



Smart Street Lighting for Smarter Cities

SkyLite RF Mesh

v09.05.2022

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

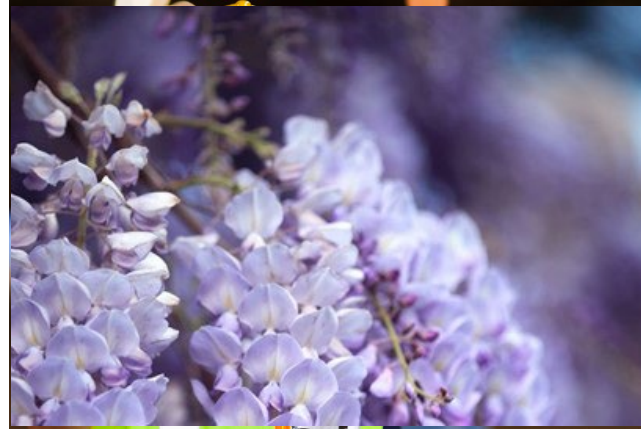
Right light and right place and right time enhances citizens' sense of safety.

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



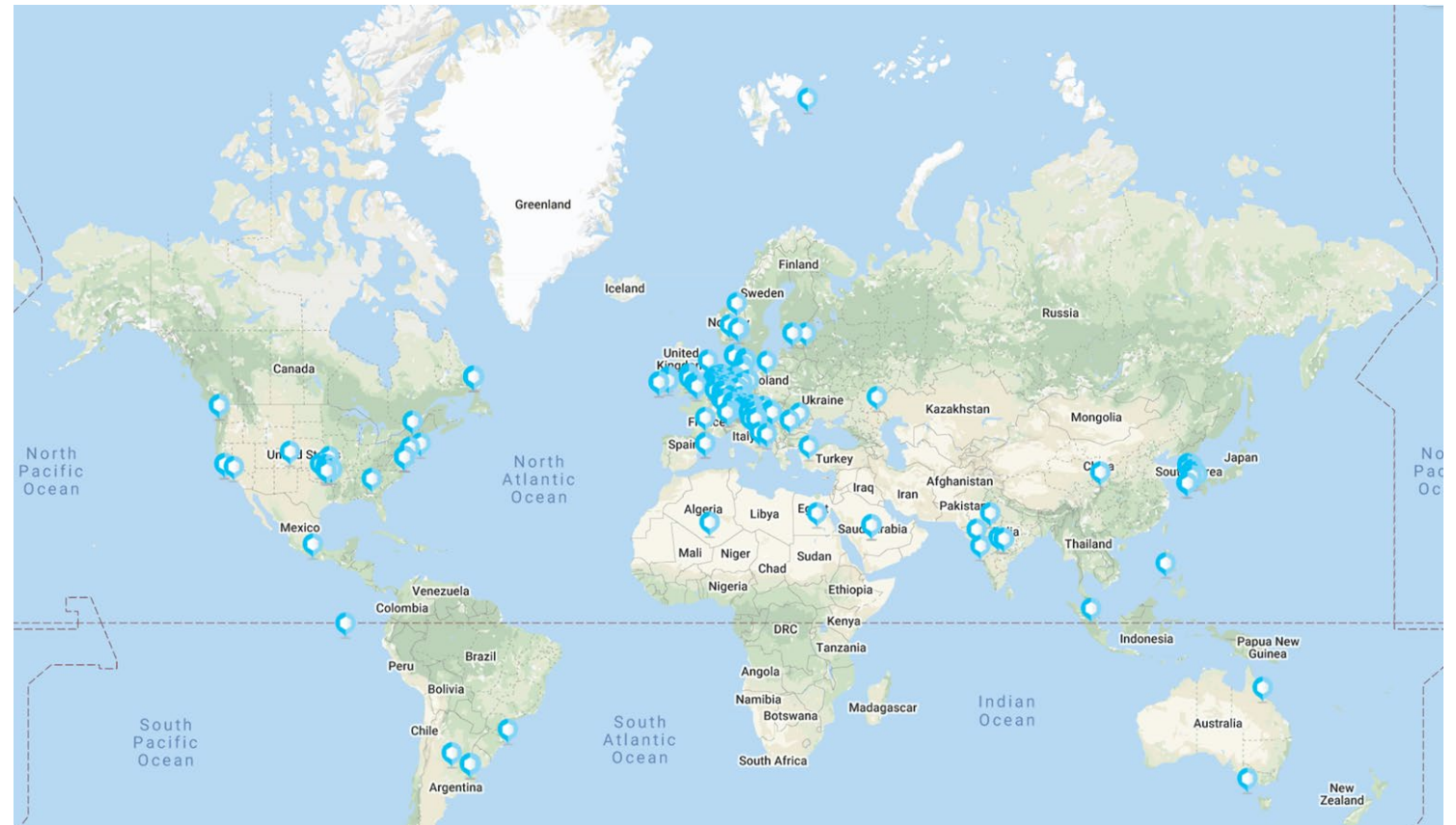
We enable cities to take full control of their Lighting Infrastructure based on Open Standards

