

(98)

GOVERNMENT OF KERALA
Abstract

Industries-Policy on Information Technology- Report of
the Core group approved-Orders issued.

INDUSTRIALS (J) DEPARTMENT

G.O.(MS) NO. 83 /98/ID Dated, Thiruvananthapuram 28-5-98

O R D E R

Government are pleased to approve the Information-
Technology Policy as outlined in the Appendix.

By Order of the Governor
K. MOHANDAS
Secretary to Government.

To

All Principal Secretaries/Secretaries /

Special Secretaries to Government

The Director of Industries and Commerce,

Thiruvananthapuram.

The Chief Executive Officer, Technopark, Thiruvananthapuram

The Managing Director, KILTRON

The Managing Director, Kerala State Industrial Development-
Corporation Ltd., Thiruvananthapuram

The Registrar, C-DIT

The Managing Director, KINFRA, Thiruvananthapuram

The General Administration (SC) Department-Vide No.
1911 dt, 6-5-98

Copy to: The Private Secretary to Minister
(Industries & Social Welfare)

The Additional Secretary to Chief Secretary

C.A to Additional Chief Secretary

The C.A to Secretary, I (Industries)

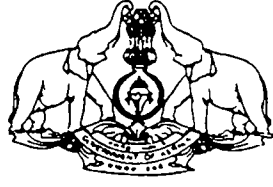
The C.A to Secretary, II "

The C.A to Secretary, III "

The Industries (C, D, J & G) Departments

Forwarded , By Order

(Signature)
Section Officer



7- 9

Government of Kerala

Information Technology Policy

Draft Document

Thiruvananthapuram
14th March, 1998

11-11

PROCEEDINGS OF THE CORE GROUP

This draft Information Technology (IT) Policy statement has been prepared by the core group formed for the purpose by the Government of Kerala based on the meeting convened by the Minister for Industries & Social Welfare on 9th December 1997 at Trivandrum. The core group headed by Shri E M Sreedharan, Member, State Planning Board had Mr K G Satheesh Kumar, Chief Executive Officer, TECHNOPARK as the Convener. The other members of the core group were;

Dr K M Abraham	Secretary (Finance Resources)
Smt Aruna Sunderarajan	Director of Industries & Commerce
Shri A K Nair	Executive Director, KSIDC
Shri Satish Kumar	Managing Director, KELTRON
Shri Unnikrishnan	Registrar, C-DIT

The Core group first met on 16th December 1997 and formed 3 sub-committees to work on different components of the IT policy as follows.

1. Shri K G Satheesh Kumar Enhancement of IT Industry base, Government support to IT Industries, and promoting the State as an investment location for IT
2. Shri A K Nair Human Resource Development for IT, Financing of software and IT Companies
3. Shri Unnikrishnan Diffusion and Dissemination of IT State Information Infrastructure

The sub-committees responsible for each component met separately and submitted reports consolidating the views and opinions of experts from various sectors-manufacturers, users, service providers, R&D Institutions, Educational Institutions and other interest groups. The final document is based on these reports, and several round of discussions, that have taken place subsequently.

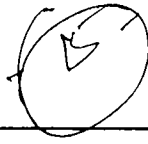
The members of the core group express their sincere thanks to everyone who contributed to prepare this document and wish to put on record that the experience has been a very satisfying and rewarding.

(13)

EXECUTIVE SUMMARY

1. Information Technology (IT) is the world's fastest growing economic activity. The IT industry has been found to be ideal for Kerala in terms of its potential to generate opportunities and employment with little pressure on land, environment and other resources. This is one of the most people-friendly and environment-friendly industries of modern times.
2. The Government understands the enormous potential of Information Technology not only as a tool for improving governance and creating more jobs, but more significantly, as a means to greatly enhance the standard of living of the people. Use of IT in enhancing the delivery of Government services leads to a very responsive and transparent administration facilitating the empowerment of the people and satisfying their right of information
3. The Policy Statement addresses the following components
 - a. Increased application of Information Technology in all walks of life
 - b. Enhancing the IT industry base so as to make Kerala a very fertile location for ventures in Information Technology
 - c. Creating a robust State Information Infrastructure
 - d. Human Resource Development for Information Technology
4. To promote the use of Information Technology, the following mission targets have been spelt out
 - * PC penetration of 10 per 1000 of the population by the year 2001
 - * All colleges to be hooked to internet by the year 2000 and all the schools by 2002
 - * Internet kiosks in every Panchayat ward, and
 - * Modernisation and integration of Government functions using Information Technology

A High Power Committee has been proposed, chaired by the Chief Minister, to co-ordinate and direct strategies to achieve rapid penetration and use of IT in all sectors.



5. Kerala is a fertile ground for the growth of the IT industry. Government realises the significance and potential of this sector in the economic development of the State and will facilitate the creation of a sound IT production base through conscious efforts and policy initiatives which will combine the following:

- i Creation of IT-specific infrastructure in different parts of the State.
- ii Removal of hassles in the regulatory environment, making it pro-active and sensitive to the needs of the industry.
- iii Incentives and concessions for IT ventures.
- iv Special package for financing IT ventures
- v Promoting Kerala as a location for IT investments

Specific proposals include strengthening of Technopark and setting up of Software Technology Parks and Software Complexes in major cities in the State. A venture capital fund is also proposed to cater to the financing requirements of the IT industry.

6. The establishment of a sound State Information Infrastructure with a communication backbone, switches, nodes, access networks and data warehouses has been identified a high priority area. The existing infrastructure will be harnessed, developed and integrated to create an Information Infrastructure that can effectively handle the traffic for several years to come.

The mission targets for SII have been spelt out as follows

- 1 Connectivity at 2 MBPS to any user in the three major cities of the State and at multiples of 64 KBPS in other parts of the State by the year 2000
- 2 All District Head Quarters be provided with the connectivity of 622 MB capacity by 1999, all Taluk Head Quarters by 2000 and all Village Offices by 2002. Concurrently, one SII node in each Block by 2000 and in each Panchayat by 2002
- 3 Strengthening data warehousing for promoting trade, commerce and tourism and for enhancing delivery of Government services, its transparency and empowerment of the people

7. Human Resource Development is a very critical aspect in the development of Information Technology. The Government is seized of the urgency for consolidating and strengthening the core competence of the state on the human resources front to propel the development of IT industry.

The proposals in this regard include establishment of an Institute of Information Technology, introducing Information Technology as a specialised branch of study, development of Centres of Excellence in Information Technology, creating a fund for upgradation of training/educational infrastructure and introduction of a system for accreditation.

The future is here- let us be part of IT.

Contents

1.	Preamble	1
2.	Policy Mission	2
3.	Components of the IT Policy	3
4.	Diffusion and dissemination of IT	4
5.	Enhancement of IT industry base	6
6.	State Information Infrastructure	9
7.	Human Resource Development for IT	12
8.	Support Institutions and Resource Centres	16

1

PREAMBLE

- 1.1 Information Technology (IT) is the world's fastest growing economic activity. It is transforming resource-based economies to knowledge-based economies. Information services, products and production processes are evolving rapidly. Knowledge engineering is replacing pure data and information oriented engineering. The application and impact of Information Technology is so pervasive that it is effecting issues as diverse as balance of payment, skill development, design competence, massmedia reach, industrial competitiveness, publication, communication, transportation, health, financial infrastructure, industrial productivity and managerial efficiency
- 1.2 Information Technology is a tool of productivity and efficiency and will lead to better transparency in the functioning of the administration. With its appropriate use the governance of the State can be made highly effective and citizen-friendly, contributing to the standard of living of the people. Internet is becoming wide spread and popular and electronic commerce is going to be the way the world will do business in future. Entirely new ways will evolve by which future Governments will function
- 1.3 "Leadership in the world's largest industry" is a dream which any economy would work towards. More so, if such industry contributes to redistribution of wealth through the creation of large scale employment. And further so, if the pressures on land and environment are less and the demands for capital and energy are modest. This is precisely what Information Technology promises. Very truly the most people-friendly and environment-friendly industry of modern times - one of the greenest industries of all times.
- 1.4 Kerala is a highly advanced society. The wide mass base which the media enjoys in the State and the penetration that communication technologies have been able to make, will see Kerala emerging soon as a 100% internetised State - very truly, an Information Society
- 1.5 The Government of Kerala feel the silent revolution that is taking shape and realize the need for an appropriate policy and strategy for Information Technology in the State. This IT Policy document has been the result of elaborate discussions that have taken place at various levels, involving manufacturers, users, service providers, R&D organisations, educational institutions and various other interest groups

