



# Smart Street Lighting for Smarter Cities

## OpenSky IoT Pole Mount

v14.03.2022

# Why invest in Smart Streetlights?



## 60% - 80% Energy Savings

Dimming streetlights with pre-defined 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



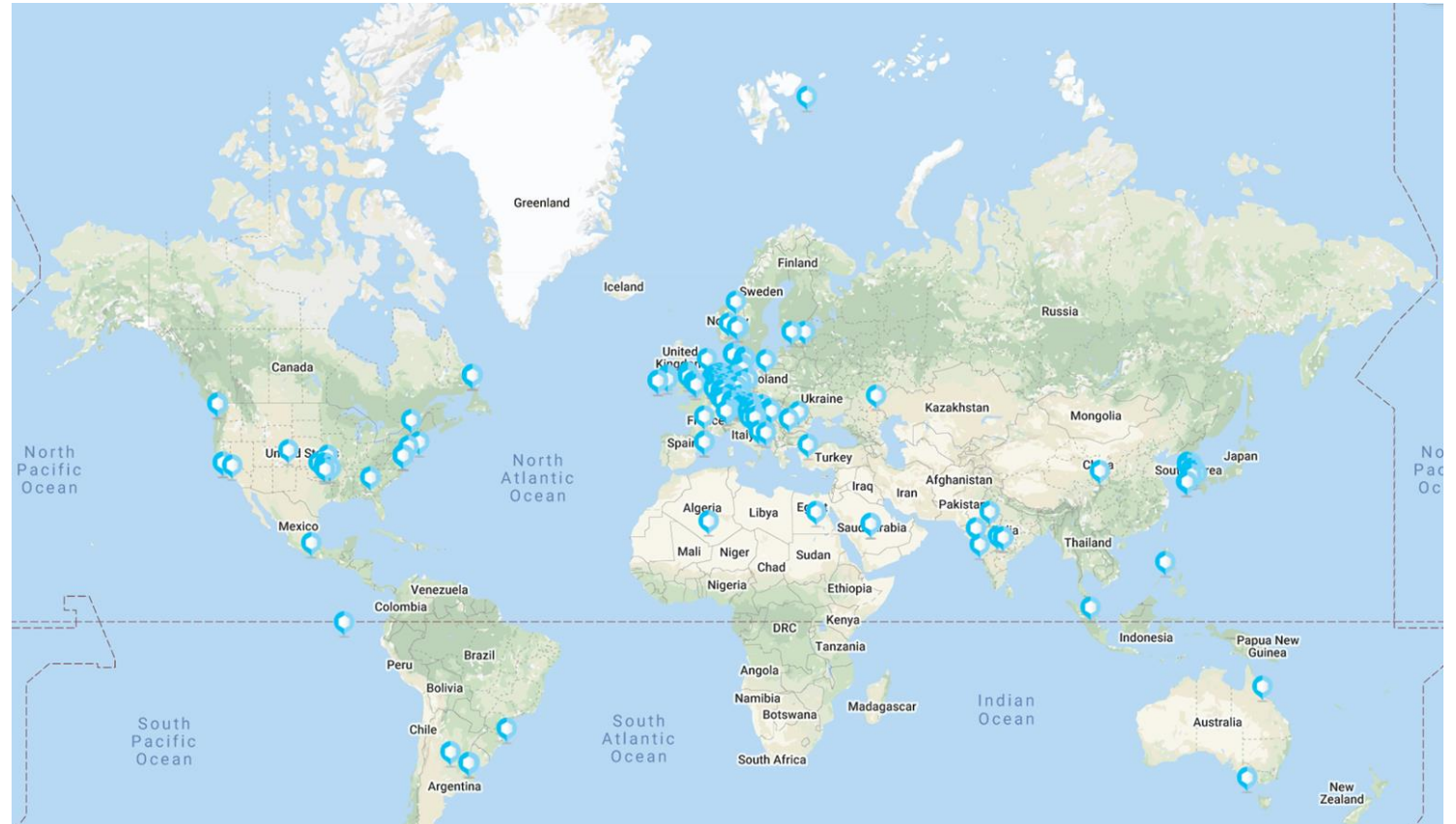
We enable cities to take full control of their Lighting Infrastructure based on Open Standards

