interact City

Case study

A powerful street lighting transformation fully financed from energy savings

LED road lighting and group monitoring for Pune



Pune in Western India transformed its street lighting systems by installing new LED luminaires, as well as remote group control and monitoring through Interact City. The result was better illumination and enhanced road safety for citizens.

The project was fully self-financed, with funding generated through energy and maintenance cost savings.

Customer challenge

The city of Pune lies in western India, where the Rivers Mula and Mutha meet. The historic location is now popular on the tourist trail and also home to approximately three million residents. Conventional street lights were producing a burden of high cost and energy consumption. At the same time, planners were keen to tackle uneven light levels and inconsistent maintenance. A new road lighting solution was proposed to reduce expense and streamline operations. "Our vision is for Pune to become a smart city, transforming the lives of residents by the use of technology. We are not only replacing the streetlights with LED, but also controlling them centrally."

Kunal Kumar, IAS Commissioner, Pune Municipal Corporation



Solution

This public-private partnership was the first of its kind in India and is fully self-financed through the energy savings and reductions in maintenance costs brought about by LED technology. There is no financial burden on Pune Municipal Corporation or the citizens of the city in Maharashtra, India.

In addition to replacing 80,000 halogen lights with energy-saving LED luminaires, we ensured that all the street lighting was remotely connected and could be monitored and controlled from a single Command & Control room through the Interact City system.





Making it happen

The Interact City system allows authorities in Pune to dim groups of lights through a unique patented technology. Dim commands are broadcast over the mains power supply to the LED luminaires, overcoming all the challenges associated with conventional voltage step dimming and two-way powerline communications technology. Remote monitoring can also be used to identify faulty streetlights. Automatic fault notifications are sent via SMS to registered mobile devices, minimizing downtime.

What's more, citizens are able to provide feedback via a mobile app or call a toll-free number with complaints about road lighting or luminaires that are not functioning properly, which initiates an immediate response from the operations team.

The result of this ambitious installation has been overall improvement in street lighting levels, reduction of downtime and reduced energy consumption. System performance is also remotely monitored centrally through Interact City system.

Interact City benefits



Improving efficiency

Ujjwal Pune Ltd can invest in a 12-year public-private partnership on the basis of high energy savings, which means citizens and the City Corporation don't have to pick up the bill for the installation. Authorities can also improve operational efficiency – receiving the status of lights and real-time alarms easily by SMS and other means.



Creating safer streets

No more dark patches on city roads, due to the system fault alerts via SMS and dashboard. Remote monitoring and management of LED streetlights ensure a faster response and rectification. Better lighting increases visibility and helps citizens feel safer at night.



Integrating with Pune Smart City dashboard

Interact City group monitoring connects with third-party city systems or dashboards through APIs and extensive interfaces on the controller. This allows flexibility to scale up to meet future requirements.



Optimizing energy savings

Group dimming of LEDs will save up to 40% energy savings with 12 settings for dimming.

Project details

- 80,000 halogen lights upgraded to LED streetlight luminaires
- 1,500 Remote Monitoring and Control (CMMS) panels installed to operate LED streetlights remotely and monitor the system performance over cloud-hosted application software
 - Annual savings in CO, (kg) emissions from a single lighting cabinet is 7,635 kgCO,e
 - · Project is fully self-financed through energy savings and maintenance cost savings
 - Annual electricity savings of approximately 26.5 million Indian rupees

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