

People Counter Based on  
Face Recognition

Long queues detection

Tracking and Analyzing  
Customer Paths

Creating Statistics. Providing  
Remote Data Analysis



### Possible applications:

- People Counter for Buildings
- Visitor counter for retail stores and malls
- Market analysis based on customer behavior
- Measuring the effectiveness of sales promotions
- Measuring the effectiveness of indoor and outdoor ads

### Recommended for

Malls, retail stores and chain stores, media professionals and media-related companies, people doing market analysis, and basically anyone who is interested in the effectiveness of certain marketing elements

# VisiScanner™ the Retail Customer Analytics Solution

## Face Recognition Based People Counter

Intello's VisiScanner™ enables the user to reach out to a target audience, assess the behavior of a group of people flowing through continuously in a given area, and to deliver advertisements to consumers in a more targeted fashion. The software can detect the movement of human faces in both pre-recorded and live video thus provide localized information on how individuals interact with advertisements. When video feed is received from a camera the system checks whether there is a human face in the image. If the identification is positive it displays the person's gender, age, and expected direction of movement relative to the previous frame. It is important to note that accuracy is not affected by ethnic origin.

Intello's solution can be deployed in a number of different scenarios especially where automatic people counting or the acquisition of demographic information is necessary. If installed in public places the data extracted can be used to help make a more reliable market analysis, better placement of billboards or advertisements, and measure the effectiveness of marketing campaigns. If installed in retail stores the system can provide information on

the demographic composition of shoppers and their behavior.

Other possible fields of application include the integration with Digital Signage systems. This way the Intello system can instruct the display to show different advertisements at different times of the day based on previously recorded visitor statistics, and even pick ads according to gender or age.

### The software can identify or measure the following:

- Gender and age of customers
- The time somebody spent looking at a certain object (e.g. advertisement)
- The number of people passing by
- The size of an audience

### Accuracy

Face recognition accuracy is currently at 99.6% if the individual is looking in the direction of the camera, in all other cases it is 98.0%. This includes people who might be wearing sunglasses or their faces are partially covered (e.g. by a scarf).



### Technical Parameters:

Recognizing faces in a video image:	99% if facial rotation is less than 30° 89% if facial rotation is less than 60°
Horizontal rotation relative to eye line:	Max 20%
Accuracy of gender identification:	94.9% for adults looking in the direction of the camera 91.0% for all individuals
Accuracy of age identification:	Error margin is within 12 years in 90% of the cases. Error margin is within 6 years in 50% of the cases.
Average recognition time:	29 ms
Min FPS requirement:	5 FPS
Required resolution:	For face recognition: Min. 12 pxls For gender and age identification: Min. 20 pxls

### Detecting Long Queues

Intellio VisiScanner™ is suitable for detecting if lines in a store become longer than usual. This may help managers to act quickly and efficiently if cashiers or counters suddenly become overwhelmed. The information collected by the system may not only streamline staff management, but can also provide for later analysis: identifying peak times, better resource, staff, or shifts management. Consequently, customer satisfaction will improve and a more optimal running of the store becomes a reality.

### Customer Paths

From the view of product placement and marketing communication knowing where customers like to stop and look at something is essential. Intellio VisiScanner™ can track customer movement and identify these so-called hot and cold places by displaying a map much like an infrared image. Using this information the store can cut down on the time spent on organizing shelves. Optimizing product placement is now easy and efficient.

### Related Products



### Remote Data Analysis and System Management

Automatic Bandwidth Management (ABM) is a core component of the Intellio architecture. ABM allows for extreme scalability, which makes it possible for one server to run up to 128 cameras at a time. The system is easy to upgrade, so companies having multiple stores may centralize their research: analysis and data collection is carried out on the spot, while data query can be done either locally or from a remote location such as the company's headquarters. The Intellio Server Software can provide global access for individuals or groups ensuring that server setup and data query is available from anywhere.

### Creating Statistics

- number of all visitors / displaying highs and lows on a timescale
- number of female visitors / displaying highs and lows on a timescale
- number of male visitors / displaying highs and lows on a timescale
- all visitors according to age group / displaying highs and lows on a timescale
- query according to point of entry
- area statistics for each floor
- summary for a single area (multiple points of entry)
- summary for multiple areas
- summary for the whole system
- area statistics based on time and people count

