

## Use of the PCT System as an Engine for Technology Transfer

# Role of Patents: Catalyst for Innovation ?

- Heller, M.A. and R.S. Eisenberg, “Can Patents Deter Innovation?” *Science* Vol.280, pp.698-701, 1 May 1998

The “tragedy of the commons” metaphor helps explain why people overuse shared resources. However, the recent proliferation of intellectual property rights in biomedical research suggests a different tragedy, an “anticommons” in which people underuse scarce resources because too many owners can block each other. Privatization of biomedical research must be more carefully deployed to sustain both upstream research and downstream product development. Otherwise, more intellectual property rights may lead paradoxically to fewer useful products for improving human health.

- Ryan, M.P., “Patent Incentives, Technology Markets, and Public-Private Bio-Medical Innovation Networks in Brazil,” *World Development* Vol.38(8), pp.1082-1093, 2010

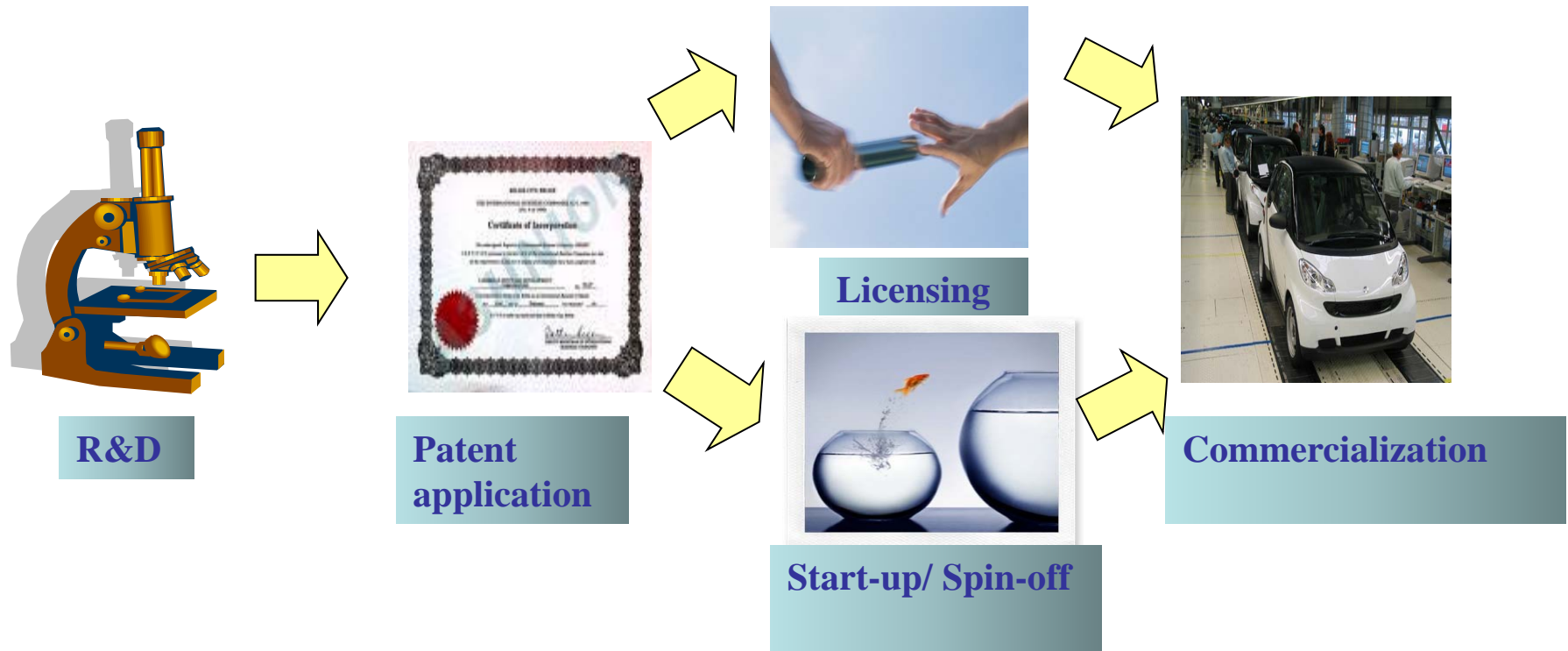
**Summary.** — Contested is whether patent laws promote indigenous technology invention and innovation in developing countries. Brazil reformed its patent laws in 1996 to permit pharmaceutical product patents. Study of five post-patent law reform bio-medical technology invention and innovation projects in the state of Sao Paulo supports the propositions that patents provide incentives to Brazilian bio-medical technology entrepreneurs to make risky investments into innovation and that patents facilitate technology markets among public-private technology innovation networks, both Brazilian collaborations and North-South collaborations. Brazil enacted a technology law in 2005 that encourages public-private technology innovation through patent incentives and patent-facilitated technology markets.

