Overview

• The German Research System

• The German Approach to Commercialisation of University Inventions

*Additional Hand-Out Slides:*

• *The TechnologieAllianz and its Tools (e.g. “invention store”)*

• *PROvendis GmbH*
THE GERMAN RESEARCH SYSTEM

79 billion €
Total spending on R&D in Germany

1/6
Universities

1/6
Helmholtz
Max-Planck
Fraunhofer
Leibniz
others

2/3
Industry
R&D Expenditures in Germany (2012)

Total R&D Expenditure: € 79 billion (2012)

- Max Planck Society
  - 82 institutes / € 1.8 billion
- Fraunhofer Society
  - 67 institutes / € 1.9 billion
- Helmholtz Association
  - 18 centres / € 3.8 billion
- Other research institutions (including Leibniz Association)
  - € 4 billion
- Universities
  - € 13.9 billion
- Companies
  - 53.8 billion
Public R&D Funding in Germany (2012)

**States**

- **Universities**
  - € 22.1 billion (+ € 6.8 billion 3rdp.f.*)

**Federal Government**

- **Jointly Funded Research Organizations**
  - **FhS “Fraunhofer”**
    - € 0.48 billion
    - + € 1.45 billion 3rdp.f.*
  - **WGL “Leibniz”**
    - € 0.95 billion
    - + € 5.4 billion 3rdp.f.*
  - **HGF “Helmholtz”**
    - € 2.38 billion
    - + € 1.45 billion 3rdp.f.*
  - **MPS “Max Planck”**
    - € 1.43 billion
    - + € 0.40 billion 3rdp.f.*

**Federal Research Institutes**

- € 1.0 billion

*3rdp.f.: third party funds

Source:

- Statistisches Bundesamt / June 12, 2014
- Own publications of FhS, WGL, HGF and MPS
Strength Through Diversity – Players in the German Research

Universities
- Use-inspired basic research with strategic programs
- Research & Development

Applied institutes of higher education
- Application-oriented research
- Application-oriented teaching

Fraunhofer

Leibniz Gemeinschaft
- Long-term research topics
The Big „Challenge“ in Technology Transfer

• **Investments in research and development** are the central prerequisite for economic growth and prosperity

• **BUT:**
  - Academic research and industrial development are “drifting apart”
    - Reduced spending and resources in industrial research
    - Increased costs for the validation of scientific results (mainly in biotech, nanotech, energy)
    - Lack of money for patents
    - Lack of venture capital
  - This “drifting apart” results in an “innovation gap”
Instruments to Overcome the Innovation Gap: Federal Funding Programs

Federal funding programme towards universities to support the protection and commercialisation of their inventions by patent marketing agencies (PVAs)

Federal funding programme to increase the creation of technology-based start-ups at universities

VIP: Federal funding programme to validate the innovation potential of academic research

Moreover there are about 15 further innovation-oriented federal funding programmes supported by BMWi, BMBF, etc.
The Big „Difference“ in Technology Transfer between Universities und PROs

- **Universities and Public Research Organizations (PROs) can use (most of) these federal programs**

- **BUT:**
  - In addition the large PROs (MPG, HGF, FhG, WGL) have own validation and innovation programs
  - Technology transfer of German PROs joins forces
    - Life Science Incubator (supported by MPG, FhG and HGF)
    - Lead Discovery Center (MPG and first projects of HGF)
    - Enabling Innovation – new BMBF funded initiative to raise awareness for innovation/commercialization at German PROs
    - Etc.
The Big „Difference“ in Technology Transfer between Universities und PROs

- **Public Research Organizations (PROs)**
  - Professional technology transfer established already more than 40 years ago
    - Inventions belonged always to the research organizations
    - All have established own technology transfer structures

- **Universities**
  - Professional technology transfer only for about 10 years (since 2002)
    - Before 2002 “professor’s privilege” (universities did not own the inventions)
The German Approach to the Commercialization of Academic Inventions

The last 12 years

• Foundation of alliances/confederations of several universities in order to
  • Create critical mass of inventions
  • Establish/use (external) professional Patent- and Licensing Agencies (TLO) with a critical mass of experts
    => Universities are regularly shareholders of the “external TLO”

• Strategies, structures, processes and tools in the (external) TLOs and between universities and TLOs were defined and established

• Mostly these external TLO deal only with inventions, that are free of third party rights

• Universities built up (basic) in-house competencies
The German Approach to the Commercialization of Academic Inventions

**Status Quo**

- Universities do increasingly acknowledge the value and potential of IP – however it is still being treated as a side topic
- Basic Technology Transfer Tools and Strategies are being established
- Advanced Technology Transfer Tools and Strategies are being implemented and tested. Examples:
  - University: incorporation of enterprises „formation“ at and with support from universities, systematic approach towards Joint Ventures, open innovation, Incubators
  - TLO: customized services for the universities
- Technology gaps, capacities and wages continue being the main challenges for the majority of universities and their TLO
- Framework conditions at universities are still not sufficient to exploit the full economic potential of scientific inventions.
The German Approach to the Commercialization of Academic Inventions: Status Quo 2002-2013*

- Universities belong to the TOP 10 patent applicants in the Germany Patent and Trademark Office ranking
- Over 21,000 invention disclosures from German academia
- Over 7,000 new patent applications
- Over 2,500 patent-based business deals with industry (e.g. license agreements, technology sales...): success rate = 36%
- Creation of numerous patent-based start-ups
- New industry co-operations, acquisition of third-party funds and public sponsorships

*counting predominately inventions, patents and deals that are free of 3rd party rights
The relevance of transfer via IP will continue to increase (i.e. due to the EU-framework for state aid)

• Instruments and strategies for transfer will be treated more holistically (e.g. entrepreneurship, patents, valorization)

• Strategic cooperation between the economic and academic world will gain importance

• Inventions will be increasingly developed at and support from the universities?

