Milesight AI Video Content Analysis

Value-added function caters for all of your needs

A Milesight Technology Moment

Introduction

The rapid development of security industry calls for the need of a more intelligent video monitoring. For the reason that a massive amount of video is being recorded, but hardly ever being reviewed, it is ordinary to miss suspicious behaviors. To avoid such events and activities being missed, Milesight propounds intelligent Milesight AI Video Content Analysis (VCA), an embedded application for the whole Milesight Network Camera series.

What is Video Content Analysis?

Video Content Analysis (VCA), also referred to Intelligent Video Analysis (IVA), is the capability of automatically analyzing video to detect and determine temporal and spatial events. The algorithms can be implemented as software on general purpose machines or as hardware in specialized video processing units. It automatically performs an analysis of captured video, and automatically uses the resultant data. This technical capability is used in a wide range of fields including entertainment, health-care, retail, automotive, transport, home automation, safety and security.

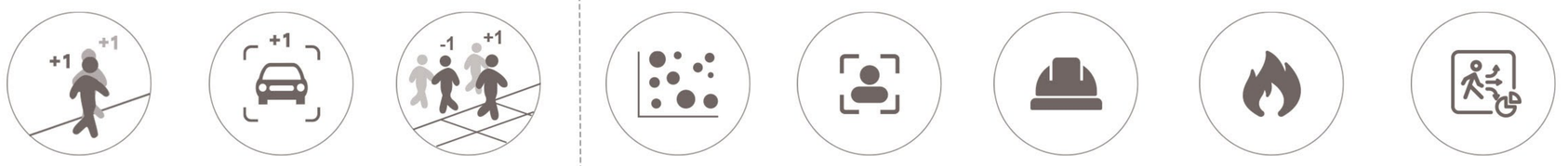
Milesight AI Video Content Analysis

Milesight AI VCA technology revolutionizes surveillance by empowering Milesight cameras with deep-learning AI algorithms. By intelligently filtering objects for human and vehicle detection, it ensures robust physical security while uncovering valuable trend insights. With timely alerts and data generated, this advanced technology also enables more efficient video security management and intelligent investigation, delivering heightened security capabilities to users.

Basic Events

Intrusion Detection | Region Entrance | Region Exiting | Advanced Motion Detection | Tamper Detection | Line Crossing | Loitering | Object Left | Object Removed

Advanced Events

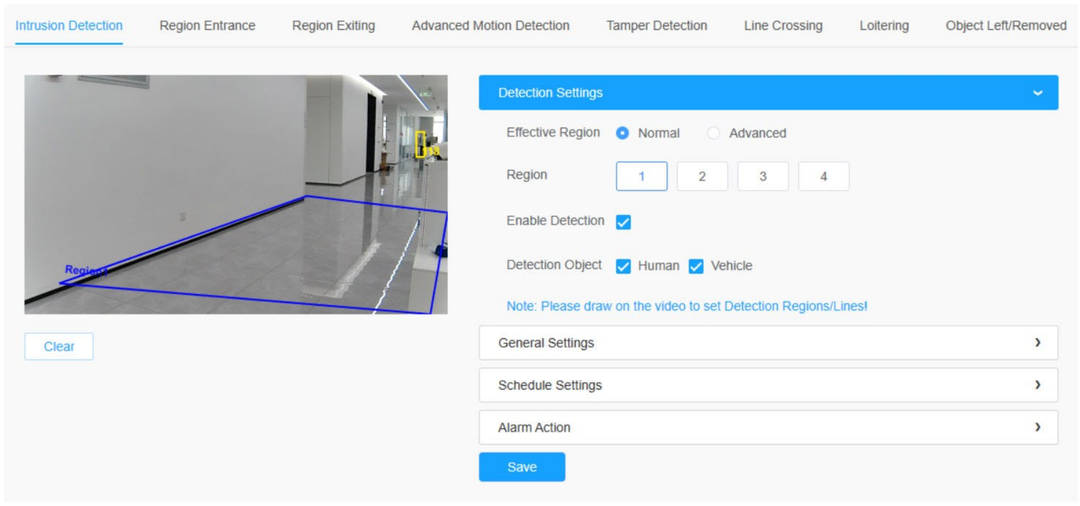


People Counting | Vehicle Counting | Regional People Counting | Object Counting | Heat Map | Face Detection | Hard Hat Detection | Fire & Smoke Detection | People Flow Analysis

1. Intrusion Detection

What is Intrusion Detection

Intrusion detection is used to protect a specific area from potential threats of intrusion by suspicious people or objects. Whether it is an intrusion from outside the region or a sudden appearance within the region, an alarm will be triggered.



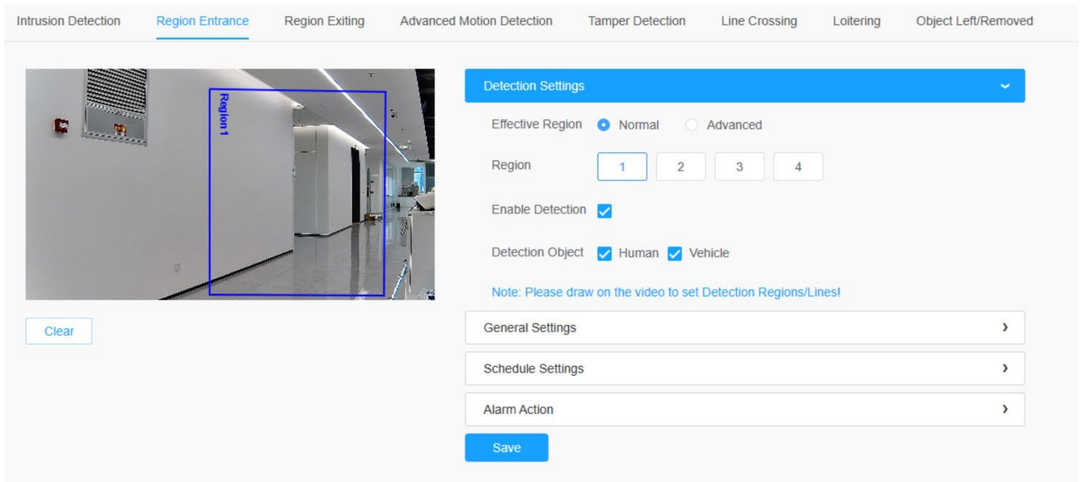
How to set Intrusion Detection

Enable Intrusion Detection and draw a region by clicking the mouse. 4 Regions can be set, and a human or vehicle can be selected for the detection object. The sensitivity for an object, which can trigger the alarm, is 0-10. The higher the sensitivity number, the easier it is to detect the target object.

2. Region Entrance

What is Region Entrance

Region Entrance helps to protect a special area from potential threat of suspicious person's or object's entrance. An alarm will be triggered when objects enter the selected regions by enabling region entrance.



