



**CONFERENCIA INTERNACIONAL:  
'Propiedad Intelectual como herramienta  
para promover la innovación desde la Universidad:  
de la teoría a la práctica'  
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# **New Approaches in Europe to Incentivize Research Outputs**

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AUSTRIA

# Overview

- Incentives – why?
- Incentives – how?
- Set up of Incentive Systems in Europe
  - 2 good practise examples from Finland (and Germany)
- More R&D @ Universities
  - R&D@FH JOANNEUM – a model approach
  - (University Freiburg, Germany)

# Why do we need Incentives and Motivation?

From a specific point of view:

- Staff and employees are the driving force in knowledge based organizations (e.g. HEI, research, service, etc.)
- Retaining key staff and avoiding institutional brain drain
- Principal – Agent problems
  - Asymmetric information between employees and organization
  - Employees possess more knowledge than they might willingly share and might not provide full effort in the development of intangible assets
- Need for increased R&D as well as IPR-output due to a changed orientation of universities >>

# Changing Orientation of Higher Education

- At the very beginning:  
Strategic focus: Search for knowledge and wisdom



University of Bologna  
founded 1088



University Freiburg, founded 1457,  
„Die Weisheit hat sich ein Haus erbauet“  
(„wisdom erected a house of its own..“)

- Foundation of technical schools after the Indust. Revolution  
Strategic focus: Orientation towards technologies



École polytechnique Paris  
founded 1794



TECHNISCHE  
UNIVERSITÄT  
WIEN  
VIENNA  
UNIVERSITY OF  
TECHNOLOGY

Technical University Vienna  
founded 1815 as  
„k.k. polytechnisches Institut“

- Strategic focus today: Transfer of knowledge & technologies  
„Entrepreneurial Universities“