# Global presence: 100k+ connected streetlights, 650+ projects

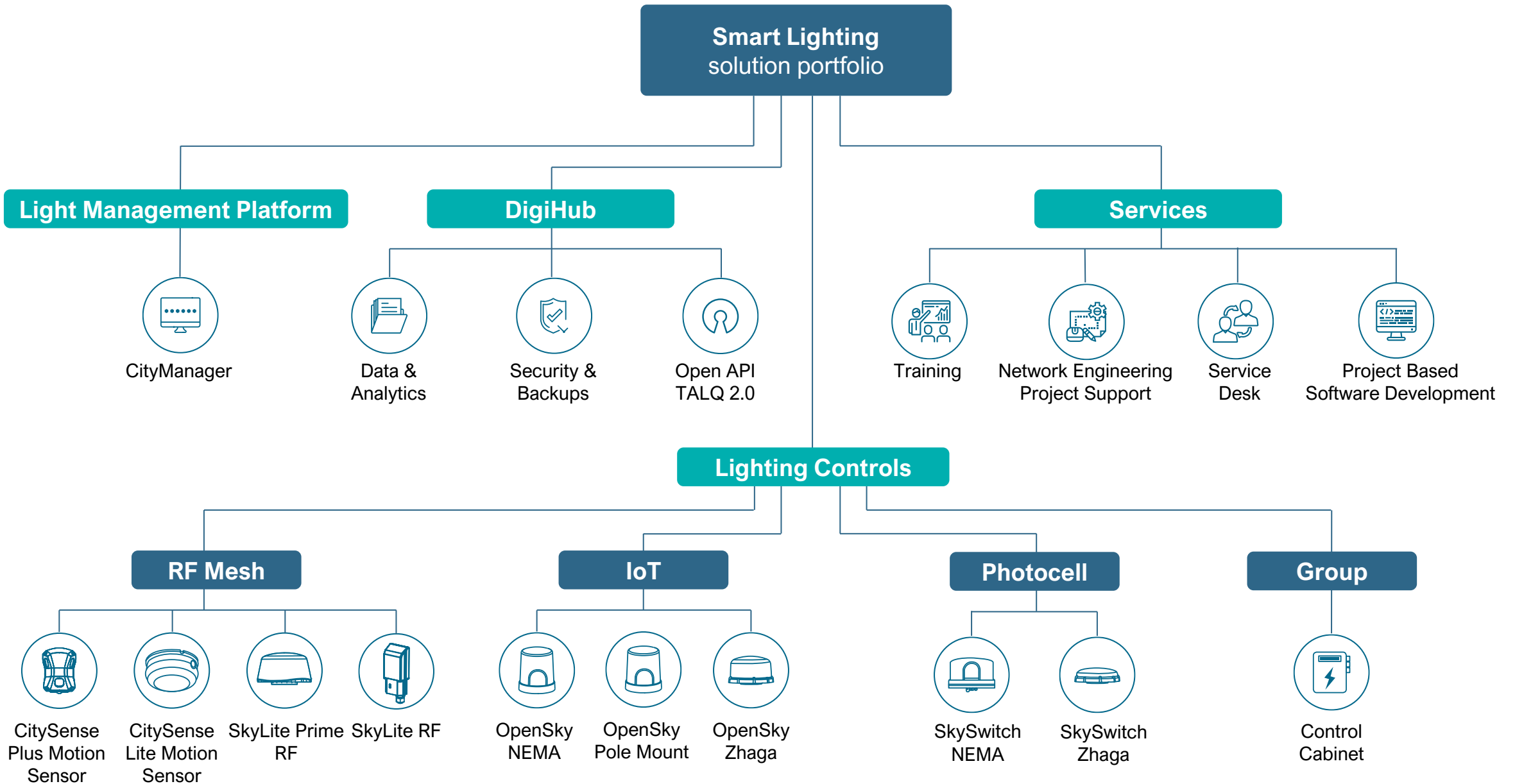
Monitored by CityManager and supported by our Service Desk

## Selected Projects

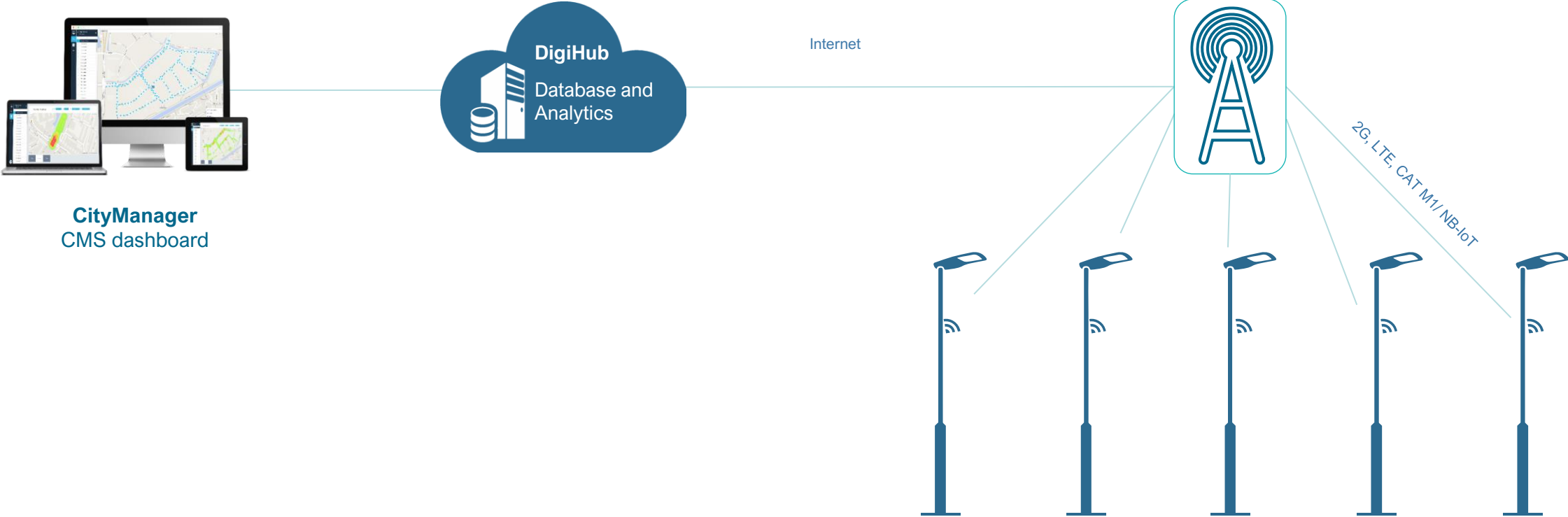
- Dortmund (DE) 25.000 smart streetlights
- Düren (DE) 5.000 smart streetlights
- Dutch Railways (NL) 10.250 smart streetlights
- Island of Texel (NL) 3.420 smart streetlights
- Helmond (NL) 8.500 smart streetlights
- Seoul (KR) 2.500 smart streetlights
- Busan (KR) 1.500 smart streetlights
- Bangladesh 4.300 smart streetlights







# Smart Lighting with Secure IoT Network



### Wireless Smart Lighting

- Open Standard Cellular Network
- Edge (EGPRS, LTE CAT M1 or NB-IoT (NB2) options)
- No local gateway needed
- Higher security 128-256 bits encryption

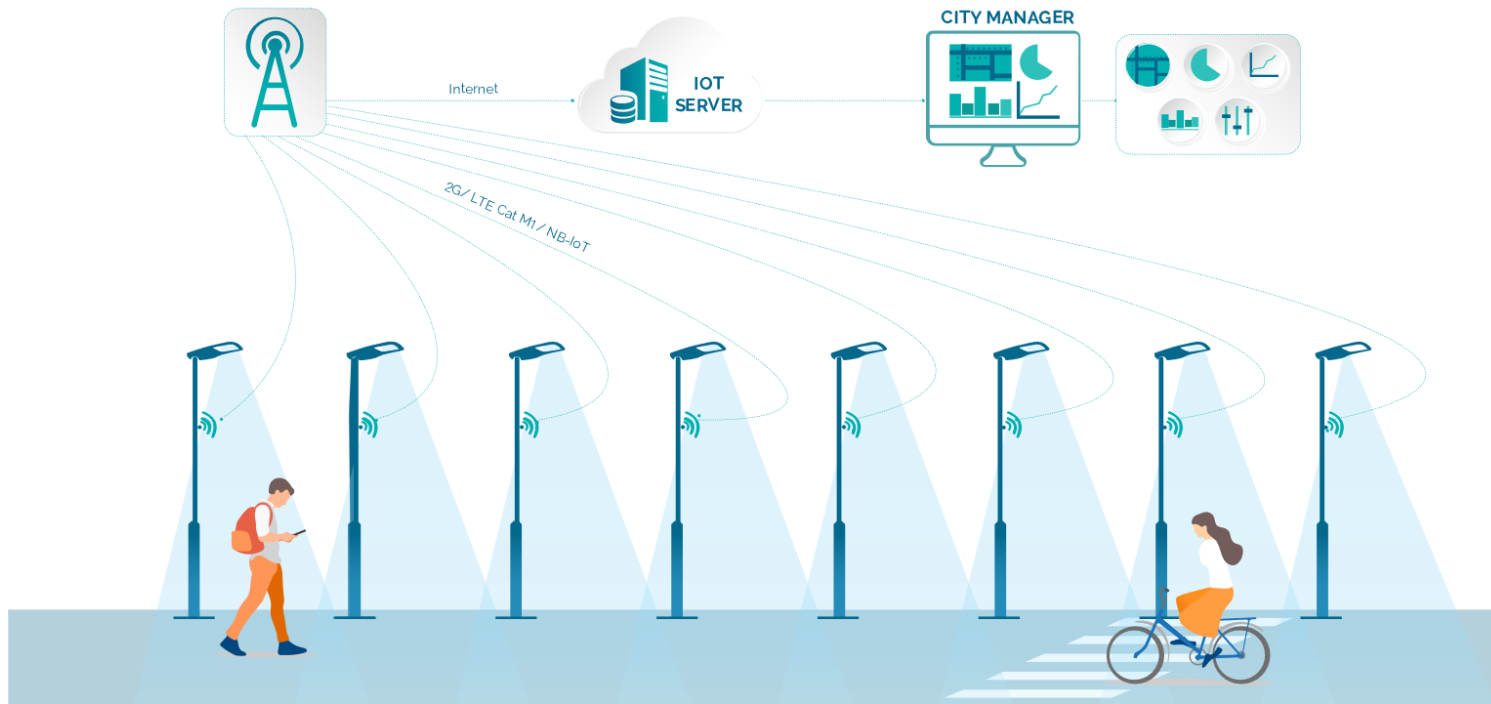


# IoT Pole Mount // Street Light Controller



- Remotely **monitor, manage** and **control** citywide streetlights
- **Single Controller** for up to **4 LED Fixtures** (total max. 480W)
- Works with LED Luminaires **without Nema or Zhaga receptacle**
- Connects directly to **local Secure Cellular network**

