

A satellite night view of Europe, showing the continent's outline and numerous glowing city lights. The lights are concentrated in major urban centers and along coastlines, creating a dense pattern of yellow and white points against the dark blue background of the night sky. The overall effect is a high-contrast, data-driven representation of human settlement and connectivity.

Smart Cities and Connectivity

**WE DEVELOP  
IoT SOLUTIONS,  
CREATING INNOVATIVE  
TECHNOLOGY**

 **Sosteco**



## WE ARE AN EXPERT COMPANY IN TECHNOLOGY, WHICH HELPS THE DIGITAL TRANSFORMATION OF CITIES, INDUSTRY AND BUSINESS

AENOR committee members and Smart City Cluster, experts in different subjects in the areas of Smart cities, lighting, irrigation and CTN 178 networks. We provide services related to Information Technologies and we are specialized in the implementation and commissioning of solutions in the field of the Internet of Things and WSN.

We have a specialized development center in Malaga and collaborators distributed in Andalusia. Our experience is more than 8 years successfully working for more than 30 clients throughout Europe, mostly Spain, with top-level partners such as Telefónica,

El Corte Inglés or Accenture among others. We have professionals highly specialized in consulting, development and management of technological projects and hardware development.

We are firmly committed to the Research, Development and Innovation as a driving force of change and proof of it are the recognition achieved to date and their participation in various international consortia.





# OUR SERVICES

## REMOTE MANAGEMENT OF WATER, ELECTRICITY OR GAS METERS

The remote management and control of meters is based on the monitoring of electricity, gas or water. The aim is to have as fast as possible an alarm system with warnings according to configurable parameters, thus being able to act on the root of the problem in a minimum time and improving maintenance tasks and savings. In addition, parallel billing can be done to check that everything is correct and know when and how often we have consumption, problems and different needs.

## INTELLIGENT IRRIGATION CONTROL

It is based on different parameters such as: sun incidence, pH, temperature, humidity, weather, conductivity... which will be obtained through specific sensors. Reduce the cost of maintenance and control all valves and pipes. Improving and changing the critical parts of the installation will avoid long-term problems.

## INTELLIGENT LIGHTING

It is a remote management system to monitor, control, measure and maintain lighting both public and private. Based on technologies designed for energy saving and standard communications, it achieves greater efficiency and energy saving, reduction of greenhouse gases, as well as improving outdoor lighting and lowering maintenance costs.

## ISM RADIO NETWORKS

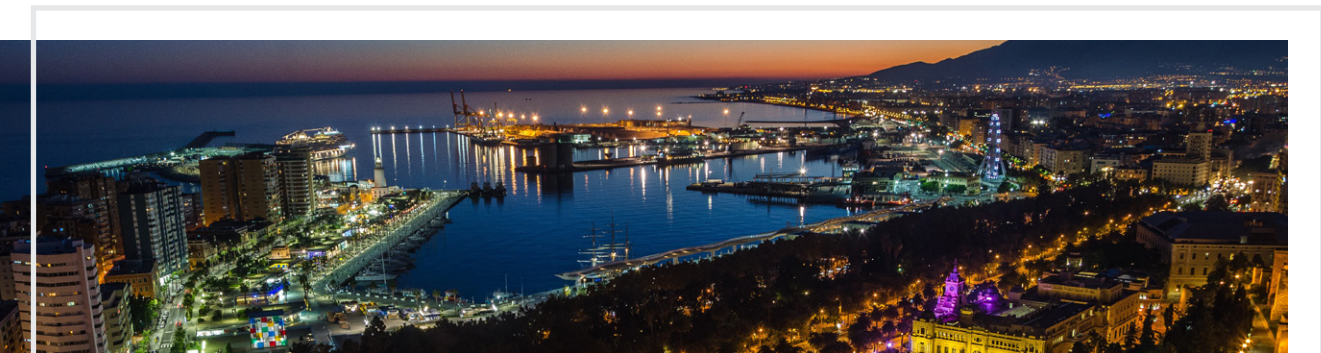
We are experts in radio technologies such as ZigBee, LoRa, BLE, WiFi, NB-IoT or Sigfox.

## FIWARE

We develop FIWARE applications, as well as advise other clients.

## DOMOTICS AND IMMOTICS FOR BUILDINGS AND DWELLINGS

Voice control, lighting, air conditioning, ventilation, consumption and security. We are KNX Partner.



# SUCCESS STORIES

## INTELLIGENT IRRIGATION SYSTEM FOR MALAGA PARK

Irrigation can be controlled via a smartphone or tablet, and it is managed through a web application developed by Sosteco. Through the mobile devices it is possible to activate or turn off irrigation, either in real time or by setting a time or a schedule. Using different kind of sensors, we know the amount of water and the state of the land. When the sensors detect that it is needed to irrigate, if automatic mode is enabled, it will start and turn off without the need of an



operator. Web application will be updated, and sensors will tell operators the state of the land, which ensures that in no way have excess water, making possible a considerable savings in the Park of Malaga. Before the installation of this system the Park of Malaga consumed 55.163 cubic meters annually and with our intelligent irrigation the consumption has decreased to 26.302 cubic meters, which means an estimated saving of 52.3%.

