

Chapter - II

Department of Information Technology - Outcome Budget 2008-09

Sr. No	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2008-09 (Rs. in crore)			Quantifiable Deliverables/Physical Outputs	Projected Outcomes	Processes/ Time basis	Remarks/ Risk Factors
			Non-Plan	Plan Budget	Comp IEBR				
1.	SAMEER	R&D in Microwave Engineering and Electromagnetic Technology, Radar, RF Communication, High Voltage Electronics and Electromagnetic interference	3.00	24.00	15.00	<p>Multi Frequency Phased Array Sodar : This system typically gives wind profiles upto 800m with a resolution of 20 m. It can measure maximum wind speed upto 30m/s. System will be installed at VSSC Thiruvanthapuram for monitoring winds for their activities.</p> <p>Fiber-Optic Gyroscope : Fiber Optic Gyroscope is an important optical sensor & will be used in the guidance of aircrafts, ships etc</p> <p>High Power Dielectric Window for Gyrotron : Sponsored by DST, under the national programme on Gyro devices, involving 5 laboratories: SAMEER, CEERI, BHU, IIT-R, & IPR, High-Power Dielectric</p>	<p>Multi-frequency Phased Array Sodar system is being developed for profiling of atmospheric boundary layer wind and turbulence. It transmits ten frequencies starting from 1880 Hz to 2500 Hz with frequency increment of 80 Hz to improve the height coverage.</p> <p>Integrate optical components including sensor coil to make fiber optic gyroscope To make sensor coils using polarization maintaining fiber & Test the gyroscope</p> <p>To design, develop and fabricate high-power dielectric window operating at 42 ± 0.5 GHz capable of handling</p>	<p>Dec., 2008</p> <p>Dec., 2008</p> <p>March 2009</p>	

Chapter- II Financial Outlays & Projected Physical Outputs/Outcomes

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						<p>Window will be developed for a 42 GHz, 200 kW Gyrotron for research community. The technique for UHV grade joining of sapphire and boron nitride to metals will also be developed</p> <p>RF Dryers for N-E Region Two complete drying systems will be developed and installed at processing plants at pre-identified place. One of the place, where this system is proposed to be installed, is tea processing factory near Agartala in Tripura state. Sikkim authorities have also been approached for the same.</p> <p>Computational electromagnetics Laboratory : EM problems on large surfaces such as multi base station systems can be modeled and solved using the facility.</p> <p>Thermal Engineering : This is a continuing activity where evaluation of thermal performance of electronics at elevated ambient temperatures is carried out. Simulation,</p>	<p>200 kW average power with VSWR and insertion loss 1.2 and 0.1 dB respectively. To characterize the joining process and the window performance</p> <p>To develop Hybrid (Pre dryer + 50 kW RF dryer) dryers for drying of tea leaves and other agro/horticulture based products and install at two places in the North-East Region</p> <p>Establishment of a Center for Computational electromagnetics with all the latest CAD tools and expertise to analyze the multi-radiating systems on board. This will be a facility with expertise in large-scale multi radiating system analysis programmes</p> <p>SAMEER has established an electronics cooling evaluation facility and has expertise in solving</p>	<p>Feb. 2009</p> <p>March 2009</p> <p>March 2009</p>	

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						<p>Modeling and testing as per user requirement are carried out.</p> <p>Establishment of facility for batch fabrication of linear accelerators : This facility will be used for batch fabrication of LINAC tube, System integration of LINAC machine and Radiation testing of LINAC machine</p> <p>EMC Facility: This a continuing activity with assignments in medical, automotive, IT, consumer electronics, power electronics sector etc. Estimated to take up 300 assignments</p>	<p>cooling problems in electronic products. SAMEER is equipped with thermal imaging system, flow and temperature measurement instruments and a unique facility to evaluate cooling performance of air vents, heat sinks, PCB's and electronic products. The facilities offered are; a) Computer Design and Analysis, (b) Evaluation of air vents-airflow simulation chambers and (c) airflow simulation chamber for heatsink/PCB analysis.</p> <p>Establishment of facility for batch fabrication of Linear Accelerator (LINAC) tube and Accelerator machine at Khargar, Navi Mumbai</p> <p>SAMEER has a strong presence in the area of EMI/EMC. It offers facilities such as CE, CS, RE, RS for testing to standards as well as consultancy services in</p>	<p>Dec 2008</p> <p>March 2009</p>	

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						<p>this area. These facilities are accredited as per NABL ISO/IEC 17025:2005, ISO 9001:2000, FCC (USA) listed and having MOU with several leading certifying agencies viz. TUV (R), TUV (Sud), ETL SEMCO, UL, DNV, etc. Fully automated Automotive conducted immunity test facility as per ISO 7637-2, J1113-11 as well as many corporate automotive EMC standards has been established.</p> <p>SAMEER-CEM has become first Authorized Test Centre in India for conducting examination of The International Association for Radio, Telecommunications and Electromagnetics, Inc, (iNARTE) USA.</p> <p>EMC Laboratory is accredited by EMITECH, France for test measurement as per European norms and certification for CE Marking.</p>			

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2.	Micro-electronics & Nano-technology Development Programme	To establish centres of excellence for research in Nanoelectronics & Nanometrology and also to fund small and medium level research projects in specific areas such as nanomaterials, nanodevices, Carbon Nano Tube(CNT), nanosystems, MEMS, VLSI design etc.	--	35.00	--	<p>(a) Nanoelectronics Centres at IITB & IISc. IITB: Sub 100 nm CMOS Process Development; Nanosystems for Health-care and Environmental Monitoring; Organic and Biopolymer Devices; GaN Devices; Characterization, Modeling and Simulation of Nanoelectronics Devices. IISc: Magnetic materials for LC Resonator; Acoustic sensor; Ferroelectrics for FRAMs and Phase shifters; Rare earth metal oxide for MOS gate dielectric; Molecular Rectifier Based on Organic Thin Films (Self Assembled Monolayers and LB films).</p> <p>b) Nanometrology at NPL, New Delhi - Provide calibration & traceability for linewidth, step height & surface texture measurement and calibration of low voltage (nV), low current (pA) & electric charge. - International compatibility by participation in international intercomparison & round robin tests.</p> <p>The quantifiable deliverables will start coming out from the end of third year onwards from the date of initiation.</p>	<p>It would enable to create a strong R&D base in nanotechnology in the country.</p> <p>It would further enhance India's emergence as a global destination of VLSI design & embedded systems design</p>	<p>1. Commissioning of equipments would continue.</p> <p>2. Work on deliverables would continue.</p> <p>3. Teaching & Research would continue.</p>	<p>Nanotechnology is a nascent & disruptive technology and is expected to impact everything manmade. Leading nations have been making huge investments in this area for last several years.</p>

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3.	Technology Development Council	IT for Industrial Application To strengthen local base for R&D/application in Electronics and IT in the field of Industrial Electronics, Agriculture and Water Resources.	--	32.00	1.50	<p>National Mission on Power Electronics Technology (NaMPET)</p> <ul style="list-style-type: none"> • Completion of Full Spectrum Simulator • Completion of Matrix Converter Technology • Fourth Industry – Academic Meet • Holding of Short-term Courses • Initiating remaining projects following technology roadmap. <p>Automation System Technology Centre (ASTeC)</p> <ul style="list-style-type: none"> • Completion of the upgradation of automation labs at C-DAC(T) • Initiation of new projects following technology roadmap • Holding of Industry-Academic interaction workshop/seminar <p>Other R&D projects</p> <ul style="list-style-type: none"> • Initiation of a new project on Intelligent Transportation System (ITS) • Initiation of new Application Development projects in the field of agriculture, textiles, etc. • Completion/substantial progress in other ongoing IT/Application Development Projects 	<p>Enhancement of R&D infra-structure and design capability in the area of Power Electronics Technology contributing to design-led Electronics Hardware manufacturing.</p> <p>Availability of Cost effective solutions of Automation Technologies to Indian user & manufacturing industries.</p> <p>Demonstration and availability of technologies to prospective users and manufacturing industries.</p>	<p>Sept.08</p> <p>Sept.08</p> <p>Oct.08</p> <p>Dec.08</p> <p>Aug.08</p> <p>Oct. '08</p> <p>June '08</p> <p>April '08</p> <p>May, '08</p> <p>Dec., '08</p> <p>March, '09</p>	

