

MINISTRY OF SCIENCE AND TECHNOLOGY**DEMAND NO. 84****Department of Scientific and Industrial Research**

A. The Budget allocations, net of recoveries, are given below:

		<i>(In crores of Rupees)</i>								
Major Head	Budget 2008-2009			Revised 2008-2009			Budget 2009-2010			
	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total	
Revenue	1193.40	878.00	2071.40	1185.40	1208.00	2393.40	1345.30	1341.00	2686.30	
Capital	6.60	...	6.60	4.60	...	4.60	4.70	...	4.70	
Total	1200.00	878.00	2078.00	1190.00	1208.00	2398.00	1350.00	1341.00	2691.00	
1. Secretariat - Economic Services	3451	...	5.00	5.00	...	6.80	6.80	...	8.50	8.50
Other Scientific Research										
<i>Assistance to Council of Scientific & Industrial Research</i>										
2. Administration	3425	25.00	272.00	297.00	21.00	414.00	435.00	25.00	484.00	509.00
3. National Laboratories	3425	960.00	471.00	1431.00	998.00	673.20	1671.20	1085.00	722.00	1807.00
4. Scientists' Pool	3425	...	4.00	4.00	...	4.00	4.00	...	6.50	6.50
5. Research Schemes, Scholarships and Fellowships	3425	75.00	126.00	201.00	36.00	110.00	146.00	75.00	120.00	195.00
6. Intellectual Property & Technology Management	3425	34.00	...	34.00	39.00	...	39.00	40.00	...	40.00
7. New Millenium Indian Technology Leadership Initiative	3425	60.00	...	60.00	60.00	...	60.00	70.00	...	70.00
8. Institute of Translational Research	3425	1.00	...	1.00	1.00	...	1.00	5.00	...	5.00
Total Assistance to CSIR		1155.00	873.00	2028.00	1155.00	1201.20	2356.20	1300.00	1332.50	2632.50
9. Assistance to Other Scientific Bodies										
9.01 Support for R&D Schemes to Central Electronics Limited	3425	1.00	...	1.00	0.50	...	0.50	2.00	...	2.00
9.02 National Research Development Corporation	3425	10.00	...	10.00	8.00	...	8.00	6.50	...	6.50
<i>Total</i>		<i>11.00</i>	<i>...</i>	<i>11.00</i>	<i>8.50</i>	<i>...</i>	<i>8.50</i>	<i>8.50</i>	<i>...</i>	<i>8.50</i>
10. Technology Promotion, Development and Utilisation Programme (including Consultancy Development Centre)	5425	0.60	...	0.60	0.60	...	0.60	0.70	...	0.70
<i>Total</i>		<i>28.00</i>	<i>...</i>	<i>28.00</i>	<i>22.50</i>	<i>...</i>	<i>22.50</i>	<i>37.50</i>	<i>...</i>	<i>37.50</i>
11. Investment in Public Enterprises - Central Electronics Limited	4859	2.00	...	2.00	2.00	...	2.00	2.00	...	2.00
	6859	2.00	...	2.00	2.00	...	2.00	2.00	...	2.00
<i>Total</i>		<i>4.00</i>	<i>...</i>	<i>4.00</i>	<i>4.00</i>	<i>...</i>	<i>4.00</i>	<i>4.00</i>	<i>...</i>	<i>4.00</i>
12. DSIR Building and Infrastructure	4059	2.00	...	2.00
Grand Total		1200.00	878.00	2078.00	1190.00	1208.00	2398.00	1350.00	1341.00	2691.00
B. Investment in Public Enterprises	Head of Dev	Budget Support	IEBR	Total	Budget Support	IEBR	Total	Budget Support	IEBR	Total
Central Electronics Limited	12859	4.00	...	4.00	4.00	...	4.00	4.00	...	4.00
Total		4.00	...	4.00	4.00	...	4.00	4.00	...	4.00
C. Plan Outlay										
1. Other Scientific Research	13425	1196.00	...	1196.00	1186.00	...	1186.00	1346.00	...	1346.00
2. Telecommunication and Electronic Industries	12859	4.00	...	4.00	4.00	...	4.00	4.00	...	4.00
Total		1200.00	...	1200.00	1190.00	...	1190.00	1350.00	...	1350.00

1. **Secretariat-Economic Services:** Provides for expenditure of the Secretariat of the Department of Scientific & Industrial Research.

