Smart Street Lighting for Smarter Cities

OpenSky Zhaga IoT

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Why invest in Smart Streetlights?

60% - 80% Energy Savings

Dimming streetlights with predefined schedule and smart sensors significantly cuts energy waste.

Predictive Maintenance

Proactive alerts / notifications for faults, alarms or outages optimise maintenance and substantially reduce operational costs.

Total Infrastructure Control

Connected streetlights enable remote monitoring, management and control of complete citywide infrastructure.
Why invest in Smart Streetlights?

Foundation for Smart City

Standardised interface and Open APIs support inter-connectivity with applications such as traffic lights, security systems, etc.

50% Lower Light Pollution

Dimming streetlights during off-peak hours or through motion sensors significantly cuts light pollution.

Improved Public Safety

Right light and right place and right time enhances citizens’ sense of safety.
Why invest in Smart Streetlights?

Address Climate Change

Fine-tuning lighting levels on need-basis dramatically reduces carbon emissions.

Protect Flora and Fauna

Autonomous dimming during off-peak hours lower lighting pollution and benefits local flora and fauna.

Benefits from Day One

Unlike other smart city solutions, deploying smart lighting deliver benefits from day one!
Who are we?

Specialist in Smart Outdoor Lighting

We enable cities to take full control of their Lighting Infrastructure based on Open Standards
Global presence: 100k+ connected streetlights, 650+ projects

Monitored by CityManager and supported by our Service Desk

Selected Projects

- Dortmund (DE) 25,000 smart streetlights
- Düren (DE) 5,000 smart streetlights
- Dutch Railways (NL) 10,250 smart streetlights
- Island of Texel (NL) 3,420 smart streetlights
- Helmond (NL) 8,500 smart streetlights
- Seoul (KR) 2,500 smart streetlights
- Busan (KR) 1,500 smart streetlights
- Bangladesh 4,300 smart streetlights
Smart Lighting with secure IoT network

- Open Standard Cellular Network
- Edge (EGPRS), LTE CAT M1 and NB-IoT (NB2) connectivity
- No local gateway needed
- Highest security standard regulated by 3GPP

Wireless Smart Lighting

CityManager CMS dashboard

DigiHub Database and Analytics

Internet

2G, LTE, CAT M1/ NB-IoT
Zhaga IoT Street Light Controller

- Remotely **monitor, manage** and **control** citywide streetlights
- **Plug & play installation** through standardized Zhaga book 18 socket and auto-commissioning system
- Connects directly to **local secure cellular network**
Global Standard, Local Network

Lamp connects directly to local cellular tower

- Highest available security (3GPP)
- Fully managed network by local telco
- Excellent network uptime
- Automatically selects the best signal and the best operator: EGPRS (Edge/ 2G), LTE Cat M1, NB-IoT (NB2)
- Long range, deep coverage
Gateway free installation

Devices communicate directly with LMS

- Full control over individual streetlights
- Eliminates cost and hassle of installing and maintaining multiple gateways
- Live dimming / switching response
Auto commissioning, easy deployment

In-built GPS activates device

- True plug-and-play installation
- Device geo-locates automatically upon power, and auto-registers to your LMS
- Eliminates entire network engineering efforts
Point level control at your fingertips

Manage each light individually

- Switch or dim each luminaire using custom light scenes
- Set different light levels for main roads, traffic junctions and zebra crossing.
- Maintain flexibility to adapt light profile to future city needs.
- Receive meaningful alerts and insightful data of every street light
Adjust street light colours

Create the right ambience

- Choose from a broad spectrum of colours or any shade of white to find the right tone (RGBW)
- Adjust colours based on:
  - Profiles
  - Specific days
  - Certain events
  - Human movements (motion sensing)

* Currently works with OpenSky Zhaga IoT Controllers
Finer control over Dimming & Switching

Regulate light levels as situation demands

- Photocell
- RGBW (through multi-addressable DALI, DT6, DT7, DT8 drivers)
- Twilight (Photocell / Ambient Light Sensor)
- AstroClock (Astronomical Clock)
- Time-based Light Scene
- Calendar-based Schedules
- Central ALS (Photocells in City)
- Adaptive (Motion Sensor)
- Autonomous Mode
Standardized interface, Luminaire agnostic

Fully Compliant to Zhaga Book 18 Standard

- Plug and play installation
- No special tool or training needed
- Works with any Zhaga compatible luminaire/street lighting fixture
Interoperable – No Vendor Lock-in

Open architecture enables excellent interoperability

- Select any Zhaga street light fixture of your choice
- Use multiple vendors in a single project
- Integrate any D4i or LSI based motions sensors
Advance health monitoring data

Achieve Predictive Maintenance

- Pairing Smart D4I Driver delivers advance luminaire, driver and power-grid data
- Data set includes driver temperature, input voltage/ power/ current/ power factor, etc.
- Notifications, alerts and error logs
Smart City Ready

Built on Open Standards & APIs

- Works with a range of IoT and Smart City systems
- Selected examples:
  - Cisco Kinetics
  - Siemens Atos
  - SixData luxData.light
  - Osram LumIdent
On-Demand Adaptive Lighting

Connects with any DALI D4i and LSI-based motion sensors

- Light-on-demand based on presence detection
- Suitable for pedestrian, bicyclist and road traffic
- Motion sensors improve public safety perception
Safe circle-of-light – automatic neighbour trigger

Beta

Experience light-on-demand

- Road users drive through a safe circle-of-light (Skyglow Beta)
- Motion sensing enhances public safety perception
- Achieves 60% - 90% energy savings
- Significant reduction in carbon footprint and light pollution
- Benefits local flora and fauna
Visualize Road Usage with Heatmaps

Understand how citizens use roads

- Pairing motion sensors helps:
- Measure people’s movement
- Identify areas and spots that are popular at different times
- Spot trends and patterns to adjust street lighting levels based on road usage data
Features to improve day-to-day operations...

**Integrated Light Sensor**
Integrated photocell (twilight sensor) enables streetlight switching based on the naturally available ambient light

**Interoperable**
Supports multiple dimming protocols (0-10V, DALI, DALI 2, SR, D4I and ANSI C137.4)

**Timely Notifications**
Receive all updates about your street lighting infrastructure via email and CityManager platform
Features to improve day-to-day operations...

- **Pole Knock-Down Alert**: In-built tilt sensor sends an automatic alert if the street pole suffers damage due to car crash.

- **Over-the-Air Updates**: Thanks to the faster communication with the device, software updates take place in matter of minutes.

- **IP66 + UV Stabilised**: IP66 and UV stabilised housing protects the device in the harsh environment and ensures prolonged life.
Urban Streets

Industrial Zones

Residential Areas
Like it.

Why not give it a try?
Want to learn more?

Need datasheet?

Contact us at: sales@tvilight.com
Thank You

We look forward to working with you!

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TVILIGHT Projects B.V.
Beechavenue 162-180
1119 PS Schiphol-Rijk
Amsterdam, the Netherlands
www.tvilight.com