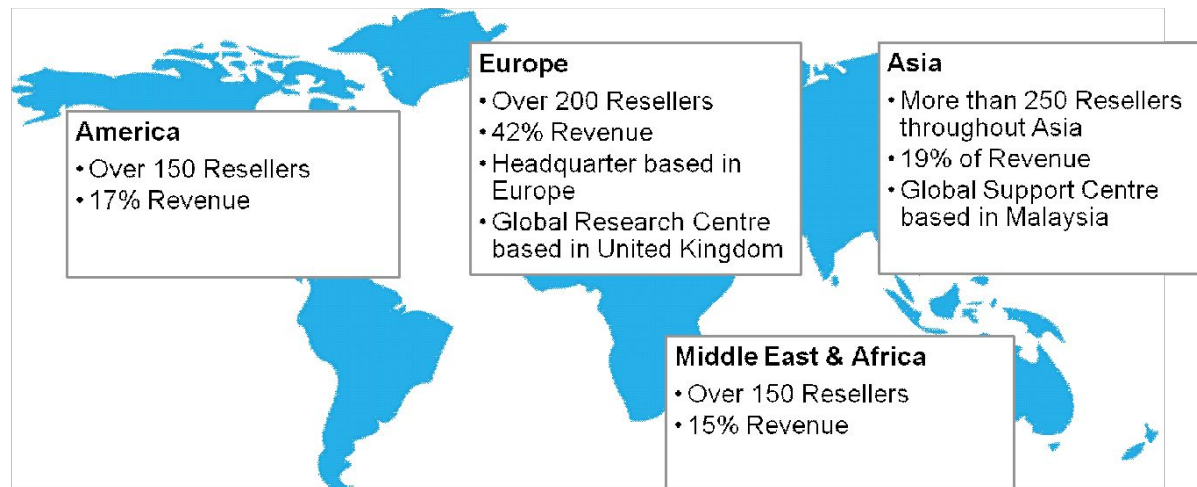# Fast Food Restaurant Solution

Optimise your restaurant operation

FootfallCam™

About FootfallCam™ 🇬🇧

Global Leader in People Counting System

Headquartered in the **United Kingdom**, FootfallCam started with a team of experienced engineers with the vision of creating the most advanced people counting system in the market. We are the **manufacturer** of both hardware and software; all the design and development are 100% in-house made.

America
- Over 150 Resellers
- 17% Revenue

Europe
- Over 200 Resellers
- 42% Revenue
- Headquarter based in Europe
- Global Research Centre based in United Kingdom

Asia
- More than 250 Resellers throughout Asia
- 19% of Revenue
- Global Support Centre based in Malaysia

Middle East & Africa
- Over 150 Resellers
- 15% Revenue

- Continuously reinvesting more than 24% revenue into research and development
- **In-house R&D team** dedicated to the development of both hardware and software platform
- Combined **over 100 years industry experiences** in developing people counting solution
- **Serving multiple sectors** varying from retail, fast food, restaurants, museums to smart buildings and airports.

FootfallCam™

Agenda

- About FootfallCam

- FootfallCam Products

- Use Cases

  - Use Case #1 Restaurant Traffic Management

  - Use Case #2 Queue Counting

  - Use Case #3 Washroom Management

  - Use Case #4 Drive Thru SLA Tracker

- FootfallCam Analytic Manager V9™

- Project Deployment

- Case Studies

FootfallCam™

FootfallCam Products

FootfallCam provides a number of key products, specifically designed for fast food restaurants.
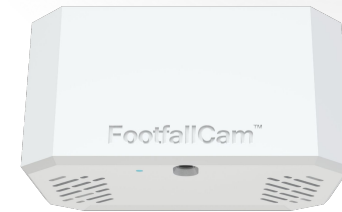
FootfallCam 3D Pro2™

3D Stereovision + WiFi Counting
[Datasheet](#)

FootfallCam Centroid™

2D Video Analytics
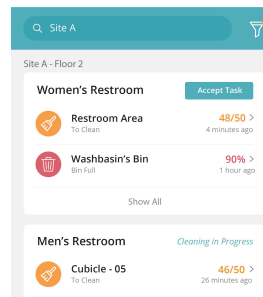[Datasheet](#)

FootfallCam 3D Mini™

Time-of-Flight (ToF) Technology
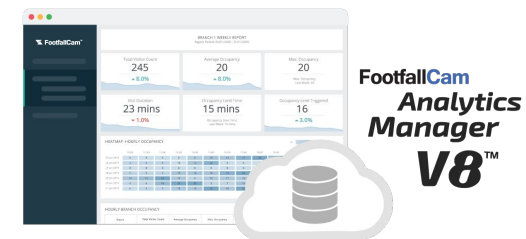[Datasheet](#)

FootfallCam Space Sense™

Passive Infra-red (PiR) + Time-of-Flight (ToF)
[Datasheet](#)

Washroom Management™

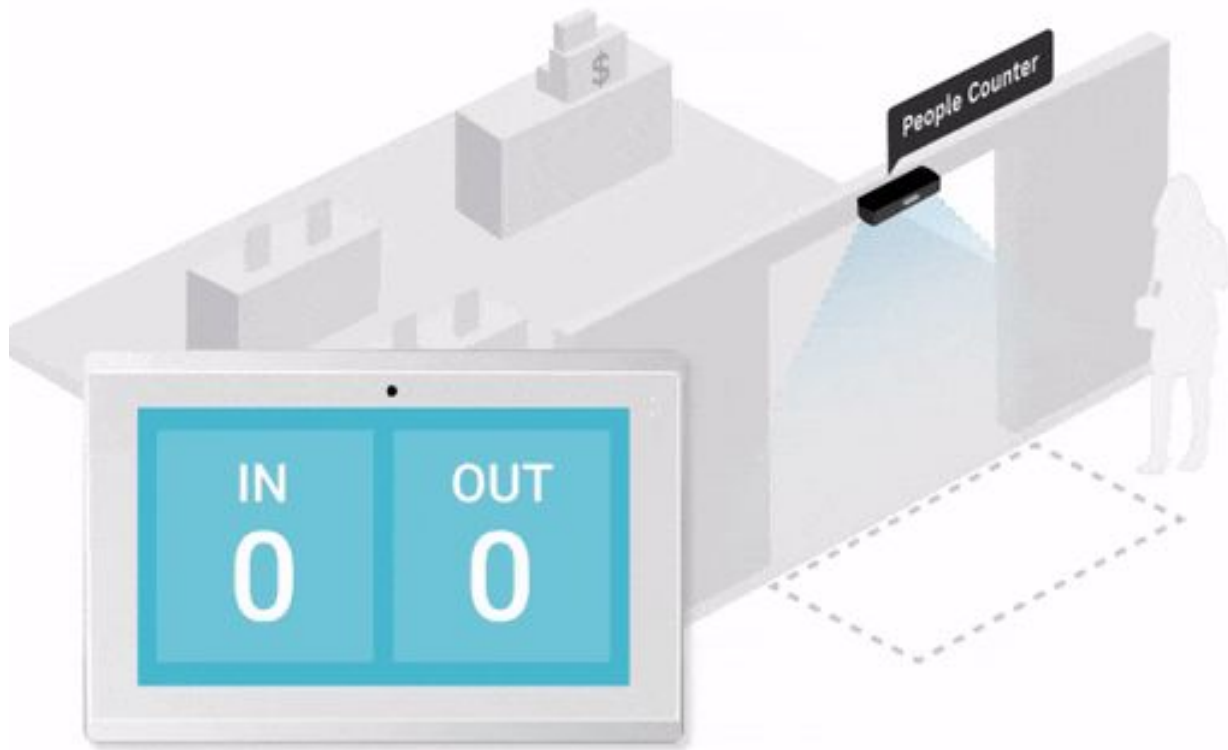Mobile Application for Task Alerts

FootfallCam Analytics Manager V8™

Cloud-based Analytics Platform
[Datasheet](#)

FootfallCam™

#1: Restaurant Traffic Management

People Counting At the Entrances

FootfallCam 3D Pro2™ people counters installed at the entrances can detect the number of people entering and exiting the restaurant.

- Using <u>3D Stereoscopic Counting</u>
- Bi-directional counting
- Suitable for wide entrances
- Highly accurate with 98% accuracy
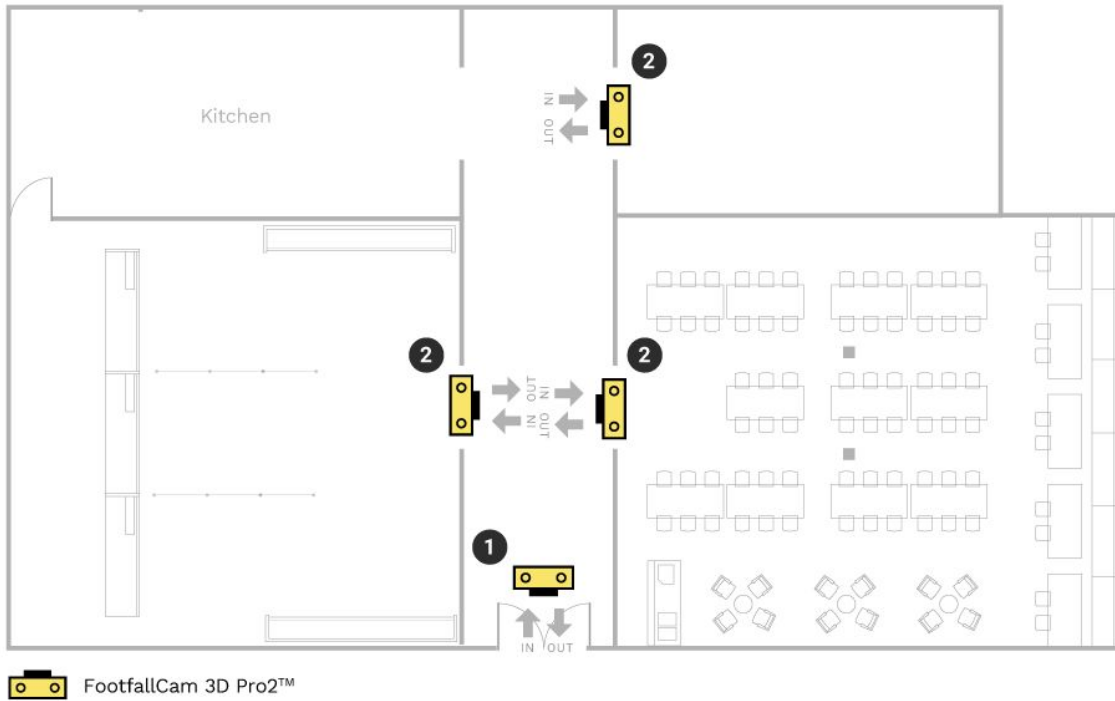- Wi-Fi Counting and Analytics
- <u>Live occupancy monitoring system</u>

FootfallCam 3D Pro2™

High Accuracy Counting: https://youtu.be/nG2XXkMdyTA
Watch how it works: https://youtu.be/3ERxdewNWd8

FootfallCam™

Occupancy Counting In Key Areas

FootfallCam 3D Pro2™ people counters installed at the entrances of key areas can detect the occupancy of people in the area.


