



Smart Street Lights for Smarter Cities

OpenSky NEMA IoT

v27.12.2021

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



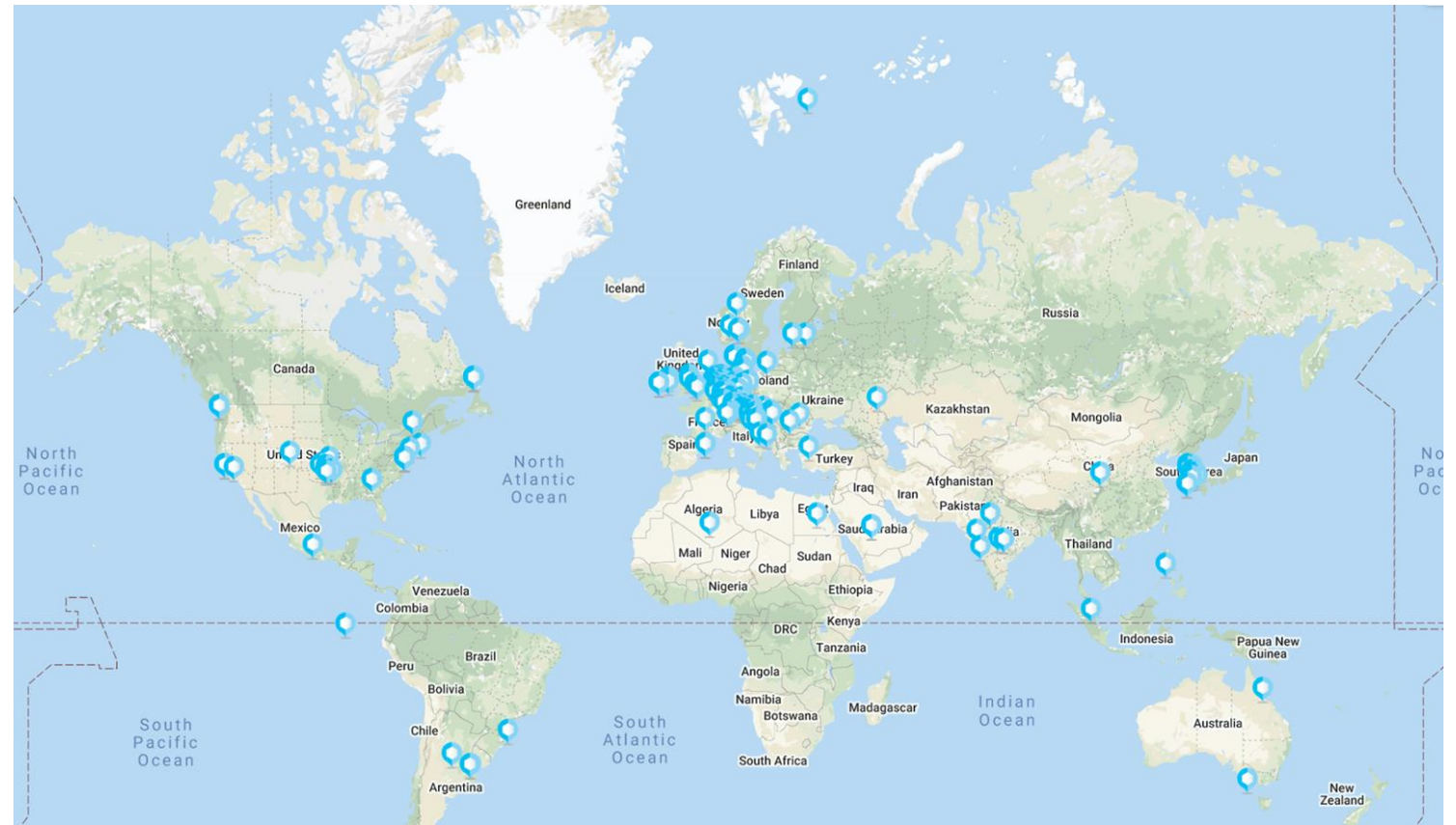
We enable cities to take full control of their Lighting Infrastructure based on Open Standards

