



Annual Report 2009-10



सी-डॉट
C-DOT

Centre for Development of Telematics



सी-डॉट
C-DOT



25 years
OF
of C-DOT

INDIGENOUS
EXCELLENCE

C-DOT Management

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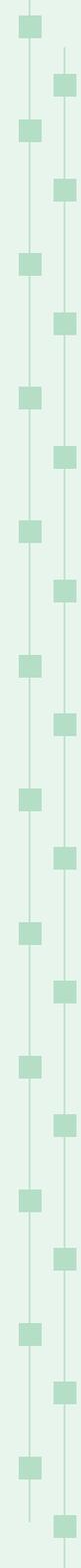
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सी-डॉट
C-DOT



1984 YEARS 2009
OF
INDIGENOUS
EXCELLENCE

C-DOT Management

Governing Council

Chairman

Minister of Communications & IT

Vice-Chairman

Minister of State for Communications & IT

Members

Scientific Advisor to the Defence Minister

Chairman, Telecom Commission

Member (In-charge C-DOT), Telecom Commission

Member (Finance), Telecom Commission

Secretary, Department of Information Technology

Chairman & Managing Director, BSNL

Executive Director, C-DOT

Directors, C-DOT

Chairman

Chairman, Telecom Commission

Vice-Chairman

Member (In-charge C-DOT), Telecom Commission

Members

Chairman & Managing Director, ITI Ltd.

Director (Planning), BSNL

Sr. DDG, Telecom Engineering Centre

DDG (TPF), Department of Telecommunications

Sr. Director, Department of Information Technology

Executive Director, C-DOT

Directors, C-DOT

Project Board

Chairman

Executive Director, C-DOT

Members

Directors, C-DOT

Overview

C-DOT, India's premier telecommunications R&D centre, has been a pioneer and a nation builder. Committed to providing a wide range of cost-effective, indigenously developed and state-of-the-art total telecom solutions, it has come a long way since its inception 25 years ago.

C-DOT's contribution to the rural telecommunications scene in the country is well known. In the eighties, C-DOT developed rural telecommunication products ideally suited to Indian conditions. Able to work without air-conditioning, the C-DOT Rural Automatic Exchanges (RAXs) acquired legendary status for their ruggedness and reliability. More switching products like SBM RAX for semi-urban and MAX-L (and later MAX-XL) for urban use followed. 6RU10, a radio product for rural applications was also developed. All these products were based on contemporary digital technology.

Starting from the single mission of providing a dial tone, C-DOT has grown, over the last 25 years, to the level of a national centre for Research and Development of communication technology in various areas – Broadband Satellite, ATM, DWDM, GPON, NGN and Mobile Cellular systems. C-DOT's ATM technology has been mandated for use for onboard communication in Indian Navy ships. The GPON is expected to play a lead role in bringing broadband pipes to rural India. The SG-RAN product, based on sharing of active GSM infrastructure, will bring affordable mobility to the

rural market. The MAX-NG will breathe fresh life into the fixed line infrastructure of the country by bringing new service features to POTS (Plain Old Telephony Service) together with VoIP and broadband access to C-DOT's MAX / RAX subscribers.

C-DOT has also been active in the area of providing telecom software solutions. C-DOT's umbrella NMS (Network Management System) solutions have made it possible to manage networks with elements from diverse vendors. The Data Clearing House (CLH) solution of C-DOT is commercially deployed for reconciling the roaming records between BSNL and MTNL and has created large competitive pressures in the CLH market.

C-DOT is also entrusted with projects of national importance, like Central Monitoring System for telecom security and Secure Network for strategic applications.

The state-of-the-art R&D facilities at C-DOT's Delhi and Bangalore campuses are comparable with the best in the world. Over the years, C-DOT has come to be looked upon as a Centre of Excellence in Telecom. Projects of strategic national importance, such as Central Monitoring Systems for Telecom Security, are entrusted to C-DOT by the Indian Government.

■ Status of Various Projects as on 31st March, 2010

Major activities pursued during the year 2009-2010 were in line with the objectives set for 11th five-year plan. All the projects taken up in C-DOT were categorized under ten different schemes. The schemes and the projects thereof, along with the status, pursued during FY 2009-10 are given below:

Scheme: High bit-rate network backbone on fibre and satellite

Under this scheme, a completely indigenous GPON system has been developed for FTTH (Fibre To The Home) applications. It provides Broadband access for delivery of triple-play services.



GPON OLT

The developed system comprises of Central Office equipment and Customer Premises Equipment (CPE). The former consists of OLT (Optical Line Termination) unit, ONU (Optical Network Unit) and EMS (Element Management System). The CPEs are made up of two types of ONTs (Optical Network Termination), namely, ONT-1, a SFU (Small Family Unit) for residential applications and ONT-2 for SOHO (Small Office/Home Office) and business applications.

Scheme: Communication and security research and monitoring

The scheme focuses on research, development, trials and progressive scaling up of a Central

Monitoring System. The system facilitates call interception, monitoring and analysis of target subscribers' data and social networking patterns in a secured, end-to-end work-flow, as per the requirements of Law Enforcement Agencies (LEA) to address the security threats and unlawful activities by anti-social elements who misuse the nation's communication network.

The design has been completed for the CMS's major sub-systems such as LEMF (Law Enforcement Monitoring Function) scalability, DB (Database), GUI (Graphical User Interface), IRI (Interception Request Information). The dimensioning for lab-build data centre has also been completed and the process initiated for setting-up data centre infrastructure to be used for connecting the TSPs (Telecom Service Providers) and conducting the pilot testing. Connectivity requirements of CMS center have also have been finalized.

Scheme: Technologies for Northeast Region (NER)

Northeast region has special requirements, not only because of its topology and terrain compared to the rest of the country, but also because of the demography of a scattered population over the region. These requirements call for feasibility study of technologies appropriate for the region, proof-of-concept for such technologies, field trials, specific research and development work in certain cases and adaptation/ upgradation of developed technologies.

The technologies chosen for effecting improvement in the Telecom Infrastructure and facilities in the NER are VoIP (Voice-over-IP – a packet technology, including migration of fixed-line switching system to packet technology), Broadband wireless and

Packet Interface for Mobile Radio Access Network etc.

The achievements made during the year 2009-2010 in some of these deliverables are:

- **VoIP technology**

C-DOT VoIP solution is ready and has been installed for field trials in the BSNL network. Triple-play Broadband services are being launched using FTTH technology by BSNL. VoIP components of these services are provided using C-DOT technology. VoIP over FTTH services are being launched in the NER region starting with Guwahati as the first location.

Tests have been conducted successfully for delivery of VoIP services over C-DOT ADSL (Asymmetric Digital Subscriber Line) solution installed in the BSNL network at Shillong. Interoperability testing of C-DOT VoIP services with third party ADSL equipment is presently underway.

- **Concept proving and pilot trial of Broadband Wireless technology**

Broadband services via extended WiFi wireless system at 2.4 GHz point-to-point links have been tested in the lab. Experimental field testing has been initiated in the BSNL network in Gurgaon SSA, near Delhi. On successful completion of the field testing, Broadband point-to-point trials will be initiated in BSNL's network.



Broadband Wireless Terminal

- **Trials of migration of C-DOT's fixed-line technology to Next Generation Packet Technology**

The NER is equipped with 2.4 lakh lines of C-DOT circuit-switched technology. C-DOT has developed solutions for migrating from the ageing circuit-switched technology to packet-based next generation networks. The migration has been proven successfully in the lab. As a pilot, an experimental conversion of one C-DOT exchange is underway in the BSNL network in Haryana SSA, a site chosen for better logistics because of its relative proximity to C-DOT Delhi. On successful completion of this conversion, commercial field trials of the migration solution will be initiated in BSNL's network in the NER.

Design has also been completed for enhancing the migration solution with GSM interface. Implementation of the same will be taken up next.

Scheme: Rural technologies

Considering that rural population of India comprises 70% of the total population, the availability of affordable communication facilities plays a vital role in uplifting the rural economy. Accordingly, this scheme focuses on research and development programs for provisioning of VoIP, Broadband access and Mobile services in rural areas.

Following are the achievements made during the year in the project deliverables under this scheme.

- **Shared GSM Radio Access Node (SG-RAN)**

This solution permits sharing of the active infrastructure of a Cellular network based on GSM technology. The active infrastructure, i.e.,



Radio Access Network (RAN), comprises TRAU, BSC and BTS. The SG-RAN solution permits sharing of the RAN by multiple operators / service providers, thereby helping in reducing the CAPEX and OPEX. The shared

RAN will be connected to the dedicated MSCs of the operators and allow them to offer branded business plans and services through their own MSCs. The BTS is currently planned to operate in 1800 MHz band.

