FootfallCam™

FootfallCam

Product Information

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Overview

Evolution of People Counters

People counter has evolved over time. The evolutionary changes in people counters have automated many counting features and made the technology more accessible.

2002 - 2004	2005 - 2011	2012 - 2016	2016 - Present
First Generation	**Second Generation**	**Third Generation**	**Fourth Generation**
Horizontal infrared beam across an entrance linked to a LCD display.	Counters that are able to access the store's network remotely.	3D Video counting with Wi-Fi Analytics using stereoscopic vision.	3D Video Counting with Wi-Fi Analytics and video recorded proof to verify the accuracy of the counter.

First Generation
Infrared Beam Counter

The simplest form of counter where a single, horizontal infrared beam across an entrance and counts when a person or object passes and breaks its beam.

Advantages

- Low Cost
- Easy to Install

Disadvantages

- Non-directional counts
- Cannot discern people walking side-by-side
- Counting affected by direct sunlight
- Not networked, involves each night manually record counts from the device

Second Generation
Thermal Counter

Thermal imaging systems use array sensors which detect heat sources from human body. These systems are typically implemented using embedded technology and are mounted overhead for higher accuracy.

Advantages

- A well tuned thermal counter can achieve accuracy of 80- 95%
- Directional counts

Disadvantages

- Narrow field of view - cannot cover wide entrance
- Susceptible to weather conditions
- Difficult to determine the area the sensor is measuring
- Requires costly on-site accuracy tuning

Second Generation
Video People Counter

Computer vision carries out its image processing inside an embedded device to recognize, track and count people.

Advantages

- Bi-directional counting
- High accuracy
- Able to distinguish non-human objects

Disadvantages

- Cannot count accurately in dark environments such as nightclubs

Third Generation
2D Video Counter

Beginner

The third generation counters gained popularity in the retail industry due to the consistent accuracy it was able to offer to retailers.

Advantages

- Bi-directional counting
- High accuracy (90 - 95%)
- Able to distinguish non-human objects
- Able to distinguish children from adults

Disadvantages

- Highly dependent on lighting conditions for accurate counting

Fourth Generation
Multi-Integration in One Device

Beginner

The current generation of people counters builds on to the third generation, with the additional feature of recording a video footage to verify the accuracy count of the counter and Wi-Fi metrics.

Advantages

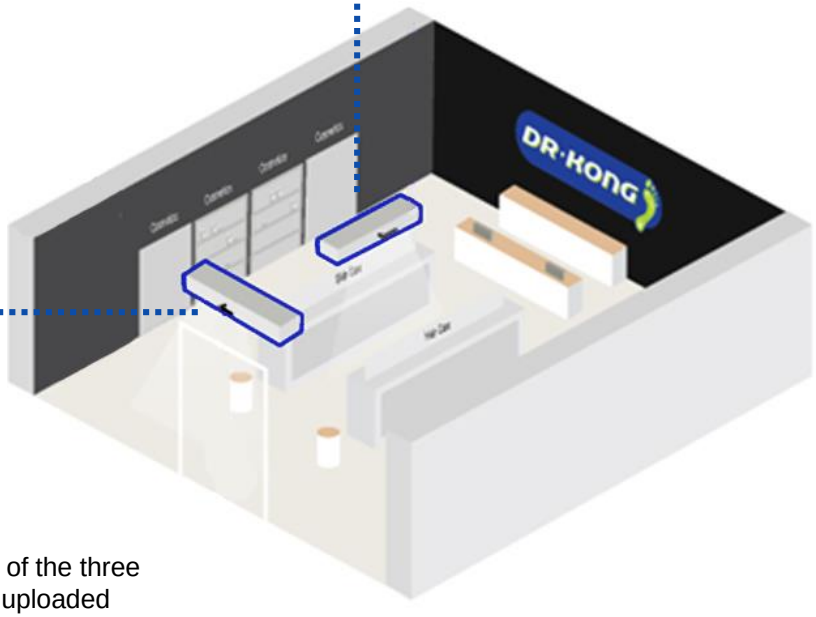
- Combined the features of Third Generation counters
- Video proof to verify the accuracy of the counter
- Interacts with Electronic Shelf Label as an adapter
- Integrates with Electronic Article Surveillance systems seamlessly
- Doubles as a CCTV for the store with video recording
- Wi-Fi sensors inclusion to allow counting of Wi-Fi Metrics

Disadvantages

- Cannot count accurately in dark environments such as nightclubs
- Wi-Fi analytics is dependent on whether the visitor is carrying a smartphone

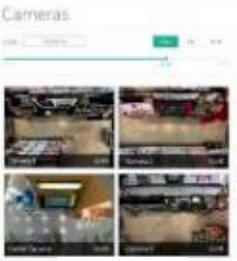
Ongoing Development
Pipeline of FootfallCam 3D+

Counter Integration
Integration with ESL, CCTV, and Zone Analytic to display

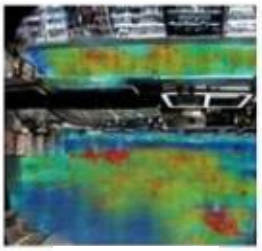


FootfallCam
The data from each of the three FootfallCam will be uploaded onto FootfallCam database

Electronic Shelf Label (ESL)



CCTV



Heatmaps

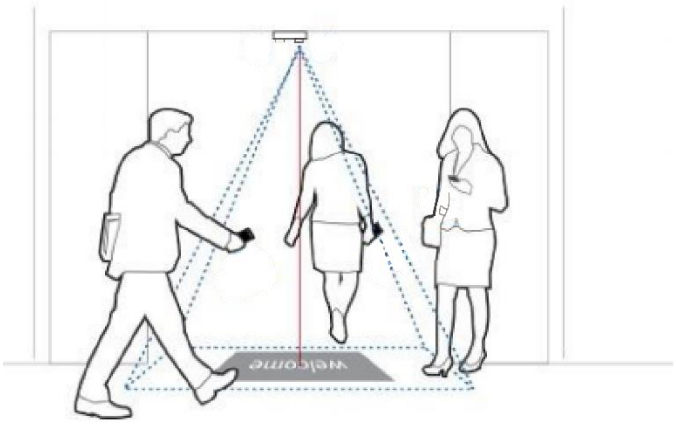
FootfallCam 3D Plus
Overview

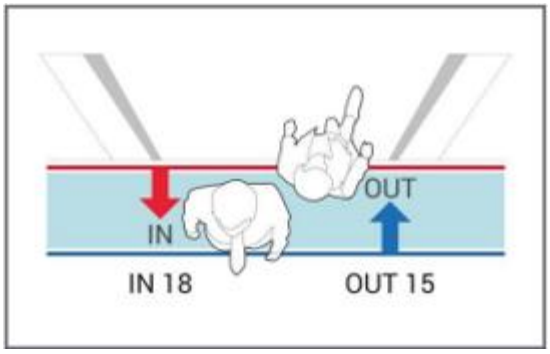
Installed at the Entrance

Installed overhead in the entrance of every store.

Measures the Visitors

Measure the number of visitors in the store and defining direction of travel.

