GOVERNMENT OF KERALA

I.T. Policy 2017

This document contains the Information Technology Policy of the
Government of Kerala

Department of Electronics & Information Technology

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CM's Photo

Message from the Chief Minister

With utmost pleasure I am presenting the IT policy of the Government aiming to boost the IT sector driven economy in the State.

The Policy of the Government is to make use of the digital technology for the overall development of the State and to ensure quick and efficient delivery of all essential services. The State has the potential to bridge the digital divide prevalent.

Kerala has a strong infrastructure and human resource strength to adopt digital facilities. Educated people, moderate standard of living etc. are all facilitating factors. We need to leap forward attracting substantial investment in IT sector and identifying and promoting young entrepreneurs though start ups.

Digital technology is imperative not only for the development of modern industries but for the general well being of the State also.   This is possible through three ways. Firstly when I.T. is integrated with manufacturing sector its efficiency increases. Rendering of Government service to people efficiently is the second possibility. Thirdly, employment opportunities can be generated by using the possibilities in software development and hardware production. This will help realise the government intention of laying a strong foundation for a vibrant new Kerala.

An efficient governance system is essential to ensure accelerated industrial growth and implementation of novel and creative schemes. The

unlimited opportunities of internet of things, social media, mobility analytics and cloud computing will give a boost to conceiving and articulation of new ideas. Moreover the thrust of government in infrastructure development, human resource development and overall economic development will open up large opportunities for the meaningful use of Information Technology and make these initiatives effectively comprehensive.

It is indeed commendable to find that more than 90% of Keralites have been enrolled in the Aadhaar card programmes. In this context government intends to implement the KYC facility through Aadhaar based biometric system. At the same time e-Services of government would not be denied to citizens for want of Aadhaar and it will be ensured through other basic proofs of identity.

For the first the the government intends to publish a sub policy statement relating to various sections along with the main document. It is proposed to update the sub policy documents in an yearly interval to ensure refining the same on the basis of the fast changing scenario in technology and its applications.

Let us all work together to create a 'NAVAKERALAM'.
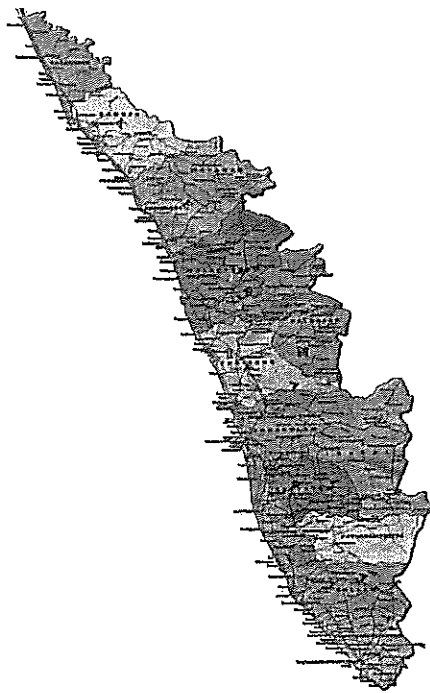
VISION

Establish Kerala a Knowledge Powered Digital Society by 2020 through
application of Digital Technologies in areas of Digital Citizenship, Digital
Lifestyle and Digital commerce; within the governing principles of
Freedom, Ubiquity, Inclusion, Transparency, Safety and Security for all;
aligned to technology trends, citizen and industry needs; to provide
overall social and economic empowerment of citizens

1.Introduction:

The State of Kerala has always been working towards adoption and application of Information & Communication Technology (ICT) be it the services/support to its citizens or enabling smoother functioning of the business community. Numerous initiatives have been taken up over the years, which have enabled the State to intervene effectively in implementing ICT projects and to be a pioneer in E-governance activities.

The State has been successful in creating a robust Electronics Delivery of Service infrastructure in terms of State wide area network, Data centers and citizen service centers. There has been a good amount of work that has gone into creating a sustainable model for 'Akshaya', the network of IT entrepreneurs who work under the Brand on a license agreement to delivery public services. Akshaya is one of the most lauded and successful citizen service delivery center models in the country and in the world. The centrally monitored but loosely structured governance mechanism gives it the flexibility and operational nimbleness and at the same time ensures the security and authenticity of public service delivery.

Even though the first IT park and first electronic enterprise were started in Kerala , today we lag behind in software exports and electronics industry. Kerala needs to create a change to make a quantum leap in innovative technologies and to accelerate growth in the above areas. The policy aims to generate projects which will mould Kerala into a Knowledge based society

1.1.   Kerala IT – snapshot

Government of Kerala recognises the critical importance of ICT as the key vehicle for the State's overall equitable development and reiterates its commitment to the sector. The State Government announced its first IT Policy in 1998. The subsequent IT policies have helped Kerala to achieve unique distinctions of a preferred IT/ITES investment destination and alsoin promoting e-governance initiatives.

The agenda of Kerala IT Policy is to lay the goals of establishing Kerala as a leading IT destination and generating direct and indirect employment opportunities in the IT sector. Specifically, the goals of the IT policy include building of necessary technological infrastructure for creation of an environment favorable to ICT development; enhancing the necessary human capital required to both produce and use innovative technologies through education and skill building; and establishing Kerala as an IT industry destination by attracting investments from within and outside the region. Kerala has a 4 pronged strategy for IT development in the State:

1. World class technology infrastructure creation

2. Human capacity building for generation and consumption of future technologies through Technology education , skill development

3. Time bound and modern marketing systems to attract Domestic and Foreign investments and leverage the growing internal market.

4. Ensuring that citizen services are made available effectively and create a citizen centric digital economy dovetailing innovative ideas and the vibrant start up eco system.

2. Kerala IT Policy Framework 2017 - Elements

2.1. Objectives

1. Establish Kerala as a preferred IT & ITES hub particularly in innovation based technologies and leverage ICT to contribute significantly to GDP and employment.
2. Device Schemes to attract the Global IT players to the Parks in Kerala
3. Create 1 crore Sqft office space so as to provide employment directly or indirectly to 2.5 lakh people.
4. Utilize the capabilities of the cooperative sector and the capital from diaspora (NRIs) to develop the Parks
5. Maintain a steady annual growth in exports of IT & ITES service and products,
6. Create a Science & technology driven ecosystem for R&D and Innovation to make Kerala a Knowledge society.
7. Increase the quality and competitiveness of the small and medium IT enterprises and intervene to connect them to the international market
8. Foster technology entrepreneurship culture and create a sustainable Start Up ecosystem by creating technology hubs
9. Provide inclusive, affordable and accessible Electronic Service delivery system for public services. E-governance projects to be completed in a time bound manner and made it under the purview of social audit.
10. Ensure Universal Open access to data, information and knowledge resources in a digital domain. Enable access of content and ICT applications to the differently-abled
11. Make the state 100% e-literate and utilize ICT in all walks of life to ensure equitable and inclusive development of the society
12. Give special emphasis to and promote reserach and development in Malayalam language computing , and develop tools for the same
13. Build a connected ecosystem of academic institutions leveraging Telepresence and Audio Conferencing, Online Portals and App based learning
14. Develop a talent pool within the state in skills for sunrise industries and human resource capabilities for emerging and

futuristic technologies. Create talent pool of additional resources and increase the ICT employability index.

15. Make IIITMK and ICFOSS Centres of Excellence for research and development and studies in IT sector

16. IT@School shall be strengthened and its experience shall be used to develop schemes for Higher education

17. Create a safe framework for digital living in terms of cyber security, privacy and freedom of internet , conduct training and awareness programs and promote electronic transactions

18. Leverage IT in the day to day operations and in delivery of services in Hospitals. Government hospitals shall be computerized and shall be connected through a network. The patient data shall be collected and utilized for effective planning and implementation of health activities while ensuring the privacy of citizens

19. Adopt open source and open technologies in public domain and promote the same in SMEs and industry

20. Manufacturing of electronics goods/components will be made possible among all (including house wifes) by utilising schemes to transform the State to an electronic hub in the field of electronics production.

21. Strengthen the operation of Keltron so as to regain the prominence it had in the past and adopt modernization and R&D to matchup with the developments in the Science and Technology Fronts.

22. R&D institutions shall be established in areas of convergence of IT and Bio Technology and the technologies shall be utilized to improve the quality of exports in fruits, vegetables fish and spices from Kerala.

23. Create an infrastructure to enable women to work in the IT sector ensuring them safe transportation and a secure environment at the work place.

2.2. Drivers of the Policy

1. Technology Trends & Innovation – the policy shall attempt to leverage current / futuristic technologies like Massive Open Online Courses (MOOCs), Artificial Intelligence, Smart home & City technologies, etc., to improve citizens' service and being responsive to the industry on technologies like Robotics, Flexible electronics and Power electronics, Wearable technologies , Autonomous Vehicles-3D printing, Virtual currencies, Aquaponic systems etc.,

2. Citizen services - The policy will focus on the constant demand and expectation by the citizens in terms of a single sign in for Government interactions, Digital government and Right to Service. It will be designed to accommodate futuristic needs of the people.

