Successful Knowledge Transfer from Universities of Applied Sciences in Germany

Analysis of Best Practice Examples based on empirical analysis and expert interviews

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Structure

1. Introduction – Knowledge and Technology Transfer (KTT)
2. Conducted Research Project
3. Considerations concerning the university regions
4. Conclusion

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1. Introduction

Innovation and new knowledge are key drivers for regional economic growth!

- Especially important in knowledge-based economies
- Universities provide a high level of innovation and new knowledge
- The interface between academic research and the application of knowledge offers high potential!

→ Governance and organization of KTT is an important issue

1. Introduction – Knowledge and Technology Transfer

Knowledge and Technology Transfer (KTT) from Universities of Applied Sciences

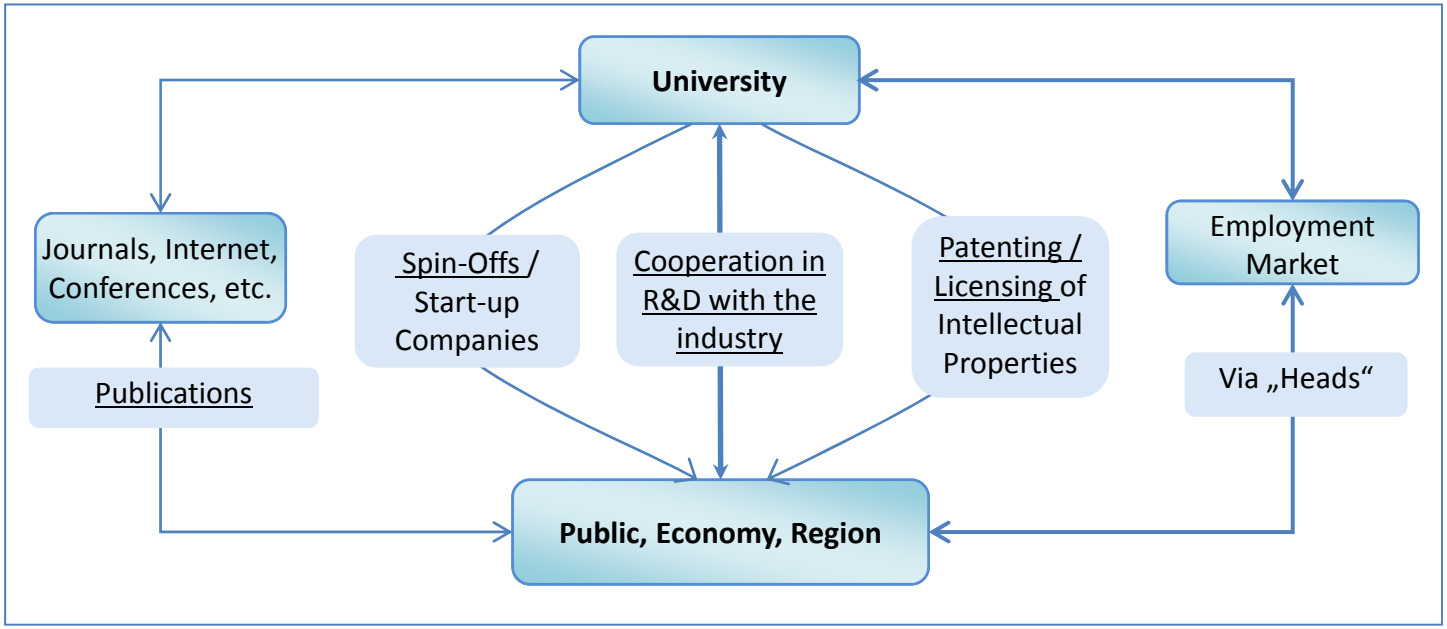

Figure 1: Adapted from Fritsch 2007, p. 12

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2. Conducted Research Project

Research Project:

