

MVC-IVA-LT IVA Lite

Intelligent Video Analytics



Intelligent Video Analytics (IVA) Lite is the preferred solution for reliable video analytics in small and medium businesses, commercial buildings, and warehouses when short-range intrusion detection and enforcing health and safety regulations is essential.

The free of charge software efficiently detects, tracks, and analyzes moving objects, such as intruders. It offers advanced functionalities, including multiple line crossing, route following, loitering detection, idle and removed object detection, crowd density estimation, and people counting. Users can define object filters based on size, speed, direction, aspect ratio, and color. The software automatically distinguishes between object types for calibrated cameras, including upright person, car, bike, and truck. Furthermore, it enables users to record all object information and even create new rules post-event to quickly and easily search for relevant recorded footage.

Functions

Alarm and statistic tasks

The following alarm and statistic tasks are available:

- Detect objects within, entering, or leaving a single or multiple (up to three) areas in a specified order
- Detect multiple line crossings from a single line up to three lines combined in a specified order
- Detect objects traversing a route
- Detect loitering in an area related to radius and time
- Detect objects that have been idle for a predefined time span
- Detect removed objects

- ▶ Intrusion detection for small and medium businesses, commercial buildings and warehouses
- ▶ Enforcing health and safety regulations: blocked emergency exits, no-parking zones

- Detect objects with properties, such as size, speed, direction, and aspect ratio, that change within a configured time according to specification (for example, a person starts running)
- Count objects crossing a virtual line
- Count objects within an area and alarm if a predefined threshold is reached
- Combine tasks using scripts

Filters

IVA Lite can be configured to ignore specified image areas and small objects to enhance robustness. When used with calibrated cameras, it can automatically differentiate between upright persons, bikes, cars, and trucks. Furthermore, object size, two-way direction, aspect ratio, color, and speed filters can be used in any combination to create specific detection rules for objects. Statistics on object properties are stored and can be displayed for fine-tuning the object filters. Object properties can also be defined by selecting an appropriately similar object in the video.

Real-world size, speed, and location

IVA Lite includes the calibration possibility to transform 2D pixels into 3D real-world measures, including size, speed, and geolocation of objects for tracking use cases.

Object classes

When using 3D tracking modes, the following object classes are automatically determined based on size, speed, and shape:

- Person
- Bike

- Car
- Truck

Tamper detection

The built-in tamper detection generates alarms on camera blinding, hooding/masking, defocusing, and repositioning.

Intelligence-at-the-edge concept

The intelligence-at-the-edge technology allows users to reduce bandwidth and storage in the absence of action and switch back to full image quality in case of video analytics alarms. Alarm conditions can be signaled by a relay output on the unit or an alarm connection to stream video to a decoder, or a video management system. Alarms can also be transmitted to a video management system to start extended alarm scenarios. As well as creating alarms, IVA Lite produces metadata describing the content of the analyzed scene. This metadata is sent over the network and may also be recorded with the video stream or used independently of the video stream. It includes the geolocation of objects, which means the position of tracked objects in map coordinates.

Forensic search

The recorded metadata can be used for a full forensic search in which the rules can be changed within the BVMS video management system, even after the fact. New tasks can be defined and adapted for each search, and the recorded metadata is then scanned and evaluated accordingly. Forensic search is very time efficient and can scan a huge recording database for events within seconds.

Intuitive graphical user interface

The setup is available via the Configuration Manager software. A wizard-based graphical user interface guides the user through the configuration. It provides all the necessary tools to set up IVA Lite and specify detection or counting tasks. All configuration options are visualized as feedback overlays and can be edited directly for intuitive configuration.

When movement is detected, the object is outlined in yellow on the display and its motion is displayed as a green trajectory. If an object and its motion match the rule conditions defined for one of the detector tasks, an alarm is created and the object outlines change to red. Additionally, an idle object is marked with [I] and a removed object is marked with [X].

Configuration

With minimal configuration, IVA Lite detects and alarms on any moving object in the scene. To achieve the best performance with respect to detection rate, detection

distance, and false alarm resistance, add calibration and switch to 3D processing. More complex setups are also supported: Up to 16 independent tasks can be set up in the GUI, and the alarm objects for each task can be restricted according to their properties. A task script editor is available for fine-tuning and combining predefined tasks.

Assisted calibration

The calibration uses internal sensors from the camera and user input. User input can be given by marking ground points on a map or by measuring heights and distances on the ground, for example, by marking a person walking through the scene. The calibration tool guides users through all necessary steps. It supports calibration from recordings, allowing a person to walk through the scene and be used as a known reference in the calibration process afterwards.

Regulatory information

Region	Regulatory compliance/quality marks	
Europe	AI Act	Self-declaration IVA Lite

Parts included

Quantity	Component
1	License

Technical specifications

Compatibility

For information on supported cameras, refer to the Bosch Design Hub:

<https://designhub.cbs.boschsecurity.com/>

Configuration

Configure IVA Lite with Configuration Manager, a free software available for download from this website:

<https://downloadstore.boschsecurity.com/>

Ordering information

MVC-IVA-LT IVA Lite

Free of charge reliable video analytics software for small and medium businesses, commercial buildings, and warehouses.

Order number MVC-IVA-LT



<https://www.boschsecurity.com>