Case study: Roztoky, Czechia

Renewing the public lighting in Roztoky

How remotely managed smart lighting enhances safety, saves energy, and simplifies maintenance

The city of Roztoky, in the Central Bohemian Region of Czechia, decided to modernize its public lighting system. The city wanted to enhance safety on the roads and at road crossings, significantly reduce light pollution and energy consumption, and lower service and maintenance costs. They also wanted a lighting design that would blend naturally into the city environment.

Introduction

The city of Roztoky partnered with Signify, which supplied advanced Philips LED luminaires and a Signify Interact connected lighting management system. Interact offers instant and remote control of all luminaires in the system, and allows the city to respond quickly to specific events, such as traffic accidents.

The project was largely financed by a grant from Czechia's National Recovery and Resilience Plan (NRRP), which covered approximately 70% of the costs.

In the first phase of the upgrade, the city replaced 280 light points, which represented 20% of Roztoky's public lighting, in just 14 days. A total of 308 luminaires were installed in 14 different configurations, which were selected according to the needs of specific locations and spaces. The city's remaining light points are set to be upgraded in 2026, following a new call for proposals.

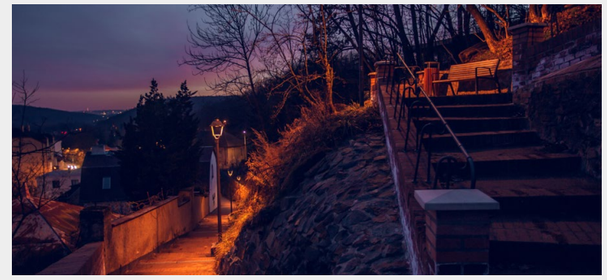
Customer challenge

"The original public lighting system was technically outdated, consumed a lot of energy, and produced excessive light pollution," explained Vlastimil Novák, Key Account Manager at Signify, who managed the entire project. "These factors increased operating costs and negatively affected the environment and the well-being of residents."

"The city of Roztoky was looking for a solution that conform to modern norms and ecological standards, while respecting the appearance of the city's public spaces. It was also important to enable integration with other smart infrastructure systems in the future," added Novák. "The entire project had to be implemented quickly, without significantly disrupting the city's normal operations. This required careful planning, accurate cost calculations, and flexible coordination with suppliers."

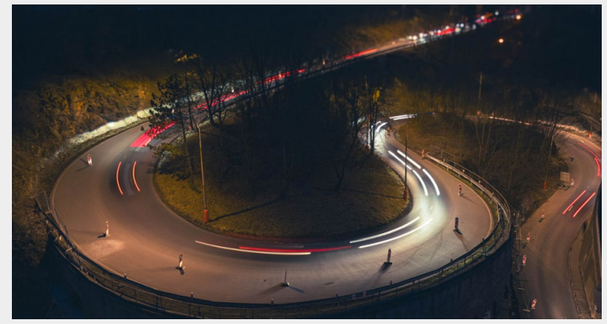
The solution

The lighting design called for warm white light at different CCTs: 2200 K for parks and rest areas, and 2700 K for main roads and side roads to enhance focus and visibility. The 2700 K CCT emits less blue light than cooler shades, helping to reduce light pollution, while also providing a pleasant and comfortable light with good color rendering.



Philips luminaires specified for the modernization project include Philips DigiStreet (BGP76x), Signify CitySoul, Signify ClassicStreet, and Signify Villa LED, with DigiStreet predominating. With a slim profile and flat tempered glass, these luminaires achieve optical efficiency of up to 90%. An upward light output ratio of 0, along with a range of optics, louvers, and beam angles, significantly reduce distracting spill light into windows, building facades, and the sky.

With the Interact connected lighting management system, the city can remotely monitor and manage its public lighting. Lighting system managers can create dimming schedules, and dynamically regulate the lighting based on traffic density and the seasons. For example, the lighting on the city's main road switches on 15 minutes before the lighting on the secondary roads, increasing safety and improving traffic flow. The Signify system also supports predictive maintenance, ensuring a quick response to performance issues.

