WiTrace
by Foot Analytics

A human-centric approach

February 2022

We are a tech company with 8+ years of experience in providing the physical world with quality analytics insights on footfall, real-time occupancy and human behaviors

Foundation

Foot Analytics was founded by Miquel Gummà and Akira Taniguchi Faixó

500+ sensors

We were already capturing data from 500+ sensors, deployed in 50+ venues

SaaS model

We started operating with a 100% Plug & Play solution, offering our insights via a SaaS delivery model

Internationalization

Our operations expanded worldwide: we are now present in 14 countries in Europe, South America, and the Middle East

WiTrace

We created a new product: its goal is to turn office spaces into truly smart, integrated workplaces

We have been delivering significant value to several clients across many industries, empowering their decision-making capabilities and actions with analytics insights

Connected Series — *WiTrace*

Retail

Lindt · Textura · juguettos · Casas · Flormar · Rituals · casa viva

Automotive

Hyundai · Kia Motors · Seat · Mazda · Nissan · Subaru · SsangYong · Mitsubishi

Large Venues

acciona · FC Barcelona · Ajuntament de Barcelona · madrid · Value Retail · CBRE · WiZink Center · Mercats de Barcelona · Johan Cruijff Arena · T-Systems

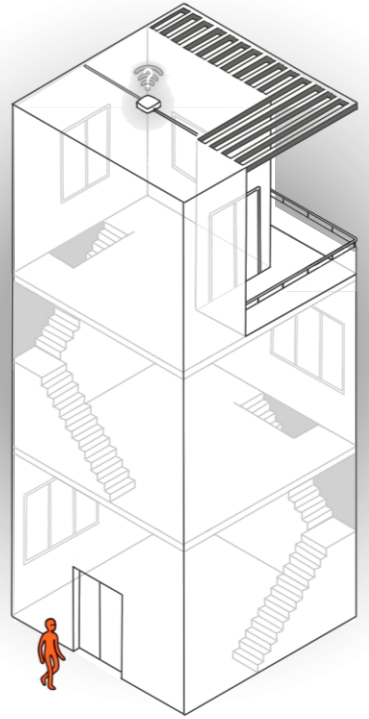
Transport

TMB Transports Metropolitans de Barcelona · AMB · moventis · FGC Ferrocarrils de la Generalitat de Catalunya

Office

BERGÉ · acciona · astara · Generalitat de Catalunya

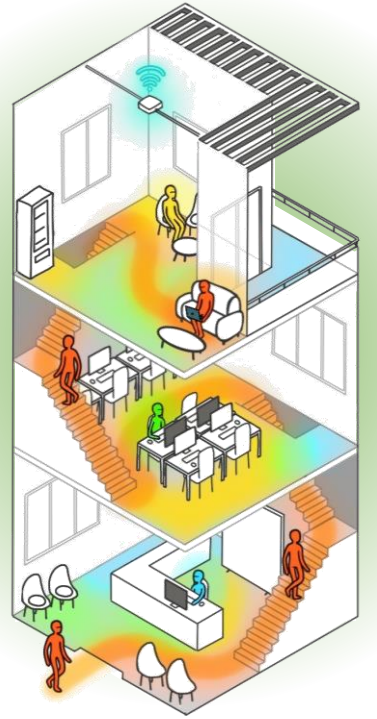
We have recently launched WiTrace: a new solution which relies on data, AI, and ML to make workplaces more efficient, safe, productive, sustainable, and employee-friendly



Today's workplaces

WiTrace by Foot Analytics

We use our human sensing technology to trace every movement inside your office space!



