CHAPTER - VI

REVIEW OF PERFORMANCE OF STATUTORY AND AUTONOMOUS BODIES

6.1 STATUTORY BODIES

6.1.1 Controller of Certifying Authorities (CCA)

Review of Performance

The Controller of Certifying Authorities (CCA) continues to promote the growth of e-commerce and e-governance through the use of digital signatures. The number of digital signature certificates issued continues to grow and is expected to increase significantly with the launch of e-governance programmes. Initiatives have been taken in this respect through coordinated interactions between the e-governance application service providers and the Certifying Authorities.

Targets and Achievements during the year 2014-15 (upto 31.12.2014)

Targets	Achievements
Implementation of the provisions of the IT Act in respect of licensing of Certifying Authorities and exercising supervision over the activities of Certifying Authorities.	Licence has been renewed for nCode to operate as Certifying Authority. Necessary approvals for changes in the Licensing conditions, Examination of Audit Reports, changes to CPS and addressing CA and User concerns during the year were also carried out.
Continuation of the operations at the primary site in New Delhi for the Root Certifying Authority of India (RCAI), CCA's web site and the Disaster Recovery site for the RCAI at CDAC Bangalore.	Operations of RCAI, website and DR site were carried out successfully. Renovated Strong Room at RCAI primary site. Operations of RCAI at primary and DR sites were carried out successfully.
Up-gradation of Technical Infrastructure at RCAI primary & DR sites.	Hardware Security Modules (HSMs) for both primary and DR sites were procured. The key migration was carried out successfully from existing HSM having RCAI Certificates to new HSM including newly created RCAI Root Certificate 2014. The RCAI Software was also upgraded at Primary & DR sites by updating OS as Windows 2012 & database as SQL server 2012.

	The technical infrastructure at RCAI DR Site (CDAC, Bangalore) was also up-graded by installing new physical security device viz., Surveillance Camera, DVR, Access Control System (Biometric), Fire extinguisher, smoke/fire & water detectors etc as old ones were outdated & un-serviced.
Promoting the integration of digital signatures with applications with special focus on E-Governance applications.	E-Governance applications are facilitated. Moreover, admissibility of XML Signature Standard and Cryptographic Message Syntax (CMS) standards is being considered by Committee constituted for framing End-entity Signature Rules.
Awareness Generation Programmes in Digital Signatures & PKI.	Discussions initiated for signing of MoU between Sri Lanka & CCA to recognize Foreign Certifying Authority of each other. A series of newspaper advertisements for creating awareness about Digital Signatures and associated dos-and-donts have been published. Awareness Programs were carried out in association with FICCI and CDAC in states of Chennai, Karnataka, Punjab and in Union Territories of Delhi and Chandigarh.
Operationalisation of Online Certificate Status Protocol (OCSP) & White-list validation Service.	OCSP service was made operational by most CAs.
Implementation of Time Stamping Service, Aadhar eKYC based DSC issuance service & online eSign service.	All licensed CAs have initiated process to implement all the said services. Online Digital Time Stamping Service was launched by 3 CAs (eMudhra, nCode & Sify) on 25th Dec 2014 and Pilot run of eSign service will likely to be started very soon. The actual service of eSign will be launched shortly.
CCA's Root Certificate to be incorporated in Mozilla Firefox Browser and Adobe Trust List.	Discussions with Browser forum & Certifying Authorities are in the process of pre-installation of CCA's Root Certificate in Mozilla Firefox Browser. Interactions were carried out with Adobe and the Agreement has been finalised to be signed with Adobe for inclusion of Root Certificate in Adobe.
Number of Digital Signature Certificates issued by licensed Certifying Authorities was estimated to grow to 80 lakhs.	The number of Digital Signature Certificates issued by licensed Certifying Authorities has grown to more than 93 lakh by Dec 2014.

6.1.2 Cyber Laws & e-Security

1. Cyber Appellate Tribunal (CAT)

In accordance with the provision contained under Section 48(1) of the IT Act 2000, the Cyber Regulations Appellate Tribunal (CRAT) has been established in October, 2006. As per the IT Act, any person aggrieved by an order made by the Controller of Certifying Authorities or by an Adjudicating Officer under the Act can prefer an appeal before the Cyber Appellate Tribunal (CAT). This Tribunal is headed by a Chairperson who is appointed by the Central Government by notification as provided under Section 49 of the IT Act 2000.

Before the amendment of the IT Act in the year 2009, the Tribunal was known as CRAT and the Chairperson was known as the Presiding Officer. Provision has been made in the amended Act for the Tribunal to comprise a Chairperson and such number of other members as the Central Government may notify/appoint. The name of CRAT has also been changed to CAT.

At present the CAT is functioning at Jeevan Bharti (LIC) Building, New Delhi. The former Chairperson demitted the charge on 30.06.2011. Two posts: Member (Judicial) and Member (Technical) were created and against these two posts, currently, Member (Technical) post is filled. Member (Technical) is functioning as Head of the Department.