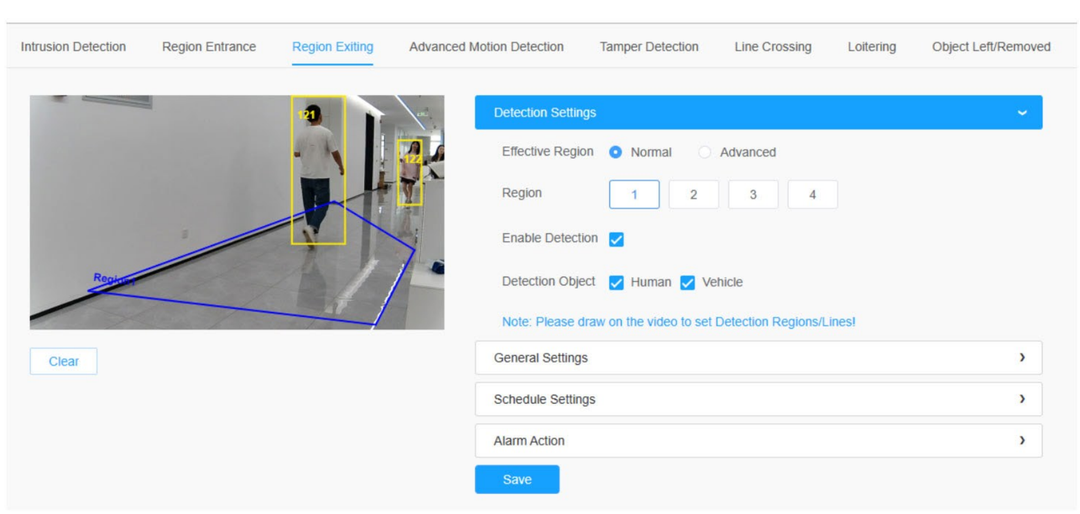
How to set Region Entrance

Enable Region Entrance Detection and draw a region by clicking the mouse. Any object enters into the region will trigger an alarm. Sensitivity Range for an object, which can trigger the alarm, is 0-10. The higher the sensitivity number, the easier it is to detect the target object.

3. Region Exiting

What is Region Exiting

Region Exiting is to make sure that any person or object won't exit the area that is being monitored. Any exiting of people or objects will trigger an alarm.



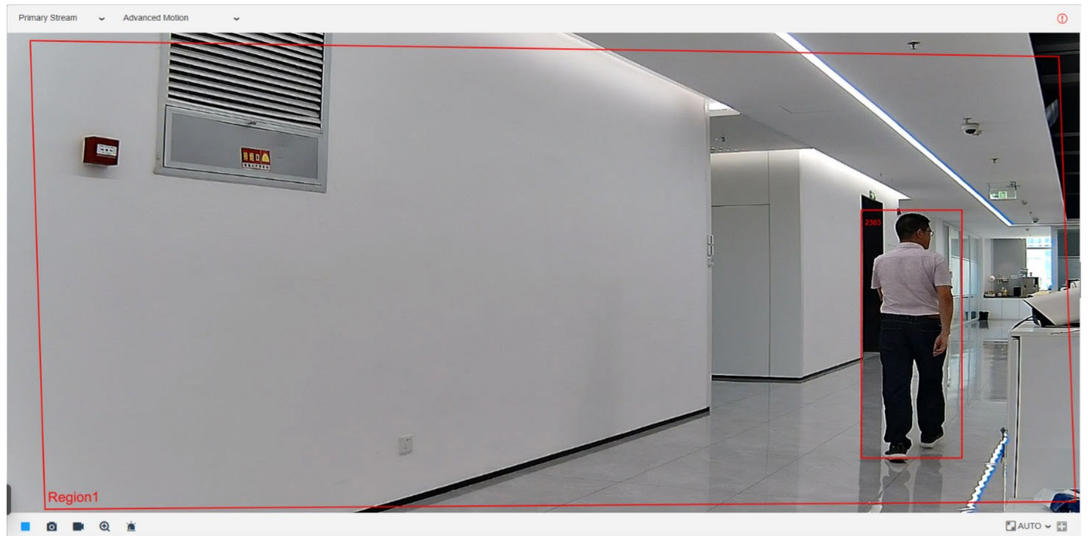
How to set Region Exiting

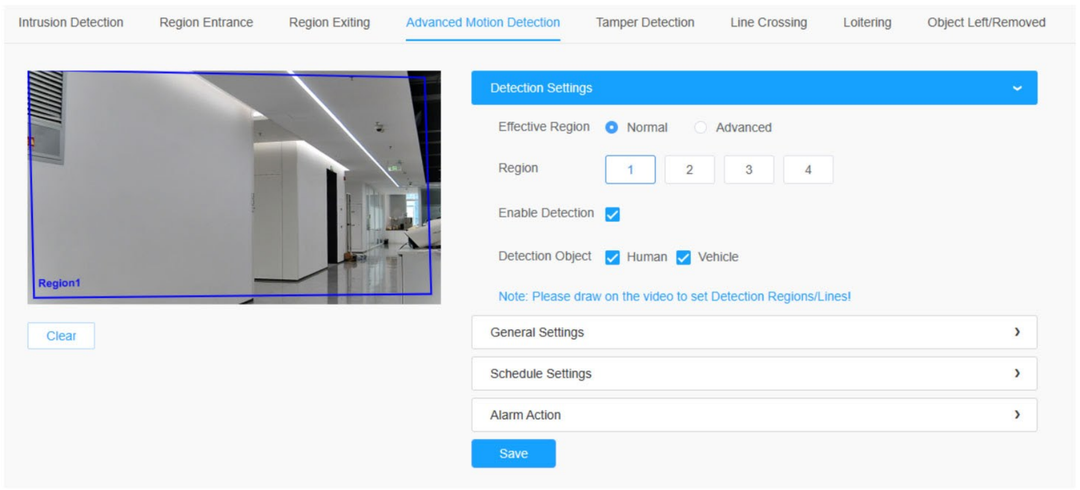
Enable Region Existing Detection and draw a region by clicking the mouse. Any object which exits the region will trigger an alarm. Sensitivity Range for an object, which can trigger the alarm, is 0-10. The higher the sensitivity number, the easier it is to detect the target object.

4. Advanced Motion Detection

What is Advanced Motion Detection

Different from traditional motion detection, Mileisight Advanced Motion Detection is a really intelligent one which can filter out “false alarms” such as lighting changes, natural tree movements, etc. When an object moves in the selected area, it will trigger an alarm.





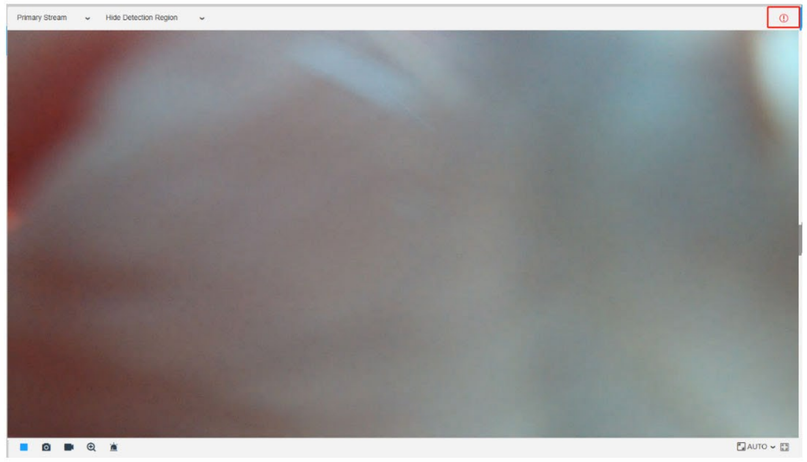
How to set Advanced Motion Detection

Enable Advanced Motion Detection and draw a region by clicking the mouse. The sensitivity can be configured to detect various movement according to different requirements. Sensitivity Range for an object, which can trigger the alarm, is 0-10. The higher the sensitivity number, the easier it is to detect the target object.

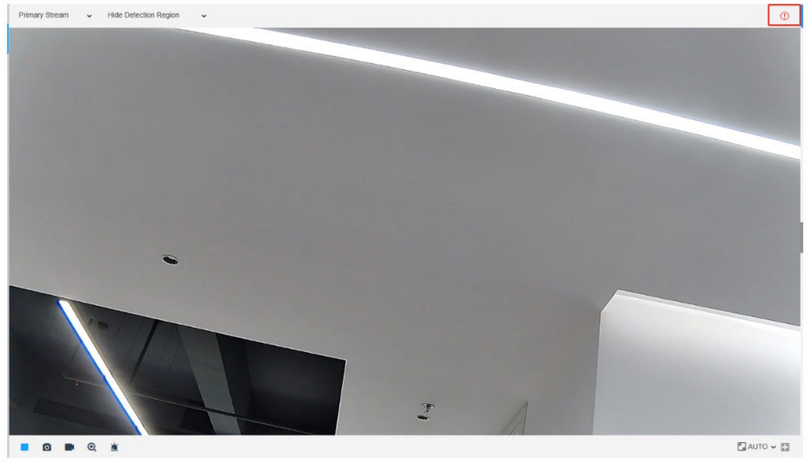
5. Tamper Detection

What is Tamper Detection

Tamper Detection is used to detect possible tampering like the camera being obstructed or moved. This functionality alerts security staff immediately when any above-mentioned actions occur. Support Defocus Detection in Tamper Detection. Defocus Detection, when the lens is unfocused/out-of-focus, it will trigger the Tamper Detection alarm.



