FootfallCam Retail Solution

3D People Counter for Retail Stores

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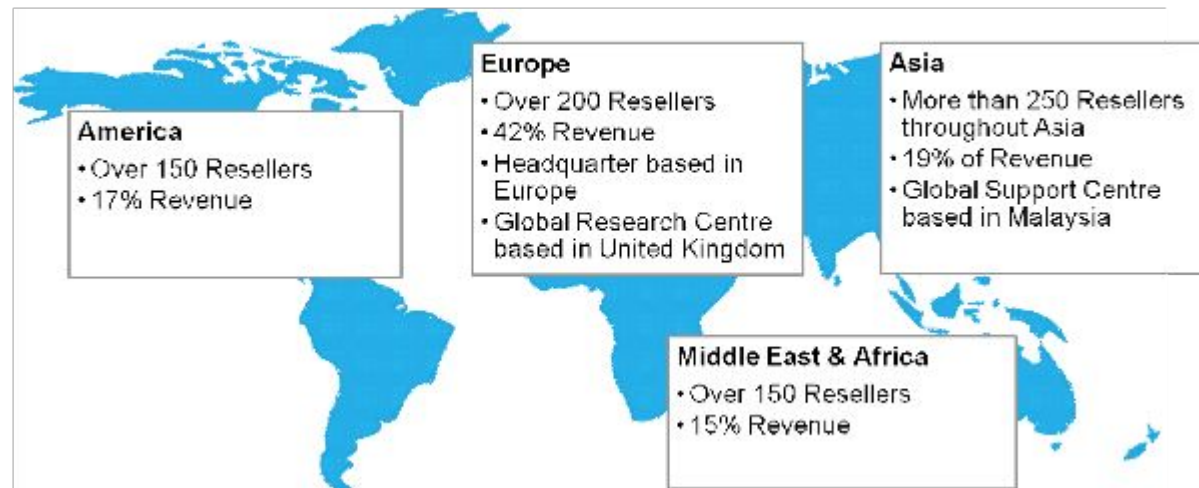
- Continuously reinvesting more than 24% revenue into research and development
- **In-house R&D team** dedicated to the development of both hardware and software platform
- Combined **over 100 years industry experiences** in developing people counting solution
- **Serving multiple sectors** varying from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

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FootfallCam Solutions

FootfallCam Products

FootfallCam provides a number of key products, specifically designed for retail stores.

FootfallCam 3D Pro2™	FootfallCam Centroid™
3D Stereo Vision + WiFi Counting Datasheet	AI Video Analytics Datasheet

Discreet Fabric Staff Tag	FootfallCam Analytics Manager V8™
Staff Detection Video link	Cloud-based Analytics Platform Datasheet

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Agenda

1. Use Cases
   a. #1: People Counting at Entrances
   b. #2: WiFi Analytics - Identify Unique Customer
   c. #3: Heatmap - Analyse Customer Behaviour in the Store
   d. #4: Staff and Customer Interaction Measurement
   e. #5: Occupancy Control for Retail Stores

2. User Requirements
   a. Data Accuracy
   b. Dashboard and Reports
   c. Infrastructure and Integration
   d. Support and Maintenance
   e. Installation and Deployment

3. Additional Features

4. Product Packages and Pricing

5. Case Studies

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1a. Use Case #1: People Counting at Entrances

FootfallCam 3D Pro2™ people counters installed at the entrances can detect the number of people entering and exiting the
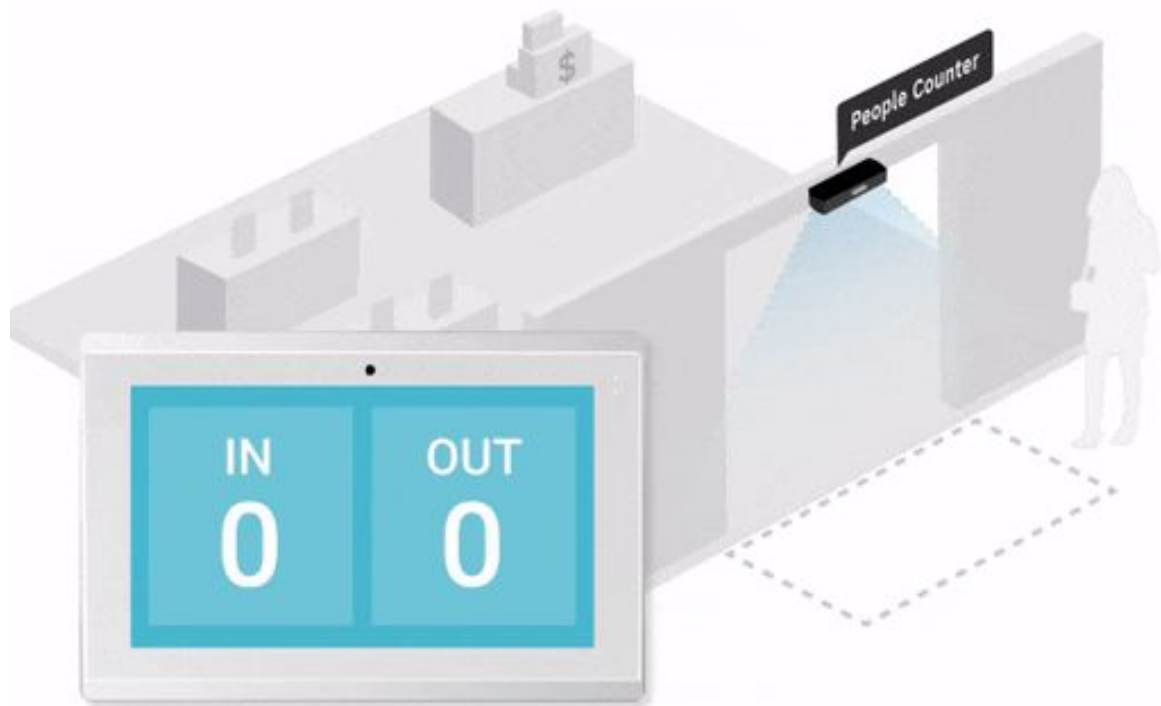
- Using 3D Stereoscopic Counting
- Bi-directional counting
- Suitable for wide entrances
- Highly accurate with up to 99.5% accuracy
- Proven deployment in Fred Perry, Joules & A.S. Watson, etc.

FootfallCam 3D Pro2™

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1a. High Accuracy Counting

FootfallCam 3D Pro2™ can be installed at any types of retail entrances, and can achieve up to 99.5% accuracy.
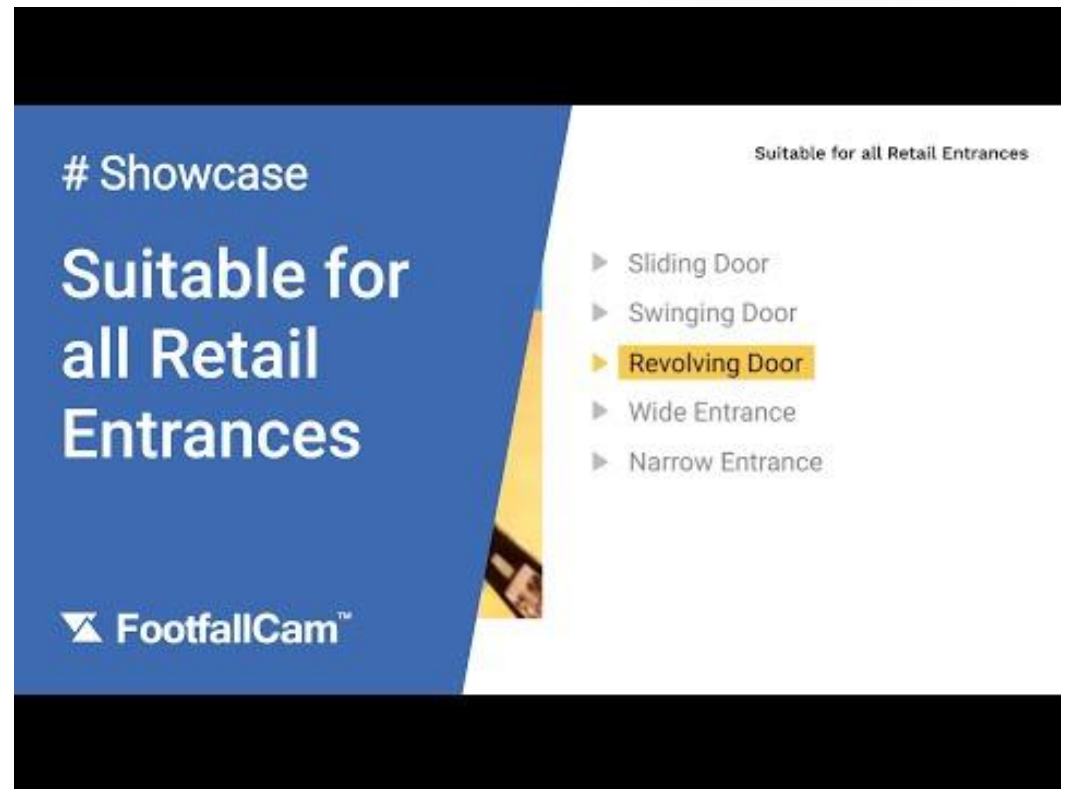
High Traffic Counting

Suitable for all Retail Entrances

1b. Use Case #2: Wi-Fi Analytics

Combining the capabilities of both Wi-Fi analytics and video analytics to allow store managers to drive data action insights and make impactful changes in their operations.
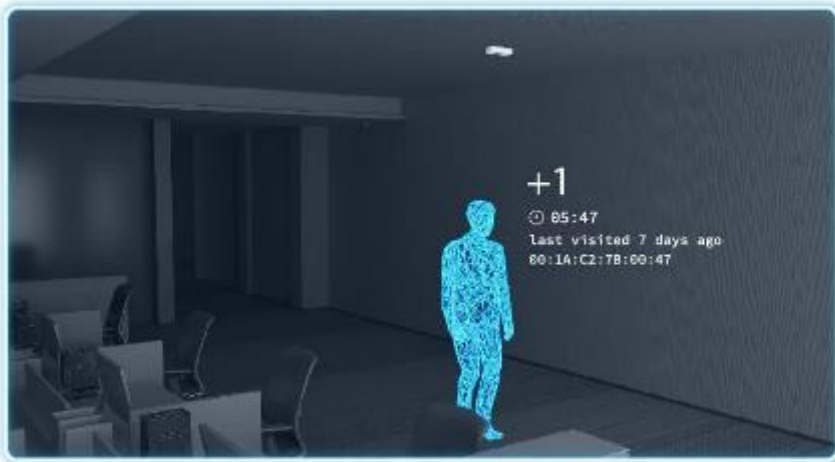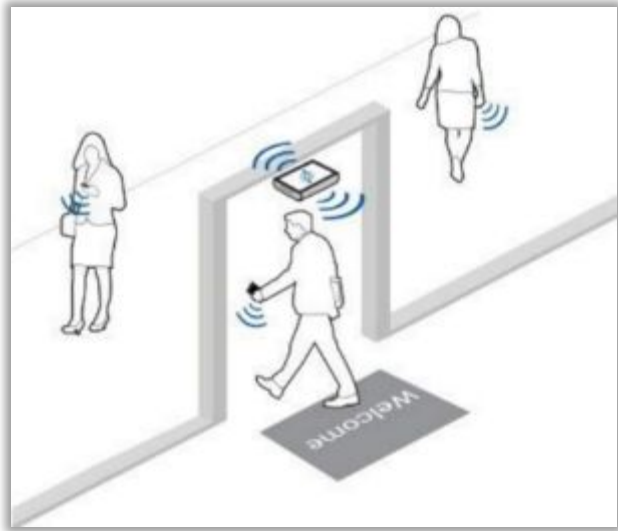
User privacy protected - Anonymised Data & GDPR Exemption

Metrics Measured:

1. Outside Traffic
   - How many customers have passed by your store?

2. Turn in rate
   - How many unique customers are entering your store?
   - What is the percentage of passersby entering your store?

3. Returning customer
   - How many customers are returning to your store?

4. Visit Duration
   - How long does an average customer stay?

Use Cases:

1. Determine the success rate of a marketing campaign
2. Measure store performance based on data-driven KPI

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1c. Use Case #3: Heatmap - Analyse customer behaviour within the store

Combining CCTV cameras with FootfallCam Centroid will produce heatmap analytics that helps retailers visualise customers' shopping journey within the store.


Watch how it works: https://youtu.be/uqzBrUTQbOg
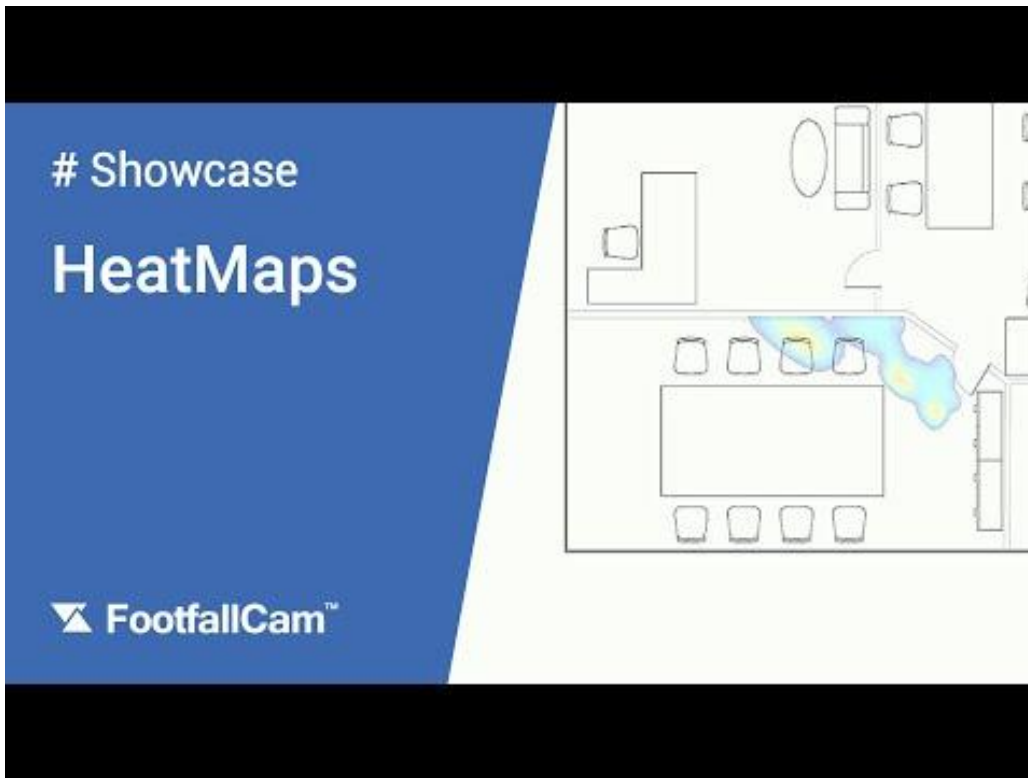
- Reuse existing CCTVs, reduce project cost
- Identify "Hot" or "Cold" zones
- Showcase Product Level Engagement
- Create more effective localised plans and marketing strategies to better align with your customer

FootfallCam Centroid Datasheet

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1c. Use Case #3: Heatmap to analyse customer behaviour within the store

- Draw Area polygon at Heatmap Dashboard to obtain heatmap analytics for area of interest

- Sankey Diagram - showcase customer path within the store.
  - Which section of the store would they visit after passing the entrance?
  - How do they move between different sections of the store?
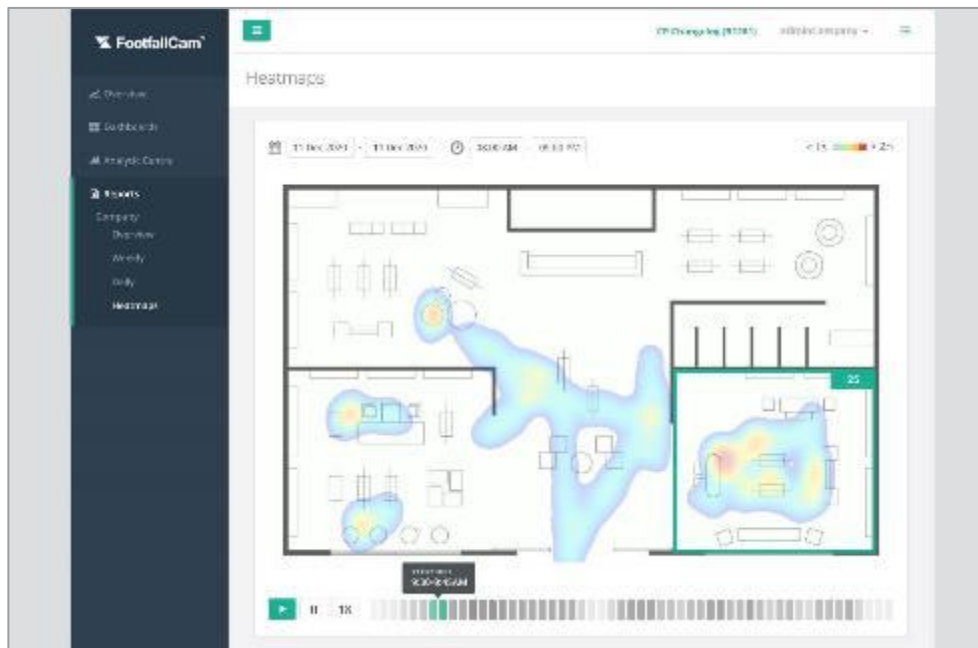
Heatmap Dashboard
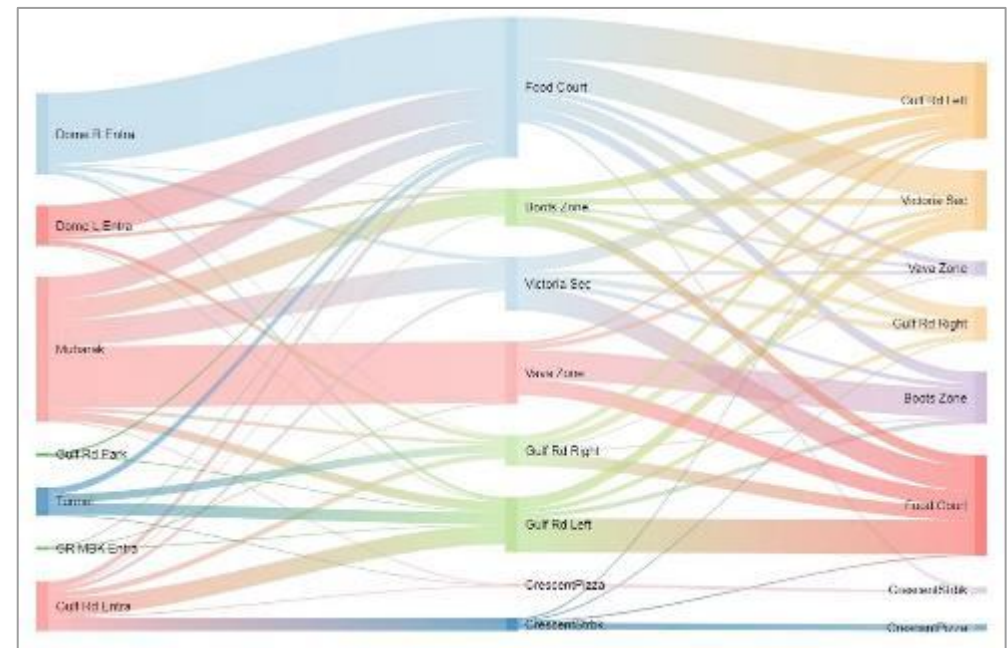
Sankey Diagram

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1d. Use Case #4: Staff & Client Interaction Measurement

By combining FootfallCam 3D Pro2™ and FootfallCam App™, store managements can track the store staff performance based on their customer engagement level.

- How does it work?
  - Counter detects a customer staying in key shopping areas for more than a fixed period of time
  - Automatically sends alert to all FootfallCam App™
  - Staff picks up the job
  - Staff clears the alert once they have served the customer

1d. Use Case #4: Staff & Client Interaction Measurement

Alternatively, staff and client interaction measurement can also be measured by combining FootfallCam 3D PRO 2™ and FootfallCam Staff Exclusion Tag™.

Watch how it works:
https://youtu.be/22yJZuHfPBs

- How does it work?
  - Counter able to differentiate between staff and customers through the wearing of FootfallCam Staff Exclusion Tag
  - When Staff is in close proximity with customer, customer is considered being served.
  - Analytics:
    - Total Serving Time for any staff
    - Average Serving Time per customer

1e. Use Case #5: Occupancy Control for Retail Stores

Automated system to Inform your customer whether they can enter, or they should wait via visual display at the entrance.

People Counter

Occupancy Control Traffic Light

ENTER

0 / 5
SafeOccupancy

SafeOccupancy Signage

Automated Traffic Control

- Live occupancy dashboard display
- Configurable threshold and trigger alerts
- Automatic door control

- Instant notification when occupancy is breached via:
  - App Notification
  - Telegram
  - Email

Location Name   SafeOccupancy
Live Occupancy   **20** / 20

Exceeded Occupancy Limit.

Staff Dashboard and Notification

Occupancy Report

X FootfallCam

Data Accuracy

User Requirements - Data Accuracy:

1. Achieving High Accuracy

    a. 3D Counting Technology

    b. Highly Accurate for all kinds of retail environments

    c. Accuracy Audit with video proof

    d. Exclude objects/personnel (staff, kids, etc) from counting

    e. Group counting - more realistic sales conversion against purchasing group

2. Maintaining High Accuracy

    a. Automated Health Check & Alerts

    b. Maintaining Data Integrity

    c. Proactive Support & Data Monitoring

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1a. 3D Counting Technology

FootfallCam 3D Pro2™ utilises 3D stereoscopic vision that mimics human eyes to accurately capture the positioning and placement of visitors. FootfallCam™ is able to recreate the field of depth and ensure the integrity of its counting data.
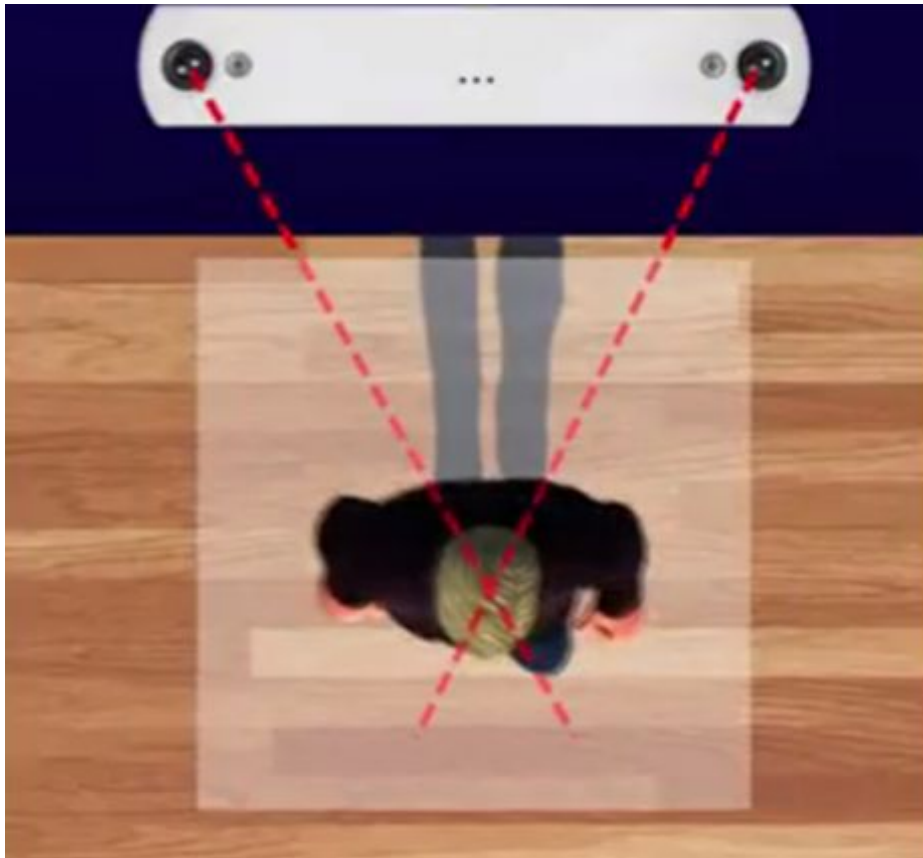
Depth Reconstruction

- Information capture from the two lens will be combined and interpreted into depth data
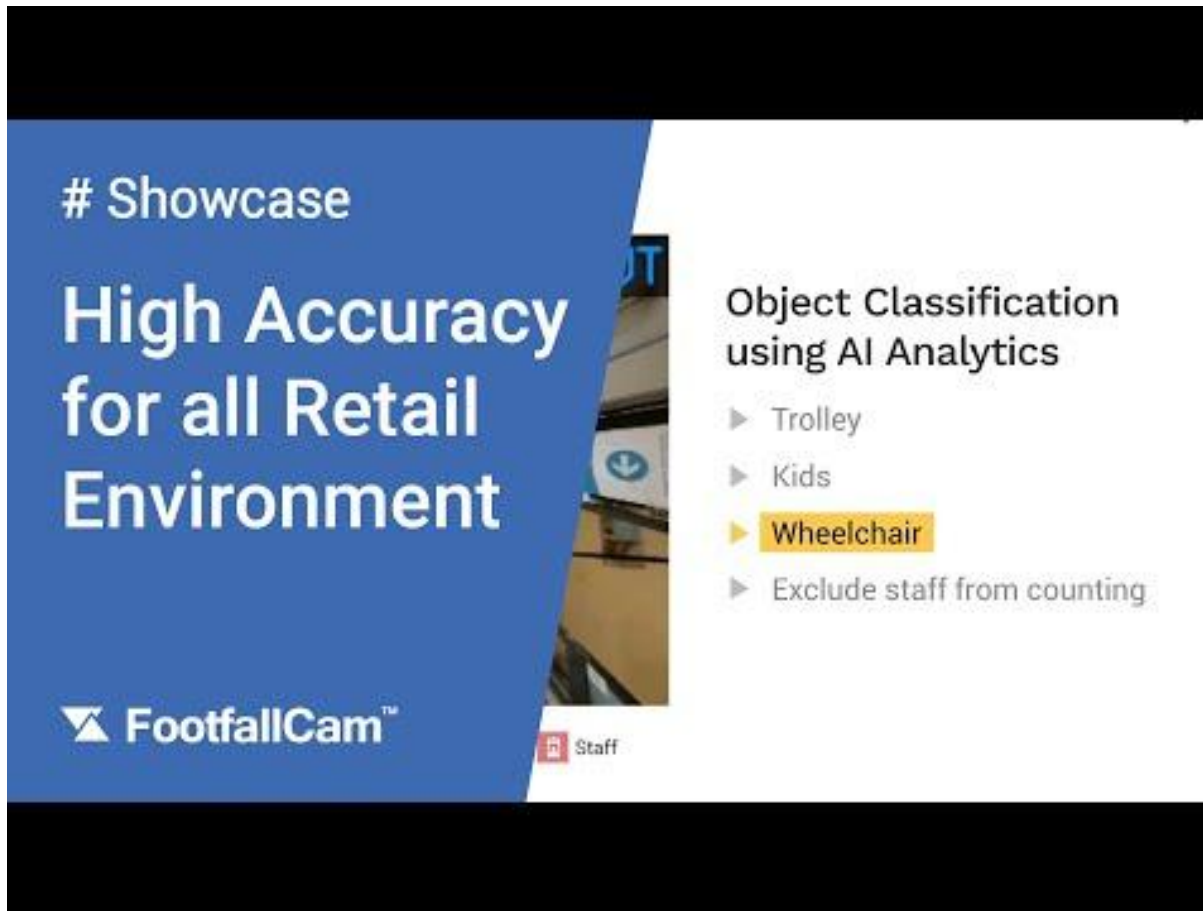
Data Integrity

- Video image processing algorithm with 1.2GHz processing power
- Up to 99.5% accuracy in the integrity of our counting data.