• Universities will establish Business development competence?
The German Approach to the Commercialization of Academic Inventions

**The Future**

- The 3 critical factors of success for transfer organizations (i.e. in case of foundation of a company):
  - Framework conditions (budget for validation, staff and patents)
  - Personality and engagement of acting staff
  - Competence and level of experience of acting staff (⇒ ATTP)

- So far the focus has been on improving qualification of academic entrepreneurs and framework conditions

- In addition the identification, attitude and motivation of management personnel at TTOs, incubators as well as in the individual spin-offs has to gain in importance
Many thanks for your attention!

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Back-up
TechnologieAllianz:

Cutting Edge Inventions from German Research
TechnologieAllianz and its Members

• **German network of patent marketing and technology transfer agencies**

• Founded in 1994

• More than **120 innovation managers** with industry, market and patent expertise

• More than **200 research institutions** with over 100,000 scientists (almost all German universities)

• Portfolio of more than **2,000 IP-protected technology offers**
Partners for Technology Transfer

Science
Universities
Research Institutions

Industry
Multinationals & large scale enterprises
SME’s
New entrepreneurs (start-ups)
Powerful Network for German Academia

- 28 members (including 21 patent marketing agencies)
- 16 German states
- 100,000 patent relevant scientists

- One-stop shop for academic German patents
- One central contact point
- More than 120 innovation managers with industry, market and patent expertise
- Nationwide network with branches in all German states
- More than 200 universities represented
Our Objectives

- Contribute to and speed up the traditional **technology transfer between science and industry** by offering new impulse and initiatives

- **Protect** academic inventions and make them **market-oriented**

- **Offer to industry** cutting edge technologies from German research

- Be a **competent and integrative partner for science and industry** in order to offer professional technology transfer of patented research results

- Offer **regional** access and **national/transnational** communication for the benefit of all parties
Co-operation for Common Goals and Efficiency

The Instruments of TechnologieAllianz

- **Biggest German website with IP-protected technology offers** from German research at [www.technologieallianz.de](http://www.technologieallianz.de) (English version included)

- **Free E-Mail service “Invention Store” for new technology offers**

- **Reciprocal commissioning** for the evaluation, patenting and marketing of inventions and for contract monitoring

- **Exchange of information** (technology, market, companies, etc.)

- Common marketing, in particular using **portfolios, common training** and qualification activities (ATTP)

- **Co-operation** with other national and international networks (BDI, EEN, ASTP-PROTON, etc.)
Patents as Instruments of Technology Transfer

Technology Offers for Industry

- **Biggest German website** with IP-protected **technology offers** from German Research

- **Free** automatic e-mail service with the newest technology offers, the **Invention Store**

www.technologieallianz.de
Patents as Instruments of Technology Transfer

More than 2,000 new technology offers
- From more than 200 German research institutions
- Searchable by technology field, key words or agencies

Technology Profiles, comprehensively presented, downloadable in pdf, giving information on:
- The technology and its particularities
- Field of application
- State of the Art
- Market potential
- Status of IP protection
- Suggested type of exploitation
- Contact
The E-Mail Service **Invention Store**

- **Automatic** e-mail service with the newest IP-protected top technologies for industry
- **Free of charge**, easy to use and **up-to-date**
- From a portfolio of more than **2,000 technology offers**
- **Demand-oriented**: selection of technology request by technology fields and key words
- Managed by **technology transfer experts**
- Over **150,000 e-mails with tech-offers** sent yearly

[www.inventionstore.de](http://www.inventionstore.de)
The E-Mail Service **Invention Store**  
www.inventionstore.de

English and German offers available

Technology Offers for Industry
Innovative Service Package: Advantages for Companies

- High-tech technologies protected by **professional patent policy**
- **Economically feasible innovations** (technology, market potential and patentability checked)
- **Exclusive** technology solutions
- **Expert partner** with broad network at your service

- **Time advantage** over competitors
- **Reduced risks** of abortive developments
- **Cost savings**
- Product marketing in **monopoly** position
Innovative Service Package: Advantages for Universities

- **Invention evaluation and check by experts**
  (market feasibility, technical feasibility, patentability, legal framework)

- **Joint development of a marketing strategy** taking the following factors into account (existing commercial contacts, existing contacts with industry, research targets, foundation projects)

- **Competent innovation managers** with **expertise and contacts** for successful project management and technology transfer

- **Avoidance** of unnecessary patenting **costs/own transfer expertise**

- **Quality management** of the marketing process

- **Income from licensing**
Where we are

PROvendis GmbH
Mülheim an der Ruhr
(North-Rhine-Westphalia)
Where we are

PROvendis GmbH
Mülheim an der Ruhr

Essen
Münster
Duisburg
Düsseldorf
Düsseldorf
Cologne
Bielefeld
Dortmund
Bonn
Our Shareholders
Company Profile

- Established in 2001
- Serving 27 Universities (owned by 24)
- Covering 20,000 Scientists
  (engineering/natural sciences/medicine)
- Comprising:
  - 16 “Innovation-Managers”
    (> 200 “years commercial experience”)
  - 2 Lawyers
  - 1 Patent attorney
  - > 30 Employees in total