



SMART BUILDINGS

There is no plan(et) B

MWC 2022

Transformation is now



What is a Smart Building?

“Those buildings whose installations and systems enable **centralized management and control**, in order to maximize **efficiency** and **sustainability** while ensuring security as well as people’s **safety** and **wellness**.”



The path to Smart Buildings

LEGACY BUILDING



- Independent systems.



CONNECTED BUILDING



- Manual integration of two or more systems.
- Simple rules “If this then that”.



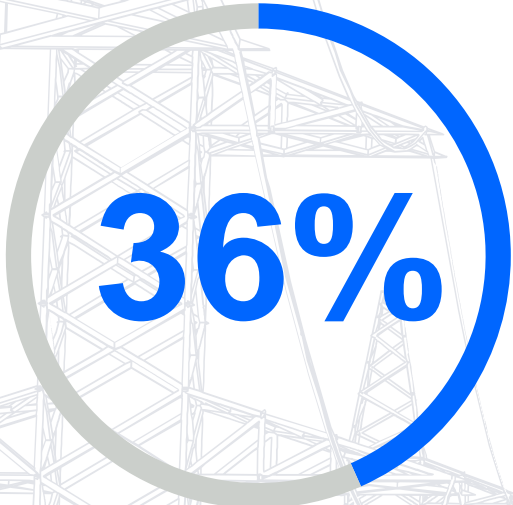
SMART BUILDING



- Integrated systems on a single platform.
- Continuous learning, automatically responding and adapting to the changing needs and requirements.
- Massive use of IoT and AI.

Some key facts

Buildings account for



36%

of world energy consumption.

SDG #7

X2

Energy efficiency
improvement rate

2030

Some key facts

Buildings generate



of total greenhouse
gas emissions.

SDG #7



Accelerate

Modern renewable share of total final
energy consumption **2030**.

Some key facts



Average time spent
in buildings

Buildings need to be
safe and comfortable,
providing an optimal
user experience.



Goals of Smart Buildings

People

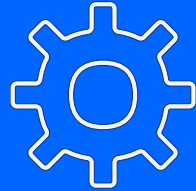


- Ensure a healthy and safe environment
- Provide an excellent “phygital” user experience
- Minimize waiting times and avoid overcrowding



Goals of Smart Buildings

Efficiency



- Reduce operating costs, matching supply with demand.
- Anticipate and avoid potential issues.
- Optimize the use of each space.



Goals of Smart Buildings

Sustainability



- Minimize power, gas and water consumption.
- Incorporate renewable energy sources.
- Reduce carbon emissions, contributing to 2050 net-zero objective.



Goals of Smart Buildings

Security



- Protect users and assets against any potential threat.
- Automate detection and response, minimizing impact.
- Use seamless technologies, not affecting user experience.



Our proposal for Smart Buildings: an integral solution



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Our Smart Building platform

- Centralized view of the building.
- Advanced analytics use cases.
- Alerts and recommendations.
- Dashboard + BIM digital twin.



IoT



3D Model
Static data

BIG DATA



3D Model
Dynamic data



DIGITAL TWIN





**la torre
outlet**
Zaragoza

Retail Analytics Project

March 2nd 2022

La Torre Outlet Zaragoza

System based on data analytics and management to apply to retail



Smart Retail

**Data Driven
Decisions**



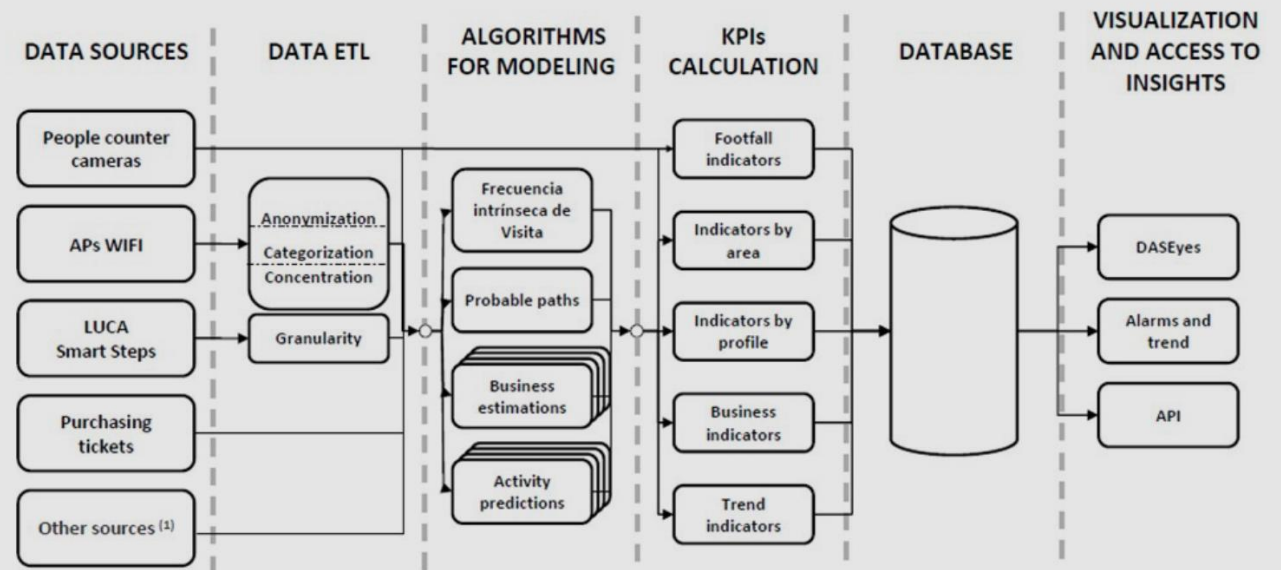
Retail Analytics Project

Description

Objective: Get the highest value of the generated data.

System based on Big Data and A.I., that captures a wide set of data to improve the retail performance.

Big Data and Analytics Tool Architecture



(1) Mobile App, Web, Smart parking, weather, events, holidays, georeferenced sociodemographic and socioeconomic data.

Retail Analytics Project

Solution to
improve all the
retail areas:

- OPERATIONS
- MARKETING
- BUSINESS



Retail Analytics Project

Objectives

Cuantitative

- KPIs increase

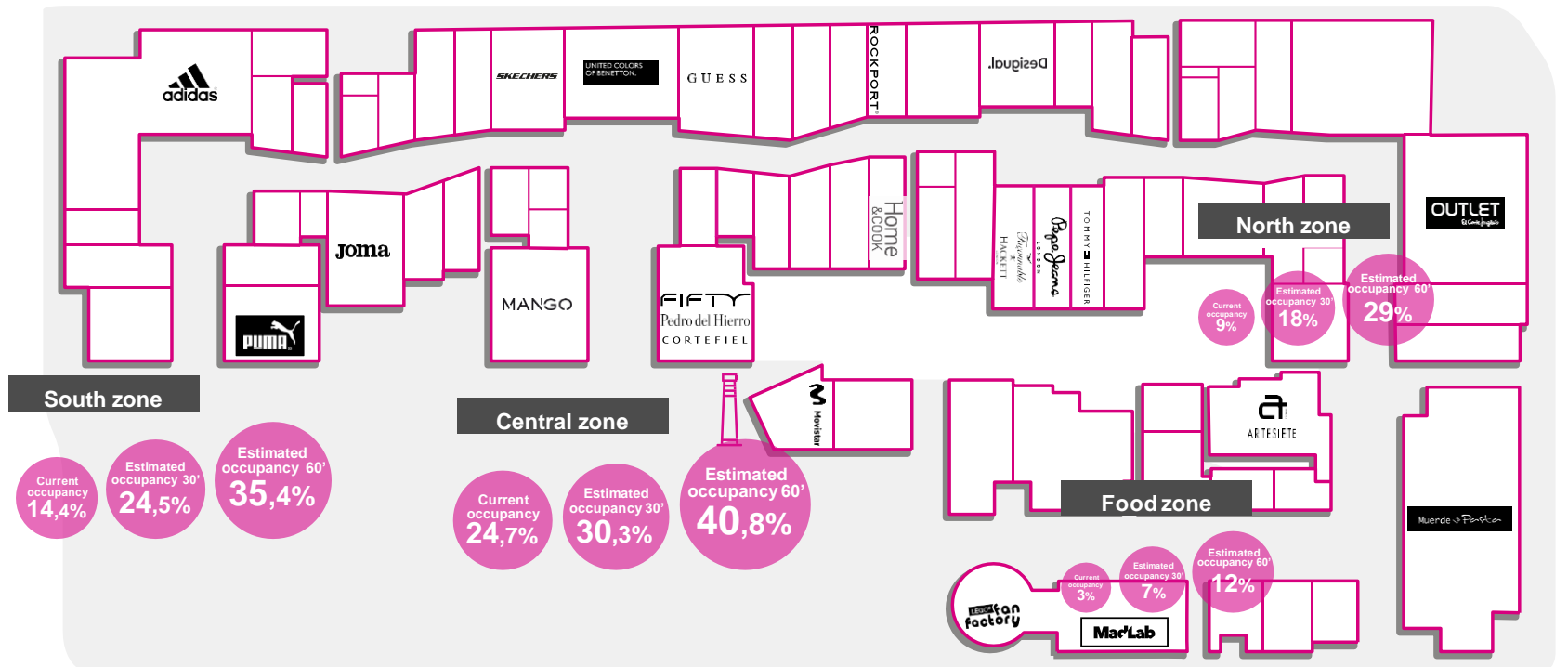
Cualitative

- Brand awareness
- Optimum customer understanding

Result

- Valuable information earned by BD and IA to optimize the Business Management and Performance