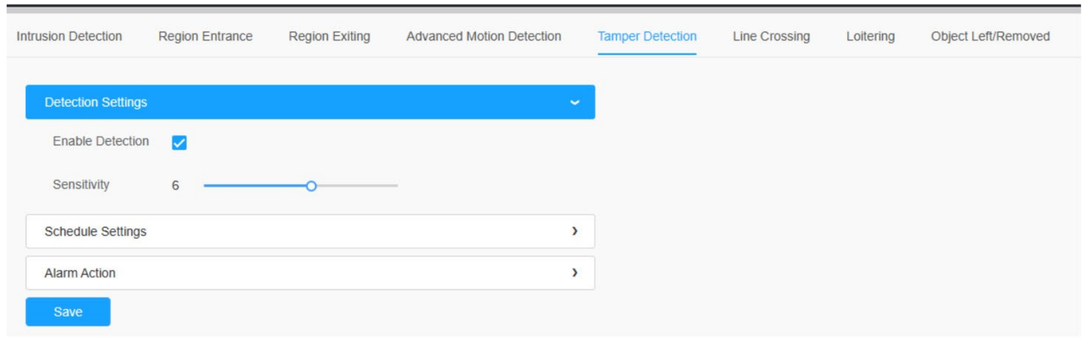
Camera Obstructed!



Camera Moved!

How to set Tamper Detection

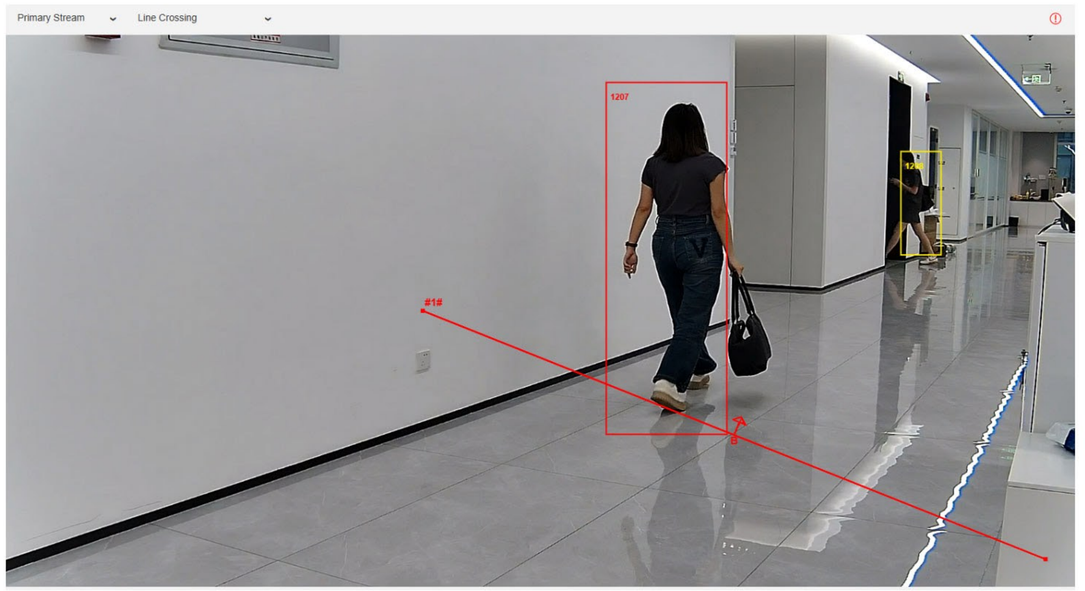
Enable Tamper Detection. Sensitivity Range for an object, which can trigger the alarm, is 0-10. The higher the sensitivity number, the easier it is to detect the target object.

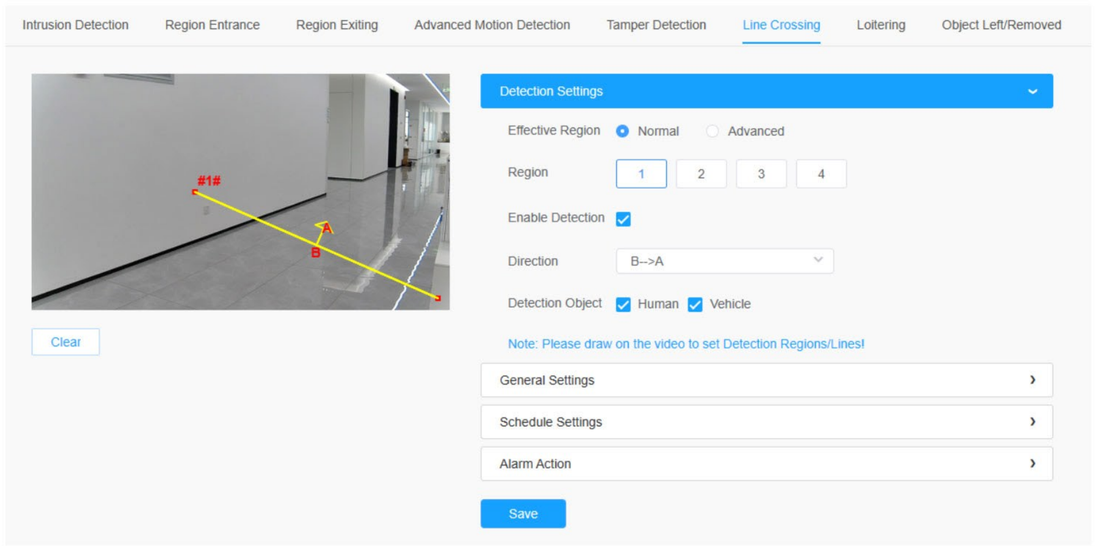


6. Line Crossing

What is Line Crossing

Line Crossing is designed to work in most indoor and outdoor environment. An event will be triggered every time when the camera detects objects crossing a defined virtual line. It is especially suitable for general monitoring of entrance and exit points in low-traffic areas, detecting objects that cross the defined virtual line.





How to set Line Crossing

Enable Line Crossing Detection. Click the mouse to draw a line in the monitoring view. Milesight allows to set up to four lines at a time. There are three direction modes to choose for triggering alarm. “A→B” means when there is any object crossing the line from the “A” side to the “B” side, the alarm will be triggered. “B→A” vice versa. “A↔B” means that the alarm will be triggered when objects cross line from either side. Sensitivity Range for an object, which can trigger the alarm, is 0-10. The higher the sensitivity number, the easier it is to detect the target object.