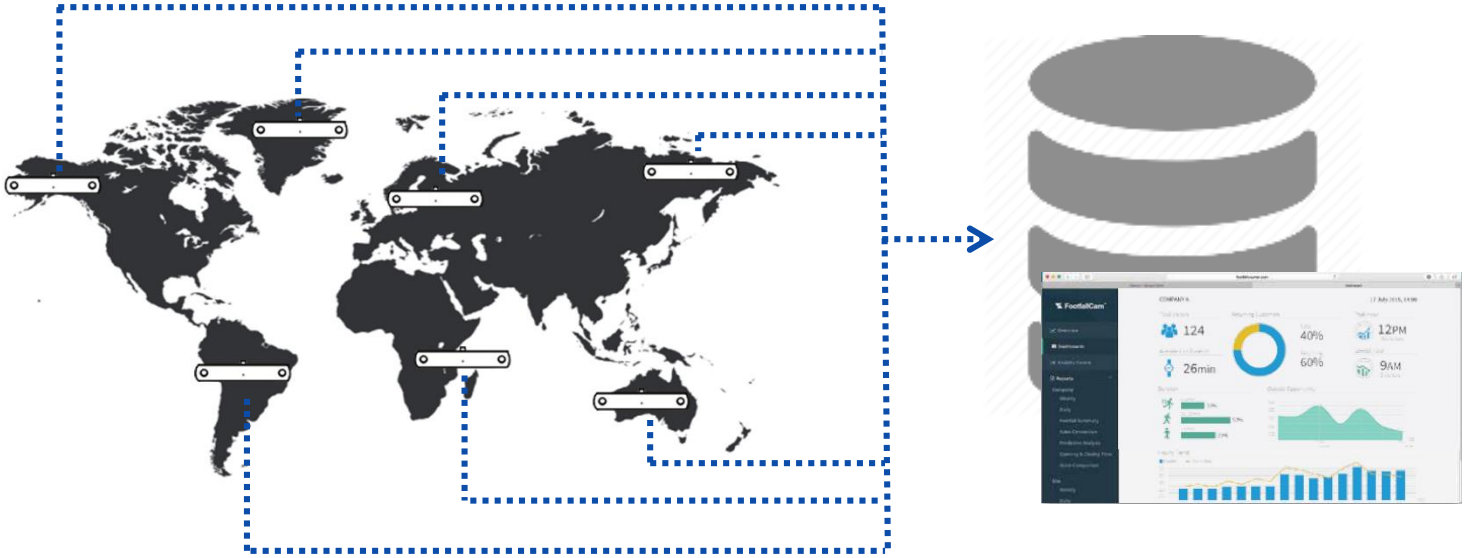




Centrally Managed System
Remotely Manage Counters

Manage all counters from one system

FootfallCam Analytic Manager is a centrally managed system that allows the users to monitor the data of all counters remotely in one centralised server.



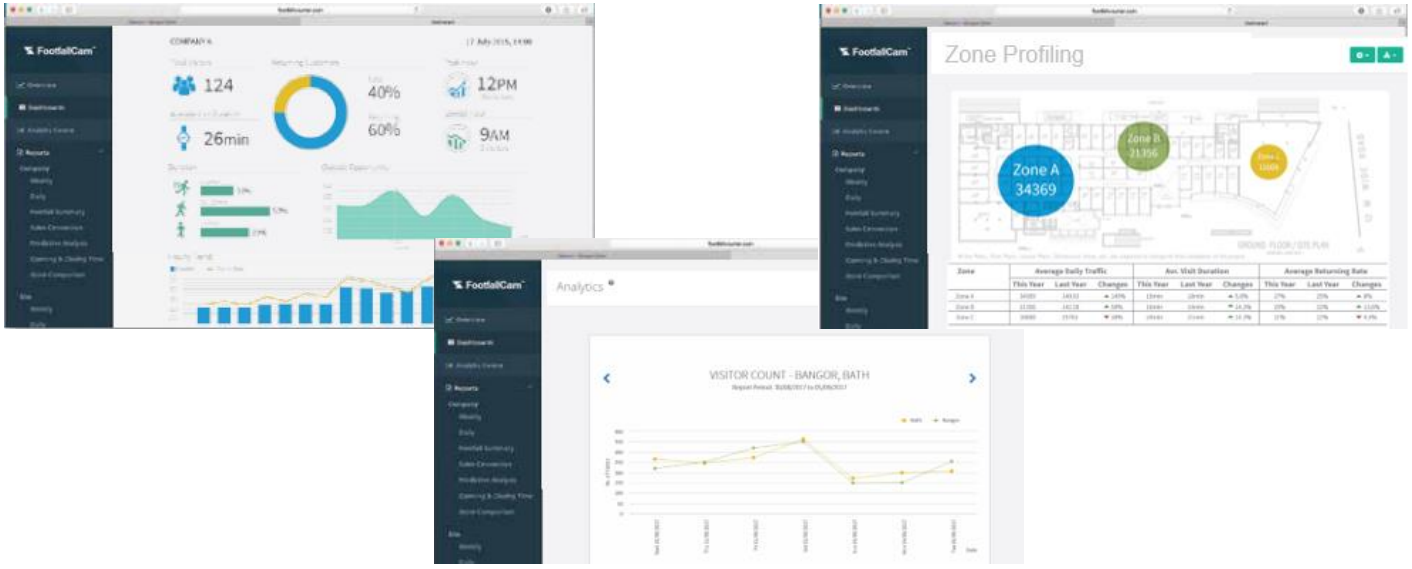
Analytical Data Insights
FootfallCam Analytic Manager

Reporting Tools

Access to 30+ Key Performance Indicators

Make Informed Business Decisions

Use 15+ Business Reports to facilitate important business decisions.