3. Industry Needs – The industry has been requesting a favorable consideration for assistance in creating cost effective infrastructure for "work and life', updated university curriculum for availability of

qualified employees and support and assistance for destination competitiveness

4. Novel ideas and endeavours will be promoted and its effective facilitation will be ensured in diverse production sectors.

2.3. Policy Outline
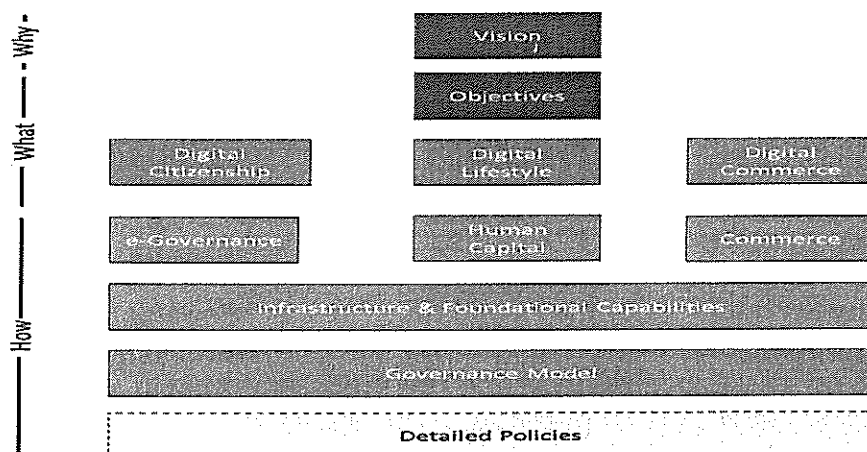
Detailed policies for respective areas will be created by the various bodies responsible for e-Governance, Human Capital, Commerce and Infrastructure.   The roles and responsibilities of the existing governance systems leveraging IT will have to be redefined as per the new policy.

2.3.1. E-Governance Team Structure

This team shall own the Digitization of Government departments and Citizen empowerment activities.

Involvement of citizens in the Digital Economic systems of the government , creation of smart village /panchayat , empowerment of schools ,backward groups/differently abled etc will be realized through this. This group will cover the formulation of policies aligned to this.

2.3.2. Human Capital Development

This group shall focus on developing Digital talent in the state in all key areas including IoT, Mobility, Analytics and Software development, high end embedded electronics, cognitive awareness etc. Partnering with schools, technical education institutions and broader academia is planned to achieve these goals. If needed, new institutions shall be established and managed to meet the goals of the state.

2.3.3. Marketing

This group drives the demand for IT / ITES and focus in bringing global industries and developing IT industries in Kerala through innovation and   acceleration   capabilities.   Sustainable   entrepreneurship development shall be   the mandate of this group.

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2.3.4. Infrastructure and Foundational Capabilities

These groups shall drive all the digital and physical infrastructure needed for realisation of Digital Kerala. Disaster recovery, Mobile, Wifi and Fibre connectivity shall be part of this team. IT parks infrastructure, interconnectivity facilitation etc. shall be driven by this group.

2.4. Governance Structure

The policy envisages a lean and structured organization in the state for the implementation of the policy. Each individual units will frame their clear roles, responsibilities and structure, which will form part of the sub policies and guidelines

State IT minister shall play the lead role in the development of Information technology and related activities in the state. I.T Minister shall preside over the Board of advisor's meetings and obtain approval from the council of ministers, if necessary, on key issues.

2.4.1. Digital Government Advisory Board

The Digital Government Advisory Board shall be made up of a handful of eminent experts from IT, Telecom and other related domains having proven track records in delivering digital products and services connecting a large user base.

The Board will meet on a quarterly basis and will support and advise the government to deliver better services to citizens and corporates. The Board will also evaluate how emerging digital technology trends can be applied to public services. The Advisory Board would act as a Technical advisory which brings in the expertise and knowledge of the industry and the futuristic trends.

This Advisory Board shall work in liaison with the elected and appointed leaders of the state to drive comprehensive, cohesive, concerted IT efforts in the state and bring all digital/IT related activities under a common governance. This Board will help with the formulation of guidelines, updated framework and governance model for project execution. The Board would also monitor the timely, efficient execution of projects and services in a time-bound and transparent manner.

2.4.2. IT Secretary

The IT secretary shall be the senior designated officer in the state who own both the demand as well as the supply of Digital services and

resources of the Government . The various agencies under the IT department shall be restructured into the following four categories

2.4.3. E-governance
This role of IT mission director has to be redefined to fit the new model of e-Governance Head of the State. IT Mission shall take lead in all the e-govenance activities in the state. IT Mission shall ,directly and through sub agencies like SEMT, support the e-governance projects in Govt. departments.

2.4.4. IT Parks
This role of IT parks has to be redefined to fit the new model of IT assets and Commercial agencies of the state. The activities of all IT parks (Technopark, Infopark and Cyberpark) shall be consolidated under the single brand 'Kerala IT ' and optimally use the resources (human capability , material, other revenue and assets).

2.4.5. Human Capacity Development
The combined efforts of the agencies like ICT academy , IIITMK, ICFOSS and KSUM is required for IT human capacity building , skill development , institutions of higher studies , excellence in FOSS and Start Up development

2.4.6. Infrastructure Development
KSITIL shall be transformed into an agency for all Infrastructure development in IT sector and all construction, connectivity activities etc. shall be carried out through it.

2.4.7. KPIs and Measures of Success
This has to be defined for each group.

2.5. Focus areas

The Policy mainly focuses on three areas viz.,
- Digitally empowered Citizens,
- Digitally empowered Lifestyle and
- Digitally empowered Commerce

These three areas shall between them cover the entire gamut of activities and functions under the department which will enable the state attain its vision of a Knowledge Empowered Digital Society.

2.6. Sub policies and Guidelines

The following Sub Policies and Guidelines shall be prepared in line with the direction of the IT policy
1. Electronic governance Policy
2. Industry Facilitation policy
3. Digital Inclusion Guidelines

4. FOSS policy
5. Innovation and Entrepreneurship Policy
6. Digital Capacity Building Policy
7. Digital Procurement policy
8. Cyber security and Disaster Recovery Guidelines

3. Digitally Empowered Citizens

3.1. Digital Identity

1. The Government shall initiate action for universal Aadhaar enrollment linking all government data bases.
2. The government shall empower citizens to access government services through mobile devices for getting government services.
3. Aadhar based biometric authentication shall be used for KYC purposes and it shall be used for direct disbursement of subsidies and benefits. However in the absence of Aadhar the services shall be given to citizens on the basis of other basic documents. No government services shall be declined for want of Aadhar.

3.2. Participatory E-governance

1. Government shall ensure that the citizen government interface shall be through a single government Portal
2. The entire file movement in government secretariat and departments shall be made digital
3. The backend computerization of the departments and the extended offices, PSUs etc shall be achieved in a time bound manner.

3.3. Single Government Portal

The Government shall create a single portal for citizens interactions with government and service delivery. The citizen interactions viz., service delivery, grievance /complaints and payment transactions of all departments shall be converged through a single portal. The portal shall be the face of the Government to the citizen and business

3.4. FOSS adoption and promotion

The Government has adopted the Free and Open source technologies as one of the basic guiding principles and shall strive for the promotion and adoption of the same. The Government shall make it mandatory for all software solutions made through public funding to adopt free and Open source technologies. Government shall support and promote "Volunteer Computing' projects. Activities to achieve the objectives of IT policy 2007 in these matter shall be taken up.

3.5. Government Service Delivery

State is embarking on its journey to offer an "Omni-channel experience" of all its e-Governance services through web portal, mobile applications, Akshaya / CSCs and through Integrated Citizen call

centres. The objective is to setup and operationalise an effective Single Window for services supported by the core infrastructure and systems. It shall be ensured that all government applications are compliant to Deity guidelines and thereby interoperable. Expenditure by Government departments at local level should be tracked at the lower level using "geo-tagging" to follow the spending at different levels and regions.

3.6. E-services

Government shall attempt to make online, as many services as possible and high volume shall be made across the counter services. Certificates of a one-time issue nature shall be proactively done and kept in a state digital repository with easy search and retrieve provisions. The State shall also attempt to move on to a certificate less system wherein the citizen data is automatically retrievable by the user's system from a common citizen data base. Common utility centres shall register the public feedback and corrective measures will be undertaken promptly.

3.7. Citizen Service Centres

The Akshaya has performed a commendable role by bringing government services to people and business units, functioning as a single window system. In the journey towards a more matured, complete and comprehensive citizen service delivery center, the Government shall transform the Akshaya eco system into state-of-the-art centres in citizen centric service delivery and centres of excellence in ICT enabled services. Majority of services shall be offered via the Citizen Service Centers.