Visitor Capacity





Retail Analytics Project

Parking Capacity

→ Visitor Capacity

→ Footfall

→ Business information

→ **Parking**

→ Consumer Profile and Behaviour

→ Insights

→ Forecasting



Footfall

Filters

Initial date

01/01/2021

Final date

31/12/2021

Days of the week

Monday
Tuesday
Wednesday
Thursday

Time range

Morning
Midday
Afternoon
Evening

Filtrar

Global visits

8,700,000

Unique Visits

2,000,000

Maximum influx

1700

Maximum influx Date

20/10/2020, 10:00:00

Average Visiting time

30

Short Visits %

30.0 %

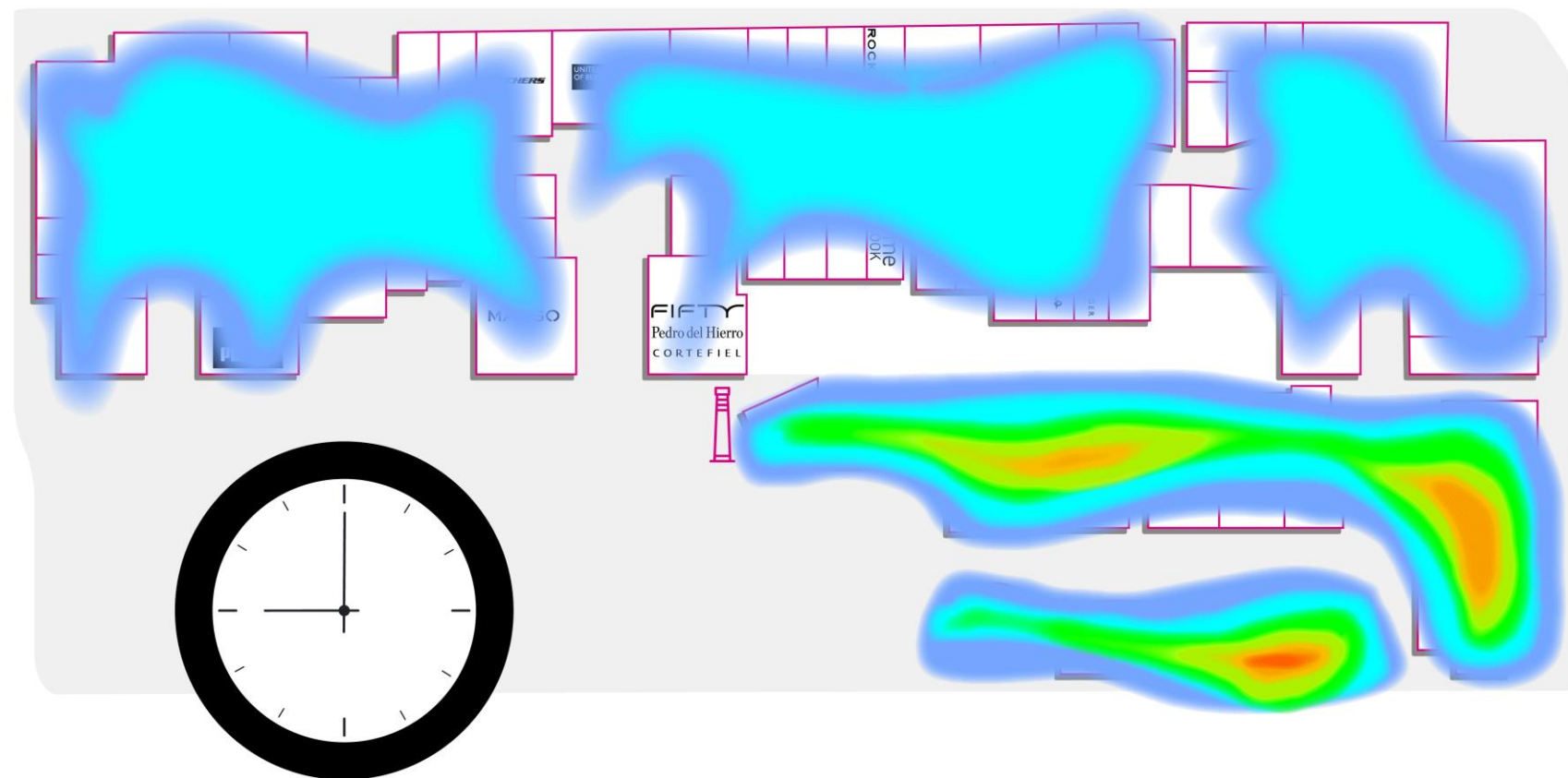
Average Visits %

30.0 %

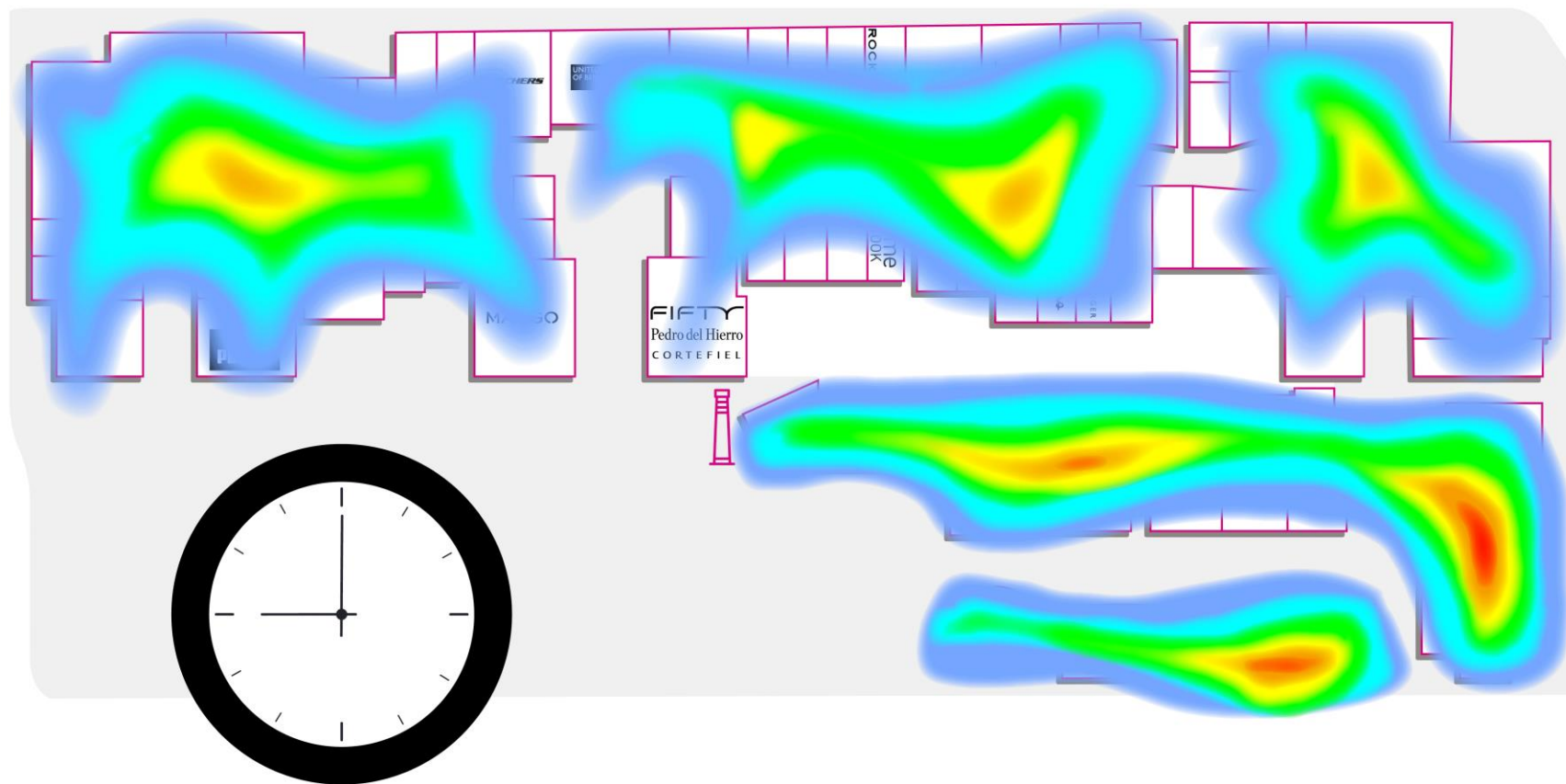
Long Visits %

30.0 %

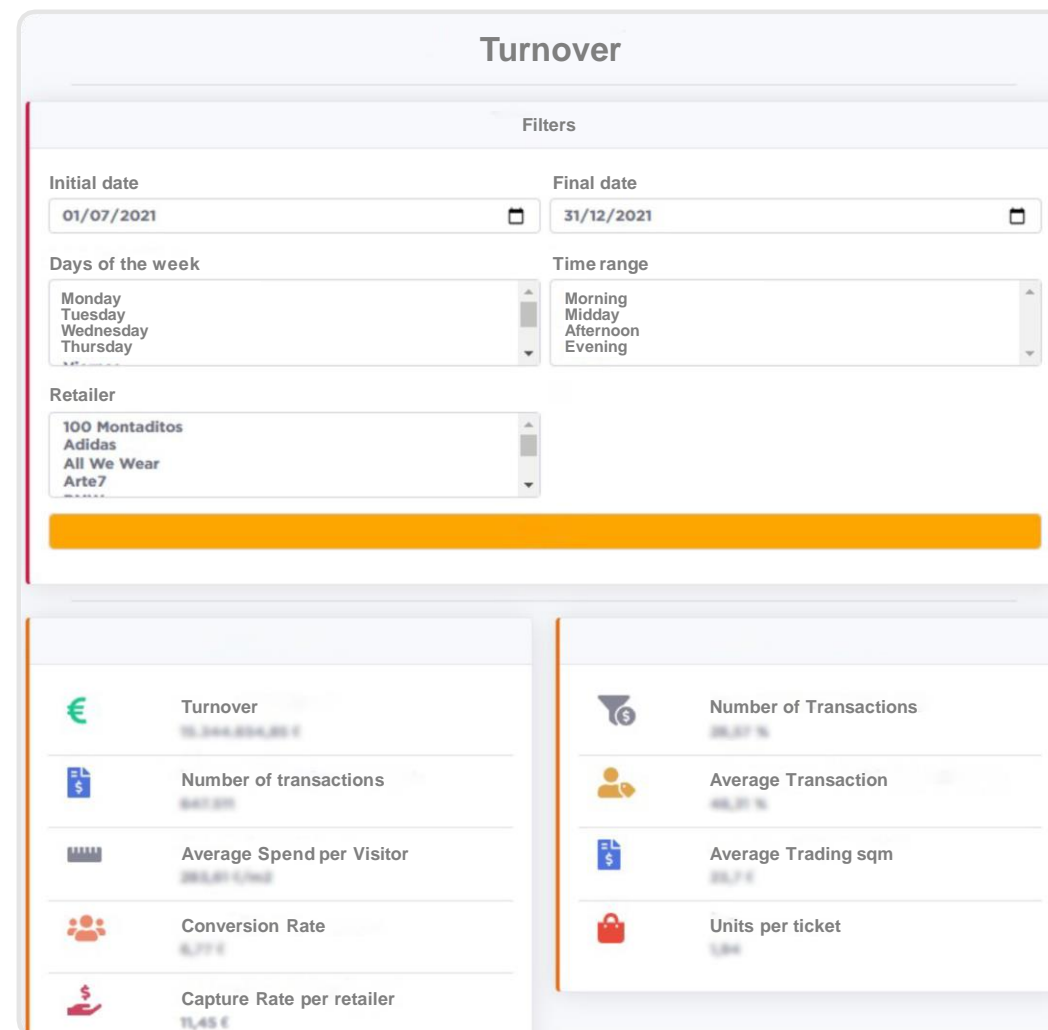
Footfall – heat map: Tuesday



Footfall – heat map: Saturday



Business information



Business information

Disaggregated Data

Business Performance Data



	 Visits	 Unique Visits	 Visiting Time	 Turnover	 Density	 Average Spend Per Visit	 Average Transaction Value	 Units per Transaction	 Conversion Rate	 Number of Transactions	 Capture Rate
Fashion store 1	156,000	75,000	16.1	142,000,000	200,000	9.00	1.20	5.87	5.00	15	25.07
Fashion store 2	166,076	80,000	16.00	1,275,000,000	200,000	6.00	7.00	20.00	1.00	10,000	20.7
Fashion store 3	166,000	80,076	16.00	100,000,000	170,000	5.87	5.00	10.00	1.00	5,000	10.00
Fashion store 5	100,000	50,000	15.00	500,000,000	100,000	7.00	20.00	20.00	5.00	20,000	20.00
Sports store 9	70,000	30,000	16.0	100,000,000	100,000	1.00	5.00	5.00	5.00	50	
Sports store 3	100,000	50,000	16.0	100,000,000	100,000	5.00	5.00	20.00	5.00	10	

→ Visitor Capacity

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→ Consumer Profile and Behaviour

