Research in Ingolstadt and Beyond -
Crossroads in Research, Policies and Ethics

1st Winter University
Ingolstadt, 21 February 2012

Georg Overbeck
Ingolstadt University of Applied Sciences
Institute for Applied Research (IAF)
Germany

Practical Examples

Bavarian Army Museum · Ingolstadt University of Applied Sciences
Three Thematic Topics

- Development and Ethics of Science in Ingolstadt
- Research in the 21st Century

Artillery/ Police

RegIN+ Project

CangoDrive
University Evolution: Selected Steps

- Medieval University
  - new type of institution
  - universitas
  - studium generale
  - (European) mobility of scholars, students, ideas

- Napoleonic System
  - unity of teaching and research
  - graduate schools
  - humanism: creation of autonomous individual

- American Research University
  - engines of innovation
  - technoscience

Self referential knowledge transfer technology transfer

The Middle Ages:
Early years of Ingolstadt University

- new institution: founded by Louis IX the Rich with privilege from the Pope: students subject only to ecclesiastical jurisdiction. Tensions with Ingolstadt’s citizens
- universitas: located in the Pfründnerhaus donated in 1429
- studium generale: humanities, sciences, theology, law and medicine
- mobility of scholars, students, ideas: Ingolstadt University strongly influenced by the Jesuits
- famous scholars: Johann Eck, Peter Apian
Renaissance: Science vs. Superstition

- **mobility of scholars:** Johann Faustus was a wandering alchemist, characterized as a fortune teller by Ingolstadt city authorities.
- **eviction from Ingolstadt:** in 1528 by the city council.
- **legend and legacy:** classic tale of a man selling his soul to the devil in order to sacrifice integrity in favor of ambition; origin of the “mad scientist.”

Enlightenment: Illuminati in Ingolstadt

- **upheavals in the 18th century:** radical rationalism vs. Jesuit domination.
- **secret societies widely spread:** rise of debating culture in absolutist monarchy.
- **Illuminati an Enlightenment-era secret society:** founded in 1776 by Adam Weishaupt (university professor).
- **goal:** change of traditional order and establishment of a “rational state” by infiltration of public offices instead of revolution.
- **reaction:** prohibited by absolutist ruler Bavarian electoral Prince Charles Theodore in 1785.
Industrial Revolution: Ferocious “Frankenstein”

- upheavals in the 19th century: fear of scientific advancement due to rapid radical progress (Enlightenment)
- title as a warning for the future: 
  *Frankenstein or the Modern Prometheus:* Both the creator of Frankenstein as well as the Greek god Prometheus are severely punished for enlightening mankind
- Ingolstadt University as perfect setting: anti-catholic (Jesuit) sentiments in 19th century Protestant Britain, Ingolstadt as home to famous medical faculty
- literary legacy: Frankenstein as the first piece of *science fiction*

University Research in the 21st Century
21st Century
Entrepreneurial Society

Globalisation

Insecurity

Complexity

Liberalism

Knowledge Society

Innovation Society

21st Century Universities

Globalisation

Liberalism

Knowledge Society

Innovation Society

Society

Universities

Curricula:
Entrepreneurship, Softskills

Technoscience

Spin-Offs

Engines of Innovation

Market Transparency

Ressource Dependance

Mass Academisation

Embedded Entrepreneurship
21st Century Universities: rather market-orientated

Liberalism

Reputational Capital  Financial Capital

Services  Innovations

Knowledge Society  Innovation Society

21st Century Universities

Reputational Capital  Financial Capital

Innovations  Services

Research  Education  Non-primordial Activities

Development and Consulting  Language Programmes  Children’s University
R&D-Transfer: Driving forces

- market demand
- market failures
  - societal goods
  - merit goods
- public action
  - "ordoliberalism": framing activities
- technology pull innovation
- technology push innovation
- technology transfer
- knowledge transfer
- "third cycle"
- build-up of core competencies
- engines of innovation

Society

Universities

• Research Landscape
• Applied Research
R&D-Institutions

- Companies
- Cluster
- Universities of Applied Sciences
- Fraunhofer
- Universities
- Leibniz Association
- Helmholtz Association

basic research

applied research

public (basic) funding

third party funding

Based on www.research-in-germany.de

Applied Research and the New Research University

- Traditional Research University
- New Research University

Publications

Innovations

Compiled by author
Exploitation Possibilities

- Exploitation
- Research Funding
- Research Marketing

University
- inventions
- know-how

Industry
- legal protection
- exploitation
- cooperations
- licensing
- spin-offs

earnings
Coopetition Cluster

- proximity
- specialisation
- independent players

+ networking
  - collaborating and competing

• competitive advantage

Cluster Policy

<table>
<thead>
<tr>
<th>economical sphere</th>
<th>political sphere</th>
</tr>
</thead>
<tbody>
<tr>
<td>justification</td>
<td>justification</td>
</tr>
<tr>
<td>• external revenues</td>
<td>• location development</td>
</tr>
<tr>
<td>• commercial science culture</td>
<td>• German federal structure</td>
</tr>
<tr>
<td>• avoiding institutional lock-in</td>
<td></td>
</tr>
<tr>
<td>• international perceptibility</td>
<td></td>
</tr>
<tr>
<td>criticism</td>
<td>criticism</td>
</tr>
<tr>
<td>• market failure as justification</td>
<td>• public choice theory</td>
</tr>
<tr>
<td>• extending cluster life cycles</td>
<td>• policy driven clusters</td>
</tr>
<tr>
<td>• risk of low diversification</td>
<td>• wishful thinking clusters</td>
</tr>
</tbody>
</table>
Science Marketing

Government

Universities

Universities of Applied Sciences

Research-intensive Industry

academic and non-academic staff

third party funding

Based on www.research-in-germany.de

Děkuji moc.
Dziękuję.
Danke für die Aufmerksamkeit.
• References & Further Reading
• Including Popular Literature

---

**Topic I**


Topic II

Topic III