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		<p>Emerging Areas in IT The programme would result in enhanced competencies in emerging areas of Information Technologies – due to increased research and development activities in the country.</p> <p>e-Commerce The programme would result in proliferation of e-commerce in the long run.</p> <p>Bioinformatics Better research environment in Bioinformatics in India; and Assert India's potential as a Global player in Post Genomic Bioinformatics</p>				<p>Emerging Areas in IT Initiation of projects in Scientific Computing and other emerging areas</p> <p>RFID Ongoing projects will be progressed.</p> <p>Technology innovation</p> <ul style="list-style-type: none"> Extension of Technology incubation support scheme at technical institutes Collaborative projects will be initiated using the Multiplier Grants Scheme <p>Application development in the area of m-commerce would be initiated.</p> <p>• Project BRAF at CDAC Pune: Providing state-of-art grid enabled Bioinformatics software and teraflop, terabyte facilitated hardware and 10 Mbps bandwidth to enhance the productivity and quality operation as well as contract research.</p>	<ul style="list-style-type: none"> Proliferation and absorption of emerging technologies in the country would be facilitated. Innovation and entrepreneurship would be promoted. <p>State-of-art infrastructure for Bioinformatics industry, research and academia</p>	<p>Dec. 2008</p> <p>March, 2009</p> <p>December, 2008</p> <ul style="list-style-type: none"> Porting and benchmarking applications on the 1 TF machine – Nov. 2008 Deploying GIPSY Bioinformatics 	

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		Research leveraging India's IT Advantage				<p>Project Indian Botanic Gardens Network: Developing web base software tools for digitization and identification of RET species and varieties at NBRI Lucknow.</p> <p>Project Development of A web-enabled Protein Structure Prediction Software at IIT Delhi</p>	<ul style="list-style-type: none"> To update and upgrade web enabled Network. To finalize standards, compile, data on medicinal and RET plant varieties. To develop OS independent software for digitization of data base on rare and threatened (RET) species and varieties. To develop tools for automated identification of medicinal and RET plant species and varieties. 	<p>portal on the 1 TF machine – Dec. 08</p> <ul style="list-style-type: none"> Complete productization of Genome Grid software – Feb 2009 Procurement of hardware, software & finalization of data standards – March 2008 Development of source code for data entry module – Nov. 2008 Data entry to be started – Dec. 2008 Algorithm improvement and parallalizio nof code – May 2008 	

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						<p>Four Centers of Excellence for Research Training will be established for</p> <p>a) Specific project oriented development in the field of Bio-diversity, Genome Sequence Analysis, Protein modeling and Web based Bioinformatics tools.</p> <p>b) Setting up of infrastructure for training of Bioinformatics scientists through modular courses.</p> <p>Development of a Computational Workflow for High throughput Genome Analysis project at CDAC Pune</p> <p>Specific project oriented development in applications of Bioinformatics such as pharmaceuticals, plant tissue culture, plant genome database creation, system biology etc.</p>	<ul style="list-style-type: none"> To facilitate exchange of information . <p>Development of A Web-enabled Protein Structure Prediction Software with application in drug discovery</p> <ul style="list-style-type: none"> SW tools and databases to help in Genome Research, Drug Designing and Persevering Biodiversity. Skillset inculcation for 30 scientists/engineers at each centre through 4 modular courses each of 3 months duration. High-throughput drug discovery pipeline. 	<ul style="list-style-type: none"> Scaling upto 128 processors – Nov. 2008 <p>Initiation of modular courses and setting up research infrastructure through procurement of the required hardware and software – March, 2009</p> <p>Procurement of hardware and software and recruitment of manpower – Nov. 2008</p> <p>Projects to be initiated in 2008-09</p>	

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		<p>Free & Open Source (FOSS) Initiative To promote Free and Open Source Software in India for applications in various domains</p> <p>Intellectual Property Rights To develop requisite technologies, tools, utilities, processes, mechanisms and infrastructure so as to facilitate industry,R&D organizations as well as individual (s)/professional(s) in acquiring, protecting, and globally commercializing IPRs in the E&IT sector.</p>				<ul style="list-style-type: none"> • New projects to be initiated in area of FOSS technologies, architectures and /or products • Expanding the network of FOSS Resource Centres • Adoption and proliferation of Bharat Operating System Solutions (BOSS) developed by NRCFOSS • FOSS adoption framework • Awareness building in area of FOSS <ul style="list-style-type: none"> ▪ Initiate 5 new projects in the areas of TM e-verification, IPR for Santhali Medicinal system, Integration & Mgmt. Of IPR, etc. ▪ Patent Alerts, IPR clinics, seminars etc. ▪ To set up infrastructure for SIP-EIT scheme and support filing of 40 inter- National patent of SMEs / Start up companies. ▪ To facilitate patent filing for DIT units and grantee institutions. 	<p>Cost-effective, user-friendly environment for growth and deployment of open source software for various applications in the country in line with global initiatives.</p> <p>Spread of awareness and skill development to support global initiatives in open source software. Development and deployment of Tools and technologies for IPR, awareness creation and IPR/ patents facilitation.</p>	<p>September 2008</p> <p>March 2009 Continuous process March 2009 Throughout the year</p> <p>March, 2009</p>	

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4.	Convergence, Communication Broadband and Strategic Electronics	To undertake R&D in Convergence, Communication & Broadband Technologies,; including strategic electronics applications (combined budget head)	--	22.00	--	<p>Initiation of 6-8 projects in development/application of technologies defining the Next Generation wired/wireless broadband technologies, SDR technology, Wi-Fi/WiMAX applications, Converged Access Devices, Wireless Sensor Networks, UWB applications, Broadband on powerline and Next Generation Networks. New Trends of IT applications for Disaster Management, Security and Triple Play applications (Data, Video and Voice) with Wireless – LAN – Internet Infrastructure accessibility etc.</p> <p>To arrive at specifications for users, suiting to Indian conditions, demonstration and testing of New products and New technologies developed as per specified features. Execution of Transfer of Technology (TOT) and manufacturing process.</p>	<p>The R&D activities will result in establishing capability for development and application in emerging technology bringing economic benefits and e-inclusion, safety, security and improved life.</p> <p>The R&D activity will result in creation of knowledge for Scientists and Technologists, stronger economic benefits and provide the users hands-on experience and exposure to latest technologies, which will be an asset for the country</p>	On an average 3 projects in each quarter are proposed to be initiated. The projects are generally of 1-3 years duration.	
5.	Components & Materials Development Programme	To support infrastructure development and R&D and technology development projects for the development of Electronic	0.60	10.00	5.60	<ul style="list-style-type: none"> Development of lead-free electroplating bath for solder bumping Initial trials and optimization to obtain sub micron / nano-powders of Ag, Au, Cu, CuO in a Transferred Arc Plasma Reactor Characterization and subsequent processing of glass samples and 	<p>Process for Integrated Glass-Ceramic Packaging</p> <p>Generation of Nano-powders, Nanocomposite & Quantum dots of metals/semiconductors/ for Electronics Technology and allied.</p>	<p>March, 2009</p> <p>March, 2009</p>	

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		Materials at C-MET				<ul style="list-style-type: none"> nanocomposites Preparation of organometallic / inorganic precursors and process development of passivated free standing QDs of IV-VI semiconductors Optimization of process parameters for hydro-chemical processing of Ga Optimization of vacuum distillation to achieve 6N+ purity Zn. Procurement of SFE reactor, its installation & commissioning Initiation of experiment for preparation of nano tantalum powder & Testing Novel materials development, fabrication and characterization of microactuator Development of nanomaterials For hick film sensors for humidity & thermal sensing. Fine tuning of Bimorph actuators to targeted specifications Carbon aerogels preparation and process optimization 	<p>Applications</p> <p>Process technology/ Pilot plant scale production of Ultrapure metals</p> <p>Development of process technology for refractory metal nano powders (Ta, Nb, Ti)</p> <p>Development of Micro Actuator & Nanomaterials for Thick film sensors</p> <p>Development of Actuator devices, C-aerogels for Supercapacitor &</p>	<p>March, 2009</p> <p>March, 2009</p> <p>March, 2009</p> <p>March, 2009</p>	

