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Selection of Master System Integrator for providing a Cloud based Common Integrated Data Centre & Disaster Recovery Centre and establish City Integrated Command and Control Centers for the Smart Cities of Madhya Pradesh

Single Project of Integrated Control and Command Centers for all Smart Cities in the State of Madhya Pradesh

Integrated Smart City Command control

- *Leveraging Most advanced <u>Cloud infrastructure</u> vs Building captive City Data Centre*

- *<u>Pay Grow and Pay Use model</u> – Evolution from Capital investments*

- *City <u>Data Analytics</u> Platform, Leverage Machine learning and <u>Artificial Intelligence</u> tools*

- *Breaking silos of city operations- City applications data need to be integrated with each other for better planning, operations and cost economics*

- *Data Scientists for Evolving new Smart City Use cases*

- *Most advanced Cyber safety practices –Critical factor*

Three Key success factors

Integrated Command Control Solution
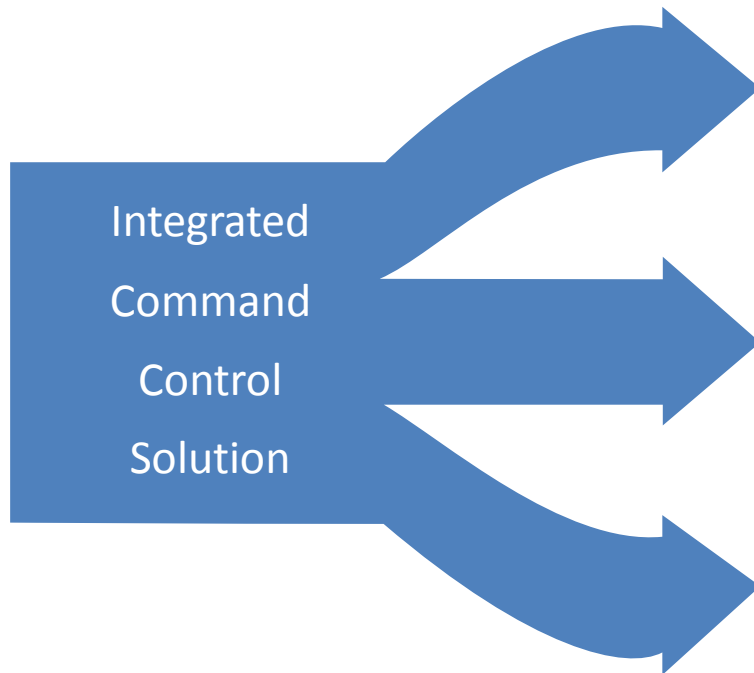
City Digital Platform

- Global experience of City operations platform
- Strong data analytics and monetization platform for smart city services

Cloud service Provider

- More than 15 large Tier 3/Tier 3+ Cloud service providers options in India
- Capacity to scale on demand, Disaster recovery capabilities

Master System Integrator

- Experience of executing control operations centre in India and globally
- Capability to integrate smart city systems, provide resources and tools for data analytics

# Leveraging Cloud for Integrated Command and Control

- *>40% cost reduction in Total cost of ownership over 5 years through*

  - *Pay as you grow vs Capital expenditure for upfront capacity*

  - *Aggregating 7 cities needs vs individual cities*

  - *Competition enhanced on account scale*

- *Ready platform to onboard new cities- No delays on account of build of data centre infrastructure. (Which can take 12 months+)*

- *Uniformity across all the cities in state*

- *Best in class selection of Cloud service providers, System integrators and City digital platform providers*