3.8. Mobile Governance

To provide the e-Governance services at the fingertips of citizens, Kerala is adopting mobile first approach for e-Governance services in line to Digital Kerala Vision by leveraging high mobile penetration and coverage in the state. Malayalam shall be the basic language in these applications and shall also have English and languages of other language minorities. The objectives of Mobile Governance are :
1. Enable mobile services for ease of access to e-Governance services from existing e-Governance systems.
2. Adopt mobile first approach for new systems or services offered.
3. Enable additional utility services through mobile for ease of access to citizens

4. To leverage mobile as one of the media to communicate and interact with citizens.
5. Leverage **IOT** and **Social Media** for effective planning and delivery of services.

3.9. e-Procurement system of Kerala

Government of Kerala has implemented the e-Government procurement system to enhance transparency and efficiency in public procurement activities and monitor the same on a real-time basis. This shall follow the Government e Marketplace model to make government procurements online.

3.10. Smart Villages / Panchayats

Growth of the State and nation depends on its inclusive growth of rural and urban population. Kerala is planning for a focused programme to enable the inclusive growth of the state through its Smart Village/Panchayat Programme

3.11. Financial Inclusion and Mobile Banking

1. The Government shall ensure reach of financial services to all ensuring inclusion of citizens of all strata to such endeavours.
2. Online and Mobile Banking shall be adopted for all Government transactions with citizens.

4. Digitally Empowered Lifestyle

4.1. Digital Literacy

Human capital is undoubtedly the most significant resource for the IT sector. There has been some robust steps towards bridging the gap between academia and the industry to create employable manpower. However, more initiatives in this sector will be taken to attract companies to start/augment their operations in Kerala.

Many research institutions and other institutions offering higher education in Kerala are public funded. Government shall facilitate these institutions to adopt 'open-access' practices in their research related publications.

IITM-K and ICT Academy will be entrusted with IT skill development of Government staff and agencies such as Akshaya will be entrusted with digital literacy for common man.

1. Strengthen the ICT Academy
   - Build partnerships with renowned international universities/certifying bodies
   - Infuse entrepreneurship in the engineering curriculum
   - Encourage use of free online learning resources from leading universities like MIT and learning platforms
   - Provide guidelines to the curriculum committees for identifying the right online courses
2. Map industry acclaimed online courses/certification to University curriculum
3. Delivery of Courses integrating IT with nano technology and bio technology shall be started and R&D in this area to be promoted
4. Industry-Academia linkage to ensure mandatory internship for IT students. Incentivize IT companies complying with the idea.
5. Creation of Centres of Excellence in IT education
6. Develop ICFOSS to an International center for FOSS studies
7. Develop action plans leveraging ICT to increase the employment possibility and betterment of lifestyle of differently abled

4.2. Connected Education Hubs

Technology Education centers will be interconnected through tele-presence, video conferencing, and audio conference capabilities. Learning portals will be established to enable remote education

4.3. Local networks

1. Encourage and support community relevant applications covering security of citizens, health, revenue, taxes, etc.
2. Community connect – open governance model for increased citizen participation in the administration of the district/ city specifically and governance in general

4.4. Local Content

1. Creation of local content and localization of newer technology and content for the general public
2. Create a center for Malayalam Computing with the support of Thunchath Ezhuthachan Malayalam University
3. Support the cause of Malayalam computing through the community partners like Swathantra Malayalam Community etc
4. Government to initiate action to increase the content of Malayalam in Wikipedia
5. Create a repository for the source codes and documentation for all projects developed for government.

5. Digital Commerce

5.1. Policy for e-commerce

The government shall enact a policy for the enablement of growth of e-commerce in the state. This shall cover the rules and regulations on the e-commerce Industry

5.2. Mobile commerce

M-commerce is enabling us to transact commercially from anywhere over the Internet without the use of a PC. M-commerce is the logical continuation of e-commerce and is enabled by the proliferation of smart mobile devices and better connectivity. Government will facilitate this process through enhanced
1. Communications Infrastructure,
2. Applications Infrastructure, and
3. M-commerce Intermediary,

5.3. E-business facilitation

Government shall encourage and facilitate the conduct of business processes on the Internet be it B2B or B2G. These include buying and selling, supplies and services; (including government procurement of Goods and services), processing payments; managing production, collaborating with partners, information sharing and any other business functions. Government shall encourage SMBs to move to a shared infrastructure and Software as a Service to reduce their cost and become more efficient.

5.4. Innovation and entrepreneurship

The Government of Kerala wishes to leverage the developments in IT sector and the startup sphere to kick start the next phase of innovation and entrepreneurship movement in the state. The government wishes to adopt a cognitive approach to innovation and entrepreneurship development. The ability to think critically and to solve problems in scientific and technological contexts is an essential skill for entrepreneurs working to solve society's critical problems. Government wishes to address this through
1. Creation of an Innovation Ecosystem
2. Facilitating the innovation led entrepreneurship especially among students
3. Involve Industry /R& D institutions

5.5. Establishing the Technology Innovation Zone

The Kerala Technology Innovation Zone shall be established to cater to the needs of the innovation and entrepreneurial startup ecosystem. This is to ensure that there can be
1. Accumulation of critical mass of talent and entrepreneurs
2. Connect to the Global ecosystems and Research and innovation networks

3. Requisite resources and ambiance is available with nimbleness of operations
4. Presence of State of the Art labs and other Infrastructure

5.6. Grand Innovation Challenge

The Government shall constitute a Grand Innovation Challenge for the upcoming startup ideas on an annual basis and the winner shall be provided sufficient funding and support to realize the idea.

5.7. Industry development and Job creation

Development of IT Industry is one of the key factors in helping the state move into a knowledge economy and facilitating faster technology adoption. There needs to be sufficient thrust to project the state as an ideal location for the industry, given its advantages of healthy environment, better law and order situation, lower cost of living and operations etc. Government shall focus on creating enough jobs that suits the highly educated and skilled manpower of the state . A bidirectional approach will be adopted for this.
1. Working with the Technical University and the Colleges to ensure that they develop key competencies in their students as per the industry needs.
2. Devise a curriculum incorporating industry recommendations.

5.8. Promotion of hyper local platforms

To promote the small vendors and unbranded businesses in the state, the state shall promote hyper local platforms which provide aggregation of products and services from such vendors

5.9. Kerala App Store
Creation of a Kerala App store for apps catering to the need of the citizen including the citizen services

5.10. IT Industry facilitators
The government shall bring out the detailed sub policy on Industry facilitation which shall cover
- Tax structure
- Single Window clearance
- Incentives/promotion packages
- SME assistances

5.11. Domestic Marketplace

5.11.1. Government procurement
The State envisages creation of a vibrant internal market for the IT players and an early adoption market for the startups by virtue of opening up its procurement needs to companies in the state (registered in Kerala or having a billing within the state).

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a) The companies shall be encouraged to take up pilot project with government in their areas of expertise and on successful completion of the same scale it up to a larger scope , subject to approvals by the Government.

b) The companies are also encouraged to submit suo motto proposals to the government on areas of governance public service and new technology paradigms in the area of health, education etc . The proposals shall be selected through a "SWISS CHALLENGE" process.

5.11.2. Promotion of locally manufactured/ assembled products

The companies who provide services to government shall be encouraged to establish their manufacturing /assembly units in the state, leveraging the schemes under the MSIPS and EMC by Government of India. Social security of the employees shall be ensured by Government through innovative means.

5.12. Brand 'Kerala IT'

5.12.1. Delegations

The State shall sent delegations to identified regions/countries in collaboration with the industry organizations and trade and commerce agencies to establish corridors of work and commerce for the Kerala IT companies.

5.12.2. IT Expo Kerala

An annual /bi annual IT expo will be conducted in the state exhibiting its strength and growth potential in IT and also as a measure to bring the futuristic developments across the world to the state. The 'Kerala IT Expo ' shall be a place for IT companies of Kerala to exhibit credentials, explore business possibilities and engage with national and international p[layers. Specific delegations from countries of business interest shall be invited as State guests for such events. The IT expo shall be a biannual event the first event in 2017 focusing on the smart facilities, Health care and Mobility.

5.12.3. International Seminars

IT parks shall host international seminars on Technology /Business thereby exhibit the Kerala's developments in the Technology front to the Global Market.

5.12.4. Encourage high achievers

Government can boost the confidence of high achievers in various fields of IT by introducing a Kerala State award/exchange programme for the Best Achievers in
    1) Companies/Company leaders
    2) Start ups/Start up leaders (As in Grand Innovation Challenge)

3) Student projects/institutions
4) E Governance projects/teams/departments

6.IT & Ancillary Infrastructure

6.1.   State IT Infrastructure

To develop Kerala into a fully digitally empowered society, the core infrastructure and connectivity plays a pivotal role in the overall e-Governance programme. Kerala has envisioned to connect all its IT installations and networks across the state to save cost and improved utilization of the core infrastructure. This includes International and National fibre connectivity, Fibre To Home, Mobile connectivity and High speed data connectivity.

