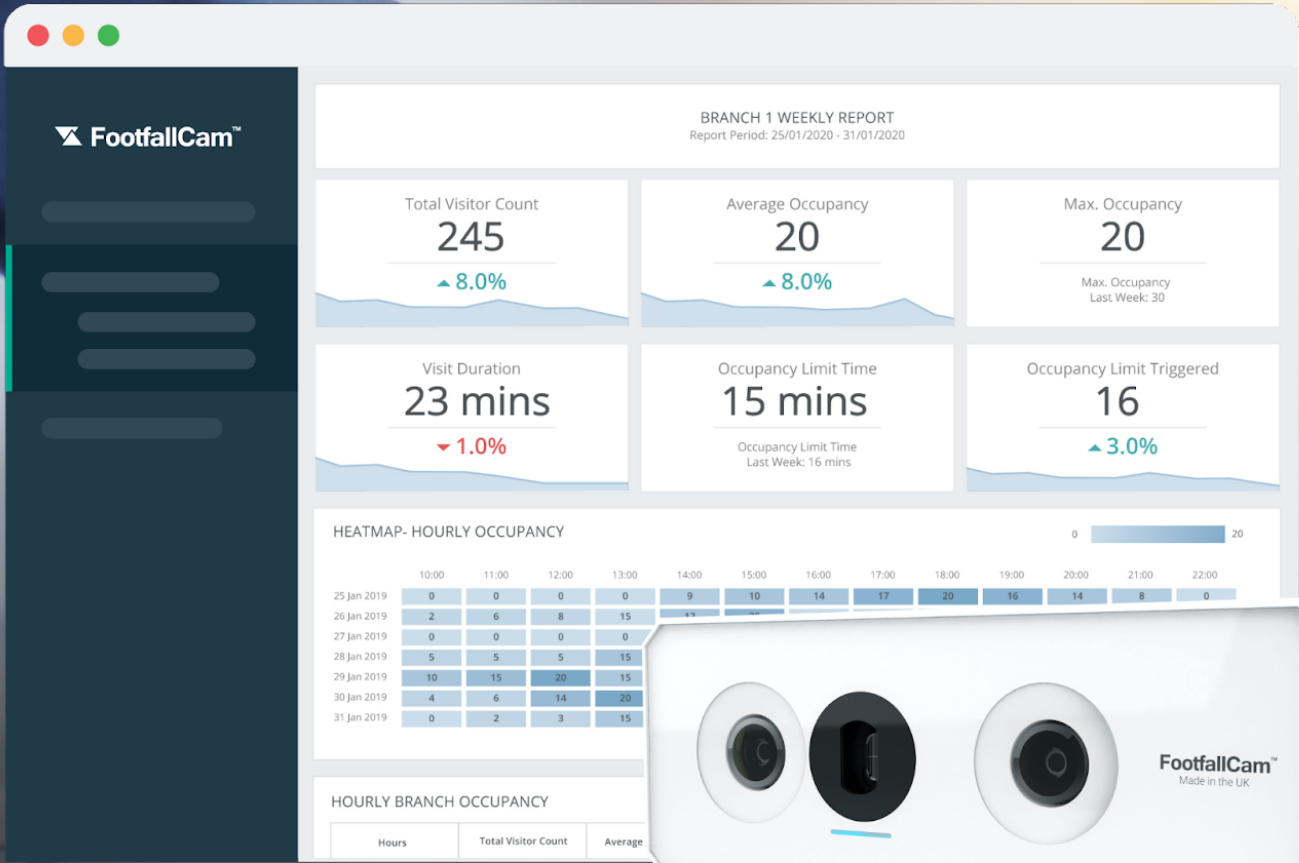
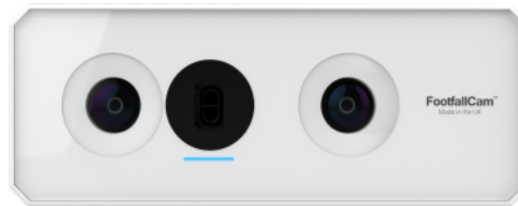


FootfallCam Request for Information (RFI)



2.1 Hardware

2.1.1 FootfallCam 3D PRO 2™



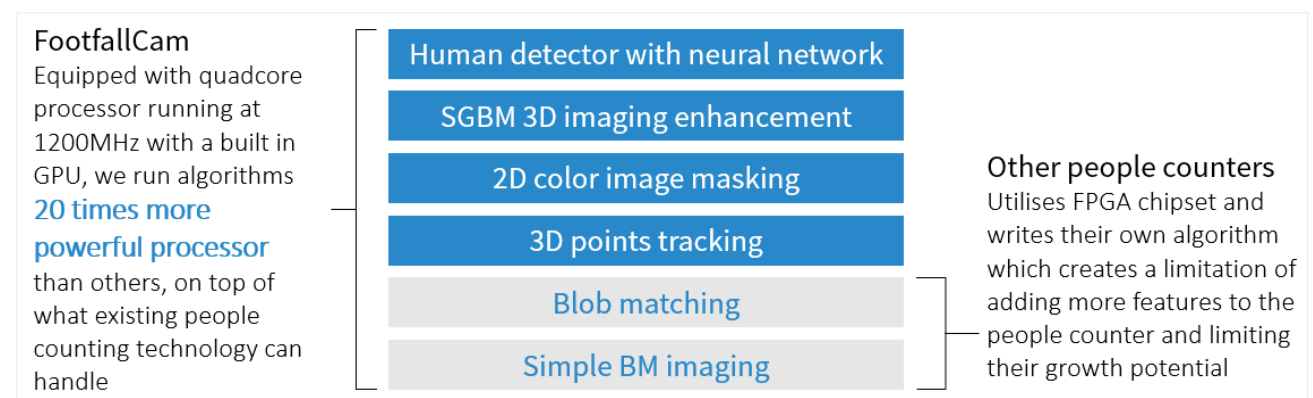
Manufactured in the United Kingdom, FootfallCam 3D Pro2 is the latest generation people counting device in the market, equipped with superior processing power to run complex counting algorithms.

1. Equipped with dual fisheye lens, it has the **widest coverage** in the industry, in which it significantly reduce the total number of people counters required for an entrance
2. Using our digital zoom function, the device mounting **capabilities range from 2.1m to 4.5m without any additional accessories** added. It also helps with the installation to avoid confusion of the installers to ensure the correct type is installed.
3. It supports **multiple counting functions in a single device** such as people counting, heatmap counting, and queue counting which users can use to inter-change their counting modes using the same device or even have a combination of multiple counting modes in a single device.

Reference document	FootfallCam 3D Pro2 Datasheet	Download online document
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2.1.1.1 Key Features

1. Up to 99% Accuracy - Powerful Quad-Core Processor




FootfallCam has a more advanced processor, which allows us to employ a more advanced yet computationally intensive algorithm. This allows FootfallCam to count accurately in varied and environmentally challenged scenarios.

Result:

- Achieve up to 99% accuracy in various environment

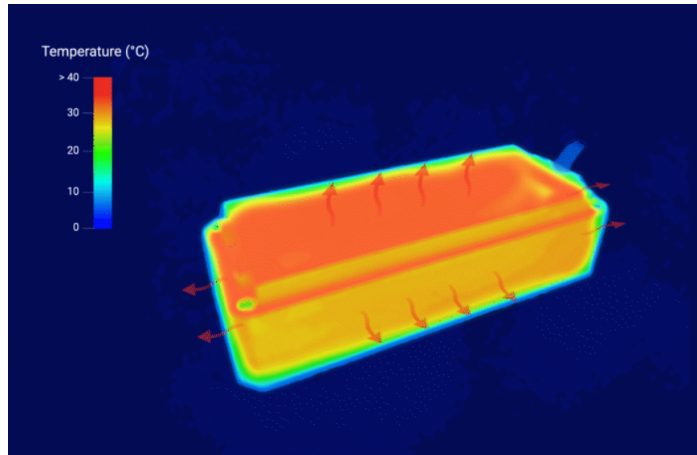
FootfallCam 3D Pro2 - combining 3D video counting technology and Wi-Fi counting technology in a single device able to obtain following advantages:

Time-of-Flight		<p>i. Strong shadowing - Accurate count under various environments like strong shadowing. 3D Stereo Vision can overcome strong shadowing effect; which would otherwise be mistaken as a visitor in 2D video counting.</p>
3D Image Processing		<p>ii. Swinging Door - With the use of custom line, start/end zone, floor space masking, and accurate 3D counting, it can count accurately with a swinging door at the entrance.</p>
Artificial Intelligence		<p>iii. Low Ceiling - 3D counting can work well in low ceiling height, such as the one in the video where the ceiling height was 2.3 meters.</p> <p>iv. High Ceiling - 3D counting can work well in high ceiling height using digital zooming technology.</p> <p>v. Crowded Space - In the crowded space where the entrance area and the shopping areas merged together, the use of start/end zone and person tracking would ensure shoppers within the store would not trigger the in/out lines.</p> <p>vi. High Traffic Volume - 3D imaging allows accurate people tracking and maintaining high accuracy even in high traffic stores.</p> <p>vii. Wide Entrance - The 100-degree wide angle lens allowed to cover a wide entrance with minimal number of counters.</p> <p>viii. Combining 3D and Wi-Fi - Combining both technologies together allow Wi-Fi data to be normalized with the large sample size statically neutral video counting data to have an accurate picture of the overall customer shopping behavior.</p>

2. Reliability with Expected Lifespan of 25 years – Aluminum Unibody Casing

All people counters use top-grade electronic components. However, the core processor naturally generates heat. The higher temperature can significantly lower the expected life span of electronic components such as capacitors and diodes.

FootfallCam has specially designed a unibody aluminum case which acts as a giant heatsink, this helps to lower the operating temperature inside the case, thus prolonging the life span of electrical components.



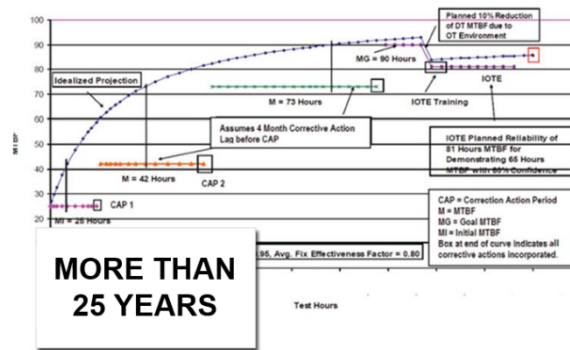
Below is a comparison table of the average operating heat in a room temperature compared to other people counting solutions.

	FootfallCam	Other people counters
Operating Temperature	40°C – 45°C	45°C – 75°C
Mean Time between Failure	7 – 25 years	3 – 6 years

Result:

- Maximum extended warranty life of 5 years at a reduced rate
- Minimize the number of site revisits required for faulty units

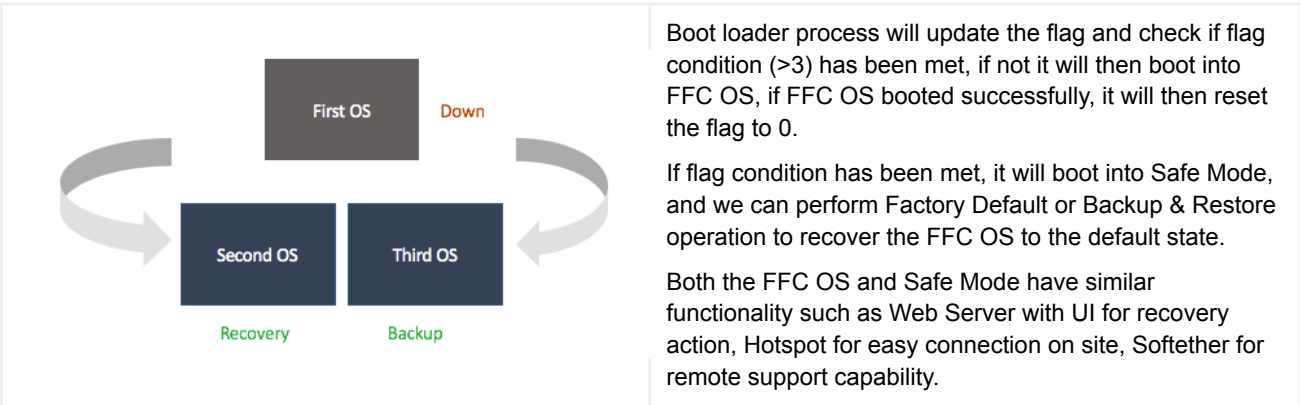
People counting equipment is fully functional for 25+ years with zero maintenance. Each hardware failure, firmware refresh or power reboot is a costly exercise. Hence, FootfallCam has taken extra measures to ensure it doesn't happen. FootfallCam ensures complete product reliability with each component used to undergo rigorous qualification testing of each product family to exceed industry standards. The table below illustrates the different components and FootfallCam and the tests conducted.



Reliability cannot be compromised in the era we live and work. FootfallCam 3D Pro2 is engineered for reliability and efficiency in every granularity of data. Every aspect of FootfallCam is designed with efficient details to provide the most accurate, most reliable, and most updated technology the world has to offer. Designed to provide efficiency and enhance user's experience in every aspect, from details of functionality to usability, we tailor the solution to all types of users.

3. Zero Downtime – Triple Built-In Operating Systems

Our counter has 3 built-in Operating Systems. In the unlikely circumstances of a memory corruption due to electric shock, part of the disc space is damaged and may cause the counter to not function properly, the second and third OS will put in action and auto rebuild the first OS.



Boot loader process will update the flag and check if flag condition (>3) has been met, if not it will then boot into FFC OS, if FFC OS booted successfully, it will then reset the flag to 0.

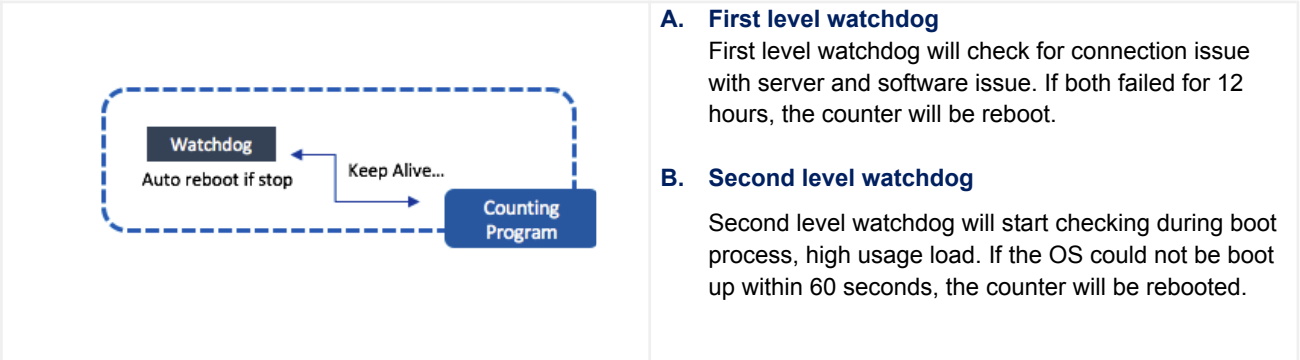
If flag condition has been met, it will boot into Safe Mode, and we can perform Factory Default or Backup & Restore operation to recover the FFC OS to the default state.

Both the FFC OS and Safe Mode have similar functionality such as Web Server with UI for recovery action, Hotspot for easy connection on site, Softether for remote support capability.

10 thousand hours have been put into testing the software stabilities of the counters. Hardware watchdog is in place to reboot the system in case the OS crashes. Watchdog will reboot after 24 hours running. Every hour the watchdog will check for the Server is connected (file exist), after 12 fail checks, the counter will reboot.

