Department of IT & E-Gov
Government of Jharkhand

Draft IT and ITeS Policy

(This document is meant only for internal use of
Department of IT & E-Gov, Government of Jharkhand)

1 **Preamble**

The Information Technology (IT) - Information Technology Enabled Services (ITeS) sector in India has continued to register tremendous growth over the past decade, achieving an enviable status all over the world. It has also got a reputation for reliable and cost-effective delivery of IT and ITeS services. All over the world consumer markets in the developed world are sourcing IT-ITES from India to gain benefits and improving their competitive edge.

The Annual Report 2015-2016 by Deity, Government of India (GoI), cites that worldwide technology products and services (IT and BPM Services excl. hardware) related spend had been estimated to reach US$ 1.2 trillion in beginning of 2016. Cloud-based applications, big-data analytics, mobile systems, social media and cyber security may contribute significantly towards incremental expenditure in the coming years. NASSCOM predicts that these new opportunities will lead to IT exports from India of USD 175 billion by 2020.

The role of technology has also undergone a significant change; technology is no longer exclusive to only the corporate sector. Consumers, leveraging mobile and 24X7 connectivity, are now the influencing forces shaping technology spend. Government has also begun to use technology as the platform for citizen outreach and G2C services. India continued as the World's No. 1 sourcing destination with a share of 56 %. India's share in the global IT services outsourcing and ITES/BPO has reached up to 67% and 38% respectively.

It is matter of considerable pride that, as per the report annual above, a majority of the Fortune 500 and Global 2000 corporations are sourcing IT-ITES from India. Indian IT companies have set up around 670 overseas delivery centres across the world and are engaged in providing services with presence in over 200 cities over ~ 80 countries.

A NASSCOM study done recently also reveals that several global mega trends in economic, demographic, business, social and environment will create new opportunities for IT/ITeS by 2020. These mega trend are likely open up new industry verticals such as public sector, healthcare, media and utilities. The trend is also toward new customer segments pre-dominantly dominated by small and medium businesses. Countries such as Japan, BRICS nations, African and South American continents shall be the new markets for Indian IT and ITeS services.

The Information Technology and eGovernance Department of the Government of Jharkhand has embarked on a program of capitalizing on the growth of Indian IT and ITeS industry and making Jharkhand as the ideal destination for IT, ITeS and ESDM sector. This policy on the IT and ITeS sector is a step in the direction.

2   **Vision**

Department of IT, Government of Jharkhand is aiming at –

a. creating jobs and making citizen's life simpler and prosperous through providing initial impetus to entrepreneurship and industry, and

b. making increasing population of literate-youth ready for IT-ITeS sector.

3   The Objectives

1. To deliver all government services at the doorstep of the citizen.
2. To promote Jharkhand as an attractive investment destination for digital entrepreneurs and to provide an industry friendly climate to all.
3. To promote Ranchi and other Tier 2 cities as alternative IT destinations and provide Leading Edge IT Infrastructure in all Tier 2 and Tier 3 cities of the State.
4. To provide assistance in setting up of IT infrastructure like IT Parks, IT SEZs and IT Cities, to the benefit of the industry.
5. To use IT and ITeS as a leverage to enhance the quality of life of the citizen of the State.

In this, the new "Information Technology and ITeS Policy 2016-2021", the Government of Jharkhand proposes to approve the following measures to increase the impact of IT, ITeS and Communication services in the State with a view to elevate the standard of living of the citizen of Jharkhand. The IT and ITeS Policy has 6 strategic pillars to achieve the objectives framed by the State. These pillars are-

a) Build a Digital Economy
   ▶ Citizen services
   ▶ Bridge between Government and Industry
b) Government Procurement and Business Transformation
c) Create a robust Knowledge Base
d) Promote Investments and Partnerships-Incentives.
e) Strategic Engagement to Innovate and Grow
f) Cyber Security: Understanding threats and responses.

Apart from the incentives as available under National Electronics Policy 2012 the measures forming a part of the Jharkhand strategy include certain fiscal and non-fiscal benefits covering all the industry.

4   Build a Digital Economy

Digitisation is broadly defined as "a technology that connects people and machines with each other or people with information," so a digital economy can be understood in simple terms as economic transactions that are connected through technology. Digitisation increases the speed of transactions, connectivity and information symmetry compared to a non-digitised economy.

In the simplest form the Digital Economy helps by-

- Making Information available to the citizen,
- Boosting productivity by streamlining and automating processes,
- Increasing the State's competitiveness, and
- Creating new digital markets and jobs in digital industries.

4.1   Citizen services

The citizen services provide a window of information to the citizen of the State. Jharkhand has implemented a range of IT and ITeS services which are being used by the citizen and other stakeholders, and are assured by the State. Some of initiatives have been undertaken by Central Ministries and others by various departments of Jharkhand State Government to usher in an era of e-Government. Efforts have also been made at multiple levels to improve the delivery of public services and simplify the process of accessing them. Due cognizance has been taken of the central idea that to speed up e-Governance implementation across the various arms of Government at National, Jharkhand State, and Local government levels the services need to be robust and effective. A programme approach has therefore been adopted, guided by a common vision and strategy. This approach has the potential of enabling huge savings in costs through sharing of core and support infrastructure, enabling interoperability through standards, and of presenting a seamless view of Government to citizens. The ultimate objective of this effort is to bring public services closer home to citizens, as articulated in the vision statement of NeGP, "Make all Government services accessible to the common man in his locality, through common service delivery outlets, and ensure efficiency, transparency, and reliability of such services at affordable costs to realise the basic needs of the common man".

The government of Jharkhand is committed to develop the requisite IT infrastructure in the State to enable smooth functioning of all departments. As a part of the initiatives the State has given special emphasis on implementing Human Resource Development along with setting up of necessary IT framework, Policies and Procedures which facilitate timely and efficient implementation of these projects.

Other projects like the Chief Minister's Dashboard, File tracking system, Integrated Financial Management System (IFMS), Bharat Net or National Optical Fiber Network (NOFN), E-Office and WAMIS-Works Accounts Management Information System etc. are also being implemented by the State to the benefit of the citizen.

a) **CSR activity in IT and ITeS:** The Department of IT and e-Gov shall also form a CSR (Corporate Social Responsibility) unit which shall have the following tasks-

    i   Seek representation of IT and e-Gov dept. in the Jharkhand State CSR council- JSCSRC.

    ii   Seek notification to include IT and ITeS projects as a part of CSR projects to be financed by CSR council Jharkhand.

    iii   Recommend to the Department of IT and e-Gov on deserving proposals for CSR funding.

    iv   Prepare proposals for CSR funding by the State.

b) **Digital Empowerment:** The State shall promote digital literacy not only in urban and semi urban areas but also in rural areas. The State shall sponsor digital literacy programs specially designed for rural women so that they can use the latest intelligent communication devices and internet.

    i   The State will develop programs aimed at rural women to mentor them in usage of computers and mobile devices

    ii   The program will also include – Marketing, Branding and Media campaigns etc.

    iii   A campaign to teach women basic computer skills will be launched by the State under rural women education program – *'Mobile Sakshar har **Stri**, tarraki mein badhotri.*

c) **School IT Literacy:** The State shall proactively promote digital literacy in all government schools. All students above class 5 shall be mandatorily taught computer technology up to class 10th. The curriculum may be specially designed or may be acquired from NCERT etc.

d) **Cadre for IT employees in the government:** The State shall create a cadre for government employees who are qualified and willing to work in the IT domain. This cadre shall span from the district to the Department of IT and e-Governance at State headquarters.

