

# IP PORTFOLIO AND INNOVATION MANAGEMENT

**INTERFACING INNOVATION AND IPR IN UNIVERSITY R&D**

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# IP Protected is IP Elevated

In this century, a company's future standing  
will be determined by its ability to convert  
knowledge into wealth and  
creativity into social good!



# Intellectual Capital

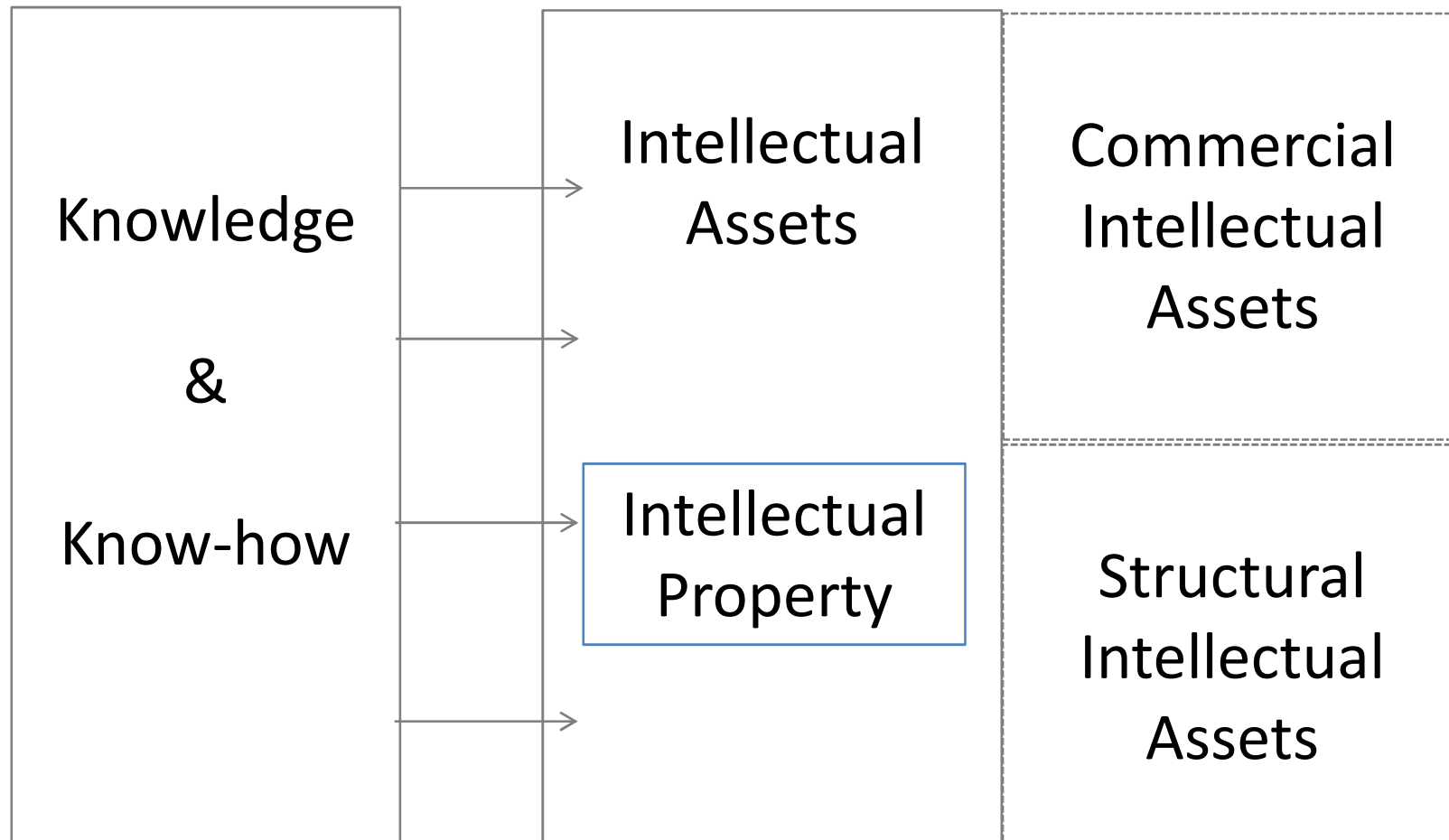
Human  
Resources

Intellectual  
Assets

Intellectual  
Property



# Knowledge Management



# Statutory IP Rights

- Patents
- Trade Marks/Service Marks
- Industrial Designs
- Copyrights
- Integrated Circuits Layout-Designs
- Geographical Indications
- Plant Varieties