FootfallCam Package
One Solution for all your counting needs

Hardware

FootfallCam 3D Plus™

- Power Cable
- Midspan
- Network Cable
- Screw Kit
- Quick Installation Guide

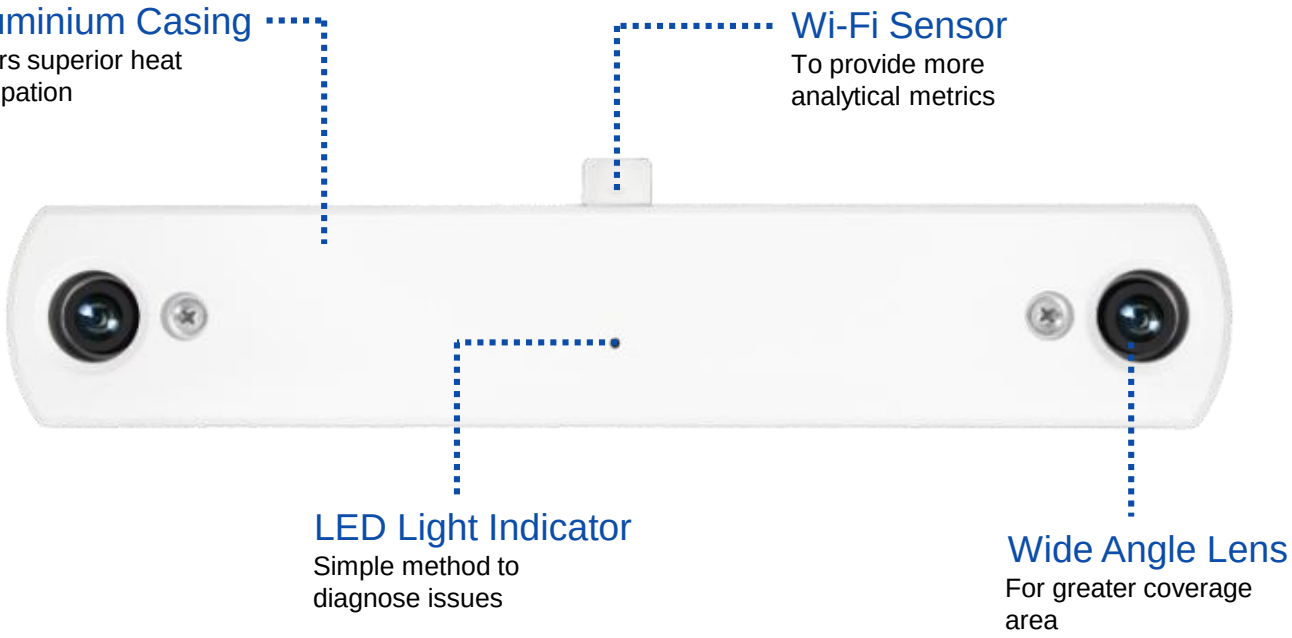
Software

FootfallCam Analytic Manager V8™

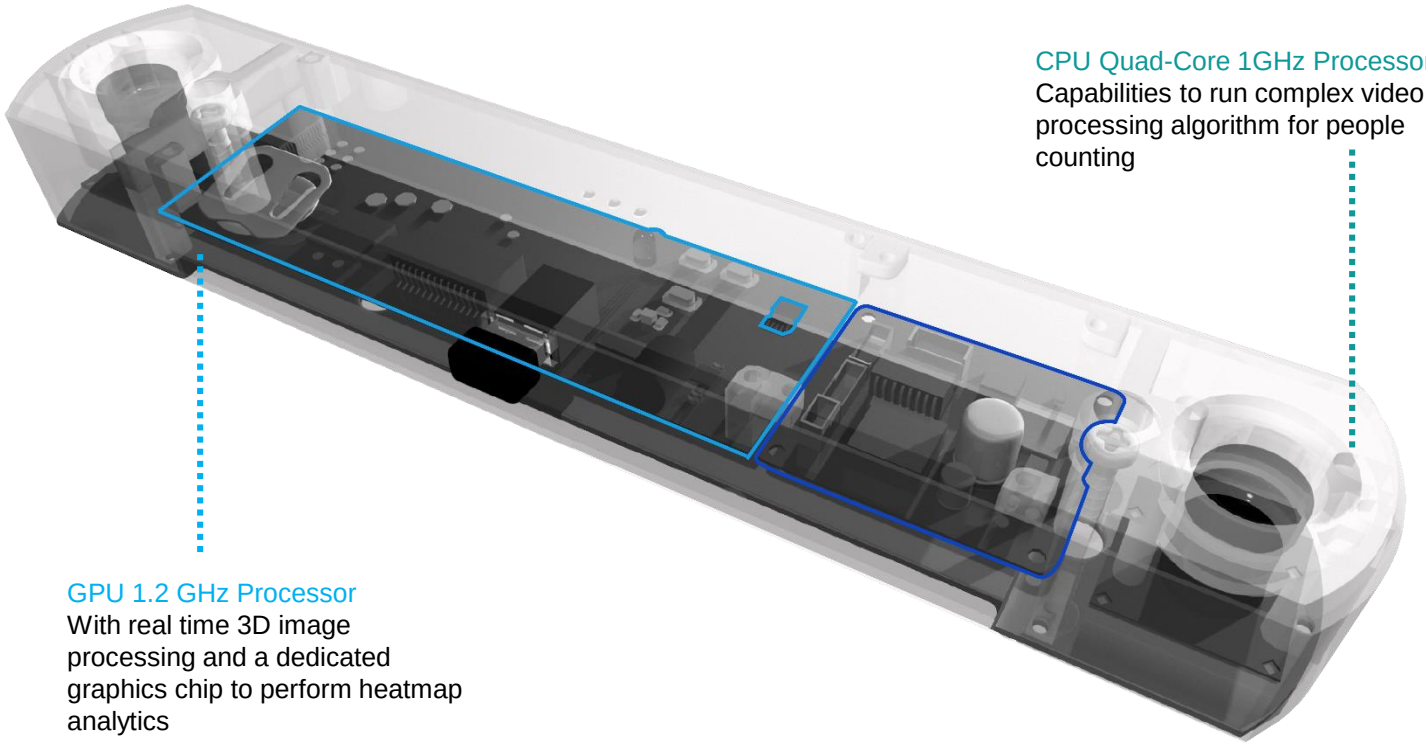
- Free Lifetime License
- Business Reporting
- Data Analytics by the hour
- Automated Health Check
- Access to API for integration with ePoS and BI systems

Hardware

FootfallCam 3D Plus™
External View of FootfallCam



FootfallCam 3D Plus™
Internal View of FootfallCam



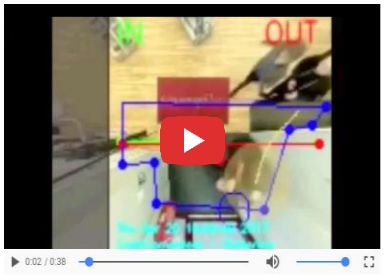
CPU Quad-Core 1GHz Processor
Capabilities to run complex video processing algorithm for people counting

GPU 1.2 GHz Processor
With real time 3D image processing and a dedicated graphics chip to perform heatmap analytics

Consistent Accuracy
Accurate in Different Environment

Multiple Entrances
Stores with multiple entrances may install multiple counters and assign the counters under the same branch in the Analytic Manager.

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.



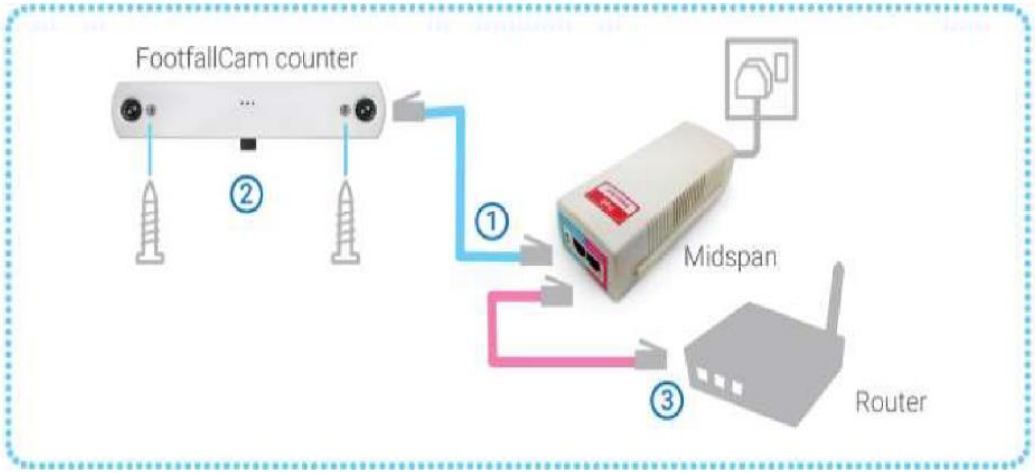
Low Ceiling
3D counting can work well in low ceiling height, such as the one in the video where the ceiling height was 2.2 metres.

Strong Shadow
3D Stereo Vision can overcome strong shadowing effect; which would otherwise mistaken as a visitor in 2D video counting.

High Traffic
3D imaging allow accurate people tracking, and maintain high accuracy even in high traffic stores.

Crowded Area
The use of start/end zone and person tracking would ensure shopper within the store would not trigger the in/out lines.

Simple Installation
One Cable Installation



1 Connect to Midspan

Run the provided cable from counter to the provided midspan

2 Mount Counter

Mount and screw the counter to the ceiling with the provided materials

3 Connect to Router

Connect another cable from the Midspan to the router

Software

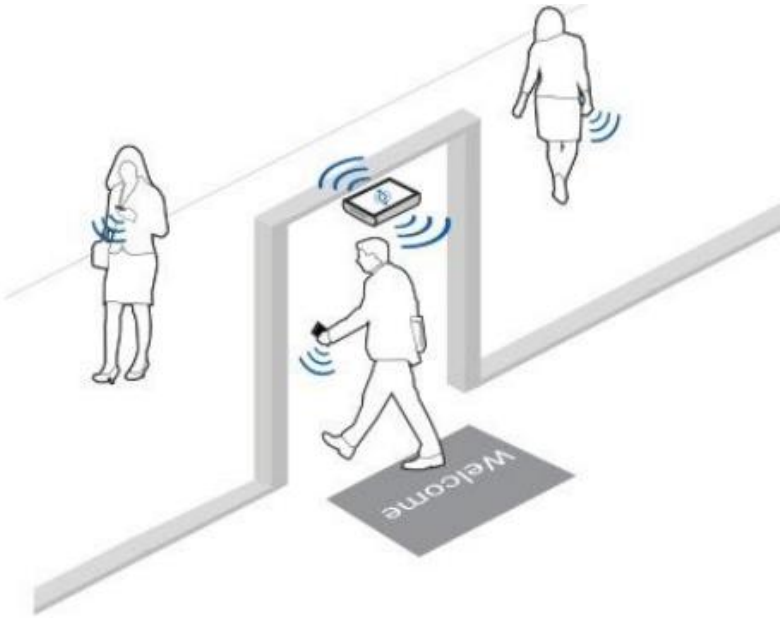
FootfallCam Analytic Manager
Enterprise Class Software

Enterprise web-based control panel designed for customers managing a large number of counters. It collects data from all counters and stores them in a single place. Analytic Manager V8 provide the full analysis of traffic data for individual stores and across multiple store locations, region and the entire chain.

- Health Check
- E-Mail Scheduler
- Accuracy Audit
- Account Management
- Data Analytics
- Backup and Restore
- ePoS Integration
- BIs Integration

FootfallCam Analytic Manager
Data Analytics

The software will gather footfall and Wi-Fi analytic data and convert them into meaningful business metrics that will be valuable for business entities for further analytics usage and reporting purpose.



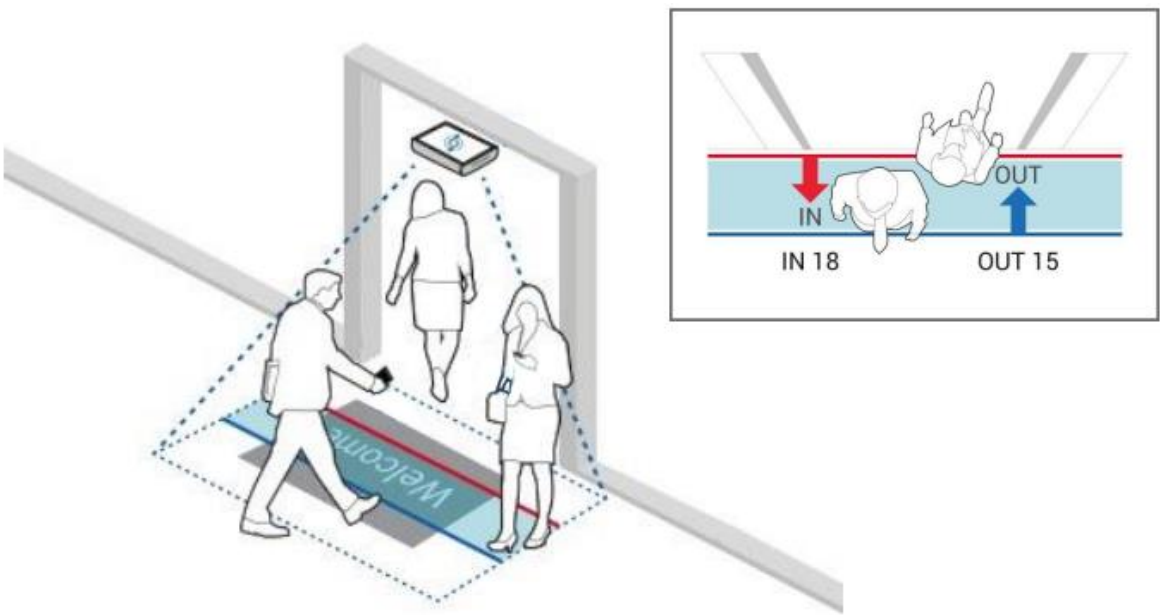
1. Visitor Count
2. Dwell Time
3. Outside Traffic
4. Returning Customers
5. Cross Shopping
6. Zone Analytics
7. Traffic Flow Analysis

Metric 1: Visitor Count
Measuring Visitors Bi-Directionally

Performance Indicator

Count the visitors entering and leaving a store in hourly, daily, and weekly time frame

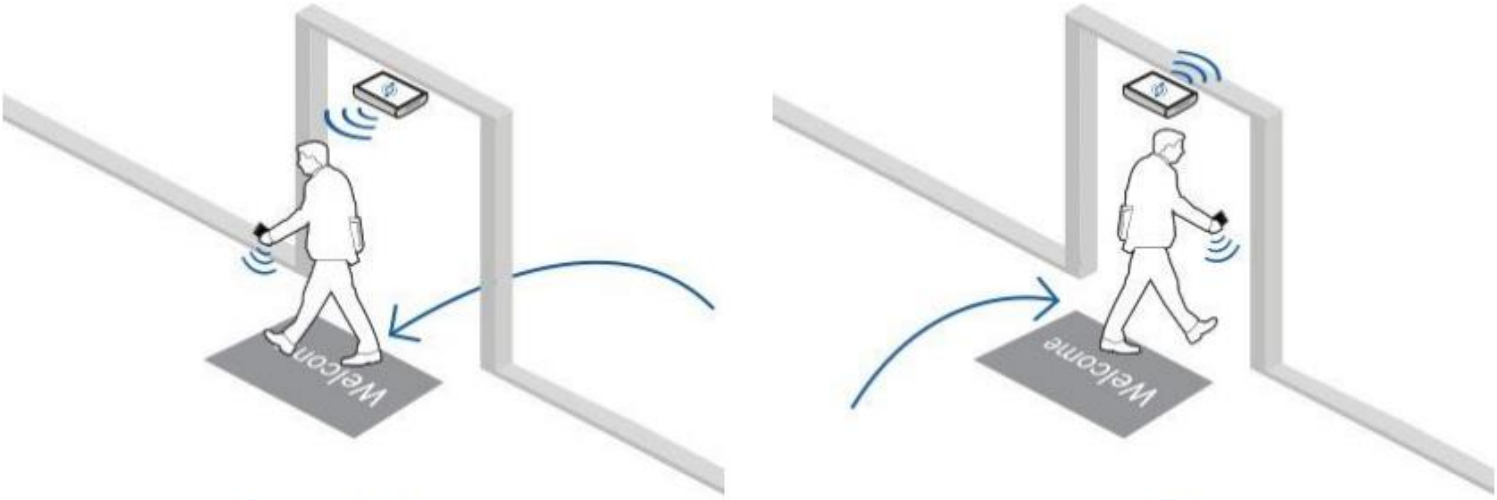
Accuracy of data is at least 90%



Metric 2: Dwell Time
Measuring Visitors' Duration

Performance Indicator

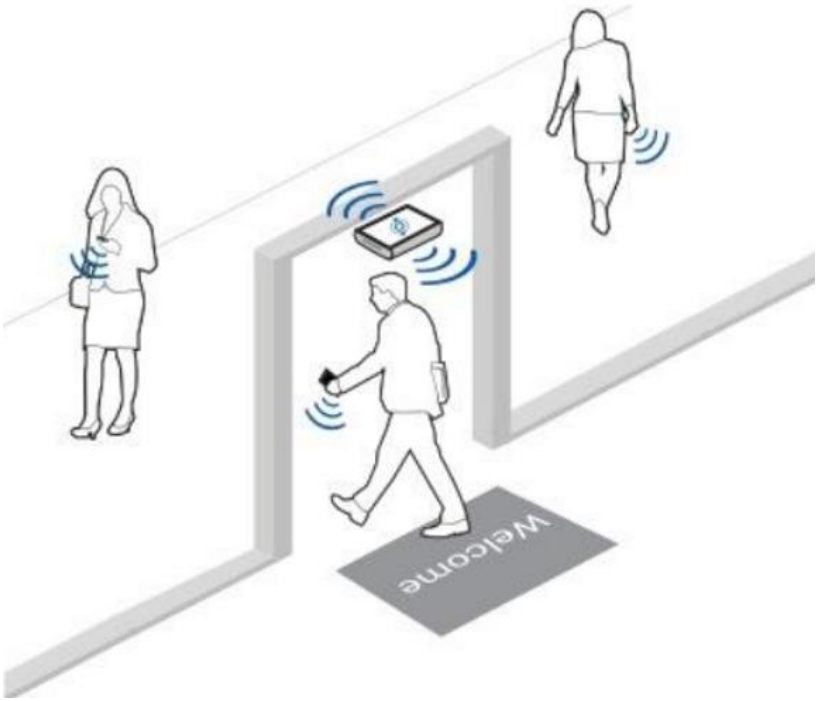
Measures how long the customer tend to stay in the shop



Metric 3: Outside Traffic
Visualise the Number of Passers-by

Performance Indicator

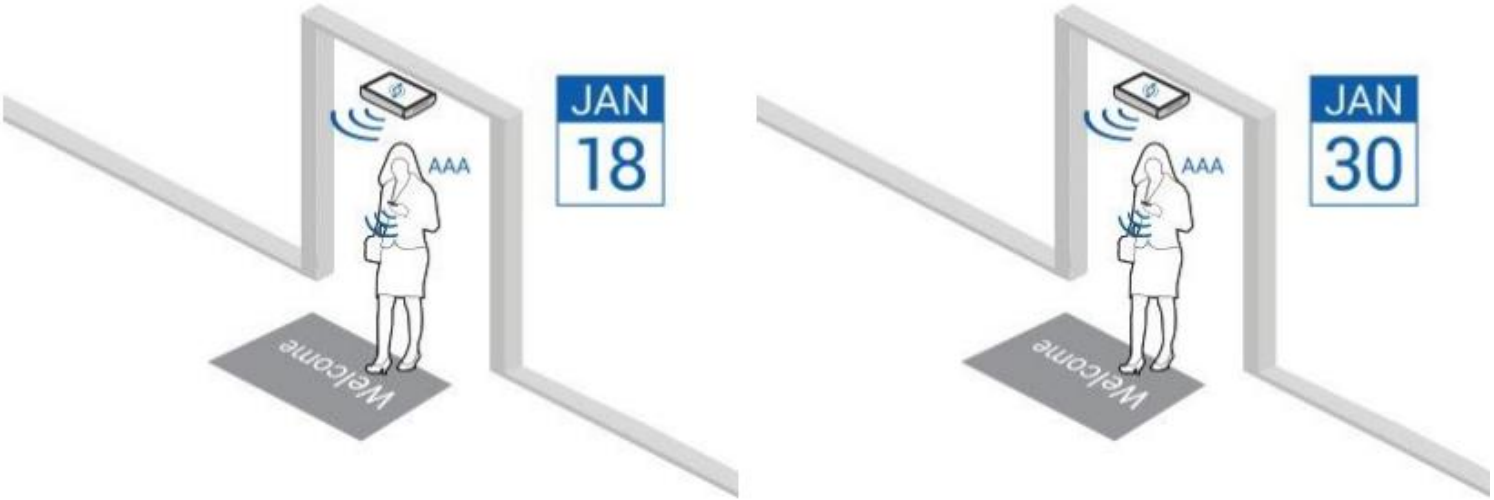
Determining the estimated location of visitors through signal strength in a reach of 100 metres radius



Metric 4: Returning Customer
Measuring the Frequency of Visitors

Performance Indicator

Distinguishes if the customer has visited the store before by comparing the MAC address with previous records.

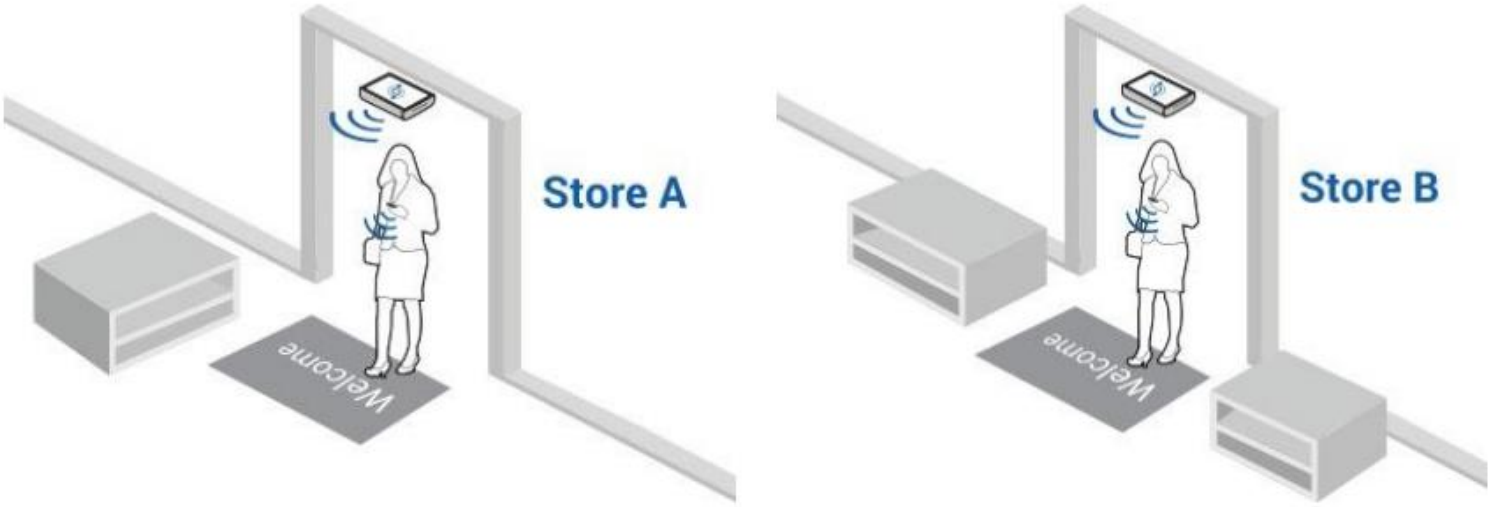


AAA has previously visited the store on 18 Jan she is a returning customer.

Metric 5: Cross Shopping
Determining the Loyalty of Customers

Performance Indicator

Combining Wi-Fi data from different stores allows the same MAC address detected in different stores to be identified.



AAA is a cross shopper between Store A and Store B

Metric 6: Zone Analytics
Zone Analysis by Different Departments

Performance Indicator

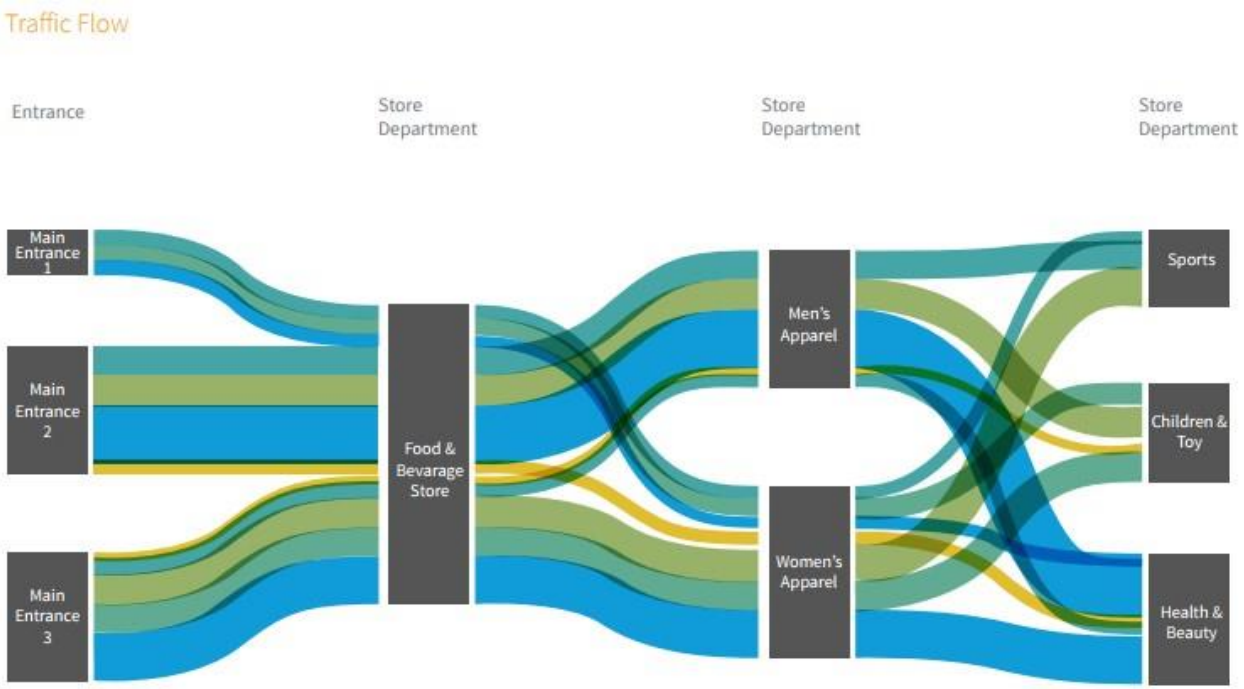
Determine the engagement of visitors in different zones to determine consumer engagement.