- Provide visibility on the **occupancy in each zone**
  - 1x people counter at entrance
- Enable management to allocate more staff in the area with more customers
- Identify the **"Hot"** and **"Cold"** areas of the restaurant

FootfallCam 3D Pro2™

FootfallCam™

Real Time Dashboard And Predictive Analysis

Provide real time occupancy counting and predictive analysis for customers and food operators
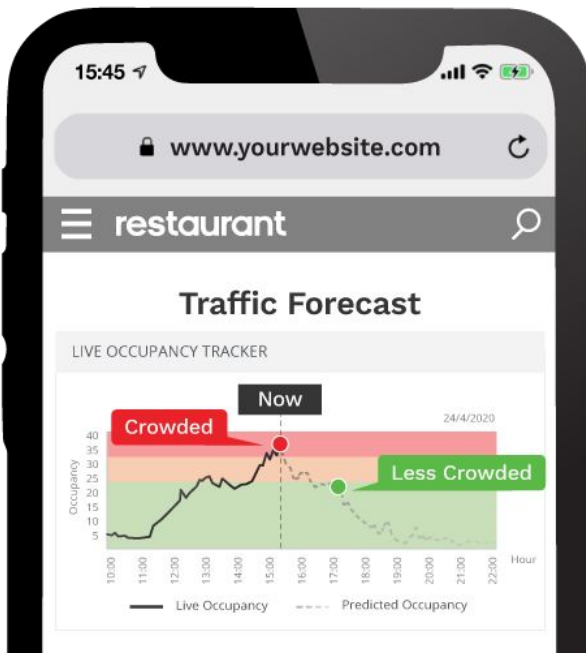
Pre-Plan Visits to Restaurant

- Display real time occupancy dashboard
- **Predictive analysis** on the occupancy based on historical data
- Pre-plan on their visits to restaurant based on occupancy
- Avoid visiting the restaurant during peak hours

FootfallCam™

Real Time Dashboard And Predictive Analysis

Provide real time occupancy counting and predictive analysis for customers and operators

- **Operators to pre-plan food preparation**
  - Better prediction on when more raw materials are required
  - Predictive footfall based on historical data

- **Real-time response**
  - based on incoming traffic and expected traffic in the next 15 minutes
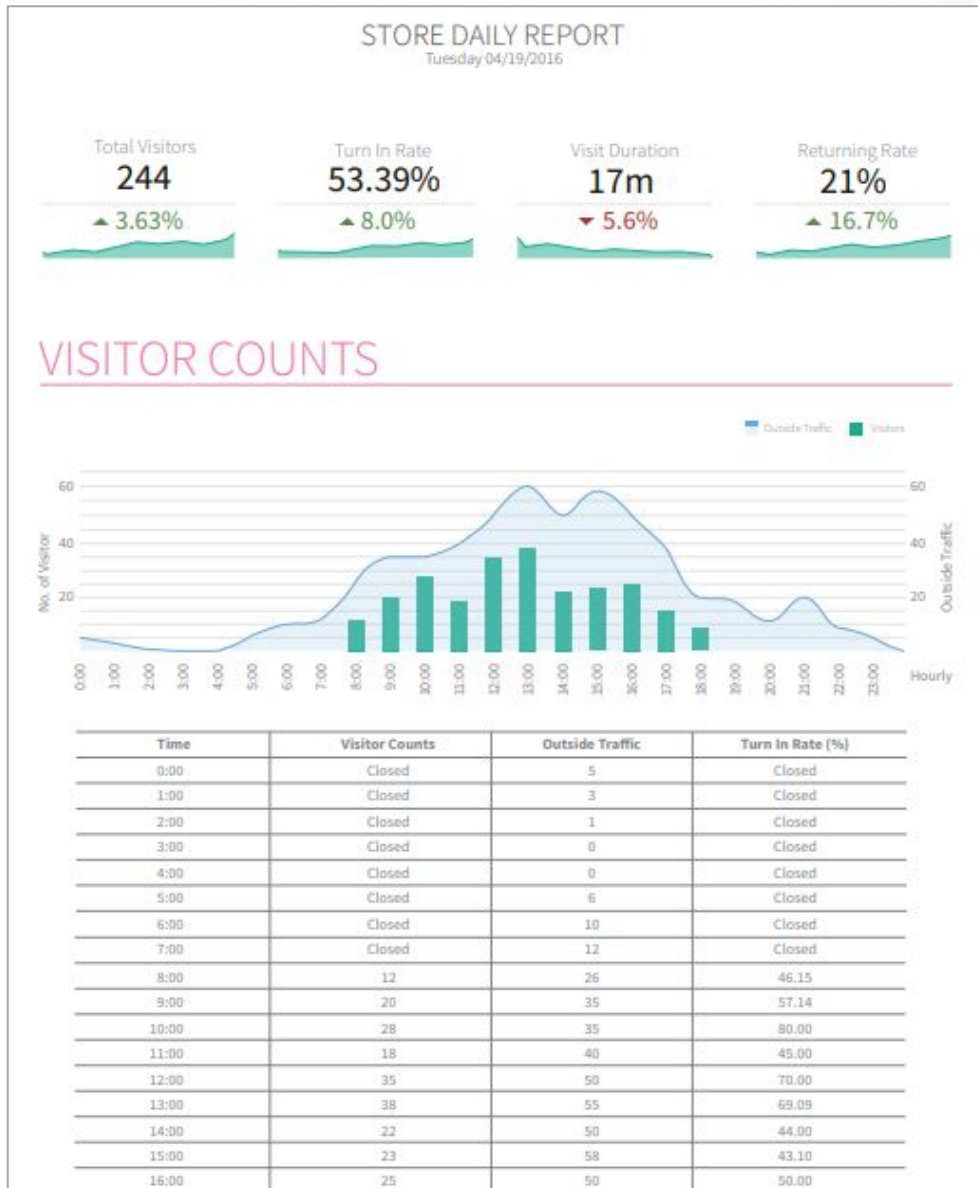- Better management on **staff resources allocation**
  - Better distribution of staffs based on footfall

FootfallCam™

Wi-Fi Analytics

Combining the capabilities of both Wi-Fi analytics and video analytics to allow restaurant managers to drive data action insights and make impactful changes in their operations.
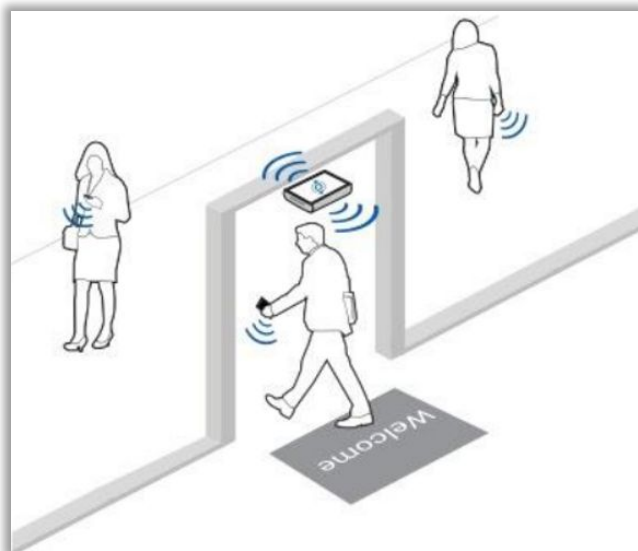
- Track in-store customer behavior
- Using Wi-Fi counting to track individual customer's MAC ID
- User privacy protected—Anonymised Data & GDPR Exemption
- Track metrics such as:
    - Returning customer
    - How many customers are returning to your store?
    - Customer dwell time
    - How long does an average customer stay?
- Use Case:
    - Determine the success rate of a marketing campaign
   - Measure store performance based on data-driven KPI

Store Daily Report

STORE DAILY REPORT
Tuesday 04/19/2016

Total Visitors	Turn In Rate	Visit Duration	Returning Rate
244	53.39%	17m	21%
▲ 3.63%	▲ 8.0%	▼ 5.6%	▲ 16.7%

VISITOR COUNTS

Time	Visitor Counts	Outside Traffic	Turn In Rate (%)
0:00	Closed	5	Closed
1:00	Closed	3	Closed
2:00	Closed	1	Closed
3:00	Closed	0	Closed
4:00	Closed	0	Closed
5:00	Closed	6	Closed
6:00	Closed	10	Closed
7:00	Closed	12	Closed
8:00	12	26	46.15
9:00	20	35	57.14
10:00	28	35	80.00
11:00	18	40	45.00
12:00	35	50	70.00
13:00	38	55	69.09
14:00	22	50	44.00
15:00	23	58	43.10
16:00	25	50	50.00

View report here.

Monitoring the store performance using measurable visitor count data metric

1. What is the total number of customers visiting the restaurant?
2. How many percent of the visitor from the outside traffic turned into the store?
3. How long does an average customer stay in the store?
4. How many percent of the visitors are returning customers?
5. What is the trend of the visitor count over time?

FootfallCam™

Company Weekly Report
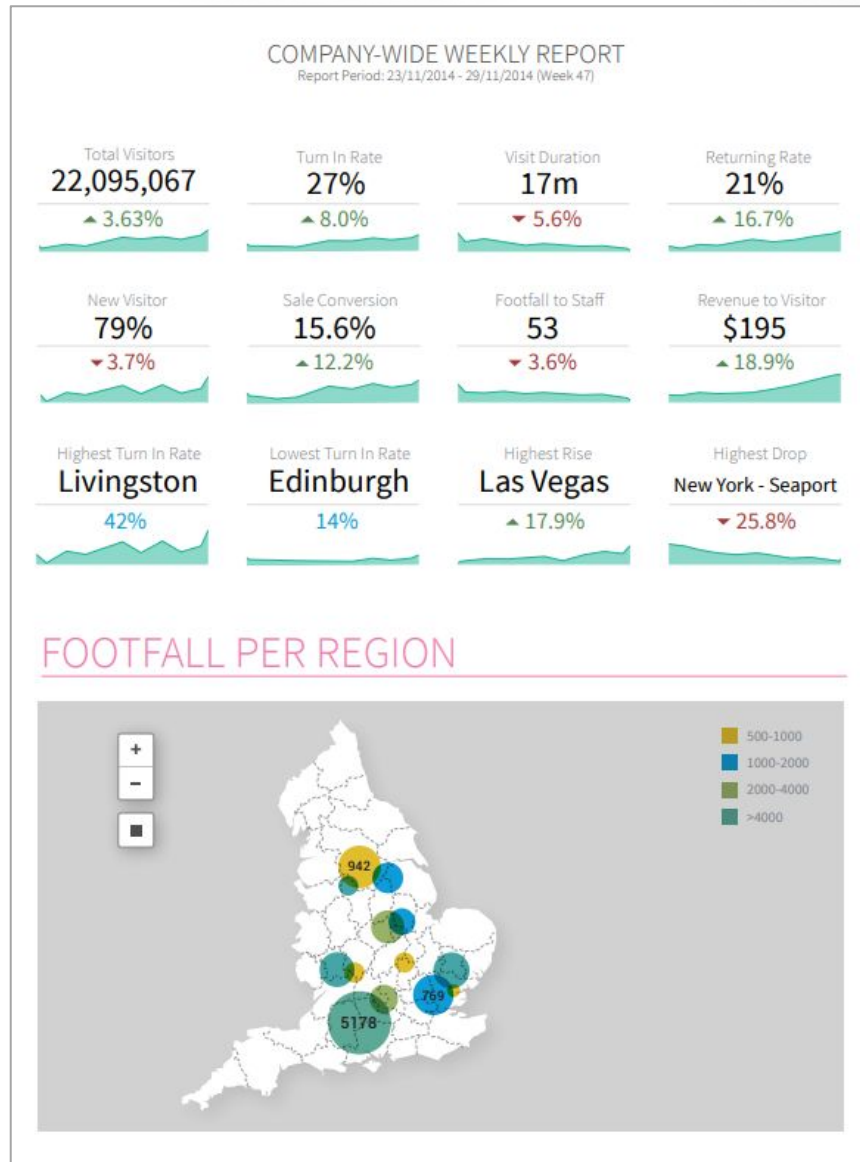
View report here.

Overview of key metrics for all restaurant chains within the company

1. What is the customer traffic profile (dwell time, visit frequency, etc.) of the stores in different regions?
2. Which region achieved higher ranking in retaining customer loyalty (returning customer)?
3. What is the average turn-in rate across all stores?
4. Which is the highest performing and lowest performing store?
5. What is the actual store performance when comparing the sales conversion?

#2: Queue Counting

Monitor your speed of service by managing queue time and length

Queue Counting - Optimise Speed of Service

With queue counting detection and blob tracking technology, the FootfallCam 3D MAX™ will automatically detect any form of movement and register the queuing patterns.
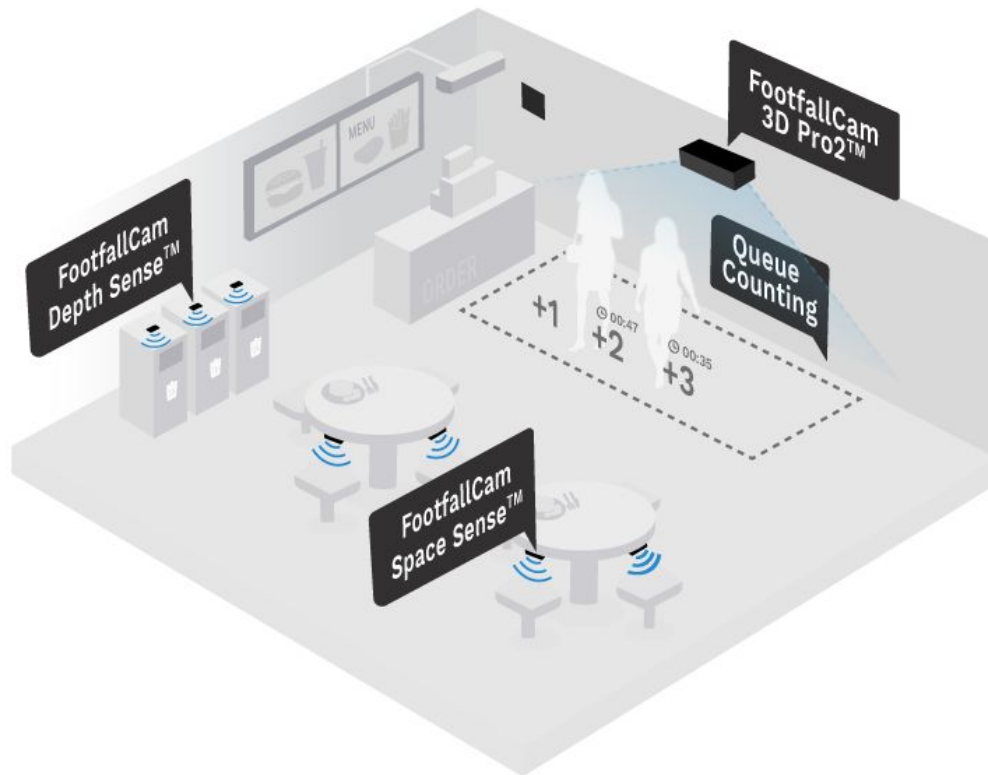
- Using 3D Stereo Vision technology and 2D video analytics
- Highly accurate with video proof
- Suitable for covering wide areas
- Field of view (FOV): 160°
- Proven deployment in KFC (Kentucky Fried Chicken), Applegreen, and more

FootfallCam 3D Pro2™

YouTube Link: https://youtu.be/9axPV1rhxXk

Queue Management Report

FOOTFALLCAM- FFC MY- QUEUE MANAGEMENT REPORT
Report Period: 01/01/2020 - 07/01/2020

Avg. Queue Time	Avg. Serving Time	Avg. Pickup Time	Avg. Daily Customer Served
01:30	00:49	00:33	594
GOAL 01:00	GOAL 01:00	GOAL 01:00	GOAL 500

View report here.

Enable Management to Answer Key Business Questions:

1. How long is the average queue length?

2. How long does a customer have to wait before they are served?

3. How long does a customer have to wait before picking up their food?

4. How many customer left due to long waiting time?

5. How many customers are served on a daily basis?

6. When should I open more counters to accommodate the increase in the number of customers?

Queue Management Dashboard

FOOTFALLCAM - FFCMSIA - QUEUE MANAGEMENT DASHBOARD
Current Time: 13/02/2020 14:08:08

| 00:32 | GOAL 02:00 | 01:30 | GOAL 02:00 | 00:15 | GOAL 02:00 |
| Avg. Queue Time QUEUE 1 | IN QUEUE 5 | Avg. Serving Time QUEUE 1 | CUSTOMER SERVED 10 | Avg. Pickup Time QUEUE 1 | HOURLY AVG. 00:13 |

Total Alert(s) : 3   1-3 of 3 < >

Triggered Time	Originator	Severity	Problem Description	Suggested Action
14: 05: 05	QUEUE 1	Warning	**In Queue** is more than **5**.	Standby New POS
14: 07: 01	QUEUE 1	Critical	**Queue Time** is more than **2** minutes.	Open New POS
14: 08: 05	KIOSK 1	Critical	**Queue Time** is more than **2** minutes.	Assign Staff

Real-time queue monitoring

Instead of actively managing the queues, managers can use the Queue Management Dashboard to easily keep an eye on the queue length.

Automatic alert during slow customer serve time/long queue length

Enable managers to take actions by sending a notification before the severity of the queue reaches critical level.

Make proactive decisions on the spot

Make decisions based on the Suggested Action shown upon trigger alert, which considers the number of visitors in queue and the average serving time.

FootfallCam™

Measuring Speed of Service

YouTube Link: https://youtu.be/5iPEHKD-zQc

Accurately track the speed of service

By utilizing queue counting detection and blob tracking technology, FootfallCam 3D PRO2™ is able to precisely measure customer's queue time and queue length.

Ensure customer satisfaction

Businesses lose 75% of customers due to long queue waiting time. By monitoring queue lengths, managements can reduce customer turnover and increase customer retention.

FootfallCam™

#3: Washroom Management

Demand-based washroom cleaning schedule

Washroom Management – Demand-based Cleaning Schedule
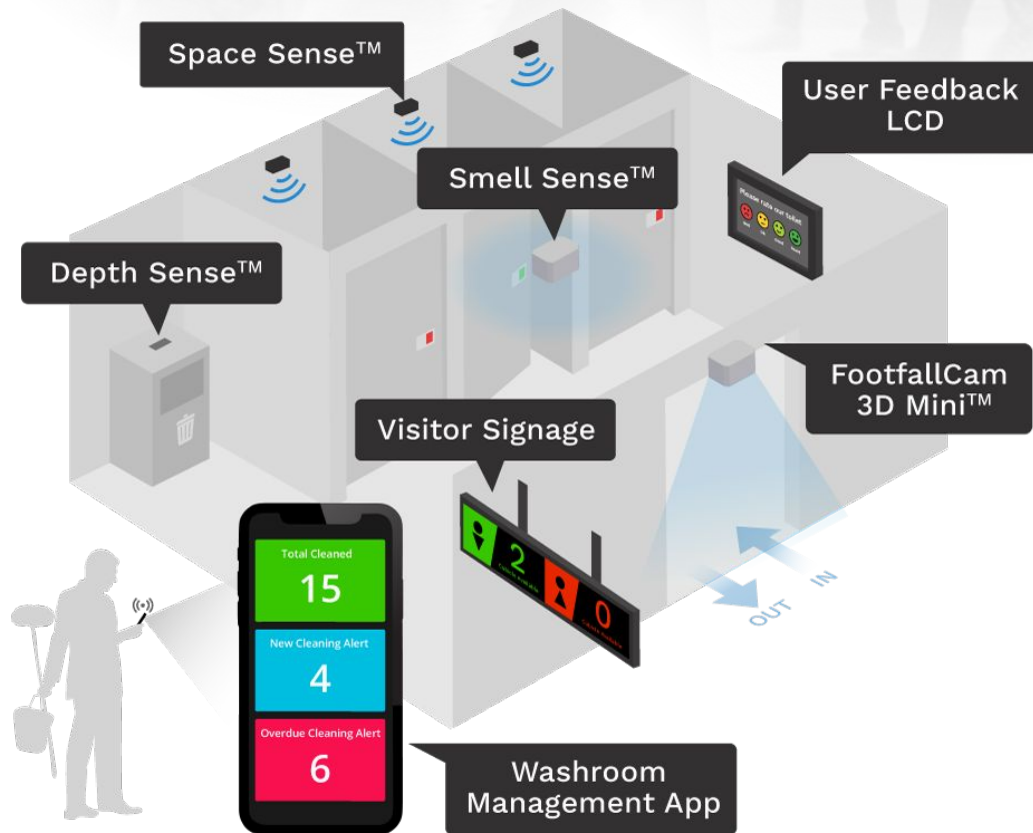
- Washroom cleaning based on actual usage
- Prevent under-cleaned or over-cleaned washrooms issues
- Receive wireless alert via mobile application
- Track SLA via cleaning service log
- Reduce cost based on the most optimal SLA service

