

# TVILIGHT



## Case Study

### Smart City Street Lighting Jaipur India

From Tradition to Innovation – Jaipur's Journey to Smart City starts with Smart Lighting

Jaipur, India's vibrant "Pink City," renowned for its rich history and rapid urban growth, is now setting new standards in sustainable development with Twilight's state-of-the-art smart street lighting.



- Additional 5,050 street lights across the city upgraded with smart controllers (\*August 2024); 2002 street lights were already upgraded previously in the first phase (<https://twilight.com/case-study/largest-sensor-based-smart-lighting-project-in-india/>).
- Smart street light implementation resulted in 55% energy savings in the past 6 months, preventing over 405 tonnes of CO2 emissions.
- Project partners: Jaipur Development Authority (JDA), Aksh Optifibre Limited (System Integrator), Bajaj Electricals (Luminaire Supplier).



## Project Overview

In collaboration with local authorities, Twilight deployed an advanced smart street lighting solution in Jaipur. Featuring Twilight's OpenSky IoT controllers and the CityManager light management platform, the system transforms the city into a safer, energy-efficient urban space.

Twilight also introduced a Citizen App, empowering residents to report streetlight issues directly to local authorities, fostering community engagement and efficient maintenance.



## Challenges

**Modernizing Outdated Lighting Infrastructure:** Jaipur's traditional street lighting was energy-intensive, required frequent maintenance, and lacked flexibility. The absence of real-time monitoring led to inefficiencies and increased costs.

**Addressing Rising Energy Costs:** With urban expansion, energy costs and carbon emissions increased significantly. The local government sought a solution that could curb these costs and align with Jaipur's sustainability targets.

**Enhancing Safety:** Inadequate lighting in certain areas created dark spots that raised safety concerns among residents. Additionally, reporting faulty streetlights was challenging for citizens, making it difficult for authorities to maintain consistent lighting.

# Solution

Smart IoT Street Light Controllers / CityManager Light Management Platform / Citizen App

## Smart IoT Street Light Controllers

Tvilight's OpenSky IoT controllers, deployed across Jaipur, enable real-time monitoring and adaptive lighting, ensuring optimal brightness based on specific conditions and times.

**Adaptive Lighting:** Adjusts brightness based on the time of night, weather, or events, ensuring well-lit streets at all times.

**Energy Efficiency:** By dimming lights during off-peak hours, Jaipur has reduced energy consumption, advancing its sustainability objectives.



As the system integrator, Aksh Optifibre is proud to have been instrumental in implementing Tvilight's advanced smart lighting solution across Jaipur. The results for JDA have been remarkable—significant energy savings, improved street safety, and an efficient approach to managing streetlights. This collaboration has modernized Jaipur's infrastructure and supported JDA in achieving essential sustainability and efficiency targets. Working alongside Tvilight, we are thrilled to support Jaipur's journey toward becoming a model smart city.

**Mr. Lokesh Khandelwal,**

Chief Operating Officer, Aksh Optifibre Ltd.



The successful deployment of our smart street lighting solution in Jaipur highlights the transformative power of technology in helping cities meet their sustainability goals, enhance public safety, and improve operational efficiency. We are proud to support Jaipur's journey toward becoming a smarter, more energy-efficient city and look forward to contributing to its continued growth and modernization.

### Chintan Shah

Founder & Chairman, Tvilight

## CityManager Light Management

### ■ Platform

The CityManager platform offers centralized control of the entire street lighting network with real-time data analytics, remote monitoring, and automated fault detection.

**Real-Time Monitoring:** City officials can monitor each streetlight, enabling quick responses to issues.

**Predictive Maintenance:** Automated fault detection and analytics allow teams to address issues proactively, reducing maintenance costs and downtime.

**Scalability:** Designed for growth, CityManager can expand as Jaipur's smart lighting needs evolve.



## ■ Citizen App

The Citizen App enables residents to report faulty streetlights, improving issue tracking and fostering community involvement.

**Enhanced Monitoring:** Residents help identify faulty lights quickly.

**Efficient Maintenance:** Detailed feedback accelerates issue resolution.

**Cost Savings:** Reduces the need for frequent inspections, saving municipal resources.

**Positive Public Image:** Engaging citizens in infrastructure maintenance builds community pride.



## Results

**Enhanced Public Safety** Twilight's smart lighting solution has significantly improved safety, providing consistent illumination and deterring unwanted activities.

**Energy Savings** Jaipur has achieved substantial energy savings and reduced carbon emissions by 55%, setting a new benchmark in sustainable urban lighting.

**Operational Efficiency** CityManager and the Citizen App have streamlined streetlight management, reducing manual inspections and accelerating maintenance responses, ultimately lowering operational costs.

**Future-Proof Infrastructure** With Twilight's scalable solutions, Jaipur is well-prepared for future growth, including the integration of other smart city technologies.

# Municipal Feedback: A Transformational Impact

## A Positive Shift in Urban Management

The Jaipur municipality commends Twilight's solution for its transformative effect on city management and operational efficiency.

**Increased Civic Pride:** Enhanced public safety and aesthetics have fostered civic pride, with Jaipur now viewed as a safer, modern urban hub.

**Environmental Impact:** Significant energy savings have positioned Jaipur as a leader in sustainable urban development within the region.



With Twilight's smart lighting system, we've transformed Jaipur's street lighting infrastructure, realizing impressive energy savings and heightened public safety. The intelligent lighting has enhanced nighttime security across our streets, while the CityManager platform and Citizen App have optimized our operations, helping us respond faster and use resources more effectively. We're proud to have partnered with Twilight in advancing Jaipur as a smarter, more sustainable city.

### **Mr. C P Gupta**

Chief Electrical Engineer, Jaipur Development Authority

# Project Summary

**Location :**

City of Jaipur, India

**Project Scope :**

Additional 5.050 street lights

**Client(s) :**

Jaipur Development Authority (JDA)

**Products :**

OpenSky IoT controller,  
CityManager (light management platform),  
Citizen App

**Application Areas :**

Primary and secondary roads



## About TVILIGHT

TVILIGHT is a European market leader in smart city lighting control solutions, specializing in sensors, connected lighting controls, and management software. Our open platform, powered by Open API, enables Smart City and IoT integration.

Over 1000 cities across 35+ countries benefit from TVILIGHT solutions, including major municipalities across the Netherlands and Germany, for example the citywide deployment in Dortmund. With growing deployments in Luxembourg, Hungary, Greece, the UK, Morocco, the Middle East, India, Korea, Australia, and New Zealand, TVILIGHT's global reach extends to cities such as Seoul, Jaipur, Chattogram, Muscat, and the Red Sea. Learn more: <https://tvilight.com/>