

IoT Labs



IOTLABS

Mallorca Develops First LoRaWAN®-based Smart Island

Mallorca is becoming a smart island through IOTLABS' deployment of LoRaWAN® technology. Starting with a water management pilot in Esporles, the project has expanded island-wide, helping conserve resources and improve infrastructure through scalable, low-power IoT solutions.

QUICKFACTS

Company

IoT Labs
iotlabs.io

Customer Profile

IOTLABS is a Barcelona-founded technology company specializing in IoT-as-a-service, offering end-to-end solutions including hardware, software, installation, and maintenance. Now based in Mallorca, the company focuses on sustainable innovation, using LoRaWAN® technology to develop smart city and environmental monitoring applications that support resource conservation and improve quality of life.

Objectives

- Monitor real-time water storage levels.
- Notify citizens regarding consumption and quality.

Results

- Real-time water management end-to-end solution.
- Citizen awareness and participation in reducing water usage.
- Successful pilot with city of Esporles expands to entire island.

Products and Services

- LoRa® devices deliver low power wireless technology.
- Island-owned LoRaWAN® network provides full coverage.



“ In recent years, there has been a shift in attitude among citizens about the need to conserve our natural resources by saving water, recycling waste and reducing consumption. ”

Marta Cierra,
Co-founder, IOTLABS

INTRODUCTION

IOTLABS Manages Fresh Water and Sustains Natural Resources

Mallorca, the largest of Spain's five Balearic Islands, is known for its white sand and crystal-clear turquoise waters. It is no surprise the island's popularity as a tourist destination has steadily grown to more than 10 million visitors in 2017, up from six million in 2010 and just three million in the 1970s.

The residential population of this Mediterranean island has doubled from 460,030 in 1970 to 895,000 in 2017. A study by the University of the Balearic Islands anticipates an additional 32.7 percent population growth by 2030. The report equates this to 25 people for every meter of beach in Mallorca.

CHALLENGE

LoRa®: The Right Technology for IoT Innovation

IOTLABS is a company dedicated to providing Internet of Things (IoT)-as-a-service, including installation, software, hardware, and maintenance. Founded in Barcelona in 2015, the company's first project was an award-winning automatic accident detection solution installed in vehicles to immediately alert medical centers.

The device connectivity technology used was based on Bluetooth, SIM cards and Cellular. As potential customers began to request new concepts, IOTLABS found it necessary to research more appropriate technologies for the applications they desired.

Founders Marta Cierra and Bartolome Olivares decided to move their company to Mallorca. They perceived the island as an "isolated planet" and the perfect testbed for developing and field-testing new technologies without the bureaucratic interference expected on the mainland - the Balearic Islands have been an autonomous region of Spain since 1983. IOTLABS' headquarters is located in Palma, the capital city, inside an office park for tech entrepreneurs known as ParcBit.

“ In previous summer months when the water supply would become low, the city would unexpectedly turn off the water to residents. The municipality, now armed with data, has control mechanisms to better manage and proactively regulate consumption. ”

Marta Cierra, *Marta Cierra, Co-founder, IOTLABS*



SOLUTION

Smart Town Expands to Smart Island – Saving 25 Percent of Water

With its simple, proven and easy to deploy capabilities, Semtech’s LoRa devices and the LoRaWAN® open protocol became the IoT platform of choice.

“When we discovered LoRa devices it was great news and knew we had our backbone for an IoT platform with endless opportunities.” —Marta Cierra, Co-founder, IOTLABS

In collaboration with Esporles Town Hall, Innovation of the Balearic Islands (IBETEC) and the Government of the Balearic Islands (GOIB), IOTLABS connected the western municipality of Esporles. This picturesque inland town of 5,000 inhabitants installed a LoRa-based antenna on the town hall roof - making

it the first smart town on the island.

IOTLABS designed and installed a comprehensive water management solution leveraging LoRa devices. The system provides Esporles with the ability to control water mains and water usage, automatically read and report tank levels, and monitor pH and chlorine ranges to ensure water quality and safety for human consumption.

BENEFITS

The system has initially seen up to 25 percent water savings.

Esporles is providing its citizens real-time water level and usage information that has successfully facilitated community participation in reduction efforts. IOTLABS and the city are currently in the process of adding air quality monitoring solutions, as well as traffic sensors and smart parking solutions to ease congestion and pollution.

Following the successful trials at Esporles, the GOIB voted and funded a much larger project for IOTLABS: deploying a LoRaWAN network across the entire island of Mallorca, and extending utility management solutions to all 53 municipalities.

“Everything you do in data, and in software, you have to be creative – it is easier to be creative in a place like paradise.” —Benjami Villoslada Gil, Director of Technological Development, GOIB.





25 People

for every meter of
beach on the island



32.7%

anticipated population
growth by 2030



25%

water savings since
installation of the system

About Semtech

Semtech Corporation (Nasdaq: SMTC) is a high-performance semiconductor, IoT systems and cloud connectivity service provider dedicated to delivering high-quality technology solutions that enable a smarter, more connected and sustainable planet. Our global teams are committed to empowering solution architects and application developers to develop breakthrough products for the infrastructure, industrial and consumer markets.

To learn more about Semtech technology, visit us at [Semtech.com](https://www.semtech.com) or follow us on [LinkedIn](#) or [X](#).

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