Zone	Average Daily Traffic			Avr. Visit Duration			Average Returning Rate		
	This Year	Last Year	Changes	This Year	Last Year	Changes	This Year	Last Year	Changes
Zone A	34369	140 03	▲ 145%	19min	18min	▲ 5.6%	27%	25%	▲ 8%
Zone B	21356	142 28	▲ 50%	16min	14min	▲ 14.3%	25%	22%	▲ 13.6%
Zone C	16008	25763	▼ 38%	24min	21min	▲ 14.3%	21%	22%	▼ 4.5%

Metric 7: Traffic Flow Analysis
Traffic Analytics by Different Departments

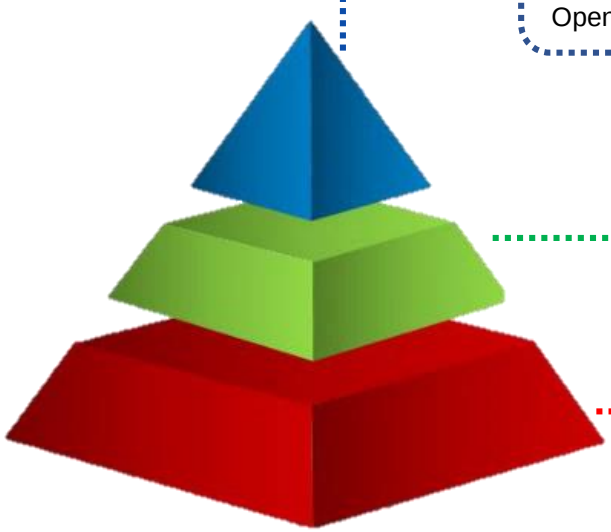
Performance Indicator

Determining the traffic flow of visitors in different zones of a large compound.



Business Reporting
3 Levels of Reporting

FootfallCam reports are categorised in three different levels based on usability.



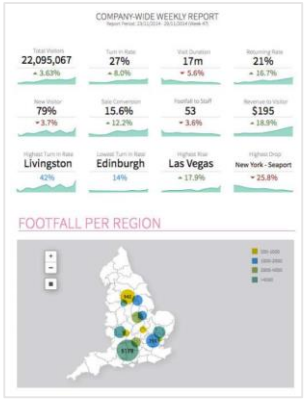
Specialty Reports
Level specific reports that are generated for a singular purpose usage. Includes Marketing Effectiveness, Opening and Closing Time, Predictive Analysis

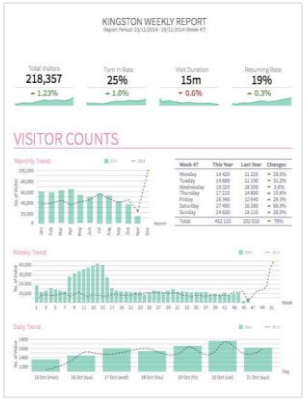
Store Level Reports
Reports that are catered to the store level and will be use to review the performance of a single store.

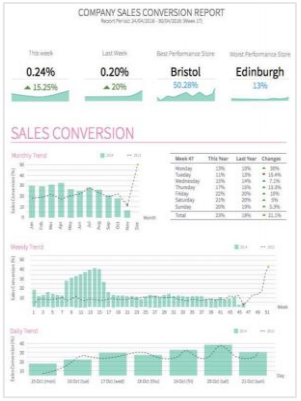
Company Level Reports
Reports that display the entire company and as a whole to determine the current performance standing of the business

Business Reporting
15+ Business Report Templates Available

Reporting templates are available to provide an overview and guideline on analysis of data and metrics. Reporting templates are designed to give managerial and executive level personnel deeper insights into operational aspects, marketing and customer profiles.







Data Integration

Business intelligence (BI) system extracts and analyses footfall data (from FootfallCam central server) together with ePoS data or staff labour hours (from retailer's ePoS system or staff management system) to produce management report for corporate strategic planning.

Import Centre

The Import Centre allows users to integrate the sales data from their ePoS into FootfallCam database in order to generate sales conversion data.

1. Manual File Upload
2. FTP Access Import

Export Centre

The Export Centre provide users with the opportunity to integrate data generated by FootfallCam with their BI for further analyse of data.

1. Manual Export
2. API Query Export
3. FTP Access Export
4. E-Mail Scheduler

Deployment Flow

Project Deployment
Overview Process Flow

Payment
- Buyer determines number of counters required
- Buyer makes payment
- FootfallCam receives payment

Delivery
- Production of units begin
- Deliverance of units based on buyer's preference

Installation
- Units arrive at desired location
- Installer installs the units with remote support from FootfallCam

Verification
- Customer submits verification request form
- FootfallCam begins verification process

Handover
- FootfallCam completes verification process
- Customer receives accuracy audit report
- Customer receives user manuals for FootfallCam Analytic Manager

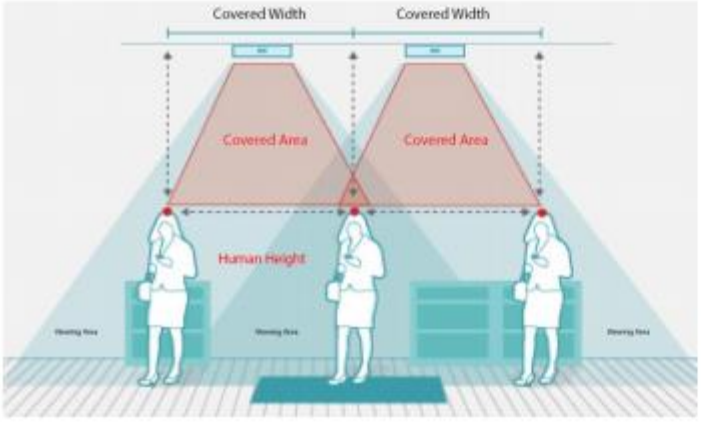
Project Deployment
Number of Counters Required

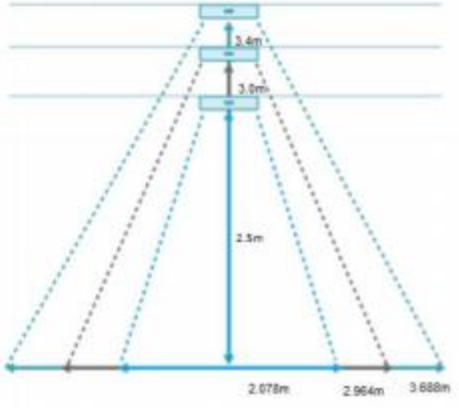
FootfallCam Calculator

A calculator is developed to determine the number of counters that is required for the store based on the ceiling height and entrance width

Link to Calculator

Calculator

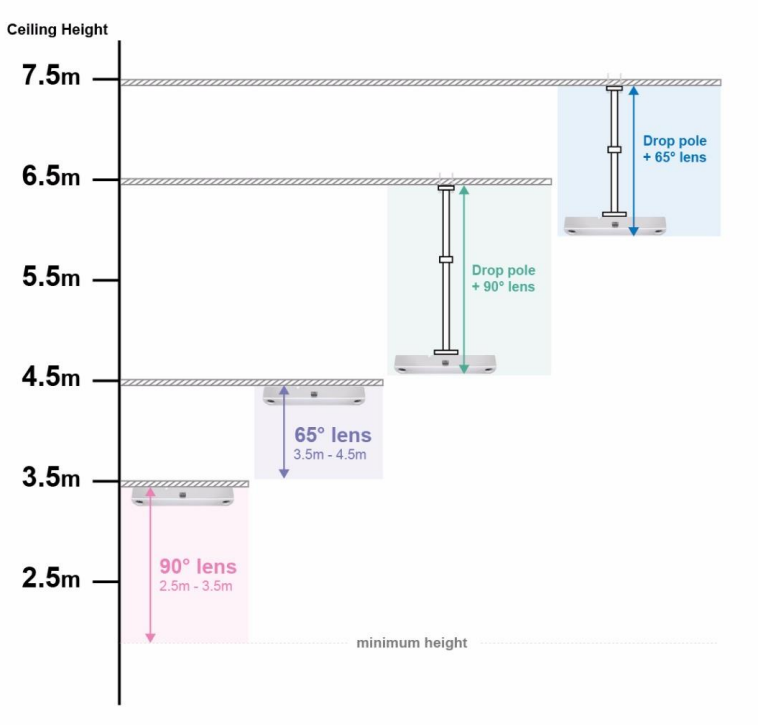




Counter Coverage Guide
Higher than 4.5metres

Usage of Accessories

When the ceiling height of an entrance is considerably higher than the optimal height for the installation of FootfallCam, an accessory will be needed to bring the height down to an optimal number.



Wall Bracket

Install on a wall to create a makeshift ceiling to lower the ceiling height of an entrance.