During the year 2014-15, 11 fresh appeals have been filed by the parties which are awaiting admission hearing, in addition to 23 appeals from the previous years. The same will be disposed off on the joining of Chairperson, CAT, who is the Competent Authority for the disposal of the appeals.

2. Indian Computer Emergency Response Team (CERT-In)

CERT-In is the national nodal agency for responding to computer security incidents as and when they occur. CERT-In creates awareness on security issues through dissemination of information on its website (http://www.cert-in.org.in) and operates 24x7 Incident Response Help Desk. It provides Incident Prevention and Response services as well as Security Quality Management Services.

Targets and Achievements during the year 2014-15

Objectives/Targets	Achievements
Cyber security assurance and implementation of cyber security Crisis Management Plan (CMP) in Central Govt. Ministries/Depts. as well as States/UTs	• The 6th version of Crisis Management Plan (CMP) for countering cyber attacks and cyber terrorism (2015 version) has been prepared and is being circulated to all the key Central Government Ministries/Departments and States/UTs. • Central Government Ministries /Departments and States & UTs are preparing their own sectoral CMPs for implementation. Enabling Workshops for critical sectors, States and UTs were conducted. 8 organizations have been enabled for security best practices compliance

	and assurance through workshops, meetings and video conferencing. • Cyber Security Drill, to enable participating organizations to assess their preparedness to deal with Cyber Crisis Situation, are being conducted on periodic basis. Till date CERT-In has conducted 9 Cyber security drills of different complexities with 186 organizations covering various sectors of Indian economy i.e. Defence, Paramilitary forces, Space, Atomic Energy, Telecommunications(ISPs), Finance, Power, Oil & Natural Gas, Transportation(Railways & Civil Aviation) , IT/ ITeS/ BPO sectors and Data Centres from Government/Public/ Private. The latest Cyber Security Drill was conducted in two segments focusing on assessment of (i) Attack/Incident detection capabilities (ii) Incident Response & mitigation capabilities. • Parallel Test bed facility established at IISc, Bangalore for CERT-In is being used to provide support in conducting cyber security exercises and empanelment technical skill tests. • A Joint Cyber Security Exercise (JCSE) was conducted by CERT-In, India and US Computer Emergency Response Team (US-CERT), U.S. on 29th, 30th September and 1st October 2014. The exercise was focused on information sharing and joint incident collaboration. • 45 auditors were empanelled to carry out information security audit, including the vulnerability assessment and penetration test of the networked infrastructure of government and critical sector organizations.
Continuous upgradation of CERT-In facilities and capabilities to counter growing cyber security threats.	• Next generation firewall with combined capabilities of firewall, botnet control, antivirus and web protection has been installed at CERT-In. • Intrusion prevention systems with capability of DDOs prevention and mitigation have been deployed at the gateway. Operating systems of application servers have been upgraded to the latest versions. • Backup device for keeping offline storage of data for various applications running at CERT-In has been upgraded from LTO4 to LTO6 thereby ensuring a faster recovery of data. • A specialized email security solution has been deployed; in order sanitize the incoming email traffic from Trojans, botnets and virus.
Enhancing the security of communications and	• Around 97755 security incidents handled.

information infrastructure in the country. Incident response, incident prevention and cyber forensic services	• 18779 Indian website defacements tracked. Incident Response and Advice for prevention provided to affected organizations. • 2136 open proxy servers in India were tracked and actions were taken to mitigate the same. • Around 6582916 Bot infected systems and 38 Command & Control servers were tracked in India. • 11 Security alert/ incident notes issued. • 49 Security Advisories issued. • 231 Security Vulnerability notes issued. • Security Bulletins covering various cyber security issues, intrusion trends and defence mechanisms are being published every month. • Summary of Website Defacements depicting break-up of the websites defaced, top defacers and vulnerabilities and suggestions on best practices to secure web applications and web servers are being published on monthly rests. • Participated in an international drill with ASEAN member countries ACID 2014 held in September 2014 focussing on Distributed Denial of Service Attacks (DDoS) and incident response. • CERT-In had provided hand holding support to various agencies in investigation and analysis of digital evidence seized from the computer systems and mobile phones involved in cyber crimes. • In support of the National Cyber Security Policy, key cyber security projects, viz., National Cyber Coordination Centre (NCCC) and Botnet cleaning & malware analysis centre, have been identified for implementation with a view to securing the cyber space in the country and creating a secure cyber ecosystem. NCCC is in the advanced stage of approval for initiation. Botnet Cleaning and Malware Analysis Centre is under implementation.
Training and capacity building	• During the year 2014-15, CERT-In has conducted 19 trainings on various specialized topics of cyber security and 665 officers including System/Network Administrators, Database Administrators, Application Developers, IT Managers, Chief Information Security Officers (CISOs)/ Chief information officers (CIOs), and IT Security professional have been trained.

