

10.4 INFORMATION TECHNOLOGY

Overview

The Information Technology Industry is the fastest growing segment of the Indian economy. The Information Technology Sector has grown in size from Rs. 5,450 crores in 1994-95 to about Rs. 64,200 crores in 2001-02 contributing 0.59% and 2.87% to G.D.P. growth respectively in the corresponding periods (Source: IDC, NASSCOM, 2002). The composition of Hardware and Software exports is estimated as follows:

Description	1994-95 Rs. 5450 crore	2001-02 Rs. 64200 crore
Software and Service Exports	28.3%	57.4%
Domestic Software and Services	17.9%	17.3%
Hardware peripherals and networking	48.4%	22.3%
Training	5.5%	2.9%

The countrywise Indian Software Exports in 2000-01 was as follows:

Country	Rs. in crores	Percentage
USA	17336	61.15
UK	3355	11.84
Japan	1021	3.60
Germany	900	3.20
Singapore	540	1.90
Canada	425	1.50
Netherlands	360	1.27
Switzerland	340	1.20

The NASSCOM estimates the global market and the opportunity for Indian Exports to a level of US \$700 billion and India's exports form about 5% of the global market by 2005. The NASSCOM review paper also indicates that the Internet subscribers base will grow from 5,11,376 persons in 2001 to 56,33,322 persons in 2006.

The position in regard to software exports classified on area of expertise is set out in the Table below:

(Rs. in crores)

Area of expertise	1999-00		2000- 01		2001-02	
	Export	% on Total	Export	% on Total	Export	% on Total
Application Software	1223	64.0	1167	39.5	4678	89.65
Online consultancy	470	25.0	739	25.0		
System software	139	7.0	626	21.2		
IT enabled	68	4.0	260	9.0	340	6.50
Web Application	9	0.5	121	4.1	180	3.53
Products/Package	5	0.3	43	1.5	17	0.32

Tamil Nadu Scenario

The Information Technology Industry has opened up tremendous opportunity for the promotion of Software exports and services in the State in recent times. A sound Agro-industrial base and infrastructure, world class connectivity, comfortable power position, world class health care, top grade educational institutions and outstanding human resources have made Tamil Nadu a highly favoured destination in Information Technology related activities.

For the Ninth Plan, the State had drawn up an ambitious plan to improve its contribution from 7% to 20% in software exports by the end of Ninth plan. The actuals indicates that the State achieved 14.7% of All India Software Exports. The hardware exports from Tamil Nadu were at the level of Rs. 482 Crores at the end of the Ninth Plan. Despite industry recession, Indian Information Technology Industry has registered a growth rate of 33% in IT exports in 2001-02. Tamil Nadu which crossed US \$ 1 billion mark in exports in 2001 - 2002 registered a growth rate of 67.6%.

The year-wise position of software exports from Tamilnadu may be seen from the Table below:

Year	No. of Units	Exports in Rs. crores
1996-97	69	161
1997-98	108	393
1998-99	166	1246
1999-00	596	1914
2000-01	757	3116
2001-02	866	5223

The geographical distribution of software export units is as follows:

Place	No. of Units (2000-01)
Chennai	676
Coimbatore	66
Madurai	5
Tiruchi	2
Tiruppur	2
Vellore	1
Dindigul	1
Tirunelveli	2
Erode	1
Tanjore	1
Total	757

As regard domestic software production, the opening up of economy has resulted in companies not reporting their achievement to their respective

authorities. In view of non-regulatory regime, the exact picture on the performance of Information Technology cannot be drawn up.

It is estimated that about 45,000 professionals are employed in Tamil Nadu in IT sector. Reputed organisations like the World Bank, ABN - AMRO, and EDS have established their back offices and Global Development Centres in Chennai. Bharti Enterprises, Reliance Infocom, the private telecom service providers have started operations in Tamil Nadu. M/s. Bharti is constructing the world's biggest submarine Optical Fibre Cable project-i2i connecting Chennai and Singapore. The telecommunications backbone of the State is also being strengthened by providing an Optical Fibre Cable (OFC) network to every nook and corner of the State.

