owlet

SMART CONTROL FOR EFFICIENT LIGHTING

Owlet Nightshift

Summary

Lightpoints	887
Working	880
Offline	7
Errors	0

LOCATE ME   STREETS

Schréder

CHOOSE
A SMARTER FUTURE

LOCAL AUTHORITIES CARE FOR THEIR CITIZENS BY OFFERING THE BEST INFRASTRUCTURE ENSURING SAFETY, WELL-BEING AND SUSTAINABILITY. THEY ARE ALSO LOOKING AT TECHNOLOGIES PLAYING A MORE PROACTIVE ROLE TO DRIVE THE DELIVERY OF NEXT GENERATION SMART AND SOCIAL ENVIRONMENTS.

The major drive for this change is due to several factors: the on-going rapid rate of urbanisation, increasing mobility issues, energy costs and more recently the global economic slowdown. These factors have serious impacts for key growth parameters - economic, social and environmental.

One of the major concerns that requires a quick answer is the reduction of public expenditure.

A large chunk is due to energy bills with public lighting accounting for 40% of the total.

Control operational costs and energy consumption with Owlet

Owlet is the range of smart control solutions offered by the Schréder Group. Thanks to Owlet, cities can reduce their energy bills by up to 85%, manage expenses more efficiently, improve maintenance and asset management and provide increased safety with enhanced well-being for their citizens.

Ready to be a Smart City?

Schréder's Smart Control systems are easily connected with Smart cities' Big Data networks thanks to the open protocol standards.

The flexibility of Smart Control Systems will accompany the natural and progressive growth of your city.

These systems can be managed by any device with wireless interconnectivity thanks to the use of the most common protocols.

Become a Smart City and step into smart control intelligence by choosing Schréder as your long lasting partner.

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EXTRACT THE BEST
OF YOUR LIGHTING INSTALLATION

Schréder is strongly committed to providing lighting solutions with added value for your environment. Our approach is built on four pillars to satisfy your highest expectations.

Schréder has developed a comprehensive approach to offer you **a full scope solution** from design to after-sales services, including lighting, finance, intelligent control systems, street furniture, security, signage and many other smart features. As a large international Group that is committed to excellence, Schréder has **multi-skilled teams based all over the world.**

Solutions

Schréder's comprehensive approach enriches people's daily life in public areas. The attractive, robust and long-lasting designs of **our solutions enhance your area and create a strong identity**. Quality lighting provides light where and when it is necessary. Security devices and emergency functions guarantee a safe environment. With Schréder, people enjoy every part of your world !

Well-being

Schréder's expertise in implementing quality lighting solutions, providing light when and where it is needed **is a valuable asset to secure an area.** By combining the efficiency of LEDs with the possibilities of control, Schréder offers several integrated "light on demand" solutions. A stylish way to combine safety and energy savings.

Safety

As a responsible company, minimising our ecological footprint is a priority. In line with the major driving force for the switch to LED lighting, Schréder is firmly committed to drastically reducing energy consumption. By combining the best of LED technology with a wide range of control systems, **our solutions offer huge energy savings of up to 85% and radically reduce the payback time** of a new installation.

Sustainability

4 REASONS
TO TAKE CONTROL

Generate energy savings of up to 85%

The Schréder Owlet solutions integrate the latest cutting edge technology. **The combination of LEDs and control systems makes it possible to achieve energy savings of up to 85%** compared with installations equipped with traditional light sources.

Thanks to smart features such as Constant Light Output (compensation of the light output depreciation), Virtual Power Output (adapting the power output according to the requirements) and Selective Dynamic Lumen Output (adapting to the real needs), Owlet control systems avoid over-lighting and a waste of energy.

With this favourable energy balance, the Schréder approach contributes to the effective management of finances and to the responsible use of energy.

Improve operations management

Diversions and the closure of roads during maintenance operations bring a whole series of inconveniences: loss of money and time, increase in distances travelled, difficulties for residents, avoidable greenhouse gas emissions, etc. Thus **it is very important to use modern tools to manage a lighting installation in the most efficient way.** By limiting maintenance operations, the Schréder Owlet solutions reduce operator bills and the frequency of traffic disturbance.