6.1.3 Semiconductor Integrated Circuits Layout Design Registry (SICLDR)

Semiconductor Integrated Circuits Layout-Design Registry (SICLDR) is the office where the applications on Layout-Designs of integrated circuits are filed for registration of created IPR. This Registry is located at 3rd Floor, Electronics Niketan, Department of Electronics & Information Technology, 6 CGO Complex,

Lodi Road, New Delhi-110 003. The jurisdiction of this Registry is whole of India. The Registry, as per the guidelines laid down in the Semiconductor Integrated Circuits Layout Design (SICLD) Act 2000 and the Semiconductor Integrated Circuits Layout-Design (SICLD) Rules 2001, examines the layout-designs of the Integrated Circuits and issues the Registration Certificate to the original layout-designs of the Semiconductor Integrated Circuits.

Targets and Achievements during the year 2014-15 (Up to 31.12.2014)

Targets	Achievements
Protection of Layout Designs of Semiconductor ICs	One layout design of semiconductor IC from M/s. Bharat Electronics Limited is being processed for Registration.
Pursuing Matters of Appellate Board & Registry	Pursued necessary process for the transitional arrangement of Layout Design Appellate Board under Section 55 of SICLD Act 2000 and request sent to DoPT for framing of Recruitment Rules for the post of Technical Member in LDAB.
Diffusion of Semiconductor IC Layout-Design IPR Matters	Monthly updating of SICLD website and e-Journal.

6.2 SOCIETIES / AUTONOMOUS BODIES

6.2.1 Society for Applied Microwave Electronics Engineering & Research [SAMEER]

SAMEER is a premier R&D institution with laboratories at Mumbai, Chennai and Kolkata and Headquarters at Mumbai, working in the high-technology areas of RF and Microwaves and allied disciplines. SAMEER has a long-term strategy, which consists of building of expertise by doing core R&D and keeping abreast of latest trends and state of the art technologies and setting up necessary infrastructures for making R&D and deliverables viable and meaningful in terms of technology and applications. This institution continues to be in a position of strength in handling design, development and delivery of hardware to meet stringent specifications of user agencies in its areas of expertise including High Power RF amplifiers, Communication systems, Atmospheric Radar Instrumentation, Linear Accelerators, RF/ Microwave/ Millimeter wave subsystems and systems, Photonics, Microwave components/ modules and Industrial RF/ Microwave application products, Digital signal processing, Thermal Engineering of electronic hardware; design, test, measurement and consultancy services in electromagnetic Interference/ compatibility (EMI/EMC).

Targets and Achievements of SAMEER during the year 2014-15 (up to 31.12.2014)

Objectives/Targets	*Achievements*
Build-up expert design domains catering to the needs of latest technology.	Design of 10 stage Marx generator completed. The hardware and software is developed for two axis Stabilization system.

	Optical waveguide structure written in erbium doped glass for optical amplifier. Three types of special antennas were studied, simulated and tested. Wide band low profile VHF/UHF antenna has been developed. Prototype hardware designed, Matlab simulation of functional blocks, VHDL coding of Tx/Rx blocks, ADC/DAC/ RRC/Comb Filter chain design, simulation Gold code generation/VHDL coding PCB design and layout preparation completed for broadband data link. Design and development of high power amplifier has been done at X band. W-band attenuator has been optimized and fabricated. Mechanical mounts for attenuator has been fabricated. Design of driver circuits for providing various bias levels to vary attenuation of the W-band attenuator is complete. Design of tripler circuit with microstrip transmission line configuration completed. Fabrication of circuit and mechanical mount for first prototype tripler was done. Hardware has been developed and algorithms for image formation and processing also developed for radar at X band. THz camera and femtosecond laser purchased. THz lab has been setup. Simulation model for OCT has been developed. Two stages of SSA at 1.3 GHz have been developed and tested for high power solid state Amplifiers. Vacuum system has been developed and tested at vendor's site for RF dryer. Major part of cRIO based control system development completed for Millimeter-wave Radiometer. A 4x4 array with optimised design has been installed. Digital receiver is fine tuned to analyze atmospheric returns of wind profiler.

