How to configure Intrusion Detection in FireFly 3.1
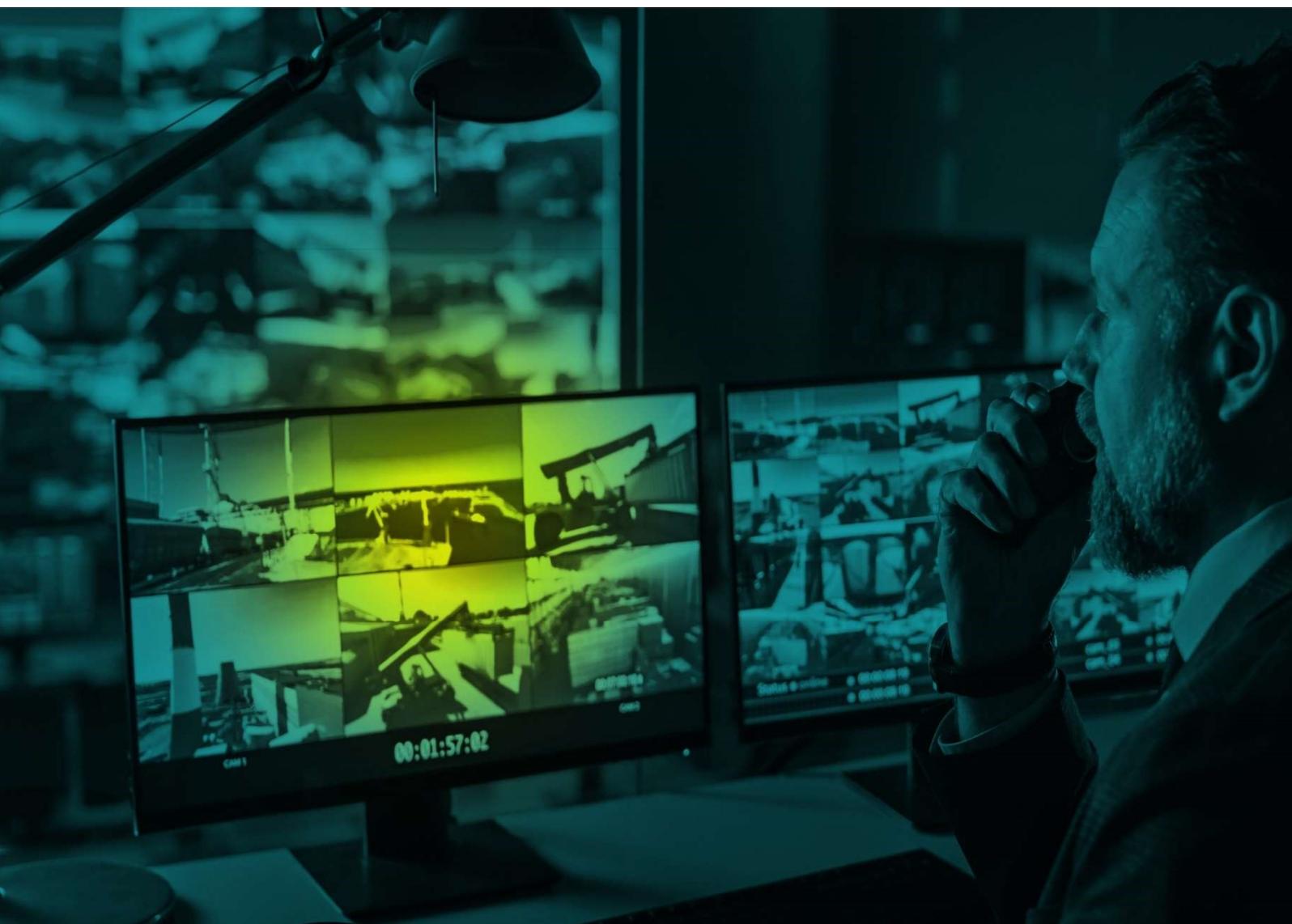
6 November 2024

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Content

1. Objective:

The purpose of this document is to guide our customers and users in how to configure your Firefly product to detect an intrusion using our video analytic TREX.

2. Track Changes:

| Date	Author	Description	Release
31/10/2024	PMC	All chapters changed	Draft

3. Prerequisites:

- Latest version of FireFly installed and up to date.

- RTSP video feed of the intended camera successfully added.

- Understanding: In the UI a Blue button means the feature is enabled.

- Understanding: In the UI a White button means the feature is disable.
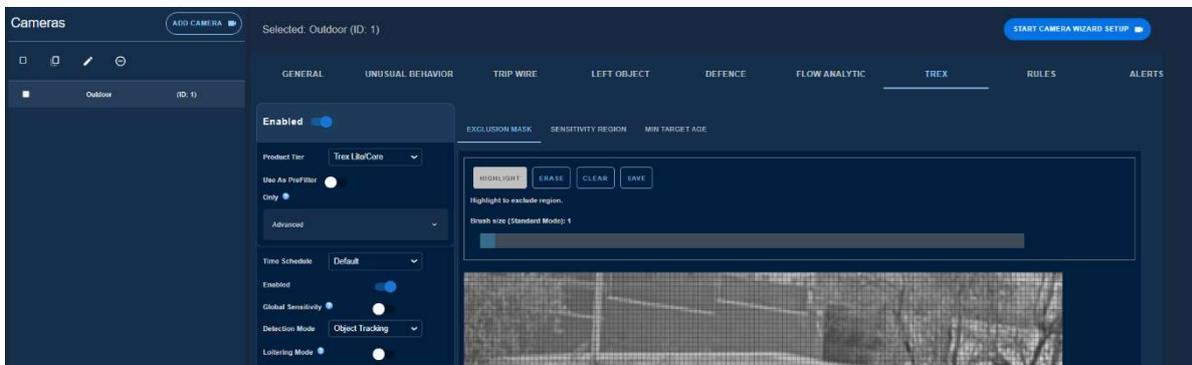
4. Video Analytics Configuration steps:

Under: http://192.168.1.143:8123/settings

- Please log in with your credentials

- Select the camera you wish to configure from the list on the left.

