

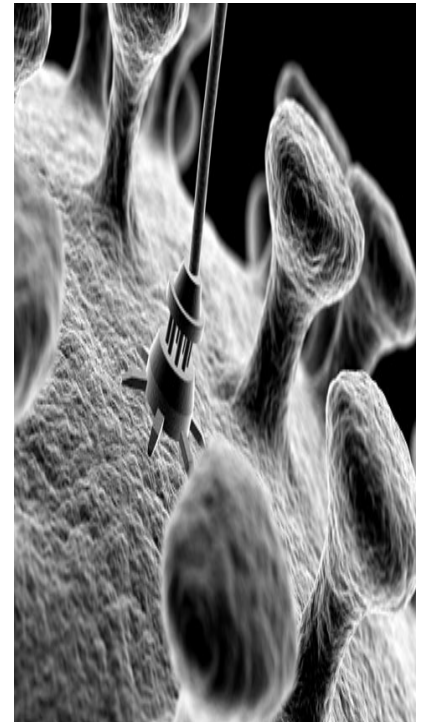


# **INTELLECTUAL PROPERTY RELEVANT TO RESEARCH AND DEVELOPMENT**

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# Outline

- **WIPO**
- **IP Assets and Development**
- **IP and R&D**



**WIPO**  
WORLD  
INTELLECTUAL PROPERTY  
ORGANIZATION





**WIPO**  
WORLD  
INTELLECTUAL PROPERTY  
ORGANIZATION



# WIPO

- **One of 16 United Nations Specialized Agencies**
- **Dedicated to developing balanced and accessible intellectual property systems that encourage and reward creativity and contribute to the economic and cultural growth to the benefit of human kind.**
- **Headquarters located in Geneva, Switzerland**
- **184 Member States**
- **Administration of 24 international treaties**
- **Some 1,500 employees**

# WIPO

## < Core Activities >

- **Promoting understanding of IP and realizing its development potential**
- **Legal and technical assistance and capacity building**
- **Facilitating development of IP law and harmonization of it**
- **Harmonizing national IP legislation and procedures**
- **Providing services for international applications for industrial property rights**
- **Facilitating dissemination and exchange of IP information**
- **Facilitating the resolution of private IP disputes**

# What Are IP Assets?

**Creations of the mind:**

## **1. Industrial property**

- patents (inventions)
- utility models
- trade secret
- trademarks
- industrial designs
- geographic indications
- new plant varieties

## **2. Copyrights**

**IP Assets**

# International Law of IP

- **Paris Convention**
- **Patent Cooperation Treaty (PCT)**
- **TRIPS Agreement**
- **Madrid Agreement (trademarks)**
- **Hague Agreement (industrial designs)**
- **Berne Convention (copyrights)**
- **WIPO Internet Treaties**

# Fortune 500 Companies

**Over 80% of market value of Fortune 500 companies is based on their intangible assets**

## Intangible assets

(knowledge based assets)

e.g.

- Patents
- Trademarks
- Brand

>

## Tangible assets

(physical assets)