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		To support R&D and technology development projects at academic institutions, R&D laboratory and industry in the area of photonics, electronics materials and components.				<ul style="list-style-type: none"> Preparation of phase pure CuAlO₂ and SrCu₂O₂ compositions for PLD. 	Transparent conducting oxides for electronics.		
						Development of Tech of Elastographic Imaging System for Breast Cancer detection simulation and prototype development	Spreading the base of Biophotonics for Health care	March, 2009	
						Fluorescence Correlation Spectroscopy (FCS) Workshop at TIFR			
						Technology for fabrication of Rare Earth doped Fiber laser by solution doping	Fiber laser Development	Sept.,2008	
						Workshop at BITS, Pilani	Polymers for Photonics spreading the base and Tech Dev	April, 2008	
						Technology for Polymer based Power splitters		Dec.,2008	
						Dev. of approach for realizing FBG with long term stability	FBG technology development	Dec.,2008	
						Dev. of LPWG (Long Period Wave Guide) based IO (Integrated Optic) filter.	Silica-on-Silicon technology for Optoelectronics Devices	Nov.,2008	
						Technology document for two ongoing projects in electronics materials	--	Dec.,2008	

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6.	C-DAC	<p>High Performance and Grid Computing:</p> <p>Multilingual Computing & Heritage Computing</p>	3.00	91.00	145.00	<ul style="list-style-type: none"> Installation, Commissioning and Testing of 10~20 Teraflop systems Porting of code of identified applications and bench-marking Building of HPC Applications Approval and Commencement of (Foundation phase of) Main Garuda: Approval for shared e-science resources infrastructure and commencement. Release of Free Indian languages softwares and fonts (CDs and downloadable Web-site) 	<ul style="list-style-type: none"> Shared HPC system with critical C-DAC technologies. Realization of system benefits for existing applications Simulation and modeling in various Science and Engineering domains/areas Next generation e-Science/Cyber infrastructure as new type of problem-solving / collaboration environment Build capability in emerging applications of Grid infrastructure for global competitiveness Enlarge local language base for IT to enable its large-scale deployment and use by masses. 	<p>Nov., 2008</p> <p>Feb., 2009</p> <p>Continuous</p> <p>April, 2008</p> <p>March 2009</p> <p>March 2009</p>	

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		Professional Electronics including VLSI & Embedded Systems				<ul style="list-style-type: none"> Enhancement of Multilingual Tools/Fonts for various Indian Languages; Standardization activity of IDN, Unicode (W3C) Machine Assisted Translation system for English to Indian languages (EILMT), Indian language to Indian language (ILMT) and Cross Lingual Information Access (CLIA). (Consortia mode projects) Multimedia Portals, Content Libraries (Traditional Designs, Embroidery Techniques & Embellishment), Album Authoring Software, 3D Visualization & Virtual Reality and Mobile Heritage Computing. Ultrasonics for mine detection RF Multicarrier Power amplifier for Advanced Wireless Base Station [MCPA] 	<ul style="list-style-type: none"> Development and use of content in major Indian languages New R&D initiatives in areas of speech technologies and machine-assisted translation to proliferate use of IT in the country. Indigenous technology for Portable Land Mine Detectors for demining purpose by Police, Paramilitary forces, Border Security Force etc. Multicarrier power amplifier for low power application in a 	<p>March 2009</p> <p>March 2009</p> <p>March 2009</p> <p>June 2008</p> <p>Dec., 2008</p>	

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		Software Technologies including FOSS				<ul style="list-style-type: none"> • Automatic Meter Reading System • Intelligent Sensors for manufacturing and process industry • Electronic Tongue for black tea • Low Cost TETRA Handset • Universal Auxillary Converter for Rolling stock applications • Medical Electric Safety Analyzer 	<ul style="list-style-type: none"> • specified frequency band in advanced wireless base station • Automatic Meter Reading System component technology for deployment • Strengthen India's capabilities in Sensor Network and Embedded Systems • Comprehensive measurement of all the physical parameters of black tea • Affordable / Cost-effective Tetra Hand Sets for Public safety organizations • A standard, cost effective system which will fit in different types of railway engines. • Cost effective safety analyzer for medical equipments 	<p>June 2008</p> <p>December 2009</p> <p>December 2008</p> <p>December 2008</p> <p>September 2008</p> <p>December 2008</p>	

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		e-Governance				<ul style="list-style-type: none"> Progressive development of localized e-Governance and education applications on FOSS <p>ICT for Development</p> <ul style="list-style-type: none"> National Service Delivery Gateway (NSDG) <ul style="list-style-type: none"> India Development Gateway (InDG) <p>e-Governance solutions for states and Government departments</p> <p>GIS enabled solutions for</p> <ul style="list-style-type: none"> Land Records Management, Urban Infrastructure Management Natural Resource Management Vehicle Tracking System 	<ul style="list-style-type: none"> Reduce expenditure on software e-Solutions, which promise improved transparency, speedy information dissemination, higher administrative efficiency and improved public services. Multilingual portal providing services in the identified verticals agri, health, education and rural energy e-solutions, promising transparency, speedy information dissemination, higher administrative efficiency and improved public services. Geomatics based Decision Support System for effective upliftment of rural and semi-urban areas 	<p>March 2009</p> <p>June 2008</p> <p>March 2009</p> <p>March, 2009</p> <p>Sept., 2008</p>	

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		Cyber Security & Cyber Forensics				<ul style="list-style-type: none"> • Grid enabled GIS based data centre • Development of Next Generation Forensics tools [NeFT] • Tools for Intrusion prevention and intelligent analysis Systems (IDS) • Release of packaged Stegocheck V3.0 for Surveillance/ Intelligence/Forensics Community 	<ul style="list-style-type: none"> • Enhanced Cyber Security 	<p>March, 2009</p> <p>Dec.,2008</p>	
		Health Informatics				<ul style="list-style-type: none"> • Deployment of Telemedicine Solution in Tamil Nadu • Enhancement of features of Mercury • Health care standard libraries 	<p>Improved Health Care.</p> <ul style="list-style-type: none"> • A more user-friendly telemedicine solution • Rapid application and solution development tool for healthcare domain 	<p>March, 2009</p>	
		Ubiquitous Computing				<ul style="list-style-type: none"> • National Level Ubiquitous Computing Research Resource Centres • Hardware technologies for ubiquitous computing, sensor network with physical world 	<ul style="list-style-type: none"> • National Level Competency Centre in Ubiquitous Computing Research Applications • RFID based systems for supply chain management, access control, etc. 	<p>March, 2009</p> <p>March, 2009</p>	

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7.	Electronics in Health & Tele-medicine	To promote development of medical electronic equipment, rehabilitation devices and Telemedicine systems.	-	13.33	-	<ul style="list-style-type: none"> Initiation of project for the development of dual energy photon and multiple energy electron linear accelerator for cancer treatment. Construction of process laboratory for the fabrication of linac tube. 	<p>Availability of indigenous technology for the production of dual energy photon and multiple energy electron linear accelerator for cancer treatment which is the state of art.</p> <p>This will ensure the availability of indigenous linac tube to support the production of indigenous 6 MV linac machine for cancer treatment.</p>	<p>July 2008.</p> <p>January 2009</p>	
8.	Technology Development for Indian Languages		--	8.89	--	<p>Launch of Indian language Software/ Tools</p> <p>Free-to-use software tools such as Fonts , text-editor, spell-checker , Morph Analyzer , Dictionaries, Key-board drivers and messaging systems will be launched for remaining Indian languages</p>	<p>Launch of Indian language software and tools and their free availability will enhance IT applications in Indian Languages.</p> <p>Proliferation of Indian Language and Software tools to achieve the maximum benefits of ICT</p>	<p>July 2008 – Dec.,2008</p> <p>Launch of Software & Tools for remaining 10 official Indian languages.</p>	

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						<p>Specialized Manpower Development in Language Technology Generation of ~ 100 trained manpower (Masters level ~ 50 & PG Diploma Level ~ 50) in the domains of Knowledge Engg./ Computational Linguistics and Software Localization</p>	<p>Trained Manpower in Language Technology commensurate with the requirement in industry and academia</p> <p>Availability of trained manpower for innovative product development and research in Language computing</p>	<p>Ongoing Project</p> <p>July 2008 2nd batch of trained manpower in domain of Knowledge Engineering Computational Linguistics and Localization Technology.</p>	
						<p>Development of Open-Type fonts in Indian Languages Development of 286 Open-type fonts in 11 Indian Languages</p>	<p>Enable enhancement of usage of Indian Language Software & products, especially on web.</p> <p>Proliferation of Indian Language Open Type fonts and use of Indian Languages on web. 'Sakal-Bharti' font would be helpful for E-Governance applications.</p>	<p>June 2008 'Sakal-Bharti' multilingual font with matching characteristics of font-size, height and width.</p> <p>Feasibility Study of Rasterization Engine</p>	

