

tango

Reduce light pollution and save on electricity by renovating your lamps

Are you facing high power consumption and light pollution in your public lighting system?

Do you want to save on maintenance and field reading of energy consumption, and thus save your employees' working hours?

Tango is the solution you're looking for.

Tango is a **modern information solution** to ensure cost-effective planning, and efficient control and management of systems in **smart cities**.

It solves the challenges of modern business, as it constantly monitors the situation and changes in the physical system, and helps you respond to the current situation with **quick and smart decisions**.



Challenges in the management of public lighting systems

**OBSOLETE AND INEFFICIENT
PUBLIC LIGHTING**

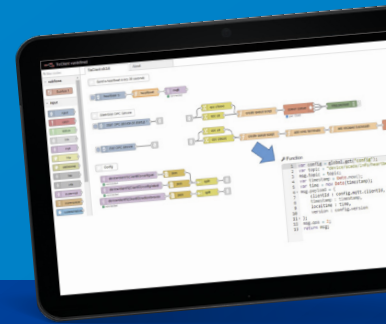
**LIGHT
POLLUTION**

**TIME-CONSUMING MAINTENANCE
AND FIELD READING OF
ELECTRICITY USAGE**

Together with effective public lighting systems, Tango establishes **uniform real-time operation control**, thus enabling **more efficient management and electricity savings**. With Tango, we establish a single database that is the basis for effective decision-making. We help managers achieve a **reduction in environmental burden** and maintenance and management costs.

In the town of Sečanj in Serbia, we improved the energy efficiency of public lighting and achieved savings.

In the town of Sečanj (75 km road network and more than 2,000 lamps), we replaced outdated lamps with **new efficient and environmentally friendly** LED lights, installed a system for the automatic measurement and transmission of electricity consumption data for all measuring points, and by establishing a Tango control and management system, we further optimised the operation of the new public lighting system. With this, we have achieved:



MORE EFFICIENT MANAGEMENT

- Due to the renovation of the measuring points and integration of new electricity meters for automatic remote reading of energy consumption (GPRS system)
- Due to the establishment of a uniform database of reliable data

REDUCTION OF ENVIRONMENTAL BURDEN

- Reduction of light pollution
- Reduction of carbon footprint of 890 tonnes CO₂ annually
- Reduction of electricity consumption per capita below 25 kWh

SAVINGS

- More than 70% in electrical energy for the public lighting system
- Maintenance and field reading of electricity consumption (saving working hours of employees in the local community)
- OPEX

KEY ADVANTAGES OF TANGO

- Through machine learning, on the basis of historical data, we can **accurately predict the energy consumption** for the next year on a daily basis, and then compare the predicted measurements with the actual ones and implement **appropriate measures to eliminate anomalies**
- Depending on the prediction of consumption, we

detect any possible discrepancies resulting from lamp failure or illegal/non-recorded new users ("black consumers").

- **Data visualisation** (dashboards and GIS)
- **Applicability in various areas**

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The municipality of Brda has detected a problem of both light pollution, as well as high energy consumption in the operation of public lighting and related costs, and has therefore decided to address this problem with all seriousness. With a partner in this project, Petrol, we tried to find a solution that would satisfy both. A comprehensive overhaul of the public lighting system and the granting of a concession proved to be the most appropriate solution to the problem. After replacing the lamps, electricity consumption and the resulting costs were more than halved.

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Uroš Bensa, municipality of Brda