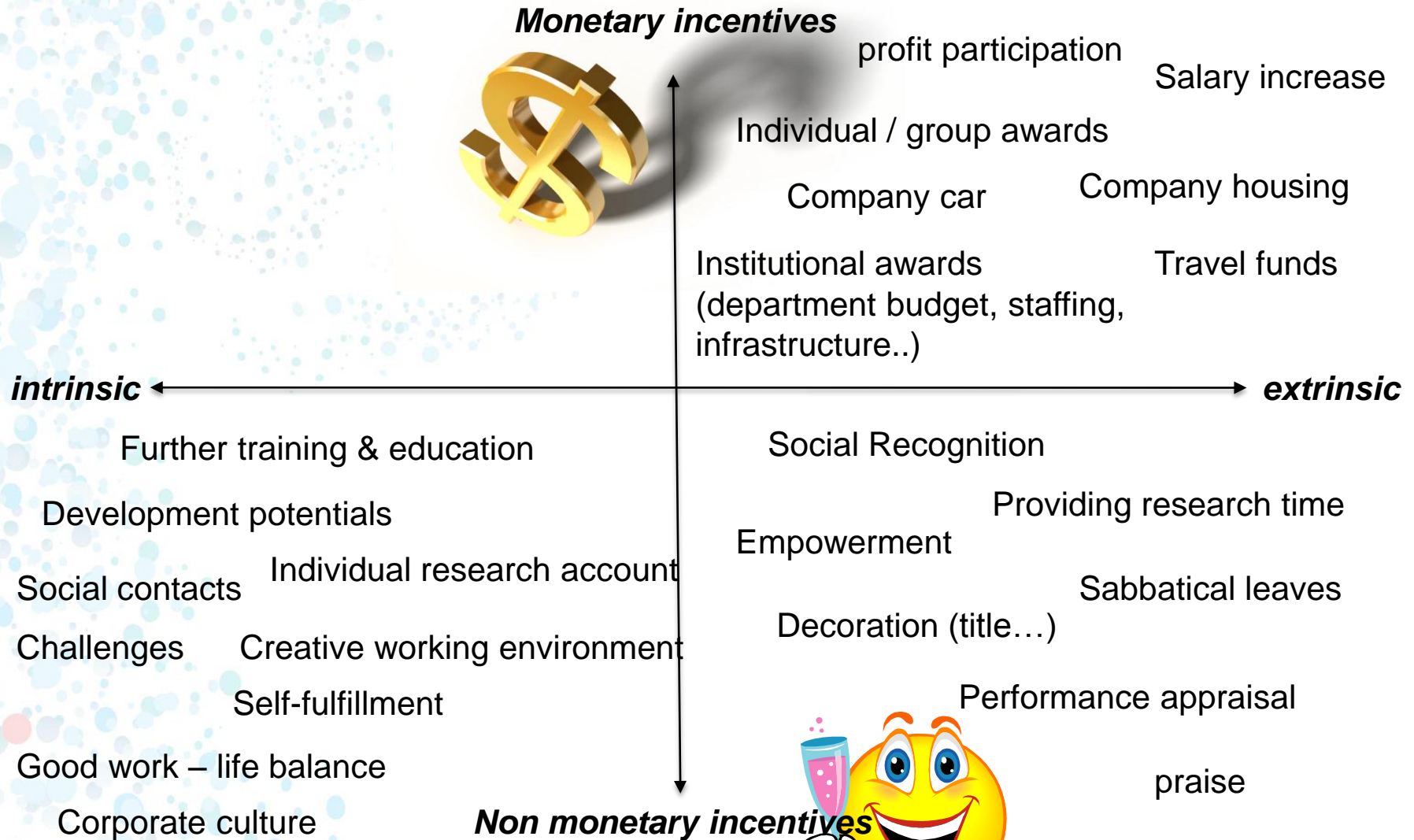
# Recent developments in the EU

- Recommendations of the EC for the modernization of universities: Changes in nine areas as key to success:  
... “Provide incentives for structured partnerships with the business community”
  - Institutional incentives as part of governmental policies
  - Staff incentives for cooperation with business

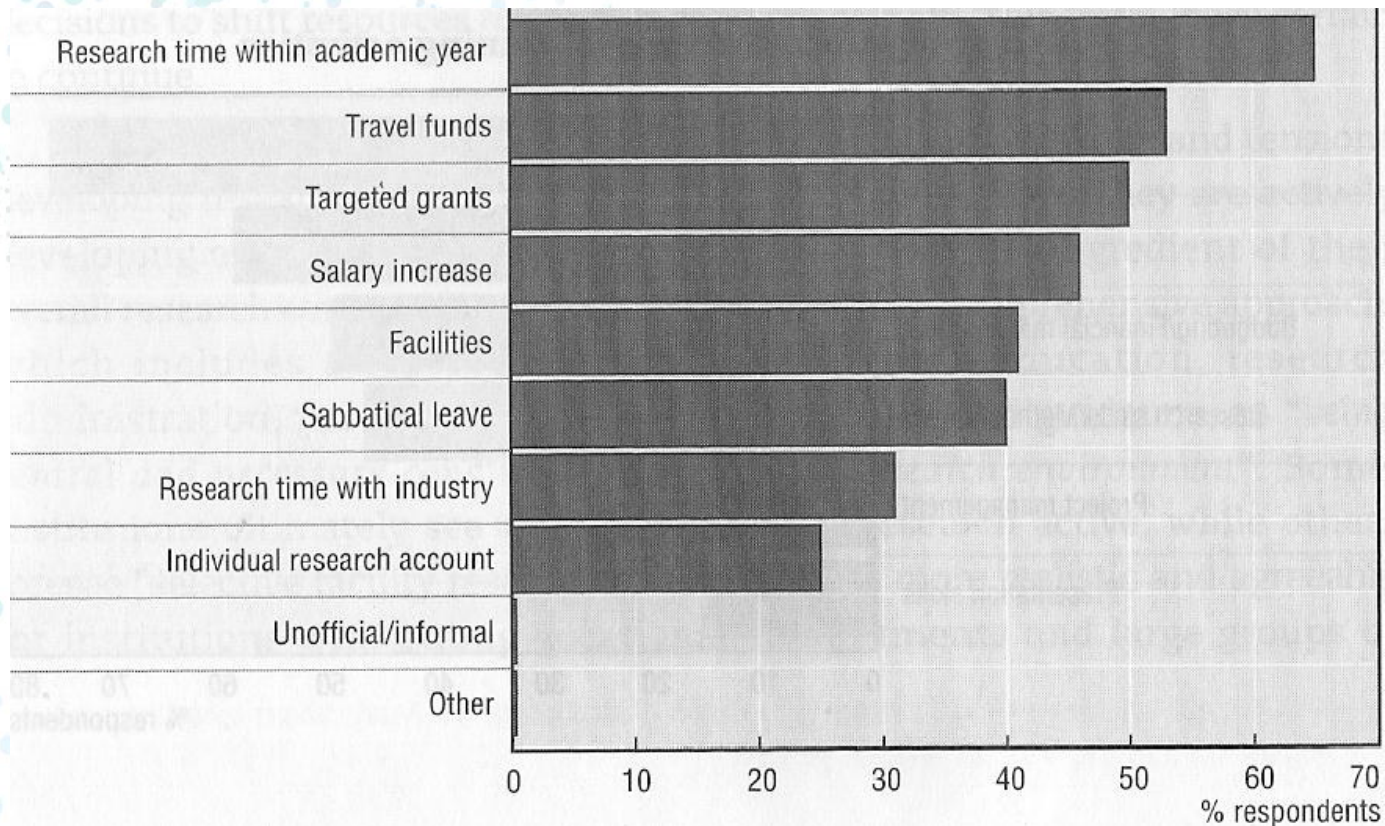
*[EU Forum for University Business Dialogue, EC, p. 5, 14f., 18, 2009]*
- Recommendations of the EC to EU member states concerning handling of IPR (IPR guidelines & contact point)
  - Practise code for HEI & research, best practise examples

