Safe & Smart City PPP Model

OFC Infrastructure Developer, Creator and Service Provider
Smart City

To build smart city following point to be consider
• PPP Model (Local Body team)
• PPP Trust – Organisation
• Futuristic Data Centre Space
• Strong and Capable Data Centre
• Strong and Strengthen Optical fiber underground network
• Futuristic Video Wall

Services will use through this network
• CCTV Surveillance
• Traffic Signal Management
• Private LAN/VPN/Wi-Fi
• Centralized Data/Document Storage
• Disaster Management
• Public Transport System
• Digital Display Board
• Project Monitoring
• Water Drainage System Etc.
PPP Model

• A public–private partnership (PPP) is a government service or private business venture which is funded and operated through a partnership of government and one or more private sector companies.
• Safe City mostly works on Public & Private Partnership Model
• We would request Government and Local Business partner to financially support the Infrastructure cost
• Private Partners shall take care of Implementation & Maintenance
• Similar to Surat Safe City Project model
Proposed Trust

• Chairman – Collector/Head of Police Department/Municipal Commissioner
• Vice Chairman - Collector/Head of Police Department/Municipal Commissioner
• President - Local Business Partner
• Vice President - Local Business Partner
• Secretary – Local Business Partner
• Treasurer – Local Business Partner
• Legal Adviser – Local CS / Magistrate / Advocate
• Technical committee members – Local Tech Expert Team
• Trusty – No of Donor who will help in finance
• Auditor – Local CA
• Branding & Marketing – Local Business Partner
PROCESS FLOW OF PROJECT ON PPP MODEL

**Step-1**
- Formation of Trust

**Step-2**
- Finalizing location for DATA Centre and start work for Data Centre

**Step-3**
- Location finalization for CCTV Pole and Camera View
- Optical fiber network design, planning and implementation

**Step-4**
- CCTV and Display board installation process to be in phase wise.
  - Phase – I – Installation of 10% of total CCTV Cameras
  - Phase- II – Installation of 15% of total CCTV Cameras
  - Installation of 15% of Digital Display board
  - Phase – III - Installation of 25% of total CCTV Cameras
  - Installation of 25% of Digital Display board
  - Phase- IV – Installation of 25% of total CCTV Cameras
  - Installation of 30% of Digital Display board
  - Phase- V – Installation of 25% of total CCTV Cameras
  - Installation of 30% of Digital Display board
Step-1 : Formation of Trust

• Chairman – Collector/Head of Police Department/Municipal Commissioner
• Vice Chairman - Collector/Head of Police Department/Municipal Commissioner
• President - Local Business Partner - Investor
• Vice President - Local Business Partner - Investor
• Secretary – Local Business Partner - Investor
• Treasurer – Local Business Partner – Investor
• Legal Adviser – Local CS / Magistrate / Advocate
• Technical committee members – Local Tech Expert Team
• Trusty – No of Donor who will help in finance of total project cost
• Auditor – Local CA
• Branding & Marketing – Local Business Partner
Step-2
Finalizing location for DATA Centre and start work for Data Centre

Location for DATA Centre – Should be at Control Center

**Size of data center**

1. Will depend upon the size of Storage Capacity and Servers
2. Number of cameras to be installed
3. Storage capacity required depending upon no of days data to be stored

4. Other value added services to be added
   a. Public announcement system
   b. Digital Display board to be installed
   c. Disaster management
   d. Public transport system (GPS)
   e. Water Drainage System
Step-3

A. Location finalization of CCTV Pole and View
• Location to be finalized where CCTV poles to be installed and CCTV view required
• As per CCTV View number of cameras to be installed
• Laying of electrical cable, installation of UPS, LIU, Rack and termination of OFC

B. Optical fiber network design, planning and implementation
• Optical fiber network designing as per the CCTV cameras location
• Designing of 1G and 10G Network
• POP creation
• Fiber ring network for 100% redundancy
• Last mile connectivity for connecting Govt. Organization, Local Govt. departments
• Last mile connectivity for PA SYSTEM, Digital Display Board and other value added services.
Step-4

CCTV and Digital Display Board Installation

- Installation of Pole with foundation
- Installation of Rack
- Installation and Commissioning of CCTV Cameras on Pole along with electrical fittings
- Termination Optical fiber cable
- Installation and Configuration of Network Switch
- Installation and Commissioning of UPS & batteries
- Installing Digital Display Board along with all electrical fittings & terminating on optical fiber cable.
REVENUE

To Sustain PPP Model a revenue is required for expansion and operation and maintenance for future.