Tamil Nadu announced a comprehensive IT policy in 1997, the main elements of which were:

- 1) To encourage and accelerate the growth of hardware and software industries and associated sources in the State and to remove the bottlenecks for starting and running such units in Tamil Nadu.
- 2) To increase both domestic and export earnings of software and hardware sectors in the State.
- 3) To upgrade and develop manpower skills required for the information technology industry by facilitating training, to accelerate the use of information technology in schools, colleges and educational institutions with a view of providing skills and knowledge to the youth to make them fit for employment in this sector.
- 4) To upgrade the quality of life of the citizens of the state by facilitating access to consumer application of information technology.

The policy also mentioned the existing incentives (tax concessions and subsidies) as well as the new infrastructure initiatives such as information technology parks, telecom services/information backbone and the venture capital fund for development of the information technology industry in the State. With respect to human resource development, the policy initiatives included the setting up of training institutions, computer training in schools, etc.

Information Technology Infrastructure

- Optical Fibre Cable (OFC) - Six agencies have been permitted on a non-exclusive basis to create high bandwidth OFC networks to cover the entire State.
- Software Technology Parks of India (STPI) has been given financial assistance to set up international data links at Madurai, Tiruchi, Tirunelveli and Chennai. This is in addition to the STPI and VSNL facilities at Coimbatore. This will facilitate the spread of the information technology industry; including software and ITES and create employment opportunities throughout the State.

- Information Technology Corridor - The Tiruppur Information Technology Corridor along the Old Mahabalipuram Road will be provided with world class infrastructure and Knowledge Industry Townships (KITs) aimed at Knowledge Oriented Industries.

Telecom Infrastructure

The telephone density in Tamil Nadu is one of the highest in the country second only to Kerala in the southern states as given in Table below:

**Telephone Density in Southern States
(As on March 31, 2000)**

State	Area in '000 sq. km.	No.'000 of Telephones	No. Per sq. km.	No. Per 100 Population
Andhra Pradesh	275	2333	8.5	3.1
Karnataka	192	1957	10.2	3.8
Kerala	39	1812	46.5	5.6
Tamil Nadu	130	2840	21.8	4.5
All-India	3287	28396	8.7	2.9

Source: *Indian Telecommunication Statistics (2000)*. Ministry of Communication

Tamil Nadu has nearly 100 per cent rural connectivity in terms of Village Phone Terminals (VPT) compared to the All-India average of 67 per cent as given in Table below:

**Rural Coverage - Telecom
(As on March 31, 2001)**

States	No. of Villages	No. of VPTs	% Coverage
Andhra Pradesh	29460	23383	79
Karnataka	27066	27056	100
Kerala	1530	1530	100
Tamil Nadu	17991	17898	99
All - India	607491	408922	67

Source: www.bsnl.con.in

Information Technology Parks

- TIDEL Park, a one million square feet information technology park is now functioning in - Taramani. Reliable power supply and communication / uplink facilities are critical requirements of software companies which are provided at TIDEL Park. TIDEL-II with a floor space of two million square feet is being planned.
- Elnet City - Elnet is a joint sector company of the Electronics Corporation of Tamil Nadu (ELCOT) with the objective of constructing and maintaining the first private sector software technology park in the country. Elnet City has a built up area of 140,000 sq.ft. and is part of the Cyber Corridor in Taramani.
- SIPCOT has developed a 1000 acre information technology park in Siruseri village, 20 km. south of Chennai, for allotment of land to

information technology companies. There has been good response from large companies like TCS.

- The 1700 acre Mahindra Park a joint venture of TIDCO, ILFS and Mahindras is being developed south of Chennai near the Airport.
- Tex City - A Software Park with 90,000 sq. ft. space is located close to the Coimbatore Airport to encourage prospective software developers to locate their office space.

E-Governance initiatives in Government

The State has made considerable strides in the use of Information Technology in the day to day administration and in public - Government interface. Rural connectivity is sought to be provided by Rural Internet Kiosks. SARI (Sustainable Access in Rural India), a rural connectivity pilot project was taken up in Melur Block, Madurai District which has been upgraded as RASI (Rural Access to Services through Internet) to cover all districts in a phased manner starting with 10 districts - Madurai, Cuddalore, Coimbatore, Kancheepuram, Theni, Thiruvallur, Erode, Salem, Tirunelveli and Nagapattinam. The Rural Internet Kiosks will open channels of communication for the people with the Chief Minister's Office and the District Offices - enabling the people to air their grievances, obtain information on rainfall, market price information and access Agricultural Extension & Veterinary and Health Services and also prefer applications online for Births, Deaths, Income, Community and Nativity Certificates.