*[EC, IP Charter Initiative, 2008]*
- Tighter linkage of research & innovation programs within FP8  
*[Commission Green Paper on European R&D and Innovation Funding, EC 2011]*

# What tools do we have available?



# Ranking of importance of particular incentives



*Results of a study of 25 HEI from 17 OECD and non OECD countries (Canada, China, Europe, Japan, New Zealand, Australia), all institutions are established or reconstituted after 1970 offering undergraduate & postgraduate education.*

[Hazelkorn, 2005, p. 105]

# Set Up of Incentive Systems in Europe

21 performance indicators in 6 groups:

1. HEI Structure,
2. Student recruitment,
3. R&D,
4. internationalisation,
5. Effectiveness & quality of study process,
6. regional impressiveness & working life cooperation

4 R&D indicators:

1. Publications of teaching & research personnel
2. R&D credits with reference to full time students
3. % of national competitive funding from the UAS total funding
4. % of EU-funding and enterprise financing from the UAS total funding

## Technics

Discretionary government grant  
22 M€ in 2009

Project funding  
19 M€

Performance based funding  
3 M€

Discretionary increase in unit price

1.5 M€ Centres of excellence  
1.5 M€ high performance

# Incentives related to improving performance at the UAS "LAUREA" (Finland)

- Third largest UAS in Finland
- Situated in Espoo (2nd largest city in Finland; 230.000 inhabitants)
- 8.000 students, 500 employees



# Types of Incentives at LAUREA



## Personal Incentives

- Publication Fees for Laurea Personnel Paid Twice a Year
  - For publications & articles supporting RDI activities in Laurea's strategic areas of emphasis being published in professionally challenging context. Amount varies from 170 € to 540 € depending on several criteria.
- Incentive-based personal compensation partly based on performance at Laurea (in the area of teaching)
  - A sum equalling 0.6% of the compensation amount is distributed (2010) as performance based compensation based on the following criteria: credit accumulation, dropout rate, degree completion rate (Based on the supervisor's evaluation of the teacher's contribution to the improvement of degree efficiency)
- Incentive based compensation as part of the labour or employers association agreements (100-250€ p.a.)