4.2   Bridge between Government and Industry

The State shall build a robust bridge between the Industry and the Government. Bridges play a key role in building collaboration between industrial organizations and governments. The collaboration can take place at both the State and local levels. This collaboration brings in multiple benefits. First of all it ensures that both public and private institutions (Government and Industry) are working together towards common goals of public benefit thus avoiding duplication of effort and ensuring maximum impact, Secondly it enables civil society organizations to access

information and resources available both with Government and Industry so as to increase their effectiveness. Third it serves to bring innovative ideas and skills into government agencies in both the design of social policy and the delivery of services to the public. Last but not the least, the bridge brings in confidence in the investor that the State shall look after its genuine requirements. Governments on the other hand must adapt to a changing ecosystem in which the biggest challenges cross the boundaries of the public, private, and non-profit sectors. The need for government to collaborate with the business and non-profit worlds exists whether government is acting as a consumer of products and services, a provider of public goods, or an economic stakeholder. The activities which shall be held by Jharkhand are:

1. The State shall organise in collaboration with NASSCOM, MAIT, FICCI, ELCINA and other industry associations (both National and Local chapters of leading industry associations with substantial IT, ITeS and Communication following) at least two events per year (Product conclaves or Summits) in Jharkhand and two events per year outside Jharkhand at New Delhi, Mumbai, Chennai or Kolkata.

2. Setting up shop: The State shall encourage Industry associations unrepresented in Jharkhand to set up offices in Jharkhand. The government shall make available office space for the same at subsidised rates as decided by the allotting agency.

3. A Convention Centre shall be constructed at the IT Park/IT city/Smart City Ranchi for holding conferences, Seminars and events etc.

4. The State shall organise at least two conferences every year which are highly publicised and by leading industry associations/ community to promote investment in Jharkhand, professional development, public policy discussions and business networking. These conferences shall be held in Jharkhand.

5. The State shall participate every year in the National e Governance Awards held by DARPG, GoI and other important Awards. The selection and preparation of documentation shall start 6 months before the Awards every year. The State shall appoint an appropriate agency which shall coordinate with the departments to select an appropriate entry for the Awards.

6. The State shall add to the State Portal the details and links of the all the IT and ITeS related services being implemented by the State to educate the citizen about the services being offered.

7. IT and ITeS Industry will be encouraged to participate in International Exhibitions and Trade Fairs. Visits of trade delegations may also be supported financially by dovetailing with the schemes of Govt. of India.

8. Industry Associations will be provided with Assistance to participate in International Trade Fair as Jharkhand Pavilion outside India. A subsidy of 50% of the total rent subject to a ceiling of INR. 10 lakhs will be provided to the industry Association. Minimum participation of five industrial unit's will be necessary as part of the group to get this assistance from Jharkhand. Assistance shall be in the form of reimbursement and the association shall have to apply within three months from the date of such participation.

5 Government Procurement and Business Transformation

Governments have come under intense criticism for paying too much for products and services. Reducing the cost of government inputs (sourced mostly from the private sector) is one of the main possibilities for doing more with less. The State shall transform the process of doing business and make it fully transparent

1. Jharkhand government has accelerated the procurement process, made it transparent and lowered procurement costs through e-Procurement platform, which is extensively used by Government agencies to invite companies and citizen to submit responses to the requests for proposals. The basic principle is to engage private sector bidders in a joint discovery of the risks and benefits of initiative and to assess the capability, capacity and commitment of private sector bidders.

2. The State has also launched e-procurement portal http://jharkhandtenders.gov.in where all tenders are uploaded for procuring the items electronically using internet. The portal will help reduce the tendering cycle time and enhance the transparency in the entire procurement process. Users can check the 'Latest Active tenders' on the portal with details on opening and closing bidding date. A user can also filter the search by selecting 'Tenders by Organization', 'Tenders by Classification'. The portal is also used for important announcements regarding tenders. Online Bidding can be done through enrolment and creation of used ID and password. All tender documents can be downloaded using a Guest login provided on the website.

3. The State shall make this e-procurement portal more robust to cater to the needs of the State.

4. Local preference: All software and Hardware to be purchased by the Government shall have a local preference clause. Price preference as determined by department of IT and e-Gov from time to time, shall be given to locally produced S/W and H/W in all contracts provided the rest of terms and quality of goods remain same.

5. All procurement of INR 25000 or above by any State agency or department shall be done through e-procurement portal.

6. All Land records shall be computerised and computerised copies duly attested by concerned officers distributed within two years.

7. The State shall be transparent in all its financial transactions and shall put in public purview all reports on its transactions with private individuals or corporates. The IT and e-Gov department shall facilitate by building a separate section of the State web portal.

8. The State shall strive to be an ideal state for ease of doing business. The State shall improve its position to be a leader State for Ease of Doing Business and strive for getting a World Bank ranking of 1 in Ease of Doing Business.

9. All Departments of Government of Jharkhand shall earmark a minimum of 2%, of the plan Budget or as directed by Government of Jharkhand from time to time, for IT applications. This fund may be pooled together under a separate budget head to be administered by the Department of IT and e-Gov for sponsoring applications needed by the departments.

10. Consolidation of requirements: The State shall consolidate all the requirements of Software and Hardware under Dept. of IT and e-Gov. It shall be attempted that all software requirements shall be combined together into one Enterprise Architecture Solution, for convergence and coherence, into which individual applications can be added as required.

11. All hardware requirements shall be consolidated to form one Tender which will not only get the best prices but also the State can insist on a "Make in Jharkhand" solution.

6   Create a robust Knowledge Base

Knowledge bases can be one of the most powerful information support tools, yet far too many governments fail to give the attention and consistent cultivation they truly need. Knowledge bases empower governments to resolve issues independent of any physical support measures which may be outdated or late. They also provide users with the information and documentation they need to become experts in the area of current interest. In view of the vast dominion of governance it becomes a necessity that a pool of knowledge is maintained and regularly updated, for posterity. Secondly is the need to create additional bearers of knowledge who can periodically upgrade /update the knowledge base.