Other Scientific Research :

Assistance to Council of Scientific & Industrial Research

2. **Central Administration (R&D Management Support):**

The CSIR Headquarters is the nerve centre of the organization and catalyses and facilitates the laboratories by establishing, equipping and realizing excellence in R&D, promoting brand equity, financial self-sufficiency, global competitiveness and disseminating organizational learning. The various functional units/divisions located in CSIR Headquarters provide the R&D Management support to the national laboratories through the Scheme. It is the link between the laboratories, the government, the parliament and international agencies. It provides support to the laboratories for human resources development, international scientific collaboration, publicity and public relations, performance appraisal, scientific audit etc.

3. **National laboratories:** The National Laboratory scheme is operated through 37 National Laboratories and 38 field Centres. During the Eleventh Five Year Plan the research programmes/projects/activities of the National Laboratories have been categorized into sixteen major socio-economic sectors viz Aerospace Science & Engineering; Agro, Food Processing & Nutrition Technology; Biology & Biotechnology; Chemical Science & Technology; Earth system science; Ecology & Environment; Sustainable Energy; Electronics, Photonics & Instrumentation; Engineering Materials, Mining/Minerals & Manufacturing Technology; Affordable Healthcare; Housing, Road & Construction; Information Technology; Resources & Products; Leather; Metrology; Rural development, weaker section, SC/ST and North East; and Water: Resources & Technology.

CSIR's Eleventh Plan approach focuses on "technology led rapid inclusive growth". The proposed projects/programmes are more specifically addressed as (i) Supra-Institutional Projects; (ii) Network Projects; (iii) Inter-agency project and (iv) National Facility. The projects in the newer S&T areas are, generation of technological know-how and strategic options over a wide spectrum of science & technology, human resource development etc. Besides, core competencies of its establishments in basic and applied research would be enhanced. CSIR of the 2009-10 and of the future shall continually reinvent itself and work for the unmet needs of millions of Indians.

4. **Scientists' Pool:** The objective is to promote and create a pool of qualified, highly specialized scientists/engineers and technologists in R&D in all disciplines of S&T in the country.

5. **Research Schemes, Scholarships and Fellowships (National S&T Human Resource Development):**

CSIR's support to National S&T Human Resource Development extends from the age of 16 to 65 years and transcends diverse sectors and disciplines. This scheme focuses on promotion and fostering the up-gradation of the stock of qualified, highly specialized scientists/engineers and technologists in R&D in all disciplines of S&T in the country, and evolving an integrated approach for the national human resource development for S&T by encouraging and promoting research in the universities and institutions of higher learning. The scheme also supports organizations to hold symposia/seminars and conferences for promotion of science. To promote science amongst youngsters, various programmes and activities would continue to be supported through a Team India partnership, which involves participation from eminent scientists and experts from academia, in-house industrial R&D units etc.

CSIR has established various fellowships in trans-disciplinary and niche areas to support researchers to face up to the challenges of the future rather than be confined to areas where there are limited opportunities and challenges. CSIR also inculcates a spirit of entrepreneurship in the research scholars to establish their own R&D enterprise through appropriate motivation, skills development and venture financing.

Taking note of the serious concern expressed over decreasing interest of young talented people to take up careers in basic sciences, CSIR is continually formulating schemes to attract students to science. The recent scheme on 'CSIR Nehru Science Postdoctoral Fellowships' is one such effort to attract talented youth to take-up research career. All these efforts would progressively increase the rate of generation of high quality skilled human resource at all levels, and instil scientific temper in the population at large.

6. **Intellectual Property & Technology Management:**

The objective of the scheme is to enhance the volume and value of Intellectual Property (IP) generated by CSIR and to share the best innovation and technology management practices organizationally and with the Indian S&T community at large. The volume of IP rights secured by CSIR has greatly increased over the time. The major task, however, is to realize adequate and appreciable value from the IPR.

Necessary skills and knowledge base in the area of IPR in CSIR are being refurbished, particularly in some still unresolved issues such as 'traditional knowledge', 'genomic sequences', 'copyright on the Net' etc. It is proposed to advise the policymakers appropriately on the new development and changes proposed in international IPR arena.

