# GLOBAL PARTNERSHIP IN SCIENTIFIC RESEARCH - INDIA'S PERSPECTIVE

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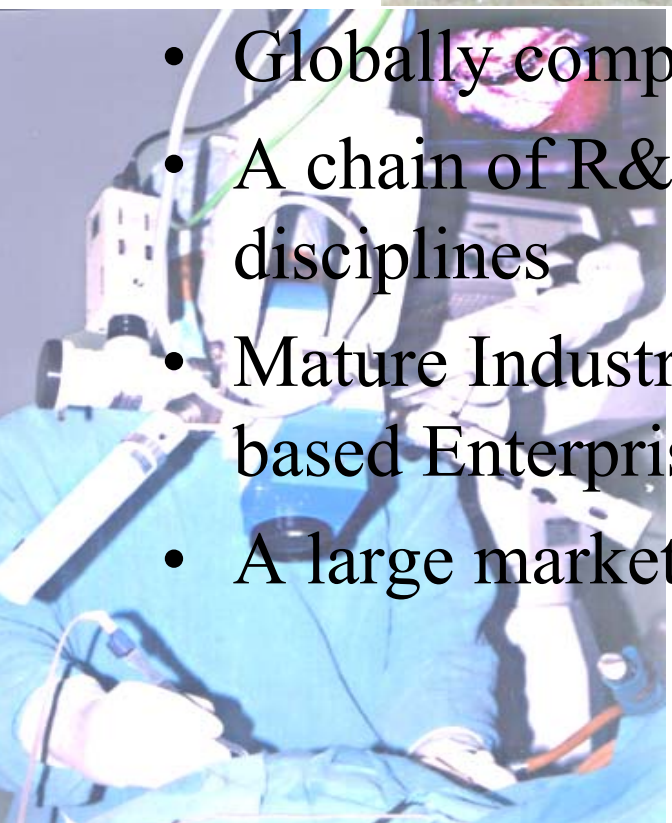
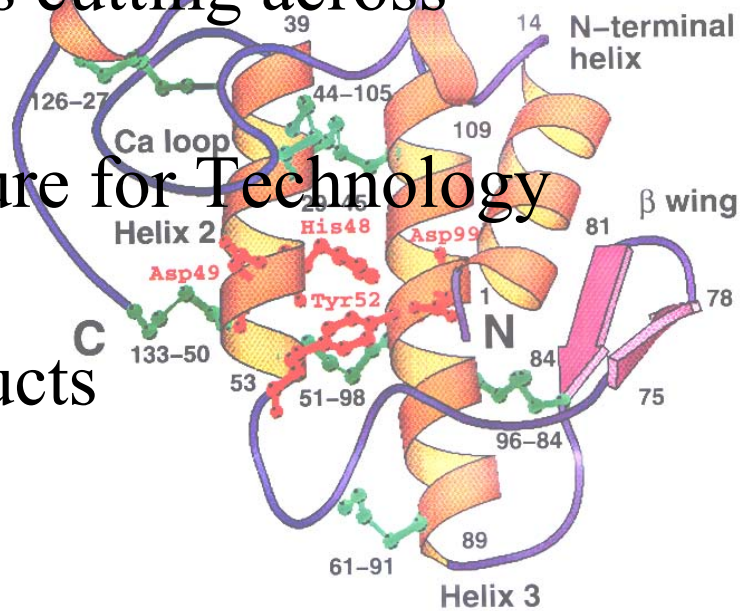
# INDIA

- A Country committed to Science and Technology for Development
- Globally competitive Infrastructure for Education
- A chain of R&D Laboratories cutting across disciplines
- Mature Industrial Infrastructure for Technology based Enterprises
- A large market for new products





# NOTABLE ACHIEVEMENTS

- Self-sufficiency in Food
- Self-Reliance in Nuclear Technology
- Self-Reliance in Space Technology
- Global presence in Information Technology
- Potential in Biotechnology

