IPR Protection, Technology Transfer and Competitive Intelligence for Nanotechnology-Based Businesses

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Innovation to Actualization? A Long Long Road

- Developing intellectual property can take on the average 5 plus years
- Filing the patent etc. can take an additional five plus years
- Technology transfer and licensing can be acrimonious
- And even then there is risk
- How do we get this process done quicker with better results? For ASEAN and region?

Solutions?

- We need to know more
- We need to be better organized
- We need to have better understanding of relationships between academia and business (and government)

- A lot of innovation is coming from academia --- that is our perspective here.

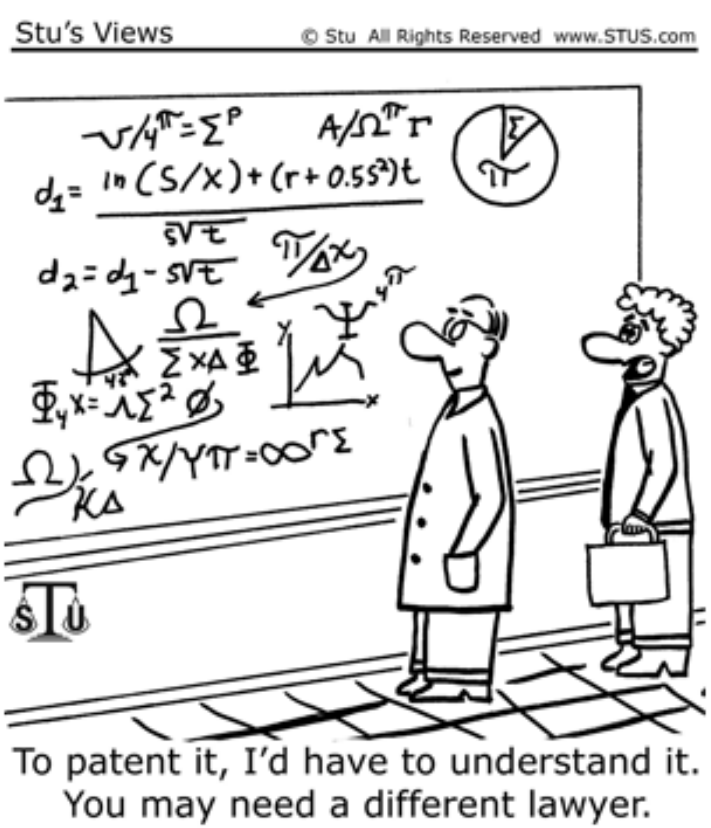
Intellectual Property

- Must be protected otherwise ……
- Protected IPR can then move to develop economy and legislative environment
- IP for nanotechnology can be difficult due to its interdisciplinary nature
- “prior art” can be defined by a clever patent attorney
- Liabilities defined or not?

Patent Process

- Needs to be organized from top-down
  - Local
  - National
  - ASEAN
- Must be efficient
  - Patent administrators that KNOW nano
  - High tech data mining system (there are so many journals / patents)
- Must be relatively affordable
  - Way too expensive
- Must be timely
  - It takes way too long!

Training of Next Generation Patent Examiners (for nano)



Are They Nano-Ready?

How do you deal with an interdisciplinary nano invention??

Chemistry

Genetics

Physics

Biomimetics

Mechanical Engineering

Electronics

Simulation

Biology

What To Do?

- Form centralized ASEAN/South Asian IPR unit based in ….?
- Funding? Government funding from all participating countries (memberships?)
- Good model is China TEDA (Tianjin Economic Technological Development Area)
  - Customs protection of IPR
  - Trademark laws
  - Unfair competition
  - Copyright laws
  - Administration and protection of patents
  - Legal status patent information
  - TRAINING

http://en.teda.gov.cn/html/ewwz/whyteda/governmentsupport/iprprotectioninteda/default.htm

Patenting and Administration?

- Administration and development of IPR
- Coordination with
  - Commerce Administration Bureau
  - Social Development Bureau
  - Customs House
  - Courts
  - IPR Office
- Trans-Regional IPR Protection
  - Good for technology transfer

Impacts of Nanotechnology on Companies

- Big problem? PATENT THICKETS
- Is this true for nanotechnology?
- *A patent thicket has a negative indication described as a "dense web of overlapping intellectual property rights that a company must hack its way through in order to actually commercialize a new technology"*

C. Shapiro, Navigating the patent thicket, Innovation Policy and the Economy, Cambridge MIT Press, 119-150, 2001

The Impacts of Nanotechnology on Companies: Policy Insights from Case Studies, OECD, 2010
www.oecd.org/sti/inno/theimpactsofnanotechnologyoncompaniespolicyinsightsfromcasestudies.htm

It Is Hard to Do Nanotechnology By Yourself

- Develop your technology
- + Develop your technology with a university
- + Develop your technology with another company
- Competition with other patents issued, infringements
- Leads to cross-licensing and patent pools

- Is the patent system slowing down commercialization of new technologies? Too costly? Too slow?

