EXECUTIVE SUMMARY

Department of Information Technology (DIT) in the Ministry of Communications and Information Technology is responsible for formulation, implementation and review of national policies in the field of Information Technology. All policy matters relating to silicon facility, computer-based information technology and processing including hardware and software, standardisation of procedures and matters relating to international bodies, promotion of knowledge-based enterprises, internet, e-commerce and information technology education, and development of electronics and coordination amongst its various users are also addressed by the Department.

In order to operationalise the objectives of the Department, schemes are formulated and implemented by the Department. The schemes are implemented directly by the Department and through the organisations/institutions under its jurisdiction. To make the technology robust and state-of-the-art, collaboration of the academia and the private/public sector is also obtained. The Department has two Attached Offices, four Statutory Organizations and seven Autonomous Societies besides three section 25 companies under its control to carry out the business allocated to the Department.

Chapter I of this document highlights the functions of the Department, organizational set up and major schemes/programmes being implemented by the Department. Chapter II depicts the schemes/programmes of the Department, financial outlays, physical outputs, projected outcomes, etc. for the financial year 2011-12; Chapter III details the reform measures and policy initiatives; Chapter IV reviews past performance of the schemes/programmes; Chapter V portrays financial analysis of various schemes/programmes; and Chapter VI reviews the performance of Statutory and Autonomous Bodies.

Overview

Indian IT-ITeS Industry-Growth Performance

The IT-ITeS industry has shown remarkable resilience during the fiscal year 2009-10. The IT-ITeS industry revenue (both exports and domestic) is expected to grow by over 6 percent and reach US $ 63.7 billion in 2009-10 as compared to US $ 59.9 billion in 2008-09. The Indian software and services exports including ITeS-BPO exports is estimated at US $ 49.7 billion in 2009-10, as compared to US $ 47.1 billion in 2008-09, an increase of 5.5 per cent. The IT services exports is estimated to be US $ 27.3 billion in 2009-10 as compared to US $ 25.8 billion in 2008-09, showing a growth of 5.8 per cent. ITeS-BPO exports is estimated to grow from US $ 11.7 billion in 2008-09 to US $ 12.4 billion in 2009-10, a year-on-year (Y-o-Y) growth of 6 per cent. Though the IT-BPO sector is export driven, the domestic market is also significant. The revenue from the domestic market (IT Services and ITeS-BPO) is also expected to grow to US $ 14 billion in the year 2009-10 as compared to US $ 12.8 billion in 2008-09 an anticipated growth of about 9 per cent. BPO demand in the domestic market has witnessed noticeable growth over the past few years. The total IT Software and Services employment is expected to reach 2.29 million in 2009-10 (excluding employment in Hardware sector), as against 2.20 million in 2008-09, a growth of 4 per cent YoY. This represents a net addition of 90,000 professionals to the industry employee base in 2009-10. The indirect employment attributed to the sector is estimated to be about 8.2 million.

The IT-BPO sector has showcased India's ability to build global firms with world-class business practices that are capable of catering to the most sophisticated and demanding customers. The industry has been a front-runner in practicing good corporate business practices as well as maintaining high quality standards, which has helped in positioning the country as a trusted business partner. This is corroborated by the fact that approximately 75 per cent of Fortune 500 companies are engaged with the Indian IT-BPO industry currently.

Major Policy Initiatives & Programmes

E-Governance

A major initiative of the Government for ushering in e-Governance on national scale, called National e-Governance Plan (NeGP) was approved on 16 May 2006. The main objective of NeGP is to "make all government services accessible to the common man in his locality, through common service delivery outlets and ensure efficiency, transparency & reliability of such services at affordable costs to realize the basic needs of the common man".

Broadly NeGP consists of 27 Mission Mode Projects (MMPs) encompassing 9 central MMPs, 11 state MMPs and 7 integrated MMPs that span multiple backend Ministries/ departments. It also includes 8 program support components aimed at creating the right governance and institutional mechanisms, core infrastructure, policies & standards and the necessary legal framework for adoption of e-Governance in the country. It is implemented at the Central, State and Local Government levels. Major achievements of NeGP are as under:

- Under NeGP, Government had approved a Scheme for facilitating establishment of more than 100,000 broadband Internet-enabled Common Service Centres (CSCs) in rural areas of the country at a total cost of ₹ 5742 crore. It is being implemented under Public Private Partnership mode. As of October 2010, number of CSCs rolled out in 30 States is 85,506.