Gartner predicts that by start of 2016, Big Data demand will generate 4.4 million jobs in the IT Industry all around the world. In addition, each IT job will create 3 non-IT job opportunities as well. Thus reaching a mammoth figure of 13.2 million jobs, created by this new 'Information Economy' in the next 4 years. Gartner also predicts that due to lack of skills in the individuals, only 1/3rd of these jobs will be fulfilled. Data Experts are scarce in numbers and valuable in nature, which will make the organizations to focus on achieving these skills and retract such individuals. It is therefore urgent that the State makes a determined effort to create a robust knowledge base.

1. An Entrepreneurship Development Program (EDP) shall be started by the Department of IT and e-Gov. The entrepreneurship development programme with focus on IT and ITeS sector will be specially designed and implemented in consultation with the Department of IT and e-Gov / management institutes and experts. Technical and management experts, experts from institutes in Jharkhand and in surrounding areas will also be involved. One month training shall be made essential at Incubation centre in between the EDP course. All those who complete EDP program shall be allotted space in Incubation Centre if needed.

2. All government engineering colleges with seats in IT and/or Computer Technology will be assisted to increase their intake of students every year by 10% extra seats every year for next 5 years. Government colleges/institutes shall be assisted financially to increase staff strength. The College/institution will have to increase the teaching staff as well but this can be done in the following year, as immediate impact shall be minimal. A training of trainers shall also need to be conducted to upgrade and train the teachers.

3. The State shall Increase the number of institutes teaching IT and Computer science disciplines from among the colleges/ institutes of repute who do not have these disciplines. The State shall also assist private colleges of repute to include teaching of IT and Computer science disciplines.

4. The State shall start a program to facilitate the deployment of fibre and wireless broadband options to rural areas, as well as to promote rural access points in post offices and local Gram Sabhas through Jharnet.

5. Cloud computing- The State will develop a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources

(e.g., networks, servers, storage, applications and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction to save resources and finance. The use of Government Cloud services, shall be utilised for secure information. However private clouds providers services may be used for non-secure applications.

6. The State will promote government departments in implementing cloud based applications for geographically diversified applications. The "GI cloud strategic direction paper" and the "GI cloud adoption and implementation roadmap" of Government of India shall be used as implementation guidelines.

7. A Knowledge Centre is proposed to be set up in Dept. of IT and e-Gov to help government departments convert their applications to Cloud and IoT. The State shall support the students and entrepreneurs to develop their applications through the Knowledge Centre.

8. Big data- Current management does not intrinsically demand ICT-based information and communication networks, but a large quantity of data and analysis to meet modern global business needs. This generally requires decentralized data gathering that can be readily combined and compiled and given to the management. The State shall therefore promote the teaching of Cloud Computing and Big Data /Hadoop in the state so that team of trained users can be created.

9. Training for Government employees: The State shall sponsor the training of government employees in basic computer literacy and application software usage. The programs may be started in collaboration with NIELIT, GoI.

7   Promote Investments and Partnerships

7.1   General Incentives

Apart from the fiscal benefits available to the investors from Government of India the fiscal benefits covering the categories of (a) Micro, Small & Medium Enterprises (MSME) (b) IT based R&D companies(c) Start-ups and (d) Mega Projects (e) IoT and (f) Tier II Locations etc., are available to the industry in general from the State of Jharkhand.

1. Total Limit of incentives:

    The total fiscal incentives paid to a unit in Jharkhand shall not exceed 20% of the capital cost of the project excluding the cost of Land, Transfer fee and Registration charges.

2. Non Fiscal Incentives:

    a) IT, ITeS and Communication industry as Continuous Process industry:

    The IT, ITeS and Communication industry units shall be treated as essential industry and continuous process industry.

    b) Land Banks

    The State of Jharkhand shall create land banks in selected districts by acquiring a minimum of 200-500 acres of land and demarcating them as IT Parks/ IT SEZs with provision of basic IT infrastructure and connectivity.

    c) Allotment of Government land:

    i   Allotment of Government land in Jharkhand to the IT Industry shall be made subject to availability, fulfilment of eligibility criteria by the applicant IT/ITES company and on payment of land cost & development cost, as determined from time to time by the allotment agency, and the concerned local Statutory/ development Authority.

    ii   Export oriented units will be preferred in land allotment by the State.

    d) Power:

    IT industry shall be classified as industrial unit for the purpose of levying the industrial power tariff category. Industrial Power Certificate shall accorded to all the IT/ITeS Connections (Power Meter), and exclusively used by the IT industry and Communications industry companies/units (as per GoI definitions) for their operations, even in multiple locations/meters. The effective date of application of the incentive of Industrial Power Category tariff, is from the date of issue of the said Certificate by the Govt. of Jharkhand.

e) Electricity Duty

New IT / ITES units registered with the Directorate of Industries will be exempt from payment of Electricity Duty from the date of commencement of production / activity for a period of 10 years for units in IT parks (including IT hardware and Telecom hardware manufacturing units). The Electricity Duty would also be exempt for IT parks developed by IT companies for their own use. 100 % exporting IT/ITES units under registration of STPI or other designated competent authority shall be exempted from paying Electricity Duty.

f) Local preference:

All software and Hardware to be purchased by the Government shall have a local preference clause. Price preference of an amount determined by the IT and e-Gov department from time to time, shall be given to locally produced S/W and H/W and accessories and peripherals in all contracts provided the rest of terms and quality of goods remain same.

g) Make in Jharkhand:

All departments will mandatorily ensure that at least a percentage –to be determined by department of IT and e-Gov from time to time- of IT and ITeS purchases in financial terms are made of locally produced items. In the beginning this percentage share, at the discretion of the Principal Secretary/Secretary of the department concerned may be transferred to the next purchase in which case the next purchase shall have the sum total of the share to be purchased locally.

h) Single Window Assistance:

The Government of Jharkhand may provide a person from Single Window system, dedicated to investment assistance to the company executing IT, ITeS and e-Gov projects in order to expedite the investment process.

i) Fixed Time approvals:

i Procedural Reforms will be undertaken to provide timely approvals to the industry/ investors within two calendar months of filing requests acceptable to the government. This will involve-
a. All applications formats regarding starting of a new IT, ITeS and communication unit or extension of existing unit shall be made available free of cost through internet at the departmental web site. Hard copies shall be made available at "Single Window Assistance booth" at Nepal House, Ranchi. All forms shall also be made available at offices of Resident Commissioners at various National and State headquarters.

    b. A Common Integrated Application for all permissions shall be designed and used.

  ii Red Flagging and Escalation of delayed issues at various levels and regular monitoring of the same shall be done by 'Single Window Assistance'

j) Exemption from inspections:

    IT industry shall be exempt from inspections under the Acts and the Rules as under, barring inspections made for verification of specific complaints. The IT units are permitted to file self-certifications, in the prescribed formats for:

        a) The Factories Act, 1948
        b) The Maternity Benefit Act, 1961
        c) The Jharkhand Shops & Establishments Act, 1953
        d) The Contract Labour (Regulations & Abolition)
        e) Act, 1970
        f) The Payment of Wages Act, 1936
        g) The Minimum Wages Act, 1948
        h) The Employment Exchanges (Customary Notification of Vacancies) Act, 1959

k) Late Shifts for women:

  i Permission shall be available for 3 shift operations with women working in the night shifts also for IT / ITES Units / Companies, subject to the provision that the IT/ITeS/Communication units self-certifying the precautions being taken in respect of safety and security of employees. The certificate (on a required format) regarding employee women working in shifts after the General shift shall be submitted to the government every year.

  ii The company employing women after general shift shall be responsible for escorting the employee women to and fro the workplace by armed security guards.

l) Air Cargo Complex:

    Setting up of an Air Cargo Complex is proposed in the State, near the hardware production centre preferably. This would give the desired impetus to the export of Software and Hardware etc.

m) Exemption from Pollution control inspection

    IT, ITeS, Communication and associated entities and non-hazardous electronic hardware manufacturing entities shall be exempt from the inspection of the Jharkhand Pollution Control Act on consumption on or below 10 KW, barring inspections made for verification of specific complaints.

n) Setting-up IT/ITES units in any zone

   IT / ITES units (except IT hardware and Communication Hardware Manufacturing Units) shall be allowed to be set up in any zone (including residential zone).

o) Apprenticeship training for IT/ ITeS graduates:

   The State shall introduce legal provisions to make it essential for all IT/ ITeS graduates to have a three months apprenticeship training during the course of graduation. This training shall be made mandatory for the State.

3. Fiscal Incentives:

a) Registration:

   100% reimbursement of stamp duty, transfer duty and Registration fee paid by IT/ITeS and Communication technology industry (as per GoI definition) companies on sale/lease deeds on the first transaction only. This incentive shall not be provided in case of Government land.

b) Patent Filing:

   The Government of Jharkhand wishes to encourage the filing of patents by companies/institutions located within the State. The Government therefore proposes to create a pool of resources for successfully filing of patents. Colleges in the State of Jharkhand starting courses for Patent Filers shall be reimbursed the cost of INR 25,000 per candidate passing out subject to a maximum of 20 candidates per year. This subsidy shall be available to the first 5 colleges applying for the subsidy only.

c) Recruitment Assistance:

   Recruitment Assistance at the rate of INR 10,000 per employee for a minimum annual recruitment of 10 new IT/ITES professionals from the colleges located in physical limits of Jharkhand. This assistance will be managed and disbursed by JAP-IT (Jharkhand Agency for Promotion of IT).

d) Employment Rebate on cost of land allotted:

   i   A rebate on the cost of the land will be provided at the rate of INR. 30,000 per employee who is a resident of Jharkhand and has done above class 10th standard studies from Jharkhand, for IT projects other than Mega IT projects. The payment will be subject to a minimum of 10 employees and also subject to maximum of 80% of the land cost as determined by the allotment agency. Prescribed guaranties/securities would be taken from the sponsors of the project for the rebate.

e) FAR Relaxation:

> 50% more FAR over and above the permissible FAR of the place will be allowed by the concerned Authority / Urban Local Bodies for IT/ITES/Communication units in earmarked areas / IT Parks /SEZs/ STPs in consonance with other provisions of the prevailing Building Bye-laws. Necessary amendment, if required, will be done by concerned Authority / Urban Local Bodies with requisite permission of the Department of Urban Development.

f) Entry Tax

> IT / ITES units Registered with the Director of Industries shall be exempt from octroi / entry tax / escort tax or other cess or any tax levied in lieu of these for the import of capital goods and raw material for own consumption by the unit. Necessary advisory to the local bodies to give this benefit to the IT / ITES units shall be issued by department of IT and e-Gov, Jharkhand.

g) E-Waste Management:

> E-Waste management companies will be given 5% additional incentives to set up a disposal facility in Jharkhand. In case of investment beyond INR 5 crores for storage, disposal, recycling etc. the facility shall be provided with a Income Tax holiday (reimbursement) for 10 years and industrial power tariff.

7.2   Focus areas for specific incentives & facilitation

Apart from the above stated incentives that are available for IT companies from the entire ICT industry, the Government of Jharkhand has identified and listed down focus areas for which additional incentives are available. These include:

a. Mega project
b. Start-up companies
c. IT based R&D Companies
d. Tier II locations
e. MSMEs & Mid-Scale companies
f. Internet of Things

7.2.1   **Mega Projects:**

Specially/tailor made package of incentives, shall be offered for establishing mega projects in Jharkhand. The incentives shall be available to units duly approved by the State cabinet, for existing and new IT/ITES companies / IT Park / IT SEZ developers within the State.

1. Tailor made package of incentives shall be made available to leading –Edge – Technology Projects which will cover all the incentives to be provided to that particular unit to the exclusion of incentives available to other Mega Projects.

2. Power Generation: Mega projects shall be allowed to operate and maintain a captive power generation plant (only new and renewable energy as defined by Govt. of India), and a power distribution system for supplying electricity for running its operations. The Mega Projects shall be allowed to sell power on Power Exchange and also earn Carbon Credits.

3. Solar Power: The Mega Project shall be provided a 15% capital subsidy or INR 25 lacs, whichever is lower, on installation of solar power generation unit (of greater than 100KW) by existing as well as new IT company or IT infrastructure developer (exclusively for use of IT facility and its support services). The Capital Subsidy will be given only once to the developer/company, this will be in addition to subsidy provided by the Central Government for setting up solar captive power. Solar Power generation units will also enjoy 50% exemption from electricity duty for a period of 5 years.

4. Rebate on cost of land allotted: A rebate on the cost of the land will be provided @ INR. 20,000 per employee to the Mega IT Projects (defined elsewhere), subject to maximum of 80% of the land cost as determined by the allotment agency. Prescribed guaranties/securities would be taken from the sponsors of the project for the rebate.

5. The Government of Jharkhand will provide Single Window dedicated to investment assistance to the company executing mega project in order to expedite the investment process. The offices of a dedicated officer may also be considered in case of company executing project with capital investment of more than INR. 500 crores.

6. Capital/Investment Subsidy: 10% of total investment by the unit in building, plant, machinery, testing equipment, etc., subject to a maximum of INR Ten crores.