Uncompromised Accuracy

- Once counter has been verified by our specialists, the accuracy will not decrease over time, unless there is a change in store environment.

1b. High Accuracy for all Retail Environment

FootfallCam uses advanced people counting technology that is proven to be accurate in different site environment.

Watch how it works: https://youtu.be/nG2XXkMdyTA

- [Object Classification](#) using AI Analytics

- Suitable for all environment
  - High Ceiling
  - Low Ceiling
  - Narrow Entrance
  - Strong Shadow
  - Swinging Door

- U-turn not counted

- Distinguish as 2 persons when walking close to each other

1c. Counter Tuning based on Site Environment

- Our remote installation support team will ensure that counters' positioning is the most ideal based on store's environment
- Counting zone and counting lines will be drawn by our specialists according to store's environment.
- Fine tune by choosing the most appropriate counting algorithm for that environment.
- Upload this counting algorithm parameters to the counters.
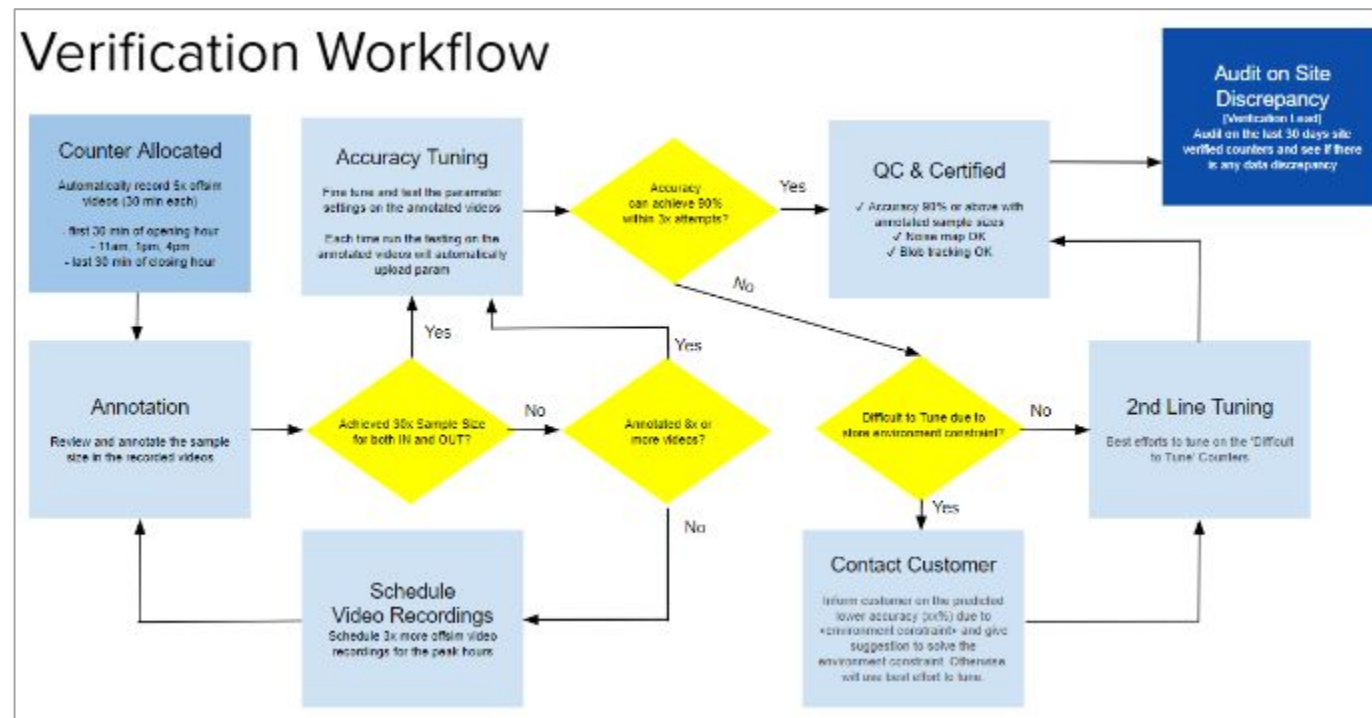
1c. Accuracy Audit

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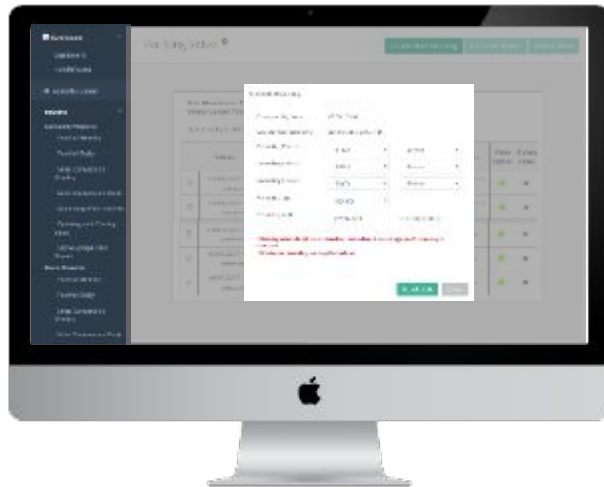
1 Schedule video recordings

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.
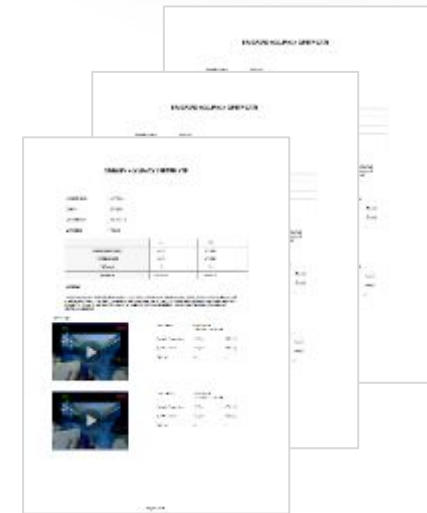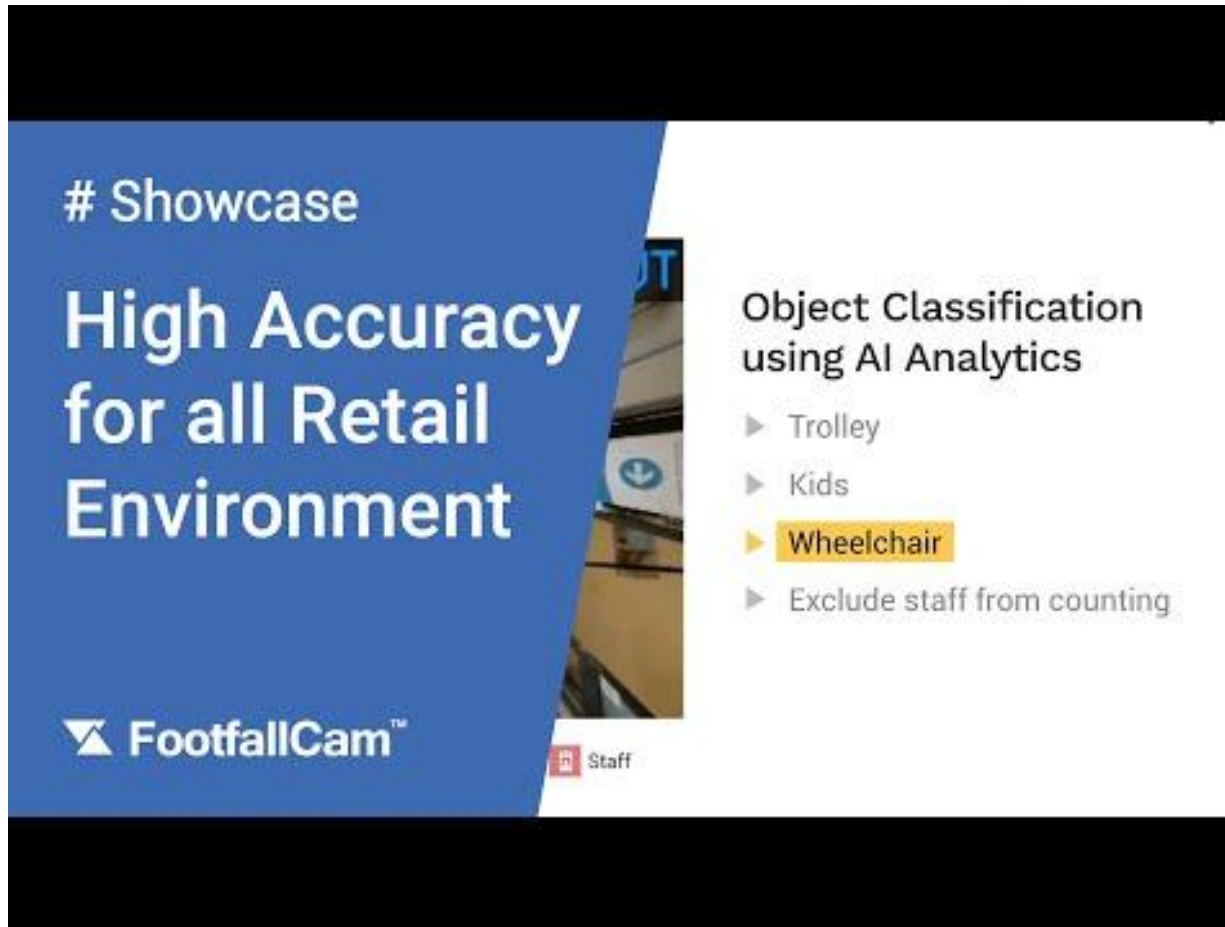
3 Generate verification report

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

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1d. Identify Different Objects/Personnel

Showcase

High Accuracy for all Retail Environment

Object Classification using AI Analytics
▶ Trolley
▶ Kids
▶ Wheelchair
▶ Exclude staff from counting

Staff

FootfallCam™

Watch how it works: https://youtu.be/nG2XXkMdyTA

- Identify Different Objects/Personnel via AI analytics
  - Trolley
  - Wheelchair
  - Kids
  - Staff

- Exclude Objects and Store Personnels
  - No purchasing power
  - Better reflection of visitor count

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1d. Staff Exclusion Methods

FootfallCam offers 5x different methods to identify different types of staffs tailored to their use cases.

Counting Exclusion Zone
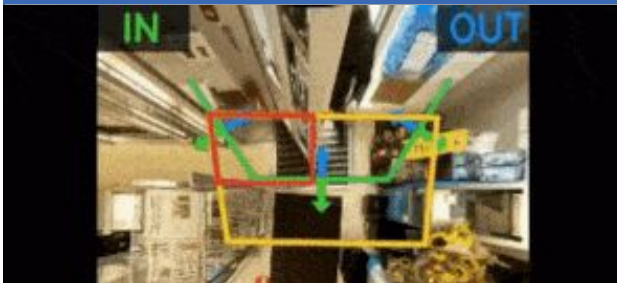
Wide Entrance, No Accessories Needed
Video link

Staff Exclusion Button

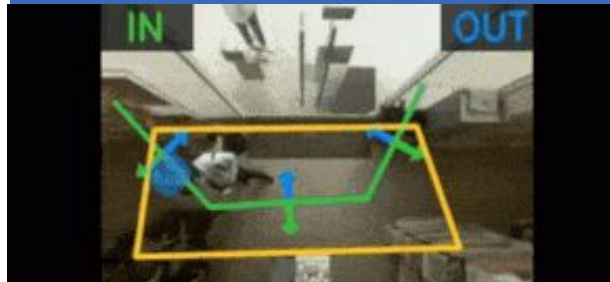Contract Workers (e.g: Delivery Man)
Datasheet

Discreet Fabric Staff Tag

Any Store Staffs
Video link

AI Staff Exclusion

Any Store Staffs
Datasheet

Dwell Time Exclusion

Hovering around Entrance (e.g: Security Guard) Video link

Sample Video:

FootfallCam Staff Exclusion
Video

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1e. Group Counting

Watch how it works: https://youtu.be/VZ4ck9_dVhc

FootfallCam 3D Pro2™ is able to provide Group Counting metric in addition to individual people counting.

- Counting customers in groups may give a better reflection of sales conversion. (One sale per family, couple, etc.)

- More realistic sales conversion based on purchasing group rather than individuals with no purchasing power

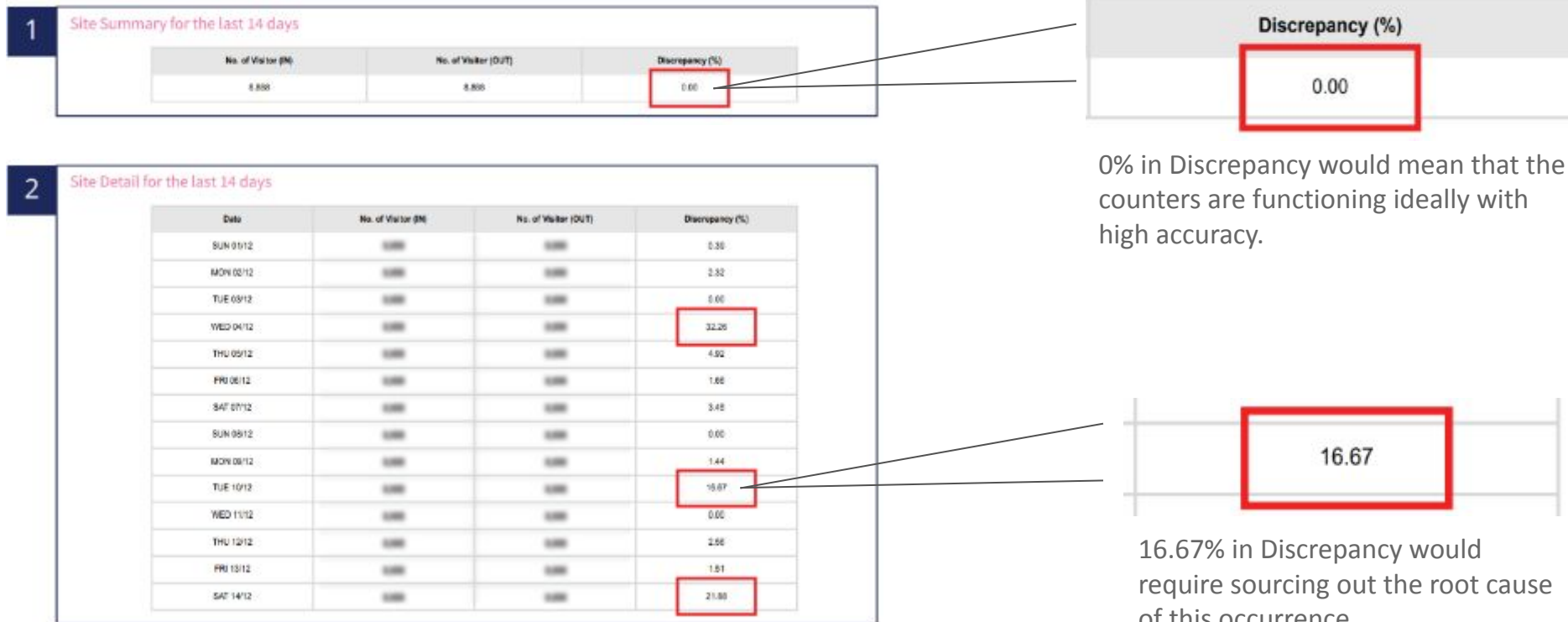- Data can be broken down into different sizes of buying groups

2a. FootfallCam Health Check

- Monitor if all sensors are connected and counting.
- Scheduled daily checks at a predefined 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. Low maintenance solution for customers.
- Detects issues such as:
  - Network issue or failures
  - Abnormal data alert
  - Counting data and Wi-Fi data upload checking
- Action plans to ensure issues are rectified within 1 working day

2b. Maintaining Data Integrity

The Data Integrity Report allows users to monitor data discrepancies and site changes. For example:

Discrepancy (%)

0.00

0% in Discrepancy would mean that the counters are functioning ideally with high accuracy.

16.67

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

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2c. Reactive & Proactive Support Workflow

This section outlines the parameters of all supporting services by FootfallCam.
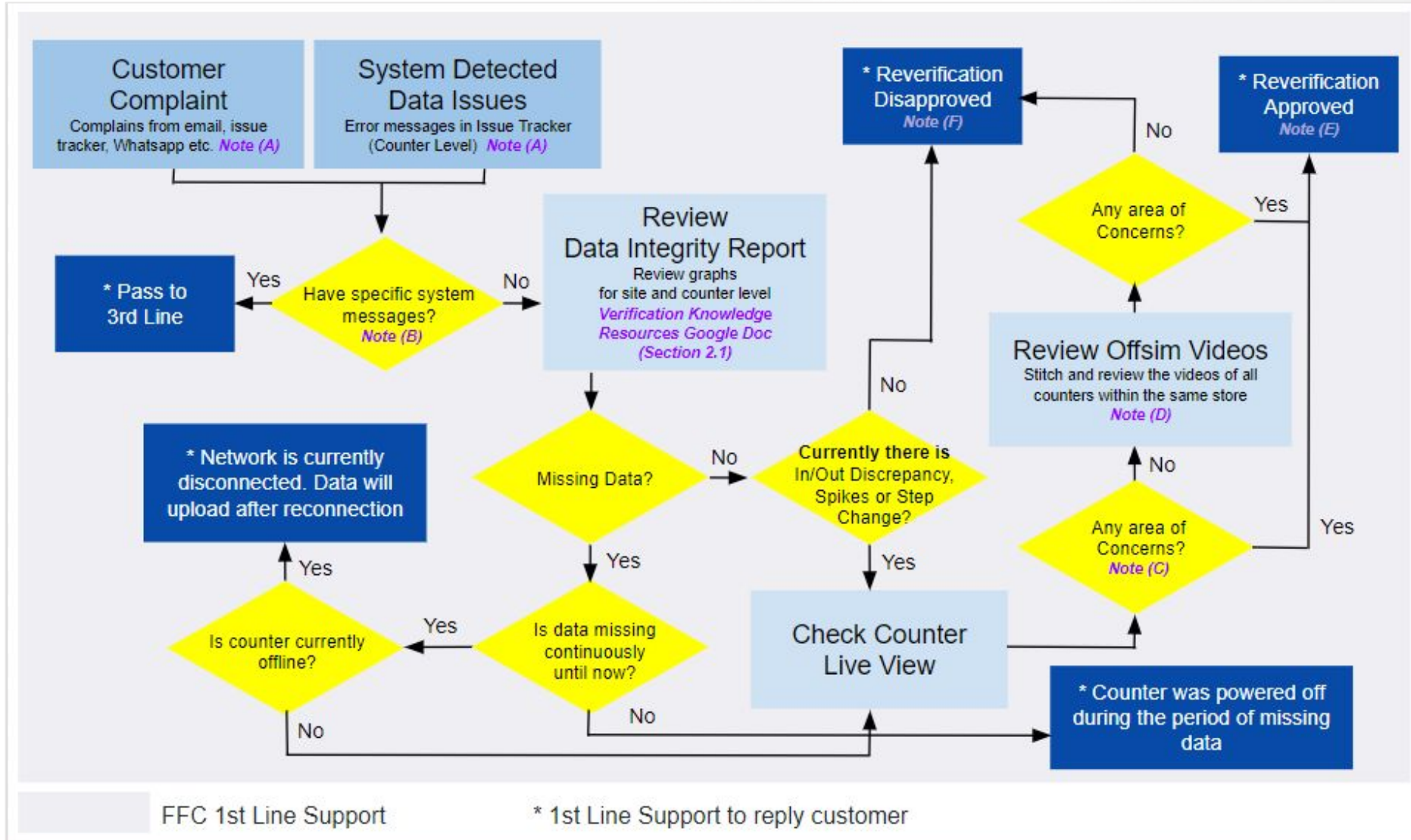
Flow chart of the support flow and diagnostics when issues are raised to FootfallCam.

Dashboard and Reports

User Requirements - Dashboard/Reports:

1. Ready-made standard dashboard/report templates
   a. Reports for Targeted Functions
   b. Dashboards for Operation Review
   c. Reports for Management KPI

2. Custom Report Builder for your own business requirements

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FootfallCam Analytic Manager V8™

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
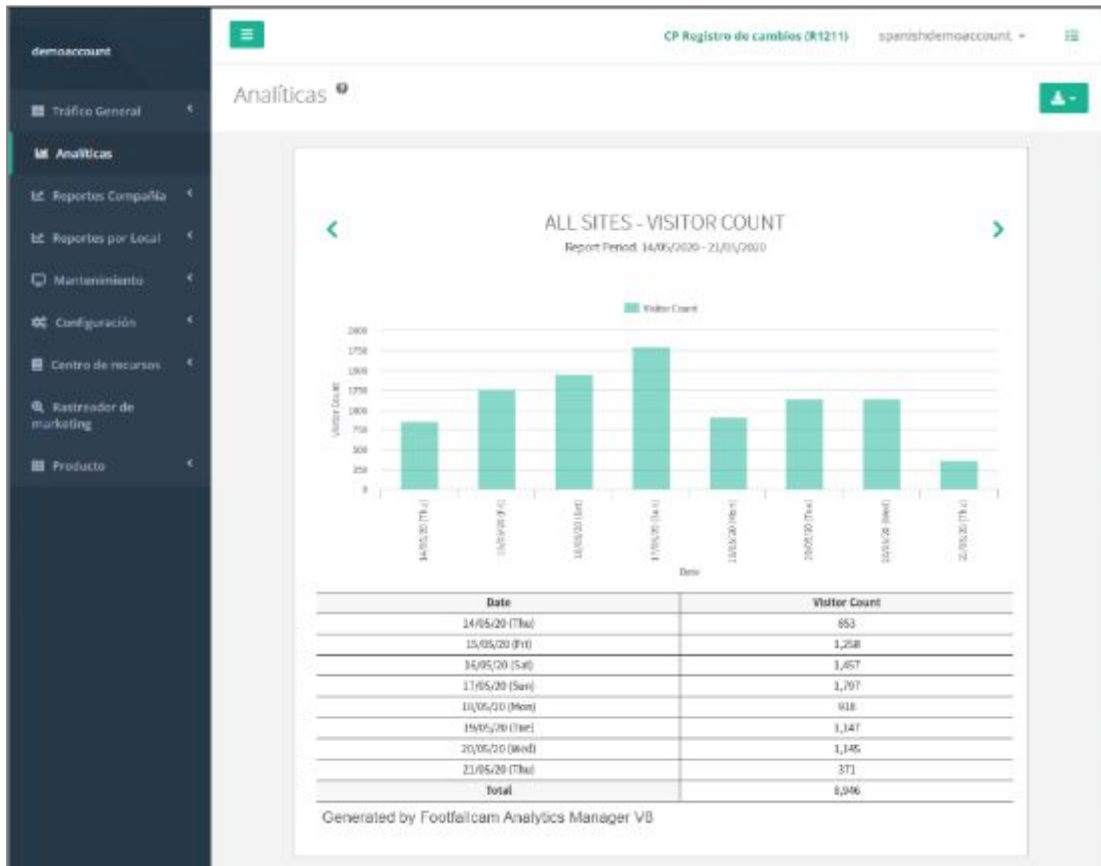
## Multi-language Interface

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

1a. Analytic Reports for Targeted Functions
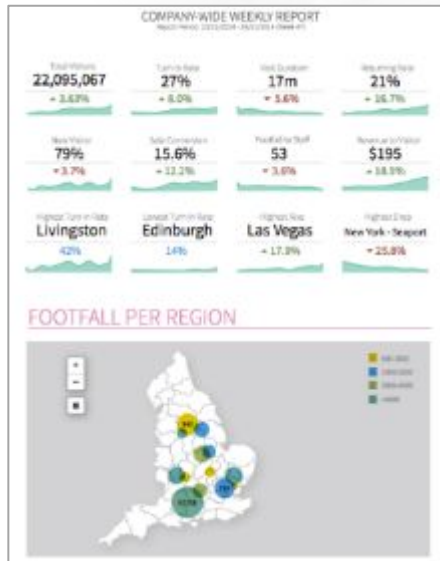
View report here.