# Why Global Partnerships in Scientific Research

- Science is Global
- Meeting of minds enriches both the partners
- Access to Research facilities
- Joint Research facilities and Centers of Excellence synergies strengths of the partners

# HOW GLOBAL PARTNERSHIPS IN SCIENTIFIC RESEARCH

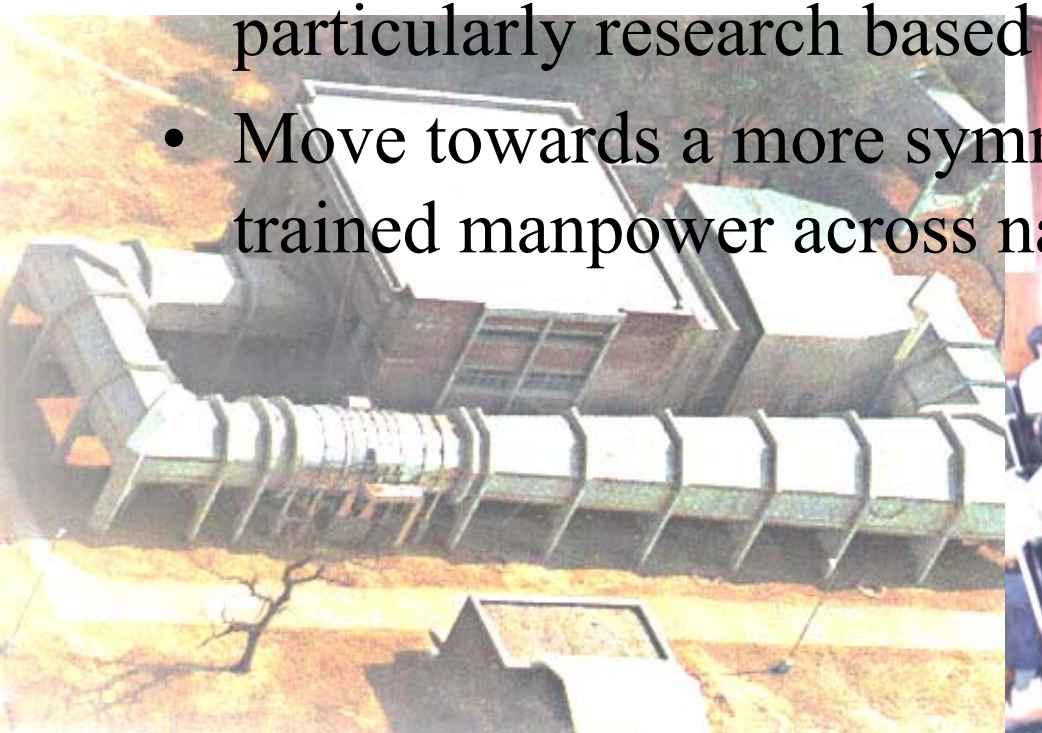
- Professional contacts at scientists level
- Thematic meetings and Conferences
- Joint Research Projects
- Joint Research Laboratories and Research Facilities