The report features of our systems allow you to monitor and to assess your lighting installation independently and provide the necessary information to manage wisely your network throughout its lifetime.

Provide light-on-demand

When public spaces are not being used, lighting at full power is a pure waste of energy. Dimming scenarios and light-on-demand features can adapt the lighting to the real needs of the place and the time.

The Schréder Owlet range of control systems includes motion detection sensors that can operate on either individual lighting points or on a complete network.

Each luminaire level can be configured individually with several parameters such as minimum and maximum light output, delay times from minimum to maximum and duration of ON/OFF times.

In addition, you can take control of your lighting installation to adapt the parameters from time to time for special occasions.

Ensure reliability

By monitoring every single lighting point, the advanced Schréder Owlet systems prevent failure by detecting operating issues (broken lamps, device temperature, surges…). If problems arise, the system switches to a default program ensuring that the lighting installation does not turn off. **The Schréder Owlet system is a user-friendly asset management interface allowing an optimised operational management of costs and services.**

OWLET RANGE / FEATURES	NETWORK				INTERACTIVITY					DIMMING			MONITORING				DATA	
	Installation size	Communication between devices	Installation extension	Third party integration	Connectivity to Smart City Interfaces	Astroclock	Constant Light Output (CLO)	Light-on-demand (motion sensor)	Daylight sensor	Fixed dimming	Dynamic dimming	Adaptation of dimming profile	Live management	Consumption metering	Asset Management (geolocalisation)	Alarm management	Data storage / event history	Reporting
STAND-ALONE › Best for basic smart lighting	1 light point	-	✔	-	-	✔	✔	✔	✔	✔	✔	-	-	-	-	-	-	-
AUTONOMOUS NETWORK › Best for non-linear activity areas	2 to 1,000 light points	Wireless	✔	-	-	✔	✔	✔	✔	✔	✔	Remote (on-site)	-	-	✔	-	-	-
INTEROPERABLE NETWORK › Best for entire lighting installation (roads, streets, tunnels…)	2 to 100,000 light points	Wireless (wired in tunnels)	✔	✔	✔	✔	✔	✔	✔	✔	✔	Remote	✔	✔	✔	✔	✔	✔

INTERACTIVITY:
LIGHT ONLY WHEN NECESSARY

To adapt lighting to real needs, our solutions include sensors. They measure natural light levels, movement or speed to provide light only where and when it is necessary. This feature enables you to avoid unnecessary lighting in favour of energy savings.

Daylight sensors

Our solutions can be managed by photoelectric sensors that switch on the luminaires exactly when natural light becomes insufficient (cloudy day, night fall...) so as to provide safety and well-being in the public space.

Movement sensors

In non-linear activity areas (squares, car parks, residential streets... places with a little nocturnal activity), the lighting can be dimmed to a minimum most of the time. By using movement sensors, levels can be raised as soon as a pedestrian or a slow vehicle is detected in the area. This light-on-demand function enhances the safety and the well-being of the users while saving energy.

Speed and direction sensors

Compared to movement sensors, a speed (and direction) sensor works with a wider detection area to classify the identified moving item following its speed and its direction. This classification provides the right response according to predefined lighting scenarios. Solutions fitted with speed and direction sensors operate in large areas to ensure safety and well-being in the most sustainable way.

Stand-Alone

Case study - Paris (France)

› Residential street

› HapiLED with CLO and fixed dimming

› Energy savings: 80% compared to 125W mercury sphere luminaire

Owlet
STAND-ALONE solutions

One pole, one control

Each luminaire behaves independently thanks to its own control unit. Schréder Owlet stand-alone solutions are recommended for basic smart lighting. In non-linear activity areas such as pedestrian areas, parks, car parks, warehouses...

Photocell

Placed on the top of the luminaire, an integrated photocell switches it ON or OFF depending on the level of natural light. Each light point behaves independently. A photocell enables an out of the box installation without commissioning. Thus it is very easy to retrofit in existing luminaires.

OFF   **ON**
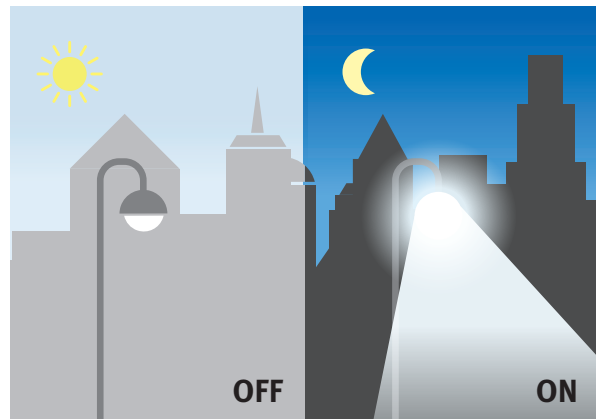
Motion detection sensors

The presence of people or vehicles is detected by motion sensors (infrared/microwaves). Besides reducing energy consumption, this light-on-demand feature contributes to the safety of an area. Each sensor is set up to avoid unnecessary detection.

100%   50%   50%   50%
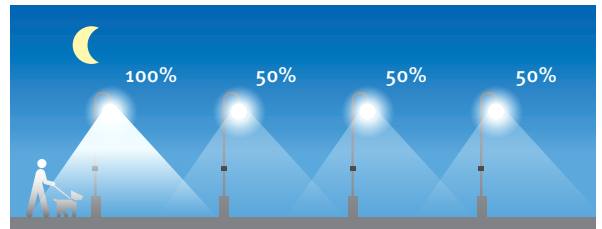
Key benefits

☐ Low investment and fast payback

☐ Energy savings of up to 30%
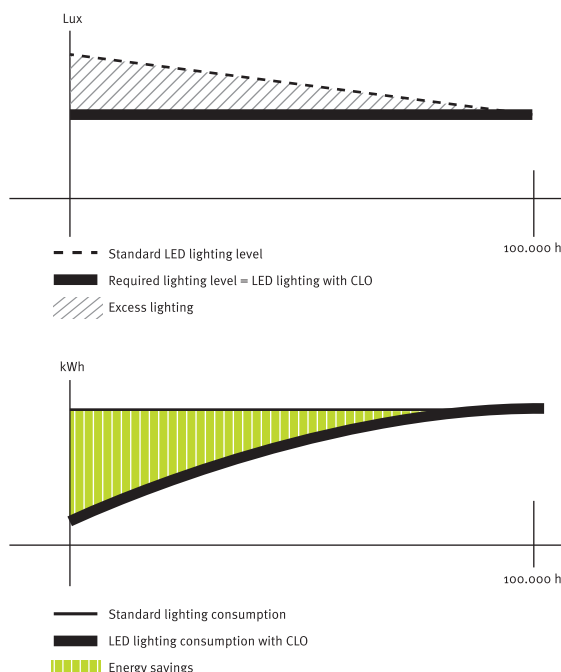
☐ Compliance with regulatory requirements

Astronomical clock

An integrated astronomical clock offers a constant adaptation of the dimming profile according to the seasons. It ensures that the lighting meets the real needs every day.
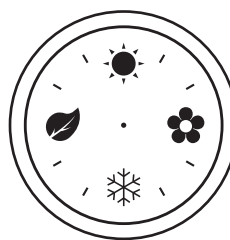
Intelligent driver with Constant Light Output (CLO)

To comply with required lighting levels, newly installed lamps emit more light than necessary in order to take into account the further depreciation of the flux. The Constant Light Output (CLO) feature eliminates over-lighting and autonomously compensates the depreciation.

Lux

100.000 h

- - - Standard LED lighting level
▬▬▬ Required lighting level = LED lighting with CLO
///// Excess lighting

kWh

100.000 h

▬▬▬ Standard lighting consumption
▬▬▬ LED lighting consumption with CLO
|||||| Energy savings

Intelligent driver with scheduled dimming

Intelligent drivers integrating optimum 5-level dimming programs can be incorporated into luminaires. The drivers work autonomously by taking switch-on and switch-off times as reference points.

100%
70%
50%
30%

❄ 21h00 — 06h00
01h30
☀ 16h00 — 08h00
24h00
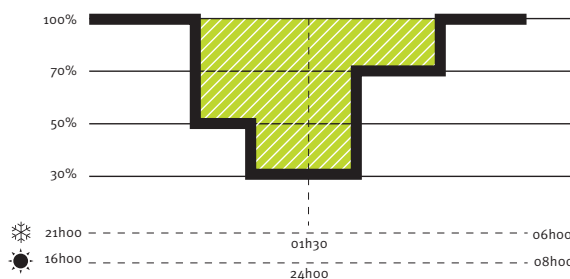
☐ **Easy installation**

☐ **Configuration in factory**

☐ **Reduced energy costs**

☐ **Reliable, fixed dimming profiles**
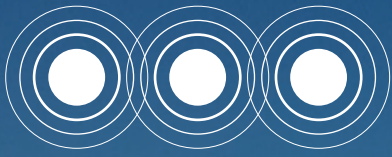
Autonomous Network

Case study - Settimo Torinese (Italy)

› Retail park

› Senso with dynamic dimming

› Energy savings: 85% compared to installation with 600W high-pressure sodium lamps

Owlet
AUTONOMOUS NETWORK

To manage a communicating network

To offer more flexibility with stand-alone features and a wider scope of possibilities in terms of interaction, the Schréder Owlet range incorporates an Autonomous Network Dimming system.

Luminaires communicate together in a wireless network to offer dynamic profile dimming. The autonomous dimming scenario can be enhanced with motion detection features. To pilot the installation, the sensors can be centralised or decentralised. When motion is detected, the detection scenario supplants the dimming scenario in order to provide safety and comfort for the users.

The Owlet autonomous network is perfectly suited for squares, car parks, city parks, warehouses, sports fields, roads, streets...
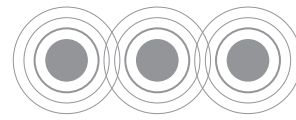
Key benefits

- ☐ **Fast payback**
- ☐ **Optimised use of the lighting scheme**
- ☐ **Flexibility**
- ☐ **Energy savings of up to 50%**
- ☐ **Compliance with regulatory requirements**

5 ADVANTAGES
OF OUR WIRELESS SYSTEM

1. Efficiency

The wireless network is based on the open source ZigBee protocol. It communicates 50 times faster than a powerline network by using 16 communications channels, each with maximum bandwidth.

2. Reliability

Thanks to mesh functionality, the wireless network finds the best communication path. The system includes self-healing and re-routing features. Even in the worst case scenarios, the data transmission rate remains 10 times higher compared to a powerline communication without interference.

3. Freedom

A network based on wireless technology offers complete freedom to incorporate sensors and luminaires. It provides an optimised installation for the best dimming scenario.

4. Upgradability

The network can be upgraded by adding new features. It can also easily be enlarged by incorporating new lighting points, independently of the electricity supply without cabling thanks to wireless ZigBee communication.

5. Accessibility

The dimming profile can easily be changed by simply connecting wirelessly a laptop to one luminaire without using any tools. The new configuration will be deployed to all the luminaires in the network.

