6.0 REVIEW OF PERFORMANCE OF STATUTORY AND AUTONOMOUS BODIES

6.1 Statutory Organization

6.1.1 Controller of Certifying Authorities (CCA)

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 2011-12 (Up to 31.12.2011)

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.	Processing of application for new Certifying Authority. License has been granted to Indian Air Force to operate as Certifying Authority for their intranet applications w.e.f.29.08.2011. Necessary approvals for changes in the Licensing conditions, Examination of Audit Reports, changes to CPS and addressing CA and User concerns during the year.
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.	Services of RCAI, website and DR site were carried out successfully. Audit of RCAI & DR site were also conducted. CCA's & CA's certificate were issued with updated standards (SHA2) and as per interoperability guidelines issued by office of CCA.
Upgrading the Technical Infrastructure at DR site.	Tender have been floated by CDAC for procurement of new Hardware and Software for upgrading their infrastructure.

Promoting the integration of digital signatures with applications with special focus on E-Governance applications.	Discussions held with e-Governance division on various occasions regarding specific requirements of e-Governance applications. Explored the possibility of newer Technology for signing (like XML signature) under the IT Act, 2000.Committee was set up to review XML Signature. The report of the committee has been put up to Secy. DIT.
Awareness generation programmes in PKI area and setting up the Test Lab for PKI Applications.	Towards building knowledge resource base and creating awareness about Digital Signatures and their usage, nation-wide PKI Awareness programmes were held as follows: 1. Agartala - April 2011 (Two days) 2. Srinagar - April 2011 (Two days) 3. Raipur - May 2011 (Three days) Two National Symposiums were also conducted – one at Bangalore with focus on e-procurement and another at Kolkata with emphasis on Mobile-PKI.
Upgradation of Standards mandated under the IT Act, 2000 Rules and Regulations including with respect to the stronger HASH function for subscriber certificates.	Gazette Notification GSR.783 (E) dated 25.10.2011 relating to Standards upgradation with respect to use of higher key length (2048) for subscriber certificates , use of stronger hash algorithm (SHA2) and certificates with longer validity period was issued.
Operationlisation of Online Certificate Validation Service (OCVS).	Implementation model for Online Certificate Validation Service (OCVS) has been discussed with the e-Governance Division and RFP is under preparation
CCA's Root Certificate to be incorporated Mozilla Firefox Browser.	Discussions with Certifying Authorities are continuing in respect of pre-installation of CCA's Root Certificate in Mozilla Firefox browser.

Implementation of policies for the web site of CCA.	Policies formulated in respect of CCA Website as per GIGW. Implementation process is being worked out.
Co-operating in Implementation of PKI in other countries.	For promotion of PKI, discussions/ meetings were held with the officials from the countries like Nepal, Rwanda, Bangladesh.
Number of Digital Signature Certificates issued by licensed Certifying Authorities likely to grow to 22 lakhs.	The number of Digital Signature Certificates issued by licensed Certifying Authorities has grown to more than 28 lakhs.

6.1.2 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 amendment 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 who joined the Tribunal in February 2009 was extensively interacting with all the concerned Authorities/Officers to make them aware of the functioning of the Tribunal. He had participated in various National Level Seminars, Conferences, Workshops and Ch-hosted a Western Regional Consultation Meeting on Cyber Law Enforcement Programme of National Project Committee on Enforcement of Cyber Law in which participants were Hon'ble Judges of Supreme Court, Judges of High Courts including Maharashtra, Chief Justice of High Courts, Judicial Officers of many States, Senior Officials of the Government of India.

Website of the CAT was launched and is operational. Video Conferencing System was inaugurated by Shri Salman Khurshid, Hon'ble Union Minister of Minority Affairs, Govt. of India, in the month of January, 2011, to enable interaction with IT Secretaries of various States and the Appellate Tribunal at Delhi. In the month of May 2011, one awareness programme was organised and was held at Dehradun (Uttrakhand).

On 1st April, 2011, a total number of appeals with the Tribunal were 18, out of which 9 appeals were disposed off till 30th June, 2011when the former Chairperson demitted the office of Chairperson, CAT. However, against the two newly created posts of Member (Judicial) and Member (Technical), Member (Judicial) has taken over the charge in the month of December, 2011.