#1 Company Weekly Report

Overview of key metrics for all stores within the company

Key Questions:

· How was the traffic profile in every store and different metrics like dwell time, visit frequency, *etc.*?
· Which region achieved higher ranking in term of turn in rate and retained customer loyalty?
· Which are the top performance and worst performance store?

View report here.

#2 Sales Conversion Report

Measuring sales performance for all stores by comparing with footfall data

Key Questions:

· Store A has the highest visitor but lowest sales conversion, what would be the reason?
· Store B has lowest visitor but higher sales conversion. So in actual fact store B is performing better than A even though store A has the higher footfall.

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1a. Analytic Reports for Targeted Functions

View report here.

#3 Marketing Effectiveness Report

Gauging the performance of your marketing campaign

Key Questions:

· Does your marketing campaign help in increase the brand awareness by higher shopper traffic during and even after the campaign?
· Does the campaign help to grab more attention and attract more people to visit the store?

View report here.

#4 Heatmap Daily Report

Visualising product-level customer engagement rate

Key Questions:

· Is your product well received by the market?
· Does product relocation affect the customer engagement, hence making a difference on product sales conversion?

View more on our Reports Catalogue.

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1a. Analytic Reports for Targeted Functions
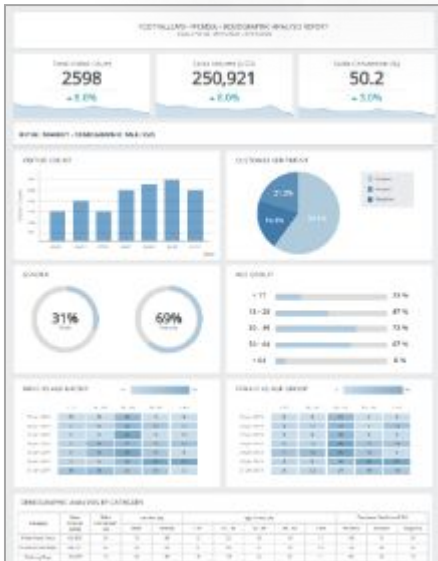
View report here.

#5 Demographic Analysis Report

Analysing the demographic of your customer base

Key Questions:

- How many percentage of your customers are male/female?
- What are the age groups for each gender?
- Did my customers have a positive/negative experience in your store?

View report here.

#6 Data Benchmarking Report

Comparing your store performance with the industry standards

Key Questions:

- How is your store performing against the industry standard?
- Which aspect of your store performance are you better/worse at?
- Which KPI should you spend your resources to improve on?

View more on our Reports Catalogue.

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1a. Store Traffic Trend

FITFLOP@SP - VISITOR COUNT
Report Period: 01/10/2019 - 20/10/2019

View report here.

Daily Trend Analysis - Visitor Count

Notes:
- Number of visitors will be slightly higher during weekends and holidays compared to weekdays.
- Facilitates decision making for staff planning during weekends and holidays; promotion event planning on weekdays.
- E.g., Store may plan a weekly promotion event on the day which is having lowest visitor count such as Happy Tuesday.
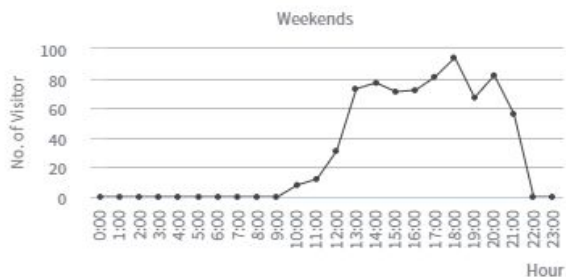
Hourly Trend Analysis - Average Visitor Count

Notes:
- The avg. visitor count of Weekends is higher than Weekdays.
- Managers can review their store arrangements to cater for peak hours and increase staff to customer ratio to improve on customer experience.
- E.g., staff will avoid taking breaks during peak periods or more shifts would be allocated during peak hours.

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1b. Sales Management Dashboard
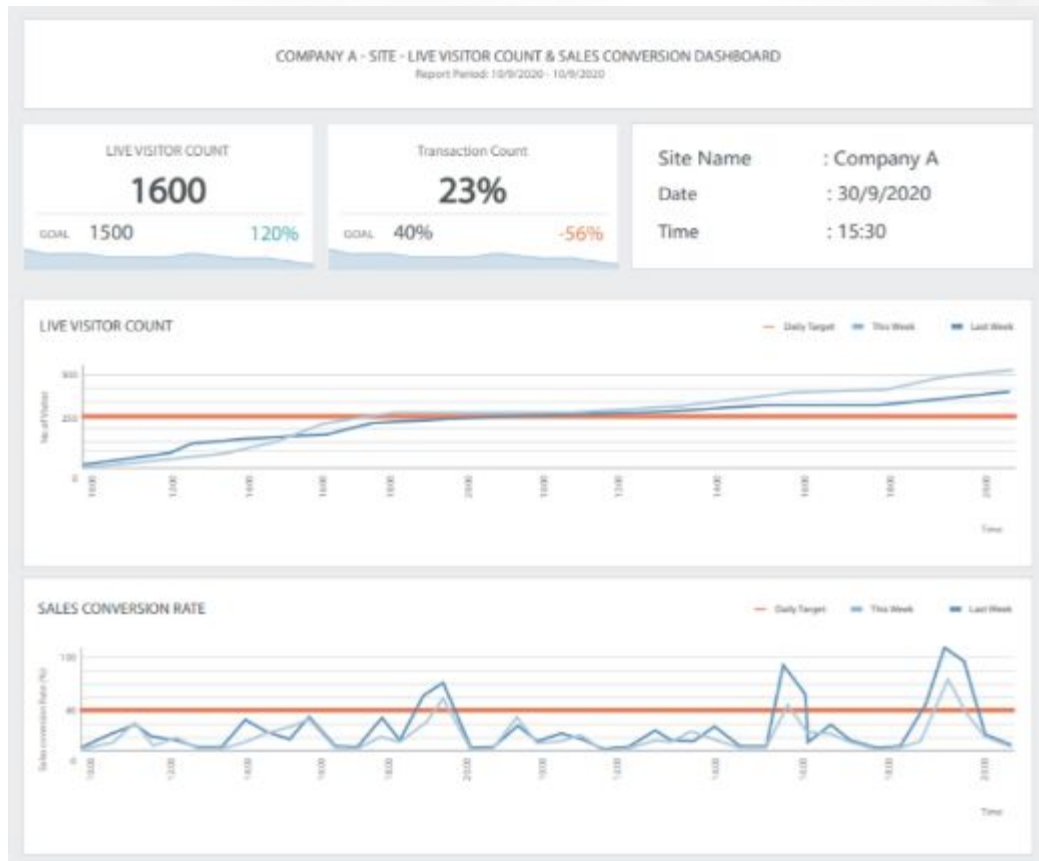
Sample Dashboard for Site-Level Sales Management
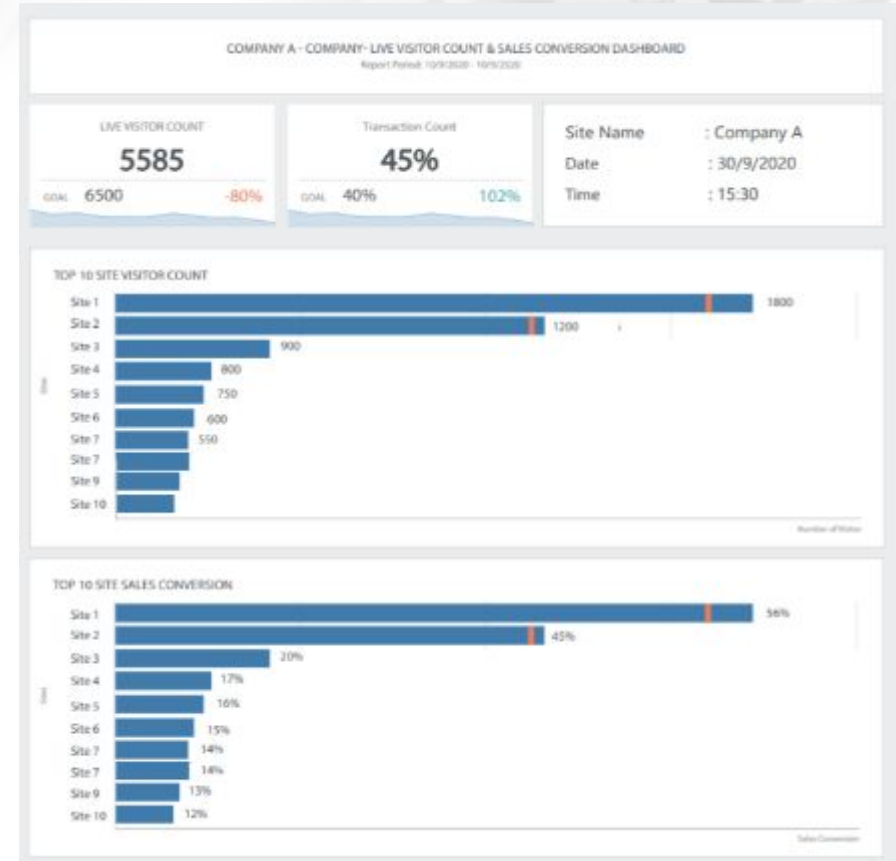
Sample Dashboard for Company-Level Sales Management

- Monitor the sales performance for each store in real time
  - Site-level and company-level
  - Compare the live visitor count and the sales conversion rate against target
- Make on-the-spot business decisions
  - Assign store staff to the right tasks based on the live visitor count and the transaction count
  - Drive each store to reach the daily target

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1b. Staff Allocation Workspace

More info here:
Company-Level Staff Ratio Tracker
Site-Level Staff Ratio Tracker
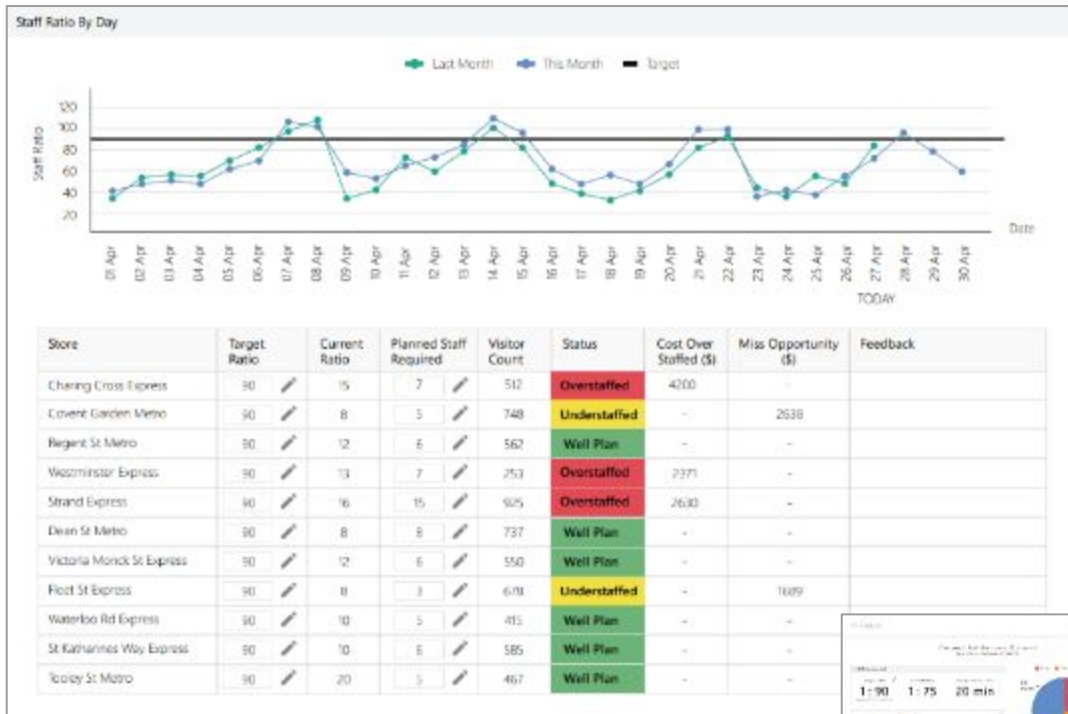
Audit staff allocation

- Crosscheck the number of staff in-store based on actual customer level

- Assess if staff level is sufficient during peak hours

- Can be displayed on smartphone/tablet/external monitor

Set target for staff-to-customer ratio

- Customise the target staff ratio based on each store's visitor count

- Set the number of staff required for the upcoming shifts

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1b. Sales Conversion Workspace for Manager
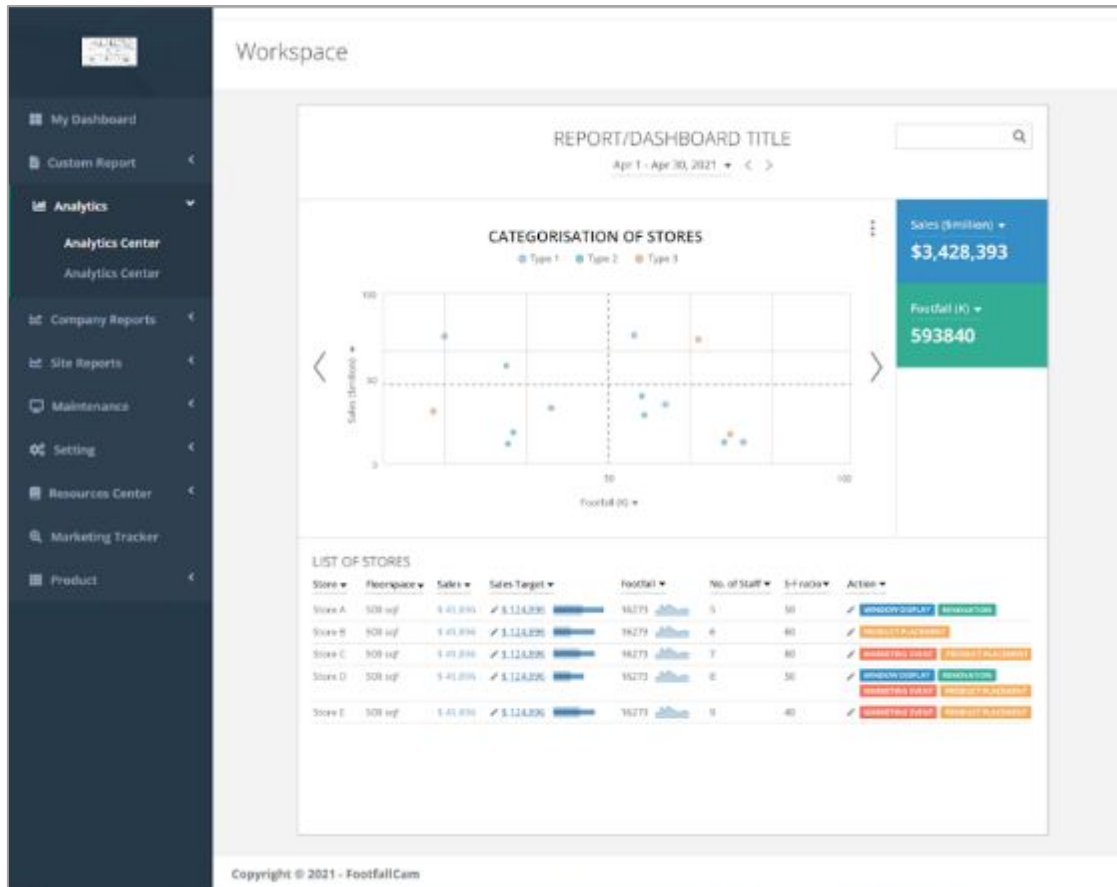
Sample League Table

- ## Overview of Sales Performance
  - Compare footfall with sales
  - Categorisation of stores
  - Customise strategies based on store profiling, for example:
    - Opening / Closing of stores
    - Staff training

- ## Set Sales Target
  - Configure sales target for each individual store
  - Track sales progress

- ## League Table for Competition
  - Drive store staff by comparable achievement with other stores with same attributes, for example:
    - Similar store size
    - Similar region

1b. Marketing Campaign Workspace

MARKETING EFFECTIVENESS REPORT
Report Period: 25/11/2014 - 29/11/2014 (Week 47)
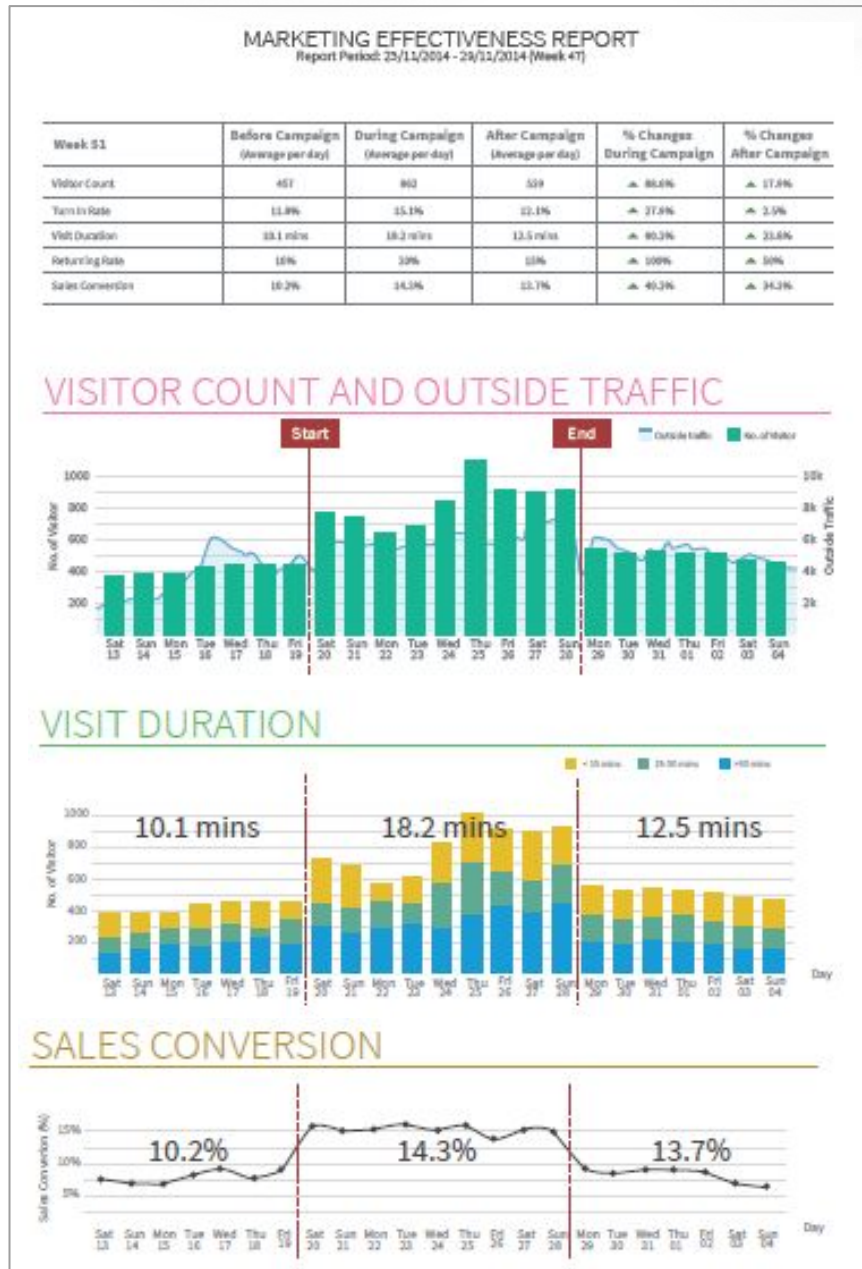
Categorise campaign

- Categorise campaign based on store's profile, type of campaign and budget etc.

