



AI Powered Left Object Detection

Datasheet v4.3

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INTRODUCTION

Left Object Detection – The Left Object Detection feature identifies unattended objects left behind by a moving agent (the owner of the object) in a virtually monitored area. After locating a stationary object, the classification task instantly detects if it has been left behind by a moving agent. Alarms are generated upon the successful detection of unattended objects and users can send email alerts, real-time notifications, and soft triggers for alerting security staff upon event occurrence. The Left Object Detection feature is backed by a robust classification task that successfully filters out unwanted objects like vehicles, stray animals, doors, etc. Additionally, owing to its high-speed execution and low memory requirements, it can be easily integrated with any existing system. This feature is primarily used for investigative purposes for tracking down individuals who purposely placed objects in public and private areas. Common applications are in banks, hospitals, railway stations, airports, and any other area that may be susceptible to security threats.

Deep Learning: A subset of Artificial Intelligence, Deep Learning technology exposes machines to high volumes of tagged data. The machine is then tasked to ‘learn’, ‘analyse’, and ‘detect’ the same information in new datasets which ensures more proficient detection and identification of objects. Since Deep Learning technology is also powered by robust hardware infrastructure, the analytic output is better and faster.

Use of Deep Learning in Left Object Detection: The use of Deep Learning for Left Object Detection brings it closer to human perception. Advanced Deep Learning methods can assess large datasets of moving and stationary objects and the layered filters can take the minutest details into account. This increases the degree of accuracy in generating alerts after detecting stationary/left objects. Thanks to the technology’s improved processing performance and superior object classification capabilities, it can efficiently detect and identify multiple object types with low visual biasing and false alarms.

SYSTEM REQUIREMENTS

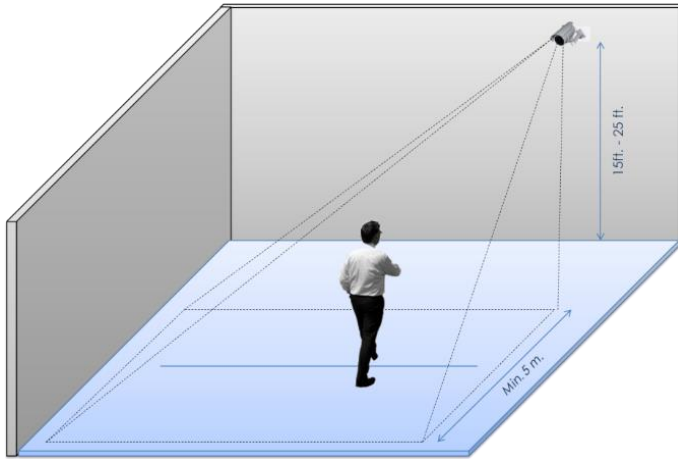
AllGoVision analytics has the following system hardware and software requirements.

CATEGORY	REQUIREMENT
Operating System	Ubuntu server 18.4, Windows Server 2016, Windows Server 2019
Network	Ethernet, 1GB or higher recommended
Hardware Requirements	x86_64 Platform, AVX 2 Support 6 th Gen and above + Nvidia GPU
Frame Rate	Frame Rate > 10 fps
Database	Maria DB (X64) 10.3.13.0
Stand Alone version camera support	Camera Models from Axis, Pelco, Bosch, Hikvision, Honeywell, IQinvision, Sony, Dahua, Panasonic, Brickcom, IndigoVision, Cisco, Samsung, Acti, Digital Watchdog, and others (ONVIF Cameras).
VMS Support	Honeywell DVM, Honeywell Maxpro, Milestone, Genetec, IndigoVision, ExacqVision, Cognyte (Verint), Bosch, Network Optix Note: With VMS all cameras supported by VMS will be supported
Reporting & Analysis Software	AllGoVision Alarm Center

INSTALLATION

Cameras should be installed at a height as illustrated:

Camera Setup for Left Object : Indoor



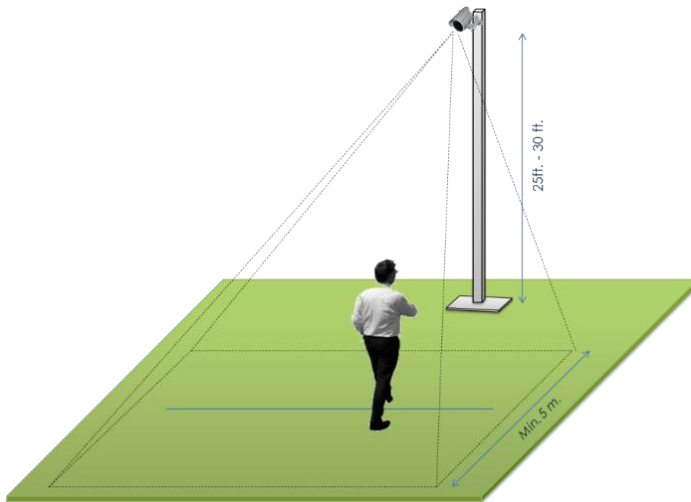
Angular Camera

Height of Installation (Indoor) = 15-25 feet

Focusing towards the monitoring zone

No occlusion scenario

Camera Setup for Left Object : Outdoor



Angular Camera

Height of Installation (Outdoor) = 25-30 feet

Focusing on the monitoring zone

No occlusion scenario

TECHNICAL HIGHLIGHTS

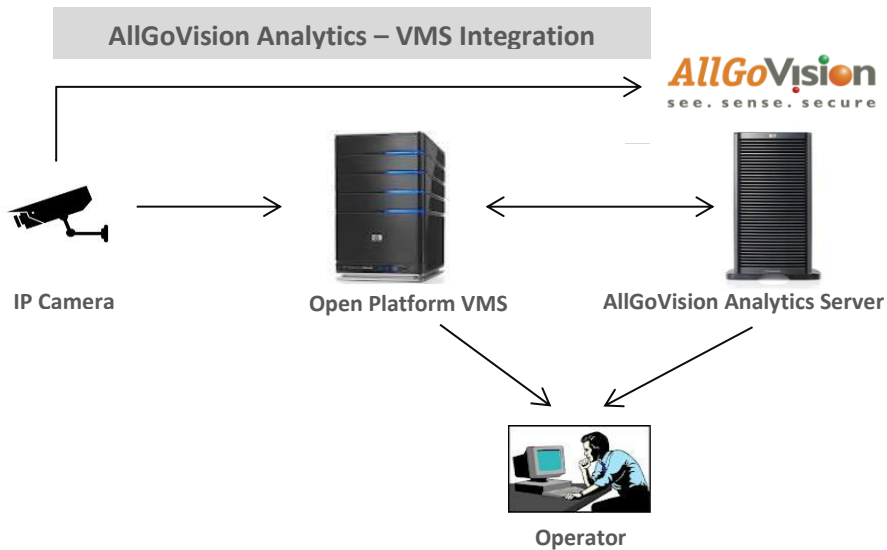
- ✓ High accuracy using propriety AI based algorithms
- ✓ Detection is immune to shadows, lighting changes and other objects in scene
- ✓ Low alarm miss-rate
- ✓ No false alarms for stationary luggage items carried by associated owner
- ✓ Generated alarms may be filtered using metadata attributes of luggage items

INTEGRATION FLEXIBILITY

AllGoVision application is available in 2 flavors:

With VMS:

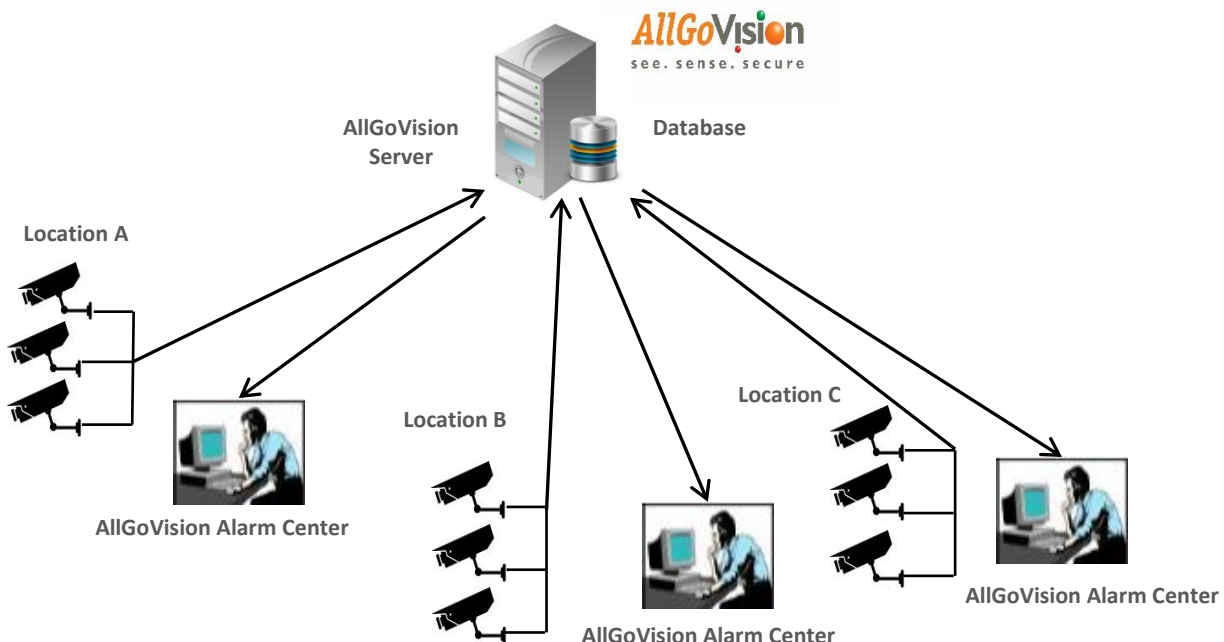
AllGoVision application is based on Open Platform Standards.
It is integrated with many open platform VMS.



Without VMS:

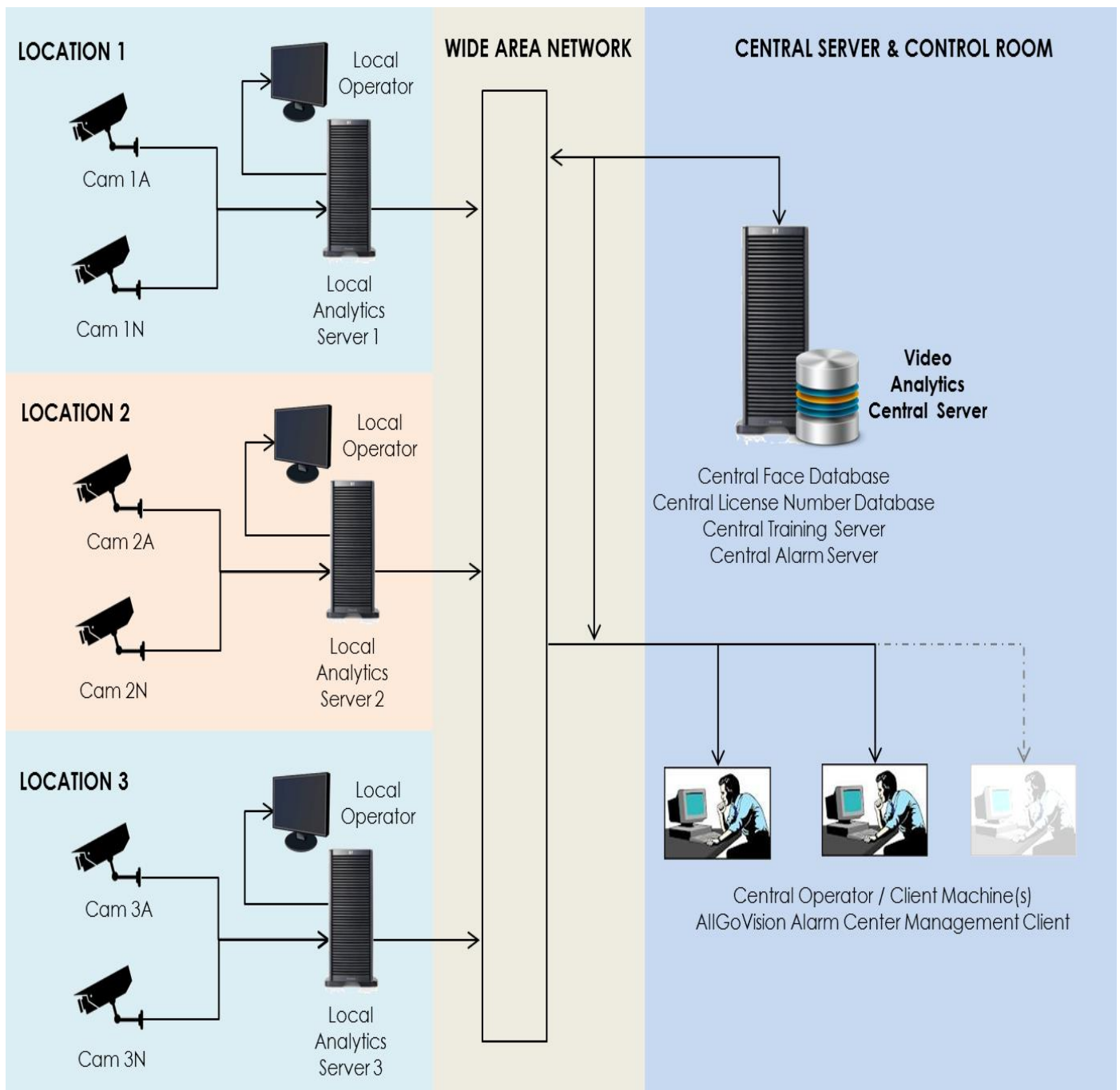
- It is a standalone application.
- Directly takes the video feed from camera.
- The alarms and reports are seen in AllGoVision Alarm Center.

