# **Smart Tourism Office**

The Tool to Overcome Challenges

#### **OD4GROWTH**

Increase quality standards of public services with Open Data implementation















# Tourism today



# Smarter tourism

### **OUR GOAL**

Working on the impact of tourism through enhancing the visitor experience, improving the quality of life of the resident and the competitiveness of businesses.

### **OVERCOMING CHALLENGES**

Tourism Flows. Construction of indicators. Tourist housing. Employment.

#### **KNOWLEDGE**

Tourism Intelligence System. Studies with the University. Information.

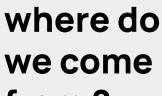
# ne 🖍

#### SHARE

Training for the sector.
Transfer events. Participation in projects with other organisations.

### **DIGITAL ECOSYSTEM**

Design of the Digital Ecosystem. Emergence of new applied technologies. Internal processes.







# we come from?



14 KPIs >>> 122 KPIs

Data and project integration with city platform.

2017

#### **TOURIST DATA CENTRE**

Studies in pdf format, which were shared with the CEO of CONTURSA, and which are available on the tourism website.

2021

### SMART TOURISM OFFICE

Action Line >>

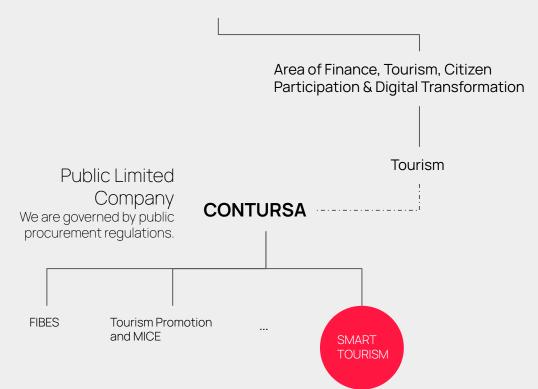
OVERCOMING CHALLENGES KNOWLEDGE **SHARING DIGITAL ECOSYSTEM** 



# where are we located?



AYUNTAMIENTO DE SEVILLA







### Aligned with public policy



Governance and Tourism Planning

Competitiveness

Marketing and Tourist Products

**Tourist Coexistence** 

Connectivity and Sustainable Mobility

**Tourism Intelligence** 

Reinforcement and consolidation of the Smart Tourism Office, from the different areas of knowledge and specialization for its public service and the actors of the tourism ecosystem, generating proactive and competitive interaction of the destination. In this way, new market and product reports, trends, and forecasts will be generated, the transfer and dissemination of knowledge will be enhanced, data accessibility will be improved, as well as **public-private** collaboration and with institutions specialized in the field of data culture and tourism intelligence. This will allow the introduction of new indicators and records and the understanding of the tourist activity of the entire city of Seville. Similarly, actions will be implemented for the sustainable management of capacities and tourist flows in the central area of Seville that contribute to the coexistence of tourists and residents.