Knowledge and Technology Transfer from Universities of Applied Sciences – Best Practice Analysis

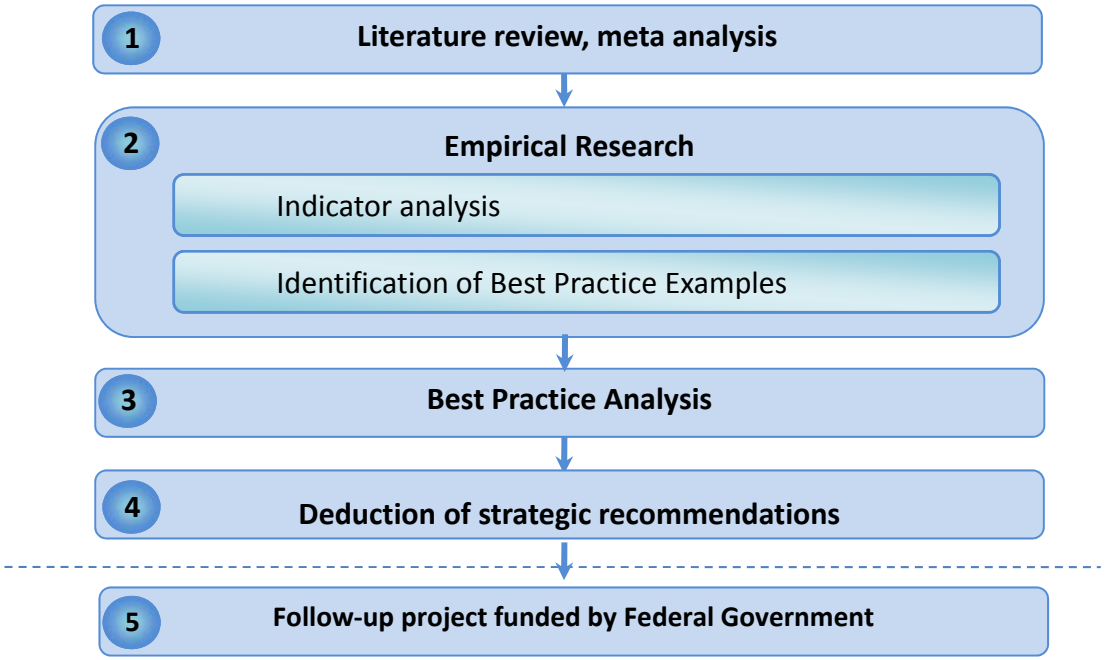


Figure 2: Own figure

2. Conducted Research Project

Methodology:

Quantitative Approach – Indicator Analysis

- Sample: 104 universities of applied sciences, 2001-2008
- Rankings considering indicators for transfer channels “Cooperation in R&D with the industry” and “Transfer via heads”

Identification of Best Practice Examples on the basis of...