FootfallCam 3D Mini™

FootfallCam Utilisation Sensor™

Washroom Management™

FootfallCam™
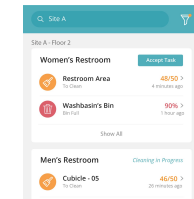
Washroom Management

YouTube Link: https://youtu.be/iE4f15g5-TE

Demand-based Cleaning

Crews get accurate information about cleaning needs via wireless cleaning notification alert which can lead to improve the efficiency for janitorial services.

Measure SLA and Auditable Cleaning Fee

Identify the cleaning service KPI with over-cleaned or under-cleaned which able to optimize the cost of maintenance.

Improve User Experience

A reliably serviced washroom facility is a more welcoming place for its users.

Washroom Management Report
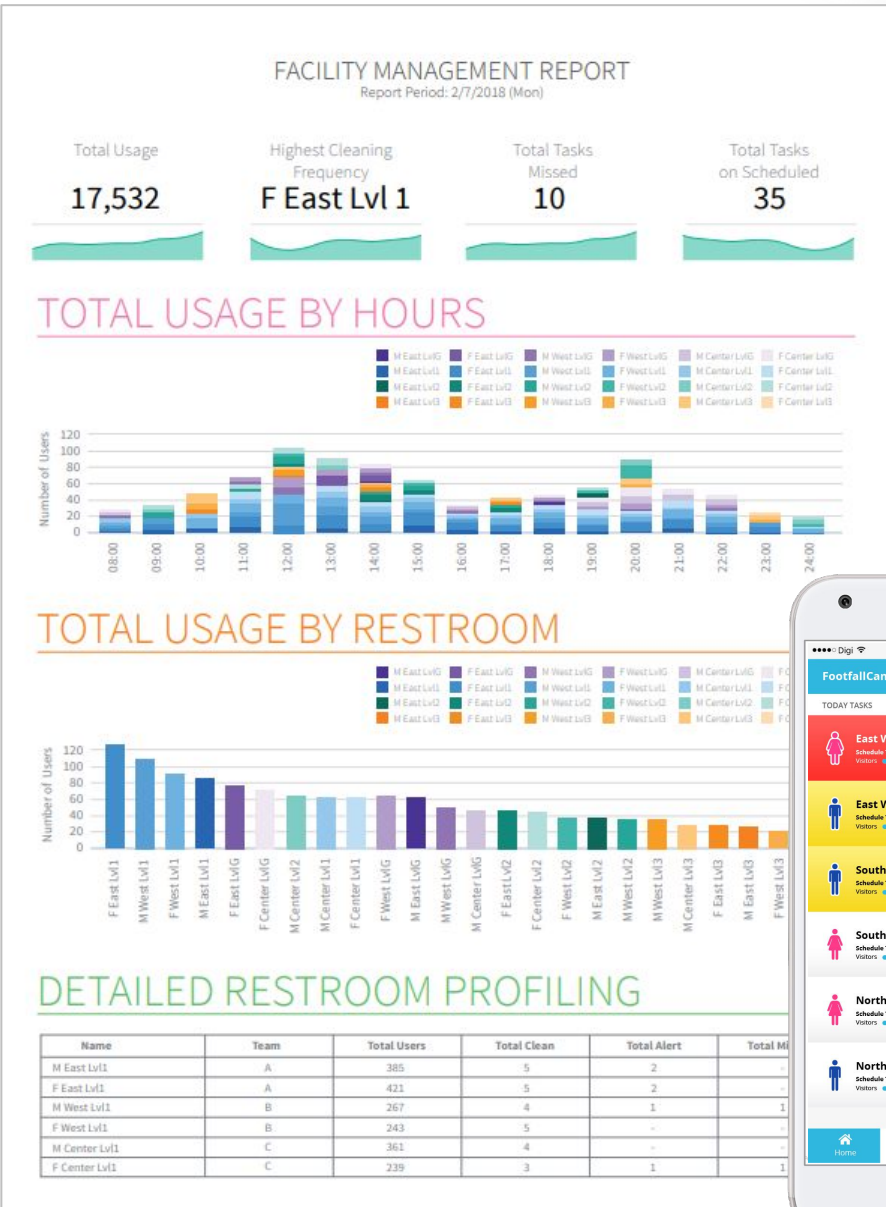
Cleanliness Reassurance

- Provide clear view on washrooms historical utilization rate

- Forecast washroom demand usage from historical trend

- Full transparency on cleaning staff performance.

- Measurable KPI for cleaning staff performance review

- Utilise available data and feedback to improve user experience

Cleaning Staff Optimization

- Better allocation of cleaning staff based on historical trend

- Cost saving on unnecessarily washroom cleaning.

- Reduce burden and time saving eliminating scheduling work
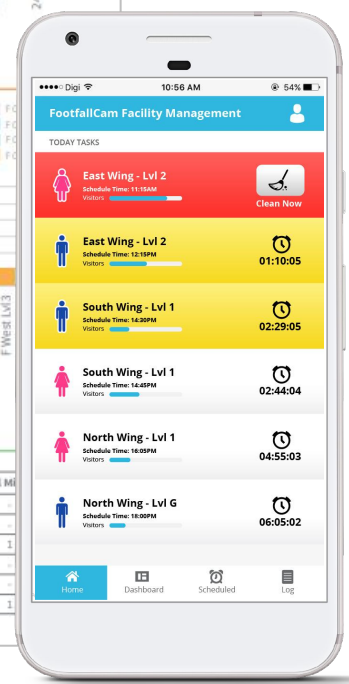
#4: Drive Thru SLA Tracker

Measuring the serving time at each of the counters in the drive thru

Drive Thru Timer – SLA Tracking System

FootfallCam Centroid™ connected to existing CCTV cameras in the drive thru area enables management to monitor serving time.

- Easy to install, integrate, and maintain
- Option to reuse your existing CCTV cameras
- 1x Centroid can support up to 8 CCTV cameras (via RTSP)
- Intelligently track individual car plate number with image processing technology
- Real-time display of waiting and serving time of different drive thru counters

FootfallCam Centroid™

FootfallCam™

Drive Thru Timer – SLA Tracking System
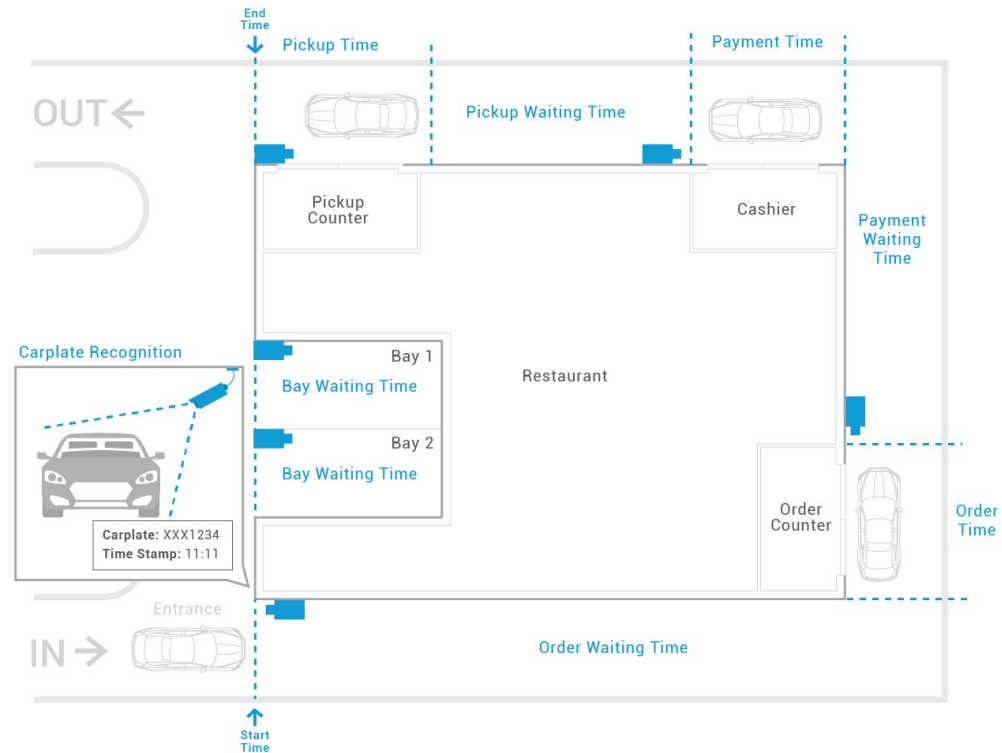
How it works?

- When a customer's car reaches the drive thru, the car plate number and the timestamp is taken.

- As the customer goes through different counters (order, cashier, pickup), the serving time is obtained.