The technology development has been completed and the system integration and testing are currently in



progress in the lab. The BSC and TRAU have been tested successfully in the test facility of BSNL at Chennai. Field trial sites have been identified in the BSNL network and the trials are expected to commence shortly.

- **VoIP-based rural Broadband access node**

This project adds VoIP capabilities to C-DOT's Broadband wireless access technology using extended WiFi in the 2.4 GHz band links. This enhancement enables rural customers to access low-cost data, voice and video services using standard WiFi enabled PCs and laptops.

Study and design of point-to-point MAC implementation has been completed. Implementation of point-to-multipoint MAC will be taken up next. Also, integration and testing of components are in progress for broadband system with VoIP in the 2.3 GHz to 2.7 GHz band using extended WiFi for subscriber access. It will initially use WiMAX 2.4/3.3 GHz links for the backhaul.

Scheme: Broadband technologies

The scheme aims at research and development on packet-based broadband technology for access and transport on various transmission media including optical, wireless, copper, etc.

During the year, a project deliverable, namely, MOES (Multi-port Optical Enterprise Solution) has been undertaken.

- **Multi-port Optical Enterprise Solution (MOES)**

The project envisages development of two different types of modules, namely, Customer Premises Equipment (CPE) having multiple types of user interfaces, and Multi-port Terminal (MT) to serve many such CPEs to minimise network side connectivity and reduce fibre usage in the field. The interfaces supported towards the user will provide him with triple-play services through a single fibre termination.

The design and development of the CPE is in progress.

Scheme: Strategic and enterprise solutions

The scheme aims at development of strategic solutions for Defence sector and software intensive applications for enterprise solutions. These solutions, catering to the requirements of strategic and enterprise segments, will be an important source of revenue for C-DOT.

Following are the achievements in respect of the deliverables under this scheme.

- **Transmission Network Management System (Tx-NMS)**

The NMS for the management of a vast transmission network comprises of various network management functions, namely, fault, configuration, accounting, performance, security (FCAPS) and network provisioning.

C-DOT's Transmission Network Management solution provides a full-fledged FCAPS solution that enables transmission network administrators to manage the network from a central location easily and effectively. Subsequent to successful demonstration of PoC, Tx-NMS was further enhanced with functionalities like fibre management and GUI, and studies were also carried out for implementing automatic service and bandwidth provisioning functionalities.

Also during the year, activities were undertaken to develop IP-NMS solution for the management of data network elements like switches, routers, CPEs (Customer Premises Equipments). C-DOT IP-NMS solution will be useful for TSPs, ISPs (Internet Service Providers) as well as Defence to manage their DCN, MPLS networks, including business

campuses. The PoC for the same has also been demonstrated to Centre for Artificial Intelligence and Robotics (CAIR), a premier laboratory of DRDO (Defence Research and Development Organisation). Commercial proposal for undertaking the implementation has also been submitted to CAIR.

- **Commercialisation of Data Clearing House (CLH) application**

The Data Clearing House service is operational, on commercial basis, for reconciling the GSM National roaming between BSNL and MTNL for the following zones:

- a. BSNL (north and east zones) with MTNL Delhi,
- b. BSNL (north and east zones) with MTNL Mumbai.

These commercial operations on ASP model continued successfully during FY 2009-2010. M/s BSNL and MTNL, the customers, were pleased to award Certificates of Satisfaction for the service provided.

In addition, following activities were carried out for the customers:

- o The scope of Data Clearing House services was extended during Maha Kumbh at Haridwar to include settlement of roaming charges of BSNL with private operators' subscribers.
- o Customized advanced reports were offered to BSNL and MTNL as per their requests. The same are now being regularly provided as part of the ongoing ASP operation.

- **C-DOT's ATM-based system customisation for multiple Defence applications**

On completion of customisation for the 1st ship

of CMS-SNF at Vishakhapatnam, CMS-SNF has been offered for Integrated Factory Acceptance Tests (IFAT). IFATs of CMS-SNF are in progress at BEL, Bangalore. C-DOT is providing support to BEL and Indian Navy for ensuring successful completion of IFATs.

Support services are also being provided by C-DOT for three ships of AISDN-17 project at Mumbai.

- **Secure and Dedicated Communication Network (SDCN)**

C-DOT has developed a fully secure and dedicated network solution for the Government, Defence and security agencies based on its Next Generation Network technology. The system is ready for deployment with standard security mechanisms. Support for custom security mechanisms is being planned.

Scheme: Enhancements/ new features/ upgradations/ adaptations/ technical support for developed technologies

This is an ongoing technology upgradation activity catering to component obsolescence, feature enhancements and adaptation for new interfaces etc. These technologies include RAX, AN-RAX and MAX switches, Call Interception System, Network Management System, Clearing House application, Intelligent Networks system, C-DOT NGN technology, etc.

Scheme: Basic research on telecom networks and enabling technologies/ study/pilot projects

Study projects taken up during FY 2009-2010 include Dynamic Spectrum Allocation (DSA),

Broadband STB-cum-PC (Set Top Box cum PC), STB interoperability, One Number and Active infrastructure sharing with shared spectrum. All the study projects have been completed, and concept-proving prototypes have been built for STB interoperability and Broadband STB-cum-PC. Some of the study projects will now evolve into regular project deliverables for FY 2010-2011.

Also, during the year, technical planning services were provided to USOF (Universal Service Obligation Fund) for the two schemes of USOF – one for extension of the earlier work of locating mobile towers in remote/rural areas, and the other for planning roll-out of Broadband infrastructure on wireline, satellite and wireless media. The extension project has been completed and artifacts handed over to the USOF. Final reports for wireline and satellite, and the first draft report for wireless Broadband have also been submitted to USOF.

Scheme: Campus

The drawings for the construction of hostel and dwelling units, which had already been prepared, have been submitted for their statutory approval. The same is awaited.

Scheme: C-DOT Alcatel-Lucent Research Centre (CARC)

It is a Cabinet approved Joint Venture program to conduct research and development in wireless Broadband and supporting technologies. The activities carried out during the year include support for the WiMAX CPE technology developed and commercialised by CARC and R&D services to Alcatel-Lucent for upgrade and maintenance of WiMAX BTSs and development of 3G femtocells.

Other Activities

25 years of C-DOT

C-DOT achieved a major landmark by completing 25 years of service to the nation in August 2009. To commemorate the epochal event, a function was held at C-DOT campus, New Delhi on 25th August 2009. Shri Gurudas Kamat, Hon'ble MOS, Ministry of Communications and IT was the chief guest. Shri S G Pitroda, Founder Advisor and founder members of C-DOT Board and senior management were felicitated. The function, well attended by distinguished invitees and officials from the telecom fraternity, was also used to promote telecom solutions and technologies developed by C-DOT. An impressive posters exhibition of all the products / solutions developed by C-DOT during the past 25 years was on display. A technical workshop on 'Challenges and Opportunities for R&D in Indian Telecom' and an exhibition were also organized at Bangalore on 28th August 2009.

Business Promotion Activities

- Project Agreements have been signed with M/s BEL for
 - o Providing support for the first and second ship under AISDN-15A Project.
 - o Providing support for the first and second ship under SDN-28 Project.
 - o Providing support for the first ship under CAIO-P17 Project.
 - o 'Timestamping Feature Development' as per the BEL's requirement.
- C-DOT, in partnership with M/s Lambda Microwave Technologies, participated in a BSNL tender for Supply, Installation, Operation and AMC of BTS sites Infra status and Alarm Management System (AMS).
- Purchase Order received from BSNL for supply of additional PI308 cards at two locations to increase the traffic handling capacity of the already deployed Missed Call Alert Systems supplied by C-DOT.
- C-DOT continues to provide Data Clearing House Services for GSM Roaming on ASP model between North and East Zones of BSNL and MTNL, Delhi and Mumbai.
- Field support for MAX and IN continues to be provided.

Exhibitions & Conferences

With a view to reach out to potential customers and collaborators, C-DOT has been participating in telecom exhibitions and conferences with renewed vigour and focus. C-DOT's stalls, with live demonstration of technology at work, unlike most other exhibitors, have drawn notice and high footfalls for being bigger, better and highly informative.

- C-DOT participated in the International Conference & Exhibition "**India Telecom 2009**" held at Pragati Maidan, New Delhi from 3rd to 5th December, 2009. The event was organized by the Department of Telecommunications in association with FICCI. Hon'ble Minister of State for Communications and IT Shri Gurudas Kamat, Secretary (Telecom) Shri P.J.Thomas and many other senior officials and Telecom professionals visited the stall and evinced keen interest in the live display of GPON, NGN and wired / wireless Broadband equipment developed by C-DOT.
- C-DOT showcased its technological strength at "**DEFEXPO INDIA 2010**" held at Pragati Maidan, New Delhi from 15th to 18th February, 2010.