# Non-statutory IP Rights

- Unregistered Trademarks/Service marks
- Trade dress
- Rights against passing off
- Trade secret and confidential information
- Traditional knowledge
- Database protection rights
- Data exclusivity rights



# Acts Governing IP Rights In India

- The **Patents** Act, 1970, and the Patents Rules, 2003, as amended
- The **Trade Marks** Act, 1999 and the Trade Marks Rules, 2002, as amended
- The **Copyright** Act, 1957, and the Copyright Rules, 1958, as amended
- The **Designs** Act, 2000, and the Designs Rules, 2001, as amended
- The **Biological Diversity** Act, 2002, and the Biological Diversity Rules, 2004
- The **Geographical Indications of Goods** (Registration and Protection) Act, 1999, and the Geographical Indications of Goods (Registration and Protection) Rules, 2002
- The **Semiconductor Integrated Circuits Layout-Design** Act, 2000, and the Semiconductor Integrated Circuits Layout-Design Rules, 2001
- The Protection of **Plant Varieties** and Farmers' Rights Act, 2001, and the Protection of Plant Varieties and Farmers' Rights Rules, 2003



# Trend In Patent Applications In 2011-2012

Top 10 Indian applicants for patents from **scientific and R&D organizations**

No.	Name of Scientific and Research & Development Organizations.	Applications filed*
1	Council of Scientific & Industrial Research	199
2	Indian Council of Agricultural Research	94
3	Director General, Defence Research & Development Organisation	68
4	Hetero Research Foundation	34
5	National Institute of Pharmaceutical Education and Research (NIPER)	21
6	Sequent Scientific Limited	21
7	Jubilant Life Sciences Limited	17
8	Department of Biotechnology	12
9	Unijules Life Sciences Ltd.	12
10	Aditya Birla Science & Technology Company Limited	11

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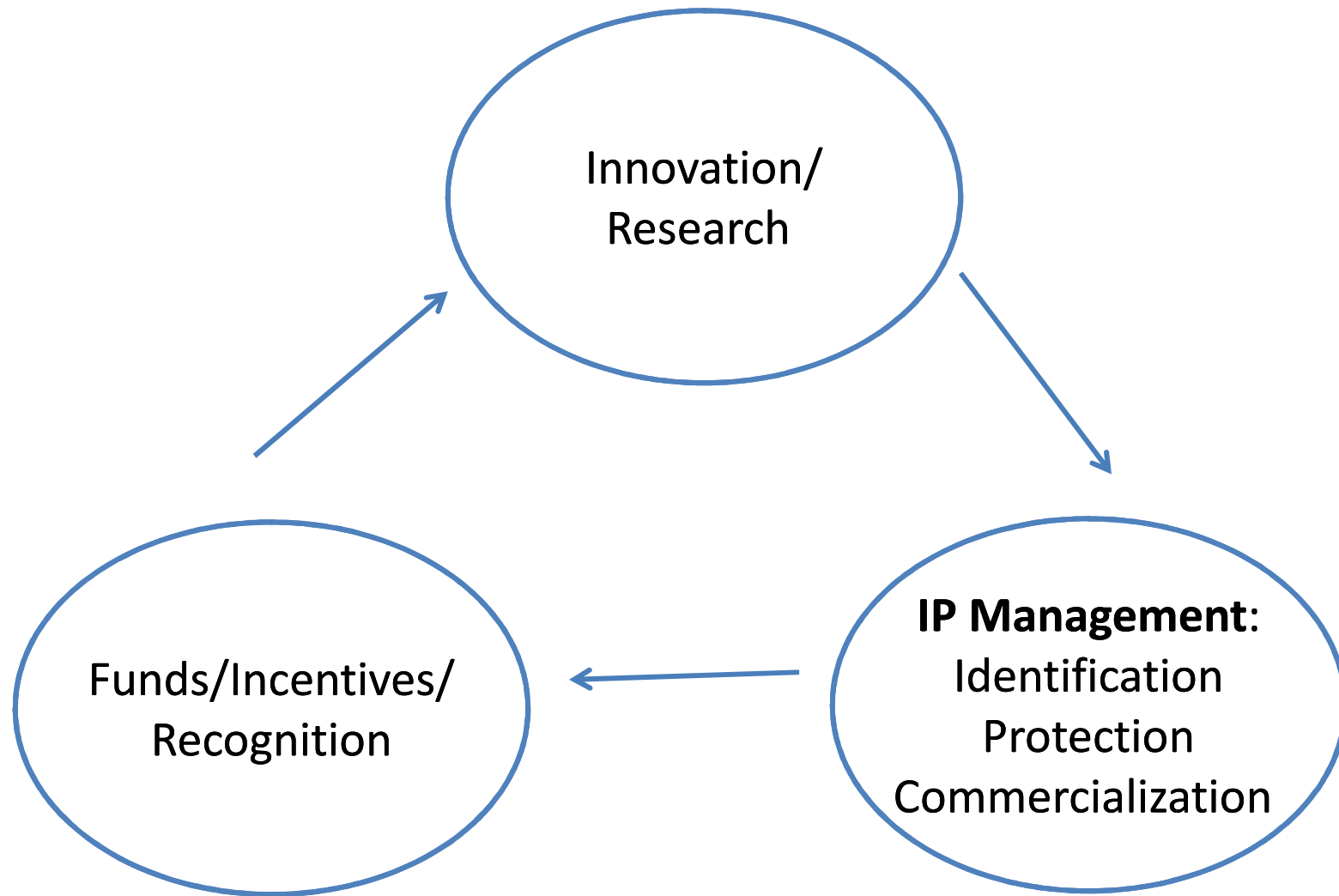
# Trend In Patent Applications In 2011-2012

