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

Government of Kerala

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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:
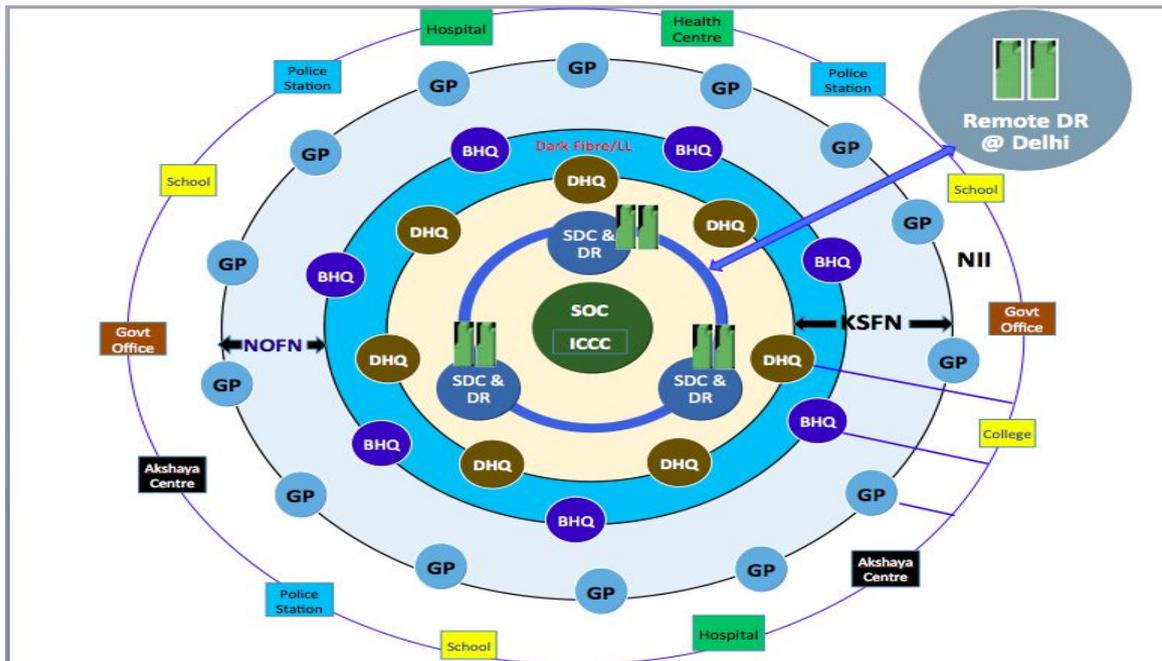
4.4.2. e-Governance Service Delivery

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.
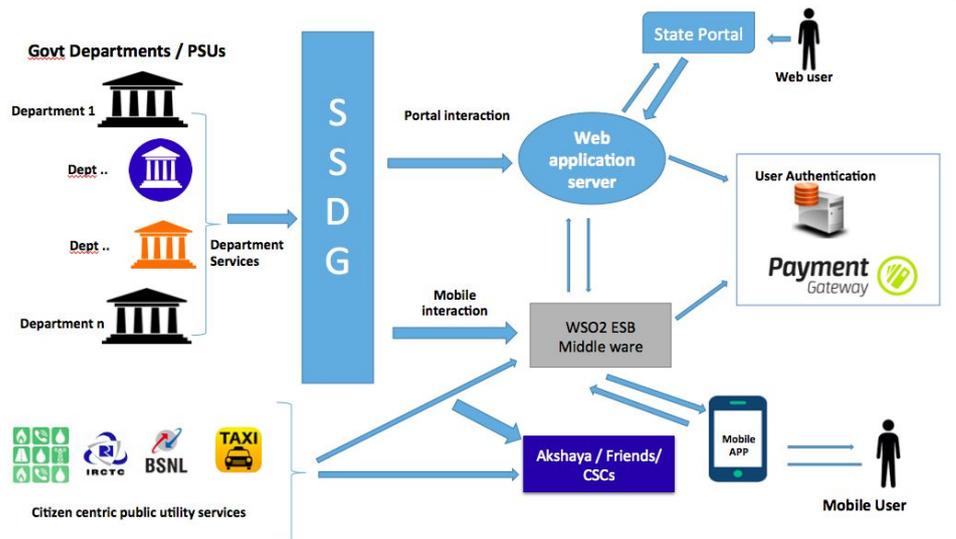
4.4.3. State Service Delivery Portal

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 I**OT** 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

   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.