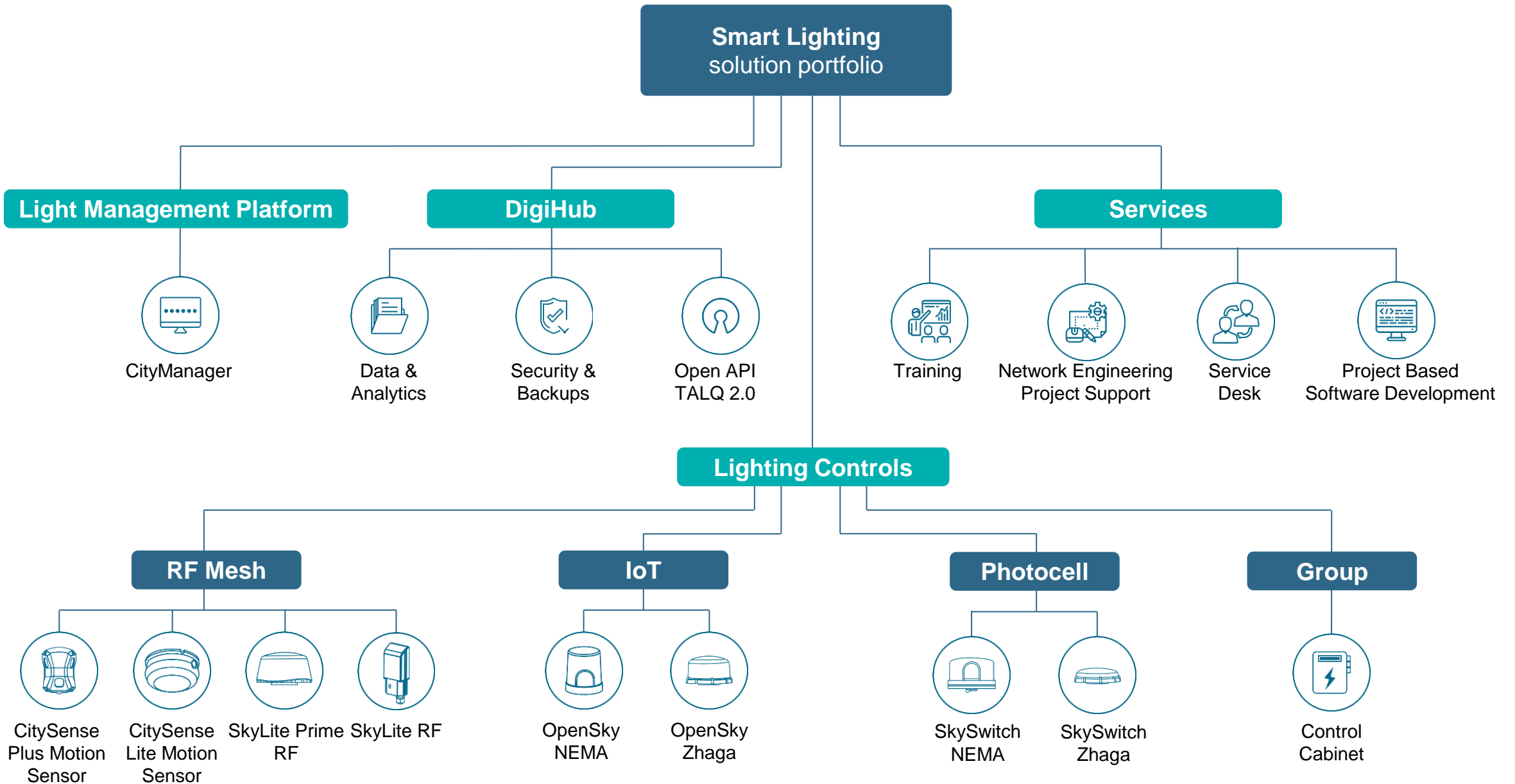
Global presence: 100k+ connected streetlights, 650+ projects