Tomorrow's workplaces

Using WiTrace, we provide facility managers with valuable insights on the utilization of office spaces based on three key vectors: human presence, traceability and dwell times

Three key vectors

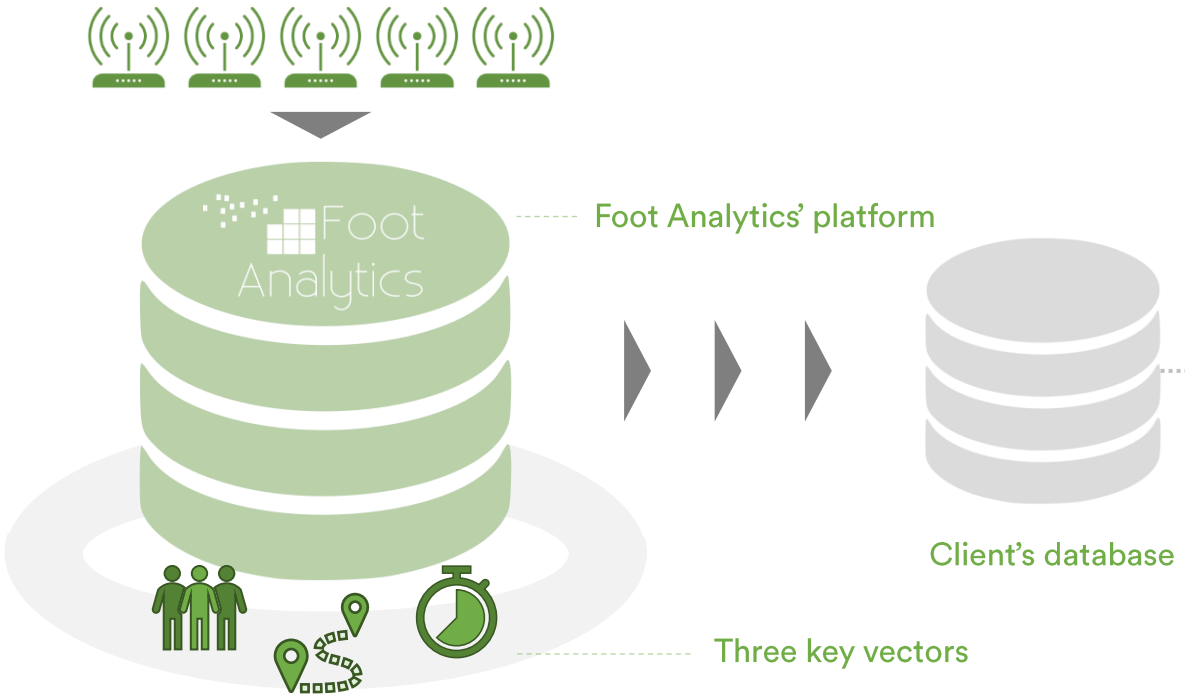
Presence: We detect the presence of people in physical spaces in real-time (through their electronic devices) and we identify them using an **Unique ID**

Traceability: We capture people's paths in physical spaces and guarantee the traceability of their movements and displacements

Dwell time: We measure the amount of time people spend in each of the physical spaces they visit

This human behavior data is captured using our Wi-Fi tracking technology, empowering our clients with data-driven insights they can use to make decisions and take actions

Behavioral data collection

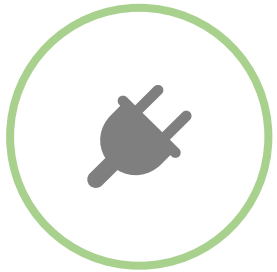


Call to action: different stakeholders

- Security department
- Employees
- Facility managers
- Human Resources
- Other decision-makers

WiTrace's value is based on three main pillars: (i) a 100% Plug & Play solution (no CapEx) (ii) a SaaS delivery model and (iii) empowering decisions and actions with analytics

100% PLUG & PLAY



NO CAPEX

We connect to your existing Wi-Fi infrastructure using your network provider's APIs.

CLOUD ANALYTICS ENGINE

SOFTWARE AS A SERVICE

We provide a cost-effective and easily scalable SaaS delivery model, where Wi-Fi collected data is transformed into meaningful insights, independently of its source: different zones, floors, business units, buildings, among others

BEHAVIOR-AWARE

ACTIONABLE DATA

We provide data-driven insights that drive processes and actions, maximizing real estate assets and optimizing workplaces from operational, employee-experience, safety, compliance, and sustainability points of view.