Live Dashboard for Drive Thru Operation
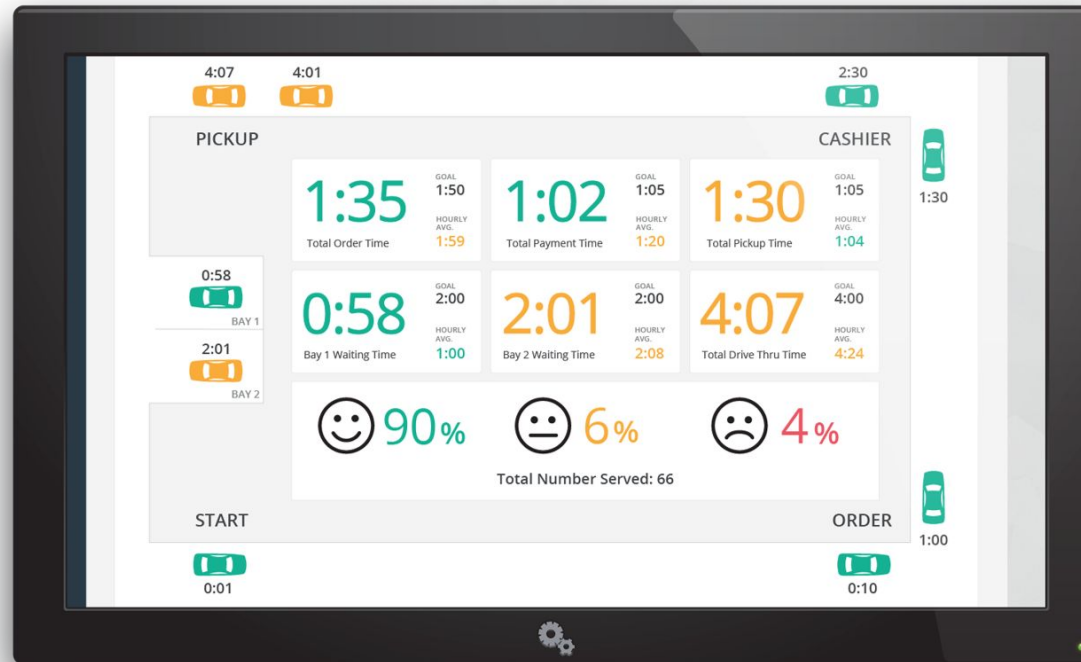
Optimize the Internal Operation

- Identify the bottlenecks and provide correction measures
    - Effective staff allocation based on demand
    - Optimize the speed of service
    - Cost-saving with higher ROI
- Measure staff KPI and performance based on the data-driven reporting

Enhance Customer Experience

- Reduce the waiting time and serving time in different service counters
- Track service time on the live dashboard
    - Ensure customers are served quickly and effectively to improve customer satisfaction
- Improve returning customer rate

FootfallCam™

FootfallCam Analytics Manager V9™

FootfallCam Device Management

- Designed to manage large number of counters

- Collects data from all counters and centralizes them in a single place

- Fully manage FootfallCam sensors

- Easily add and remove counters from your account

- Edit configurations remotely without going on-site
  - Branch ID
  - Counter ID
  - Number of sensors per branch,
  - Operating hours
  - Etc.

More details can be found here

FootfallCam Health Check

- Monitor if all sensors are connected and counting.
- Scheduled daily checks at a pre-defined time
- Display counters that are offline for more than 30 mins
- Send automated email alert to person-in-charge detailing any faults found
- Proactive yet manageable approach
- Detects issues such as:
  - Network issue or failures
  - Abnormal data alert
  - Counting data and Wi-Fi data upload checking

FootfallCam Rule Engine
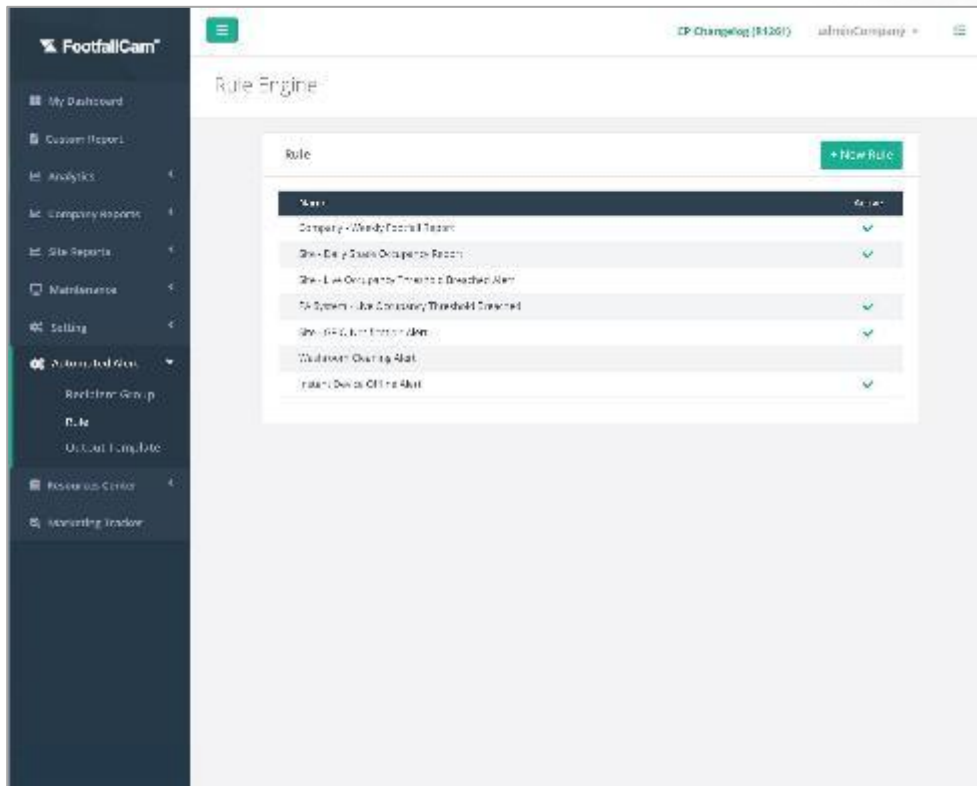
FootfallCam Rule Engine - List View
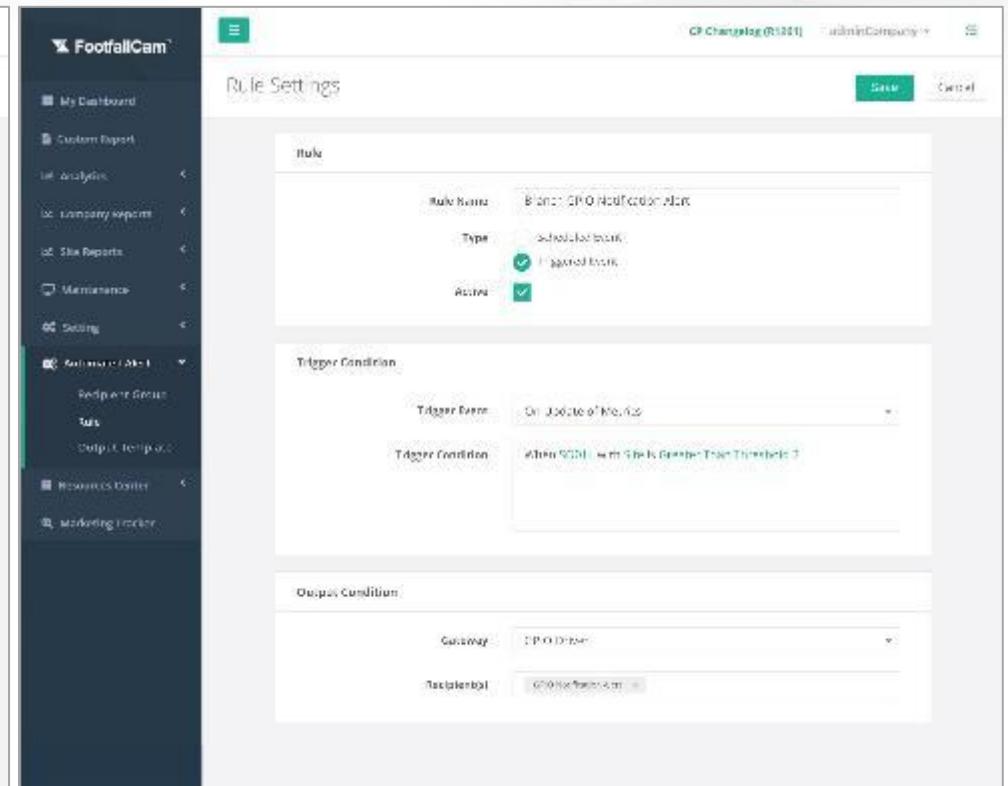
FootfallCam Rule Engine - Settings

- 500+ different rule templates
- Customised rules using Python, interface with:
    - FootfallCam raw data, or
    - Aggregated metrics
- Automatic notification via SMS, Emails, FootfallCam Watch, Android and iOS Apps

FootfallCam™

Account Management

Individual user accounts can be setup for team members and assign access rights accordingly.

Account Type	Description	Example
Admin	Can create more accounts and remove unwanted accounts.	CEOs are able to restrict the store managers' access to certain data metrics.
User	Limited access in account creation and removal.	Store managers are only allowed access to their own store's data.

Customisable Dashboard and Reports

View Custom Report Demo here.

