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SmartCity by Schneider Electric: Street Light Solutions

Streamline operations to save energy and costs

By 2030, it is expected that more than 8 billion people will be living in cities — representing nearly 60 percent of world's population. As these urban areas grow, their infrastructure must also expand to safely and efficiently support increasing populations.

Street light systems are part of a basic and vital service that citizens count on to operate properly — supporting safe transportation and activities. At the same time, a city's street lighting network is a significant source of energy consumption — the percentage of which depends on operational processes, regulations and maintenance.

Certainly, the specifications and technical features of a lighting installation are basic determinants of its power efficiency. However, even more important to a city's entire street light network's energy usage is its operational management. Similar to proper management of a roadway network, effective management of a city's street lighting system is challenged by geographic dispersion, varying periods of use, degradation of network elements and environmental impact. In addition, effective network management must consider operational practices that control power usage, as street light energy costs can amount to 40 percent of a city's electricity bill.

Use our solution to illuminate ways to…

▶ Reduce maintenance costs by prolonging lamp life and minimizing crew callouts.

▶ Save energy by dimming and switching specific lights based on use and location.

▶ Support safe transportation and activities, throughout the city.

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- Enable remote, real-time operational control of your street light network
- Reduce CO_2 emissions through energy-efficient operations
- Minimize maintenance, lifecycle, and labor-related costs
- Increase safety and security for citizens

Typical challenges to the efficient operation of a street light system include:

- Rising electricity costs
- Labor costs associated with locating lamp failures during the night and dispatching street light specialists and service trucks to make repairs
- Retrofitting old technology, optics and lamps for greater efficiency

Bidirectional communication command

Schneider Electric's SmartCity Street Light solution is an advanced information management system that uses open, vendor-neutral architecture to enable remote, real-time operational control of the street light network. It collects data measured by smart, electronic ballasts — including lamp status, lamp level, power factor, runtime, current, voltage, and the lamp's accumulated energy consumption — and sends that information over the power line network to a segment controller. The controller then gathers the data and forwards it to centralized monitoring and analysis software.

Key benefits

Schneider Electric's SmartCity Street Light solution helps to save energy by:

- Dimming specific lights during hours of minimum street usage, while operating others — for example, those near busy intersections — at full power
- Switching specific lights for individual control of lights in first-sun or last-sun locations

It also reduces maintenance costs by:

- Prolonging lamp life through stabilized voltage and current, made possible through electronic ballasts
- Supporting proactive lamp replacement when data indicates a lamp is reaching the end of its performance lifetime
- Minimizing field crew callouts by eliminating nighttime patrols looking for failed lights and reducing the need for onsite segment configuration or modification

Additional SmartCity benefits

- Up-to-date performance information through a central database for an accurate inventory of street lights and performance history — supporting planning and decisions
- More accurate billing with bills based on actual collected data instead of estimates
- Enhanced street security by limiting the duration of light outages
- Reduced CO_2 emissions through energy-efficient operations — helping to comply with national and international environmental regulations and directives
- Ability to improve other operations by integrating street light operations with additional sensors to gather environmental or traffic data

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With its user-friendly displays and maps, Schneider Electric's SmartCity Street Light solution delivers reliable data capture and analysis tools — helping a city to:

- Optimize its investment in modernized lighting structures
- Realize its energy-efficiency potential
- Reduce maintenance requirements
- Increase street safety and security for citizens
- Enhances its green image to attract new companies and encourage investor participation

Rely on proven solutions

SmartCity by Schneider Electric Street Light solutions are at work in cities around the world to help manage and optimize energy usage and to support travel and activities, safely and sustainably. Contact us to learn more about a solution configured to serve your current and anticipated needs.

Schneider Electric SmartCity
SmartCities for a Sustainable World

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