6.1.3 Semiconductor Integrated Circuits Layout Design Registry (SICLDR)

Govt. of India has enacted Semiconductor Integrated Circuit Layout Design Act 2000. The legislation lays down mechanisms for registering and protecting the intellectual property of the Integrated Circuit Layout Designs. Section 5(1) of the Act provides for establishment of Registry to be known as Semiconductor Integrated Circuits Layout Design Registry. The Registry is to receive Semiconductor Integrated Circuits Layout Design Registration applications, determine the ones eligible for Registrations and grant Registrations. The Registry is to be headed by Registrar appointed by Government as per section 3(1) of the Act. Semiconductor Integration Circuits Layout Design Registry (SICLDR) has been put in place for receiving Semiconductor Integrated Circuits Layout Design Registration applications and granting Registration to eligible cases. The Registry has been made operational with effect from 1st May 2011. The Registry will have jurisdiction all over India.

Targets and Achievements during the year 2011-12 (Up to 31.12.2011)

Targets	Achievements
Semiconductor Integrated Circuits layout-Design Registry would be made operational.	Semiconductor Integrated Circuits layout-Design Registry made Operational on 1st May 2011.
Under the project 'Specialised Human Resources Development in IC-Layout Design" 30 specialised manpower in IC layout-Design (M.Sc.) would be trained and initiation of PG Diploma Course (capacity of 30 students).	Around 150 specialised manpower- M.Sc. (One full semester IC layout –design course) and P.G Diploma Course in IC Layout-Design, over a period of 3 years would be developed under the project. 30 specialised manpower trained under M.Sc. (one semester) IC layout-design course. The approvals for initiation of P.G Diploma course is in process.
Technical facilities in the Registry i.e Registry in-house Data Center and Inspection & Verification Facility would be made operational.	Technical facilities in the Registry i.e Registry in-house Data Center and Inspection & Verification Facility made operational.

6.1.4 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 2011-12 (up to 31.12.2011)

Objectives/Targets	***Achievements***
Cyber security assurance and implementation of cyber security Crisis Management Plan (CMP) in Central Govt. Ministries/Deptt. as well as States/UT	• Third version of Crisis Management Plan for countering cyber terrorism has been circulated. • 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. • Cyber security drills to assess preparedness of organisations to withstand cyber attacks are planned. 5th drill conducted in November 2011. 6th Mock drill is scheduled in February 2012. • 51 auditors were empanelled for audit of IT infrastructure from cyber security point of view
Continuous upgradation of CERT-In facilities and capabilities to counter growing cyber security threats.	• Upgraded the mail scanning software and operating system of the Intrusion prevention system. • Web application security equipment has been fine tuned for better response to intrusion attempts. Process has been initiated for (a) deployment of cluster environment in order to achieve failover security and (b) advanced level edge routers to prevent Denial of Service attacks. • Facilities for cyber forensics and artefact analysis activities augmented

Enhancing the security of communications and information infrastructure in the country Incident response, incident prevention and cyber forensic services	• Around 5431 security incidents handled. • 14603 Indian website defacements tracked. Incident Response and Advice for prevention provided to affected organisations. • 2558 open proxy servers in India were tracked and actions were taken to mitigate the same. • Around 12798761 Bot infected systems and 117 Command & Control servers were tracked in India. • 19 Security alert/ incident notes issued. • 40 Security Advisories issued. • 126 Security Vulnerability notes issued. • Security Bulletins covering various cyber security issues, intrusion trends and defence mechanisms are being published every month. • Participated in Asia-Pacific international incident handling drill in September 2011. • Three manuals on Cyber Forensics released for helping Law Enforcement Agencies.
Training and capacity building	• Conducted 19 training programmes for System/Network Administrators, Programmers, Web application Security professionals, IT Managers, CISOs/CIOs, and IT/Information Security professionals

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 hi-technology area of microwave 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. This is achieved by building up the infrastructure for making R&D and deliverables viable and meaningful in terms of technology and duration. 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 expert areas of High Power RF amplifiers, RF communication systems, Atmospheric Radar Instrumentation, Linear Accelerators, Thermal Engineering of electronic hardware, RF/ Microwave/ Millimeter wave subsystems and systems, Photonic devices, Microwave components/ modules and Industrial RF/ Microwave application products, design, test and measurement services in electromagnetic Interference/ compatibility (EMI/EMC).