6.2.   IT Industry and allied Infrastructure

The Government shall undertake major projects capable of creating new employment and increasing the IT exports from the State. The same shall be taken up by government or private entrepreneurs as per the existing Private IT park guidelines. The major focus areas would be but not limited to

1. Expansion of the IT space in the IT parks.
2. Roads & Surface Connectivity – especially to the IT hubs
3. Power Availability- ensuring quality power
4. Private projects in IT infrastructure creation shall be promoted, Government shall intervene big-time in this area.
5. Social Infrastructure in IT Hub, Systems shall be created to ensure safety.
6. Air Connectivity with Major Cities in India and abroad for better business connects.

6.3.   IT Infrastructure (Network and Data centre)

The state shall endeavor to ensure the requisite infrastructure for the Telcos to reach the length and breadth of the state and also ensure free access to citizens through Public hot spots.

6.4.   Fab Labs

The MIT (Massachusetts Institute of Technology)fab labs set up in the state have created sufficient interest among the students corporates and general public. The State wishes to bring the fab labs and the DIY (Do It Yourself) culture to address the societal needs while ensuring that the engineering and other technical institutions have mini fab labs installed to impart training to their students.

6.5. Global Cognitive Fabric

Establishing a Cognitive Computing Hub for growing a global cognitive fabric, a cloud based, knowledge ingestion, curation, learning and insights platform. This fabric will provide infrastructure and resources for aspiring entrepreneurs to embed traditional and acquired knowledge from structured and unstructured big data sources. Government shall initiate the establishment of a Cognitive Decision Science Institute to provide sufficient human resources in the above sector. This hub will attract the industry and academic leaders to invest and interact with the state of Kerala. It will also open up avenues for entrepreneurs to leverage the cognitive revolution and create new jobs that do not exist today.

6.6. Mobile access for under privileged families

Access to the right point of contact is one of the ways of ensuring inclusiveness of governance. A program which can help the underprivileged families to connect to the right official in government without inhibition will be initiated and the delivery will be enabled by distributing a basic mobile device capable of connecting to a government app which will help them connect to all concerned in the Government.

6.7. Mobile devices for women safety

Government shall encourage development of devices for women safety and shall endorse apps which are found to have high impact or high usage and also ensures privacy.

6.8. Cyber Security

To ensure a secure Digital living for its citizens the government shall create a secure cyber security framework. The security and privacy of citizen data shall be given priority

6.9. Business Continuity

Since the Government and private business/interactions are moving on to the digital domain the Government shall create ample provisions for Disaster recovery and Business continuity, should there be any unforeseen event that may disrupt regular functioning of its IT systems.

6.10. Free Wi-Fi in public places & IOT enabling

The government plans to set up free public WiFi hot spots in all major places. These hot spots shall be carried out by means of
1. Govt sponsored hot spots in all collectorates, public buildings
2. Private corporate sponsored hot spots in selected areas with advertisement provision (physical and digital)
3. NGO/community driven hot spots in select areas

Security Networks:- Government intends to establish security networks by connecting CCTV Cameras, location codes and information and broadcasting networks so as to ensure safety of women and children under the direct supervision of Government.

6.11. Government Missions

Government wishes to make creative interventions in the following areas:-

1. Shelter
2. Agriculture
3. Waste treatment
4. Watershed protection and Fresh water distribution
5. Education
6. Health

In these interventions government aims at deployment and application of Information Technology and generation of innovative ideas, job opportunities and entrepreneurship through this.

6.12. Haritha Keralam

As a responsible state, Kerala is taking continuous improvement measures towards a sustainable environment for a healthy society. Many initiatives are being organized and managed in the state by the Government. Various initiatives planned to strengthen Haritha Keralam include:

1. Leverage ICT and e-Governance ecosystem for effective planning, implementation, monitoring and Governance of various green initiatives in the state.
2. Use of energy saving equipment within the infrastructure
3. Use of Solar and alternate energy sources
4. Encourage Green certification of IT organizations and buildings within the state
5. Develop a Green IT Policy /-guideline for the effective electronic waste management depending on the nature and use of the equipment.
6. Create a special project to make available the benefits of modern scientific technology to the agriculture sector in Kerala. Create a system to utilize the E-commerce, digital marketing·provisions and developments in IoT , IT, Biotechnology for the common farmers and to create a database in all the phases viz., production, storage and exports/value addition of agricultural products so as to benefit the farmers.
7. Groups will be formed with unemployed women with IT skills, in Kudumbasree model, to provide 'work at home' opportunity.

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GOVERNMENT OF KERALA

IT Policy 2017

Sub Policies and Guidelines

The document contains the detailed policies and the guidelines
with respect to the specific areas mentioned in the policy

Department of Electronics & Information Technology

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Sub Policy 1: Electronic Governance Policy

1. Vision

Transform Kerala into a digitally empowered society and knowledge economy towards sustainable economic growth by harnessing the e-Governance ecosystem of the state and provide all public services to citizens through electronic mode

2. Objective of the State Policy
1. Ensure adoption of Technology in the Citizen service delivery

2. Ensure transparency, efficiency, accessibility accountability and reliability of public service delivery

3. Be a facilitating mechanism to the Right to Service of citizens

3. ESD Action items
1. Public authorities to notify the services to be delivered by electronic mode within 6 months of the policy

2. The Services to be categorized as
   a. Low volume /High volume ,
   b. Customized/one time/frequent,
   c. Routine/Case specific
   d. System generated/Authenticated through Aadhaar/Manual intervention required/Manual issue only

3. Deliver all public services electronically within a maximum period of 5 years.

4. Set up State ESD Commission as per the ESD bill 2011

5. Nodal officers to be identified for the process of transition to Electronics Service Delivery

6. Back end processes of departments to be enabled for electronic work flows and systems to be in place for ESD

4. E Governance enablement

4.1.   Setting up of Digital Government Advisory Board

The Digital Government Advisory Board shall be made up of experts from IT, Telecom and domain experts from respective sector. The board will meet on a quarterly basis and will support and advise the government to deliver better services to citizens and corporates. The board will also evaluate how emerging digital and technology trends can be applied to public services. The Digital Government Advisory Board would act as a Technical advisory group which brings in the expertise and knowledge of the industry and the futuristic trends.

4.2.   Single Government Portal

The Government shall create a single portal for information dissemination from government and interactions with the citizens. The citizen interactions viz., service delivery, grievance /complaints and payment transactions of all departments shall be converged through a single portal. The portal shall be the face of the Government to the citizen and business .

4.3.   FOSS adoption and promotion

The Government has adopted the Free and Open source technologies as one of the basic guiding principles and shall strive for the promotion and adoption of the same. The Government shall make it mandatory for all solutions made through public funding to adopt free and open source technologies.

4.4.   Key Elements of e-Governance
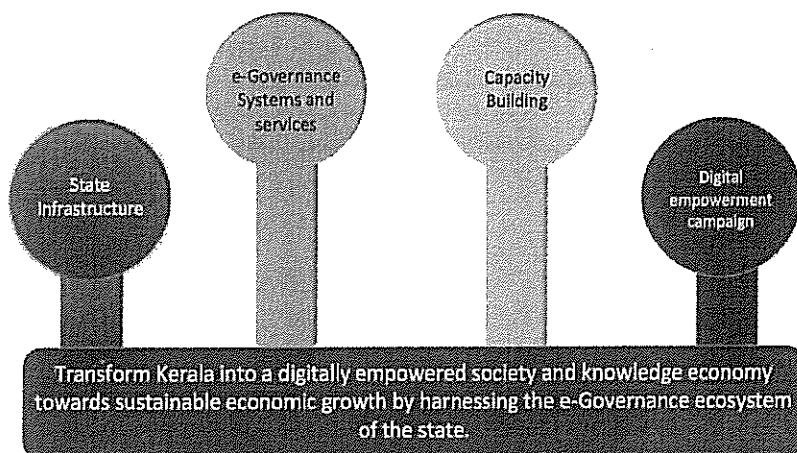
4.4.1.   State IT Infrastructure

To develop Kerala into a fully digitally empowered society, the core infrastructure and connectivity plays a pivotal role in the overall e-Governance programme. Kerala has envisioned to connect all its infrastructure and communication technology across the state to save cost and improved utilization of the core infrastructure.

