Starting a Smart Cities Journey with the Zhaga-D4i Industry Standard

New York | *Deployed on 4G & 5G Networks*

SCENARIO

With smart sensors and connected lighting infrastructure, cities and utilities can improve services, safety, and security while benefiting from more efficient planning and operations, significant energy savings, cost reductions, and enhanced potential for sustainability.

Yet engaging with this digital revolution and using IoT data is easier said than done. When and how can utilities and cities opt in, especially smaller ones with fewer resources, like Mount Vernon, New York?

SOLUTION

The Zhaga Consortium created an industry standard to help.

Zhaga D4i enables streetlights to become the backbone of a smart city, for safety, maintenance, public services, sustainability, and data collection. Sensor Ready streetlights leverage the Zhaga D4i standard for a plug-and play-way to extend streetlight infrastructure over cellular networks.

Mount Vernon began its smart cities journey by upgrading its streetlights to 4000 Sensor Ready LED streetlights and connected lighting controls. The city's streetlights were already sensor-ready, which allowed Mount Vernon to install the sensors easily and securely on the luminaires with a simple twist-lock mechanism. The city then added Signify's Zhaga D4i-certified Outdoor Multisensors—which deliver data on motion detection, ambient noise, and temperature—to a subset of the streetlights.

Mount Vernon's solution uses LTE-M technology and a standardized smart interface with industry-recognized LED drivers and outdoor luminaries, cellular controllers and communication nodes, and sensors. In addition:

+ Smart street light control nodes, certified to D4i Type A for multi-master control capability, work with Type B-certified sensors.

+ Control nodes plug into the NEMA socket, and sensors plug into the Zhaga socket Book 18 interface.

+ When certified nodes and sensors are attached to a luminaire, Mount Vernon can transport the sensor data into the cloud and remotely configure sensing functions.

WHY CELLULAR IS KEY

+ No need for proprietary networks and gateways
+ IT technicians/specialists aren't required for installation, set-up, and maintenance
+ Superior and scalable data backhaul
+ Data transfer requirements are accommodated for evolving applications
+ Cellular reliably and securely enables low-latency, high-bandwidth smart cities applications

RESULTS

Smarter street lighting with sensors has helped Mount Vernon "go above and beyond to make our city the best it can be," according to Mayor Shawyn Patterson Howard. The solution delivers:

+ Noise detection for reinforcing city ordinances
+ Environmental data for city planning and communications related to extreme heat and cold
+ Motion detection to trigger the optimal street lighting for pedestrians and drivers
+ The ability to easily set lighting schedules for different neighborhoods
+ Data for quick response to outages or other lighting issues