# What is Technology Transfer?

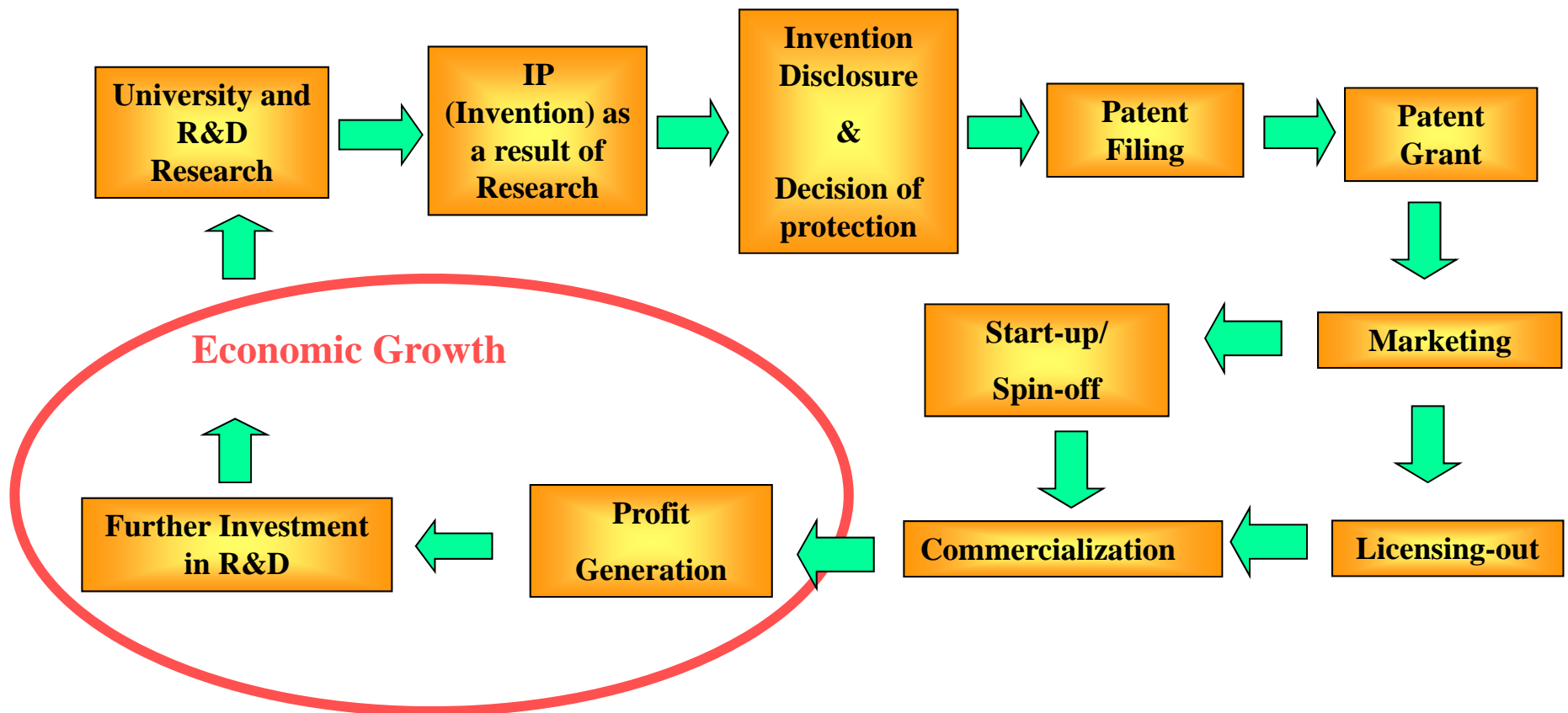
- Transfer of technology refers broadly to a series of processes enabling and facilitating flows of *skills*, *knowledge*, *ideas*, *know-how* and *technology* among different stakeholders such as university and research institutions, international organizations, IGOs, NGOs, private sector entities and individuals, as well as the international transfer of technology between countries
- Transfer of technology, which is often considered to include the absorption of new technologies, is sometimes also considered to involve the transfer of concrete knowledge for the manufacture of products, the application of a process or for the rendering of a service granting the improvement of domestic as well as the international competitiveness in the economic market