AllGoVision Analytics- Without VMS Integration



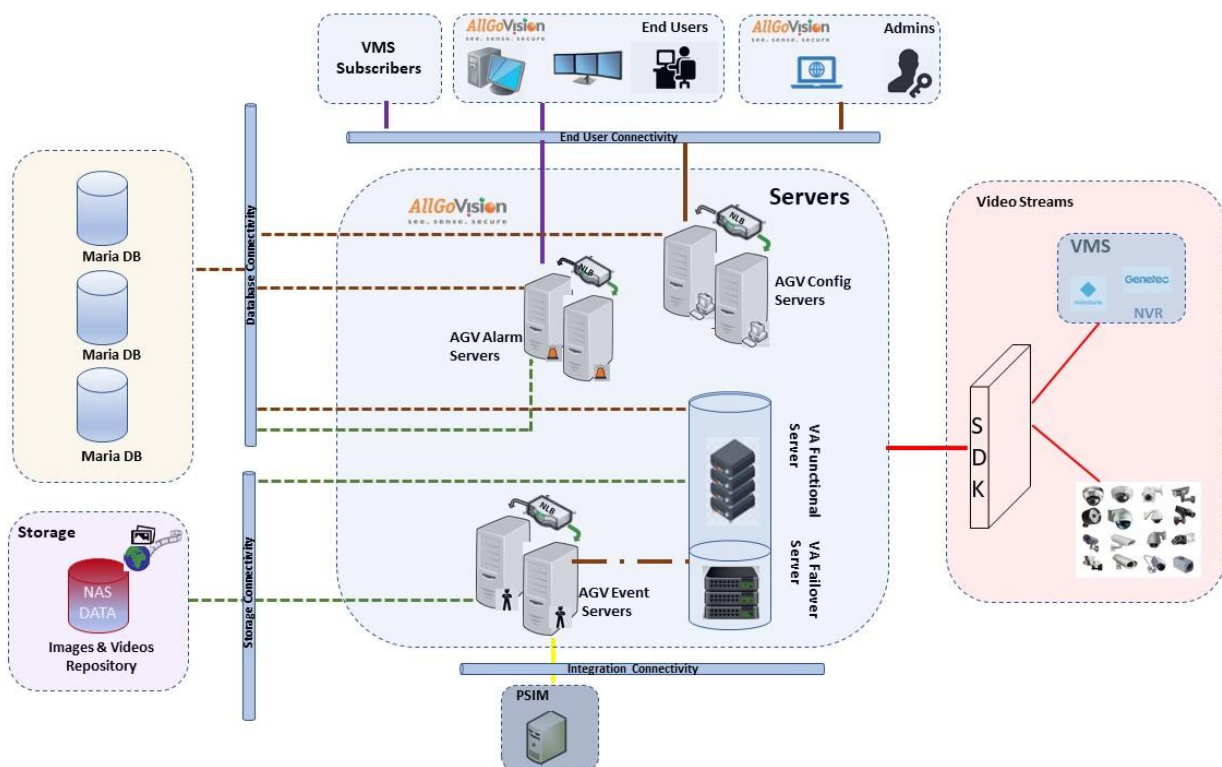
Federated Architecture

- With Federated Architecture, analytics can be done at local servers and viewed by local operators.
- A central server with a central operator can view all the alarms in the system generated by all the local servers.
- Alarms from different clients can be seen at the central Alarm Center and alarms are differentiated through Client IDs.