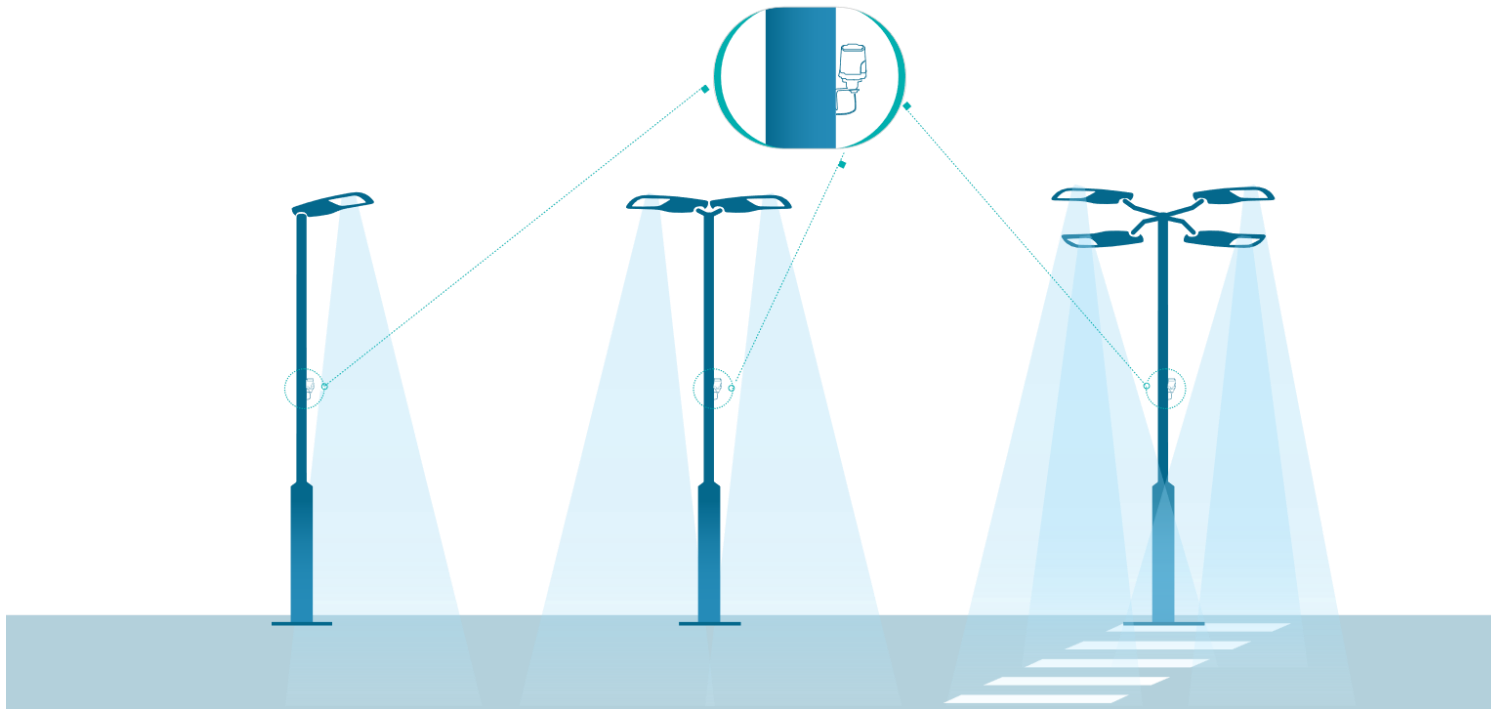
# Global Standard, Local Network



## 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

# Suitable for Single, Dual & Four-Armed Poles

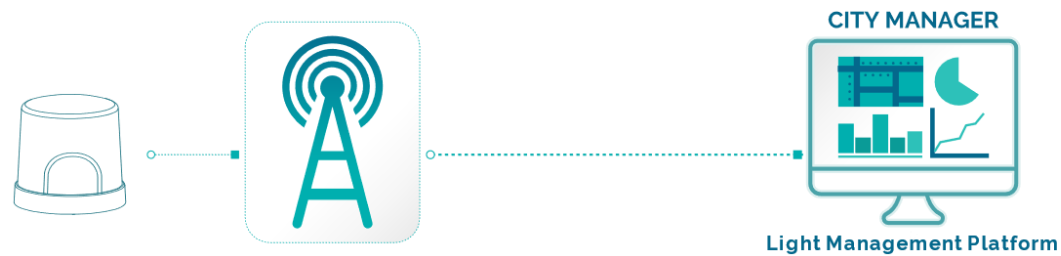


## Single Controller for up to 4 Street Lights

- Control multiple LED Luminaires (including switching and dimming) with a Single Controller.
- Total load capacity: max. 480W
- No need for luminaires with Nema or Zhaga receptacle
- An economical solution for a wide variety of luminaires and poles



