Recent developments in the German Universities of Applied Science

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Teheran, I.R. Iran, July 2017
City of Fulda: location in Europe and Germany
Location in the State of Hessen
The city of Fulda
The city of Fulda
Surrounding region
Fulda University of Applied Sciences – facts and figures

- Founded in 1974
- 8 departments
- Degree programmes: Bachelor 35  
  Master 21
- Students (winter semester 2016/17): 8,500
  Professors: 143  
  Staff: 487  
  Total staff: 630
A rapidly growing university
Fulda University of Applied Sciences

Three main research areas:
• Health, Nutrition, Food Technology
• Intercultural Aspects and Social Sustainability
• Computer Science and Engineering

Doctoral (PhD) programmes in:
• Public Health
• Social Work
• Social Sciences, Globalisation, Intercultural Communication, European Studies
• Coming soon: Computer Sciences, Logistics
The new campus
Library

July 2017 © HRK German Rectors’ Conference
Library
Cafeteria
Green spaces
Recreation area
Sports facilities
Universities in Germany

- Total number of Universities 426
- Traditional Universities 106
- Universities of Applied Sciences (UAS) 216
- Art Colleges 52
- State owned universities 240
- Private universities 120
- Universities owned by churches 39

Source: Federal Statistical Office 2017, German Rector's Conference 2017
Development of Universities of Applied Sciences (UAS) in Germany

• 1960‘s / 1970‘s:
  - Priority objective of UAS foundation: higher education for rising number of students, focus on practical application (particularly engineers)
  - often specialization on specific disciplines (technology, economy, etc.)
  - Focus on teaching

since then continuous and very successful evolution
Development of Universities of Applied Sciences (UAS) in Germany

• Today:

- 216 UAS with almost 957,000 students (>1/3 of all students in Germany)

- Legal task: practice-oriented education, applied research as well as transfer of knowledge, ideas and technologies (Third Mission)

- great importance to the surrounding regions

- motors of innovation, particularly for SME‘s

- assuring educational equality

- high efficiency, high adaptability

Source: German Council of Science and Humanities 2010 und 2016, Federal Statistical Office 2017
Universities of Applied Sciences (UAS) in Germany

Challenges of the future:

I. Sustainable funding of teaching
II. Basic funding of research
III. Extension of research funding programmes
IV. Recruitment of professors
V. Doctoral (PhD) programmes
Challenge I: Sustainable funding of teaching

Trends in number of students at UAS in Germany

Total increase: 41%
Increase at UAS: 79%
Increase at universities: 26%

Source: Federal Statistical Office 2017
Challenge I: Sustainable funding of teaching

Trends in number of students

Winter semester 2005/06
- UAS: 27%
- Universities: 70%
- Other: 3%

Winter semester 2016/17
- UAS: 34%
- Universities: 63%
- Other: 3%

Source: Federal Statistical Office 2017
Challenge I: Sustainable funding of teaching

Student enrollment trends at UAS in Germany

Total increase: 42%
Increase at UAS: 83% (39% of all enrollments)
Increase universities: 24% (57% of all enrollments)

Source: Federal Statistical Office 2017
Challenge I: Sustainable funding of teaching

Student enrolment: prognosis

Challenge II: Basic funding of research

UAS = motors of innovation and networking

• Securing future and innovative strength

• Applied research in cooperation with SME‘s and stakeholders in health and social care

• Trendsetting programmes:
  - in Engineering Sciences about 68% and
  - in Health Sciences about 78% of all students at UAS

Challenge II: Basic funding of research

Initial situation:
No basic funding from states for
• Research (particularly scientific staff)
• Research buildings und large equipment

Essential:
• Adequate basic funding of research, specific to UAS
• Opening of federal funding for research at UAS (research buildings and large equipment )
• Flexible regulation of teaching loads
Challenge III: Research funding

Funding of the Federal Ministry of Education and Research 2016: EUR 48 million

Particularly for UAS-specific funding programmes

Source: Federal Ministry of Education and Research 2016
## Challenge III: Research funding

<table>
<thead>
<tr>
<th>Programme</th>
<th>Sum p.a. (million EUR)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Traditional Universities</strong></td>
<td></td>
</tr>
<tr>
<td>Excellence strategy</td>
<td>533</td>
</tr>
<tr>
<td>Scientific</td>
<td>62.5</td>
</tr>
<tr>
<td>Innovative University</td>
<td>27.5</td>
</tr>
<tr>
<td><strong>Federal programmes total</strong></td>
<td>623</td>
</tr>
<tr>
<td>German Research Foundation</td>
<td>approx. 2,000</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>approx. 2,600</strong></td>
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<tr>
<td><strong>UAS</strong></td>
<td></td>
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<tr>
<td>Research at UAS</td>
<td>48</td>
</tr>
<tr>
<td>Innovative University</td>
<td>27.5</td>
</tr>
<tr>
<td><strong>Federal programmes total</strong></td>
<td>75.5</td>
</tr>
<tr>
<td>German Research Foundation</td>
<td>approx. 10</td>
</tr>
<tr>
<td><strong>Gesamt</strong></td>
<td><strong>approx. 86</strong></td>
</tr>
</tbody>
</table>

Source: Federal Ministry of Education and Research 2016, German Research Foundation 2016
Challenge IV: Recruitment of professors

Source: Federal Statistical Office 2015
Challenge IV: Recruitment of professors

Initial situation
high demand of professors

Reasons
• accumulated needs due to rising number of students
• until 2020, 20% of all UAS positions as professors have to be replaced

Consequences
Considerable recruiting difficulties (e.g. in Economic and Engineering Sciences)
Challenge IV: Recruitment of professors

UAS-specific problems

• no systematic career paths, insufficient awareness
• „double qualification“ required both in research as well as in practice/industry
• Unattractiveness for professors due to lack of staff and equipment
• Tendency to introduce academic education for certain professions (e.g. nursing) → not enough applicants who have obtained a PhD
• not enough applicants in disciplines which are underrepresented at „traditional“ universities (e.g. social work, nursing)
• significant salary losses (e.g. engineers)
Challenge IV: Recruitment of professors

Urgently required!

⇒ Sustainable programme of the federal government and the state governments to support recruitment of professors

negotiations are ongoing
Challenge V: Doctoral (PhD) programmes

Situation

• successful research requires excellent scientific staff/graduates
• main motivation for an engagement in research projects at universities is individual scientific qualification (doctoral education)

⇒ legal frame works for UAS have to be improved
⇒ conflict between traditional universities and UAS
Challenge V: Doctoral (PhD) programmes

**Option 1:** Cooperative PhD programmes

However:
- Insufficient capacities at traditional universities
- Sometimes limited willingness to cooperate
- Some disciplines not represented at universities

**Option 2:** Independent right to award doctoral degrees in areas of distinct research strength

Fulda University of Applied Sciences: first German UAS with independent right to award doctoral degrees (2016)
Thank you for your attention!