Employee time tracking: we help you track the time employees spend working with a 100% automatic solution, allowing for reliable and complete employee timesheet reports

USE CASE #1

Key Vectors

Presence

Dwell time

Key Stakeholder

Human Resources

Value

We create employee timesheet reports that include the work starting and finishing times, total working hours, work breaks and overtime.

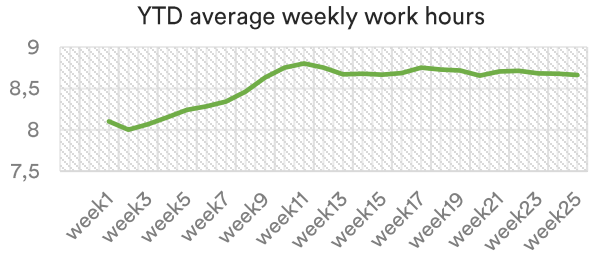
This is done through an automatic process that relies on a passive system which guarantees accuracy and reliability without any effort from the employee's side (e.g. no need to manually register hours and submit timesheets) nor from the employer's side (e.g. no need to supervise or control hours).

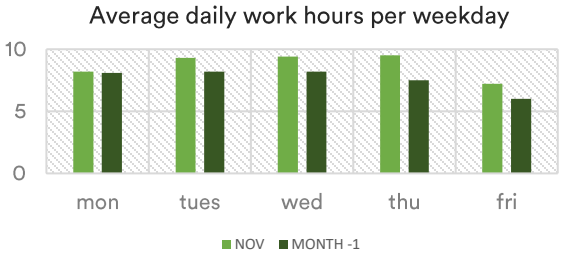
Timesheet report

Employee: John Doe

Date: November 11th, 2021

Daily report:		**Monthly average**:		**M-o-M evol.**
Total hours	8,85	Total hours	9,25	3,1% ↑
○ Working hours	7,80	○ Working hours	8,10	3,3% ↑
○ Lunch hours	1,05	○ Lunch hours	1,15	0,6% ↓
Laptop hours	6,60	Laptop hours	7,70	2,4% ↑
Overtime	0,85	Overtime	1,25	1,2% ↑
Starting time	9h 15 min	Starting time	9h 19 min	3,2% ↑
Finishing time	18h 06 min	Finishing time	18h 34 min	1,9% ↑





Visitor registration & journey traceability: we help you sign-in visitors at your workplace in a swift, touch-free way, tracking their visitor journeys from entry to exit (1/2)

USE CASE #2

Key Vectors

Presence

Traceability

Key Stakeholder

Facility managers

Security department

Value

We allow visitors (e.g. contractors and other external providers) to quickly sign-in and out of a building using their own smartphone, by simply scanning a QR Code.

We also create visitor journey reports that include entry and exit times, total visit hours and visit hours per zone, and full visitor path with indication of entry times in each zone.

Visitor registration & journey traceability: we help you sign-in visitors at your workplace in a swift, touch-free way, tracking their visitor journeys from entry to exit (2/2)

USE CASE #2

Key Vectors

Presence

Traceability

Key Stakeholder

Facility managers

Security department

Value

Facility managers and the security department can also receive alerts in case visitors enter a space that they are not supposed to visit, or if any unusual or suspicious behaviours are detected.

This functionality is useful to audit the undertaking and quality of maintenance, inspection and other compliance tasks that are carried out by external providers, or for forensics purposes, in case criminal activity has been reported.

Visitor journey report

Visitor name: Jane Doe

Company: Company ABC

Visit report:

Total hours	2,85
○ Zone 1	0,12
○ Zone 2	0,08
○ Zone 3	1,45
○ Zone 4	1,20
○ Zone 5	0
Entry time	10h 14 min
Exit time	13h 05 min

