The role of patents in technology transfer

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Regional Forum on the Role of Patents and the PCT in research in Developing Countries

Marta Catarino
TecMinho
Universidade do Minho
Generic Information
- Founded in 1974
- 17000 graduation students
- 1300 Master and Specialization Students
- 750 PhD students
- 1100 teachers (2/3 PhD)

Technology Transfer at UMinho

1. Model of interaction university-society in the University of Minho
TecMinho

Private not-for-profit association, founded in 1990 as an interface of University of Minho.

TecMinho – Tech Transfer Office

- Partnerships
  - Collaborative research
  - Contracts
- Innovation Hubs
- Technology Portfolio
- Patents
- Spin-offs (campus companies)
- Partnering
- Entrepreneurship
- IP Management
Our commitment:

Establishing long-lasting strategic partnerships, applying the 10 Guidelines of the “Responsible Partnering” (EUA, PROTON EUROPE, EARTO, EIRMA)

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Main Activities

- Partnering
- Commercialising R&D results
- Supporting Entrepreneurship
Processes & Activities

- Partnering – Establishing UM/Industry R&D partnerships, developing new products & services according to industry needs.

  Activities:
  - Technology Marketing
  - Company audits
  - Management of R&D projects
  - Support in identifying financing sources
  - IP Management

Processes & Activities

- Commercialising R&D results – Identifying, protecting, evaluating, accelerating (proof-of-concept) and licensing innovative technologies developed at UMinho.

  Activities:
  - Technology Scouting
  - IP Protection & Management
  - Early-stage technology screening & evaluation
  - Technology Marketing
  - Coaching researchers
  - Proof-of-concept
  - Negotiation & Licensing
Processes & Activities

- Entrepreneurship – Identifying business ideas, entrepreneur potential and supporting the launching of knowledge intensive spin-offs.

- Activities:
  - Entrepreneurship awareness
  - Entrepreneurship training
  - Identifying business ideas
  - Supporting the definition of the business idea
  - Managing the spin-off brand
  - Early-stage coaching
  - Early-stage financial networking

KTO Team

- KTO Director: Marta Catarino

Tech Transfer
  - Coordination: Marta Catarino
  - Industry Liaison: Pedro Silva, Eduarda Silva
  - Project Management: Paula Dias

Entrepreneurship
  - Coordination: Augusto Ferreira
  - Spin-off Helpdesk: Clara Silva
  - IdeaLab: Helena Moura

IP Management
  - Coordination: Marco Sousa
  - IP Helpdesk: Teresa Martins, Silvia Teixeira
The researcher is the heart of it

- TecMinho supports researchers who wish to transfer their results
- The interests of the researcher are essential
- The key success factor is researcher trust
- We try to generate enthusiasm in the researcher by
  Internal marketing
  University IP policy
  Employing high quality staff at the KTO

Expected Results

- Attract new and better students globally
- Recruit, Reward and Retain faculty
- Foster more industrial placements
- Foster new R&D projects
- Establish long-term partnerships with companies
- Set-up innovative companies
- Improve University image and reputation
- Generate income for research

Clear impact regionally, nationally and globally
There is an increasing expectation on Research Institutions to contribute to the national economy through Knowledge Transfer.

**Why Knowledge Transfer matters**

- Knowledge Transfer consists of the range of activities which aim to capture and transmit knowledge (either explicit, such as in patents, or tacit such as know-how), skills and competence from those who generate them to those who will transform them into economic or societal outcomes.

  It includes both commercial and non-commercial activities such as research collaborations, consultancy, licensing, spin-off creation, researcher mobility, cultural diffusion and more widely social, territorial and environmental problem-solving.
Why we are here

- A Knowledge Economy requires...
  - Knowledge creation
  - Adding-value through technology and innovation
  - Highly-skilled workforce

... Universities and Research Institutions are essential for this purpose

Open Innovation

**Closed innovation**
- Science & Technology Base
- Research
- Development
- New Products/Services
- The Market

**Open innovation**
- Internal Technology Base
- External Technology Base
- Technology Insourcing
- Licensing
- Techn. Spin-Offs
- Open Market
- New Market
- Current Market

Traditional roles of Universities already contribute to KT!

- Professionals
- Scientists
- Managers
- Entrepreneurs

Benefits:
- Social
- Economic
- Cultural
- ...

Conflicts of Interest?
- Lecturing vs. Applied Research
- Publication vs. IP Protection
- Academia vs. Industry
The Entrepreneurial University...

… is not the Industrialized University!

- Independence based on generating income
- Teaching and research are vital
- It is an error to design a production plant to maximise the by-product
- The value extracted from KT should be maximised but not at the expense of the prime mission

Should Universities take an active role?

- Growing pressure from government authorities
- Most countries have adopted Bayh Dole like laws encouraging patenting and licensing by universities
- An increasing number of funding programs are oriented to possible economical applications (e.g. the FP programs of the EC)
- In many countries, research assessment exercise is now including knowledge transfer indicators.
- … This trend is here to last!
**Benefits for Universities**

- Recognition for Discoveries
- Gaining status and prestige
- Enhancement of teaching programmes
- Improving market awareness
- Harnessing private and public funding
- Sourcing job opportunities
- Maintaining research momentum
- Faculty Service (3 R’s)
- **Generation of Income for Research**

**Benefits for companies**

- Thinking longer term
- Going global
- Outsourcing
- Taking a multidisciplinary approach
- Harnessing public funds
- Reducing risks
- Complementing the company’s physical resource base
- Recruitment possibilities
For a University, engaging proactively in Technology and Knowledge Transfer requires a professional management of the Intellectual Property it generates: that will be its main resource.

Why is patenting essential in Universities?

- Cannot rely on trade secrets.
- Must publish without delay to participate in worldwide open science network.
- Cannot exploit directly inventions, must licence.
- Most inventions are early stage and need improvements to become economically attractive.

Patenting is essential to reconcile publication with innovation.
Why is patenting essential in Universities?

- Patents do not protect discoveries and ideas, but they do protect the investment in the development of applications.

- Even if the University may not consider patents a priority…

  …the companies the University wants to collaborate with surely will!

Tech Transfer Tools in Universities

- Tool 1: licensing
- Tool 2: spin-off creation
- Tool 3: University/Industry Collaboration

Whichever tool, IP management is essential!
Conclusions

- Knowledge Transfer from Universities to Industry is an essential part of the Open Innovation process.
- Keeping in mind that knowledge and intellectual endeavour should benefit Society as a whole, Universities may and should get the fair return of their effort.
- Patenting is essential to reconcile publication with innovation.
- Knowledge Transfer activities should be embodied in the University professionally: it is not something the researchers can do in their free time!

Thank you for your attention!
Je vous remercie de votre patience!

Marta Catarino
TECMINHO
Universidade do Minho
Portugal
mcatarino@tecminho.uminho.pt