Top 10 Indian applicants for patents from **institutes and universities**

No.	Name of Institutes/Universities	Applications filed*
1	Indian Institute of Technology	152
2	Amity University	114
3	The Energy and Resources Institute (TERI)	17
4	Sree Chitra Tirunal Institute for Medical Sciences and Technology	15
5	Tamil Nadu Agricultural University	15
6	Indian Institute of Science	14
7	Centre for Development of Advanced Computing (C-DAC)	13
8	All India Institute of Medical Sciences	12
9	Jawaharlal Nehru Centre for Advanced Scientific Research	9
10	Tamil Nadu Veterinary and Animal Sciences University	9



# Why Innovation Management In R&D?



# Why Innovation Management In R&D?

- Evaluating and protecting innovation
- Reaping value from research
- Attracting research funds
- Creating incentives/awards for researchers
- Recognition of researchers/organization
- Establishing collaborative projects with industries/other research institutes
- Ascertaining the impact of research on society
- Repositioning the institute



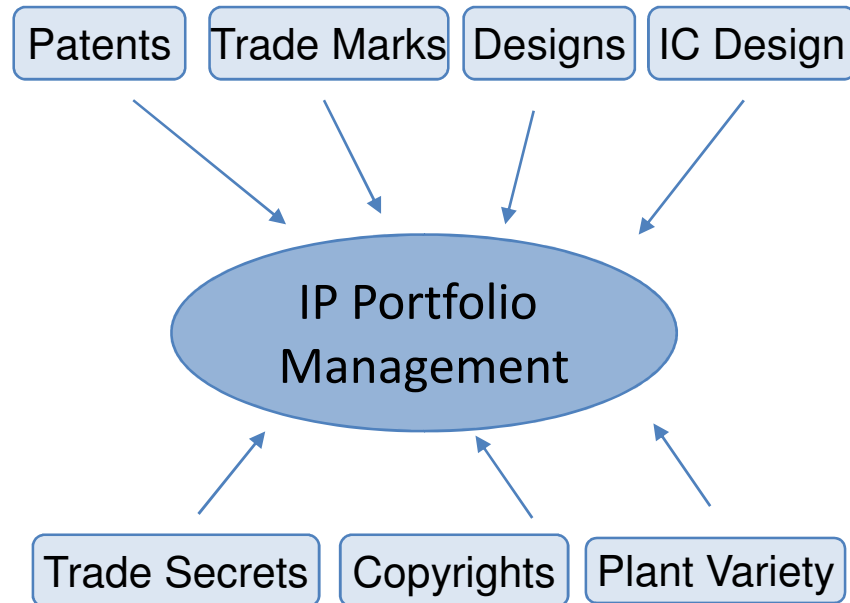
# How To Manage an IP Portfolio?

- **Create IP infrastructure:**
  - Institutional guidelines & IP policies - for decision on IP protection (registration, prosecution, maintenance and infringement)
  - Strategic R&D project planning - research collaboration contracts & agreements, invention disclosure process, ownership of IP
  - IP management - mechanisms for effective collaborations, technology transfer, licensing and generation of funds
  - Innovation incentive schemes/benefit sharing schemes for researchers
  - Recognition/awards for researchers
  - Confidentiality program for employees and resource persons
  - Regular IP awareness programs at all levels
  - Administration of IP legal matters



# How To Manage an IP Portfolio?

- **Perform IP audit**
- **Inputs from:**
  - IP attorney
  - Legal cell
  - IP cell
  - Researchers
- **Identify and organize various IPs**
- **Systematic screening of IP assets:**
  - Untapped commercial potential
  - Tapped commercial potential
  - No commercial potential