Chapter- II Financial Outlays & Projected Physical Outputs/Outcomes

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						<p>Six consortium mode projects for Development of</p> <p>(i) English to Indian Languages Machine Translation System in (a) Hybrid approach (b) Angla-Bharti approach</p> <p>English to Indian Languages Machine Translation system in the domain of tourism and health The languages are English-Hindi, English-Marathi, English-Bengali, English-Oriya, English-Tamil and English-Urd</p> <p>(ii) Indian Language to Indian Language Machine Translation system</p> <p>Indian language to Indian language machine translation system in domain of tourism and health.</p> <p>(iii) Development of Cross-lingual Information Access in Indian Languages</p> <p>Development of a portal with cross-lingual search and access facility in six Indian languages in domains of Tourism and Health</p>	<p>Prototype E-IL Machine Translation system.</p> <p>The systems will be useful for the general public at large and the State & central Government offices.</p> <p>Prototype IL-IL Machine Translation System</p> <p>Prototype Cross-lingual information access system</p>	<p>Six Projects Initiated in August 2006</p> <p>December 2008: Pre-Beta version of the systems</p> <p>March 2009: Beta version of the systems</p>	

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						<p>(iv) Development of printed text OCR for Indian languages</p> <p>Integrated OCR System Bangla, Devanagari, Malayalam, Gujarati, Telgu, Tamil, Oriya, Tibetan/Nepali, Gurmukhi, Kannada</p> <p>(v) Development of on-line Handwriting Recognition system in Indian languages</p> <p>Development of online handwriting recognition engines for Devanagari, Kannada, Malayalam, Tamil, and Telugu scripts.</p> <p>National Localization Research Centres To promote localization in the country, it is proposed that National Localization Research Centers (NLRC) will be first set up.</p>	<p>Prototype Printed text OCR System</p> <p>Prototype on-line Handwriting recognition system</p>	<p>The project expected to be initiated in April, 2008.</p>	
						<p>Setting up standards wherever gaps are there; creating awareness; providing training and consultancy in selection and application of tools etc.; making available basic localization tools & resources.</p> <p>The outcome of the TDIL programme in terms of standards, resources, technologies will be show-cased for the users and developers</p>			

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						<p>Resource Centre for Indian Language Technology Solutions for (Assamese and Bodo)</p> <ul style="list-style-type: none"> ▪ Development of niche technology in collaboration with state governments. • Language Tools & Technologies for Assamese & Bodo <p>Resource Centre for Indian Language Technology Solutions for (Manipuri)</p> <ul style="list-style-type: none"> ▪ Development of niche technology in collaboration with state governments. ▪ Language Tools & Technologies for Manipuri <p>Speech Technologies: Development of</p> <p>(i) Phonetic Engine for Indian Languages</p> <p>To convert input speech into a sequence of syllable-like units corresponding to basic production units for Indian languages</p>	<p>Language Tools & Technologies such as Fonts, Corpus etc for Assamese & Bodo</p> <p>Language Tools & Technologies for Assamese & Bodo</p> <p>Language Tools & Technologies such as Fonts, Corpus etc for Manipuri</p> <p>Language Tools & Technologies for Manipuri</p> <p>(i) Prototype version of phonetic engine for Hindi and Telugu</p>	<p>Ongoing Project; initiated in October 2007,</p> <p>September 2008 Language Corpus & Tools</p> <p>Ongoing Project; initiated in Dec.,2007,</p> <p>Sept., 2008 Language Corpus & Tools</p> <p>April 2008: Proof of concept version of the systems</p>	

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						<p>(ii) Text-to-Speech system for Nepali Speech synthesis specific annotated data-base for Nepali</p> <p>(iii) Standardization of IPA symbols Standardization of IPA symbol for all 22 official Indian Languages in respect of place and manner of articulation</p> <p>National Indian Languages Web Browser: From the users' perspective, there is a need to have Indian Languages Web Browser so that knowledge in English available on web can be made available in Indian Languages. The search engine for Indian languages to be initiated.</p> <p>Tools & Technology for Sanskrit Computing Development of Linguistic Resources, Tools and systems in Sanskrit.</p>	<p>(ii) Flat TTS system in Nepali without intonation</p> <p>(iii) Standardized IPA symbol for three Indian languages Hindi, Bengali, Assamese</p> <p>Availability of the Indian Language Web Browser will help people to access the knowledge available in different world languages in their own language.</p> <p>Tools and technologies for Sanskrit Computing</p> <p>The use of modern computer technology for learning, understanding and interpreting ancient Indian knowledge in a better way.</p>	<p>June 2008: Draft IPA code chart for 3 Indian Languages (Hindi, Bengali and Assamese)</p> <p>Dec., 2008: Pre Beta version of the Phonetic engine in Telugu & Hindi and TTS for Nepali</p> <p>Sept., 2008 Initiation of the project March ,2009: Alpha version of the system</p> <p>December 2008: Alpha version of Basic Tools for Sanskrit Computing</p>	

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						<p>Web Internationalization Initiative (WII) Adequate representation of Indic scripts in the Web Technology Standards being evolved by World Wide Web Consortium (W3C)</p>	Adequate representation of Indic scripts in the Web Technology Standards will ease the development of tools and technologies for Indian Languages	Sept., 2008 Initiation of Phase-II of Web International Initiative	
9.	IT for Masses (Gender, SC/ST)	Upliftment of Women folk and SC/ST	--	8.00	--	<ul style="list-style-type: none"> To conceive and formulate projects for development of Women, SC/ST . 	Capacity building of Women and SC/ST	3 new projects March 2009	
10	Media Lab Asia	To bring the benefits of the information and communication technologies and other advanced technologies for the benefit of the common man.	--	1.00	20.00	<ul style="list-style-type: none"> - Transfer of Technologies developed to industry/NGO's for large scale deployment. - Implementation of Integrated Agri Services through the network of village level kiosks. - Development of an interactive portal for copyrighted digital design for all types of artisans, and differently abled persons - Development of Multimedia Content for ICT for vocational education & Training. - Developmental & Deployment activities related to rural & Mobile Telemedicine System. -Software Development of healthcare Data Collection and Handheld devices will be taken up. 	Subject to generation of internal and extra budgetary resources.	Continuing Activity March 2009	

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11.	STQC	Establishment of Quality Assurance Infrastructure in the country to facilitate quality products & services at par with global standards and practices	4.30	42.00	--	<p>1. Up gradation of Test & Calibration facilities to cater to state-of-the-art products with emerging technologies.</p> <p>2. Earn Rs. 43 Crore as revenue</p> <p>3. Establishing Scheme for Common Criteria evaluation & Certification of IT Security product as per ISO 15408</p> <p>4. To obtain accreditation of S/w Test lab.</p> <p>5. Certified IT Service Management training programs and ISO 20000-1 Certification Services to be started.</p> <p>6. Human Resource Development by conducting DOEACC 'O' & 'A' level courses in NE region.</p>	<p>State-of-art Test & Calibration facilities will be available to Industry to upgrade quality of the products.</p> <p>STQC will move towards self-sustenance</p> <p>CC Scheme operational at STQC Dte. - CC Lab established at STQC IT, STQC</p> <p>IT Centre (Kolkatta) & IT Centre (Bangalore) will obtain accreditation from A2LA USA</p> <p>Enhanced confidence of IT Services industry due to availability of trained manpower.</p> <p>Computer education to weaker/backward sections.</p>	<p>March, 2009</p> <p>March 2009</p> <p>June, 2008</p> <p>October, 2008</p> <p>March 2009</p> <p>March, 2009</p>	
12.	STPI & EHTP	To promote exports of electronics & IT.	--	--	--	This programme is for promotion of exports and provide facility to Indian Small and Medium Organisations for participations in export promotion events in the software and electronics sectors.		Continuing activity	
13.	Digital DNA Park	-To promote Bio-IT activities in the country,	--	--	--	<p>-Setting up of Bio-IT Park</p> <p>-Computational Biology Centre</p>	<p>Ongoing activity</p> <p>-India's presence as R&D</p>	Continuing activity	

