

PHILIPS

Outdoor lighting



Case Study

Innovative lighting for smart city

ESE Rivas Vaciamadrid
Rivas Vaciamadrid, Spain



“ All in all, we have achieved the targets that we set for ourselves: reducing emissions, increasing quality and uniformity, and cost savings of 56%.”

**Carlos Ventura, Director of Telecommunications,
Rivas Local Council**



Background

The municipality of Rivas Vaciamadrid has experienced enormous growth over the last 30 years, expanding from about 500 citizens in the late 1970s to a population of over 80,000 today, making it the European town with the largest demographic growth within the last few decades.

Aware of the impact of such rapid growth, the local authorities launched “Rivas Emisiones 0” – a project aimed at achieving controlled development, based on savings, sustainability and efficiency, with a target to reduce its carbon emissions by 50% by the year 2020 and to become carbon neutral by the year 2030. This initiative led Rivas Vaciamadrid to be accepted as

a member of the Spanish Network of Smart Cities in its own right.

The project

Among the various work to be carried out, the fundamental task was to replace the existing lighting system, which mostly used sodium vapour and metal halide lamps, with green technologies in order to achieve the environmental goals that the town had set for itself.

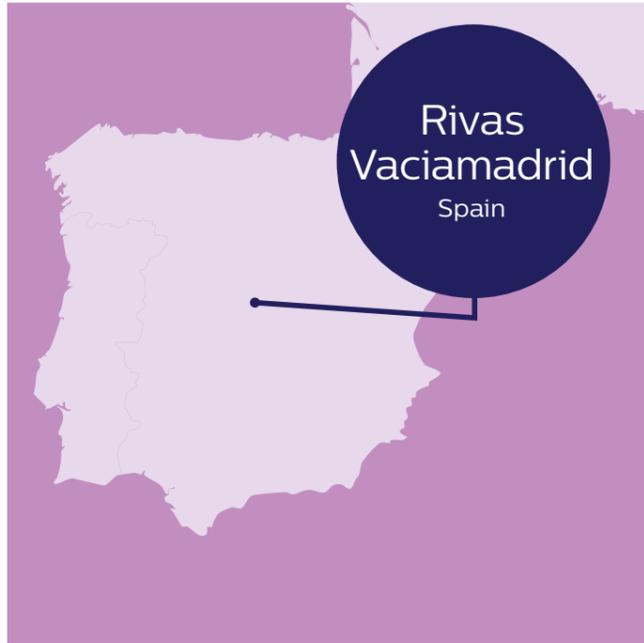
Bearing in mind the current economic climate in the country, the leaders of the local government were concerned that proceeding with a complete upgrade of the municipal lighting was, on the face of it, a difficult task, but at the same time they needed an energy

management strategy that would enable them to fulfil their commitments.

In the end, they opted for a contract model, covering an upgrade of the lighting equipment, installation, energy management and maintenance, all implemented by ESE Elecnor. This decision, together with the use of Philips LED luminaires and their long lifespan, which drastically reduces the need for maintenance, was a wise choice.

So far, they have replaced 7,541 luminaires out of the total of 9,181 in the municipality, amounting to 82% of its lighting needs, thereby making immediate energy savings, and cost savings too, which will enable the local government to cover its investment with practically no need to increase the lighting budget from its previous level.





Luma 1 **Luma Mini**

Thanks to their great versatility, only two Philips LED product families were needed to cover the municipal lighting requirements in Rivas. For roads, residential areas and parks, Luma and Luma Mini luminaires were used, which in many cases were installed on the existing poles, while within the town center, the luminaires were installed on new poles that had been specially designed for greater harmony with the town's aesthetic.

To light up footpaths and sports areas, the choice fell upon ClearFlood LED floodlights, which offers the possibility of adjusting the light intensity to very low levels, giving greater savings when sports facilities are not in use.

The benefits

"Philips has the most versatile solution on the market; they offer the possibility of adapting the current solutions to our needs, even in the case of requesting improvements over the duration of the contract with the energy services company. Philips is our partner, putting us to the test with technological challenges and demanding high-level results."

Each Luma luminaire is programmed to give 100% of the lighting level needed during the hours of busy traffic, 70% during hours of less intense road use, and 50% for the remaining hours of darkness, until sunrise.

In the highest-use areas, such as squares and sports facilities, a presence detection system is gradually being installed to adjust the light intensity in accordance with the number of people using these areas. "The local government's Office of Communication Technologies and Modernisation is planning to implement a remote management system, which will enable it to remotely control the performance, power consumption and services of each luminaire individually, using the electrical installation to send all types of information via the existing network."

Thanks to the new lighting installed in Rivas Vaciamadrid, energy consumption will be reduced by 56% compared to the previous system. There will also be 990 tonnes less CO₂ emitted into the atmosphere every year, which will make an enormous contribution to achieving the municipality's environmental targets.

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Today, LEDs are the most effective lighting solution on the market, and if we also consider the self-regulation of each point of light and its long lifespan, it's clear why this decision was made.”



