



# Department of Scientific & Industrial Research (DSIR)

Technology Promotion, Development and Utilization (TPDU)

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## S&T POLICY 2003

***Seek to achieve synergy between industry & scientific research***

- ❑ **To encourage transfer of know-how generated by scientists & technologists to industry through flexible mechanisms for financial returns**
- ❑ **Investments by industry in education / research and R&D, either in-house or through outsourcing**
- ❑ Technology Promotion, Development and Utilization



## DSIR - Vision



- **to encourage industry to increase their share in country's R&D expenditure**
- **support a larger cross section of small and medium industrial units to develop state-of-the art globally competitive technologies of high commercial potential**
- **catalyze faster commercialization of lab-scale R&D**
- **enhance the share of technology intensive exports in overall exports,**



## DSIR - Vision

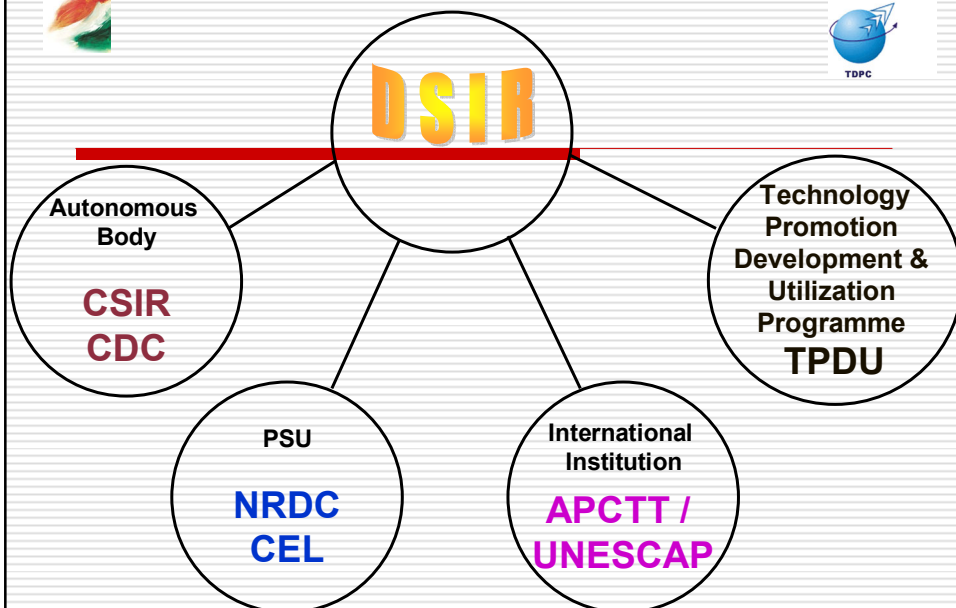


- **strengthen industrial consultancy & technology management capabilities and establish user friendly information network to facilitate scientific & industrial research in the country.**
- **It also provides a link between scientific laboratories and industrial establishments for transfer of technologies through National Research Development Corporation (NRDC) and facilitates investment in R&D through Central Electronics Limited (CEL)**



## Other Matters....

- Matters relating to International R&D collaboration involving industrial companies and industrial R&D centres.
- International Cooperation/Collaboration agreements with other countries relating to industrial R&D with the concurrence of the Ministry of External Affairs.
- Matters concerning domestic technology, particularly the promotion of ventures involving the commercialisation of such technologies other than those under the Department of Science and Technology.
- Matters relating to Technology Trade including exports of Technology and Technical Consultancy Services, in close cooperation with the Ministry of Commerce.
- Matters relating to technical, engineering and management consultancy organisations and services.



## **Technology Promotion Development & Utilization Programme - TPDU**

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### ***Two distinct roles***

- ❖ **Promotion of Technology Development, Management, Transfer, Trade and Information**
- ❖ **Facilitation of R&D in industries, Scientific & Industrial Research Organization etc.**

## **Technology Promotion, Development and Utilization Programmes**

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### **Components**

- **Industrial R&D Promotion Programme**
- **Technology Development and Innovation Programme**
- **Technology Management Programme**
- **International Technology Transfer Programme**
- **Consultancy Promotion Programme**
- **Industrial R&D and Technology Information Facilitation Programme**

## Industrial R&D Promotion

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- **Recognition & Registration of In-house R&D Units, Scientific & Industrial Research Organizations (SIROs) & Public Funded Research Institutions**
- **Administration of fiscal incentives for facilitation of Industrial R&D**