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		-Professional manpower creation, - Development of Bio-IT sector Support R&D					incubator for BIO-IT sector -Generation of trained manpower for this sector -Facilitation of collaborative research		
14.	e-Governance	<p>The objective is to make all Government services accessible to the common man in his locality, through common service delivery outlets and ensure efficiency, transparency & reliability of such services at affordable costs to realise the basic needs of the common man.</p> <p>The Plan comprises nine central Mission Mode Projects (MMPs), eleven state MMPs and seven integrated MMPs that span</p>	--	800.00	--	<p>Establishment of SWAN By end of December 2008, it is envisaged that most of the 33 States/UTs under the SWAN Scheme, would be implemented and would be delivering various G2G services, as planned by the States / UTs.</p>	<p>State Government, would leverage the SWAN as a core network infrastructure progressively to provide G2G services and later G2C services (even below Block Hqrs level when last mile connectivity would be made available) whose availability is presently confined to the location of the offices providing these services any where anytime over the entire State.</p>	<p>In general, it is envisaged that it would take nearly 180 days for completing full process of selection of Network Operator for the SWAN. The processes involved in identification of Network Operator are as: Selection of Consultant, Preparation of RFP, vetting of RFP, Floating of RPF, scrutiny of bids which includes, pre-qualification scrutiny, technical</p>	<p>The internal process for approval varies from State to State and accordingly the time lines of implementation also varies.</p>

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		<p>multiple backend Ministries / Departments at all levels of government. It also includes eight program support components aimed at creating the right governance and institutional mechanisms, core infrastructure, policies & standards and the necessary legal framework for adoption of e-governance.</p> <p>It is expected that e-Governance initiatives as they achieve full implementation will take the benefits of information technology to the man on the street and particularly in the villages,</p>						<p>evaluation, financial evaluation, identification of Network Operator conclusion of the contract with the Network Operator etc. Further to this, implementation of network by the designated Network Operator would take anywhere between 36 weeks - 52 weeks. After commissioning of the network, the Scheme envisages operation of the network for five years. Currently, in number of States/UTs SWANs are in the various stages of implementation.</p>	

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		thereby improving his quality of life. This will also enable the government to become more citizen-centric, transparent, accountable and efficient.				<p>State Data Centres State Data Centre has been identified as one of the important element of the core infrastructure for supporting e-Governance initiatives of NeGP. The Scheme has been approved by the Government at a total outlay of Rs.1623.20 Crore over a period of 5 years. It is proposed to set up Data Centres across 35 different States/UTs in the country during the 11th Plan.</p> <p>Common Service Centres (CSCs) Setting up of ICT based Kiosks (1 Lakh) at village level across the country in phases.</p> <p>e-District e-district as a concept proposes integrated and seamless delivery of citizen services by district administration through automation of workflow , backend digitization, integration and process redesign across participating departments such as Revenue, Food, Basic Education, Social Welfare, Minorities, Forests, Panchayati Raj, Rural Development, Agriculture, Election, Home, Minor Irrigation, Passport, Irrigation, Excise, Finance & Treasuries, Family Welfare, Horticulture, Cooperatives, Transport, Health, Land</p>	<p>Secure and reliable data Repository sharable across various applications.</p> <p>State Data Centre will help in providing efficient electronic delivery of G2G, G2C and G2B services.</p> <p>Sanction the CSCs proposals for remaining States and UTs in the country. Complete the process of establishment of 100,000+ CSCs in the country</p> <p>1.Implementation of e-District Projects already sanctioned in UP and Assam</p> <p>2.Obtain financial approvals for the e District Mission Mode Project</p> <p>3. Conduct pilot in 10-14 districts of 8-10 States.</p>	<p>It is expected that around 20 Data Centres shall be set up/ operationalised by March 2009.</p> <p>March 2009</p> <p>June 2008</p> <p>Dec 2008</p> <p>June 2009</p>	

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						<p>Records, and Registration etc. for providing services to the citizens.</p> <p>Unique ID To create Common Care Data Base using the existing electoral Data to create Unique ID for all residents. It would curtail requirement for physical verification and help better targeting of Government Schemes.</p> <p>E Bharat The proposed World Bank support (called e-Bharat project) is expected to finance an agreed-upon subset of those NeGP activities (MMPs and program Components) which are most directly related to the objectives of the Bank's Country Assistance Strategy (CAS), after these have received Cabinet approval. On this basis, the project may include a majority of State and Integrated MMPs and all program components.</p> <p>Following the broad criteria to ensure achievement of CAS objectives and in view of large number of potential subproject proposals, the Bank has indicated the under noted MMPs to be most important for its funding, subject to the caveat of Cabinet approval:</p> <ul style="list-style-type: none"> • Gram Panchayats; 	<p>To assist Planning Commission in obtaining Financial approval and establishment of UID Authority.</p> <p>Ensure improved service levels under the selected MMP, accessible to the common man in his locality, through an integrated service delivery mechanism at affordable costs.</p> <p>Create contemporary infrastructure for the selected MMPs that provides transparent and effective interaction between the Government and Common man (in the rural and urban</p>	<p>March 2009</p> <p>Appraisal by April 2008</p> <p>Financial sanction & initiation of implementation of Projects under e Bharat by November 2008</p>	

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						<ul style="list-style-type: none"> • Agriculture; • Municipalities; • Employment Exchange; • Land Records & Property Registration; • E-Districts; • Commercial Taxes, • Treasuries and • E-Government Procurement. <p>Capacity Building Institutional Capacity Building in 28 States and 7 UTs. The scheme has been approved at a total outlay of Rs.313 crores for a period of 3 years on 10-01-2008.</p> <ol style="list-style-type: none"> 1. Creation of SeMT for various States/UTs 2. Preparation of Training Guidelines 3. Orientation/Training of SeMT & Policy Makers in Phases 4. Preparation of DPR by Sates/UTS <p>Horizontal Transfer of Successful e-Governance initiatives 1) On going projects in Land Record, Property Registration and Transport are to be completed in FY 2008-09 2) Rolling out of successful pilot</p>	<p>setting) & businesses ensuring economic growth.</p> <p>- Initiating recruitment process and setting up of SeMT in States/UTs</p> <p>- Planning training and Content Creation</p> <p>- Training to Sr. officials, policy maker & SeMT</p> <p>- Preparation of MMP DPR</p> <p>Capturing best practices of successful e-Governance projects and replicating in other State. This will ensure</p>	<p>June 2008</p> <p>March 2009</p> <p>2008-09</p> <p>2008-09</p> <p>2008-09</p> <p>May 2008</p>	

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						<p>projects in Land Record, Property Regn. and Transport is being implemented in the entire State on PPP model.</p> <p>GIS Application 1. Initiation of New project 2. Completion of ongoing activities</p> <p>Standards for e-Governance</p> <ul style="list-style-type: none"> ▪ Development and enhancement of Standards, Guidelines, Policies in identified areas of concern ▪ Development of standards in the new areas ▪ Publishing of standards on the website <p>India Portal</p> <ul style="list-style-type: none"> ▪ Development and Maintenance of Portal Infrastructure and content ▪ Testing evaluation & QA certification <p>National e-Governance Service Delivery Gateway (NSDG)</p> <ul style="list-style-type: none"> ▪ Functional Gateway up and running ▪ Operations & Maintenance for 5 	<p>dissemination of knowledge from one successful implemented to many other places</p> <p>Developing special decision support system</p> <ul style="list-style-type: none"> ▪ Ensure Interoperability, integration & seamless data sharing of eGov applications <p>Seamless search of govt. information available at the central & state levels and will facilitate Single sign-on to various govt. services and information in turn making citizen interface much simpler & easy.</p> <p>Middleware for facilitating integration,</p>	<p>December 2008</p> <p>March'08 onwards – Release of standards / guidelines in Interoperability, Data & Meta-data, Security, Localization, Quality & other new areas that emerge</p> <p>2008-09</p> <p>2008-09 2008-09</p>	

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						<p>years</p> <p>Conformity Assessment Centre</p> <ul style="list-style-type: none"> ▪ Formulation of Conformity Assessment framework, which will enable e-Governance solution providers to comply with laid down requirements. ▪ Creation of 7 IT centers in terms of skills, knowledge and infrastructure in the areas of Information Security, Software Quality, IT Service Quality etc. <p>R&D in e-Governance Research activities in e-Governance would be undertaken</p> <p>Open Technology Centre (OTC)</p> <ul style="list-style-type: none"> ▪ To provide synergy to the overall components of Open Technology initiative that are being taken by various communities ▪ To strengthen the support on the Open Technology ▪ To provide the requisite support to the Standardization activity for e-Governance. 	<p>interoperability & data sharing amongst various eGov applications</p> <ul style="list-style-type: none"> ▪ Will help to scale up e-Gov Implementations in India and generate confidence of the end users and the government departments ▪ Lab Accreditation of all the centers <p>Applied R&D which would enable bringing innovative solutions which are cost-effective for various e-Governance applications under NeGP</p> <ul style="list-style-type: none"> ▪ Help-Desk Mechanism for NeGP on Prioritized Open Source Stack ▪ Support for hand holding services for using Open Source Software in a Governance Project ▪ Help to launch 1 e-Gov Portals / Applications which are compliant with 	<p>2008-09</p> <p>2008-09</p> <p>2008-09</p> <p>April'08 – March'09</p>	