# How To Manage an IP Portfolio?

- **Quantify the value of IP assets – cost benefit analysis**
- **Identify opportunities for commercialization of IP**
  - industrial collaborations
  - technology transfer
  - licensing out
- **Identify people/partners involved in creating/using IP**
- **Budgeting**
- **Review portfolio at least every 3 years**



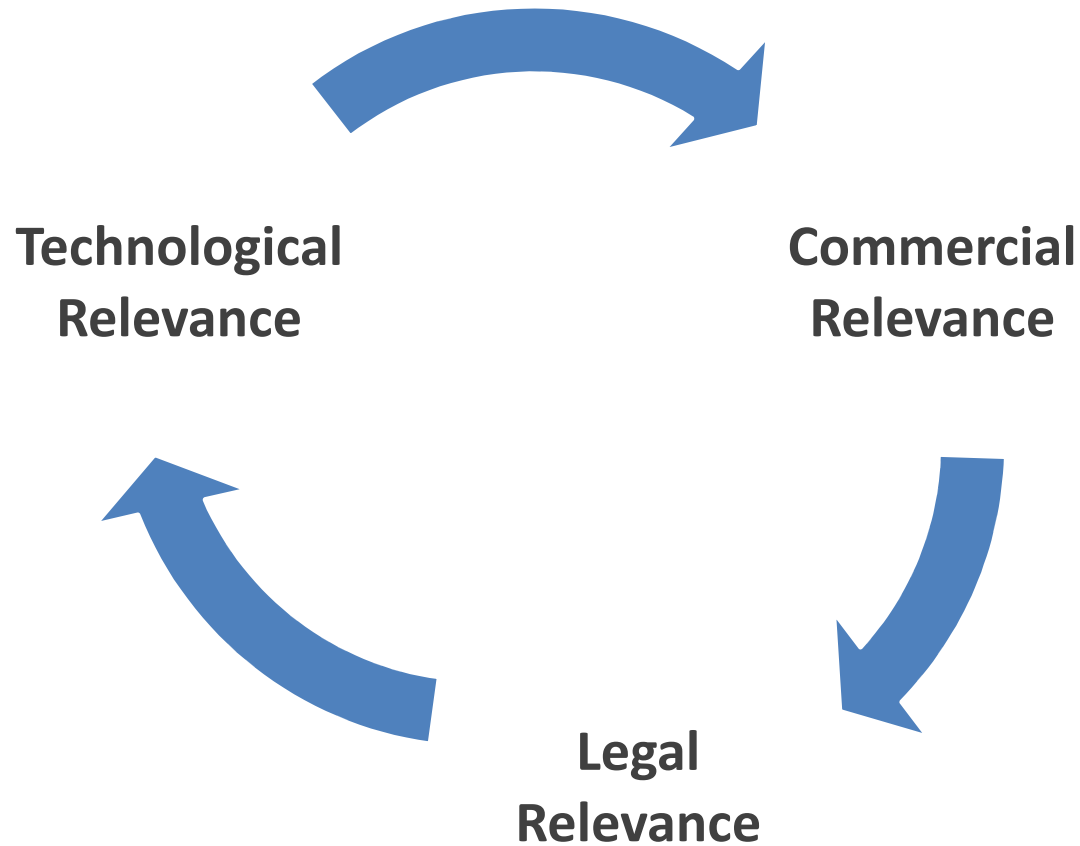
# Patent Information

## According to WIPO statistics:

- There are over 50 million patent documents
- 1.5 million patent applications are filed every year, resulting in the annual grant of more than half a million patents
- Two-thirds of the technical information revealed in patents is never published elsewhere



# Relevance Of Patent Information





# Technological Relevance

- Keep abreast with latest technologies in your field
- Avoid unnecessary expense and duplication of R&D work
- Identify alternative technology & develop new technical solutions, products or processes
- Get ideas for further innovation



# Commercial Relevance

- Find niche markets
- Locate business partners
- Identify suppliers and materials
- Monitor competitors' activities



# Legal Relevance

- Avoid possible infringement problems
- Assess patentability of your own inventions
- Oppose grant of patents found to be conflicting with your own patent(s)



# General Guidelines for a good Patent Strategy

- Adopt a patent strategy, which must:
  - be aligned with the government's/organization's vision
  - have full support of the top management
- Patent assets must be involved in value creation and extraction
- Periodical patent asset audits – evaluation of opportunities & risks
- Report of inventions in the relevant/upcoming fields
- Review of inventions of the organization
- Patent filing & maintenance programs
- Monitoring patent activities of third parties
- Infringement of patents of third parties and by third parties