Live demonstrations of C-DOT technologies such as NGN, GPON, NMS and Broadband Wireless Terminal were appreciated by all the visitors to the stall. C-DOT stall registered very high footfalls and was graced by the visit of Hon'ble Minister of State for Communications and IT Shri Sachin Pilot, Hon'ble Minister of State for Defence Shri M.M. Pallam Raju and Hon'ble MP Shri Naveen Jindal, among others.

- C-DOT also participated in **"INDIA SOFT 2010"** held at Jaipur from 10th – 12th March, 2010. The event was organized by ESC (Electronics and Computer Software Export Promotion Council). Hon'ble Chief Minister of Rajasthan Shri Ashok Gehlot visited the stall with senior state officials. Many foreign guests also visited C-DOT stall and showed keen interest in the exhibits.
- Like previous years, C-DOT's participation in **"Convergence India 2010"** was a great success. The exhibition and seminar was held from 23rd – 25th March, 2010 at Pragati Maidan, New Delhi. C-DOT demonstrated GPON, NGN, NMS and BBWT live. C-DOT Alcatel Research Centre (CARC) also showcased its WiMAX solution, in integrated working with C-DOT technologies. GPON ONT's ruggedized version was also shown in extreme temperature conditions. Hon'ble Minister of State for Communications and IT Shri Gurudas Kamat visited the stall and



complimented C-DOT team for putting up an impressive show. Secretary (Telecom) Shri P.J.Thomas and many other senior officials and Telecom professionals visited the stall.

Mr. P. V. Acharya, Executive Director, C-DOT was one of the eminent panelists in the inaugural Round Table conference. Mr. Vipin Tyagi, Director, C-DOT was also a speaker at the conference.

MoUs, Agreements and Contracts

- Project Agreements have been signed with M/s BEL for:
 - a. Providing support for the first and second ship under AISDN-15A Project.
 - b. Providing support for the first and second ship under SDN-28 Project.
 - c. Providing support for the first ship under CAIO-P17 Project.
 - d. 'Timestamping Feature Development' as per the BEL's requirement.
- A teaming agreement was signed with M/s Lambda Microwave Technologies, Faridabad on 5th February 2010 for joint bidding in BSNL's tender for Supply, Installation, Operation and AMC of BTS sites' Infra status and Alarm Management System (AMS).

Patents

C-DOT has registered a copyright for software CNMS-IP, a C-DOT developed Network Management System for IP elements.

RTI Implementation

The setup in C-DOT for implementation of RTI Act 2005 consists of one First Appellate Authority (FAA), the Chief Public Information Officer (CPIO) and two Assistant Public Information Officers (APIO) – one for each location (Delhi and Bangalore).

During the year 2009-2010, twenty nine new requests for information were received. All of them were accepted and the information was provided within the stipulated time-limit. Out of these, further appeal was made to the First Appellate Authority in three cases. All the appeals were heard and decisions given.

Process Improvement in C-DOT

Organization's processes, related to management of projects that lead to product development and other technical activities, had already been defined and rolled-out. They continued to be in practice during this year. These processes relate to various stages of product development life-cycle, technical support, project management and process management activities – and are based on the CMMI framework.

The processes, along with the defined practices, guidelines and the process aids, were applied to all project activities – like planning and monitoring, requirement analysis, design and implementation, validation, project reviews, configuration management and technical infrastructure support. These practices were complemented by quality reviews and periodic internal audits. The audits also focused on aspects like effort estimation during project planning, metrics collection and analysis, creation and maintenance of process repositories.

A central process repository (accessible on intranet) stores the process definition, and the data sharable across projects, like, decisions taken, risks encountered, best practices, lessons learnt, etc. Analysis of various metrics collected from projects, and the resultant trend, is also being maintained in the repository.

For CMMI certification, readiness reports were generated and spot-checks by an external assessor were conducted.

HR Initiatives in C-DOT

During the year 2009-10, a total of 113 new employees were added to C-DOT family at Delhi and Bangalore. The number includes two Directors (members of the C-DOT Board) and the Registrar.

Women Empowerment

C-DOT's management has always been sensitive to gender issues and has consistently worked towards creating organizational culture reflecting gender equality.

- Women presently constitute about 31 % of total employees' strength.
- C-DOT has also taken the initiative to provide opportunities to technically qualified and talented women to work from home. In 1999, a scheme of External Engineers was introduced wherein women engineers were recruited for specific time bound projects in C-DOT. These women were allowed to work on the project from home and their compensation was admissible on achievement of pre-defined project milestones.

Existing policies

- All female employees are allowed to avail up to 135 days of maternity leave for delivery and up to 270 days leave subsequent to that (inclusive of 135 days maternity leave). For miscarriage/abortion, leave of a total of 45 days during the entire service period is permissible.
- C-DOT offers accommodation and transport benefits to all its women employees with different options that maybe availed as per individual suitability. This ensures the safety and security of all women employees of the centre..
- Equal career growth opportunities are available to women employees in C-DOT. In the most recent list of promotions announced for C-DOT employees, 40% were women, who made it to higher grades. In management cadres (Team Leaders, Group Leaders), about 30 % are women.

Recruitment of SC/ST and persons with disabilities

- For recruitment of persons with disabilities and candidates belonging to SC/ST category, C-DOT follows government rules providing for reservation in jobs in C-DOT.
- C-DOT has a system in place to look after the welfare of persons belonging to these categories and address any problems / complaints that may come up.

Facilities for persons with disabilities

- C-DOT Delhi office located at Mehrauli has been constructed to facilitate the movement of

persons with disabilities. Ramps/ lifts have been provided along with the staircases to ensure independent mobility for persons with disabilities.

Promotion of Hindi in C-DOT

C-DOT is making serious efforts to ensure compliance of Official Language Policy of Government of India. To create awareness among the employees, C-DOT organizes Hindi workshops regularly on different topics of relevance. Many innovative programmes have been initiated at both Delhi and Bangalore centres of C-DOT in this regard.

Hindi Utsav was celebrated at C-DOT offices from September 1-14, 2009 (Bangalore) and September 14-28, 2009 (New Delhi). The Utsav was inaugurated with **Inse Miliye...** featuring noted cardiovascular and cardiothoracic surgeon Padmvibhushan Dr. Naresh Trehan. During the fortnight, many competitions and events were organized to motivate C-DOTians to do their day-to-day work in Hindi. A **Mushaira** was organized on the final day. Well known Urdu poets like Shri Nida Fazli, Shri Laxmi Shankar Vajpayee, Sushri Iffat Zarrin, Shri Popular Merathee were the star attractions of the event.





Inse Miliye... has been instrumental in creating awareness towards Indian culture and languages. Padmshri Shovana Narayan was invited to share her inspiring experiences with C-DOTians. The programme was a huge success.

Shri Keval Krishna, Director- Technical, National Informatics Centre (NIC) was invited for a Workshop "**Samvad**" on Usage of Hindi on computers.

The first edition of the house journal "**C-DOT Bharati**" was also brought out during the year. It is hoped that it will certainly encourage usage of Hindi in C-DOT's day-to-day official work.

Grants received during 2009-2010 and expenditure

The grants in aid received during the financial year was Rs. 100 crores including Rs. 14 crores for the North East region. The total expenditure on various schemes / projects, including North East, up to 31st March 2010 is Rs.108.50 crores.

■ Statements of Accounts 2009-2010

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Statement of Accounts

Report of the Auditors on the Accounts of C-DOT for the Year ended 31st March, 2010 and Management's Replies in respect of the observations made therein

To: The Members of Centre for Development of Telematics (C-DOT)

Sl.No.	Auditor's Observation	Management's Replies thereon
1.	We have audited the attached Balance Sheet of Centre for Development of Telematics, (hereinafter referred to as "C-DOT" or "CENTRE") as at 31 st March'2010 and the Income and Expenditure Account for the year ended on that date annexed thereto. These financial statements are the responsibility of the Centre's Management. Our responsibility is to express an opinion on these financial statements based on our audit.	This is a factual statement; for, the preparation of the Annual Financial Statements is the responsibility of the Centre and the Auditors are to express an opinion thereon.
2.	We have conducted our audit in accordance with auditing standards generally accepted in India. These standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by the Management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.	This is also a factual statement.