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						<p>Web Accessibility Standards</p> <ul style="list-style-type: none"> ▪ A Document and Reference for migration/porting of legacy applications to Open Technology ▪ A Handbook on “Open Technology” ▪ Coordination with Six Technology Standards Expert Committees to prepare & update reports on the identified area ▪ Conformance Lab for Compliance with prioritized Open Technology Standards for e-Governance <p>Establishment of BOSS Support Centres and Business Development (NRCFOSS)</p> <ul style="list-style-type: none"> ▪ Setting up of support centre in academic institutions ▪ Setting up of call centres and help desk during the year 2008-09 ▪ Efforts will be continued for business promotion and vendor development. ▪ National campaign and state-wise campaigns would be carried out. 	<ul style="list-style-type: none"> ▪ Full manpower of 80 for all support centres to be in place. ▪ To set up support centre at academic institutions in north and south zone. ▪ To Set up call centre and help desk ▪ Bandwidth of data centre to be upgraded. ▪ BOSS version 2 to be tested by STQC. ▪ To continue the efforts for business promotion 	<p>April'08 – March'09</p>	

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						<p>and vendor development. Interaction with HCL will be continued in this regard.</p> <ul style="list-style-type: none"> ▪ National campaign and state-wise campaigns would be carried out. To organize workshop and training in BOSS for various Departments and user groups. <p>Assessment To carry out:</p> <p>i) e-readiness assessment of the States/UTs ii) impact assessment of the various e-governance projects implemented both at the Central and State Level against the stated and implied objectives iii) Listing of e-Governance/ICT Development Projects.</p> <p>Awareness & Communication</p> <ol style="list-style-type: none"> 1. National Awareness Campaign for NeGP 2. Communication Needs Assessment 	<p>The findings of the summary assessment of the various Central and State Level e-Governance projects shall be analyzed and additional projects shall be taken up for summery assessment.</p> <p>2008-09</p> <p>March, 2009</p> <p>Increase overall awareness about relevance of e Governance to common man.</p>		

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						<p>Community Information Centres (CIC) North Eastern States The implementation of Gap Bridging Arrangement project to facilitate the merger of 555 CICs of North East into CSCs (Common Service Centres) being established throughout the country under National E-Governance Plan (NeGP), to continue.</p> <p>Other States 135 CICs at Block level in Jammu & Kashmir continue to provide services</p> <p>41 CICs in Schools of Andaman & Nicobar and 30 CICs in schools of Lakshadweep Islands continue to provide services</p>	<ul style="list-style-type: none"> · ICT Connectivity and citizen interface for IT enabled e-government services and training. · Faster & Reliable Communication, Timely Access to School Results & Election Results. · ICT awareness creation and Employment Generation. · Better informed citizens with access to citizen-centric services including e-mail, Internet access, agri-market information, hospital bookings, board examination results, Govt. schemes, pilgrimage, and public grievances etc. · Time saving & Money saving. <p>Citizens increased awareness about the local developments in the area.</p>	<p>March 2009</p> <p>March, 2009</p> <p>March, 2009</p> <p>March, 2009</p>	<p>Established CICs continue to provide services</p> <p>Established CICs continue to provide services</p> <p>Established CICs continue to provide services</p>

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15.	Cyber Security (incl. CERT-In, IT Act)	Security R&D for indigenous skills & capabilities Security incident – early warning and response (CERT-In)	--	33.00	--	Development /enhancement of skills and expertise in areas of cyber security Enhancing the security of communications and information infrastructure in the country	<p>Research and development of indigenous cyber security solutions, proof of concepts and prototypes and skilled manpower in areas of cyber security including</p> <ul style="list-style-type: none"> • Crypto Analysis & Research • Authentication • Network & System Security - Mobile • Monitoring & Forensics • Vulnerability through sponsored projects at recognized R&D organisations. • Rapid response, resolution and recovery • Security incident prediction, prevention and protection • Security assurance 	<ul style="list-style-type: none"> • Formulation & evaluation of proposals by Working Group • Periodic review of individual projects • Continuous upgradation of CERT-In facilities and capabilities • Malware tracking and analysis • Real time response to cyber security incidents • Alerts, Advisories and 	

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		<p>Cyber laws for supporting E-Commerce and E-Governance activities</p> <p>Security Policy, compliance & assurance</p>				<p>A legal framework, which will instill confidence of the users and investors in the area of Information Technology in the country will be in place.</p> <p>Improvement in security posture of organisations and enhancement in the ability of IT systems and networks to resist cyber attacks.</p>	<p>Upgradation of Legal Framework</p> <ul style="list-style-type: none"> • Multi Member CRAT. • Implementation of Security Best Practices – ISO 27001 • Implementation of cyber security Crisis Management Plan (CMP) • Cyber Security conformity Assessment Infrastructure (Product, Process & People) • Establishment of Common Criteria (CC) product testing facility and certification scheme. 	<p>vulnerability Notes</p> <ul style="list-style-type: none"> • Cyber Security Mock drills • Cyber Forensics <p>Ongoing</p> <p>Ongoing</p>	

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		Security training – basic awareness as well as advanced				<p>Trained manpower to implement techniques to secure IT infrastructure.</p> <p>Trained manpower to collect, analyse and process digital evidence.</p> <p>Pre trained manpower will help in securing cyber space and check cyber crimes.</p>	<p>Specific training facilities, training modules and content development</p> <p>Creation of cyber forensic lab</p> <p>Awareness and training programmes to facilitate information sharing to deal with crisis situations.</p>	Ongoing	
16.	ERNET	To serve educational and research institution and connect on single network	--	0.09	25.00	<ul style="list-style-type: none"> • Upgradation of backbone infrastructure to enable delivery of application • Virtual class room • Digital Library 	Delivery of quality education and virtual enhancement of academic infrastructure	6 months	
17.	Promotion of Electronics / IT Hardware Mfg.	Promotion of Hardware Manufacturing in the country at Global level.	--	0.80	--	<p>Supporting the setting up of Semiconductor Fabrication and other micro and nano technology manufacture industries in India under SIPS.</p> <p>Conducting Studies and preparation of Position Papers related to promotion of Electronics/IT Hardware manufacturing and relocation of manufacturing industries from advanced countries.</p>	This would encourage investment in electronics/IT hardware manufacturing sector	March 2009	The Special Incentive Package Scheme (SIPS) to encourage Investments for setting up Semiconductor or Fabrication and other micro and nano technology

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								manufacture industries in India, has been announced by the Government vide Gazette Notification No.78 dated 21st March, 2007. As a follow up, the Appraisal Committee has been constituted by the DIT. For the effective functioning of the Appraisal Committee, a set of guidelines have also been issued on 14.9.2007.	