# Types of Incentives at LAUREA



## Group Incentives

- Unit-specific performance-based bonus for improving degree efficiency
  - The best unit is rewarded if the performance of entire Laurea, improves in two out of three factors.
  - The indicators include the average credit accumulation per student, dropout rate and degree completion rate . The factors are combined by summing up the ordinal numbers.
  - The level (weighting 30%) and trend (weighting 70%) are taken into consideration. The intention is to specifically reward improved performance, not just good performance.
  - Award is a one-time performance-based bonus payable in April. Everyone of the unit receives the same percentage of their normal salary. In 2011, the average amount to be paid per recipient is approximately € 1.000,-

# More R&D @



- Elaboration of a model, an assessment procedure inclusive evaluation criteria to support the development of R&D at FHJ
- Model approval by the boards & first implementation in 2005
- 2005-2010: Total budget: 1.4 Mio €; Total # of projects: ca. 200
- Goals:
  - (1) Qualitative development of R&D activities:
    - Increase in international R&D activities
    - Improvement of quality in R&D by
      - Increasing the R&D capacity of teaching personnel
      - Cofunding of strategically relevant projects with too little third-party funding
  - (2) Strengthening of innovation activities:
    - Interdisciplinary cooperation
    - Intensifying knowledge transfer to and cooperation with economy

# Funding categories & evaluation criteria

- Open call with maximal funding sums of 15T€ p.a. and DP
- 3 Categories:
  - **Category 1:** Initiation of funded projects: Elaboration of proposals for national & international calls  
Max. € 5.000 – 8.000 per project; min. 1 degree program (DP)
  - **Category 2:** Cofunding of R&D projects  
Max. € 8.000 per project; min. 1 DP
  - **Category 3:** Development & coordination of new R&D –topics  
Max. € 5.000 per project; min. 2 DP
- Evaluation criteria: „must“ and „should be“ criteria
  - Must: e.g. suitability to strategical orientation of DP, adequacy of costs, suitability to above categories ..
  - Should be: e.g. innovation potential, relevance to market, contribution to sustainable development of the DP..

# Selected Results

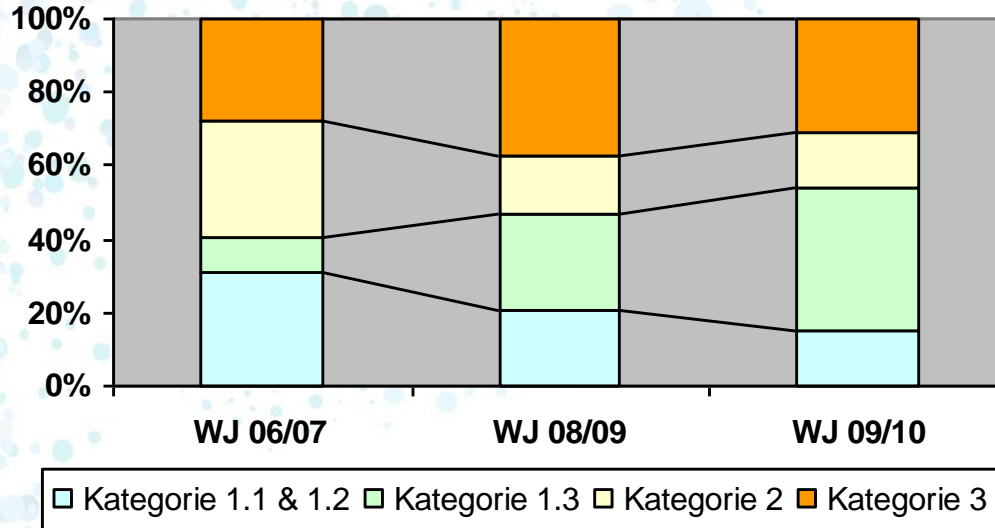


Figure: Number of accepted internal projects per category (07/2006-06/2010)