Monitored by CityManager and supported by our Service Desk

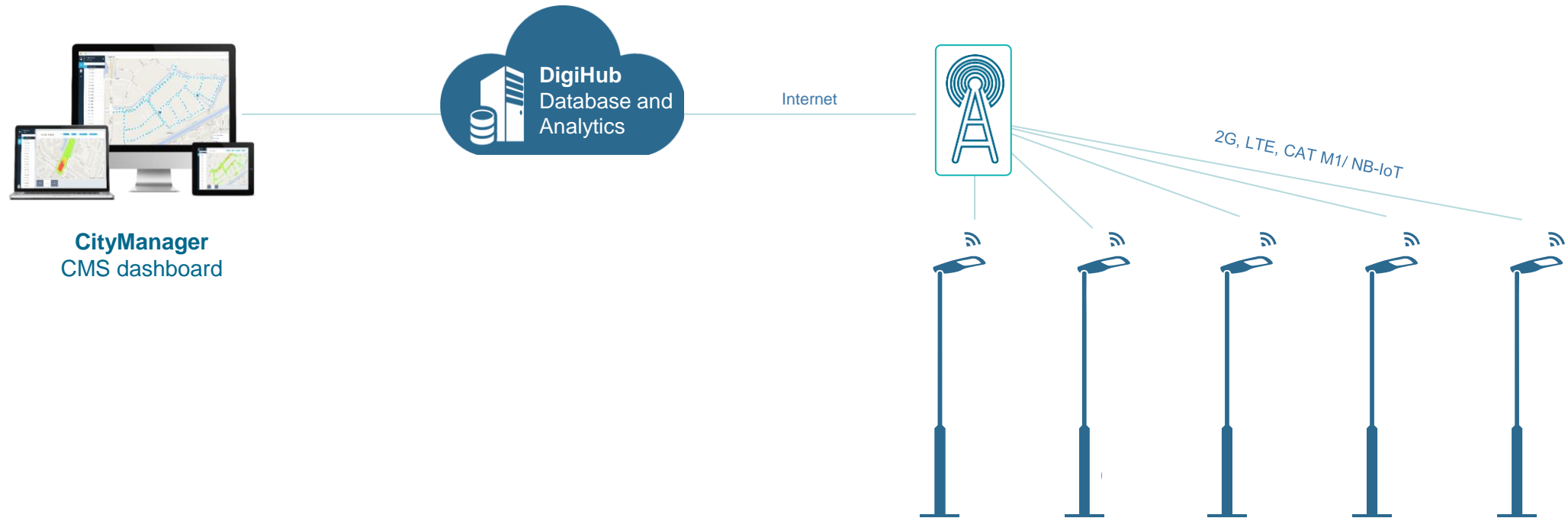
Selected Projects

- 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

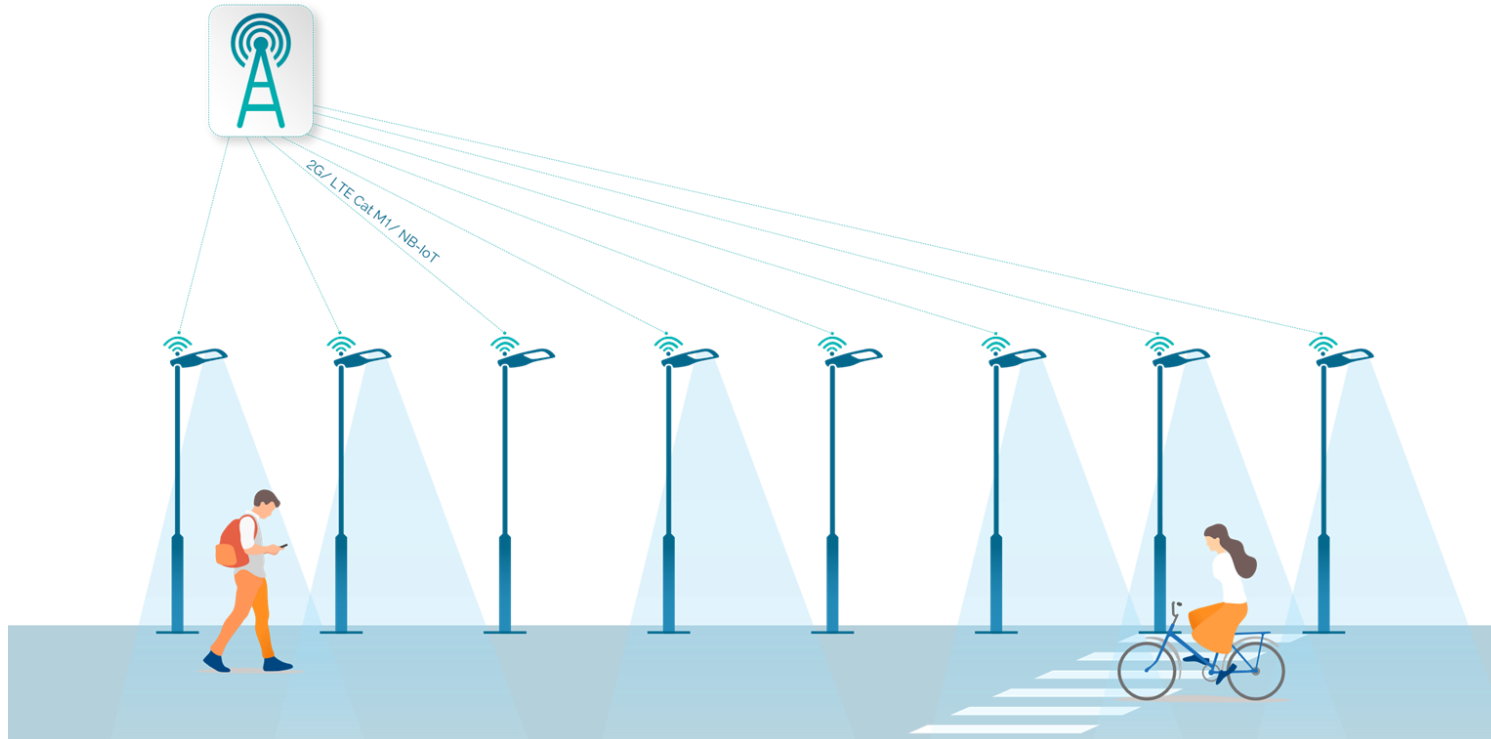
- Open Standard Cellular Network
- Edge (EGPRS), LTE CAT M1 and NB-IoT (NB2) connectivity
- No local gateway needed
- Highest security standard regulated by 3GPP