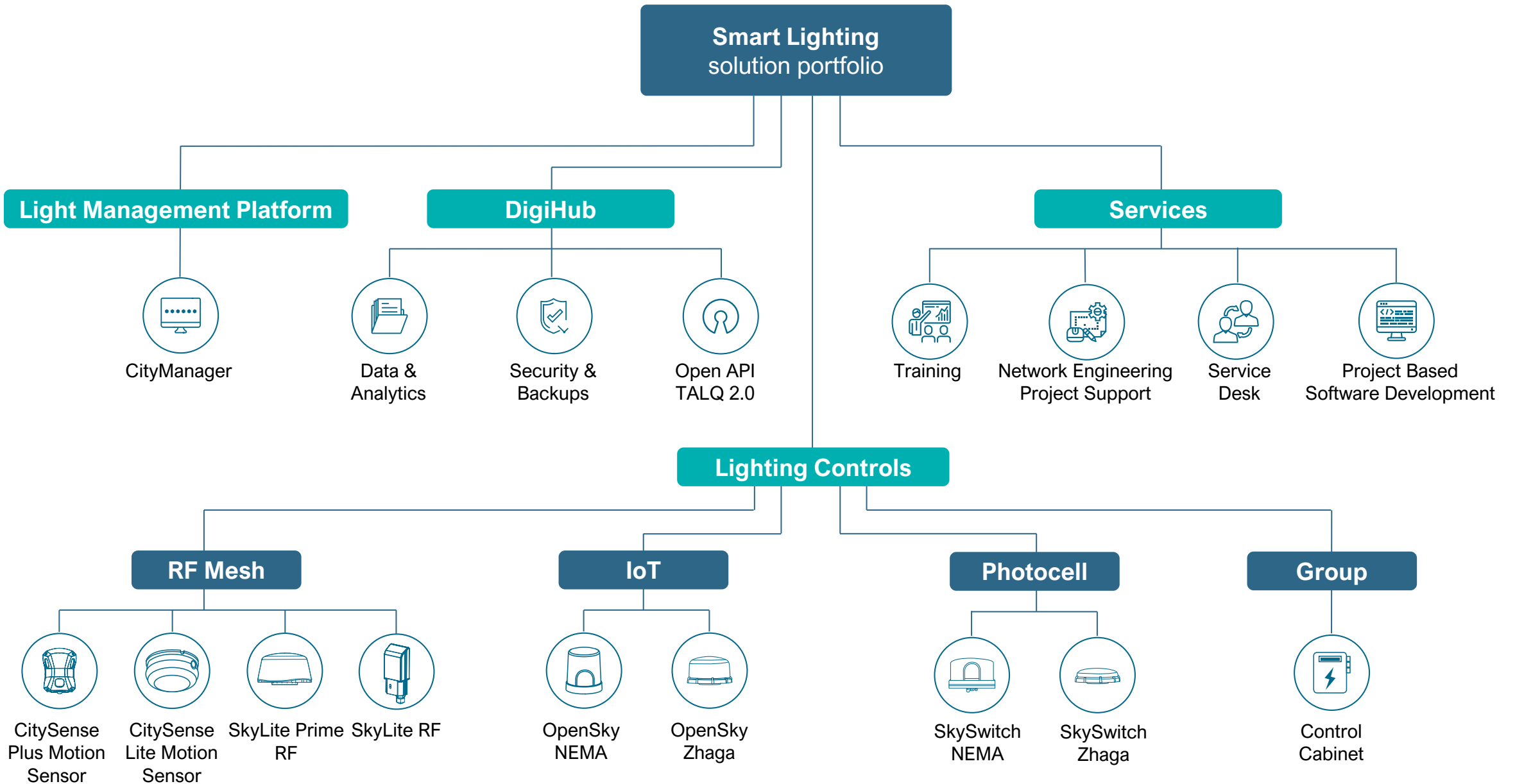
Global presence: 100k+ connected streetlights, 650+ projects