Measure campaign's impact and ROI

- Analyse the metrics before and after campaign (eg. footfall, dwell time and sales conversion)

Compare campaign effectiveness

- Use A/B testing to identify desire practice
- Top and worst performing campaign
- Able to customize and decide next action

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1c. KPI Report for Management Review
Company-Wide Overview at a Glance

COMPANY-WIDE WEEKLY REPORT
Report Period: 23/11/2014 - 29/11/2014 (Week 47)

Total Visitors	Turn In Rate	Visit Duration	Returning Rate
22,095,067	27%	17m	21%
▲ 3.63%	▲ 8.0%	▼ 5.6%	▲ 16.7%

New Visitor	Sale Conversion	Footfall to Staff	Revenue to Visitor
79%	15.6%	53	$195
▼ 3.7%	▲ 12.2%	▼ 3.6%	▲ 18.9%

Highest Turn In Rate	Lowest Turn In Rate	Highest Rise	Highest Drop
Livingston	Edinburgh	Las Vegas	New York - Seaport
42%			

SITES SUMMARY

Region	Visitor Count			Turn In Rate		Visit Duration		Returning Customer		Sales Conversion	
	Rank	This Week	Changes (%)	This Week	Changes (%)	This Week	Changes (%)	This Week	Changes (%)	This Week	Changes (%)
Beijing Shin Kong Men	1105	199 800	▲ 11.2	22.4	▲ 2.1	6	▲ 14	14.5	▲ 19.1	34	▲ 32.3
Beijing China World	1126	201 306	▲ 12.9	19.5	▲ 3.2	11	▲ 13.5	7.3	▲ 20.9	14	▲ 35.5
Beijing Peninsula	1102	196 352	▲ 12.5	13.6	▲ 4.9	14	▼ 2.1	4.8	▲ 4.4	29	▲ 17.7
Bordeaux	1210	169 083	▼ 8.4	14.9	▲ 0.9	12	▼ 1.3	3.3	▲ 1.7	23	▲ 19.2
Cannes	1073	210 101	▲ 2.1	14.6	▲ 0.4	13	▲ 3.2	13.2	▲ 1.9	18	▲ 24.2
Courchevel	104	232 892	▲ 23.2	32.9	▲ 3.6	14	▲ 17.2	17.3	▲ 21.2	21	▲ 34.7
Courchevel Pop Up	189	201 157	▲ 27.9	16.5	▲ 3.4	17	▲ 12.5	21.3	▲ 19.5	22	▲ 25.6
Cologne	743	233 912	▲ 1.1	2.5	▲ 0.6	22	▲ 8.3	20.2	▼ 9.7	26	▲ 13.4
Chengdu Yanlord	819	231 224	▼ 3.5	7.3	▲ 0.3	14	▲ 7.8	7.3	▼ 3.6	34	▼ 28.7
Dalian	866	227 001	▼ 0.9	11.9	▼ 2.8	15	▼ 2.4	0.9	▼ 3.1	28	▲ 13.3
Deauville	421	212 174	▲ 12	18.4	▲ 2.2	12	▲ 14.9	21.7	▲ 19.1	18	▲ 32.3
Florence	1693	190 060	▲ 14.7	20.3	▲ 5.7	19	▲ 14.1	19.3	▲ 21.9	15	▲ 35.8
Forte Dei Marmi	1107	188 004	▲ 17.2	14.7	▼ 3.1	19	▼ 2.4	1.9	▲ 5.4	14	▲ 16.8

- **Data Visualisation and Breakdown**
  - Identify Trends and Outliers
  - Data from Multiple Timeframes

- **Drill up/down for more in-depth data**
  - Company-wide → Regional → Store-by-Store breakdowns
  - Make Data-Driven Decisions

- **League Tables**
  - Use Key Metrics to compare and evaluate stores
  - Identify Top-performers and underperformers

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1c. KPI Report for Management Review
Store Profiling

STORE PROFILING

Category A

Store	Sales($ million)	Footfall	Conversion(%)	No. of Staff
Colchester	▲ 480.5	▲ 98.8K	20%	5
Connswater	▼ 380.1	▲ 75.8K	18%	6
Cork	▲ 400.2	▲ 80.4K	17%	5
Craigavon	▲ 470.8	▼ 95.0K	16%	5
Crawley	▲ 300.9	▲ 67.9K	15%	4

Category B

Store	Sales($ million)	Footfall	Conversion(%)	No. of Staff
CribbsCauseway	▲ 500.2	▲ 35.3K	18%	5
Croydon	▼ 460.8	▲ 31.1K	17%	6
CrystalPeaks	▼ 330.2	▲ 19.9K	15%	5

Category C

Store	Sales($ million)	Footfall	Conversion(%)	No. of Staff
Cumbernauld	▼ 240.9	▲ 91.0K	20%	5
Cwmbran	▼ 240.1	▲ 83.8K	18%	6
Dalston	▲ 190.5	▲ 79.0K	17%	5
Darlington	▲ 180.5	▼ 76.0K	16%	5
Derby	▲ 130.9	▲ 74.5K	15%	4
Derby2	▲ 120.3	▲ 65.5K	13%	3
Doncaster	▼ 150.7	▲ 74.6K	12%	4

Category D

Store	Sales($ million)	Footfall	Conversion(%)	No. of Staff
Drogheda	▲ 150.9	▼ 49.9K	15%	5
Dundee	▲ 100.4	▼ 10.5K	14%	7
Dundee2	▲ 120.6	▲ 44.5K	13%	4
Dundrum	▼ 60.9	▲ 65.0K	12%	5

- **Realistic Targets by Store Category**
  - Performance-based Targets
- **Identify Store-Customer Trends and Patterns**
  - Peak Hours
  - Group Size
  - Returning Customers
  - Visit Duration

SALES CONVERSION

Time	Visitor Counts	Outside Traffic	Turn In Rate (%)	Transaction Quantity	Sales Conversion (%)
9:00	7	518	1.34	5	5.25
10:00	18	708	2.08	8	8.67
11:00	14	804	5.08	19	17.74
12:00	22	1533	1.25	21	31.57
13:00	14	1359	1.01	21	32.83
14:00	25	1393	1.08	17	22.88
15:00	33	1317	0.87	18	22.67
16:00	17	1061	1.46	10	13.54
17:00	12	766	1.54	6	20.31
18:00	11	374	1.58	2	18.54

1c. KPI Report for Management Review
Historical Trends and Data

- **Compare Live vs Historical Data**
  - Seasonal Data and Trends
  - Multiple Timeframes

- **Compare Store Performance with External Factors**
  - Weather
  - Public Holidays and Events
  - Industry News

- **Identify Campaign Effectiveness**
  - Track Campaign ROI
  - Measure Change in KPI due to Campaign

FootfallCam™

1c. Reporting Suite

Analytics Center

Company Weekly Report

Site Weekly Report
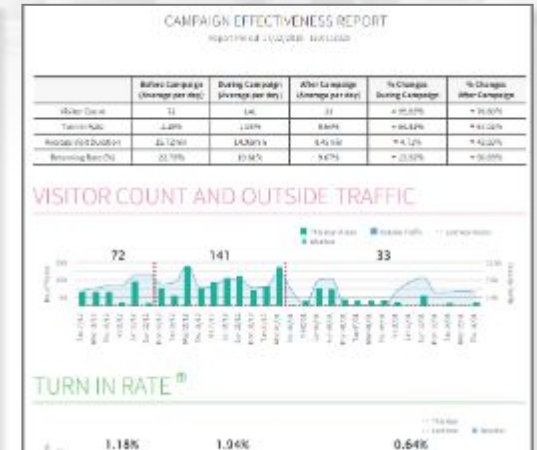
Marketing Effectiveness

Live Occupancy
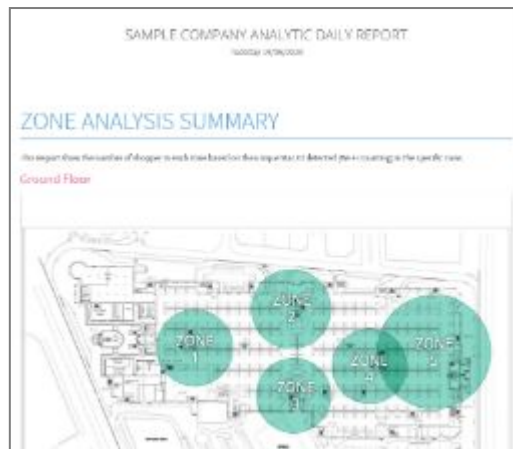
Zone Analytics

Mecca Occupancy
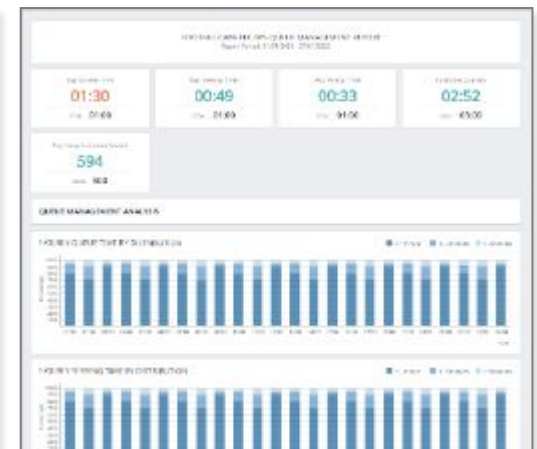
Queue Counting

FootfallCam™

2. Custom Report Builder

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.
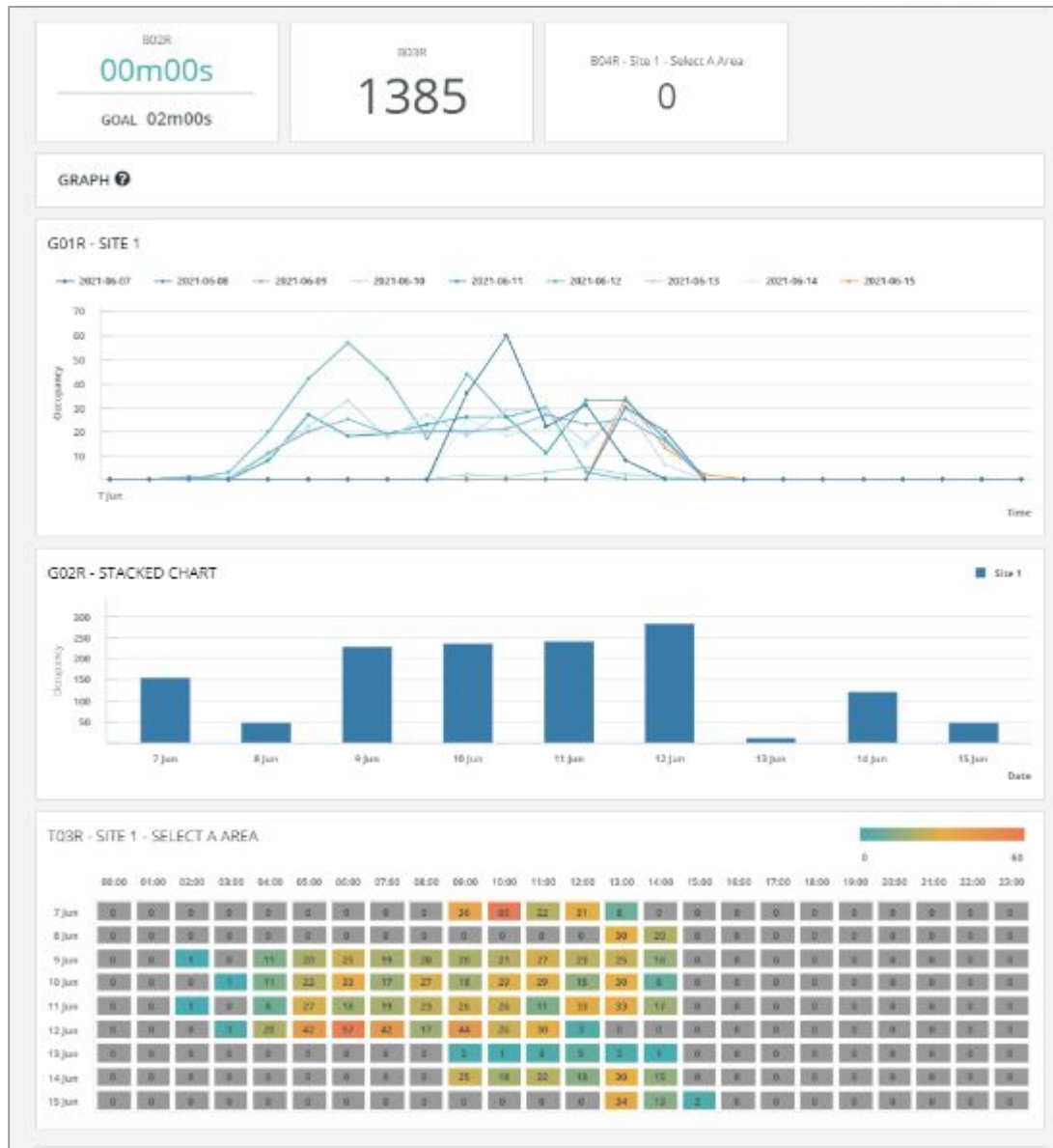
- **Build Custom Reports**
  - Over <u>20 types of widgets</u> to choose from
  - Over <u>40 metrics</u> to choose from
  - Easy to use – Drag and Drop widgets

- **Slice and Dice Dataset**
  - Drill up and down the report into different granularities and time intervals

- **Reports Management**
  - Organise Reports in <u>Folder Structure</u>
  - User Access Settings for Reports
  - Share & Export in PDF or Excel

FootfallCam™

Infrastructure and Integration

User Requirements for Infrastructure Setup:

1. Server/Data Hosting
   a. FootfallCam Cloud - Centrally Managed System
   b. Customer own server

2. Software Platform
   a. Open System Architecture
   b. Able to integrate data to customer's own BI system

3. Infrastructure Security
   a. Data Privacy & GDPR Exemption
   b. One-way hashing
   c. Single Sign On Integration

1a. Centrally Managed System

Server software is hosted by FootfallCam. It is a free service and retailer will be able to access the data via the control panel.

FootfallCam cloud server solution is a combination of Load-balancing, Multi-instancing, High Availability Server Architecture, designed to receive incoming data and aggregating data from counters all around the world, as well as generating reports, view live data and extracting processed data for integrations to suit our customers' needs with scalable capability.

FootfallCam is hosting the most powerful functions on behalf of the retailer, making it available even for 1 counter installation.
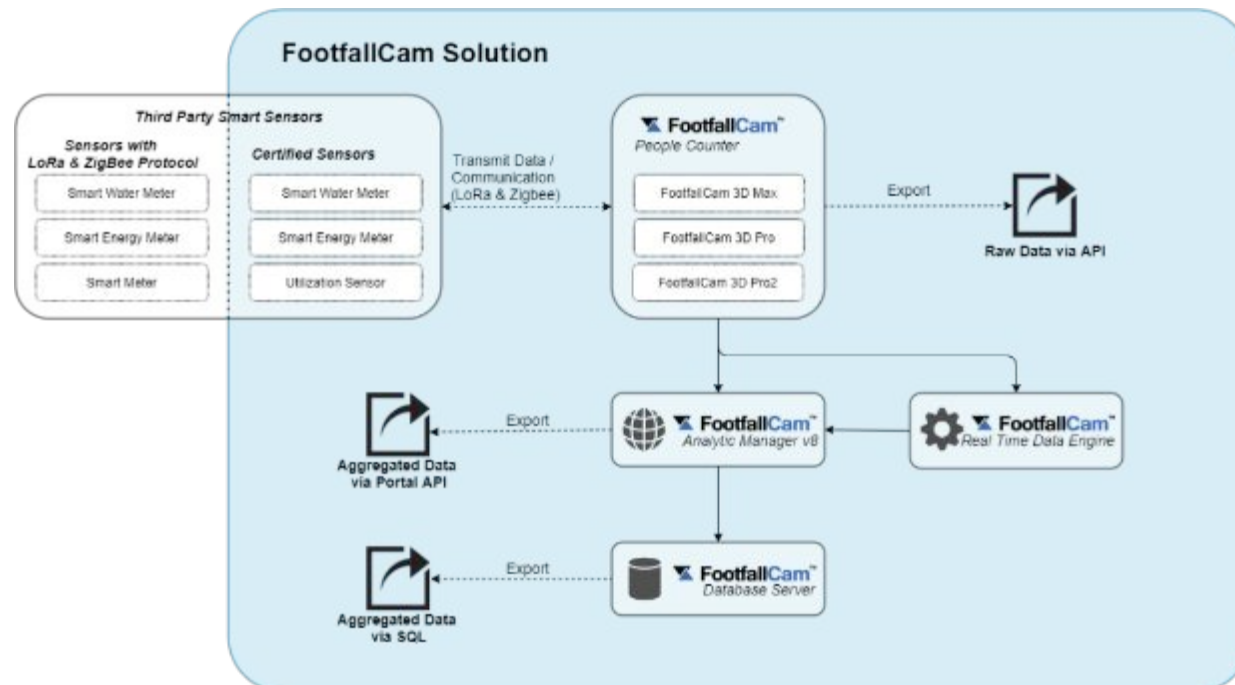
1b. FootfallCam Software Installation Options

Users may choose to view their reports and generated data by FootfallCam on the cloud-based server or their own on-premise/private cloud server.
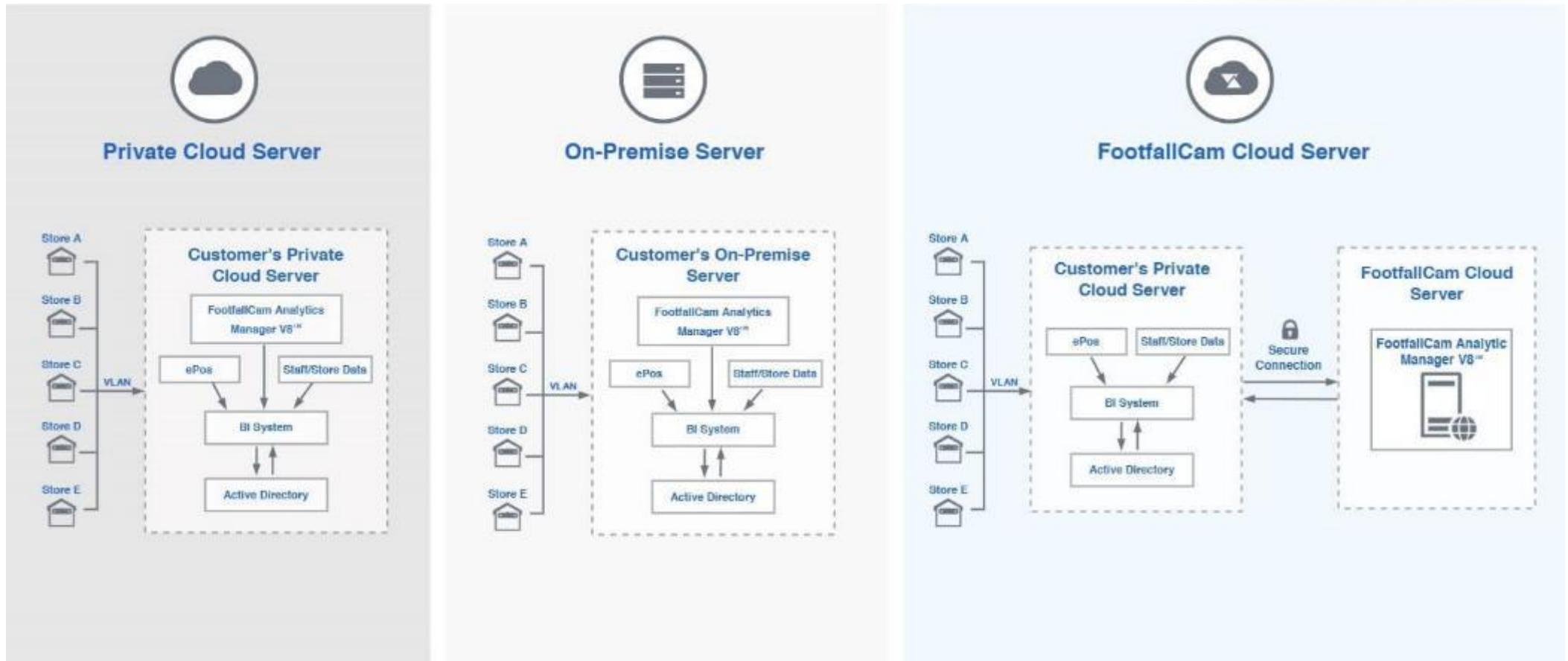
2a. FootfallCam Software Platform

FootfallCam Analytics Manager V8™

Ready made Plugins for Integration

Backup Storage
- S3
- Azure Blob Storage

Single Sign-On
- Active Directory

Import / Export
- Tableau
- Power BI
- SQL
- MySQL

Third Party Integration

Built-in Modules

Device Manager
- Health Check
- Configuration
- Verification

Rules Engine

Dashboard and Report
- Real-Time Dashboard
- Mobile App
- Report
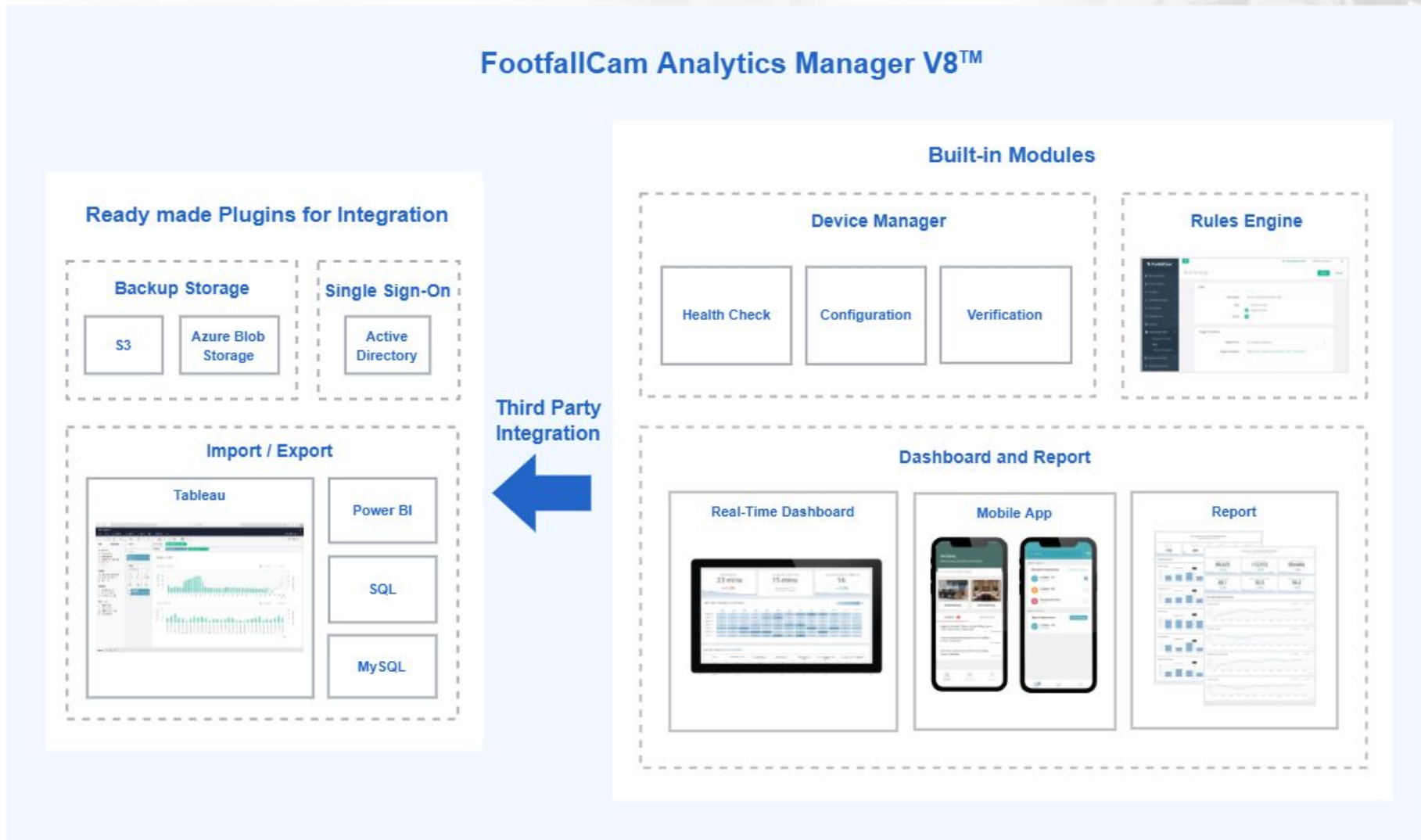
- Open architecture. Customers will have full ownership and access to all the data

- Data can be integrated to your own Business Intelligence (BI) system and FootfallCam provides ready-made plugins to achieve that

FootfallCam™

2b. API: Integrate with your Applications
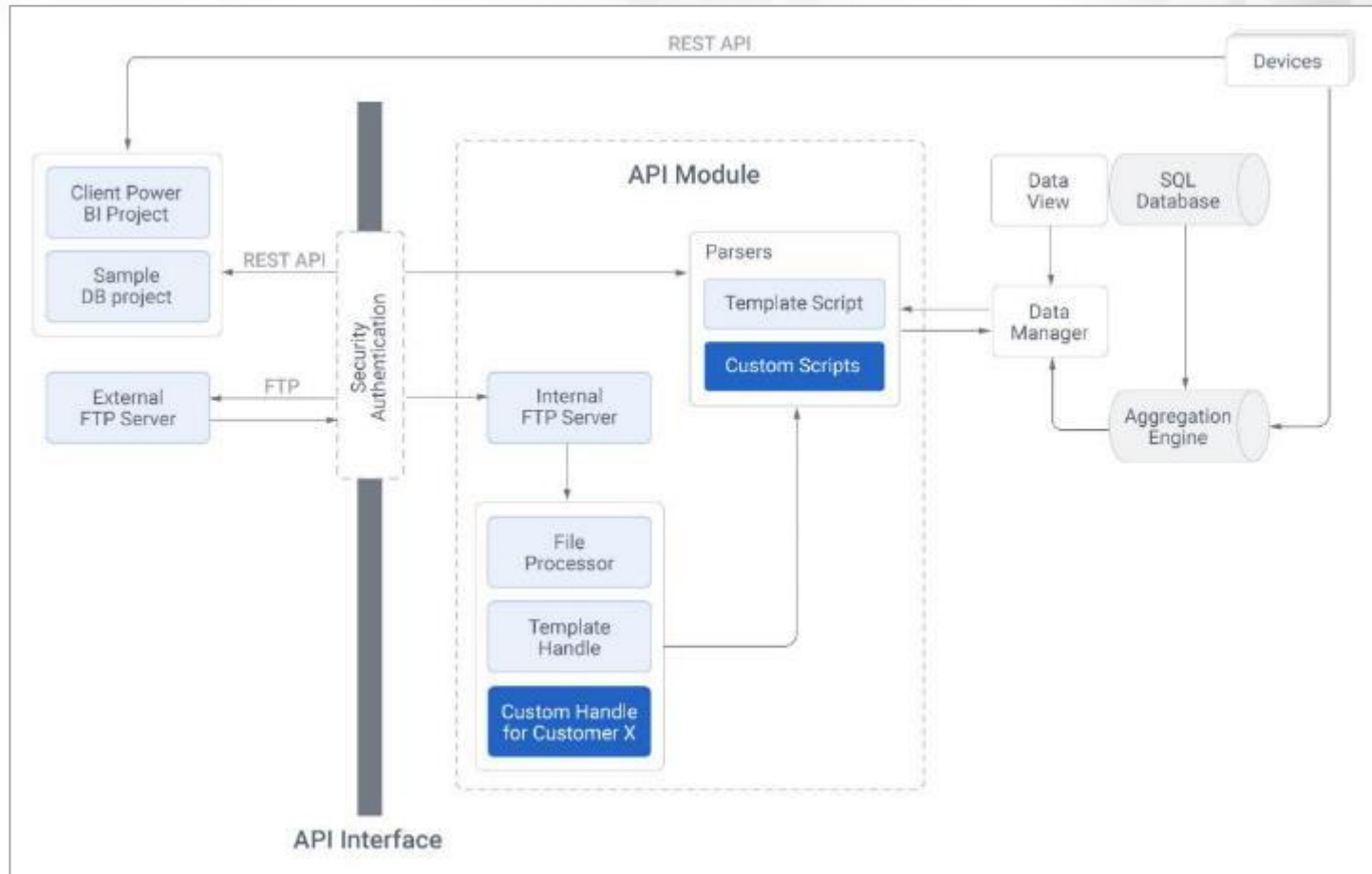
FootfallCam API document