# What will we talk about?

01

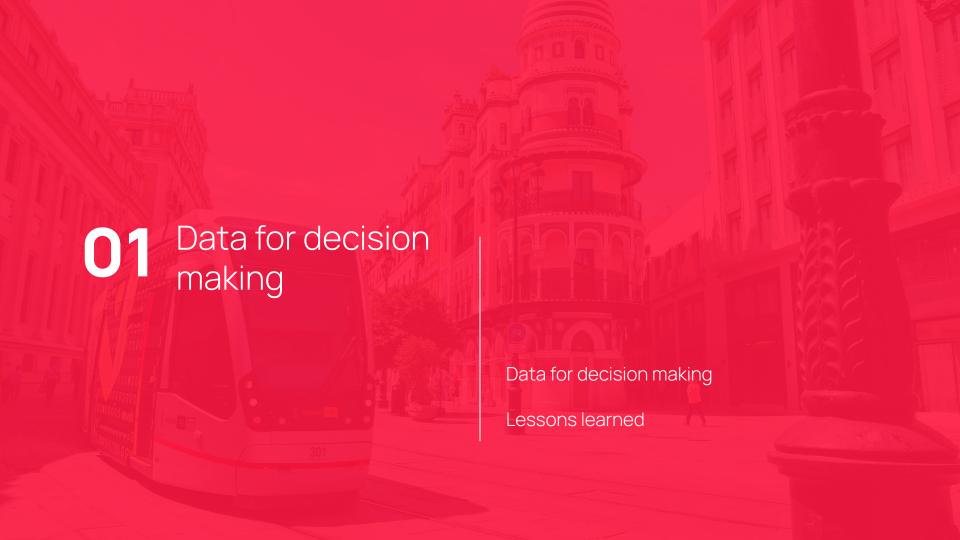
Data for decision making

02

Explaining reality

03

City Challenges



### Data for decision making

Its mission is to improve strategic planning processes with predictive and diagnostic analytics.

Hotel Establishments and Tourist Apartments **Tourist Housing** Air Connectivity Air Passenger Arrivals Air Reservations International Tourism Expenditure Tourism Sustainability Visitor Perception and Behavior Booking Activities at Tourist Attractions (GetYourGuide) Recovery of Accommodation Demand Visits to Museums and Monuments

smartS ----



All dashboards are published and available for free on our website.



AYUNTAMIENTO DE SEVILLA

#### Sistema de Inteligencia Turística de Sevilla

El SIT recopila, transforma, analiza y visualiza enormes cantidades de datos poniéndolos a disposición del sector

Apoyados en un modelo de BI (Business Intelligence), los datos recogidos por el SIT mejoran los procesos d planificación estratégica con análisis predictivos y de diagnóstico. Ponemos la inteligencia al servicio de una mejor





apartamentos turísticos

Establecimientos hoteleros v. Vivienda turística





Llegadas de pasaieros aéreos



Reservas aéreas

Gasto Turismo Internacional





Sostenibilidad turística

Percepción y comportamiento del visitante





de alojamiento

Recuperación de la demanda Reserva de actividades en atractivos turísticos (GetYourGuide)



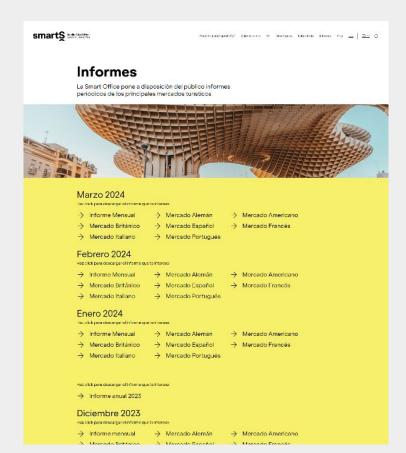
Visitas a Museos v Monumentos







Monthly reports on the markets and on the current situation as a whole are published.