Targets and Achievements during the year 2011-12 (up to 31.12.2011)

Objectives/Targets	***Achievements***
Build-up expert design domains catering to the needs of latest technology. Design and development of application specific systems as per user needs	Ka band subsystem testing for cloud profiling radar completed. System design for digital ionosonde and active aperture radar completed. Algorithm for processing of breathing signal in life detection system tested. Design for Marx generator and TEM cell completed for testing radiated susceptibility. Beam bending design, modulator with prototype console and triode gun assembly of advanced integrated oncology system completed. Radiation testing of first unit under Jai Vigyan, Phase-II is in progress. Another three medical linacs are getting ready. Multi-leaf collimator design completed and prototype model is getting ready. S band TT&C transponders are getting assembled. Phased array Doppler sodar with remote operation was developed and delivered to IGCAR. New metamaterial structure has been designed, fabricated and tested. Communication subsystems for wireless data link at 60 GHz ready. Different

	millimeter wave subsystems developed. A number of microwave and millimeter wave antennas designed and are being developed.
To offer test, design validation services to industries	443 test assignments completed for various Industries & National agencies through NABL accredited EMI/EMC labs. 19 Calibration services of EMC equipment provided.
To enhance the design knowledge of engineers in Indian industries and to provide advanced level courses in Indian Universities for facilitating graduates to understand the advanced topics.	Engineering students at M. Tech levels carried out their project work under guidance of SAMEER Scientists. Training program in the areas of EMI/EMC, thermal design and antennas are carried out periodically.
Establishment of advanced design and test facilities	Architectural design completed for construction of scientist hostel building at SAMEER Mumbai. Project management consultant identified and work order issued.

6.2.1 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 2011-12 (up to 31.12.2011)

Targets	Achievements
R&D towards Architecture of Petascale Computing	A Project proposal has been submitted for approval. Study has been initiated towards activities proposed in the proposal.
Advance research in domains of Science and Engineering with the use of PARAM systems such as Atmospheric and Environmental Science, Material and Structural Engineering, Computational Fluid Dynamics, Geophysical, Bio-informatics	A Project proposal has been submitted for approval. Study has been initiated towards activities proposed in the proposal.
Migration to National Knowledge Network (NKN); Grid Tools and Technologies; Extensive participation of research and application communities; Reduction in lead time for research and technology development.	⮚ All Garuda links migrated to NKN and performance test done at 9 locations ⮚ Indian Grid Certificates Authority (IGCA) : Issued 68 new user certificates, 5 host certificates and 12 RA appointed ⮚ New updates of Garuda Middleware stack released to improve Garuda operation stability and to meet user requirements ⮚ Hand holding and regular support provided to all Garuda partners across the country; Users trained through

	workshops. 2500+ jobs executed successfully with 3000+ CPU hours. ➢ Various applications are being tested and ported on Garuda.
Open Source Drug Discovery (OSDD)	OSDD: The MoU signed on Nov 4th 2011 at Delhi. Web based Galaxy Workflow integrated in the GARUDA environment and customized for OSDD community has been released; Garuda portal and workflow developed and deployed.
Development of Speech to Speech translation system among English and Indian languages for Education Domain	Project proposal has been submitted for approval.
Development of Machine Translation System from Regional Language to Hindi for administrative domain for state Government domain	The work on two new Language pairs English-> Gujarati, English -> Bodo is under progress along with enhancement of translation accuracy for existing six language pairs.
Localization of domain names to the remaining Indian languages	API for CCTLD. Bharat using Devnagari as a script is ready and handed over to Nixi for integration.
Software Communication Architecture (SCA) compliant hardware and waveforms, which can meet the requirements of reconfiguration and portability	Evaluation of RF Proto modules completed; Baseband Schematic Design finalized and PCB design in progress; SW development in progress
Wireless Traffic Control System ; Red light violation detection system; Parking lot management system	New features for Stage skipping, intensity dimming of traffic lamps, selective switching of night flash, Dual wireless frequency switching implemented; TraCI (Traffic Control Interface API) verification and modification for E-1 detector commands completed; Pilot trials at C-DAC, Thiruvanathapuram Parking lot completed.