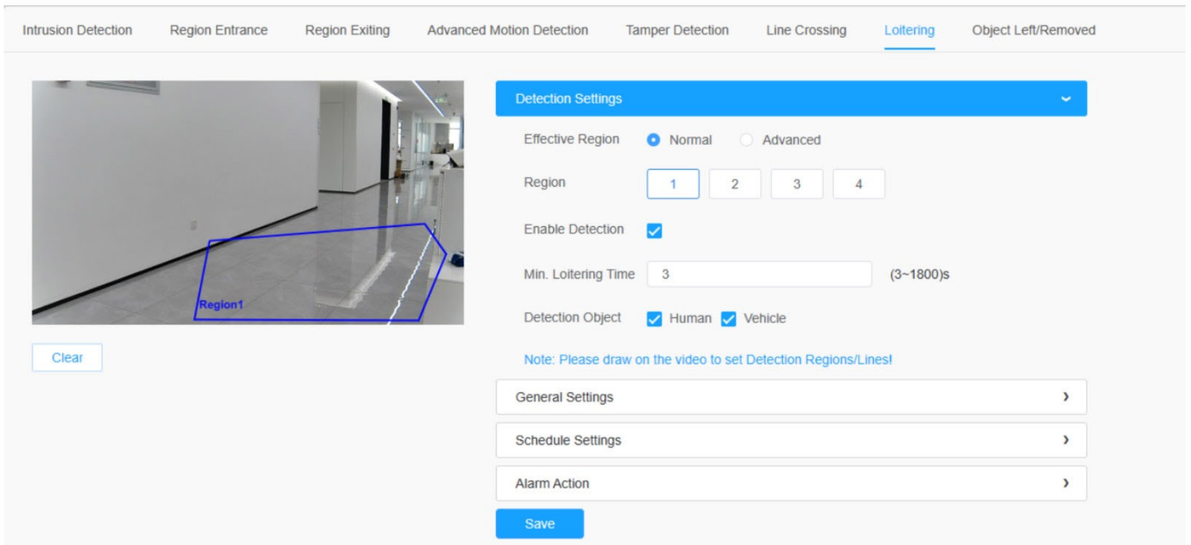
7. Loitering

What is Loitering

When objects are loitering in a defined area for a specific period of time, it would trigger an alarm. Illegal activities towards the places like retail stores and banks would be nipped in the bud thanks to this function.

How to set Loitering

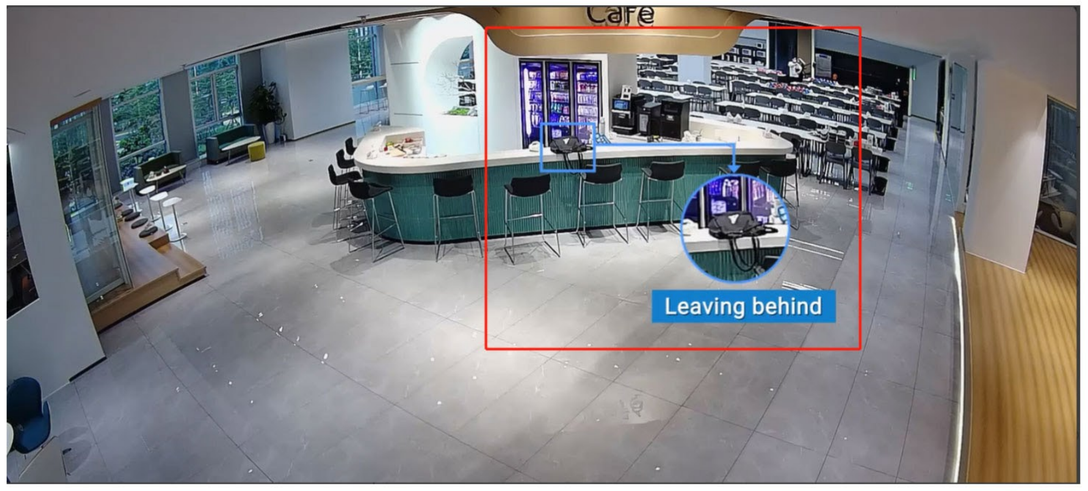
Enable Loitering Detection and draw an area in the view. After setting minimum loitering time from 3s to 1800s, any object loiters in the selected area over the minimum loitering time will trigger the alarm.

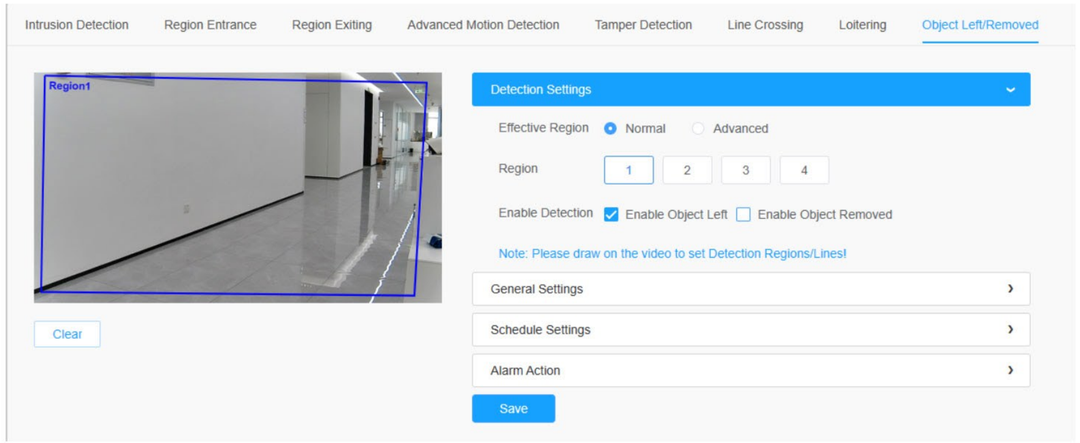


8. Object Left

What is Object Left

Object Left is used for checking whether there is something left in the selected area. If there is object left in the pre-defined area, an alarm will trigger.





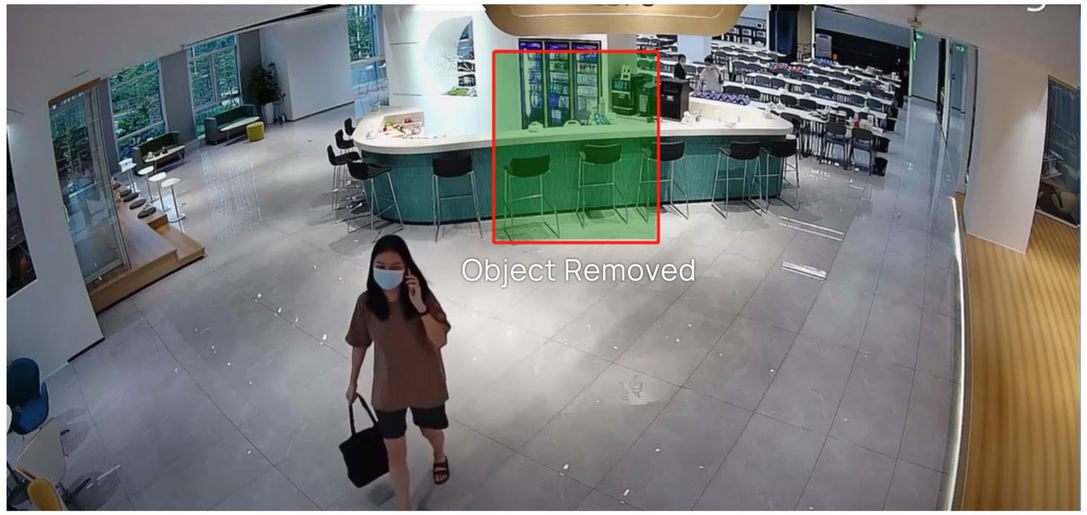
How to set Object Left

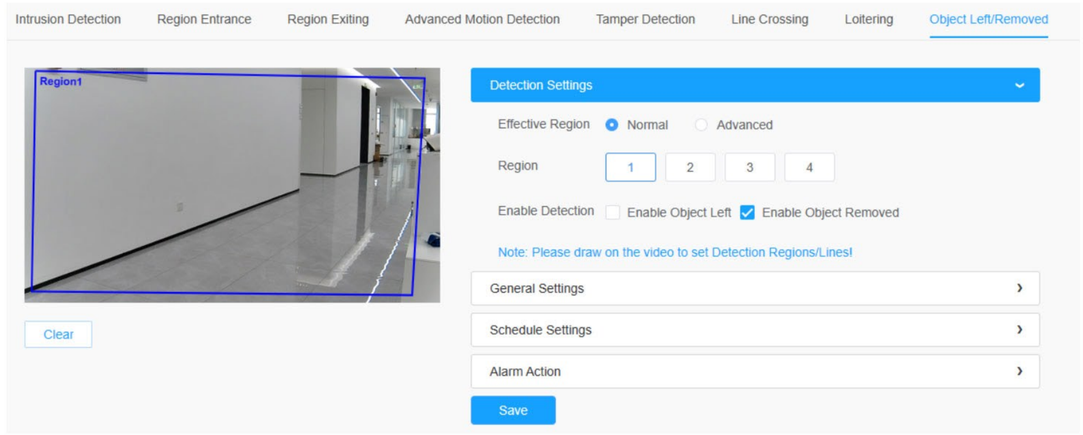
Enable Object Left Detection and draw a region by clicking the mouse. Any object left in the region will trigger an alarm. Sensitivity Range for an object, which can trigger the alarm, is 0-10. The higher the sensitivity number, the easier it is to detect the target object.