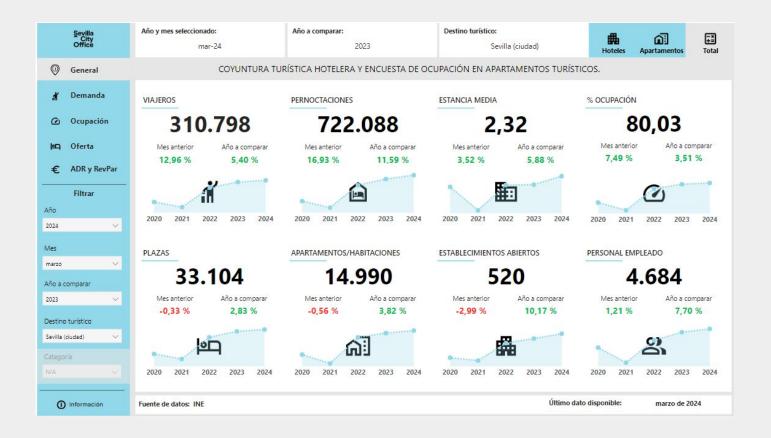








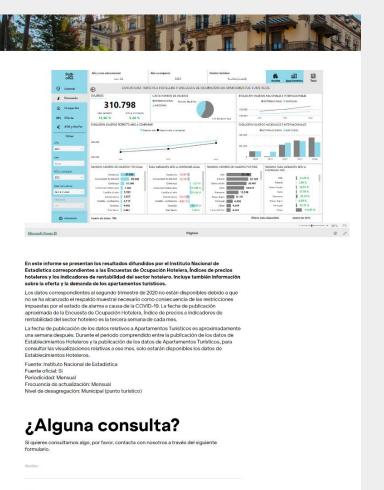




Each dashboard is accompanied by information on its interpretation and indicates:
Data source
Data provider
Data periodicity
Update frequency.

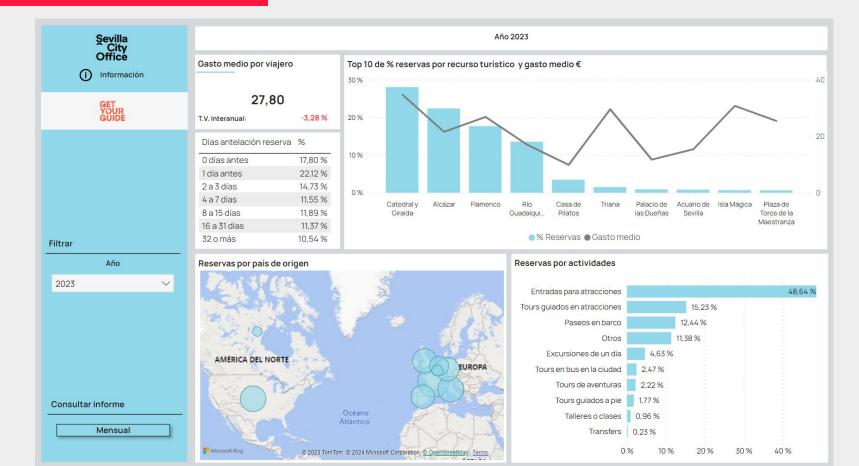






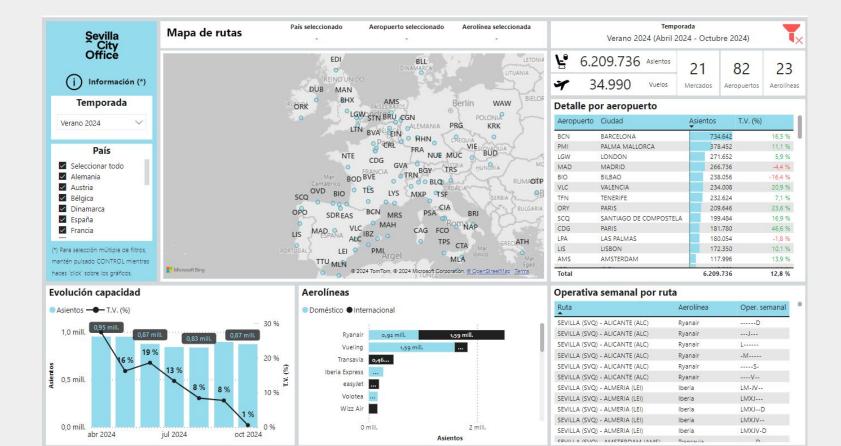
















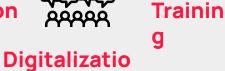
### Next

Stepstaining the city's data within the city, and not purchasing it from external companies





n





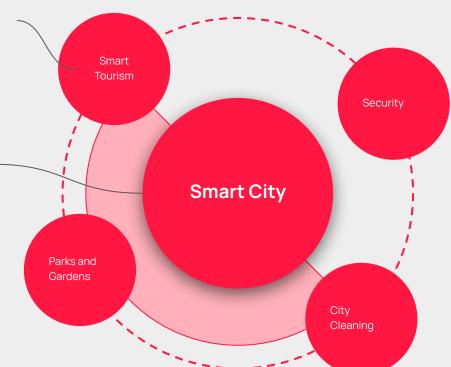






UNE 178104:2017 Comprehensive systems for a smart city management. Requirements of interoperability for a Smart City Platform It has intelligence about the business and breaks down the information much more.