Prototype for Advanced Programmable Hearing Aid	Assembly and testing of Body Warming (BW) hearing Aids is in progress; Design and Development of Behind The Ear (BTE) Hearing Aid PCB redesigned and fabricated for better placement in the enclosure. Assembly and testing of this new six layer PCB is in progress.
Enhancement of the features of existing control system and development of Field Bus interfaces like HART, Wireless HART and Profibus-Decentralized Peripherals	⮝ Development of Embedded Controllers (i-SMART, i-LOC, i-Gate and i-CON) completed. ⮝ Multi Loop Controller (MLC) commissioned in Kerala Co-operative Milk Marketing Federation (KCMMF) alias Milma for Curd Pasteurisation process.
Development of human perception advanced algorithms to solve problems in Image Processing and Pattern Recognition; Prototype of Automatic Facial	Literature survey for image registration techniques to compensate the effect of head movement completed. Selection of algorithm completed. Facial expression analysis engine has been developed which can extract fixed prototyping facial expression from an image sequence.
Expression Analysis System (AFEA) and e-Nose for detection of application related to food and beverages, environment, explosive detection etc.	Projects have been initiated. Software development for Red Chillies and Turmeric –Ongoing.
Development of Cloud Computing Framework including the middleware, security solution leading to cloud computing environment to be used as a test-bed for deployment of scientific applications	Cloud infrastructure has been setup and test bed is ready.
Development of Open Source Tools, Technologies and localized applications for enhancing the accessibility to IT for differently abled people	Open source software compliances are ready. Personal information system has been developed as Saas and hosted on cloud. Development of BOSS 2.0 server version and desktop 4.0 is complete.

To deploy e-solutions, promising transparency, speedy information dissemination, higher administrative efficiency and improved public services	PMGSY Project: Online grievance redressal system for PMGSY works developed and deployed. FAMS Project: Mechanism for Integration of Fund and Account Management System (FAMS) with the Banking system for reconciliation of expenditure completed and pilot tested.
Replication of successful implementations, Deployment of good practices and skill sets	KAVERI project: Anywhere Registration and Encumbrance services with data centralization deployed in the entire state. Facility for detection of banned properties and parties based on court orders provided on the centralized data; Biometric verification of owner details with details available in Land Records System developed.
Development of applications, tools and middleware, for service delivery gateway through mobile computing to reach masse	Prototype development for TFME in progress; Mobile PKI – Work done at conceptual level; Development of conceptual level of Location based services completed.
Capacity building of content consortiums; Delivery of value added information, products and services	InDG Phase II: Content in Gujarati language added in the portal.
Development of Prototype System to Detect Insider Attack	System developed. Field trial is now under progress at user agencies. Further. Completed model for detecting data-exfiltration and published in IEEE, IMSAA-2011
Development of Medical Kiosk with body sensor Network Health Portal for Doctors / Patients	Health care Knowledge Software presented to Medical Colleges & Hospitals. Software is being updated as per NE doctors' inputs. Software also ported on Medical College Libraries & Websites. Kiosks are being installed at Hospitals OPDs & Rural Health Centres etc. of four NE states-Sikkim, Assam, Tripura, Meghalaya. Installation Work in Assam & Tripura completed. Kiosks Software has been updated with latest information in Health Care Knowledge information. Body Sensor Network based on Bluetooth was developed as a prototype for demonstration under laboratory condition Electronic Health Records (EHR) semantic has been developed.

Development of SaaS deployable HMIS Software Suite.	System is currently operational in Guru Govind Singh Govt. Hospital in New Delhi.
Devices and systems for Ubiquitous healthcare and Body Area Networks (BAN); Design and development of Wireless Vital Signs monitoring kit – Body Temperature, Pulse rate, Blood Pressure, Pulse oxi-meter	Development of variants of wireless modules for low power, ultralow power, and larger range has been completed. Development of IEEE 802.15.4 compliant MAC IP core and integration has been completed.
Design and development of wireless sensor network systems and gateways	Energy scavenging based on solar power for sensor mote is under progress. Various motes have been integrated and tested with sensors of different kinds for low carbon systems.
To build an appropriate campus for C-DAC which can house a number of facilities of C-DAC	Pune: Civil structure is 90% completed. Utilities are partly installed. Hyderabad: Building 95% completed. Interior plans are being finalized Thiruvanathapuram: Building is completed and some area made functional