7.2.2   Start-ups:

The task of Jharkhand`s innovation initiative is to strengthen innovation as a driver of sustainable growth and improved standard of living of its populace. Jharkhand has always believed that technological innovation is always at the heart of economic and social development. In Jharkhand, we understand that innovation means the dissemination of something new in a given context and not necessarily something new in absolute terms. The State of Jharkhand shall therefore promote Start-ups and Incubators and entrepreneurs to successfully use the states open business climate and initiate companies. The Government of Jharkhand shall give due importance to the entrepreneurs and assist them to initiate start-ups in the State. In this direction the State has developed some additional incentives for start-ups and these shall be as follows:

1. A Hub and Spoke model has been conceived for implementing "Incubation Centres in IT". The model shall have Ranchi at the central hub and incubation centres at periphery under Universities/Institutes/Colleges of repute. Each of the peripheral incubation centres shall have a capacity to cater to about 5-10 entrepreneurs.

2. The Hub shall serve the role of a mentor to the units under its auspices. It shall be government funded

3. Free plug and play type office space shall be provided to each entrepreneur for 5 years by the incubation centre. Funds for this shall be provided by the State.

4. Each entrepreneur shall give a share of the company formed for incubation. The quantum of shareholding by State shall be decided later

5. The Dean of Computer Science/IT shall be the Chief Coordinator of the scheme at each incubation centre.

6. A Grants for supporting operational expenses in their incubator e.g. Salaries of Coordinators, mentoring programs, networking meetings, conducting Hackathons etc. shall be provided by the State.

7. Annual Financial support for projects for up to INR 5 lakhs per project shall be provided to deserving projects by the State. The selection of deserving projects shall be on application by the entrepreneur to the State designated agency.

8. Training and Capacity Building for Faculty and students as required will be provided.

9. The Government of Jharkhand shall provide 20% of the of the total program (Start Up Program) cost additionally towards setting up a PMU (Program management unit) at Ranchi Hub.

10. A pool fund of INR 10 crores each year for 5 years shall be created for funding the central Hub and the other incubation centres Universities/Institutes/Colleges.

11. A 25% incentive as subsidy on lease rentals up to INR 5 lakhs per annum for a maximum period of three years, for the plug-and-play type built up office space ranging from 1000 sq. ft. to 5000 sqft, leased by a Start-up in STPI, IT/multi-purpose SEZs/IT Parks(both Public & Privately promoted) for a period of 5 years.

12. 100% reimbursement of stamp duty, transfer duty and Registration fee paid by start-up IT/ ITeS and Communication Technology Company on sale/lease deeds on the first transaction only.

13. A three year moratorium on payment of all municipal duties.

14. A subsidy of 20% on all bandwidth acquired through STPI for its own use.

15. IT, ITeS, Communication and associated entities and non-hazardous electronic hardware manufacturing entities shall be exempt from the inspection of the Jharkhand Pollution Control Act on or below 10 KW.

16. A Start-up policy for the State covering all sectors shall be framed separately and shall override all the provisions made earlier and those made in this policy.

7.2.3   IT based R&D Companies:

Establishing a responsive research infrastructure depends principally on creating adequate competencies and laboratories with adequate funding mechanisms. These can not only ensure an appropriate and stable proportion of financing from State but also with other funding from contracts with industry and communities. An IT R&D company brings value to the State by promoting resident entrepreneurs. IT Corporates with R&D facilities have to attract, hire and retain high value professionals with remuneration higher than industry standards. In order to encourage such companies the following incentives are offered:

1. R&D grants: The Government of Jharkhand will provide specific R&D grants to IT companies to the maximum of 10% of entire manpower expenses on R&D operations of the company in Jharkhand. The company shall have to certify that the employees for whom the grant is availed are all engaged in   genuine R&D activities. Such R&D efforts of the company shall have to be verified by an independent State/Central University every 2 years.

2. International Patents: All international Patents filed from a unit doing research in Jharkhand under the PCT Act 1970 accepted by Patent office in India for IT, ITeS, ICT products shall be awarded INR. 1 Lakh per patent.

3. Uninterrupted Power Supply: The Government shall ensure uninterrupted supply of electricity to all IT/ ITeS and ICT units engaged in R&D, at industrial tariff. Necessary laws will be passed to facilitate this mechanism.

4. Establishment of Strategic Research Areas: Within 10 km. of Research universities/institutions like BIT Mesra Ranchi, IIIT, Kanke, NIT Jamshedpur, ISM Dhanbad etc. IT, ITeS and Communication industry shall be allowed to set up Industry-research units linked to the universities/institutions. The Project reports of the unit shall be evaluated by the concerned University for suitability of research and the technology employed and recommended to the State for funding. The disbursement of the funding shall be done by an empowered committee of Vice Chancellors/Directors of the participating universities/ institutes. The monitoring of the unit shall be done by a group constituted by the empowered committee. Corporates shall be allowed to sponsor complete Research in specific IT/ITeS/ICT areas and fund and establish Research Chairs at the Universities/Institutes. A pool fund of INR. 10 crore per year for a period of 5 years shall be set up by the State Government at a suitable government organisation to fund the research

5. IT, ITeS, Communication and associated entities and non-hazardous electronic hardware manufacturing entities shall be exempt from the inspection of the Jharkhand Pollution Control Act on or below 10 KW.

6. Performance Contracts: To increase in funding for university research, the State shall support University Research in areas of Information Technology through introduction of Performance Contracts for research funding and research oriented organisations. Legal provisions will be made in the contract act to support this. The contracts shall be between research institutions and government or between industry and research institution.

7.2.4 Tier-II Locations:

Tier II Locations are towns as classified by the State and which have good connectivity with State and National capital, lesser cost of living, lesser operations cost, availability of skilled human resources at lower cost, low commuting time, less costly commuting, but a good standard of living etc. As a matter of fact most possess first class living standards. These locations account for a substantial saving as compared to large cities. To promote Tier II locations and to motivate IT, ITeS and Communication industry to set up their operations in Tier II cities, the following specific incentives are offered:

1. 50% Exhibition stall rental cost or INR. 50,000, whichever is lower, will be reimbursed for participating in the notified national/international exhibitions limited to 9 sq.mts. of space.

2. The Government shall ensure uninterrupted supply of electricity at industrial rates.

3. A subsidy of INR. 20 Lakhs to the first 5 anchor units employing more than 150 persons for IT, and 250 persons for ITeS units, one in each district.

4. Apart from the above-mentioned benefits, the Government of Jharkhand shall provide certain incentives to companies starting ITeS services like Back office processing /BPO/Medical Transcription operations (as defined above) etc. in the State.

    a. 50% investment subsidy on fixed capital Investment, with a maximum limit per unit of INR. 20 Lakhs.

    b. Training subsidy of INR. 2,000/month/person for 3 months.

    c. 20% reimbursement on corporate Internet and Telephone charges for 3 years.