Result:

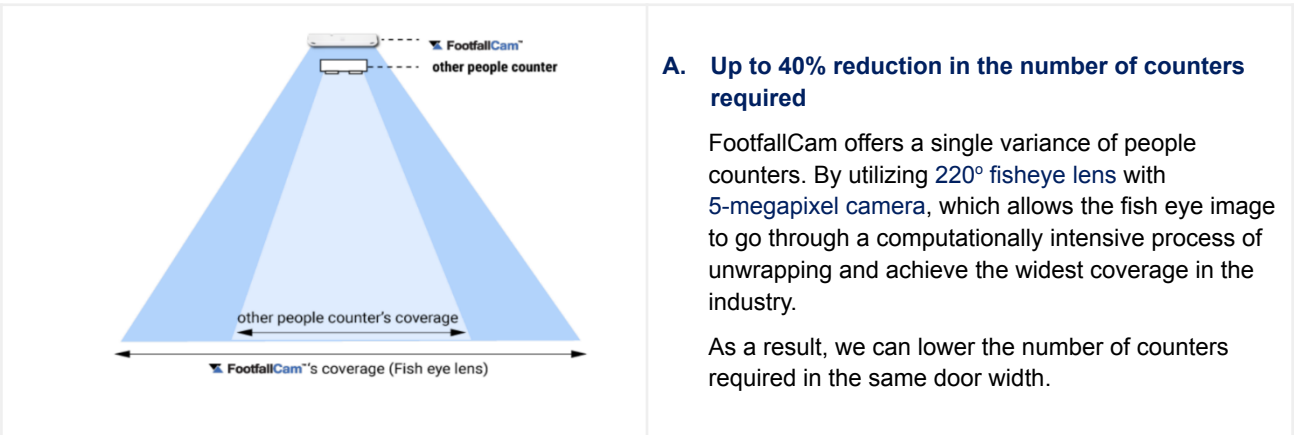
- Minimize data corruption
- Minimize downtime for hardware maintenance



A. First level watchdog
First level watchdog will check for connection issue with server and software issue. If both failed for 12 hours, the counter will be reboot.

B. Second level watchdog
Second level watchdog will start checking during boot process, high usage load. If the OS could not be boot up within 60 seconds, the counter will be rebooted.

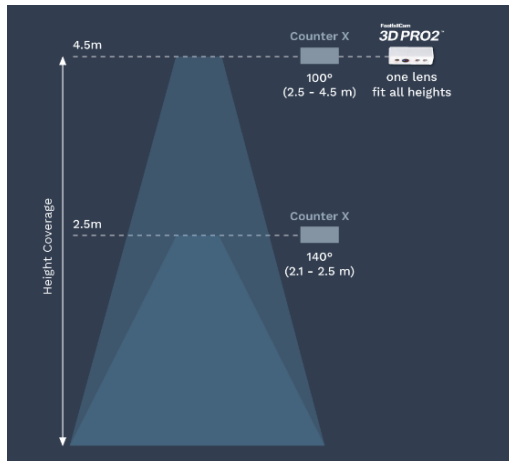
4. Widest Coverage in the Industry – Dual Fisheye Super Wide-Angle Lens



A. Up to 40% reduction in the number of counters required

FootfallCam offers a single variance of people counters. By utilizing 220° fisheye lens with 5-megapixel camera, which allows the fish eye image to go through a computationally intensive process of unwrapping and achieve the widest coverage in the industry.

As a result, we can lower the number of counters required in the same door width.



B. Lens type coverage of 2.1 meters to 4.5 meters

The 5-megapixel camera in conjunction with the high-powered processor in the device enables FootfallCam to perform digital zoom and produce high definition images.

This enables the FootfallCam to cater for ceiling height between 2.1m – 4.5m without requiring lens type selection or variation from users.

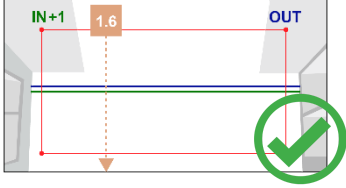
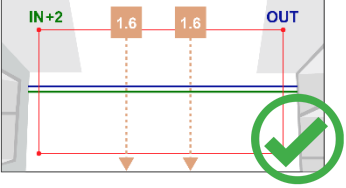
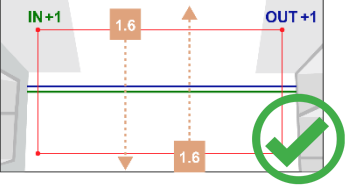
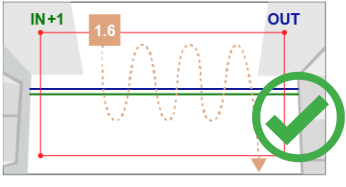
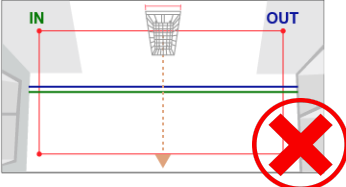
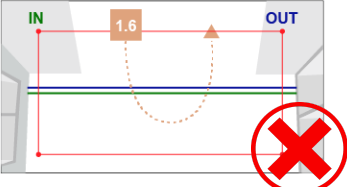
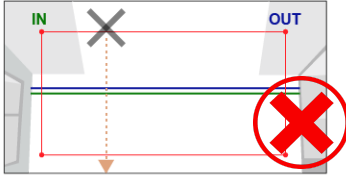
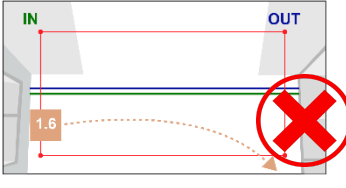
Result:

- Reduce total cost of deployment due to the lower number of devices required
- Easier for installations, as one type of lens can be installed in all stores

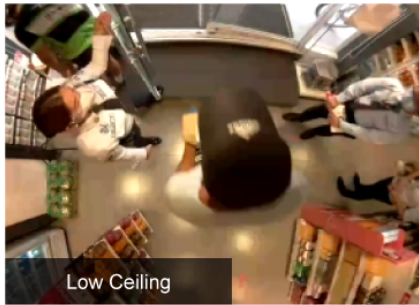
How do we count over a large area?

When one counter is unable to cover the entire entrance, multiple counters may be required. In this case, the live view of multiple counters will be combined to create one complete view to track the visitor through the entire queue.

2.0.1.2 Visitor Count Algorithm

<p>Sample 1 - Single People</p>	<p>Sample 2 - Multiple People</p>	<p>Sample 3 - Bi-directional</p>
		
<p>Counted as 1 IN.</p>	<p>Counted as 2 IN.</p>	<p>Counted as 1 IN 1 OUT.</p>
<p>Sample 4 - Random Walk</p>	<p>Sample 5 - Exclude Trolley</p>	<p>Sample 6 - U-turn</p>
		
<p>Counted as 1 IN.</p>	<p>Not counted - Inanimate objects able to detect and exclude from visitor count.</p>	<p>Not counted - Visitor did not pass through the start-end zone.</p>
<p>Sample 7 - Exclude Staff</p>	<p>Sample 8 - Abnormal Action</p>	
		
<p>Not counted - Staff with Staff Exclusion Tag able to detect and exclude from visitor count.</p>	<p>Not counted - Visitor did not pass through the In line.</p>	

2.1.1.3 Extreme Counting Accuracy



Reference videos	Accurate Counting under all Environments	Watch Video
Reference videos	Suitable for All Entrance Types	Watch Video
Reference videos	High Traffic Counting	Watch Video
Reference videos	Object Classification using AI Analytics	Watch Video
Reference videos	U-Turn Not Counted	Watch Video

2.2 Software - FootfallCam Analytic Manager V9™



Manufactured in the United Kingdom, FootfallCam Analytic Manager V9™ is an enterprise web-based control panel designed for customers who are managing a large number of counters. Users' data are stored in the cloud without a limit in storage and it will be stored for lifetime or until the end of business for FootfallCam. Analytics Manager V9 provides a platform for customers to view the full analysis of traffic data from individual stores, regions, and entire chain.

Reference document

FootfallCam Analytic Manager Datasheet

[Download online document](#)

2.2.1 Key Features

1. Account Management

Different users may have different job responsibilities and need to use the FootfallCam Report Manager™ in different ways. Individual user accounts can be set up for your team member, and access rights assigned accordingly. Every user will be assigned a user ID and password, which they will be able to access from any networked location. System administrators will have remote access to the accounts information, modify access rights and disable any account when a team member leaves the company. They will also be able to restrict or allow changes or access to the viewing of the pre-sets for all sensor models. Higher-level operators are also given the control to restrict and allow certain access to the data for specific groups of people.

2. Email Scheduler

Reports can be scheduled to be sent to the key person (e.g. store manager for the store weekly reports, marketing manager for the campaign effectiveness reports, etc.) via email on a regular basis. Segment E-Mails based on user group and send desired business reports to key decision makers on daily or weekly basis. All available reports from the FootfallCam Analytic Manager V8 may be configured to be sent to all users autonomously on either daily basis or weekly basis.

3. Centrally Manage All FootfallCam Counters

Our software is designed to manage a large number of counters, data from all counters are collected and centralized in a single place named Device Management page in our software. Counters can be easily added and removed from your

account, and configurations (such as Branch ID, Counter ID, Operating hours, etc) can be edited remotely without going on-site.

4. Health Check

A routine system health check is implemented, which checks across the whole system to make sure all counters are connected and counting. This health check is usually scheduled to perform daily at a predefined time (e.g. 12am). An automated email alert will be sent to the person-in-charge detailing any faults found, making this a pro-active yet manageable approach to maintain all the counters across your retail chain.

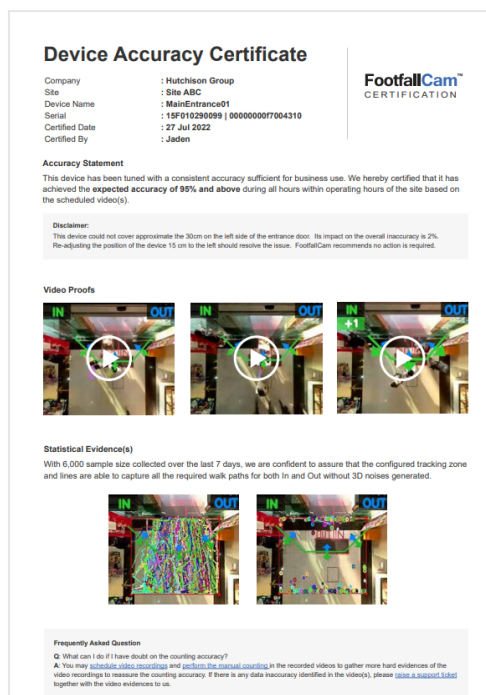
Checking details:

- Network issue and failed to connect to server
- Alert for data is lower/ higher than usual
- Counting data and Wi-Fi data upload checking

5. Accuracy Audit

Upon installation, each counter will be verified by our specialist. A verification certificate can then be generated, along with the video evidence, and centrally archived for future reference.

Accuracy verification acts as a proof that the camera has achieved the required counting accuracy and the data is reliable to be used for further analysis.



Reference document	Sample Verification Certificate	Download online document
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FootfallCam’s portal also allows you to capture a short video clip, do a manual count and cross check it with the system count for a particular period. Users may perform this self-accuracy audit at the portal whenever the accuracy is in doubt, this can be done in a few steps:

- Create new recording (live view from of the counter)
- Play video when the file is available
- Cross check manual counting with system counting

6. Customisable Application

The FootfallCam Analytic Manager v9 is highly flexible and may be customized in the software application. All the technical components and the entire software suite may be customized in terms of the data to display, provided there is sufficient raw data to formulate the display of data, the organization of interface and which data should be shown. All customisations may be requested from the employer and FootfallCam will take all suggestions for customisations into consideration when developing our software.

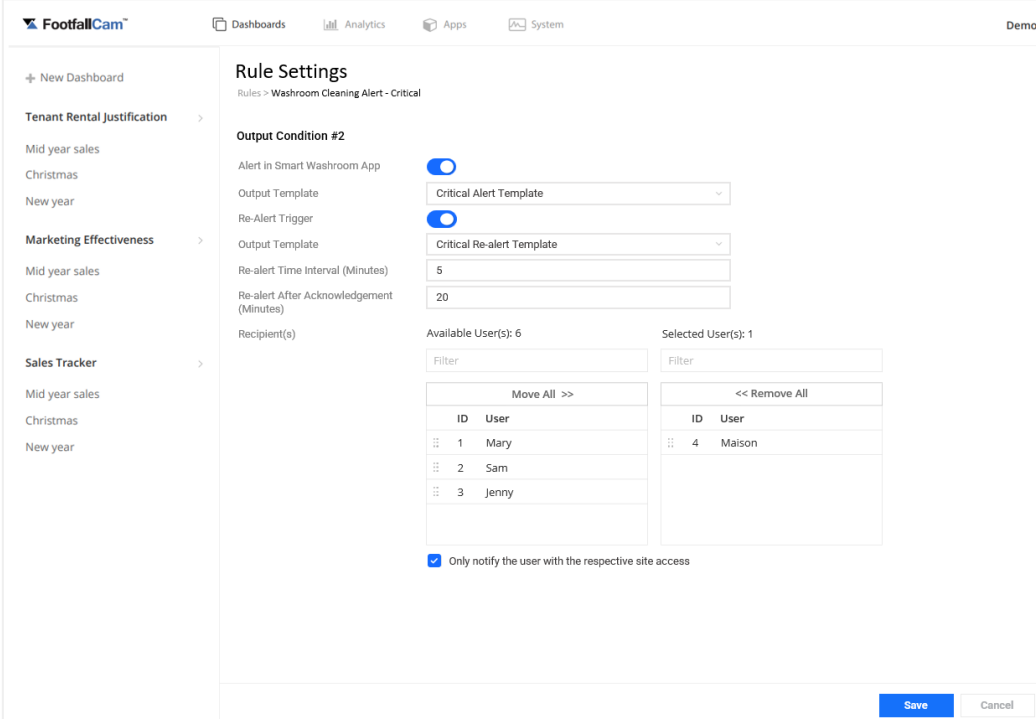
FootfallCam also provides a workspace for users to customize their own dashboard tailored to their specific needs using a wide range of widgets:

- Text
- Date Range
- Comment Box
- Chart: To show data graphically
 - Bar Chart
 - Line Chart
 - Pie Chart
 - Scatter Chart
 - Funnel

Take a look at our [Custom Report Builder Workspace](#)

7. Rule Settings

FootfallCam offers an extensive range of over 500 rule templates that can be customized according to specific requirements. These custom rules allow seamless integration using Python with FootfallCam's raw data and aggregated metrics, providing flexibility in analyzing and interpreting the data. Moreover, FootfallCam's system enables the automatic triggering of notifications through various channels which includes SMS, emails, the FootfallCam Watch, Android and iOS applications.



FootfallCam Dashboards Analytics Apps System Demo

Rule Settings
Rules > Washroom Cleaning Alert - Critical

Output Condition #2

Alert in Smart Washroom App

Output Template

Re-Alert Trigger

Output Template

Re-alert Time Interval (Minutes)

Re-alert After Acknowledgement (Minutes)

Recipient(s)

Available User(s): 6 Selected User(s): 1

Filter

Filter

Move All >>

ID	User
1	Mary
2	Sam
3	Jenny

<< Remove All

ID	User
4	Maison

Only notify the user with the respective site access

Save Cancel

8. Multi Language Function

The linguistic department of FootfallCam is constantly working on updating the availability of languages in the Analytics Manager and aims to provide linguistic support for all users. The Analytic Manager of FootfallCam is currently available in 11 different languages and we are continuously growing.

At the time being in addition to the English language, the Analytics Manager of FootfallCam is available in both traditional and simplified Chinese, Persian, Italian, Spanish, French, German, Dutch, Japanese, Korean and Malay. For our first line and second line support, FootfallCam also provides multilingual support services in English, Spanish, Italian, French, German, Dutch, Persian, Chinese, Japanese, Korean and Malay as well.