6.2.3 National Institute of Electronics and Information Technology (NIELIT) (erst-while DOEACC Society)

NIELIT, an Autonomous Scientific Society under the administrative control of Department of Information Technology, Ministry of Communications and Information Technology, Govt. of India was set up to carry out Human Resource Development and related activities in the area of Information & Communication Technology. The Society has 15 Centres at Agartala, Aizawl, Aurangabad, Calicut (with Southern regional office at Pudukkottai), Chennai, Chandigarh (with 3 branches at Shimla, Lucknow & New Delhi) Gorakhpur (Eastern Regional Office at Patna, Bihar), Gangtok, Itanagar, Imphal, Srinagar/Jammu, Shillong, Kohima/chuchuyimlang, Kolkata and Tezpur/Guwahati with its Headquarters at New Delhi. One more Centre at Ajmer is being set up with the approval of DIT.

The Society is engaged both in the formal & Non formal Education in the area of IECT besides development of Industry oriented quality education and training in the state-of-the-art areas, establish standards to be the country's premier institution for Examination and Certification in the field of IECT. It is also a National Examination Body, which accredits institutes/organizations for conducting courses particularly in the non-formal sector of IT Education & Training.

NIELIT Centres are conducting long-term courses at Post-Graduate level in Electronics Design & Technology, Embedded Systems etc, which are not offered by Universities/Institutions in the formal sector. Other long term courses conducted by the Centres are Diploma Level in Electronics Production & Maintenance, Electronic Engineering, Computer Science & Engineering, Masters in Computer Application, Bachelor in Computer Applications etc., which are affiliated to respective State University/Technical Board. The NIELIT Centres are also engaged in Short Term Courses in the area of Information Technology, Electronics Design & Technology, Manufacturing Technology, and Maintenance Engineering etc. Besides the training activities, NIELIT Centres are offering consultancy services and software development.

In the Non Formal Sector, the Society is implementing the DOEACC Scheme on Computer Courses, a joint Scheme of the then Department of Electronics (DOE), now Department of Information Technology (DIT), in the area of Information Technology at the National Level by utilizing the facilities and infrastructure available with the institutions/organizations. Under this Scheme, 'O' Level (equivalent to foundation level), 'A 'Level (equivalent to Advance diploma), 'B' Level (equivalent to MCA Level), 'C' Level are being offered. O/A/B/level courses are recognized by MHRD for the purpose of employment. Since inception of the Society more than 8.59 lakhs candidates have been registered, and about 1.66 lakhs candidates have qualified the various DOEACC Computer Courses at O/A/B & C Level.

The Centres are also undertaking government sponsored projects in the field of ICT & related activities. The Centres are also embarking upon training programme to develop entrepreneurs and provide ICT based services to users.

CHAPTER – VI
REVIEW OF PERFORMANCE OF STATUTORY AND AUTONOMOUS BODIES

Targets and Achievements during the year 2011-12 (up to 31.12.2011)

	Achievement during 2011-12 upto 31st Dec.2011	**Target for the year 2012-13**
I. Training Target of NIELIT Centres		
A. Long Term Courses: (a) To Conduct Training for **Formal Sector** Long Term Courses (M. Tech, MCA, BCA, PGDCA, Diploma, Diploma in Electronics Engg. & Computer Science etc.)	1442	1,900
(b) To conduct training for **non-Formal Sector** Long Term Courses O/A/B/C Level Course, Bio-informatics O/A/B Level Courses, Hardware Courses O/A Level	4466	15,250
B. Short Term Courses (c) Training for Short Term Courses of duration less than 1 year	12082	14,700
II. National Level Certification Scheme		
(a) To Accredit Training Institutes	30	60
(b) Registration of the Candidates	29,053	57,750
(c) To conduct National Level Examination	81186 (modular candidates) 37348 (individual candidates)	1,10,000
III. IT Literacy Programme		
(a) Course on Computer Concepts(CCC)	149263 (appeared) 104738(qualifiers)	1,00,000
(b) Basic Computer Course (BCC)	127 (appeared) 108 (qualifiers)	20,000