9. Object Removed

What is Object Removed

Object Removed is used to secure objects' safety. When there is an object removed from a pre-defined region, it will detect and prompt an alarm.





How to set Object Removed

Enable Object Removed Detection and draw a region by clicking the mouse. Any object removed in the region will trigger an alarm. Sensitivity Range for an object, which can trigger the alarm, is 0-10. The higher the sensitivity number, the easier it is to detect the target object.

10. Object Counting

What is Object Counting

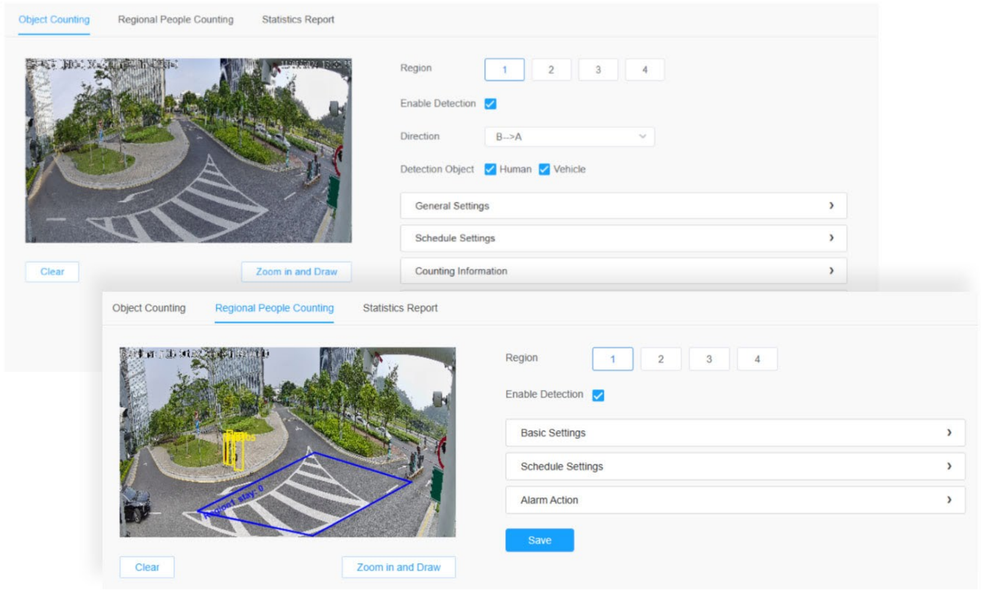
Object Counting supports counting the number of humans and vehicles crossing the line. Meanwhile, it can count how many people enter the region by enabling the regional people to count. There can be counts in four dimensions: In, Out, Sum, and Capacity.

How to set Object Counting

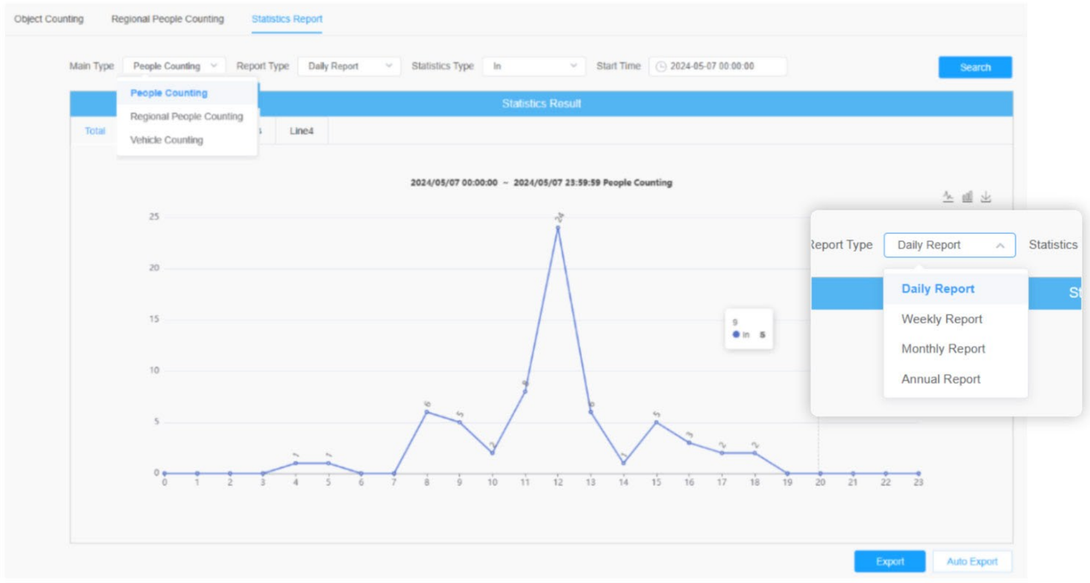
Enable Object Counting and draw the direction line by clicking the mouse, up to 4 lines can be drawn, the direction can be set as A→B or B→A. Importantly, select the detection object including human and vehicle.

Enable the Regional People Counting function if you want to count how many people are in the area. It can support displaying the duration of stay in the area.

For the line crossing detection and regional people counting, you can view the report daily, weekly, monthly and annual report in the Statistics Report interface.



Event Settings



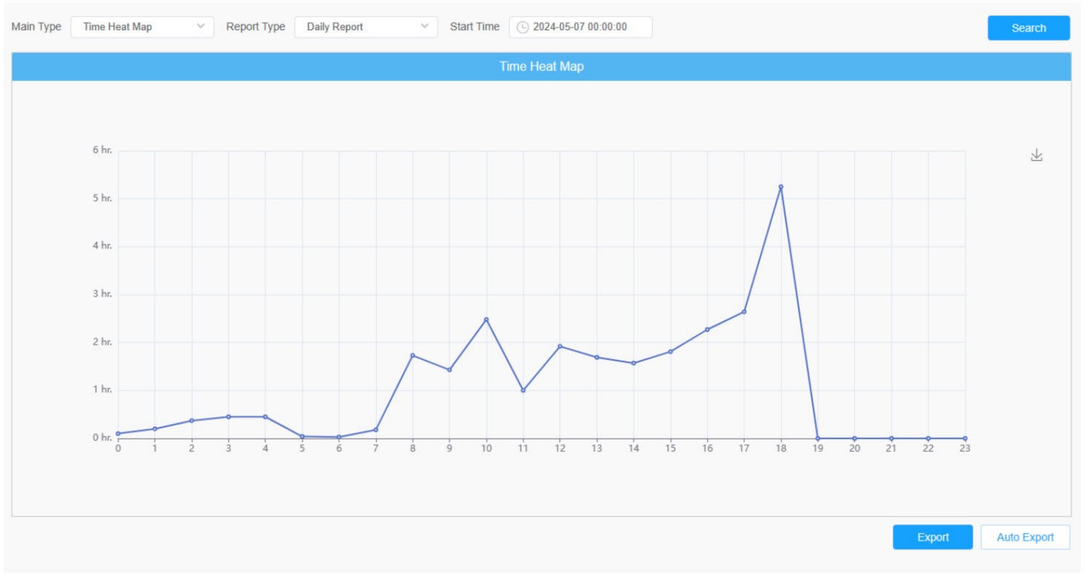
Statistics Report

11. Heat Map

What is Heat Map

Heat Map is an advanced function offered on Milesight Panoramic and Pro cameras series, which can be used to evaluate the traffic in populated areas, such as museums, highways, or amusement parks. In the Report interface you can get the space and time heat maps, as shown in the picture below.