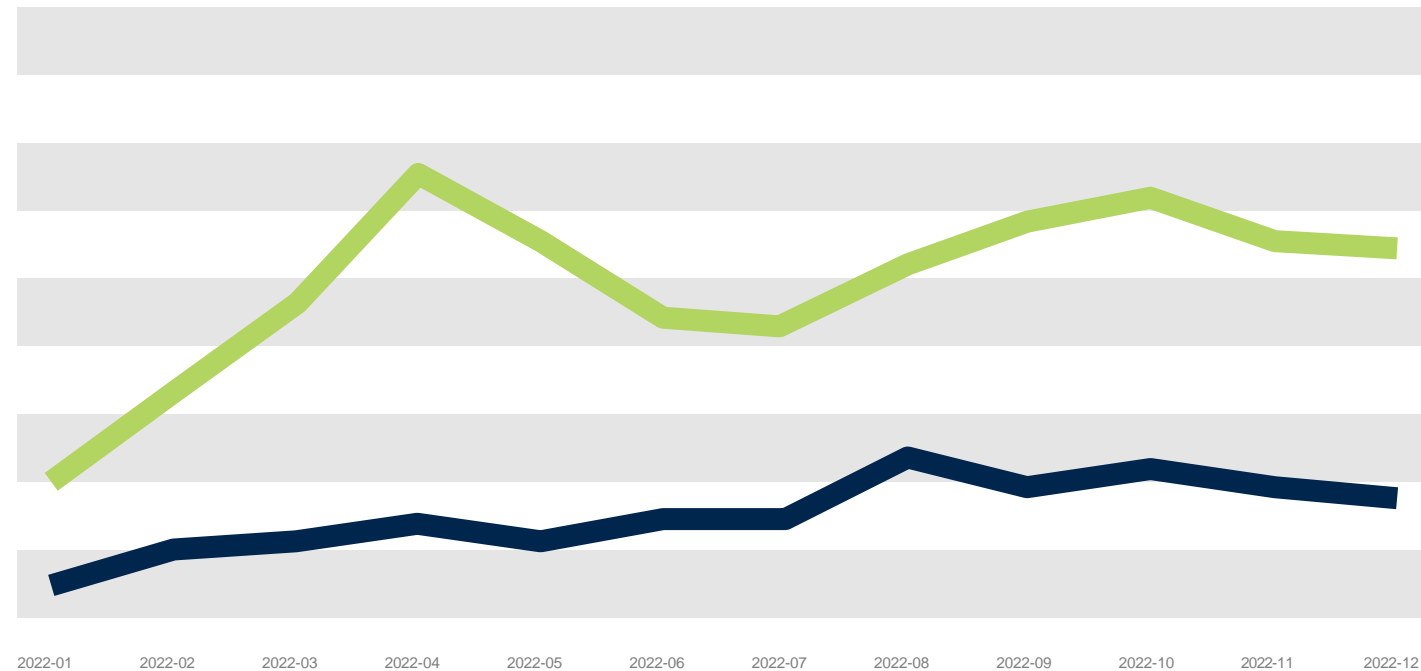
→ **Insights**

→ Forecasting

Interrelation of metrics

Natural Scale

Logarithmic Scale



● Turnover
 ● Visits
 ● Conversion rate
 ● Visiting time

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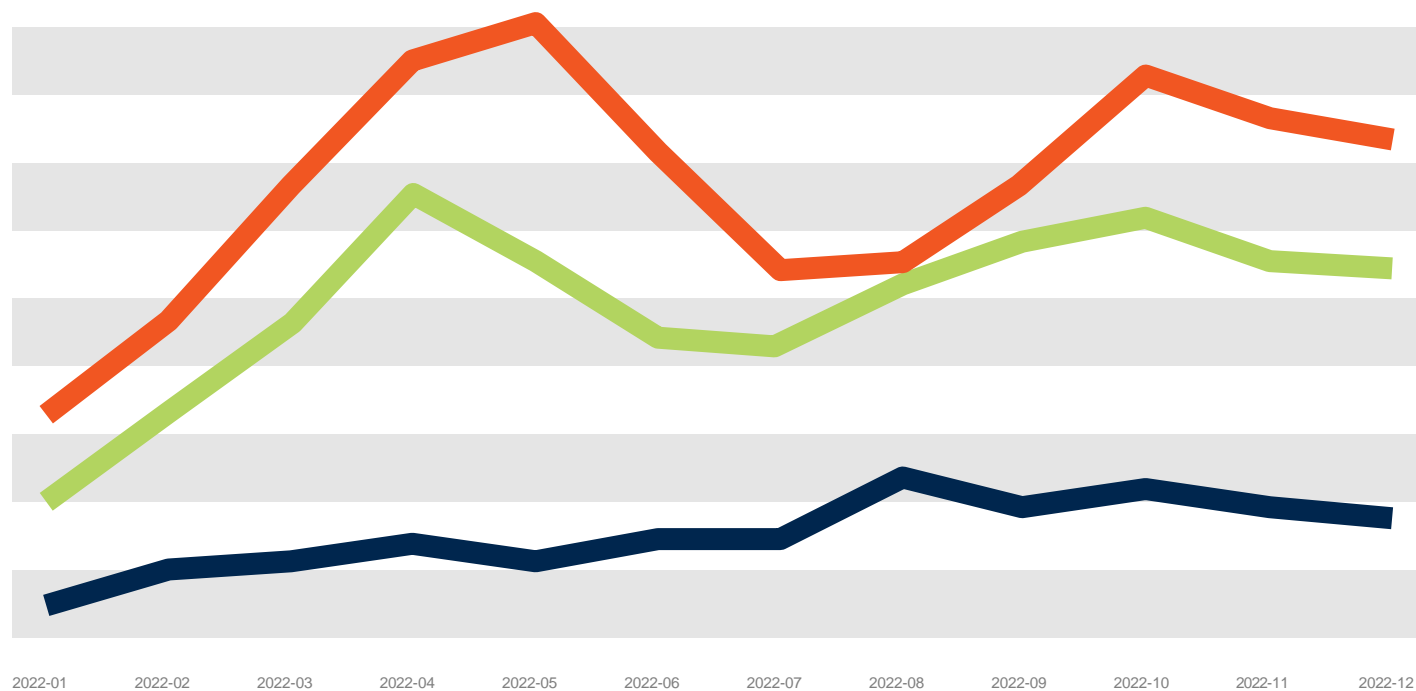
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Interrelation of metrics

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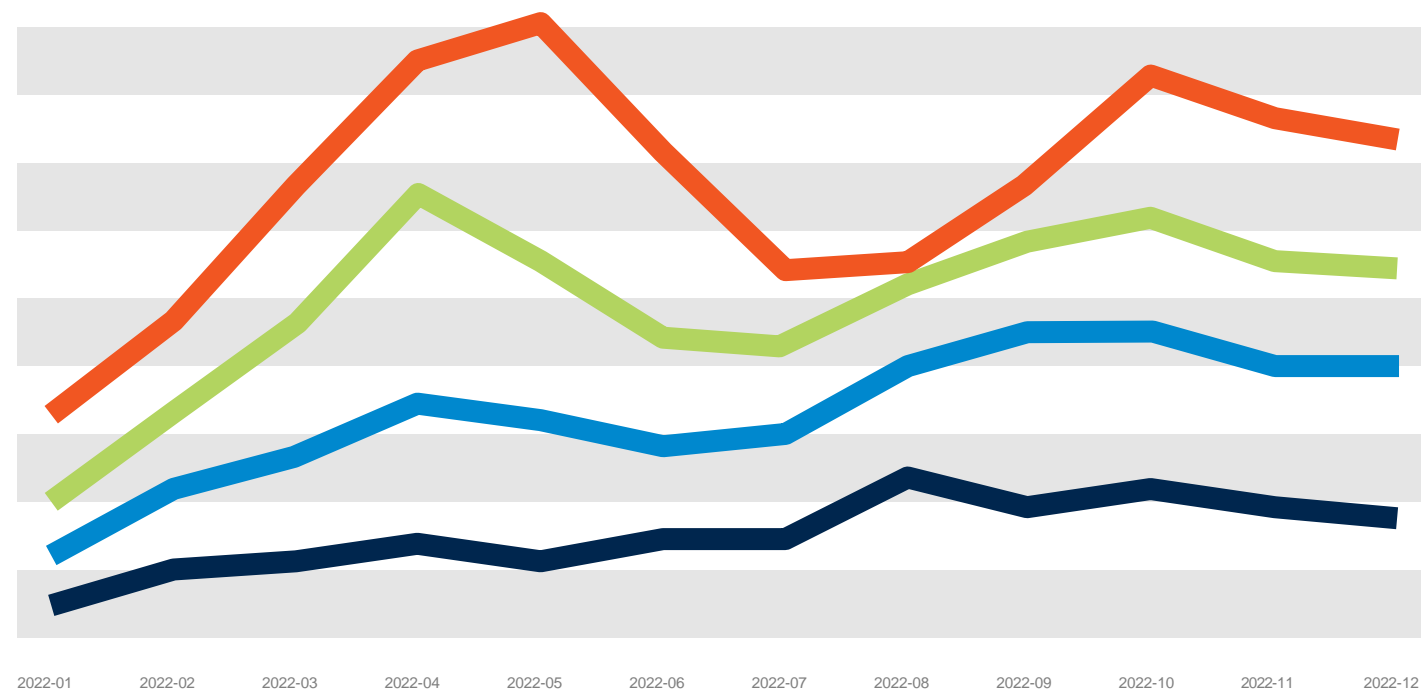


● Turnover
 ● Visits
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Interrelation of metrics

Natural Scale

Logarithmic Scale



● Turnover
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Retail Analytics Project

Consumer Profile and Behaviour

→ Visitor Capacity

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→ **Consumer Profile and Behaviour**

→ Insights

→ Forecasting

Profile

- Age Range
- Gender
- Socioeconomic status

Behaviour

- Commercial interest
- Visit mix
- Customer journey
- Tracking
- Visit frequency and duration

Origins

- International
- National / Spain
- City – specific district

Digital Consumer

- A complete visitor profile (on and off line)

→ Visitor Capacity

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→ **Consumer Profile and Behaviour**

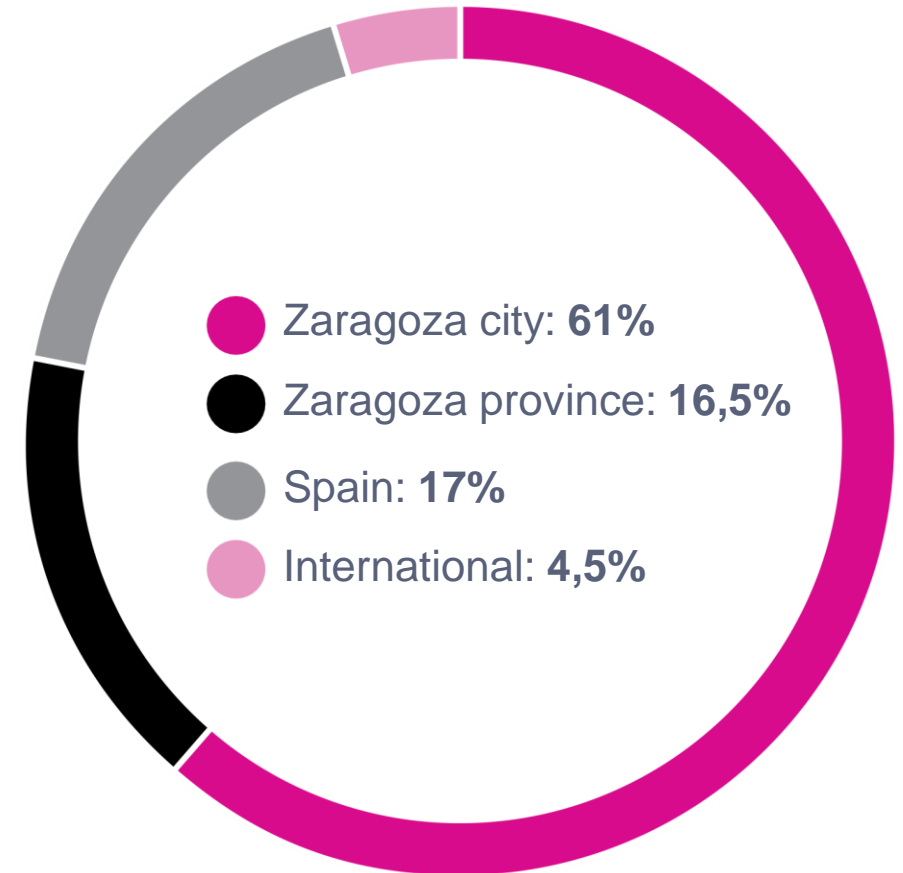
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**la torre
outlet**
Zaragoza