6.2.4 Software Technology Parks of India (STPI)

Software Technology Parks of India has been set up as an Autonomous Society of the Department with an objective to implement STP/WHTP Scheme, set-up an mange infrastructure facilities and provide other services like technology assessment and professional training. The main services rendered by STPI for the software exporting community have been statutory services, data communications services and incubation facilities. STPI has also played a developmental role in the promotion of software exports with a special focus on SMEs and start up units. The STP scheme has been widely successful and the exports made by STP units have grown manifold over the years. Today the exports by STPI registered units shares a major part of the total software exports from the country. STPI has also been providing incubation facilities for the software exporters, specifically to the SMEs and start up units. The incubation facilities include ready to use built up built up space with plug and play facilities and other backup resources such as lower, DG set, internet enabled workstations etc., which have been very useful for the start-up units and SMEs.

Targets and Achievements during the year 2011-12 (up to 31.12.2011)

Targets	Achievements
To promote exports of Electronics and IT This programme is for promotion of exports and provides facility to Indian Small and Medium Organizations for participations in export promotion events in software and electronics sectors.	STPI is implementing the Software Technology Parks (STP) scheme for promoting software and Information Technology service companies and Electronic Hardware Technology Park Scheme (EHTP) for Electronic Hardware Industry. The above Schemes have been widely successful and the exports made by the Units Registered under the above schemes have grown many fold over the years. Till FY 2010-11, more than 6,000 units were operating under STP schemes and more than 100 units were operating under EHTP scheme. During the FY 2010-11 export from STP units was Rs. 2,15,264.14 Cr. and from EHTP units was Rs. 8,113 Cr.

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 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 CMET 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 2011-12 (up to 31.12.2011)

Area/Projects & Physical Targets	***Achievements***
Integrated Electronics Packaging: Process for Integrated Glass-Ceramic Packaging **Targets:** • Development of basic ferrite materials for integrated applications in LTCC • Development of direct-writing capability on LTCC and required conductor materials • Development of basic dielectric materials for low-k applications in LTCC • Continuation of fine-pitch lithography for fine bumping	• Prepared ferrite samples of different stoichometry by chemical route. • Dispensing trials with different batches of silver pastes were continued. • Developed Micro-cryo-coolers in LTCC. • Established pilot plant production of ultra low loss microwave substrates having 19 cm (L) x 13 cm (B) x 0.16 cm (T) size for high power solid state amplifier design.
• **Nanomaterials and devices:** Generation of Nano-powders, Nanocomposite & Quantum dots of metals/semiconductors/ for Electronics Technology and allied applications **Targets:** • Preparation of quantum dots of QDs of Cu_2Se and Ag_2Se in various matrices including polymers • End user trials for nano-size metal/ metal oxides particles • n-type and p-type transparent conducting oxide thin films. • NTC Thermal Sensors of required specifications.	• Optimized Q-CdS glass –nano-composites (cutoff range of 475-515 nm) with transmittance greater than 80 % for automobile application. • Nano Al Powders synthesized by TAPR under different synthesis conditions were given to HEMRL for trials. • Fabricated a transparent p-n hetero junction diode using n-type aluminum doped zinc oxide thin films and p-type copper aluminum oxide films on glass substrate. Initial results indicated rectifying I-V characteristics. • The NTC thick film compositions were fine tuned to get the resistance within the tolerance limit

Ultra high purity materials: Process technology /Pilot plant scale production of ultrapure metals **Targets:** • Wide band gap (WBG) SiC single crystals. • High purity Ga and its alloys / crystalline compounds. • Upscaling the solidification system, batch process and purity / yield improvement.	• Computer controlled melting and freezing facility (500 gm sample handling capacity) developed and used for purification/ crystallization experiments. • 6H & 4H SiC seed crystals are analyzed for their bandgaps and FWHM values. • Homogenisation experiments on 5N pure gallium were completed .
Materials for Renewable Energy: Process for renewable energy material. **Targe**ts: • Nanocomposites for solar cells • Nanostructured materials as a Photocatalyst for hydrogen generation • Fabrication of supercapacitors using carbon aerogels.	• Prepared CdS quantum dots with capping agent to improve the dispersion of inorganic particles into polymer and consequent efficiency of Hybrid Solar Cells. • Prepared Q-CdS/CdSSe-glass nanocomposites as a photocatalyst for hydrogen generation. The experimental trials for water splitting are in progress . • The N-doped anatase TiO_2 (band gap 2.8eV) was synthesized using sol gel technique. • Developed Carbon aerogel supercapacitor (up to 2.5 F) using carbon aerogel tapes and studied their capacitance, charge-discharge, leakage current, etc.
Piezo sensors and Actuators: Process/technology for sensors and actuators. **Targets:** • Fine tunings of bender actuators. • Development of low temperature piezo composition • Process for piezoelectric thin films of required specifications • Thin films characterization	• {001}, {111} and {110}-preferentially oriented PZT thin films of 2.0 µm thickness successfully fabricated on Silicon substrates. • Established correlation between thin film texture and transverse piezoelectric coefficient, for thin film microactuators. • Ring type ML actuator stacks of height 5 mm and 16 mm fabricated & samples sent for testing at LEOS, ISRO.