☐ **Easy installation**

☐ **Easy, tool free programming**

☐ **Reduced energy costs**

☐ **Reliable network**

☐ **User-friendly interface for wireless re-programming on-site**
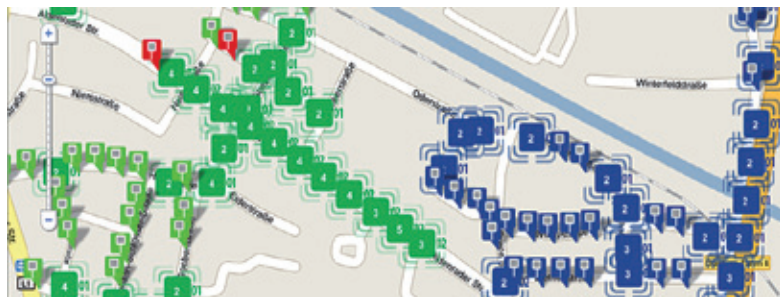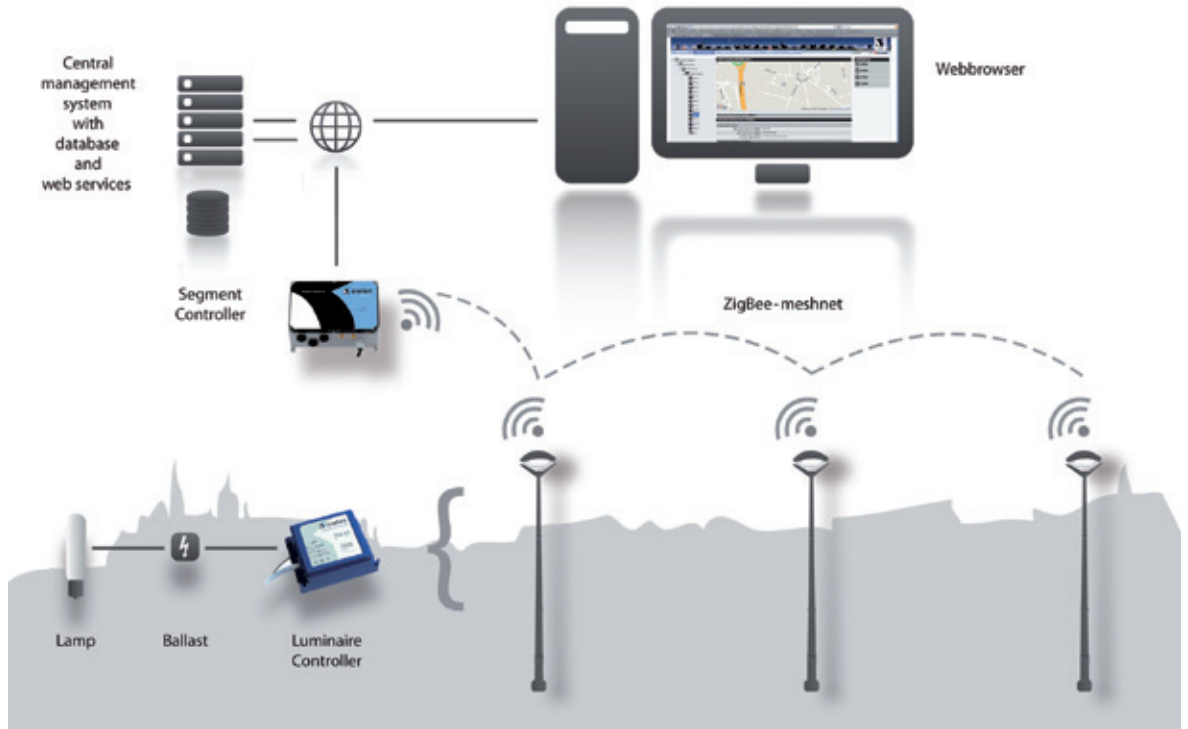
☐ **Easy enlargement of network**
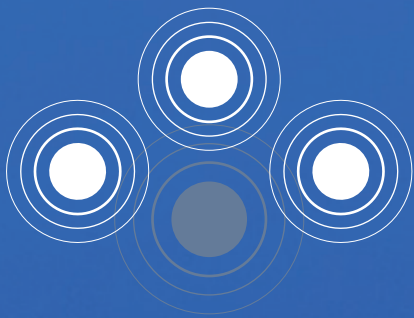
Interoperable Network