Drop Pole

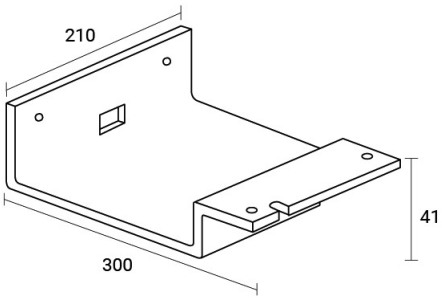
Use to lower the ceiling height when there is an obstruction in the wall causing a majority of the view to be blocked

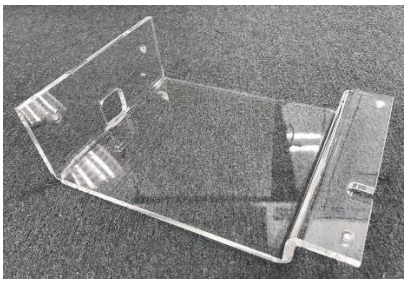
Accessories
Wall Bracket

Usage

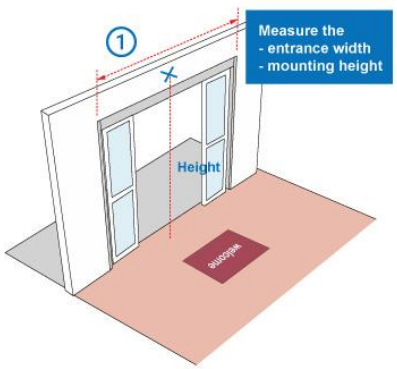
Ceiling height is outside the recommended range (2.5 m – 4.5 m).

Download Datasheet

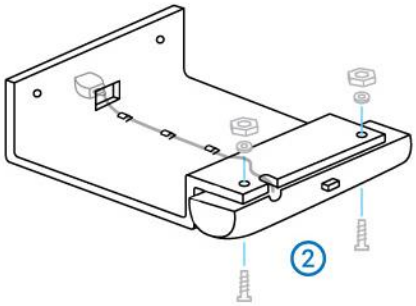




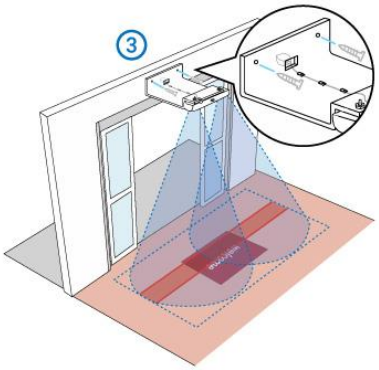
Simple Installation



Step 1:
Determine the mounting location



Step 2:
Attach the counter to the bracket

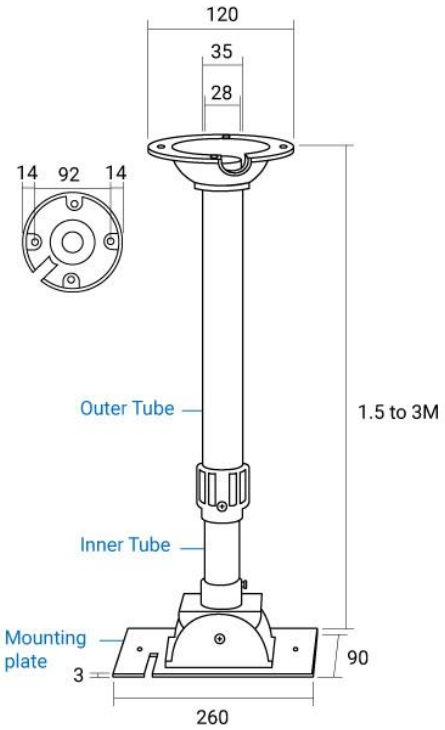


Step 3:
Mount the bracket on the wall

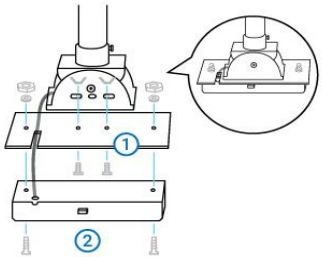
Accessories
Drop Pole

Usage

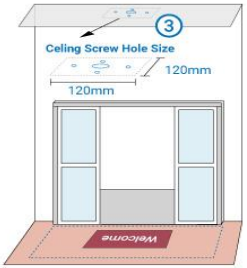
device when the ceiling height of the store is outside of the range and wall bracket is not suitable



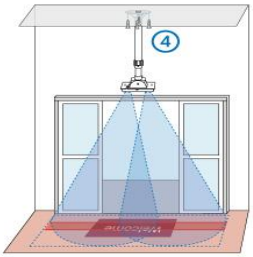
Simple Installation



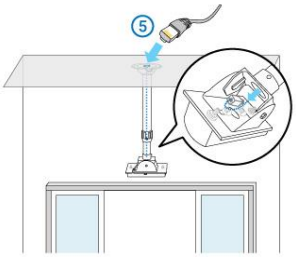
Step 1:
Attach mounting plate to pole and counter



Step 2:
Determine mounting location



Step 3:
Mount the drop pole onto the ceiling.



Step 4:
Connect the Cat5 cable through the tubes.

A. Payment
Purchase Details

Payment Term

All payment terms are strictly **Payment In Advance**

Production on units will only begin after payment has been received in **FULL**

Payment Methods		
Method	Advantage	Disadvantage
Online	Instantaneous transfer	Incur additional charges on behalf of PayPal
Bank Transfer	Settlement amount will be exactly as indicated	Additional wait time for transference of funds

Tax Settlement		
Incoterm	Buyer's Obligation	FootfallCam Obligation
Deliver Duty Unpaid	Buyer will be responsible for import duties and custom clearance at buyer's country	FootfallCam will be responsible for transportation fees and assumes all risks until goods have arrive at the port of destination

B. Delivery
Lead Times

Production Lead Time

Number of Units	Days for Production (Upon Order Confirmation and Up front Payment)
1 to 50	3 to 5 days
51 to 200	Within 7 days
201 to 500	Within 14 days
501 and above	Within 30 days

Delivery Lead Time

Delivery Options	Arrival Time	Cost
Standard	7 to 14 days	Free
Expedited	Within 7 days (Subjected to Clearance)	Buyer will bear the delivery cost
Buyer’s Shipping Account	Varies	Courier will charge buyer’s shipping account directly

C. Installation
Pre-Installation

Quick Installation Guide

A simplified guide is available for buyer's that would like to install the FootfallCam themselves.

Download

Pre-Installation Checklist

Buyers may freely use the Pre-Installation Checklist to liaise a time of installation.

Mandatory for Installation Services with FootfallCam.

Download

C. Installation
Workflow with Local Installer

Cabling
- Connect cable to Midspan
- Ensure Cat5 cable is crimped correctly

Positioning
- Ensure the camera is positioned correctly

Allocation
- Input the Pairing Code into FootfallCam counter

Walk Test
- Stand below the counter to ensure that it covers the entirety of the entrance

Tuning
- Quick tune the counter by drawing In and Out line
- **(Optional)** Submit Verification Request form to FootfallCam for tuning service

C. Installation
Installing in Different Environment

Single Entrance
Easiest form of installation that requires minimal work. No additional accessories are required to optimise counting accuracy

High Ceiling
High ceiling that would compromise the counting accuracy. A wall bracket will be required to optimise the counting accuracy

Multiple Entrances
Requires multiple installation to fully cover the entire entrance. Does not require additional accessories to optimise counting accuracy

Revolving Doors
FootfallCam will require an additional drop pole as a wall bracket is not suitable to ensure that counting accuracy is not compromised

Overhead Blockage
Requires a drop pole to overcome the blockage that is presented by the air cushion to ensure the integrity of the counting data

Glass Wall
Exceptionally high ceiling with a wall that is not suitable for a wall bracket. A drop pole is required to optimise counting accuracy

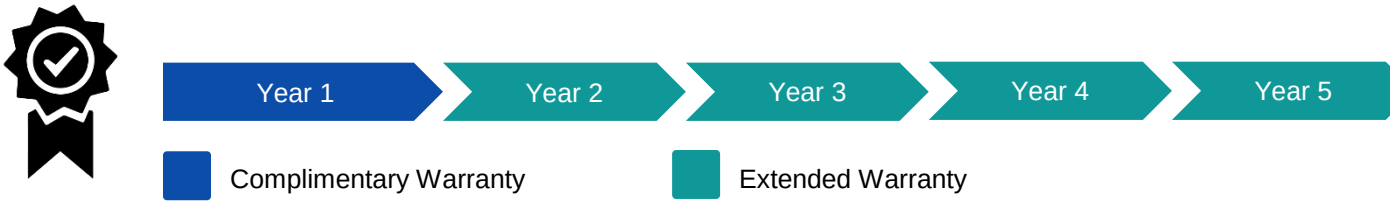
Warranty
Terms and Conditions

Duration

All FootfallCam 3D+ purchased directly from FootfallCam will be inclusive of **(1) Year Manufacturer's Warranty**. Extension of warranty may be additionally purchased from FootfallCam when support contract is active.