Sl.No.	Auditor's Observation	Management's Replies thereon
3.	<p>Attention is drawn to the following observations:</p> <p>A. Fixed Assets</p> <p>i. As reconciliation of the physical and financial records of all assets is still under process at the end of the year, we are unable to form with regard to the impact of the discrepancies, if any, on these Accounts. ((Para 1.0 (d) of Schedule 16))</p> <p>ii. Conveyance deed evidencing title of ownership rights of the Centre with respect to land costing Rs. 12 crore at Delhi, not made available for our verification.</p>	<p>A. Fixed Assets</p> <p>i. Taking note of the observations of the Auditors on the Accounts for the previous year (Reference Reply to Para 3(A) (i) of the Auditor's Report for 2008-09), a committee was constituted, during the year, for physical verification of all Assets. As indicated in paras 1.0 (b) & (d) of schedule 16 forming part of these Accounts, physical verification of assets has been carried out and a reconciliation process is on.</p> <p>ii. As was explained in the reply to Audit observation on the issue at part A (ii) of Para 3 on the Accounts for the preceding year, the transfer of land at Delhi was by the Government to C-DOT. The centre has not only been in possession of this land since the transfer but also constructed a campus thereat and paying municipal taxes therefor.</p>
	<p>B. Inventories</p> <p>i. Valuation of inventory by the Centre is at cost instead of at lower of cost or net realizable value thereof is not in accordance with Accounting Standard 2 prescribed by the Institute of Chartered Accountants of India (ICAI) ((Refer Para 4.0 (e) of Schedule 16)).</p> <p>ii. In view of the presence of slow / non moving components in the Inventory as at 31.03.2010, whose value is yet to be ascertained with finality by the management, we are unable to form an opinion as to the diminution in the value thereof, if any.</p>	<p>B. Inventories</p> <p>i. The Inventory is of stores and components. These have been valued consistently at 'COST', in accordance with the guidelines of the expert committee on Accounting norms for Public Funded Autonomous Organisations such as the Centre.</p> <p>ii. Efforts are being made to dispose of such slow / non - moving stores and components, which have been obsoleted by the fast changing Telecom Technologies.</p>

Sl.No.	Auditor's Observation	Management's Replies thereon
	<p>C. Investments and Loans</p> <p>i. No provision has been made by the Centre for decline in value of investments of Rs. 52 Crore in the equity shares of joint venture company – M/s. C – DOT Alcatel-Lucent Research Centre Private Limited- on account of almost total erosion of its net worth ((Refer Note No. 3.0 (b) of Schedule 16)).</p> <p>ii. Further, the Centre has also advanced a loan of Rs. 18.46 crore to the said JV company on which no interest has been charged for the year (Rs. 2.21 crore). In light of erosion of its net worth, recoverability of this amount and provision required, if any, cannot be commented upon ((Refer Para 6 (a) of Schedule 16)).</p>	<p>C. Investments and Loans.</p> <p>i. These investments in the equity in and the loans to the Joint Venture Company, made by the Centre at the instance/as per directives of Government of India, were expected to have a gestation period until Financial Year 2010-11. They were anticipated to yield returns only thereafter. This issue was elaborately explained in reply to similar observations in the Auditors' Report for the preceding year. As the Joint Venture Company is taking measures to modify its business model, so as make it more profitable, the investments of the Centre are deemed to be requiring no provisioning.</p> <p>ii. Though the investments of the Centre in the Joint Venture Company are still considered safe, as explained in (i) above, keeping in view the request received from the investee company for deferment of collection of interest accrued on the loans and the installments of the principal sums thereof, no income has been considered in these accounts by way of interest accrued for the year on the loans.</p>
	<p>D. Sundry Debtors</p> <p>In absence of confirmations and reconciliations of sundry debtors, which are long overdue, amounting to Rs. 86.01 crores, we are unable to comment on their recoverability and provision required for doubtful recoveries, if any (Refer Note No. 4.0 (b) of Schedule 16).</p>	<p>D. As explained in para 4.0 (b) of Schedule 16 forming part of these Accounts,</p> <p>i. 11.24% of the total outstandings are under Arbitration. Only the Arbitral Award will determine the extent of irrecoverability.</p>

Sl.No.	Auditor's Observation	Management's Replies thereon
		<ul style="list-style-type: none"> ii. 67.59% of the total outstandings are from Telecom Operator, a wholly owned undertaking of Government of India, Department of Telecommunications. As it is felt that the Government's help will be freely forthcoming in their recovery, same are considered good. Hence, no provision is deemed necessary. iii. 20.95% of the total outstandings have been secured by the take over of Land & Buildings of the Licencsee concerned. Hence, no provision is needed on this account too. iv. Balance 0.02% of the total dues alone are from non-Public Sector Licencees. These will be appropriately dealt within Financial Year 2010-11.

E. Employee Benefits

The centre has followed during the year AS 15 (revised) for Gratuity Valuation, which resulted in lower provision of Rs. 354.56 lacs. However, the provision for leave encashment has not been made as per AS 15. ((Refer Para 6.0 (a) of Schedule 16))

E. As explained in para 6.0 (c) of Schedule 16 to these Accounts, the centre has adopted Actuarial valuation of liability for Gratuity as at 31.03.2010. Such a liability is based on the revised ceiling of Rs. 10,00,000 for payment of Gratuity. As for the liability on this account as at 31.03.2009, the same was made on best estimate basis as per prevailing Rules of the Centre and upto a ceiling of Rs. 3,50,000. Had the provision for Gratuity been made on the same basis as in the last year but for the higher monetary ceiling of Rs. 10,00,000, as per latest amendment to the applicable Statute, the provision for the year ended 31.03.2010 would have been higher by Rs. 354.56 lakhs than the value given by the Actuary. This is what is stated by the Auditors. As for the liability for Earned Leave, which accrued to employees as at 31.03.2010, the issue being complex, requires further examination before a shift in the policy is made.

Sl.No.	Auditor's Observation	Management's Replies thereon
4.	<p>Subject to the matters stated in paragraph 3 above, we report that:</p> <p>i. We have obtained all the information and explanations which, to the best of our knowledge and belief, were necessary for the purposes of our audit.</p> <p>ii. In our opinion, proper books of account, as required by law, have been kept by the Centre so far as appears from our examination of the books.</p> <p>iii. The Balance Sheet and Income and Expenditure Account are in agreement with the books on account.</p> <p>iv. In our opinion and to the best of our information and according to the explanations given to us, the said accounts, read to together with the notes and accounting policies thereon, give the information in the manner so required and give a true and fair view, in conformity with the accounting principles generally accepted in India:-</p> <p>a. In the case of the Balance Sheet, of the state of affairs of the Centre as at 31st March 2010; and</p> <p>b. In the case of the Income & Expenditure Account, of the excess of expenditure over income for the year ended on that date.</p>	<p>i. The centre has furnished all the information required by them.</p> <p>ii. In their opinion, proper books of account have been maintained by C-DOT.</p> <p>iii. The said books of accounts maintained by C-DOT are in agreement with the financial statements of the year.</p> <p>iv. This comment is self explanatory and requires no further observation.</p>

For M/s. Rajendra K. Goel & Co.
Chartered Accountants
(Firm Registration No. 001457N)

(V.K Issar)
Partner
M. No. 9519

Place: New Delhi
Date: 04.06.2010

For Centre for Development of Telematics

Sd/-
P.V. Acharya
Executive Director

Balance Sheet as at 31st March...

(In Rupees)

	Schedule No.	2010	2009
CORPUS / CAPITAL FUND AND LIABILITIES			
Corpus / Capital Fund	1	3,514,164,657.72	3,414,543,842.44
Reserves & Surplus	2	23,658,685.67	23,658,685.67
Current Liabilities & Provisions	3	339,410,387.49	434,990,517.60
TOTAL		3,877,233,730.88	3,873,193,045.71
ASSETS			
Fixed Assets	4		
Gross Block		4,573,728,680.61	4,467,277,724.24
Less: Depreciation		3,286,559,965.09	3,091,698,149.12
Net Block		1,287,168,715.52	1,375,579,575.12
Assets in transit	4	83,539.00	0.00
Capital Work in Progress	5	4,459,882.00	3,841,977.00
Investments-Long Term	6	520,000,000.00	520,000,000.00
Current Assets, Loans & Advances and Deposits	7	2,065,521,594.36	1,973,771,493.59
TOTAL		3,877,233,730.88	3,873,193,045.71
Significant Accounting Policies	15		
Notes on Accounts	16		

Schedules 1 to 7, 15 and 16 form an integral part of the Balance Sheet

For and on behalf of the Board of
Centre for Development of Telematics

Sd/-
P. Venkatesan
Chief Finance Officer

Sd/-
P.V. Acharya
Executive Director

In terms of our report of even date attached
For M/s. Rajendra K. Goel & Co.
Chartered Accountants
Firm Regn. No. 001457N

Place: New Delhi
Date: 04.06.2010

Sd/-
V.K. Issar
Partner
M.No. 9519

Income and Expenditure Account for the year ended 31st March...

(In Rupees)

	Schedule No.	2010	2009
INCOME			
TOT, Royalty, FSR and Publications	8	257,500,755.85	329,988,533.29
Interest Earned	9	10,826,455.43	25,815,277.05
Other Income	10	3,807,866.78	11,074,985.96
TOTAL (A)		272,135,078.06	366,878,796.30
EXPENDITURE			
Establishment Expenses	11	683,873,605.23	623,642,883.32
Operational Expenses	12	137,285,265.45	272,674,185.83
Other Administrative Expenses	13	154,551,840.35	152,618,996.87
Depreciation	4	196,242,455.36	201,943,700.61
TOTAL (B)		1,171,953,166.39	1,250,879,766.63
Excess of expenditure over income for the year C=(B-A)		899,818,088.33	884,000,970.33
Add/less (-) :- Adjustments pertaining to earlier years	14	561,096.39	4,038,554.76
Balance being excess of expenditure over income		900,379,184.72	888,039,525.09
Add:- Excess expenditure over income of earlier years		10,150,809,319.68	9,262,769,794.59
Balance being deficit carried to Corpus Fund/Capital Fund		11,051,188,504.40	10,150,809,319.68
Significant Accounting Policies	15		
Notes on Accounts	16		

Schedule 4, 8 to 16 form an integral part of the Income and Expenditure Account

For and on behalf of the Board of
Centre for Development of TelematicsSd/-
P. Venkatesan
Chief Finance OfficerSd/-
P.V. Acharya
Executive DirectorIn terms of our report of even date attached
For M/s. Rajendra K. Goel & Co.
Chartered Accountants
Firm Regn. No. 001457NPlace: New Delhi
Date: 04.06.2010Sd/-
V.K. Issar
Partner
M.No. 9519

Schedule - 1

Corpus / Capital Fund

(Forming part of the Balance Sheet as at 31st March...)

(In Rupees)

	2010		2009	
Grants from Dept. of Electronics (Presently Dept. of Information Technology)				
Accumulated Balance	335,200,000.00		335,200,000.00	
Grants from Dept. of Telecommunication				
Balance at the beginning of the year	13,230,153,162.12		12,140,153,162.12	
Add: Contributions towards Corpus / Capital Fund during the year	<u>1,000,000,000.00</u>	14,565,353,162.12	<u>1,090,000,000.00</u>	13,565,353,162.12
Less: Balance of net expenditure transferred from the Income and Expenditure Account		11,051,188,504.40		10,150,809,319.68
TOTAL		3,514,164,657.72		3,414,543,842.44

Schedule 2

Reserves & Surplus

(Forming part of the Balance Sheet as at 31st March...)

(In Rupees)

	2010		2009	
General Reserve				
Balance at the beginning of the year	23,658,685.67		23,658,685.67	
Less: Provisions withdrawn during the year	<u>0.00</u>	23,658,685.67	<u>0.00</u>	23,658,685.67
TOTAL		23,658,685.67		23,658,685.67

Schedule 3

Current Liabilities & Provisions

(Forming part of the Balance Sheet as at 31st March...)

(In Rupees)

	2010		2009	
CURRENT LIABILITIES				
1. Sundry Creditors				
a) For Goods	8,140,078.45		8,502,452.00	
b) Others	<u>58,005,913.00</u>	66,145,991.45	<u>52,836,005.00</u>	61,338,457.00
2. Advances received				
- For Funded Projects		11,766,273.60		22,519,787.60
3. Statutory Liabilities		15,700,876.00		35,584,775.00
4. Other Current Liabilities		86,816,540.44		66,522,070.00
Sub-total (A)		180,429,681.49		185,965,089.60
PROVISIONS				
1. Gratuity	155,924,448.00		131,800,009.00	
2. 6th Pay Commission arrears	<u>3,056,258.00</u>		<u>117,225,419.00</u>	
Sub-total (B)		158,980,706.00		249,025,428.00
Total (A+B)		339,410,387.49		434,990,517.60

Schedule 4

Fixed Assets

(Forming part of the Balance Sheet as at 31st March '2010)

(In Rupees)

	GROSS BLOCK				DEPRECIATION				NET BLOCK	
	As on 01.04.2009	Additions	Adj./Write-off	As on 31.03.2010	As on 01.04.2009	For the year	Adj./Write-off	As on 31.03.2010	As on 31.03.2010	As on 31.03.2009
Land-Free Hold	120,000,000.00	0.00	0.00	120,000,000.00	0.00	0.00	0.00	0.00	120,000,000.00	120,000,000.00
Building-Office	570,180,967.65	0.00	0.00	570,180,967.65	193,895,295.45	37,628,567.22	0.00	231,523,862.67	338,657,104.98	376,285,672.00
Building-Residential	23,627,434.00	0.00	0.00	23,627,434.00	11,365,222.66	613,110.57	0.00	11,978,333.23	11,649,100.77	12,262,211.34
R & D Equipment	2,438,263,897.36	74,991,524.43	(-)563,620.00	2,512,691,801.79	1,882,601,487.98	94,590,389.89	(-)512,285.41	1,976,679,592.46	536,012,209.33	555,662,409.38
R & D Computers	663,667,216.37	28,661,983.43	0.00	692,329,199.80	652,452,647.08	23,925,931.63	(-)0.00	676,378,578.71	15,950,621.09	11,214,569.29
Office Equipments & Appliances	347,839,646.73	1,813,357.00	(-)750,654.24	348,902,349.49	192,939,859.38	23,497,446.87	(-)687,155.68	215,750,150.57	133,152,198.92	154,899,787.35
Furniture & Fittings	261,763,364.02	1,185,917.00	(-)233,298.50	262,715,982.52	116,508,438.46	14,638,608.93	(-)178,545.30	130,968,502.09	131,747,480.43	145,254,925.56
Library Books	41,935,198.11	1,348,400.25	(-)2,653.00	43,280,945.36	41,935,198.11	1,348,400.25	(-)2,653.00	43,280,945.36	0.00	0.00
TOTAL	4,467,277,724.24	108,001,182.11	(-)1,550,225.74	4,573,728,680.61	3,091,698,149.12	196,242,455.36	(-)1,380,639.39	3,286,559,965.09	1,287,168,715.52	1,375,579,575.12
Assets in transit									83,539.00	0.00
Previous year's total	4,398,273,482.68	96,974,963.58	(-)27,970,722.02	4,467,277,724.24	2,921,321,474.31	201,943,700.61	(-)31,567,025.80	3,091,698,149.12	1,375,579,575.12	1,476,952,008.37

Schedule 5

 **Capital Work in Progress**

(Forming part of the Balance Sheet as at 31st March'2010)

(In Rupees)

	As at 01.04.2009	Additions	Transfer to Fixed Assets	As at 31.03.2010
Campus - Delhi				
1. Campus-External Electrification	0.00	20,305.00	(-) 20,305.00	0.00
2. Campus-Residential Complex	3,841,977.00	617,905.00	0.00	4,459,882.00
TOTAL	3,841,977.00	638,210.00	(-) 20,305.00	4,459,882.00
Previous Year Balance	1,027,062.00	4,203,814.00	(-) 1,388,899.00	3,841,977.00

Schedule 6

Investments - Long Term

(Forming part of the Balance Sheet as at 31st March...)

