From Knowledge to Market: Experiences in knowledge transfer from research to industry and lessons learned

Expert Workshop:
Knowledge Transfer from Universities and PRO's in Benelux: the road ahead
Maastricht 2011

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Functions of IP in a Research Organization depending on the form of Cooperation

- IP as asset for securing a position in technology
- IP as patent manifesting market power
- IP as acquisition instrument for business
- IP as defending instrument against competitors
- IP as basis for licence revenues
- IP as incentive and motivation of staff
IP in the R&D Phase of R&D-Projects
The Use of Non Disclosure Agreements for Damage Compensation in Case of Breach of confidentiality??

- Most Legal Systems do not compensate the real loss in case of breach of confidentiality.
- Disadvantage in competition cannot be figured out
- No legislation about this question available (at least not in Germany)

Consequence

Find additional effective technical protection of your IP esp. protect electronic data against espionage
**Essential Measures for Know-how Protection**

**Technical:**
- Control **electronic data**, separate internal server recommended with **reduced access to sensitive data**
- **Remove Mobiles** and **Memory Sticks** out of the meetings
- Install a **person responsible for Know-how protection**

**Legal:**
- Confidentiality Agreements with **satisfactory rules**
- Check rules of **labour contracts** about confidentiality clauses, also "for the time after"
- IP - Professionals for Contract-Negotiations
- Check, observe and complete **patent portfolio**
JOSEPH VON FRAUNHOFER-AWARD 2009

Coining by blast with explosive agents to create holographic structures in steel as protection against counterfeiting expensive metal spare parts of machines and automobile parts
Impact of IP in Different Forms of Cooperation

Internal IP Management and Licensing
The IP success story
Time Lag - Track Record MP3

Development of the Audio-Coding at Fraunhofer IIS in Erlangen

- since 1981 Field of Research at the University of Erlangen
- since 1987 Audio-Coding at Fraunhofer IIS
- 1992 MPEG-1 Layer 3 becomes international standard
- July 14th, 1995 the name "MP3" is defined
- 1997 starts MP3 Internet Boom
- 1997 MP3- sucessor MPEG-2 AAC becomes international standard
- 2000 Federal President awards the "Future-Prize" to the inventors of MP3
- 2004-2007: licencing venues on highest level
- 2013: basic patent protection will elapse

Inventors of MP3, 1987
A specific Portfolio-Technique tries to help to identify patent utilization Opportunities of Fraunhofer institutes

**Patent-Cluster**

Cluster-Patents protect inventions
- targeting a common product spectrum
- based on the same technology / approach

**Potential = market opportunities:**
Cannot be influenced by the institute

**Patent Quality:** Can be influenced by the institute

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**Patent Portfolio**

- Number of patent families
- Potential
- Patent Quality

- small
- medium
- large
Licensing Problem: The Development Gap

In most sectors, companies will only license fully developed technologies this especially true in:

- engineering
- electronics
- physical sciences

> patent protection phase is 20 years

Life Science is an exception. Projects start later; Less time for exploitation caused by longer development and clinical test series

> patent protection phase can be prolonged to 25 years
Impact of IP in Different Forms of Cooperation

Contracting (vertical and horizontal cooperation)
Forms of Cooperation in a Research and Technology Organization (RTO) as Knowledge Hub
Success and Failure close together
The Different Applications of Service-Robots

Entertainment / Info / Guidance
Housekeeping
Windowcleaning
Floorcleaning

Hospital
Guarding
Maintenance and Inspection
Manufacturing
Inspection of chemical facilities
The "Rights-to-the-Results-Problem of Contract Research

Rights to the Results

Know-how

Patents a.o.

Property

field of application exclusive

field of application for third party (competitor!)

other fields of application to be negotiated

other field of application non exclusive

field of application exclusive for a limited time period

usual industry position: overall property of IP in contract research
The Enforcement Problem in R&D Contracts

**Client:** guarantee for no conflicting rights in the commercialisation phase

**R&D Performer:** No guarantee, but hold harmless against third party claims
Collaborative Research

Funding

University  Industry  Research Org./ Institute

1) Corporate Law matters
2) Funding Conditions
3) EU-antitrust law applies
Collaborative Research
IMEC-model - Best Practice

In brief

Challenges of Strategic Alliances and Joint Ventures in R&D
Strategic Alliances

Negotiations about

- IP Pools - question of costs
- joint ownership - how to exploit
- industry exploitation - sharing the revenues
- joint development and/or exploitation company

Legal problems

- EU - Competition law "cross subzidation"
- Non for profit - Status of PRO's
- New long binding models: NoE, JTI, KIC's with different exploitation schemes
- Balancing the interests of stakeholders is often extremely difficult
University Cooperation Model: "Annex"-Institut (Research Institute associated with a University)
IP-Scheme "Annex-Institute"

excellent basis for creating joint IP competence, Research and industry cooperation under the roof of the university

IP-schemes enable direct transfer
Annex-Institute is directly involved in creating and exploiting IP
Transfer of IP through brains, university staff may be hired by company
Neighbour institutes have chance to increase knowledge base
Spin off with participation of a Public Research Organisation (PRO)

- Clear IP situation
- Know-how, patents, infrastructure = input for spin off
- Win-Win-situation for Spin-off + PRO
- Management skills
- Demand of market
- Equities only minority (max. 25%)
- (Duration of participation max. 10 years) \(\rightarrow\) Exit-strategy
- Market oriented evaluation of technology

Win-Win-situation for Spin-off + PRO

Dr. Lorenz Kaiser/03.11.2005
Patentbewertungstage 2005.ppt
Unusual application of a process patent with a chance for a new and large market?

...............Sausage nonfat - you never know......................

The real Inventors about 5 years ago

development of a process to introduce spices into meat without the flavour carrier 'fat'

new company even introduces Omega 3 fat-acids - the sausage as medication

remarkable licence revenues
Cooperation Model "Spin In"

Research Institute

Cooperation
Licensing
Joint Development

Subsidiary or
Branch lab:
Development
or
Production
(small series)

Company
IP-Scheme "Spin In"

Rental-models do not influence the IP-rules directly
Additional cooperation schemes determine the IP-rules

IP-access on prefential conditions
discussions about IP-Property
Cooperation Model: Joint Platform Science / Industry
(compare JTI -system of the EU)

Research Alliance 3

Industry Investment of xx Mio €

Institute Investment IP and lab capacity value xx Mio €

Institute Laboratory

Using Proportion

Industry i.e. 80 %

Institute i.e. 20 %

Terms and Conditions of Rental Agreement meet market Conditions
IP-Schemes  Sharing the Resources

Joint use of resources and mutual "learning by doing": no exclusive transfer of institute's competence!

Strong impact of competition law
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