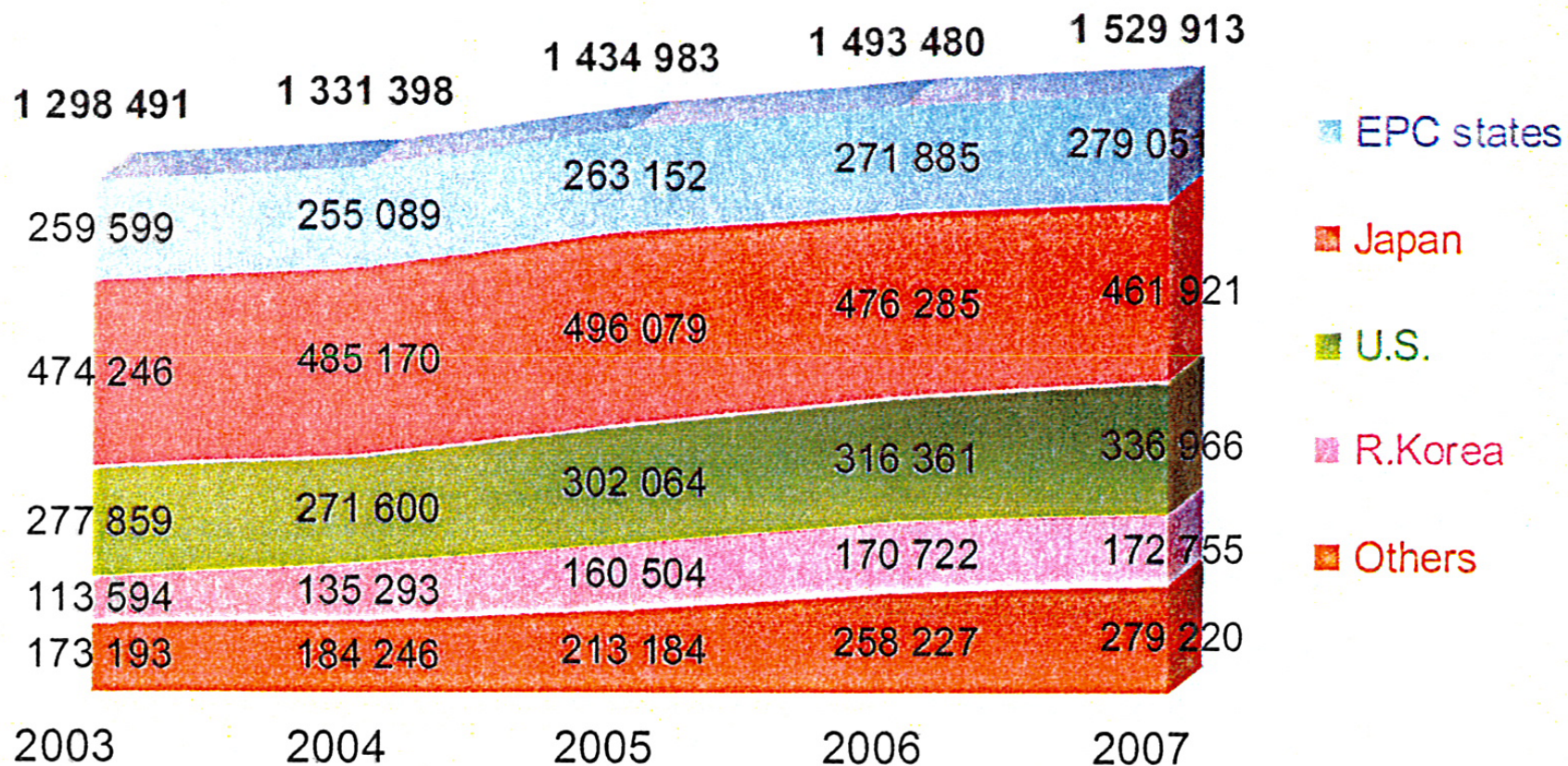
e.g.