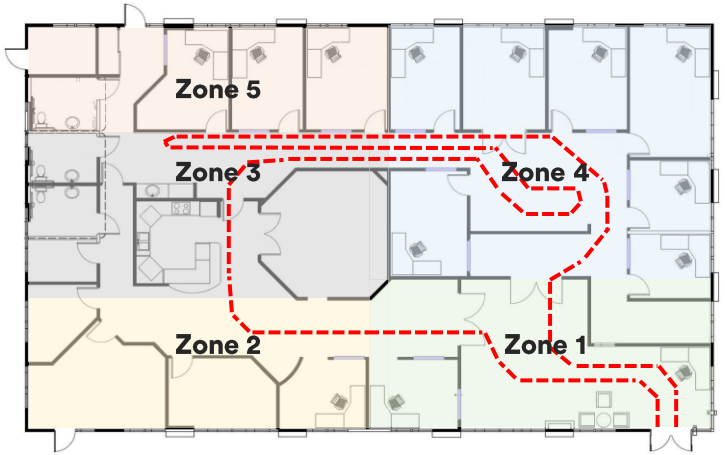


Illustration of visitor's path

Visitor path: Zone 1 – Zone 2 – Zone 3 – Zone 4 – Zone 3 – Zone 4 – Zone 1

Entry time	10h 14	10h 15	11h 27	12h 06	12h 34	12h 49	13h 04

Smart occupancy: we provide you full visibility into the occupancy of a space in real-time, ensuring a safe office environment and compliance with COVID-19 regulations

USE CASE #3

Key Vectors

Presence

Key Stakeholder

Facility managers

Employees

Value

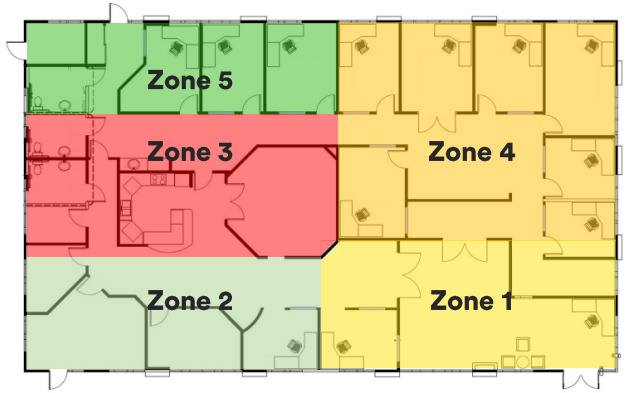
We detect and monitor a building's occupancy levels in real-time. Additionally, different building zones can be defined, each with a different occupancy threshold, and automatic alerts can be sent out to the building's operators in case the occupancy level surpasses these thresholds in any of these zones.

We can also deploy digital signage displays throughout the building, informing employees on the space's real-time occupancy levels and indicating whether it's safe or not to enter a space. This information can also be consulted via a corporate mobile app.

Real-time occupancy

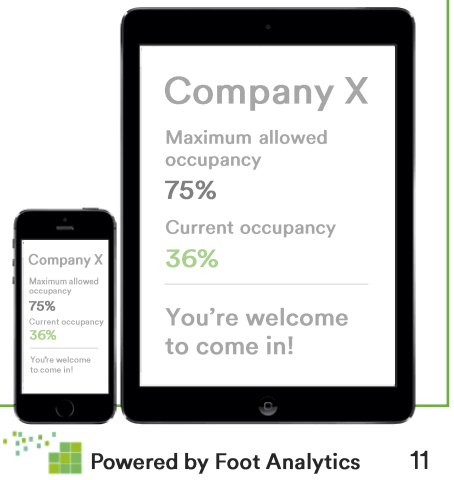
Building 1

Date: November 13th, 2021



Zone 1	10 persons
Zone 2	4 persons
Zone 3	22 persons
Zone 4	17 persons
Zone 5	2 persons

Building capacity	100				
Capacity per zone	20				
Occupancy thresholds	25%	50%	75%	100%	[+]
Automatic alerts	OFF	OFF	ON	ON	



Space utilization: we help you gain visibility over the utilization patterns of a space, giving you insights on how to optimize the space's layout and maximize its value

USE CASE #4

Key Vectors

Presence

Dwell time

Key Stakeholder

Facility managers

Value

We provide you with visibility over a building's historical utilization patterns, presenting you with data regarding the number of individuals that went inside certain physical spaces or zones over determined periods of time, and for how long they have stayed in such areas.

