PhD agreement)

Contacting a cooperating university and finding a supervisor for the PhD thesis

Fulfilling criteria for the admission to the PhD examination

Generating research results and writing up the thesis

Submission, final exam and publication of PhD Thesis
### Graduate School of ZAF

**Support for PhD students**

<table>
<thead>
<tr>
<th>Students</th>
<th>PhD candidates</th>
<th>Quality assurance</th>
</tr>
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<tbody>
<tr>
<td>✓ Increase the awareness for the possibility of doing a PhD at ZAF</td>
<td>✓ Supporting PhD candidates during the orientation phase, e.g. counselling</td>
<td>✓ PhD agreement <em>(currently being implemented)</em></td>
</tr>
<tr>
<td>✓ Retention of talented students</td>
<td>✓ Support during the research phase, e.g. seminars</td>
<td>✓ Reporting</td>
</tr>
<tr>
<td>✓ Building up a network with cooperating universities</td>
<td>✓ Support during the transition to working life, e.g. mentoring</td>
<td>✓ Conflict mediation</td>
</tr>
</tbody>
</table>
Memberships in European Research Institutions

- EUA: European University Association
- EUA-CDE: EUA Council for Doctoral Education
- eirma
- EARPA: European Automotive Research Partners Association
International Research Cooperations
Danubian Automotive Research Network of Excellence (DARE)

Strategic research partnerships with Eastern European countries in the automotive field
International Research Cooperations

Applied Network on Automotive Research and Education (AWARE)

THI is one of two universities of applied sciences which were successful in the funding line “strategic partnerships“ of the German academic exchange service (DAAD)
Promoting Renewable Energies in Southern Africa

- Research network to foster the use of renewable energies in Southern Africa
- Project consortium: 5 partners from Botswana, Germany, Namibia and Zambia

The project is funded by the EU within the ACP-EU Cooperation Programme ‘Science and Technology II’
Thank you for your attention!