Case study

› City of 150.000 inhabitants

› 40,000 light points managed by Owlet remote system

› Energy bills reduced by 45%

› Operational costs cut by 40%

owlet

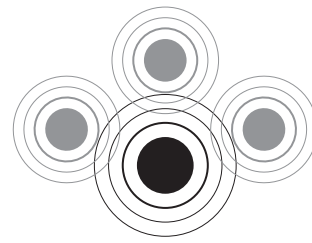## Owlet
INTEROPERABLE NETWORK

Key benefits

- Fast payback
- Optimum total cost of ownership
- Flexibility and compatibility
- Asset management
- Energy savings of up to 85%

- Compliance with regulatory requirements
- State-of-the-art technology

Complete telemanagement system with user-friendly interface

Owlet Nightshift is a telemanagement system for monitoring, controlling, metering and managing a lighting network. It is a unique combination of future oriented technologies and an easy-to-use web interface. Owlet Nightshift provides advanced solutions to operate a lighting installation remotely from anywhere in the world.

The lighting network is managed through the internet via a simple web browser. Each individual light point can be controlled at any time. Thanks to bi-directional communication, operating status, energy consumption and possible failures can be monitored.

Security

The advanced Nightshift system provides a secured data storage and a back-up. The system uses bank grade security mechanisms to encrypt data while using standard web browsers.

Reporting

Events are stored in the database with an exact time stamp and geographical location. The reports can be pre-defined or customised to focus on the most interesting information. This feature provides an efficient alarm and asset management to prevent small failures developing into major problems and to detect vandalism of theft.

Third party integration

Thanks to its open source Zigbee technology and its flexible MySQL workflow, the Nightshift system can easily be associated to third party ERP systems integrated through data bridges. This flexibility increases the functionalities far beyond lighting.

Fall-back scenario

In case of control issues, the system switches to a default program ensuring that the lighting installation does not turn off and continues to provide safety in the public space.

Data management

All the feedback of the lighting scheme is stored in a MySQL database making the data available for long term evaluations like energy analysis, lamp life time forecasting, problem detection, ...

Instant Alarm Management

Failures are recorded, identified and localised in real-time. Information can be automatically sent to operators by a mobile telephone call, SMS or mail.

Absolute compatibility

Any type of lamp, ballast or LED driver – magnetic gear, bi-power, step-down, electronic ballast with or without 1-10V interface or DALI – can be managed by Owlet Nightshift.

☐ **Localisation via GPS scanner**
☐ **Quick installation**
☐ **Wireless configuration**
☐ **User-friendly interface**

☐ **Reduced energy costs**
☐ **User-friendly interface for remote re-programming**
☐ **Alarm & asset management**
☐ **Reporting and data management**
☐ **Third party integration**
☐ **Easy progressive enlargement of network**

CONTROL AS EASY AS BROWSING THE INTERNET

From behind your computer or your mobile device, you can manage your lighting installation via your web browser.
The user-friendly interface is very intuitive and easy-to-use.

flexible reporting engine

realtime and historical data

the right light at right time
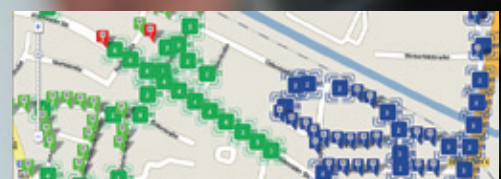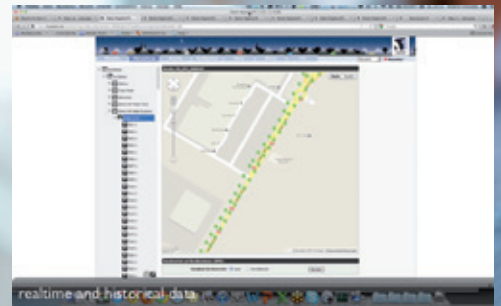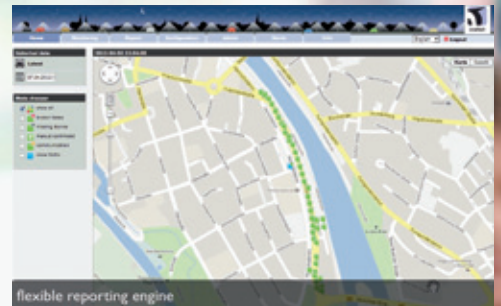
SCHRÉDER OWLET
SERVICES

Turnkey solution

Schréder has developed a comprehensive approach from design to handover offering a complete lighting solution including intelligent control systems.