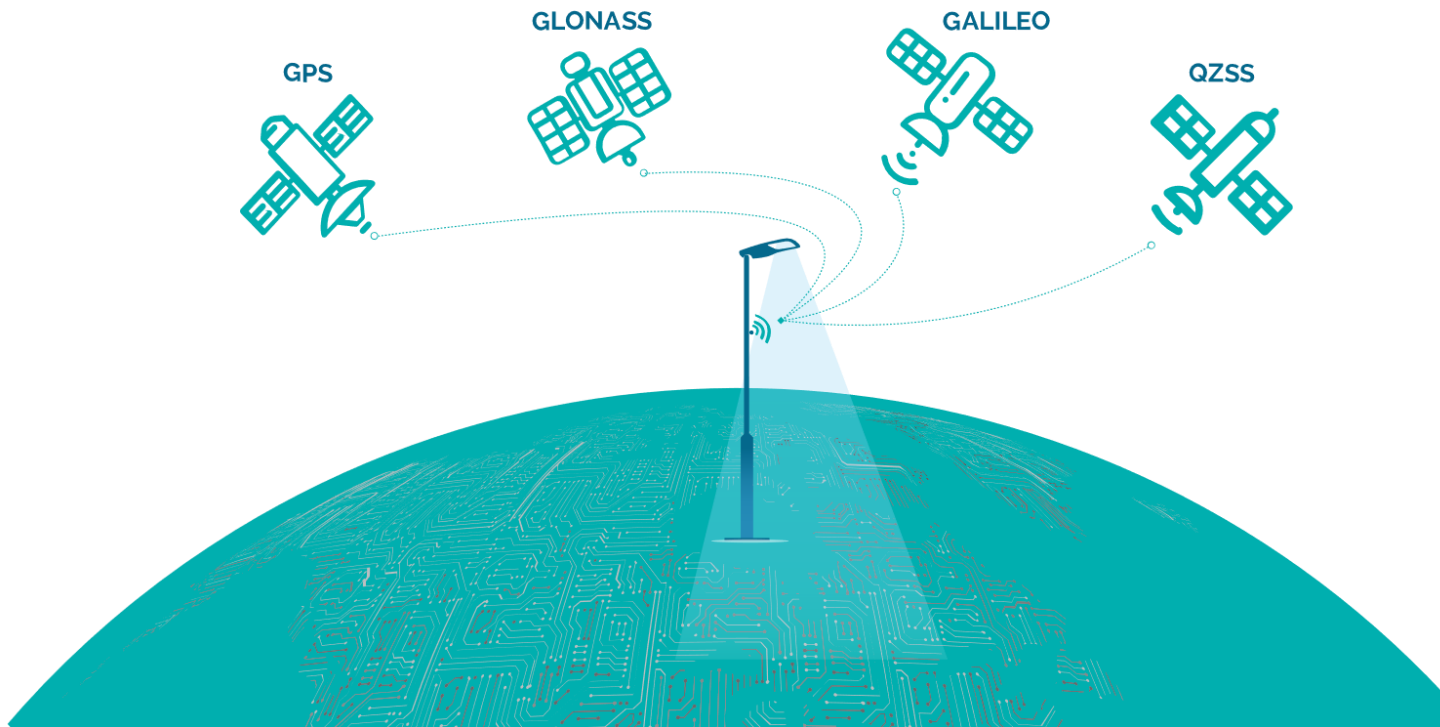
# Gateway Free Installation



## Devices communicate directly with LMS

- Full control over individual streetlights
- Cost and hassle of multiple gateways eliminated
- Quick dimming / switching response

# Auto Commissioning, easy Deployment



## In-built GPS auto-commissioning device