It only needs data to manage the city.











### Replicability

Budget for the Tourism Intelligence System



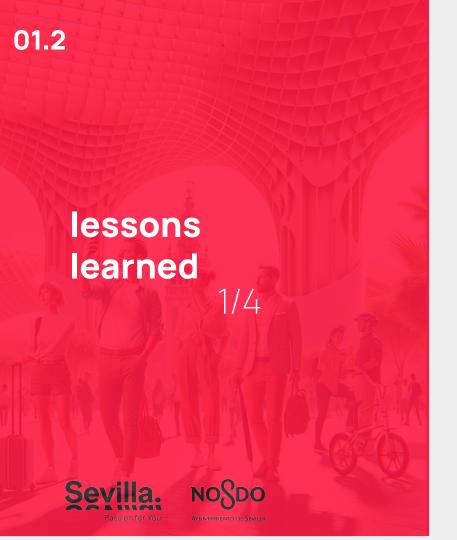
50% Data Source

50% Technical Consultancy









### SUSTAINABILITY INVESTMENT

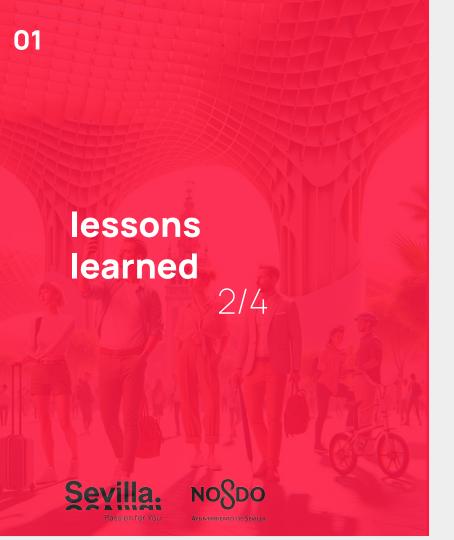
Try to purchase databases that are sustainable over time.

# EVERYONE WANTS DATA BUT NO ONE WANTS TO SPEND TIME SHARING IT

Confidentiality of information and the time taken to provide structured data are the main issues

### FAST CONSUMPTION OF INFORMATION

We spend little time understanding and managing the tool, yet they want information for quick consumption.



### OPACITY OF THE DATA PROVIDER IN METHODOLOGY

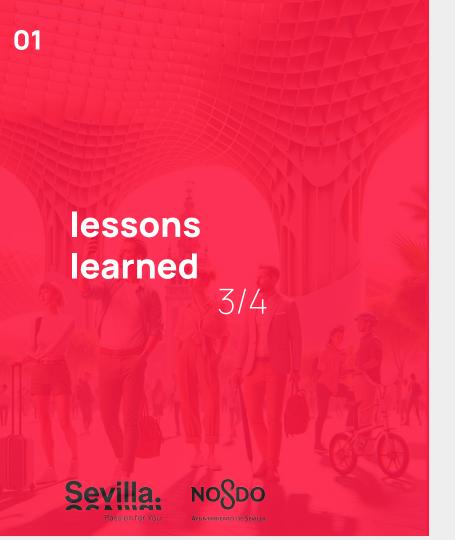
Everything is artificial intelligence or data anonymization, but they do not explain their process.

#### WE NEED EXTERNAL SERVICES

We do not program in Python, but we know what we want.

#### DATA REPRESENTATIVENESS

It is difficult to find sources with complete information or that provide representativeness.



