

## Intelligent Video Analytics for: The Retail Applications Market



Honeywell's new intelligent video analytics software enables enhanced security and surveillance solutions by automatically monitoring video of people, vehicles and objects, and their associated behaviours, within a camera's view. Honeywell's intelligent video analytics software monitors up to 20 objects with more than 35 specific behaviours and events. Intelligent video analytics continues to automate monitoring tasks for high risk sites will ensure a higher level of security and efficiency by working 24/7, providing accurate and reliable continuous monitoring, scaling to a large number of cameras, and catching events that human operators may overlook.

Intelligent video analytics is designed to secure retail facilities and prevent shrinkage, and to provide people counting for better merchandising management and facility optimisation.

### Applications: Retail, Warehousing, and Distribution Security

- Retail shrink:
  - Detects people who evade payment and bypass point-of-sale locations.
  - Real-time alarms upon identification and classification of a person loitering, running from a scene, etc.
  - Alarms on potential high loss actions such as people exiting via 'in' doors.
  - Restricted zone detection – Trespass alarms at storeroom entry points and detection of entry or exit of people or vehicles from "protected zones" including high value targets such as pallet storage on warehouse floors.
  - Detects events and behaviours that precede theft such as people loitering or meeting based on duration, time, and other factors.
- Warehouse theft – Detects activity of people and vehicles at loading docks and in warehouses. Real-time alarms established for employees who exit from unauthorized doors, detection of vehicles parked in violation of established rules, monitoring inappropriate traffic flow in warehouses, tracking employees leaving and going to their cars, meeting with accomplices, collaborating with truck drivers, etc.
- Shortens investigation time and enables comparison inside and across retail facilities:
  - Enables remote management, configuration and alarming.
  - Provides fast and powerful search tools to enable proper chain of custody data.
  - Automates the video searching process.

### Management and Optimisation: Merchandising and Retail Floors

- People counting and traffic flow rates – Numbers of people or vehicles flowing through gates, doors, or waiting in line at point-of-sale terminals.
  - Enables staffing adjustments in real-time to increase customer service.
  - Provides comparison of traffic patterns against different store layouts for different time periods.
  - Facilitates measurement and comparison of product displays and store layouts.

- Optimises display effectiveness and potential for charging premiums for prime display locations, based on flow and purchasing data.

## **Success Story**

### *The Problem*

A large retail supermarket in the South asked us to solve some key problems:

1. Theft: High value items such as baby formula and fragrances were being stolen from store shelves.
2. Customer service: Customers were leaving the store when there were insufficient cashiers and service clerks to serve them.
3. Marketing: The store manager wanted to increase his slotting allowance based on which displays were having the best impact, but he didn't have a way to measure and prove effectiveness.

### *The Solution*

Active Alert<sup>®</sup> and Smart Impressions<sup>®</sup> were deployed in multiple locations using analytics to track movement of high value goods, track personnel inside the stores and monitor dwell time at key display areas.

### *The Results*

Within three months, several trends were identified and operational changes were made:

1. Theft: After a 'possible theft zone' was set up in the high value display areas, one source of theft was determined to be 'basket runs' where a customer would come in and remove huge amounts of the item from the shelves and try to run out of the store without paying. By setting alarms at the high value areas and at the entrance point, they caught the thieves who were believed to be part of a larger ring of thieves in the area.
2. Customer service: Cameras were set above the customer service areas to count people and measure how long they were waiting. It was observed that if there were two people waiting, customers would still wait. If more than three people were in line, many customers would simply leave the store, resulting in lost opportunities and diminished store loyalty. An automatic notification was set up to alert the back office as soon as there were three people in line so that another clerk could be dispatched to take care of customers. Store surveys showed a 35 percent increase in customer satisfaction after these measures were put in place.
3. Marketing effectiveness: Counting zones, directional measures and dwell time zones were set at key display areas. The displays were changed weekly and the resulting traffic data was compared. Because our video analytics was able to automate the process, the store manager saved eight hours per week per store comparing data and planning and he was able to raise his slotting allowances on three key displays, based on having visual proof of their high value and effectiveness in advertising to customers coming through the store.

## **Overview of Advantages**

- Increased levels of security, improved staff productivity and efficiency with reduced manpower costs for monitoring.
- Multiple applications: Security enhancement, visitor management, visitor processing, productivity enhancement, facility optimisation and safety enhancement.

- Detecting, tracking, and recording of event meta-data for every entry and exit from a scene, for later forensic analysis of newly defined events or behaviours not originally believed to be of interest.
- Powerful video forensics that permits user definable, event-specific behavior retrieval in seconds, even in very large systems.
  - Ability to play back and analyse archived video and apply a variety of rules to discover events and relationships formerly of no interest.
  - Compare and evaluate traffic flow patterns between different facility locations/layouts over the same time period.
  - Review personnel and visitor movements related to undesired events or behaviours to identify meetings with accomplices.
- Discrimination between objects of interest and environmental backgrounds.
  - Ability to ignore tree motion, rain, snow, birds, or animals.
  - Accommodates widely ranging lighting conditions, including strong shadow and high contrast scenes.
- High performance analytics algorithms enable real-time tracking of up to 20 objects and more than 35 events.
- Easy to deploy and intuitive setup of the object and event rules for each video channel; different analytics rules for different periods of the day as needs change.
- Deployable for both analogue and digital video systems.

Not only is video analytics an outstanding advancement in perimeter protection and loss prevention for retail applications, it is also increasing in its importance and demand for use in other markets as well. Instead of having operators monitor multiple cameras, video analytics identifies behaviours of interest and immediately alerts the security operator to suspicious activity. Ultimately, this allows security operators to focus their attention on the most important activities and monitor the highest potential for risk, and enables them to make better decisions and react faster to events.

**For more information:** [www.honeywell.com/security/uk](http://www.honeywell.com/security/uk)

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