Revenue Department - Under the computerization of the land records programme - Tamil Nilam - (Tamil Nadu Infosystem on Land administration and Management) all the 206 taluk offices have been fully computerized and the data digitized. The project has been undertaken in two phases - Phase I and Phase II with a cost involvement of Rs. 132.60 lakhs and Rs. 406 lakhs. With Tamil Nilam, the citizens access to the land records has become easier & faster. The Touch Screen Kiosks at the 30 Model Taluk Offices will enable the public to view details like land, patta, guideline value, birth details etc., at one touch. The facility has been designed with a built-in revenue model at an outlay of Rs. 62 lakhs.

Transport Department - Issue of Computerized laminated license system has been established in all the RTO /Unit Offices in the State. The computerization of Transport Offices is being introduced in a phased manner with 17 RTO/ Unit Offices having become operational in Phase I. The balance 73 RTO/Unit Offices will be covered in Phase-II.

Judiciary - A comprehensive computerization programme covering various operations in the High Court has been taken up in a phased programme.

Education - An ambitious programme to impart 'computer literacy and education' in all the Government Higher Secondary Schools was taken up and a total of 1,197 schools covered - 666 in Phase I and 531 in Phase II with an outlay of Rs. 112.33 crore and Rs. 77.40 crores respectively. Similarly, all the Government Arts and Science and Law Colleges numbering 65 have been

covered for the IT Education Programme benefiting 14,000 students. The Anna University has undertaken the issue of computerized Hall Tickets for Tamil Nadu Professional Course Entrance Examination (TNPCEE) enabling efficient online services in a critical period. Students' counselling for allocation of branches in professional streams through IT enabled system has been undertaken with an outlay of Rs. 2 crores benefiting about 50,000 people resulting in counselling services being rendered much faster.

Backward Classes - Computer Training to enhance the IT skills and employment prospects for BC candidates has been undertaken - the project has been implemented in 127 centres with an outlay of Rs. 5.09 crores covering 4077 students.

Housing and Urban Development - The operations of the Tamilnadu Cooperative Housing Federation office in Chennai have been fully computerized to enable speedy loan application clearances and improve the internal efficiency of the Federation.

Small Industries - A system for online registration for issue of provisional SSI registration certificate through browsing centers is being launched shortly by the Small Industries Department.

Health and Family Welfare - Computer education has been introduced in all the State Government Medical and Dental colleges with a outlay of Rs. 1.70 crore and a coverage of 1400 students. The operations of Tamil Nadu Medical Services Corporation have been fully computerized with an outlay of Rs. 30 lakhs. It is a model of E-procurement of Drugs and Medicines over Rs. 100 crores in the Health sector. Under this, an efficient and centralised procurement and distribution system has been put in place.

Commercial Taxes - 140 out of 323 assessment circles have been computerized with an outlay of Rs. 3.57 crores enabling better tax collection and faster and efficient services to tax payers.

Registration - A massive and comprehensive computerization of the department has been undertaken under project STAR (Simplified and Transparent Administration of Registration) in a phased manner to cover all the 650 offices. Phase-I covered 25 Sub Registrar offices / District Registrar offices with an outlay of Rs. 1.25 crores and in Phase-II 225 offices with an outlay of Rs. 54.34 crores. The remaining offices will be covered in Phase-III. This has enabled issue of EC certificates, document registration and guideline value information access in a pleasant and easier manner.

Electricity Department - Computerisation to cover low tension billing, coal billing and inventory management has been undertaken in Tamil Nadu Electricity Board with an outlay of Rs. 1.78 crores. A pilot project of IT enabled citizen payment centre is operational in T.Nagar Zone, Chennai. The scaling up this project is on the anvil.

Municipal Administration and Water Supply - Chennai Corporation has implemented an ambitious IT Project that involves online education, provision of internet connection, multimedia projectors for Chennai Corporation Schools. Phase-I is covering 50 schools at an outlay of Rs. 115 lakhs. The total number of student beneficiaries is about 40,000.

A web enabled service covering Metro water and TWAD has been implemented.