Sub Policy 7: Technology Innovation and Entrepreneurship policy

1. Introduction

1.1. Knowledge based Innovation and Entrepreneurship

The Science and Technology driven Innovation comes under a broad category of innovation definition called "Knowledge based Innovation". It is critical to bring in this definition as we are in a Knowledge economy and there are other factors which impact the development of Science and technology based inventions and breakthroughs to a land.
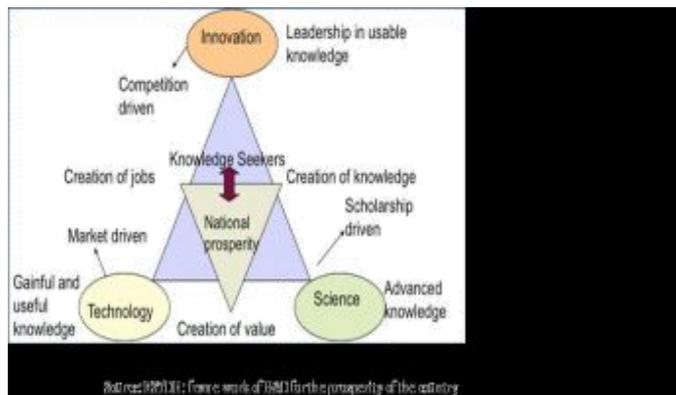
The Information technology "start ups", essentially belong to the second category enterprises discussed above and seem to be bringing about disruptions in the sectors they are emerging. These innovators are today equipped with the power of Internet and developments in Information technology and hardware devices. They seem to be creating a market pull in unexpected directions and the convergence of ICT, mobility and cloud technologies seem to be favoring the same.

The thrust effected by re-engineered business models in the concerned sectors has been tremendous. In hospitality we have the largest accommodation provider who doesn't own a property and in Media we have the largest media company, which doesn't have a production facility. These were models unthought-of or written off not too long ago and similar disruptions are happening in education, healthcare and all such sectors.

1.2. Kerala Technology Startup Policy

Kerala Technology Start-Up Policy now in place unfolds the broad framework for creation of a startup ecosystem in technology based startups across sectors in state of Kerala. The Policy is split into nine sections that are the strategic building blocks towards a world-class startup ecosystem viz., Infrastructure, Incubators and Accelerators, Human Capital Development, Funding, State Support, Governance, Public Private Partnership, Scaling Existing and Establishing New Incubators and Startup-Bootup-Scaleup model for moving fast from ideas to IPO.

1.3.Kerala Start UP Mission

Kerala Startup Mission (KSUM) the nodal agency of Government of Kerala for entrepreneurship development and incubation activities in Kerala. The primary objectives of K-SUM was to undertake the planning, establishment and management of Technology Business Incubators/ Accelerators in Kerala so as to promote technology based entrepreneurship activities and create the infrastructure and environment required for promoting high technology based business activities. KSUM objectives also include being an apex body for all other incubators in the state to co-ordinate their functions to strengthen the entrepreneurship development activities of the state government, promoting knowledge driven and technology based startup ventures by students, faculties, local entrepreneurs etc, planning and implementing industry institute linkages and networking, setting up of R & D facilities and related facilities, encouraging formation of IEDC and TBI's in academic institutions and capacity building programmes for human resources.

Government of Kerala, through KSUM, is establishing the Kerala Technology Innovation Zone, a global innovation incubator hub for multiple domains and technology sectors under a single roof.