- Under NeGP, Government had approved the Scheme for establishing State Wide Area Networks (SWANs) across the country in 29 States/ 6 UTs at a total outlay of ₹ 3,334 crore. Under this Scheme, it is envisaged to provide secured Network from State Headquarters up to the Block level with a minimum bandwidth capacity of 2 Mbps. As of October, 2010 SWANs in 23 States/ UTs have been rolled out, while in other States/ UTs they are expected to be rolled out by June 2011.
- State Data Centre (SDC) has been identified as one of the important elements of the core infrastructure for supporting e-Governance initiatives under NEGP. The Government has approved the scheme in January 2008 at an estimated outlay of ₹ 1623.20 crore to cover 28 States and 6 UTs across the country. SDC Proposals of 31 States/UTs have already been approved by Department of Information technology (DIT). Implementation of SDC is expected to be complete in 31 States by December, 2011.

- In order to provide a mechanism for adequate capacity building and training for end user, a Capacity Building Scheme at an outlay of ₹ 313 crore has been approved in January 2008. This envisions establishment of institutional framework for State Level Strategic decision-making including setting-up of State e-Governance Mission Teams (SeMTs). A Capacity Building Management Cell (CBMC) has been set up in DIT for overall coordination and implementation of Capacity Building Scheme.
- e-District is a State Mission Mode Project under the National e-Governance Plan. The Project aims to target certain high volume services currently not covered by any MMP under the NeGP and undertake backend computerization to enable the delivery of these services through Common Service Centers. The project is under implementation in 41 districts across 16 states and services have gone live in 17 districts in 4 states. EFC meeting, held on 23rd September 2010, recommended the National Rollout of this MMP.
- To provide transparent, speedier and efficient Justice, the Government has initiated several steps to transform the Indian Judiciary. Introduction of Information Technology in about 13,000 District & Subordinate courts across the country has been initiated as a major step.

Cyber Security

A holistic approach is followed to secure Indian Cyber Space. The approach includes R&D, legal framework, security incidents - early warning and response, best security policy compliance & assurance, International cooperation and security training. CERT-In designated as the national agency for responding to Computer Security incidence, create awareness on security issues and operates 24X7 incident response helpdesk.

R&D initiative is aimed at promotion of basic research, technology demonstration, proof of concept along with indigenous development of technology in the area of Cyber Security. The programme also includes establishment of test bed projects for enhancing indigenous skills and capabilities in the area of information security. The R&D programme is carried out by implementing major initiatives with the help of R&D organizations. Thrust areas of research and development identified include Cryptography and cryptanalysis; Network and Systems Security; Security Architectures; Vulnerability and Assurance; Monitoring, Surveillance and Forensics.

Training centre in Cyber forensics has been set up at Kerala police to facilitate cyber crime investigation. The setting-up of Cyber forensic centre at Central Bureau of Investigation-Academy is in progress. Advanced version of cyber forensics tool kit namely Cyber

Check was developed and released to Law Enforcement Agencies. Biometrics systems for authentication, human identification and face recognition systems have been developed and validated. Development of Prototype for Intrusion Prevention System has been completed and performance testing is being carried out.

Promotion of Electronics Hardware Manufacturing Industry

Government has attached high priority to electronics hardware manufacturing and is in the process of taking up targeted and focused measures to elicit investment in this sector. The electronics hardware production increased from Rs.97,260 crore during 2008-09 to Rs.1,09,940 crore in 2009-10 (estimated), registering a growth of 13%.

The Task Force set up by the Department of Information Technology to suggest measures stimulate growth of the IT, ITES and electronics hardware manufacturing industry has projected that the demand for electronics hardware in the country will increase from US $ 45 billion in 2009 to US $ 400 billion by 2020.

Among others, Government has identified Five key initiatives for promotion of electronics hardware manufacturing in the country viz., (1) To set up a National Electronics Mission (NEM); (2) To set up two Semiconductor Wafer Fabs; (3) To introduce Modified Special Incentive Package Scheme and setting up of Electronics Manufacturing Clusters; (4) To set up a "Electronics Development Fund" for promotion of innovation, R&D, Indian IP and Development of Indian Microprocessor and (5) To provide preferential access to "Indian Electronics Products"/ "Manufactured-in-India Electronics Products" for all government procurements and procurement by Government Licensees, PSUs etc.

For implementation of the above key initiatives, action is underway for developing specific proposals in consultation with Stakeholders.

National Knowledge Network (NKN)

Government has decided to establish a National Knowledge Network with scalable multi gigabit capabilities which will connect 1500 nodes and bring together all stakeholders in the Science, Technology, Higher Education, Research & Development, and Governance. This will also act as a backbone for the e-governance. By facilitating the flow of information and knowledge, the network will address the critical issue of access, create a new paradigm of collaboration and enrich the research efforts in the country. The initial phase of the National Knowledge Network was inaugurated by the Hon'ble President of India on 9th April 2009. 89 no. of institutes have been connected to NKN and 15 virtual classrooms were setup (Initial Phase), 17 NICNET PoPs upgraded to 2.5 Gbps. The final phase of NKN project has been approved on 25th March 2010 with an outlay of ₹ 5990.00 crores over a period of 10 years.