- Device geo-locates automatically upon power, and auto-registers to your LMS
- Eliminates all network engineering efforts

# Point Level Control at your Fingertips



## Manage each lights 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



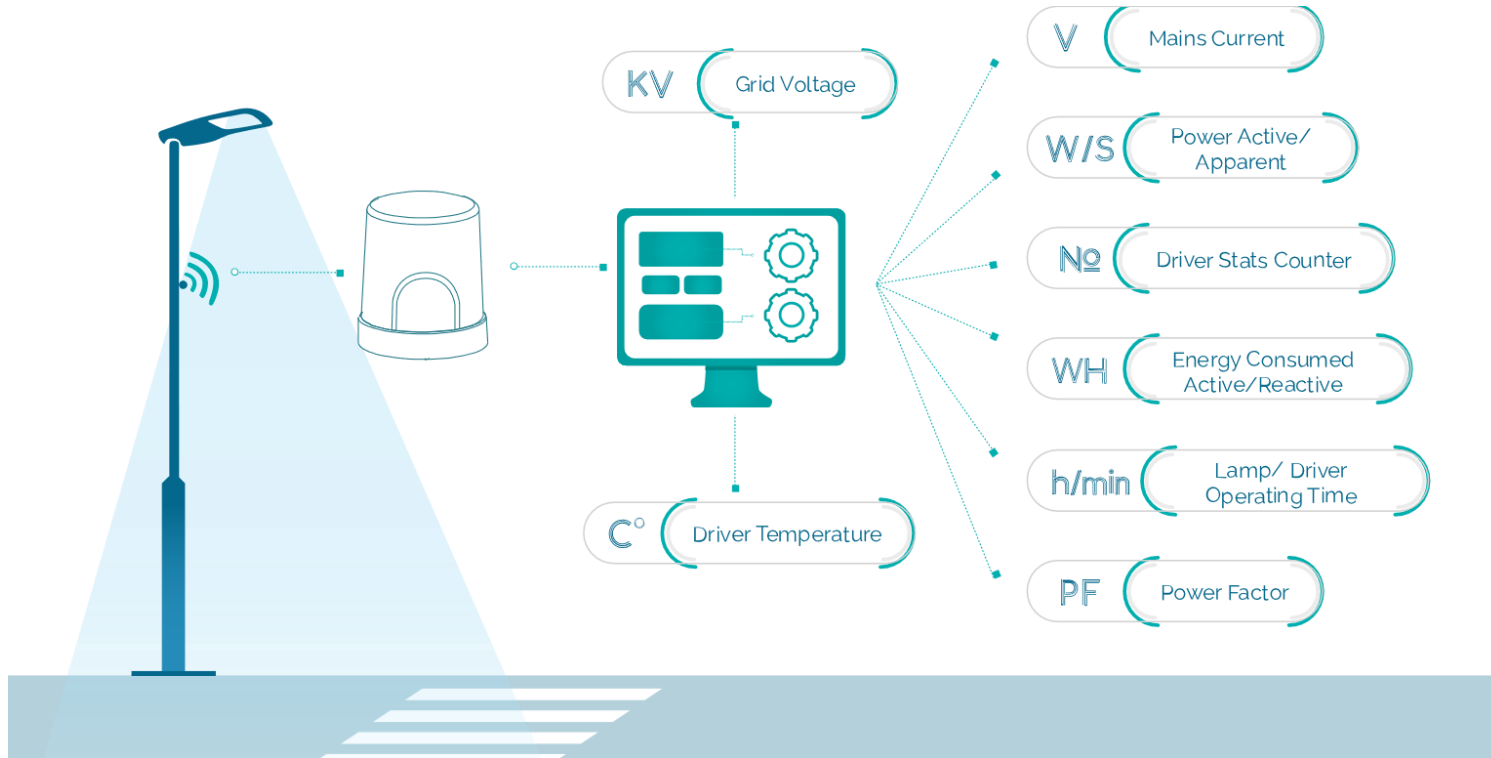
# Finer Control over Dimming & Switching