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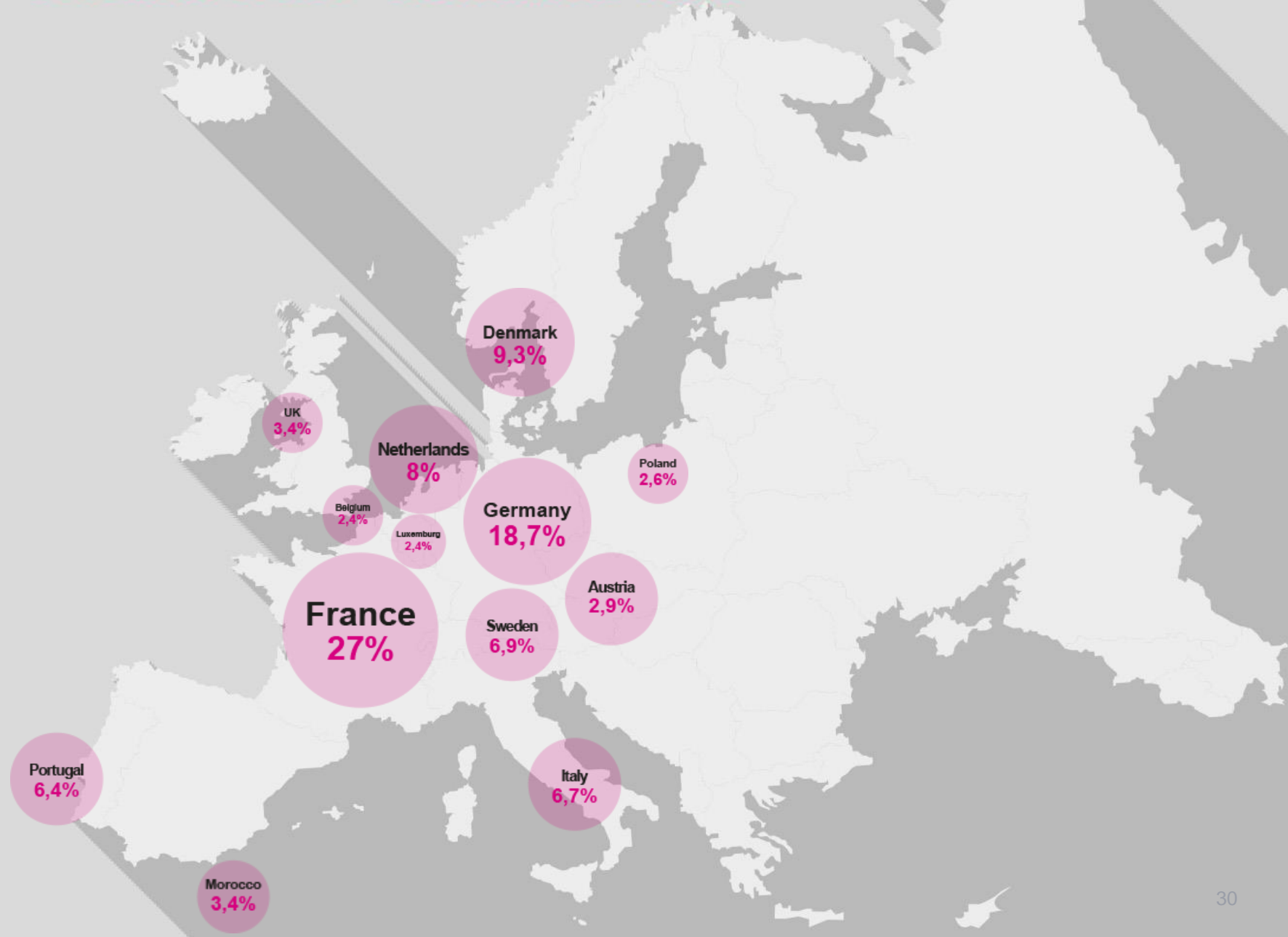
→ Parking

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Consumer Profile - International Visitor





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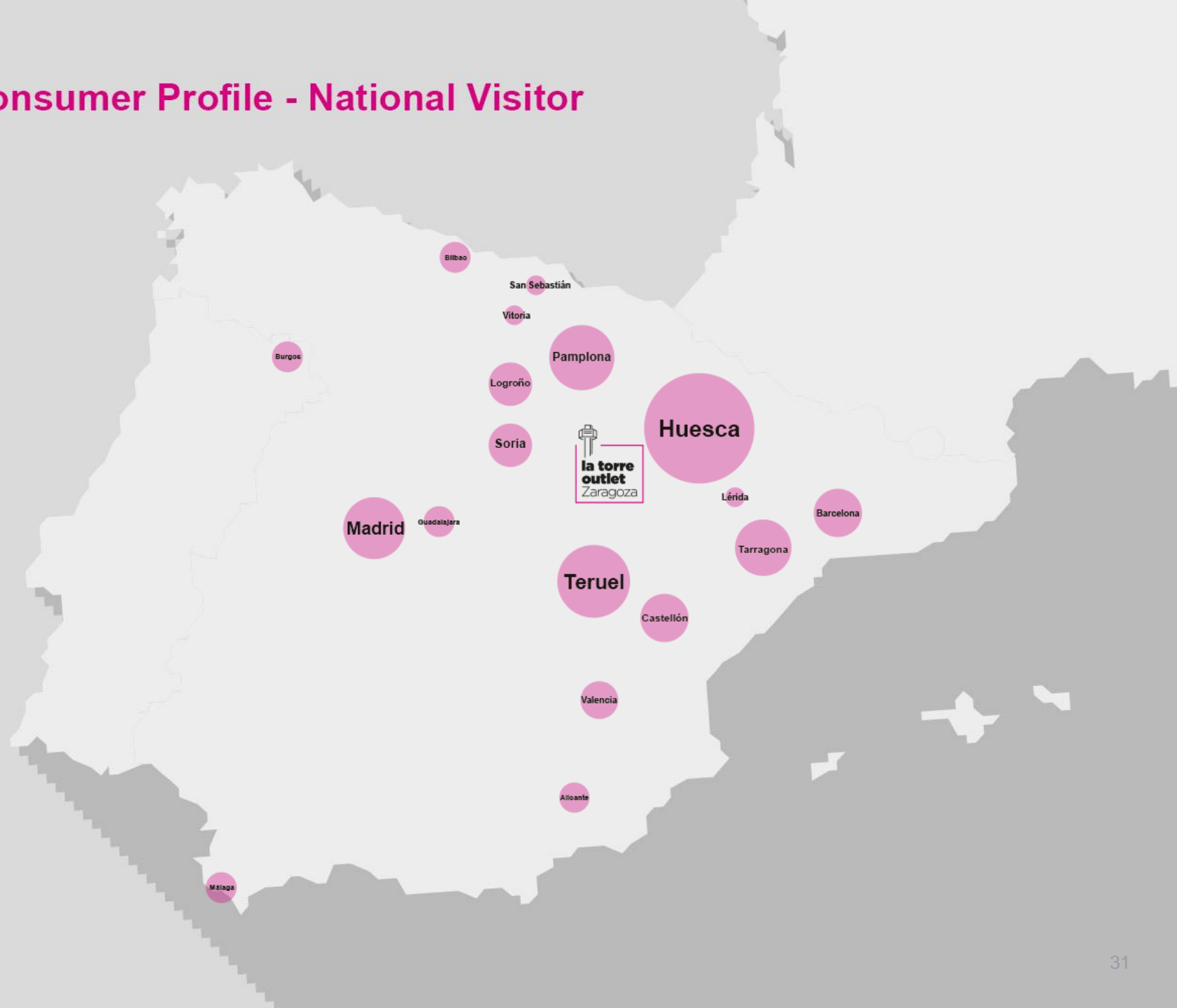
→ Parking

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Consumer Profile - National Visitor