NEMA IoT Street Light Controller



- Remotely **monitor, manage** and **control** citywide streetlights
- **Plug & play installation** through popular NEMA 7-pin receptacle and auto-commissioning system
- Connects directly to **local secure cellular network**

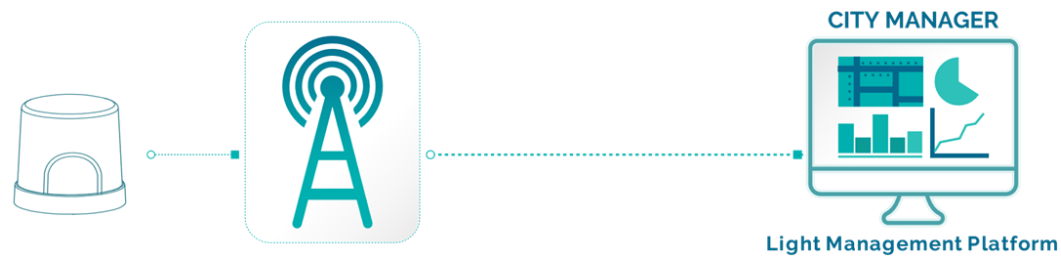
Global Standard, Local Network



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

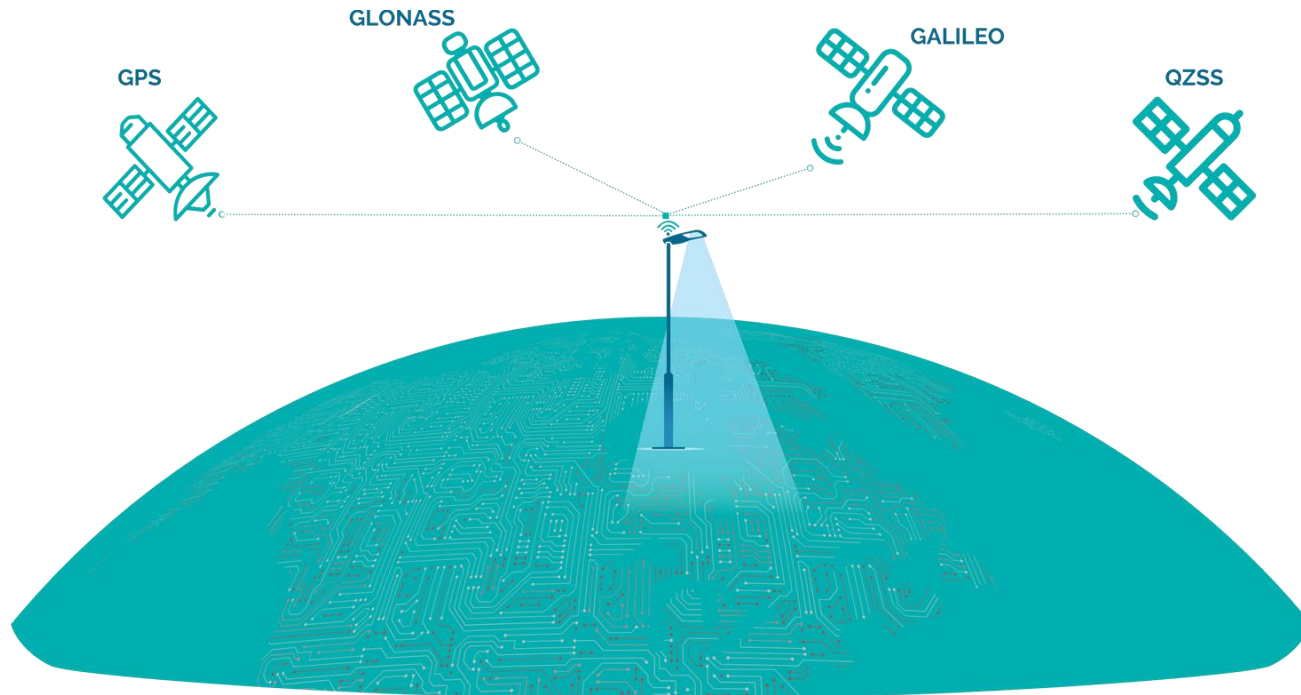
Gateway free installation



