



Cascais Boardwalk more efficient and less pollutant with LED technology

Municipality of Cascais

GOALS

Cascais municipality made one of its priorities to achieve sustainable development to guarantee the pursuit of human needs to the economic and social level, always respecting the ecological limits of the planet.

Since the county decided to commit itself to the principles of the United Nations and to work towards the achievement of the 17 Sustainable Development Goals (SDGs), the need to update the Cascais boardwalk lighting aroused, due to the high energy consumption and to sensitizing citizens to a more rational use of energy.

The project of replacing traditional lighting system with LED technology luminaires - more energy efficient and less polluting - along the boardwalk 3 Km length, allows to reduce the energy costs and to improve the lighting quality of this noble area which has a massive use from the population.

Project implemented in 2017.



TESTIMONY

"Cascais has been developing measures aimed to reduce energy consumption and to take advantage of endogenous energy resources, boosting efficiency.

The Municipal Plan for Street Lighting is an energy efficiency strategy for street lighting in Cascais. These measures aim to reduce energy consumption, but also to improve the quality and capacity of the local authority to interact with the public space.

A progressive investment has been made in connected LED luminaires with management system, an investment that is intended to be extended, to give priority to more degraded areas and with requalification needs, and to places with a faster return on investment. "

Fernando Pais
Project Manager – Energy Studies and Projects Service
Cascais Ambiente



SOLUTION INSTALLED

The project to replace traditional lighting to LED luminaires at Cascais boardwalk (lighting beaches, path walks, car parks) was developed to achieve the objectives felt by the county, not only to reduce energy costs and CO₂ emissions, but also to improve the quality of light of this area which is largely used by the inhabitants.

The municipality needed a flexible and versatile solution that would allow to control and dim the luminous flux on request.



The ARQUICITY R1 EFFICIENCY luminaires, highly-efficient and non-polluting, with ECCOS CITY management system integrated enables, not only in time monitoring but also to set up a wide variety of lighting profiles - according with the different usages of the boardwalk, along the week and in the weekends as it varies - via web application for better convenience.

In total, 307 traditional luminaires were replaced by ARQUICITY R1 EFFICIENCY 80UE with 128 W LED luminaires with ECCOS CITY, the smart energy management system, boosting savings even more.

The total investment value was around 159 thousand euros enabling consumption savings of around 88% kWh/year and a reduction in CO₂ emissions of around 292 thousand/kg/year.

The vicinity with the seafront made necessary to give ARQUICITY R1 EFFICIENCY luminaires a special treatment by electrostatic deposition of thermosetting polyester dye, a paint scheme designed for exterior applications in atmospheric corrosion environments C4 (coast area or industrial with moderate salinity and sulfur dioxide levels below 30 mg/m³) on surface pretreatment with deoxidation and chromatisation in 7 steps (C5-M painting option for coast areas with high salinity).

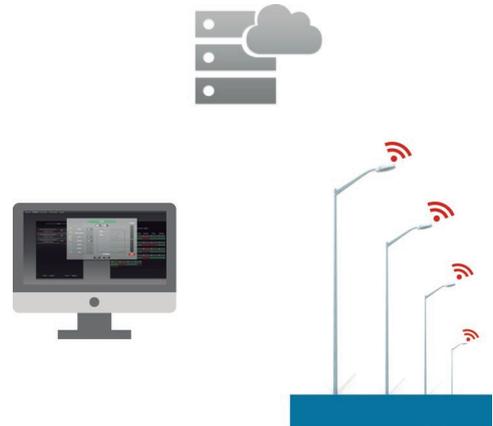
SMART MANAGEMENT SYSTEM



ECCOS CITY is a flexible system that allows to manage luminaires by remote control, saving energy, reducing maintenance costs and improving the reliability of lighting fixtures.

Based on web technology, this system is implemented in a Software as a Service (SaaS).

It is an integrated management solution for Street Lighting grids that provides detailed information on the activity of the lighting system, maximizing its monitoring and management.



luminaires in total
307

total investment
159 K€

energy consumption
savings
88% kWh/year

CO₂ emissions reduction
292 K/kg/year

¹ Ultra Efficiency

BENEFITS

The investment in the replacement of traditional lighting by LED luminaires has several advantages, such as gains in energy efficiency and a substantial reduction in the emission of polluting gases to the environment.

The ARQUILED solution allows a fast return on investment to the municipality.

If LED technology is by itself synonymous of energy saving, the integration of ECCOS CITY into the ARQUICITY R1 EFFICCIENCY luminaires allows further savings.

Innumerable benefits:

- High-efficient, non-polluting LED luminaires;
- Lesser energy consumption reducing therefore a reduction of energy costs (a downfall of 1000W to 128W);
- Minimization of environmental impact - reduction of CO2 emissions with a great contribution to decarbonization;
- Improved lighting quality;
- Significant energy and maintenance savings;
- Increased sense of safety in an area heavily used by the population.

ARQUILED ECCOS CITY Management System is a solution:

- Flexible and versatile solution, that enables to monitor and control luminaires individually or in a set of light points groups by setting up distinct profiles;
- Smart luminous flux regulation and distinct energy consumption profiles;
- That traces and individual identify each luminaire.



ARQUILED

Arquiled is a general LED lighting manufacturer, specialized in professional luminaires for street lighting, systems and services.

Headquartered in Mora-Alentejo, is a Portuguese industrial company, pioneering the market since 2005, that designs and develops its own products and solutions.

ARQUILED is committed to develop smart management solutions focused on reducing energy consumption and decarbonization, contributing to sustainable urban clusters.

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