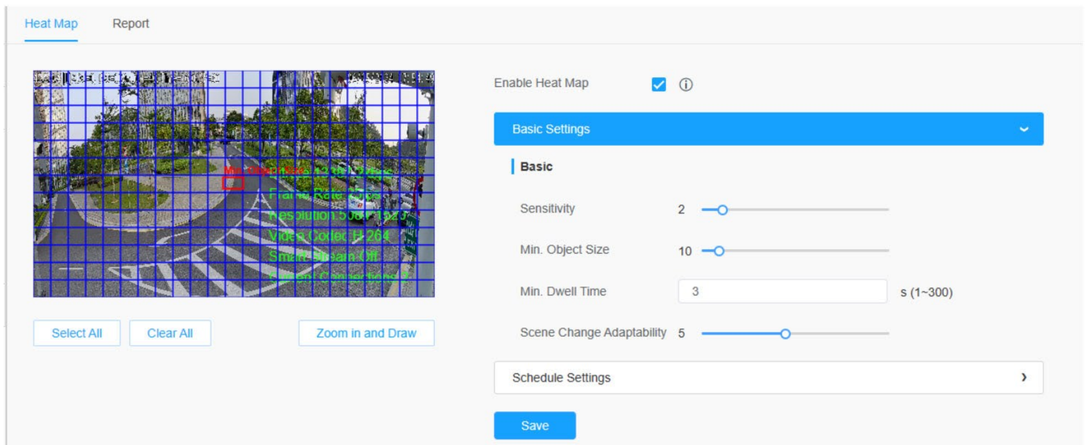
Space Heatmap



Time Heatmap

How to set Heat Map

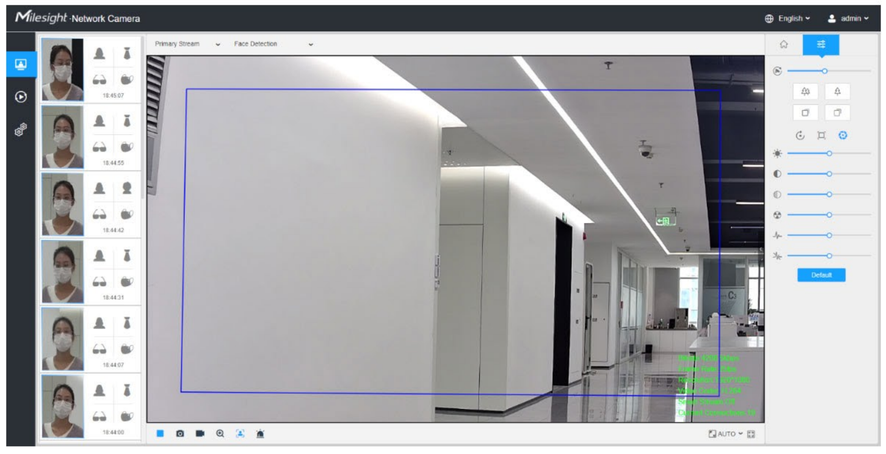
Enable Heat Map and draw a region by clicking the mouse. The sensitivity can be configured to detect various movements, you also can set the object size which is detected, the Min. Dwell Time means that if the time is exceeded, recognition will be triggered.

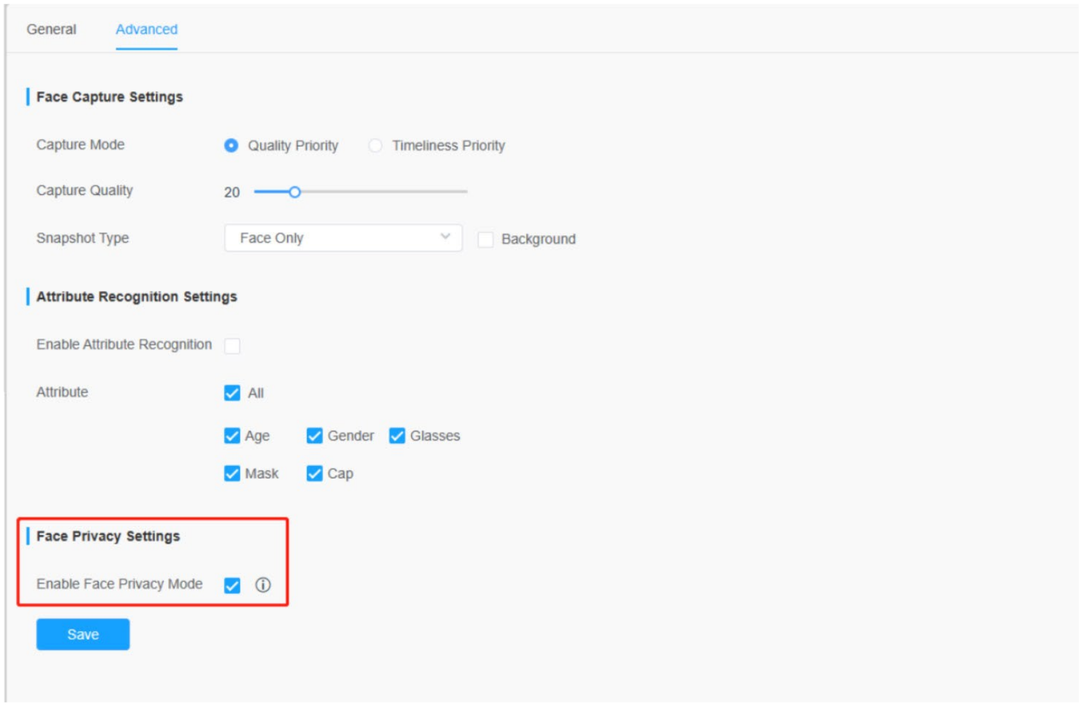


12. Face Detection

What is Face Detection

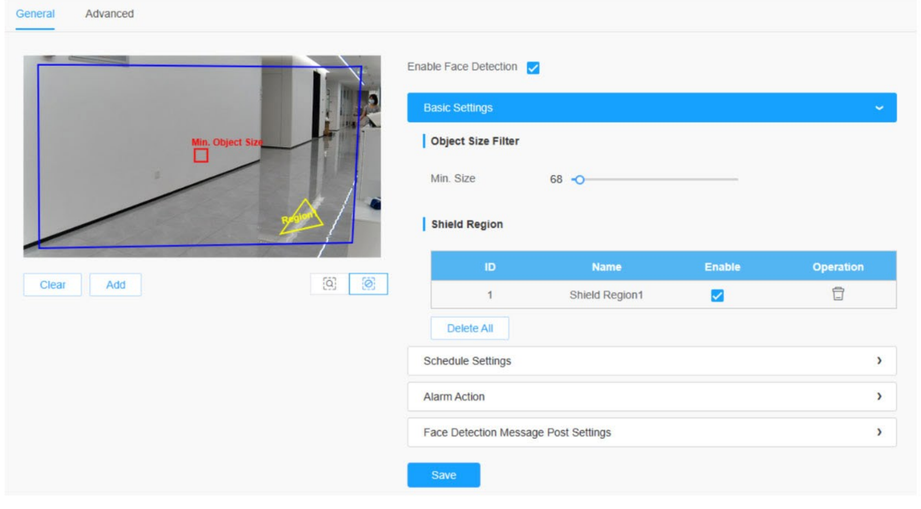
Face Detection function can support detecting human faces and recognizing face attributes, furthermore, it can support real-time face mosaic by enabling the face privacy mode. This function greatly enhances the monitoring efficiency and benefits such as public security, access control, and business management.