Devices communicate directly with LMS

- Full control over individual streetlights
- Eliminates costs related to Gateways
- Quick near real-time dimming / switching response

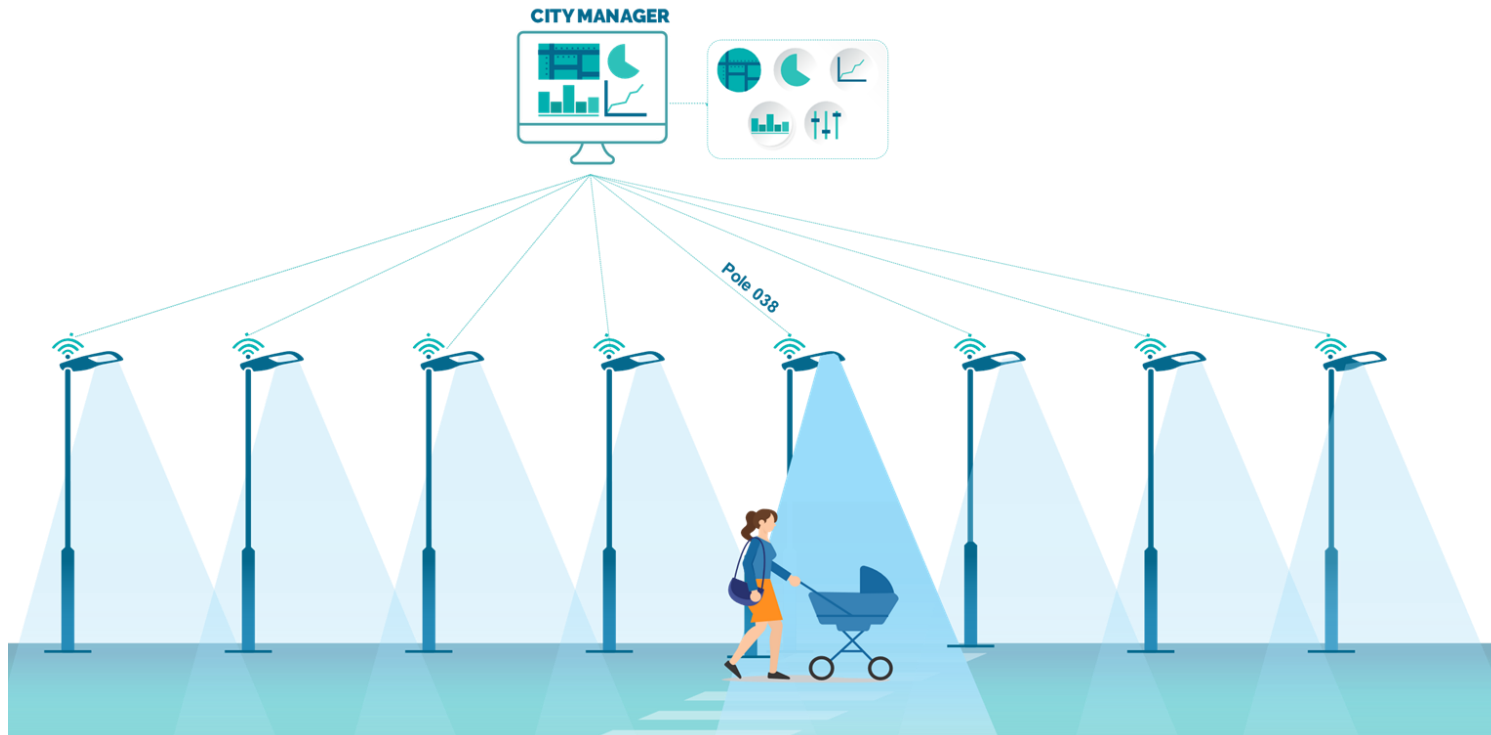
Auto commissioning, easy deployment



In-built GPS auto-commissioning device

- Plug-and-play installation
- 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 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