In addition to the 60+ readily available reports, FootfallCam has an array of widgets available which can be used to combine and make customised dashboards and reports to address your business requirements. Here are a few examples of the reporting formats available:

- Line chart
- Bar graphs
- Monthly trends
- Heatmap table
- Floorplan

Maintaining Data Integrity

The [Data Integrity Report](#) allows users to monitor data discrepancies and site changes. For example:
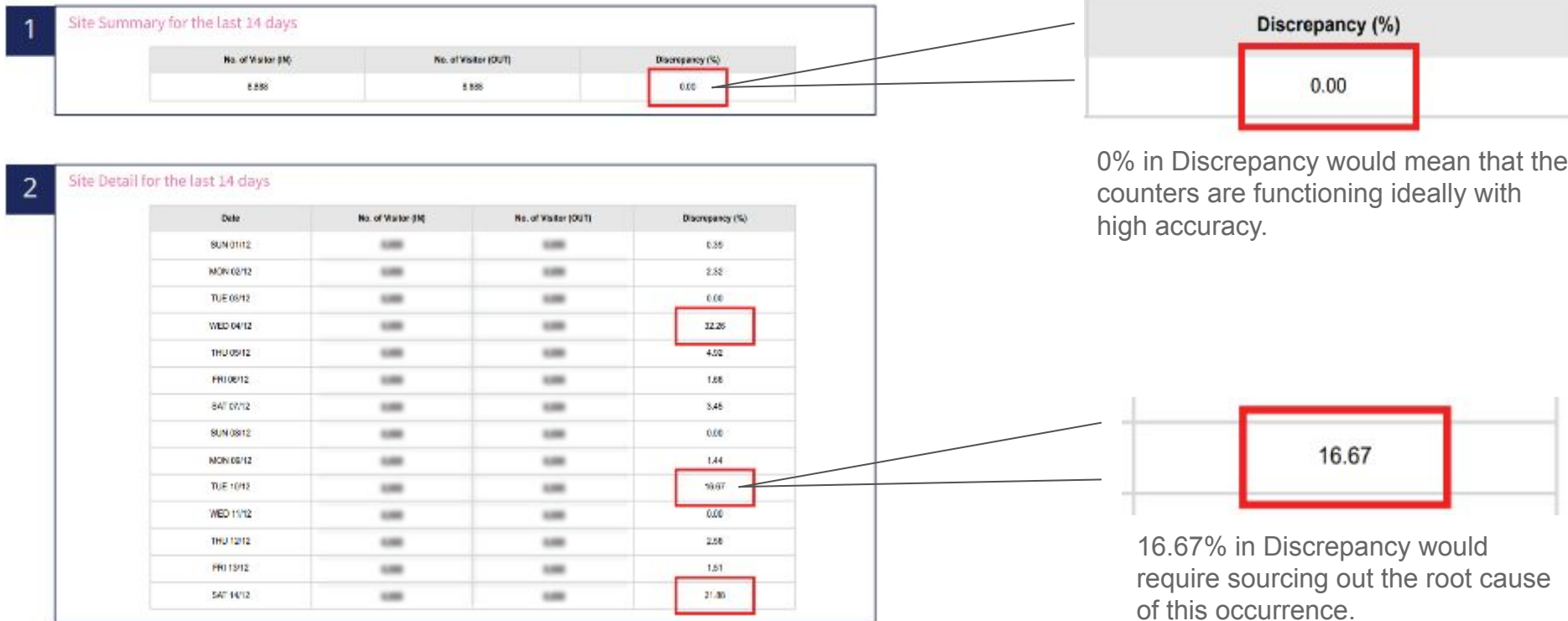
0% in Discrepancy would mean that the counters are functioning ideally with high accuracy.

16.67% in Discrepancy would require sourcing out the root cause of this occurrence.

To recover the missing data, FootfallCam server will re-aggregate the raw data stored in counter level and store the re-aggregated data in the server. Hence, users can retrieve back the missing daily or hourly data so that macro trends will not be affected.

FootfallCam™

Accuracy Audit

How do we audit accuracy to ensure up to 99.5% counting accuracy?
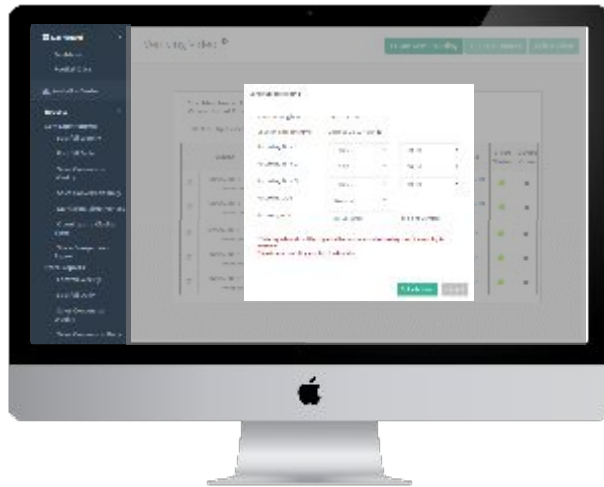
1 Schedule video recordings

Schedule video recordings of peak hours to ensure there is sufficient sample size (20 and above) for to audit the accuracy of the counter.

2 Compare system count and manual count

Compare the system count generated by the FootfallCam device against manual observations to determine the accuracy of the FootfallCam.
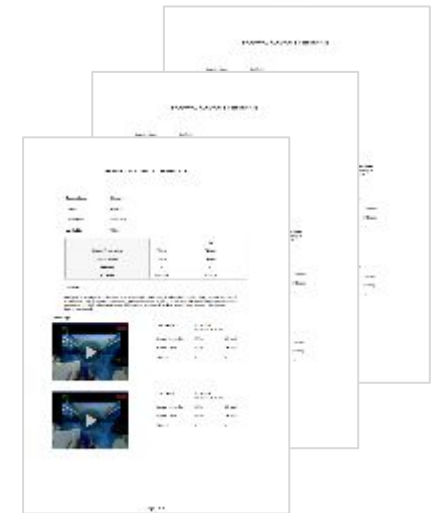
3 Generate verification report

Once there is sufficient sample size and the accuracy is satisfactory, a verification report with the video proof used in manual observation will be generated.

Verification report:
Sample 1 & Sample 2

FootfallCam™

Built-in maintenance support portal

The one-stop support center for all FootfallCam Analytics Software users.

Any technical issues can be raised via the Support Portal and this will be assigned to a technical personnel accordingly.

More information can be found here.

Data Privacy and GDPR Exemption

Low-Resolution Video Image (320 x 240)

3D Depth Map

- Counters installed downwards facing the ground – does not capture the entirety of the customer & unable to pick up facial features.

- Videos are recorded only **for verification purposes** and **taken in low resolution**. The videos will be deleted once verification is completed.

- FootfallCam uses 3D depth map instead of video images for counting purposes – data collected are non-visual and are will not be able to be identify with any individuals.

- FootfallCam is **exempt from GDPR**. More information can be found here.

FootfallCam™

Management Control

User Control

Branch Control

Email Scheduler

Import/Export

Health Check and Maintenance Tools

Data Integrity

Company Data Integrity

Issue Tracker

Support Portal

FootfallCam™

Reporting Suite
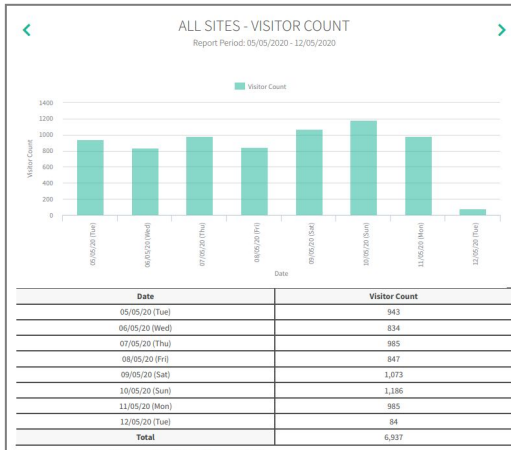
Analytics Center
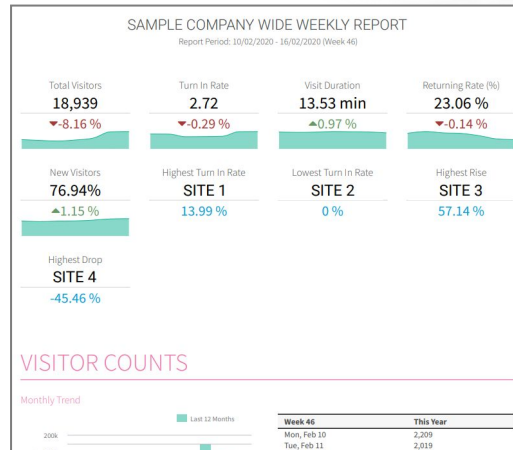
Company Weekly Report
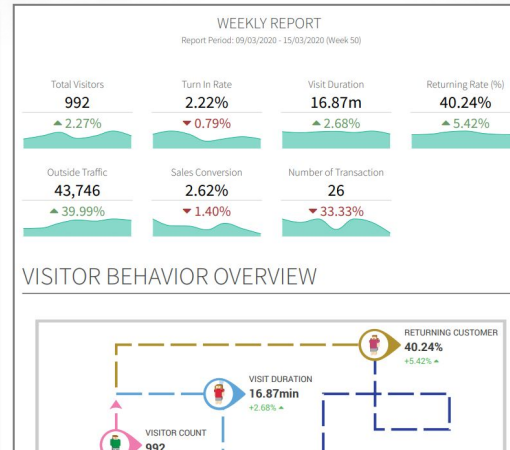
Site Weekly Report
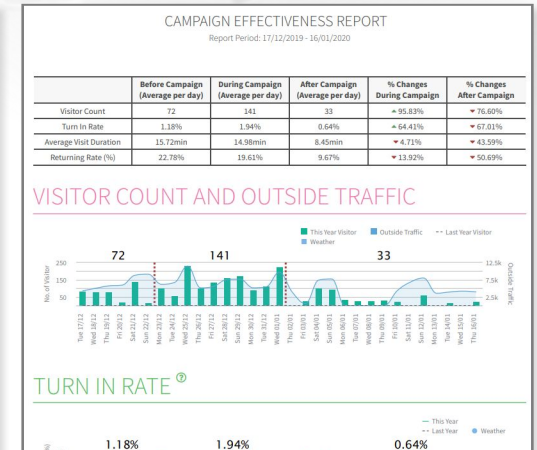
Marketing Effectiveness
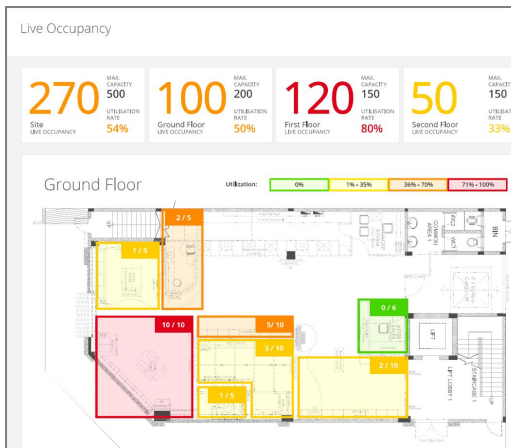
Live Occupancy
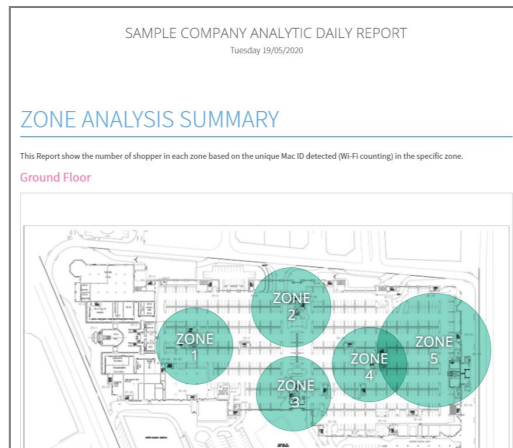
Zone Analytics