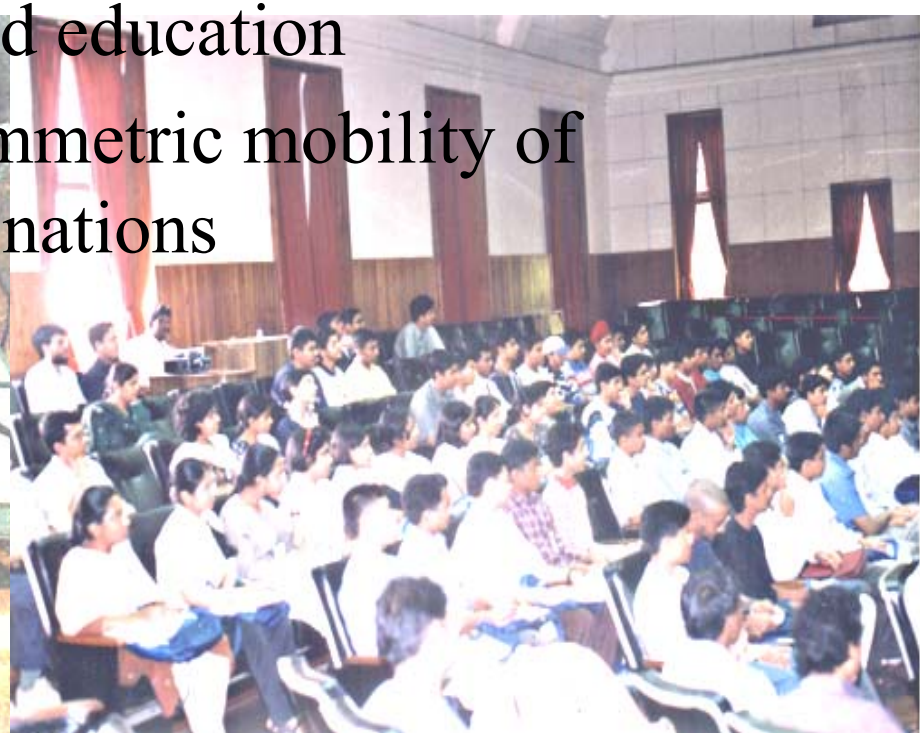
# INDIAN EXPERIENCE IN INTERNATIONAL S&T CO-OPERATION

- More than 50 bilateral agreements on S&T co-operation
- Participation in Regional and International initiatives like SAARC, ASEAN
- Participation in major research facilities like CERN, Spring-8, Electra

# SCIENCE AND TECHNOLOGY CAPACITY BUILDING

- Further strengthen educational infrastructure, particularly research based education
- Move towards a more symmetric mobility of trained manpower across nations





# ILLUSTRATIVE EXAMPLE- INDIA'S PARTICIPATION IN CERN PROGRAMMES

- STARTED AS PARTICIPATION OF INDIVIDUAL INDIAN SCIENTISTS IN DIFFERENT PROGRAMMES IN CERN SOON AFTER ITS FORMATION
- MATURED AS PARTICIPATION OF ONE INDIAN SCIENTIFIC GROUP IN CERN PROGRAMMES

# ILLUSTRATIVE EXAMPLE - INDIA'S PARTICIPATION IN CERN PROGRAMMES


- Photon Multiplicity Detector- concept, design and fabrication by India
- India's participation in LHC machine building with financial commitments
- India's participation in Experiments with LHC-ALICE, CMS
- India admitted as Observer

# PARTICIPATING INSTITUTIONS

- Tata Institute of Fundamental Research, Mumbai
- Bhabha Atomic Research Center, Mumbai
- Variable Energy Cyclotron Center, Kolkata
- Saha Institute of Nuclear Physics, Kolkata
- Institute of Physics, Bhubaneswar
- Center for Advanced Technology, Indore

# PARTICIPATING INSTITUTIONS

- Delhi University, Delhi
- Punjab University, Chandigarh
- Jammu University, Jammu
- Rajasthan University, Jaipur
- CEERI, Pilani
- SCL, Chandigarh
- BEL, Bangalore

# ILLUSTRATIVE EXAMPLE-SATELLITE INSTRUCTIONAL TELEVISION EXPERIMENT(SITE)

- Partners-India,USA
- NASA Applications Technology Satellite F (ATS F) relocated over India for the experiment
- Technology Demonstrator for Rural Education using Satellites
- Enabled Policy Options for India

# GLOBAL PARTNERSHIPS IN TECHNOLOGY

- Industry and Government generally adopt a wait-and-watch policy for new technologies at the pre-commercial phase
- Limited Technology Demonstration Projects not only result in more confidence among the decision makers on the viability of the technologies but also enable fine tuning of the technologies to local requirements

# INDIA LOOKS FORWARD TO CONTINUED INTERNATIONAL CO-OPERATION IN SCIENTIFIC AND TECHNOLOGICAL ENDEAVOURS