

# Entrepreneurial activities on campuses



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# Mission Statement of the MIT Entrepreneurship Center

*To train and develop leaders who will make high tech ventures successful*

“I want you to be the premier global center for entrepreneurship, and to be recognized as such.”

“We must not only be the best. We must also serve as a model for others and ensure that, together, we all make a significant global impact in this vital field.”

MIT President Charles M. Vest,  
July 1996



# World Class Technology in Post-Independent India

- ❖ A paradox - in the context that
  - Entrepreneurial and managerial capabilities of **Corporate** India &
  - Knowledge capabilities and Potential of Indian **Universities**are recognised globally
- ❖ Unfortunately, *Corporates and Universities* have grown separately
- ❖ Knowledge - which is **not accessible or non-communicable** is useless for Corporate world
- ❖ Conversion of Knowledge into useful artifacts – **Need of the hour**

# University – Industry

Background..

- Divergent objectives
- Different processes and
- Different end products

## Complementarities and Deep interdependences



*Need to create enabling environment for networking*

- Possible through entrepreneurship initiatives

# Do Commerce and Industry Need Universities?

- Yes !
- A popular belief - **Universities need Industry**
- A case study by Davidson to support the reply
  - During the 50 years growth of USA attributes were:
    - Advances in Knowledge (R & D) – 64%
    - Education - 26%
    - Finance and Capital - 10% (only!)

## Observations

- Education is ~ 3 times as important as capital in a nation's development
- R & D is ~ 6.5 times more valuable than capital

## Analysis

- Businessman/Industry should invest more in educating the human resource
- Industry should invest more in R&D than it does on buying land, building and machinery

## Inference

- **If modern universities need businessmen for economic survival, so do businessmen need Universities for their own survival**

# ENTREPRENEURSHIP



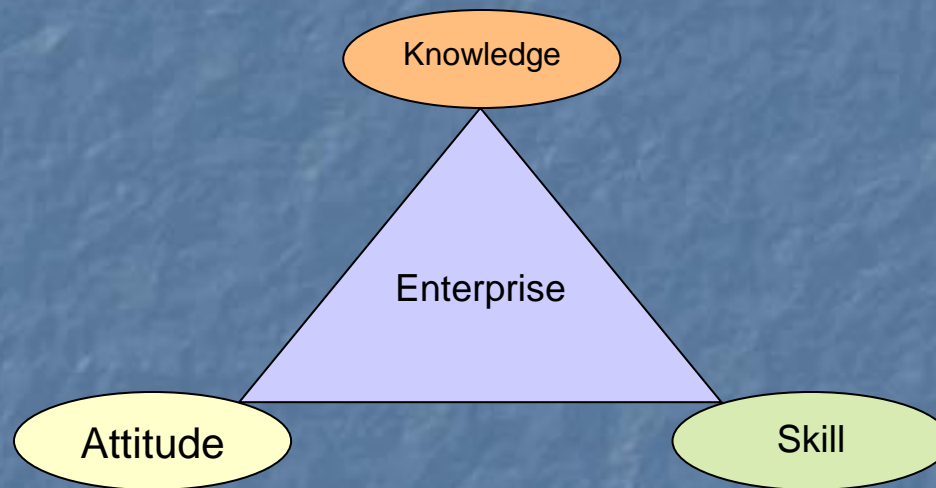
- We're becoming **global**
- **Innovation** is key for competing in today's global economy
- Global perspective is a **necessity** in the 21st century
- **Students need to understand how knowledge is created and transferred to the business world**

# Entrepreneurship in Education and Training

## Two elements

1. A broader concept of education for entrepreneurial attitudes and skills, (which involves developing personal qualities)
  - is not directly focused at the creation of new business
2. A more specific concept of training on how to create business and also to develop a business (make it bigger, more competitive)

Source : "Helping to create an entrepreneurial culture"-EC Publications Enterprise policy



"Although we may experience a shortage of jobs, there will never be a shortage of work to be done."  
Charles Handy (1990)



# Knowledge Economy –

- needs knowledge workers & entrepreneurs
- Positive impact on productivity, innovation, growth
- Non-economic benefits: active citizens, better health, lower domestic violence, less racism
- Value of graduates reflected in premium employers pay
- Graduates - a magnet for attracting knowledge-intensive firms to the region
- *Graduates are generally good news for economy and society*



Graduates - Your COUNTRY needs YOU!

# Entrepreneurial Efforts on Campuses

- **Central Govt Supported Programmes**
  - STEP, TDB, Electronic Parks, PMRY, Staff Development Programmes
- **In-house programmes**
  - Through Academic Curricula like Project Semester, short-term training programmes for technical manpower of industry
- **Industry Sponsored Programmes**
  - Through consultancy e.g., Development of new products like chemical compounds and new processes like recovery of useful materials from industrial waste
  - Training Programmes for new recruited personnels – MoUs with Infosys, IBM, etc.