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In-house R&D units : 1205; SIROs : 555; PFRI : 570; Annual National Conference; National Awards ≈ 11; Other Fiscal Incentives : 750 Annual

## RECOGNITION FOR SCIENTIFIC & INDUSTRIAL RESEARCH (SIROs)

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- Launched in 1988
- Eligible For **Customs Duty Exemption** Notification No. 51/96 Dated 23.7.1996
- **Excise Duty Waiver** Notification No 10/97 Dated 1.3.1997
- Doner as well as SIRO get **IT rebate** U/S 35(i)(ii)/(Iii)

## Fiscal Incentives and Support Measures

- **Write Off of Revenue Expenditure on R&D** (Section 35(1) (i) of IT Act)
- Write Off of **Capital Expenditure on R&D** in the year the exp. is incurred (Section 35(1) (iv) of IT Act)
- **IT exemption @ 125% on donations made to approved SIROs** (Section 35(1)(ii) & 35(1)(iii) of IT Act)
- **Weighted Tax deduction @ 125%** for sponsored research (Section 35(2AA) of IT Act)
- **Weighted Tax deduction @ 150% on R&D expenditure** to companies engaged in the **business of biotechnology or manufacture or production of drugs, pharma, electronic equipment, computers,, etc** in Govt approved in-house R&D centres
- **Accelerated Depreciation Allowance on Plant and Machinery Based on Indigenous Technology** (Rule 5(2) of IT Rules)

## Fiscal Incentives and Support Measures (Contd.)

- **Customs Duty Exemption for Public Funded R&D institutions and privately funded SIROs**, both for **Capital equipment and Consumables needed for R&D** (Notification No, 50/96 Cus)
- **Excise Duty Exemption to Public Funded R&D Institutions and SIROs** (Notification No. 51/96-Cus and 10/97-Excise)
- **Price Control Exemption on indigenous R&D based Bulk Drugs**
- **Custom duty exemption on imports made for R&D projects funded by Government in industry**
- **Excise duty exemption for 3 on Goods designed and developed by a wholly owned Indian Company and patented in any two countries amongst India, USA, Japan and any one country of European Union.**

## Technology Development & Demonstration

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Unique Support :

- To industries in private & public sector
- To undertake R&D on products and processes (up to prototype/pilot stage) as per their own perception of market needs.

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SIR Investment  $\approx$  40% ; Payback in 5 yrs after commercialization @6% interest

## Objectives

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- Supporting Industry for Technology absorption, development and demonstration
- Building indigenous capabilities for development and commercialization of contemporary products and process of high impact
- Involvement of national research organizations in joint projects with industry

## Activities

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- **Product/ Process simulation Studies, Research/ Engg. Consultancy**
- **Pilot Plant/ Prototypes**
- **Dedicated Online Test Equipment**
- **Raw materials/ Component for Trials**
- **Testing and Evaluation**
- **Consumables and Field Trials**
- **Initial Patenting**

## Type Of Projects Supported

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- **Development and Demonstration of new or Improved Product or Process Technologies**
- **Absorption and Upgradation of Imported Technology**
- **Priority technology Dev. Projects of public sector**
- **Lab scale/ bench scale technologies developed by national laboratories/ institutions**

## **Type Of Projects Supported**

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- **Consortium projects for development of technologies of common interest**
- **Upgradation/ improvement in the products/process developed**

## **Who can Submit Proposals**

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- **In-house R&D Units of an Industry**
- **Joint projects by industry and Research Institutions**
- **Research labs/ Institutions for Tech. Development for use by cluster of Industry's**

## EXTENT OF SUPPORT

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- ⇒ **Mainly a Catalytic Support**
- ⇒ **Covers Generally about 40% of the Project Cost**
- ⇒ **Release to be made in Installments during the Project Tenure Depending on the Requirements of the Project**

## Technopreneur Promotion (TePP)

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### Unique Support

- **To individual innovators for proving their concepts & ideas into working prototypes / models.**
- **Started on : 15th August, 1998**
- **Joint initiative of DSIR & DST (TIFAC)**

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**DSIR Grant-in-aid support upto Rs.5 lakhs**

## TECHNOPRENEUR PROMOTION PROGRAMME (TePP)

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- **Any Indian Citizen having an Original Idea/ Invention/Know-how can apply**
- **Proposals from Individual Innovators to convert An Original Idea/Invention/Know-how and develop Working Prototypes/ Processes**
- **Proposals can be made by Individuals or Jointly with Sponsoring Organisations**

## TECHNOPRENEUR PROMOTION PROGRAMME (TePP)

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### TePP SUPPORT INCLUDES

- **Financial Support for Prototype Development**
- **Patent Support and Guidance**
- **Scientific/Technical Consultancy**
- **Fabrication Assistance**
- **Market Information**
- **Networking with Research Laboratories/Institutions**



# INTERNATIONAL TECHNOLOGY TRANSFER PROGRAMME



Tamil Nadu

TDP

## Broad Objective :

Promotion of international technology transfer and trade including export of technologies, projects, services and technology intensive products.

