



# Smart Solutions in developing ICT frameworks for Smart Cities

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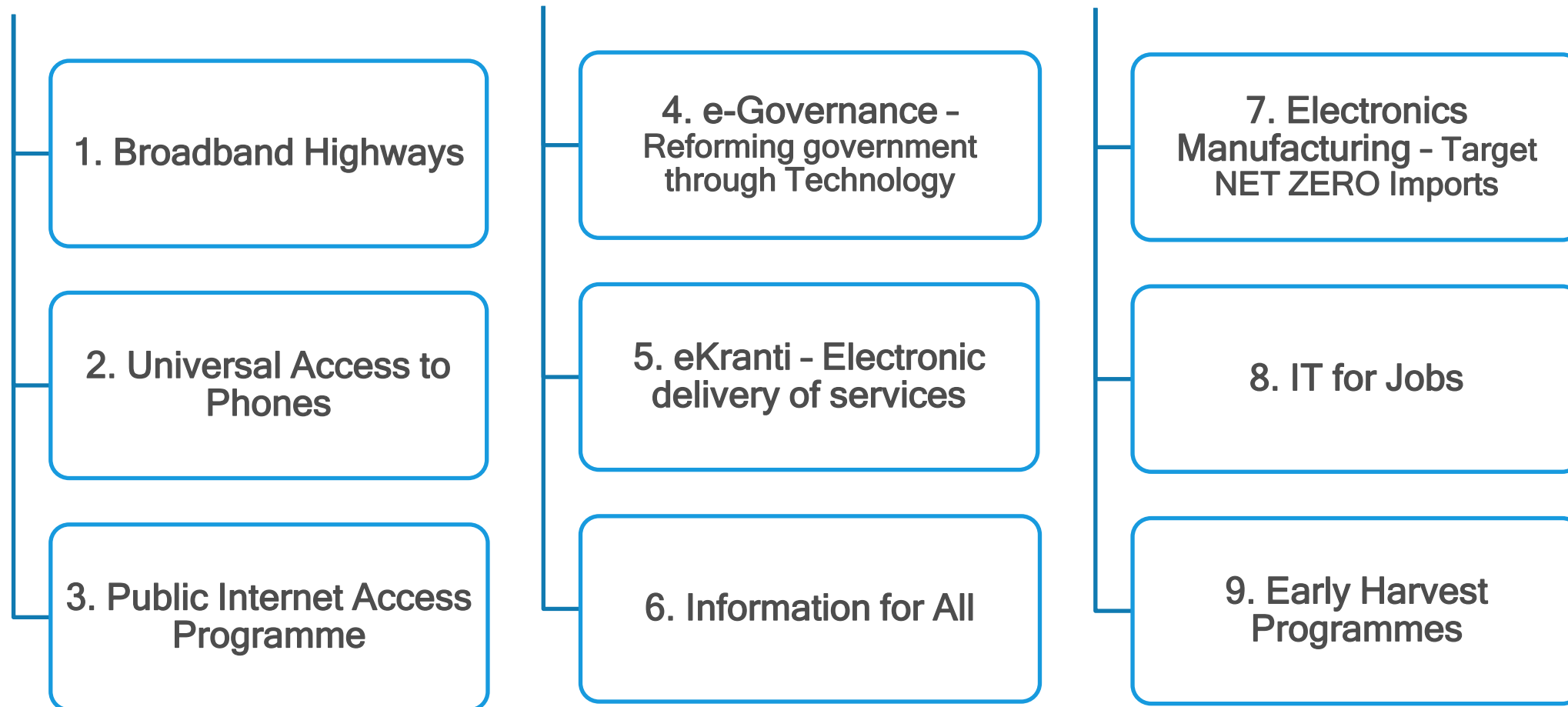


## Digital India

- A programme to transform India into a digitally empowered society and knowledge economy.
- Centered on 3 Key Areas:
  - Digital Infrastructure as a Utility to Every Citizen
  - Governance & Services on Demand
  - Digital Empowerment of Citizens



## Nine Pillars of Digital India





## Broadband Highways

- Integrated broadband highways consisting of:
  - Bharat Net - Broadband connectivity at towns, gram panchayats and villages for delivery of services
  - State Wide Area Network till Blocks
  - NKN for academic institutions to provide high speed network backbone, QoS, security and reliability
- Broadband for All Urban residents
  - Facilitating high-speed & efficient broadband deployment
  - Wireless broadband to increase proliferation of broadband services
  - Mandate Communication Infrastructure in new Urban development and buildings
  - Virtual Network Operators for service delivery



## Universal Access to Phones

- Expand mobile network coverage
- Mobile First: enabling e-Services through mobile
- Mobile broadband: creating internet hot-spots
- Faster mobile connectivity: roll out of 4G
- Ensuring better Digital Subscriber Line (DSL) Connectivity



## Digital Identity and Financial Inclusion

- Leveraging Aadhaar for Digital Identity
- Mobile as an Instrument for digital identity
- High penetration of Bank accounts in urban areas
- Financial Inclusion using JAM trinity (Jan Dhan, Aadhaar and Mobile)
- Use of Point-of-Sale (POS) for e-Payments
- Leveraging 'PayGov India' for e-Payments



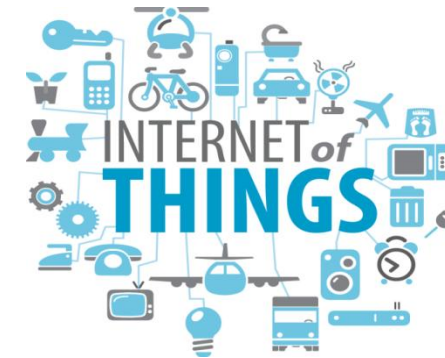
## Public Internet Access Programme

- Public Wi-Fi hotspots
- Post Offices become multi-services center
- Enabling citizens to avail services on their own through availability of internet, skill development and digital literacy.



## Internet-of-Things

- Interconnectedness of various objects and their ability to share information automatically to perform seamless execution of tasks
- Computers embedded in everyday objects e.g. cars, domestic appliances etc.
- IoT: Much higher level of heterogeneity, vast range of devices e.g. wearables, remote controls, smart home/industrial automation systems, portables, RFID and sensor equipped devices.







## e-Kranti - Electronic delivery of services

### Education

- Free Wi-Fi in all Schools
- e-Books
- MOOCs
- e-Scholarships

### Health

- e-Hospital
- Tele Medicine
- Online Patient Records
- Online Medicine Supply

### Communications

- Digital Identity
- Gateways
- Common Services Centres
- e-Post
- Employment Exchange

### Transport

- Online vehicle registration
- Vehicle tracking
- Road & Highways Information System
- Urban Transport

### Business

- e-Biz
- e-Trade
- Commercial Taxes
- MCA21
- Central Excise & Custom

### Social Benefits

- PDS
- Pension
- Mobile Banking
- Insurance
- Women & Child Care

### Security

- Crime & Criminal Tracking
- e-Courts
- Integrated Criminal Justice
- Mobile Emergency Services

### Governance

- GIS
- e-Municipalities
- e-District
- Land Records
- e-Procurements



## Use of Emerging Technologies

- ICT infrastructures & Platforms may be leveraged
  - Infrastructure - GI Cloud “Meghraj”, empanelment of private cloud services, Mobile Seva, e-Sangam etc.
  - Platforms - Digital Locker System, PayGov and cashless transaction, eSign, e-Basta, National Scholarship Portal, Open Government Data platform, etc.
- Geographical Information System(GIS) - GIS & Remote Sensing data will support in planning, designing, execution, monitoring and management of various functions of a smart city.
- Use of Big Data analytics for decision making - on various parameters as collected from smart systems on utilities, law & order, safety , economy etc and assessing trends.



## Cyber Security

- The National Information Security Policy has been put in place to
  - protect information and information-infrastructure in cyber space,
  - build capabilities to prevent and respond to cyber threats, and
  - reduce vulnerabilities and minimize damage from cyber incidents.
- ICERT/ CERT-In hosts a comprehensive “secure your PC” portal with guidelines
- A National Coordination Centre on Cyber Security has been proposed to provide safe and secure cyber space.



## Information for All

- Access to digital resources in local languages along with special needs, such as visual or hearing impairments, learning or cognitive disabilities, etc.
- Government documents would be accessible to the citizens through web portals and mobile applications in a standard format, which shall lead to transparency and information sharing
- Collaborating Government : Leveraging internet and social media tools to better connect with citizens.
  - Inform citizens through multiple electronic platforms
  - MyGov.in - Partnering with Citizens
- Creating knowledge repository with the help of citizens



## DeitY's schemes/Projects for ICTs

- State Data Centres (SDC) - for providing ICT Infrastructure to States
- Mobile Governance - for services through mobile
- National Knowledge Networks - to inter connect knowledge institutions across the country
- Good Governance & Best Practices - for Automation, Process Re-engineering, etc.
- Rapid Replication of Applications - for rapid replication of successful software application
- Localization Projects Management Framework - to provide services to citizens in local language
- Electronics System Design & Manufacturing - for strengthening Electronic manufacturing in India
- National Super Computing Mission - for capacity building in super computing
- National Digital Literacy Mission - for promoting digital literacy



## SMART Projects- Applications to enable

### ➤ Transportation

- Smart Card based ticketing
- Charging stations for electric vehicles
- Pedestrian Facilities
- Multi-modal transport
- Intelligent Traffic Management
- Smart Parking

### ➤ Education

- Virtual classrooms
- eLearning Apps and Products
- Teaching systems, Classroom redesign- interactive whiteboards



## SMART Projects- Applications to enable

- Video Crime Monitoring
  - Single point of control for incident and problem management
  - CCTV surveillance
- Waste Management
  - Take up preventive maintenance
  - Categorization of bio-degradable and non-bio degradable waste, and corresponding disposal
  - Waste water treatment
  - Recycling and reduction of C&D waste
- Water Management
  - Smart meters and management
  - Leakage identification, preventive maintenance
  - Intelligent water quality monitoring



## Greener Environment

- Internet for monitoring and controlling external devices (things, vehicles, services) and significantly reducing their unnecessary power consumption
- Tapping Renewable Energy sources
- Energy Efficient & Green Buildings
- Reduce, Reuse & Recycle
- Pollution control, promote bio fuels
- Relatively low investment to achieve the savings with a seemingly big potential return







Thank You