Monitored by CityManager and supported by our Service Desk

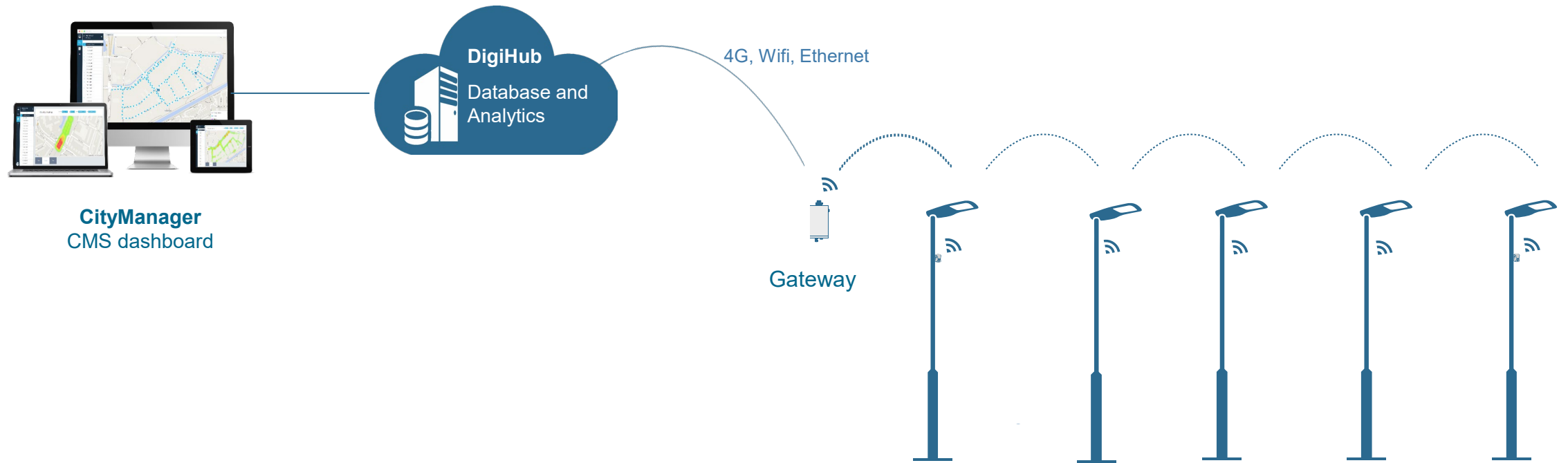
Selected Projects

- 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 Wireless mesh network



Wireless Smart Lighting

- 2,4 GHz network, 250 kbps
- High bandwidth, low latency
- Real-time RF Mesh network
- High security 128 AES encryption
- Light-on-demand (140 km/h) when paired with motion sensors