### WHAT IS NOT COMMUNICATED DOES NOT EXIST

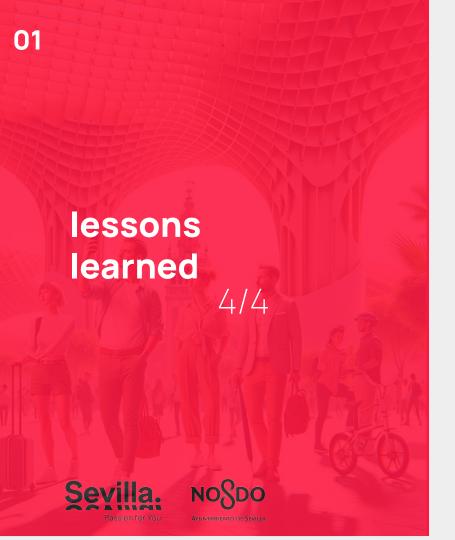
It is very important to communicate the data to the stakeholders

### FOCUS ON CHALLENGES AND USE CASES

It must be a useful tool for solving needs.

### **DATA FOR ALL**

There is data for press releases, data to solve challenges and data for the sector.



# The team is the most important...

A well-trained, concerned, and multidisciplinary team is essential for a Smart Office.

### ... Secondly,

Sector cohesion is also vital for success.





**02** Explaining reality

Tourism Sustainability Index

Tourism activity index

Economic impact index





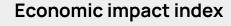
# **Explaining** reality

Build indicators of tourist activity to understand behavior.

Tourism Sustainability Index



Tourism activity index







# Tourism Sustainabilit y Index





The composition and weighting of these KPIs follows the generic criteria set by the SDGs and the European System of Tourism Indicators.





62,93

# Global Index of Sustainable Tourism (GIST)

Distribution of Tourist Income
Concentration of Tourism Supply
Carbon Footprint
Perception of Tourism Sustainability
Motivational Diversification
Dependence on Origins
Seasonality

### Tourism Sustainability Index





### Tourism Income Distribution Index

54,46

-2,75% (2022)

It is obtained through the cross analysis of the expenditure per visitor and its distribution by different categories of establishments (restaurants, accommodation, supermarkets, etc.).

100 // Indicates a destination with high per visitor spending and a fully diversified distribution of tourism revenues, positively impacting local businesses and economies.







### Tourism Sustainability Index





### **Carbon Footprint**

74,21

+0,65% (2022)

The analysis of CO2 emissions to the atmosphere in relation to the total world air capacity, in addition to the cross analysis of these variables with the expenditure per person at the destination, allows us to evaluate the destination in terms of the level of pollution emitted and compensated.

100 // Reduced CO2 volume as well as a high level of economic compensation.











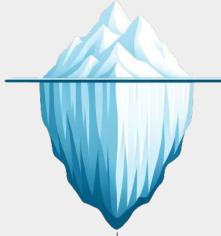
# Tourism activity

indicator for Seville's tourism sector, utilizing a scientifically valid system of indicators to broaden data collection beyond traditional focus areas like hotel establishments. The methodology for aggregating information is designed to be simple and user-friendly, facilitating its application in sector decision-making. This approach aims to improve the monitoring and assessment of tourism activity, supporting sustainable development in the city.



### **Explained Reality**

Hotel Establishments Air Connectivity Visits to Museums and Monuments



Unexplained Reality

Tourism and Leisure Experience Companies

Impact Control for Sustainable Development





# Local Economic Impact Measurement of Tourism



Seville, in collaboration with the University of Seville, has been working since 2022 on an advanced methodological proposal to analyze the economic impact of tourism in smart tourist destinations. This methodology focuses on fundamental economic indicators, such as Gross Domestic Product (GDP) and job creation, and incorporates data analysis from both official statistics and field research. The goal is to quantify tourism's contribution to the local economy, assessing the direct, indirect, and induced effects of tourism using techniques like the adaptation of the Input-Output Table and studying the interdependencies between tourism and other economic sectors.