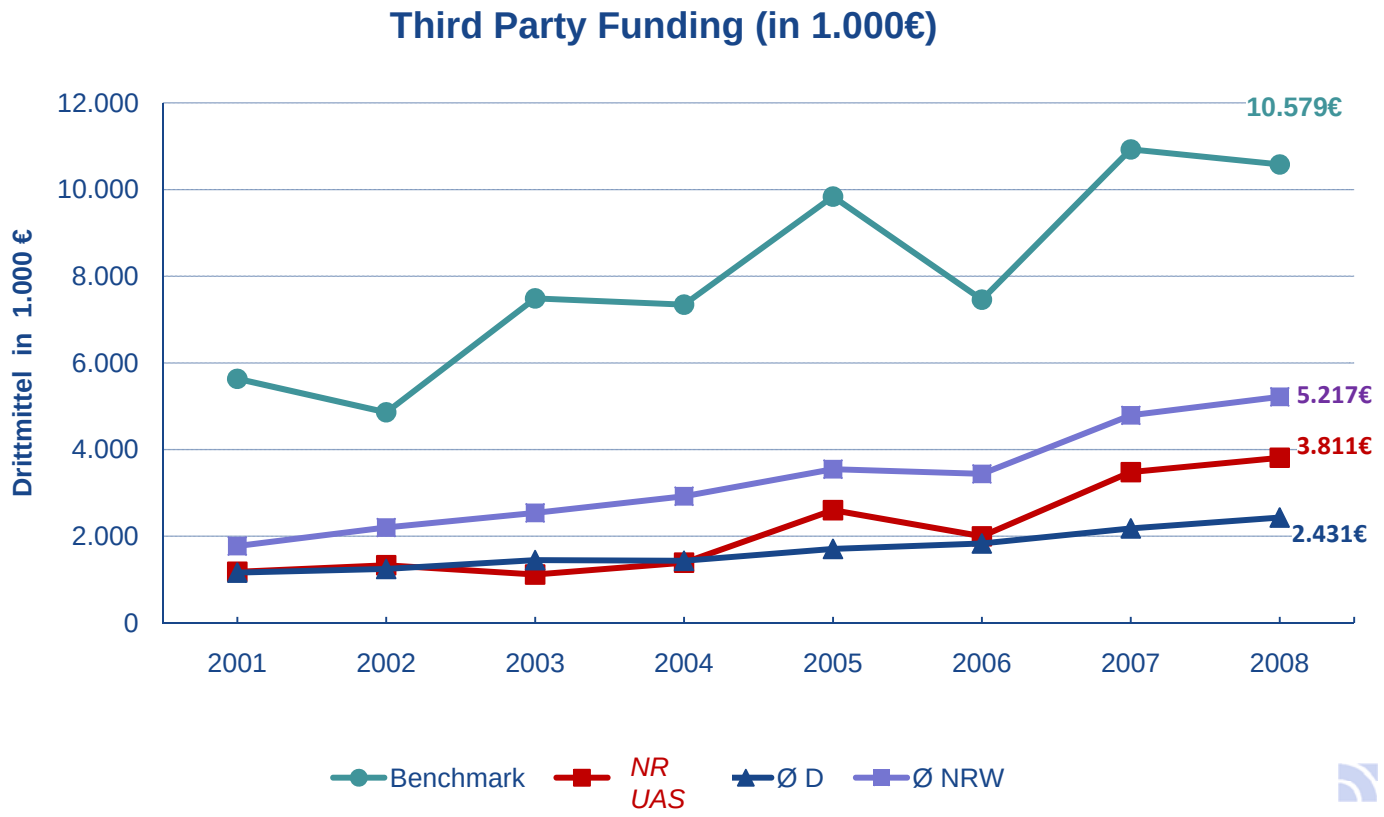
- Exclusion of universities with sole focus on single areas
- Rankings of indicators “Third Party Funding 2008” and “Third Party Funding of Commercial Industry per professor, ø 2001-2008”
- Dispersion concerning size, geographic allocation, economic background of the region
- Only cooperating universities could be analyzed