- Real estate
- Equipment
- Cash



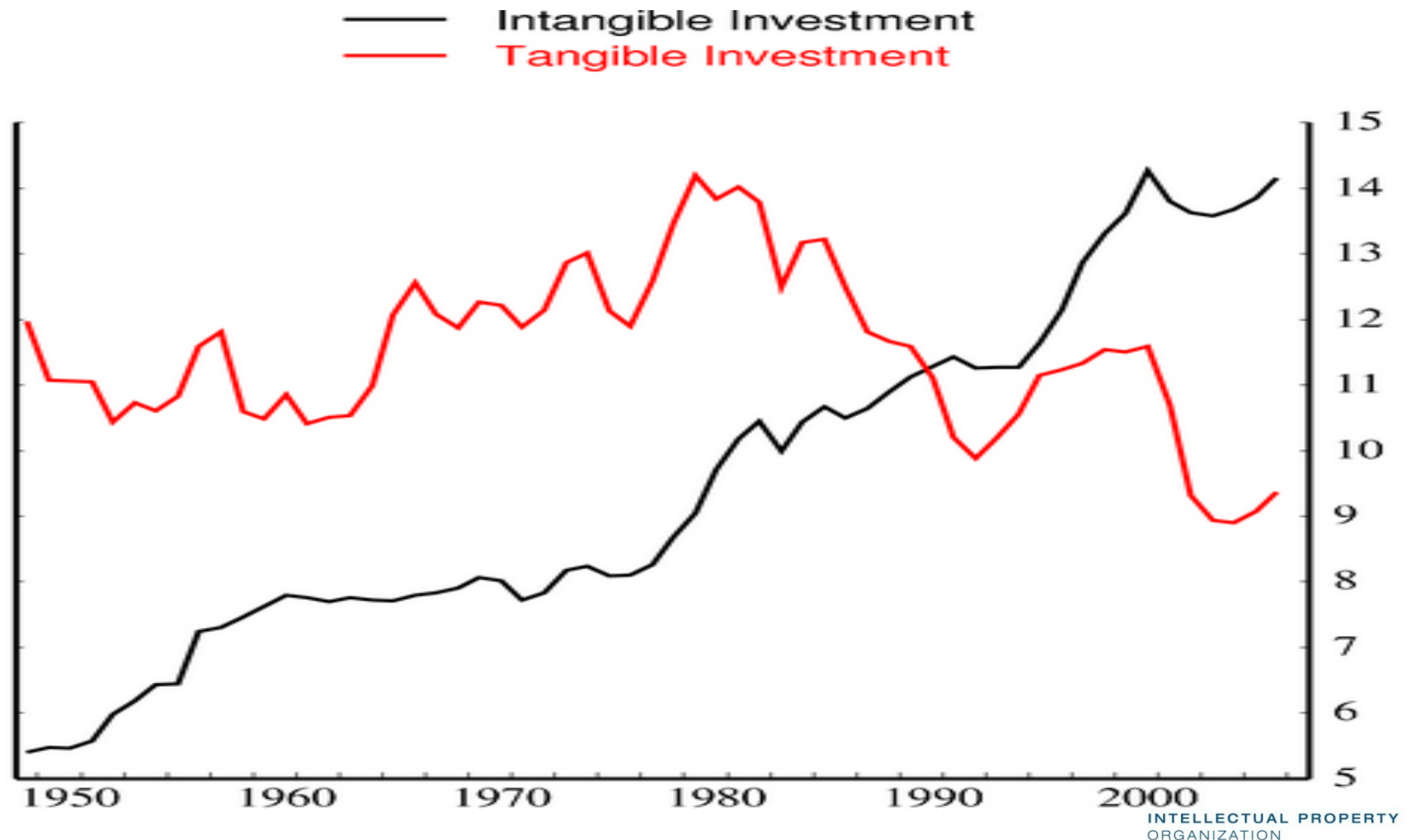
# Worldwide Patent Filing

Fig. 3.2 WORLDWIDE PATENT FILINGS BY BLOC OF ORIGIN



# Business investment in the US: tangible vs. intangible investment

(% business output)



Source: Corrado, Hulten and Sichel (2005, 2006)

# University Roles

## In the past....

- **Education**
- **Generate new knowledge through research**
- **Transfer the knowledge generated to the public for the benefit of society**

## Today, additional roles of universities

- **Financial support for research**
- **Protection of research results**
- **Commercialization of research results**
- **Increased collaboration with industry**
- **Entrepreneurship development**
- **Incubation of Spin-off/Start-up**
- **Monitoring licensing deals**

**IP  
&Tech.  
Mgt.**

# Change in Legal Framework

## US - Bayh Dole Act (1980)

The Bayh-Dole Act allows the transfer of *exclusive* control over inventions generated from government funded researches to universities

## Abolition of the Professor's privilege

Germany: 2001 Reform of Employee Law

Austria: 2002

Denmark: 2002 Act on Inventions at Public Research Institutions

## University Law

Japan:

1995 Basic Law of Science and Technology

1998 Law promoting tech. transfer from universities

1999 Japanese version of Bayh Dole Act

2000 Law facilitating univ.-industry collaboration

2004 Change in legal status of public universities (semi-autonomous institutions)



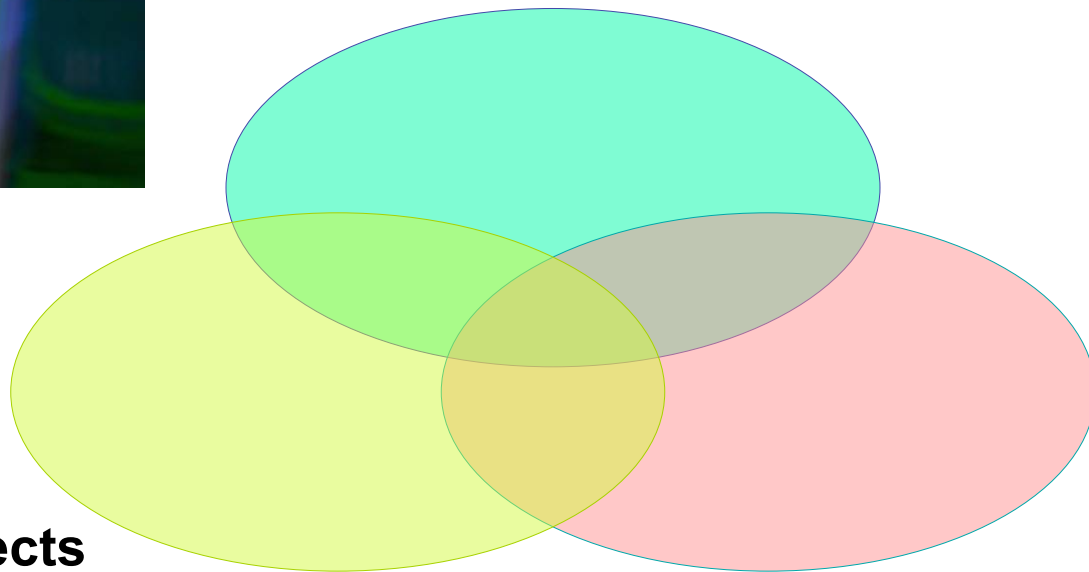


# IP and Technology Management

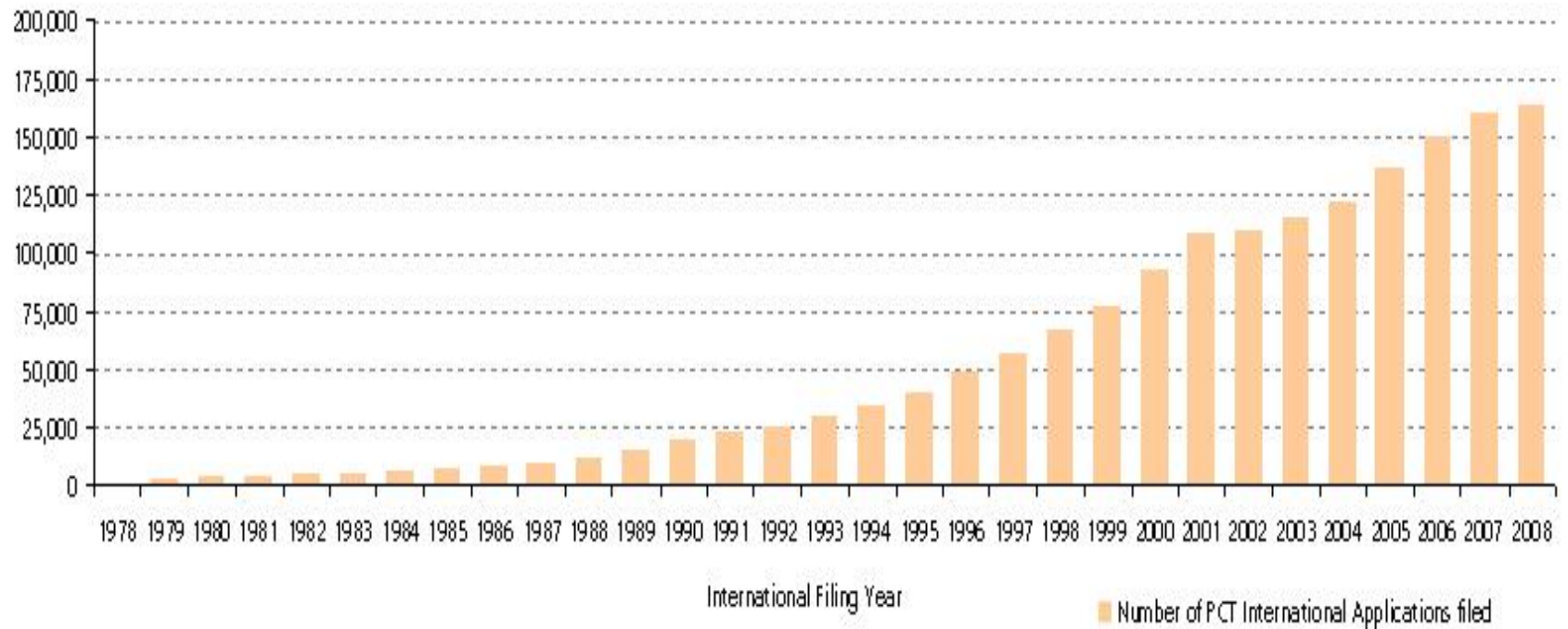
**Technology Management**

**Legal aspects**

**Business**



# PCT Applications



Source: WIPO Statistics Database

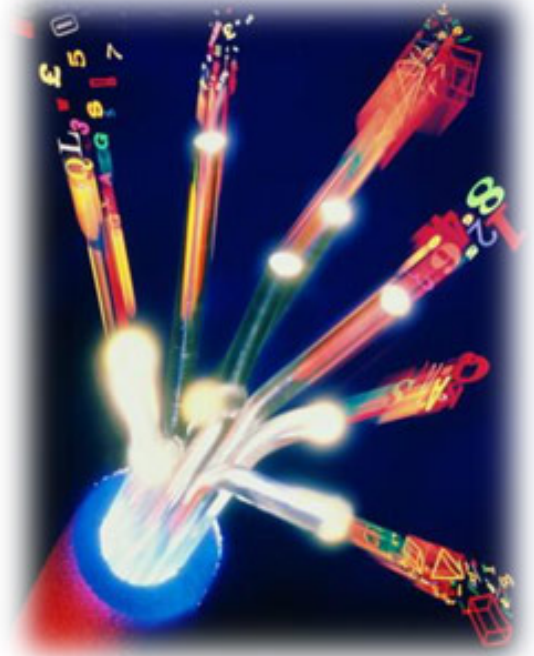
# Patent (1)

- **A right granted by a state to an inventor, to exclude others from making, using, selling or importing in the territory without the inventor's consent**
- **Granted to an invention of process, method, device, machine, compound, composition, and improvements thereof**
- **In exchange for a disclosure of specification of the invention**
- **Limited period, 20 years in many countries**
- **Territorial**

# Patent (2)

## Legal Requirements of Patent

- Novelty
- Inventive Step
- Industrial Applicability





# Patent (3)

- **First to file vs. First to invent**
- **Applicant**
- **Inventor**
- **Patent Agent**





# Patent (4)

- **Publication vs. Patents**
- **Grace period**

# Why are Patents important?

Patents provide **incentives** to individuals by offering them **recognition** for their **creativity** and **material reward** for their marketable inventions. These incentives encourage **innovation**, which assures that the **quality of human life** is continuously enhanced.

# Copyrights (1)

## Copyrights

- Protection in a tangible form
- Gives owner exclusive right to
  - Copy
  - Reproduce
  - Prepare derivative works
  - Distribute copies of work
  - Perform work publicly
  - Display work publicly



# Copyrights (2)

Important IP right for protecting computer software and algorithms

- When patenting is not available, then copyright often becomes the strongest form of protection that can be obtained in the information technology field
- A given piece of software might not rise to a sufficient degree of novelty for patent protection
- In many jurisdictions computer software is not patentable “per se”