A massive programme for computerization of the Urban Local Bodies with World Bank assistance is being undertaken.

The website provides information about Rainwater Harvesting, Village Information System, Water Quality and Geology Information.

Co-operation, Food and Consumer Protection - The printing of ration cards has been computerized.

Public Department - ISDN connectivity based Video Conferencing System has been setup between the State Headquarters and District Collectorates. This will be expanded to cover the Police Headquarters and the field offices. A high speed inter-connectivity of 2Mbps has been provided in the Secretariat so that the nerve centre of administration does not lag behind in access to information for crucial decision making. A Dataflow and Knowledge Management for computerization of Secretariat will be introduced. SKS (Secretariat Knowledge System) will be implemented.

IT in Tamil - Government has set up the TVU - (Tamil Virtual University), a Globally First Virtual University for language learning. The website has been recently inaugurated and made available for Tamil Diaspora globally.

An OCR - (Optical Character Reader) in Tamil has been developed under the Tamil Software Development Fund of the Government. This is the first commercial OCR in Indian Language. The introduction of Tamil OCR is expected to enhance Tamil computing for capture and editing of printed text images.

A massive exercise of converting all Government websites in bilingual form (Tamil & English) for dissemination of information to the public at large in rural areas is being undertaken by TVU & ELCOT jointly.

Information Technology Enabled Services (ITES)

The Tamil Nadu Government is exploring the possibility of setting up a special purpose vehicle to develop and promote Coimbatore, Madurai and Trichy as preferred hubs for ITES. ITES is one of the fastest growing segments of the information technology industry worldwide. Tamil Nadu is well placed to develop the ITES sector because of its better educational and overall infrastructure.

New Information Technology Policy of Tamil Nadu

During the 2002-03 Budget session, the Governor's address outlined the 15 Point Programme of the Chief Minister which indicated technological leap frogging for promotion of Information Technology and stressed on co-ordinated efforts between academic know-how and field level do how, launching a movement for fostering greater public understanding of the Science and promoting a new social contract between scientist and society.

The Chief Minister announced the New IT Policy - 2002 on the 19th of September, 2002 designed to establish the State as the "Destination of Choice" for IT investments. Outlining a road map to make Tamil Nadu the "Information Technology – Enabled Services and Business Process Outsourcing capital of the World" the Chief Minister highlighted the strategies envisaged in the new IT Policy towards achieving the desired goals in IT Sector and to bring Tamil Nadu to number one position in the country.

Recognising the increased role for the private sector in Information Technology Development, e-governance initiatives would be implemented through public-private partnership with suitable revenue sharing models. The Information Technology would be used for sharpening the competitiveness of old economy industries, for connecting people in remote rural areas with urban centres and generating rural wealth and employment. The policy directives for deployment of scarce resources through an appropriate 'return on investment' strategy were needed for translating this grand vision into action points.

The new policy would lay special emphasis on application services and development of Information Technology in Tier-II cities such as Coimbatore, Salem, Madurai, Trichy and Tirunelveli besides strengthening the areas focussed Information Technology installed capacities and institutions, Information Technology infrastructure and connectivity to Information Technology Parks. The Government of Tamil Nadu will launch special drives for making its cities vibrant and innovative, customer focussed and conforming to international standards in quality of life indicators to make the State a 'Knowledge Power House' to capture 20% of Indian market in IT exports by the end of Tenth Plan.

IT & ITES would be the "guided missiles" for ushering in a new era of rapid development and prosperity in the State.

Highlights of new I.T. Policy (2002)

- Government set on developing the State as a global centre for Business Process Outsourcing (BPO) and investment destination for IT industry. Large pool of technically qualified human resource in Tamil Nadu, particularly in important tier - two towns such as Coimbatore, Madurai, Tiruchi, Tirunelveli and Salem could be utilised to ensure development of BPO potential.
- To upgrade the quality of life through e-governance.
- To bridge the digital divide by accelerating internet penetration in rural areas, setting up of Kiosks and Online libraries and a bilingual internet portal with links to State Government departments and services; to accord a prominent role to Tamil in Information Technology.
- To encourage R & D.
- To promote e-governance and IT applications in Government and introduce Electronic Delivery of Services (EDS).
- New Fiscal Incentives to IT entrepreneurs besides continuing the existing concessions.
- IT companies to be allowed self-certification on issues pertaining to various Labour Acts and Shops & Establishments Act.