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18.	DOEACC	To carry out HR Development in Information Electronics & Communication s Technology (IECT). To produce quality professionals through Long Term & Short Term Courses in the Non-Formal Sector.	1.70	0.44	60.04	<p>(a) DOEACC Scheme</p> <p>O/A/B & C Levels (Non-Formal Sector of IT Education & Training) Half Yearly Examinations.</p> <p>20,000 students are expected to qualify at various Centres of courses during the year 2008-09 –.</p> <p>(b) DOEACC Centres to conduct training for Formal Sector Long Term Courses (M.Tech, MCA, BCA, PGDCA, Diploma in EE & CS etc.) – 980 students</p>	IT Trained Professionals will be available for the industry for employment and will be contributing to the economy.	July 2008 & January 2009	<p>Recogniti on of course other than O/A/B/C Courses and courses affiliated to State Universiti es being offered by DOEACC Society and its Centres.</p> <p>Acceptabili ty of the DOEACC qualifiers by the Industry.</p> <p>M. Tech, MCA, BCA, PGDCA courses are affiliated to respective State/ Universities.</p>

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						<p>To conduct training for Non-Formal Sector Long Term Courses (DOEACC O/A/B Level courses, DOEACC Bioinformatics O/A Level courses and Hardware Courses at O/A Level – 2400 students.</p> <p>Training for Short Term courses of duration less than one year – 8000 students. ITES-BPO Programme – 2125 students. Training of Secondary & Sr. Secondary school students by DOEACC Centre, Chandigarh – 40,000 students.</p>		<p>Annual / Semester wise exams</p> <p>Batch-wise exams</p>	<p>Tailor made to requirement of end-user.</p>
19.	Manpower Development	E-learning	--	45.00	--	<p>Quality Assurance Framework, Quality metrics, and prototype tool for evaluation and comparison of e-learning applications and training –</p> <ul style="list-style-type: none"> • A document in CD form and hard copy consisting of metrics to assess Quality Assurance of E-Learning tools • A prototype tool (software package in CD form) that can be used by end users/ developers for deriving the quality metrics with users/ installation manuals • To train 450 teachers on e-learning over 3 years <p>Development of Open source content delivery tools with advanced features - Web application source code in different packages, documentations made available in open source.</p>	<p>This would lead to making available quality oriented E-Learning systems in terms of tools, content, delivery mechanism and at the end the learning that happens due to e-learning. This would generate confidence in the stakeholders of e-learning community.</p> <p>This will be useful for content management and delivery</p>	<p>March, 2009</p> <p>Nov., 2009</p>	

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						<p>Design and Development of e-learning contents for e-security solution developers - e-Learning Contents for e-security solution developers would be designed developed and deployed on the server of C-DAC, Noida and training would be imparted/ available in the e-learning mode.</p> <p>Training of Teachers in E – Learning by DOEACC Society - Imphal, Calicut and Gorakhpur- 360 teachers would be trained under this proposal by DOEACC Centres Imphal, Gorakhpur and Calicut. They shall be able to locate and use/ reuse the course content in e-learning in their area of specialization.</p> <p>Fresh project proposals will be invited from academic institutions, R&D labs. etc. in the area of content development independent of Platform and environment, Technology development projects for promoting e-learning & Faculty Training.</p>	<p>Student/ Officers/ executives/ system Administrators of State and central Govt. would be trained for developing e-security solutions. The appropriate manpower would become available in the area. Thus, the networks and the systems would be further secured.</p> <p>The project would lead to proliferation of E-Learning in the country.</p>	<p>October, 2008</p> <p>November 2008</p>	

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		Human Resource Development in the country in the area of Information Security.				<ul style="list-style-type: none"> • Launching/ continuation of Information Security Curriculum at B.Tech/ M.Tech/ Ph.D levels and train System Administrators; • Installation/ commissioning of Information Security labs at RCs and PIs; • Training faculty of Participating Institutes; • Train Central and State Government Officers; and • Awareness Programmes in the area of Information Security. 	<p>Generate qualified IT security professionals for Industry/ Govt.</p> <p>Human Resource Development and awareness in the area of Information Security.</p> <p>Secured environment for BPO, Commerce and governance</p>	March 2010	<ul style="list-style-type: none"> • Technological Risks • High Attrition rate • Non-availability of students who could take up these courses •The actual requirement of number of professionals may change •The course curriculum may be required to be changed •Delay in obtaining permission by respective institutios to offer these courses from bodies like UGC, AICTE & Governing Council •Inadequate Monitoring Mechanism

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		<p>New scheme of manpower development for the software export industry To create course contents; Train Mentors; generate quality faculties and produce skilled employable graduates in the area of Information Technology.</p>				<ul style="list-style-type: none"> • Creation of course curriculum, Contents and Question Bank; • Generation of quality faculty and Mentor • Upgrading skill to graduates to make employable. • Augmenting the existing infrastructure facilities for ICT training to enhance the intake capacity • Expansion of the state-of-the art facility for advanced (industry related) IT training programmes 	<p>Human Resource Development in the area of Information Technology for software export industry</p> <p>Generation of Mentors/quality Faculty by conducting specialized short term courses in IT/ITES sector</p> <p>Enhancement of quality of ICT education in Engg. Colleges</p> <p>Virtualization of Technical Education in IT</p> <p>Setting up of National On-line Test System for Graduate Engineers in Information Technology</p>	March 2011	<ul style="list-style-type: none"> •Technological Risks •High Attrition rate •The actual requirement of number of professionals may change •The course curriculum may be required to be changed •Delay in tying up with colleges by the project execution institutions

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		<p>Implementation of Internationalized Domain Names (IDN)</p> <p>Implementation of Internationalized Domain Names in Indian Languages under .IN Registry</p>				<p>Internationalized Domain Names in Hindi, Marathi, Bangla, Assamese, Tamil, Malayalam, Urdu, Telugu & Kannada Languages to be launched</p>	<ul style="list-style-type: none"> • Increase in the number of internet users • Hosting of larger number of local language websites, Potential development of search engines in Indian languages and Overall increase in the number of users on the internet. 	<p>Ongoing activity</p> <p>Creation of Language Character & Variant Tables with language & implementation policy rule set for Domain Name registration in Tamil, Malayalam, Hindi, Marathi, Bangla, Assamese and Urdu are underway. Launch by April 2007.</p>	<ul style="list-style-type: none"> • Inadequate Monitoring Mechanism • Similarity in Indian Language fonts may create phishing problem • May not be many users of Indian domain Names in the absence of emailing tools and Indian language content.
		<p>Quality of Service Nationwide Network Testbed</p> <p>Establishing countrywide Quality of Service (QoS) networks for IT based applications and services.</p>				<p>Establishment of architecture, bandwidth protocols best suited for assured Quality of Service (QoS) for Applications viz, Distance Education, Voice over IP and Videoconferencing</p>	<p>Establishment of a set of Standards, protocols for QoS assured networks for IP based applications and services namely, Distance Education, Voice over IP and Videoconferencing</p>	<p>Ongoing activity</p> <p>QoS guaranteed network architecture established for testbed network and the same setup.</p> <ul style="list-style-type: none"> • Demonstration of QoS application & services 	<p>The QoS testbed would remain an isolated network between the participating academia and not be efficiently utilized if</p>

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		<p>NIXI – Establishment of NIXI hubs at various State Capitals</p> <p>To provide smaller ISPs connectivity at exchange points</p> <p>Establishment of a National Internet Registry for India. A National Internet Registry will be established in India</p>				<p>4 NIXI hubs at various State Capitals will be established</p> <p>A National Internet Registry will be established in India by December 2008</p>	<ul style="list-style-type: none"> • Peering facility to all ISPs • Increase in internet traffic within the country. • IP address and autonomous number allocation will be available for ISPs within the country. • Increased Indian role say in APNIC functions 	<p>by Mar.08 White paper on the architecture and protocols on Establishment of QoS guaranteed network for Distance Education, Voice over IP and Video conferencing by March,2008.</p> <p>Ongoing activity 4 NIXI hubs will be established by Dec.,2008</p> <p>The activity will be initiated by Dec., 2008</p>	<p>not opened to ISPs to use the testbed for their experimental activities.</p> <p>Bigger ISPs may not join.</p> <p>Several issues of contention may come up.</p>

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		<p>Establishment of Disaster Recovery System setup for .IN Domain Registry</p> <p>A disaster management and response system for the .IN Domain Registry will be established.</p> <p>Promotion of Migration to IPv6</p> <p>To sensitize the stakeholders in the country towards proliferation of IPv6 .</p>				<p>A mirror server that will respond to any failure of server and service within minutes of failure for the .IN Registry functions.</p> <p>IPv6 for building social applications using IPv6 features - ie in health care and education.</p>	<p>The country would meet global standards of IP Services with fractional downtime of the servers.</p> <p>The facility will attract ISPs based in other countries to establish their servers in India</p> <p>The intrinsic features of IPv6 would lead to increased productivity of efficient and secure IPv6 / net based applications which are user and device centric.</p>	<p>Initiation of the activity June 2008.</p> <p>1. Demonstration of IPv6 based application in ERNET backbone.</p> <p>2. IPv6 utility in Distance Education and Health. Project under evolution.</p> <p>3. February 2009- December 2008</p>	<p>Lack of appropriately skilled manpower may delay the establishment of the system</p> <p>Service Providers may not come forward -Users may not find immediate need for migration -The killer application may not be in great demand in the initial few years.</p>