2. Objectives

The major objectives of the Technology Innovation and entrepreneurship Policy are

1. increasing of R&D intensity,

2. Stimulation of climate and culture of innovation,

3. Commercialization of technology.

4. Fostering the growth of entrepreneurial ecosystems

5. Reduce the entry barriers

6. create innovation infrastructure (technology transfer labs, science hubs, and business/technology incubators)

7. encourage the uptake of strategic technologies among SMEs

8. improve access to pre-commercialization funding

9. provide tax incentives (R&D tax credits, favorable capital cost allowances)

10. Promote 'build on traditional industries' using new technologies

3. Key Initiatives

3.1.Youth Entrepreneurship Development Program

The Youth Entrepreneurship Development Programmes (YEDP) is a highly intense and focused scheme by Govt of Kerala, for the startups to improve their entrepreneur talents during incubation period. YEDP create avenues for

innovation and cross sector ventures, enable them to experiment with various business models in niche segments. YEDP comprise of programmes and schemes like 'Learn to Code' (Raspberry pi Programme, Electronics@School), Startup Box Campaign, Startup boot Camp, Leadership Academy & Training Programmes, International Exchange Programme, Fablab Programme, Patent Support Scheme and Entrepreneur Driving Programme.

3.2. Technology Innovation Zone

Government of Kerala is establishing the Kerala Technology Innovation Zone, a global innovation incubator hub for multiple domains and technology sectors under a single roof. The zone will create world-class infrastructure facilities for multi sector technology incubators to incubate their start-ups and to support home grown enterprises. We also expect the cross pollination of ideas and technology breakthroughs to trigger high value innovations/startups.

Kerala Technology Innovation Zone is envisioned as a one stop shop for technology innovation, where everything from the consolidating of the idea, to its incubation, to mentor support for setting up a successful enterprise and even a squadron of angel investors ready to invest in a bankable idea is present. The TIZ acts as a self-sustained ecosystem which serves all the interests of the young innovators and entrepreneurs, so that all the time and energy that they have, goes into product development and not the peripherals such as worrying about the law and lack of funding or infrastructural support.

3.3. Fab Kerala Network

Govt. of Kerala through Kerala Startup Mission (KSUM) has setup two Fablabs each at Technopark, Thiruvananthapuram and Kerala Technology Innovation Zone, Kochi. Fablab Thiruvananthapuram is located at the ground floor of Indian Institute of Information Technology Management (IIITM-K), Fablab Kochi is located in the ground floor of Water Tank Building, Kerala Technology Innovation Zone, KINFRA Hitch Park, Kochi.

By setting up the Fablab Kerala Network it is envisaged to encourage the innovation, technology development, product prototyping, maker learning, and commerciziable product development. This will empower the maker-entrepreneurial culture, which at present is confined to ICT/ electronics domain. The Fablab programme will lead to a cross learning culture among multiple technology sectors and create a robust platform for the upcoming entrepreneurs to create indigenous technology products. The Kerala fablabs are a support facility for the maker community comprising of student, startups, entrepreneurs, corporates, individual makers, research groups, academic institutions and universities across India. The Kerala Fablabs has a vibrant ecosystem for creating a maker culture among the young techno-entrepreneurs, who want to develop their innovative technology idea into a product prototypes with fine design functionalities.
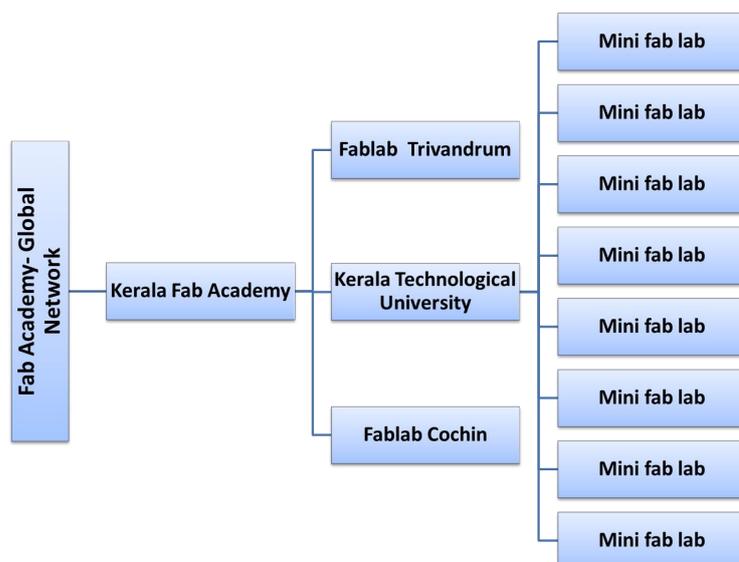
Mini Fab Lab

The project Mini Fab Lab aims to create mini Fab Labs across Kerala in Schools, Colleges etc. This will in turn bring in an house development facility.