# Managing Innovations

## Approaches:

- Total Quality management
- Patent Quality management

## Broad steps for managing innovations:

- Seek new problem solving opportunities in existing technologies
- Find new product opportunities as an addition to existing products
- Create new lines of collaborations



# Methods for Evolving New Opportunities

- Management driven
- Brain storming sessions
- Suggestion box
- Commercial surveys
- Industrial requirements
- Outside entities
- Changing mindset
- Product quality management (PQM) - management team driven
- Common sense



# Innovation Strategies

- Designing for the end user
- Being aware of the state of the art
- Designing around
- Improving manufacturing process
- Striving for cost effective solutions
- Eliminating bottle necks
- Reducing product down time & change over
- Reducing waste
- Addressing safety & environmental concerns



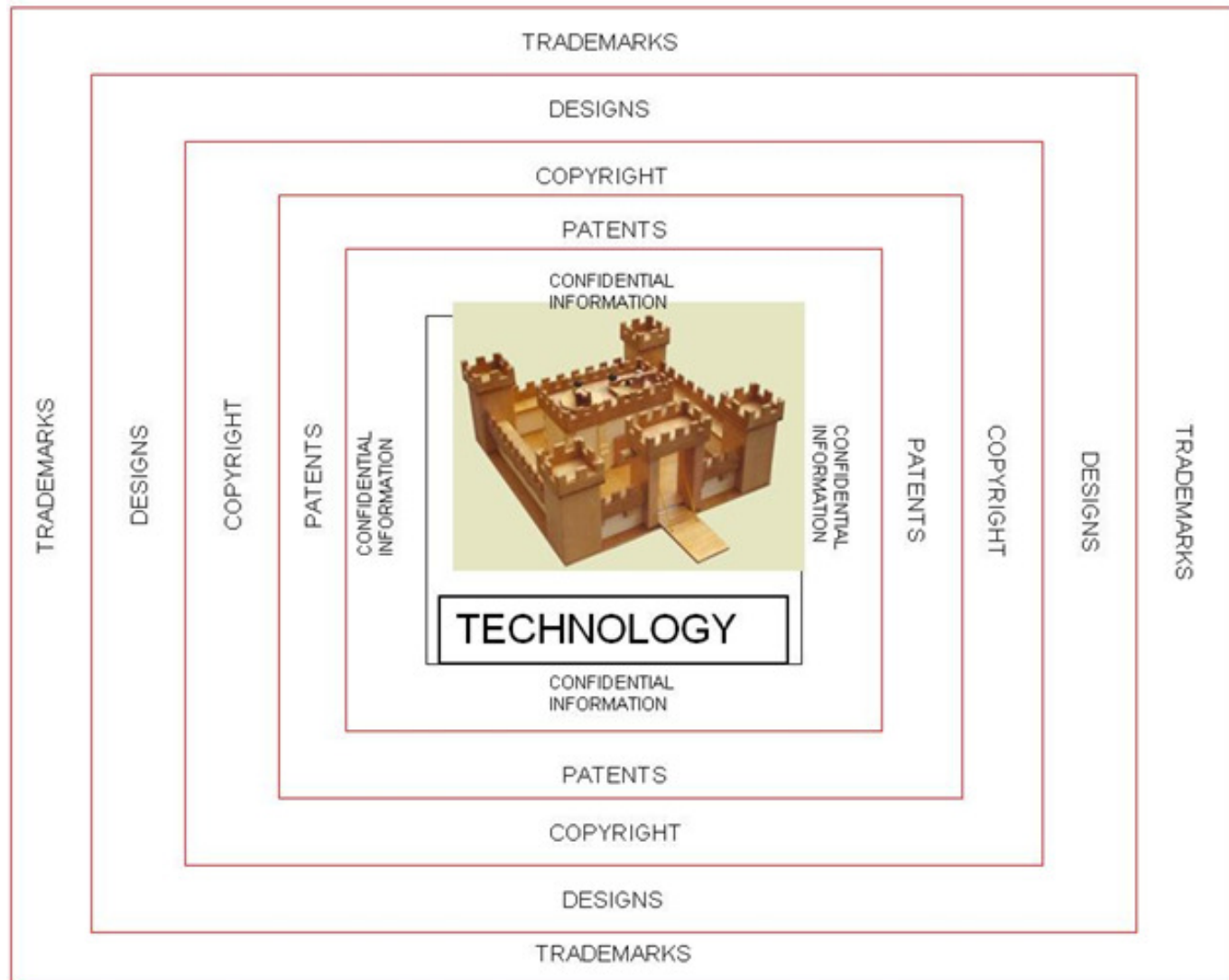
# IPR Strategies

- Castle and Moat
- Protect the tree, cut the forest
- AK-47
- Patent as you go
- Technology transfer/licensing out/collaborative research
  - Concentrate on what you do best and use others for manufacturing and distribution
  - Accelerate cash flow/profits