# 03 City Challenges

Density and Tourist Flows

Housing listed on portals

We are not the smartest, but we surround ourselves with those who know best.





FULLCYCLE TRAVEL ANALYTICS



























### **OUR GOAL**

Relieve congestion in the Santa Cruz neighborhood and redirect flows to other areas of the city.

Boosting other tourist hubs in the city (northern area, Nervión, Triana, Macarena, etc.).

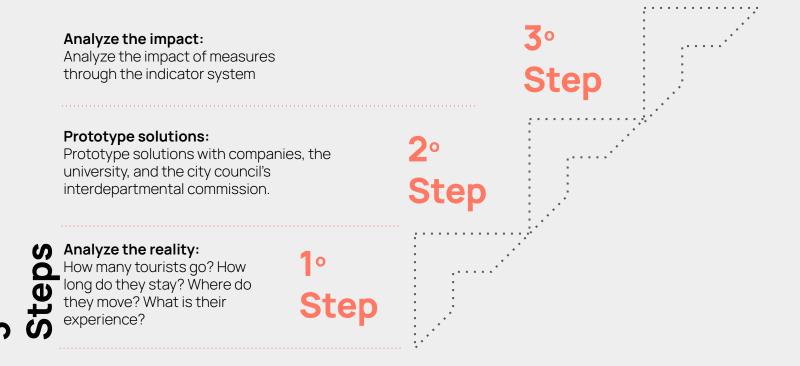
Improvement of the quality of the visit experience and the quality of life for residents.



### Density and Tourist Flow











What's Happening?

# Analyze the reality

We combine technologies to analyze how they can help us achieve our objectives (mobile network operators, Wi-Fi tracking, sensor cameras). Experimental project in which companies and universities collaborate.

Our objective is to manage the destination to improve the quality of life of residents and the user experience.









Which is the reality?

## Why we use three technologies?

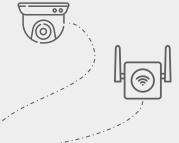
#### **Mobile Operator**

The only entity capable of identifying whether individuals within view are residents or visitors.



**Optical Sensor** People Counter within its angle

of Vision



Wifi Tracking Count devices. not people.

**Density and** tourist flows



#### Wifi Tracking

hey can see whether or not someone passes through the various access points (APs).





**Mobile Operator** 

The operator cannot track movement between streets; it analyzes large areas.







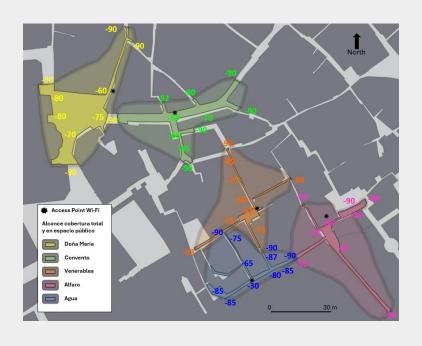
# Wifi Tracking Location and Presence Analytics

It takes advantage of the signals emitted by smartphones, tablets, and laptops when they are not connected to a network. These signals are called "Probe Requests," and devices emit them when searching for nearby networks.









# Wifi Tracking Location and Presence Analytics

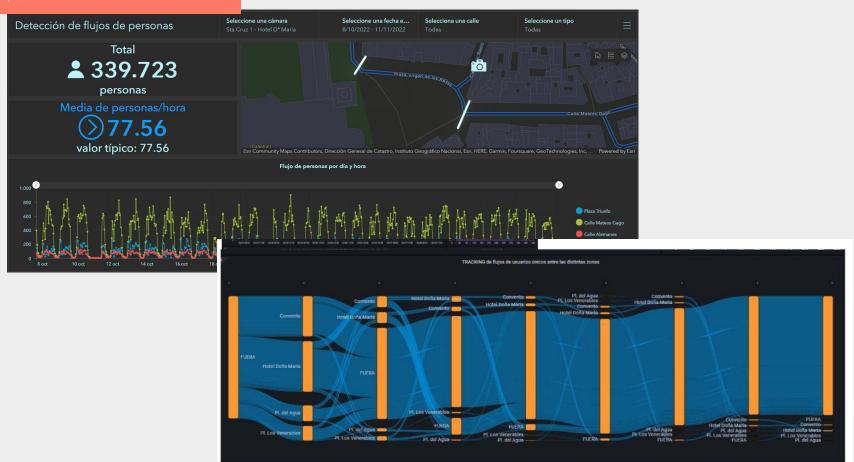
This is a study on the signal strength of devices. The closer to the access point (AP), the stronger the signal. It is greatly influenced by the thick walls of old buildings.