Reference: Project Document for  
Recs. 19, 25, 26, 28, WIPO (2010).

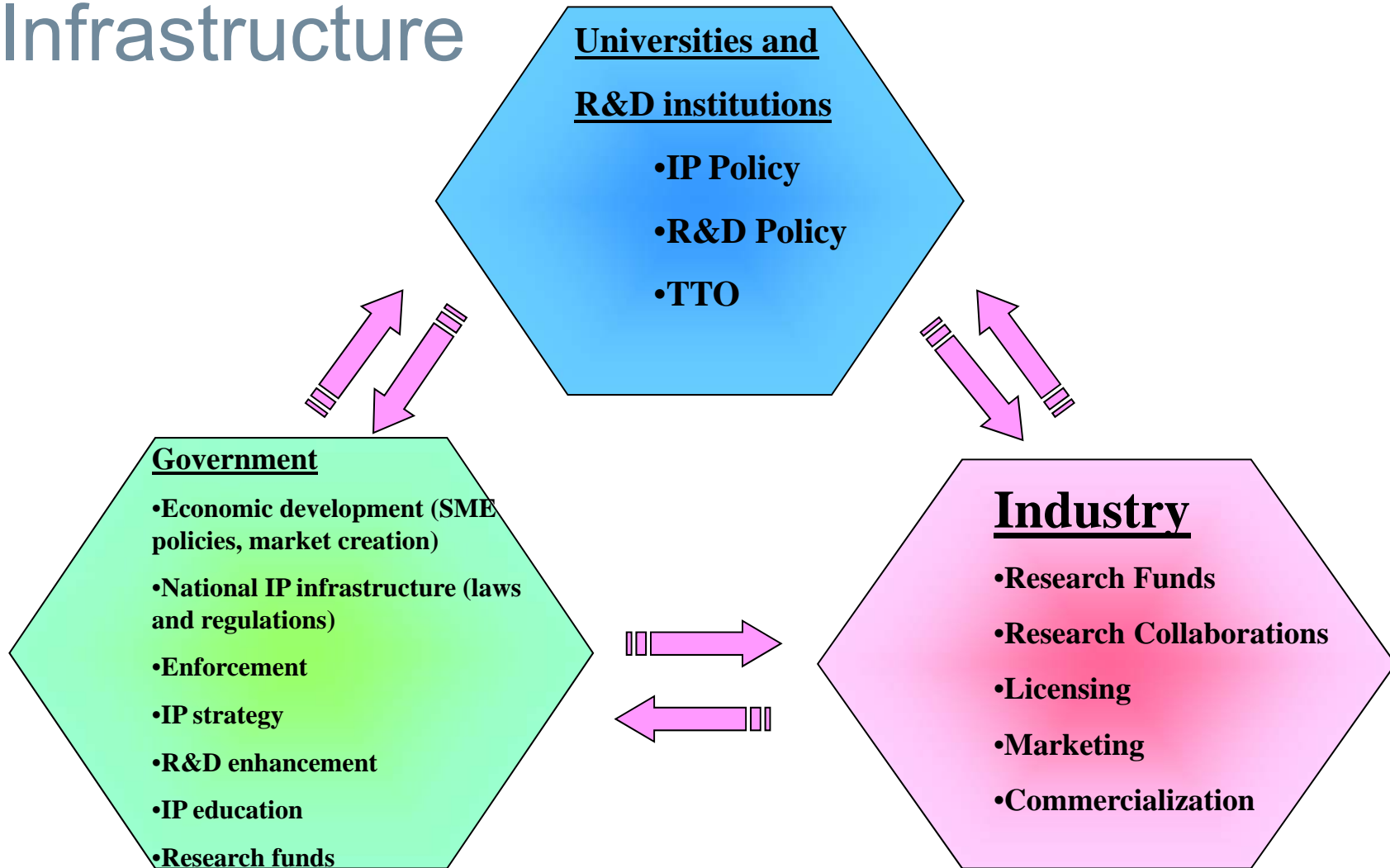
# National Transfer: From Lab to