The integrated core IT and communication infrastructure diagram envisioned by Kerala with Data Centres, KSOC and KCCC connecting various offices within the state is given here:
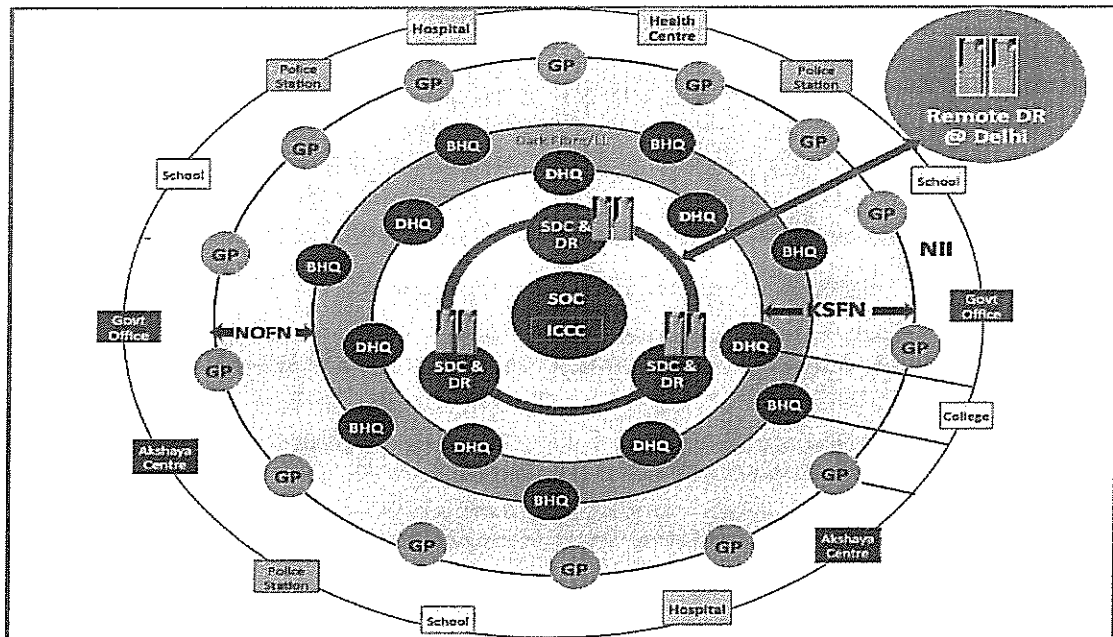
4.4.2. e-Governance Service Delivery

State is embarking on its journey to offer an "Omni-channel experience" of all its e-Governance services through state portal, mobile applications, Akshaya / CSCs and through Integrated Citizen call centres. The objective is to setup and and operationalise an effective **Single Window for services** supported by the core infrastructure and systems. The SSDG shall be integrated to the Mobile gateway.
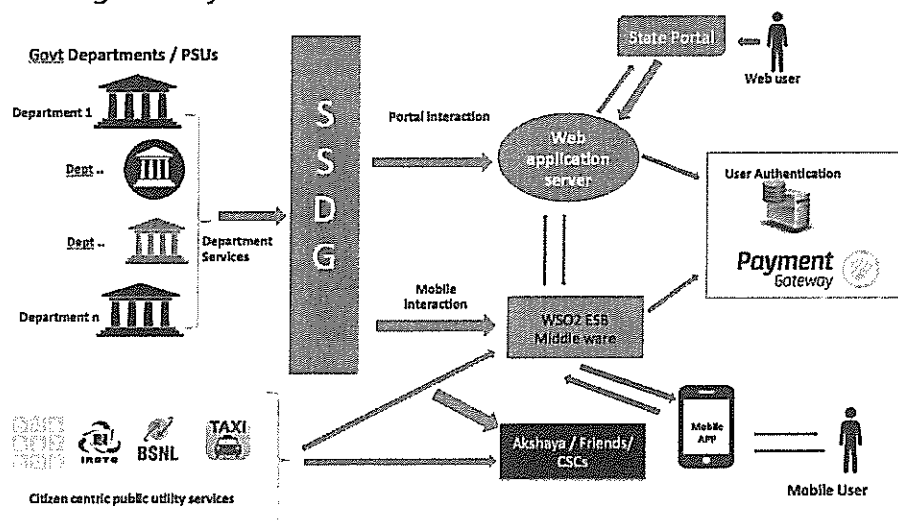
4.4.3. State Service Delivery Portal

The State Service Delivery Gateway project has been formulated under the National e-Governance Plan (NeGP) to fulfil the vision of providing easy and convenient services to the citizens through remote access primarily through Common Service Centers (CSCs) and enabling the State Portal (by implementing the key components State Portal viz. SSDG, electronic Form ("eForms"), Application and Computing Infrastructure). Additional objectives that are specific to SSDG are :

1. Delivery of services on demand to Citizen and Business through State Portal

2. Seamless integration across departments and services for effective delivery of services through portal

3. Monitoring the number of services delivered through state portal and its details for effective planning and for identifying improvement opportunities.

4. Leverage **Social Media** for effective governance.

5. Unified face for all government services offered through state portal.

4.4.4. Mobile Governance

To provide the e-Governance services at the fingertips of citizens, Kerala is adopting mobile first approach for e-Governance services in line with Digital Kerala Vision by leveraging high mobile penetration and coverage in the state. The additional objectives of Mobile Governance are :

1. Enable mobile services for ease of access to e-Governance services from existing e-Governance systems.

2. Adopt mobile first approach for new systems

3. Enable additional utility services through mobile for ease of access to citizens

4. To leverage mobile as one of the media to communicate and interact with citizens.

5. Leverage **IOT** and **Social Media** for effective planning and delivery of services.

4.4.5. Citizen Service Centres

4.4.5.1. Akshaya – e-Governance services under one roof

It is emphasised, by overcoming the operational deficiencies Akshaya centres would be made as a one stop solution for service delivery and disseminating learning, acquiring greater professionalism by offering a variety of services – both from the government and related to business. In the journey towards a more matured, complete and comprehensive citizen service delivery center, the GoK has decided to transform the Akshaya eco system into state-of-the-art centres in citizen centric service delivery and centres of excellence in ICT enabled services.

4.4.5.2. Akshaya – Banking KIOSK Model

Akshaya has established Kiosks all over the State. The GoK is fully committed to explore this opportunity and shall decide to convert all its Akshaya CSCs as banking KIOSKs. Apart from banking and insurance Akshaya centres can be the one-stop-shop for all government services and schemes.

4.4.5.3. Friends (Janasevanakendras)

Now limited services are offered through these centres. Further the front offices of the municipalities which run such citizen facilitation centers and the customer care offices of all the government and related offices will be enabled to become Citizen Service centers extending all services now offered through Akshaya at a unified rate. Touch screen kiosks shall be provided at key locations for public to access information regarding government services and also register their applications/grievances. These Kiosks shall also serve as Free WIFI hots pots.

4.4.6. State Call Centre

State Call Centre (SCC) is a single window to provide help to citizen and business in the State. It is envisaged to enhance the existing Citizen Call Centre to offer integrated services to citizen (Government to Citizen) as well as business (Government to Business) in the state.

4.4.7. e-Procurement system of Kerala

Government of Kerala has implemented the e-Government procurement system to enhance transparency and efficiency in

public procurement activities and monitor the same on a real-time basis. It is envisioned to adopt an e-Marketplace model to make government procurements online.

4.4.8.   GIS Based Decision Support System

To enhance the GIS based system to offer GIS maps and layers of all departments and mandate the use of GIS based system for effective decision-making and governance. Kerala Spatial data Infrastructure (KSDI) is a shared Internet based Geospatial Data Directory for the state that allow the users of the system to share and explore the information related to political and administrative boundaries, state geography, agro and socio economy, resources, infrastructure facilities with attributes.

4.4.9.   Decision Supports Systems

The government shall enable intelligent Decision Support Systems by way of data archives, databases , Aadhaar linking and provision of data access to different departmental databases.

4.4.10.   Delivering Right to service act

The government shall set standards and time lines for service delivery under the Right to Service Act. Government shall attempt to improve the quality and speed of delivery of services to citizens through adoption of appropriate technology.

4.5.   E-governance delivery organization

4.5.1.   Kerala State IT Mission

The Kerala State IT Mission has been spearheading the digital transition of various government departments' citizen service delivery and digital transactions through various initiatives. The Mission shall be strengthened in technical capabilities to become the technical advisor to Government in all its activities and also to be the coordinating agency for different initiatives in various departments.

4.5.2.   Department IT cells

The IT Cadre that has been trained and developed in various departments will be pooled to form the department IT cell and this cell will work closely with the KSITM to ensure that the departmental activities are in synchronisation with the overall plan and that the activities are taken up without break. The department cells shall also work with IT Mission and identify the Government process that needs to be modified to facilitate the new digital processes.

4.5.3. State e Mission Team (SeMT)

The State E Mission Team which comprises experts recruited by the NISG shall assist in the IT initiatives in IT Mission and the departments.