Qualitative Approach – Best Practice Examples

- Expert interviews, online research, site and region inspection

2. Conducted Research Project

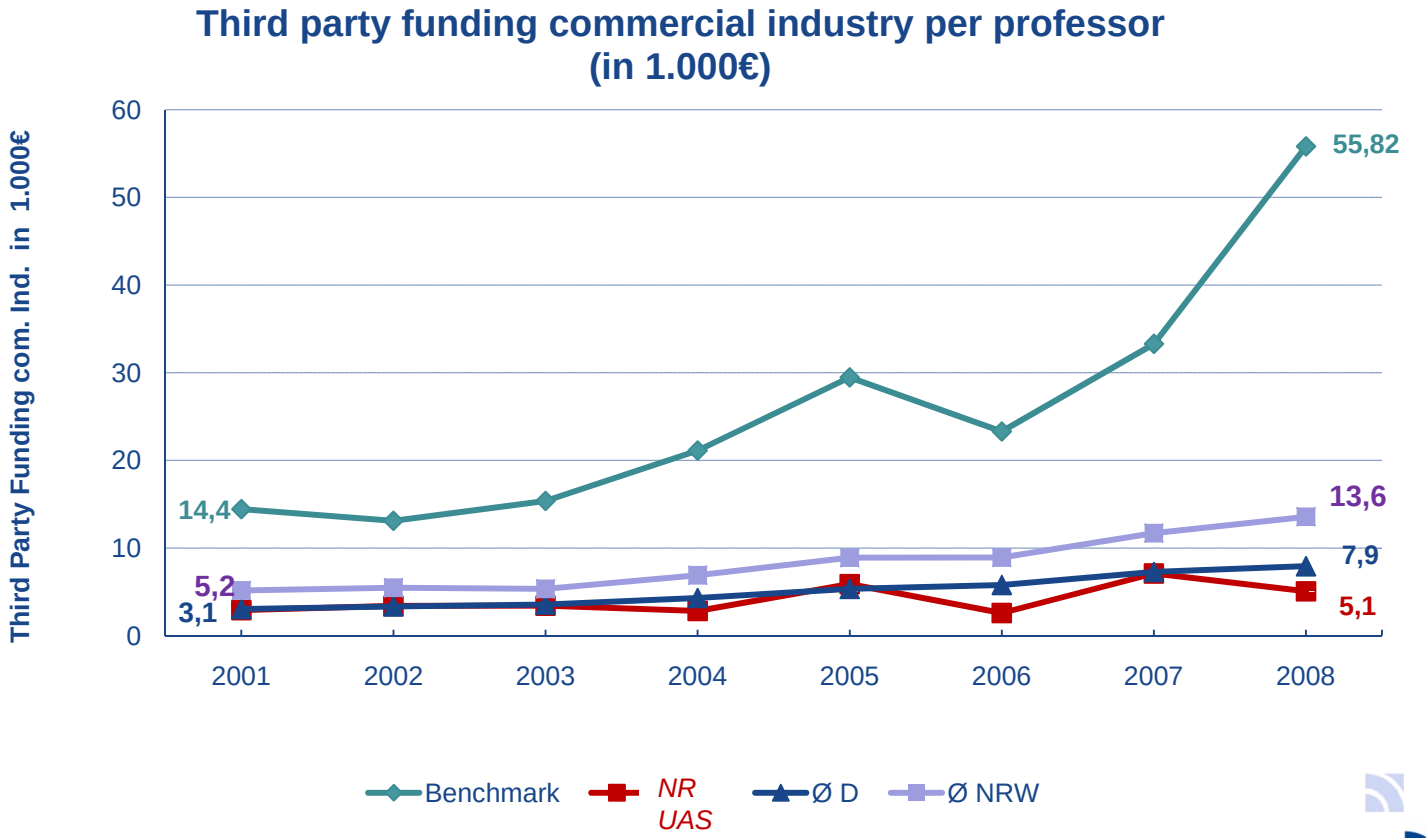
Overall third party funding



Source: public data basis of Federal Statistical Office, own processing and illustration of data

2. Conducted Research Project

Third party funding from commercial industry per professor



Source: public data basis of Federal Statistical Office, own processing and illustration of data