21

2

POLICY MISSION

- 2 1 Upgradation of the standard of living of the people of the State through use of Information Technology in all sectors as a tool to enhance productivity, efficiency and optimum utilization of resources, and through full exploitation of the employment potential of the IT sector
- 2 2 Establishment of a State Information Infrastructure (SII) comprising of high speed broad band communication backbone, nodes, access network, distributed data warehouses and service locations to cater to the needs of trade, commerce, industry and tourism and also to enhance the delivery of Government Services to the people.
- 2 3 Establishment of the State as a fertile location for the growth of Information Technology Industry, facilitating flow of investments from within the country and abroad, achieving in the process, rapid growth in domestic and export earnings
- 2 4 Development of human resources for IT through increased use of IT in educational institutions and through academic and training programmes that improve the employability of educated youth in the IT sector
- 2 5 Facilitation of decentralised administration and empowerment of people through the application of Information Technology

23

COMPONENTS OF THE IT POLICY

The following components have been identified for the speedy and effective realisation of the policy mission.

- 3.1 Diffusion and Dissemination of Information Technology
- 3.2 Enhancement of Information Technology industry base
- 3.3 Creating a robust State Information Infrastructure.
- 3.4 Human resources development for Information Technology

4

DIFFUSION AND DISSEMINATION OF IT

The State of Kerala offers tremendous potential for application of IT due to reasons which include,

- * High literacy and phenomenal growth in education, health and other services
- * Ease of geographical access in extent and stretch both longitudinal and lateral
- * Large migrant population with extensive demands for connectivity
- * Extensive telecom network reaching all towns and villages.
- * Availability of educated youth
- * Export-based trade and commerce
- * Potential for tourism industry

The mission targets for promoting the use of Information Technology in various fields is spelt out as follows.

- 1 PC penetration of 10 per 1000 of the population by year 2001
- 2 All Colleges to be hooked on internet by 2000, and all schools by 2002
3. Internet Kiosks in every Panchayath ward, accessible to any member of the public
- 4 Modernisation and integration of Government functioning using IT
 - a IT will be used to deliver Government services in a manner that is affordable, reliable, accessible and delivered to the citizens in a short span of time. All Government Departments will have facility to place as much information as possible on their respective websites for the benefit of the public.
 - b Services will be provided in an integrated manner to the Public from single point of access. A common screen based proforma will be made available to all internet users who want to interact with the Government
 - c. IT will be used at every Government-business interface to provide better services and to enhance speedy execution of Government policies
 - d Computer proficiency of a specified level will be stipulated as essential qualification for all appointments in Government and as a desirable qualification for being considered for promotions/increments. A state level examination is envisaged similar to KGTE to test computer proficiency and to provide necessary certification

POLICY INITIATIVES

- 4.1 A high power committee will be constituted to co-ordinate and direct strategies to achieve rapid penetration and effective use of IT in all sectors. The high power committee is proposed to be chaired by the Chief Minister. The Minister for Industries will be the Vice-Chairman and other members will include representatives from industry and professional groups. The committee will promote the use of IT in Government to achieve a more efficient and responsive administration, and will spell out broad guidelines for this purpose.
- 4.2 The following action will be initiated for facilitating decentralised administration
- i) Building up resource-based data repositories and citizen databases for decentralised planning
 - ii) Implementing computerised services at the Panchayat level in issue of certificates, licences, etc and in tax-collection which can result in perceptible improvement of services available to the common man
 - iii) Providing Internet/Intranet services at the Panchayat level with the specific objective of fulfilling the right of information of the community at large
- 4.3 Enhancement of the IT - base in educational institutions will be taken up on priority
- i) Internet connectivity will be provided to schools, colleges and other Institutions. The connectivity also envisages linkages to Research Libraries and other knowledge repositories including the archives of various educational and research institutions. Interconnectivity between institutions and exchange of knowledge will be actively encouraged.
 - ii) A network will be developed for linking high schools in the state and to facilitate distance learning. A programme to strengthen the application of Educational Technology at the school level will be taken up.
- 4.4 Pilot projects of high visibility for strengthening and fostering IT applications in government will be initiated, to effectively understand and demonstrate the benefits and effects of using IT in various walks of life.