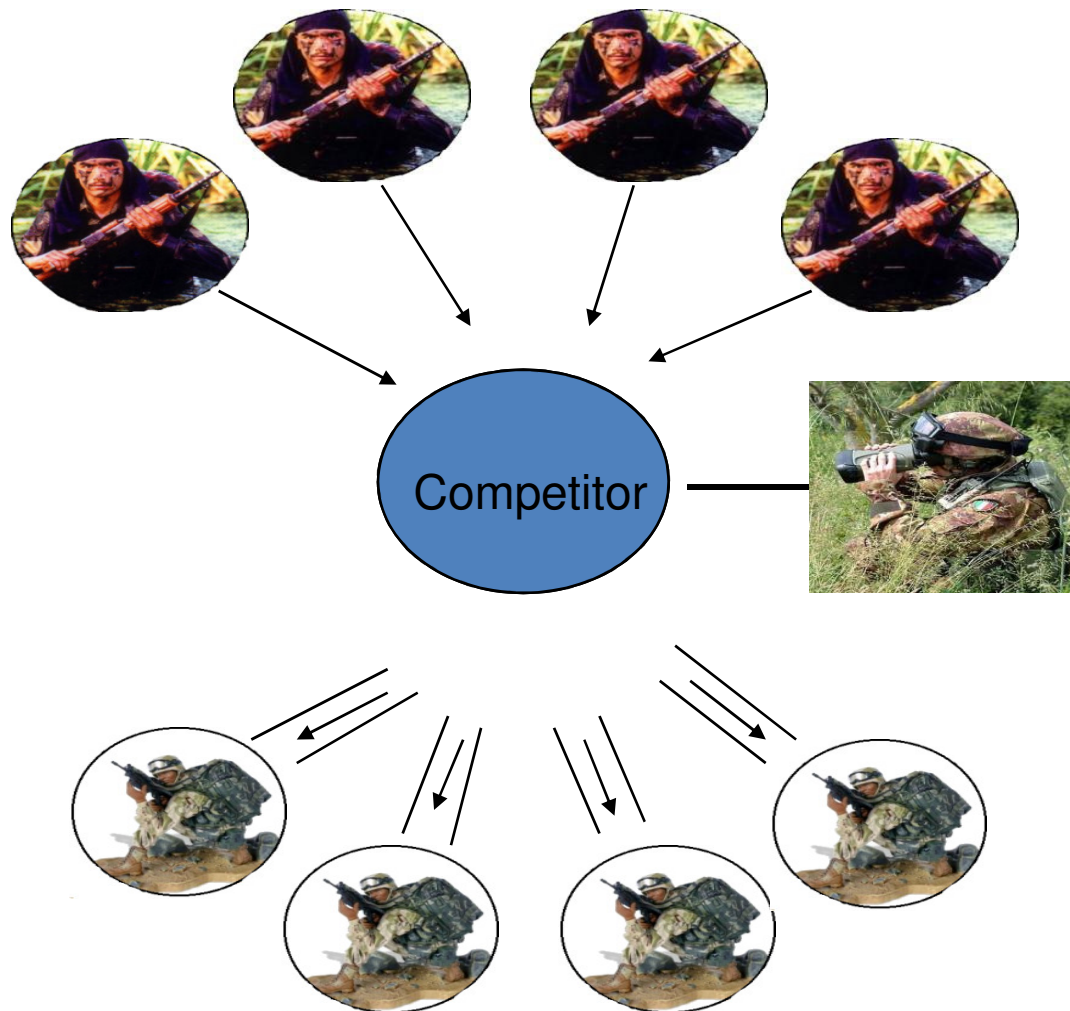




# Defensive Strategy Of IPR: Castle And Moat



# Offensive Strategy Of IPR: The Pincer Phalanx



# Case Study - University Earnings On Inventions In 2011

A US annual survey of the Association of University Technology Managers for the 2011 financial year shows:

- Universities and their inventors **earned more than \$1.8-billion** from commercializing their academic research in the 2011 fiscal year.
- Northwestern University earned the most of any institution reporting, with **more than \$191-million in licensing income.**
- The 157 universities that responded to the survey completed **5,398 licenses and filed for 12,090 new patents.** They also created **617 start-up companies.**



