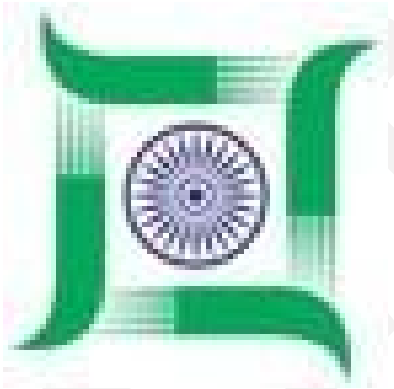
Draft Jharkhand IOT Policy 2017



Department of IT & E-Governance.
Government of Jharkhand

Draft Jharkhand Internet of Things (IoT) Policy

1) IoT Vision:

Use the Internet of Things potential to improve our lives, our work places and our industrial efficiencies and capabilities while taking into account security, privacy and trust requirements.

2) Definition :

Internet of Things (IoT) is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction. – as per The Government of India Phones, Tablets and PCs are not included as part of IoT.

The Internet of Things, can be a person with a heart monitor implant, a farm animal with a biochip transponder, an automobile that has built-in sensors to alert the driver when not fully aware of his driving or when tire pressure is low -- or any other natural or man-made object that can be assigned an IP address and provided with the ability to transfer data over a network. IoT has evolved from the convergence of wireless technologies, micro-electromechanical systems (MEMS), micro services and the internet.

3) IoT and World Transformation -

The world is in the midst of a dramatic transformation from isolated systems to Internet-enabled devices that can network and communicate with each other and the cloud. Commonly referred to as the Internet of Things (IoT), this new reality is being driven by the convergence of increasingly connected devices, compute and data economics, and the proliferation and acceleration of cloud and big data analytics.

While some people consider IoT to be M2M communication over a closed network, that model is really just an intranet of things, with Intranet of Things, apps are deployed for a specific purpose and don't interact outside of that network. This shift in technology is generating unprecedented opportunities for the public and private sectors to develop new services, enhance productivity and efficiency, improve real-time decision making, solve critical societal problems, and develop new and innovative user experiences.

In India, with more than 120 firms offering solutions in the IoT segment, and more than 70 per cent of IoT start-ups offering innovative solutions since 2010 with cumulative investment of around USD 60 million since 2014, there are tremendous opportunities for further growth.

4) IoT in Jharkhand -

To address immediate and future market demands for the IoT, the Jharkhand Government is focused on accelerating the development and deployment of intelligent devices, creating "systems of systems"

by horizontally connecting the edge of IoT solutions to the cloud, and enabling end-to-end analytics to transform business. Among its many capabilities, a successful end-to-end strategy makes existing intelligent and secure to reliably filter and manage data locally – so that they can seamlessly interact with each other as well as new devices and infrastructure.

Game changing enablers for IoT in Jharkhand are:

a) Decrease in sensor and Electronics costs- Commercial cost of fully functional computer (Raspberry PI Zero).
b) Increase in computing power and mobility- Computing power of a phone exceeds total power of all NASA computers used for Apollo 11 mission to the moon.
c) On demand cloud computing- Storage cost of 1 GB of data decreased.
d) Decrease in cost of connectivity- Transfer cost of 1mb of data dropped.

5) IoT Goals –

A vibrant and state-of-the-art IoT ecosystem is critical to our State's global competitiveness and economic stability in the 21st century.

Some important statistics[1] for India are:

- The Worldwide Internet of Things (IoT) market is poised to be a USD 328 billion market by 2020.
- The IoT software capabilities and services market is poised to reach USD 262 billion, occupying the largest space in the IoT market.
- The IoT market in India is poised to reach USD 15 billion by 2020 accounting year for nearly 5 per cent of the total global market.
- In addition, over USD 1 billion investment have been committed by the Indian Government on building 100 smart cities every year for next 5 years.

The Government of Jharkhand shall work with industry to establish a long-term goal that will help Jharkhand leads India with IoT solutions. A State's policy framework shall be encouraged for the development of a robust IoT ecosystem that promotes critical capabilities, including connectivity and interoperability, privacy and security, and intelligent analytics and big data.

To accelerate and maintain the long term viability of the IoT, the policy framework also encourages solutions based on horizontal building blocks and an open architecture – one that is scalable, interoperable, and reusable across deployments, vendors, and sectors. The State's public policy framework shall contemplate tools to accelerate IoT adoption and enable cost-effective introduction of new technologies, including open standards efforts, targeted State funding, and impactful public-private partnerships.