Business Process Outsourcing

Now the fastest growing industry, electronic back-office operations have emerged as India's new sunshine sector.

Business Process Outsourcing is now the fastest growing industry in the country - it expanded at an explosive 70 per cent last year. This is despite a dotcom implosion and a sluggish international economy that slowed up even the country's hot-shot information technology sector.

India is now the electronic housekeeper to the world, taking care of a host of routine activities for multinational giants. Business Process Outsourcers or simply call centres here handle these companies' worldwide credit-card inquiries, churn out invoices, prepare pay rolls, reconcile daily accounts, write medical transcriptions, process application, write cheques and even do billings and collections. More than a quarter of the Fortune 500 companies such as GE, American Express, British Airways, HSBC, Citibank and AT & T, are shifting their back-office operations to India.

The reason is simple: India churns out two million English-speaking graduates every year whose wages are 80 per cent less than their western counterparts, saving foreign companies enormous sums of money on such services. In India, a call centre associate is available for Rs. 45 an hour while his American counterpart charges Rs. 550. The rule of thumb is an annual savings of \$30,000 (Rs. 15 lakh) for every call centre employee.

There has also been a fortuitous set of global trends that have seen multinationals mercilessly slash costs to beat the recession and concentrate on their so-called core competencies. This has meant that mundane back-office tasks such as accounts and administration if done cheaply over fibre-optic networks or satellite telephony could be outsourced to offshore locations. India has been a favorite destination for other reasons too. In just two years, it effected a 110 per cent drop in the international private lease line rates with an equally dramatic fall in long-distance telephonic charges.

- 2 million is the total number of jobs that outsourcing centres in India will provide in six years. Currently they employ 1,10,000 people.
- Rs. 1,15,200 crores or \$24 billion is the revenue expected from this sector in 2008 which will be 3 per cent of India's GDP. Today it is \$1.47 billion.
- 71 per cent was the rate of growth last year in this sector making it the fastest growing industry.
- 336 is the number of centres in India that have come up in the past five years. In the past year alone, 50 major new ventures were set up.
- India is ahead of the pack of providing IT enabled services by a huge margin. Its closest rivals are the Philippines and Ireland.

(Source: India Today, Nov.18, 2002)

The State's Information Technology Policy 2002 is summarised below.

Vision

To put the smile of prosperity on the face of every citizen of Tamil Nadu by leveraging Information Technology to create value and wealth for a knowledge-based State.

Objectives

- To establish Tamil Nadu as the Destination of Choice for IT investments.
- To upgrade the quality of life for the citizens through e-Governance and IT applications in Government.
- To empower people in the rural areas so as to bridge the Digital Divide.
- To develop Research and Development initiatives.
- To promote use of Tamil in Information Technology.

Destination of Choice

The Government of Tamil Nadu will launch special drives for making its cities vibrant and innovative, customer-focussed and conforming to international standards in quality of life indicators to make the entire State a knowledge powerhouse to capture 20% of Indian market by the end of the Tenth Plan period.

Concessions available to the IT industries

Existing concession available for IT industries will be continued. In addition the new incentives announced are as given below:

Fiscal Incentives etc.

- Relaxation of FSI (Floor Space Index) to the extent of 100%
- 50% upfront exemption of the Stamp Duty and the Registration Fee.
- Special concessions will be given to the IT Companies giving employment opportunities to the physically challenged persons.
- Government of Tamil Nadu will collaborate with leading institutions for the development and promotion of specific software for the use of physically challenged persons.

Administrative Incentives

- Further exemption from the provision of Chapter III of the Tamil Nadu Shops and Establishment Act covering sections 12 to 16.
- IT Companies will be permitted to self certify that they are maintaining the registers and forms as contemplated under different acts and rules.

Physical Incentives

- The requests of the IT Companies for maintaining the OSR (open space reservation) will be considered favourably.

- Tamil Nadu will be positioned to attract investments in areas of Disaster Recovery and Business Process Continuity.
- Motor Vehicles Act has been amended to enable the IT Companies to make use of hired privately owned omnibuses.
- Annual awards for excellence (which will include export performance) will be instituted by the Government for IT Industries.