5. IT, ITeS, Communication and associated entities and non-hazardous electronic hardware manufacturing entities shall be exempt from the inspection of the Jharkhand Pollution Control Act below 10 KW.

6. IT/ITES units shall be eligible for reimbursement of 75% of NET VAT paid per annum up to a maximum of 75% of the total fixed capital investment for different duration depending on the location of the unit as shown in the table below

Sl. No.	Location of industry in Town	Duration Years

1.	A	5
2.	B	7
3.	C	9

7.2.5 MSME and other Mid-Scale Units, Scheduled Caste Scheduled Tribe, Women entrepreneurs and Underprivileged or Differently abled (Divyang) persons:

The following incentives are available to such units which fall under the definition of MSME of Government of India and SC/ST beneficiaries, women entrepreneurs and Divyangs:

1) Rent Subsidy: A subsidy of 50% on lease rentals for the plug and play built up office space taken by the start-ups / MSMEs/ first-generation technocrat entrepreneurs, SC, ST& Women Entrepreneurs either in STPI, IT/Multi-purpose SEZs/IT Parks or in any notified private area/location, for a period of 5 years.

2) Training Assistance: A reimbursement assistance @ INR. 10000 per IT Professional employed within a period of two years of establishing the unit, and employed by that unit for a minimum period of 3 years.

3) Bandwidth Subsidy: A Subsidy on Bandwidth for Connectivity to the tune of 20% paid to Internet Service Provider (ISP) shall be available on duly self-certified bills of the start-ups/ MSMEs/ first-generation technocrat entrepreneurs, SC, ST& Women Entrepreneurs.

4) A three year moratorium on payment of all municipal duties.

5) Schemes like ASIDE, Credit Guarantee Fund Trust Scheme, Cluster Development Programme for MSMEs, Credit Linked Capital Subsidy Scheme, Technology Up gradation Scheme being operated by Govt. of India and various other Promotional Schemes of different Ministries of Govt. of India are proposed to be suitably dovetailed for the benefit of MSM Enterprises of the State. Efforts will also be made to suitably complement these schemes enabling the entrepreneurs to avail maximum advantage of these schemes. Other schemes for SC/ST beneficiaries and Women entrepreneurs etc., shall be leveraged.

6) IT/ITES units shall be eligible for reimbursement of 75% of NET VAT paid per annum up to a maximum of 75% of the total fixed capital investment for different duration depending on the location of the unit as shown in the table below

Sl. No.	Location of industry in Town	Duration Years
1.	A	5
2.	B	7
3.	C	9

7) A subsidy of INR 15,000 per person shall be provided to the IT/ITeS unit employing Divyang (specially abled persons). A Training subsidy of INR. 2,000/month/person for 3 months shall also be provided.

8) IT, ITeS, Communication and associated entities and non-hazardous electronic hardware manufacturing entities shall be exempt from the inspection of the Jharkhand Pollution Control Act on or below 10 KW.

7.2.6 Internet of Things (IOT)

"IoT" or Internet of Things is the latest entrant in the Digital Space. The **Internet of Things (IoT)** has been defined in Recommendation ITU-T Y.2060 (06/2012) as a global infrastructure for the information society, enabling advanced services by interconnecting (physical and virtual) things based on existing and evolving interoperable information and communication technologies. IoT is a network of physical objects or things embedded with electronics, software, sensors, and network connectivity, are which enables these objects to collect and exchange data. Today billions of devices are connected to the Internet in what we call the "Internet of Things" or "IoT". India can play a vital role in the development of "IoT" domain. India can leverage its large IT software workforce with the planned/under implementation electronics and semiconductor manufacturing system (under "Make in India" program) and deliver innovative "IoT" products and solutions.

The Draft IoT Policy 2015 of the Government of India which is under finalisation mentions the number of Internet-connected devices (12.5 billion) surpassed the number of human beings (7 billion) on the planet in 2011, and by 2020, Internet-connected devices are expected to number between 26 billion and 50 billion globally. GoI plans to create an IoT industry in India of USD 15 billion by 2020. The benefits available to IoT R&D companies in Jharkhand, IoT Lab/Assembly/Systems Integration companies (as defined above) etc. are-

1) Government of Jharkhand proposes to create or promote at least Two IoT Hubs in Ranchi and Dhanbad in the State either by the Government or through private efforts (PPP).

2) Uninterrupted Power Supply: The Government shall ensure uninterrupted supply of electricity to all IT/ ITeS and ICT units operating as IoT, at industrial tariff. Necessary laws will be passed to facilitate this mechanism.

3) A three year moratorium on payment of all municipal duties.

4) A subsidy of 20% on all bandwidth acquired through STPI for its own use for the first 3 years.

5) IoT and associated entities and non-hazardous electronic hardware manufacturing entities shall be exempt from the inspection of the Jharkhand Pollution Control Act on or below 10 KW.

6) International Patents: All international Patents filed from an IoT unit doing research in Jharkhand under the PCT Act 1970 accepted by Patent office in India for IT, ITeS, ICT products shall be awarded INR. 1 Lakh per patent.

7) 50% Exhibition stall rental cost or INR. 50,000, whichever is lower, will be reimbursed for participating in the notified national/international exhibitions limited to 9 sq.mts. of space.

8) Lease Rentals: Reimbursement of 50% of Lease Rentals paid to the IoT Hub/ infrastructure provider, for leasing IoT office space, subject to a maximum of INR Ten lakhs per annum, for a period of 5 years.

9) Capital/Investment Subsidy: 10% of total investment by the unit in building, plant, machinery, testing equipment, etc., subject to a maximum of INR Five crores.

10) A Knowledge Centre is proposed to be set up in Dept. of IT and e-Gov to help government departments apply IoT efficiencies in their systems and applications. The State shall support the Knowledge Centre by providing qualified and experienced and competent staff in IoT.

8   Strategic Engagement to Innovate and Grow:

Information and communication technologies have over the years become to be a major factor in shaping the new global economy and producing rapid changes in society. Within the past decade, new ICT tools have fundamentally changed the way people communicate and do business. They have produced significant transformations in industry, agriculture, medicine, business, engineering and other fields. They also have the potential to transform the nature of education-where and how learning takes place and the roles of students and teachers in the learning process.

The most important driving force in all this has been Education and Innovation. There is no question that innovation is one of the most powerful ways to drive growth in today's challenging economic environment. To stay successful, governments must constantly look for the latest emerging trends including technology and incorporate the most relevant ones into their governance. This makes it critical to find new ways to innovate and learn from the approaches of the most successful innovators. Growth of any nation can be identified with the way it educates its citizen and innovates. To accomplish these goals, Jharkhand government shall work closely and effectively with Technology leaders, national or state educational agencies, and business and community organizations, politicians and other important stakeholders.