- **Integrate** people counting data into third-party software platform or sample projects via API or FTP
- **Real-time** data retrieval
- Data in **aggregated** or **raw** format
- Allow **customised** scripts and handling for specific customer's project

FootfallCam

2b. Legacy Cameras

Competitor X Counter → Competitor X Database → FootfallCam Database → FootfallCam Analytics Manager V8™

Integrating Existing People Counter
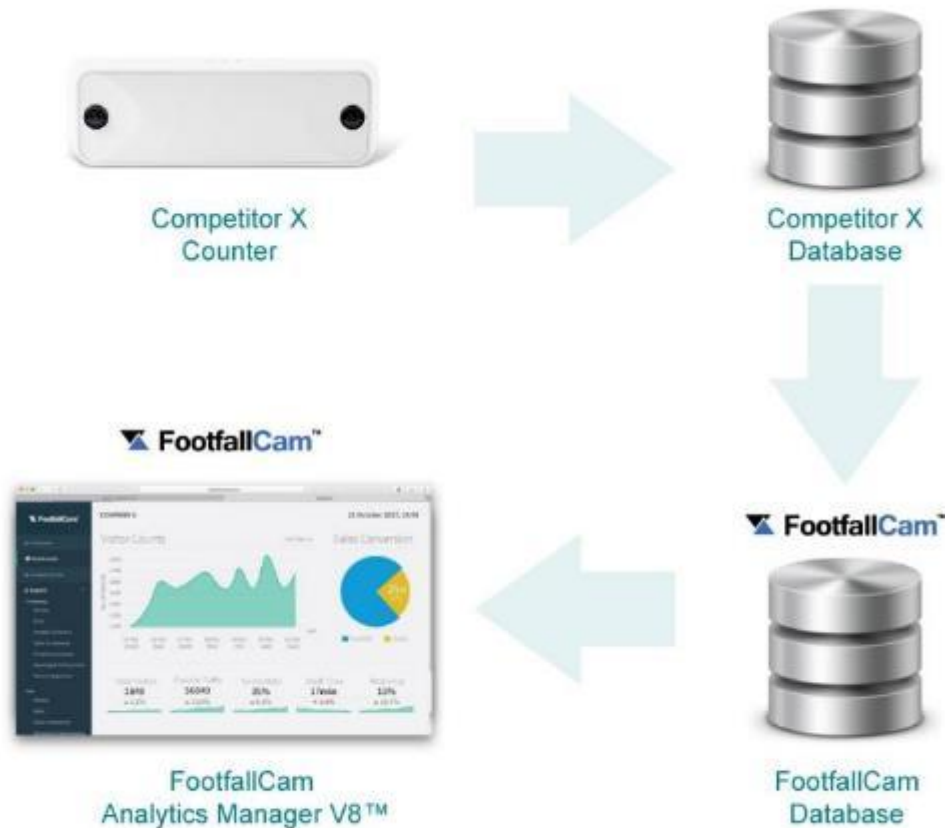
- Use legacy hardware while using having access to FootfallCam's dashboard reporting feature

- Done through an API calling script to pull the counting data from their existing counter into the FootfallCam Analytic Manager

- No additional requirement to do any re-engineering as FootfallCam will retrieve the API access key directly from the vendor of the incumbent counters

- FootfallCam offers full maintenance service for existing legacy hardware

FootfallCam™

3a. Data Privacy and GDPR Exemption
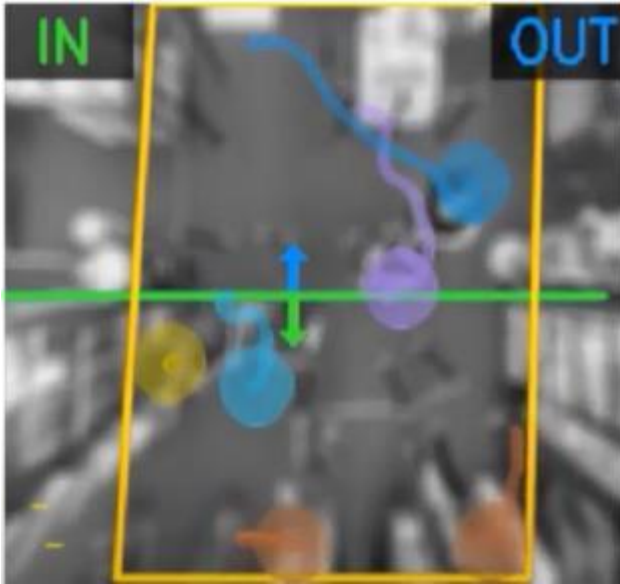
Option 1: Black and white mode
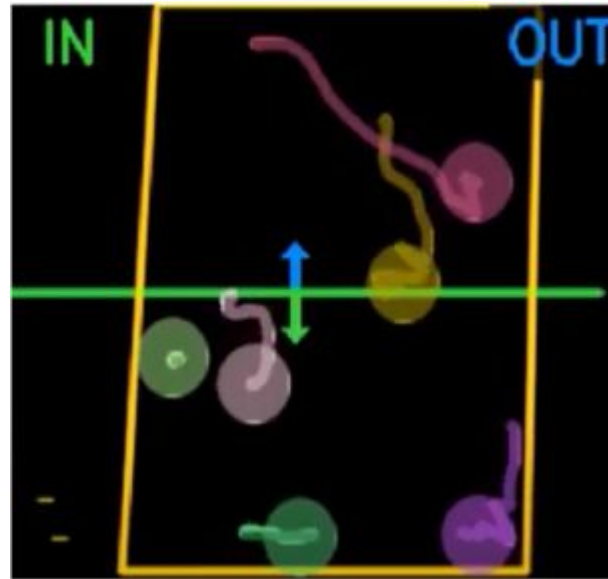
Option 2: No live view mode
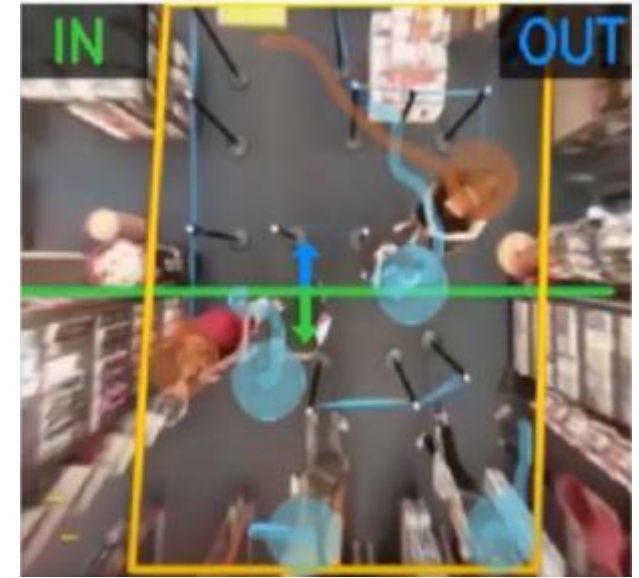
Option 3: Low resolution mode

- 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. View video on different privacy mode here.

- 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 exempted from GDPR. More information can be found here.

FootfallCam™

3b. Data Security and Privacy Policy

All raw data are hashed on a one-way level, rendering it difficult for anyone with access to the raw data to reverse the hashing algorithm.

Counter

Internet

Analytic Manager

One Way Hash
FootfallCam counter will hash all data on a one way level to ensure data security.
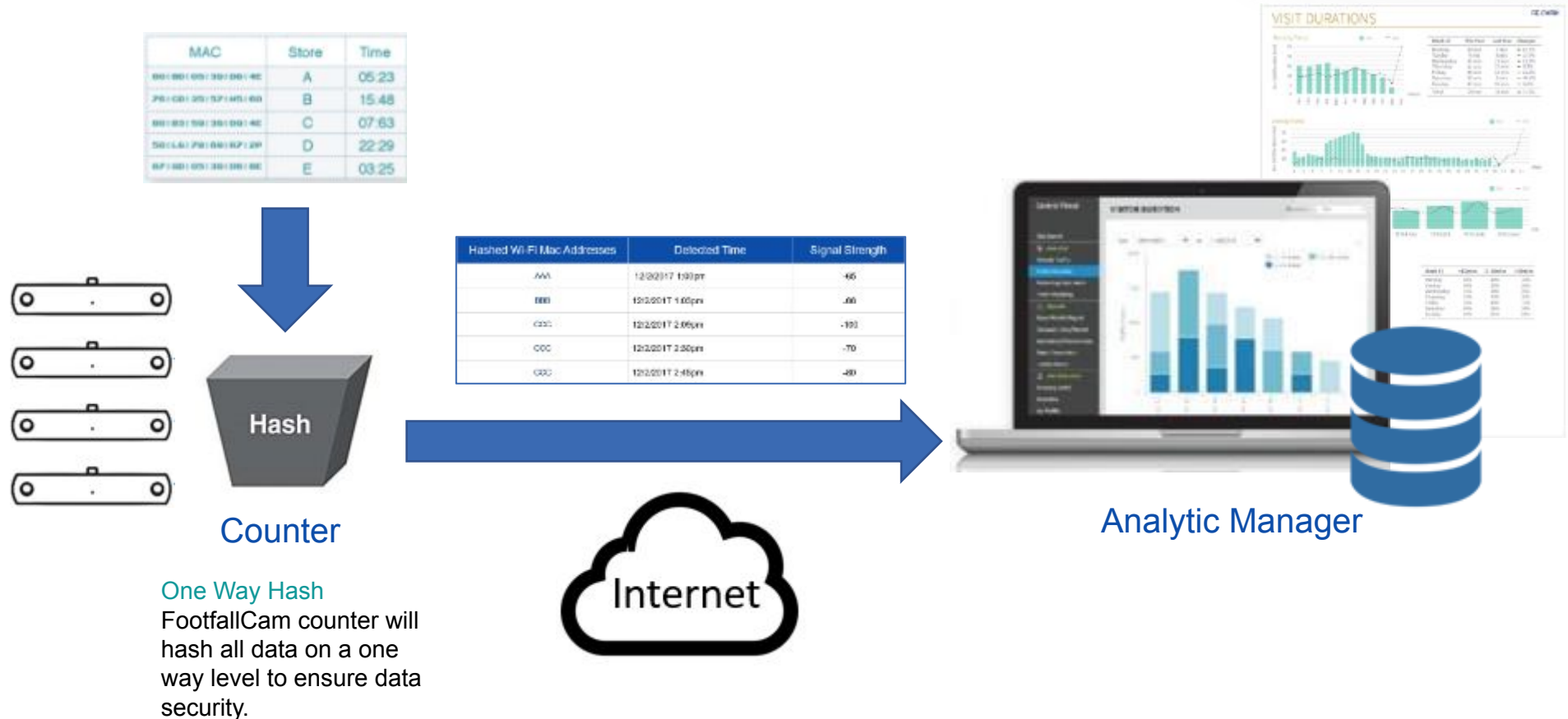
View FootfallCam Data Privacy Policy

FootfallCam

3c. Single Sign-On Integration
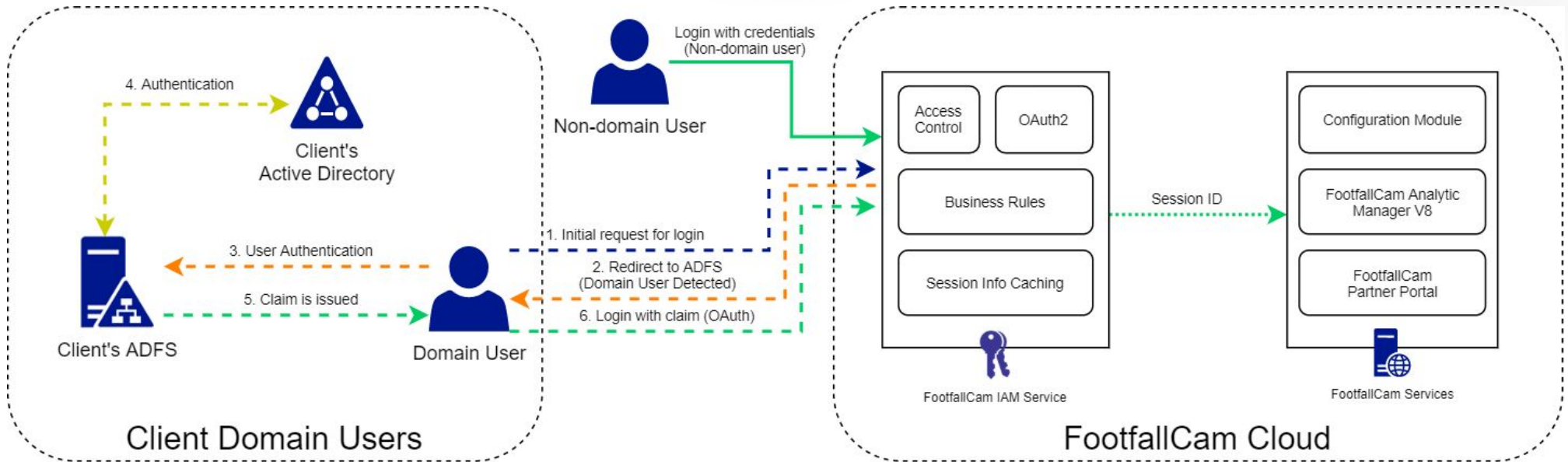
- Customer will be able to integrate the Active Directory Domain Users into FootfallCam™ Analytic Manager V8 and Partner Portal through Active Directory Federation Service (ADFS) with OAuth2.

- To setup Single Sign-On feature, customer will need to provide On-Premise Authority (URL of the ADFS metadata document), and should do provisioning into customer's ADFS.

- In FootfallCam™, customer must have a local administrative company account, connect to customer's ADFS, and instantiate each individual user account within the company account

Software and Support

User Requirements - Software & Support:

1. Software Functions
   a. Device Management - Manage all devices in one platform
   b. Account Management - User Access Control
   c. Rule Engine - Highly Customisable Application

2. Support/Maintenance
   a. FootfallCam Support Portal
   b. Service Level Agreement
   c. Engineer Call Out
   d. Return Merchandise Authorisation (RMA)

FootfallCam

1a. 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

1b. 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.

1c. FootfallCam Rule Engine

FootfallCam Rule Engine - List View
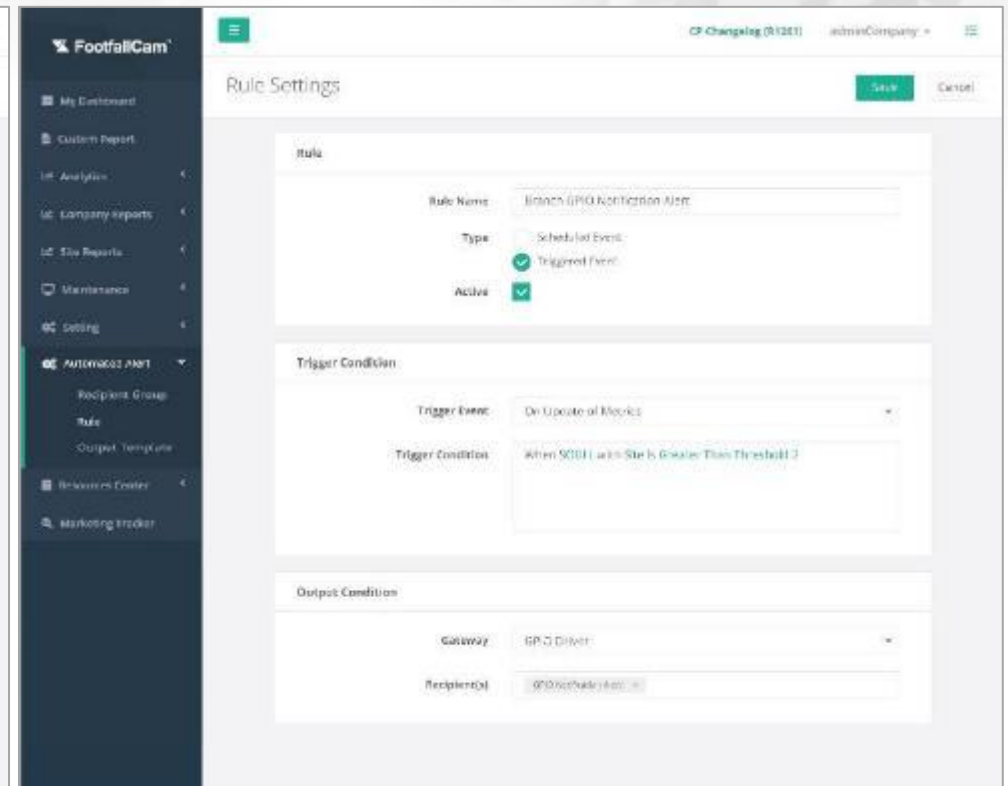
FootfallCam Rule Engine - Settings

- 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

Management Control

User Control
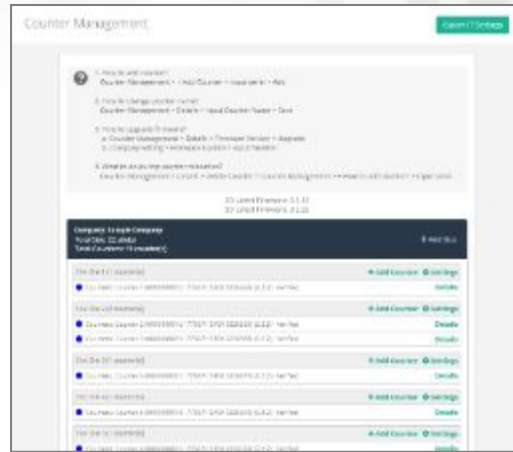
Branch Control

Email Scheduler
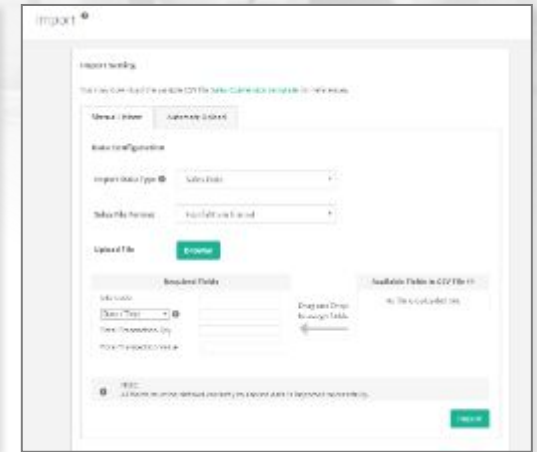
Import/Export

Health Check and Maintenance Tools
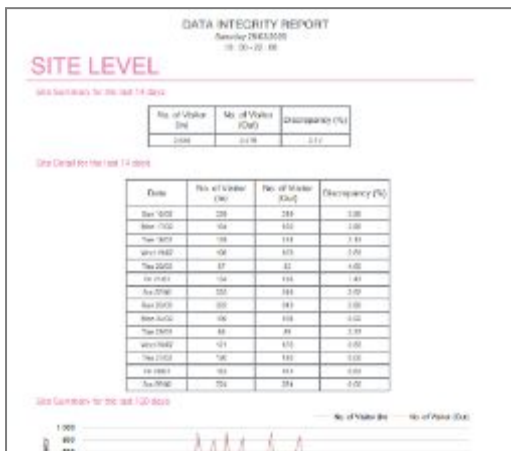
Data Integrity
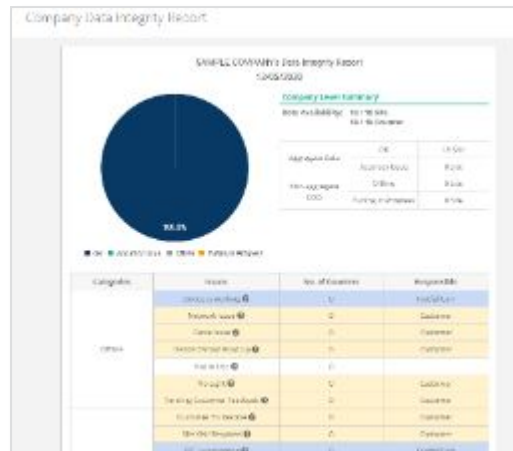
Company Data Integrity
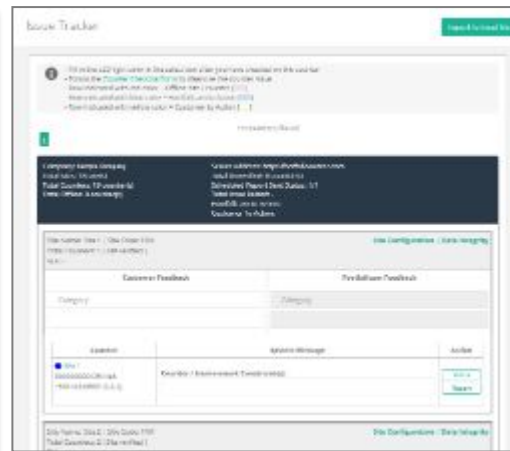
Issue Tracker

Support Portal

2a. 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](#).