Smart Street Light Controller Zhaga RF Mesh

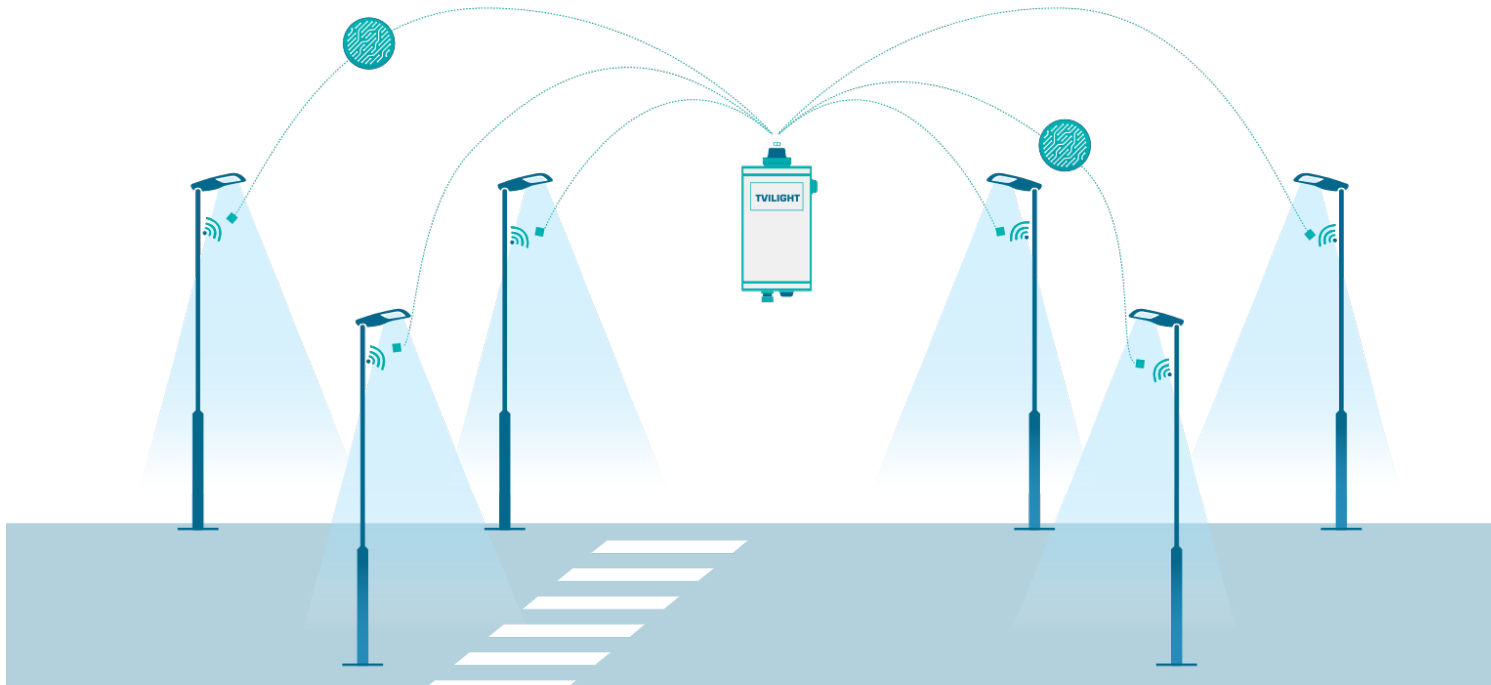


CE CB



- Remotely **monitor, manage** and **control** citywide streetlights
- **Pole-mounting** allows installation on any kind of luminaire
- Uses self-forming, self-healing industry standard **RF mesh** network

