

Improve quality of life and enable cities to thrive with Current by GE* CityIQ*

Together, Intel, Current by GE and AT&T provide an integrated, modular solution that improves city residents' quality of life, optimizes city finances and accelerates city growth by attracting new residents and businesses.



Market Overview and Challenges

Cities are becoming increasingly populated and congested

The population growth of cities continues to rapidly increase. The UN report, World Urbanization Projects, estimates that the world's population will grow from 3.9 billion to 6.3 billion in 2050 and that urban population will grow from 54% of the total to 66% in 2050 ⁽¹⁾. Cities are already struggling with how to manage the increased urban growth with limited resources and budgets. Without proper planning, the result will be increased traffic congestion for both pedestrians and vehicles, more pollution and more crime.

To thrive, cities have to improve residents' quality of life

Cities that provide a high quality of life to their citizens create communities that are highly desirable to current residents and attract prospective residents as well. Public safety, transportation optimization, environmental monitoring and citizen services create a modern city infrastructure and desirable environment to live in.

The Internet of Things enables cities to grow and expand

With the power of IoT, city officials can use valuable data to gain a better understanding into their city's operations. Data enables the city to empower local law enforcement, track parking efficiency, monitor the environment and enable city-wide connectivity. Cities that adopt IoT play a leading role in fostering creativity and innovation. The creation of customized IoT applications positions cities as technology leaders which attracts new residents and businesses.

Business Drivers

Cities are under enormous pressure to provide an infrastructure that can effectively support an ever growing number of residents and businesses. Proactiveness and efficiency of city departments are critical to a city's ability to grow and support its citizens. Cities need a deeper level of understanding of how their infrastructure supports current residents and what can be done to improve any deficiencies. IoT data from sensors provide valuable insights but cities want a solution that is easy to deploy and scales to support an entire city's geography seamlessly and ubiquitously. Cities see the need for IoT and are looking for ways to better leverage the technology to offer new revenue generating services and increase resident satisfaction.

Desired Outcomes

- Increase public safety and security of the city environment
- Decrease costs and increase revenues with an integrated, future-proofed solution
- Identify hazards to residents proactively
- Enhance traffic congestion management
- Connect residents with city side services and communications
- Reduce energy consumption and environmental footprint
- Provide new revenue generating services targeted to residents

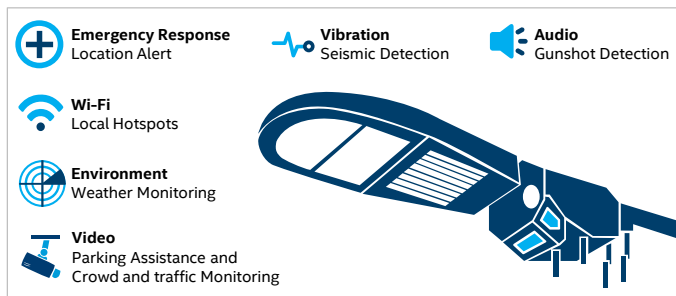


Figure 1. Current by GE CityIQ* Solution Features

Solution Overview

The Current by GE CityIQ* solution is built on Intel® technology and provides a universal intelligent node that can be installed on any streetlight poles. The unique intelligent node embedded with multiple sensors is extensible through over-the-air updates that allow analytics, provide connection to neighboring devices, and can perform multi-sensor fusion over a secure cloud connection. Intelligent nodes on streetlights can instantly see, hear, feel, and talk using cameras, microphones, and environmental sensors that collect temperature, pressure, humidity, vibration, noise, lighting, and compass data.

Intel® IoT technology provides the advanced processing and edge analytics needed for these compute intensive functions. Digital infrastructure lays the foundation for a horizontal platform that all city departments can connect to and use. Instead of individual departments installing and managing hardware for their own specific purposes, they can now use the data collected by intelligent streetlight poles.



Solution Components

- Intel® ATOM® Processor
- Intel® IoT Platform Sensors
- Intel® Security software
- GE Predix Industrial IoT Cloud OS

Business Benefits

The modular Current by GE CityIQ* solution collects valuable information about the city environment via integrated sensors and this data enables cities to:

- Enhance resident quality of life with improved public safety and great efficiencies in city departments
- Decrease costs and increase revenues with an integrated, future-proofed solution
- Position themselves as a leading innovator to attract residents and businesses

Proven Results

- City of San Diego is deploying 3200 Current by GE CityIQ* nodes to make the city infrastructure safer and smarter and to improve resident quality of life
- City of San Diego is the largest known urban sensor project in the world to date
- City of San Diego estimates a \$2.8 million savings by switching to LED lights

Where to Get More Information

To learn more about Intel® Smart Cities IoT solutions, visit

<https://www.intel.com/content/www/us/en/internet-of-things/smart-cities.html>

To learn more about Intel and the Current by GE CityIQ* solution, visit www.intel.com/gecityiq

To learn more about Current by GE lighting solutions for smart cities, visit:

www.currentbyge.com/cities

Local Channel Partners

- For USA and Mexico, Intel and Current by GE have partnered with AT&T to deliver Digital Infrastructure with Current, powered by GE CityIQ*