Mini Fab Lab is an effort to bring maker ecosystem to the community . These Fab Labs will be based on Educational institutions and closely adhere to the university's idea of bringing out makers with proven skills in design , development and fabrication. Mini Fab Labs will work closely with the Fab Labs to take advantage of the Fab Network , Fab Academy and other Fab Lab based initiatives. Makers based on Mini Fab Labs are allowed to connect to Fab Lab based makers / Fab Guru's at any point of time through a dedicated channel. This will also make it quite easy to get maker certifications from the Fab Guru, which is a value addition to the degree certificate. Students/individuals based on Mini Fab Labs will also get the opportunity to work at Fab Labs and get them certified as Fab Gurus.

Apart from the Mini fablabs, the Kerala Fab Academy envisages to create open maker spaces in the state. The open maker space will have all the basic machines for prototyping and will be accessible to public. The mini fablabs shall become kiosks for common people to approach in solving societal problems.

4.   Startup Funding

4.1.Grants for innovative ideas (Rs 2lakhs per idea)

The government shall give Rs 2 lakhs per innovative idea/start up and this shall be to startups within the state . The funds shall be disbursed through Kerala startup Mission to the start ups registered in the ecosystem.

4.2. Seed funding (pre commercialization)

The government shall continue to provide pre commercialization funding through Kerala Start Up Mission and this service shall be extended to start ups in the entire startup ecosystem in the state.

4.3.Alternate Investment fund (Kerala Focused)

Government shall encourage Kerala focused funds to start operations in the state and shall take participation in the same upto 25% as limited partner. The Fund shall be managed as per the rules and regulations of the fund.

4.4. Early stage Funding (KSIDC & KFC)

KSIDC is offering Seed Funding to any new ventures promoted by Young Entrepreneurs, subject to a maximum of Rs 25 lakhs per venture or 90% of the initial cost of the project, whichever is lower. Seed Funding can be in the form of Soft Loan either to Promoter-Directors or to the Company itself. Funding can also be considered by way of direct equity subscription by KSIDC in the company wherever the project development/implementation has been advanced

4.5. Standard Investment Subsidy

A standard investment subsidy is available for startups at 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 Standard Investment Subsidy will be 40% of Fixed Capital Investment subject to a limit of Rs. 25 Lakhs. Industries that qualify for SIS are IT Software Development, IT Services, IT Enabled Services (excluding IT training institutes that provide training to public at large), Hardware Manufacture.

5. KSUM 2.0

Kerala Startup Mission, K-SUM (formerly Technopark TBI), the nodal agency for implementation of the policy offers, mentoring, infrastructure facilities, entrepreneurship development programmes, seed fund assistance and exposure programmers, for startups. Kerala Start Up Mission has successfully implemented the startup Policy and prepared a base for a dynamic startup ecosystem. The Government is now looking at a quantum leap in the startup activities both in terms of quantity and quality. The KSUM 2.0 is an attempt in this direction.
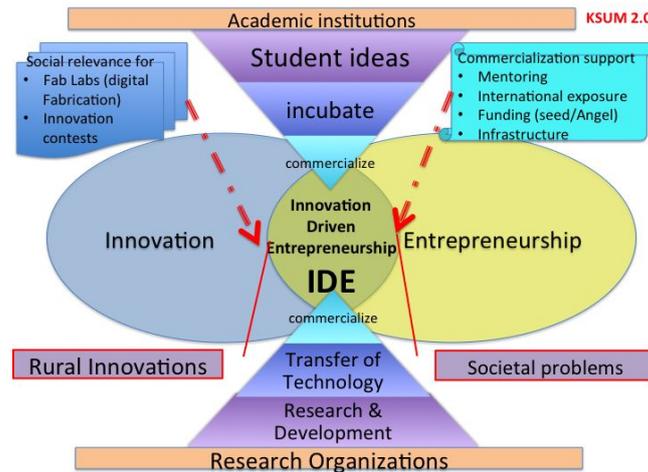
KSUM shall focus on Innovation Driven Entrepreneurship and the elements of triggering such innovation are expected to come out of the Academic institutions, R&D centers, Society in general (societal problems) and Rural innovators , involved in 'jugad' innovations. We are establishing a clear stream of activities connecting the technical universities and academia at large which will help scout innovations nurture them and bring them to a level of commercialization. On the other end we have R&D institutions and agencies working on cutting edge technologies that are creating intellectual property and advancements in varioius technologies for their own research or operations. These advancements however do not come out for the common good of the society nor does it translate to commercial businesses. The system will have provisions to capture such latent talents and innovations and bring them to the forefront. The biggest triggering force of commercially successful business is a societal pain point, every time an innovation addresses a problem faced by the public in a way better than it is being done currently there is a ready market/ opportunity.   The system shall also plan to identify   , scale up and bring to notice the incremental , breakthrough or the frugal innovations done by general public especially in the rural areas. Open Innovation Platform