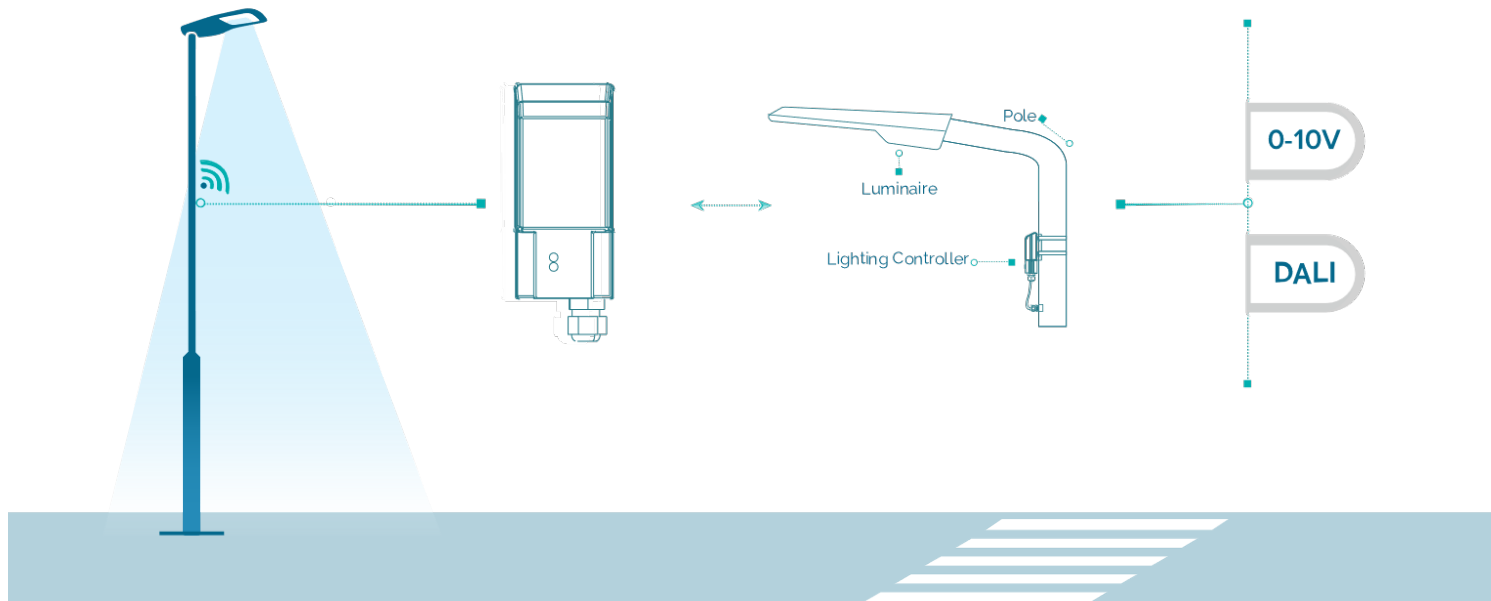
Secure Wireless Mesh Network



Secure communication over wireless network

- Self-forming and self-healing network
- Real-time communication
- Automatic Gateway connection
- Suitable for small and large areas alike
- IEEE regulated high encryption

