

TVILIGHT



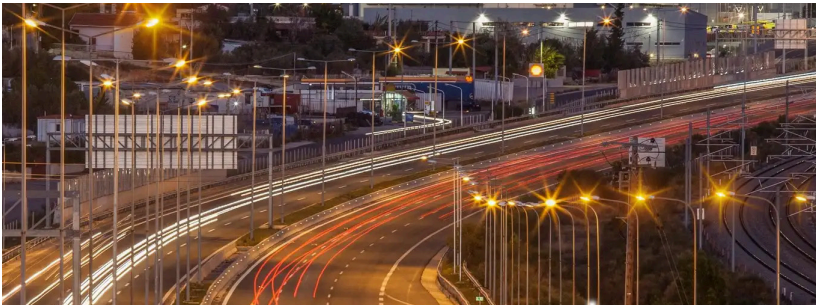
Case Study

AI-Powered Adaptive Street Lighting at Greece's Most Strategic Motorway

Smart street lighting controls combined with artificial intelligence help the highway authority improve energy efficiency, increase traffic safety, reduce CO2 emissions, and lower operation and maintenance costs

Olympia Odos selects Twilight's smart street lighting solution to offer ideal illumination and make the A8 Motorway safer and energy-efficient:

- Over 200 km highway across Athens-Patras are already equipped with smart controllers (*March 2024)
- Using Artificial Intelligence, street lights brighten or dim based on predicted traffic and weather conditions
- LED technology and AI-based adaptive street lighting save up to 75% energy and reduce carbon footprint by 25%
- The project received the Golden Award in the "Energy Innovation" category
- Project partners include Sielight for LED streetlights, Vinci Concessions for installation, and Olympia Odos Operations S.A. for operations



Customer Need

An adaptive street lighting system that produces satisfactory outcome

The A8 Motorway (Athens-Patras highway) is one of the most significant projects with strategic importance for the development of the Peloponnese, Western Greece, and Epirus. The motorway connects the three regions and the capital of the country with the most important gate of Greece to Europe, the port of Patras.

With the focus on sustainability, road safety, and environment and the knowledge of the drawbacks of conventional lighting in mind, Olympia Odos searched for an effective **smart street lighting** solution that could produce satisfactory outcome and decided to invest, above and beyond its contractual obligations, in it.

Solution

Cutting-edge IoT street light control system for motorways

“Considering it is a motorway, where ideal visibility during different times at night is necessary, IoT-based smart street light control system was selected. It helps adjust the light intensity of LED luminaires to offer the right illumination for improved safety and fluid mobility. It also allows to cut energy waste and CO2 emissions. The openness and flexibility of the system proved to be very beneficial, allowing us to integrate artificial intelligence for adaptive lighting,” explains a spokesperson from Olympia Odos S.A.

Thanks to the easy integration of artificial intelligence in this project, over 9.000+ street lights on the motorway brighten or dim based on the predicted traffic, expected weather, and other events on the road, delivering excellent energy savings without compromising road safety. For this unique project, partners include Sielight for LED street lights, Vinci Concessions for installation, Olympia Odos Operations S.A. for operations, and Twilight for the innovative street light control system.

Currently, the adaptive [smart street lighting](#) solution reduces energy consumption by 75% and carbon footprint by 5000 tons annually.

[▶ Watch video](#)



Results

Golden Award in Energy Innovation

The implementation of the smart street lighting system on the Olympia Odos A8 Motorway has yielded substantial benefits for both the environment and road users. The project has been recognized for its outstanding contribution to energy innovation, receiving the Golden Award in the “Energy Innovation” category at the [Energy Mastering Awards](#).

Artificial Intelligence Drives Energy Efficiency

The use of AI-driven adaptive street lighting has resulted in a significant reduction in energy consumption. By dynamically adjusting the brightness of the street lights based on real-time conditions, unnecessary energy waste has been minimized.

Smart Lighting Control Reduces Environmental Impact

The deployment of smart street lights has substantially reduced light pollution and carbon emissions. By utilizing energy-efficient LED luminaires and intelligent lighting control, the project has contributed to creating a more sustainable and eco-friendly motorway.

Adaptive Lighting Delivers Enhanced Safety

The smart lighting system has greatly improved road safety by providing optimal illumination. Drivers benefit from increased visibility, enhancing their confidence and comfort during nighttime travel.

Predictive Maintenance Minimizes Operating Costs

The implementation of the smart street lighting system has also resulted in notable reductions in operating and maintenance costs. The remote monitoring and control capabilities of the [light management platform](#) enable efficient maintenance practices. Swift notifications in case of luminaire failure allow for prompt corrective actions, minimizing downtime and associated expenses.



Project Summary

Location :

A8 Motorway, Athens-Patras, Greece

Project Size:

Approx. 200 km Highway / 9.000+ Street Lights (*March 2024)

Client(s) :

Olympia Odos S.A.

Application Areas :

Highway

Products :

OpenSky NEMA IoT (Luminaire Controller), CityManager (Light Management Platform)

Project Partner:

Sielight, Vinci Concessions, Olympia Odos Operations S.A



About TVILIGHT

TVILIGHT is a European market leader in smart city lighting control solutions, specializing in sensors, connected lighting controls, and management software. Our open platform, powered by Open API, enables Smart City and IoT integration. Over 1000 cities across 35+ countries benefit from TVILIGHT solutions, including major municipalities across the Netherlands and Germany, for example the citywide deployment in Dortmund. With growing deployments in Luxembourg, Hungary, Greece, the UK, Morocco, the Middle East, India, Korea, Australia, and New Zealand, TVILIGHT's global reach extends to cities such as Seoul, Jaipur, Chattogram, Muscat, and the Red Sea. To discover more about us and our products, visit www.tvilight.com