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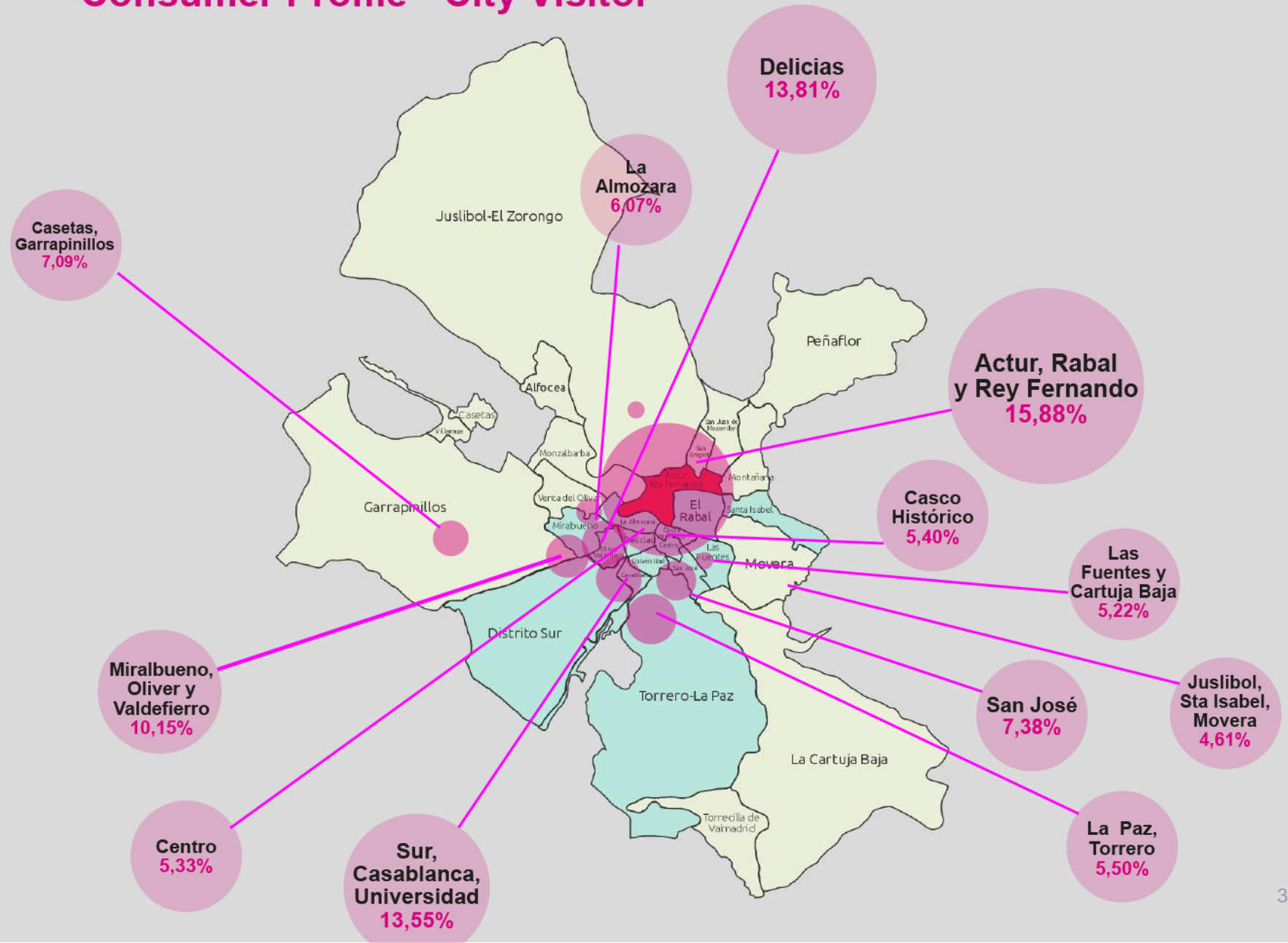
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Consumer Profile - City Visitor



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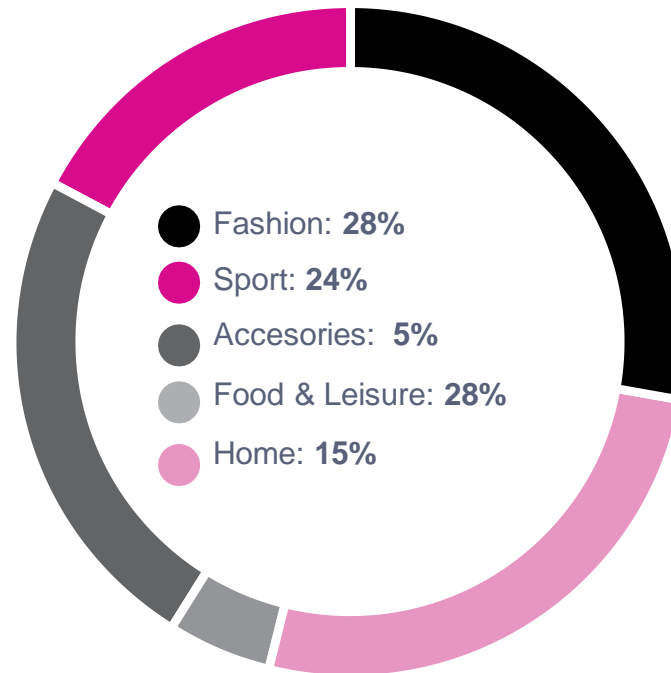
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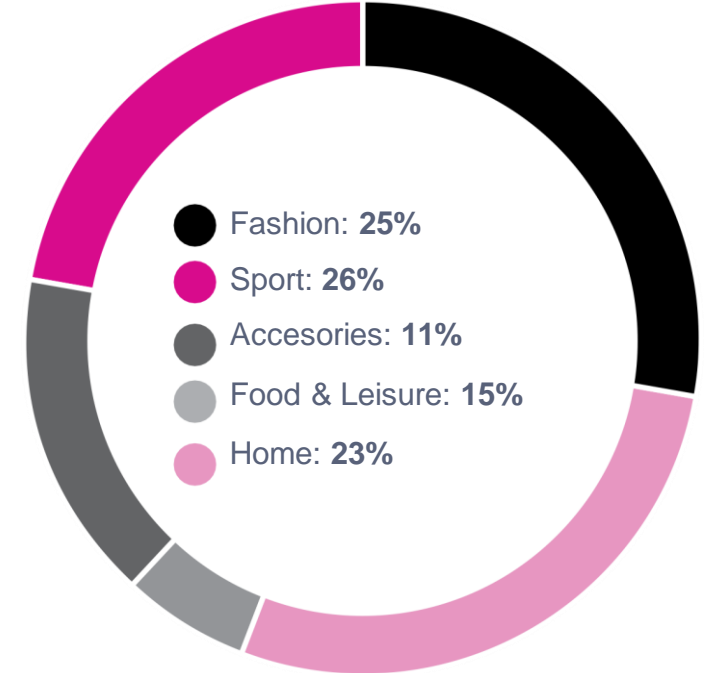
KEY COMMERCIAL INTEREST