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 Information Technology. ERNET India has been serving institutions in various sectors namely, 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 2011-12 (up to 31.12.2011)

Targets	Achievements
Upgradation of Technology & capacity of ERNET Network & extension to South Asian Countries through TEIN3.	a. The order was placed for deployment of new UPS at select ERNET Point of Presence. UPS are also being deployed at select PoPs. b. ERNET has placed order for purchase of Router and Switches. The delivery of the equipments is awaited. c. ERNET is connected to TEIN3 through NKN.
Continuation of R&D initiatives with EU.	EU funded research projects under FP7 : BELIEF-II and 6Choice have been completed. EU-India Grid2 project is coming to end on 31-12-2011. ERNET organized EU-India Grid2 meeting during 32nd APAN meeting. ERNET supported inter operation of European Grid with Indian Grid as part of the project. MyFire project is in progress.

Connecting schools under ICT Vocational Centre for disabled children and for schools in rural areas of Rajasthan.	a. 99 ICT Vocational centres have been setup across the country for the disabled students with special IT assistive tools and technologies. b. ICT Centres in 250 schools located in rural areas of Ajmer/ Jaipur in Rajasthan have been setup.
VSAT Connectivity with Internet/Intranet access & IT infrastructure at 200 KVKs of ICAR	a. Access to Internet related applications on a 24x7 basis. b. Voice calls (VOIP) facility between KVKs/ZPDs/Hub. c. Access to video channel broadcast and webcast on 24 hours basis from Hub through a web portal. d. KVKs/ZPDs developed as information Hub equipped with a Server, five desktop PCs, LAN, scanner, printer, etc. for storing and disseminating information on agriculture and also providing online and offline guidance to the farmers.
Setting up of centralized secure Data Centre and intranet of 274 ICAR institutes	Bid process has been completed and evaluation report submitted to ICAR for approval by WB (World Bank).
Digital Library initiatives	For setting up of digital library repository at ERNET, the hardware was procured and installed at our PoP in Pune. Around 12 TB of data has been copied from Digital Library server at SERC, IISc and hosted on our repository at Pune. The connectivity to three scanning centers at SERC, IISc Bangalore is being continued. Deployment of Archival Storage System at IUCAA, Pune is under progress.
Connectivity to the schools under NVS and KVs	VSAT connectivity to 32 schools of Kendriya Vidyalaya Sangathan and 39 schools of Navodaya Vidyalaya Samiti has been provided.

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:

- To promote India's electronics, software and IT trade, ESC facilitates participation in Global Trade Shows / Expositions and Conferences etc.
- ESC undertakes Market Research / Studies in major overseas markets.
- For enhancing the brand equity of Indian IT industry, ESC undertakes publicity Campaigns in overseas markets.
- ESC facilitates business interface between Indian and foreign companies through Buyers – Seller Meets, Receiving and Mounting Business Missions and Match – making and Contact Promotion.
- ESC locates new business partners for Indian electronics, computer software and IT companies.
- For facilitating foreign trade, ESC provide on-line facility for Data Search, Information Dissemination and Broadcast using internet and Dial-up facilities.

ESC: Value – Added Services

ESC provides a set of value-added services to its members as well as overseas companies.