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		<p>Broadband Roll out in the country –</p> <p>Proliferation of collaborative computing initiatives among academia and R&D institutions in the country.</p> <p>Governmental Advisory Committee (GAC) Secretariat Activities</p> <p>To provide inputs & support to 7 Working Groups of GAC</p> <p>National Internet Center of Excellence (NICE) Innovative Research and Development of Internet</p>				<p>Research opportunities for R&D & Academia to foray into research in cutting edge and frontier technologies and high-end computing</p> <p>The GAC Secretariat is established in DIT, India and the website www.gac.icann.org is Operational. Supports in Policies for ccTLD Registries; WHOIS and personal data; Generic Top Level Domains (new registry services, creation of new TLDs etc.); DNS Root Server system and DNS Security, etc.</p> <p>Development of innovative solutions focused on using Internet for inclusive sustainable & equitable growth. Focus Areas - Seed/ venture capital funding; Incubation; Collaboration; Mentoring & Training for new technical avenues;</p>	<ul style="list-style-type: none"> •Proliferation of grid computing • Application development for next generation networks and devices. •Development and outreach of multimodal multimedia edutainment applications for the semi-literate <p>The GAC Secretariat would be principally involved with the functions of Secretariat. The ICANN meeting in India in Feb 2008 will be coordinated by the Secretariat.</p> <p>India will host the IGF meeting in India in Dec 2008 which will also be coordinated by GAC</p> <p>Evolution of next generation Network concept and architecture.</p> <p>Development of new Internet based services</p>	<p>Ongoing Activity</p> <ul style="list-style-type: none"> • Projects under evolution Activity to be initiated by June 2008 <p>Ongoing activity</p> <p>Ongoing activity</p> <p>The activity will be initiated in Feb 2008.</p>	<p>Delay in the development of appropriate end use for the larger public may result in bandwidth remaining unutilized.</p> <p>The Secretariat may be overburdened at times with skeletal man-power support on lien.</p> <p>The effort may be already late in India's entry into</p>

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		<p>architecture, its deployment and applications. Incubation of application development for the Next Generation Network and devices.</p> <p>Computer Literacy Excellence Awards for Schools – 2007 To conduct national level award scheme for Introduction of Information Technology based education and skills among students at an early stage. As also promotion of appropriate deployment of Information & Communication Technologies at schools.</p>				<p>Creation, Licensing, Registration, Protection & Monetization of IPR</p> <p>Participation of all the 28 states & 7 UTs in the scheme for Proliferation of Technology based Education deployment in schools at village level.</p>	<p>and applications.</p> <p>Evolution of Best practices for Internet based applications.</p> <p>Ongoing activity</p> <p>Introduction and establishment of ICT based education practices in schools in the country.</p>	<p>Conduct of Award Scheme – 2007 by the year Dec. 2008.</p>	<p>he World Wide Web Space based economy capture.</p> <p>The schools may not fully understand how to utilize ICT for education in schools and overburden their faculty causing in disruption of curricula coverage by teachers.</p>

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		<p>Setting up of ICT vocational centres for skill development for children with disabilities To enhance computer & IT skills of the differently abled children, their personality development and to provide them with job oriented training for employment in IT and IT enabled service industry.</p> <p>Connecting ERNET India with European Research network GEANT To facilitate direct connection between the two region to support current and potential cooperative research activities</p>				<p>Phase-II for entire country has also been initiated 100 additional such centres would be set up in North-East and other regions.</p> <p>To set up more collaborative research networks with reputed academia and research institutions of other EU countries.</p>	<p>Ongoing activity</p> <p>About 100 disabled children would be trained and empowered in ICT skills in each centre.</p> <p>Ongoing activity Collaborative research by scientists and experts of participating academia and R&D communities in real-time R&D environment.</p>	<p>March, 2008- March,2009</p> <p>December 2007-2008</p>	<p>The facility may be too little and less accessible to a large number of differently abled children.</p> <p>The outcome may not be in tune with any national timeline or agenda.</p>

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		<p>Digital Library Initiatives – Digitization / preservation and web enabling of Copyright free data available in physical form</p> <p>New projects</p>				<p>Digitize: - 159 Lakh pages of copyright free data. - 50,000 Visual Images Recording of Video/Audio of Archaeological sites/ Monuments - 500 hrs Walkthrough of selected Archaeological Monuments - 5 Nos</p> <p>Providing bandwidth connectivity to IISc., President House library, IIIT, Hyderabad, IIIT, Allahabad, C-DAC, Noida</p> <p>Hosting the DLI web site for accessing the digitized data Digitize around 10-20 Million pages</p>	<p>Strengthen Country's identity by digitally preserving the national heritage and intellectual output</p>	<p>March,2009</p> <p>March 2009</p> <p>March 2009</p>	
20.	Facilitation of Setting up Integrated township	Establishment of Information Technology Investment Regions (ITIRs) in the country	--	0.11	--	<p>Development of ITIRs with provisions of road connectivity, link to airports, provisions of reliable power, water and appropriate infrastructure for education and health for IT/ITES Industries demand.</p>	<p>•This will boost IT/ ITES/ Electronics hardware Industries, argumentation of exports and generation of employments</p> <p>•Tier-II cities will transgress to modern cities with state –of- art Urban infrastructure and contribute to the overall economic development of the state.</p>		

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21.	Headquarter	<ul style="list-style-type: none"> • Secretariat & Bldg. • Foreign Trade • Exhibitions • Others - Seminars/ Workshops 	19.00	13.34	--	<ul style="list-style-type: none"> • To meet running expenditure of the Secretariat and Plan Schemes • CST re-imburement of STPI units • To organise exhibitions abroad for promotion of Trade • To organise seminars/workshops for development of electronics in IT 	<ul style="list-style-type: none"> • To run office smoothly. • Export promotion • Trade promotion • Development of electronics in IT 		
22.	National Knowledge Network	This is a new scheme initiated for establishing the National Knowledge Network with multiple gigabit bandwidth to connect Knowledge Institutions across the country.	--	100.00	--	Provide high speed broadband connectivity to knowledge institution.	<p>The long-term outcomes of National Knowledge Network would be:</p> <ol style="list-style-type: none"> 1. Sharing of resources, collaborative research etc. among the knowledge institutions in the country. 2. Create a pool of highly trained persons in the country. 		

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23.	NIC	Provide wide range of E-Governance infrastructure and services in the country at various levels right from central government, state governments to district administrations in their initiatives towards providing Good Governance to the people.	--	400.00	--	<p>Cyber Security UTM solution, Deployment of Security at selected District Centres, Securing National Data Centres of NIC</p> <p>Ceritifying Authority at National Informatics Centre Setting up of Registration Authorities (RA), additional Redundancy for uninterrupted operation.</p> <p>Computerisation of Land Records Integration of Registration and maps with land records in few pilot states, uniform Coding scheme for LRC</p> <p>Vdeoconferencing infrastructure development Decentralization of Videoconferencing facilities by Providing MCUs to selected States</p> <p>ASP Service Establish "Applications Service Provider (ASP)" Infrastructure</p> <p>Remote Sensing & GIS Division Operational GIS Facility at various levels</p>	<p>Enhanced security on NICNET</p> <p>DSC Subscribers will be serviced by respective RA office in selected states & procurement of H/W & S/W</p> <p>Enhanced Useablity, optimisation of application</p> <p>MCUs for State Centres selected for VC operations to enable decentralized VC service</p> <p>Enhanced web based services</p> <p>Procurement of selected GIS S/w & H/w, Satellite & other Data</p>	<p>Procurement Mar 2009</p> <p>Procurement March, 2009</p> <p>Procurement October, 2008</p> <p>Procurement Jan 2008</p> <p>Procurement Sept. 08</p> <p>Procurement March 2009</p>	

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						<p>Info-Highway To Install Skyblaster HUB chain at disaster recovery centre at NIC Hyderabad, conceptualisation of latest technology HUB and VSATs</p> <p>High Speed terrestrial circuits</p> <p>Data Centre Set up state-of-art National Data Centre at NIC, Pune Augmentation of server room, Outsourcing of Services for Data Center Operations</p>	<p>To complete the remaining Skyblaster VSAT technology & to enable VSAT connectivity in selected areas</p> <p>100 mbps core links to States & NIC DR Centre giving higher throughout</p> <p>Accommodate increased net based applications, separate server room, 24x7 support services</p>	<p>Explore/ Procurement Mar 2009</p> <p>Procurement Dec.,2008</p> <p>Procurement March, 2008</p>	