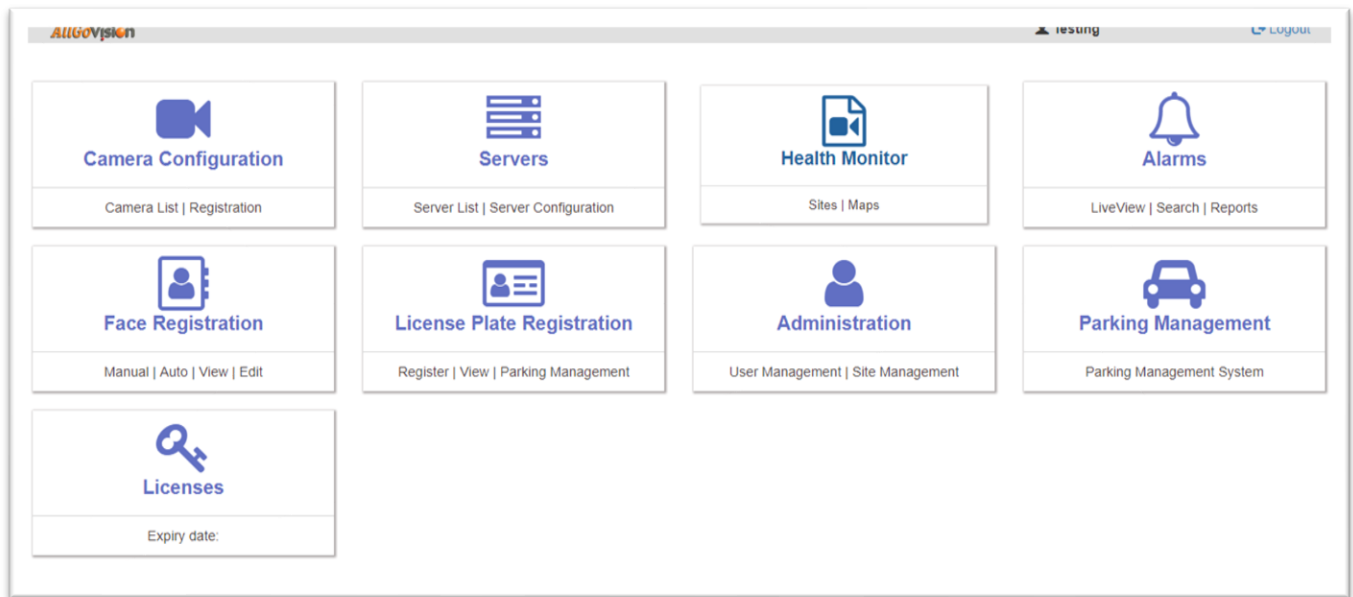
Redundancy / Failover

- Config Server can be setup for active/passive redundancy. NLB is used to manage the Active/Passive redundancy. When the active Config Server is up, all requests will be serviced by it. Only when it is down, requests are serviced by the passive Config Server.
- For video analytics, redundancy is achieved by having redundant server capacity for N:1 or 1:1 redundancy. When one or more VA Servers fail, the analytics pertaining to the cameras running in that server are re-assigned to a pre-designated set of servers.

