

General Video Analytics Engine



Product Overview

This module serves as the core intelligent layer of the security system. It analyzes live camera footage in real time to automatically detect security threats, safety violations, and unusual behaviors, allowing security teams to respond immediately rather than passively watching screens.

Key Performance Metrics

Real-Time Analysis Speed

30 Frames Per Second (FPS) continuous streaming.

Alert Response Time

Dispatched to control center in under 2 seconds

Event Types Detected

Over 50 unique situational classes and behaviors



Core Functional Features

Object & People Tracking	
Continuous Tracking	Seamlessly follows a person or vehicle across a single camera view, even when temporarily hidden behind obstacles.
Multi-Camera Tracking	Keeps a persistent identity for a specific person or vehicle across multiple cameras across the entire facility.
Loitering & Unattended Objects	Triggers alerts if a person stays in a restricted zone longer than allowed, or if an object (like a bag or package) is left behind.
Missing Asset Protection	Instantly alerts staff if a monitored object is removed from its designated location.
Weapon Recognition	Automatically identifies visible firearms, knives, or blunt objects being held or used.

Virtual Boundaries & Zone Rules	
Protective Gear Checks	Allows operators to draw lines on any camera feed to sound an alarm if crossed, complete with direction tracking.
Spill and Leak Detection	Triggers an immediate alarm with a snapshot and timestamp if any unauthorized person enters a designated zone
Visual Fire & Smoke Alerts	Allows zones and tripwires to turn on or off automatically during specific hours.

Crowd & Behavior Monitoring	
Crowd Density Mapping	Generates live heat maps grading crowd sizes as Safe, Warning, or Critical.
Abnormal Movement Detection	Recognizes sudden crowd dispersion, scattering, or running indicating panic or emergencies.
Aggressive Behavior Tracking	Automatically flags physical fights, pushing, or violent gestures
Slip & Fall Detection	Sends an immediate alert if a person collapses or falls within camera view.

Safety & Environmental Compliance	
Protective Gear Checks	Verifies that helmets, high-visibility vests, safety gloves, and boots are worn before entry.
Spill and Leak Detection	Recognizes liquid pools or chemical leaks on the ground in industrial zones.
Visual Fire & Smoke Alerts	Detects visual signs of flames and smoke plumes directly from the video stream.

Smart Audio Analysis	
Acoustic Threat Identification	Detects gunshots, explosions, breaking glass, and screaming within 1 second.
Audio-Visual Syncing	Automatically links every sound alert to the nearest camera view for instant verification.

Search & Automated Reporting	
Natural Language Search	Finds specific footage using plain phrases (e.g., 'person in red jacket near main entrance on Tuesday afternoon').
Automated Incident Summaries	Instantly drafts a written report detailing the time, location, and nature of any triggered alarm.
Predictive Site Baseline	Learns normal daily activity and warns operators when unusual patterns start developing.

Deployment Options & Sectors

Can be hosted on localized on-premises servers, directly on the camera hardware (Edge computing), via scalable Cloud infrastructures, or as a secure Air-Gapped system completely isolated from the internet.



Primary Applications



Commercial Aiports



Banking and ATM lobbies



Heavy manufacturing plants



High-density shopping centers



Healthcare Facilities



Public spaces

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