Saturday



KEY COMMERCIAL INTEREST

Tuesday





Retail Analytics Project

Customer Journey

→ Visitor Capacity

→ Footfall

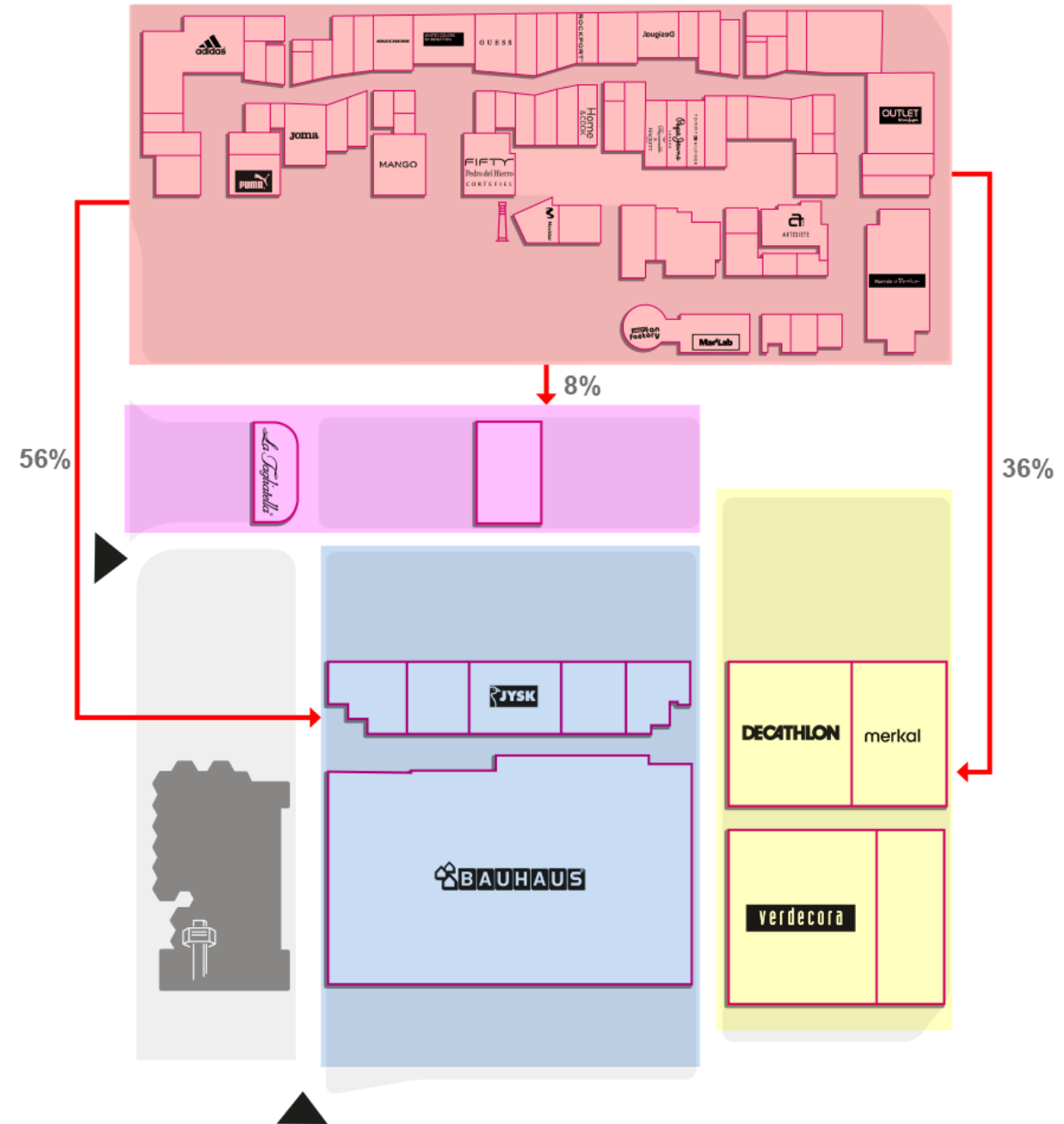
→ Business information

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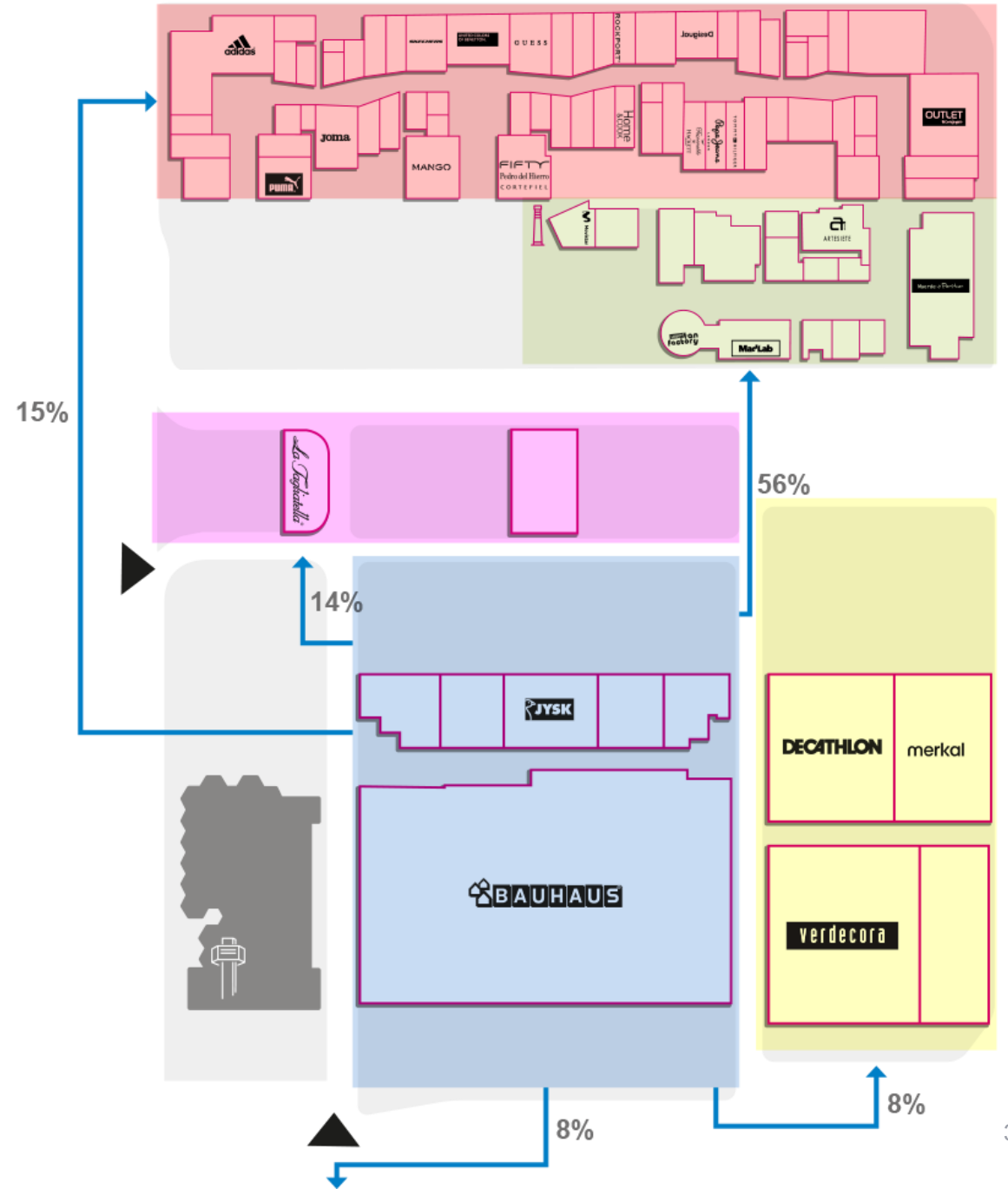
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Retail Analytics Project