	QDs have been characterized by PL, SEM, XRD and AFM. Growth of InGaAs/GaAs heterojunctions and Quantum Wells, characterization by High Resolution X-Ray Diffraction (HR-XRD) done. Duo-diode power combiner with diodes has been designed, fabricated, tested and optimised by varying various parameters of W band Resonant Cavity pulsed power combiner. Wiring and testing of Electronics circuits completed for SODAR. Integration of the Electronic system is completed Design work is completed for Microwave Technology based Tea Processing system. Receiver antenna for Digital Ionosonde Radar is fabricated. Real time data acquisition software is developed. RF technology based agro products processing system has been developed, fabricated, assembled & tested. Work shop have been completed in following Universities: Gauhati, Tezpur, Assam(Silchar) and NEHU Shillong Development and fabrication of RF heating system has been completed.
Design and development of application specific systems as per user needs	Experimental verification of beam bending system with ion source done. Population of gantry and fabrication of all PCB's and housing for control console completed. First LINAC unit is installed and operational for cancer patient treatment at IIHNO, Indore. The second unit has been sent to Cancer Foundation Hospital, Amravati and installation work will start shortly. In third and fourth Linac units, non radiation testing viz. High Voltage, Microwave and Mechanical movements testing have been completed. Design and development work for ST Radar has been completed. Batch fabrication of antennas has been completed. Batch fabrication of TR module is in progress. Mechanical design and fabrication of various hardware have been completed for Multi Leaf

	Collimator (MLC) for Dual Energy LINAC. THz lab has been setup. The optical frequency comb generation simulation work was carried out using phase modulation approach. RF design and prototype completed for Secured two way Communication system. Nine units of Coherent Transmitter/Receiver at W band have been assembled and tested successfully. HAT Trials conducted on FCS-GRSE, ATP conducted on FCS-MDL and FAT testing conducted on FCS-MDL. Ka-band (4 pcs), S-band (1 pc for LP and CP), C-band (1 pc for CP) antennas with 20mm thick teflon cover have been fabricated. The design, simulation, iterative fabrication and final testing for various sub-systems of S/Ka band transmitter have been completed. Preliminary simulation and optimization of Ka band comparator has done for S/Ka band tracking antenna. Flight units of Radio Proximity Fuse Antenna at Ku band delivered after ATP. RF prototype of Two Channel CDMA Receiver ready for integration. Automation of instruments completed for IR laser absorption based sensor development. Hardware sub-systems are ready for Fire control system for Fincanteri II. Development work on high power transmitter at 75 MHz, 30KW is completed. Commissioning of synoptic Observatory automation systems at IMD’s 50 synoptic laboratories under Mumbai and Nagpur. Five sets of Ground based 1680 MHz Radiosonde Receivers delivered to IMD.

	Development of Pulse and LFM signal generation using DDS completed for Ka Band Polarimetric Doppler Radar for Cloud Profiling. Pulse compression algorithm using NLFM is completed.
To offer test, design validation services to industries	729 Test and measurement assignment completed for various Industries & National agencies through NABL accredited EMI/EMC labs.
To enhance the design knowledge of engineers in Indian industries and Universities to facilitate graduates and PG to understand the advanced topics.	A number of Engineering students at M. Tech./B.Tech levels carried out their project work under the guidance of SAMEER Scientists. Few Workshops/ conferences/ Seminars were organised. Training program in the areas of EMI/EMC, thermal design and antennas are carried out periodically.
Strengthening institutional infrastructure to support ongoing programmes - Augmentation of facilities	Construction of Residential quarters for Scientists, contract awarded to CPWD Construction of Scientist Hostel building, contract awarded to HSCL. Construction of Utility building at Kharghar, New Mumbai, contract given to HSCL. Work nearing completion

6.2.2 Centre for Development of Advanced Computing (C-DAC)

Centre for Development of Advanced Computing (C-DAC) is a Society of the Department of Information Technology (DIT), carrying out R&D in IT, Electronics and associated areas. Starting from its initial mission on building indigenous supercomputers, C-DAC has progressively grown to build an eco-system and institutional framework for innovation, technology development, skills development, delivery plans, collaboration, partnership and market orientation in a number of niche areas of national importance and market relevance in ICT and Electronics Through in-house research, technology and product development efforts in collaboration with Academia, Research Labs and Industry in India or abroad, it endeavors to identify promising ideas nurtured building of ideas and competencies convert many of them into practical tools, technologies, products and services to meet the needs of: SMEs and other industrial players in the country; intermediate players; and end-users in Science and Engineering, manufacturing & service sectors, government, health, development and strategic sectors.

Targets and Achievements during the year 2014-15 (up to 31.12.2014)

Sl. No	Projected Outcomes	Achievements
1.	R&D towards Architecture of Petascale Computing	EFC meeting for National Supercomputing Mission conducted on August 28, 2014. Cabinet note is under processing.
2.	Advance research in domains of Science and Engineering with	PARAM System at NPSF being extensively used.