➔ Increase in future oriented activities

Category 1 Projects – Proposal elaboration (in €)		
	2008/09	2005/06
Actual costs for proposal elaboration	80.500,-	98.000,-
Volume of the funded projects - FHJ only	744.300,-	678.000,-
Budget income of the funded projects – FHJ only	525.300,-	283.000,-

➔ Leverage effect:

2008/09: 6,5x  
2005/06: 2,9x

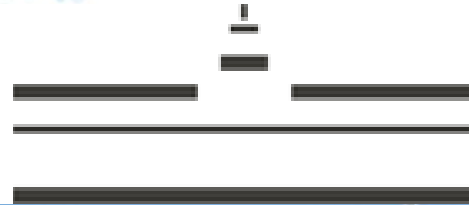
Experience on the learning curve!

# References

- EC, DG Research, *Green paper "From Challenges to Opportunities: Towards a Common Strategic Framework for EU Research and Innovation funding"*, Brussels, 2011.
- EC, „*A new partnership for the modernisation of universities: The EU Forum for University – Business Dialogue*“, Commission staff working document, SEC (2009) 425, Brussels, 2009.
- EC, DG Research, Commission Recommendation on the management of intellectual property in knowledge transfer activities and on a Code of Practice for universities and other public research organisations - "*IP Charter Initiative*", Brussels, 2008.
- Hazelkorn. E., „*University Research Management - Developing Research in New Institutions*“, OECD, Paris, 2005.
- Pelz, W., „*Kompetent führen: Wirksam kommunizieren, Mitarbeiter motivieren*“, Gabler Verlag, Wiesbaden, 2004.

# BACKUP Slides

# Set Up of Incentive Systems in Europe – Good practise in Germany



WESTFÄLISCHE  
WILHELMS-UNIVERSITÄT  
MÜNSTER



- 40.000 students
- 13.000 administrative staff
- 130 fields of study
- 1 billion US \$ total budget

# Facts about the Incentive System

- Performance-oriented budget for institutional innovations (6 Mio for 3a)
- Basis for performance measurements:
  - Comprehensive internal and external evaluation of R&D and teaching (Regulations for evaluation procedure are recorded in “Evaluation Rules of University of Münster”, 2009).
  - Key criteria aligned to criteria of the Provincial Government NRW
- Evaluation criteria:
  - Performance of units in past 5 years and projects, plans and forecast for next 3-5 years
  - R&D: Focus areas, quality and future perspectives
  - Teaching: Coherence of teaching and R&D, reforms, inter-disciplinarity, internationality, development perspectives

# Evaluation Procedure and Results

- Two-step evaluation procedure of all units
  - Self-evaluation of units
  - Evaluation by independent expert committees (Peer Groups)
  - On-site evaluations and follow up discussions among respective unit, steering and expert committee, HEI management
- 21 evaluation procedures with more than 100 national and international experts
- Based on results the units elaborate an overall strategy for their development, financing of measures is ensured by the rectorate („strength the strengths“)
- Examples for measures:  
Financing of fund raising coordinating positions, tutorial programmes for students, fast track for selected professorships

# Good practise example: Entrepreneurial University

- Traditional research university
- 22.000 students
- 11 faculties
- 13.000 employees