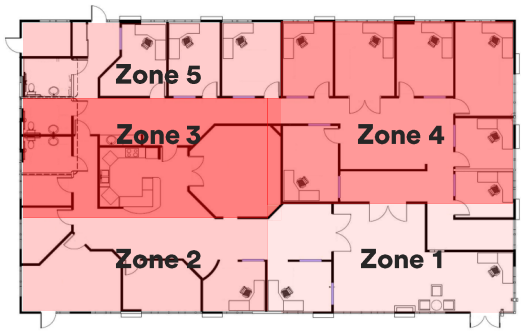
This data is useful to detect underutilized spaces, "hot spots" or bottlenecks, better manage remote work practices, and to optimize a building's layout, maximizing its value.

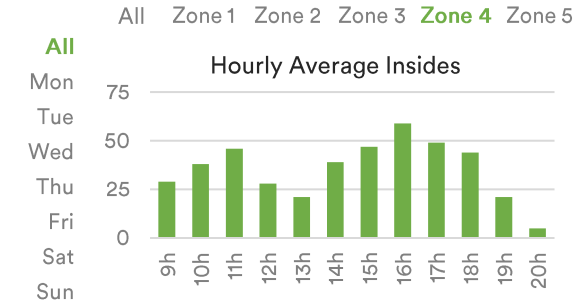
Space utilization

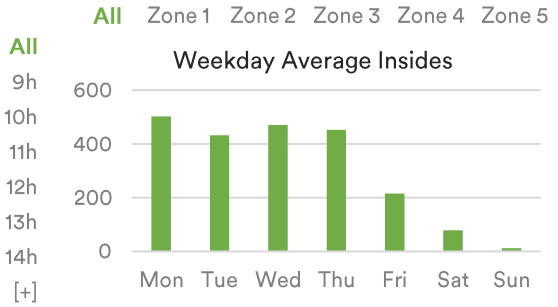
Building 1

Date: November 14th, 2021

	Avg. Insides	Avg. Dwell times
Zone 1	18	16 min
Zone 2	27	2h 23 min
Zone 3	43	3h 40 min
Zone 4	38	2h 59 min
Zone 5	24	1h 04 min







Predictive maintenance: we help you keep track of the usage and condition of spaces and equipment, using data-driven methods to proactively trigger maintenance tasks

USE CASE #5

Key Vectors

Presence

Dwell time

Key Stakeholder

Facility managers

Value

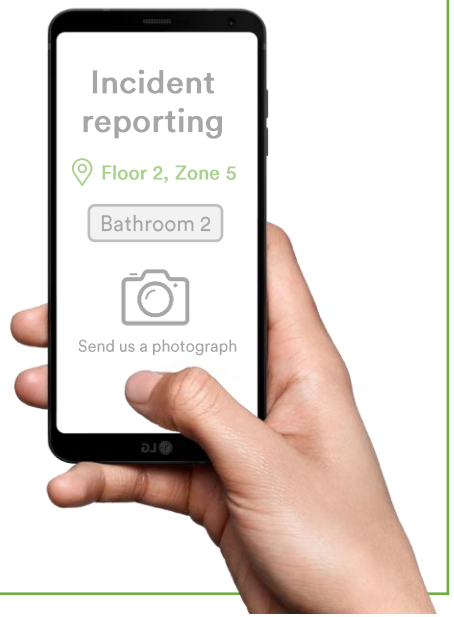
We monitor a building's usage continuously, namely of bathroom facilities, meeting rooms, lunchrooms, and other shared spaces, using such data to proactively trigger maintenance activities, thus reducing the likelihood of equipment failures, minimizing the disruption of normal operations and extending the building's lifespan.

A corporate app can be used to report incidents detected by employees, pinpointing the exact location of the incidence using indoor location.