- *World class practices of Data center operations, Highest availability SLAs*
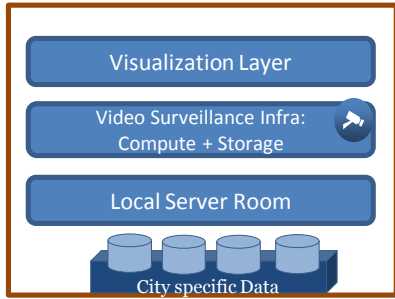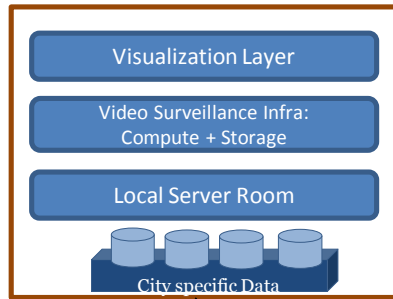
City ICCC – Scope Highlights
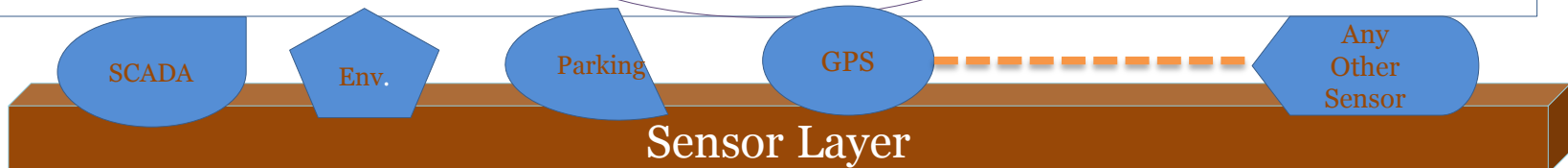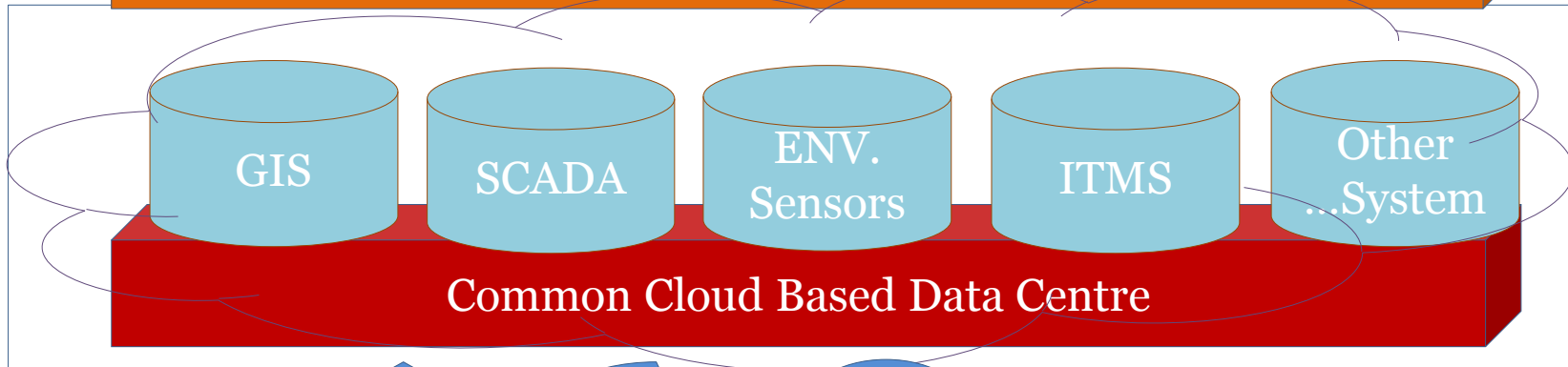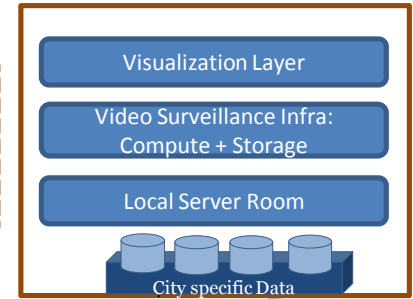
Providing physical layout of the each city ICCC (with 3D simulation) with approximately minimum area of 5,000 square feet of floor area. The floor area may vary according to specific City requirements, however, the facilities and components of ICCC will remain as mentioned below:

I. Control and Command Setup Room

- Video walls of 6*3 (70 inches each)
- Seating capacity of 30 operators

II. Local Server Room - for storing specific data at local level like video feeds, with minimum required infrastructure. Video feeds received from various sources will be hosted locally in each ICCC

III. Situation Room

IV. Office Setup for City SPV, Municipal Corporation and MSI

V. Fire Escape & Evacuation Facilities (ISO 23601)

Each ICCC in the State for smart cities will have physical capacity for future activities like expansion of services and its infrastructure based on the agreed plans between city SPV and implementing agency.

