



PHILIPS

Outdoor lighting

Road and street



Case Study

Floating Garden

connects life with light

Szczecin, a city that is filled with greenery and water, manages its lighting via Philips connected public lighting system

Szczecin, Poland



Client
Szczecin Municipality
.....
Photographer
Jacek Bakutis
.....



Smart cities use new intelligent lighting and communication technologies to reduce their carbon footprint and enhance the quality of life throughout the city. Philips IntelligentCity solution manages the city's public lighting depending on the changing needs at different times of the night and the traffic situation and also monitors the entire lighting infrastructure via CityTouch management software platform, achieving massive savings in energy and maintenance costs.

Background

Szczecin is the largest city and capital of the province Zachodniopomorskie Voivodeship. It is the seventh most populous city in Poland, and currently has more than 408,000 residents. Szczecin is a center

of maritime economy that handles shipping from around the world. The city is promoted as a "Floating Garden"; its downtown area is filled with greenery and rivers. This ensures that Szczecin is not only an attractive place for investors and tourists, but also a safe and friendly city for its citizens.

In the interests of enhancing its attractiveness and competitiveness, the city's municipal authorities raised funding under the priority program "Green Investment Scheme" (GIS) - SOWA "Energy efficient street lighting" aimed at replacing existing street lighting with a modern, eco-friendly and economical system. The National Fund for Environmental Protection and Water Management provided a subvention from the climate bill worth 45% of the total cost. Philips LED lighting solutions have been selected for the project realization.

“

The total connected lighting system provides **massive cost savings up to 70%**. This is an incredible contribution to the smart city approach of Szczecin.”

Piotr Krzystek, President of Szczecin City



IntelligentCity



The Project

The lighting replacement involved the removal of yellow sodium street lights from the center of Szczecin, within the area of Victory Square and streets: Kopernika, Narutowicza, Ku Słońcu, Santocka, Poniatowskiego, Traugutta and along the railway line the Oder West. In total, starting from September 2014, 4,985 Philips Luma luminaires were installed, 1,888 are managed by CityTouch LightWave remote management software. Through communication and control of the individual light points in this network, the previous static lighting system will be transformed into an intelligent system controlled from the operator's computer. The remote management of CityTouch provides a high level of flexibility. Individual luminaires can be switched on and off. Moreover, they can be dimmed to any lighting level at any time or according to a daily or seasonal calendar.

Luma luminaires are equipped with the latest LED technology, so that modernization can take place in accordance with the principle of “fit and forget”. Luma enables pre-programming of the light output, lifetime of luminaires and power usage, so that the system can offer the best solution per light point in terms of energy saving and costs. Flat housing design combined with Optiflux optics technology prevents upwards light distribution and provides efficient illumination of the road to current European standards. The ability to change the tilt position angle of the Luma gives great flexibility in lighting selected areas.

The CityTouch software management platform is able to deliver valuable information on each luminaire's status and energy use, while automatically notifying the municipality faults. This eliminates the need for

expensive 'scouting' for luminaire outages. As a result, both energy and maintenance costs are significantly reduced, by the improved management of the city's lighting. In case of luminaire failures the maintenance crew can be instructed immediately, therefore improving maintenance efficiency as well as lighting standards.

Benefits

The use of LED technology saves up to 50% of the electricity consumed by the previous sodium lighting. The new lighting can be switched on and off as needed, to adjust to the hours during light traffic,

means that there is no need to use the full power of luminaries. The installation of Luma luminaires is expected to reduce the energy consumption, which directly translates into a reduction in carbon footprint of almost 7,000 tons per year - a significant value which supports the European reduction target on carbon emissions by 40% in 2030 versus 1990. Each year the city will save up to € 360,000 by switching to the Philips IntelligentCity solution.

The new lighting increases the attractiveness of urban spaces and gives Szczecin residents and visitors the opportunity to enjoy the charms of the city at night. The white LED light makes cityscape, parks and squares of Szczecin look nicer and more aesthetic at





night, which helps people to feel safe and increases their use by night as well as by day. In addition, nearly 2,000 luminaires of the 5,000 are managed by CityTouch and can be flexibly dimmed depending on the weather, traffic movement or organized events, saving further energy.

Luma luminaires provide a high-quality white light, with color rendering index three times higher than sodium lamps, which means that spaces are better recognized because of the similarity to their appearance in daylight. The high quality LED technology in Luma transmits up to 92% of the light output of the lamp, which significantly improves safety in road traffic.

Used in conjunction with Luma intelligent luminaires, the CityTouch management platform provides major benefits in terms of auto-commissioning, auto-locating and auto-fault-notification via the public networks. This replaces the complex and labour-intensive process of adding and importing





all luminaire data into a public lighting management system. The software platform offers a friendly user interface that is easy to handle and work with, e.g. map-based navigation.

Additionally, the city builds knowledge about the exact status information of each luminaire as well as information about faults as they might occur.

Maintenance crews can be instructed immediately, therefore improving maintenance efficiency as well as lighting standards.

Additional to the savings with the Luma intelligent luminaires, CityTouch helps to realize extra savings through accurate energy metering of individual light points.





Watch the video

€ 360,000
cost savings
per/year

**Extra
savings**
potential via
CityTouch energy
metering

**Increased
safety feeling
for residents**

Improved
traffic safety

**Automated
data monitoring
of each luminaire**