Predictive maintenance

Building 2 **Date**: November 18th, 2021 **Hour**: 17h 02 min

Asset description	Location	Usage level
Bathroom 1	Floor 1, Zone 3	
Lunch room 1	Floor 1, Zone 5	
Meeting room 1	Floor 1, Zone 3	
Meeting room 2	Floor 1, Zone 3	
Meeting room 3	Floor 1, Zone 4	
Meeting room 4	Floor 1, Zone 4	
Bathroom 2	Floor 2, Zone 5	
Lunch room 2	Floor 2, Zone 5	
Meeting room 5	Floor 2, Zone 6	
Meeting room 6	Floor 2, Zone 7	
Meeting room 7	Floor 2, Zone 7	



Cleaning service optimization: we help facility managers plan the cleaning team's daily work based on the real usage of each physical space ($\sum Presence\ x\ Duration$)

USE CASE #6

Key Vectors

Presence

Dwell time

Key Stakeholder

Facility managers

Value

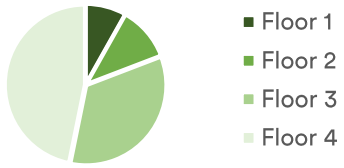
We help you optimize cleaning services by (i) giving you full visibility over the total number of usage hours per physical space, (ii) helping you allocate your cleaning team's hours to such physical spaces, and (iii) auditing and comparing the originally planned cleaning hours with the actually executed cleaning hours per physical space.

Planning report

November 3rd, 2021

Total Exposed Hours: 9.476
Cleaning Team: 5 people
Total Hours: 40 hours

Total Usage Hours per Floor

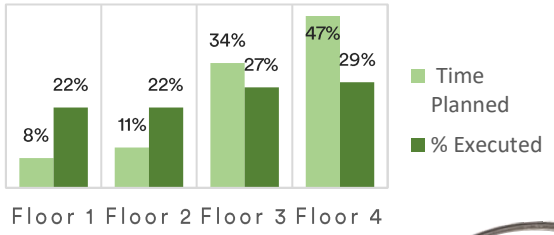


Zones	Usage (hours)	Planning (hours)
Floor 1	773	3,3
Floor 2	1.045	4,4
Floor 3	3.223	13,6
Floor 4	4.435	18,7
Total	9.476	40

Audit report

November 4th, 2021

Total Exposed Hours: 9.476
Cleaning Team: 4 people
Total Hours: 36,5 hours



Zones	Planned (hours)	Executed (hours)	Difference (hours)
Floor 1	3,3	8	4,7
Floor 2	4,4	8	3,6
Floor 3	13,6	10	-3,6
Floor 4	18,7	10,5	-8,2
Total	40	36,5	-3,5

Acciona has selected Foot Analytics and its WiTrace solution for the workplace analytics project that the group is launching in its new corporate headquarters

Context

While preparing to move a workforce of 5.000+ employees to its new corporate headquarters, a complex of four buildings totaling 100.000+ m^2 and concentrating all the group's companies and business units, Acciona identified potential in WiTrace and reached out to Foot Analytics to obtain support its workplace analytics project.

Action

Alongside Acciona, Foot Analytics defined the scope of the project: WiTrace would provide traceability of visits and movements within the campus, and control and visibility over occupancy levels and presences in each space, for security purposes. Other initiatives, oriented towards facility management and HR, would soon follow.

Results

After carrying out a competitive process whose goal was to find a suitable and capable partner for its workplace analytics project, Acciona's innovation and security departments chose Foot Analytics as its supplier. The project kick-started in late 2021 and is expected to be concluded in September 2022.

By monitoring the real-time occupancy in its Administrative District, we have helped the Catalonian Government provide their employees a better and safer office experience

Context

During 2020, 2.300 employees were transferred to a new corporate complex, Districte Administratiu ("Administrative District"). This relocation was pioneer in Europe, due to its magnitude and to the implementation of new sustainability and ways of working concepts, supporting energetic efficiency and employee welfare.

Action

Within the framework of its technological partnership with T-Systems, the company which provides the Wi-Fi network to the Administrative District, Foot Analytics deployed its Smart Occupancy solution in the complex by connecting its platform to 340+ Wi-Fi Access Points, covering an area with 46.000+ m^2 in a matter of minutes.