How to set Face Detection

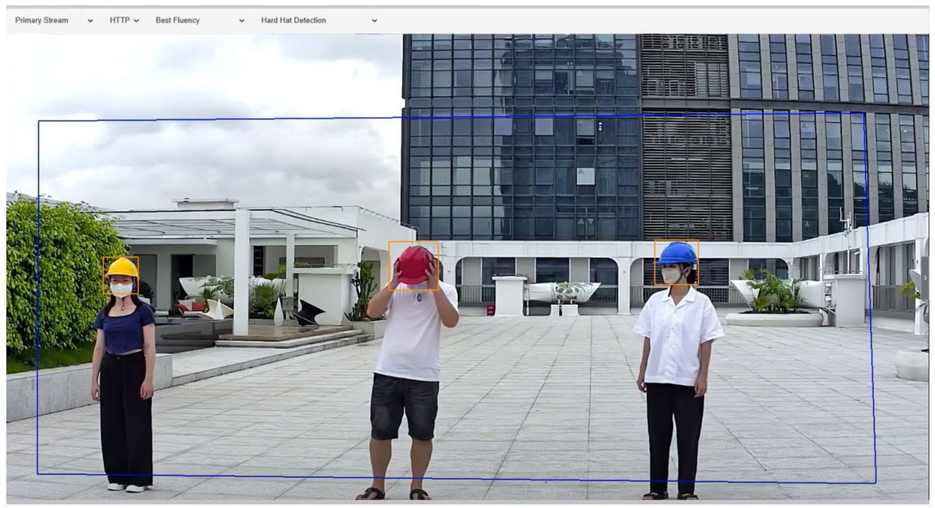
Enable Face Detection, draw a region by clicking the mouse, and set the Min.Size, when the object is less than the Min.Size that does not trigger the alarm. Face Mosaic can be enabled in the Face Privacy Mode of the advanced interface.

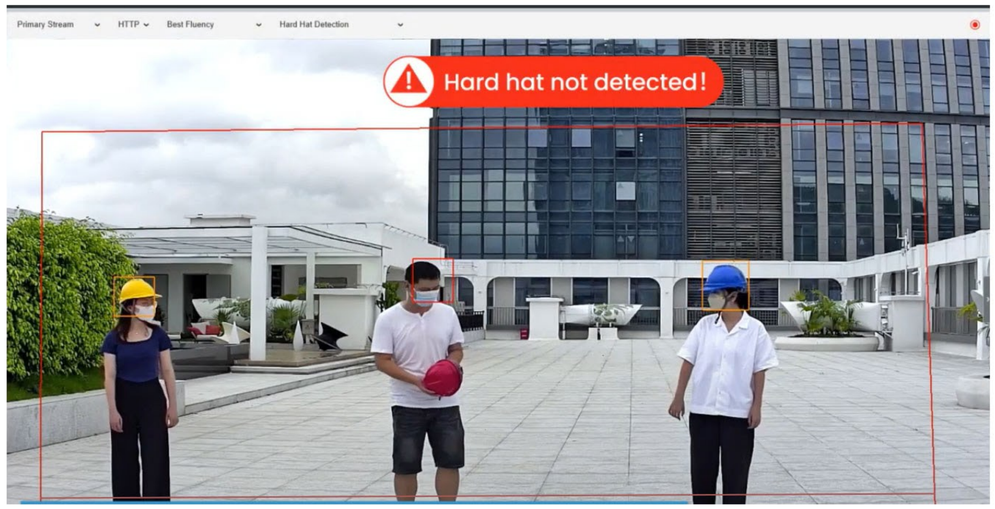


13. Hard Hat Detection

What is Hard Detection

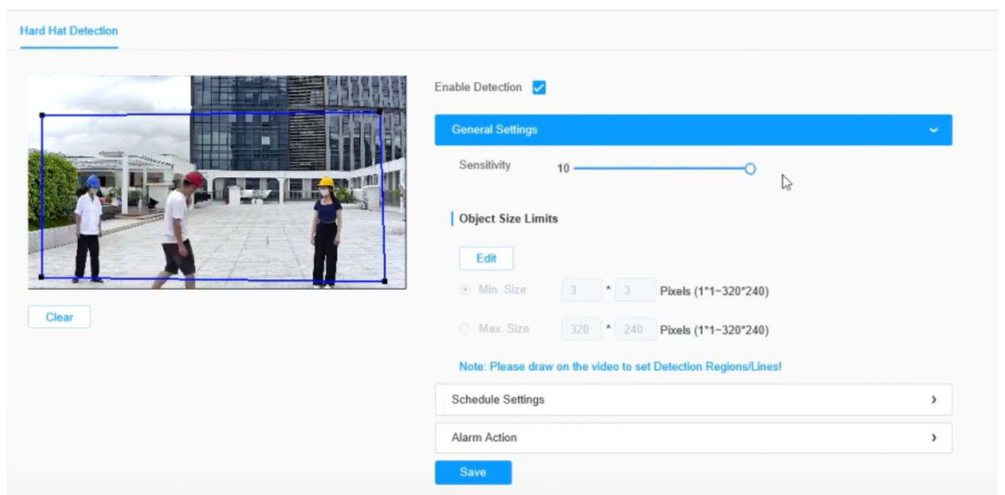
Hard Hat Detection ensures the safety of construction workers. After completing the corresponding settings, if a worker is detected as not wearing a hard hat, then the alarm action will be triggered, acting as a warning.





How to set Hard Hat Detection

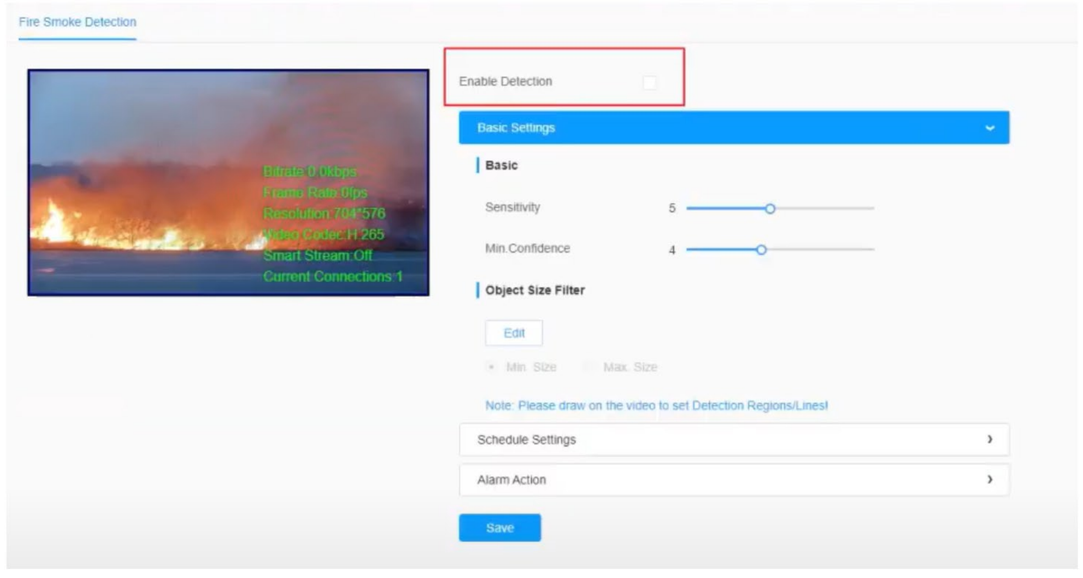
Enable Hard Hat Detection and draw the detection region as needed, also can configure the sensitivity to adapt to various movements. When the level of sensitivity is low, slight movement won't trigger the alarm.