Terms and Conditions

Extend the coverage of warranty up to **(5) Years**



Case Studies

Case Study
AS Watsons

Pharmaceutical Chain

Centralised Server

Through the usage of FTP connection, FootfallCam was able to automate the process of pushing all aggregated reports back to the central headquarters for analysis.

Download Case Study

Status	
Counters Installed	Over 6,500 counters
Counters Required per store	Around 1 – 2 counters per store
Counters Installed per day	Around 5 counters installed per day
Implementation Time	6 months

Background

FootfallCam dealt with over 30 business units during the project rollout with AS Watsons. AS Watsons wanted visibility of all commercial event that occurred in their stores. FootfallCam had strung all the data back to the HQ, by setting up an FTP connection in every business unit to point all data back to the centralised GIT.

Case Study
Bonmarché

Clothing Retail Chain

Sales Conversion Report

Through the use of the sales conversion, Bonmarché was given detailed insight into the behavior of their consumer and also the consumers' perception of their store.

Download Case Study

Status	
Counters Installed	Over 300 counters
Counters Required per store	Around 1 – 2 counters per store
Counters Installed per day	Around counters installed per day
Implementation Time	Within 2 month

Background

Bonmarché integrated their sales data with the footfall data provided by FootfallCam to have further insight into their sales conversion. FootfallCam also fully supported Bonmarché post the rollout of the counters in all of their stores by periodically meet with Bonmarché to discuss with their requirements in reporting features and issues encountered.

Case Study
Charles Clinkard

Footwear Retail Chain

Remote Support

FootfallCam had supported Charles Clinkard during the installation process remotely by guiding them on the positioning of the counters only.

Status	
Counters Installed	Over 15 counters
Counters Required per store	1 counter per store
Counters Installed per day	Around 3 counters installed per day
Implementation Time	Within 1 month

Background

Charles Clinkard was independent and did not require support from FootfallCam. Charles Clinkard used their own installation practitioner with minimal support from FootfallCam. After the installation of the counter, the FootfallCam automatically recognised the environment and optimised its calibration to achieve the highest accuracy.

Case Study
Hamra Shopping & Trading Co.

Brands Outlet

Traffic Flow Analysis

With the inclusion of traffic flow analysis, HST could determine the common behaviour of shoppers and where they are most likely to travel to next after visiting one department.

Status	
Counters Installed	Over 30 counters
Counters Required per store	Around 1 counters per store
Counters Installed per day	Around 6 counters installed per day
Implementation Time	5 days

Background

HST utilised the traffic flow analysis report produced by FootfallCam to determine the movement pattern of shoppers. The other report that was utilised by HST is the zone analytic report which allowed HST to have a macro view of the engagement of shoppers inside the mall. With this knowledge in hand, HST could leased rental units accordingly based on preferred industries.

About FootfallCam

About Us
Continual Innovation and Development

FootfallCam is a British company, started by 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.

Key Facts
Established in the year 2002
Started with a team of 20 innovators which included software and architecture developer, image processing engineer, hardware engineering, business analyst, and graphic designer
Recruited more than 200 partners in 6 continents in the year 2013
Statistic from March 2017 shows FootfallCam has 32.67% market share in people counting industry in Europe market
Underlying 25.6% growth rate every year

We are the first in the world that combines people counting and Wi-Fi analytics into a single device. We are committed to continually maintain our market leading position, bringing the strategic foresight that our customers require.

About Us
Our History

2D video counter combined with Wi-Fi analytics in one device provides more business metrics for the retailers to gain actionable insights.

2002 Launched Video Counting Device using Digital Video Recording

2003 Penetrate in Retail Chains industry

2006 20x Resellers in 3 continents

2007 Launched our first 2D video counter + Wi-Fi analytics

August 2003
L'Occitane has installed more than 200+ stores across UK, Ireland and Australia

About Us
Our History

2008 More than 50x Resellers in 30 countries

2011 Expanding our market in Casino industry

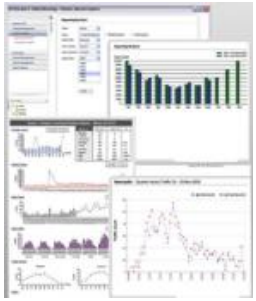
2013 FootfallCam Zone Analytics for shopping malls, large building

2015 Launched FootfallCam 3D Plus Stereovision technology

About Us
Our History

2017

Launched FootfallCam Multi-Integration Model

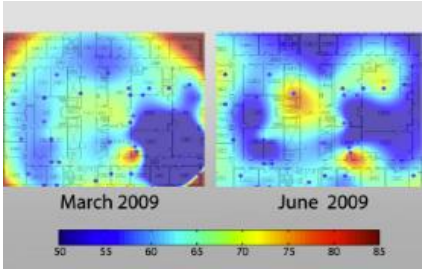


60+ KPI and 15+ Reports available for different industries

An additional 4+ reports and 7+ new features

Present

Heat Map Analytics/ In-store analytics available



Competitive Advantages

As the manufacturer of both hardware and software, FootfallCam offers competitive pricing compared to other competitors.

Counter Type	FootfallCam 3D+	Irisys	Shoppertrak	Brickstream 3D
Technology	Video Counting and Wi-Fi Analytics	Thermal Imaging	2D Video Counting	3D Video Counting
Wi-Fi Counting Capabilities	✓	✗	✓	✗
High Volume Counting	✓	✗	✗	✗
Data Integration	✓	✓	✓	✓
Data Integrity Checker	✓	✗	✗	✗

Competitive Landscape
FootfallCam and Brickstream

Beginner

FootfallCam differentiates itself from its main competitor by offering continuous developments in one product as opposed to releasing newer upgrades that make older models obsolete, making FootfallCam cost efficient.

FootfallCam 3D+

FootfallCam offers competitively priced hardware and software that contains more features than any other people counters in the market.

Brickstream 3D

Brickstream as one of the leading people counter in the market has fallen short recently with the consistent change in management.

750 USD MSRP		1,600 USD MSRP
15 Business Reports		6 Business Reports
16 Additional Features	vs	No Additional Features
One Solution		5 Different Counters

Competitive Landscape
FootfallCam and V-Count

Beginner

FootfallCam differs from the strategy of V-Count in development is by continuously improving our singular model in architecture and developing new features suitable for market needs.

FootfallCam 3D+

A singular unit of FootfallCam 3D+ will be able to perform similarly to **(3)** different solutions provided by V-Count.

V-Count 3D+ Alpha

V-Count people counters have gained traction in the market recently offering multiple counters each fulfilling different needs.

750 USD MSRP		1200 USD MSRP
15 Business Reports		6 Business Reports
16 Additional Features	VS	11 Additional Features
Four Solutions in One Device		One Product per Solution

Competitive Landscape
FootfallCam and Irisys

Beginner

FootfallCam differs from Irisys in the video recording function for users to verify the claims FootfallCam make on the accuracy and integrity of its counting data.

FootfallCam 3D+

FootfallCam utilises dual lenses combined with Wi-Fi counting technology to provide business insights to all stores.

Gazelle Dual View

Gazelle Dual View model utilises heatmap function to track movement in registered area.

- 750 USD MSRP
- 15 Business Reports
- Comprehensive Reporting Portal
- Video Counting and Wi-Fi Counting

VS

- 1800 USD MSRP
- Raw Data
- No Other Function
- Thermal Counting