Revolutionizing Urban Services: The Smart City Transformation of New Delhi

Quantela

Facts about New Delhi

The capital city of India, and as of the 2021 census, it has an estimated population of over 31 million people

Famous for its rich history, cultural landmarks, bustling markets, delicious food, vibrant nightlife, and diverse shopping options

Located in the northern part of India and covers an area of approximately 1,484 square kilometers

About the Customer:

The New Delhi Municipal Council (NDMC) is a local government body responsible for the administration of the central area of the city of New Delhi. NDMC provides basic civic services such as sanitation, water supply, street lighting, and maintenance of roads, parks, and public spaces. It also manages several iconic landmarks in the city such as the India Gate, Rashtrapati Bhavan, and the Parliament House. In addition to its administrative functions, NDMC plays a crucial role in the development of the city's infrastructure and urban planning and development.

The Challenge

One of the key challenges was waste management and monitoring of waste collection vehicles. Another major challenge was monitoring the environmental parameters within the city. With no proper centralized services in place, the council has struggled to monitor the parameters and take appropriate actions.

The streetlight overutilization and monitoring of energy consumption within the city have also presented a significant challenge for NDMC. Additionally, the generation of electricity bills and the collection of outstanding amounts from citizens have also been significant challenges for the council. Similarly, the monitoring of parking slot availability and revenue collections through parking.

"Quantela is our Technology Partner for our Smart City engagements. We appreciate their commendable work on Implementing Integrated Command and Control Centre (ICCC) Application. ICCC platform is a single solution that enables integrating near-real-time data from multiple system sources viz. smart elements, IoT devices and e-Governance in the city. It helps the city administrators to have a comprehensive, up-to-date understanding of the urban environment and helps to take data-driven decisions to optimize the urban resources and improve the overall performance of City Administration."

Master System Integrator, New Delhi Municipal Council

Real-time monitoring of

997 overhead bins

& 52 underground bins

Monitoring **38+**
Auto tripper vehicles

60,000+
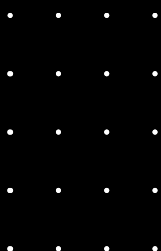Smart electricity meters installed serving

57000+
consumers

20
Environmental sensors

14,000+
Smart streetlights saving

50,720 KWH of energy

How Quantela Helped

Quantela solution enabled effective management of Solid Waste & C&D waste through various services like monitoring of bin cleaning, trend analysis of garbage types, real-time collection using bin fill sensors, and GPS tracking of waste collection vehicles. The platform has also facilitated monitoring of environmental parameters, such as PM10, PM2.5, AQI, and light monitoring. Additionally, it monitors electricity consumption, generates alerts for power failure, and integrates with the electricity bill generation system. Moreover, the platform has helped in efficient management of smart parking stations by monitoring slot availability and tracking of parking-related hardware.

Outcomes Delivered

✓ **Improved systematic mechanism for bin clearance:**
  - Real-time monitoring for improved bin collection
  - Rapid response system for alerts and violation of SLAs
  - Clean neighborhoods maintained
  - Data-driven decision-making for efficient planning

✓ **Effective monitoring of vehicles:**
  - Real-time monitoring of GPS for effective vehicle tracking
  - Optimized travel time through monitoring of vehicle movement
  - Effective vehicle management through live data feed
  - Boundary In & Out alerts for vehicles
  - Measuring vehicle movement for the last 10 days and detecting deviations

✓ **Effective AQI monitoring:**
  - Real-time monitoring of critical parameters
  - Enhanced information dissemination through public display
  - Hourly predictions of AQI values for the next 48 hours
  - Identification of malfunctioning sensors

✓ **Effective centralized monitoring of street light network:**
  - Effective management of streetlights
  - Energy conservation through scheduling and dimming of lights
  - Optimized maintenance

✓ **Effective monitoring of working status of smart meters:**
  - Live data monitoring of all domestic and non-domestic electricity meters
  - Efficient monitoring of electricity consumption
  - Analytical data reports and quick alerts
  - 30-day consumption forecast for all zones

✓ **Real-time monitoring of parking areas:**
  - Live data feed for monitoring parking areas during peak and non-peak hours
  - Enhanced collection of parking revenue through analysis of trends.
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Deployment Screenshots: