



# Bintelan Module – Abandoned Object

User Manual  
Version 5.0

# TABLE OF CONTENTS

1 Configuring the Abandoned Object Module.....2

    1.1 Creating the process.....2

    1.2 Manage Analytics .....4

        1.2.1 Basic Options.....6

        1.2.2 Drawing Options .....7

        1.2.3 Advanced Options.....8

        1.2.4 Video Options ..... 11

2 Alarm Viewer..... 12

    2.1 Alarm Viewer ..... 12

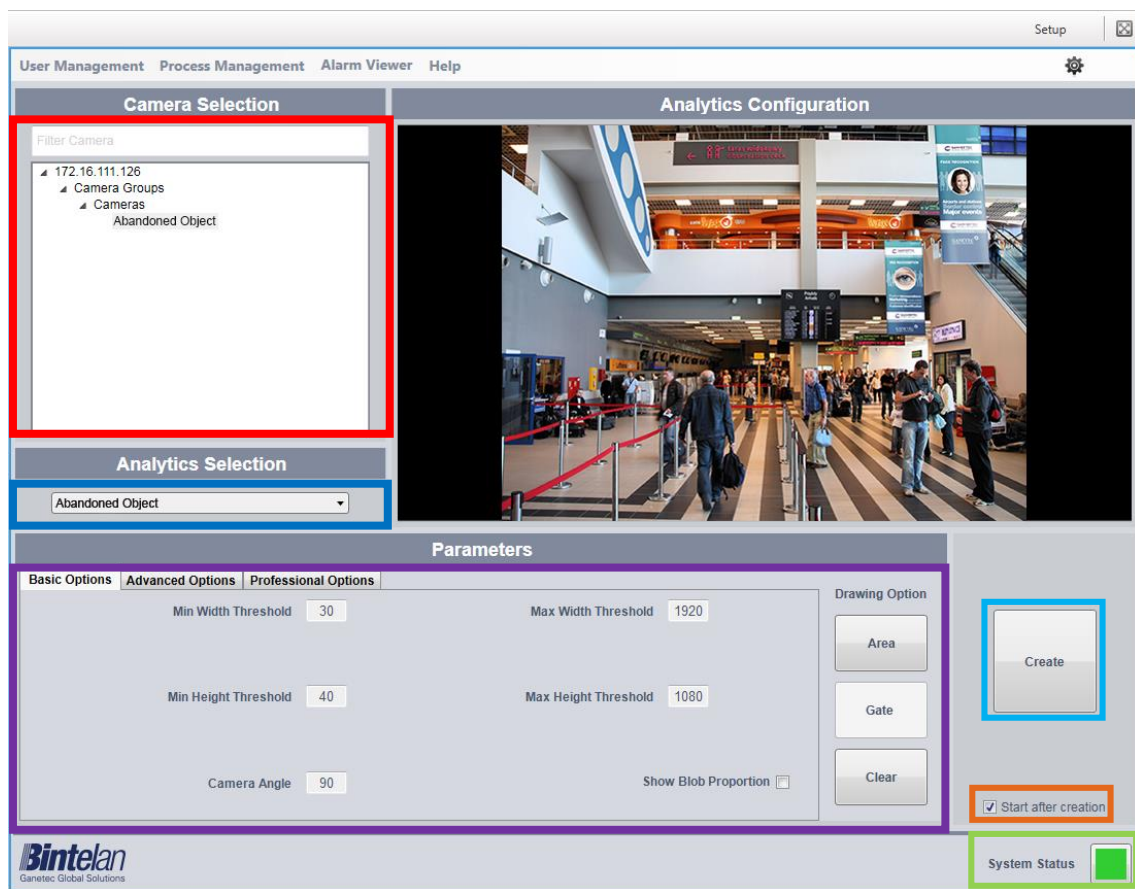
    2.2 Alarm Viewer of the VMS..... 15

For technical support contact our Support Department:  
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# 1 Configuring the Abandoned Object Module

## 1.1 Creating the process

The **Abandoned Object** video analytic is used to trigger alerts if an object is abandoned in a specific area more than a configurable time. In order to configure this type of video analytic, we must first **select the camera** and then **select the type** from a dropdown list. This selection will load its corresponding **configuration panel**. This panel contains three tabs: **basic** options, **advanced** options and **video** options.



Once all the parameters are correctly configured, including the Basic, Advanced and Video options, we must create a new process. As depicted in the above image, below the **Create** button is a checkbox labeled as **Start after creation**. This checkbox ensures, if selected, that the process will be initiated after its creation. If you prefer to manually start the process simply uncheck this option.

We can also check if the **global system state** is correct. Click on the colored square at the right of the message system status for additional details. There are three possible states of the system, represented by colors:

- **Ok:** all Bintelan Analytics Platform modules and services are working properly.
- **Warning:** one or more modules or services in the Bintelan Analytics Platform is showing a warning. Warnings do not affect the correct performance of the system, but should be verified and resolved to avoid future errors.
- **Error:** one or more of the modules or services in the Bintelan Analytics Platform is having problems. By clicking the icon you can check the source of the problem.

















## 1.2 Manage Analytics

Additionally, you can view and manage the processes created. Select the "**Manage Analytics**" from the "**Process Management**". You will obtain a detailed view of all the processes created and their current status. A process can have up to seven different states:

- **Launching**: the process has just been created.
- **Scheduling**: the process is queued and will start soon.
- **Initializing**: the process is starting and configuring.
- **Processing**: the process is running correctly. The process output should now appear.
- **Stopping**: the process is stopping.
- **Hold**: there something missing and the process cannot be started. Usually this happens when you need a hardware license to be placed in the Licenses folder under Bintelan installation path.
- **Failed**: the process could not execute properly. Check the logs or contact support.
- **Empty state**: if this field is empty the process is ready to be started. Currently the process is stopped.

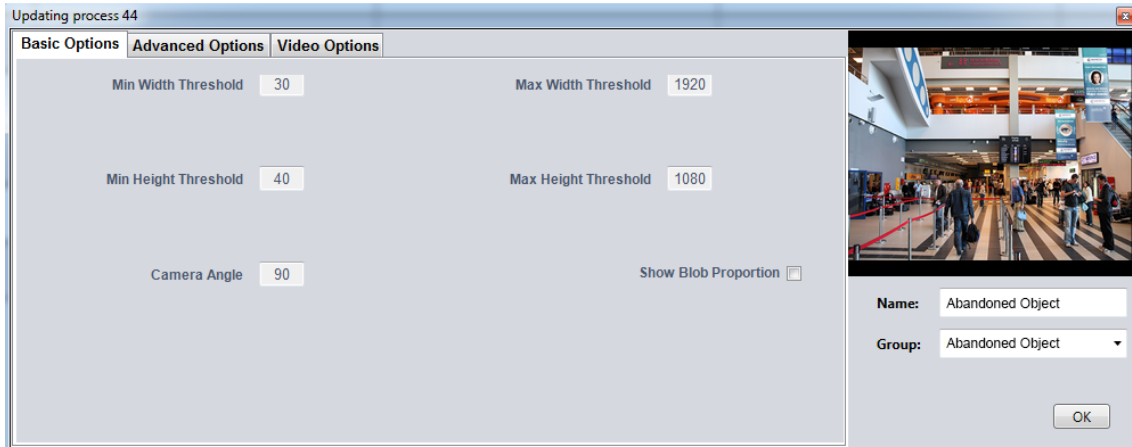


The screenshot shows a web interface with a navigation menu at the top containing 'User Management', 'Process Management', 'Alarm Viewer', and 'Help'. Under 'Process Management', there is a 'Start Analytics' section with a 'Manage Analytics' link highlighted by a blue box. Below this is a table with the following columns: 'Group', 'Analytic', 'Source', 'Status', and 'Options'. The table contains several rows of process data. The 'Options' column for each row contains four icons: a play button (Start), a square (Stop), a gear (Configure), and a cross (Delete). The 'Delete' icon for the 'Face Recognition - Enroll' process is highlighted with a red box. Other icons are highlighted with green, orange, and purple boxes.

	Group	Analytic	Source	Status	Options
<input type="checkbox"/> Select all					   
<input type="checkbox"/> Face Detection - Restaurant	Testing	Face Detection	Restaurant	Launching	   
<input type="checkbox"/> License Plate - LPR	Testing	License Plate	LPR	Scheduling	   
<input type="checkbox"/> Face Detection - Restaurant	Testing	Face Detection	Restaurant	Initializing	   
<input type="checkbox"/> Face Recognition - Enroll	Testing	Face Recognition	Enroll	Processing	   
<input type="checkbox"/> Intrusion - LPR	Testing	Intrusion	LPR	Stopping	   
<input type="checkbox"/> Area Counting - LPR	Testing	Area Counting	LPR	Hold	   
<input type="checkbox"/> Gate Flow - LPR	Testing	Gate Flow	LPR	Failed	   
<input type="checkbox"/> Face Recognition - Enroll	Testing	Face Recognition	Enroll		   

Furthermore, you can **Start**, **Stop** and **Delete** any process from this pane. You will only have to press the desired button in each case. You should take into account that you will only be able to delete a process if it has been previously stopped.

Moreover, you can also configure any process once it has been created. In this way you will be able to perform fine adjustments to the module in order to achieve better results or due to changes in the camera or the scene. To do so, click the **Settings** button, between the stop and delete buttons. A window containing all the module information will appear, as depicted in the next image. From it, you will be able to adjust all the parameters that correspond to the module selected.



## 1.2.1 Basic Options

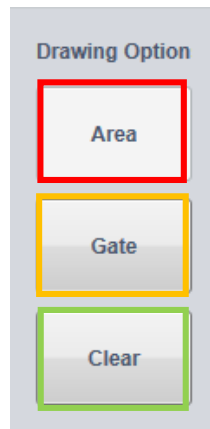
On the Basic tab, the following parameters can be configured:

Parameter	Value
Min Width Threshold	10
Min Height Threshold	10
Max Width Threshold	1920
Max Height Threshold	1080
Max Object Height	540
Show Proportions	<input type="checkbox"/>

- **Parameters:**
  - **Min Width Threshold:** used to define the minimum width of the detected object in the image (in pixels).
  - **Min Height Threshold:** is used to define the minimum height of the object detected in the image (in pixels).
  - **Max Width Threshold:** used to define the maximum width of the detected object in the image (in pixels).
  - **Max Height Threshold:** used to define the maximum height of the object detected in the image (in pixels).
  - **Maximum Object Height:** maximum height of the objects that can generate alarm (in pixels).
- **Visual Option**
  - **Show Blob Proportion:** when this option is checked, the size of the object is depicted with a green and a red rectangle. **Green** depicts the smallest size of the object while **red** the biggest.

## 1.2.2 Drawing Options

This panel is used to draw and manage the areas where the analytic wants to be in the scene.



- **Area:** to set up an area or zone where the detection of abandoned objects will be performed, follow these steps:
  1. Select the button **Area**.
  2. Draw the first point of the area in the image.
  3. Draw the remaining points of the area (at least 2 more).
  4. You can now select the following options:
    - a. **Clear:** Deletes the area that is being drawn and returns to the initial state (before step 1).
    - b. **Finish:** continue with the setup process (step 5).
  5. Insert the area name, this name is used to identify the area in the Intrusion alarm list.
- **Gate:** this option is disabled for the Abandoned Object module.
- **Clear:** Deletes the last door or area configured.



## 1.2.3 Advanced Options

In the advanced settings tab you can configure more specific parameters of the module type selected.

Basic Options	Advanced Options	Video Options
	Update Window (sec)   10	Sens Threshold   500
	Background Reset Percentage   0.5	Background Reset Mode Interval (sec)   0
	Horizon Height   0	Blob proportion   1
	Min Persistence (sec)   0.8	Max missing (sec)   0.1
	<input checked="" type="checkbox"/> Use Shadow Removal	

- **Background parameters:**

This section describes the low-level parameters related to updating the background image. These parameters must be set according to the "noise" of the scene, and to the areas within the image, such as vegetation on a windy day or an undulating water flow surface, which the algorithm should not identify as moving objects. If the scene is very noisy (usually outdoors), a faster update of the background is recommended ("Refresh Window" with a lower value) and higher sensitivity ("Threshold Sensitivity" high). On the other hand, if the scene is not noisy (as an indoor scenario), a slower update of the background may be required ("Refresh Window" with a higher value).

- **Update Window [sec]:** time to update the temporal background window (default 10 seconds).
  - The background starts to assimilate the scene changes, when a greater value than one third of this parameter is achieved. For example, if this value is set to 10 seconds, then after three seconds of background changes, the new background begins to merge these changes with the stored background. Additionally, if an object stands still for a minimum time equal to the value of this parameter, it ends up being completely assimilated by the reference image of the system. Therefore, it will belong to the background image.
- **Sens Threshold:** minimum sensitivity for foreground segmentation (default 500).
  - The system compares each image acquired by the video stream, with a reference image (background) in order to detect objects within the

scene. The reference image is generated by a statistical pixel, in order to work in a very "noisy" scene (such as vegetation in a windy day, the undulating surface of a water flow, etc ...) and continually updating the reference image.

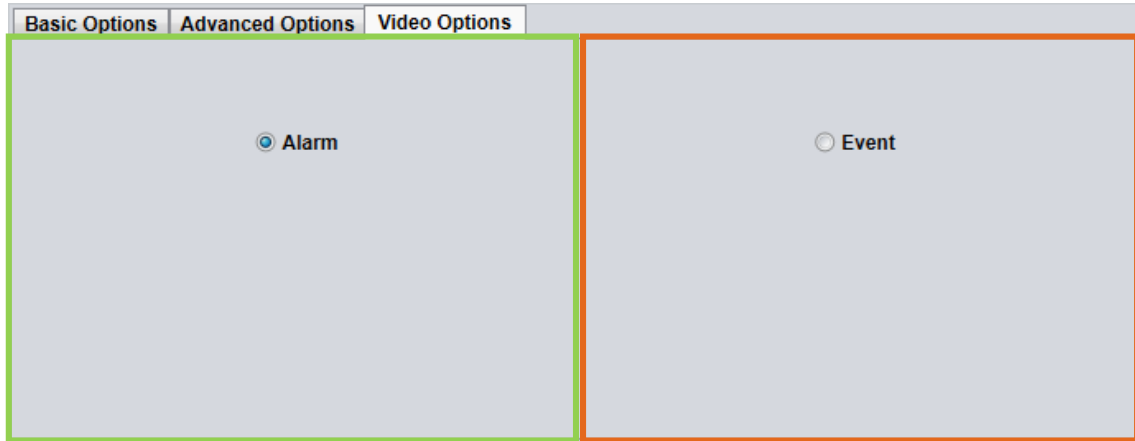
- The minimum sensitivity value is the minimum difference with which a pixel of the image is classified as part of the foreground. However, if the background is non-stationary, the threshold is affected by the "noise level" of this pixel. Thus, in the case of "too complex" scenarios, the minimum threshold set with this parameter, can be automatically increased by the processing algorithm. For example, in areas within the image where there is a greater variation per unit / time.
- **Background Reset Percentage:** fraction of the reset threshold background (default 0.5).
  - If the difference between the number of pixels from the image acquired by the video stream and the reference image (background), is greater than the resulting quotient (for example, more than half the default value), the background image is updated. This threshold parameter describes the difference between these two images. It also helps to detect some sudden light changes, like a light turn on (indoors), or if a cloud passes in front of the Sun (outdoors).
- **Background Reset Mode Interval [sec]:** With this parameter you can determine how long the system can remain in reset mode. This means that once the background is in reset mode, the module will remain in this mode for the amount of time the user has established (default 1).
- **Use shadow Removal:** enabled by default.
  - With the "Shadow Removal" option, you can enable a video processing module to minimize the introduced noise by the shadows in the scene. Its use is recommended for outdoor scenes where there may appear long pointed shadows that can affect the correct object detection.

- **Parameters proportions:**
  - **Horizon Height:** used to set the boundary for the calculation of the object proportion (see next item).
  - **Blob proportion:** this ratio is related with the depth of field of the scene. For example, if the value is 5, then the object in the horizon is 5 times smaller than an object at the bottom of the image (default 1).
  
- **Tracking parameters:**
  - **Minimum persistence [sec]:** time interval that must elapse before a detected object is associated with a new tracking algorithm. Note that only the objects followed by the system can send alarms (default 0.8).
  - **Maximum missing [sec]:** time period that the algorithm requires to eliminate the tracking associated with a particular object (default 0.1).



## 1.2.4 Video Options

In the video options tab you can change some settings specific from the VMS and/or the output types of the module.



- **Alarm or Event:** we can select the output type of the process, through an alarm or event. This distinction is useful when working with Milestone because if we select the alarm option we avoid creating a specific event for each door or area.

**NOTE:** Please note that the video options are only available if you are working with a VMS that supports them. When working with the Client StandAlone, this tab is not available.

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## 2 Alarm Viewer

The visualization of the alarms can be performed in two ways:

1. Through Bintelan **Alarm Viewer**, located within the Bintelan Client platform.
2. Through the **VMS Client** you are using after a correct configuration.

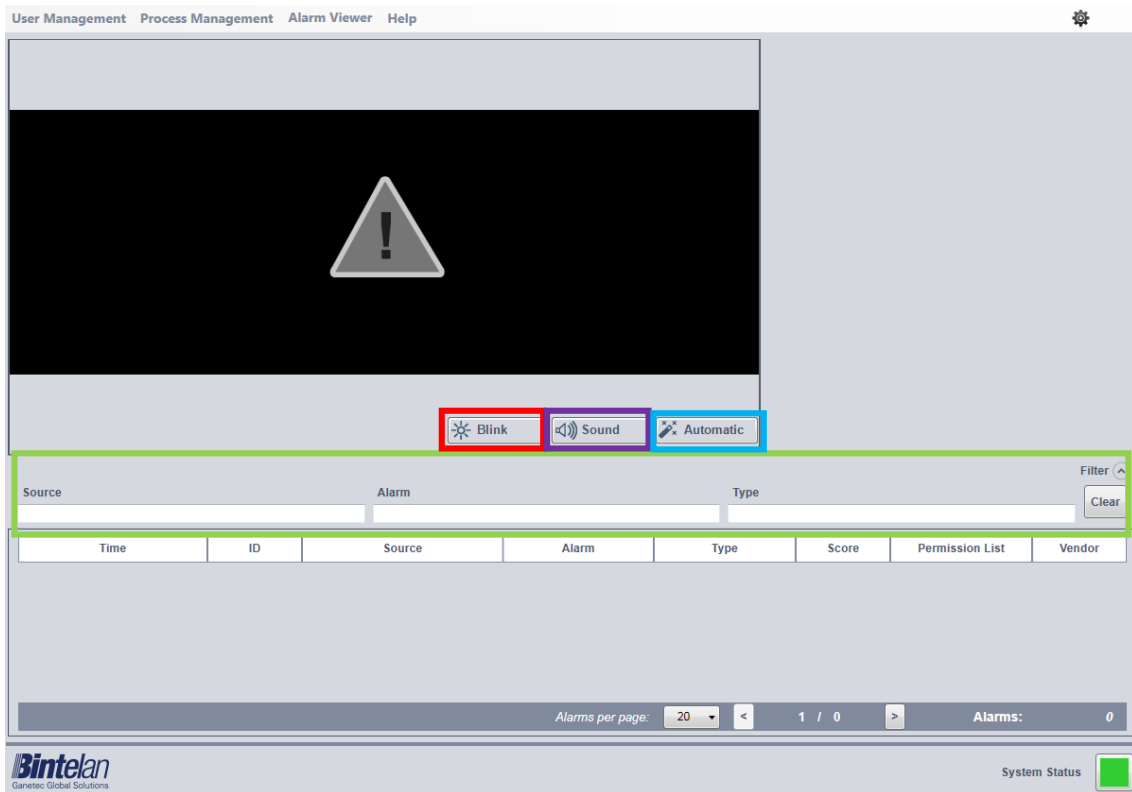
### 2.1 Alarm Viewer

Inside the Bintelan Client, both the StandAlone-and the specific ones from each VMS, you can view the generated alarms in the "**Alarm Viewer**" tab. On this screen, the information of the alarms is detail presented. The layout consists of three different areas. In the top left we have the image of the alarm, where a square highlights the source of it. In the case of using a video analytics involving recognition (facial or lpr), the square color will match its accuracy level (**Very Low** - **Low** - **Medium** - **High** - **Very high**).

Time	ID	Source	Alarm	Type	Score	Permission List	Vendor
12:51:35 18/03/2015	147	Abandoned Object	Object 19	Object	Very High		
12:51:34 18/03/2015	146	Abandoned Object	Object 19	Object	High		
12:51:34 18/03/2015	145	Abandoned Object	Object 19	Object	Medium		
12:51:33 18/03/2015	144	Abandoned Object	Object 19	Object	High		
12:51:27 18/03/2015	143	Abandoned Object	Object 19	Object	Medium		
12:51:26 18/03/2015	142	Abandoned Object	Object 19	Object	High		
12:51:20 18/03/2015	141	Abandoned Object	Object 19	Object	Very High		
12:51:15 18/03/2015	140	Abandoned Object	Object 19	Object	Medium		

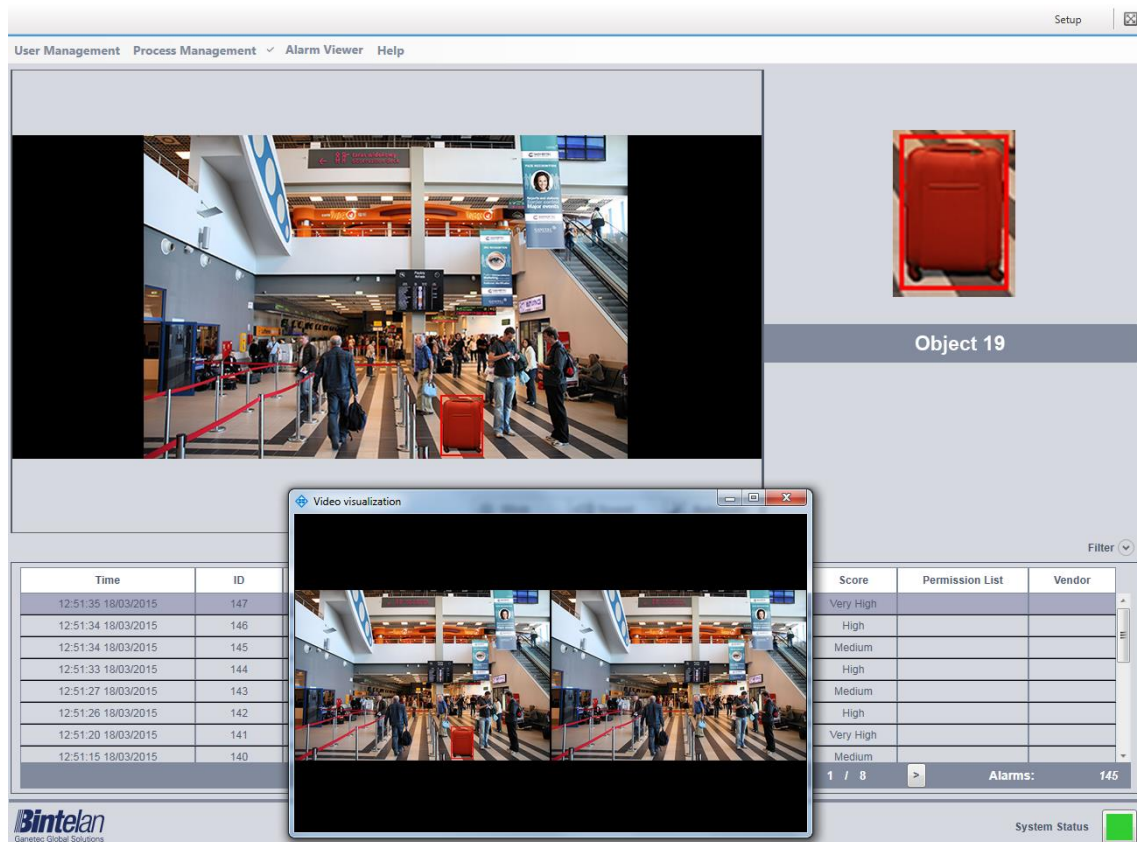
At the top right the information of the registered user is displayed. If you are using analytics involving detection, **an image** from the alarm will appear over this information.

Finally, under both screens is **the alarm list**, where the parameters of each alarm are depicted: date and exact time of the alarm, its identifier, its source (camera name), the object's name, the analytics type, accuracy, list (in case of recognition) and analytics provider. Additionally, it has an option to **filter the alarms**. Above the list, on the right, you can expand the options available to filter the alarms. You can filter by **source, alarm name or type**, using one or more of these options simultaneously.

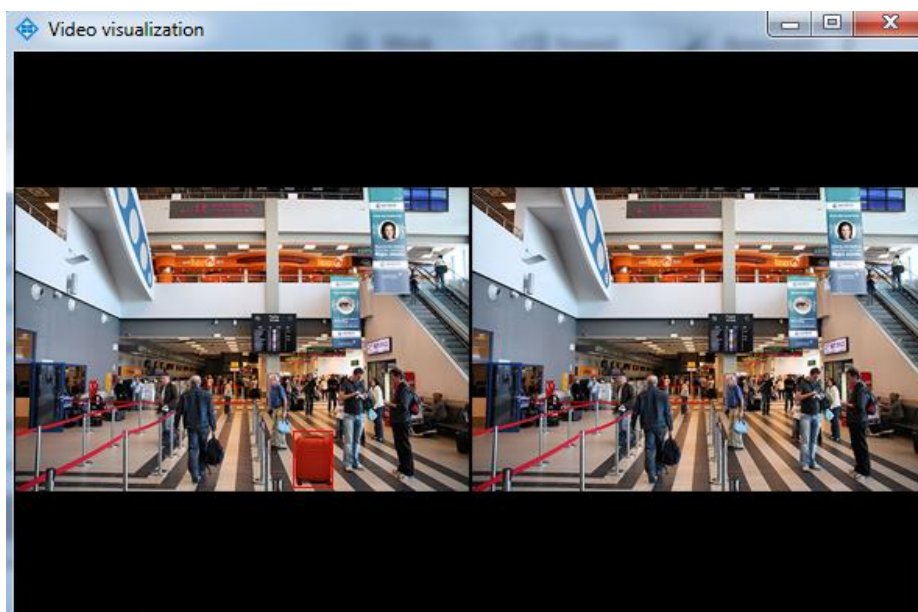


In addition, the "Alarm Viewer" has 3 operational modes, which can be activated by selecting or deselecting the buttons at the bottom right of the alarm image. The first mode is called **Blink**, it activates a red flashing border around the alarm image every time a new one is received. The second one, **Sound**, enables an acoustic signal after receiving a new alarm. The last mode, **Automatic** implies that the last alarm received is displayed on the image and in the information layout. These three modes can be selected independently or combined as the end user prefers.

Another option available in the "Alarm Viewer" is to see a small clip of 5 seconds before and 5 after of the alarm received, 10 seconds in total. To view this clip, double-click the alarm line that you want to see its detailed information.



Furthermore, a screen with two superimposed images will appear. The left image corresponds to **5 seconds before and 5 after of the alarm**. On the other hand, the right image shows the camera video that launched the alert in "Live" mode. Thus, this feature allows us to simply and intuitively review the received alarms.

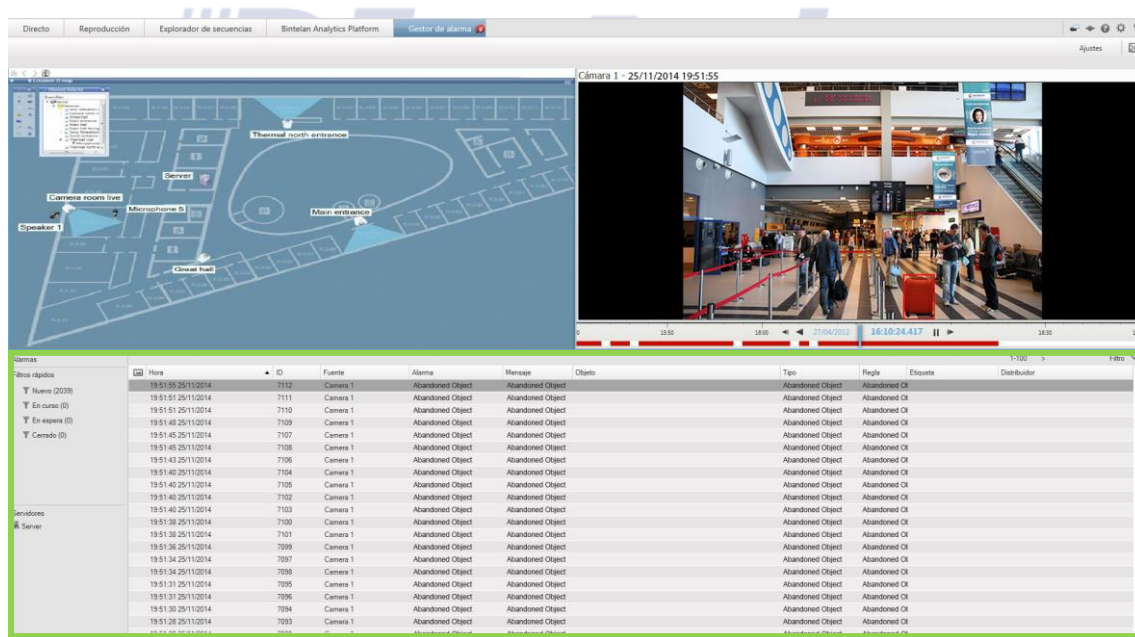


## 2.2 Alarm Viewer of the VMS

Within each VMS there are different options for viewing alarms. In this section it will be explained how you visualize if you are using the VMS from Milestone Systems.

Once inside the Milestone XProtect Smart Client and if you are using a version of Milestone XProtect Smart Client 7.0 or higher, the easiest way to view the information alarm is through the **Alarm Manager** tab. This panel is extremely useful as you can visualize and link both the alarm and its source location.

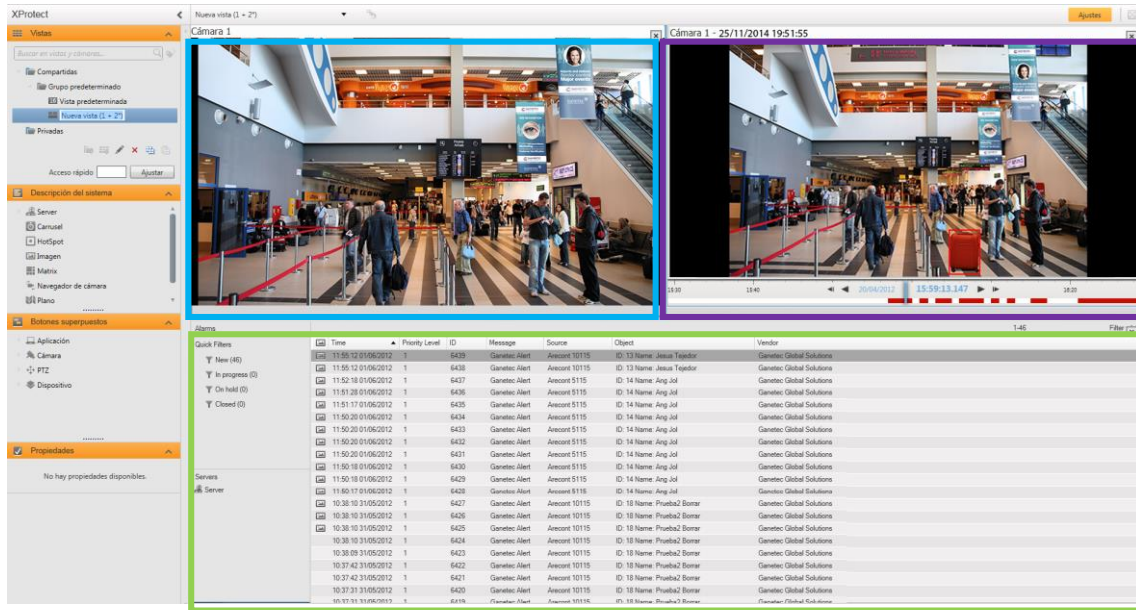
In the "Alarm Manager" you will see, in the upper left display, a map of the location of all the cameras. The alarm images are displayed in the right pane, depicting the alarm with a colored square. The square color will match your range accuracy level (**Very Low** - **Low** - **Medium** - **High** - **Very high**). The alarms list is found under both screens, where the different parameters of the analytic event are presented: the object name, camera model which has performed the event, date and exact time at which the alarm was triggered.