14. Fire & Smoke Detection

What is Fire & Smoke Detection

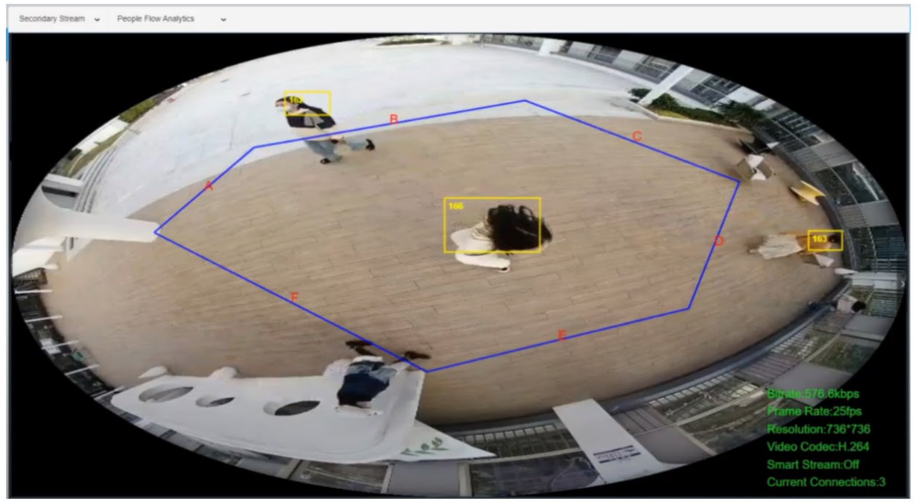
Fire & Smoke Detection function based on the image recognition algorithm can detect the earliest signs of fire incidents, enabling a rapid response to prevent potential disasters and delivering real-time alerts for swift action, effectively minimizing damage.



How to set Fire & Smoke Detection

Click the checkbox to enable Fire & Smoke Detection and set the sensitivity and Min.Confidence, the higher sensitivity means faster AI detection against omission, however, higher confidence means more focus on the object to prevent false detection.

15. People Flow Analysis

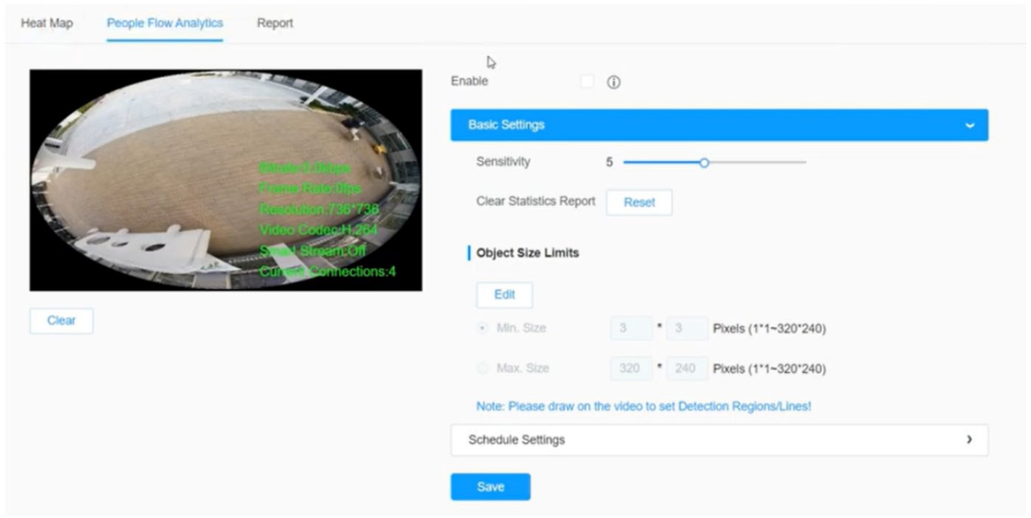


What is People Flow Analysis

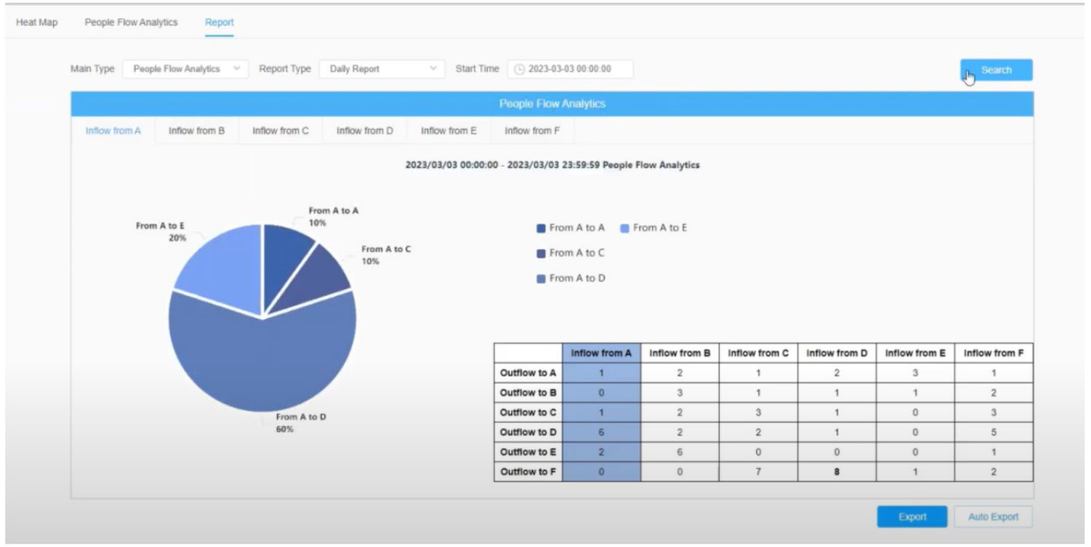
The people Flow Analysis function in Fisheye model can provide insight into the preferred areas of your customers. For example, you can easily find out which entrance gate has the highest traffic and the path customers take to navigate the store.

How to set People Flow analysis

Enable People Flow Analysis and draw the direction line by clicking the mouse, up to 6 directions can be drawn. Secondly, set the sensitivity to add the accuracy, also you can add the object size to improve results. In the Report interface you can view the people flow details by choosing different directions.



Event Settings



	Inflow from A	Inflow from B	Inflow from C	Inflow from D	Inflow from E	Inflow from F
Outflow to A	1	2	1	2	3	1
Outflow to B	0	3	1	1	1	2
Outflow to C	1	2	3	1	0	3
Outflow to D	6	2	2	1	0	5
Outflow to E	2	6	0	0	0	1
Outflow to F	0	0	7	8	1	2

Report

Note

To better use Milesight VCA, the viewing angle of the camera really matters. It is important to install the camera in a suitable postion to fully apply these smart detections such as vehicle detection and people counting.

Advantages of Milesight Video Content Analysis

· Detect suspicious activities immediately
· Provide pro-active operation
· Reduce workload for the staff

Conclusion

Milesight VCA embedded in Milesight Network Cameras ensures that video surveillance systems become smarter, more accurate, and more cost-effective. Through the functions, the operator can predefine situation detection which reduce a lot of workload. And the intelligent monitoring application is general as well as specialized for different industries, creating new end user benefits and opening up new business possibilities.

Make Sensing Matter

Milesight

Milesight offers multi-potential sensing products to capture the most meaningful data and makes it accessible across diverse applications. It innovatively applies emerging technologies such as AI, 5G, and IoT to distinct use scenarios. With a commitment to making sensing matter, Milesight quickly responds to customer-specific challenges and collaborates with an expanding network of partners to deliver unique data value. It is determined to make real, positive impacts in smart buildings, intelligent traffic, intelligent security, smart cities, and beyond.

For more information about Milesight, please visit our website www.milesight.com.

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