# Trade Secrets (1)

## ■ Trade Secrets

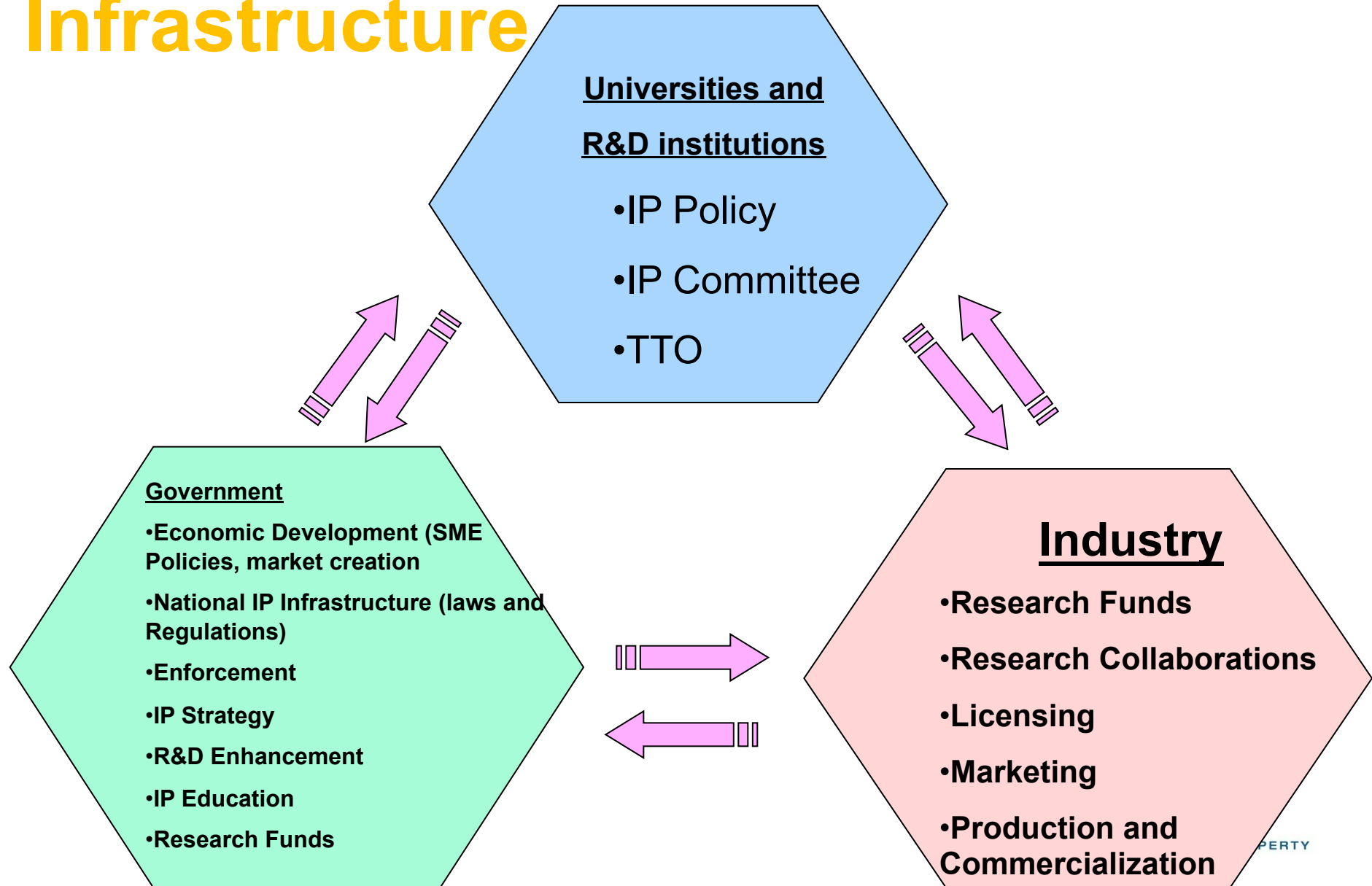
- Any information with independent economic value not in public domain
- Any information belonging to an entity that is neither readily known nor readily ascertainable outside the entity

# Trade Secrets (2)

Examples of Trade secrets:

- Formulas, patterns, processes, methods, compilations, customer lists, etc.
- Secret formula for making Coca Cola®  
(Beverage company holds formula as trade secret)