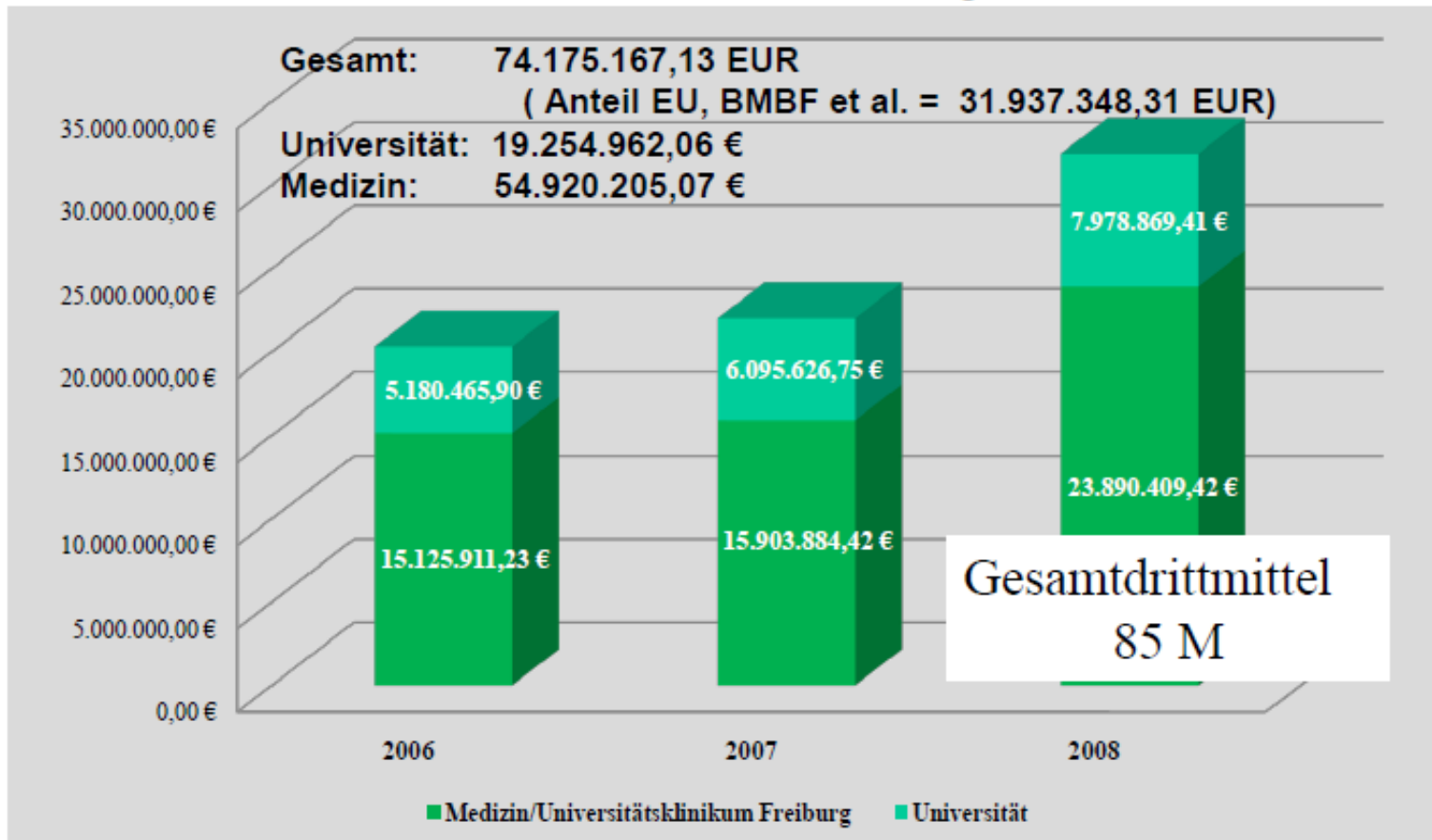
ALBERT-LUDWIGS-  
UNIVERSITÄT FREIBURG



<http://www.uni-freiburg.de/>

# Technology Transfer Unit University Freiburg, Germany

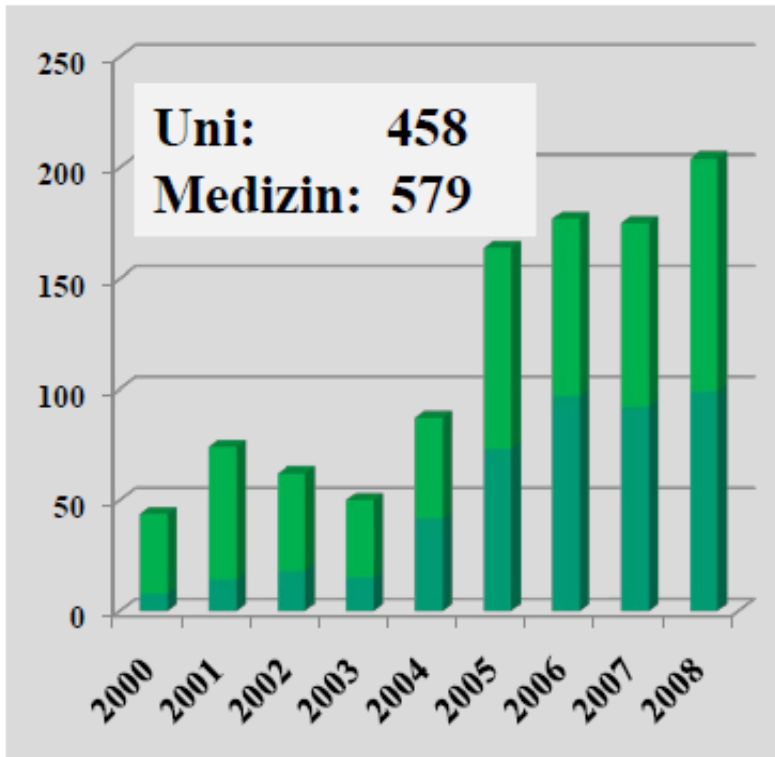
