



Indian Perspective on Technology Transfer and Commercialization

By
Dr. Jagdish Sheth
&
Dr. Balaji C. Krishnan

Over View

- Historical Perspective – post independence
- Current Status
- Academe – Industry tie ups (Endogenous)
- Cross Border tie ups (Exogenous)



Overview (contd.)

- Major concern – Patent Protection
- Types of TTs
- Inter governmental TT – Nuclear Power
- Envisioning the Future

Historical Perspective

- The Glory Years – BC!!
- Post Independence
 - 1947 – 1980 – Socialist, Heavy Engineering, Import substitution – One way street
 - 1980 – 1991 – Information Technology, Reverse Engineering – One way street
 - 1991 – Now – WTO, Globalization, Opening different sectors – Two way street

Palpable cultural change in dealing with others

Current Trends

- One way street to Two Way street
- Next major movement since BPO – KPO
- Council for Scientific and Industrial Research – CSIR
To provide scientific and industrial R&D that maximizes the economic, environmental and societal benefits for the people of India.
- National Innovation Foundation
In support of grassroots innovation

Endogenous TT

- Academic collaborations – Pan IIT
 - Incentivize collaboration
- Academe – Industry collaborations
 - Strength is S & T education
 - Emerging TNCs – Mittals, Tatas, Reliance help move beyond govt. sponsored research
- By Observations & Relying on the past
 - Kani tribe – “Jeevni”

Cross Border Tie Ups

- Major Ones
 - Pharma sector
 - Ranbaxy – GSK
 - Nicholas Pharma – Merck
 - Glenmark Pharma – Eli Lilly
 - IT sector
 - IBM
 - Infosys
 - TCS
 - Wipro

Patent Protection

- Since WTO has become stronger
 - Move from Process patents to product patents
- Education of benefits – CSIR
- Enforcement
 - Registration system vs. **Examination system**
- Cultural Change is here



Types of TT

- Move away from hand me downs to current
- Move from just application to collaborative development and equity participation
- Generic to customized technology
- Export of technology – Tech Hub



Trends in the future

- TT through Tech Carriers – Reverse Brain drain
- Greater commercialization possibilities due to downstream industries
- Demographic dividend later this century
- Emphasis and focus on IT, Pharma, Bio technologies, chemical processes, eco friendly products, stem cell research.
- Academic Industry cross border tie ups