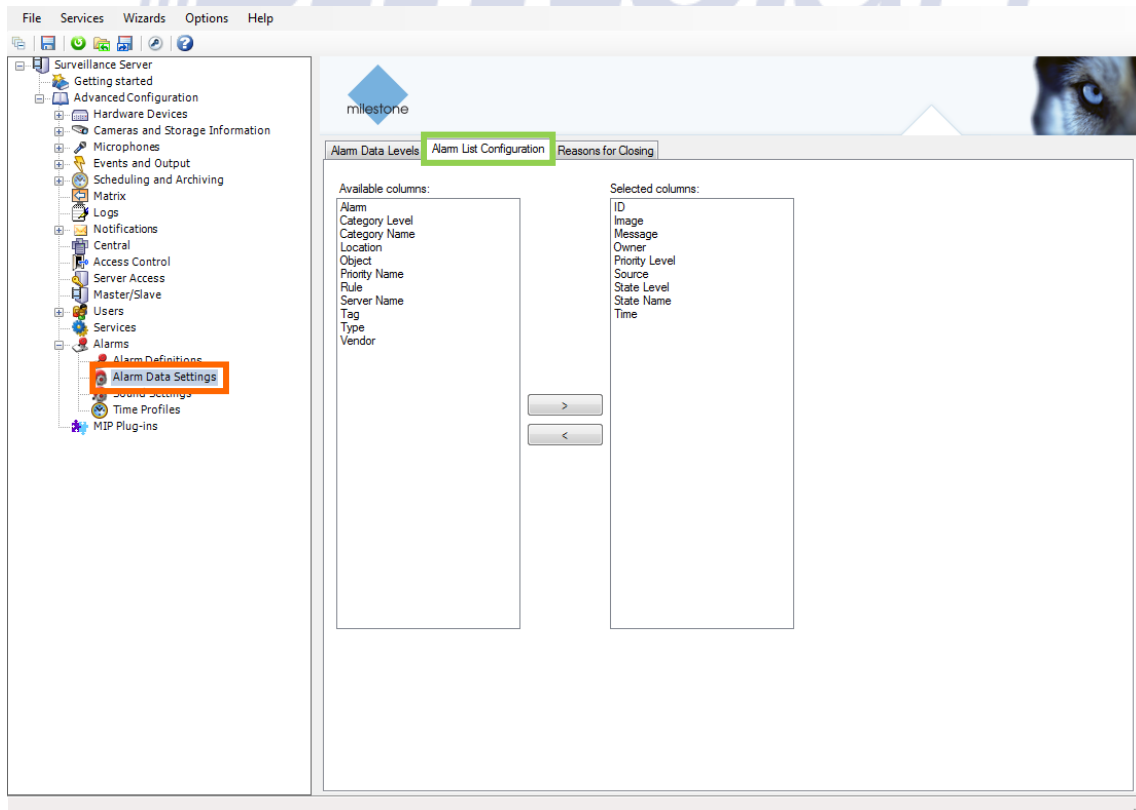
Additionally, to display the alarms, you can create your own alarm view within the "Live" panel. First of all, create a panel **1+2\*** and locate in the upper left panel [the live stream from the camera](#). Then, place in the upper right panel the [alarm preview](#) to finally position the [alarm list](#) on the bottom. This provides you with a suitable layout to check alarms in real time, both in "Live" and "Playback" modes. Also take into account that when you click each record you can view the pictures from the instant in which the alarms were generated. To



navigate between the two options you can simply change the selected tab ("Live" or "Playback"). In the next picture an example of the configuration described before is presented.



Finally, note that in order to display the fields in the list of alarms as in the previous examples, both panels must be configured from the **Milestone XProtect Management** application. To do this, select the **Alarms Data Settings** within **Alarms**, and then the **Alarm List Configuration** tab. Arrange the fields as described in the next image:





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