## Specific Objectives:

- ✓ To compile information on exportable technologies and technology intensive projects, products & services available with Indian industry and R&D establishments
- ✓ To create awareness about our technology export capabilities among potential foreign buyers or collaborators
- ✓ Support capability building of industries and R&D establishments for technology intensive exports



# INTERNATIONAL TECHNOLOGY TRANSFER PROGRAMME



Tamil Nadu

TDP

- ✓ Support research and analytical studies aimed at providing inputs to the government for technology export related policy formulation
- ✓ Promoting and supporting Institutional Mechanisms to catalyze international technology transfer and trade
- ✓ To facilitate signing of MoUs / Agreements on High Technology Cooperation and Trade between Indian and foreign industrial units

## Technology Management

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*"To enhance knowledge and skills in the efficient management and transfer of technology"*

### Promotional Measures

- Curriculum development and teaching tools
- Enhancing knowledge base, research and analysis (Auto ancillaries, isabgol, nanotechnology etc.) in technology issues
- Awareness building, training, capability enhancement and networking (IIMC, IITB, CDC, IITD, etc.)
- Technology identification for rural/tribal development (Handloom, Spice processing etc.)
- Provide assistance in building technology strengths
- Focused activities for SMEs/entrepreneurs
- Technology Management Resource Centres

## TMP - Proposals

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- Industry and Industry Associations, Consultancy Organizations, Research Institutions, Universities & Academic Institutions, State and Central Government

## TMP - Coverage

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- ❑ Analytical Technology Status and Development Studies for a product/ Process/Sector of Industry
- ❑ Research Studies on Specific Issues in Tech. Transfer, Tech & Innovation Management
- ❑ Case Studies covering different sectors/processes generally for a particular manufacturing unit, R&D organization
- ❑ Studies on Technology and Innovation Management Issues
- ❑ Centre for Technology and Innovation management

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## Promotion and Support to Consultancy Services

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“to promote and strengthen the consultancy services in the country in various areas “

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## **PSCS :Objectives**

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### **Consultancy services**

- o **within the country for the establishment of new enterprises, improving the performance of the existing units Infrastructure development**
- o **for acquisition or import of technologies**
- o **for export of projects, technologies and services and setting up Joint Ventures abroad, etc.**
- o **for development and transfer of technologies from R&D institutes and strengthening linkages of R&D system with industry.**
- o **for new and emerging areas of national interest.**
- o **Other areas as may be identified including special efforts for consultancies for SMEs and tiny sector.**

## **Promotion and Support to Consultancy Services**

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### **Promotional Measures**

- Consultancy Development Centre (CDC)**
- Technical Consultancy Development Programme in Asia & the Pacific (TCDPAP)**
- Studies on Capabilities, export potential etc.**
- Training**

## Promotion and Support to Consultancy Services Activities

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### ➤ **Strengthening consultancy capabilities**

- Support R&D efforts of consultancy organisations and consultancy efforts of national R&D organisations.
- Support for pilot studies, infrastructural facilities, etc for commercialisation of indigenous know-how.
- Support for studies related to assessment of National consultancy capabilities in various sectors / fields.
- Support for skill Upgradation, training, quality management, etc to consultants.
- Support for developing consultancy capabilities in emerging and newer areas including IPR, Bio-Technology, new materials, etc.
- Consultancy for Venture Capital

## Promotion and Support to Consultancy Services Activities

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### ➤ **Development of Consultancy for SMEs**

- Promote and support the availability of consultancy services to tiny and small & medium sector.
- Supporting the setting up of consultancy clinics and design & engineering services facilities in specific sectors particularly for SMEs.
- Supporting the setting up of Consultancy Parks
- Support for consultancy for commercialisation of technologies from R&D, and academic institutions for multiple licensing for SMEs.
- Training programmes etc.

## Promotion and Support to Consultancy Services

### Activities

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- **Documentation of experiences / information dissemination, etc**
- ❑ Providing incentives to consultancy promotion agencies and consulting firms to document their useful experiences in major projects, particularly abroad.
- ❑ Support to prepare publicity material, such as video films, Web sites directories, brochures, etc. particularly for exports.
- ❑ Build up linkages with various institutions/organisations within the country and abroad.
- ❑ Support for organizing and participation in training programmes, workshops, seminars and trade fairs etc in India and abroad.

## Promotion and Support to Consultancy Services

### Activities

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- **International cooperation & export of consultancy services**
- ❑ Support TCDPAP and other international programmes & activities.
- ❑ Promote international cooperation
- ❑ Support for studies related to consultancy export potential from India aiming at assessment of potential and consultancy needs of other developing countries to meet those needs.
- ❑ Support to consultancy needs for export promotion etc.
- ❑ Enhance the capabilities and supporting the activities related to accelerated technology transfer, particularly in the context of Technical Co-operation among Developing Countries (TCDC).

## Technology Information Facilitation

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***“To generate endogenous capacities for the development and utilization of digital information resources to facilitate accelerated S&T research”***

## Specific Objectives

- ***Develop appropriate endogenous information capacities to support R&D activities***
- ***Support the production of local content and to promote documentation and use of indigenous knowledge***
- ***Promote information and knowledge networking at local, regional and national levels to facilitate flow and sharing of information resources***
- ***Map the national S&T productivity in relation to the international S&T Productivity***
- ***Support education, training and R&D in digital content development and utilization***
- ***Promote national and international cooperation in related areas***

## Strategy

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- Concentrate on facilitation of Indian content on S&T**
- Avoid Duplication of Efforts**
- Minimum Overlapping**
- Maximum Utilization of Existing Facilities**
- Utilize Internet Technology**

## Area of projects

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- Local Content and indigenous knowledge - base in English & Indian Languages
- Information support facilities for Industry cluster
- National websites/portal
- Facilities of universal access and sharing of information through VIS
- Documentation of community knowledge/ folk knowledge

## Modus Operandi for Approval

- **In-House Scrutiny**
- **Scrutiny by Outside Experts and, if necessary, Field Visits**
- **Promising Projects Further Considered by 'Technical Advisory Committee' before Department's Final Approval**
- **MOU between DSIR and Participating Agencies**

## Activities [Achievements]

- **Promotion of content development [8]**
- **National Websites/Servers [4]**
- **Indian Digital Library of Theses and R&D Publications [1]**
- **Documentation of Traditional Knowledge & Folk Wisdom [8]**
- **Virtual Systems [1]**
- **Open Archives Initiative [1]**
- **Surveys, R&D Studies and Skill development [6]**

† **Number of Proposals Supported: 29**

## Technology Development & Utilisation Programme for Women (TDUPW)

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### □ Objectives

- Promoting the adoption of new technologies by women
- Awareness creation and training of women in various technologies
- Technological Upgradation of tiny, small and medium enterprises run by women entrepreneurs
- Showcasing of appropriate technologies and organizing demonstration programmes for the benefit of women

## Projects Eligible (TDUPW)

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- Projects which are relevant to the betterment of women ;
  - Studies/ surveys for the assessment of information needs of women in different walks of life
  - Documentation and content development on the following aspects:
    - Women's rights and legal provisions
    - Technologies useful for subsistence production, personal care and community management including food processing, water conservation, waste disposal, maintenance of health and hygiene, etc

## Projects Eligible (TDUPW)

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- Best practices in promoting economic activities by women
- Contribution of women innovators/entrepreneurs
- Documentation of women scientists/Technologists working in various Scientific laboratories
- Technologies and products beneficial to women
- Establishing Consultancy Cells for imparting technical knowledge on adoption of latest technologies

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## Projects Eligible (TDUPW)

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- Awareness creation and training of women in information and computer technologies
- Case studies of successful R&D professionals, industrialists, business women, women activists in different fields, employed professionals, etc

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## Institutions Eligible for Assistance

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- ❑ Institutions receiving annual recurring grants from the Central or State Government agencies including the Council of Scientific and Industrial Research, Indian Universities, Academic institutions, R&D institutions, Public Sector Undertakings, etc.
- ❑ Institutions registered as professional societies under the Societies Registration Act.
- ❑ Institutions incorporated under section 25 of the Companies Act,
- ❑ Professional & industry Associations
- ❑ Trusts registered under Indian Trusts Act, 1882

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