Sl. No	Projected Outcomes	Achievements
	the use of PARAM systems such as Atmospheric and Environmental Science, Material and Structural Engineering, Computational Fluid Dynamics, Geophysical, Bio-informatics	Ported several HPC applications on Param Yuva II for Science and Engineering domains.
3.	Power aware scheduling; power profile of HPC systems; Power electronics for HPC	• 8-channel board version 2 has been fabricated and Smart plug casing has been designed • Analysis of sensor data collected from 5 server racks at Pune using MatLab, MySQL for Optimized Cooling
4.	Scientific Cloud Framework Garuda 2.0 next phase of Grid project	For offering HPC services on cloud infrastructure, C-DAC is working towards creation of scientific cloud named SuMegha and a cloud vault for storage as a service. Garuda Phase–II proposal prepared and submitted to DeitY.
5.	Development of Speech to Speech translation system among English and Indian languages for limited Domain	Completed implementation of Phrase Marker in pre-processing Module, enhancement in corpus processing tool and POS rules in the system. Enhancement in web version, Lexicon building for Hindi to English System and Enhancement in Morph Generation Module is in progress.
6.	Development and deployment of new emerging tools and capabilities	Completed integration of Online Character Recognition System (OLCR) with Hindi and Tamil scripts and testing of the same.
7.	Localization of domain names in Indian languages	Shri. Ravi Shankar Prasad, Honorable Minister for Communications and IT, Government of India, launched '.bharat' domain names on August 27, 2014 in Devanagari script for various Indian languages including Hindi, Bodo, Dogri, Maithili, Marathi, Konkani, Nepali and Sindhi.
8.	Technologies for electronic Nose-Tongue-Vision for various agricultural commodities	• E-Nose system for Pulp and Paper Industries deployed at: o Tamil Nadu Newsprint and Papers Limited, Tamil Nadu o Mysore Paper Mill, Bhadravati, Karnataka o International Paper Mill, Rajahmundry, Andhra Pradesh • Developed and deployed handheld E-Nose and E-Tongue system at various agencies.
9.	• Wireless Traffic Control system (WiTrac) • CoSiCost • Real-time Traffic Counting and Monitoring System • Intelligent Parking Lot Management System • Red Light Violation Detection System (iRIDS)	• ToT done for 8 partners for WiTrac • CoSiCost – Developed Algorithm for heterogeneous traffic at junctions in collaboration with IIT Bombay • Real-time Traffic Counting and Monitoring System – ToT is in process • Developed Intelligent Parking Lot Management System

Sl. No	Projected Outcomes	Achievements
		• Red Light Violation Detection System - ToT is in process
10.	Development of applications, tools and middleware, for service delivery gateway through mobile computing to reach masses	• ARC lib AR Framework has been packaged for technology transfer • Completed development of Hindi language SDK for Android
11.	Development of multilingual collaborative content creation platform	Vikaspediahttp://www.vikaspedia.in/, a multilingual collaborative content creation platform to provide e-knowledge products and services for underserved communities, was made available in ten languages.
12.	National Awareness Campaign on Information Security for the Information Security Education & Awareness	As a part of Information Security Education & Awareness (ISEA) initiative, overall 637 workshops were organized across the country covering about 22,166 Teachers/Parents/CSC/NGO's etc. and about 60,554 School/Engineering/Degree college students.
13.	Fingerprint matching solution for UIDAI usage	In Progress
14.	Solution to address common security concerns in cloud	Data Encryption & Protection, Isolation Framework, Cloud DDOS Detection/ Mitigation and Scalable Load Balancer modules developed.
15.	Integrates the multitude of tools involved in Security Management	Integrated testing of Software UTM is being carried out; Flow based hardware solution for anomaly detection is being tested
16.	Body Area Networks and application in healthcare; Wireless sensor network platform and applications	Development of Destination (OD) for Urban Transportation Enhancements ROUTE (Transportation), RS-WSN, 6LoWPAN (Agriculture), U-SEHAT (Health), Distributed Context aware framework, Human activity recognition using video sequences is in progress.
17.	Online labs for schools	88 experiments under Online Labs completed and are available online (olabs.edu.in); 30 more experiments are under development.
18.	Develop AR book and AR board application	Completed.

6.2.3 National Institute of Electronics and Information Technology [NIELIT]

Details of review of performance of statutory and autonomous bodies under the administrative control of the Ministry/Deptt. : As per Chapter IV

Sl. No.	Name of Scheme / Programme	Objective / Outcome	Outlay 2014-15 (BE)	Quantifiable Deliverables / Physical	Outcome during 2013-14	Outcome during 2014-15	Remarks