Mecca Occupancy

Queue Counting

FootfallCam™
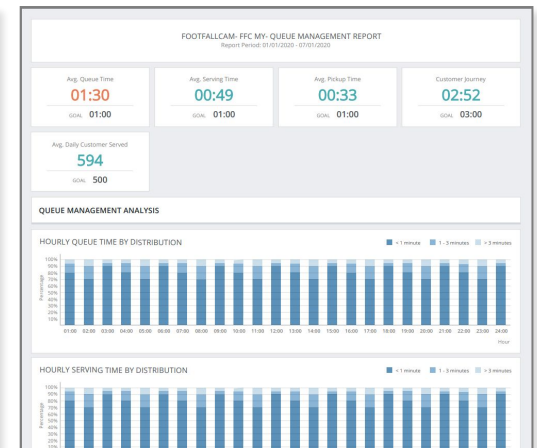
Solution Deployment

Deployment Process

- More than 1,000 units in stock in our warehouse

- Ready to ship out within 1-2 working days

- Each installation should take approximately 1-2 working day

- Data validation to be done within 3 days after each installation

Agile Framework: Scrum for Service Delivery
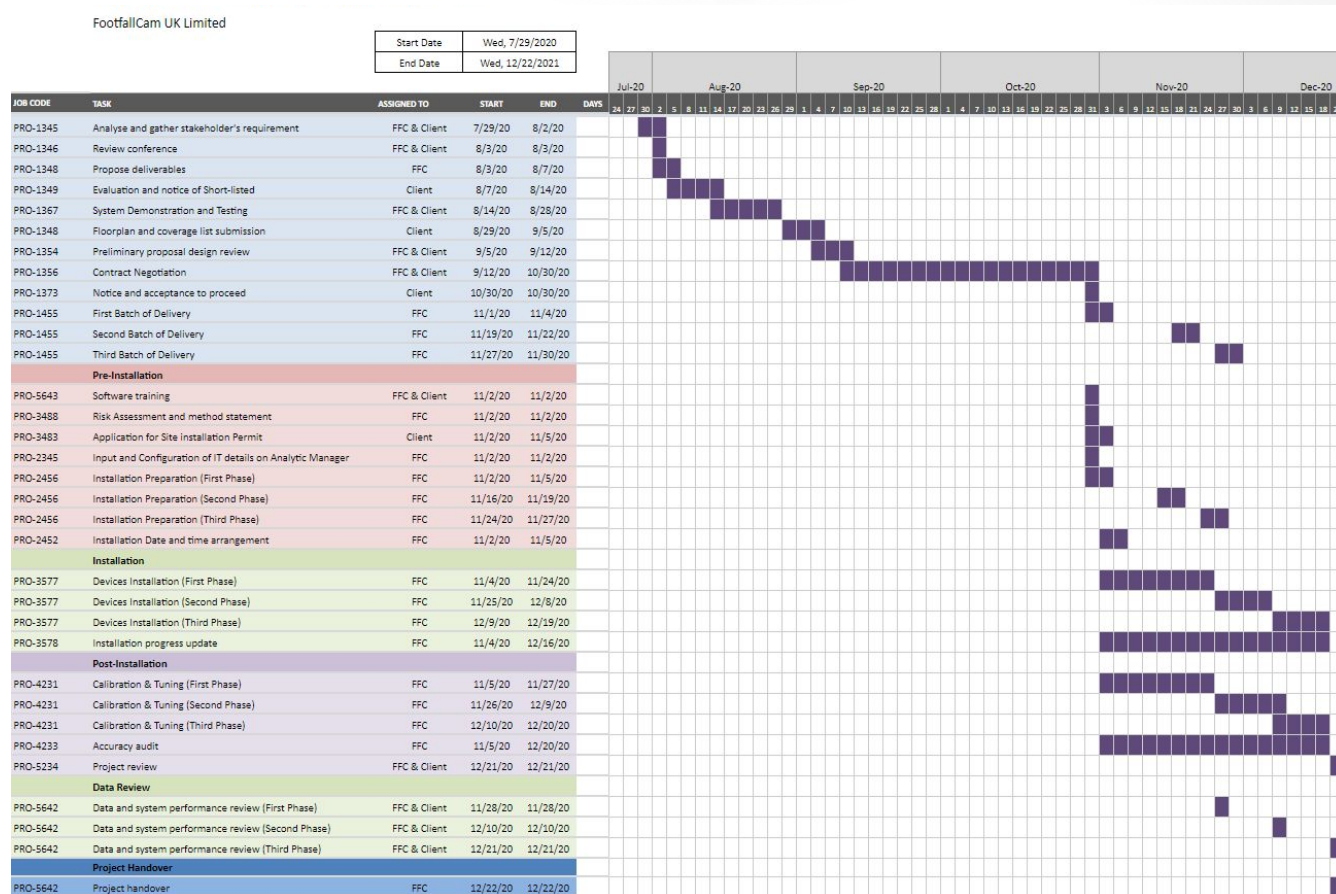
Sample Installation Gantt Chart

- FootfallCam adopt Scrum Project Management for all service deliveries
- Pre-installation, Installation and Post Installation Review are carried out in parallel

Case Study

Case Study #1 Yum! Brands

Yum! Brands Inc. is an American fast-food corporation with more than 50,000 restaurants including KFC, Pizza Hut, Taco Bell, and more worldwide.

Measuring restaurant speed of service

- Integration of their multichannel sales data, drive-thru data, kitchen food preparation data to FootfallCam

- FootfallCam develops custom reporting to provide meaningful data insights based on KFC's business nature:

  - Queue management report – Identify the queue wait time, queue length, ordering time and order fulfilment time; to improve customer service and customer experience

  - Queue dashboard – Send queueing information to a dashboard in real time to monitor and improve operational efficiency and customer service

FootfallCam™

Case Study #2 Applegreen

applegreen

Applegreen is an Irish company that operates more than 250 petrol stations in Ireland, the UK and the US.

Optimising customer queue time

- Need to ensure speedy service delivery as petrol stations have high visit rate and has a smaller space for operation compared to restaurants

- Each petrol station has installed separate counters to monitor customer queue in different brands such as Burger King, Subway, Bakewell, and more.

- Store managers use queue management dashboard to monitor the customer queue time, serving time, and pickup time

FootfallCam™

Case Study #3 Amway

Amway

Amway is an American multi-level marketing company in more than 100 countries and territories.

Facility Utilisation and Customer Experience

- Monitor occupancy in cafeteria by avoiding overcrowding during peak hours to optimize customer experience .

- Social-distancing compliance and occupancy restriction to protect their Amway Business Owner (ABO).

- Integrate people counting data with Magic Mirror display for real-time occupancy at entrance to control incoming traffic.

- Space planning by identifying the facility usage with high flow intensity, low flow intensity, and that are most used, and least

People Counter

People Counter

Amway Grand Opening: https://youtu.be/Bjm8Y5jRiNs
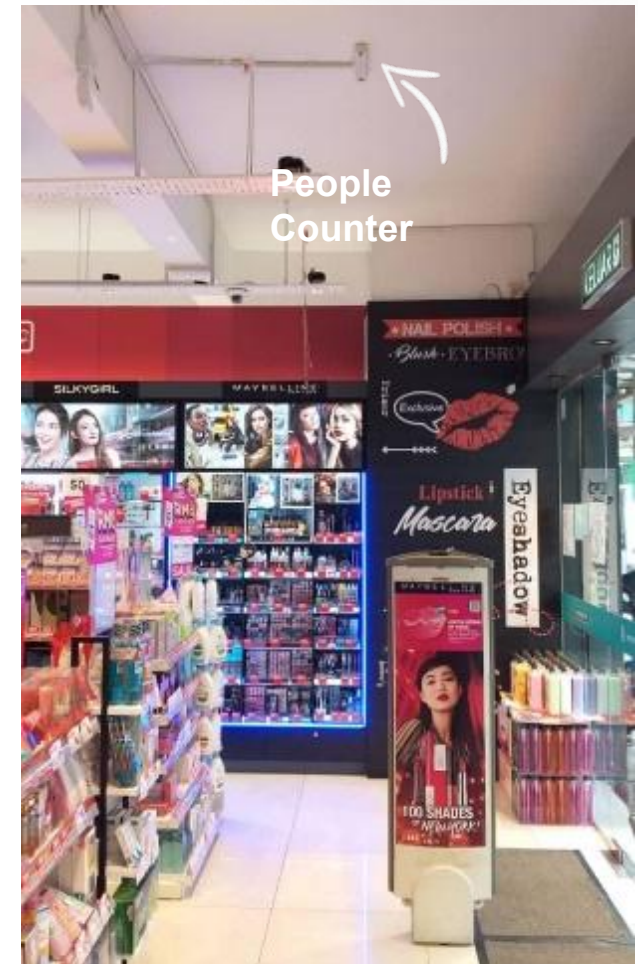
FootfallCam™

Case Study #4 A.S. Watsons Group

watsons

A.S Watsons is the largest pharmaceutical retailer in the APAC region and a part of the CK Hutchinson Holdings group.

Global Rollout with Multi Geo-Region Server

- Replaced their original people counting system and integrated existing data with FootfallCam software

- Provided full installation support and training to their system integrators in 24x different countries

  - Russia, Turkey, Singapore, Malaysia, Indonesia, Philippines, Thailand, Hong Kong, UK, Europe

- Watsons analyses the performance of the company as a whole, we integrated footfall data into their centralised BI system via API

- Also proceeded to upgrade their features to deploy FootfallCam's real-time monitoring system to their stores to abide to social distancing regulations.