Results

Foot Analytics provided visibility over the building's real-time occupancy, allowing for an optimal and safe distribution of employees and eliminating the occurrence of queues and crowds in common areas. The solution also allowed for the optimization of maintenance, security and cleaning services, for the monitoring of customer cares services from an efficiency point of view, and for the continuous and passive tracking of user's behaviors.

Astara relied on Foot Analytics to implement a flex working plan in their new offices, improving the employee experience in terms of productivity, safety and wellbeing

Context

Astara (formerly Bergé Auto, the automotive arm of the Bergé group), has recently moved to new offices in the Madrilenian area. The new workplace, with a total area of 10.000+ m^2, is able to receive around 150 employees (around 50% of the company's workforce) and is operated under a flex, remote-based working plan.

Action

Foot Analytics deployed its Smart Occupancy solution in the company's facilities and connected its platform to 40+ Wi-Fi Access Points in a matter of a few minutes. Digital signage displays were also deployed in every floor of the building and in specific areas, and were integrated with Foot Analytics' solution.

Results

Foot Analytics gave Astara's employees full visibility over the building's real-time occupancy: this information was presented in the digital signage displays present throughout the workplace. By ensuring an optimal and safe distribution of employees throughout the workplace, and by helping implement "clean desk" and "work anywhere" policies, Foot Analytics helped Astara provide their workers a better and safer (remote) working experience, therefore improving the employee experience.

Any ‘smart building strategy’ must be human-centric: going beyond operational efficiency and being able to connect the environment with the user’s experience (UX)

TRADITIONAL SENSORS

Multiple sensors for mechanical, electrical and technological equipment such as ventilation, lighting, power systems, fire systems, and security systems

+

BEHAVIORAL SENSORS

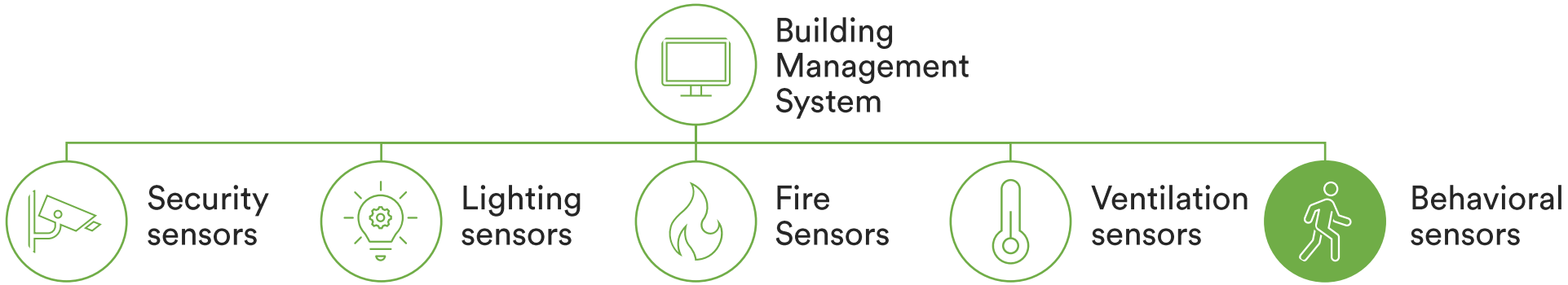
The need for behavioral sensors to understand how people move and interact with the space that surrounds them

=

HUMAN-CENTRICITY

A truly connected, human-centric, smart building that can revolutionize the UX and contribute towards employee wellbeing and higher levels of productivity

After adding a layer of behavioral sensing data to the building's IoT infrastructure, we propose to integrate our data with the Building Management System (BMS) in place



Examples of applicability

- Proactive alerts for unallowed presences (e.g., specific visitors or employees, forensics in case of incidents)
- Lighting adjustments based on real-time presence per zone
- Eviction by fire alarm activation (time to evict, presence by zone and floor)
- Proactive ventilation based on real-time occupancy, optimizing time (wellness) and energy costs

We have been helping large venues operators monitor real-time occupancy, and understand and improve the visitor experience in their physical spaces (1/3)

STADIUMS

Foot Analytics deployed its solution in FCB's stadium and ancillary services, connecting its platform to FCB's Wi-Fi infrastructure (which totals +1000 Access Points). Operational bottlenecks and inefficiencies were identified, people's exposition to ads were analyzed and several customer profiles were segmented.