Market



# IP Creation and Economic Growth



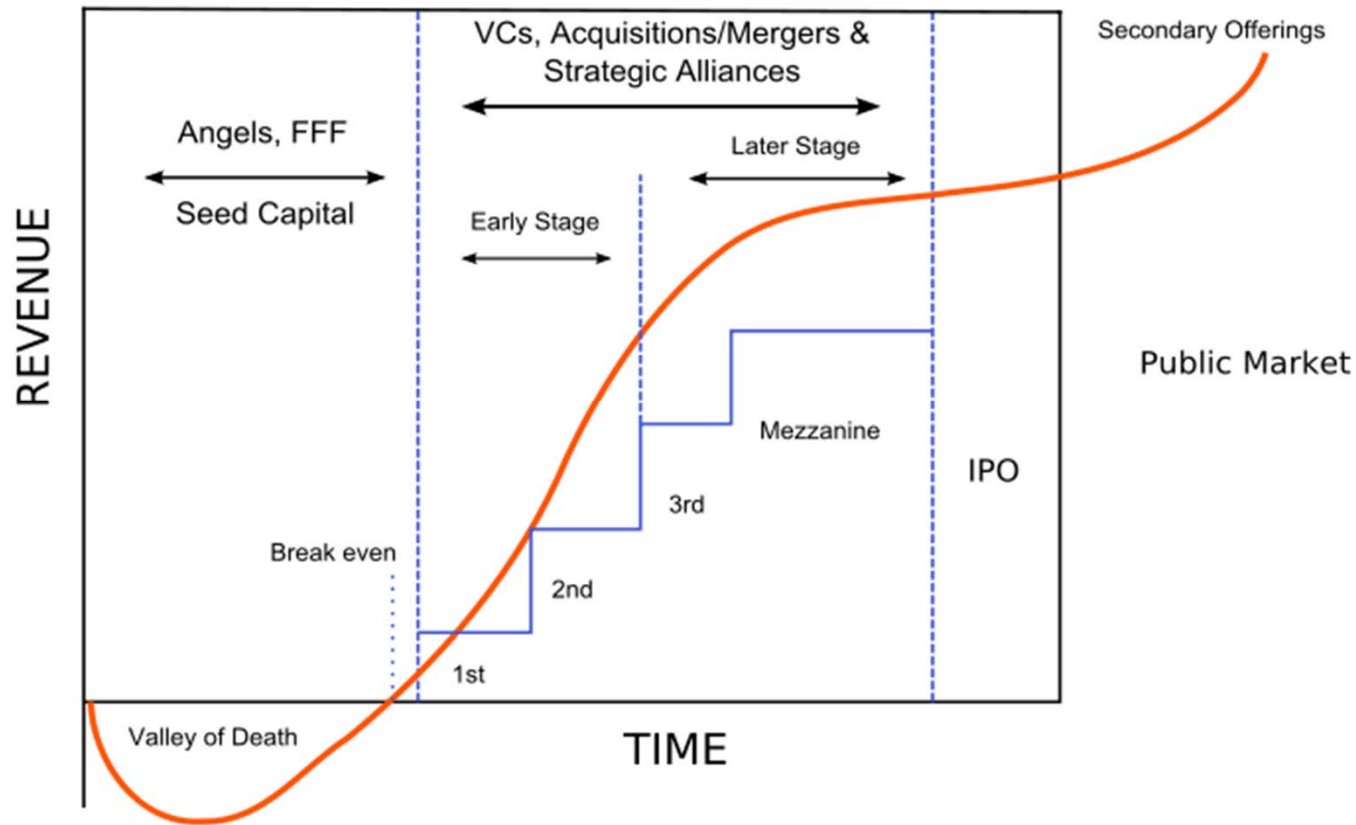
# Technology Transfer Collaboration Infrastructure