Promoting Innovation

Department of information Technology, since inception, has been giving importance to Research & Development. Promotion of Research & Development in Electronics & Information technology has been one of the main activities of the Department. India is rapidly becoming a R&D hub. The India Semiconductor design sector, comprising VLSI Design, Board design and embedded

software companies, primarily has presence in and around Bangalore, Delhi NCR, Hyderabad and Chennai besides Pune, Ahmedabad and Goa.

Department of Information Technology has initiated a scheme titled "Multiplier Grants Scheme(MGS)" to encourage collaborative R&D between industry and academics/ R&D institutions for development of products and packages. Another scheme has been launched for Technology Incubation and Development of Entrepreneurs (TIDE) in the area of Electronics & ICT to strengthen the technology incubation centers at the institutions of higher learning. Under the scheme, 17 TIDE centers will be supported. MGS is to encourage collaborative R&D between industry and academics/ R&D institutions for development of products and packages. The scheme aims to strengthen industry/ institute-linkages, encourage and accelerate development of indigenous products/ packages and bridge the gap between R&D and commercialisation.

Nanotechnology Development
In the field of nanotechnology, the Department has taken steps to build Institutional capacity and infrastructure for Research & Development. It has also focused on human resource development in the area of Nanoelectronics for making India a front-runner in this revolutionary area with all pervasive applications. Towards this, Department have initiated major projects " Nanoelectronics centres" at IIT Bombay and IISc Bangalore which have become Centres of Excellence in Nanoelectronics and have been drawing national and international recognition and attention. Major Projects have also been initiated in the areas of III-V compounds based heterostructure devices for RF applications IIT Kharagpur and Non-silicon based Technology for Nanofabrication and Nanoscale devices at IIT Delhi.   Another major unique project entitled "Indian Nanoelectronics Users Programme (INUP)" has been started at IIT Bombay and IISc Bangalore for expertise generation across the country using the nanoelectronics facilities established   at Nanoelectronics Centres by the Department at IIT Bombay and IISc. New projects which have been initiated are: Two projects on Carbon Nanotubes for Semiconducting Applications and Gas Sensors at Jamia Millia Islamia, New Delhi, One project on nanostructured materials and Devices of wide band gap semiconductors at IISc Bangalore and One project on Multifunctional Magnetic Nanoparticulates for cancer at IIT Bombay.

Centre for Development of Advanced Computing (C-DAC)
Centre for Development of Advanced Computing (C-DAC) is the premier R&D organization of the Department for carrying out R&D in IT, Electronics and associated areas. C-DAC focus has been on strengthening thematic areas, building capacity, and development of various compelling technologies to address the national level problems and also the market needs. A number of activities supporting these activities are already under way, including a number of projects for building R&D infrastructure.

Technology Development for Indian Languages (TDIL)
To enable wide proliferation of ICT in Indian languages, DIT has taken a major initiative to make available Software tools & fonts in various Indian languages free to the general public. Software tools & fonts for 22 constitutionally recognized Indian Languages have been released in public domain for free mass usage.

Indian Language Technology Proliferation and Deployment Centre (IL-TPDC) has been launched with the objective of proliferation of language technology resources and tools for research purpose and continuous improvement through feedback. English to Indian Languages Machine Translation and Indian Languages to Indian Languages Machine Translation services are hosted on the data centre for public use.

New Rupee Symbol: As per Govt of India's decision for inclusion of new rupee symbol ₹ in UNICODE and INSCRIPT standards, initiatives have been taken. The new rupee symbol ₹ has been included in the UNICODE and ISO 10646 standard. The modified INSCRIPT Keyboard layout incorporating the new rupee symbol ` has been submitted to BIS for declaring it as a national standard.

Skill Development in IT

Government of India announced the National Skill Development Policy which has set a target of skilling 500 million by 2022. The policy also aims at taking the advantage of demographic dividends, *i.e.* increasing population of working age group of 15 to 59 years in India. Department of Information Technology has been listed as a part of the skill development initiative and has been given a target to train 10 million persons by the year 2022.

The autonomous societies DOEACC and C-DAC under DIT are engaged in the human resource development and training. Detailed strategy to scale up their existing training activities to create a pool of one crore trained persons by the year 2022 have been evolved.

IT Research Academy (ITRA)

IT Research Academy (ITRA) is an enabling National Programme to facilitate building a national resource for advancing the quality and quantity of R&D in Information Technology (IT) and electronics while institutionalizing an academic culture of IT based problem solving and societal development by facilitating close collaboration of research teams of academia and industry. The ITRA will focus on strengthening the nation's competitiveness by expanding the R&D base in IT, especially by leveraging as well as enhancing the large IT education sector, IT users and the programmes and projects of the government & industry.