Accelerating Streetlight Innovation

Baltimore, MD | *Deployed on a Wireless Mesh Network*

SCENARIO

Baltimore Gas & Electric (BGE), an Exelon company, had an ambitious goal: roll out over a quarter million wireless smart lighting nodes to lower the utility's carbon footprint, reduce outage resolution time, enhance operational excellence, and improve service.

BGE aimed to leverage technology throughout: using mobile field apps for deployment and maintenance, detecting outages via wireless networks rather than customer reports, and using data analytics to reduce truck rolls. The mission also involved synchronizing and maintaining data across asset management records, GIS applications, and other back-office systems.

SOLUTION

To accomplish all of this and more, BGE deployed TerraGo's cloud-based streetlight operations platform, integrated with Itron's Streetlight.Vision central management system.

With the TerraGo platform, BGE can continuously track smart nodes as they're installed and commissioned, with full chain of custody. TerraGo inventory management identifies bottlenecks and helps eliminate delays. The utility can also track all warranty and asset records for future maintenance.

BGE crews use the TerraGo mobile app to install and commission wireless network controls on the city's streetlights. Configurable workflows guide crews through smart control installations while capturing and validating essential data related to pole attachments, stop signs, cell phone antennas, and surveillance cameras. These guided workflows enforce quality control, prevent errors, and accelerate installation.

Post-installation, TerraGo performs remote triage on system alarms, dispatches crews, and guides personnel with step-by-step workflows to resolve outages efficiently and correctly the first time.

The solution leverages the existing Itron IIOT wireless network throughout, which will also enable future smart city applications. The system is easy to upgrade and expand as service demands change.

RESULTS

With TerraGo, BGE crews are able to install nodes faster and resolve problems more quickly, accurately, and efficiently. In an optimal scenario, a BGE field crew can fully complete a smart streetlight installation in six minutes or less.

Once wireless controls are deployed, both lights and people work smarter. As just one example, BGE previously diagnosed streetlight problems by sending out a bucket truck and having a crew examine the fixture from the top down, reassigning the repair and rolling another truck as needed. Now the system can discern the nature of the problem in advance and automatically dispatch a crew with the right skills the first time.

Behind the scenes, BGE's smart lighting operations have gone completely paperless, with fully digital, automated operations from planning and installation through inventory management, maintenance, and the creation and assignment of work orders.

Wireless edge devices and mobile field operations apps can transform operations and maintenance, the team noted.

Yet it's important to remember that networked lighting involves more than just screwing dumb photocells on top of existing lights. These wireless cyber assets require a deployment strategy, process control, and cross-platform data management.

Furthermore, as wireless lighting nodes automatically collect valuable data, utilities must commit to the next steps of analyzing, integrating, and using this information.