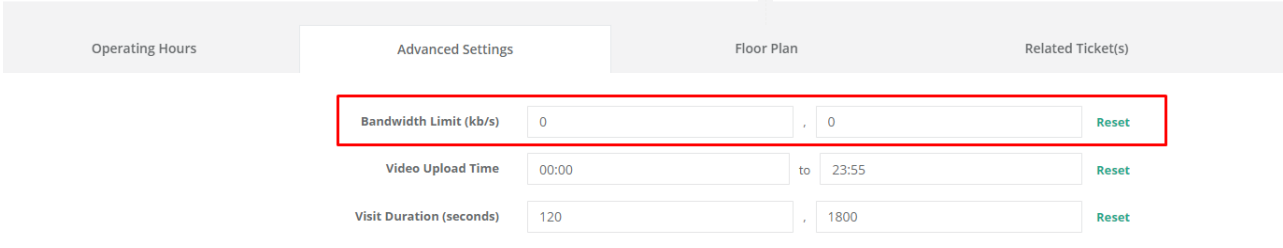
9. Low Bandwidth Requirement

The usage of bandwidth requirement is approximately the same and there is virtually no difference in bandwidth usage between the Analytic Manager hosted on the cloud server of FootfallCam, or the user's own corporate server.

The table below highlights the minimum bandwidth usage in different frequency of data transference from the FootfallCam counter into the database.

Data	Bandwidth	Frequency
Live Occupancy	Approximately 210 KB per counter	Real-time
Counting Data (JSON)	Approximately 30 KB per counter	Every hour
Wi-Fi Data (JSON)	Approximately 30 KB per counter	Every hour
Client Data (JSON)	Approximately 20 KB per counter	Daily
Counting Videos	Up to 200 MB per video	Three videos per day until Accuracy Audit is completed

10. Bandwidth Throttling



The screenshot shows the 'Advanced Settings' tab in the FootfallCam interface. It features three input fields for configuring bandwidth throttling, each with a 'Reset' button:

- Bandwidth Limit (kb/s):** Two input boxes, both containing '0', separated by a decimal point. A red box highlights this entire row.
- Video Upload Time:** Two time input boxes, the first containing '00:00' and the second containing '23:55', separated by 'to'.
- Visit Duration (seconds):** Two numeric input boxes, the first containing '120' and the second containing '1800', separated by a decimal point.

The Bandwidth throttling feature can be used if users wish to limit the amount bandwidth used for data uploading so that the network speed within the store is not significantly affected. This is especially relevant when it comes to uploading large size files. The only use case for this in the people counting solution we are providing is the uploading of Accuracy Audit videos.

This will not be a frequent occurrence as Accuracy Audit will only happen once after installation as per standard process. Nevertheless, users can configure the bandwidth limit for each site to cater for this scenario.

For example if the limit is 50 MB per hour, and the Accuracy Audit video file is 200 MB in size, the system will spread across 4 hours to upload the file to the server, instead of consuming any data available until upload is complete.

The table below highlights the categories of the reports available and breaks down each of the individual reports along with their list of key users for each reporting option.

Name of report	Report code	Usage of report	Key User
Company level			
Company weekly report Download report	RE-CWR01	To showcase the overall trend across all branches within the company and provide all C-level executives with a comprehensive insight on the consumer behaviors and have a macro view of the performance of the stores	C-level executives, regional managers
Company daily report Download report	RE-CDR01	To showcase the daily trend across all branches based on a compiled daily report for macro view across all stores in the chain and drill down to an individual store in question if performance drops	
Company weekly sales conversion report Download report	RE-CSW01	Provide an insight into how well store staff is at converting their visitors into a store into a shopper and if a store is performing badly in terms of conversion, drill down to the issue and cause of deficit	
Company daily sales conversion report Download report	RE-CSD01	Provide a daily insight into whether sales have dropped in the previous day according to the number of visitors that have visit the store and display an interest in the product	
Store comparison report Download report	RE-CSC01	Compare two different group of stores based on environment to determine difference between traffic pattern based on external actors and enable top management to categorize different types of store	
Store level			
Store weekly report Download report	RE-SWR01	To showcase the overall trend across all branches within the company and provide all C-level executives with a comprehensive insight on the consumer behaviors and have a macro view of the performance of the stores	Store managers, store supervisors
Store daily report Download report	RE-SDR01	To showcase the daily trend across all branches based on a compiled daily report for macro view across all stores in the chain and drill down to an individual store in question if performance drops	
Store weekly sales conversion report Download report	RE-SCW01	Provide an insight into how well store staff is at converting their visitors into a store into a shopper and if a store is performing badly in terms of conversion, drill down to the issue and cause of deficit	
Store daily sales conversion report Download report	RE-SCD01	Provide a daily insight into whether sales have dropped in the previous day according to the number of visitors that have visit the store and display an interest in the product	
Time comparison report Download report	RE-STC01	Provide a comparison of the performance of a single store in a breakdown of two different time periods, allowing store managers and area managers to determine status of the business and performance	
Specialty reports			
Marketing effectiveness report Download report	RE-EME01	To determine how well the marketing campaign did by comparing the key performance index of three different time periods. This report will enable marketing managers to determine the perfect promotional strategy to cater to their demographics.	Marketing team

Company opening and closing time analysis Download report	RE-ECO01	Benchmarking for the store hour optimisation to determine when a store should open and close. Doing so will enable the store managers to adjust the operating hour of the store and save resources on staff allocation.	C-level executives
Store opening and closing time analysis Download report	RE-ESO01	Review the opening and closing time analysis of stores based on the outside traffic data picked up by the FootfallCam to determine the most opportunistic moment and adjust the operating hour of the individual store based on the opportunities.	Store managers, store supervisors
Predictive analysis Download report	RE-EPA01	Using artificial intelligence to predict the footfall level of the coming 14 days based on the footfall trend of the previous 14 days to allow store managers to predict how many staffs and supply of goods should be allocated.	Inventory control managers, store supervisors
Queue counting report Download report	RE-EQC01	Queue counting option that allows retailers to be updated in real time of how many customers are waiting in a queue to determine the average standing waiting time of a customer per till and how often do customers leave without purchasing anytime due to a long queue.	Store managers
Company level staff hour report Download report	RE-ECS01	To showcase the overall trend across all branches within the company and provide all C-level executives with a comprehensive insight on the staff performance and ideal staffing ratio.	C-level executives
Footfall to Staff Hour Report Download report	RE-EFS01	By comparing footfall-to-staff ratio and sales conversion on an hourly basis, retailers will be able to determine missed sales opportunities and optimized staffing hours.	Store managers
Staff planning weekly report Download report	RE-ESP01	Staff planning report provides an overview of the average footfall-to-staff ratio for all stores. In this way, regional manager can understand footfall-to-staff ratio	C-level executives
Space occupancy report Download report	RE-ESP02	Daily reports equip the management with real data, enabling facility occupancy to be controlled easily across all stores and take strict corrective measures in time to ensure that government safety regulations are not breached.	Store managers
Heatmap daily report Download report	RE-EHD01	Heatmap gauges the popularity of specific brands in a zone to identify the pattern of customer behavior, enhance understanding of different customer segments across zones, creating more effective localized plans and marketing strategies that better align with who your customer is.	Store managers

2.2.4 Software Version Control

FootfallCam has a standard practice of software version control and strategy to deploy release into operation in order to deliver value to the customer.

Reference document	Software Version Control	Download online document
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2.2.5 Data Privacy

FootfallCam values the data privacy of our users and does not share data with any third parties. FootfallCam people counter is installed on the ceiling, it is improbable for the video to capture the entirety of consumers, nor does it recognize facial features of consumers. Videos are recorded only for verification purposes and taken in low resolution and the footage will be deleted once the verification is complete.

The people counter uses 3D depth map instead of video images for counting purposes where the data being collected are non-visual and non-identifiable with any individuals. As FootfallCam collects footfall data only and no personally identifiable data, FootfallCam is exempt from General Data Protection Regulation (GDPR).

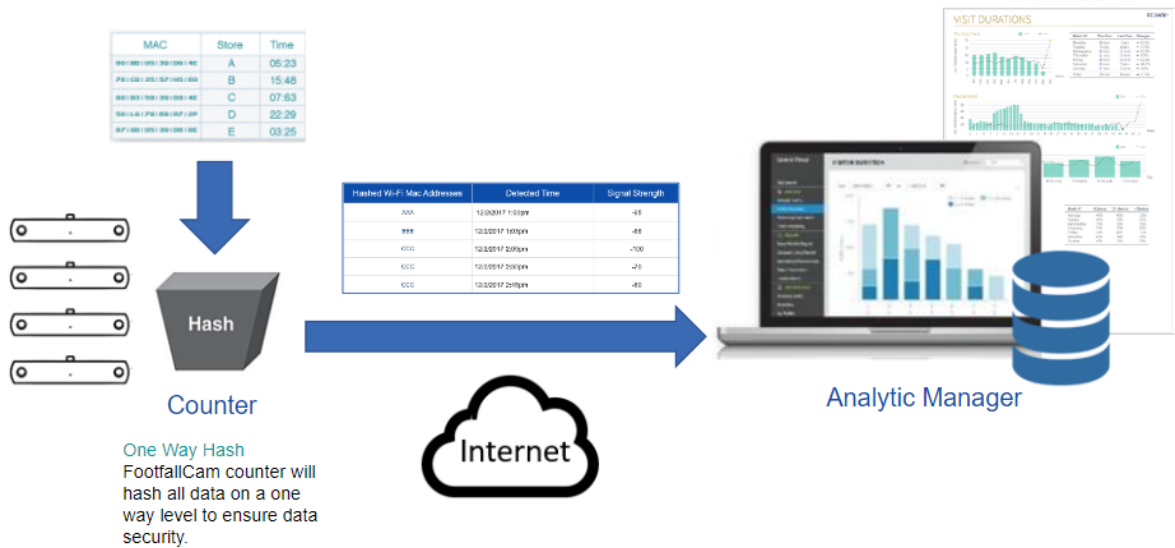
Reference document	Data Anonymisation and GDPR Exemption FactSheet	Download online document
Reference document	Anonymised Data & GDPR Exemption	Download online document

2.2.6 Information Security Policy

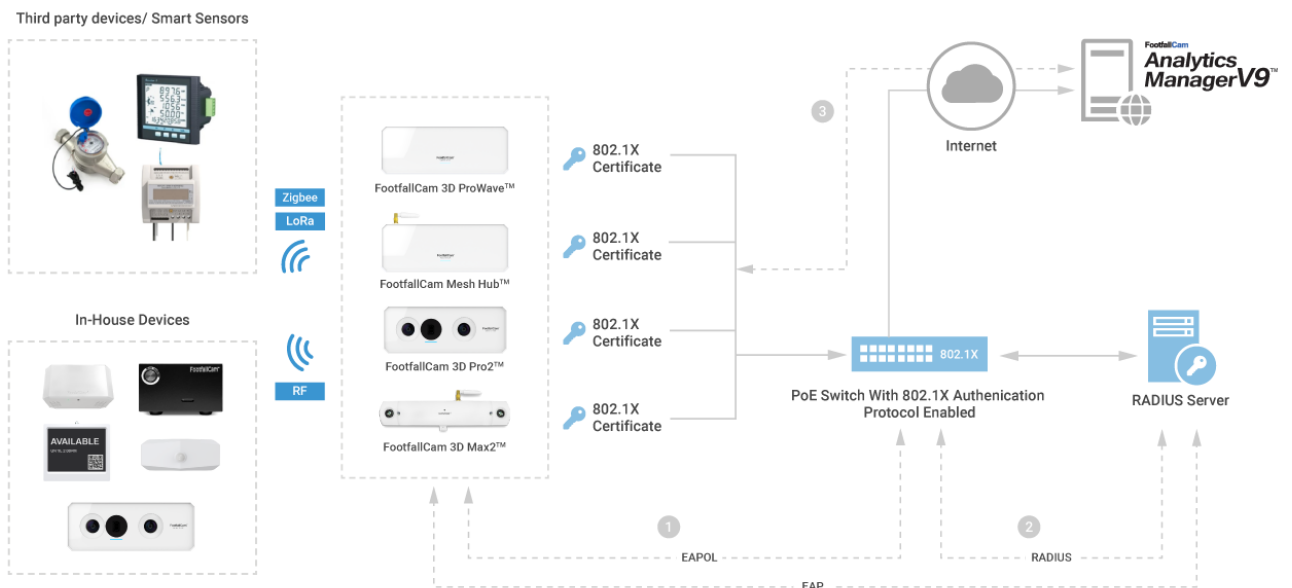
The optimisation process of security is defined into four different levels. Each level of security will have its own threat prevention measurement as well as a failsafe in the event of a breach of security. FootfallCam has tightened the security to prevent all possible intruders to ensure the privacy, confidentiality, and integrity of the data employers view.

FootfallCam transmits data between three different entry points. From the FootfallCam device to the FootfallCam Analytic Manager, then from the FootfallCam Analytic Manager to the various dashboards the employer would like to employ to display live and factual data. This provides opportunities for unlawful hackers to intercept the data from various entry points. Due to this, FootfallCam has tightened the security to prevent all possible intruders to ensure the privacy, confidentiality, and integrity of the data employers view.

Reference document	Information security	Download online document
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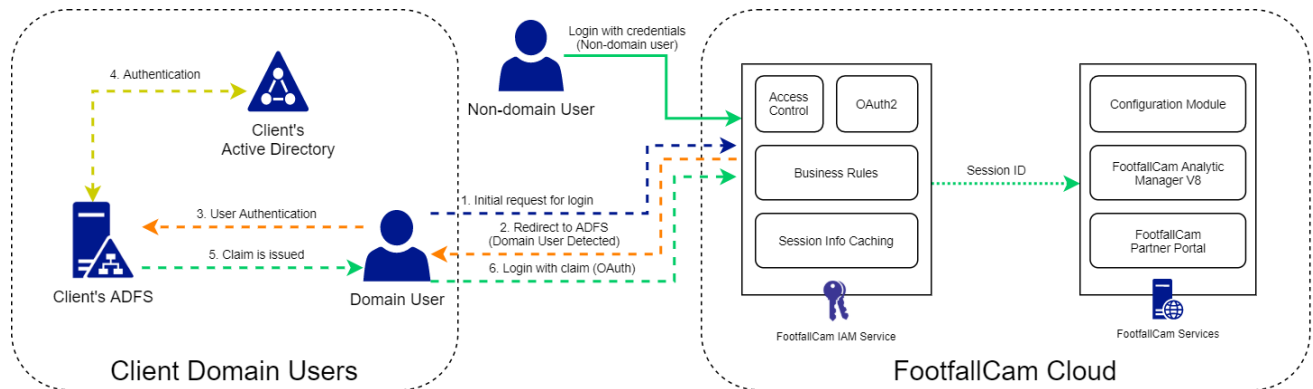


IEEE 802.1x Certificate



- FootfallCam™ Counters supports IEEE 802.1x network authentication protocol, allowing greater security for your own network environment while using our counters.
- RADIUS Server (Authentication Server) must be readily deployed, and a PoE Switch with 802.1x enabled ports (Authenticator) is required to interconnect and authenticate between our counters and the RADIUS Server.
- FootfallCam™ Counters (Supplicants), required to install 802.1x certificate, generated by the RADIUS Server, to enable this security feature.

Single Sign-On (SSO) Integration



- Customers will be able to integrate the Active Directory Domain Users into FootfallCam Analytic Manager V9 and Partner Portal through Active Directory Federation Service (ADFS) with OAuth2.
- To set up the Single Sign-On feature, customers will need to provide On-Premise Authority (URL of the ADFS metadata document), and should do provisioning into customer's ADFS.
- Customer must have a local administrative company account at FootfallCam portal and connect to customer's ADFS, and instantiate each individual user account within the company account

2.2.7 Data Backup and Restore Policy

Reference document	Backup and Restore Policy	Download online document
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This policy defines the objectives, application and procedure of backup and recovery for data held in the information and communication technology environment of the Client's organization.