## CONTROL AND REMOTE MANAGEMENT OF WATER METERS. UNIVERSITY OF MALAGA

This project manages from the collection of water resources to the subscribers' meters. We monitor and control every consumption and check for anomalies. There is an optimization and simplification of data acquisition and invoicing to subscribers. The manager and the subscriber are provided with a web platform and the maintenance is now preventive and scheduled with better planning.





## MONITORING AND MANAGEMENT OF PUBLIC LIGHTING. CAMPUS TEATINOS

Direct management of flow reducers for public lighting using LoRaWAN and Modbus as primary technologies. Sosteco implemented a system for energy saving through the adjustment of intensities or ignitions by motion detection, control and schedule.



## INTELLIGENT IRRIGATION SYSTEM FOR THE CITY OF OSUNA

The city of Osuna, Spain, needed a smart irrigation system for remotely managing parks and gardens, and for optimizing the use of one of nature's most precious resources, water. For this project we installed our system in eight parks around Osuna. Using IoT, reducing water consumption by up to 45% and optimizing the entire process for care and gardening.

### The challenge of managing precious resources:

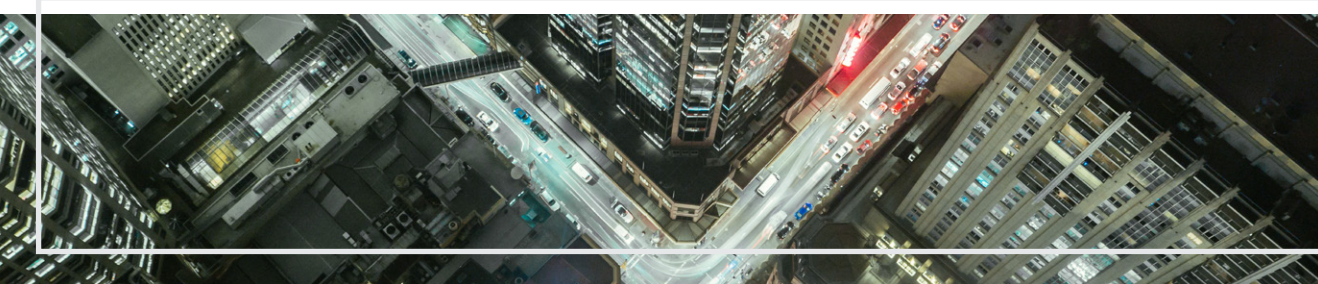
Osuna is a municipality in southern Spain, in the province of Seville, and has about 17,000 inhabitants. It is located 87.4 kilometers from the capital. Its climate is characterized by cold, frosty winters and very hot summers, with temperatures reaching as high as 40 °C. The Parks and Gardens Service of Osuna City Council is responsible for the conservation and

maintenance of green areas, whether they are landscaped areas or urban parks in the city. Water is the city's most precious resource and its intelligent management is one of the main challenges faced every day. Their objective, therefore, is to improve the efficiency of municipal water services by reducing and adapting the use of water to weather conditions and the needs of each garden.

To establish smart irrigation, eight parks were selected for a pilot under the Andalusia Smart Region project: San Arcadio, El Maestrizo, Rector Miguel Florencio Lora, Plaza de las Flores, Parque de las Autonomías, 8 March, Vice Rector Juan José Iglesias and Mohedana.

### Quick facts

- **Location:** Osuna, España
- **Organization:** The Parks and Gardens Service of Osuna City Council
- **Project:** 'Andalusia Smart Region' under 'FIWARE' initiative
- **Challenge:** Build smart applications for the better management of cities
- **Solution:** Smart irrigation system for parks and gardens enabled by a platform powered by FIWARE Context Broker
- **Building Block:** Context Broker
- **EU funded:** No





#### Results and benefits:

The main benefit of using Context Broker is that the information coming in from the different IoT devices can be standardized and centralized. This way it is possible to analyze all information collectively through a control panel that facilitates the management, not only of irrigation, but of all smart services to be deployed in the city in the future, too. Context Broker is vendor neutral and can incorporate new technologies in other locations without having to modify the management platform. The smart irrigation solution in Osuna has significantly improved

irrigation programs and enabled cutting down the use of water by up to 45 %. It has, therefore, proven to be an intelligent irrigation control system that allows the municipality to conduct sustainable park and garden management thanks to real-time information and remote irrigation controls. This enables the use of water resources to be optimized in an efficient, automated and centralized way. In addition, the solution can detect abnormal water consumption and automatically generate alerts for possible leaks or breaks in the network.


#### The investments made in software, development and hardware equipment will be returned by saving water and reducing manual labor. Furthermore, the municipality will enjoy the following benefits:

- To be able to centralize and monitor information in a single management platform.
- Access irrigation information from any computer, tablet or smartphone.
- To have a complete vision in real time of what is happening in the irrigation systems.
- To be able to immediately detect possible leaks and incidents in the network.
- Minimize response times in case of incident.
- Remote programming irrigation sequences for public gardens and green areas.
- Efficient planning of the facilities' maintenance and operation.
- The ability to improve preventive maintenance and reduce maintenance costs.
- Increase the efficiency of irrigation systems.
- To guarantee the scalability of the intelligent irrigation platform.
- Have the ability to replace and/or expand the system with other technologies and suppliers without the need to modify the platform.




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