Open innovation platforms, an integral part of a corporate business model may be created, by which they can bring in externally generated knowledge into their business and to streamline it along with the internally generated knowledge. This will benefit them to increase their rate of innovation in the business. One way of doing it is like donating company's patent to an independent, third party organization, put them in a common pool or grant unlimited license to use to

anybody. Brining in open innovation can create competitive advantage at the level of business in which ideas for innovations can emerge or go to market from outside the company as well as inside or extended to a regional level. This will aid in the exploitation of intellectual capital and making new technology products. Government shall encourage and incentivize open innovation attempts by corporates and shall facilitate the same through creation of requisite infrastructure and funding.

6. Grand Innovation Challenge Kerala

The government wishes to establish an annual innovation challenge which will offer a grant of Rs 1cr to the winner. The focus of the challenge shall be innovations which have a high societal impact and can significantly improve the lives of people.

7. Technology Commercialization Centre /Platform

This TC Center shall bridge the gap the innovators and industry. As a result, it would become a technology and knowledge transfer center. The center shall also house an exclusive state of the art research lab (similar to MIT Media Lab) wherein the innovators and industry can collaborate do research and fine tune the products.

The Platform would have two tiers
1) a virtual platform where we bring in all technologies to be transferred (this is already done by VSSC/ISRO, CDAC , Sree Chitra etc) , and potential productising /marketing /commercialising players pick up the relevant ideas and meet up/team up with them to realise the same.
2) The ideas that evolve from the discussions and meet up in the virtual platform 'melting pot' shall be given space in the TC, a multi-disciplinary lab being attempted as part of the TIZ."

The Platform provides innovators and company founders with an opportunity to refine their commercialization and solicits early-stage feedback from experts as they develop a strategic plan. This program will provide with the assistance needed for a successful startup. The Platform also provides with an option to a start-up company for a licensing opportunity from research institute or university.

8. Fostering Future Technologies

8.1.Future Research lab
The main objective of the future research lab is towards upskilling the society towards skills, capabilities and knowledge needed to succeed in today's world. The future research lab shall open its doors towards emerging technologies where people experience the same. The core technologies in the future research lab shall comprise of :
   1. Business Innovation

2. Cyber security

3. Big data

4. Machine Learning

5. Artificial Intelligence

6. Robotics & Automation

7. Augmented Reality

8. Virtual Reality

9. Internet of Things

10. Civic Technology

11. Space Technologies

12. Renewable Energy

8.2. DIY Bio Lab

Do-it-yourself biology (DIY biology, DIY bio) is a growing biotechnological social movement in which individuals, communities, and small organizations study biology and life science using the same methods as traditional research institutions. DIY biology is primarily undertaken by individuals with extensive research training from academia or corporations, who then mentor and oversee other DIY biologists with little or no formal training. This may be done as a hobby, as a not-for-profit endeavor for community learning and open-science innovation, or for profit, to start a business. Like the fablabs the Government shall also focus in setting DIY biolabs.

9. G-Tech Innovation Focus Group

GTech Innovation Focus Group (an initiative by GTech to promote innovation and entrepreneurship in Kerala) has initiated the following programs to foster innovation in the state. The Government of Kerala shall provide support to these initiatives and facilitate the reach of the programs across the state.

9.1. Adopt A Young Idea (AAYI),

The program is to identify and adopt potential ideas and curate it to maturity. The attempt is to create socially relevant projects that can be commercialized and has the potential to revolutionize the industry and society.