Infrastructural Incentives

- Separate task forces on Cyber Security, Prevention of Cyber Crimes and IT infrastructure will be established.

Promotional Initiatives

Social Initiatives

- Corporate health services, golf courses, international schools and such other special needs will be made available for business houses by encouraging private initiatives.

Infrastructural Initiatives

- Knowledge Industry Townships (KITs) will be created in the IT highway in Chennai through a Public Private Partnership program.
- A Special Purpose Vehicle (SPV) will be created to own and take forward the initiatives to position Coimbatore, Madurai, Trichy, Tirunelveli and Salem as the best Tier-II cities for IT investments.

Physical Initiatives

- Enabling mechanism will be created so that existing infrastructure in industrial estates like Perungudi/Maraimalai Nagar/Ambattur could be put into use in a cost effective manner by IT Companies.

Human Resources Development Initiatives

- Basic training in computers will be introduced in all schools from the high school level.

E-Governance and I.T. Applications in Government

- Plans to introduce Electronic Delivery of Services (EDS)
- All Elected Representatives will be trained on the use of Computers and E-Mail.
- Suitable innovative schemes to upgrade the levels of IT usage in Government Departments.
- Touch screen kiosks with suitable bilingual software and internet facilities will be deployed through out the State.
- Government will come out with guidelines for e-signature and Electronic records as per Section 6 of the IT Act 2000.
- Government of Tamil Nadu will set a specific annual target for e-governance activities of each department.

- Government will establish a Portal for exchange of information and views on the directions of the Government's IT strategy.

Bridge the Digital Divide

- Tamil will be given a prominent role in IT.
- The process of PC and Internet penetration in the rural area will be accelerated.
- A bilingual Internet portal will be set up with links to State Government departments and services to provide single window access "Any Time Any Where".
- Government will encourage setting up of Internet Kiosk and Online Libraries in existing Infrastructure like Public Libraries/Public Government Offices throughout the State.

Research and Development Initiatives

- Tamil Nadu Government will leverage the State's Unique Selling proposition (USP) of an 'intellectual powerhouse' to convince IT MNCs to set up research centres in Chennai.
- Investments in Very Large Scale Integrated chip (VLSI) design services/ Application Specific Integrated Circuits (ASIC) design services and Embedded System design will be promoted for enhancing the employment of highly qualified professionals.
- Enabling initiatives will be undertaken to seed R&D activities.

Tamil in Information Technology

- The Government will facilitate Research in Tamil Computing.
- The Tamil Software Development Fund (TSDF) will be further strengthened for devising IT solutions in Tamil.
- All websites will be converted into Bilingual.

Summary

Tamil Nadu will consolidate its leadership position and firmly establish its pre-eminent position in IT. The strength of Tamil Nadu especially in Tier-II cities will be marketed globally to attract and retain foreign investments. Additionally Tamil Nadu based IT Companies will be encouraged to globalise their operations. The large base of engineering institutions in the State is a significant asset. They will be encouraged to interact with industry, centres of excellence so as to have the best match of Industry-Academia. The Government emphasis will be on governance with transparency. This policy is aimed at removing illiteracy and promoting technocracy, creating opportunities specially targeting rural areas. Tamil will be given a prominent place not only in the IT world but also in the commercial world. Sufficient mechanism will be created to implement cyber laws. Software piracy, IPR issues and violation of cyber laws will be curbed. Enabling mechanisms and institutions will be created for this purpose. Technical capabilities of the State

Police will be enhanced to handle cyber crime. In short, this policy will make Tamil Nadu as the "Destination of Choice" for IT investments globally. The State will transform from inline to online thereby becoming the Knowledge-Capital of India.

Tenth Five Year Plan (2002-07) : Programmes & Outlay

The expenditure on Information Technology activities is debitable to the heads of account of the concerned departments performing them. Promotional activities and expenditure of a general nature were reflected in the budget of Industries Department in the Ninth Five Year Plan period.

A major effort to promote Information Technology sector is proposed in the Tenth Plan period (2002-07). The Government will continue to be a facilitator and act as a catalyst for the accelerated growth of Information Technology. The Electronics Corporation of Tamil Nadu, (ELCOT) under the aegis of the Department of Information Technology would undertake promotional, Research & Development activities, facilitating and coordinating with various institutions and departments, creation of general infrastructure for Information Technology development, etc. The Department of Information Technology would accelerate e-governance in Government during the Tenth Plan.