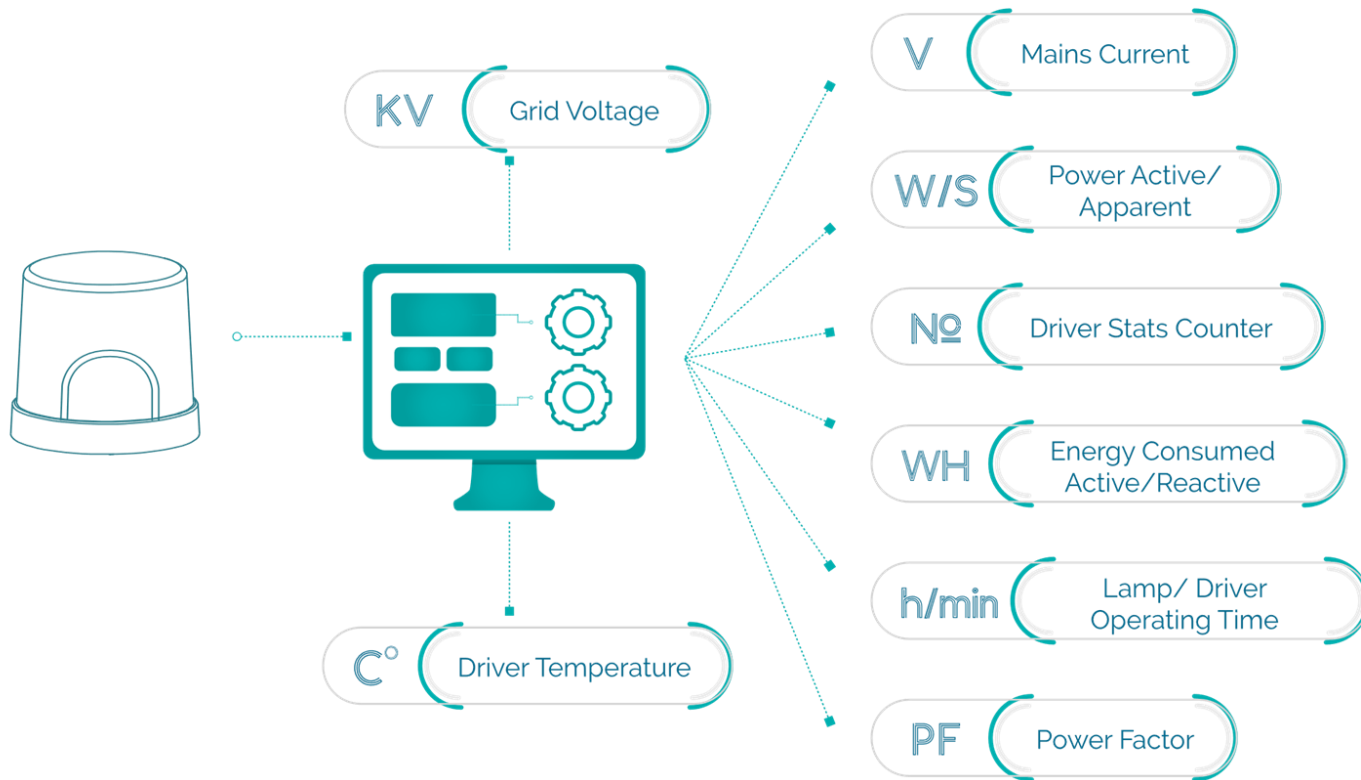
Finer control over Dimming & Switching



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

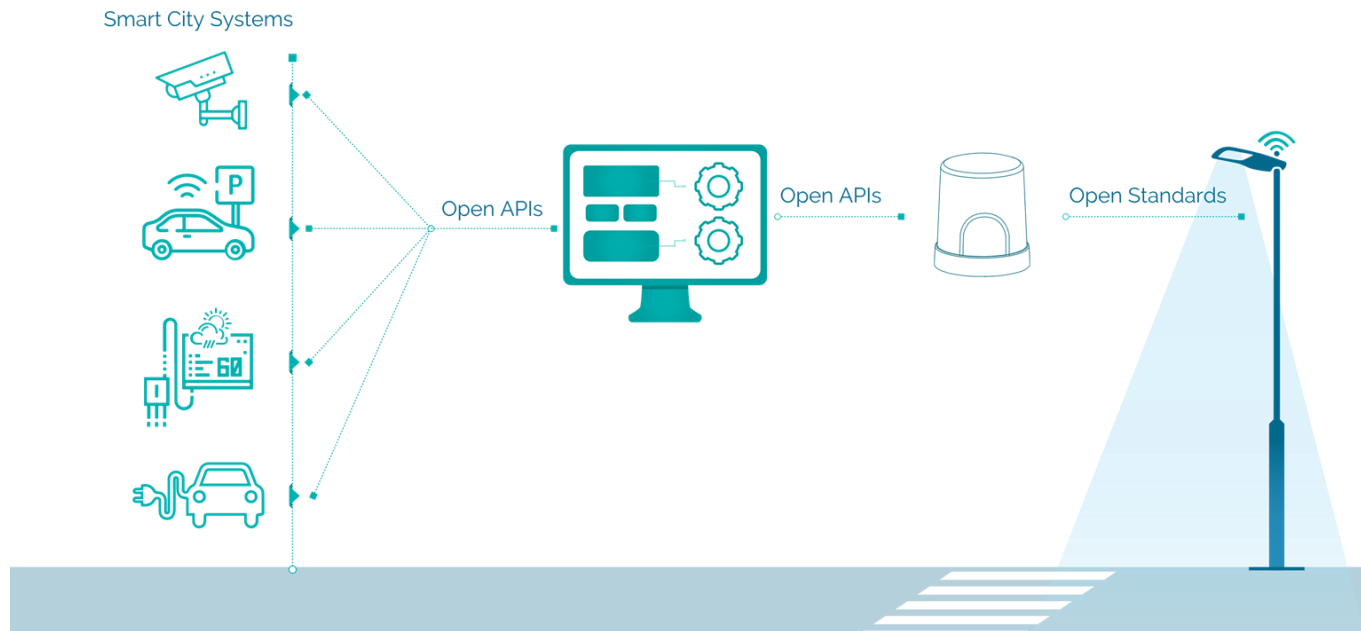
Advance health monitoring data



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

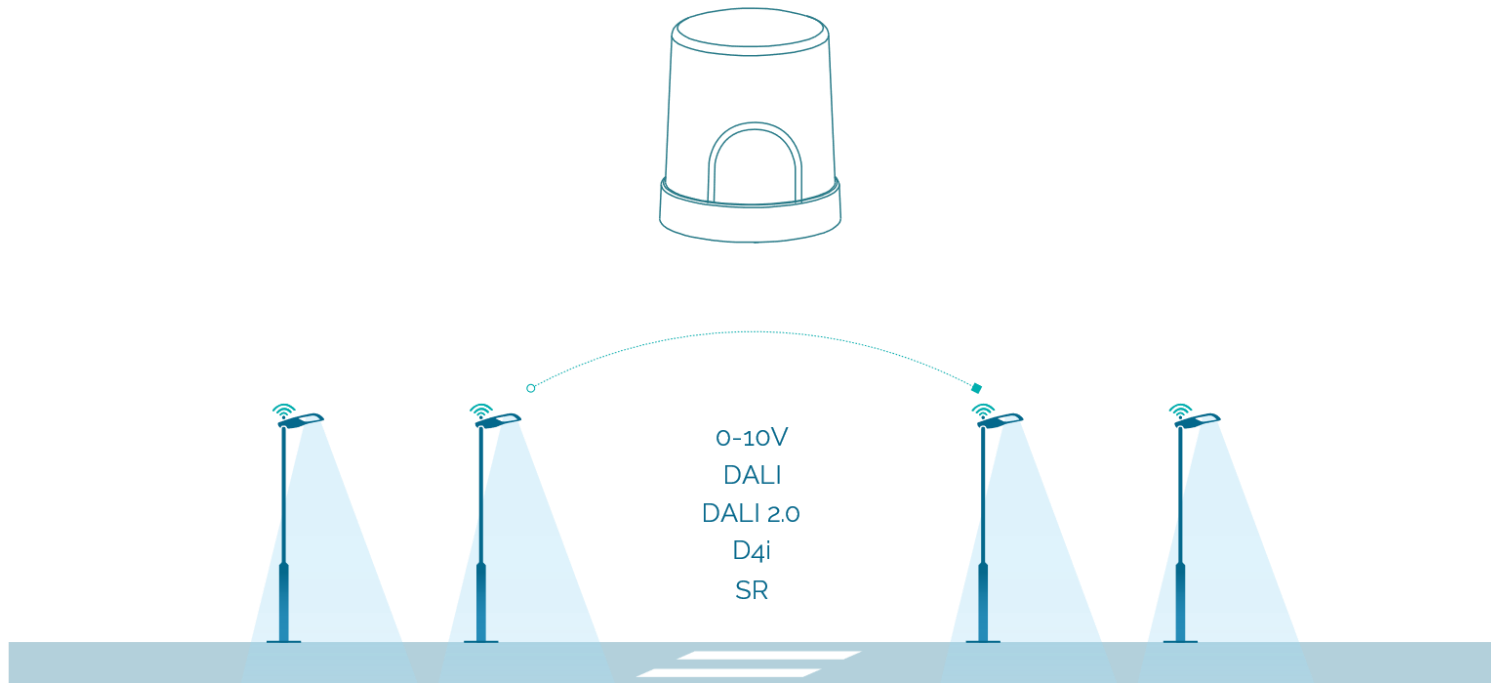
Smart City Ready