4.5.4. District e-Governance Teams

The District e-Governance Teams set up under the Chairmanship of the Collector shall supervise, guide and facilitate the e-governance activities at the grassroots level and field offices.

4.5.5. LSG level implementation team

The Tier 3 of the Government mechanism is well established in the State and the e-governance mechanism need to be strengthened at this level too. For this purpose, the Information Kerala Mission (IKM) infrastructure would be strengthened and transform to FOSS based technology, time bound.

4.5.6. Capacity Building Programs for Government

1. Strengthening of Training Institutions in Kerala State which includes Setting up Audio Visual Labs for Online Training and also Digitization of the entire processes for effective training management using ICT.

2. Development of competency frameworks, training guidelines, content, case studies etc for different groups of stakeholders

3. The State Government will create Virtual IT cadre in all major departments for increasing the in-house IT Competency. Individuals with IT aptitude will be identified and given intensive training about e Governance and major e governance projects in their department.

4.5.7. Digital Empowerment Campaign

Digital Empowerment Programme in Kerala state aims to transform the State into digital empowered society and knowledge economy. Digital empowerment within Kerala includes:

1. Digital Empowerment Campaigns through student community at large.

2. Offer a digital platform for effective collaboration of citizens, academia, technology organisations, researchers, training partners etc

3. Improving the overall economy of the state with reduced carbon footprint.

4.6. Smart Village / Panchayat

Growth of the State and nation depends on its inclusive growth of rural and urban population. Kerala is planning for a focused programme to enable the inclusive growth of the state through its Smart Village Programme by leveraging wider ecosystem including government, public, corporates, academia and citizens of the state Digital Academy. Establish a Digital academy as an innovative ecosystem comprising government, students, academia, universities, research organizations, entrepreneurs, business, start-ups, training institutes etc. Virtual academy is aimed to aid various sects of the state population with ease of access to knowledge and to bridge the knowledge divide between rural and urban areas. It is envisioned to take our future generation as a leader in the academic and job markets.

Sub Policy 2: Industry Facilitation policy

The IT sector has invariably contributed to the economic growth of the State and the State has always been proactive in creating a conducive atmosphere for facilitating the IT industry in Kerala. However, the path ahead is equally challenging and to attract and retain sustainable IT companies a multi-pronged strategy is warranted. The IT industry facilitation policy shall focus on the following areas,

1. **Facilitate Setting up of Offices:**
   1.1.   The Government will facilitate setting up of IT/ITeS units in the State in the IT destinations of the State viz., Technopark, Infopark and Cyber park.

   1.2.   ⁻ The parks to be brought under one brand of 'Kerala IT parks' headed by one CEO and the individual parks (SBUs) to be managed by respective professional facility managers.

   1.3.   The construction of all Infrastructure to be brought under one company viz., KSITIL . KSITIL shall be the Engineering and construction agency for the IT department which will design & Construct expansions in all the IT destinations.

   1.4.   Industry facilitation could be by means of but not limited to

a. Provision of Land on long lease

b. Long Lease of Built up space

c. Short term lease of furnished space

d. Smart business centers for starting up units

   1.5.   The provisions mentioned above shall be as per the prevailing terms and conditions of the Individual park and the government policies

2. **Registration/Stamp Duty Concession**
   2.1.   IT/ITES units shall be entitled for 100% reimbursement of Stamp Duty and Registration Fee on sale/lease/transfer of land for the first transaction.

   2.2.   Powers to Park CEOs to validate the registration and

2.3.   Provisions for Single Window Clearance (SWC)

3. Fiscal Incentives

3.1.   Fiscal incentives are applicable to all eligible companies operating in Kerala other than those located within an SEZ

3.2.   Fiscal incentives shall remain in force for a period of 5 years from the date of the policy.

3.3.   Fiscal incentives for eligible companies will be as follows

3.3.1. Standard Investment Subsidy - 30% of Fixed Capital Investment subject to a limit of Rs. 15 lakhs for companies located in Thiruvananthapuram and Ernakulam districts. For companies located outside the districts of Thiruvananthapuram and Ernakulam the applicable SIS will be 40% of Fixed Capital Investment subject to a limit of Rs. 25 lakhs.

3.3.2. Government will constitute a Technology Development Fund for the ICT industry in Kerala. Grant will be made available for R&D projects from this Fund, subject to the approval of the project by a committee constituted for the purpose. Such projects shall be made available to the public in suitable Free Software License.

4. Other Incentives

4.1.   IT industry units, Government IT parks, certified IT parks and Akshaya centres are entitled to power tariff under HT 1 industry and LT 1V industry depending on the supply of and connected load to the IT industry.

4.2.   FAR in the Government and certified IT parks shall be maintained at the level of five.

4.3.   Government shall relax the parking requirement for the increased FAR for IT buildings and shall work with the IT companies to reduce the parking requirements due to personal vehicles and shall promote alternate models and modalities of commuting.

4.4.   IT units in Government IT Parks:

4.4.1. Concession for stamp duty and registration fees upon executing lease / sale agreement with the park for lease / sale of land and built up space.

4.4.2. Infrastructure facilities - Exemption from entry tax for goods like machine equipments, capital goods and construction materials procured for implementation of infrastructure projects

4.5. IT infrastructure developers in Government IT Parks:

4.5.1. Exemption from stamp duty and registration fee and transfer duty of land.

4.5.2. Concessions offered to Government parks will be made available

4.5.3. Power tariff under HT-1 industry and LT 1V industry depending on the supply of and connected load

4.6. An IT software unit that has its registered office in Kerala and employs a minimum of 30% of its workforce in its Kerala operations, and otherwise compliant with the tender requirements, shall be entitled to 7.5% price preference on IT software solutions required by Kerala Government / PSU's / Government Bodies.

4.7. An IT hardware unit that has its registered office in Kerala and employs a minimum of 30% of its workforce in its Kerala operations, that is either excise payee or ISO certified, and otherwise compliant with the tender requirements, shall be entitled to 10% price preference on IT hardware required by Kerala Government / PSU's / Government Bodies. Other conditions remaining the same, they shall be given higher preference.

5. Electricity Connection and Tariff

Government shall issue a policy directive to the regulatory commission to provide the licensee status for the IT parks and ensure that the IT/ ITES industries enjoy special rates and tariffs.

6. Simplification of Labour Laws

6.1. The regulatory regime of labour laws to be simplified to suit the needs of IT & ITES Industry.

6.2. IT & ITES companies are permitted to have 24x7 operations and run in three shifts. (including employment of women at night subject to the provision of necessary safety measures)

6.3. The companies shall provide adequate security to women (especially at night and shall provide transport for them to reach residence after 9 pm with escort in official transport.)

6.4. Submission of self certified records/documents prescribed under the relevant/applicable Acts will be permitted:

6.4.1. The Minimum Wages Act,

6.4.2. Insurance , contract employment etc

6.4.3. Kerala Shops and Commercial Establishment Act :

6.4.4. The Payment of Gratuity Act, 1972   -

6.4.5. The Maternity Benefit Act

6.4.6. Factories and boilers

6.4.7. Pollution

6.4.8. EPF..etc

Recent amendments to the Act (regarding crèches and hostels) will be exempted for IT companies in the state as most of them are SME. Instead, parks would provide such common utilities with the participation of companies.

7. Private Infrastructure Projects (related to IT/ITeS)
The Government shall support the private sector in major projects capable of creating new employment and increasing the IT exports /value of the IT Industry in the State. This is in adherence to existing Private IT park guidelines.

7.1 Private IT Parks that meet specific standards shall be governed by the same set of industry enabling regulations that are applicable to Government IT Parks unless otherwise specified by the Government. The Government will constitute a committee to decide on the minimum set of standards required by the private IT Parks to qualify for certification.

7.2 Private IT buildings
Construction of IT building by Private partners/corporates will be encouraged in the existing parks of the Government subject to space availability and rules in force.

7.3 Commercial support spaces

Government will encourage construction of support spaces on a commercial basis within or in the close vicinity of the IT parks for facilities like malls, crèches, clinics , affordable housing etc.

8. Development of Technology Parks

The Government shall support the expansion of the existing Technology Parks and shall look for innovative funding methods for creating a quantum leap in the IT space availability in the state.

8.1.   The Technology Parks will be encouraged to leverage the asset base and generate sufficient funds to meet the future demands of the sector.

8.1.1. "Own your Park" : Scheme for park employees as a government guaranteed investment option, Government to float appropriate instrument to the employees and other beneficiaries to own a part of the work place as a stable investment.

8.2.   The parks shall generate funds from development finance institutions or through development bonds, individually or combined. The funds so generated shall be deployed on productive investments so as to be able to repay the same from the returns of such investments.

8.3.   Government shall continue to invest in acquisition of more land congenial to the industry in terms of cluster proximity, logistics requirements and human resource availability.