# Key Challenges for Technology Transfer

- Lack of IP management infrastructure
- Lack of strategic research planning
- Gap between basic research and market needs
- Lack of funds for IP protection
- Lack of IP knowledge
- Lack of expertise to manage TT and commercialization process
- Lack of entrepreneurial culture among researchers
- Lack of business skills
- Lack of marketing skills
- Lack of support (Government, senior managers) and incentive
- Culture gap (University vs. Industry)

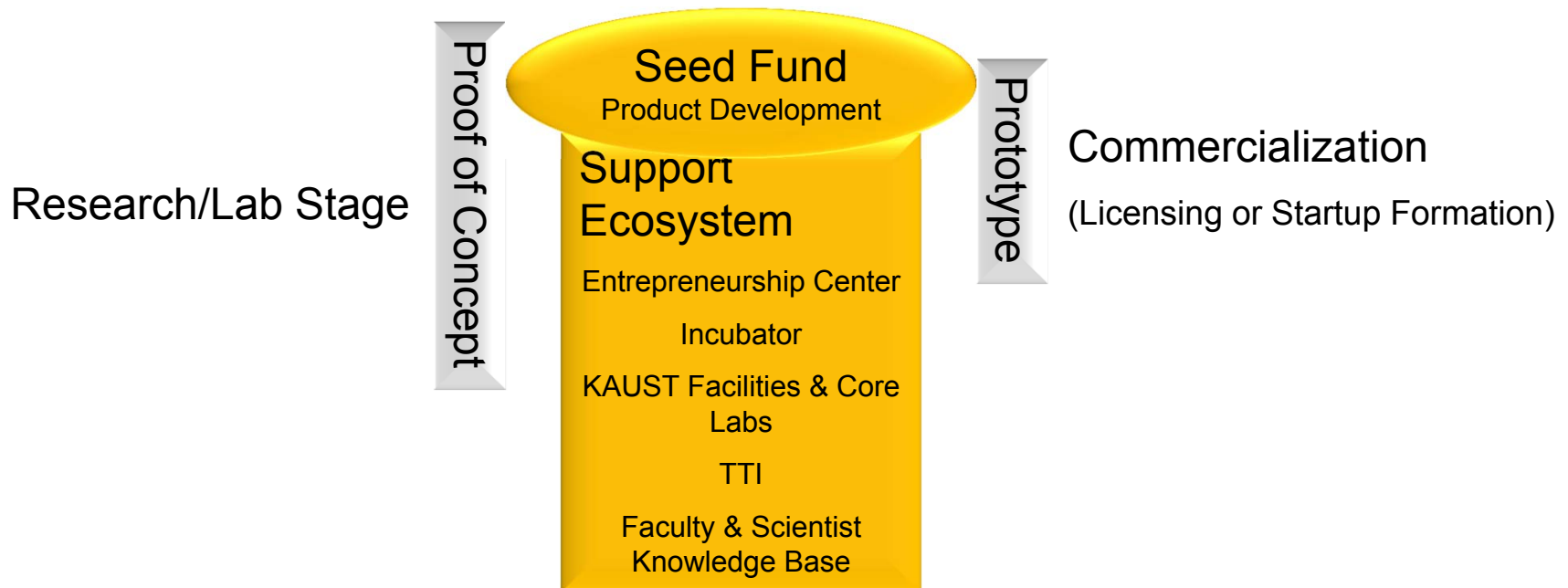
# Startup Financing Cycle



Reference: Kompere.