We use unidirectional APs installed at heights over 5 meters.

### Density and Tourist Flow













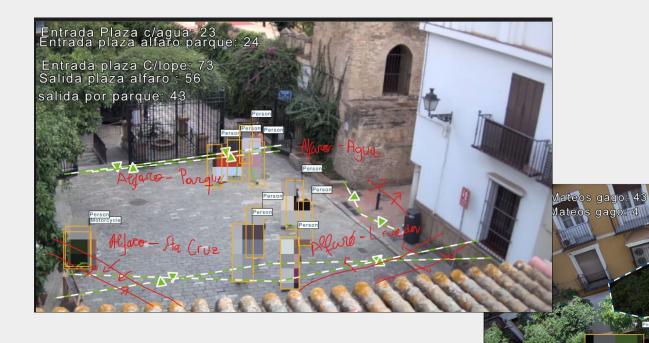
### **OPTICAL SENSOR**

Data capture, no video is displayed. The camera identifies learned patterns. The development of sensor technology is constantly evolving to respond to future analysis.









### Density and Tourist Flow

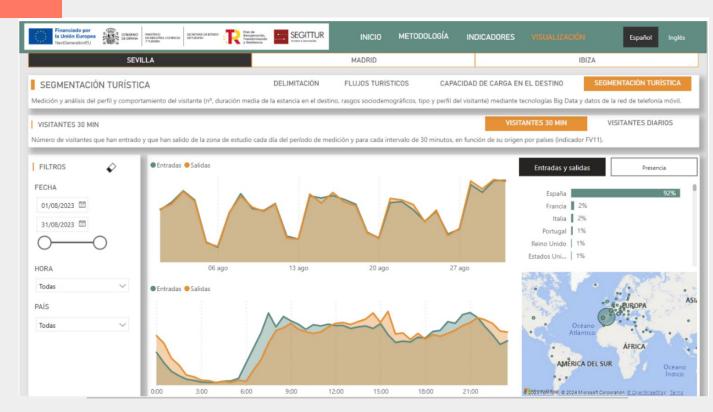






# Mobile Operator

Information about the users of devices that interact with the Barrio de Santa Cruz district in a certain period of time. It allows user profiling.











What's Happening?

Relevant aspects to consider in terms of data protection

Prepare a thorough impact analysis before deployment.

Work with highly secure and trustworthy providers.

It is mandatory to set a start and end time for daily analysis.

Demonstrate legitimacy for the common good.

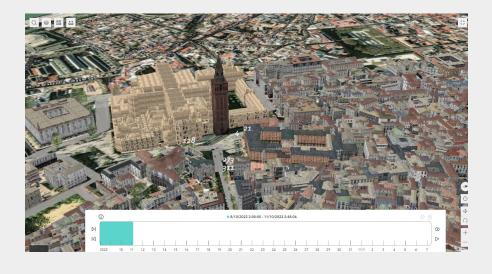
Mark the area with signs that communicate the project.





### **Digital Twin**

We have created a digital twin of the Santa Cruz neighborhood so that everyone can work with the same data in a more visual way and potentially develop predictive models in the future.



### Density and Tourist Flow





# **EXT STEPS**

Field work to identify device errors depending on installation height, lighting conditions, etc.