2b. Service Level Agreement

FootfallCam has categorised the support service into three tiers based on its priority levels:

- Priority Level 1: Business critical

- Priority Level 2: Urgent support needed

- Priority Level 3: General issue with no major business impact

- Service Level Agreement ([view full document](#))
- Includes:
    - Daily counter health check
    - Accuracy audit
    - First-line, second-line, and onsite support
    - Software and firmware upgrade
    - And more
- Applicable for FootfallCam products including FootfallCam Centroid and third-party CCTV camera

2c. FootfallCam Engineer Call Out

FootfallCam provides 2 options for engineer callouts - Itemised cost (upon request) or Package pricing (on Subscription basis)

Sample Engineer Callout Package (pdf)
Sample Engineer Callout Package (Excel)

#1: Itemised Cost

	Categories	In-Hour Callout Unit Cost (GBP)	Out-of-Hour Callout Unit Cost (GBP)	SLA
P1	Immediate	700	910	Within 2 working days
P2	Express	450	390	Within 4 working days
P3	Standard	234	250	5-14 working days

#2: Sample Package Pricing

	Categories	No. of Callout per Year (Credits)	Package Pricing per Year (GBP)	Average Monthly Fees per Store (GBP)
P1	Immediate	1		
P2	Express	16	13,185.00	2.01
P3	Standard	27		

Notes:
- FootfallCam offers Annual Engineer Call Out package with discounted pricing, customisable for each customer
- A Risk Assessment will be conducted to estimate the number of potential call-outs needed

FootfallCam™

2d. Return Merchandise Authorisation (RMA) Process

Upon diagnosis by FootfallCam that a device is suspected faulty, the device will be sent back to FootfallCam to undergo further inspections through the Return Merchandise Authorization (RMA) Process.
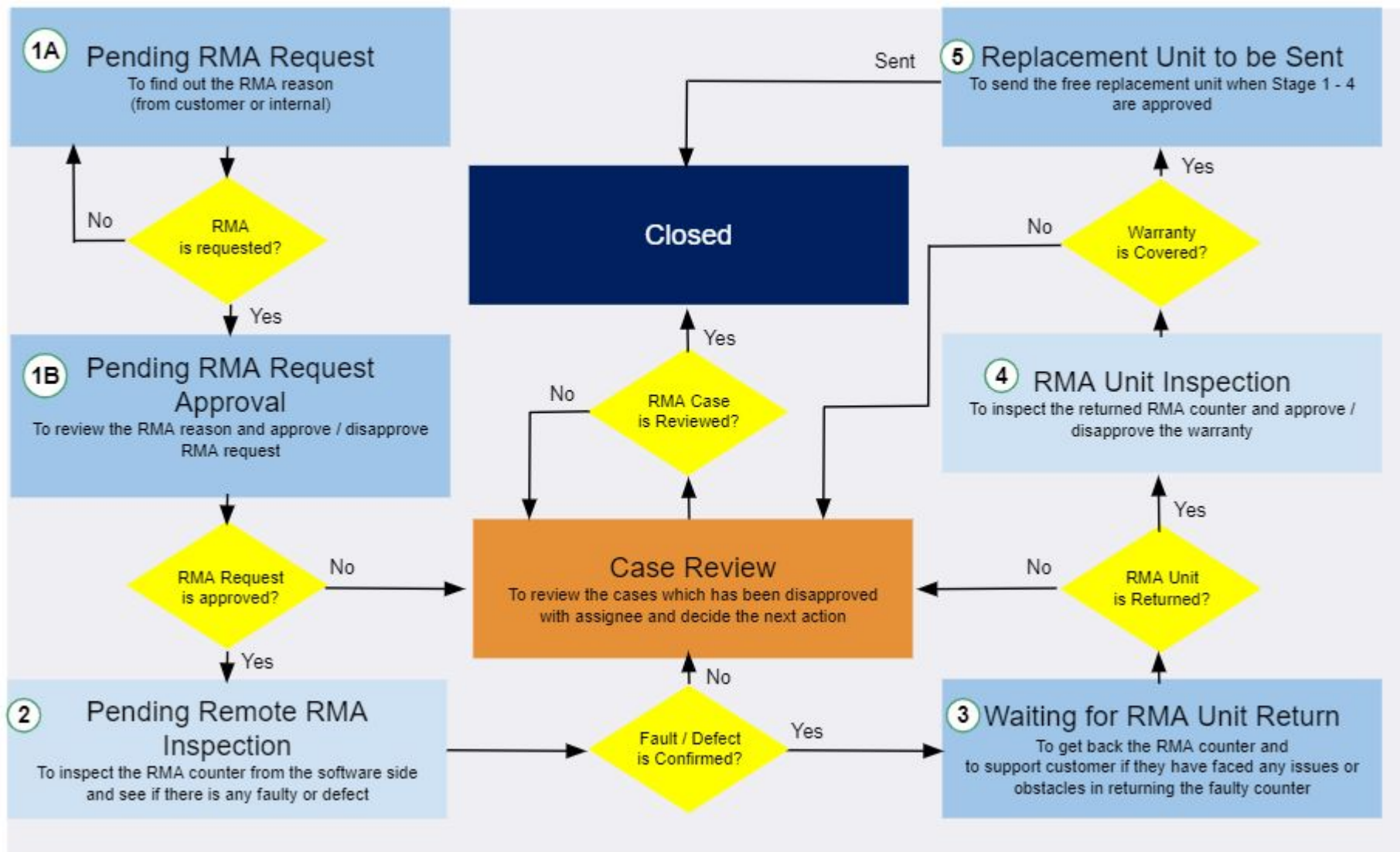
Installation and Deployment

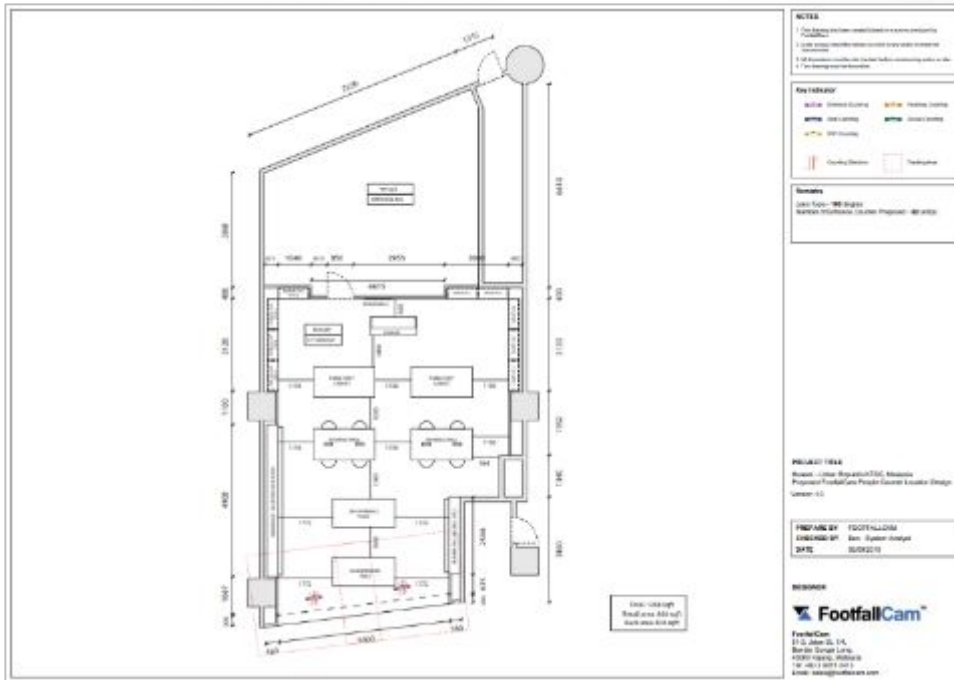# FootfallCam Deployment Options

Option #1:

**1x
People Counter**
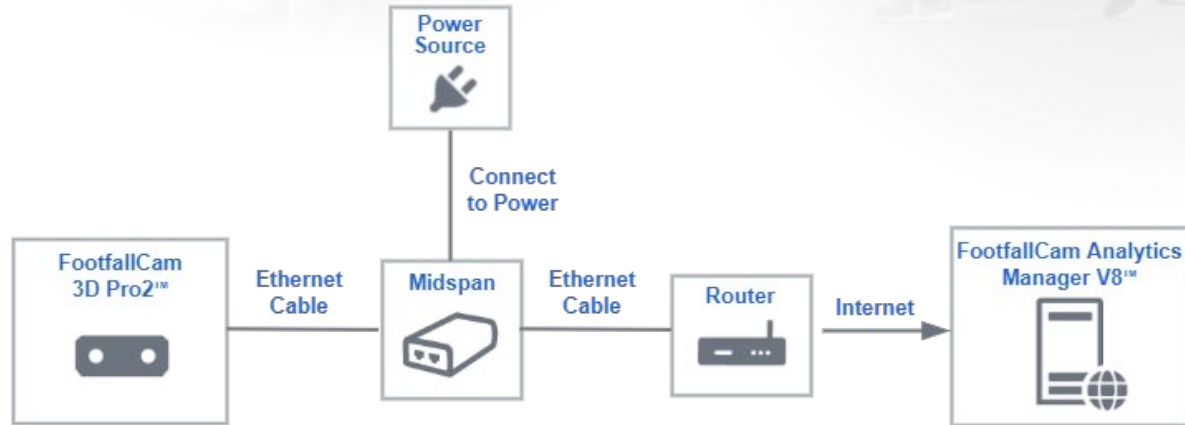
Option #2:

**Multiple
People Counters**
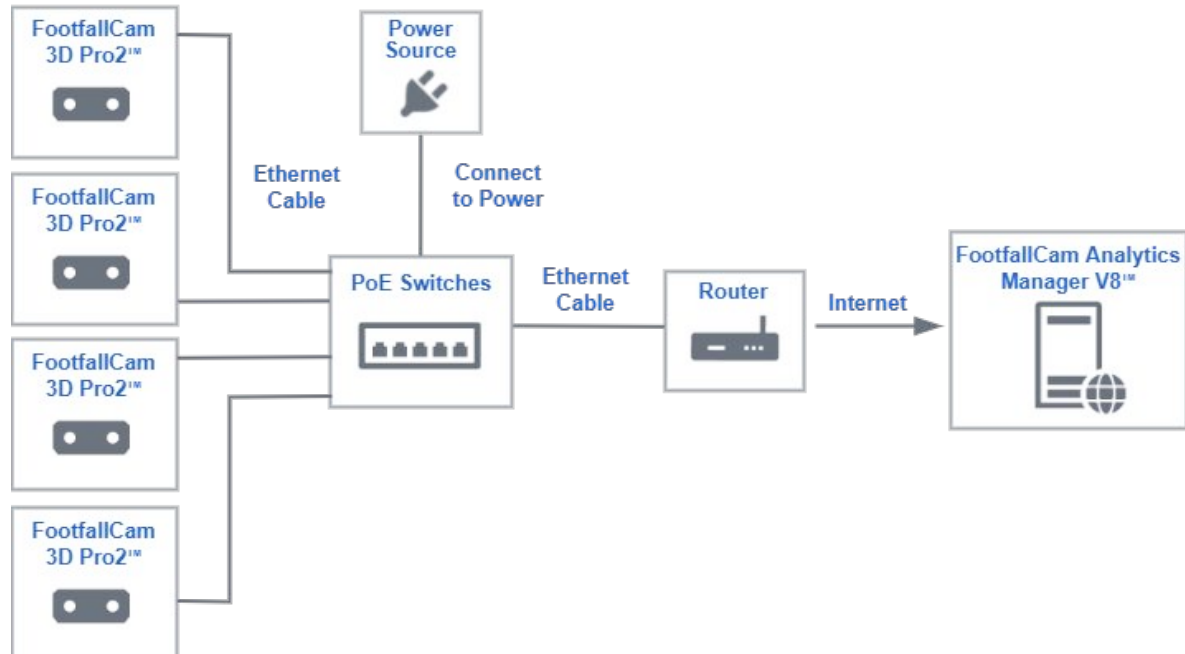
Floor Plan Design

- FootfallCam provides the service of designing customers' floor plans to facilitate the installation for the quantity of counters required, cabling location and mounting position of the counter before every installation.

- Determine where to position the device during each event to ensure no props are obscuring the live view of the device

- The sample floor plan serves as an example of standard floor plan plotting done by FootfallCam system analyst.

Deployment Process
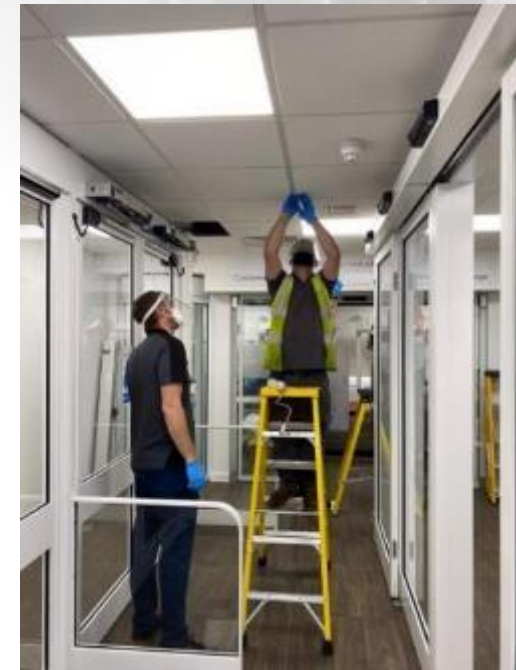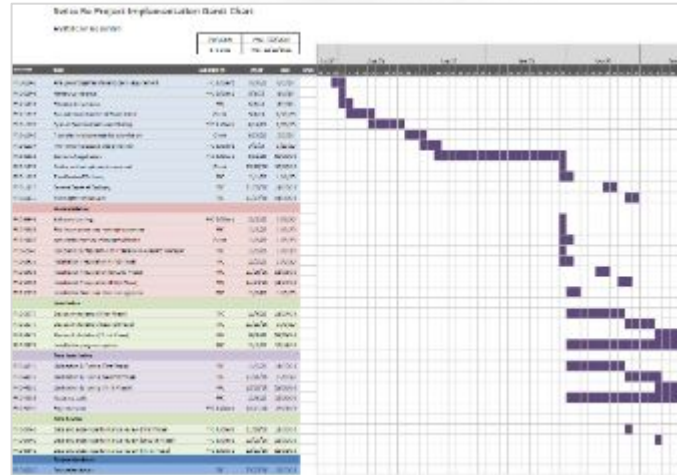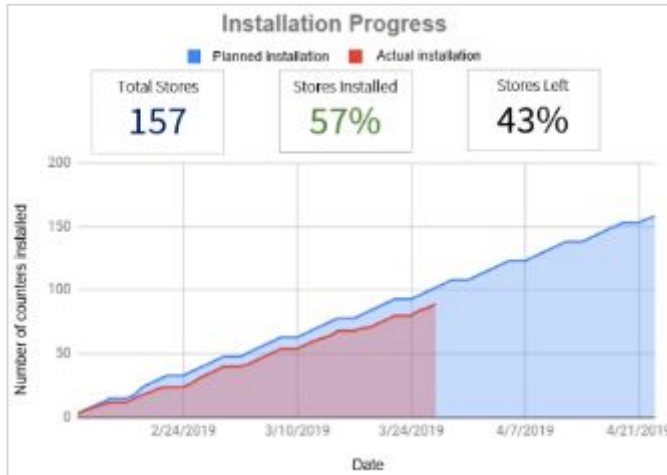
- Manage installation progress using Installation Tracker with bi-weekly update
- Scope of work and timeframe included in Gantt chart
- Data validation to be done within 3 days after each installation
- Deployment executed concurrently in different countries

Cluster Planning for Installation

- Installation will be grouped into clusters based on geographical location.

- Multiple installation teams to carry out the installation concurrently.
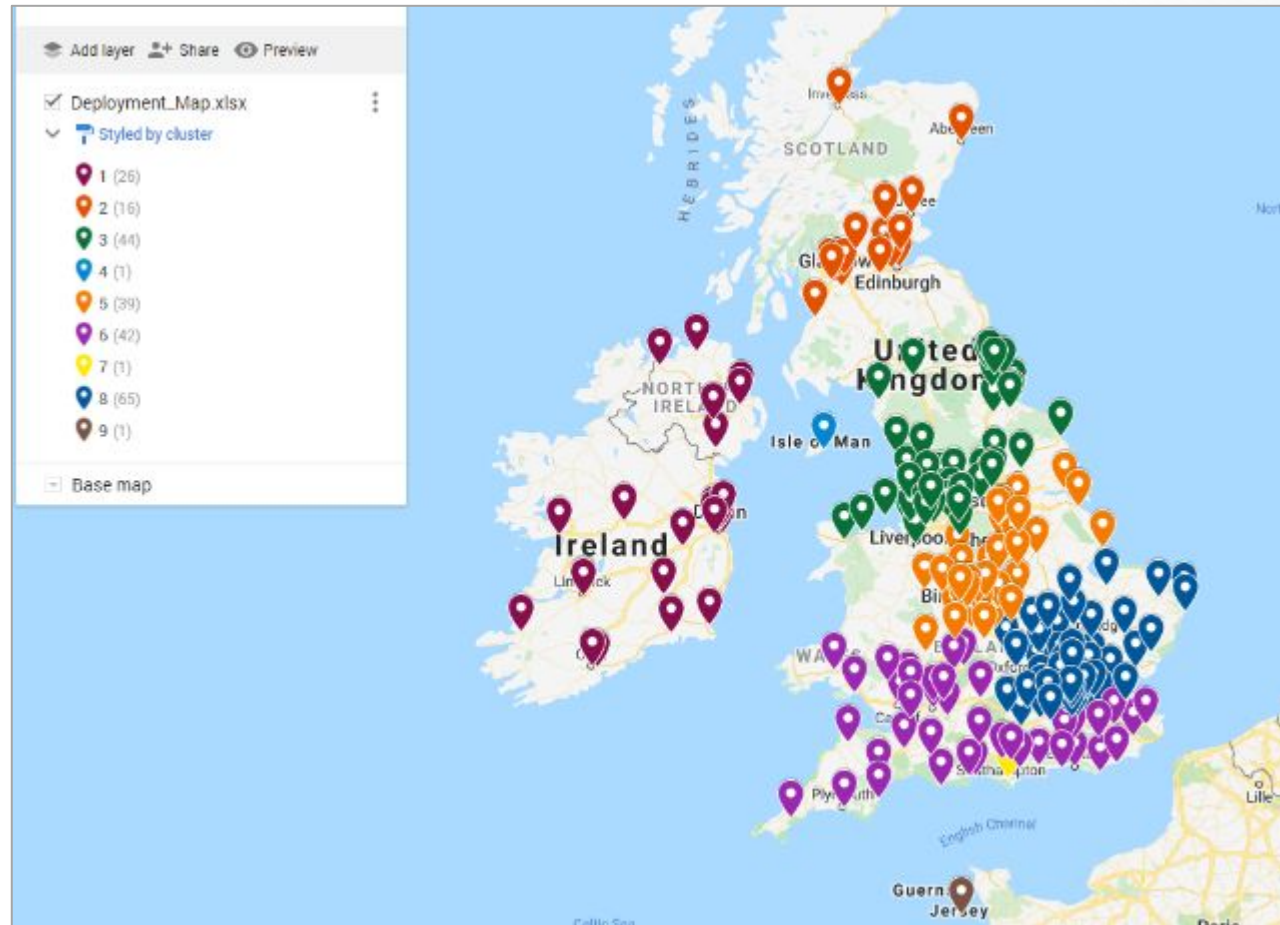
Sample Deployment Map

FootfallCam™

Pre-Installation Preparation

- Carry out pre-installation planning using FootfallCam checklists
  - Site survey form – For store details preparation to determine the number of counters needed for each store and the store condition.
  - Store details and IT checklist – IT details preparation to prepare engineer for on-site configuration.

Store Details and IT Checklist

Site Survey Form

Installation Support

- In-house 24/7 FootfallCam Support Portal to communicate with engineers using
  - FootfallCam Installation Mobile App - to allow our experts to support on-site engineer during the installation
  - Delivery note - for the store manager to confirm that they are satisfied with the installation before the engineer leaves

Support Chat App

Delivery Note

Tuning and Verification

- Tuning and verification will take 2 to 3 days after allocation of counter.
- After allocation of counters, verification team will schedule video recordings to get enough sample size for tuning.
- Verification team will starts tuning after the recorded videos are successfully uploaded into our server.
- FootfallCam verification expert will watch those recorded videos and manually count on all the traffic in the videos.
- Counting zone and counting lines will be drawn according to the store's environment.
- Fine tune by choosing the most appropriate counting algorithm for that environment.
- Uploading this counting algorithm parameters to the counters.

Verification Workflow
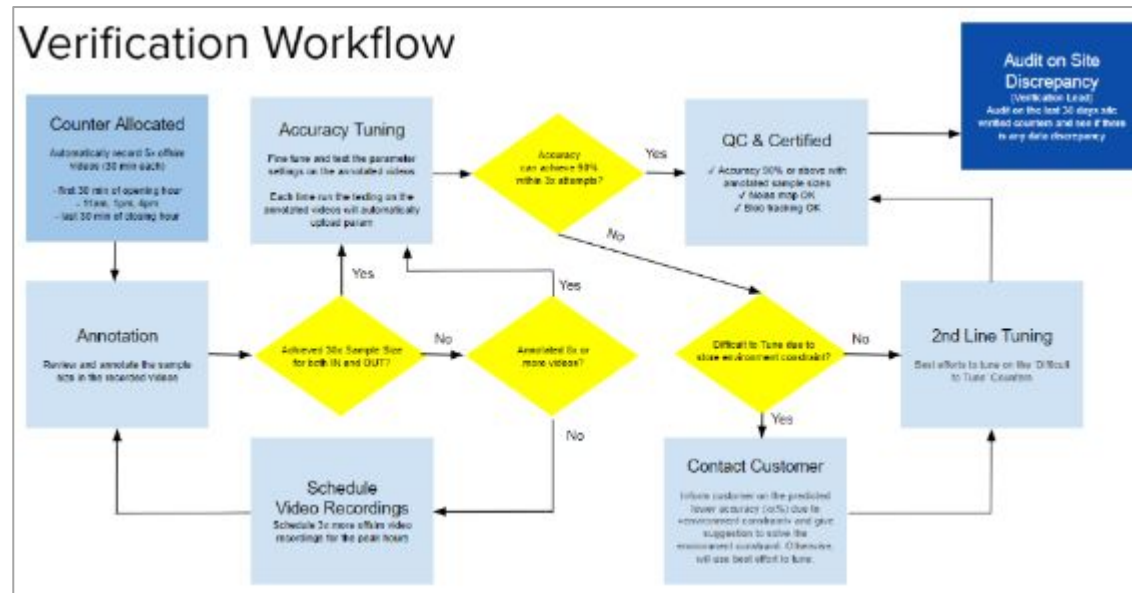
On-Site Installation
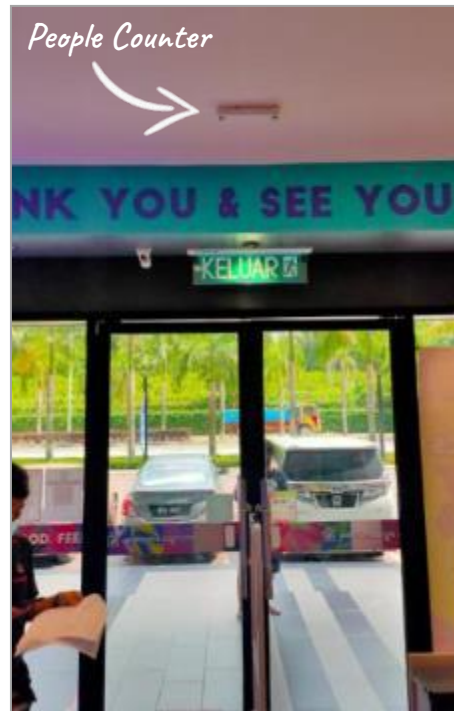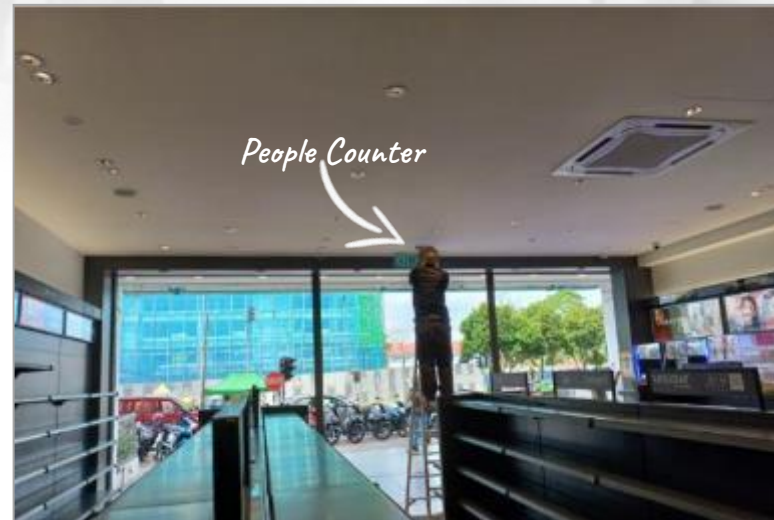
Retail Store Installation

Partner Portal Overview for Project Progress Update

- Able to manage all sites at a centralised platform
- Ease project management by tracking:
  - Total Unverified Counters
  - Total Offline Counters, etc

FootfallCam ▾

PARTNER PORTAL

Company List

Project Management ⌄

Companies

Financial Entity

Counter List

Issue Tracker

Business Management ‹

Support ‹

Account Management ‹

Search: [Company name or keywo] [Submit] ▾

1 - 24 of 24 ‹ ›

Company Name	No.Financial Entities	Total Sites	Total Verified Sites	Total Data Aggregated Sites	Data Availability	Total Counters	Total Unverified Counters	Total Offline Counters	Server Name
	1	3	3	0	0%	11	0	4	FootfallCam
	1	1	0	0	0%	1	1	1	FootfallCam
	1	1	1	0	0%	1	0	0	FootfallCam
	1	3	3	0	0%	3	0	0	FootfallCam
	1	1	1	0	0%	1	0	0	FootfallCam
	1	2	2	0	0%	2	0	0	FootfallCam
	1	1	1	0	0%	1	0	0	FootfallCam
	1	2	2	0	0%	2	0	2	FootfallCam
	1	13	13	0	0%	13	0	1	FootfallCam
	1	2	2	0	0%	2	0	0	FootfallCam

Partner Portal Overview

FootfallCam™

Additional Features

Use Case #6: Queue Counting

With queue counting detection and blob tracking technology, the FootfallCam 3D MAX™ will automatically detect any form of movement and register the queuing patterns.
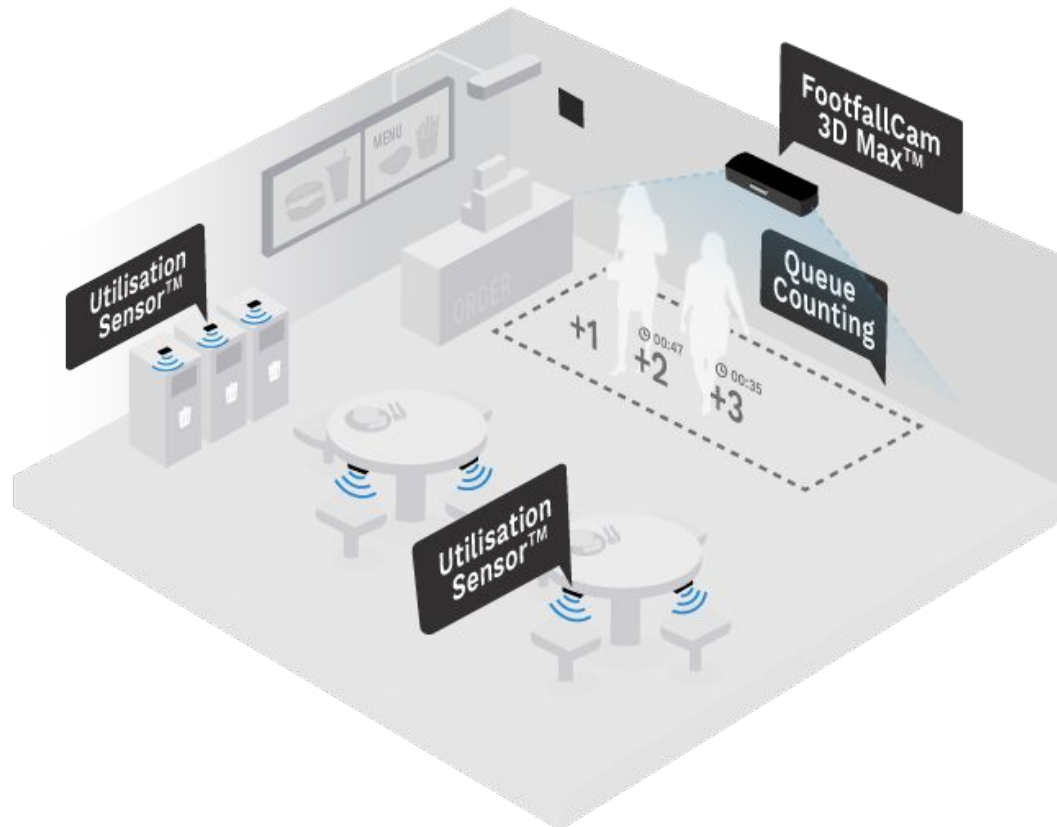
Queue Counting Solution

- Using 3D Stereo Vision technology and 2D video analytics
- Highly accurate with video proof
- Suitable for covering wide areas
- Field of view (FOV): 120°
- Proven deployment in KFC (Kentucky Fried Chicken), Applegreen, and more

FootfallCam 3D Pro2™

FootfallCam™

Use Case #7: Demographic Analysis

Utilising FootfallCam Centroid™, the facial features of customers can be recognised and analysed using the video stream from your existing CCTV system.