Despite the emphatic stress laid on education and training in this country, there is still a shortage of skilled manpower to address the mounting needs and demands of the economy. As an immediate necessity that has urgently arisen from the current scenario, the government is dedicatedly striving to initiate and achieve formal /informal skill development of the working population via education/vocational education/skill training and other upcoming learning methods.

India, however, has a big challenge ahead as it is estimated that only 4.69% of the total workforce in India has undergone formal skill training as compared to 68% in UK, 75% in Germany, 52% in USA, 80% in Japan and 96% in South Korea. While the debate onthe exact quantum of the challenge continues, there is no disputing the fact that it is indeed a challenge of formidable proportion.[1]

Jharkhand has 14 universities/ institutes of national importance (1 central, 7 State Public, 3 State private, 2 deemed and 1 institute of national importance). The premier institutions in the State are –

   a. Birla Institute of Technology , Mesra, Ranchi
   b. Birsa Agriculture University, Ranchi
   c. Birsa Institute of Technology, Sindri
   d. Central University of Jharkhand, Brambe, Ranchi
   e. Indian Institute of Management, Ranchi
   f. Indian School of Mines(now IIT), Dhanbad
   g. National Institute of Technology, Jamshedpur

---

[1] NATIONAL POLICY FOR SKILL DEVELOPMENT AND ENTREPRENEURSHIP 2015

h. National Institute of Foundry and Forge Technology, Khunti Rd, Hatia, Ranchi
i. National University of Study and Research in Law, Ranchi
j. Xavier Labour Relationship Institute, Jamshedpur

The objective of the National policy on Skill Development and entrepreneurship is to expand on outreach, equity and access of education and training, which it has aimed to fulfil by establishing several industrial training institutes (ITIs), vocational schools, technical schools, polytechnics and professional colleges to facilitate adult leaning, apprenticeships, sector-specific skill development, e-learning, training for self-employment and other forms of training.

The sectorial manpower requirement of Jharkhand [2] in the field of IT and ITeS has been identified at 5.3 Million at an annual CAGR of 9.2 % growth between 2008 and 2022.

a. Chief Ministers Fellowship- The State shall institute a fellowship in the selected university/institute wherein students after completing their course shall have the option to come back to the university/institute after 2-3 years working experience, under "**CM fellowship program**" to conduct research or further studies in IT/ITeS.

b. The government of Jharkhand therefore proposes to provide holistic sustenance through all its initiatives in the form of necessary infrastructure support and policy support. The State shall actively engage with Technology leaders to start their educational programmes in prominent colleges of Jharkhand.

c. Governments of many States and union territories have supported the idea in their inputs to the HRD Ministry for the new education policy allowing foreign universities to operate in India. Though some universities like the London University have collaborations with Indian colleges to provide international degrees. The number of international universities operating in India is very low. The State will therefore actively promote International Institutes/ Universities to set up shop in Jharkhand and the Jharkhand universities/ institutes shall form linkages with them.

d. The State shall introduce legal provisions to make it essential for all IT/ ITeS graduates to have a three months apprenticeship training during the course of graduation. This training shall be made mandatory

---

[2] Census 2011, Ministry of HRD, UGC, AICTE, NCTE, MHRD and INC, UGC Annual Report 2013-14.

9   Cyber Security: Understanding threats and responses:

The Cyber Security serves several purposes. The main purpose is to inform the government users- employees, contractors and other authorized users- of their essential requirements for protecting the Data, Information, Technology and Information assets of the Government. A Cyber Security Policy describes the technology and information assets that we must protect and identifies many of the threats to those assets.

a) The Director of the Department of Information Technology and e Governance (IT and e-Gov) shall serve as the Chief Information Officer for the State. The selected Nodal Officer of the concerned department in IT shall be designated as the Security Administrator for the Department.

b) The Government information must be protected from unauthorized access, theft and destruction. The technology and information assets of the government are made up of the following components:
   i. Computer hardware, CPU, disc, Email, web, application servers, PC systems, Laptops, application software, system software, etc.
   ii. System Software including: operating systems, database management systems, and backup and restore software, communications protocols, and others.
   iii. Application Software: used by the various departments within the government. This includes custom written software applications, and commercial off the shelf software packages.
   iv. Communications Network hardware and software including: routers, routing tables, hubs, modems, multiplexers, switches, firewalls, private lines, and associated network management software and tools.

c) Government information found in computer system files and databases shall be classified as either confidential or non-confidential. The concerned Department shall classify the information controlled by them.

d) Classification of Information: The information shall be classified as follows-

   i. **Externally accessible to public.** The application or system may be accessed via the Internet by persons outside of the government without or with a temporary logon id or password. The system may or may not be behind a firewall in a Data Centre (SDC). A public Web Portal is an example of this type of system.
   ii. **Secure Government but Externally accessible**. Users of the system must have a valid logon id and password. The system must have at least one level of firewall protection between its network and the Internet. The system may be accessed via the Internet or the private Intranet. A departmental Intra or Internet based application is an example.
   iii. **Internally accessible only.** Users of the system must have a valid logon id and password. The system must have at least two levels of firewall protection

between its network and the Internet. The system is on Intranet within government only. The system is not visible to Internet users. A private intranet Web Server is an example of this type of system.

e) The term "security incident" is defined as any unforeseen, irregular and adverse event that threatens the security, integrity, or availability of the Government information or resources on any part of the Government network. Some examples of security incidents are:
   i. Illegal access of a Government computer system. For example, a hacker logs onto a production server and copies the password file.
   ii. Damage to a Government computer system or network caused by illegal access. Releasing a virus or worm is an example.
   iii. Denial of service attack against a Government web server. For example, a hacker initiates a flood of packets against a Web server designed to cause the system to choke up or crash.
   iv. Malicious use of system resources to launch an attack against other computer outside of the Government network.

f) All Employees, who have any reason to believe that their Laptop, terminal or computer systems has been compromised and subjected to a security incident, or has otherwise been improperly accessed or used, should report the situation to their Cyber Security Administrator immediately. The employee should not turn off the computer or delete suspicious files. Leaving the computer in the condition it was in when the security incident was discovered will assist in identifying the source of the problem and in determining the steps that should be taken to remedy the problem.

g) Unauthorised emails shall not be used for official communication. Only NIC or any other mail as informed by the State shall be used.

h) Cert-In guidelines shall be circulated to all the Nodal Officers/ Cyber Security Administrators of the departments.