- ESC has a critical mass of Information on electronics, IT and services sectors.
- ESC provides Information at a single point.
- ESC assists in moving up the value chain.
- Network of counterpart organizations in 40 countries

CHAPTER – VI
REVIEW OF PERFORMANCE OF STATUTORY AND AUTONOMOUS BODIES

Targets and Achievements during the year 2010-11 (up to 31.12.2010)

<table>
<tr><th>Targets</th><th>Achievements</th></tr>
<tr><td>Participation in Promotional Events abroad: The Council organized participation of Indian Companies in 10 major International Events abroad</td><td>The Council has since successfully organized participation of Indian Companies in 10 major international events abroad.

They are:-

1. ICT EXPO, Hong Kong, during April 13-16, 2011
2. INTERNET WORLD 2011, 10 - 12 May 2011, Earls Court 2, London, UK
3. CeBIT AUSTRALIA 2011, 31st May – 2nd JUNE, 2011, Sydney, Australia
4. Costa Rica Services Expo / Summit, 1st – 2nd June, 2011, San Jose, Costa Rica
5. TICs 2011- Exhibition and Congress of Telecommunications, Internet and Information Technologies, Buenos Aires, Argentina : August 23-25, 2011
6. 4th Indexpo 2011, Oman International Exhibition Centre, Muscat, Oman, 20- 22, September, 2011
7. The INTERNET SHOW, ABU DHABI, 27th & 28th September, 2011
8. GITEX DUBAI, 9-13 October 2011 , Dubai

TO BE ORGANISED

<table>
<tr><td>9 CeBIT Hanover</td><td>Hanover, Germany - March 6 - 10, 2012</td></tr>
<tr><td>10 Electronic Americas 2012</td><td>Sao Paulo / Brazil 28 March – 01 April, 2012</td></tr>
</table>
</td></tr>
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India Soft 2012	TO BE ORGANISED ON MARCH 21-23, 2012.
Participation in delegations abroad and in India	**JAPAN** ***7-8th October 2011*** A group of 12 member delegation under the leadership of Mr. Tsuneo Yabuki, Project Manager, Japan Productivity Center (JPC) visited Kolkata. The Council organized interactive business meetings of the visiting delegation with the ESC members from Kolkata and around. The Council also organized facility visit to various companies
INTERACTIVE MEETINGS	On this occasion, the Council presented various issues and suggestions to him on Electronics Hardware and IT services sector. The inputs/suggestions/recommendations were well received. **Interactive Meeting With Shri N Ravi Shankar, Additional Secretary, Department of IT, Ministry Of Communications & IT, Government Of India. 11th November, 2011** The Council organized an interactive meet of it's members with Shri N Ravi Shankar, Additional Secretary, Department of Communications & IT, Government of India.
SEMINARS / COLLOQIUMS	**The Latin Amercia India Investors Forum" & B2B Meetings With Latin American It Delegates 17th & 18th November, 2011, Trident Hotel, Bandra-Kurla, Mumbai** As trade and investment between India and Latin America continues at an accelerated pace, ESC organized a seminar by being the IT Partner at the inaugural LATIN AMERICA INDIA INVESTORS FORUM, hosted by Euromoney's Latin American arm Latin Finance. The Council organized B2B meetings of its members with the large business delegation from Latin America on both 17th & 18th

	November 2011. ➢ Colloquium : Indo - German-Indian Business Cooperation 2nd December, 2011, New Delhi The Council in association with ASSOCHAM organized a Colloquium on "Indo-Germany Business-Cooperation" on 2nd December 2011 in New Delhi. The Director of the Academy, Mr. Ralf Othmer and Mr. Wolfgang Hoeltgen from the German Indian Business Center (GIBC) visited ESC to promote Indo-German Cooperation and setting up of companies in Germany. The Council organized an exclusive meeting of the visiting delegates with the member exporters, academicians and several others in New Delhi.
Publications: The Council has planned to bring out some publications etc.	✓ ELSOFTEX, the monthly newsletter of ESC contains features of market surveys, developments in the international trade, business opportunities, changes in Government policies and procedures. ✓ ESC publishes annual Statistical Year Book which gives details of India's exports in the Electronics, Telecom and Software / services sector. ✓ ESC brings out reports of market surveys, importers' listings, directories, country reports, etc., for the benefit of its members.
Member of WEF & SITO	ESC is a member of World Electronics Forum (WEF) and South East Asia Information Technology Organization (SITO). ESC has extensive network of counterpart organizations world over to leverage member companies export interests in these markets. In the ESC network, there are over 50 world trade development bodies.