Analytics Extreme RETAIL

Analytics Extreme RETAIL is the integrated video analytic solution which allows to improve the security and business performance of chain shops, stores, malls and many more. Thanks to the advanced video analytic algorithms, Analytics Extreme RETAIL allows to have the statistical data related to the flows of customers inside the venue.

Analytics Extreme RETAIL incorporates four different modules:

AE-People: people counting video analytic module. AE-People can be installed both in indoor and outdoor environments.

Thanks to advanced algorithms of artificial vision and artificial intelligence, AE-People works in situations where many people passes under the camera or in presence of shopping carts and strollers.

AE-Crowd: video analytic module which can detect people who stop or slowly move, and queueing situations. AE-Crowd allows to estimate the number of persons inside one or more areas of interest. AE-Crowd can work both in indoor and outdoor environments. Thanks to an advanced engine of artificial vision and artificial intelligence, AE-Crowd allows to reach an accuracy higher than 90% even in very crowded environments.

AE-Overcrowd: identifies situations of over-crowding, i.e. in which the number of people in the area is higher than a user-specified threshold. Thanks to an advanced engine of artificial vision and artificial intelligence, AE-Overcrowd allows to reach an accuracy higher than 90% even in very crowded environments.

AE-Heat: video analytic module which allows to distinguish between the most visited areas (hot spots) and the less crowded ones (dead areas). Hot Spots and Dead Areas are represented in a graphical form, by overlapping to the image of the scene a range of colours, typically from blue to red (the colour pallette can be configured), where the blue is used to represent the less crowded areas and the red the most crowded ones.

AE-RETAIL Delivers Intelligence

The video analysis is based on a powerful engine which uses advanced algorithms of Intelligence and Artificial Vision, which allow to drastically reduce the number of false alarm, making the solutions robust with respect to the illumination changes and to the presence of shadows and reflections. They allow to well operate both in indoor and outdoor environments.

AE-RETAIL is Efficient

The engineering of the algorithms allows to elaborate in parallel a high number of video streams per single core with a full frame rate, so drastically reducing the cost of the hardware.

AE-RETAIL is Multi-platform

AE-Retail is available as a server-based version and as an edge version (with Wisenet Samsung, Hikvision and Axis cameras).

<p style="text-align:center;color:red;font-weight:bold;">AE-Retail is available in different versions, depending on the customer needs.</p>

Sw version for Server

The server-based solution can simultaneously process several streams with the possibility to have several video analytic modules activated simultaneously on the same machine (for instance AE-Retail and AE-Security processing the same stream), as well as to process the video streams at higher resolutions and frame rates.

Sw version for Edge

This is the solution installable as application on board of particular models of cameras (Axis, Hikvision, Wisenet Samsung).

	Edge	Server
Scalability	High (you just need to add a new camera)	You need a new server if the number of cameras grows up
Integrability in existing systems	High in presence of compatible cameras, Limited otherwise (you need to acquire new compatible cameras)	High
Possibility to simultaneously manage more video analytics	Average (for high quality cameras), Limited (for medium-low quality cameras)	High
Possibility to process to a higher resolution	Average (for high quality cameras), Limited (for medium-low quality cameras)	High
Bandwidth required	None (the analytics module is installed in the camera)	High (the transmission of the video stream is required for each camera)

Minimum Requirements of AE-Retail

- The Server version works with all the network cameras providing an RTSP stream. The application processes up to 5 video streams CIF@25fps per core on a I7 Intel CPU.
- The Edge Version supports Samsung Wisenet III and X CPU cameras, Axis cameras based on ACAP (Axis Camera Application Platform) technology and Hikvision cameras based on HEOP (Hikvision Embedded Open Platform).

Installation constraints: Positioning of the camera

- In order to achieve the maximum possible accuracy, it is required to mount a camera with a zenital view with respect to the area of interest, with an height of at least 3 meters.
- Please note that the localization precision is higher when there is no perspective effect: the precision is maximum when the person are seen from the top.
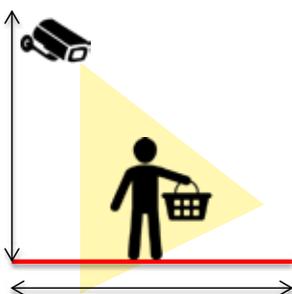
The maximum width of the gate depends on the horizontal Field of View (FOV) of the camera and on the height to which the camera is mounted.

FOV	CAMERA HEIGHT = 3 meters	CAMERA HEIGHT = 4 meters
120°	width ~ 10 meters	width ~ 14 meters
90°	width ~ 6 meters	width ~ 8 meters
60°	width ~ 3.5 meters	width ~ 4.5 meters