The Best-Practice-Examples at a Glance

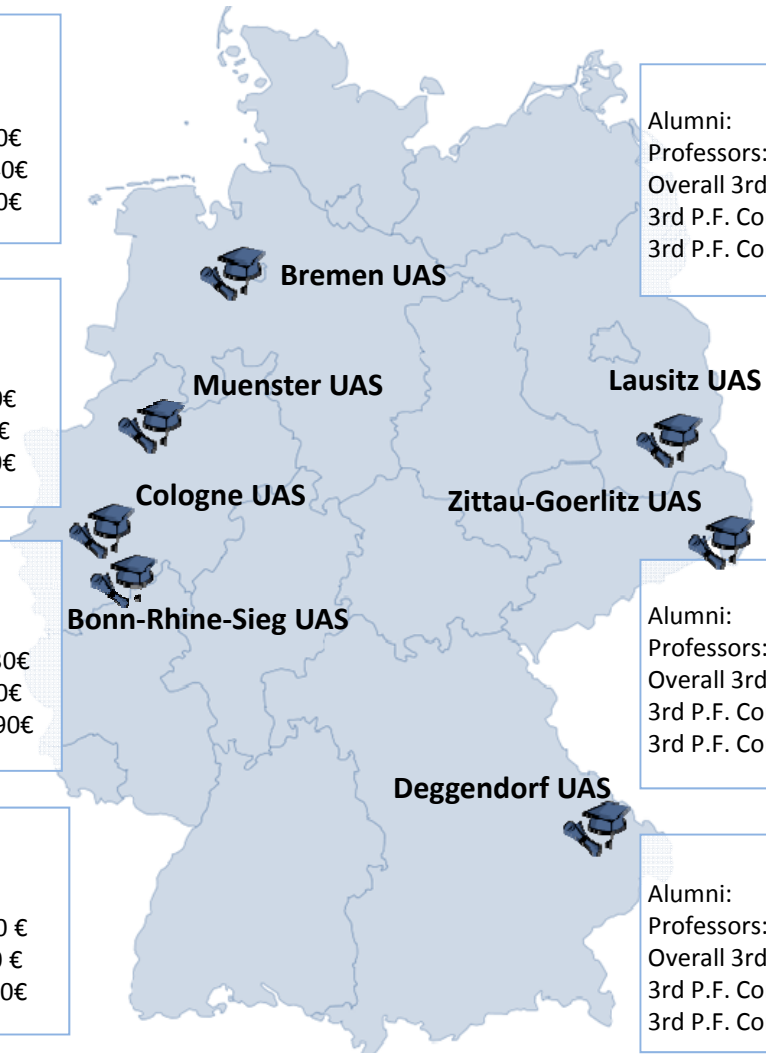
Data Basis: 2008

Bremen UAS
Alumni: 1.354
Professors: 128
Overall 3rd-party-funding: 8.063.880€
3rd P.F. Com. Ind.: 7.117.340€
3rd P.F. Com. Ind. per Prof: 55.820€

Muenster UAS
Alumni: 1.700
Professors: 214
Overall 3rd-party-funding:9.216.560€
3rd P.F. Com. Ind.: 4.648.560€
3rd P.F. Com. Ind. per Prof : 21.770€

Cologne UAS
Alumni: 2.522
Professors: 348
Overall 3rd-party-funding:10.578.830€
3rd P.F. Com. Ind.: 5.106.400€
3rd P.F. Com. Ind. per Prof : 14.690€

Bonn-Rhine-Sieg UAS
Alumni: 729
Professors: 104
Overall 3rd-party-funding: 5.034.880 €
3rd P.F. Com. Ind..: 1.562.930 €
3rd P.F. Com. Ind. per Prof : 15.100€



Lausitz UAS
Alumni: 498
Professors: 99
Overall 3rd-party-funding: 4.172.950€
3rd P.F. Com. Ind.: 1.696.220€
3rd P.F. Com. Ind. per Prof : 17.220€

Zittau-Goerlitz UAS
Alumni: 703
Professors: 112
Overall 3rd-party-funding: 5.155.230€
3rd P.F. Com. Ind.: 2.737.000€
3rd P.F. Com. Ind. per Prof : 24.430€

Deggendorf UAS
Alumni: 527
Professors: 67
Overall 3rd-party-funding: 1.679.820€
3rd P.F. Com. Ind.: 760.990€
3rd P.F. Com. Ind. per Prof : 11.360€