						Outputs		(upto December, 2014)	
1	2	3	4			5	6	7	8
			4(i)	4(ii)	4(iii)				
			Non-Plan Budget	Plan Budget	IEBR				
	NIELIT	• To create Human Resources in the area Information Electronics & Communication Technology (IECT) through formal & non-formal courses.	1.70	10.00		To produce quality professionals through Long Term & Short Term Courses in the Formal & Non-Formal Sector. (a) To conduct training for long term formal courses (M.Tech/ B.Tech/MCA/ BCA etc). (b) To conduct training for non-formal courses with duration of 1 year and above by NIELIT Centres (viz; O/A/B/C level course, Bio-informatics O/A level courses, Hardware courses O/A level, Multimedia O/A level etc.) (c) To conduct training for non-	2225 candidates 10256 candidates 38,342 candidates 67334	2374 candidates 9892 candidates 22,964 candidates 38830	To boost skill development and employability

						formal courses with duration of 1 year and above by NIELIT Accredited Institutes (d) To conduct training for non-formal courses with duration of less than 1 year (other than CCC & BCC) (e) To conduct training for course on Computer Concepts (CCC) and Basic Computer Course (BCC)	candidates 869693 candidates	candidates 305406 candidates	
						Expansions through Capacity Building Activities (a) To create standardized courses (b) Setting up of NIELIT Centres/	35 in IT & Software and 30 in Electr. & Hardware (Total: 65 number of courses) 05 numbers (leh, Luglei,	2 courses in CCC+ & ECC),1 course in Digital Marketing, and 9 courses in ESDM (Total: 12 number of courses 02 number (Ranchi &	New courses and new Centres/Institutes will help in proliferation of new technologies across the country and in remote locations

						Extension Centres in the country including North Eastern Region (c) Accreditation for conduct of IT courses (d) Accreditation for conduct of Hardware/ Electronic courses (e) Facilitation to Agencies for conduct of Examination/ Evaluation/ Assessment	Senapati, Silchar, Jorhat 97 Institutes 22 Institutes 2436 Institutes	Kokrajhar) 70 Institutes 14 Institutes 498 Institutes	
						Online Services for other Agencies (a) Online Assessment of candidates (b) Recruitment/ Departmental examination through online services	3387 candidates 11 number of examination cycles	25460 candidates 30 number of examination cycles	
						Internal & External Budgetary Resources (IEBR) (a) To generate Internal Revenue	Rs. 13701.42 lakh	Rs. 10247.26 lakh	

						(b) To maximize External Budgetary Resources	Rs. 6695.14 lakh	Rs. 3099.01 lakh	

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6.2.4 Promotion of IT/ITeS Industry (erstwhile STPI)

Software Technology Parks of India was set up in 1991 as an autonomous society under the DeitY. STPI's main objective has been the promotion of software exports from the country. STPI act as 'single-window in providing services to the software exporters. The services rendered by STPI for the software exporting community have been statutory services, data communications services, incubation facilities, training and value added services. STPI has played a key developmental role in the promotion of software exports with a special focus on SMEs and start up units.

STPI is working closely with the respective State Governments/local authorities for creation of more space, equipped with state-of–the-art infrastructure facilities, for development of the software industry and increasing exports. STPI is in the process of implementation of 15 new approved STPI Centres at various Tier II/III locations.

Targets and Achievements during the year 2014-15 (till December 2014):

Targets	Achievements
• STPI is responsible for implementation of STP scheme, to promote development and export of software and software services including Information Technology enabled services and creation & execution of new centre/incubation space • STPI is also facilitating SME STP Units by organizing joint participation in major IT events.	• The total exports made by STP units in FY 2014-15 (till 31 Dec. 2014) are estimated at R. 197690 Crore. • Exports by EHTP Units are estimated at Rs. 3523 Crore in FY 2014-15 (till 31 Dec. 2014). • As on 31.12.2014, more than 3300 units were operating under STP schemes and more than 80 units were exporting under EHTP scheme. • STPI has set up 53 centers across the country out of which 46 centers are in Tier-II and Tier-III locations.

6.2.5 Centre for Materials for Electronics Technology (C-MET)

Centre for Materials for Electronics Technology (C-MET) has been set up as a Society under Department of Electronics and Information Technology as a unique concept for development of viable technologies mainly in the area of electronics materials. C-MET is operating with its laboratories with well carved out programmes at Pune, Hyderabad and Thrissur. The objectives of C-MET are to establish the technology up to pilot scale for a range of electronic materials transfer the same to industry for commercialization; to establish relevant characterization facilities; to undertake applied research activities in the area of its operation; to establish national data base on electronics materials.

Targets and Achievements during the year 2014-15 (up to 31.12.2014)

