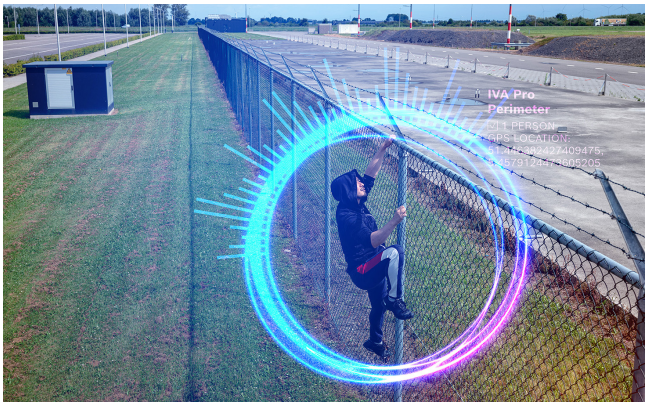
MVC-IVA-PER IVA Pro Perimeter

IVA Pro



- Reliable long-range intrusion detection alongside perimeters, even in extreme weather and challenging conditions
- Based on advanced background subtraction for reliable detection of moving objects, including crawling persons
- Easy configuration and calibration

Intelligent Video Analytics (IVA) Pro Perimeter is well-suited for reliable long-range intrusion detection, alongside perimeters of buildings, energy facilities, and airports even in extreme weather. Based on advanced background subtraction, it can detect crawling, rolling, and other suspicious movements inside, outside, and under various environmental and lighting conditions while minimizing false triggers.

Functions

Mission-critical, long-range intrusion detection
IVA Pro Perimeter is based on advanced background subtraction and optical flow analysis and is highly sensitive to directed motion. It detects professional intruders who roll, crawl, or camouflage themselves. The detection distance of IVA Pro Perimeter is two times the detection distance of IVA Pro Buildings and IVA Pro Traffic. It also intelligently adapts to challenging situations like lighting differences or environmental conditions, such as rain, snow, clouds, blowing leaves, and shaking cameras.

Additional tracking modes
IVA Pro Perimeter provides dedicated tracking modes optimized for the following tasks:

Tracking mode	Description
Perimeter tracking (2D)	Intrusion detection
Perimeter tracking (3D)	
People tracking (3D)	Counts persons and works best with top-down camera views, and when only persons are in the scene
Museum mode (2D)	Alarms on persons reaching towards monitored objects, without them having fully entered the restricted zone
Ship tracking (2D)	Detects and tracks any ships actively moving through water

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

- Person
- Bike
- Car
- Truck

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) defined detection zones in specified sequence or timing
- Detect multiple line crossings from a single line up to three lines combined in specified sequence or timing
- Detect objects traversing a route
- Detect loitering in an area related to radius and time
- Detect objects that have started or stopped moving
- Detect left or removed objects
- Detect objects with properties, such as size, speed, direction, and aspect ratio, that change within a configured time according to specification
- 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 Pro Perimeter can be configured to ignore specified image areas and small objects to enhance robustness. 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 Pro Perimeter includes the calibration possibility to transform 2D pixels into 3D real-world measures, including size, speed, and geolocation of objects for tracking use cases.

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 Pro Perimeter 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.

Forensic search
The recorded metadata can be used for a full forensic search in which the rules can be changed within Bosch Video Management System (Bosch VMS), 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 Pro Perimeter 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 Pro Perimeter 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. Scenario defaults provide example configurations for the most common tasks. 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.

Autocalibration
IVA Pro Perimeter offers Autocalibration in combination with selected cameras. These cameras use AI technology to detect and analyze persons in the scene in order to determine calibration parameters. The calibration itself is therefore reduced to a single click, followed by the usual manual verification.

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.

Parts included

Quantity	Component
1	License

Technical specifications

Compatibility
For information on supported cameras, refer to the Bosch Video Product Selector:
www.videoselector.boschsecurity.com

Configuration
Configure IVA Pro with Configuration Manager, a free software available for download from this website: https://downloadstore.boschsecurity.com/.

Ordering information

MVC-IVA-PER IVA Pro Perimeter
Video analytics software for mission-critical perimeter security.
Order number **MVC-IVA-PER**

https://www.boschsecurity.com