



SEMTECH®

CITiLIGHT



CITiLIGHT®

Smart, Sustainable Street Lighting with LoRaWAN®

CITiLIGHT is revolutionizing urban lighting with intelligent, IoT-powered solutions that cut energy costs, reduce emissions, and simplify citywide streetlight management. By integrating LoRaWAN® technology, CITiLIGHT enables long-range, low-power wireless control of over 800,000 streetlights across 140+ cities—bringing real-time monitoring, adaptive lighting, and operational efficiency to smart city infrastructure. Discover how CITiLIGHT is lighting the path to greener, safer, and more connected urban environments.

QUICKFACTS

Company

CITiLIGHT
citilight.co

Customer Profile

CITiLIGHT provides intelligent IoT-based street lighting solutions that enhance safety, energy efficiency, and smart city infrastructure. CITiLIGHT delivers both hardware and software support, from device installation to real-time monitoring dashboards, ensuring transparency, reduced energy use, and simplified maintenance.

Objectives

- Make street lighting smarter, more energy-efficient, and easier to manage
- Support sustainable and intelligent urban infrastructure
- Use LoRaWAN® for long-range, low-power, cost-effective wireless communication
- Enable real-time automation, remote monitoring, and control of streetlights
- Reduce energy consumption and maintenance efforts

Results

- Reduced high energy costs with efficient, smart lighting control.
- Reduced maintenance overheads through remote monitoring and fault detection.
- Simplified management of dispersed networks with long-range wireless connectivity.
- Lowered infrastructure costs by using reliable, low-power, Low Total Cost of Ownership (TCO), LoRaWAN communication.

Products and Services

- [LoRa Connect™](#)



INTRODUCTION

CITiLIGHT is a leading provider of smart street lighting solutions, committed to building connected, sustainable, and energy-efficient public spaces. By integrating IoT, advanced analytics, and real-time automation, CITiLIGHT enables cities to manage lighting infrastructure more intelligently, cut operational costs, and drive measurable sustainability outcomes. With more than 800,000 streetlights automated globally, the company has been nominated by the Government of India to deliver large-scale projects, including the country's largest city council initiative and the largest smart city project.

The results speak: 153,00,00,000 (153crore) kWh of energy saved, 5,00,000 (5 lakh) tons of CO₂ emissions prevented, and deployments across 140+ cities worldwide. Some notable deployments include : Montevideo City Council (Uruguay), NDMC (North Delhi Municipal Corporation), KDMC (Kalyan Dombivali Municipal Corporation), Nalanda University (Bihar), Bathinda Smart City, Bhopal Smart City, Indore Smart City, Dehradun Smart City. Recognized internationally for its innovation, CITiLIGHT won first prize in the Smart City Innovation category at the Juniper Awards in London and was honored on the Wall of Fame at The Things Conference in Amsterdam. These milestones reflect CITiLIGHT's mission to make urban infrastructure smarter, greener, and future-ready.

CHALLENGE

The smart street lighting industry faces several critical challenges that hinder its full potential. One of the biggest concerns is high energy consumption, as conventional systems often keep lights running at fixed intensities regardless of traffic or pedestrian movement, leading to massive energy wastage. Another pressing issue is inefficient maintenance, where cities still rely heavily on manual inspections to identify faults or outages. This not only increases operational costs but also causes long delays in repairs, leaving streets poorly lit and unsafe until issues are resolved.

*CITiLIGHT NEMA controller**CITiLIGHT ZHAGA controller*

In addition, many existing systems provide limited control capabilities, restricting cities from implementing adaptive lighting strategies such as dimming during low-traffic hours or brightening in high-risk areas. This lack of flexibility prevents cities from optimizing resources while also missing opportunities to enhance public safety. Together, these challenges create significant barriers for municipalities, resulting in higher infrastructure costs, scalability issues, and difficulty meeting the evolving demands of modern urban environments.

SOLUTION

CITi LIGHT built smart Individual Light Controllers (ILCs), [NEMA](#) and [ZHAGA](#) with LoRaWAN variants, so streetlights with these sockets can get upgraded without replacing whole fixtures.

Product portfolio includes:

- VELOCiTi 3.0 LMS: A scalable Lighting Management System providing real-time monitoring, fault detection, and energy optimization across large streetlight networks.
- Individual Light Controllers (ILCs): Devices such as NEMA and Zhaga, controllers that enable remote control and monitoring of individual streetlights, supporting technologies like LoRaWAN, LTE, and RF.
- Centralized Control and Monitoring System (CCMS): A solution for group control of street lighting, integrating hardware and software to provide centralized management and real-time insights.

BENEFITS

Reliable City-Wide Connectivity

CITiLIGHT's NEMA and Zhaga streetlight controllers leverage LoRaWAN® to provide long-range, interference-resistant communication across city-wide lighting networks. This eliminates the need for costly and complex cabling, ensuring seamless connectivity between thousands of streetlights and the central management platform. Even in dense urban landscapes with signal obstructions, LoRaWAN maintains robust data flow, enabling reliable, real-time monitoring and control.



Hassle-Free Deployment and Local Control

The controllers are simple to deploy, whether on new installations or as retrofits on existing streetlight poles. Powered by a LoRaWAN private network, they operate independently without reliance on cellular connectivity. All communication remains within the secured local network, giving municipalities full control while reducing infrastructure costs. This makes the solution ideal for both metropolitan areas and remote towns, where conventional networks may be limited or expensive.

Proactive Monitoring and Safety

Through LoRaWAN integration, CITILIGHT controllers can instantly transmit critical alerts such as lamp failures, power fluctuations, or overheating across the network. This ensures real-time awareness and rapid response, reducing downtime and improving public safety. Automated fault detection minimizes manual inspections and guarantees that every street remains well-lit and secure.

Adaptive Lighting for Maximum Efficiency

Unlike conventional group-based systems, CITILIGHT's NEMA and Zhaga controllers enable streetlights to operate autonomously while staying coordinated across the network. Each controller can adjust brightness levels based on location-specific requirements—such as traffic density, pedestrian activity, or time of night—enabling adaptive lighting. This granular, panel-level optimization reduces energy consumption, lowers carbon emissions, and extends asset life while ensuring safer, smarter streets.

About Semtech

Semtech Corporation (Nasdaq: SMTC) is a high-performance semiconductor, IoT systems and cloud connectivity service provider dedicated to delivering high-quality technology solutions that enable a smarter, more connected and sustainable planet. Our global teams are committed to empowering solution architects and application developers to develop breakthrough products for the infrastructure, industrial and consumer markets.

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