7. **New Millennium Indian Technology Leadership Initiative (NMITLI):**

NMITLI scheme envisages to catalyze innovation centered scientific and technological developments as a vehicle to attain for Indian economy a global leadership position in selected niche areas in a 'Team India' partnership. During the Tenth Plan NMITLI has created a brand image and is viewed today as a benchmark of Public Private Partnership (PPP) schemes which is being emulated by various other government departments. Newer approaches of innovation development need would be evolved and experimented. Following are a few of the concepts to expand NMITLI during the Eleventh Plan.

- Pre and post NMITLI
- Funding with industry (50:50 Initiative)
- Co-financing with Venture Capital Funds
- Long term sustained efforts in selected areas(NMITLI innovation centres)
- Acquisition of early stage relevant knowledge / IP for portfolio building.

8. **Institute of Translational Research:** Biological/clinical research is increasingly becoming interdisciplinary. At the same time, translational research need focused attention of scientists from different fields. There is a need for setting up few Institutes of Translational Research across several subject domains and in multiple locations as part of CSIR Innovation Complexes. The proposed initiative would aim at:

- Application of knowledge of modern biology into clinical care.
- Systematic collection and analysis of large amounts of clinical data.
- Development of ways and means of personalized medicine.

- Development of specific stem cell populations to treat a variety of illnesses such as Parkinson's disease, Type-1 diabetes, retinal degeneration, myocardial infarction, spinal cord damage, multiple sclerosis and many others.
- Molecular diagnosis: Development of new diagnostic markers/tools/methods and providing the services of the same and genetic counseling.
- Training would be a major component to generate adequate manpower for the country to set up more such institutes and to excel in this field.

9. Assistance to Other Scientific Bodies

9.01 Central Electronics Limited:

Support to R&D Schemes: Central Electronics Ltd. (CEL) is one of the PSUs of DSIR which has mostly depended on home-grown technologies all these years of its existence and continues to be committed towards this approach. It has developed a number of novel products/processes either through its own R&D efforts or in close association with premier National and International laboratories, R&D institutions and Defence Laboratories.

CEL is engaged in the areas of solar photo-voltaics, railway electronic signaling & safety equipment and strategic electronics for critical defence applications. The company has a modern infrastructure and quality systems conforming to ISO 9001:2000 certification for manufacture of quality products to international standards in the above areas. CEL is backed by a strong core group of dedicated, highly motivated and well qualified R&D engineers and scientists in each business group, committed to the company's mission of achieving market leadership through excellence in technology and manufacturing.

9.02 National Research Development Corporation: NRDC was established as a company, under Section 25 of the Companies Act to commercialize the Research and Development results of publicly funded R&D institutions as well as to promote the growth of indigenous technology. Its main objectives are:

- Developing pro-active eco-system of innovation and knowledge transfer
- Developing knowledge base on a variety of technologies
- Honing physical network of linkages and alliances
- Developing early stage linkages between the Research Institute & Industry through the Knowledge Management System.

- Supporting new ventures with market intelligence, research and development and, if necessary, external funding.

10. Technology Promotion, Development and Utilization Programmes:

TPDU Programmes would endeavour 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 start-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, strengthen industrial consultancy & technology management capabilities and establish user friendly information network to facilitate scientific & industrial research in the country. The specific components of the scheme are:

- Industrial R&D Promotion Programme
- Technology Development and Demonstration Programme
- Technopreneur Promotion Programme
- Technology Management Programme
- International Technology Transfer Programme
- Consultancy Promotion Programme
- Technology Information Facilitation Programme
- Technology Development & Utilization Programme for Women

Consultancy Development Centre (CDC): The Consultancy Development Centre (CDC) was set up as a registered society in January 1986, and is functioning from its office at India Habitat Centre Complex since May 1994. The CDC was approved as Autonomous institution of Department of Scientific & Industrial Research (DSIR) in December 2004. Over the years CDC has concentrated mainly on development of human resources, providing computerized data/information services, and strengthening of technological and managerial consultancy capabilities including promoting consultancy exports. The main objective of the Scheme is to strengthen and promote industrial consultancy services and capabilities for domestic use and export requirements.

11. Investment in Public Enterprises

Central Electronics Ltd. CEL is also supported for projects relating to enhancement of the capacities of its manufacturing facilities in the three business groups and also for up-gradation of its office and factory infrastructure facilities.