2.2.8 Data Integrity

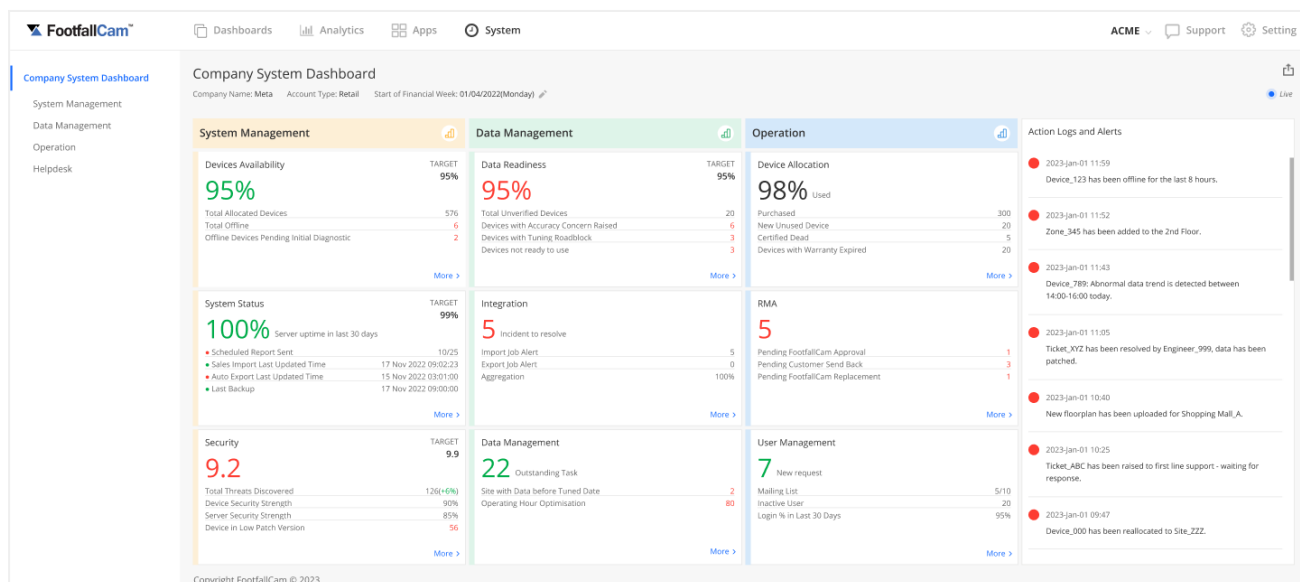
The concept of data integrity is an assessment of data's fitness to serve its purpose in each context in terms of accuracy, completeness, relevance, reliability, accessibility and update status. Data integrity is crucial to business operations as it will affect decision making by business owners. To strive for the highest data quality, FootfallCam has spent thousands of research hours to figure out an automated process in handling data accuracy, validating and fixing the data errors more effectively.

2.2.8.1 Data Availability

FootfallCam guarantees 99% of data Uptime through an intelligent health-check system which can monitor data pro-actively in the portal. In the case of unforeseeable circumstances which may cause missing data, FootfallCam is confident in handling each spontaneous situation through a well-documented contingency plan.

1. Guaranteed 99% of Data Uptime through Proactive Monitoring

FootfallCam has an intelligent health check system in place which has a noise detection function capable of identifying the data collected that are deemed to be "suspicious" or potentially inaccurate which may be caused by several external factors such as decorations, furniture or product placement changes. Upon the alert to our team, we will investigate the cause and a re-verification process may take place if necessary.



FootfallCam 360° System Dashboard - [View](#)

- 360° summary - all aspects of the system; including availability, accuracy, alerting, and tracking of issues.
- Reduced Training Costs - Maintain optimal system availability during personnel changes
- Faster Response Time - To minimize the impact of the issues on data integrity.

Support	Description	Agreed SLA
Data integrity KPI	The authenticity of the FootfallCam visitor counting data	96%
Data availability KPI	The availability of visitor counting data on the FootfallCam Analytic Manager	99%

2. Missing data handling

Missing data will fall under these three possible scenarios which are **offline counters**, **missing power supply** and **faulty units**. To prevent missing data and dropout, FootfallCam develops automated health check monitoring to provide users with definite visibility on the status of their counters and the number of hours that missing data occurred.

Scenario	Description	Actions to resolve	Agreed SLA
Offline counter	Offline counter is caused by unstable network connection or IP conflict that cause no data available in the portal. The data will stay in the counter and is pending for uploading to the server for aggregation. Once the network connection is ready, the data uploading will be resumed and pushed to our FootfallCam server. All the data will be re-aggregated again on the server.	When the counter is detected by automated FootfallCam Health Check System as offline, FootfallCam staff will diagnose the issue and immediately notify Customer's network team to resolve the issue on the same day .	Within 1 day.

<p>Missing power supply</p>	<p>Due to reasons of loose cabling or disconnected power supply, it will cause completely missing data in a day or missing at random hours during operating hours.</p>	<p>FootfallCam support team will immediately notify Customer's store staff to check the availability of power supply in the store on the same day. The LED lighting displayed on the FootfallCam device lets users instantaneously know the issue the counter is experiencing, which results in the hastening of response in getting the FootfallCam back online.</p> <p>FootfallCam software team has developed a data patch management solution. The service level for remediation of recoverable missing data is within 5 business days since the incident of missing data. The data patching process will only be initiated upon getting prior consent from the Customer..</p>	<p>Within 1 day. Within 3 business days to perform data patching on missing data.</p>
<p>Faulty Units</p>	<p>In the event of physical failure, by deploying a newly developed advanced algorithm, FootfallCam can instantly detect the physical failure of the people counter when it happens. All faulty units will be automatically subject to Returned Merchandise Authorisation (RMA) Handling with no further delays.</p>	<p>Following the RMA handling procedure, FootfallCam site installation team will perform replacement counter installation to ensure minimized downtime for counter operation.</p> <p style="text-align: center;">RMA Approval</p> <p>For more information on RMA Terms and Conditions, please visit this link.</p>	<p>Within 3 days to resolve the issue by engineer callout.</p>

Reference document	Data Integrity Report	Download online document
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3. Data Retention Period

The retention period of data is an aspect of records and information management of the duration of time for the data to be stored. Due to storage concerns, the raw data will be only stored in the counter temporarily for 30 days. All the counting data will be uploaded to our FootfallCam server on an hourly basis and stored for 7 days in the server for aggregation.

After the raw data has been aggregated completely, the raw data will be deleted permanently and no longer available at the server. Only the aggregated data will be stored permanently in the database, as the data is meaningful used to do the forecasting from the historical year.

Location	Types of data	Counting Data	WIFI Data
Counter Level	Raw data stores in the counter before uploading to the server for aggregation	30 days	14 days

Counter Level	Raw data stores in the counter when fail to uploading to the server due to counter offline	180 days	14 days
Server Level	Raw data stores in the server for temporary backup after the raw is uploaded to the server and aggregated successfully	7 days	7 days
Server Level	Aggregated data stores in the server	Permanent	Permanent

In the case that the store has an internet connection problem that causes the counter to not upload the data to our server on an hourly basis, all the raw data will stay at the counter level and pending for upload. The capacity of the data storage on the counter is 180 days for counting data, and 14 days for Wi-Fi data.

Once the network connection is back to normal, the data uploading will be resumed provided the counter power is turned on and running while the internet connection is down. However, if the counter power is not turned on and the device is completely offline, no data will be recorded due to physical failure.

2.2.8.2 Data Accuracy

1. Counting Accuracy SLA with Video Proof

Following the installation, FootfallCam will ensure that data will be available and ready to use within a maximum of 3 days. FootfallCam will perform an accuracy audit to verify the integrity of the data generated by the FootfallCam counter.

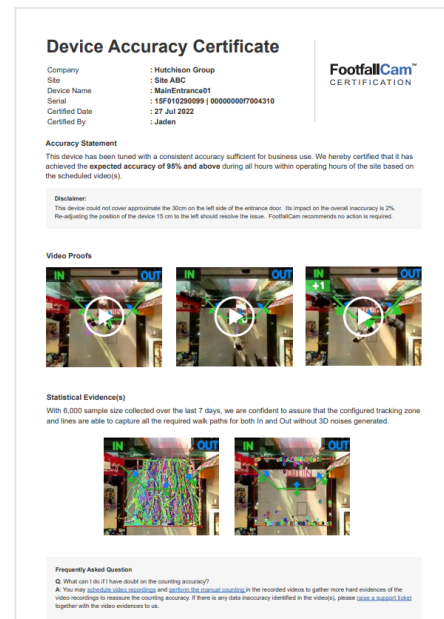
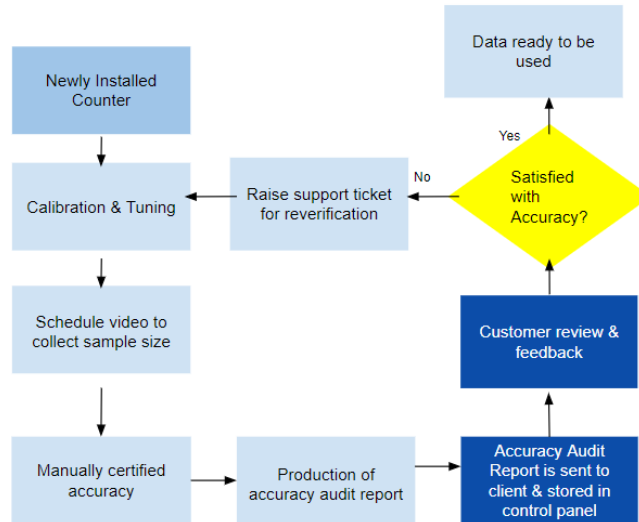
Support	Description	Agreed KPI
Counting accuracy	The accuracy of the visitor count data observed by FootfallCam	Above 95%
Counter tuning time	The time it takes to calibrate the FootfallCam to its optimal accuracy	Within 3 days

FootfallCam has an established process flow for the validation of the visitor counting data that is observed from the counter. The flow chart highlights the stage from the point of when the device would be remotely accessed by FootfallCam personnel for calibration, and calibrating the device, and to the point of collecting data samples to verify the accuracy of the device.

The verification process is only conducted once after the counter has been installed. Once the initial calibration and the accuracy is audited, the accuracy level will not deteriorate nor change over time. The only time when the calibration will need to be reconfigured and the tuning process will need to be repeated again is when there is a change in the store environment or physical movement of the counter.

Once the videos are recorded, they will be reviewed by a FootfallCam Verification Specialist and a verification report will be generated and sent to the users afterwards. Users uncertain of the accuracy of the FootfallCam may schedule for new re-verification by raising a support ticket.

General Verification Workflow



Reference document

Sample Verification Report 1

[Download online document](#)

2. Abnormal traffic data handling with Reverification

Abnormal data is very hard to be detected when it comes in a very large data set. One approach to identify abnormal data is to group the data items into similar clusters and monitor the strange patterns or unusual trends. FootfallCam Analytic Centre provides a better view on hourly, daily or weekly footfall trends and allows users to do comparisons between different stores. In order to prevent possible drop in accuracy due to changes in tracking zone environment, FootfallCam has defined a well-thought plan when it comes to the re-verification process for different reasons.

Abnormal Trend	Possible causes	Actions to Resolve	Service Response Time
<p>Sudden Spike in Data</p>	<p>Store Layout – Changing of layout or decoration dangling on the ceiling will trigger the counting line and cause inaccurate counting.</p> <p>Moving of furniture – Moving the stock display/basket near the entrance will cause customers or staff hovering at the entrance.</p>	<p>The Health Check will automatically notify FootfallCam support team of any abnormal data trends within data collected from the counter. FootfallCam support team will then probe into the data issue to find out reasons for data anomalies.</p> <p>Reverification process will be started upon detection of changes in live view.</p>	<p>Within 24 hours for initial calibration</p> <p>Within 3 business days to resolve upon detection of data issue</p>
<p>Sudden increase/decrease in data</p>	<p>Reinstallation - In the event of dismantling and reinstalling the counters to different spots due to store relocation or store renovation.</p>		
<p>Data discrepancy</p>	<p>Customer request – In the case of customers who are not satisfied with the verification report, they may request for a counter reverification.</p>		

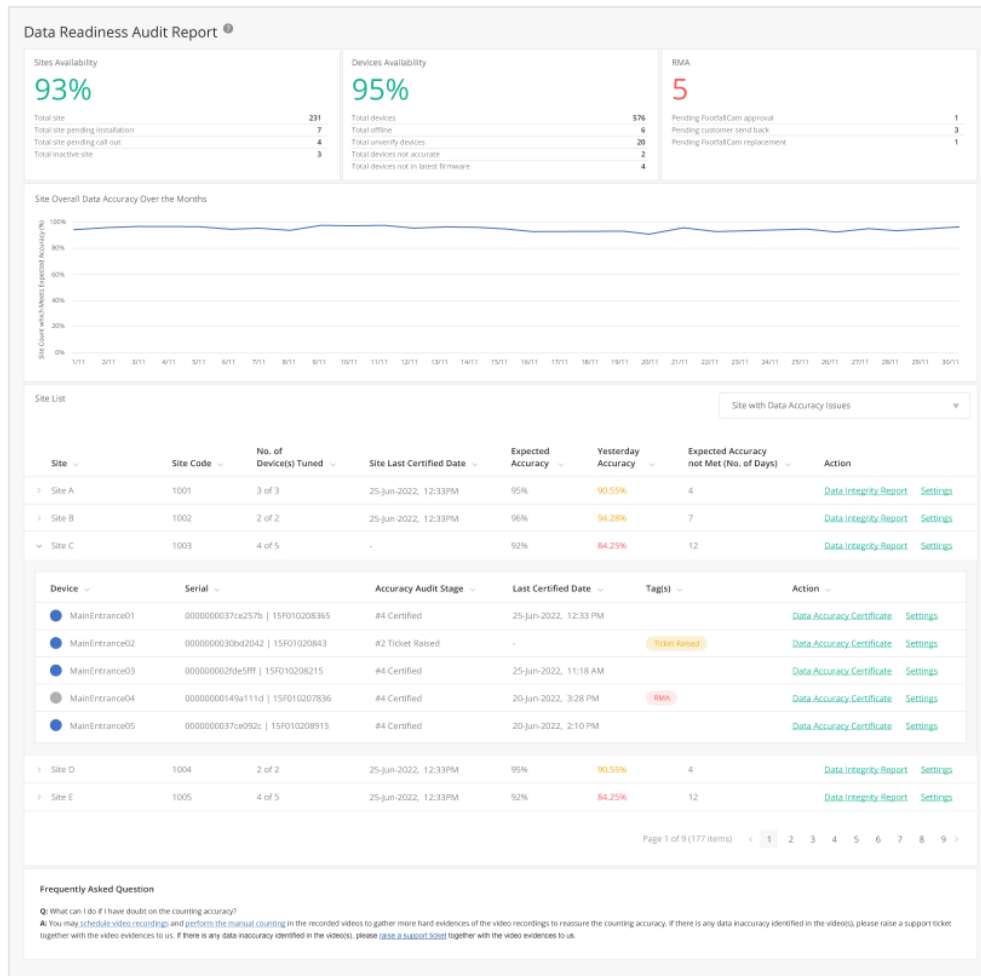
Reference document

Data Integrity Symptom Qualification

[Download online document](#)

3. Data Readiness Audit

Customers would receive a periodic audit of its system's data readiness. The period can be configured by user to be weekly, monthly or quarterly.

