



## Safer bicycle highway in Mechelen & Bonheiden through Zhaga motion sensor based smart street lighting

Zhaga motion sensor-based intelligent streetlights and smart city lighting management software from Twilight allow the municipality of Mechelen and the municipality of Bonheiden (Belgium), to make their street safer for the cyclists and pedestrians at night. In addition to minimizing operational and maintenance costs, the solution enables the cities to cut energy wastage, carbon emissions and light pollution. The versatile solution also enables the cities to create a foundation for smart city applications.

### Smart bicycle highway lighting welcomes cyclists and pedestrians

“Many youngsters visit the cinema, the skating ring, sports facilities and pubs around transit M (Mechelen) during late evening hours. Sometimes they move in group, but often alone, and then good lighting is essential for a better sense of safety. This is an excellent initiative for the bicycle highway.”

*Abdrahman Labsir, ships (Mechelen) of Youth and Prevention*

### Challenge

The N15 bicycle path between the city of Mechelen and Bonheiden is frequently used by young people during the late evening hours. Poor lighting and dark spots along the path entailed unpredictability and a sense of insecurity among the youths. The city council wanted to address these issues through a smart solution, which is both effective and future-proof.

### Solution

The city councils were searching for a lighting solution that would offer right amount of light, at the right place, at the right time – thereby saving energy without compromising public comfort. The councils wished to have a future-proof and an open solution that would allow them to monitor the infrastructure and offer better public services.

Twilight, together with Fluvius, one of the three largest network operators in Belgium and the main contractor for this project, offered the municipalities with a revolutionary intelligent lighting solution, CitySense Lite, which includes Zhaga motion sensors and light controllers. The solution offers 'Light-on-Demand' creating 'safe circle of light' around the road occupant. Because of the standardized Zhaga (book 18) interface, installation of the solution is quick and easy.

In addition to the smart controls (OLC), Twilight provided open smart lighting management software, CityManager, which allows the operator to collect valuable statistics, such as road usage. Furthermore, due to the openness of the Twilight software platform and open API, the cities were able to integrate 3rd party asset management software and open ways to host diverse smart city IoT systems, which would help improve public services.

### Benefits

- Increased safety for road users during late evening hours
- Standardized Zhaga and DALI D4I interface for quick, tool-free upgrade to smart street lighting
- Lower operating costs through proactive and selective notifications and automatic reports tracking luminaire health and performance
- Significant reduction in energy wastage, CO2 emissions and light pollution
- User-friendly web application to remotely monitor, manage and control public lighting
- Open API for seamless integration with other smart city applications, such as asset management, weather system and traffic system among others

“Sensor data are securely stored and processed. That way, the lamps themselves 'learn' to adjust their brightness levels. For example, if a lot of people visit every day around a certain hour, the lighting system will already automatically adjust to 100%. Even when there is something to do on Transit M, the lamps would know and light-up.”

*Marina De Bie, City Council Member, Green Mechelen*

SkyLite Prime

Zhaga - D4i Motion Sensor



### Project Details

Location	Bicycle highway N15 (opposite the Nekkerhal)
Client	Cities of Mechelen & Bonheiden
Application area	2.2 kilometer bicycle path
Streetlight height	4m and 8m
Products	SkyLite Prime, CitySense Lite & CityManager