(In Rupees)

	No. of Fully Paid Equity Shares	Face Value Per Share (Rs.)	2010		2009	
UNQUOTED (At Cost)						
JOINT VENTURE COMPANY						
1. C-DOT Alcatel Lucent Research Centre Pvt. Ltd. (CARC)	52,000,000	10	520,000,000.00		520,000,000.00	
TOTAL				520,000,000.00		520,000,000.00

Schedule 7

 **Current Assets, Loans & Advances and Deposits**
(Forming part of the Balance Sheet as at 31st March...)

[In Rupees]

	2010		2009	
A. CURRENT ASSETS				
1. Inventories (As taken, valued and certified by the Management)				
a) Inventory	143,212,357.58		153,590,176.21	
b) Inventory in transit	<u>909,702.30</u>	144,122,059.88	<u>423,262.00</u>	154,013,438.21
2. Sundry Debtors				
a) Debts outstanding for a period exceeding six months	922,153,464.00		792,740,633.00	
b) Others	<u>165,961,436.00</u>	1,088,114,900.00	<u>133,891,502.00</u>	926,632,135.00
3. Bank Balances				
a) With Scheduled banks				
On Deposit Accounts	79,767,117.00		126,159,613.00	
On Saving Accounts	<u>255,646,575.09</u>	<u>335,413,692.09</u>	<u>94,279,461.47</u>	<u>220,439,074.47</u>
TOTAL (A)		1,567,650,651.97		1,301,084,647.68
B. LOANS & ADVANCES				
1. Loans				
a) Staff	1,260,148.00		1,671,664.00	
b) CARC Pvt. Ltd.	<u>184,578,500.00</u>	185,838,648.00	<u>184,578,500.00</u>	186,250,164.00
2. Advances and other amounts recoverable in Cash or in kind or for value to be received:				
a) Contractors & Suppliers	4,206,909.24		3,332,933.00	
b) Employees	2,951,056.00		434,027.00	
c) Prepaid expenses	<u>11,517,603.76</u>	<u>18,675,569.00</u>	<u>5,649,303.52</u>	<u>9,416,263.52</u>
3. Interest Accrued				
a) On Staff Loan	255,528.00		318,882.00	
b) On Bank Deposits	367,121.00		1,820,464.00	
c) CARC Loan	<u>10,390,079.00</u>	11,012,728.00	<u>10,390,079.00</u>	12,529,425.00
4. Claims Recoverable		197,841,104.35		382,872,932.35
5. Tax Deducted at Source		55,733,775.00		65,376,842.00
6. Disputed Income Tax		11,031,283.00		0.00
7. Cenvat Credit receivable		<u>11,718,603.04</u>		<u>9,016,487.04</u>
TOTAL (B)		491,851,710.39		665,462,113.91
C. DEPOSITS				
a) Office Building	40,500.00		0.00	
b) Others	<u>5,978,732.00</u>		<u>7,224,732.00</u>	
TOTAL (C)		6,019,232.00		7,224,732.00
TOTAL (A) + (B) + (C)		2,065,521,594.36		1,973,771,493.59

Schedule 8

Income from TOT, Royalty, FSR and Publications

(Forming part of Income & Expenditure Account for the year ended 31st March...)

(In Rupees)

	2010		2009	
1) Income from Royalty				
- Received in Cash	0.00		0.00	
- Accounted on accrual basis	<u>0.00</u>	0.00	<u>0.00</u>	0.00
2) Income from Transfer of Technology (TOT)				
- Received in Cash	5,405,075.85		0.00	
- Accounted on accrual basis	<u>0.00</u>	5,405,075.85	<u>0.00</u>	0.00
3) Field Support Receipts (FSR)		251,915,180.00		329,796,321.29
4) Income from Publications				
a) On Sale of Tender/Technical documents		180,500.00		192,212.00
TOTAL		257,500,755.85		329,988,533.29

Schedule 9

■ Interest Earned

(Forming part of Income & Expenditure Account for the year ended 31st March...)

(In Rupees)

	2010	2009
1) On Term deposits with Scheduled Banks	4,717,889.07	14,560,068.49
2) On Saving Account with Scheduled Banks	2,970,271.36	431,591.14
3) On Loans to Employees / Staff	155,211.00	266,726.42
4) On Loans to Others	0.00	10,390,079.00
5) Others	2,983,084.00	166,812.00
TOTAL	10,826,455.43	25,815,277.05

Schedule 10

Other Income

(Forming part of Income & Expenditure Account for the year ended 31st March...)

(In Rupees)

	2010	2009
1) Profit on Sale / Disposal of Assets	2,653.00	208,021.58
2) Miscellaneous Income	3,544,248.29	10,736,854.98
3) Gain due to foreign exchange translation	260,965.49	130,109.40
TOTAL	3,807,866.78	11,074,985.96

Schedule 11

■ Establishment Expenses

(Forming part of Income & Expenditure Account for the year ended 31st March...)

(In Rupees)

	2010	2009
a) Salaries and Wages	463,787,579.00	419,142,654.00
b) Bonus	863,500.00	1,097,545.00
c) Contributions to Provident Fund	40,882,599.00	35,930,307.00
d) Contributions to other Funds	5,385,906.00	4,983,768.00
e) Gratuity provided for employees	33,561,063.00	41,080,160.00
f) Staff Welfare expenses	114,007,655.23	78,931,244.00
g) Rent on residentials and Maintenance Expenses	21,655,051.00	38,036,825.00
h) Recruitment and Training Expenses	3,730,252.00	4,440,380.32
TOTAL	683,873,605.23	623,642,883.32

Schedule 12

Operational Expenses

(Forming part of Income & Expenditure Account for the year ended 31st March...)

(In Rupees)

	2010	2009
a) R & D Components & Consumables	53,737,738.30	78,346,578.94
b) Freight & Forwarding Charges	3,847,748.00	3,297,046.00
c) Repair & Maintenance-R & D Office Equipments	76,024,575.15	63,219,753.89
d) Design & Development Expenses	1,865,065.00	126,868,319.00
e) Consultancy Expenses	968,085.00	877,908.00
f) Testing Charges	842,054.00	64,580.00
TOTAL	137,285,265.45	272,674,185.83

Schedule 13


Other Administrative Expenses

(Forming part of Income & Expenditure Account for the year ended 31st March...)

[In Rupees]

	2010		2009	
a) Travelling and Conveyance expenses		10,443,307.00		11,068,234.00
b) Vehicle hire charges		1,174,134.00		875,462.00
c) Rent, Rates & Taxes		1,801,657.00		5,386,664.00
d) Interest / Penalty Paid		3,551,195.00		325,277.00
e) Electricity & Water Charges		56,898,705.00		55,268,921.00
f) Repairs & Maintenance - Others		35,721,001.00		37,944,787.00
g) Newspaper, Periodicals, Journals & CDs		2,922,217.00		6,241,423.00
h) Insurance Charges		485,751.00		451,893.00
i) Printing, Stationery, Photocopy & Admin. Consumables		9,496,117.21		12,170,846.42
j) Postage, Telephone and Communication Charges		13,309,184.65		12,305,190.33
k) Exhibition, Advertisement & Publicity Expenses		14,498,807.70		5,340,708.00
l) Expenses on Conference/Seminar/Membership Fees		1,158,448.00		1,189,709.38
m) Legal, Professional fees & Honorarium		1,070,321.00		1,364,610.00
n) Patent fees		387,760.00		419,650.00
o) Remuneration to Auditors				
Audit Fees	2,50,000.00		190,000.00	
Out of pocket expenses	11,018.00		61,716.00	
In other capacities	<u>2,020.00</u>	263,038.00	<u>2,500.00</u>	254,216.00
p) Hospitality/Entertainment Expenses		171,907.76		185,173.00
q) Bank Charges		683,109.10		570,650.44
r) Loss due to foreign exchange translation		101,653.58		478,041.50
s) Miscellaneous Expenses		272,818.00		117,089.00
t) Loss on sale of Assets		140,708.35		660,451.80
TOTAL		154,551,840.35		152,618,996.87

Schedule 14

Adjustments Pertaining to Earlier Years (Net)

(Forming part of Income & Expenditure Account for the year ended 31st March...)

(In Rupees)

	2010		2009	
	Debit	Credit	Debit	Credit
INCOME				
TOT, Royalty, FSR and Publications	0.00	179,794.00	1,724,292.00	0.00
Interest Earned	0.00	0.00	0.00	0.00
Other Income	74,000.00	0.00	151,000.00	0.00
EXPENDITURE				
Establishment Expenses	214,999.00	0.00	2,103,703.00	0.00
Operational Expenses	0.00	1,233,214.61	1,668,944.76	
Other Administrative Expenses	1,685,106.00	0.00	0.00	2,439,911.00
Depreciation	0.00	0.00	830,526.00	0.00
TOTAL	1,974,105.00	1,413,008.61	6,478,465.76	2,439,911.00
Net Debit / Credit	561,096.39		4,038,554.76	

Schedule 15

■ Significant Accounting Policies (Forming part of the Accounts for the year ended 31st March 2010)

Sl.No.	Policy Statement
1.	<p>General</p> <p>The financial statements for the year, comprising of the Balance Sheet, the Income & Expenditure Account, Schedules bearing the numbers 1 to 14 , which are based upon the policies stated hereunder, are prepared following the “going concern” concept</p>
2.	<p>Fixed Assets</p> <p>a. These are stated in the Accounts at their historical costs.</p> <p>b. The values of R&D Equipment and other Assets, purchased during the year under arrangements like Letters of Credit etc., are stated in these financial statements as indicated below:</p> <p>i. Where such assets have been received by the Centre, on or before the Balance Sheet date and put to use, though not paid for, the values thereof are capitalized, depreciation at appropriate rates provided and the liability for the gross values of such assets created.</p> <p>ii. Where, on the other hand, such Assets are in transit on the Balance Sheet date and thus not put to use, though the relevant documents therefor have been received from the suppliers and payments have/have not been made, the values thereof are disclosed under “Assets-in-transit” in the Schedule on Fixed Assets, with corresponding liability created therefor.</p> <p>iii. Where neither the assets ordered have been received and put to use before the Balance Sheet date nor the documents therefor received from the suppliers and no payment has been made in respect thereof, no effect is given in the financial statements in respect of the values of such assets.</p>