9.2. Rural Innovation Challenges in Kerala (RICK)

This program initiated by GIF is to identify and nurture rural innovators who do not get the opportunity to engage in the mainstream startup ecosystem of the state. State Government shall provide support to this also.

9.3. Startup Mentoring Support

1. Firms seeking to grow need to be given help in linking up with customers, suppliers and other "actors" within the ecosystem who can provide resources.

2. Startups shall also be given support through the incubation acceleration programs of the Incubators/accelerators in the ecosystem

3. Government shall tie-up with National and International agencies for such mentoring support to the startups.

10. Support for entire Startup Life cycle

validation   product development   commercialization   scale
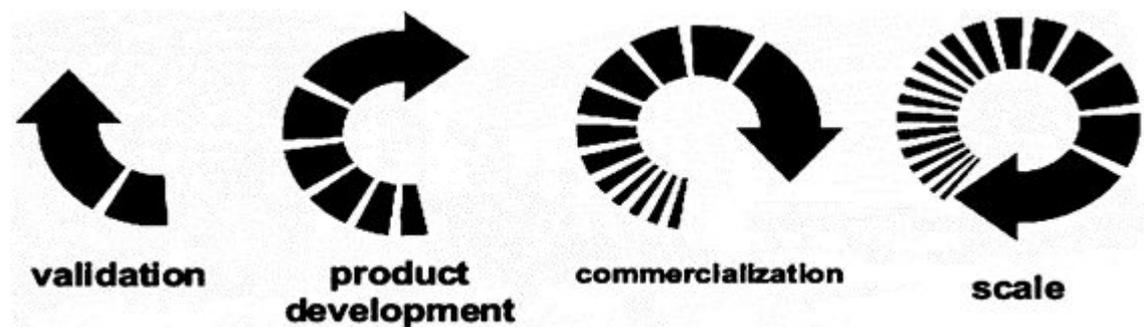
10.1. Validation

1. Idea validation by Experts

1.1. Technical feasibility

The services of a network of technology experts shall be made available to the startups to discuss the technical feasibility of their product ideas. The empanelled list with KSUM, KSCSTE and experts from Academia and scientific institutions shall be part of the network

1.2. Commercial viability

The commercial viability of the proposed development could be validated with the business mentor network that will be established by extending the current mentor network of KSUM to TiE and other industrial bodies

2. Idea refinement support

There shall be support for idea refinement in the case of Innovative ideas recommended by an expert committee.

3. Patent support Scheme

The current Patent support scheme delivered through KSUM shall be aligned to the national scheme for patent support and the scheme of support under the KSCSTE. The scheme which is currently a patent filing cost reimbursement scheme shall be enhanced to facilitate generation of patents by identifying

patentable innovations and supporting the innovator/inventor to develop it to a patentable form.

10.2. Product development

1. Seed support

The existing seed support from KSUM currently a soft loan, shall be enhanced and also be made into a convertible debt in the lines of the schemes of KSIDC. Government shall consider constituting an innovation/prototyping   fund to support innovators and startups create innovative products and this shall be a grant   subject to a maximum of 50% of the cost or 10 lakhs whichever is lesser.

2. Lab support

2.1. Future labs

The Labs for futuristic technologies being setup in Kerala Startup Mission shall be accessible for the startups/innovators to develop the products and test them.

2.2. Fab Labs

The Fab labs set up in Trivandrum and Kochi and the mini fab labs in engineering colleges shall provide necessary support for the innovators/startups for rapid prototyping.

3. Technology mentorship

The pool of technology experts/mentors shall be identified and mentors shall be encouraged to actively own the start ups. The mentor pool shall include experts from industry academia and scientific community.

4. Design and Development

4.1. Design workshops

Design thinking and industrial design workshops shall be conducted for startups to enhance their design capabilities.

4.2. Development and testing support

Platforms for development and testing purposes shall be made available for students and startups with the help of technology partners.

5. Startup Boxes

State of the art devices for development purposes shall be made available to the startups through their respective incubators as per the scheme of KSUM

10.3. Commercialisation

1. Market exposure and Networking

The startups shall be given avenues for market exposure in terms of access to market intelligence reports by global research organisations and through customized reports. Kerala startup mission shall engage with such organizations for getting enterprise licenses for the benefit of all start ups in the ecosystem.