Installation & set-up

The Schréder Field Application Engineers observe the proper hardware installation on-site, commission the system and connectivity until handover to the customer.

Training

New to telemanagement, want to add telemanagement solutions to your portfolio? Schréder offers complete training in its facilities where you can learn about the various telemanagement philosophies, system design and set-up as well as operating telemanagement systems.

Schréder

Data and system security

Ensuring a perfect data transmission and data storage is crucial. The Schréder Owlet range of services includes maintenance features and security checks (data exchange speed, backup, secure reset, encryption...).

Audit

We can make a complete audit of your existing lighting installation. This evaluation leads to concrete improvements to take advantage of technological developments.

Hosting

Schréder offers several data storage possibilities including hosting on customer servers and/or on Schréder servers. Programming and maintaining these servers is part of the service we offer.

Schréder, partner of Silicon Valley

San José, California - capital of Silicon Valley, home to many of the world's largest technology corporations and cradle of the digital revolution - trusts the Owlet's solutions to achieve its ambitious target of zero emissions from its streetlights.

LED Conversion Programme

San José launched an innovative lighting plan to replace its yellow sodium fittings with LED luminaires. This progressive conversion started in 2011 with the goal of changing 62,000 luminaires by 2022. To be even more efficient, the local authorities were keen to combine the new lighting scheme with an adaptive control system. They were impressed by Owlet's solutions and chose Schréder to help maximise energy savings. When the solution is fully deployed, San José will have decreased its energy consumption by more than 50%.

Reduced operational and maintenance costs

In 2010, San José spent more than 6 million dollars on maintenance operations. The city was forced to replace or repair 13,000 luminaires. It was definitely time to think differently. The local authorities decided to make San José smarter and more environmentally friendly by embracing advanced technology. San José has adopted Owlet solutions to control, to metre and to monitor its lighting network in the most efficient way. Today, the city has improved its asset management and is now able to dim its lights in the late evening hours when there is little or no traffic. The quality of lighting has improved, providing more safety and well-being for the inhabitants. At the same time, the energy bill and the CO_2 emissions have been significantly reduced.

These cities and many more all over the world

Quito Stuttgart Chartres Berlin Belgrade
Cologne Le Mans Bogotá Riga Sarajevo Bangalore
Chicago Seattle Lima Warsaw New Delhi
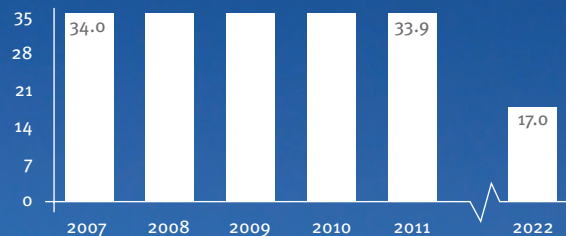Paris Cape Town Bueno Aires Girona
Murcia

are saving energy and improving their operational management with us.

Zero Emission Streetlights

Since 2007, San José has developed a Green Vision programme whose aims, amongst others, are to reduce energy consumption, eliminate light pollution and protect the night sky. The Californian metropolis is convinced that improved public lighting will bring significant environmental and social benefits to the community. By offering this innovative management solution, Owlet is helping San José to reach its goal of 'Zero Emission Streetlights'. By 2022, the city plans to become carbon neutral by supplying 100% of its electricity from renewable sources and by planting no less than 100,000 trees.

STREETLIGHT ENERGY USE (TARGET 50% REDUCTION)

KW/h (Millions)

Year	Value
2007	34.0
2008	
2009	
2010	
2011	33.9
2022	17.0

Source: www.sanjoseco.gov

Schréder **S**

SAFETY

WELL-BEING

SUSTAINABILITY

SAVINGS

SOLUTIONS

www.schreder.com

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