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3.	<p>Capital Work-in-progress</p> <p>Expenditure incurred on the R&D Campus as well as the social facilities like housing thereat is shown under "Capital Work-in-Progress" until capitalization.</p>
4.	<p>Depreciation on Fixed Assets</p> <ol style="list-style-type: none">For the purpose, the rates provided by the Income Tax Rules 1962 (the Rules), as applicable from time to time, are adopted.However, Fixed Assets installed and put to use during the year, are depreciated at full rates provided by the Rules for the whole year, irrespective of the date of putting to use of such assets.Fixed Assets are depreciated each year and the balances thereafter are carried forward to the next year and so on. However, in the case of Fixed Assets, the individual cost of each of which is not more than Rs. 5,000/-, the whole of the cost thereof is charged to revenue in the year of acquisition itself.Library books are charged to revenue in the Accounts of the year of acquisition, irrespective of their individual values.No depreciation is provided in respect of assets, which are sold, discarded or disposed off during the year.No depreciation is provided in the case of Assets-in-transit indicated in Para 2(b) (ii) above.In the past, when the Rules used to provide same rate of depreciation for both Plant & Machinery and Computer/Computer Software, all these were grouped under the same asset group for the purpose of depreciation. However, subsequently, when the Rules were amended to provide lower rates for general Plant & Machinery and higher rates for Computer/Software, only computers were depreciated at the higher rate provided for computers/software, while application software continued to get depreciated at the lower rate prescribed for Plant & Machinery.

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5. Inventory of Stores

- a. These are valued at "Cost".
- b. For this purpose "Cost" includes overheads at rates determined from time to time.
- c. "Cost" is determined by adopting the moving weighted average method.

6. Loans to employees

- a. These are recovered in equated monthly installments with a maximum of 40 such installments.
- b. The principal amount due is first recovered over the agreed number of installments. After recovery of the full principal amount, interest is recovered. However, accounting for the interest accrued on the loans given to employees on each intervening Balance Sheet date is made adopting the accrual concept.
- c. As the recovery of the principal amount of loans and the interests due thereon is made through the monthly salaries of the concerned employees, these are assumed to be "confirmed" and accepted by the employees concerned.
- d. In the case of employees, who leave the services of the organization during the year, the balance of the principal amount and the interest due on the loan, wherever due, are recovered from the final settlements made.

7. Advances

- a. To employees.
 - i. These are also recovered from the monthly salaries of the employees concerned.
 - ii. As a consequence, such advances are taken as confirmed and accepted by the employees concerned.
- b. To suppliers and contractors
 - i. Such advances are given under the relevant agreements for supplies or services.
 - ii. Such advances also arise, when payment is released to the supplier/contractor,

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	<p>under the purchase orders, etc., for components, equipment and services through arrangements made through banks.</p> <p>iii. Such advances are adjusted in the normal course upon completion of supplies by the supplier or rendering of the services by the service provider.</p>
<p>8.</p>	<p>Deposits</p> <p>a. To landlords of residential accommodation leased</p> <p>i. For Staff of the Bangalore unit of the Centre, advance equivalent to 10-months' rent is paid. This advance is accounted for under "DEPOSITS" and shown as such until the tenure of the leases come to an end.</p> <p>ii. Such "Deposits" do not earn any interest, as per prevailing practice.</p> <p>iii. In such cases, rent is also paid, in addition to the "deposits".</p> <p>iv. For staff of the Delhi unit of the Centre, as per the practice prevailing there, advance equal to three months rent is paid at the beginning of the lease and this advance is treated as rent paid and not as deposits, unlike in Bangalore.</p> <p>b. Miscellaneous Deposits</p> <p>Deposits made to public utilities for water, electricity and gas for the staff canteen are booked under this head and shown as such until the said services are used.</p>
<p>9.</p>	<p>Current Assets & Liabilities</p> <p>a. Current Assets</p> <p>i. Expenditure incurred on the projects undertaken by the Centre for other agencies is taken as part of "Current Assets" to the extent of such balances remaining unrealized on the Balance Sheet date.</p> <p>ii. Similarly, TOT/Royalty income, fees for field support to telecom operators and other income, which have been accounted for on accrual basis, are also treated as part of "Current Assets" until realization.</p>

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iii. Such amounts as are due in this regard, on the Balance Sheet date, from Government agencies or Public Sector Undertakings are treated as good for recovery.

b. Current Liabilities

i. These include advances received from operators/other agencies for projects undertaken by the Centre on reimbursement basis until completion.

10. Investments

a. The aggregate of the contributions to the equity capital of another R&D company has been disclosed under this head.

b. These investments are long term in nature.

c. These are stated in the financial statements at "Cost".

11. Provision for outstanding liabilities on the Balance Sheet date

a. Where the goods ordered/services required are received on that date but the bills therefor, though received, remain unpaid, the aggregate of such values is adopted for the purpose of making a provision.

b. Where the goods ordered/the services required are received but the bills therefor are not received on the Balance Sheet date, provision therefor is made on the basis of the values known to the Centre in respect thereof; and

c. In all other cases, no provision is made, while making these financial statements.

12. Purchase of components and other materials

In such cases, the policy adopted is similar to the one adopted in the case of "Fixed Assets", as stated in Para 2 (b) (i to iii) above.

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13.	<p>Transactions involving foreign exchange</p> <p>a. Income & Expenditure Account:</p> <p>Such transactions as are having an impact on the Income & Expenditure Account for the year are converted into Indian Currency at the rates of exchange prevailing on the respective dates of payment/receipt thereof.</p> <p>b. Receivables and Payables:</p> <p>Such transactions, the amounts of which are shown as either receivable or payable on the Balance Sheet date, are converted into Indian Currency at the rates of exchange prevailing on the Balance Sheet date.</p>
14.	<p>Grants in aid from Government of India are accounted for on the basis of the dates of the Sanction Memoranda therefor, irrespective of the dates of receipts of values thereof.</p>
15.	<p>Revenue recognition</p> <p>a. All income is accounted for on accrual basis.</p> <p>b. As for expenses, these are accounted on accrual basis except in the following cases:</p> <p>i. Ex-gratia to eligible employees, as the same is payable only when the policy for such payment to corresponding levels in the Government of India is known for each year; and</p> <p>ii. Encashment of leave, which is accounted for on incidence basis.</p> <p>c. In the case of gratuity, provision is made, on the basis of actuarial valuation by adopting the projected unit credit method.</p> <p>d. In respect of Projects undertaken by the Centre for telecom operators & other agencies on reimbursement basis, the expenses & income in relation to these, are accounted for as expenditure /Income respectively, only upon completion of the</p>

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milestones related to project deliverables and acceptance by the agencies/
Telecom operators.

- e. Income & Expenses relating to past financial years are accounted for under "Adjustments pertaining to earlier years", when the following conditions are simultaneously satisfied:
 - i. The adjustment is the result of any clerical error.
 - ii. Such a clerical error is detected only in the current financial year.
 - iii. Such an error/(s) relate/(s) to one or more past financial year/(s), and
 - iv. The value thereof exceeds Rs. 5,000/- in each case.

Schedule 16

■ **Notes on Accounts** (Forming part of the Accounts for the year ended 31st of March, 2010)

PART - A : Balance Sheet

1.0 Fixed Assets

- a. Include land at Chhatarpur, Mehrauli, New Delhi admeasuring 40 acres (Previous year – 40 acres), acquired from another Government of India Telecom Company, in 1993, for consideration. This land, on which the campus is built, has been considered freehold land, even though formal conveyancing has not been done in favour of the Centre.
 - b. All Assets acquired during the year have been physically verified and such assets codified.
 - c. The exercise to generate a register of fixed assets at Delhi has been completed. With this, both the units have registers of Fixed Assets.
 - d. Another exercise to physically verify all assets and to reconcile them with the balances as per Financial Records is being undertaken. The effect of such reconciliation will be given in the Accounts of FY 2010-11.
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2.0 Capital work in progress

- a. The expenditure on the proposed housing facility at the Campus at Delhi during 2009-10 amounted to Rs.6.18lakhs (Previous year Rs 28.15 lakhs). This expenditure is shown under Schedule 5, in accordance with the Policy as indicated at Para 3 of Schedule 15.
- b. The cumulative expenditure on the said housing facility at Delhi was Rs. 44.60 lakhs (Previous year – Rs. 38.42 lakhs)
- c. Such cumulative expenditure, as will be incurred on the facility, shall be appropriately capitalized under 'Fixed Assets', upon completion of the project.