5

ENHANCEMENT OF IT INDUSTRY BASE

Kerala is a fertile ground for the growth of the Information Technology industry. The Government realises the significance and potential of this sector in the economic development of the State and will facilitate the creation of a sound IT production base through conscious efforts and policy initiatives which will combine the following:

- 1 Creation of IT-specific infrastructure in different parts of the State.
- 2 Removal of hassles in the regulatory environment, making it pro-active and sensitive to the needs of the industry.
- 3 Incentives and concessions for IT ventures
- 4 Special package for financing IT ventures
- 5 Promoting Kerala as a location for IT investments

POLICY INITIATIVES TO CREATE INFRASTRUCTURE

- 5.1 **TECHNOPARK.** The Government of Kerala has set up TECHNOPARK as a location of international standards for Electronics and IT companies. Today, the campus is the most advanced IT location in the country and has been a model for many other states to emulate. The Government will further strengthen the campus and will continue to build infrastructure to meet the needs of the new enterprises being set up.
- 5.2 Software Technology Parks/Software Complexes will be set up in major cities like Kannur, Kozhikkode, Kochi, Palakkad, Thrissur, Kottayam and Kollam.
- 5.3 Specific areas will be ear-marked for Information Technology in all industrial areas developed by Kerala State Industrial Infrastructure Development Corporation (KINFRA). KINFRA will construct and make available built up space in these industrial areas for IT units.
- 5.4 Participation of the private sector will be encouraged in the expansion of TECHNOPARK and in the setting up of Software Technology Parks in the State.

- 5.5 Private sector will be encouraged to set up Software Complexes on the lines of the STPs.
- 5.6 In STPs and Software Complexes set up by Government or in joint-sector, there will be an executive authority, who function as a single point contact for all statutory clearances required for units within them. No clearance will be required from local development authorities, local bodies, local government etc.

POLICY INITIATIVES AT PRO-ACTIVE GOVERNMENT SUPPORT

- 5.7 The Government is of the opinion that Information Technology is a tool of productivity and efficiency to be promoted in all walks of life. It is proposed to do away with all restrictions, clearances and permissions required to set up software units in the State. Any software unit or software centre may be set up without obtaining prior clearance from State, District or Local Government Agencies. A statement may be filed with the District Industries Centre, if necessary, based on which the District Industries Centre will allot a registration number which can be used for all other Government related purposes
- 5.8 Incentives and concessions envisaged .

For Information Technology industries

- a IT industries will continue to be exempted from the purview of Pollution Control Act.
- b Priority for IT industries in sanctioning and servicing of power
- c Exemption from Sales Tax to IT industries for 7 years
- d For captive power generation sets installed by IT industries
 - i Exemption from payment of electricity tax/duty
 - ii 50% subsidy for installation of captive generation sets
- e All IT Units to be eligible for subsidy of 20% of capital investment subject to a maximum of Rs.25 lakhs.

- f. TECHNOPARK, STPs and Software Complexes will be eligible for all the concessions, benefits and exemptions available to the companies in these Parks/Complexes.
- g. Executive authority of TECHNOPARK, STPs and Software Complexes in the public/joint sector will be empowered to give all clearances required by units within them.
- h. Exemption from stamp duty/registration charge for purchase and sale of land/built-up space by TECHNOPARK, STPs and Software Complexes.

POLICY INITIATIVES : SPECIAL PACKAGE OF FINANCING

5.9 Venture Capital financing is an alternative financing source, particularly when an industry is technology-based, entrepreneur inexperienced and investment carries high risk. The wider definition of venture capital envisages it as long-term growth capital invested in start-ups, expansion, management buy-outs of industrial units using higher level technology.