A vibrant and state-of-the-art IoT ecosystem is critical to our states's global competitiveness and economic stability in the 21st century.

- The Jharkhand Government should work with industry to establish a long-term goal that Jharkhand leads India with IoT solutions, with short-term milestones may be put in policy to track the State's achievement.

[1] Source: NASSCOM

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- To accelerate and maintain the long term viability of the IoT, the policy framework should encourage solutions based on horizontal building blocks and an open architecture – one that is scalable, interoperable, and reusable across deployments, vendors, and sectors.
- The State's public policy framework should contemplate tools to accelerate IoT adoption and enable cost-effective introduction of new technologies, including open standards efforts, targeted State funding, and impactful public-private partnerships.

6) IoT units under this Policy:

a) IoT Laboratories/Assembly units /Systems Integration units - Units engaging in system integration of IoT components, assembly and packaging of sensors and devices based on the internal designs or designs from IoT units including R&D units. Units integrating and implementing of off-the-shelf hardware/software products/technologies, for implementation of concepts such as Smart City/Future City/Safe City, smart security, smart surveillance, smart traffic, smart agriculture & smart management of Govt. Of India defined water, power, gas, road, fibre grids/utilities.

b) IoT Devices & Hardware Manufacturing - Units engaged in design and fabrication of IoT related devices and components. OEMs/ODMs, Foundries and other fabrication Lab units.

c) IoT Software Development and Data Analytics units - Units engaging in the development of Software Applications that support collection, transformation, loading and analytics on the data/information from IoT devices and applications.

d) IoT R&D Units - Units engaged in
   (a) Research and development on IoT applications, Mobile apps, embedded solutions, related software etc,
   (b) Sensors, Hardware, devices and associated equipment
   (c) Communication and transmission infrastructure related devices

e) IoT Hubs/Technology Parks for IT and ITeS with more than 50% space leased out to IoT units - IoT office space suiting to the requirements of IoT units along with Common Amenities such as incubation centres, skill development centers, business support services, administrative functions related to IoT units Employee Fooding, Rest and Recreation Facilities, Education and Financial Institutions and Business Auxiliary Services, etc.

7) Building Blocks of IoT:

- Application and user interaction- It is a collaboration involving people, applications and business process. Typical examples of applications are weather information apps, security systems, field data collection and display software, industrial control hub, etc. All the software applications and cloud services are custom built for specific requirements and various tools could be used for making them.
- Cloud Server: Comprise computing systems /platforms such as enterprise and cloud with real time processing and data analytic capacity, storage and content delivery and application hosting. Cloud based service or Big Data end-application is the end point in IoT system which is essential to reap true benefits of deployed hardware.

- Network (connectivity): Connectivity is essential in any networked system. This may be wired or wireless in nature, each of which may may depend on what the application requires and what is available. A unit may use WiFi, ZigBee, VPN, Cellula 2G/3G/4G/5G or land line for local network communication and use RS485 or RF links for long range communication.
- Gateway: Communication standards and protocols that enable connectivity down to sensors and up to the network.
- Physical objects and devices: The objects are equipped with Sensors and Actuators and thus given the ability to emit accept and process signals. The Sensors convert the information from a physical environment to a signal whereas the Actuators act on signals from the sensors and convert it to output.

8) IoT Applications in governance :

Some of the key aspects of IoT in governance will be:

i Smart city
ii Smart water
iii Smart environment
iv Smart health (remote)
v Smart waste management (cities)
vi Smart agriculture
vii Smart safety
viii Smart supply chain & logistics

Among other things, IoT can help automate solutions to problems faced by various industries like energy, security, disaster management etc. through remotely connected devices.

9) Capacity Building:

i. IoT Hubs- 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).
ii. Setting up a Centre of Excellence for IoT- A Knowledge Centre is proposed to be set up by the 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.
iii. Academics - The idea of IoT and innovation among all the students in every aspect of industrial/economic activity is essential for promoting the culture of innovation in the people. This needs to be achieved through strong educational support to provide pre-trained manpower in emerging technologies and to foster a culture of IoT entrepreneurship.
iv. Syllabus upgradation: All State and Central Universities will be advised to change the course curriculum to be in tune with the emerging technologies and align to the requirements of the Industry, and to introduce courses in IoT entrepreneurship development through incubators.