3.0 Investments-Long Term

- a. In accordance with the directives of the Government of India, an aggregate investment in the equity of another Scientific Research Company, amounting to Rs. 5200.00 Lakhs has been made. (Previous Year – Rs. 5200.00 Lakhs).
- b. No provision has been made in these Accounts for the reported erosion in the networth of the investee company, after taking into consideration the new business initiatives proposed to be taken by the investee company to make its operations profitable.

4.0 Current Assets, Loans, Advances & Deposits

- a. The aggregate of the amounts realizable from other organizations, on account of the projects undertaken by the centre from time to time, was Rs.1978.41 lakhs as on 31.03.2010 (Rs. 1978.41 lakhs as on 31.03.2009). All these are considered good for recovery.
- b. Sundry debtors aggregating to Rs 10881.15 lakhs as on 31-03-2010, (Previous year Rs 9266.32 lakhs) comprise of :
 - i. Debts amounting to Rs 2279.99 lakhs, which are satisfied by the value of land & Buildings taken over by the Centre from the concerned licensee in Bangalore.
 - ii. Debts amounting to Rs 1223.25 lakhs are under arbitration.
 - iii. Debts amounting to Rs 7354.53 lakhs are from Public sector undertakings.
 - iv. Debts amounting to Rs 23.38 lakhs are from private sector units.
 - v. Though the debts at ii to iv are outstanding for more than three years, no part thereof has been considered as requiring any provision in these Accounts.
- c. Components, which were procured for the licensees in the past years as part of the Technical Support for the technologies developed by the Centre, but which could not be transferred to such licensees amounted to Rs. 68.63 lakhs as on 31.03.2010 (Rs. 68.63 lakhs as on 31.03.2009). This value has not been included in the value of the year-end inventory of components, as these were already treated as 'consumed' pending issue to such Licensees. These are now awaiting disposal as 'obsolete' components.

- d. The value of components, purchased in the past years and, as per practice being followed consistently, treated as consumed in the concerned years, upon being issued to the indenting technical groups of the Centre but which were returned during the current year unconsumed by them amounted to Rs. 16.64 lakhs on 31.03.2010 (Rs. 11.68 lakhs as on 31.03.2009). This value has been considered, while valuing year-end inventory of components.
 - e. The practice of valuing inventory, consistently followed over the years, at 'COST' was adopted for the purpose of making these accounts. For this purpose, the term 'Cost' includes cost of components, arrived at moving weighted average basis and 10% of the purchase order values towards incidental expenses like Sales Tax/VAT, Customs Duty. Inventory includes slow/non moving components. The process of identifying such slow/non moving components, assessing their value and taking steps for their disposal is in progress.
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5.0 Contingent Liabilities not provided for

- a. On account of unexpired letters of credit issued by bankers in respect of purchase orders for Components & Equipment Rs. 68.14 lakhs as on 31.03.2010 (Rs. 154.68 lakhs as on 31.03.2009)
- b. On account of Bank Guarantees given by / on behalf of the centre Rs. 51.65 lakhs as on 31.03.2010 (Rs. 167.05 lakhs as on 31.03.2009).
- c. On account of Income Tax for the Assessment Years 2006-07 and 2007-08 Rs.2128.67 lakhs as on 31.03.2010 (Rs. 142.97 lakhs for Assessment Year 2006-07 as on 31.03.2009). In this regard, the centre is advised by external legal opinion that the demands of tax for the years, arising due to the denial of the benefits of Section 35(I) (ii) read with Section 10(21) of the Income Tax Act, 1961 in the Centre's case by the Tax authorities will be reversed and decided in favour of the centre at the higher appellate levels. Therefore, no provision is considered necessary on account of such tax demands, in making these accounts.
- d. On account of Service Tax Nil (Previous year Rs. 738.27 lakhs)
- e. Additional amount indicated by Government as payable for the Land & Buildings at Bangalore, taken over by the Centre from M/s ITI Ltd, of Rs 330.00 lakhs has not been considered in these Accounts pending completion of requisite formalities.

- f. Estimated value of purchase orders remaining to be executed on Capital Account and not provided for current year Rs. 152.43lakhs (Previous Year – Rs. 253.33 lakhs)
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6.0 Income & Expenditure Account

- a. Notwithstanding the system of accounting for income on accrual basis (Para 15 of Schedule 15) and the position stated in Para 3.0 above, interest accrued for the year 2009-10 amounting Rs 221.49 Lakhs on the loan given to the joint venture company, has not been considered in making these accounts in abundant caution.
- b. Technical Support is deemed to have been rendered by the centre, as in the past years since 2003-04, to a Telecom Operator, even in the absence of any formal agreement between the parties in that regard. As a consequence, income amounting to Rs. 1650.00 lakhs (Previous Year – Rs. 1357.85 lakhs) has been assumed, under the Accrual System of Accounting followed, in making these accounts (Reference – Schedule 8)
- c. In making these Accounts, the valuation of the liability for gratuity payable to all employees, eligible under the Rules of the Centre, has been made on the basis of the Report of the Actuary appointed by the centre. Thus, there has been a change in the method of Accounting for the liability for gratuity during the year. As a result, an additional provision for gratuity amounting to Rs. 335.61 lakhs (Previous Year Rs 410.80 lakhs) has been made in the accounts for the year. The aggregate of the Provision for Gratuity, made on actuarial valuation, was Rs. 1559.24 lakhs at the end of current year (Rs. 1318.00 lakhs at the end of Previous Year made on provisional basis). Had the Centre continued to provide for gratuity as per practice followed in the previous year, the expenditure for the year would have been higher by Rs 354.56 lakhs.
- d. The recommendations of the Actuary to provide for the liability on account of earned leave, amounting to Rs. 1490.00 lakhs for the current year (Previous Year Rs. 1351.00 lakhs) have not been implemented, for the issue requires a more thorough study before the existing practice is changed.
- e. The value of components consumed during the year was Rs. 537.38 lakhs (Previous Year – Rs. 783.47 lakhs). This value was arrived at by reducing the value of the closing stock of components as on 31.03.2010 from the aggregate of the values of the opening stock as on 01.04.2009 and the purchases made during the year 2009-10.

- f. Since the take over of the assets from a licensee at Bangalore in 2004, the centre has been incurring expenditure on making these assets meet its technical needs. The aggregate of such expenditure incurred upto the previous year was Rs 277.67 lakhs and this was charged as Repairs & Maintenance expenditure. Consistent with these practices, the expenditure of Rs 39.46 lakhs incurred on compound wall during the year is being shown as 'Repairs and Maintenance-Others'. Upon twin issues of valuation & transfer of Assets to the Centre getting settled, appropriate revision will be made in the accounts of the year in which the final resolution takes place.

7.0 General Notes

- a. The net result of the fluctuations in foreign exchange on transactions in foreign currencies during the year was a gain of Rs. 1.59 lakhs (Previous year: a loss of Rs. 3.48 lakhs).
- b. The nature of activities of the centre is such that these have been assumed to be not resulting in any 'manufacture' and 'sale' of products. As a consequence, the provisions of the statutes relating to taxation on manufacture and Sale of Products are not deemed to apply in the case of the centre. However, some of the technical services rendered by the centre have been recognized as services attracting the levy of service tax. In such cases, applicable taxes have been either paid or admissible credits therefor assumed, in making these Accounts.
- c. Previous Year's figures have been re-grouped/re-arranged, wherever necessary.

Sd/-
P. Venkatesan
Chief Finance Officer

Sd/-
V.K. Issar
Partner
M/s. Rajendra K. Goel & Co.
Chartered Accountants
M.No. 9519

Sd/-
P.V. Acharya
Executive Director

Our Bankers

Canara Bank

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Sector-13, R.K. Puram, New Delhi-110 066

Syndicate Bank

Corporate Finance Branch
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New Delhi-110 001

Canara Bank

KIADB Building, Bommasandra Industrial Area Complex
Hosur Road, Bommasandra
Bengaluru - 560 099

Central Bank of India

Sona Towers, 71/1, Millers Road
Bengaluru - 560 052

Our Statutory Auditors

Rajendra K. Goel & Co.

Chartered Accountants
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Saket
New Delhi - 110 017

Our Offices

C-DOT

C-DOT Campus
Mehrauli
New Delhi-110 030

C-DOT

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