

Success story



Paseos Comerciales de Zaragoza

Digitization of shopping streets
with traffic and noise
measurements



Zaragoza
AYUNTAMIENTO

Intro

Shopping malls are catalytic poles of a city's economy: they trigger other sectors, such as logistics or local industry, they provide service and work for their citizens and they are points of tourist interest.

The "Paseos Comerciales de Zaragoza" (Zaragoza Shopping Walks) is a digitization initiative promoted by the City Council seeks to capitalize on the main shopping streets of the Aragonese capital.

The project to digitize Zaragoza's 12 shopping streets is divided into 7 actions:

- Measurement of air quality
- Noise measurement and sensorization
- Measuring of public street capacity and occupation
- Gamified leisure and gymkhana in the shopping area
- Hybrid art and cultural experience
- Outdoor hyperreality
- Loyalty programmes



The challenge

SATISFACTION OF RETAILERS & NEIGHBORS AT THE SAME TIME

Traffic and noise can be disturbing for neighbors. A smart city must satisfy the needs of both retailers and neighborhood associations, and IoT technology is an ally.

In Zaragoza, Libelium has installed more than 60 devices in two of the city's most commercial areas: Calle Alfonso and surroundings at downtown, and Calle Delicias, in the district of the same name.



PROJECT DETAILS

Client

Zaragoza City Townhall

Location

Zaragoza, Spain

Sector

Retail & Tourism

The solution

MONITOR PARAMETERS AND EASE INTELLIGENT DECISION MAKING WITH VISUALIZATION

Libelium analyzes key indicators such as noise level in dBs and people counting (including number of people, exact time & date, location) to merge this information with additional external information sources such as weather or local events and commercial calendar, in order to offer both retailers and citizens information to take better decisions based on data.



SOLUTION DETAILS

Vertical

Smart Cities

Solution

Libelium Plug & Sense! and Libelium Meshlium Scanner

Parameters

Noise level (dB) and people counting

Connectivity

4G

Behind the change

Libelium has placed half a hundred Plug & Sense! devices to measure noise level and the influx of people on lampposts in Calle Alfonso and Calle Delicias in Zaragoza (Spain)

The aim is to digitize urban roads, collect data in real time and use Big Data and Artificial Intelligence to improve the experience of both citizens and retailers.

The Libelium Class 2 Noise Level Sensor (NLS class 2) detects a range between 45 dB and 115 dB, with an accuracy of 95%. The Plug & Sense! Smart City PRO has a built-in red pilot light that emits a light signal when the decibels level exceeds the WHO (World Health Organization) limit. This is intended to raise awareness among pedestrians of the importance of maintaining a respectful and healthy volume on public roads, and to build a smarter and more liveable city among all parties involved.

The crowd control solution, on the other hand, detects WiFi and Bluetooth signals from smartphones performing an effective and anonymous count of people.

The collected data is processed with mathematical models of Artificial Intelligence to, for example, detect patterns or create automatic alerts for users. The visualization is done in real time and the data can be filtered by time, to make historic queries.



Monitoring 2 main shopping areas



Inform citizens whenever the noise level exceeds the healthy limits

Security and citizens wellbeing



Raise awareness about the noise generated for the well-being of neighbors.



Make walking more comfortable for pedestrians.



Establish a system of notifications, alerts and direct contact with the authorities



Urban mobility improvement



Provide information for public use related to forecasting traffic flows of people or behavioral patterns.



Establish contingency plans to protect street safety and address actions to increase loyalty and consumption in shops.



Providing local government with traffic information to redesign the urban planning of the area

Increase of Retail business



Be able to adjust opening hours based on real data



Calculate the transaction or recurrence rate in shops.



Design loyalty campaigns and targeted offers.



The use of real data from shopping streets in Zaragoza (Spain) will allow Government and us to make more informed decisions for retailers and citizens in general. Our aim is to boost datacracy, which is the ability to take intelligent decisions and make them transparent and honest to the public opinion in order to achieve a more competitive, sustainable and dataocratized society.

Beyond the challenge



After an initial analysis, we already now know that, since its implementation, the flow of people access Delicias street mostly (61% of the accesses) from Madrid Avenue, while 39% did so from Duquesa Villahermosa.

Slightly more than half of the visits occur during the weekend, 25% throughout the week and only 18% do so on weekends. And by time, the greatest influx of visits is between 9:00 and 13:00 in the morning, and between 16:00 and 20:00 in the afternoon. Being the night time and the early morning when less traffic has the pedestrian street.

This is just only the beginning since we are in the way to create data intelligence through our own Artificial Intelligence (AI) and Machine Learning (ML) algorithms, specialized in extrapolation based on real data.

More to come in the next months. If we have been able to create this ecosystem at an affordable price, imagine what we can do to overcome any smart city challenge.

Please contact us at sales@libelium.com in case you need further information

|| When you want to do something in your city you have to be responsible for every euro you invest, so you have to do two things: first, minimize the risk and then do it with people with solvency who know how to give you confidence and who know a thousand times more than you and who will never let you down ||

Carmen Herrarte, Zaragoza City Councillor for Economy, Innovation and Employment.



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