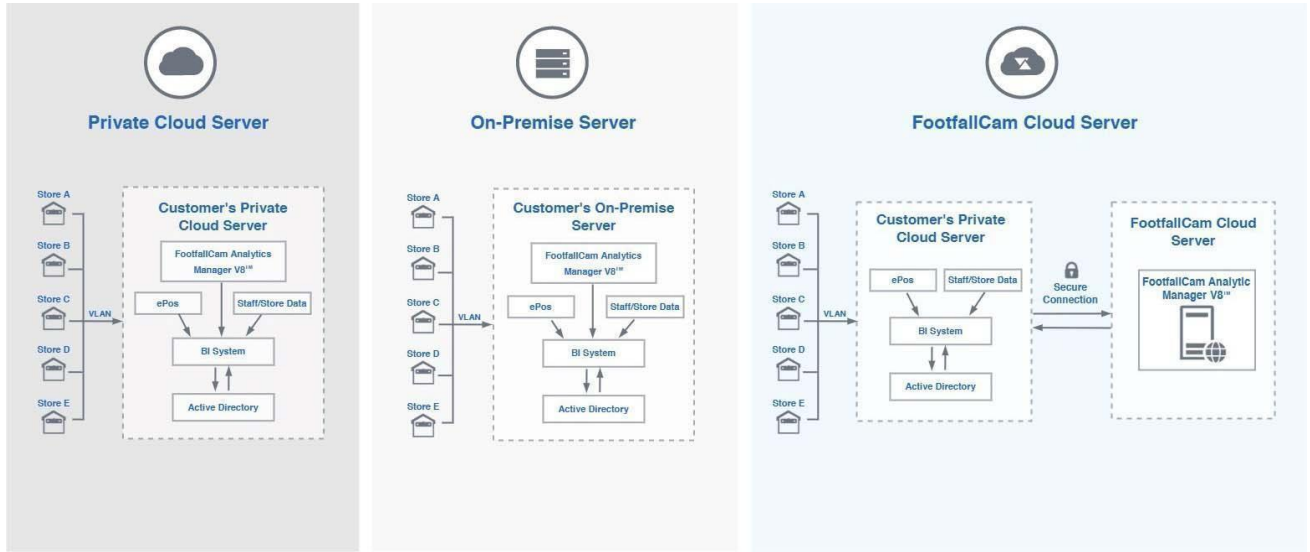


Data Readiness Audit Report

Each site has its defined “Expected Accuracy” during the Accuracy Audit stage and it will be the benchmark to measure accuracy performance.

Auto-generated alert will be sent to relevant users via email for any detected anomaly in accuracy.

2.2.9 Data Hosting

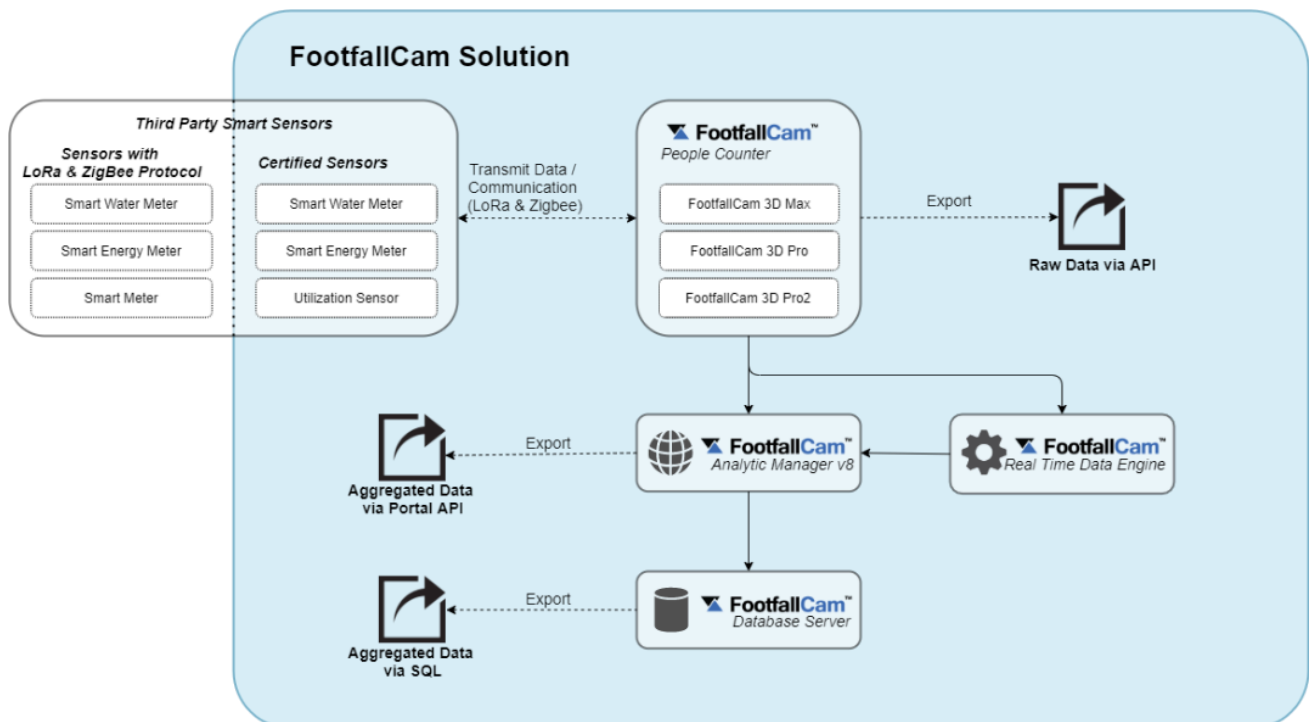


FootfallCam Cloud-based server

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

FootfallCam Cloud server combines Load-balancing, Multi-instancing, High Availability Server Architecture, designed to receive incoming data and aggregating data from FootfallCam Counters all around the world. It can also be used for report generation, viewing live data and extracting processed data for integrations to suit our customers' needs with scalable capability. Customers who purchased our FootfallCam counters can use our cloud server free of charge, providing configurable, access controllable, personalisable company accounts.

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



FootfallCam counter does not only function as people counting device, it packs with the IoT device gateway that is capable of receiving data from Smart IoT devices with compatible protocols, storing and transmitting the data back to the FootfallCam Cloud for further processing, ultimately becoming a presentable data for customers' strategic decisions on business, management, etc.

FootfallCam has implemented a complex yet efficient way to ensure all of the collected data is secured with redundant database and server configurations backups every day to make sure the data is recoverable from catastrophic events. Procedural audits and simulations on the backup and restoration are regularly proceeded.

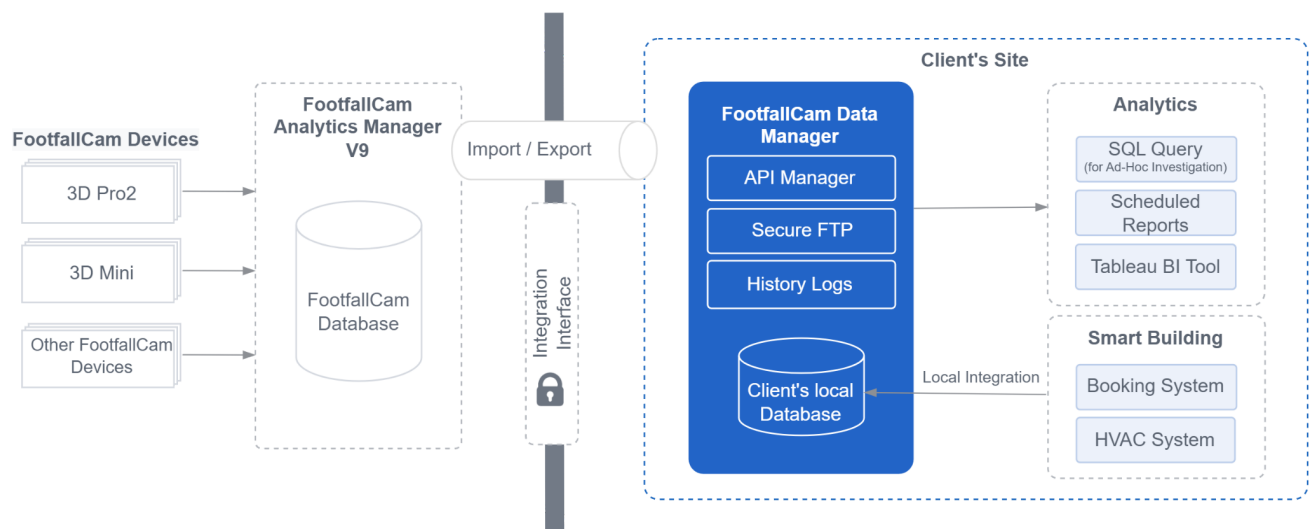
Client private server

Clients can also choose to host the system on their own server. FootfallCam will be able to provide technical support for server and software installation.

If relevant, client-server can also be supported by our backup scheme, whereby the database and its server configuration backup are securely transferred to our FootfallCam Central Servers every day, to ensure there is always a way to restore critical data.

2.2.10 Data Integration

1. Data Export and Integration



FootfallCam Software practices an Open Architecture concept, customers have full ownership and access to all the data. Integration with other systems is possible via different methods and FootfallCam provides ready-made plugins to achieve that. Some examples of use cases are:

- Integration with ePOS data or staff labor hours (from retailer's ePOS system) to produce management reports for corporate strategic planning
- Import data from FootfallCam server to client's business intelligence system for further data processing and reports
- Export Visitor Count data to a Live dashboard with real time alerts to monitor the demand and performance of queues

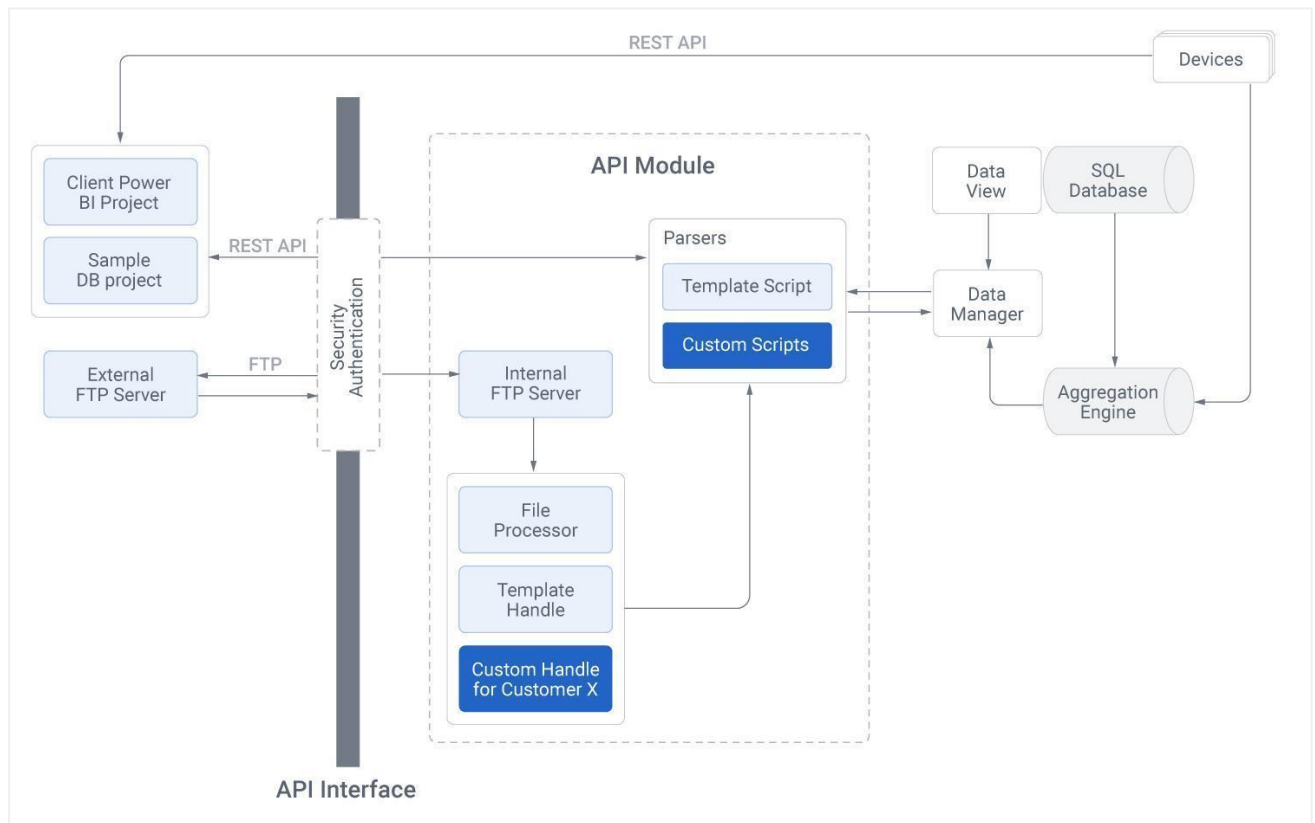
Possible methods of Integration:

- Manually download CSV from FootfallCam control panel
- Pull data via API

- Pull data from central database
- Push data to your FTP server
- BacNet, MQTT

Reference document	Integration Methods	Download online document
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2. API Integration



API is available to import or export data to and from a system. FootfallCam is a fully embedded software module, intended for any environment where store footfall counting is required.

People counters automatically collect the traffic data and build them into a convenient JSON/XML data file that can be retrieved easily via a web service API call, hence allowing seamless integration of the camera into any existing solution.

Through an API call, the data file will be extracted from the FootfallCam portal to the business intelligence system for further data processing to generate the management report. An API calling script may also be utilized to directly pull visitor counting data to a live dashboard with real-time alerts to monitor the demand and performance of queues.

API Documentation below contains more detailed usage of API.

Reference document	API Documentation	Download online document
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3. Historical Data Integration

Users are able to import historical data from your current devices to the FootfallCam system.

Users may continue using their existing people counter while using our Analytic Centre and our dashboard reporting feature, or the user may choose to migrate all existing data into our dashboard while swapping their people counter for FootfallCam™.

FootfallCam can help customer to import historical data from their incumbent counters to the FootfallCam Analytic Manager via API. Detailed cost and requirements can be discussed further down the project timeline.

4. Single Sign On (SSO) Integration

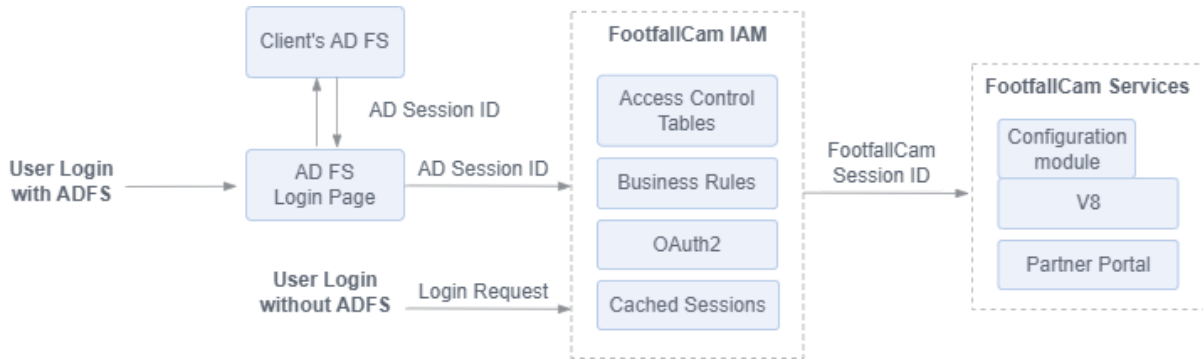


Diagram - Single Sign-On (SSO)

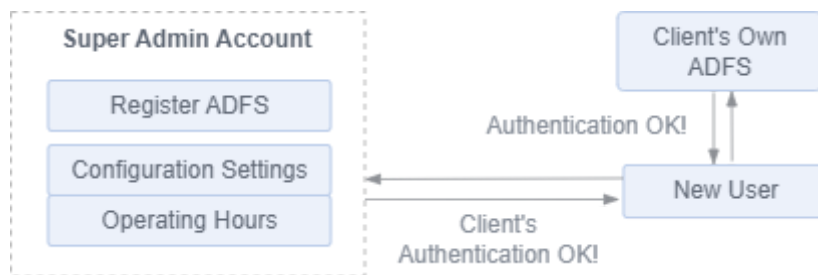


Diagram - Active Directory Federation Services (ADFS)

Customers will be able to integrate the Active Directory Domain Users into FootfallCam Analytic Manager V9 and Partner Portal through Active Directory Federation Service (ADFS) with OAuth2. To set up the Single Sign-On feature, customers will need to provide On-Premise Authority (URL of the ADFS metadata document), and should do provisioning into the customer's ADFS. In FootfallCam, the customer must have a local administrative company account, connect to the customer's ADFS, and instantiate each individual user account within the company account

2.3 Support and Maintenance Services

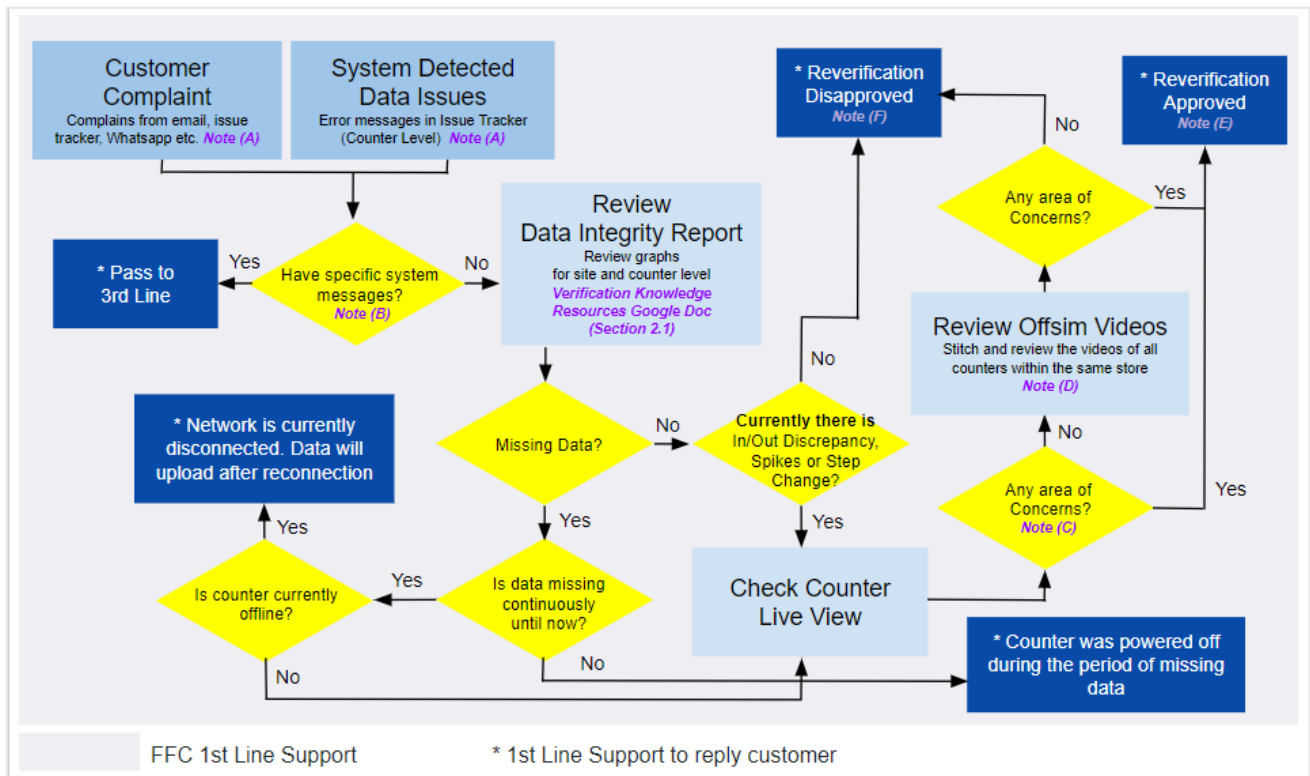
2.3.1 Support Process Map

In order to optimize operational efficiency and minimize error rates, FootfallCam has adopted a standard industry practice in term of support and maintenance. FootfallCam has defined a standardized process work flow and a well-documented Service Level Agreement to handle all different kinds of scenarios.

Different departments are clearly assigned to handle various kind of tasks within their job scope, so that all incidents are covered under the standardized set of agreements. Thus, users will be guaranteed to receive prompt and effective support from FootfallCam as promised in the KPI table below.

Support	Description	Agreed KPI
Data integrity KPI	The authenticity of the FootfallCam visitor counting data	96%
Data availability KPI	The availability of visitor counting data on the FootfallCam Analytic Manager	99%
General support enquiries	General enquiries regarding system infrastructure and usage	Respond within 24 hours

The flowchart below is used to showcase the process of support from FootfallCam and how are issues reviewed.

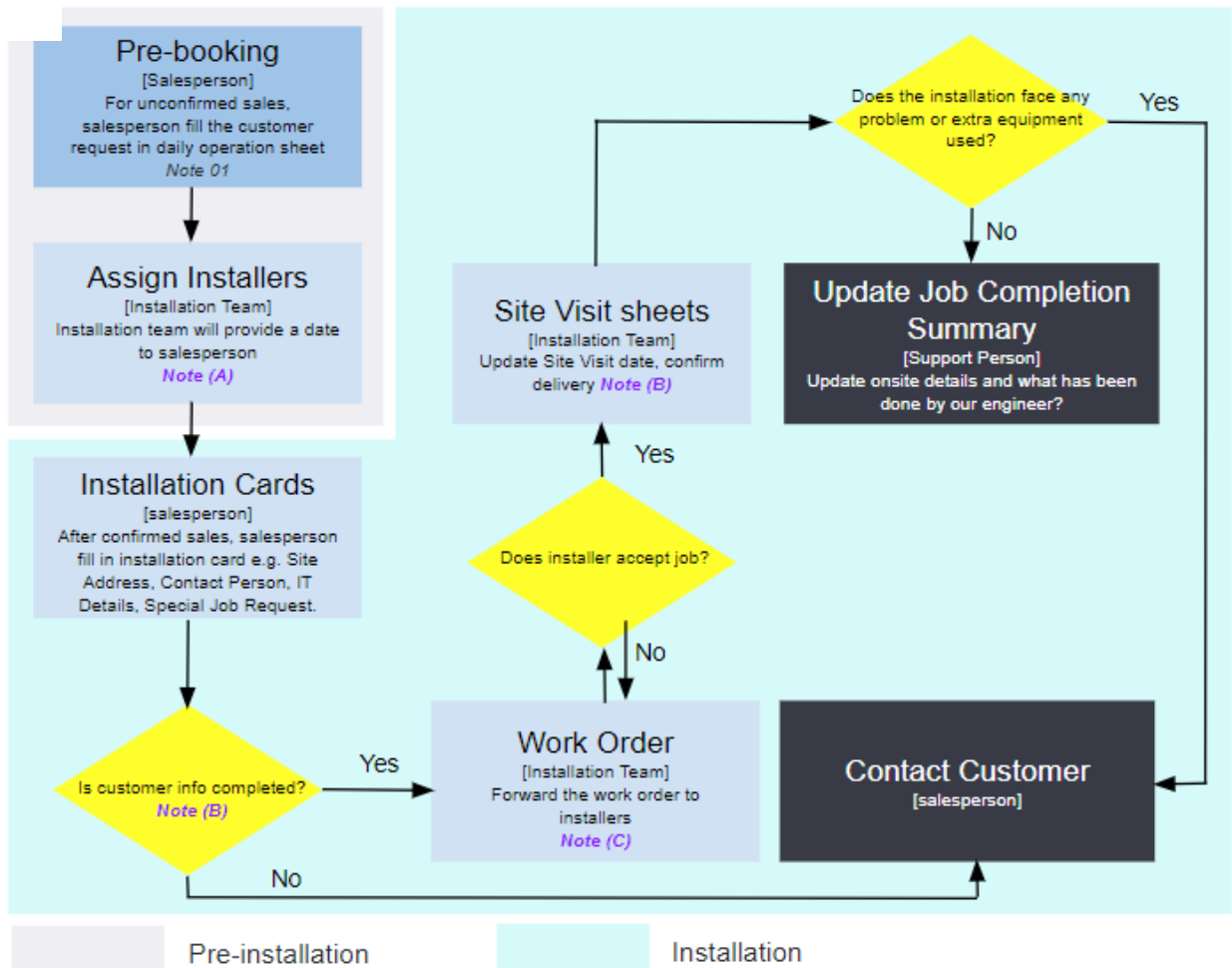


2.3.2 Installation support

2.3.2.1 Installation and Reinstallation Workflow

Support	Description	Agreed KPI
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Installation timeline	Installation of the device	3 to 4 stores per day
Dismantle timeline	Removal of an existing device from a site	Within 7 days of notice
Reinstallation timeline	Installation of a removed device from a previous site to a new site	To add into a regional cluster planning based on location / Within 7 days of dismantling

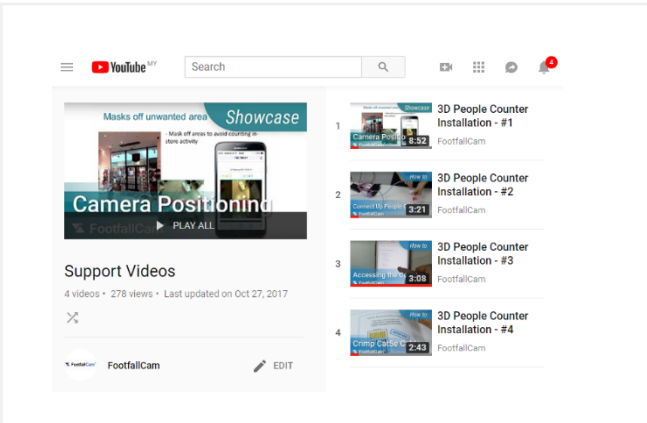


FootfallCam established the installation support flow above to minimize the risk of contractors needing to return to a site once a device has been installed..

FootfallCam offers all customers with 24-hour standby support service. During the support installation process, FootfallCam personnel will ensure that the counter is installed in the correct positioning for the most optimal and ideal accuracy. FootfallCam will also ensure that the device is configured and set up properly prior to the contractor leaving the site to prevent the need of a revisit.

If customer chooses to do the installation using their own contractor, FootfallCam will fully support the installation without any additional cost to ensure the successful installation at every site.

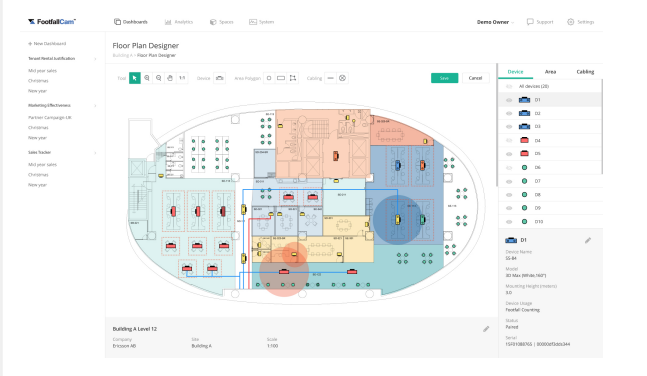
2.3.2.2 Scope of Installation Support



(A) Online Training Material and User Guides

FootfallCam will provide [online training](#) for installers to have the details prior to installing a FootfallCam counter.

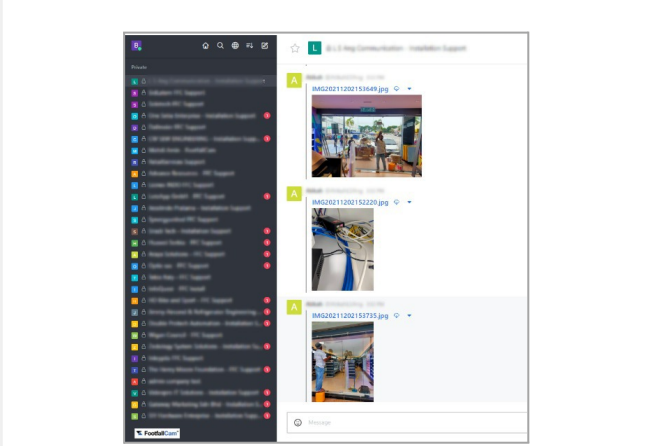
We have an in-depth [user guide](#) and simple installation videos are available to aid installers on the installation process.



(B) Floor Plan Designs

FootfallCam will provide 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.

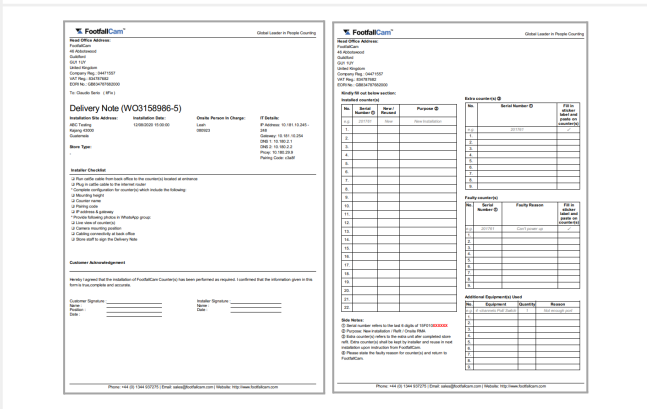
The [sample floor plan](#) serves as an example of standard floor plan plotting done by FootfallCam system analysts.



(C) 24/7 Standby Installation Support

We provide [24-hours standby support](#) via FootfallCam Support Chat App to facilitate installations that are carried out at any time of the day.

Communications with installers are done [real-time](#) to ensure that the installation is done correctly in a single visit with minimal efforts and hiccups.

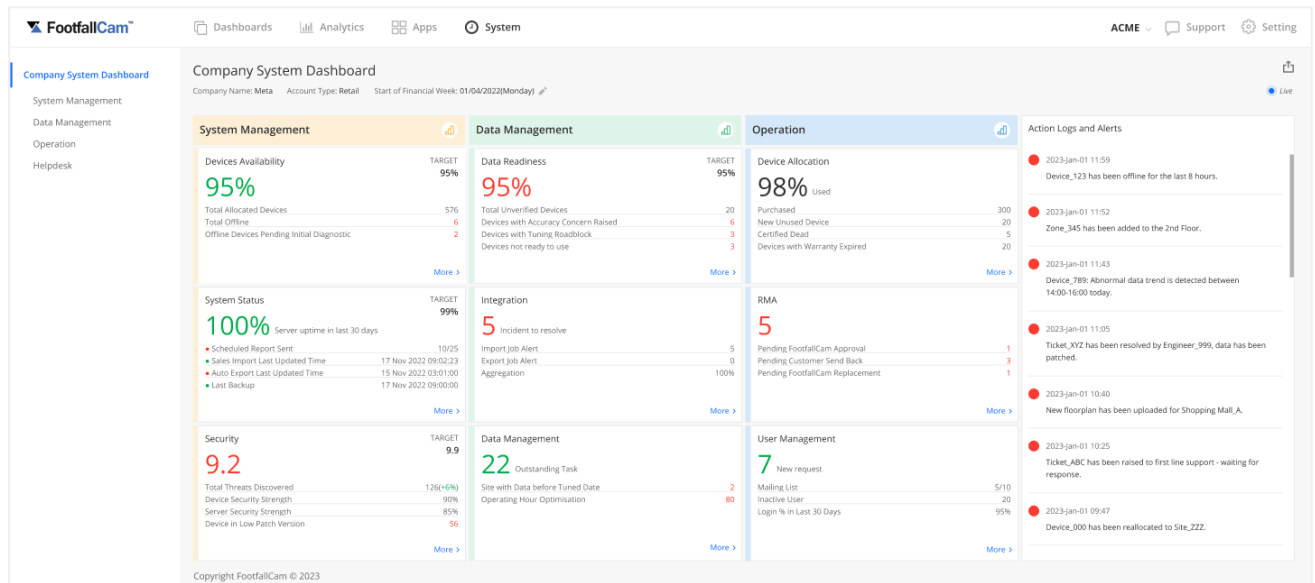


(D) Delivery Note

Once the counter is installed, store manager will need to sign on the delivery note to confirm that they are satisfied with the installation before the engineer leaves

2.3.3 Automated Health Check System

FootfallCam has an intelligent health check system in place which has a noise detection function capable of identifying the “suspicious” data. Upon the alert to our team, we will investigate the cause and a re-verification process may take place if necessary.



FootfallCam 360° System Dashboard - [View](#)

This dashboard provides a comprehensive overview of all aspects of the system; including availability, accuracy, alerting, and tracking of issues. Having a system overview dashboard could reduce training costs and maintain optimal system availability during personnel changes. In order to optimize operational efficiency and minimize the impact of the issues on data integrity, this dashboard could send alerts and notifications to users on offline devices or devices facing accuracy issues.