# Seed Funding



- The seed fund is a catalyst for moving technological innovation from the lab to the marketplace, and for helping dreamers become entrepreneurs. The funding is up to \$200,000 over 24 months

Reference: [King Abdullah University of Science and Technology \(KAUST\) Seed Fund](#)

# Technology Transfer – U.S. Activity in 2010

## ■ 20,642 Invention Disclosures

### □ Patent Filings and Patent/Legal Expenditures

□ 18,712 total U.S. patent applications

□ 12,281 new U.S. patent applications

□ 1,116 non-U.S. patent applications

□ \$323.2 million external legal fees paid

□ \$155.7 million legal fees reimbursed

## ■ 4,469 Issued U.S. Patents

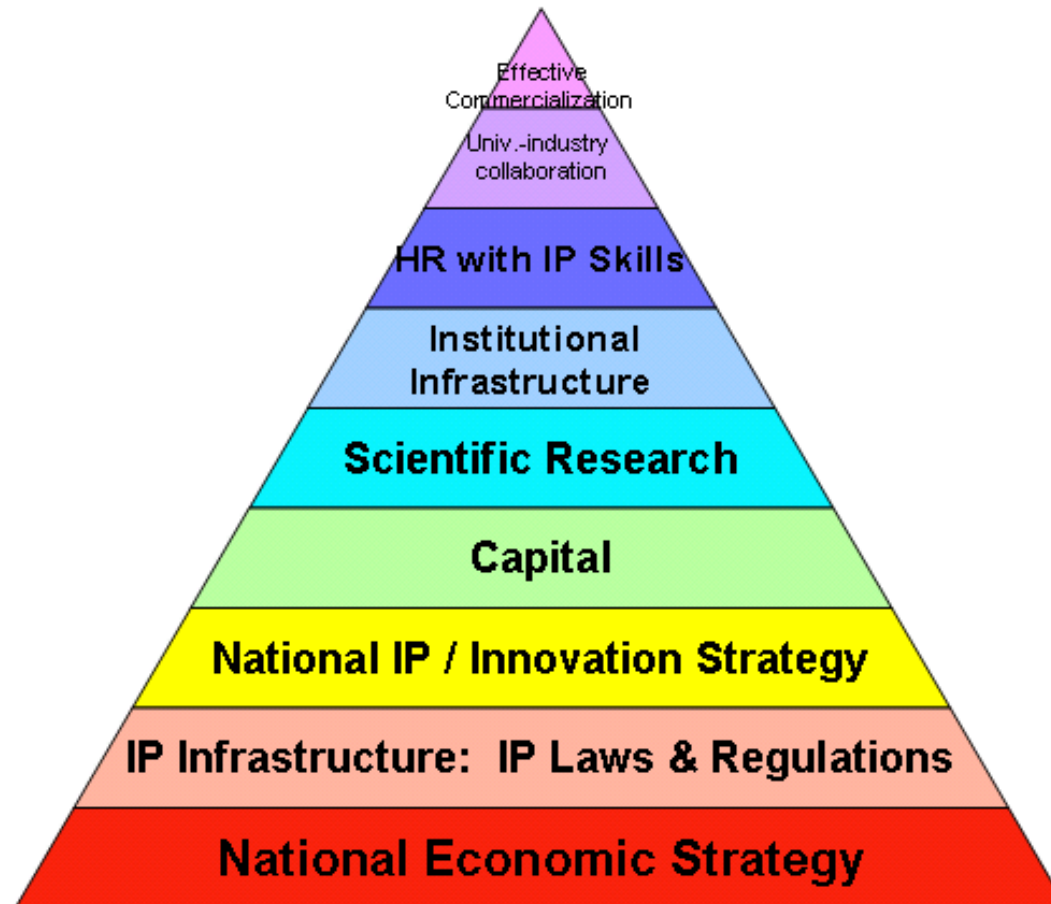
*Source: 2010 AUTM Survey*

# Technology Transfer — Top U.S. Universities in TT-related Income (2010)

1. Northwestern University, \$180 million
2. New York University, \$178 million
3. Columbia University, \$147 million
4. University of California System, \$104 million
5. Wake Forest University, \$86 million
6. University of Minnesota, \$84 million
7. Massachusetts Institute of Technology, \$69 million
8. University of Washington/Washington Research Foundation, \$69 million
9. Stanford University, \$65 million
10. University of Wisconsin-Madison/Wisconsin Alumni Research Foundation, \$54 million
11. California Institute Of Technology, \$52 million
12. University of Rochester, \$42 million
13. University of Massachusetts, \$40 million
14. University of Michigan, \$40 million
15. University of Texas System, \$38 million
16. University of Utah, \$38 million
17. University of Florida, \$29 million
18. University of Iowa Research Foundation, \$27 million
19. Duke University, \$26 million
20. University of South Florida, \$17 million