# Science & Technology Entrepreneurs Parks

- An initiative of Govt of India (DST), jointly funded by FIs like IDBI, ICICI and ICFI
- *AIMS*
  - Nurturing innovation and S&T based Entrepreneurship
  - Fostering linkages between academic institutions and industry
- Deliverables
  - Basic services and **guidance to budding as well as existing entrepreneurs** in the identified thrust areas based on the expertise, know-how and facilities available with the host institution
- **13 STEPs** are established in and around academic institutions of excellence spread all over the country
- So far resulted in setting up of more than **600 new enterprises** employing a capital of about Rs. 50 crores
- A **turnover of nearly 88 crores** and providing direct **employment for about 5000 persons**

# Science & Technology Entrepreneurs Parks STEP at TU

- A **Biotech Business Promotion Center** Established in April, 2005
  - Encouraging business oriented research in the area of **Agro-Biotechnology**
  - As a **joint venture** between National Science and Technology Entrepreneurship Development Board (**NSTEDB**), Department of Science & Technology (**DST**), Government of India and Thapar University (**TU**)
- Offers a platform
  - from **bench scale to pilot plant** by providing infrastructure support and
  - forging **link** with industries
- The activities are intended to stimulate
  - technological innovation,
  - utilization of research results,
  - transfer of knowledge and
  - setting up of technology driven businesses

# Science & Technology Entrepreneurs Parks STEP at TU

## OBJECTIVES

*Nurturing new entrepreneurs, new product development and technology commercialization through new enterprise*

Broad activities are:

1. Promoting new entrepreneurs
2. Encourage and undertake development, transfer and commercialization of new technologies
3. Collection, analysis and dissemination of technology-information relevant to industries
4. Organize *skill development training programs* and to provide services to small scale sector
5. Undertaking R&D and providing services especially in the field of agricultural biotechnology

# Areas of Intervention at STEP (TU)

- Organic farming
- Mushroom cultivation
- Food Technology
- Natural Products
- Biowaste management and recycling
- Plant tissue culture

# Opportunities in Research on the Campus

- Employment in DST Funded Research Projects
  - JRF, SRF (12,000 ..),
  - Research Scientist (14,000 ..)
  - Research Associate (13500/15000 ..)
  - Project Fellow, Project Assistant (6,000 ..)
- 181 students (Regular and Part-Time) doing PhD in various disciplines of Science, Engg, Management and Social Sciences
- About 45 Research Projects sponsored by Govt Funding Agencies are ongoing
- About 50 students take admission in PhD programmes every year
- Research Projects worth Rs 4 crore awarded to TU in 2007-08

# HRD Initiatives by Science & Engg Res Council (SERC, DST)

- S&T Manpower Development & Promotion
- SERC Schools
- Fast Track Scheme for Young Scientists
- Better Opportunities for Young Scientists in Chosen Areas of Science & Technology (BOYSCAST)
- Swarnajayanti Fellowships
- Kishore Vaigyanik Protsahan Yojana
- Science Olympiad Programmes
- Assistance for Participation in International Conferences
- DST Schools on Mathematical Modelling in Earth System Sciences
- Science and Technology for Women
- Scholarship Scheme for Women Scientists
- DST Scientific Institution



# In-House Research Initiatives at TU

- Centres of Excellence (Rs 60 Lac made available in 2005)
  - Grid computing
  - Software repository
  - VLSI Design and CAD
  - Manufacturing Technology
  - Cement Based Materials
- Seed-Money Projects
  - Rs 1.0 Lac given to each new faculty with a PhD
- Teaching Assistantships
  - 24 positions @ Rs 10,000 pm + contingency for PhD students
- Central Facilities – Tentative cost of Rs 10 Crore - in the process of Development

# Why low activities in Corporate Sector?

## Knowledge is created in minds of human beings

- A very **small group of people** involved (in corporate India):
  - Preoccupied with pressure of production
  - Working only for satisfying provisions of regulatory bodies
  - Worked for taking advantage of Tax-Exemption
  - Reverse engineering
  - Import substitution
- However, **a change in perception** from *imitation* to *innovation*
  - taking place with Policy shift to Liberalisation and Globalisation

## Choices before Corporate Houses

1. Establish **corporate R&D Centres** – Investment ?
2. **Network with Universities** and Institutions – financial viability, market relevance

# Agressive entrepreneurship strategy required for Universities Efforts..

- Modifying climate/ creating atmosphere
- Provoke radical changes
- Get top level support
- Creating the confidence & leadership
- Encouraging doers versus thinkers
- Providing physical incubator facilities
- Monitor : lessons to professors, if needed!
- Bring finance culture inside R&D

# Interdependence of University and Industry

- 21st century belongs to entrepreneurs, not only in India, but across the globe
- Never in the history has the entrepreneurial spirit been more alive as is today
- Most nation states have accepted the importance of entrepreneurship in creating jobs and fueling economic growth

# Thank You



And we are delighted to  
share our successes with  
you!

Questions are Welcome



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