Metrics Included:

- Offline Devices
- Abnormal Data Alert
- Aggregation Failed Alert
- Environmental change detection
- System uptime
- Security Scorecard
- SLA for Help Desk
- Integration Job Alerts

From the Dashboard, the management will have an overview of outstanding issues, with each issue being tracked and having a defined action plan going forward.

2.3.4 Service Level Agreement

This Agreement represents a Service Level Agreement (“SLA” or “Agreement”) between FootfallCam and Customer for the provisioning of services required to support the People Counting system. This Agreement remains valid until superseded by an amendment to this Agreement which has been approved by mutual parties.

Scope of services includes:

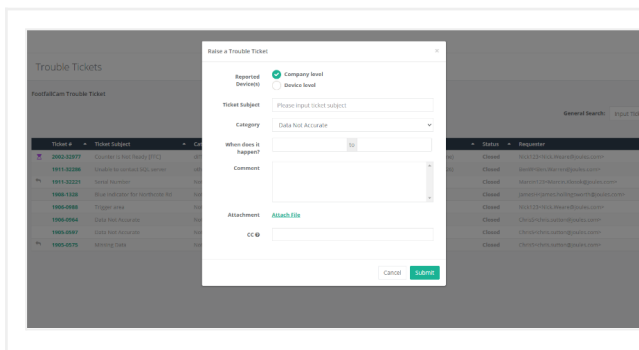
- Order and Administration
- Dedicated Customer Representative
- Technical Support and assistance
- Accuracy Audit
- Counter & System Reconfiguration
- First Line, Second Line and Onsite support
- Manage health check status and data integrity of the system

- Reporting software and database support and maintenance
- Software/ Firmware upgrades to improve performances.

#	Scope	Period	Document	Remarks
1	Remote First & Second Line Support	1 to 3 days	Counter Checking Form	During the Preliminary diagnosis process, it is required Store staff cooperation to fill up the counter checking form, identify the counter LED light, perform simple checking, reboot equipment if applicable for immediate resolution.
2	Site Inspection	3 to 7 days *if unable to resolve remotely	Engineer Callout Request Form	Unable to resolve remotely and subject to additional charge.
3	Software Upgrade	Within 1 to 2 months		Release note will be given and follow with Pilot run
4	Warranty	1 year after successful installation		Each Counter by defaulted to comes with 1 year manufacturer warranty, One on one replacement excluded installation.
5	Remote Maintenance Services	Upon Subscription of Monthly Support Contract		Each Counter by defaulted to comes with Remote Maintenance Services. FFC Health Check System with automated alert assist FFC to contact Customer/ Store for further diagnosis and to resolve the issue proactively.
6	Verification	Tuning: 1-3 days Certified with Report: 7 days	Verification Report	Accuracy Tuning and verification per counter after successful installation, the report with 30 mins video clips and the comparison of manual and system count.
7	Re-Verification	Approval Checking: 1-3 Days Tuning: 1-3 days Certified with Report: 7 days	Verification Request form	Subject to request e.g. Counter Relocation and / or abnormal data after Counter has been successfully installed and validated.
8	Returns	When required	Return Merchandise Authorization (RMA) Ticket	Replacement will be send upon received the faulty unit from customer within 7 days

Reference document	Service Level Agreement	Download online document
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FootfallCam Support Portal



All support services and communications are conducted via the [Support Portal](#) module within the FootfallCam Analytic Manager. All users are provided with access into the Support Portal to report the current issues with their people counting devices.

Once a user has reported their issues via the Support Portal, FootfallCam support personnel will diagnose the issue and reply directly for customers to act. The Support Portal facilitates the communication between the user and FootfallCam support personnel.

2.3.4.1 Business hours

FootfallCam is able to provide 24 hours ongoing support for weekdays, as FootfallCam has set up both Asia and Europe offices to ensure shortest response time for customer support.

2.3.4.2 Support Response Time

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

- Tier 1: Business critical.
- Tier 2: Urgent support needed.
- Tier 3: General issue with no major business impact.

Support	Description	Actions to Resolve	Service Response Time
Tier 1			
Accuracy audit	Initial calibrations to ensure that the counting data reaches a 95% and above accuracy level, and collection of sample size to showcase integrity of accuracy	FootfallCam personnel will offer one accuracy audit and accuracy certificate upon installation of a new device	Within 24 hours for initial calibration Within 3 days to collect sample size
Engineer callout	3 rd line technical service for hardware issues that cannot be remotely diagnosed or resolved	FootfallCam personnel will arrange an engineer as required	Within 24 hours to arrange Within 7 days to resolve
Device replacement *As per RMA process	Replacement unit price as per Replacement Price List at the time of replacement	FootfallCam personnel will send a replacement unit to the customer providing the faulty unit is returned to FootfallCam.	Within 24 hours to arrange Within 7 days to resolve
Tier 2			
Counter reconfiguration	Modification of IT settings or repositioning of counter	FootfallCam's engineer will optimize the IT setting remotely and provide guidance on the ideal position of the counter.	Uptime of 95%
1 st line support	Store staffs use Counter Checking Form to perform basic diagnostic checks and report it on the Support Portal	FootfallCam personnel will diagnose the reported issue and respond via Support Portal.	Within 24 hours
2 nd line support	Complicated issues e.g. networking issues, system bugs, software faults etc.	FootfallCam technical team will troubleshoot network issues and provide store staff an actionable plan.	Within 24 hours
Tier 3			

General enquiries	General enquiries from the customer regarding system infrastructure, usage, sales-related issues etc.	FootfallCam helpdesk personnel will reply enquiries via email or phone.	Within 24 hours
Device Firmware and reporting software update	Optimization of software and device firmware versioning to enhance user experience.	FootfallCam's developers will release patch updates frequently to include new product feature.	Automated Upgrade
Request new software feature	Feature request including report customization or software integration.	FootfallCam technical team will conduct a meeting on technical review and feasibility assessment.	Within 28 days
Daily and Monthly health check Audit	Automated notification whenever a FootfallCam device have lost connection to the server.	Store staff should determine the LED light emitting from FootfallCam and report it on the Support Portal	Automated Service
FootfallCam server maintenance	Maintenance includes server backup, server health check, server recovery, server troubleshoot and version update.	FootfallCam technical team constantly monitors and maintains the FootfallCam central server.	Automated Service

3.0 Price List

Please contact FootfallCam or FootfallCam's authorised reseller for the official price list.

4.2 Installation Project Management

4.2.1 Cluster Planning

FootfallCam has a comprehensive suite of project management tools which allow FootfallCam to execute project planning in an efficient and timely manner. The map below serves as a sample of what FootfallCam will plan for a customer for cluster planning. After categorisation of stores based on geographical location, FootfallCam installation team can carry out installation works in parallel with other clusters.

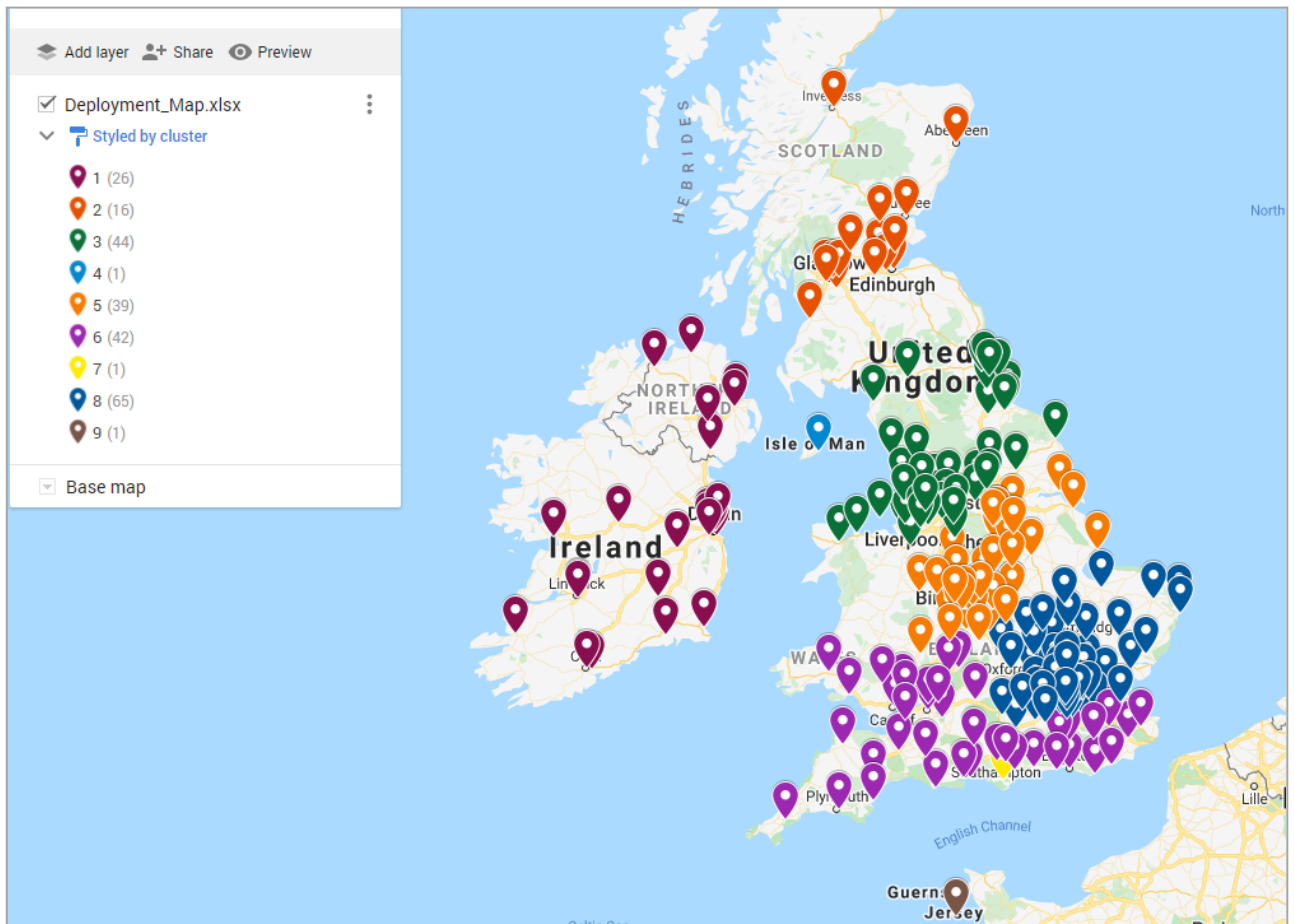


Figure 6: Sample deployment map with cluster planning for installation of FootfallCam devices in phases based on geographic location

Reference document	Sample Deployment Map	Access web link
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4.2.2 Installer Assessment

Prior to the installation service, FootfallCam will conduct a series of preparation work in order to ensure the smoothness of installation work. Before the first installation of FootfallCam devices, FootfallCam support personnel will have a brief chat with each of the installer joining the project to assess their individual skillset. FootfallCam personnel will be using the below reference document during the initial chat with the installer to assess their skills and capabilities.

Based on the initial assessment of the skillset of the installer, FootfallCam offers training with the installers in areas they are lacking in to ensure that they are properly equipped to fit the device. FootfallCam will ensure the installers have the skillset and may conduct individual training when necessary. The reference document below highlights the steps and process flow of an installation where FootfallCam work with the contractor.

Reference document	Installer guide	Download online document
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4.2.3 Pre-Installation Briefing

FootfallCam will issue a work order for the installer to facilitate the installation process and to mitigate any issues that may arise during the installation process. Each individual site will have its own work order form and FootfallCam will go through a short briefing with the installer once the work order is issued.

Reference document	Sample work order	Download online document
--------------------	-------------------	--

Once the initial installer assessment is concluded, FootfallCam will go over the requirements of the installer before the actual work for installation service. FootfallCam will also brief users on the required details that must be submitted to FootfallCam prior to installation. Prior to the actual installation of the device, FootfallCam will go through the following reference document with the installer so that issues during the installation process would be mitigated.

Reference document	Pre-installation checklist	Download online document
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Once the installation checklist has been reviewed by the installer, the installer should be fully aware of the work that will be required and expected to perform while they are onsite. The following table is a short summary of the briefing that will be included prior to the onsite installation.

Data	Description
Equipment required	List of equipment the installer should bring to the site
Spare equipment	Additional accessories and equipment if the project scope is changed
Floor plans	Layout of the store and where should the FootfallCam devices be installed
Work permit	Whether a work permit should be applied for the job

FootfallCam will also disseminate a worksheet file that would require the stakeholder to fill in all the required details for installation. The file must be submitted to FootfallCam **seven** days prior to the installation commencement.

Reference document	IT Checklist	Download online document
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Once the installer has been run through with the work order and the pre installation checklist, the installer is fully aware and prepare for the installation of the device.

4.2.4 Onsite Installation

Following the submission of the installation code and the IT Details document, FootfallCam will communicate with our local contractors and partners in delivering the installation service in the local country. FootfallCam will be responsible for project managing the whole installation progress, and for ensuring the deliverance of the product in its completion. FootfallCam will provide onsite support during installation via instant messages and provide regularly scheduled installation training to our local installers. FootfallCam will provide all users with an installation tool that they may install in their mobile devices to assist the installers during the installation process of the FootfallCam device.

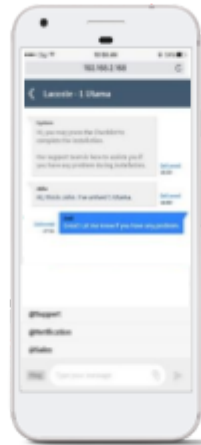


Figure 4: Chat app within the FootfallCam Installation application

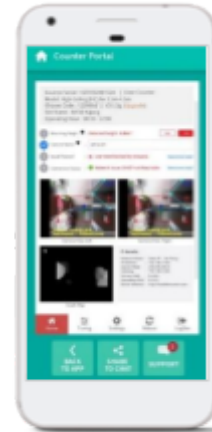


Figure 5: Step by step installation guidelines

4.2.5 Installation Contingency Plans

An installation contingency plan is developed to help FootfallCam respond effectively to a significant hindrance that may arise during installation. FootfallCam has developed a series of contingency action plans to counteract any unforeseeable hindrance that may affect the installation process. Please refer to the table below for a list of contingency action plans.

Hindrance	Description	Contingency Plan
Absence of Network Connectivity	Usually occurs in new stores when internet connection is not available	The provided IT details from Pre-Installation stage will still be usable. However, the counter will not enter the Pre-Allocation stage, and the counter will not be allocated to the Analytic Manager until network connectivity is restored
Provision of Erroneous Store Environment Details	Occurs when the store environment details (ceiling height, entrance width) is incorrect	Engineer will carry additional FootfallCam in both different lenses to accommodate for all scenarios
Provision of Erroneous IT Details	Occurs when the store IT details (Gateway, IP settings, port) is incorrect	The provided IT details from Pre-Installation stage will still be usable. However, the counter will not enter the Pre-Allocation stage, and the counter will not be allocated to the Analytic Manager until network connectivity is restored
Hardware Failure	Refers to depth map issue (Camera failure), or Wi-Fi sensing issue (Dongle failure).	In the detection of a hardware failure, the FootfallCam will act in two steps. Hardware Watchdog – The FootfallCam will automatically reboot itself to solve the issue Swap Counter - Engineers will carry a spare counter to combat hardware failures.
Absence of Power Supply	Usually occurs in new stores that are not in operation yet	Schedule “Re-Visit” installation, and proceed with installation schedule as usual
Incompatible Ceiling Environment	Occurs when the ceiling is not suitable for drilling, such as when mounting on a plaster ceiling, steel beam	Engineers will carry additional wall brackets with them on site, despite whether they were ordered initially. The wall bracket will serve as a “ceiling” and will be mounted on the wall.

FootfallCam will act in accordance to the contingency plan in the face of an unforeseeable circumstance. In the event of a hindrance that does not have a contingency plan, FootfallCam engineers will consult with FootfallCam during the

installation via instant messaging. FootfallCam will resort to choices that will cause the least amount of disruption to service operation and have minimal impact on scheduled installation date.