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

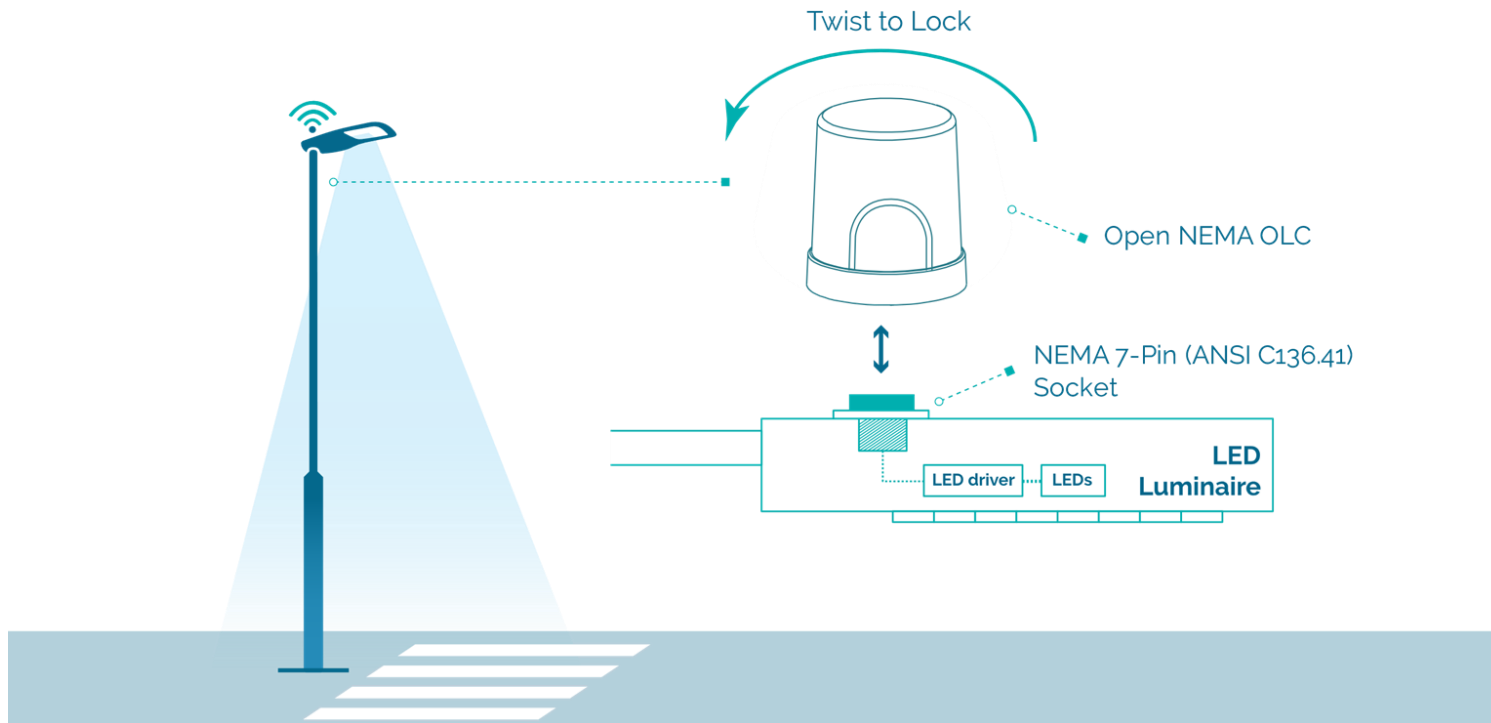
Flexible Dimming Control



Supports multiple dimming protocols

- 0-10V analog
- DALI
- DALI 2.0
- D4i
- SR

Well-known interface, standard compatibility



Complies with ANSI C136.41 standard

- Plug and play installation
- No special tool or training needed
- Works with any NEMA compatible LED luminaire/ lighting fixture

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



Like it.

Why not give it a try?

Want to learn more?

Need datasheet?

Contact us at: sales@tvilight.com

We look forward to working with you!

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