*Source: 2010 AUTM Survey*

# Requirements for an Efficient Innovation and Technology Transfer System





## Where to Get Help

# PCT information available on the Internet (1)

- PCT Treaty and Regulations ([www.wipo.int/pct/en/texts/](http://www.wipo.int/pct/en/texts/))
- PCT Administrative Instructions ([www.wipo.int/pct/en/texts/](http://www.wipo.int/pct/en/texts/))
- PCT Applicant's Guide (updated weekly)  
([www.wipo.int/pct/guide/en/](http://www.wipo.int/pct/guide/en/))
- PCT Newsletter (monthly) ([www.wipo.int/pct/en/newslett/](http://www.wipo.int/pct/en/newslett/))
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# PCT information available on the Internet (2)

- PCT Receiving Office Guidelines  
([www.wipo.int/pct/en/texts/gdlines.html](http://www.wipo.int/pct/en/texts/gdlines.html))
- PCT International Search and Preliminary Examination Guidelines ([www.wipo.int/pct/en/texts/gdlines.html](http://www.wipo.int/pct/en/texts/gdlines.html))
- WIPO Standards  
([www.wipo.int/standards/en/part\\_03\\_standards.html](http://www.wipo.int/standards/en/part_03_standards.html))
- PCT Minimum Documentation, Patents and Non-Patent Literature ([www.wipo.int/scit/en/standards/pdf/04-01-01.pdf](http://www.wipo.int/scit/en/standards/pdf/04-01-01.pdf) and [www.wipo.int/scit/en/standards/pdf/04-02-01.pdf](http://www.wipo.int/scit/en/standards/pdf/04-02-01.pdf))
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([www.wipo.int/pct/en/access/isa\\_ipea\\_agreements.html](http://www.wipo.int/pct/en/access/isa_ipea_agreements.html))

# PCT Applicant's Guide (1)

- Regularly updated, web-based publication, available free-of-charge at [www.wipo.int/pct/guide/en/](http://www.wipo.int/pct/guide/en/)
- Free weekly e-mail updating service detailing updated information
- Contents:
  - International phase
    - instructions concerning the preparation, filing and processing of international applications
    - blank forms (request, demand, power of attorney, etc.)
    - “Annexes” setting out information relevant to each Contracting State and regional or international Organization and each Office and Authority



# PCT Applicant's Guide (2)

## □ National phase

- information on all acts that must or may be performed before the DO/EOs
- time limits
- fees
- blank national forms

# PCT training options

- “Learn the PCT” Video Series

  - (<http://www.wipo.int/pct/en/training/index.html>)

  - A series of 29 short videos designed to provide a basic introduction to important aspects and issues in the PCT system (in English)

- PCT Distance Learning Course available in the 10 publication languages

  - ([http://www.wipo.int/pct/en/distance\\_learning/index.html](http://www.wipo.int/pct/en/distance_learning/index.html))

- PCT Webinars

  - (<http://www.wipo.int/pct/en/seminar/webinars/index.html>)

  - Free webinars on PCT topics for companies/law firms on request

- More information on the PCT resources website:

  - [www.wipo.int/pct](http://www.wipo.int/pct)

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	e-mail	<i>pct.infoline@wipo.int</i>
PCT Processing Service	Gijsbertus Beijer	+41 22 338 94 79
	Fax	+41 22 338 82 70
Also for questions relating to RO/IB	Gijsbertus Beijer	+41 22 338 92 22
	Fax	+41 22 910 06 10
PCT eServices Help Desk	Telephone	+41 22 338 95 23
	Internet address	<a href="http://www.wipo.int/pct-safe">www.wipo.int/pct-safe</a>
	e-mail	<a href="mailto:epct@wipo.int">epct@wipo.int</a>

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- For orders of or subscriptions to PCT information products or publications please use the [WIPO Electronic Bookshop](#) or contact the Marketing and Distribution Section: [publications.mail@wipo.int](mailto:publications.mail@wipo.int) or facsimile (+41-22) 740 18 12.
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■ Text-searchable PCT case law database available at:  
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■ Contents:

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