AIT is a Small Place

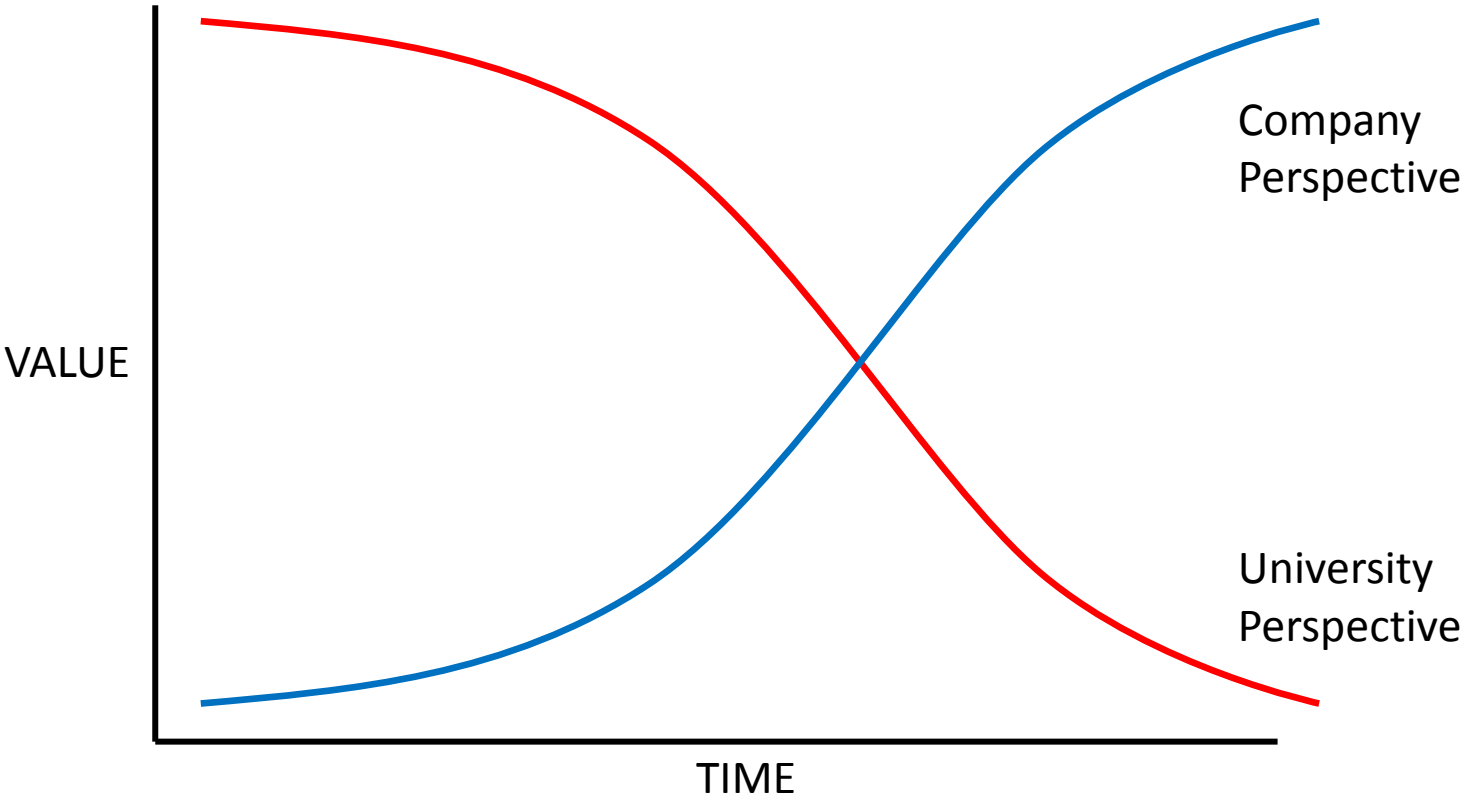
- It is easy to get things done
  - Patents if you know the right people
  - Technology transfer facilitative
  - Memberships in organizations unencumbered
- However we do not have all the resources required
- Partnership with NANOTEC / MTEC / NECTEC / BIOTEC and other high-powered government institutions
- Partnerships with companies also

Our COEN@AIT Attitude:
Of course, BOTTOM-UP

- Make an industry deal / conduct research / develop a new material
- Generate a joint patent paid by company / technology transfer “made easy”
- Company retains license
- There is some arrangement for endowment of AIT if product is commercialized
- Do it again

Problem with Technology Transfer

- Universities want too much



Competitive Intelligence

- Need a KNOWLEDGE HUB
- Clearing house for knowledge
- Knows what is the latest technology
- Knows all patents / scientific articles
- Experts in many fields
- Economic / industry / academic landscape summary and forecasting

Concluding Remarks

- IPR →Top-down regional organization
  - Multi-national agreements
  - Training of examiners in emerging technologies
  - Enforcement of IPR etc.
- Technology Transfer →Bottom-up guidelines
  - Facilitative agreements friendly to industry
  - Arrangement of endowments
- Competitive Intelligence →Knowledge Hubs
  - Clearing house of information that helps the patent office
  - Commercial landscape and economic forecasting

Many Thanks

APCTT
Asian and Pacific Centre for Transfer of Technology

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