ICCC Platform

- ICCC Platform should have following properties:
  - State Level Strategic View
  - City Level Operational View
  - Tech refresh capable
  - Interoperable
  - Scalable for future requirements
  - Open API standards
  - Customizable for integrating with various applications
  - Plug and play capability
  - User based login capability
  - Should have multi layer architecture with following layers:
    - Sensor and actuator layer
    - Network Layer
    - Data Center Layer
    - Smart Application and Integration Layer
    - Service delivery and consumption Layer
    - Control Units & Command Center Layer
    - Security Layer
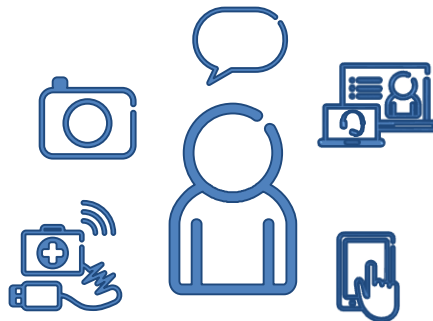
Predictive Analytics

- Predictive Analytics layer is very important for ICCC, because:
    - Helps in creating effective response based on current and historical events
    - Helps city manage and mitigate some of the predicted events
    - Provide insights on the possible scenarios of the future possible events

Helps reduce response time	Makes system intelligent	Understand and depicts the trends of events

Business Intelligence through collaborative approach

- Trends
- Scenarios
- Predictive Analytics
- Best Response Options

Other use cases of Urban management using AI platform

- Predictive models using sensor data to help reduce water leaks and detect bursts.

- Predictive models using sensor data to analyse the effects of service interruptions and other disruptions to transit systems.

- Predicting structural damages using data from weather & maintenance of assets.

- Predicting sewer overflows and flooding.

- Locating potholes using crowdsourcing and data analysis.

- Usage of social media to predict public safety issues.

Implementation Phases

The implementation is divided in three key phases

Phase I – City ICCC for 05 Cities and Cloud based DC/ DR

Phase II – ICCC platform and application implementation and City ICCC for 02 cities

Phase III – Operation & Maintenance

Delivery Milestones

	Common Cloud based DC with City digital platform and DR	
1	Project Inception Report	T+ 15 Days
2	Requirement Analysis and Report	T+21 Days
3	Solution Design Document including DC & DR and application design (State level and city level Integration Layers)	T+ 30 Days
4	Implementation of common city command center applications on state level common cloud based DC and DR	T+ 45 Days
5	Go - Live of common Cloud Based City Digital Platform and DR	T+ 60 Days
	City ICCC	
1	Implementation Roadmap	T1+15 Days
2	Complete System Design and submission of Design Report along with engineering drawings Including ICCC building design (using 3D Simulation along with physical report)	T1+90 Days
3	Installation of Hardware and S/W Infrastructure and acceptance testing + Submission of Installation Report+ Go Live of Cloud Based Data Center (Hosting Services)	T2+120 Days
4	Integration with various service components	T3+ 90 Days
5	Go Live and Go Live Report	T2 + 240 Days
6	Operation and Maintenance (Submission of Quarterly SLA Report)	G+5 Years

Bid Process Management

Current Status – RFP Issued, Pre-bid is done, Corrigendum under Preparation

Stage –1: Pre-Qualification Bid Evaluation

Stage-2: Technical Evaluation on 4 areas

SI Credentials/A&M & FR compliances / CSP+OEM Credentials/ Transition Management/ Presentation & Live Demo basis given Use cases

Minimum Cut-Off - 700 marks out of 1000

Stage -3: Financial Bid Evaluation – QCBS – 70:30

Thanks.