

CASE STUDY

LA NUCIA STREETS



PROJECT SUMMARY

Name of the project

La Nucia Streets, Spain

Type of building

Street lighting in a municipality

Location

La Nucia, Spain

Requirement

- Automate lighting based on motion
- Improve energy efficiency
- Reduce operational costs

Key Outcomes

- Smart motion-based street lighting
- Significant energy savings
- Reduced light pollution
- Enhanced monitoring and control

Devices

- Radiar ZP10
Zhaga controller with
PIR motion and daylight sensing

Partner

AXOLED

BACKGROUND

La Nucia, a vibrant municipality in Spain, has been proactive in adopting sustainable practices across urban infrastructure. As part of its smart city initiatives, the town aimed to upgrade its traditional streetlights with intelligent controls. The goal was to automate lighting operations based on real-time conditions, ensuring optimal energy use while maintaining road safety for residents and visitors.

OBJECTIVE

- Enhance energy efficiency with demand-based lighting.
- Automate streetlight operations using motion and daylight sensing.
- Minimize light pollution during low-traffic hours.
- Enable remote monitoring and control for improved operational efficiency.
- Contribute to the municipality's sustainability goals and smart city vision.

CHALLENGES

When La Nucia decided to bring smart street lighting to their municipality, they knew it wouldn't be without its challenges. One of the main concerns was ensuring the streets stayed bright enough for pedestrians and vehicles while avoiding energy wastage during hours when traffic was low. The lighting system had to be smart enough to adjust to the changing traffic patterns across busy streets and quieter residential areas.

Another challenge was making sure the new system could blend effortlessly with the existing streetlights. The municipality wanted a solution that didn't require major civil work or cause disruptions to the community. At the same time, they were looking for an approach that was cost-effective and flexible enough to expand into other parts of the town in the future.

SOLUTION

To address these challenges, Lumos Controls deployed the **Radiar ZP10**, a Zhaga-based controller equipped with PIR motion and daylight sensors. This advanced solution enabled:

Motion-Based Automation: Streetlights automatically adjust their brightness based on detected motion, providing full illumination when needed and dimming during idle periods.

Daylight Sensing: Lights remain off during daylight, ensuring zero energy wastage.

Remote Management: With built-in control capabilities, the municipality's maintenance team can monitor and manage lighting remotely.

Ease of Integration: The compact Zhaga interface allowed quick and non-intrusive installation on existing poles and luminaires.

RESULT

The implementation delivered immediate benefits:

- Up to **40% energy savings** achieved through automated dimming and motion-based control.
- **Reduced light pollution**, creating a more environmentally friendly urban space.
- Lower maintenance costs and proactive fault detection, thanks to intelligent monitoring features.
- Enhanced road safety during night hours without compromising on sustainability objectives.

ABOUT OUR PARTNER AXOLED

AXOLED, based in Spain, specializes in innovative lighting solutions tailored for municipalities and smart city projects. Their expertise in delivering sustainable lighting systems made them an ideal partner for this project. Learn more at

www.axoled.com

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ABOUT LUMOS CONTROLS

Lumos Controls is a smart controls solution built on WiSilica's IoT platform, ARIXA.

It combines advanced lighting control devices, an intuitive app, and a powerful analytics suite to create a future-ready intelligent lighting network for smart enterprises. With Lumos Controls controllers, businesses can achieve customizable, energy-efficient illumination tailored to their needs.

The ecosystem features controllers, sensors, switches, gateways, mobile and web apps to set up basic to advanced smart controls. Lumos Controls allows you to decide what to achieve and how to grow and step into a sustainable future.

Looking to upgrade your street lighting with intelligent automation?