10) Incentives

I. Non Fiscal Incentives

a) Term- This policy shall be effective for a period of Five (5) calendar years.

b) Adoption of IoT proposals/products for implementation: The eligible IoT proposals/products for adoption and implementation by Government of Jharkhand shall be adopted.

c) IT, ITeS and Communication industry as Continuous Process industry: The IoT industry units shall be treated as essential industry and continuous process industry.

d) Land Banks: The State of Jharkhand shall create land banks in selected districts by acquiring land and demarcating them as IT Parks/ IT SEZs with provision of basic IT infrastructure and connectivity.

e) Allotment of Government land:

(1) Allotment of Government land in Jharkhand to the IoT Industry shall be made subject to availability, fulfilment of eligibility criteria by the applicant of IT/ITES based IoT 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.

(2) Export oriented units will be preferred in land allotment by the State.

f) Power: IoT 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.

g) Local preference: All software and hardware to be purchased by the Government shall have a local preference clause. Price preference of an amount 100% of the order quantity shall be given to locally produced IoT S/W and H/W and accessories and peripherals if the same is within 20%(+ or -) of the best bid price, in all contracts provided the rest of terms and quality of goods remain same.

h) 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 IoT, 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.

i) Single Window Assistance: The Government of Jharkhand may provide a person from Single Window system, dedicated to investment assistance to the company executing IoT projects in order to expedite the investment process.

j) Fixed Time approvals: 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-

I. 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.

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

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

k) Exemption from inspections: IoT 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:

- The Factories Act, 1948
- The Maternity Benefit Act, 1961
- The Jharkhand Shops & Establishments Act, 1953
- The Contract Labour (Regulations & Abolition)Act, 1970
- The Payment of Wages Act, 1936
- The Minimum Wages Act, 1948
- The Employment Exchanges (Customary Notification of Vacancies) Act, 1959

l) Late Shifts for women: Permission shall be available for 3 shift operations with women working in the night shifts also for IoT/ 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.

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

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m) 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.

n) Exemption from Pollution control inspection: IoT and associated entities and other 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.

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

p) 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. This will be applicable to IoT units also. Necessary amendment, if required, will be done by concerned Authority / Urban Local Bodies with requisite permission of the Department of Urban Development.

q) Self-certification of Building drawing & Design: All Private IOT Hub / Technology parks with more than 50% space leased to IOT units / IT Parks/ IT Towers under STPI, MeitY, GoI Scheme / IT SEZ Scheme will be allowed for self-certification for their Building Design & Drawing by their architect subject to follow all necessary guidelines of State Building bylaws.

r) 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 technical education. This training shall be made mandatory for the State. Government will facilitate collaboration educational institutes with industry for apprentice ship

II. Fiscal Incentives

i. 100% reimbursement of the Stamp Duty, Transfer Duty and Registration Fee paid by the respective IoT entity to the Sub /Registrar, Registration & Stamps Department, on rental/lease premium/ lease deeds on the first transaction only.

ii. Recruitment Assistance: Recruitment assistance at the rate of INR 20,000 per employee for a minimum annual recruitment of 10 new IT/ITES professionals from the colleges located in physical limits of Jharkhand. The assistance shall be paid for employees whose tenure in the unit is minimum one year. This assistance will be managed and disbursed by a nodal agency nominated by the State. The assistance will be provided once each in 2nd, 3rd and 4th year of starting the unit.

iii. Employment Reimbursement on cost of land allotted: A reimbursement on the cost of the land will be provided at the rate of INR. 30,000/-(Thirty Thousand) per employee who is a resident of Jharkhand mentioned in Residential certificate for an individual issued by State Government or has done above class 10th studies from Jharkhand. The reimbursement shall be available for three years (once in a year) from the start of operations. The payment will be subject to a minimum of 10 employees and also subject to total 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.

iv. Reimbursement on cost of certification: The State shall reimburse 50% of the cost of certification, subject to a maximum of INR 5 lakhs, in Leading edge emerging technologies, as decided by the department of IT and e-Gov from time to time. The employees should be a resident of Jharkhand as mentioned in Residential certificate for an individual issued by State Government, subject to the condition that the employee remains in the unit for a minimum 3 years.

v. Reimbursement of Provident Fund: Reimbursement of PF to a maximum of 50% per month per employee of the provident fund paid by the unit for all created positions by units in the notified units for a period of 5 years, subject to the condition that such employment created is sustained for a minimum of 2 continuous years. The reimbursement will be paid only after the verification of employment data from the PF submission.

vi. Income Tax Reimbursement: Income Tax for all units started new within 5 calendar years of the Cabinet Approval of this IoT Policy shall be reimbursed to the unit by the State.

