Digital Strategies for Utilities

Overcoming Smart Metering Challenges

MetTel®

Overview

Both city management and taxpayers alike want to see real and measurable value in their city's technology investments. As Internet of Things (IoT) technology and capabilities continue to advance, communities are looking to Smart City initiatives to innovate city processes and provide significant ROI. The Smart Cities market is expected to grow to $545.7 Billion by 2025.* But, it's still very much an emerging trend—much of the discussion within the Smart City community is still theoretical. Cities seeking the most effective solutions should look to those early Smart City pioneers and learn from their experiences.

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Plan for the Future

To upgrade to smart meters, the technology leader will look for a solution that provides the best possible outcome at the lowest cost. When it comes to this project, key decision-makers keep customer and regulatory demands in mind replacing manual data delivery or POTS in the data delivery chain. To stay competitive and meet regulations, the replacement delivery method must provide data that is:

IoT solutions are enabling local governments to make their environments healthier, greener, more prosperous, and more responsive to residents' everyday needs. But those needs will change, as will the technology needed to meet them. For example, Smart City processes rely upon various sensors types and controls to collect the data from the objects or "things" within the city. With time, hardware devices and operating systems will need to be upgraded. Smart City innovators look for vendors that will be able to meet these evolving needs. Successful Smart City pioneers ask vendors:

- How do your "things" connect to the network?
- How do you manage device or "thing" connectivity to the cloud? To the application layer? Beyond?
- How do you maintain compliance and security within the network?
- How will upgrades impact security and connection?

Model Successful Areas of Impact

The next step in launching a successful Smart City initiative is to identify and select key departments or agencies to implement smart solutions and decision-making processes. This is where looking to Smart City pioneers as a model can really pay off. Although each city has its own set of unique challenges, there are some broad similarities. Typically, all cities offer basic services and utilities such as water, streets, libraries, schools, food inspection, fire department, police, ambulance, and waste management. Some MetTel IoT solution customers are revolutionizing the way cities administer these services and can stand as a model for the next wave of Smart Cities.

1. OPTIMIZE WASTE MANAGEMENT

Consider a city's waste management services and how they are typically provided today. Department employees schedule thousands of residential and commercial stops each day. Employees make their route as scheduled, whether or not pick-up is actually required. The city needs a large fleet to make the rounds. The city's actual waste needs are not creating the demand for a fleet; the schedule is creating the demand. Using this older methodology costs countless hours of wasted time and taxpayer money.
One of the largest cities in the U.S. has found a new way to run their waste management department and municipality-wide services. The waste management department leverages sensors to track the optimum fill level of solid and liquid waste from over 3,000 large containers and 1.2 million residential units throughout the city.

This data enables the city to optimize daily routes for waste collection and automatically dispatch drivers to locations requiring service. Next, the city integrates and configures waste management data with mobility and public infrastructure data including road construction and repairs. By using real-time traffic and road condition information, the city is able to identify not only the optimal routes for collection trucks, but also the best time for garbage collection. The result is a reduction of operational costs of up to 40 percent and fuel savings of over 20 percent.

2. GATHER REAL-TIME, CITY-WIDE DATA

Besides waste management, other agencies are benefiting from distributed sensors. For example, sensors paired with city vehicles provide collection data points for temperature, air quality, and traffic. These vehicles are able to cover the entire landscape of the city and provide overlapping data points and real-time samples. Then, multiple agencies tap into this data for their own initiatives.

3. PREDICT CITY FLOODING

This metropolis faces occasional severe flooding and is now able to pair weather reports with real-time data from their sewage system. Using an IoT sensor network, city officials can now measure the speed, direction, and level of water in the sewage drains. This data is fed into city IT systems to create an early flood warning system.

These successes, optimized waste management, city-wide data collection, and flood prediction, are only three of many existing models for other city governments. Plus, as this city expands IoT initiatives, it can be a model for process revolutions in security and surveillance, streetlights and buildings, health, education, green spaces, environmental control, water, and sanitation systems.

Partner with an Experienced IoT Solution Provider

It is not hard to imagine the efficiencies that such an integrated system could drive in any city's operations; such efficiencies could free-up city resources for larger initiatives and expanded services. And these efficiencies aren't going unnoticed. It's expected that by 2026, smart waste management is expected to grow to a $4.66B market.* As cities begin implementing such initiatives, they should consider a managed service approach to Smart City IoT sensors to help cities prepare for future expansions. Many Smart City pioneers used sensor-as-a-service for their IoT initiatives, including the city referenced in this report. The managed service provider ensured cities were able to focus on innovation rather than the day-to-day reactive actions needed to keep IoT sensors safe, secure, and connected. Local (and Federal) agencies using MetTel's managed sensors-as-a-service approach have found it to be a flexible and nimble way to address the above security, connectivity, and scalability concerns.

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About MetTel

MetTel is a global communication solutions provider for businesses and government agencies. Leveraging our global private network and the industry's most comprehensive technology portfolio, we design and deploy tailored connectivity and networking solutions for voice, data, mobility, and IoT devices. Recognized as a Leader in the Gartner Magic Quadrant for Managed Network Services, we excel at transforming legacy networks with intelligence, security, and dedicated solutions management. Our unique approach enables MetTel to provide unparalleled customer experience, enhanced productivity, and significant cost-savings – freeing our customers to focus on their core operations. For more information visit mettel.net, follow us on LinkedIn, or call us directly at (877) 963-8663. MetTel. Connect Smarter.™