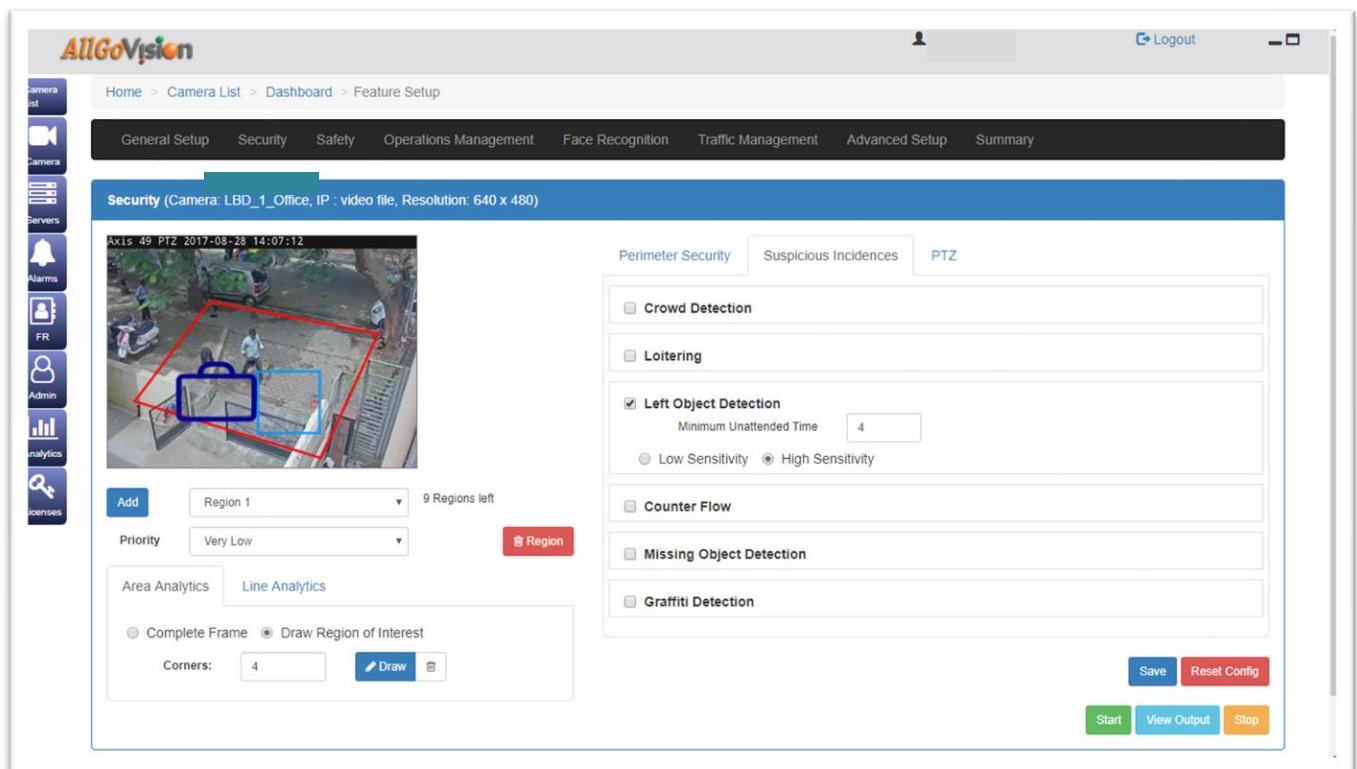


ALLGOVISION GUI

AllGoVision product offers a graphical user interface with the choice of native windows-oriented, tab based, point and pick interface along with the Web UI. The options are provided to add cameras directly or from VMS, provide configuration and view alarms whenever event happens.



AllGoVision Dashboard



Left Object Detection

ALLGOVISION ALARM CENTER

AllGoVision Alarm Center is a Client to view all the alarms generated by AllGoVision analytics running on the same machine or running on the different systems in the same network. It also supports report generation.

Show 5 entries

Refresh Select all None Clear Alarms

Alarm ID	Thumbnail	Timestamp	Camera Name	Site Name	Alarm Name	Alarm Description	Object Type
			LBD_Non DL_LBD_#	<Site	Alarm Name	Alarm Description	Object Type
347247		2020-10-12 01:13:27	LBD_Non DL_LBD_ACUD2	Automation1	LEFT_OBJECT_DETECTION	LEFT_OBJECT_DETECTION	Object
347246		2020-10-12 01:11:49	LBD_Non DL_LBD_ACUD2	Automation1	LEFT_OBJECT_DETECTION	LEFT_OBJECT_DETECTION	Object
347245		2020-10-12 01:11:42	LBD_Non DL_LBD_ACUD2	Automation1	LEFT_OBJECT_DETECTION	LEFT_OBJECT_DETECTION	Object
347244		2020-10-12 01:10:43	LBD_Non DL_LBD_ACUD2	Automation1	LEFT_OBJECT_DETECTION	LEFT_OBJECT_DETECTION	Object
347243		2020-10-12 01:09:42	LBD_Non DL_LBD_ACUD2	Automation1	LEFT_OBJECT_DETECTION	LEFT_OBJECT_DETECTION	Object

Left Object Alarms in Alarm Center