People Counter

FootfallCam™

FootfallCam Product

FootfallCam 3D PRO2™
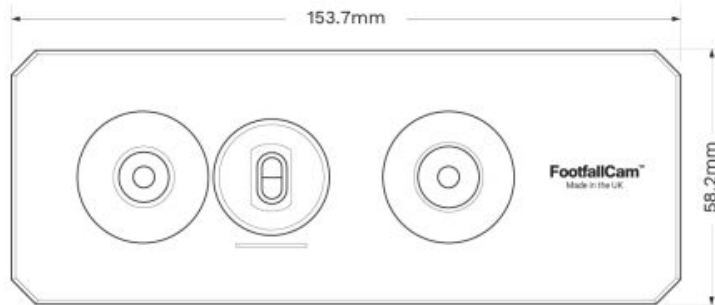
FRONT VIEW
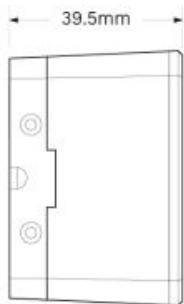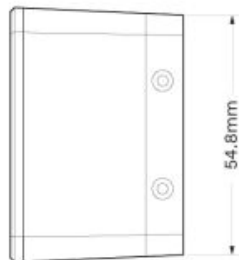
LEFT VIEW   RIGHT VIEW

Key Features

- Using **3D Stereo Vision** technology and 2D video analytics
- Highly accurate with video proof
- Suitable for **wide corridors**, **walkway** or **high traffic areas**
- Supports up to 25m ceiling height
- Field of view (FOV): **160°**
- Proven deployment in Kentucky Fried Chicken

Camera	2x 5MP resolutions
Frame Rate	25 fps
RAM	1GB
Illumination	Minimum 1 lux
Power	Power over Ethernet: 48V DC, 0.12A (6W)
Casing Material	Aluminum oxide alloy, Water and dust resistant
Total Dimensions	153.7 (W) x 58.2 (D) x 39.5 (H) mm

Click here to view Datasheet

FootfallCam™

FootfallCam 3D Mini™
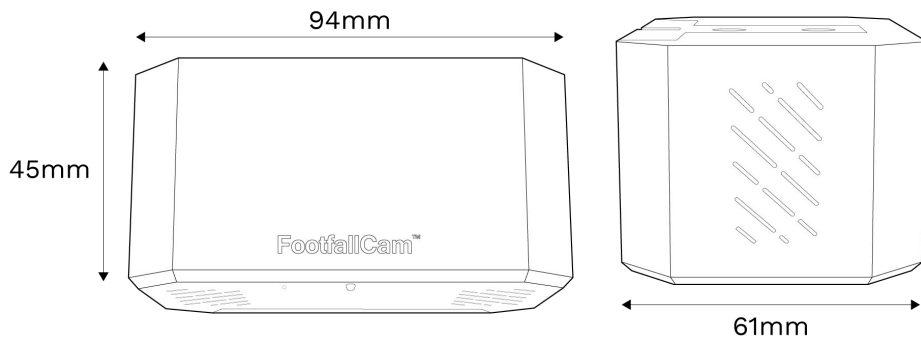
Key Features

- Anonymous ToF Counting for privacy purpose

- Single door coverage

- Work in low light or complete darkness environment

- Made in UK; Manufactured by FootfallCam

94mm

45mm

61mm

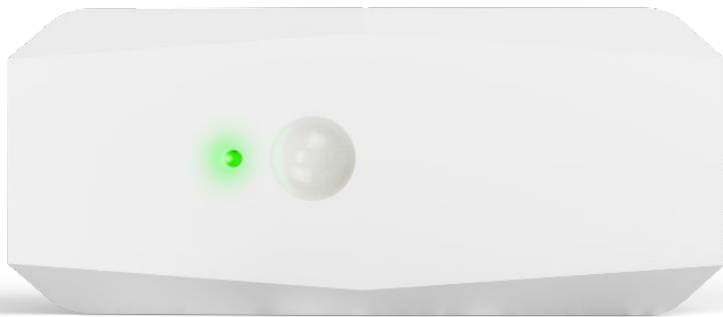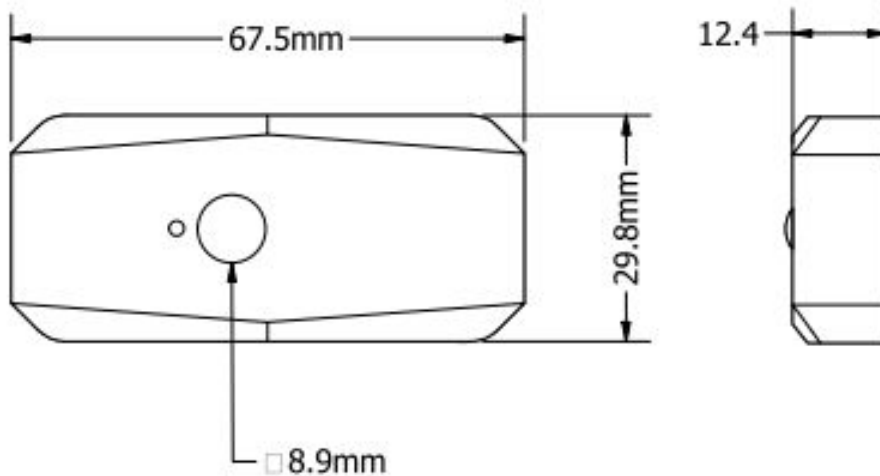| Sensor	Time-of-Flight (ToF)
Emitter	Class 1 940nm invisible laser
Field-of-View (FoV)	27°
Light Source	Class 1 940nm VCSEL
IP Rating	IP 31
Power Consumption	200mW
Enclosure	Aluminum oxide alloy, Water and dust resistant
Total Dimensions	94 (W) x 61 (D) x 45 (H) mm

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FootfallCam Utilisation Sensor™

Key Features

- **Anonymous** counting for washroom usage
- Using **ST Micro ToF** 16x16 Sensor
- Field of view (FOV): **57°**
- Configurable cleaning threshold
- **Automated cleaning alert** via mobile application
- Proven deployment in Rentokil, Bank of America & etc.

Model	64-bit Quad-core @ 1.43GHz
Sensor Type	Passive Infrared (PIR) + Time-of-flight (ToF)
Detection Range	Up to 3m
Chipset	Arm Cortex - M3 Processor
Transmission	Type - RF (Between Utilisation Sensor and Receiver) Range - 50m radius
Casing Material	ABS
Total Dimensions	67.5 (W) x 12.4 (D) x 29.8 (H) mm

Click here to view Datasheet

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FootfallCam Analytic Manager V9™

Functions:

- Staff alert if capacity limit is breached
- Centralized Management Analytics Software
- API Available for Data Integration
- Pre-defined Report Set
- Health Check Report
- User Account Management
- Automated Email Scheduler

Software Specifications	
Interface	Http; Https
Compatible Browser	IE7 or Later Mozilla Firefox or Later Chrome Version 4.0 or Later Safari
User Levels	2 levels: Administrator, Standard User
Ethernet	10/100 Mb Ethernet
Time	NTP, Adjustable time zone, automatic day light saving adjustments
Data Delivery	TCP/IP
Database Type	SQLite
Report format	csv, .xml, .txt
Data Storage	5 Years storage with auto sync
Data Backup	Yes
Backup Frequency	Daily Full Backup of Data and Configuration Weekly Backup to Sub Server for Contingency Purpose
Software Version Upgrade	Auto Upgrade

Enterprise Class Software
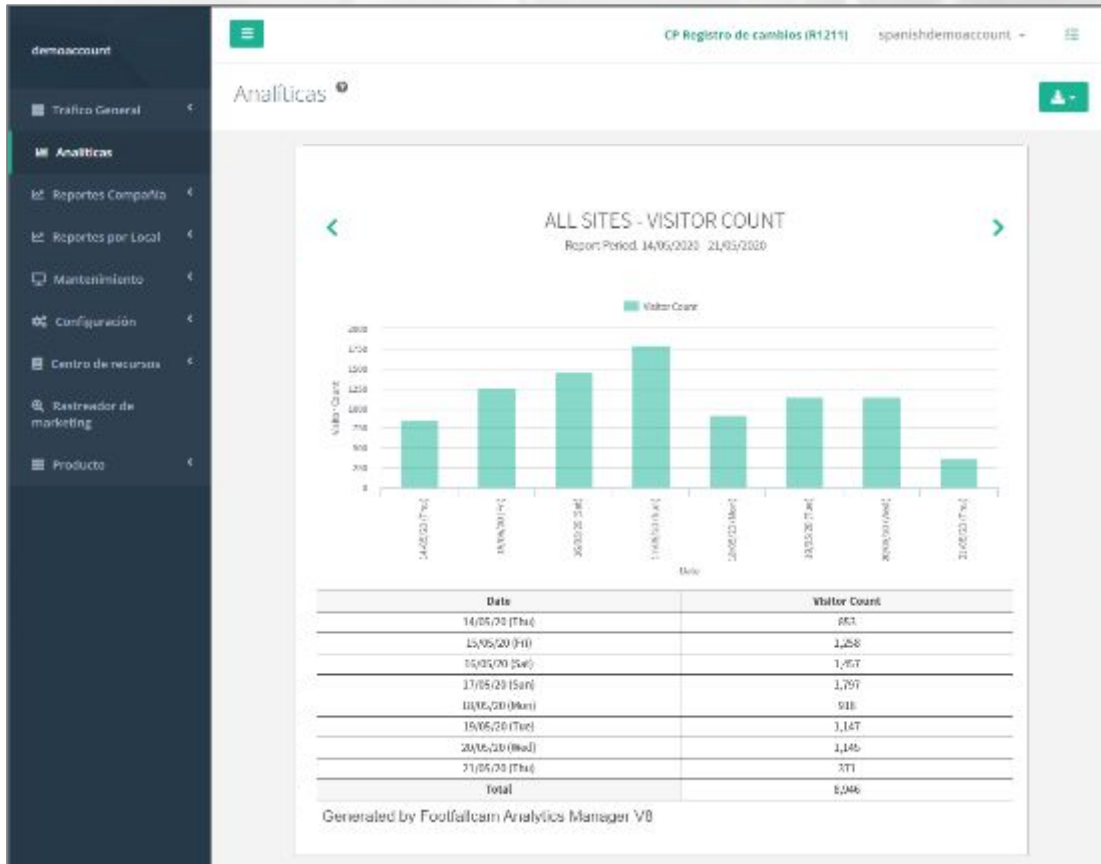
Multi-language Interface

Different languages available such as:

- English
- Dutch
- Spanish
- French
- Italian
- German
- Arabic
- Japanese
- Chinese

Customise dashboard design

- FootfallCam will customize the language and images in the dashboard
- Provide us with the translated text and graphics, then we will help you handle the configuration

FootfallCam™

Contact Us

You need further information or have a question?
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www.footfallcam.com

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