A corpus will be set aside for creating a venture capital fund. This fund will be separately created by KSIDC and not as part of the on-going programmes.

POLICY INITIATIVES : PROMOTION OF THE STATE AS AN IT INVESTMENT LOCATION

5.10 Promotion and publicity is crucial for the success of any initiative. The Government attaches primacy to the promotion of Kerala as an IT-oriented investment location.

5.11 Senior people in the IT Sector from different parts of the world will be invited to the state to get their advice and to enlist their participation in these efforts.

5.12 Promotional campaigns and visits targeting investments into the IT industry from countries like Singapore, Germany, USA, Japan, UK, Sweden, Switzerland etc. will be undertaken with support from embassies, Government and International industry/trade development organizations in these countries.

STATE INFORMATION INFRASTRUCTURE

The first world Telecom Development Conference held at Buenos Aires in 1994 gave a call to all nations of the world for establishment of "Global Information Infrastructure (GII)". The Global Information Infrastructure shall enable people to securely use a set of communication services supporting an open multitude of applications and embracing all modes of information, any time and anywhere, at acceptable cost and acceptable quality. It is expected that from GII, we will derive robust and sustainable economic progress, strong democracies, better solutions to global and local environmental challenges, improved health care and ultimately a greater sense of shared stewardship of our planet

If GII has to become a reality it is evident that several National Information Infrastructure (NII) units will have to be built and interconnected. The Department of Electronics of the Government of India has formulated a systematic strategy for building up NII in the country

A State level Information Infrastructure to meet the IT goals in the State has to be conceived, designed and executed in a phased manner to act as the back bone of the IT Policy implementation. The State Information Infrastructure, (SII) will be a major factor for the economic prosperity and competitiveness of the State. In Kerala, with its high literacy levels, high information awareness, and the sizable population of educated youth who can be rapidly trained, the information infrastructure will turn out to be the ideal mechanism for reducing the information gap in the society, promoting transparency, facilitating an efficient and responsive administration and ensuring rapid and sustained industrial and commercial growth. The mission targets for SII have been spelt out as follows

- 1 Connectivity at 2 MBPS to any user in the three major cities of the State and at multiples of 64 KBPS in other parts of the State by the year 2000
- 2 All District Head Quarters be provided with the connectivity of 622 MB capacity by 1999, all Taluk Head Quarters by 2000 and all Village Offices by 2002. Concurrently, one SII node in each Block by 2000 and in each Panchayat by 2002

- 3 Strengthening data warehousing for promoting trade, commerce and tourism and for enhancing delivery of Government services, its transparency and empowerment of the people.

The State Information Infrastructure would essentially comprise the following elements .

- 1. **Communication Infrastructure** : Communication infrastructure covering High Speed broad band and Digital Telecom infrastructure for transfer of information in all forms reliably and interactively throughout the State and to the NII. A three-tier paradigm of connectivity comprising, backbone transmission fabric, switches/nodes and lastmile segments/access network will form the infrastructure
- 2. **Computing Platforms and Data warehouses** A range of computing hardware covering Servers, Workstations etc. to act as the Public Data Base and provide storage, processing and information services across the network.
- 3. **Networks** State level networks (LANS and WANS) with specific focus on State level, District level and Village level information processing and dissemination needs

POLICY INITIATIVES

6.1 The Department of Telecommunications, Government of India has fibre optic backbone reaching the entire State and is planning additional microwave capacity of 6 GHz by the year 2000. In addition, high capacity backbone running all along the State with ready microwave connectivity to several towns can be easily put in place using the infrastructure created/being created by mobile communication companies. MAR radio access can be had from anywhere in these towns. The infrastructure created by cable TV companies can also be harnessed to set up the access network. The availability of these infrastructural resources is an important factor in the establishment of SII

The State Government will take initiative to establish the State Information Infrastructure with one or more international gateways by harnessing, developing and integrating these infrastructural resources. The State Government will form a task force with appropriate representation from the industry, users and service providers to prepare a proper scheme and to work towards the realisation of the State Information Infrastructure.