# University-Industry Collaboration Infrastructure





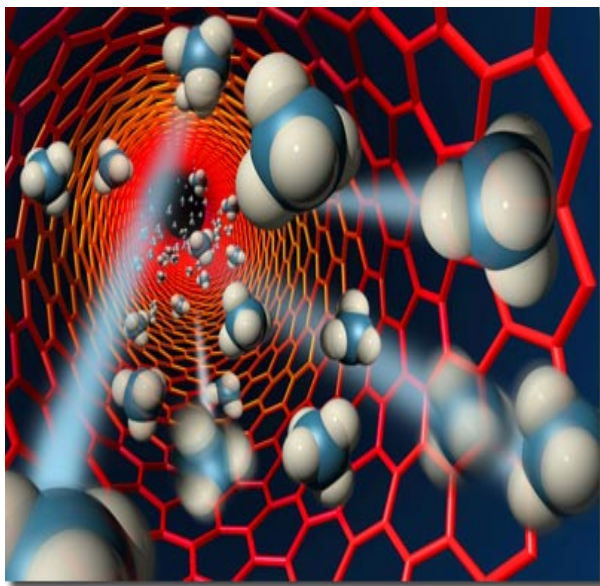
# Ownership

## Who owns IP generated by publicly funded research?

- **Generally national law defines who owns IP (inventions) arising from work conducted for an employer**
- **In some cases, national laws specifically address ownership of inventions arising from publicly sponsored research**
- **Sometimes IP ownership covered in different laws**

# Ownership (2)

- **Government**
- **University**  
(e.g., Germany, Austria, Japan, China, South Korea, UK, France, US, Denmark )
- **Creator/ Faculty**  
(e.g., Finland, Norway, Sweden)



# Benefit Sharing

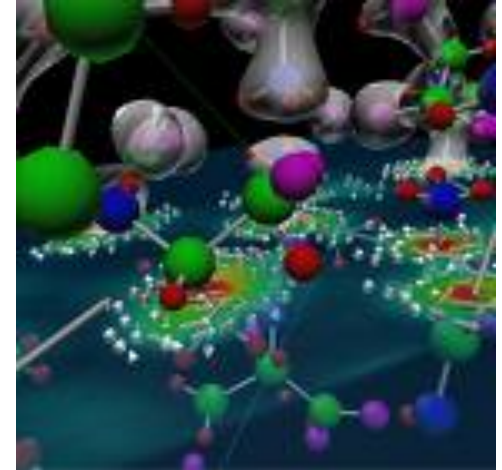
**How are the revenues from research commercialization shared among faculty, university, government funder and other stakeholders?**

- The distribution proportions differ by institution
  - Inventor
  - Faculty
  - University
- On average,
  - Inventor: 25 - 85%
  - Faculty: 25 - 30%
  - University: 25 - 50%

(in many cases, the university provides part of its portion to the TTO (or the administrative unit) and the laboratories of the creator 1/3: 1/3: 1/3 – institution portion often used for funding research )

# IP Management in Universities

1. **Infrastructure**
  - Establishment of an TTO
  - IP Policies
  - R&D planning/strategy
  - Research funding
2. **Capacity Building**
  - IP training
3. **Protection of IPR**
  - Identification of IP
  - Invention disclosure
  - Patent application procedures
  - Patent Information search
  - Legal matters
  - Administration of legal issues
4. **Exploitation of IPR**
  - IP/ tech. Marketing
  - Licensing negotiation and monitoring deals
  - Commercialization
  - Incubation of start-up/ spin-off



# Major Challenges to commercialize R&D results

- Lack of IP management infrastructure
- Lack of strategic research planning
- Gap between basic research and market needs
- Lack of funds for IP protection/ business activities
- 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)



*Baby Mops*

★ *Make your children work for their keep*

After the birth of a child there's always the temptation to say 'Yes, it's cute, but what can it do?' Until recently the answer was simply 'lie there and cry', but now babies can be put on the payroll, so to speak, almost as soon as they're born.

Just dress your young one in Baby Mops and set him or her down on any hard wood or tile floor that needs cleaning. You may at first need to get things started by calling to the infant from across the room, but pretty soon they'll be doing it all by themselves.

There's no child exploitation involved. The kid is doing what he does best anyway: crawling. But with Baby Mops he's also learning responsibility and a healthy work ethic.







**Thank you  
for your  
attention**

# Information on PCT

PCT Applicant Guide

[www.wipo.int/pct/guide/fr/index.html](http://www.wipo.int/pct/guide/fr/index.html)

PCT Newsletter

[www.wipo.int/en/newsletter/index.jsp](http://www.wipo.int/en/newsletter/index.jsp)

PCT Gazette

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

PCT on WIPO webpage

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