## Regulate light levels as situation demands

- Photocell
- 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

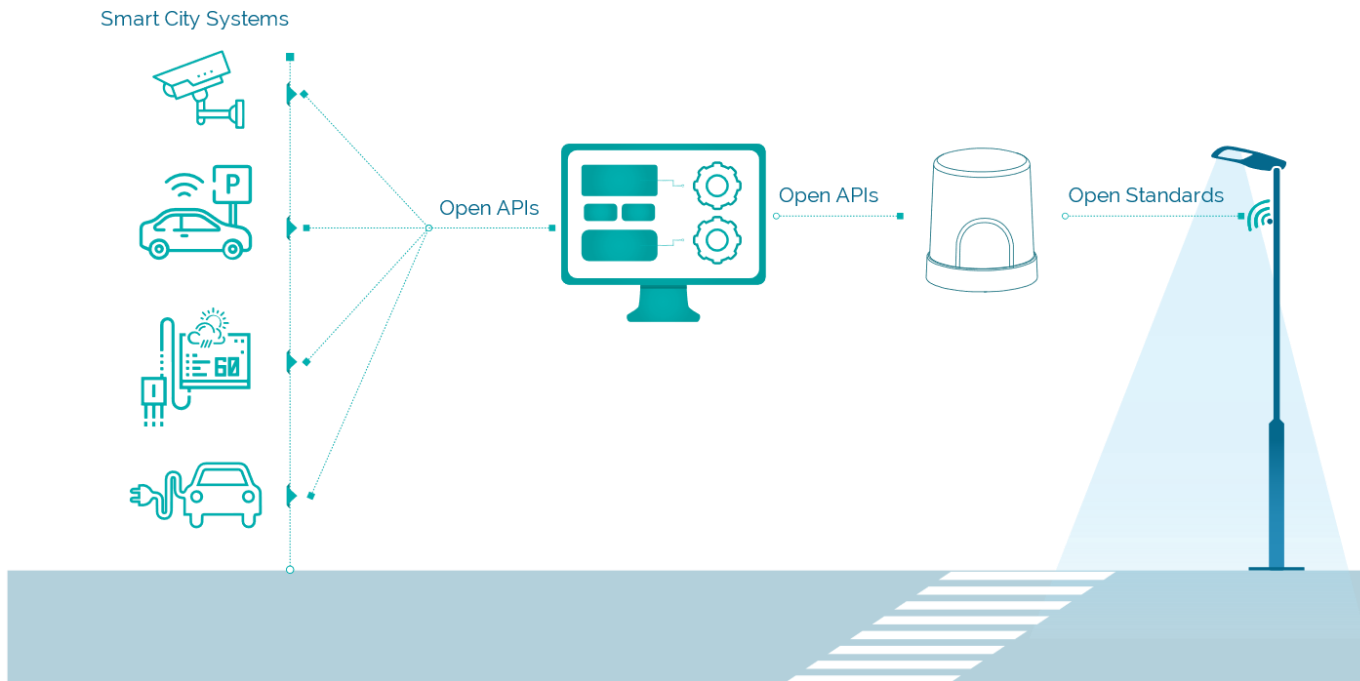
# Advanced Health Monitoring Data



## 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

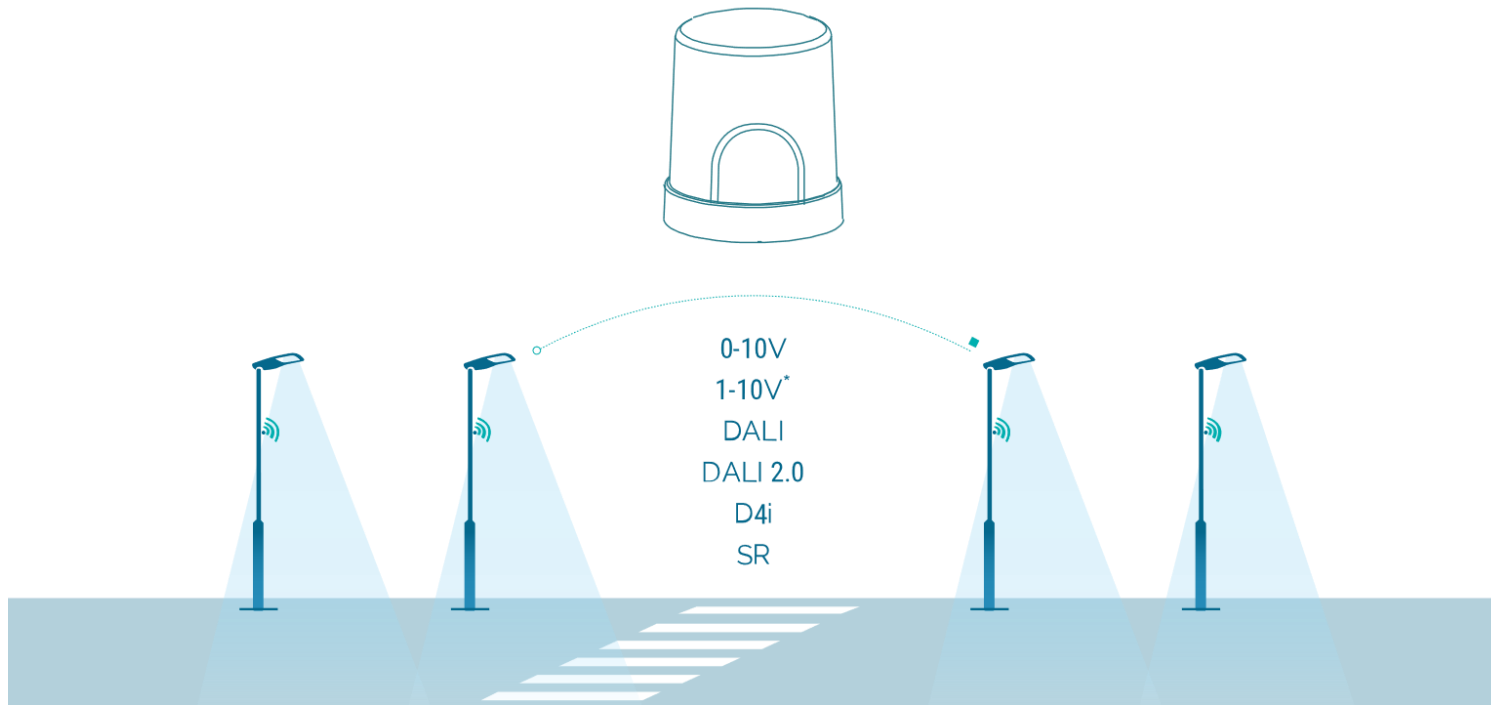


## Built on Open Standards & APIs

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



# Flexible Dimming Control



## Supports multiple dimming protocols

- 0-10V analog
- 1-10V analog\*
- DALI
- DALI 2.0
- D4i
- SR

*\*Max. 480W*

# 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





# Train Station / Railway Lines



# Ports / Sea Terminals



# University Campus



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**Need datasheet?**

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# We look forward to working with you!

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