vii. Technology Acquisition: The State will reimburse upto 50% of the cost of technology acquisition upto a maximum of INR 1Crore every 5 years. This acquisition reimbursement would be valid for acquisition of new technologies which enhance the capacity and capability of the unit.

viii. Reimbursement of certification cost: Certification cost towards relevant certification like CMM/CMMi, ISO or other for a maximum of 3 certifications shall be reimbursed subject to a maximum of INR 25 Lakh per unit.

ix. Uninterrupted Power Supply: The Government shall ensure uninterrupted supply of electricity to all operating IoT units, at industrial tariff. Necessary laws will be passed to facilitate this mechanism.

x. 100% Reimbursement from Electricity duty: to IoT entity, for a period of 5 years, subject to the condition that meter/power service connection shall be in the name of the IoT entity.

xi. Municipal Duties: A three year moratorium will be provided on payment of all municipal duties for IoT units registered with the Single window Scheme.

xii. Bandwidth: A reimbursement of 25% on all bandwidth for own use of IoT unit for the first 3 years.

xiii. IoT and its 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.

xiv. 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 IoT related IT, ITeS and ICT products shall be awarded INR. 5 Lakh per patent.

xv. Exhibition stall rental: 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.

xvi. Lease Rentals: Reimbursement of 50% of Lease Rentals paid to the IoT Hub/ DTP/Technology Park with more than 50% IoT leased out space to provider, for leasing IoT office space, subject to a maximum of INR Ten lakhs per annum, for a period of 5 years, which shall be linked to the employment generated by the unit at 100sft per employee working for the 12 calendar months.

xvii. Capital/Investment Reimbursement: 50% of total investment by the unit in building, plant, machinery, testing equipment, etc., subject to a maximum of INR 5 crores.

xviii. Reimbursement of Property Tax: 50% Reimbursement of Property Tax paid to the Local Municipal Authorities by the IoT Hub/ Technology park with more than 50% leased out to IoT units, proportionate and limited to the built up IoT office space, rented/leased to the IoT/Software Application Development companies /System Integrators/Hardware manufacturing units and graduated IoT Start-Up Units.

xix. Reimbursement of Insurance Premium: A 50% Reimbursement of Insurance Premium on IoT hub/Technology park with more than 50% of the space leased out to IoT units having the Building insured, proportionate and limited to the built up office/shed space rented/leased to the IoT/Software Application Development companies /System Integrators/ IoT manufacturing units and graduated Start-Up Units, for 3 years.

xx. Facility Management Reimbursement: 75% Reimbursement of facility maintenance charges in the first year by an IoT hub/ Technology park wit more than 50% leased out to IoT units, and 50% in second year and 25% in the third year paid to Facility Management Companies, proportionate and limited to the built up office/shed space rented/leased to the IoT /Software Application Development companies/System Integrators/ IoT manufacturing units and graduated Start-Up Units, subject to a maximum of Rs.10 lakhs per annum.

xxi. Interest Reimbursement: Reimbursement of 10% of the total interest paid on the loan obtained from any Scheduled commercial Bank, for Construction of IoT Hub/ Technology Parks for IT and ITeS with more than 50% space leased out to IoT units /IoT facilities for initial two years subject to a maximum of Rs. 20 lakhs.

xxii. Reimbursement on Cleaner/Greener Production: A 25% reimbursement will be provided to the units on undertaking cleaner/ green production measures as certified by an independent body nominated by the Government of Jharkhand, limited to Rs.10 Lakhs per unit.

xxiii. Reimbursement on development of Common Facilities : A 50% Reimbursement will be made of onetime costs only on creating common infrastructure like Conference hall(s), meeting rooms, with equipment such as projection/audio/video systems, Server room, Cafeteria, common toilets, reception and waiting area etc. for the use by entire building\IT facility, subject a maximum of Rs.20,00,000/- .

xxiv. Power Generation: IoT Hubs 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 DTPs shall be allowed to sell power on Power Exchange and also earn Carbon Credits.

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

a) 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.

b) GoI Schemes: Schemes like ASIDE, Credit Guarantee Fund Trust Scheme, Cluster Development Programme for MSMEs, Credit Linked Capital Subsidy Scheme, Technology Upgradation 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.

c) GST: IT/ITES units under IoT category shall be eligible for reimbursement of 100% of State Goods and Services Tax (SGST) paid per annum up to a maximum of 100% 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

d) Divyang Training Reimbursement: A reimbursement of INR 15,000 per person shall be provided to the IT/ITeS unit employing Divyang (especially abled persons). A Training reimbursement of INR. 2,000/month/person for 3 months shall also be provided.