9. IT Infrastructure

9.1.   Telecom Infrastructure

The Government of Kerala has allowed mobile telecom service providers to set up towers on government land and buildings. However due to concerns from the public against towers in residential areas it is necessary to optimize the Telecom infrastructure, as below.

9.1.1.   Shared Telecom Towers

Telecom is a public utility service & growth engine for socio-economic development of the society. Telecom Towers are widely recognized as critical infrastructure and lifeline installation. "Shared Towers" provides cost and scale benefits and better maximum coverage with less infringement to public life. This will ensure efficient use of resources through cost reduction,

extended economies of scale to the telecom business, lowered consumer prices and improved quality of services etc.

KSITIL the government agency for IT Infrastructure shall construct such common towers in government buildings and critical locations based on the request from Telecom operators and lease the facility to them retaining the ownership with the Govt company. The high power committee set up for the decision making shall meet once in 6 months and clear requests . The requests shall be received in Jan and June every year and shall be cleared in a month's time. KSITIL shall undertake the construction of such sites and deliver it as scheduled.

9.1.2. NetCo & other infrastructure sharing:
The government shall encourage operators to enter into NetCo agreements wherein they share their networks for cost optimization, as a result of which the site requirement for different operators would be less.

9.1.3. Alternate Technologies
Technology disruptions like MVNOs using Wi-Fi hot spots and Google's gigabit internet can significantly impact mobile network business models and can reduce tower sites demands. Government shall encourage research and pilot projects in this regard

9.2. Kerala State Optical Fiber Network
Government of Kerala aims to build a dedicated Optic Fibre Network (Kerala State Fibre Network) connecting the State Head Quarters, Districts, the Block and Gram Panchayats in the state. A highly scalable network infrastructure has been envisioned for K-FON which shall be accessible on a non-discriminatory basis, to provide on demand, affordable broadband connectivity of 2 Mbps upto 100 Mbps for all households. The OFC shall be drawn with the association of the KSEB through the existing poles. Following are the major objectives of K-FON.

1. Plan and implement the mega infrastructure project to establish fibre optic connectivity across the state connecting all urban and rural areas to address the digital divide. BPL families will be provided Free limited internet bandwidth upto 2 Mbps.

2. Create an optical fiber backbone network connecting all Districts, Blocks, Panchayats and urban local bodies

3. Establish connectivity to all Government Institutions including Educational institutions, Police stations, Health centres and hospitals etc in the rural and urban areas of the state.

4. Offer connectivity to households (Fibre to Home), other business entities etc, located in the urban and rural areas of the state.

5. K-FON will be made available to Telecom, Internet Service Providers, Local Cable Operators etc. in a nondiscriminatory manner to offer various services such as high speed Internet, IPTV, Voice, video conferencing etc.

6. Redundant and scalable OFC network to ensure high uptime, reliability and bandwidth on demand.

7. All the Govt. Offices, Educational institutions, Akshaya Centers, Friends Centres shall get connected under this network through integration with the State Wide Area Network (KSWAN).

9.3.   State Data Centers and Cloud

Enhance all State Data Centres with the adoption of "Cloud by default" approach of the state and strengthen the Disaster Recovery / Business Continuity Processes . Establish and operationalise the near site and remote Disaster Recovery sites. Other initiatives being

1. Consolidation of SDCs for energy efficiency, effective monitoring and optimised resource utilization.

2. Adoption of Cloud first principle for the e-Governance DC infrastructure

3. Virtualisation of infrastructure for effective utilisation and energy efficiency

4. Establish right tools and processes for faster provisioning and allocations of infrastructure environments to departments, ensure high availability of infrastructure and systems.

5. Establish modular, redundant and scalable infrastructure across data centres ensuring high availability

6. Establish an Integrated Command and Control Centre (ICCC) for monitoring and control of Data Centres and other network infrastructure on 24 x 7 basis with right tools and processes.

7. Establish Security Operations Centre (SOC) to strengthen pro-active monitoring of threats on 24 x 7 basis and ensure security of the Infrastructure, systems and data.

8. Aligning to the state vision on Green initiatives, ensure low PUE, use energy efficient cooling solutions and use of solar power for the DCs

9. Establish and integrated statewide DR/BCP optimizing the statewide infrastructure.

10. Focus on continuous improvement in collaboration with technology and service partners.

10. Investment facilitation

10.1. Advisory Committee
The Government shall constitute a Advisory Committee of industrialists who are established and renowned in the IT Industry and who either belong to Kerala or have the willingness to support the state. These stalwarts of the industry shall then be the Ambassadors of Kerala to the IT majors and would set up a dialogue at the Board room level for the establishment of the offices of the respective companies in the state.

10.2. Leveraging IT Assets
Government will look forward to leverage the IT assets created under different organisations and projects. An inventory of such IT assets will be created and possible consolidation of the same attempted before the same is leveraged to raise funding for the future development.

10.3. Promoting Brand 'Kerala IT'

10.3.1. Delegations
The State shall sent delegations to identified regions/countries with the support of the industry organizations and trade and commerce agencies to establish corridors of work and commerce for the Kerala IT companies.

10.3.2. IT Expo Kerala
A bi-annual IT expo will be conducted in the state exhibiting its strength and growth potential in IT and also as a measure to bring the futuristic developments across the world to the state. The 'Kerala IT Expo ' shall be a place for IT companies of Kerala to exhibit credentials, explore business possibilities and engage with national and international players. Specific delegations from countries of business interest shall be invited as State guests for such events. The IT expo shall be a biannual event, the first event in 2017 shall be focusing on the smart facilities, Healthcare and Mobility.

Sub Policy 3: FOSS policy

1. Objectives

1. Provide a general guidelines to enable the Awareness Acceptance and adoption of FOSS technologies in government.

2. Increasing Free Software Adoption among Citizens

3. Provide a Guidelines to Government agencies on considerations that must be made prior to acquiring any custom-developed code

4. Highlight a minimum rights to Government-wide reuse and rights to modify the code on any software made for Government.

5. Guidelines for making the custom-developed code for Government, broadly available, subject to limited exceptions

6. Establish requirements for releasing custom-developed source code, including securing the rights necessary to make some custom-developed code releasable to the public as OSS

7. Provide instructions and resources to facilitate implementation of this policy

8. Facilitate the implementation of the FOSS policy 2014 in accordance with the needs of the state

2. FOSS Implementation

2.1. Nodal Agency

The International center for Free and Open Source Software shall be the nodal agency for the promotion and research in the field of Open technologies. ICFOSS shall act as a watch dog for the FOSS implementation in the State and shall prepare an annual report on the FOSS adoption and deviations in the state government application.

ICFOSS shall create a center for FOSS facilitation to assist the government agencies migrate to FOSS environments and also assist them in the implementation and running of various applications.

2.2. Government FOSS repository

The government and the public sector in general, is one of the important consumers of software. Apart from adopting free software in government, a lot of reuse and sharing can also be enabled through a repository of e-governance applications. Under this policy

1. The code developed for the state should be available as free software.

2. Proper transfer of code from vendors to government and release of the same under free license should be enforced.

3. A public repository of application for local bodies shall be created.

4. Competitions on software for civic engagement would be conducted to evolve innovative solutions.

2.3 Key Initiatives

2.3.1 Public adoption of Free software:
The government shall promote free software in households indirectly with increased adoption in government offices and academic institutions and more directly by persuading local hardware vendors and training institutes.

2.3.2 SME Sector and Free software:
SME industries in various sectors can adopt free software to

1. reduce cost.

2. improve services

3. Improve legal compliance.

The government shall support development of free software tools and promote their adoption through local hardware vendors. Some of the tools that are relevant include those for accounting, customer management, billing, micro-finance and ERP. The State shall also help the development of local small-scale IT services businesses that are based on FOSS.

2.33 Free software and Human Capital:
Increased adoption of free software by industries has led to increased demand for trained personnel. Addressing this demand requires systematic intervention at various levels. The vast resources for learning available on the Internet need to be leveraged.

1. The government shall promote free software user groups on college campuses through the 'Student Ambassador' program of ICFOSS.

2. Experiential workshops in various technologies shall be conducted in colleges and polytechnics.

3. Under programs like Tequip, training shall be provided to faculty.

4. Working professionals who are interested in teaching/contributing shall be encouraged to do so.

5. Curriculum-linked free software awareness shall be brought in in most disciplines from pure sciences to music.

2.3.4 Libraries and Free knowledge:
Libraries are centres of human knowledge and creativity and with the emergence of Internet, libraries are changing. Free software and maker movement can play central role in reinventing our libraries.

Government shall also strengthen the rural libraries and create a network of community / neighborhood libraries .

2.3.5 Development of Local Services:
The emergence of new service models of aggregation shall affect workers adversely in some of the sectors like transportation and hospitality. IT is acting as a tool of large-scale aggregation and local business need to take advantage of technology by creating local services, preferably in cooperative model. The state shall promote the creation of such services using free software in the interest of labour and society.

