Creating of services at the Universities for innovation management

Inventions, patents and their commercialization at the TUM

CARDS 2004 National Programme Serbia
Technical Assistance to the Intellectual Property Office of Serbia
European Agency for Reconstruction/European Patent Office Seminar
Novi Sad, Serbia, November 8th 2007

We must focus on improving the knowledge triangle:
the way knowledge is produced through research,
diffused through education
and used and applied through innovation.

Janez Potočnik
European Commissioner for Science and Research
Bringing ideas to the market:
“Knowledge for Growth – the role of EU research”
EIRMA annual conference
Copenhagen 27 May, 2005
The Situation in Germany before 2000 resp. 2002

- scientists in Germany focused more on publications
- lack of interest of the inventors and the universities for the patent system
- lack of resources for the financing of patent applications etc.
- lack of infrastructure for patenting and commercial exploitation

Before 2002:
- Professors, Assistants and “Privatdozenten” are free inventors and can file patents privately ("Professor’s Privilege", was abolished in February 2002)

Commercial Exploitation of University Inventions in Bavaria

Bavarian Universities and Technical Colleges → Bavaria High-Tech Initiative → Fraunhofer Patent Center for the German Research
Starting points of the Bayern Patent Project

- establishment in September 2000
- raise awareness for the importance of patents
- promote and intensify the patent culture
- provide funds for patenting and commercialising of inventions
- provide infrastructure in form of:
  - Patent-Licensing Bureau at the Fraunhofer Patent Centre for the German Research (FhG-PST)
  - Inventor Consultants at the universities
- establishment of the TUM-Patent and Licensing Office in 2005

The framework of collaboration of TUM and BayPat

Since 01.01.2007 the Bayern Patent Project is merged into the Bayerische Patentallianz GmbH (BayPat), a company owned by the Bavarian Universities

The role of BayPat: patenting
- evaluation of inventions (patentability, technical feasibility, economic exploitability) and recommendation to the TUM whether to claim or release the invention
- supervising patent applications and patenting process
- co-ordination of the patenting strategy with the TUM according to business and market specific criteria (what kind of protection to apply for, in which countries, maintain applications etc.)
The framework of collaboration
of TUM and BayPat

The role of BayPat: licensing

commercial exploitation of inventions covered by patent applications

- co-ordination of the licensing strategy in co-operation with the TUM
- drafting of technology offers
- search for potential licensing partners
- presentation of the invention at companies
- negotiation of the conditions for the licensing agreement between TUM and industry partner
- supervision of licensing agreements and balancing accounts of licensing revenues

The Patent and Licensing Office
of the TUM

services for all TUM members who intend to apply for a patent, a project at developmental stage or a finished product

- personal consulting for inventors (also on-site consulting)
- general information on industrial property rights and on the German Employees’ Inventions Act
- identification of patentable research results
- assistance with preparing and submitting records of invention/invention disclosure forms
The four phases of the the treatment of an invention

Phase 1: **Consulting** (events, meetings, consulting of individuals and research groups, patent search assistance, pre-audit of the invention disclosure)

Phase 2: **Report** (invention disclosure, formal examination)

Phase 3: **Evaluation** (examination, patent search, expertise, patent strategy, commission of the patent attorneys)

Phase 4: **Commercial exploitation** (search for licensees, presentation of the invention, preliminary agreements, license agreements, monitoring)
Workflow in case of an invention

- **inventor contacts** the Patent- and Licensing Office for (legal) advice
- **inventor reports** his invention to the TUM
- **BayPat evaluates** the invention and gives a recommendation
- **TUM decides** either to claim the invention or to release the invention to the employee
- in the case of claiming: **TUM files a patent application** (mostly in Germany)
- parallel to patenting the invention: **commercial exploitation begins**
Example of a successfully commercialized IPR: The Xan-beer

beer containing xanthohumol: Xan Wheat Beer and Xan Wellness Drink

Xanthohumol from hop can dispose free radicals due to its antioxidant nature and can thus contribute to keep the somatic cells healthy

Special brewing method (DE 102 56 199.4-26, pending):
concentration of the natural active ingredient xanthohumol is up to 15 times higher in the XAN Wheat Beer and up to 50 times higher in the alcohol-free XAN Wellness drink in comparison to usual wheat beers

Dr. Alexandros Papaderos
SFT Patent and Licensing Office
Example of a successfully commercialized IPR: The Xan-beer

- **first contact** with Dr. Zürcher in **October 2002**, consultations about the further steps due to an impending disclosure of the invention: participation in a conference in **May 2003**
- Report of Invention shortly after the consultation, evaluation of the invention by the Patent Bureau of the Bayern Patent Project
- recommendation by the Patent Bureau (November 2002) to claim the invention and **file a patent application** at the German Patent and Trade Mark Office (GPTMO)
- **first contacts with breweries** (November 2002), signing of Non-Disclosure Agreements) and commission of the patent attorneys to start with the preparations of the patent application

Assignment of the invention part of Mr. Wunderlich to the TUM (November 2002): Mr. Wunderlich was a student!

- **filing of the patent application** at the GPTMO (December 2002) and request of examination
- from the middle of November: negotiations with 4 breweries
- **September 2003**: release of the invention to the inventors to file international patent applications
- **first examination communication** (October 2003) from the GPTMO: notice of opposition, 3 relevant documents, “the claimed solution to the objective technical problem is obvious for the skilled person in view of the state of the art in general”

**reply** to the first examination communication (February 2004)
Example of a successfully commercialized IPR: The Xan-beer

- April 2004: signing of a non-exclusive Licence Agreement with the State Brewery Weihenstephan, first revenues in July 2004
- already in November 2004 request of the State Brewery Weihenstephan for an exclusive licence due to the positive development of the sales figures
- November 2005: signing of an exclusive Licence Agreement with the State Brewery Weihenstephan
- second examination communication (April 2006) from the GPTMO: arguments of the TUM couldn’t convince the examiner
- reply to the second examination communication (August 2006)

Example of a successfully commercialized IPR: The Xan-beer

- July 2006: inventors inform the TUM that a patent of another brewery was granted in May 2006 which is based on the content of the TUM-invention
- August 2006: TUM files an opposition against the patent
- April 2007: reply of the GPTMO to TUM in regards of the opposition and to the second examination communication, revenues are still coming in
- June 2007: hearing before the GPTMO
- August 2007: after the hearing the claims of the patent are limited, but the patent is still valid
TUM Statistics 2000-2007

- More than **1200 consultations**
- **807 Reports of Invention**
  average of ca. **107 Reports of Invention per Year**
- **525 of the 807 Reports of Invention** to Bayern Patent/Bayerische Patentallianz GmbH, the rest are “free” inventions or inventions, which have been are transferred to Contractors (third-party financed projects)
- **8 granted patents** (overall 81 granted patents)
- **23 patent applications** in 2006
- **166 “living” cases of commercial exploitation** (patents, patent applications, non-patented inventions)
- **37 commercialization agreements**

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Thank you for your attention!