2. Capacity building and International exposure

The current international exposure scheme of the Government delivered through the Kerala startup Mission shall be enhanced to cover delegation visits , event and competition participation   based on a selection and capacity building programs which are unique or cutting edge.

A delegation of 25 startups from Schools and colleges will be identified through a contest and exposed to Silicon valley through the Silicon Valley Visit Program (S-V^2)

3. Marketing support (PR   & Digital marketing)

An empanelled list of agencies shall be identified for supporting the startups in digital marketing and appropriate PR activities.

4. Support to fund raising   (KSIDC/KFC, Investor   Network)

An empanelled list of Individual professionals and institutions shall be made through a process of screening and selection to ensure that startups get adequate support in document preparation and financial aspects.

5. Assistance to early markets (Government and pilot projects)

Government shall attempt to facilitate early adoption markets for the startups through   pilot projects in government and also facilitation through means of DEMO days for   products applicable to government.Government shall make suitable modification to rules to enable direct engagement of startups by government agencies for costs less than 5 lakhs.

6. Statutory services

The government shall create a list of empanelled agencies for assisting the startups in the statutory matters regarding company formation, filings, accounting and taxes

10.4. Scale-up

A major area of deficiency noted in the ecosystem is the lack of support of the startups in the scaling stage. These are startups which have garnered a good round of funding or got acquired by a larger entity or amalgamated with another entity.

1. Infrastructure support for scale-ups,

The government proposes to give subsidized infrastructure for the scaleups in terms of built up space in the government owned/assisted parks. The

subsidizing could be interms of reimbursing part of the rent (a maximum of 50% or 20 Rs /sqft) whichever is lower; this shall be subject to the growth shown by the startup in terms of team, top line, valuation etc.

2. Extended support during transition

2.1. for merged/acquired/amalgamated startups

All benefits of the startups shall be extended to the merged / acquired / amalgamated entities formed out of a startup with a significant valuation, for a period of 1 more year of formal reporting of the transaction.

2.2. Startup expansion with funding

Startups that are beyond the period of concessions (3 years) under the startup definition but who have managed a substantial funding and has created value shall be given an extended benefits under all the schemes.

3. Government Funding for acquired/merged entities

Government funding agencies that are supporting startups through Grants, debt and equity funding shall be allowed to extend the same facility to a merged / acquired / amalgamated entity formed out of a startup, with significant valuation.

4. Conversion of debt to equity (at premium)

Government shall join as a limited partner in SEBI accredited funds, with focus on Kerala as a limited partner and shall contribute to a maximum of 25% of the fund corpus

11. Accommodating Failures

1. Winding up facilitation

The startups undergo many cycle of correction and the need to reinvent and restart the process all over is a part of the learning curve the entrepreneur goes through. It is then critical that the startup founder be able to close his failed startup attempt and move on rather than be bogged down by the old one. The state will give support and guidance to them in whatever ways needed.

1.1. Distressed Startup Fund

If the startup had a compelling reason to borrow and attempt the idea and it is seen that they had genuinely attempted it then the government shall write off /reimburse debts of such startups through a fund created under distressed Startups Fund. The fund would be implemented through the Government of India approved/Government of Kerala approved startup incubators. The source of these funds could be government contribution and contribution to Incubator by the incubator and through CSR funds from the corporates. The contribution to the fund will be in the ration 40: 30:30 (Govt: Incubator: CSR/other funding). The incubator shall form a committee with a member from the Government department (as Chair) , A chartered accountant and

industry member with other members as the incubator may deem appropriate.

2. Repeated attempt

Reinstating the startup status for a startup who is pivoting (after the initial three years) shall be done if the incubator where the startup is placed does a recommendation to Government (KSUM) regarding the previous track record and the current proposal duly vetted by a expert committee of standing.

3. No Failed Entrepreneur

The Government recognizes the fact that the ideas, attempts / or start ups could fail but there cannot be a failed entrepreneur. The Startup founder/ entrepreneur shall not be barred from restarting a startup in an incubator or availing the benefits of the startups/entrepreneurs due to a previous failed attempt unless there is a filed/proven case of fraudulent/malicious intent. The Government endorses the fact that the failed attempt provides lot more learning and experiences that are equally important.