Showcase
Facial Recognition

Face 8 25-37 male neutral

FootfallCam™

Watch how it works: https://youtu.be/gJbJ8bvMMtM

Sample Report for Demographic Analysis

- Reuse your existing CCTV system
- Facial recognition with AI Video Analytics
- Visitor verification, for e.g.: VIP customers , blacklisted individuals
- Help businesses have a better profile of their customer base
- Determine if businesses are reaching out to their target audiences

FootfallCam Centroid™

FootfallCam™

Use Case #8: Multiple Line Counting

- Multiple counting lines can be drawn for one FootfallCam people counter.
- Retailers will have a better idea which direction do customers usually first head towards when they first enter the store
- Analytics can be utilised for better planning in terms of product/shelf location, contributing to the optimisation of store layout and design.

Watch how it works
https://youtu.be/2YJJnxczAms

Use Case #9: Product Engagement Analytics

Utilising FootfallCam Centroid™, the customers' movement can be monitored and analyzed using the video stream from the existing CCTV system.
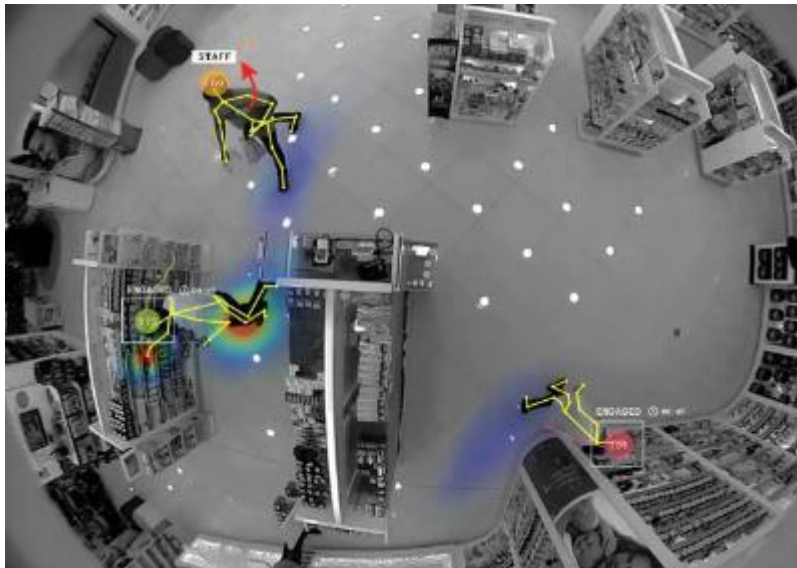

Watch how it works: https://youtu.be/2ZQfNIHKMv8

Product-level Engagement Analytics by Skeleton Tracking

- To identify the market response to each of the product.

- To measure the sales conversion in product level.

- To determine the best-performing and worst-performing product.

Avoid Sales Opportunities with Empty Shelf/Rack Detection

- Staffs can carry out the quick replenishment of stock based on automated alert received.

- Reduce customer's frustration on frequent low stock level and avoid unnecessary compensations

- To increase customer retention and shopping frequency.

- Reallocate the staff to focus on other priority tasks instead of focusing on stock level monitoring

Product Engagement Analytics

Product Engagement Report

Product Engagement Analysis

Use Case #10: People Counting for Store-in-Store

FootfallCam Centroid™ can be integrated with your existing CCTV system to detect the occupancy of the store area.

- Using 2D Video Analytics
- Measuring customer behaviour:
    - Real-time store occupancy
        - How many customers are in the store right now?
    - No. of passerby
        - How many customers are walking past the store without walking in?
    - In-store customer engagement
        - How long does a customer stay in-store?
    - Path tracking
        - Where does a customer go when they enter the store?

Multiple Counting Lines: https://youtu.be/2YJJnxczAms
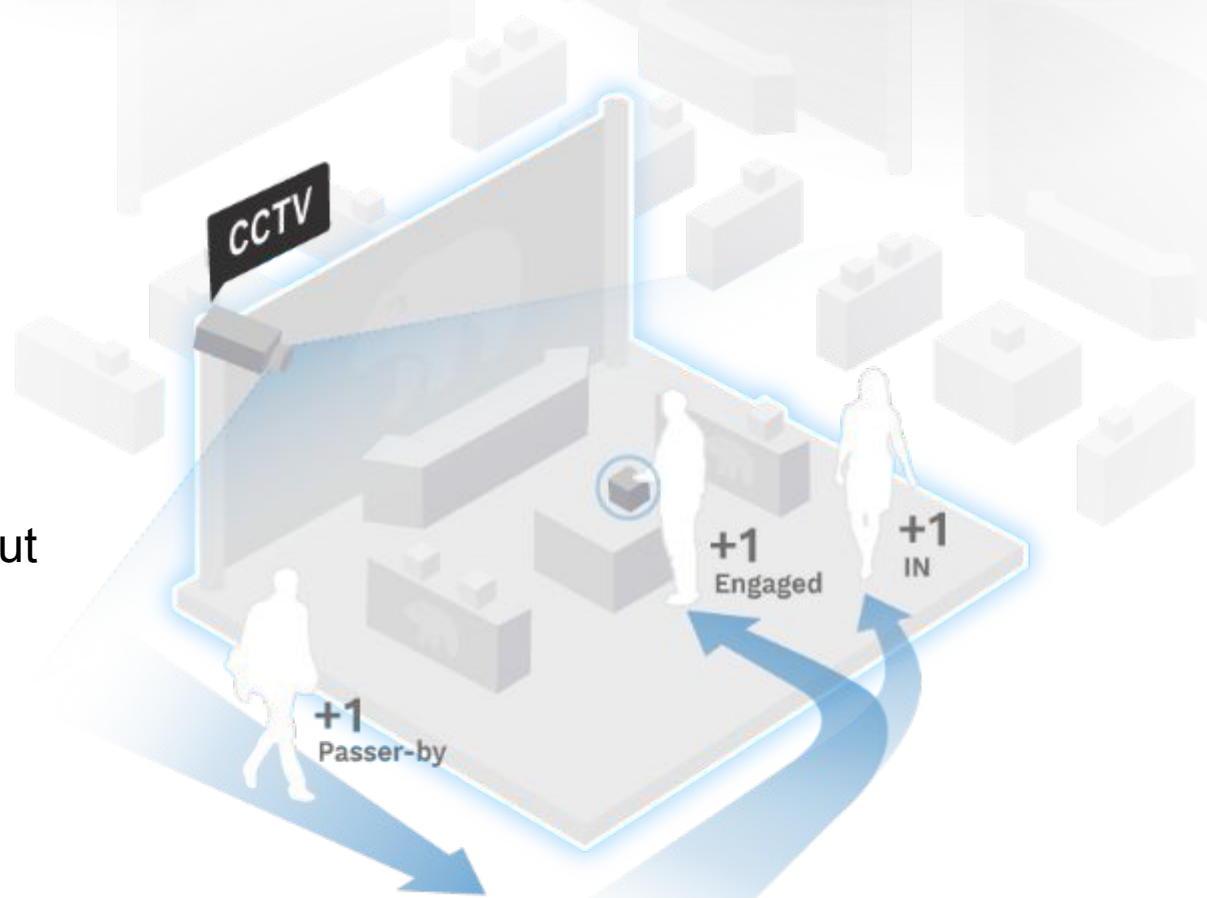
FootfallCam Centroid™

FootfallCam™

Use Case #11: Big Data Benchmarking

FootfallCam Analytics Manager V8™ comes with Industrial Data Benchmarking Module, in which retailers may choose to compare their traffic data with FootfallCam default data set or industry data from any third party providers, e.g.: IPSOS.
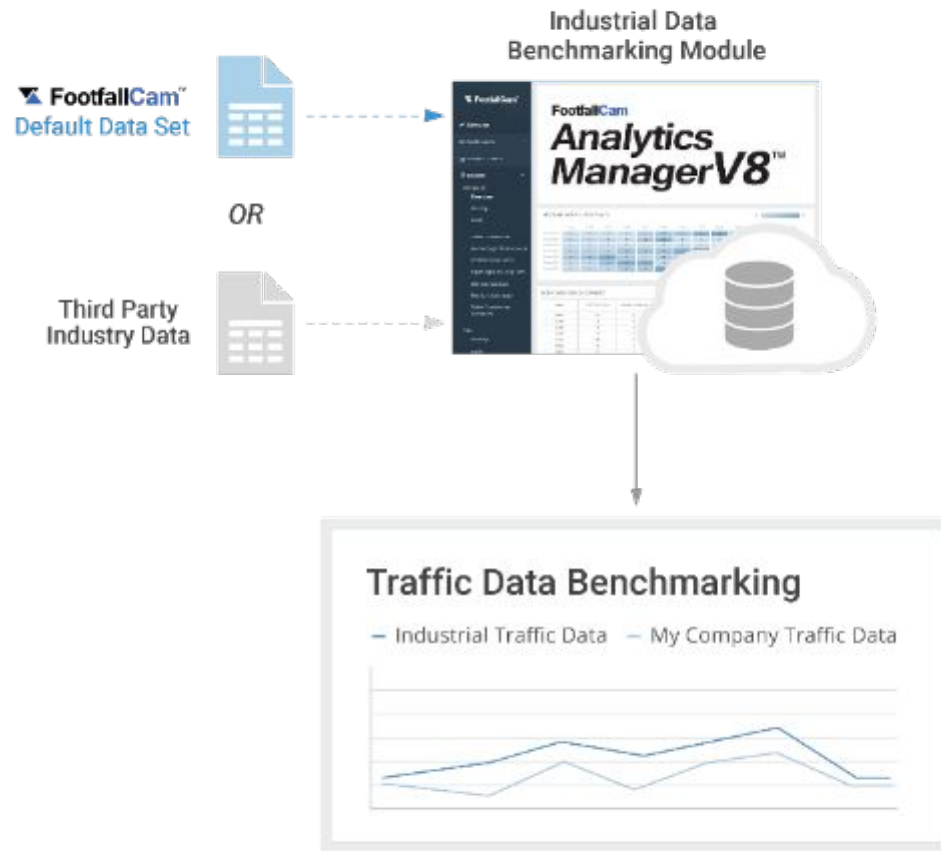
Sample Report for Big Data Benchmarking

- **Compare** your people counting data with industrial data
- **Evaluate** the store performance and other **KPIs** against industrial standard
- Industrial Data Source:
    1. FootfallCam default data set
    2. Third party data set

FootfallCam 3D MAX 2™

Use Case #12: Occupancy in Back Room

By installing FootfallCam 3D *Mini*™ at the entrance of the back room, the number of staffs using the room can be counted, while protecting their privacy.

Staff on the shop floor
2
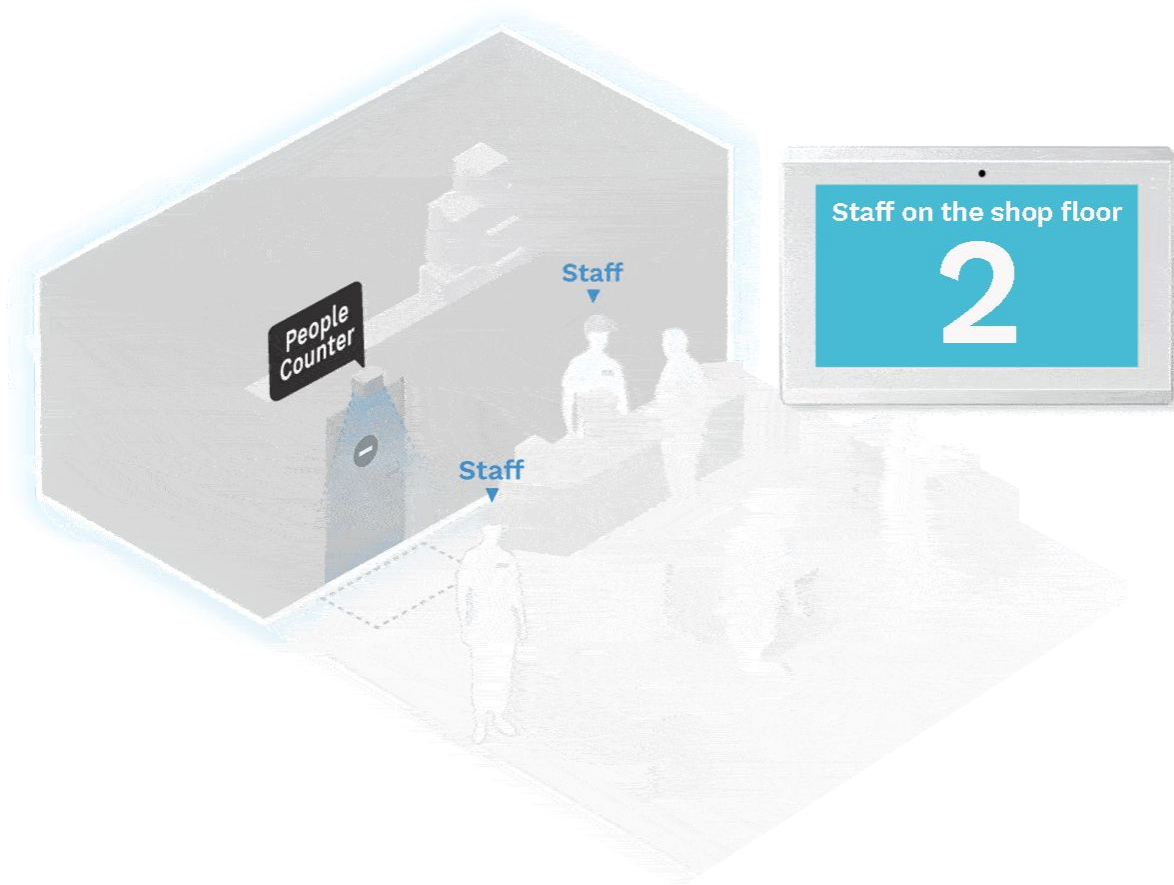
- Cost effective
- Anonymous counting, privacy protected
- Using ST Micro ToF 16x16 Sensor
- Suitable for single door and washroom entrance
- Field of view (FOV): 57°

FootfallCam 3D *Mini*™

FootfallCam™

Use Case #13: PA System Functionality

FootfallCam 3D MAX 2™ can also integrate with in-store speakers to broadcast automated sales messages.

" L'Oréal 50% off discount now..."

PA System Functionality

- Connect to your PA system via audio cable, works with any standard powered speaker
- Automated audio announcement based on pre-configured triggers
  - Welcome message
  - Broadcast targeted marketing message
  - Audio alerts

FootfallCam 3D MAX 2™

FootfallCam™

Use Case #14: Using IO Pin to Control Electric Doors

To control the number of people in the store, FootfallCam 3D MAX 2™ can be integrated with electric doors via GPIO to automatically close the door when occupancy limit is breached.
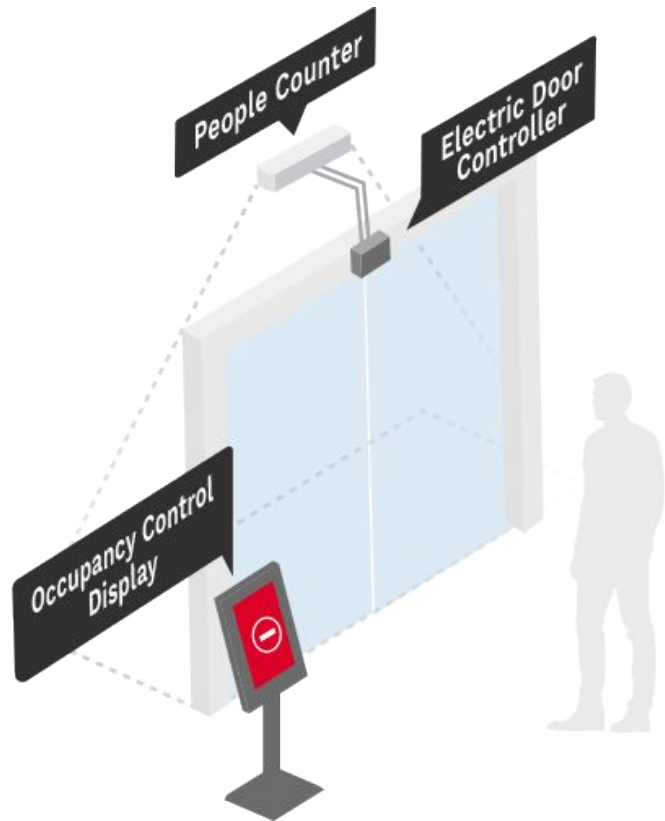
Watch how it works

- **Automated electric door control** based on the pre-configured threshold
- Using IO pins to control the NO/NC port of electric doors
- **Manual adjustment** of occupancy data (Failsafe measure to control doors)
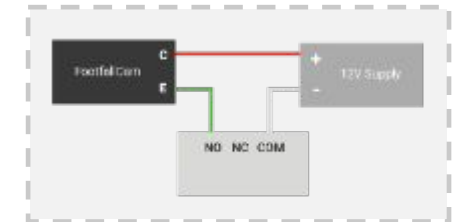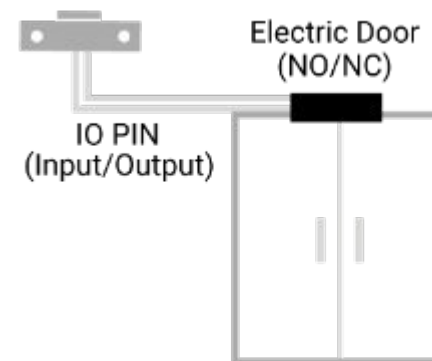
Using IO PIN to Control Electric Doors.

FootfallCam™

Product Packages and Pricing

Option #1: People Counting

The most popular and cost-efficient people counting option for retails which require footfall counting at the entrance

FootfallCam 3D Pro2™
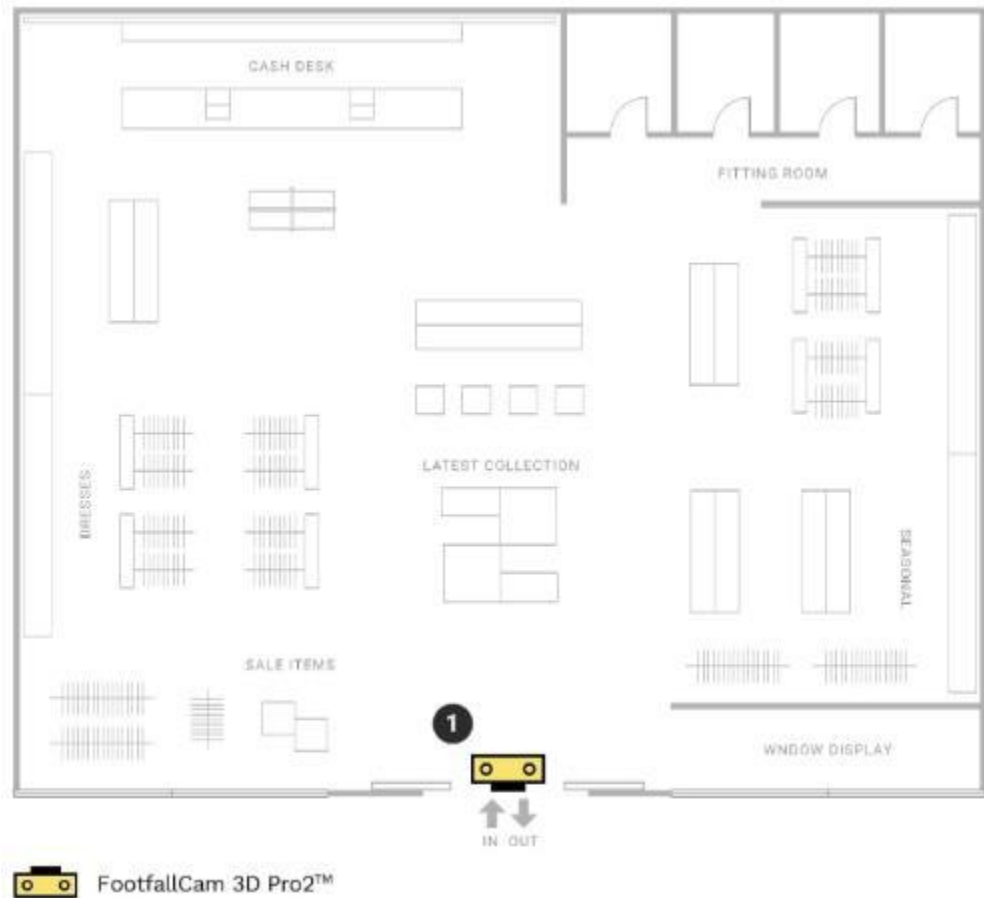
Use Cases

- Measuring the number of visitors entering the store
- Comparing sales data with footfall data/purchasing group
- Object classification - Differentiating between adults. kids, object

Metrics Measured

- Visitor Count (In/Out)
- Visitor Count (Kids/Adults)
- Outside Traffic
- Turn in rate
- Dwell Time
- Returning customer
- Live Occupancy Count
- Sales Conversion
- Group Count

Equipment Used

- 1x 3D Pro2 for entrance counting

FootfallCam™

Option #2: People Counting + In-store Analytics

In addition to people counting at entrance, retailers can measure customer activity and purchase behaviour at certain areas of interest
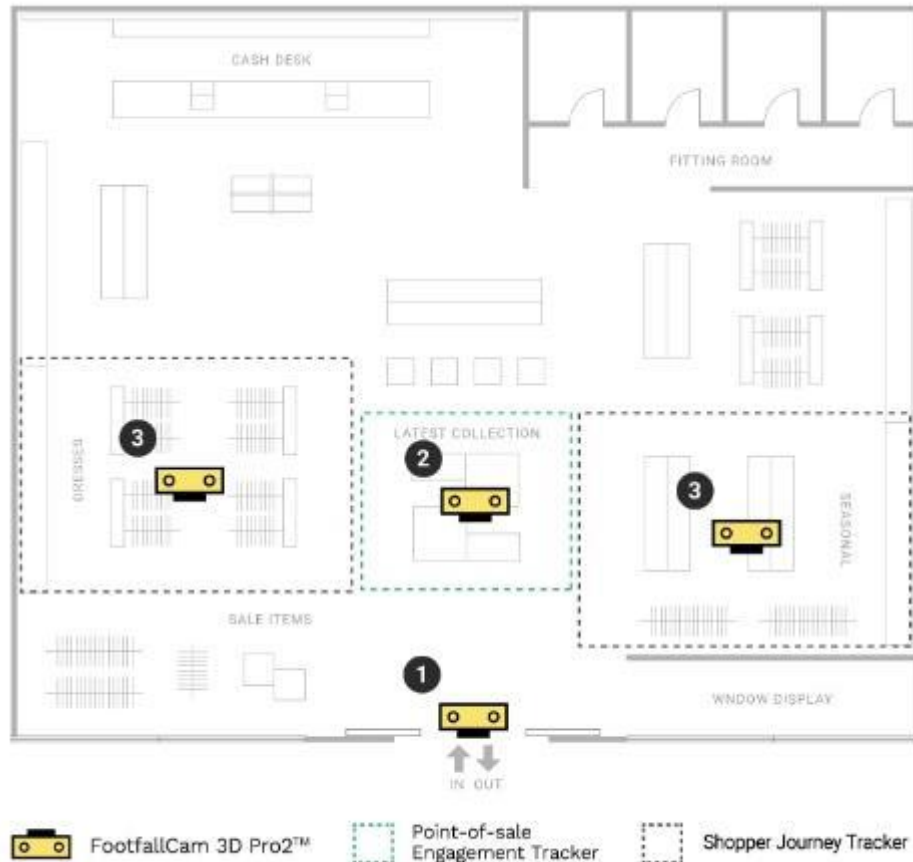
Additional Use Cases from Option 1