Identify the flow analysis performed on individuals.

Gather the commission to discuss possible solutions.

Work on a formula that determines how many people are present when including these three data points.

Include all the data in a digital twin to work with it.





Housing listed on portals













### Housing published on portals

Registered and unregistered dwellings are listed.

Dwellings that are marketed and in activity.

**OUR** 

Analyze the situation of tourist housing in the city of Seville.

In Andalusia, there is a registry of tourist activity, and homes must obtain a license from the regional government to market them.



### Andalusian **Tourism Register**

They may be registered

### What is the reality?

We are cross-referencing the data of the dwellings published each month with those in the register.

Published and regulated dwellings

Published and unregulated dwellings

Unpublished and regulated dwellings





### And more...

Geographical location by postcode.

Type of property (flat, B&B, dormitory, house...)

Type of owner, one single property, two or more multi properties.

Average review score.

Percentage of properties by platform.

Average price.

Occupancy rate.

Length of stay.

Estimated revenue.

Average reservation windows.

Country of origin of travellers to analyse demand.

Average price of properties demanded by each nationality

Prospects for future bookings.

Analysis of up to 5 cities with the same KPi as Seville.

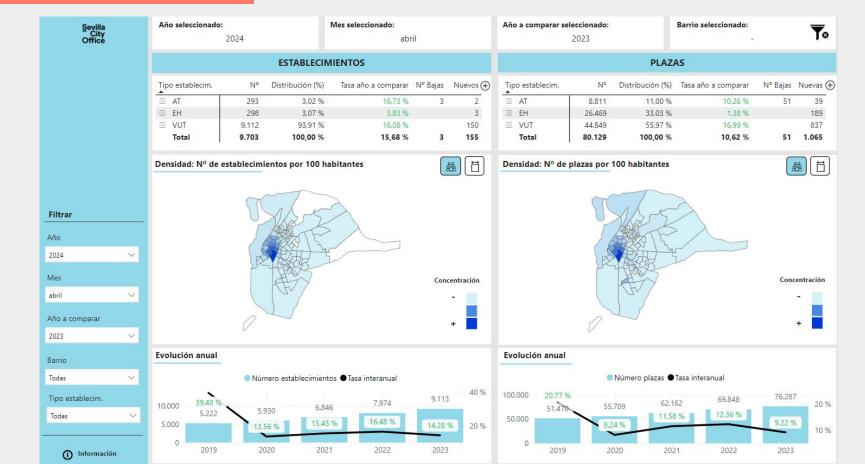




### Housing listed on portals



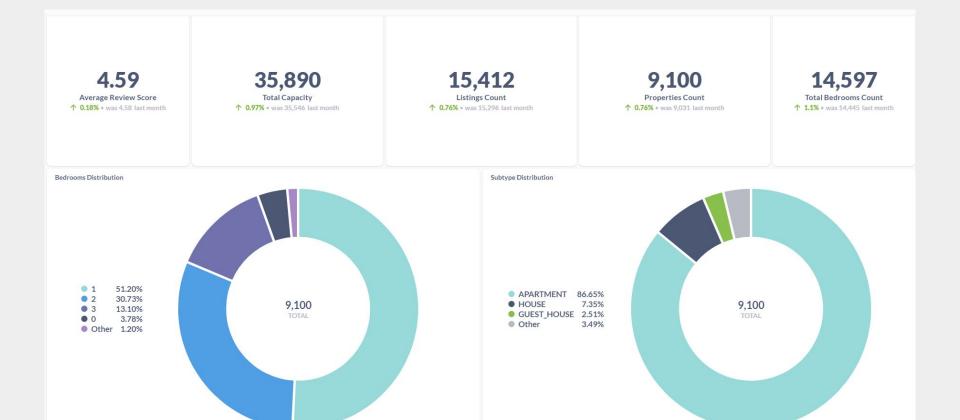




### Housing listed on portals







# #Sharing is smart



**SEVILLE** 2023