- 6.2 The Government will endeavour to ensure that internet access is available to PSTN analog dial up subscribers in all districts by 1999. The access shall be provided at various Points of Presence (POP) in the state and the internet traffic aggregated and linked through the gateways to the internet.
- 6.3 The Government will take the initiative to strengthen the links to Districts and Taluks in the State with support from DoT, VSNL and other operators. Pressure will be put on Government of India to include all districts in Kerala in the NII and for strengthening the DoT network in the State.
- 6.4 Nonstop high-reliable scaleable servers will be established to serve as information repositories. A single host shall be developed in each district to focus on network information content relevant to the development sector, government databases, support services etc.
- 6.5 Malayalam user interface and web browser tools will be promoted to exploit the capabilities of SII for applications like access to Government databases in Malayalam.
- 6.6 The establishment of State Information Infrastructure will be carried out with the active participation of private sector.
- 6.7 Concurrent with the above efforts, the Government will encourage initiatives to normalise and standardise the backbone to make it a universal plug and play fabric that is conducive to all users and service providers across a wide range of bandwidth requirements. This is necessary to mitigate the possible fractious and unbridled proliferation of connectivity crisscrossing the state.

7

HUMAN RESOURCES DEVELOPMENT FOR IT

One of the critical factors that determine the growth and development of the IT industry is the availability of trained manpower. It is noteworthy that human resources have played an important role in the development of electronics and computer software industry in Kerala. The Government is seized of the urgency for consolidating and strengthening the core competence of the state on the human resources front to propel the development of IT industry.

POLICY INITIATIVES**7.1 DETAILED STUDY OF THE NEEDS OF THE IT-SECTOR .**

A detailed study will be undertaken to assess the quantum and calibre of manpower required for the IT industry in Kerala as also to ascertain the industry expectations about the scope and nature of education/training to be imparted by the institutions. An organized census of the educational and training institutions in Kerala offering courses on Software Development/IT will be an integral part of this study and the census will focus on critical aspects such as training infrastructure, course coverage/curriculum, quality of trainers, affiliations/acceptance of the courses offered, placement of the students etc. A data base of computer professionals in Kerala - covering both urban as well as rural areas - will also be developed.

The comprehensive data base that emerges from the detailed study mentioned above would provide as the basic document for proper management of HRD in the IT-sector in Kerala. This document shall be continually updated.

7.2 ESTABLISHMENT OF INSTITUTE OF INFORMATION TECHNOLOGY IN KERALA

The Government will encourage the industry to set up an institute of excellence in Information Technology. The educational/training programmes to be undertaken at the institute is expected to be highly specialized in nature, targeting

IP

higher-end requirements of the industry and R & D institutions within and outside the country. The institute should also provide infrastructure/facilities and expert assistance for result oriented R & D projects initiated by other institutions and industrial concerns.

7.3 INTRODUCING INFORMATION TECHNOLOGY AS A SPECIALIZED BRANCH OF STUDY.

Information Technology will be popularised as specialized branch of study. Well-defined graduate and post graduate courses in Information Technology will be introduced in select engineering colleges in Kerala. Affiliations with national/international institutions in faculty support as well as sharing of infrastructure will be encouraged to maintain the quality of output at the desired levels. Also, diploma level programmes in IT will be introduced in identified polytechnics in the State to enhance the resource base for highly trained supervisory personnel to cater to the ever increasing demand from the industry. The courses to be offered by the engineering colleges as well as the polytechnics will be designed and closely monitored through proper linkages with the industry. Necessary action on this aspect will be initiated by the Directorate of Technical Education, in consultation with the industry.

7.4 DEVELOPMENT OF CENTRES OF EXCELLENCE IN INFORMATION TECHNOLOGY

The Government will pursue a policy of providing freedom of operation to the institutes offering courses in Information Technology subject to their satisfying norms relating to the adequacy of infrastructure and other facilities. The objective will be to develop centres of excellence in Information Technology. In respect of the engineering colleges where Information Technology will be introduced as a branch of study, the department managing such courses will be given sufficient freedom of operation. Necessary action in this regard will be initiated by the Directorate of Technical Education.