4.2.6 Progress Tracking

FootfallCam will manage the progress of the installation and provide a bi-weekly update to the retailer on the status of the installation. Retailers will also be given the access to the management tool to view the progress up-to-date at any time on the installation progress. The following excel table is an example of the project management tool which will be provided by FootfallCam.

Store Name	Cluster	Lat	Long	Address	No. of Entrance	Entrance Width (meters)	Estimated Ceiling Height (meters)	Estimated no. counters	Store Manager Name & Contact	Planned Installation	Work permit status	Installation Date
Queens Center	1	40.7348	-73.8693	90-01 QUEENS BOULEVARD						20/2/2019		
Brooklyn (Downtown)	1	40.6908	-73.9915	422 FULTON STREET						19/2/2019		
Staten Island	1	40.5825	-74.1656	100 RICHMOND HILL ROAD						19/2/2019		
Menlo Park	1	40.5475	-74.3355	275 MENLO PARK						18/2/2019		
Smith Haven	1	40.8648	-73.13	2 SMITH HAVEN MALL						21/2/2019		
Green Acres (Ny)	1	40.6627	-73.7198	1000 GREEN ACRES MALL						20/2/2019		
Plaza Las Americas	12	18.4215	-66.067	525 F D ROOSEVELT AVENUE						20/2/2019		
Danbury Fair	1	41.3802	-73.4807	7 BACKUS AVENUE						14/2/2019		
Burlington (Ma)	1	42.4825	-71.2136	1300 MIDDLESEX TURNPIKE						14/2/2019		
Mall In Columbia (Md)	1	39.2149	-76.8614	10300 LITTLE PATUXENT PARKWAY						27/2/2019		
Pheasant Lane (Nh)	1	42.7018	-71.4374	310 DANIEL WEBSTER HIGHWAY						27/2/2019		
Roosevelt Field	1	40.7378	-73.6128	630 OLD COUNTRY ROAD						21/2/2019		
Willow Grove Park	1	40.1401	-75.1235	2500 MORELAND ROAD						26/2/2019		
Metro Center (Downtc)	1	38.8986	-77.0282	1201 G. STREET N.W.						28/2/2019		
Towson Town Center	1	39.4038	-76.5992	813 DULANEY VALLEY ROAD						27/2/2019		
Lehigh Valley	1	40.6308	-75.4802	300 LEHIGH VALLEY MALL						25/2/2019		
Bridgewater Commons	1	40.5861	-74.6195	400 COMMONS WAY						18/2/2019		
Fashion Ctr At Pentago	1	38.8634	-77.061	1000 SOUTH HAYES STREET						28/2/2019		

Figure 7: Sample table created based on store list provided by retailers along with cluster and installation date planning.

Reference document	Installation tracker	Access web link
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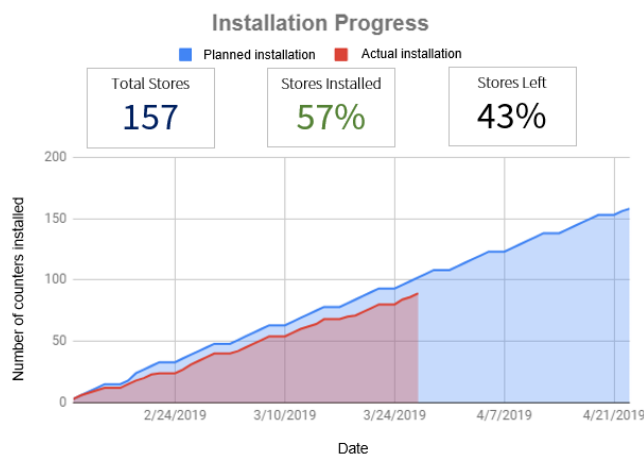


Figure 8: Sample graph taken from the FootfallCam installation management tool

The installation progress is monitored to ensure that the actual installation is completed within the time frame, the image above is a sample taken from our installation management tool (see figure 4) to depict the actual installation progress in comparison with the planned installation. This can provide better monitoring and control over the overall timeline of deployment.

4.3 Project Handover

4.3.1 Login Credentials

Once the FootfallCam devices have been fully fitted into a store and accuracy audit is in progress by FootfallCam personnel, the user may at any time log into the FootfallCam Analytic Manager to review the data thus far. The details that will be required to enter the reporting portal is as follow:

URL	http://footfallcounter.com
Username	To be provided upon completion of installation
Password	To be provided upon completion of installation

In the reporting portal, users will be able to view various reports based on the counting data that was collected by the FootfallCam, and to integrate their ePoS sales data with which will be covered as a training session after the users have access into their FootfallCam Analytic Manager.

For users that have chosen to install the FootfallCam Analytic Manager within their own servers, they will be provided with the following credentials upon completion of installation:

Server address	Based on the IP settings of the user
Username	To be provided upon completion of installation
Password	To be provided upon completion of installation

4.3.2 Assigned Responsibilities

Support services provided limited to issues relating to operating system and general enquiries. FootfallCam will proactively monitor counters health checks and shall generate reports on counters with potential issues to the user.

Support	Description	Responsibility	Agreed KPI
Support services and enquiries			
Accuracy audit	Initial calibrations to ensure that the counting data reaches a 95% and above accuracy level, and collection of sample size to showcase integrity of accuracy	FootfallCam will offer one accuracy audit and accuracy certificate upon installation of a new device	Within 24 hours for initial calibration
Engineer callout	For hardware issues that cannot be remotely diagnosed or resolved	FootfallCam will arrange an engineer as required	Within 24 hours to arrange
General enquiries	General enquiries from Customer regarding system infrastructure, usage		Within 24 hours
First line support			
Data availability	Access into the FootfallCam Analytic Manager and the availability of data	FootfallCam will remotely resolve issues and inform Customer] of offline devices	Uptime of 95%
Daily health check	Automated notification whenever a FootfallCam device have lost connection to the server.	Store staff should determine the LED light emitting from FootfallCam and report it on the Support Portal	Within 24 hours
Data trend	Checking for discrepancies between the data observed and the data collected by the FootfallCam device	FootfallCam will review the data collected over a period	Within 24 hours

Device live view	Checking whether there are any obstructions blocking the live view	FootfallCam will remotely access the device	Within 24 hours
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4.3.3 Point of contacts

Customers will be assigned with a single point of contact from FootfallCam to reduce the time taken to resolve any enquiry. The account manager of Customer will be responsible for all the businesses the Customer has with FootfallCam in terms of ordering, billing & payment, delivery, technical enquiries, issues faced, general enquiries. Having a single point of contact will provide consistent support and service level to Customer as according to the minimum SLA depending on the enquiry.

Company name	FootfallCam
Contact name	Melissa Kao
Street address	46 Abbotswood, Guildford GU1 1UY, United Kingdom
E-mail	melissa.kao@footfallcam.com
Phone number	+44-(0) 1344 937275

4.3.4 Onsite handover training

During the handover phase, a representative will be sent to the Customer's Site to conduct a comprehensive training for a duration of **3 hours** on the major segments of the product as listed in the table below.

Topics	Description
Data Management	Retrieval of data via API, FTP or manual download. Both API and FTP function are fully automated and only requires a one-time set up
User Access Management	Multi-level access system separated into Admin and Users to control the visibility of each user. Addition and removal of a member according to the employability with the company
Counter Health Check Management	Automated checking system to ensure each counter is connected and counting normally. If a counter goes offline for more than 30 mins, it will be reflected in the health check page
Data Accuracy Management	Every counter's accuracy is verified using collected sample sizes. All the sample sizes collected are archived in the data accuracy management page for users to refer and generate a report on the accuracy of each counter
Re-Installation of Equipment	Re-installation is mainly during a store refit or closing and opening of stores which involves removal and mounting the camera, during the period, the counter turned off its counting to indicate that the counter is not offline due to unforeseen circumstances

Reference document	Handover documentation	Download online document
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4.4 List of EMEA & Global Partner Network

Throughout these years, FootfallCam's international partners' network is expanding with more than 800 partners across the world, offering a full range of FootfallCam's products for the various industries. These partners have deep understanding on rollout requirements by FootfallCam as well as geographical advantages of having local subsidiaries in roll-out locations. Such global presence allows FootfallCam and the partners operating as one global team to complete multiple successful international rollouts across EMEA continents. Some of our key partners in the EMEA region are listed below.

Company	Country	Success Story
Tekio Srl.	Italy	Tekio Srl. is an Italian based company founded in 2014, which focused on providing retail business analytics to customers. Tekio is a proud reseller of FootfallCam, by integrating the product offerings of FootfallCam along with its own service offering of data consultation and interpretation to fit into the market needs. Tekio has established itself as the major people counting provider in all of Italy. Tekio has installed and is currently managing nearly 6,000 FootfallCam counters in Italy.
Detectag Retail Service	Ireland	Detectag is one of Ireland's leading suppliers of anti-theft equipment to the retail and commercial sectors. FootfallCam has been partnering with Detectag for over 4 years. The seamless collaboration between FootfallCam and Detectag has been proved successful as Detectag had installed over 1000 traffic counters in most of the major shopping malls in Ireland.
Gunnebo Gateway AB	Spain	As part of the listed Gunnebo Security Group, Gunnebo Gateway AB is widely recognized as one of the leading retail solution providers in the world. Apart from providing anti-theft solutions, Gunnebo Gateway has partnered with FootfallCam to provide people counting solutions to their clients since 2015. With over 4500 employees in 25 countries and global revenue of 450 million euro, Gunnebo Group has all the requisite abilities to ensure successful implementation and active monitoring of large-scale projects. One of the recent project collaborations between FootfallCam and Gunnebo is the full deployment of FootfallCam in all 46 Marionnaud in Spain. The project was completed within a timespan of 1 month and the project outcome was well received by Marionnaud Spain.
D3 Europe Limited	France	Based in France, D3 Europe Limited is one of the major FootfallCam partners for multiple large-scale project implementations in the past few years. In collaboration with FootfallCam, D3 Europe Limited installation team was authorized as Marionnaud's official service provider to implement a rollout plan for all 1000 retail stores in Europe.
Isterlab Group SAS	Saudi Arabia	Isterlab Group SAS, also known as International IT Services, is an IT services consulting firm that provides all kinds of services ranging from system design to onsite installation. Isterlab is currently working on the grand scheme of building a safer Mecca City by monitoring people flow in and out of Mecca. This plan would involve installation of more than 10000 counters around Mecca.
Mahdi Amin Ali Bukhari Trading Est.	Saudi Arabia	Mahdi Amin Ali Bukhari Trading Est. is a Saudi Arabia based distributor for the Middle East and North Africa region. Prior to joining as FootfallCam partner, Mahdi Amin was always struggling to find a trustable people counting solution among traditional 2D and thermal counting systems. After having a trial project using the FootfallCam 3D counting system in 2016, Mahdi Amin was convinced of the accuracy and reliability of the FootfallCam product and has bought more than 1000 counters from FootfallCam ever since.
Araya Solutions	United Arab Emirates	Araya Solutions is a leading digital transformation Company based in Dubai, United Arab Emirates and has been collaborating with FootfallCam since 2005. Araya Solutions thrives to differentiate itself from competitors by developing tailored turnkey solutions that includes end-to-end services from system design to system maintenance. This attribute has consolidated Araya's position as leading system integrator in the people counting industry as the leading pharmacy retail chain, Aster Pharmacy chose Araya Solutions as the sole vendor for people counting systems for its 200 pharmacies around the region.
Milestone Integrated Systems	South Africa	Milestone Integrated Systems (PTY) Ltd is the official distributor for FootfallCam people counting solution in South Africa, with branches in Cape Town, Durban, and a Head Office in Pretoria. With a main focus on the retail chain industry, Milestone Integrated Systems

		has evolved and established itself as one of the key players in the business. Their notable clients include Swarovski, The House of Busby, Crocs, Inc. and many others.
Mason Technologies	United States	As FootfallCam's official distributor in the United States, Mason Technologies has collaborated with FootfallCam on multiple large-scale projects including smart offices.
Mast Security	United Kingdom	In collaboration with FootfallCam, Mast Security is authorized as Pandora's official service provider to implement the rollout plan to more than 500 stores in the United Kingdom.
JK System Solutions		JK System Solutions is a long-time FootfallCam installer who has performed installations for large clients such as The Perfume Store and Fred Perry.
FootfallCam Asia Pacific Office	China	FootfallCam Asia Pacific Office has performed rollouts to multiple high-ticket clients including Eu Yan Sang, A. S. Watsons, Nam Fung Group, and the Hong Kong Government.
Retailer Solutions	Slovakia	Retailer Solutions is one of FootfallCam's major partners who is known for their expertise in installation coupled with their coverage across the Eastern Europe region.
Ideas Four Transformation (i4T)	India	Since 2019, i4T has partnered with FootfallCam to install more than 500 counters across India.
Satiscan Sarl	Switzerland	Satiscan is a Switzerland-based installer who has collaborated with FootfallCam since 2018 for projects in different industries including smart buildings and retail chains.
Welight Sarl		With a background in lighting systems, Welight has worked with FootfallCam to deploy more than 100 counters in Switzerland.
JBJ Management Sarl		As a consulting and planning firm for large projects, JBJ has collaborated with FootfallCam for high volume rollouts to oversee project execution and completion.
Mind & Sense	Mexico	Since 2018, Mind & Sense has partnered with FootfallCam to resell more than 500 counters across Mexico.
LYNQ S.R.L Germany	Germany	LYNQ is a Germany-based installer who has collaborated with FootfallCam on several projects including Honda Germany and Marionnaud France.

5.0 Customer References

Please contact FootfallCam or FootfallCam's authorised reseller for more information.

6.0 Reference Documents

FootfallCam offers an established knowledge-based management for all users to access.

Product Information		
History of people counter	An overview of the evolution of people counters from the first generation to the fourth generation	Download online document
Product catalog	For a complete guide of all products included hardware model and accessories	Download online document
How retailers use FootfallCam data	A comprehensive e-book on the different methods retailers improve their business through visitor count data	Download online document
FootfallCam integrated solution	Overview of the different products FootfallCam can integrate with	Download online document
Report catalog	Complete documentation on the different sets of report available on FootfallCam Analytic Manager	Download online document
Accuracy Statement	Explanation on the accuracy of FootfallCam 3D people counters	Download online document
IT infrastructure setup	Guideline on setup procession required for users that wish to install FootfallCam Analytic Manager in their corporate servers	Download online document
Brochures		
FootfallCam brochure	General brochure that includes entry level information regarding FootfallCam	Download online document
Staff exclusion methods	Continuously updated information on the newest features that are available for FootfallCam 3D PRO 2	Download online document
Certificates		
Declaration of conformity	Declaration of conformity for import clearance	Download online document
Verification of compliance	Verification of compliance to standard international import regulations	Download online document
Technical Guides		
User manual	A complete manual to the operation of the FootfallCam 3D PRO 2™ and FootfallCam Analytic Manager v9™	Download online document
Quick installation guide	Quick guideline for installation and fixing of FootfallCam counters in a retail environment	Download online document
Maintenance		
Counter checking form	Form used by store staff to report to FootfallCam support personnel on the LED light diagnosis of each device	Download online document

Counter diagnosis guideline	Checklist of how to resolve each of the LED light issue as shown on the FootfallCam device	Download online document
Installation checklist	Complete checklist of what an engineer must do during the installation of FootfallCam people counter prior to leaving sites	Download online document
Server installation form	Form of a request from users to install FootfallCam Analytic Manager in a corporate server	Download online document
Staff operating manual	Simple guideline for store staff in checking the connection from the back office to the FootfallCam to minimize service disruption	Download online document
Relocation of devices	FootfallCam allow users to easily add or relocate an existing FootfallCam device from their stores to another without any loss to their existing people counting data	Download online document
Policies		
Sustainability policy	Corporate responsibility practiced throughout FootfallCam in both business commercial and human resources	Download online document
Privacy statement	Privacy statement on the collection and usage of data collected from users	Download online document
Terms of sale	General terms and conditions of sales of FootfallCam devices	Download online document
Returns and RMA terms	Return merchandise authorisation and what can be returned to initiate a refund from FootfallCam	Download online document
Warranty terms and conditions	General terms of what an initial one year manufacturer warranty covers	Download online document