10   Annexures

Definitions:
1) *MSME Enterprises are defined as per the MSME Act 2006, which may be -*
    i   *MSME are those units engaged in the manufacture or production, processing or preservation of goods as specified below:*
    ii   *A micro enterprise is an enterprise where investment in plant and machinery does not exceed INR. 25 lakh, or as defined by Government of India from time to time;*
    iii   *A small enterprise is an enterprise where the investment in plant and machinery is more than INR. 25 lakh but does not exceed INR. 5 crore or as defined by Government of India from time to time;*
    iv   *A medium enterprise is an enterprise where the investment in plant and machinery is more than INR.5 crore but does not exceed INR.10 crore. In case of the above enterprises, investment in plant and machinery is the original cost excluding land and building and the items specified by the Ministry of Small Scale Industries vide its notification No.S.O.1722(E) dated October 5, 2006 , or as defined by Government of India from time to time.*

2) *Start-ups are defined as –*
    i   *Any start-up certified by Start- up Certification Board as having innovative business. For this purpose a Start-up shall mean an entity incorporated or registered in India not before 5 calendar years with annual turnover not exceeding INR 25 crores in any of the preceding financial years, working towards innovation, development, deployment or commercialization of new IT products, processes, or services driven by Technology or intellectual property.*
    ii   *Provided such entity is not formed by splitting up or reconstruction of a business already in existence.*
    iii   *Provided also that the entity shall cease to be a start-up if its turnover for any of the previous financial years exceeds INR 25 crores or it has completed 5 calendar years from the date of incorporation/registration.*
    iv   *Provided that the entity shall be eligible for availing benefits under this policy only after it has obtained certification from the Start-up Certification Board.*

3) *IT Enabled Services (ITeS) shall mean service rendering through application of IT and shall include the following:*
    i.   *Call Centres*
    ii.   *Medical Transcriptions*
    iii.   *Back Office Operation/Business Process Outsourcing (BPO)*
    iv.   *Knowledge Process Outsourcing (KPO)*
    v.   *Insurance claim Processing*
    vi.   *Web/Digital Content Development*
    vii.   *ERP / Software and Application Development*
    viii.   *Financial and Accounting Processing*
    ix.   *HR & Payroll Processing*
    x.   *IT enabled banking, non-banking services including insurance, pension, Asset Management and market related services*
    xi.   *Depository and Security registration and dematerialization services*
    xii.   *Any other services as defined by Govt. of India from time to time*

4) *Mega Projects are defined as–*
    i   *ICT projects with present employment of more than 300 persons in the case of IT and 500 in the case of ITES unit and an annual turnover of more than INR 100 crores for the last 3 years.*

5) *Internet of Things or IoT Units – Any entity engaged in the activity of IoT, i.e., IoT is the network of physical objects or things "embedded with electronics, software, sensors, and network connectivity, which enables these objects to collect and exchange data. IoT entities also includes those companies/entities, with technology background, which builds up IoT Hubs/Infrastructure required for the IoT companies to come and operate in plug-and-play and walk-to-work kind of office environment of international standards. For this purpose, IoT means and includes Internet of Services (IoS) also.*

6) *Based on the above definition, the IoT segment is broadly classified as:*
    i.   *IoT R&D - Companies engaging in (a) Research and development of IoT applications, Mobile apps, embedded solutions, related software etc., (b) Sensors, Hardware, devices and related equipment (c) communication technology & transmission infrastructure and related devices)*
    ii. *IoT Lab/Assembly/Systems Integration - Companies engaging in import, integration and packaging of sensors and devices based on the designs from IoT R&D companies and/or based on their internal design. Also, includes Companies working on integration and implementation of off-the-shelf hardware/software products/technologies, among other products/technologies, for implementation of concepts such as Smart City/Future City/Safe City, smart security, smart surveillance, smart traffic, & smart management of 5 grids, i.e., water, power, gas, road, fiber grids/utilities and 7 growth missions of Swarnandhra Pradesh – the Sunrise State of India - namely, Primary Sector Mission, Social Empowerment Mission, Knowledge and Skill Development Mission, Urban Development Mission ,Industry Sector Mission, Infrastructure Mission and Service Sector Mission*
    iii. *IoT Device & Hardware Manufacturing - Companies engaging in design and fabrication of IoT related devices and components. OEMs/ODMs, Foundries and other fabrication units*
    iv. *IoT Software Applications and Analytics - Companies engaging in the development of Software Applications that support collection, transformation, loading and analytics on the data/information from IoT devices and applications*
    v.   *IoT Hubs/Infrastructure - IoT office space suiting to the requirements of segments a- d mentioned at para 2 herein , along with Common Amenities such as incubation centre, skill development centers, business support services, administrative block, Employee Rest and Recreation Facilities, Education and Financial Institutions and Business Auxiliary Services, etc.*

7) *The products notified for providing preference to domestic manufacturers are as follows by Department of Electronics & IT, Govt of India*

	Indicative List of Generic Products
1	*Notebooks and Netbooks*
2	*Tablets*
3	*Desktops & Servers*
4	*Printers*
5	*Keyboards*
6	*Monitors*
7	*Storage USBs, Memory Cards*
8	*CCTV and Surveillance Cameras*
9	*ATMs*

10	Photocopiers & Scanners
11	Faxes
12	Smart Cards
13	Mobile Handsets
14	Hand Held Terminals
15	PC Projector
16	POS based devices

	Indicative List of Telecom and Network Products
1	SIM Cards (Personalisation and OS in India)
2	Encryption/UTM platforms (TDM and IP)
3	Core/Edge/Enterprise routers
4	Leased line Network equipment
5	Ethernet Switches (L2 and L3), Hubs, etc.
6	IP based Soft Switches, Media gateways
7	Wireless/Wireline PABXs
8	CPE (including Wi-Fi Access points and Routers, Media Converters), 2G/3G Modems, Leased-line Modems, data cards etc.
9	Set-Top Boxes for gaining access to internet
10	SDH/Carrier-Ethernet/Packet Optical Transport equipment's
11	DWDM/CWDM systems
12	GPON equipment's
13	Digital Cross-connects/MUXs
14	Small size 2G/3G GSM based Base Station Systems
15	GSM 2G & 3G/4G, CDMA based wireless Access Systems including BTS, BSC, MSC, Media gateway, media server, GGSN, SGSN, Node B , RNC, E Node B, EPC, HLR, SMSC & other subsystems
16	LTE based broadband wireless access systems (eNodeB, EPC etc.)
17	Wi-Fi based broadband wireless access systems (Access Point, Aggregation Block, Core Block, etc.)
18	Microwave Radio systems (IP/Hybrid)
19	Software Defined Radio, Cognitive Radio systems
20	Repeaters (RF/RF-over-Optical), IBS, and Distributed Antenna system
21	Satellite based systems —Hubs, VSAT, etc.
22	Copper access systems (DSL/DSLAM),Optical Fibre, Optical Fibre Cable
23	Network Management systems
24	Security and surveillance communication systems (video and sensors based)