Vertragssummen 2006-2008  
Universität und Medizin Freiburg



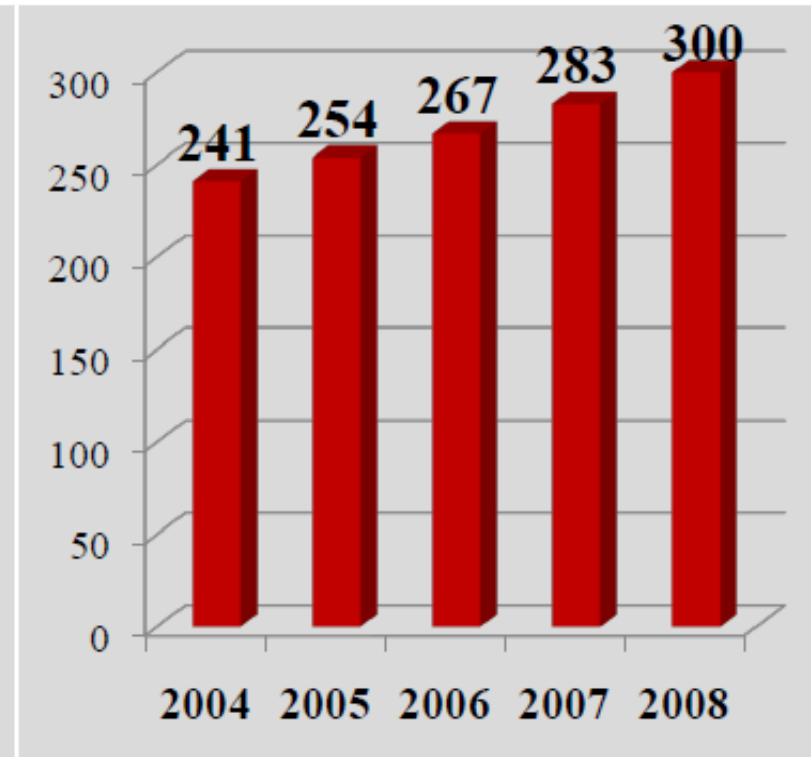
Source: Univ. Freiburg, Prof. Urban, „Uni als Partner der Industrie“, 2009