Area/Projects & Physical Targets	*Achievements*
Integrated Electronics Packaging: Process for Integrated Glass-Ceramic Packaging **Targets:** • Development of microwave circuit boards • Development of LTCC based cryocooler • Development of materials for integrated LTCC	• Developed LTCC integrable oxygen conducting ionic conductor material for integration of Solid Oxide Fuel Cells (SOFC) in LTCC structures • Developed Low-k dielectric material for LTCC with loss factor in the range of 10^{-4} to 10^{-5}. • Fabricated cryocooler devices with integrated thermistor for temperature measurements. The devices are capable of achieving temperature difference up to 45^{o}C. • Delivered Igniter and g-switch substrate and g-switch package samples • Demonstrated test packages with buried microfluidic channels. • Developed high dielectric microwave substrate wiith ultra low loss tangent which can miniaturize microwave circuits by 31%
• **Nanomaterials and devices:** Generation of Nano-powders,Nanocomposite & Quantum dots of metals/semiconductors/ for Electronics Technology and allied applications **Targets:** • Preparation of quantum dots • End user trials for nano-size metal/ metal oxides particles • Q-Semiconductor -Glass-Nanocomposites	• Gloves and Curtain were fabricated using formulation of $BaBi_2S_3$ powder and certification for the prototype apron from AERB, Mumbai is in process. • Transfer of technology to CEL for PZT powder preparation is being concluded.
Ultra high purity materials: Process technology /Pilot plant scale production of ultrapure metals **Targets:** • Wide band gap (WBG) SiC single crystals.	19. Delivered 6H and 4H SiC single crystals of 2” dia as per deliverables of the project. 20. Demonstration trials for full fledged (10kg batch) operation of Hf

• High purity Ga	sponge plant under progress
E-Waste management : Process for metal recovery from e-waste **Target**s: • Environmentally sound methods for recovery of metals	• MOU signed with KBITS (Karnataka), specification for characterization equipment have been frozen and process equipment is under progress.
NABL accredited facilities: **Target**s: • Services to industrial sector	• MOU between CPCB and C-MET is in advanced stages for certification of all electronic equipment.
Materials for Renewable Energy: Process for renewable energy material. **Target**s: • Nanocomposites for solar cells • Nanostructured materials as a Photocatalyst for hydrogen generation • Fabrication of supercapacitors	• CdS nano crystals used for H_2S splitting provided 4m.moles /hr/g H_2 generation of glass composite containing 0.75% CdS
Sensors and Actuators: Process/technology for sensors and actuators. **Targets:** • Development of piezoceramic composition • Process for actuators of required specifications	• 12 numbers of ring type ML actuators delivered to LEOS, ISRO after successful testing • System level testing of PZT rings for the underwater SONAR transducers have been completed successfully at NPOL, Cochin

6.2.6 Education & Research Network [ERNET] India

Education & Research Network (ERNET), India is an autonomous Scientific Society under the administrative control of the Department of Electronics & Information Technology. ERNET India has been serving institutions in various sectors namel, health, agriculture, higher education, schools and science & technology and thus, understands the needs of these knowledge institutions. ERNET India is helping to create a truly global research community where advanced resources and new learning can be effectively shared by connecting the research network in Europe with ERNET. ERNET network is a judicial mix of terrestrial and satellite based wide area network. ERNET Network Supports IPv4 and IPv6 Internet protocol in dual stack, unicast and multicast. IPv6 routing protocol OSPFv3, end-to-end Ethernet services, QoS, Video Conferencing, authentication and authorization have also been implemented on ERNET network.

Targets and Achievement during the year 2014-15 (up to 31.12.2014)

Targets	Achievements
Setting up of Campus Network & IT Infrastructure at NIFTEM, Haryana	a. 10 Gigabit fibre backbones connects Academic, Admin., Finance Buildings, Hostels, Guest house & Residential Area spread across the campus. b. 1078 UTP nodes are installed in the hostels for connecting user devices & Wi-Fi Access Points in common areas.

	c. The network is enabling students and faculty to access Intranet & Internet resources on any where any time basis. d. The network will be protected from viruses, Trojans, DoS/ DDoS attcks, unauthorized access from outside world etc. through Firewall and Intrusion Prevention System (IPS). e. The laid passive infrastructure has been tested successfully using advanced testing tools. f. The passive network is being used by NIFTEM extensively.
Setting up of ICT infrastructure in Govt. schools under Directorate of Education, Daman & Diu	ERNET India has signed a Memorandum of Understanding (MoU) in June'2014 with Directorate of Education, Daman & Diu to set up state-of-the-art ICT infrastructure in their 25 Computer labs in 25 Schools.
Setting up of ICT infrastructure in Govt. schools under Directorate of Education, Dadra Nagar Haveli.	ERNET India has signed a Memorandum of Understanding (MoU) in June'2014 with Directorate of Education, Dadra Nagar Haveli to set up state-of-the-art ICT infrastructure in their 39 Computer labs in 27 Schools
Setting up of ICT Centres in 250 schools in rural areas of Ajmer and Jaipur District of Rajasthan.	ERNET established ICT Centres in 250 schools of Ajmer and Jaipur in 2011 with internet and E-learning facility. The centres were in operation and maintenance since then. A data Center/NoC is also established for delivery of e-learning facilities and its monitoring. Under the project training on ICT for 750 ICT In-charge & 25 Nodal officers was conducted till May, 14. The project is completed and had been handed over to Education Department, Rajasthan Government in May 2014 for its future sustenance and maintenance.
Setting up of Intranet of NIELIT and Smart Virtual Classrooms at NIELIT centres for quality training to students in remote areas	ERNET India had executed this project in two phases for 17 Centres of NIELIT across India by setting up HD VC facility at 15 Centres & 02 Tele-presence at Centres of NIELIT during 2012-2014. Only few items such as LED, Blade Server & Blade Storage commissioning were pending. The procurement for these items was initiated to complete the project by February, 2015. LED, Blade Storage is in commissioning phase, while for Blade severs procurement is at final stage of awarding PO. The project will be completed in February 2015.