MALLS & OUTLETS

Foot Analytics set off the deployment of its solution in VR's network of Villages, starting by La Roca Village in Barcelona, Kildare Village in Dublin and Bicester Village in London. In total, 300+ sensors were deployed in 20+ different zones. The other 8 Villages are set to deploy our solution in later stages of implementation.

FLAGSHIP STORES

Foot Analytics first deployed its solution in Casa SEAT, analyzing 4 different zones of the flagship, and then also proceeded to implement the solution in 20 different dealerships located in the flagship's impact zone.

We have been helping large venues operators monitor real-time occupancy, and understand and improve the visitor experience in their physical spaces (2/3)

SHOPPING DISTRICTS

We have deployed our solution in several shopping districts and comercial main streets in Barcelona's outskirts in order to monitor real-time occupancy levels, measure traffic, understand visitor behaviors and capture customer journeys.

PUBLIC PARKS

We have helped public authorities monitor real-time occupancy levels, measure traffic and map visitor journeys in public parks, segmenting visitors in terms of speed (walkers, runners, bikers) and origin (neighbor, citizen, tourist).

BEACHES

We have provided public authorities with full visibility over real-time occupancy levels in several beaches across Spain, in order to ensure a safe beach experience and a full compliance with COVID-19 regulations.

We have been helping large venues operators monitor real-time occupancy, and understand and improve the visitor experience in their physical spaces (3/3)

MUSEUMS

By partnering with us, several museums such as the FC Barcelona museum or the Museo Marítimo de Barcelona were able to monitor real-time occupancy, understand customer behaviors and optimize their operations & logistics.

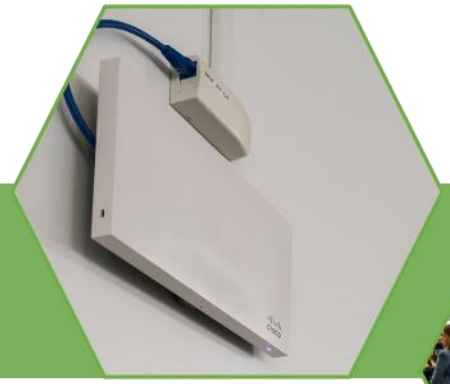
PUBLIC MARKETS

We have provided public authorities with full visibility over real-time occupancy levels in several public markets across Barcelona, in order to ensure a safe shopping experience and a full compliance with COVID-19 regulations.

PUBLIC LIBRARIES

We have worked with the main public libraries of the four provinces of Catalonia (Barcelona, Girona, Lleida and Tarragona) in order to monitor real-time occupancy levels and understand visitor behaviors.

During the COVID-19 pandemic, we kept expanding our operations and changed our operating model to be 100% remote: we are now offering our services at a global level

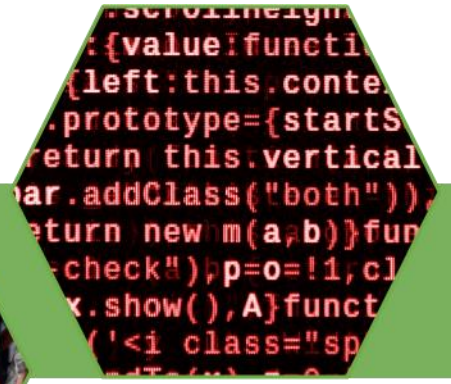


Collecting data from +4.000 sensors

+1.000 venues deployed

Present in 14 countries

+2.5M unique visitors tracked +7M times daily



+300M Wi-Fi packets analyzed daily

Information and contacts:

Miquel Gummà
CEO & Co-founder

E-mail: miquel.gummà@footanalytics.com
Mobile: +34 610 516 149
LinkedIn: Miquel Gummà

---

www.footanalytics.com

Foot Analytics