# Case Study – Princeton University

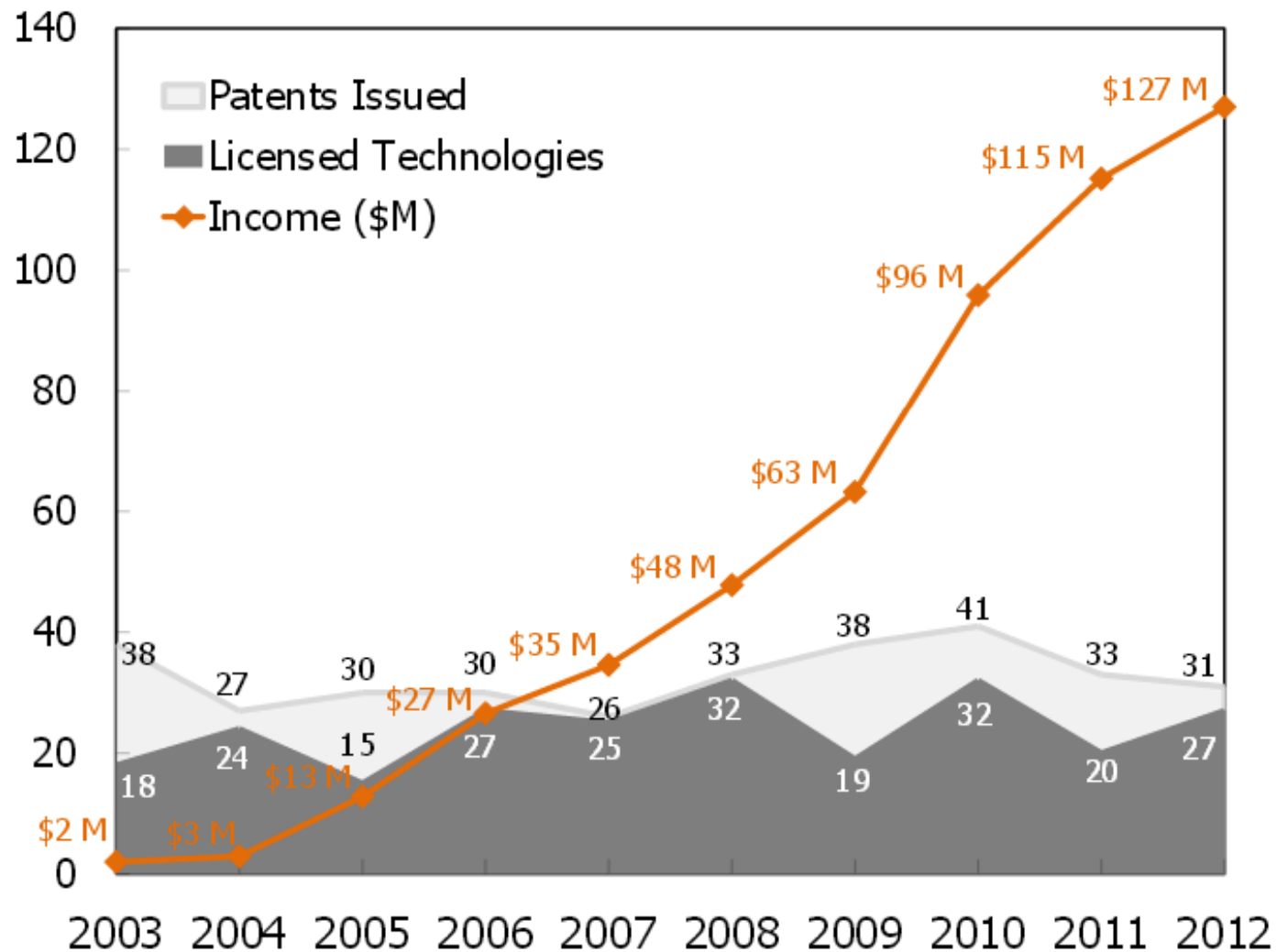
## Technology Licensing:

- Over the past decade, licensing income has increased dramatically - issuance of 31 patents and the licensing of 27 technologies in FY2012.
- Innovations developed at Princeton include those in biotechnology and pharmaceuticals, ceramics and materials science, chemistry, computers and software, medical devices and diagnostics, and optoelectronics and electrical engineering.
- The University also supports the development of promising new technologies through its Intellectual Property Accelerator Fund, which awards funding of up to \$100,000 to advance early-stage research to a point where it is attractive to commercial development