- Measuring customer engagement across multiple areas of interest

Additional Metrics Measured from Option 1

- Heatmap & Customer Engagement
- Zone Analytics

Equipment Used

- 1x 3D Pro2 for entrance counting
- 1x 3D Pro2 for point-of-sale display engagement tracker
- 2x 3D Pro2 for in-store shopper journey (depending on number of area of interest

Option #3: People Counting + Full Coverage In-store Analytics

Provides full coverage of the entire floor space to track customers' in-store journey within the store in all areas.
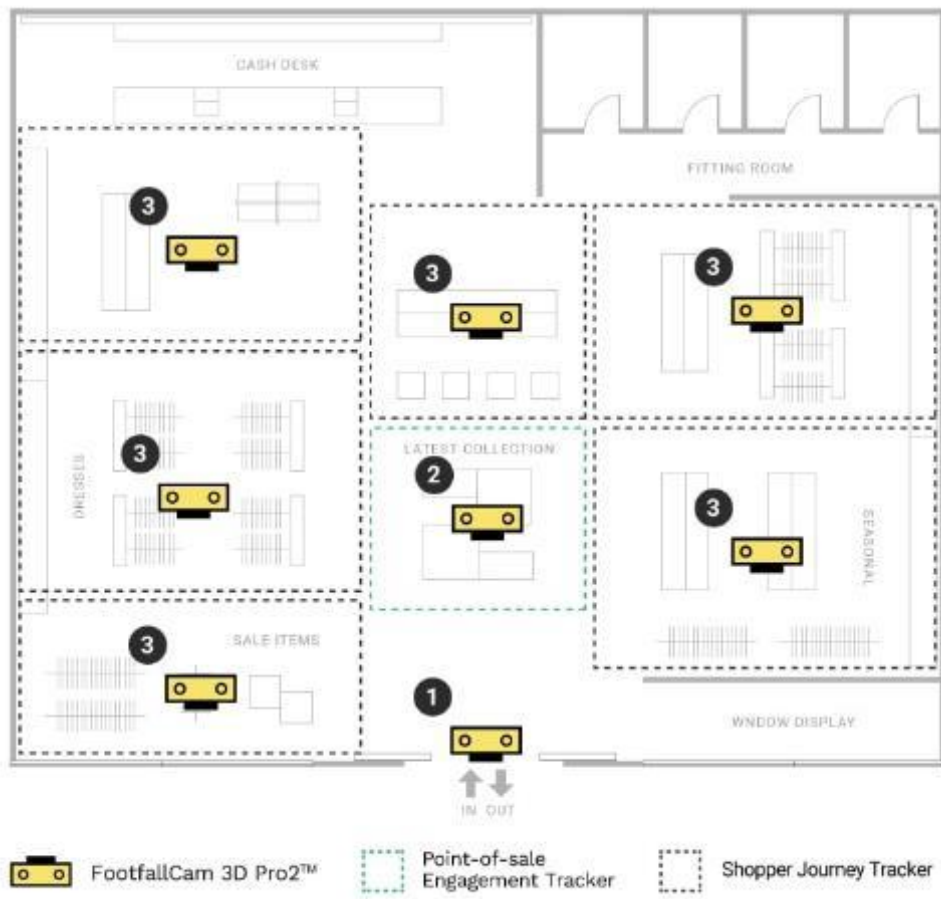
Additional Use Cases from Option 1 & 2

- Measuring customer engagement across entire floorspace

Additional Metrics Measured from Option 1 & 2

- Full-store Heatmap & Customer Engagement
- Full-store Zone Analytics

Equipment Used

- 1x 3D Pro2 for entrance counting
- 1x 3D Pro2 for point-of-sale display engagement tracker
- 7x 3D Pro2 for in-store shopper journey (depending on area of the shop)

FootfallCam™

Itemised Costing

Hardware & Software

Product Code	Item	Cost per unit (USD)
FC–F3DP02	FootfallCam 3D Pro2	650
FC-FCT01	FootfallCam Centroid	1050
FC-SE01	FootfallCam Staff Exclusion Tag	10.80
FC–FAM01	FootfallCam Analytics Manager V8	Free of charge

Support Contract

Services	Products	Monthly cost per unit (USD)
- Includes 1st Line and 2nd Line support - This level of support aims to resolve most issues and may involve rebooting equipment, diagnosis and troubleshooting - Support may require cooperation from a member of staff at the store to reboot equipment and help with preliminary diagnosis - Support will be provided over the phone and remote connect into the camera - Feedbacks in Support Portal will be resolved within the stated SLA - Comes together with Software Licensing	FootfallCam 3D Pro2	4.90
	FootfallCam Centroid	46.00

FootfallCam

Customer References

Managing Multinational Rollout

- Global rollout with multi geo-region server
  - Work with different business units to deliver centralised solution
  - Supporting all countries

- End-to-end project management
  - Work with their preferred installers or FootfallCam partners
  - Integrate with their BI system
  - Multi-language UI and supports

Similar Deployments:

PANDORA   Marionnaud   SWISS·SENSE   Unilever

watsons
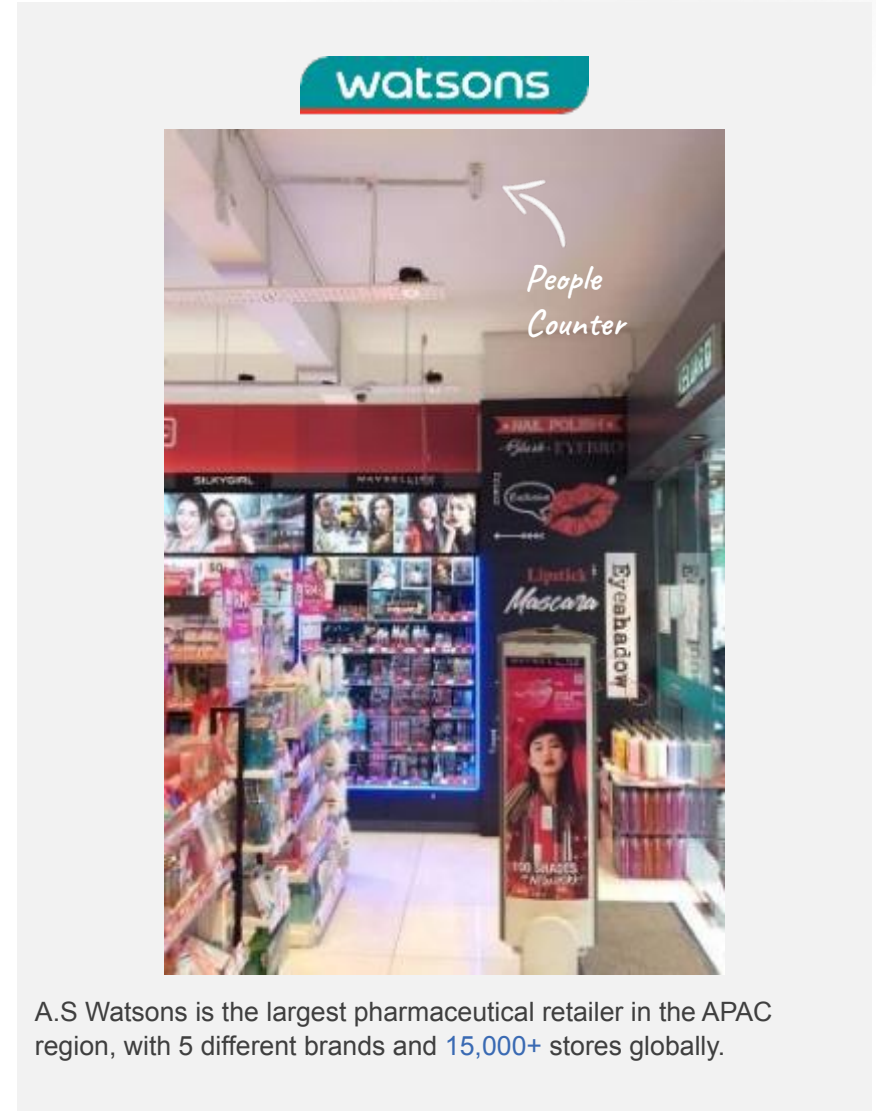
People Counter

A.S Watsons is the largest pharmaceutical retailer in the APAC region, with 5 different brands and 15,000+ stores globally.

FootfallCam

People Counting for Independent Retail Stores

- **Easy to install**
  - FootfallCam remote support

- **Easy to use**
  - Analytics platform with 60+ readily available reports

- Easy to maintain
  - Automated health check and monitoring tools
  - No software subscription fees

Similar Deployments:
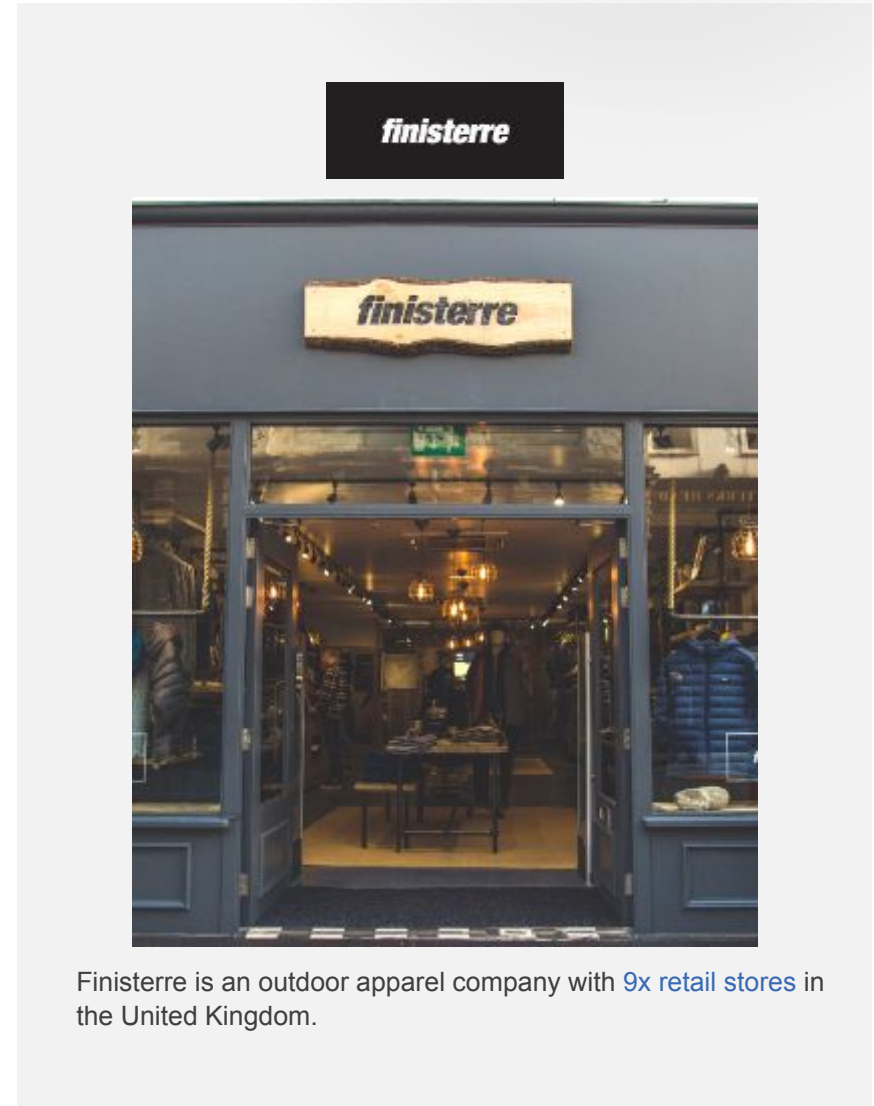
Finisterre is an outdoor apparel company with 9x retail stores in the United Kingdom.

FootfallCam™

Luxury Retail Store

- ## Discreet and Accurate

  - Flush Mounted Device on the ceiling

  - Aligns with the aesthetics of the store

  - Accurate under strong lighting/ reflection environment

- ## Sales Conversion

  - Lower Footfall; store services and sales conversion is crucial.

  - Staff exclusion tags to keep sales conversion accurate

  - Group counting feature to accurately count potential visitors

Cartier has more than 200 stores world-wide and each of the deployment are carefully designed to suit the store

Similar Deployments:

FRED PERRY

MONT BLANC

FootfallCam

Managing Retail Chains

- ## High Accuracy Footfall Data
  - Consistently accurate in all environments with video proof

- ## Enterprise Grade Software
  - Integration with BI System
  - Multi-user management
  - Visibility chain-wide performance
  - Provide workspace for sales managers

- ## Roll-out Management
  - Managing installation schedule

Similar Deployments:

Bonmarché dermalogica WIND cashconverters

L'OCCITANE EN PROVENCE camel active CHARLES CLINKARD FINE FOOTWEAR

joules

JOULES

Joules is a fashion apparel store in the United Kingdom

FootfallCam™

Replacing Incumbent System

- **Complete Business Solution**
  - Hardware + Enterprise class software
    - Combining 3D counting, AI analytics and WiFi metrics

- **Lower Total Cost of Ownership**
  - Competitive pricing - 30% lower than our competitors' price
  - Reduced number of devices

- **Host Incumbent Data**
  - Integration with existing devices

Similar Deployments:

watsons Amway Marionnaud JD LI-NING

PANDORA
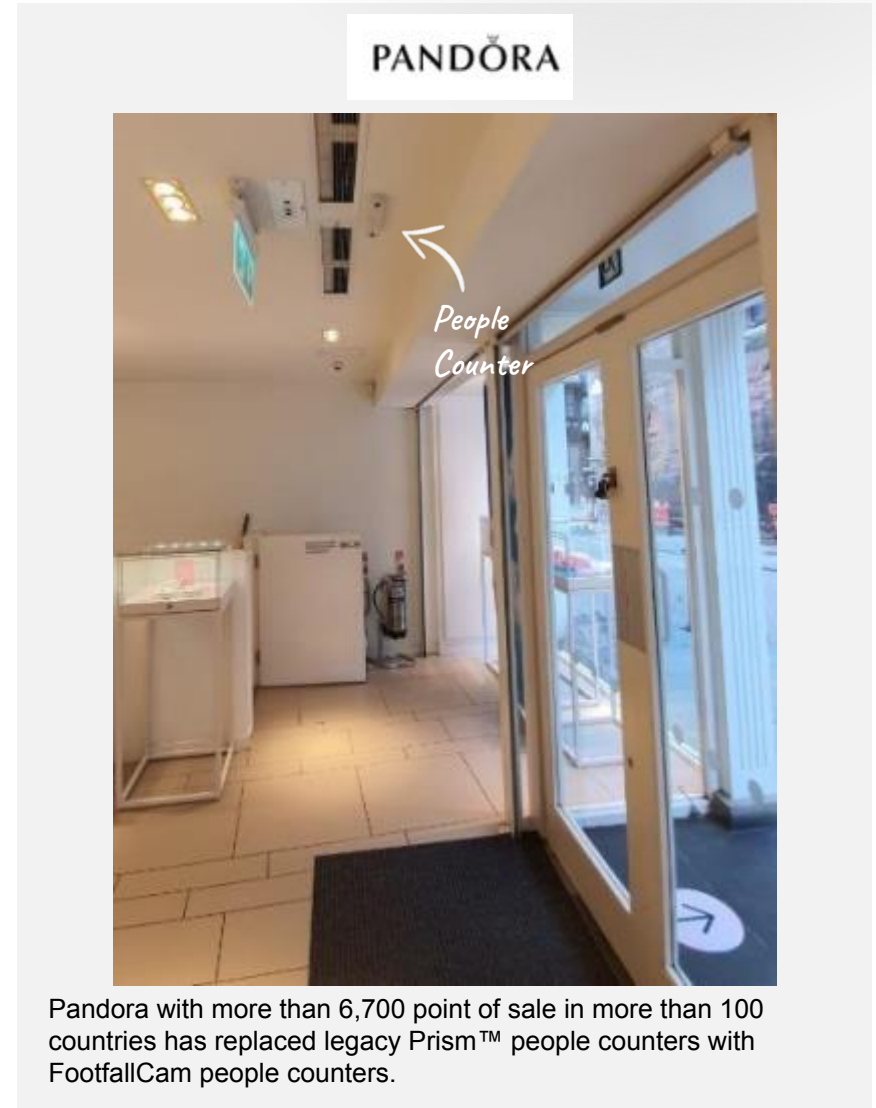
People Counter

Pandora with more than 6,700 point of sale in more than 100 countries has replaced legacy Prism™ people counters with FootfallCam people counters.

FootfallCam™

Store-In-Store/ Brand Concession

- **Comprehensive Solution for Retail Chain**
  - Caters even for store-in-store setup

- **Metrics Collected for In-store Analytics**
  - Product-level Engagement
  - Store and product-level sales conversion
  - Area Traffic Performance
  - Turn in rate (Departmental store visitors that entered concession stores)
  - Marketing Effectiveness

Similar Deployments:

THE PERFUME SHOP

ESTĒE LAUDER

15x Concession Stores in the Departmental Store

FootfallCam™

Covid-19 Occupancy Control

- ## Live Occupancy Control
  - Measures and manage occupancy limit

- ## Integrated with Electronic Sliding Door
  - Automatically controls the access
  - Replaced security guard at entrance

- ## Quick Deployment and Setup
  - Helps re-opening stores to be compliance with local government policy on the occupancy limit per store

Similar Deployments:

Coop integrates FootfallCam with their automated door to control the access of visitors

FootfallCam™

Telecommunication Shops

- Product Engagement
  - Measure the engagement of visitors with the products in terms of dwell time, heat map, touch point analysis

- Returning Customers
  - Gauge the effectiveness of loyalty programs on store level

- Visitors to service subscription conversion
  - Measure KPI of employees service level
  - Set target for employees

Similar Deployments:
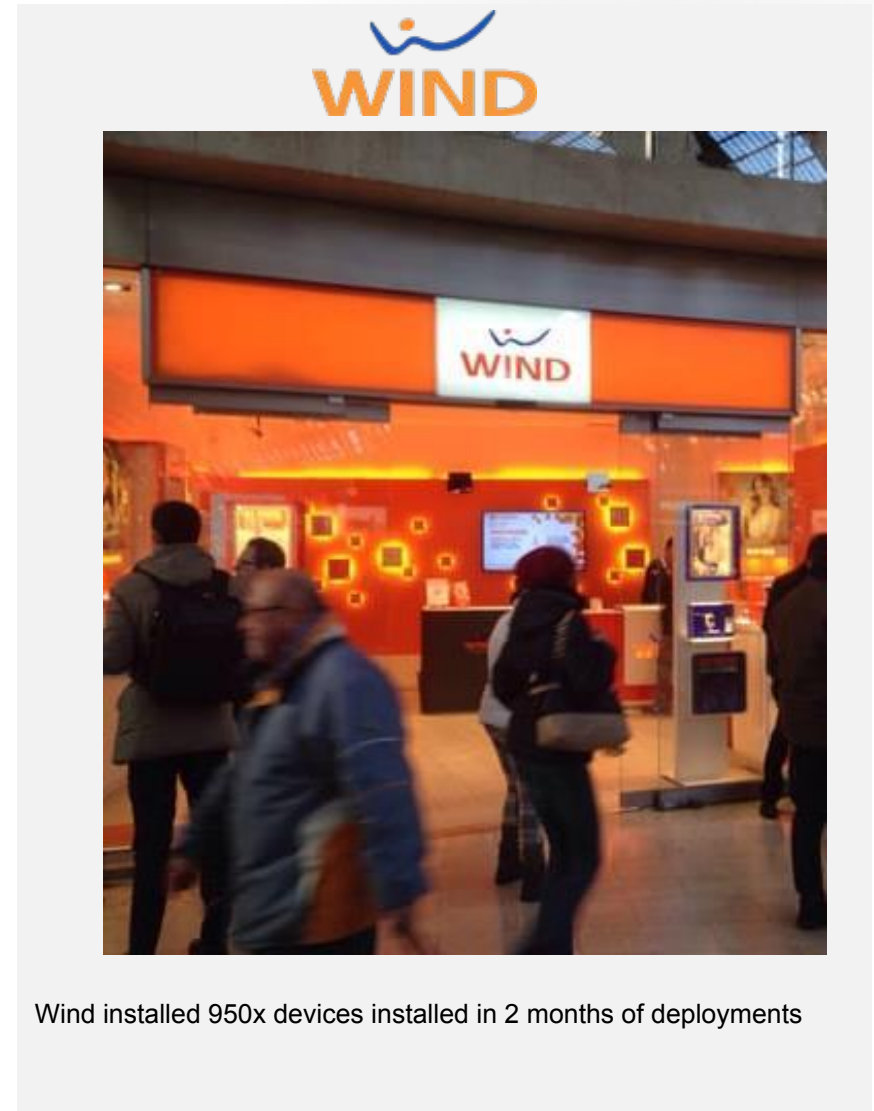
Wind installed 950x devices installed in 2 months of deployments

FootfallCam™

Large Format / Departmental Store

- ## Door Counting
  - Footfall-to-staff ratio
  - Marketing effectiveness
  - Staff planning

- ## Zone Analytics
  - Reduced Number of Devices using Wi-Fi Counting
  - Flow Statistic
  - Service Desk Counting

- ## Queue Counting
  - Cashier/till opening prediction based on footfall changes

Similar Deployments:

Metrojaya has 4 department stores and 70 specialty stores that occupy over one million square feet of floor space

Showroom & Experience Centre

- ## Comprehensive in-store analytics
  - People Counting + WiFi Analytics
  - Queue Counting
  - Meeting Room Utilisation
- ## Tracking Customer Journey within Centre
  - Traffic Flow across multiple areas and floors
  - Product touch-point analytics
  - Heat Map
- ## Business Insights and Workspace
  - Consultation tables utilisation and its conversion
  - Product-level sales conversion
 - Visit duration of "hot" and "cold" areas

Amway experience centre is fully equipped with FootfallCam for comprehensive in-store analytics

Similar Deployments:

Car Showroom

- **Track Visitor Behaviour**
  - Real-time People Counting
  - Staff Exclusion
  - Customer Arrival Alerts
  - Group Counting
- **Measure Product Engagement**
  - Past vs New Car Model Comparison
  - Dwell Time
  - Heat Maps
  - Consultation tables utilisation and conversion rates
- **Product Engagement Workspace**
  - Overview of Store Performance
  - Set Store Targets and Measure Progress
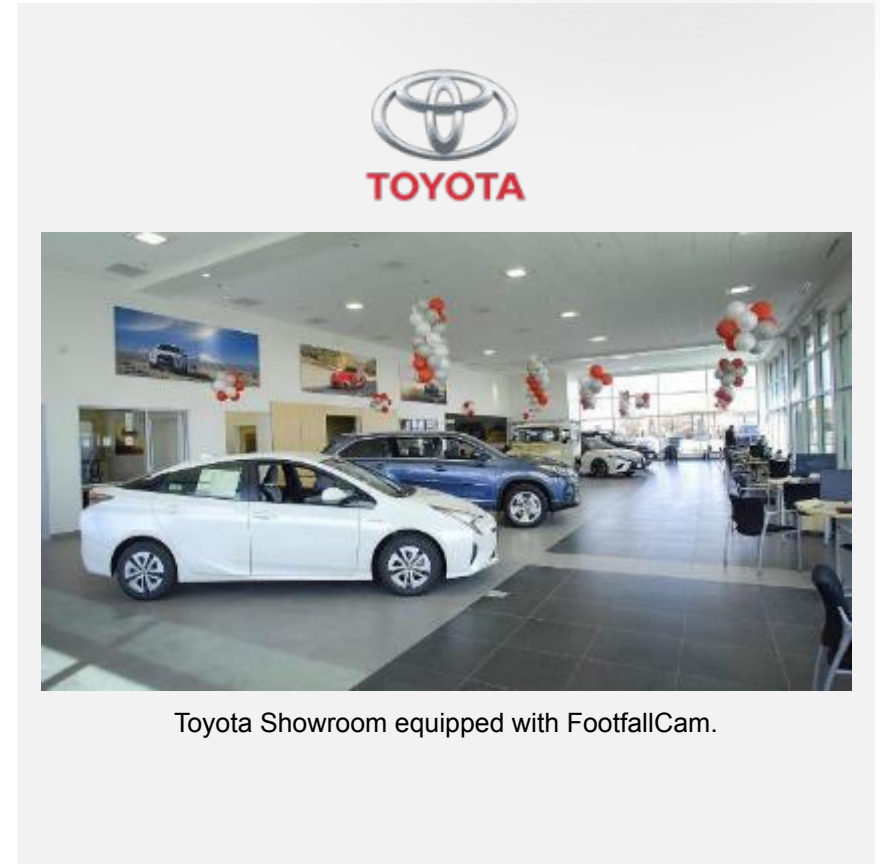
Toyota Showroom equipped with FootfallCam.

Similar Deployments:

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Contact Us

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