Revenue will come from:

1. **E-chalan**
   - Without helmet
   - Without seat belt
   - Signal Breaking
   - Parking in no Parking area
   - Violation of traffic rules – i.e. 3 seat in bike, using mobile while driving

2. **Advertise on Digital Display Board**

3. **Rental** from Malls, Corporate houses, Societies, Residential Complexes, Private hospitals, Banks for providing Surveillance system
## Solution Comparison

<table>
<thead>
<tr>
<th>Points</th>
<th>R K Infratel</th>
<th>Telecom Operator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dark Fiber Solution</td>
<td>Provide Dedicated Dark Fiber</td>
<td>Don't provide Dark fiber</td>
</tr>
<tr>
<td>Bandwidth Restriction</td>
<td>No Restriction on Bandwidth</td>
<td>Restricted Bandwidth in Terms of Mbps and Kbps.</td>
</tr>
<tr>
<td>End to End Connectivity</td>
<td>Yes - on Underground Optical Fiber Cable</td>
<td>No - Provide MPLS / DLC LINK</td>
</tr>
<tr>
<td>Data Security</td>
<td>Yes - As dedicated Fiber is connected data routed to secured path and in own Network infrastructure</td>
<td>No - Data route to their Network/Server and comes to your end.</td>
</tr>
<tr>
<td>One Roof Solution</td>
<td>Yes - As RK Infratel have Skilled In-house Team for Installation, O&amp;M and Support.</td>
<td>No - As they outsource Manpower from contractor.</td>
</tr>
<tr>
<td>24X7 Monitoring &amp; Support</td>
<td>Yes - R K Infratel have own NOC/Datacentre and is monitored 24x7x365 days</td>
<td>Yes - Telecom operators have own NOC and is monitored 24x7x365 days</td>
</tr>
<tr>
<td>Scalability of Network</td>
<td>Yes - Immediate with Minor Cost, because only need to upgrade hardware devices, Fiber network is capable for any limits</td>
<td>Yes - it's costly and time consuming process. As they back on third party as well they have to upgrade their network for your requirement.</td>
</tr>
<tr>
<td>Dedicated DATA Center for Police / Smart City</td>
<td>Yes - As R K Infratel provides Dedicated Dark fiber solution so that easy to operate dedicated Data Centre for Police / Smart City</td>
<td>No - Telco's provide monitoring from their end. Data center required huge amount of bandwidth so not getting proper throughput as required</td>
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Importance Of Dedicated OFC Network

**Fiber Network**

Fiber Network works like Veins in human body

Conventional method to provided bandwidth arrest the flexibility and scalability of bandwidth consuming application.

Dedicated network is required for real time application and secure data services like surveillance.

**Dedicated Network**

Requires essential frameworks on which to build a real-time software application.

Plays critical role in enabling quick, sustainable expandable network.

Very essential to maintain minimum latency and jitter.

**City Based Network Planning**

Capturing real time image and to traverse through network requires fine tune network to maintain clarity of image.

Requires multi protection path to get high uptime.

Data security must be maintained at network level to meet confidentiality of data traverse from network.

**Camera and Systems Integrator**

CLASS “B” ISP

Enterprise Data solutions

City Surveillance System

Turnkey Project of OFC OSP and O&M/Gas/Power
Application on Dedicated Fiber for Government

CLASS “B” ISP
Enterprise Data solutions
City Surveillance System
Turnkey Project of OFC OSP and O&M/Gas/Power
Application on Dedicated Fiber for Municipal Corporation

- Video Conference & IP Telephony Services
- CCTV Surveillance
- Traffic Signal
- Private LAN/VPN
- Centralized Data/Document Storage
- Street Light Management
- Vehicle tracking system
- Digital Display Board
- Project Monitoring
- Turnkey Project of OFC OSP and O&M/Gas/Power

CLASS "B" ISP
Enterprise Data solutions
City Surveillance System
Application on Dedicated Fiber for Police Department

Video Conference & IP Telephony Services
CCTV Surveillance
Traffic Signal
Digital Display Board
Disaster Management
Announcement System
Public Helpline Service
Centralized Attendance System
Court Connectivity
Central Jail Monitoring
Online Complaints
Online Criminal Record
Police Station

CLASS “B” ISP
Enterprise Data solutions
City Surveillance System
Turnkey Project of OFC OSP and O&M/Gas/Powe
Application of Dedicated Fiber Networks for Industries

CLASS "B" ISP
City Surveillance System
Enterprise Data solutions
Turnkey Project of OFC OSP and O&M/Gas/Powr

Telecom Industries
Internet Service Providers(ISPs)
CATV Operators
Secure Surveillance Services
Military / Defense Communications
OIL/GAS Pipeline System Monitoring
Railway/Highway /City Signaling Monitoring
DAM / Canal Water Flow Management
Government and Semi Government
Corporate/Enterprises Solutions
Bank/Financial Institutions

LAN/MAN/WAN/CAN/PAN Connectivity

RESERVE BANK OF INDIA
Experience Multiple Services On Single Core Fiber Optic Cable

Centralized Data Centre (HO)

Manufacturing Unit

Regional Office

Remote User

Corporate Office

Branch Office

CLASS “B” ISP

Enterprise Data solutions

City Surveillance System

Turnkey Project of OFC OSP and O&M/Gas/Power
Data Centre

What is Data Centre

A large group of networked computer servers typically used by organizations for the remote storage, processing, or distribution of large amounts of data. It generally includes redundant or backup power supplies, redundant data communications connections, environmental controls.