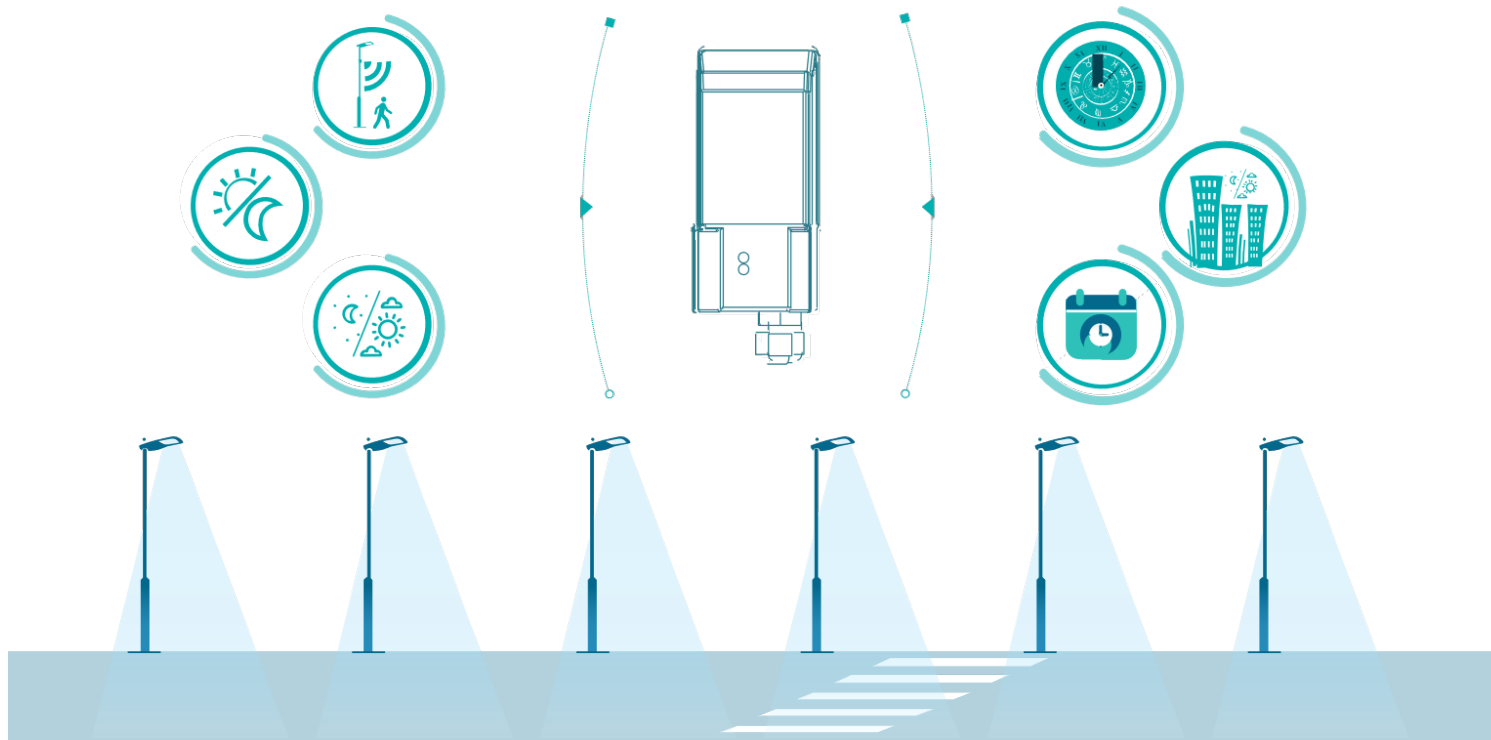
Universal Luminaire Compatibility



Makes any street light smart

- Suitable for existing fixtures – conventional and contemporary alike
- Suitable for HPS, LPS and LED
- Works without NEMA or Zhaga receptacle
- Supports 0-10V and DALI