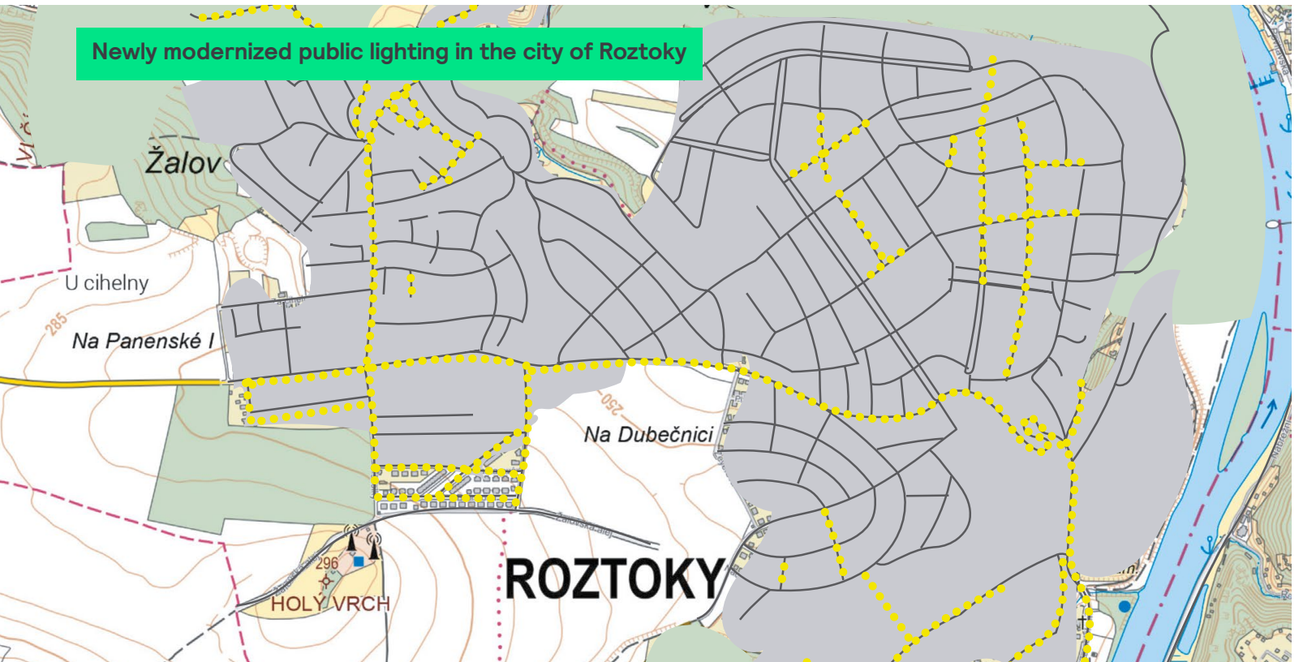


The project has resulted in energy savings and increased security. The Interact system offers smart lighting management, giving us the ability to deliver light only when and where it's needed and to better plan maintenance activities. We've been using the system for more than a year and a half, and can confirm that the cost savings calculations were accurate and correspond to reality. We're very satisfied with the collaboration with Signify—we appreciate their professional approach, technical know-how, and sensitivity to our needs. The city can now respond flexibly to rising energy prices—for example, by employing energy-saving dimming and switching schedules.

Ing. Ivan Goll
Tajemník města Roztoky

Better visibility on the roads, especially at intersections and pedestrian crossings, enhances citizen safety. In addition, luminaires that match the city's architecture and aesthetics increase the quality of the city's public spaces.

The project proceeded quickly, precisely, and smoothly as the result of excellent cooperation between the city and Signify. Cost calculations and installations went according to plan, and the first year of operation confirmed the expected savings and system functionality. The project should serve as an inspiring example for other Czech cities to follow.



Newly modernized public lighting in the city of Roztoky

Benefits

Energy savings
74% lower power consumption with LED technology and dimming

Lower costs
The energy costs are approximately €8,000 lower per year (4,100 hours/year at €0.089/kWh)

Lower CO_2 emissions
55.76 tons of CO_2 emissions saved annually (from 75.48 tons to 19.72 tons)

Efficient operation
The system delivers light only when and where it's needed

Smart controls
Remote management, predictive maintenance, real-time adjustments

Future-ready
Open for integration with other smart city systems

To learn more about Signify's systems, services, and products, please contact us at **www.signify.com**

> The Roztoky project shows how cities can use modern technology to deliver immediate savings and comfort, while ensuring a positive impact on the environment in the long term.

Hynek Bartik
Sales Director Public Eastern Europe, Signify

Find out how Signify can transform your business
www.signify.com