# Patent Office, ZFT Freiburg

## Neue Patentanmeldungen p.a.

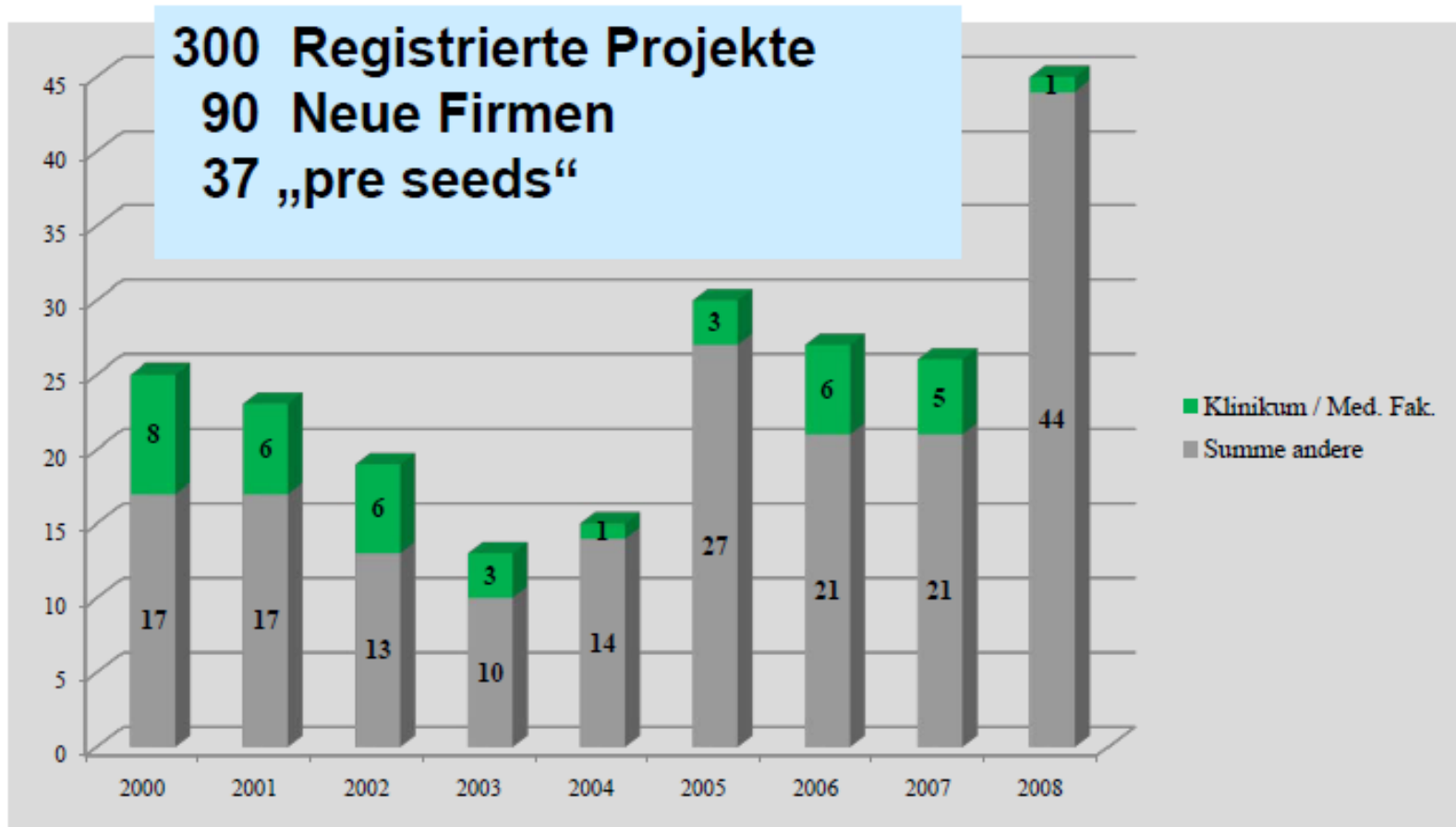


## Erteilte Patente (kumulativ)



# Start Up Office

Accompanied projects:



Source: Univ. Freiburg, Prof. Urban, „Uni als Partner der Industrie“, 2009

# Key Success Factors for Entrepreneurial Universities

- Excellent scientific quality with high interdisciplinary abilities
- Good transfer climate on site
- Infrastructure
- Highly qualified staff
- Mentality of the people and engagement