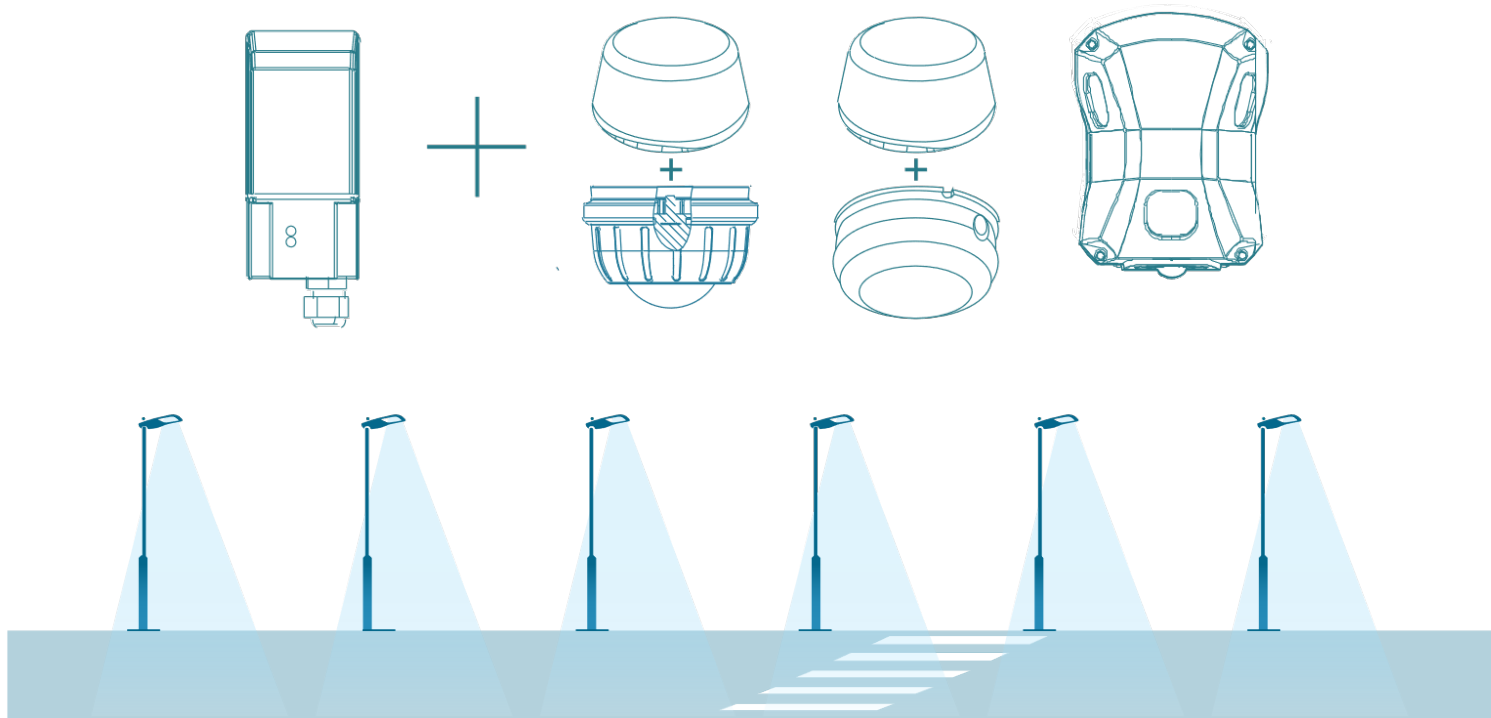
Finer control over Dimming & Switching



Regulate light levels as situation demands

- Time-based Light Scene
- Adaptive Lighting (Motion Sensor)
- AstroClock (Astronomical Clock)
- Calendar-based Schedules
- Autonomous
- Emergency (HiLight App)
- Central ALS (Photocells in City)

Supports On-Demand Adaptive Lighting



Wirelessly connects with motion sensors

- SkyLite can automatically receive messages when motion sensors are present in the same network. For example, CitySense/ CitySense Lite
- Motion sensors improve public safety perception
- Real-time communication over wireless mesh network enables real-time neighbour trigger / follow light