Towards this end the following activities are proposed to be taken up by Information Technology Department/ Electronics Corporation of Tamil Nadu Ltd. (ELCOT) during the Tenth Plan period.

1) Research and Development (R & D)

New emerging technologies need support through fundamental Research and Development activity. Nano Technology is one such new promising technology for potential usage in the effective delivery of health, energy and computing. ELCOT had sponsored an international conference on Nano Computing at Thanjavur in December 2001. ELCOT would organise similar conferences with the collaboration of leading institutions in the State during the Tenth Five Year Plan period.

The Government of Tamilnadu, the Government of India and Massachusetts Institute of Technology, USA would jointly establish a regional laboratory in Chennai to take up advanced R & D areas in communication computing.

ELCOT and Indian Institute of Technology (IIT) would set up an International Research and Development Park in Information Technology enabling Tamil Nadu to achieve World Standard in Information Technology.

ELCOT would also make investments in Very Large Scale Integrated chip (VLSI) design services/Application Specific Integrated Circuits (ASIC) design services and Embedded System design for enhancing the employment of highly qualified professionals.

The requirement of funds for R & D activities during the Tenth Five Year Plan is indicated to be Rs. 15 crores.

2) *Information Technology in Tamil*

The Government has set up the Tamil Virtual University (TVU), globally the first Virtual University for language learning. The website has been recently inaugurated and made available for Tamil Diaspora globally. An Optical Character Reader in Tamil has been developed under the Tamil Software Development Fund of the Government. A massive exercise of converting all Government websites in bilingual form (Tamil & English) for dissemination of Information to the public at large in rural areas is being undertaken by TYU & ELCOT jointly. Tamil Virtual University (TVU) and ELCOT will work together for devising IT Solutions in Tamil and facilitating research in Tamil Computing and for the development and use of Tamil software and Digital Library by Tamil Virtual University for universal usage.

The requirement for the above purpose is indicated as Rs.5 crores during the Tenth Five Year Plan.

3) *Promotion of Tamil Nadu as Destination of Choice*

The Government of Tamil Nadu is committed to make Tamil Nadu a knowledge powerhouse by the end of the Tenth Plan period. ELCOT would participate in International /National events like exhibitions and conferences to attract prospective investors to Tamil Nadu. For this purpose, ELCOT will launch special purpose vehicles to study and provide world class infrastructure for attracting Information Technology investments in the cities of Coimbatore, Tiruchirapalli, Madurai and Tirunelveli.

For this purpose a sum of Rs.7.50 crores is proposed during the Tenth Five Year Plan period making Tamil Nadu as Destination of Choice in Information Technology sectors.

4) *Creation of Information Technology Infrastructure including Knowledge Industry Townships (KITs)*

Thiruporur Information Technology corridor along the old Mahabalipuram road needs to be provided with world class infrastructure and Knowledge Industry Townships aimed at addressing the basic concerns of knowledge oriented industries. KITs will be set up in public private partnership in association with the Confederation of Indian Industry. SED investments and study through consultants are needed for carrying forward these initiatives.

For the above purpose a sum of Rs.10 crores is proposed during the Tenth Five Year Plan period.

5) *E-Governance activities in Government*

The Government with active co-operation of Electronic Corporation of Tamil Nadu Ltd. (ELCOT) will further strengthen e-governance activities in Government to achieve internal efficiency.

For this purpose a sum of Rs.12.50 crores is proposed during the Tenth Five Year Plan period.

For the above activities, the financial support envisaged from the Government is of the order of Rs.50 crores as indicated below.

Rs. in crores

1) Research and Development	15.00
2) Information Technology in Tamil	5.00
3) Promotion of Tamil Nadu as Destination of Choice	7.50
4) Creation of Information Technology Infrastructure	10.00
5) E-Governance in Government	12.50
<i>Total</i>	<i>50.00</i>

Necessary provisions will be made in the Annual Plans and in the Mid-Term Appraisal and approval of the Union Planning Commission for consequential changes in sectoral outlays obtained at the appropriate stage. (A provision of Rs.10 crores has been made in the Budget Estimate for 2002-03 under Demand 30 IT Department 2852 Industries 07 Telecom. & Electronic Industries)