15.369 Corporate Entrepreneurship: Strategies for Technology-Based New Business Development
Fall 2007

Commercialization of University Technology

Innovation, Technology Transfer and Licensing

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Myths

- Royalties are a significant source of revenue for the University
- Expect a quick return of technology transfer investment
- Companies are eager to accept new technology from universities
- You should broadcast availability of technology for licensing
- The technology transfer office finds the licensee

Reality

- With the exception of the occasional "blockbuster", licensing revenue is small.
- Don't expect product royalties for 8 -10 years
- Most companies want quick time-to-market
- Publishing lists of available technology is not effective
- The inventor is the best source for leads

M.I.T. Approach

- Primary objective is technology transfer, not to maximize income
- Leverage intellectual property
- License exclusively
- Don’t let greed obstruct license agreement
- Modest royalties geared to product success

Patents

<u>What is a patent?</u>

- A grant by the government allowing you to <u>exclude</u> others from "making, using, selling, offering to sell, or importing" your invention for a period of 20 years.

What’s required to get a patent?

- The invention must be:
  - Novel
  - Useful
  - Not Obvious

What is a copyright?

- A bundle of *exclusive* rights held by the author of an original work
- Bundle includes exclusive rights to:
  - Reproduce
  - Make derivatives
  - Distribute
  - Perform
  - Display
- <u>Scope</u>: *Ideas* are not protected, their *expression* is
- <u>Why is this important to you?:</u> Software

License Agreement Factors

- Given a potential licensee, tailor terms to fit
  - Shared risk
  - Low initial fees
  - Equity in partial-lieu of royalty
  - Modest royalty rates
  - Diligence provisions
    - Investment, personnel, milestones (development and sales), sublicensing requirements

MIT Policy

- MIT owns the patent or copyright
  - Federally funded research – Bayh-Dole Act
  - Industrially sponsored research
- Industrial sponsor license rights
  - Non-exclusive, royalty-free for $3K/year
  - Royalty-bearing, limited term exclusive
- Royalty Distribution (after expenses)
  - 1/3 inventors
  - 2/3 shared by D,L,C and MIT General Fund

Bayh-Dole Act

- Basic “Technology Transfer” Legislation
  - University takes title to inventions made through federally funded research
  - May issue exclusive licenses
- University is obligated to commercialize
  - Small business preference
  - Job creation & economic development focus
  - Revenue received
    - Share portion with inventors
    - Remainder goes into research

Typical Terms

- Exclusive
- Field of Use: Limited
- License Issue Fee: $25 - $100K
- Royalty: 3-5%
- Minimum annual royalty: escalates over time
- Equity: 5% after significant funding
- Patent expense reimbursement

Sample Companies

- OmniGuide – optical waveguide
- Luminous Devices – high power LEDs
- Elesys – smart sensor for airbag deployment
- Alnylum Pharma - SiRNA
- Sony, Moto, Panasonic, Samsung, LG, etc. - DTV
- Carl Zeiss Meditec – Optical Coherence Tomography
- Zimmer - protheses
- Neurometrix – neural monitors
- Cytec – water purification polymers
- Momenta Pharma – heparin products

MIT Licensing Office 2007

- Staff 32
  - Licensing Professionals 17
  - Finance & Support 15
- Invention Disclosures 487
- Patents filed 314
- Patent issued 149
- Licenses and Options
  - Licenses (start-ups) 85 (24)
  - Options 32
- Active agreements 650

MIT Licensing Office 2007

◆ Royalty income	$68.2 million
(Equity cash-in = $0.7 in 2006)	
◆ Operating expense	$ 4.2 million
◆ Patent expense	$12.8 million
◆ Inventors	$16.5 million
◆ Other institutions	$10.6 million
◆ MIT departments	$25.6 million

Conclusions

- Technology transfer is a service
- Targeted marketing of inventions
- Favorable license terms to induce investment
- Powerful engine for economic development