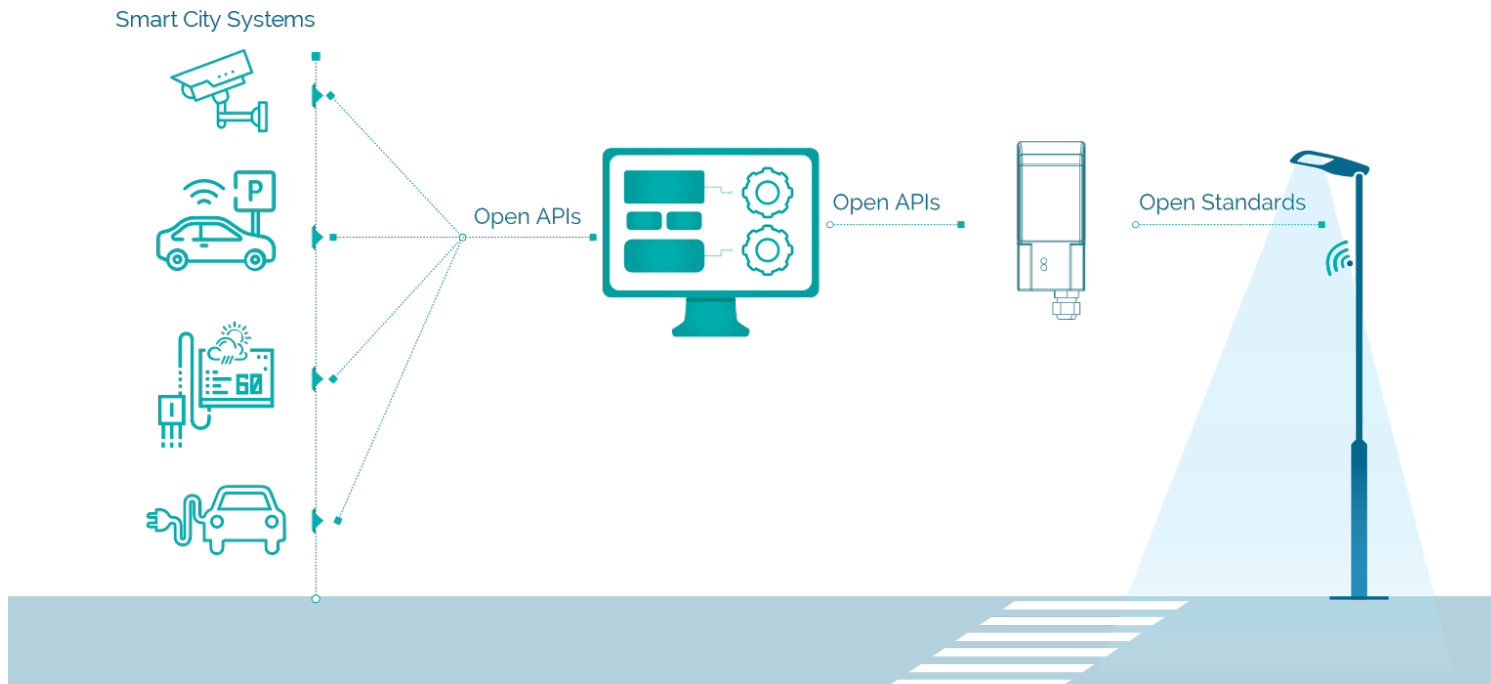
Higher Savings – Lower Investment



Light-on-demand through smart combination

- A typical project does need a sensor on every pole
- A sensor can be mounted on every 3rd , 4th or 5th pole, while SkyLite in-between these two
- This smart combination lowers the overall investment, while achieving a comparative high savings
- Case-in-Point: Sohar Port, Oman

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

Features to improve day-to-day operations...



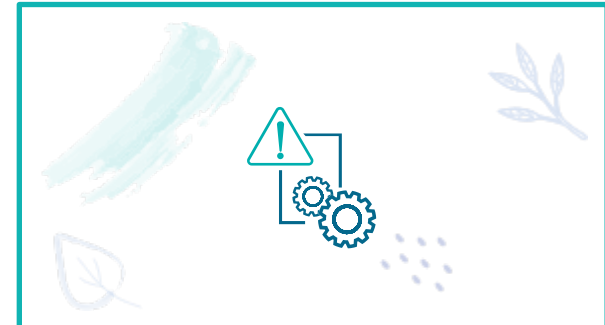
Full Remote Management

You can monitor and control street lights with SkyLite through our own software, CityManager, or any suitable third-party software.



Programmable

With CityManager or 3rd party light management software, easily create customized schedules for street lights. You have total control on when, where and how the lamps turn on.



Fail Proof

The smart controllers have inbuilt multilevel back-up system. In an unlikely case of a system failure, street lights will go back to their standard, non-adaptive operation mode.

Features to improve day-to-day operations...



Timely Notifications

Receive all updates concerning your street lighting infrastructure via email or through our CityManager software platform. It helps take quick actions in case of failures.



Inbuilt AstroClock

With battery backed inbuilt AstroClock, SkyLite controller can switch lamps on/off at sunset/sunrise and adjust on/off times seasonally, eliminating the need of conventional photocell.



Third-Party Compatibility

SkyLite allows easy connection of third-party products and software thanks to its open architecture.

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?

Visit: <http://tvilight.com/skylite>

We look forward to working with you!

DISCLAIMER

THE INFORMATION PRESENTED IN THIS PRESENTATION IS PROVIDED AS-IS WITHOUT ANY GUARANTEE, WARRANTY OR ACCURACY. IN ASSOCIATION WITH THE INFORMATION, TVILIGHT MAKES NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OF TITLE, OR OF NONINFRINGEMENT OF THIRD PARTY RIGHTS. USE OF THE PRODUCT PROTOTYPES BY A USER IS AT THE USER'S RISK. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTIFICATION. ALL INFORMATION CONTAINED HEREIN IS CONFIDENTIAL.

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