Customer Journey





Retail Analytics Project

Customer Journey

→ Visitor Capacity

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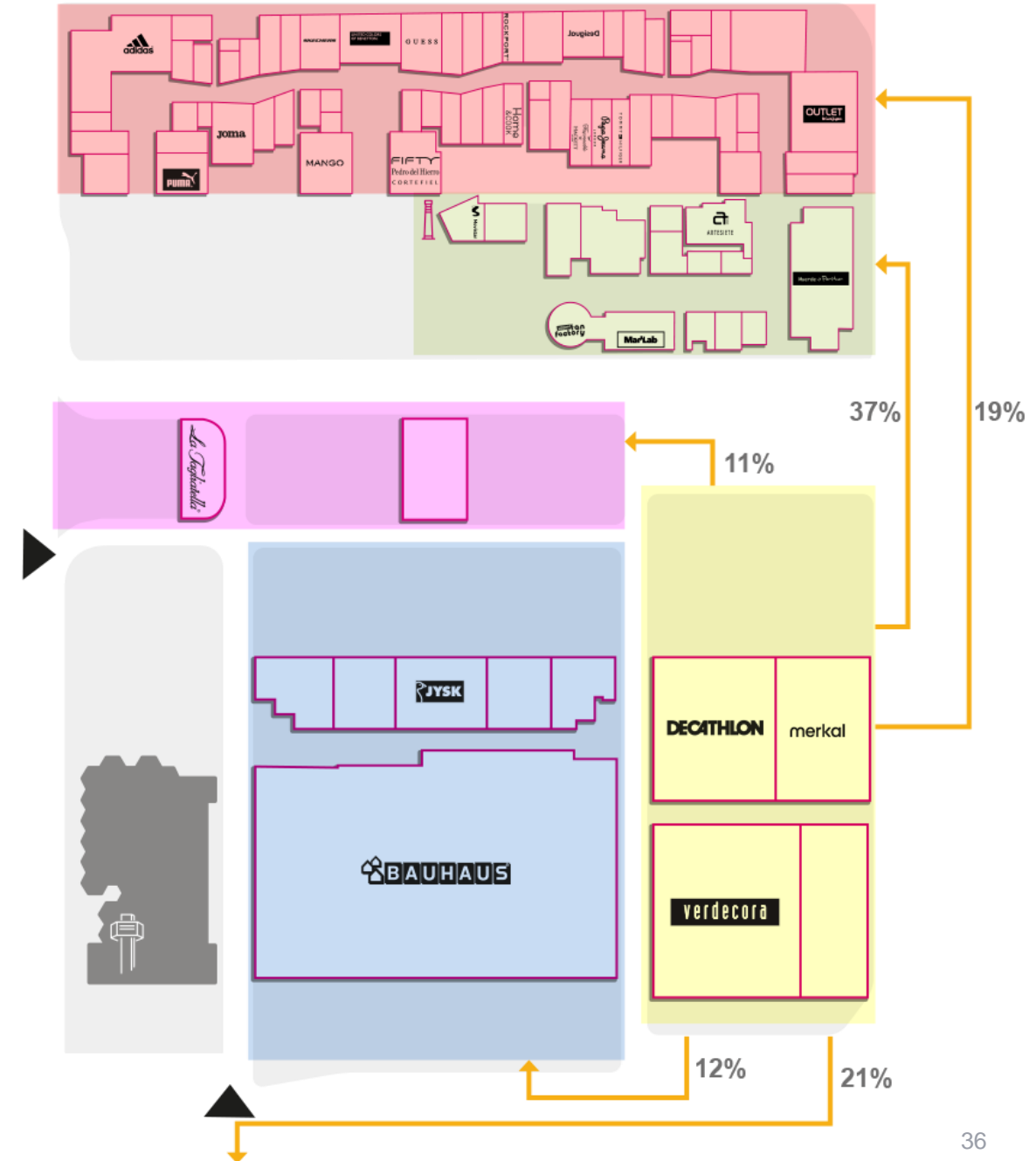
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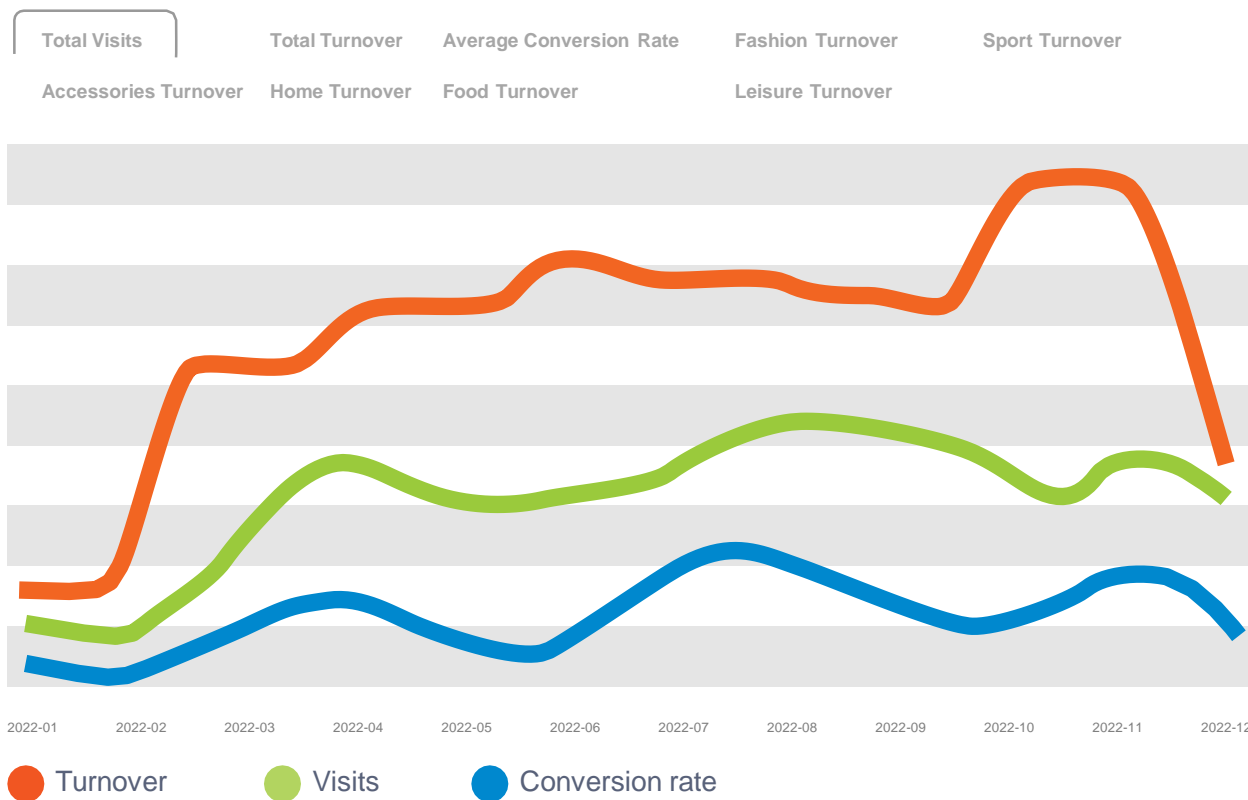
→ Insights

→ **Forecasting**

Forecasting

- Business Performance
- And marketing results over business indicators

Descriptive Analysis



→ Visitor Capacity

→ Footfall

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Forecasting

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Predictive Analysis

Applying advanced algorithms to know turnover category results, consumer behaviour and key retail metrics.



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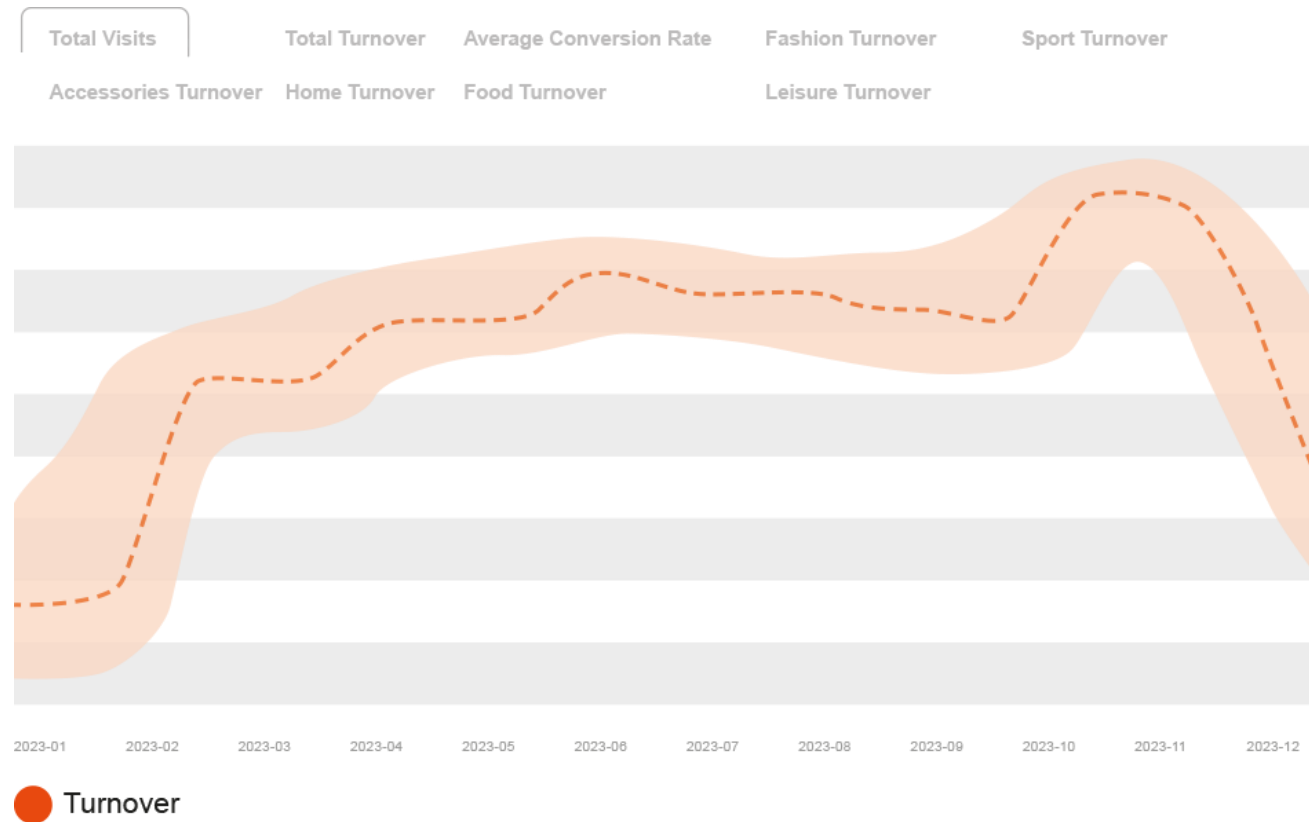
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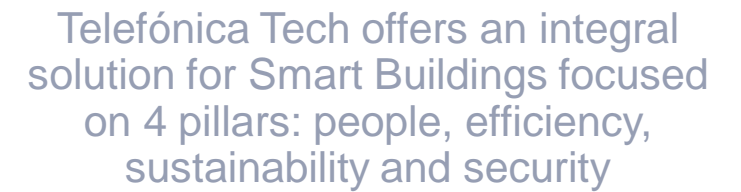
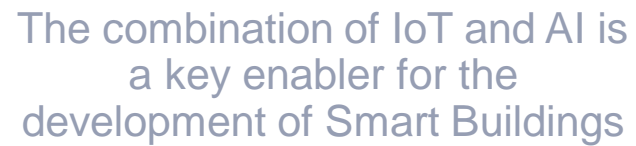
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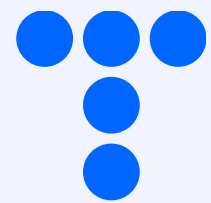




***“Each new situation
requires a new
architecture”***

Jean Nouvel





Telefónica