(45)

7.5 FUND FOR UPGRADATION OF TRAINING/EDUCATIONAL INFRASTRUCTURE

Focus will be laid on strengthening/upgrading the educational and training infrastructure in the existing institutions offering programmes on IT as well as institutions that may be selected for introducing specialized courses in IT. A corpus fund will be formed with the participation of the government, institutions and the private sector for this purpose. The fund will be made available on soft terms to deserving institutions, particularly for investing in technologies, upgradation of laboratories/R&D facilities, purchase of new softwares etc.

7.6 INTRODUCTION OF A SYSTEM FOR ACCREDITATION

A body of experts of international calibre and senior representatives from leading corporate groups from the IT sector within India and abroad will be constituted for ranking and providing accreditation to the IT courses offered by various institutions.

7.7 FINANCING HRD IN IT:

Private investments for human resources development in the IT sector will be encouraged. New institutes for education and training in the IT sector will be promoted in the private/joint sectors at appropriate locations in the State. Educational, Training and R & D institutions will be treated on par with industries for assistance from financial institutions. Necessary directions in this regard will be given to the State level financial institutions.

7.8 IMPROVING COMPUTER/IT LITERACY

Kerala has the credit of having achieved a notable level of computer literacy. While computer systems have been set up in the work place in large numbers of offices- in both private and public sectors - the percentage of users of computers needs be enhanced. This requires well-conceived training programmes targeting employed personnel. Further, adequate training programmes in computer-based communication, use of internet

etc needs be introduced. Such (in-house) training programmes will be organised. Internet booths will be established at appropriate centres aiming at the popularisation of the use of internet. Specific emphasis would be given and appropriate programmes evolved to impart training to the rural population who otherwise do not have access to computers. It is expected that the computer literacy in Kerala can be greatly enhanced through such initiatives.

7.9 ENSURING LINKAGES BETWEEN INDUSTRY AND INSTITUTIONS :

Thrust will be laid on facilitating linkages between industry and institutions to eliminate mismatch between the output from institutions and industry expectations. It would be made mandatory for institutions to ensure guest faculty support from the industry in key areas. Project work/assignments to be undertaken at the industrial units - at different stages - by the student of IT courses will be an integral part of curriculum.

Institutions will be encouraged to take up research projects addressing specific problems encountered by the industry. Expert assistance and infrastructure support will be made available for such projects, by the proposed Institute of Information Technology.

Specific programmes/activities aimed at fostering closer linkages between institutions and industry will be formulated and implemented on a regular basis.

49

8

SUPPORT INSTITUTIONS AND RESOURCE CENTRES

Centre for Development of Imaging Technology (C-DIT)

A leading Research and Development Institution in the State actively involved in Science and Technology, Development Communication and the application of IT in the de-centralized planning and medicine. C-DIT has the capability and expertise to emerge as a resource centre for dissemination of Information Technology in the State and also in the setting up of State Information Infrastructure.

Directorate of Industries and Commerce

The Directorate of Industries and Commerce co-ordinates industrial development activity in various sectors - tiny, small, medium and large - throughout the State helping entrepreneurs to acquire the required infrastructure and providing financial incentives and concessions on industrial investments

Kerala State Industrial Development Corporation (KSIDC)

The primary industrial development arm of the State providing a range of services including finance to prospective investors and supporting them from conception to commissioning and beyond. KSIDC focuses mainly on the medium and large sectors

Kerala Financial Corporation (KFC)

The primary industrial financial institution focussing on small scale sector offering term-loan assistance to entrepreneurs.

Kerala Industrial Infrastructure Development Corporation (KINFRA)

A statutory corporation set up by an Act of the Kerala Assembly in 1993 for creating infrastructure for industrial development. KINFRA has several industrial infrastructure projects in different parts of the State

Kerala State Electronics Development Corporation (KELTRON)

The first State Electronics Development Corporation in India, actively involved in manufacture and marketing of a wide spectrum of electronic products Keltron is a leader in communication products and has the capability of being a partner in popularising the use of Information Technology in Government and also in the creation of the State Information Infrastructure.

TECHNOPARK

India's first and most advanced Technology Park for Information Technology TECHNOPARK provides the ideal infrastructure and environment for setting up ventures in Information Technology and is already home to a large number of successful software and IT companies