Sub Policy 8: Responsible cyber use and cyber security

1.Introduction

Cyber Security is a critical element of the State IT infrastructure. CERT-Kerala (Computer Emergency Response Team – Kerala) is assigned the task of dealing with Cyber Security matters for the state government. The project which was set up in 2010 has been primarily focusing on strengthening cyber security in the e-Governance space.

The State Government is taking huge strides towards a digital society riding on the pillars of Digital Kerala and Digital India. The State understands the importance of data security while moving ahead with such transformational advances in e-Governance space. With this in mind, CERT-K has a vision to establish systems and processes that will create trust in our electronic environment by securing cyber space in Kerala. This vision on cyber security is based on three pillars of Process, Technology and People.

2.Vision

To create a secure and safe cyber space for citizens, Government and the Industry in the Digital society.

3.Objectives

I.   Create a secure and comprehensive Cyber platform for the establishment of a totally digital society

II. Create a framework of policies and guidelines of cyber actions for different stakeholders including citizens , businesses , employees , government agencies, etc.

III. Create a assurance mechanism for a secure cyberspace and   also clear guidelines for emergency response and disaster recovery

IV. Create awareness on cyber laws and rules among the common citizen to ensure compliance and lawful use of the cyber space

V.   Create a feeling of security among the citizens and business to shift their transactions to the digital paradigm though appropriate technology (hardware and software)

VI. Ensure that all government applications are well tested and secured before they are put into the public domain.

VII. Closely associate with regulatory , enforcement and monitoring agencies in the cyber space at National level (like CERT   In) to ensure a safe cyber ecosystem

4.Process

1. State Cyber Security Policy will be formulated in line with the National Cyber Security Policy that will apply to any State Government entity. Sub policies to cover information security in various technological/ business process areas supported by standards and guidelines will be formulated.

2. A framework for Secure Development Life Cycle will be rolled out that would guide the e-Governance Application Development teams.

3. Government Departments would be encouraged to do Risk Assessment on Information Security and put in place an Information Security Management System (ISMS) based on Policies implementing Security Controls and meeting compliance requirements based on ISO 27001 standard

4. Disaster Recovery and Business Continuity Plan would be mandatory for all e Governance projects. State Data Centre would establish a Disaster Recovery site that can enable Business Continuity of applications. .

5. Period Risk Assessments, Vulnerability Assessments and resultant remedial action needs to be carried out on every e-Governance application of the Government. An effective IT audit mechanism needs to be put in place to ensure compliance.

6. **A Crisis Management Plan would be implemented across the State Government to respond to any cyber incident and mitigate the severity of such incidents.**

5.Technology

1. **Risk Assessments at State Data Centre, Kerala State Wide Area Network (KSWAN) and Organizational networks need to be carried out continually and remedial measures taken to plug any security holes in the infrastructure.**

2. Critical Sectors in the State Government would be identified and mandated to be ISO 2001 certified. Monitoring of data traffic would be done in real time at Data Centers and in critical networks.

3. Security Operations Centre (SOC) would be set up and Security Information and Event Management   (SIEM) solutions would be implemented to alert against cyber threats and help thwart attacks proactively before it negatively impacts state infrastructure. The Security Operation Centre would be integrated with departments having own data centers as well.

4. Security Auditing would be extended to cover different aspects as Static Code analysis, Dynamic Testing, Risk Assessment and ISMS audits.

6.People

1. CERT-K team would be expanded and strengthened to have the best expertise in Cyber Security. It needs to have teams to work on research and development, threat intelligence and monitoring, forensics, training, testing, Incident Response and coordination with other CERTS, Internet Service Providers, Telecom companies, Industry, research institutions, law enforcement agencies and media. 24 x 7 Control room for Incident response and Testing laboratories need to be set up. Innovative ideas to further the cause of Cyber Security across Government and Public at large need to be rolled out.

2. Various cyber security awareness programs and capacity building exercises would be conducted periodically in organizations to assess the risk of lack of awareness.

3. Each department would have to build an Information Security Team of trained security professionals headed by a Chief Information Security Officer (CISO). An effective handholding mechanism would be devised in CERT K to guide the departments.