Setting up of e-Learning ICT Centres in 204 schools of Srikakulam, District of Andhra Pradesh	The e-Learning ICT centres with internet connectivity are being established in 204 schools of remote & tribal areas of Srikakulam District of AP. The survey to setup e-learning ICT centres in 204 schools was completed by ERNENT India. The ERNET India had established the ICT Lab in 01 schools and project was successfully launched by Honourable Minister of State for Communications & Information Technology on 27.02.2014 at Srikakulam district. The computers are delivered in 152 schools & commissioning of ICT Centres is in progress. The training to 400 teachers is also proposed in 2015.
Setting up of Digital Archival facility for Outcomes of the various Language Technology projects along with dependencies	Web Based portal has been designed and developed for archiving, storing, managing, modifying and retrieving source codes of the linguistic projects as per the user rights The said portal has been hosted on production server from staging server to run the portal 24x7. All the linguistic projects received from TDIL have been archived on production server. User Acceptance Testing of each features of the portal on Production server has been done. User can upload content after authentication through Digital Signature (DS). Policy for uploading content has been approved
Upgradation of Technology & capacity of ERNET Network & extension to South Asian Countries through TEIN3.	a. ERNET has placed order for purchase of Firewalls and Intrusion Detection Protection System (IPS).. The equipments have been delivered and expected to be installed by end of Feb, 2015. b. ERNET is connected to TEIN3 through NKN.
To provide VSAT based Internet connectivity to the remotely located education and research institutions and schools of the country.	Provided VSAT link to about 200 institutions, located remotely in the country by using 54MHz of transponder space segment on INSAT-3C satellite.
To provide management services for the operation & maintenance of ICAR's KVK captive CUG VSAT network.	• Provided operation and maintenance services to VSAT Hub by leasing 18MHz transponder space segment on INSAT-3C from DoS. • Provided Internet/Intranet access on 24x7 basis to 200 KVKs/ZPDs. • Provided VOIP and multicasting facility in the network for voice call facility between KVKs and webcasting of lectures by ICAR officials from NOC, Delhi over VSAT network for their viewing by KVKs.
R& D Initiatives	VSESS Project Phase – I completed successfully. • The Educational cloud services like e-learning platform, virtual desktop and remote teaching were demonstrated with 14KV schools in three regions. • The cloud infrastructure was deployed at both ERNET Bangalore and Chennai center for the PoC phase.

	• Educloud portal was setup for hosting courses from NCERT, Olabs and other open educational resources using edXplatform. • VDI solutions from VMWare, Citrix and Microsoft were evaluated and a personalized VDI for both students and teachers have been tested. • The specific requirements like remote teaching, customized thin clients of portal also been experimented.
eduroam – the free global wi-fi services for education and research in India	Already more than 3000 users from India and 1000 International visitors to India have benefited from it.

6.2.7 Electronics and Computer Software Export Promotion Council [ESC]

Electronics and Computer Software Export Promotion Council (ESC) is mandated to promote India's exports of Electronics, Telecom, Computer Software and IT Enabled Services. ESC offers a varied set of services to its members for accelerating exports.

Some of the services of ESC are as follows:

- Facilitates participation in Global Trade Shows / Expositions and Conferences.
- Undertake Market Research / Studies and publicity Campaigns in overseas markets.
- ESC facilitates business interface between Indian and foreign companies through Buyers – Seller Meets, and locates new business partners for Indian electronics, computer software and IT companies.
- For facilitating foreign trade, ESC provides on-line facility for Data Search.

During the period April 2014 to March 2015, export of electronics is estimated to have reached US$7664 million and software export is estimated to have reached to a level of US$ 98 billion.

Targets and Achievements during the year 2014-15:

Target	Achievements
INDIA SHOW:	ESC organized INDIA SHOW for the third time, the 15th edition of INDIASOFT series at Delhi during 11-12 February 2015. INDIASOFT is an international IT exhibition and conference organized by ESC annually. 170 Indian participants and 300 foreign delegates from 60 countries

PERFORMANCE/ ACTIVITIES DURING THE YEAR 2014-15

For the year 2014-15, the activities under Department of Electronics & Information Technology/ Department of Commerce (DeitY/DOC) assisted programmes included: participation in selected international major exhibitions abroad, holding of a mega event "India IT Show 2014", Buyer Seller Meet / Seminars in India /abroad for the benefit of exporters.