The state and local bodies can device community- based alternatives like resource pooling hyper local platforms.

2.3.6 Free software and Technological Progress:
The state shall aim at qualitative change in its IT industry by increasing technological sophistication. This includes exploring possibilities of cutting-edge work in fields like Industrial Automation, Artificial Intelligence, Analytics, and Robotics and so on. Leveraging free software, the state shall promote research and development in these fields.

Sub Policy 4: Digital Inclusion

Digital technology has opened new domains of exclusion and privilege for some, leaving some part of the population isolated from the digital realm. The process of Digital inclusion is defined here as the effort to enable all sections of the population to access use and benefit from the digital technologies. The primary area of digital inclusion is access but access alone will not suffice. The ability to adopt and apply the digital technologies by every citizen is needed to reach the ultimate goal of creating digitally inclusive communities.

1. Objectives

The major objective of the policy is
1. To ensure that there is no digital divide in the society.

2. To enable access to every citizen irrespective of age, gender, educational qualifications, occupation, location etc.

3. Create Digital awareness among every citizen and provide sufficient skills for trying out various digital technologies

4. Create avenues and options for applying the Digital technology and knowledge by providing digital services and collaboration methods

2. Focus areas
This shall be addressed through

1. Access: Availability and affordability. The technology to be available in a manner which is less sophisticated and at an accessible way and in an affordable manner.
2. Adoption: Have the digital literacy to know and reach out to such technologies, with the content relevant to them to create the motivation of getting into it and break the barriers of intimidation.
3. Application: provide the avenues of accessing such technologies for self and benefits of others, in critical areas of living.

3. Inclusion Strategy

3.1. Local Language
Language shall not become a barrier for any citizen to access /avail government services /information from any of the channels set up by government . To this effect all the contents of the Government channels shall be made available in local language and the provision to input through voice recognition shall be made.

3.2. Digital Touch point

1. The basic awareness shall be ensured through structured and targeted programs like the digital literacy campaign and sponsored workshops through Akshaya centers

2. Accessibility shall be ensured through the provision of appropriate number of Akshaya centers, Internet kiosks and hot spots in all regions

3. The adoption of e services by the common man will be promoted by the trainings and provisioning of mobile devices in every family requirement

4. The Government shall ensure a fiber to home project and ensure mass purchase and supply of the mobile devices to homes

3.3. Workplace Inclusion

3.3.1. Gender Sensitization

The Government shall facilitate a range of policies for Digital Inclusion of Women so as to enable them overcome the pressures of balancing work and family like

1. Work from home during pre/post pregnancy period (extended leave), flexibility for reduced working hours (on reduced pay) for women during post pregnancy period

2. Creche/after school care facility – infrastructure support from government, but owned and operated by qualified women professionals (preferably from the same locality)

3. Provision of canteen/facility with multiple counters supplying homely packaged food owned and operated by women, maintenance, repairs and other ancillary services (preferably from the same locality)

4. Encourage/incentivise a 100% women owned, women employed IT firm within each technology park

3.3.2. Differently abled to digitally able

Government shall initiate action to develop I.T based technologies for helping differently abled persons. The government shall also encourage/incentivise differently abled individuals to take up certifications/courses which shall enable them to take up a career in the IT industry.

1. Government shall ensure barrier free access to the differently abled in all IT parks with globally accepted accessibility norms.

2. Employers shall be given financial incentives for employing differently abled individuals.

3. Introduce a 'MGNREGS' model scheme in the IT sector to address mass digitization/ related tasks within various

government departments/ bodies and to bring more employable youth under the IT umbrella. The digitization and archiving tasks within the government departments/ bodies have to be taken up with specific targets and timelines while giving higher priority to significant areas like health, revenue, education etc. This model can be extended to cover the students of arts & science colleges in the State too thus giving them an exposure to an IT environment.

4. Utilize big data and analytics to proactively extend government welfare schemes to the vulnerable sections of the society (Senior citizens, physically & mentally challenged, single mothers, widows, BPL families etc)

5. Inclusion and participation of the local population in the vicinity of IT parks shall be enabled by mandatory reservation/preference of employment (subject to meeting qualification guidelines) in all ancillary services.

Sub Policy 5: Digital Capacity Building Policy

The Government shall try to keep abreast with the developments in the field of education and knowledge and ensure that the students at different levels are exposed to the futuristic developments in various fiends of technology. This shall be achieved through a multi-pronged approach leading to a "Cognitive Framework".

1. Curriculum updating and supplementing
  1. Supporting IT @ School with programs for students to enhance their learnability by means of initiatives like Raspberry Pi Program, Electronics kits etc

  2. Supplement the curriculum with open learning course wares

2. Creating an Experiential learning environment
  1. Digital learning (learning assisted by AR/VR, digital content)

  2. Tinkering /innovation centers @school

3. Tele presence Network
Create a Tele presence network across all the Technical institutes for Higher education (to start with the Engineering colleges under Kerala Technical University) with the support of the Industry to create requisite skills and learning among the graduates.

4. Digital Fabrication facility (mini fab labs)
Establishing of Mini Fab labs across all the Engineering colleges in the state to ensure the exposure to Digital fabrication.

5. 'Hall of Fame'

App Contests to be extended to students as well to make creative applications for public good or exhibit their technology skills.

6. Enhancing the Learning

Professional education shall be enhanced with the application oriented learning and use of technology to enhance the experience and access.

7. Open Technologies and MOOCs

Free and Open Source software shall become the medium of technology learning and all Labs and instruments of study to be of Open Technologies. MOOCs (Massive Online Open Course) shall be promoted and the same shall be interwoven into the current curriculum to get sufficient credits for students attempting the same

Sub Policy 6: Digital procurement Policy

The Government shall encourage the online procurement for public agencies where the product /service requirements are well established and there are multiple channels of procuring such products or services. For public works the e-tender platform has proved to be effective and the same shall be extended to products and services with a reverse auction option .

1. Objective
1. To bring the procurement processes of various government departments/agencies to a common platform

2. Bring in reduction of the time and cost of procurement process for both vendors and government

3. Create more value through increased competition and the eliminating cartel formation

4. Develop single point platform for all procurements

5. Provide fair opportunity to all vendors and bring transparency and reduce corruption

2. Key initiatives
Government of Kerala is envisioning the following steps to further strengthen the procurement process and transparency in public procurement.
1. Multiple payment option through integration of e-Payment Gateway.

2. Integration of pre & post tendering modules for e-Procurement system

3. Government e-Market Place System (To facilitate online procurement of common use Goods & Services required by various Government Departments / Organizations / PSUs.)

    1. Implementation of e tender cum reverse e auction for all the purchase of Goods and Services.

    2. Implementation of e Auction Platform

    3. Implementation of e-Sale platform for PSU to sell their products online.

    4. Implementation of e-Sale platform for Farmers to sell their products online.

4. e-Procurement Implementation on following Organization /Department/PSUs

   1. All the BANKS under Co-operation Department.

   2. - All the Colleges under Directorate of Collegiate Education.

   3. All the Block Panchayaths under Rural Development Department.

   4. _ All the offices of Kerala State Electricity Board.

   5. All Panchayaths under Directorate of Panchayaths.

5. Government shall take steps to ensure better supply chain management

6. Shall create a system of strategic procurement

7. Shall ensure the advantages of bulk purchase.

8. While aggregating for volume it shall also be ensured that the small producers are also considered and given adequate space in the process.

3. Online procurement guidelines

   1. Establishing Channels of procurement of goods

E-Commerce portals interested in delivering the goods to government or OEMs (Original Equipment Manufacturers) who do not have a direct delivery would be asked to register their authorized partners with the Government. These registered e-commerce sites shall then be the identified channels of online purchase for government requirement. The empanelment shall be reviewed year on year based on their performance.

The standardization of products be various vendor empanelled products shall be done through a transparent process and the provision for addition and deletion of products from the list shall be clearly laid out.

   2. Government Process re-engineering to meet the requirements of such online procurement

The government shall issue necessary directives to alter or amend the stores purchase manual to ensure that the purchase through the technology platforms is possible.

3. Devices up gradation , maintenance and buyback

Government shall insist that for every government purchase of devices it shall be mandatory that there shall be a local partner who shall be responsible for the upgradation and maintenance of the device. The local partner shall be a trained and authorized partner for such maintenance. The Government shall also insist on a buyback clause during the time of purchase to ensure that the e-waste is under control .

4.   Swiss Challenge Approach

Government shall be open to Innovative technology /process / business solutions from service providers and the same shall be procured through a Swiss Challenge method.

5.   SAAS :

Government shall be open to vendors who are willing to provide Software-As-A-Service to the Government for a period of 5 years subject to terms of data privacy and migration agreements.