Benefits Of Data Centre

• Maximize the usage of your own networking assets
• Increase in the network reliability and scalability.
• Managed Services provides you with readily available for operating, monitoring and maintaining your system.
• Managed Services gives you continuous operation, support, security, flexibility.

CLASS “B” ISP
City Surveillance System
Enterprise Data solutions
Turnkey Project of OFC OSP and O&M/Gas/Power
Video Wall

A **Video Wall** is a special multi-monitor setup that consists of multiple LED contiguously or overlapped in order to form one large screen. Typical display technologies include LCD panels, LED arrays, DLP tiles.

- Effective communications
- Streamlined operations
- Interactivity
- Situation Management
India’s First Safe City Project on PPP Mode.

Implemented on Dedicated Fiber provided by RK Infratel Ltd. in 4 months record time.

Solution encompasses 200+ Km dedicated network in phase-I and covering entire City in subsequent phases.

100% uptime since December, 2012, Commissioning month of operation of the Safe City Project.

Design and planning of network to protect in multicut scenario and maintain optimum latency and jitter.

Provision of end to end network on exclusive fiber terminated at Command & Control Centre.
City Wide Wi-Fi System

- Any where access of Internet and Intranet Application all over city.
- More people who have a constant access to information.
- More interactive tourism opportunities if visitors have access to free internet.
- The ability to add next generation city appliances to a massive smart grid.
- Increased GDP.

Traffic Signal Management

- Centralized monitoring & control all traffic signal point.
- Enhanced work efficiency & control on traffic violation.
- Minimize or reduce man power cost at all traffic signal point.

Digital Display System

- Dynamic digital signage can grab a customer's attention and influence their purchasing decision.
- Digital signage is instant and offers the ability to change promotions immediately for various products or particular customers.
- Showing public message for social activity through Digital Display Board.
- Target Specific Audience.
Live Video Streaming

- Timely and direct executive communications.
- Access to completion of regulatory and standards compliance training.
- Keeping the sales force (direct and distribution partners) up to date on new products and technologies.
- Enabling frequent product announcements, updates and training.

BRTS Project & Metro Rail Management

- Monitor all Station through CCTV Camera.
- Can Monitor behavior of the people at station, which is really beneficiary to Cops to identify suspect.
- Can Monitor BUS and Metro Rail Speed.
- Automation System can be operate from Central Control Room like we can Lock or Open any stations.

Ongoing Project Monitoring

- Instant view of the project status: anticipation to issues and decisions based on relevant information.
- Avoid budget overrun and delays: as a result of an effective monitoring of all the important aspects of the Project.
- Continuous improvement: anything that can be measured and analyzed can be improved.
Centralized Data Storage System

- Pooled storage flexibility.
- Increased support for server virtualization initiatives.
- Increased utilization, with no stranded capacity.
- Effective use of equipment, supplies and space.
- All related data kept together, Reduces duplication.
- Basic site infrastructure with expected availability.

Disaster Management Services

- Proactive action plan for public safety and protect against the major damages or losses.
- Can spread the message of disaster to the public.
- IF fire found in area can immediately inform to Fire Brigade and Ambulance.
- IF found any robbery at area of city can be inform immediately to Cops.

Water Drainage System

- Real-time remote access and control of Sewage systems.
- Connectivity with external sensors and devices.
- Low impact implementation, long term system durability and professional support.
- Comprehensive and automated solution for accurate & remote municipal water management.
- Reduce cost and prompt action over any failure.
Vehicle Tracking & Control System

- Monitoring of your drivers helps you vastly decrease employee cost and time card abuse.
- Improve customer service.
- Vehicle tracking system allows users to track unsafe driving and personal use of fleet vehicles.
- Vehicle tracking allows managers to keep better control of their driver’s activities.

Centralized Attendance System

- Ongoing time savings & elimination of employee time rescue.
- Automate employee time off & tracking.
- Coordinate, monitor time for training & other work-related events.
- Integrate employee time details with payroll.
- Notification when employees forget to track time.

Video Conferencing & VoIP Services

- Increased Productivity across Dispersed Workforces and Teams.
- Improved Hiring and Retention of Top Talent.
- Reduced Travel Cost.
- Increased knowledge transfer & Trainings.
- Leveraging technical expertise across disparate locations.
Central Bandwidth Distribution

- Optimum use of available source of bandwidth with redundancy.
- Centralized process for security and legal compliance.
- Integrate relative systems and database.
- Load balancing amongst service provider peering.
- Balance business needs and cost with security.

Public Announcement System

- Faster & Efficient spread of important message during disaster.
- Breach communication gap.
- Centralize control for authentication of communication.
- Flexibility & Safety.
- Control on Spreading of rumors.
Thank You

Corporate Office – Surat
R. K. Infratel Ltd., 13 to 18, 2nd Floor, Annapurna Shopping Centre, Adajan Patia Circle, Surat - 395009
+91 99099 70099 | 261 6697722, 2780343, 2780403, 3067979  Fax: +91 261 2787879
info@rkinfratel.com | sales@rkinfratel.com

www.rkinfratel.com