# Case Study – Princeton University

Revenue generated through IPR at the University



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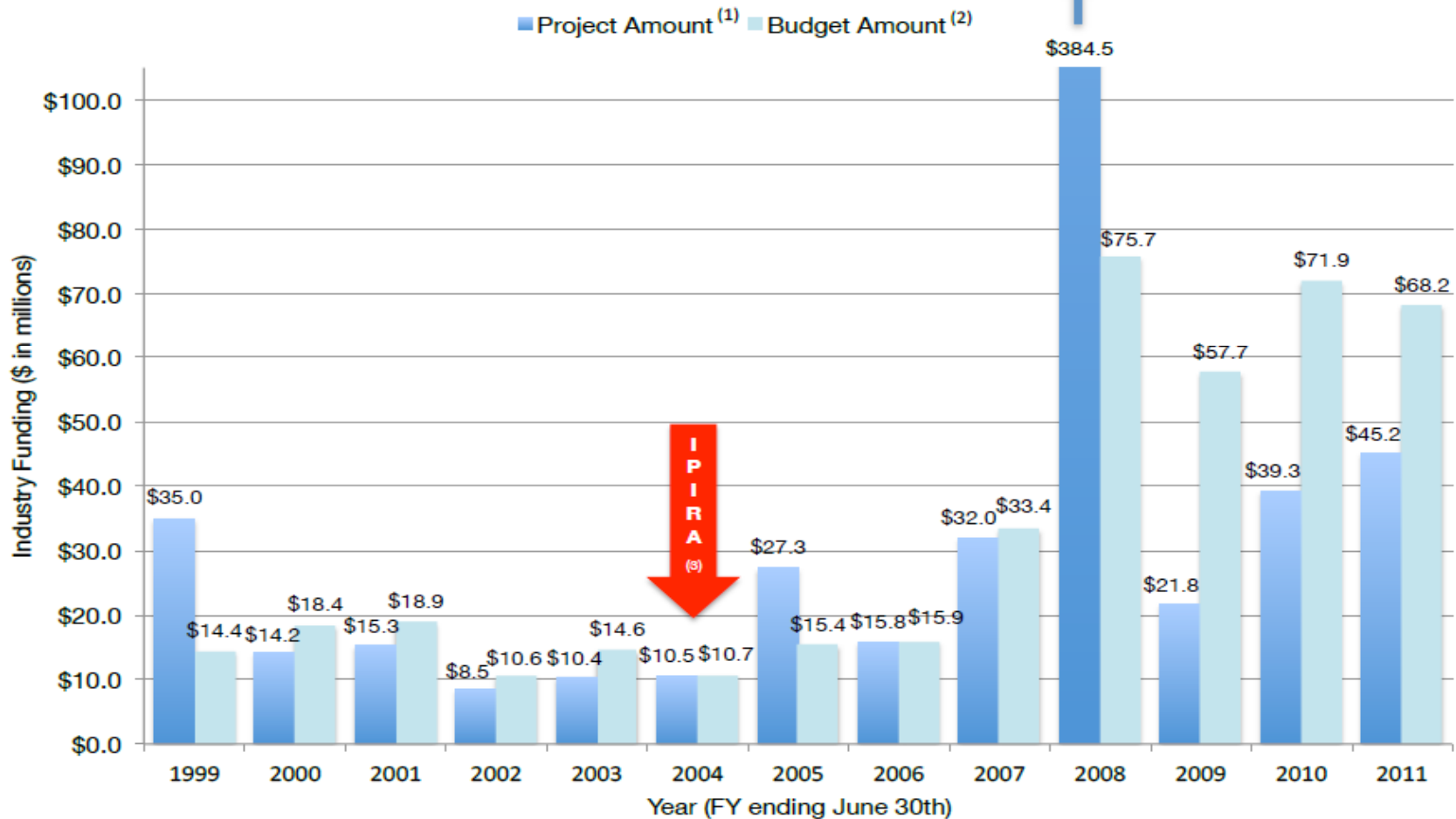
# Case Study – University Of California, Berkeley

- The Office of Intellectual Property and Industry Research Alliances (IPIRA) nurtures and manages Berkeley's IP portfolio, supports Berkeley's research enterprise by fostering research collaborations among scientists, entrepreneurs and corporations to speed innovation and catalyze commercialization of game-changing technology solutions.
- Since IPIRA's establishment in 2004, hundreds of research projects have been sponsored by >500 companies. Berkeley is ranked 1 of the top 5 universities for industry to collaborate with.



# Case Study – University Of California, Berkeley

UC Berkeley Industry Funding  
FY 1999 to FY 2011



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**R. K. DEWAN & Co.**

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Established in 1942

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