Overall 3rd Party Funding → Overall Third Party Funding, the university receives

3rd P.F. Com. Ind → Overall Third Party Funding, the university receives from commercial industry

3rd P.F. Com. Ind. per Prof → Third Party Funding, the university receives from commercial industry per professor

Source: own figure, public data basis of Federal Statistical Office 2010

2. Conducted Research Project

	Bonn-Rhein-Sieg UAS	Bremen UAS	Deggendorf UAS	Cologne UAS	Lausitz UAS	Muenster UAS	Zittau-Goerlitz UAS
I. Strategic and Structural Aspects							
Support board of directors							
KTT as strategic process							
Size of central KTT department / office							
University funding of research and KTT – strategy							

	Bonn-Rhein-Sieg UAS	Bre-men UAS	Deggen-dorf UAS	Cologne UAS	Lausitz UAS	Muens ter UAS	Zittau-Goerli tz UAS
Activities in Transfer Channels							
Spin-offs/start-up support	🟢	🟢	🟢	🟢	🟢	🟢	🟢
Patenting/licensing	🟡	🟢	🔴	🟢	🟡	🟢	🟡
Public research funding	🟢	🟢	🟢	🟢	🟢	🟢	🟢
Support of publications	🔴	🔴	🔴	🟡	🔴	🟡	🔴
Cooperation with the commercial industry in R&D	🟢	🟢	🟢	🟢	🟢	🟢	🟢
Endowed professorships 2011	🟢	🟢	🟢	🟡	🟡	🟢	🟢
Cooperative PhDs, ca. 2011	20	30	10	70	25	70	60
University support of cooperative PhDs	🟢	🟢	🟡	🟢	🟡	Initiated	🟡
Non-trad. study programs	🟢	🟢	🟢	🟢	🟢	🟢	🟢
Support of career start	🟢	🟡	🟢	🟢	🟢	🟢	🟢
Activities in alumni-networks	🟢	🟡	🟢	🟡	🟡	🟢	🟡
Innovation & technology parks, incubator centres	🟢	🟢	🟢	🔴	Initiated	🟢	🔴
Networking - Regional Networks - Topic-specific - Networks KTT - Education & study programs	🟢	🟢	🟢	🟢	🟢	🟢	🟢

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3. Considerations concerning the university regions

Regional factors have strong influence on the success of KTT:

- Attractiveness, infrastructure & accessibility of the region
- Economic factors
- Regional demographic situation
- Community support and financial funding
- Networking in the region
- Existence of intermediating entities and other research institutes in the region
- Affinity of university research and regional industry fields

→ **Regional absorption capacity matters!**

3. Considerations concerning the university regions

Oberservation: Two kinds of regions seem to offer high potential for KTT:

- The “Science Location”
  - Economic stability
  - Modern, urban regions with good infrastructure and accessibility
  - Balanced demographic situation
  - Other research institutes nearby, regional cooperations to support KTT
  - Knowledge-intensive services
  - Problems of public awareness due to city size or regional competition
- The “Eligible Region”
  - Eligible due to economic, demographic or structural aspects
  - University is intensively supported by region, community and country
  - No or few research institutions in the region
  - High regional awareness

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4. Conclusion

There is no ‘silver bullet’ or ‘royal road’ to successful research and KTT!

Nevertheless...

- → Success is not reserved only to well-financed universities with a long research history
- → Decisive strategic outline, a clear research profile and focus, high strategic importance of research and KTT (support of board of directors)
- → High importance of networking
- → External factors play an important role
- → Know, adapt to and continuously reassess the regional absorption capacity

4. Conclusion

Further research potential!

→ What are determinants of regional absorption capacity?

→ Degree of regional / supraregional focus of transfer channels?

→ How do results differ when looking at different types of universities?

→ Indentified regions with high potential for successful KTT:
further analysis, e.g. multivariate and econometric analysis

Thank you for your attention!

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