- Now select the option on the right-hand side "TREX" as per the image below.
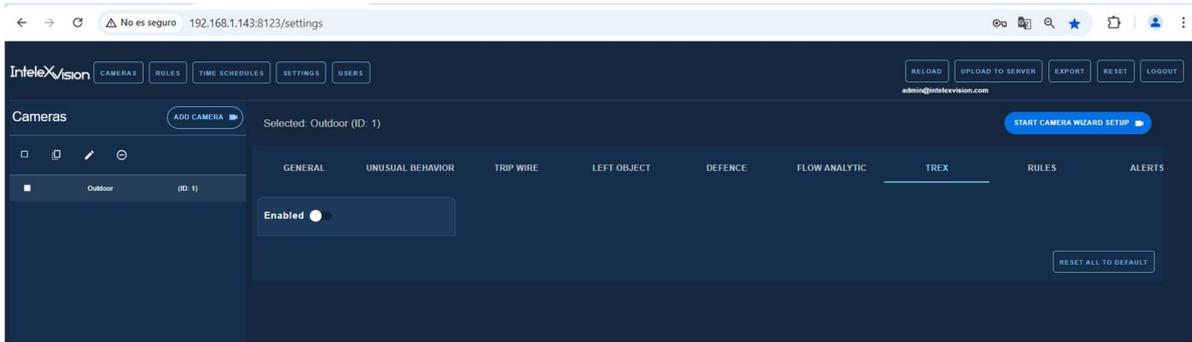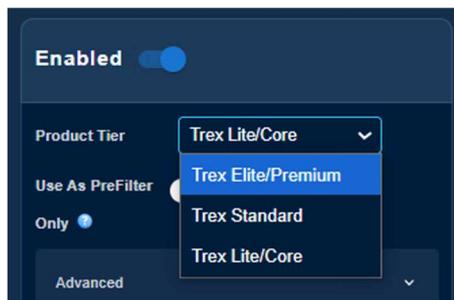
- **Please select "ENABLE"**

5.   Product Tier:

Once this video analytic engine is enabled now you can choose the Tier of the product you wish to use. Please note the Tier of product here is the same as the Tier of Software License you have purchased.

- **TREX Lite/Core:**

Select this option if you have purchased a TREX Lite or TREX Core software license.

- **TREX Elite/Premium:**

Select this option if you have purchased a TREX Elite or TREX Premium software license.

When selecting this option, you now have the capability to choose where do you wish the processing of this video analytic to occur.
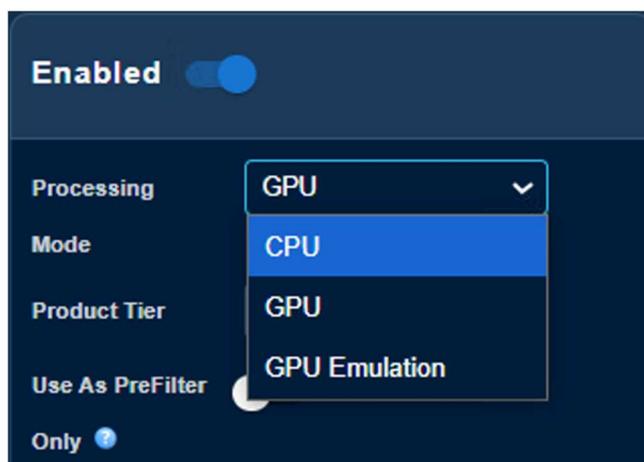
This can be on your CPU (Central Processing Unit), or GPU (Graphics Processing Unit), GPU emulation.

Please only enable these options according to your hardware capability, availability and configuration. If you are not sure, please leave the selection on CPU or contact our support team for more information.

- **TREX Standard:**

Select this option if you have purchased a TREX Standard software license.

When selecting this product tier option, you also have the capability to choose where do you wish the processing of this video analytic to occur.


This can be on your CPU (Central Processing Unit), or GPU (Graphics Processing Unit), GPU emulation.

Please only enable these options according to your hardware availability and configuration. If you are not sure, please leave it on CPU or contact our support team for more information.

6.   Time Schedule:

If you wish for the detection of intrusion to be enable during a particular time schedule, this needs to be configured on a different page and option called: "Time schedules" available from the top right hand side menu.
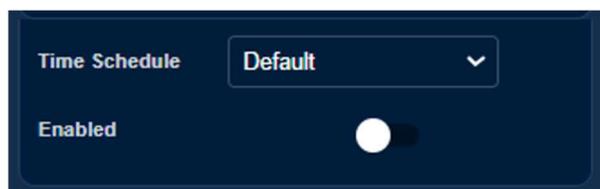
If you do not have alternative time schedules pre created and available on the drop-down list, you can always select the default.

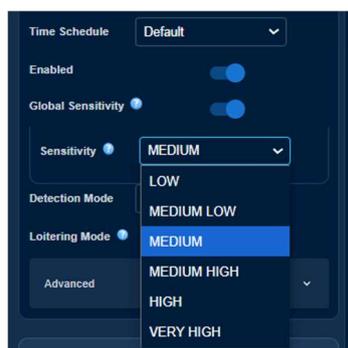- Please select "Enable" option to continue:

7.   Sensitivity:
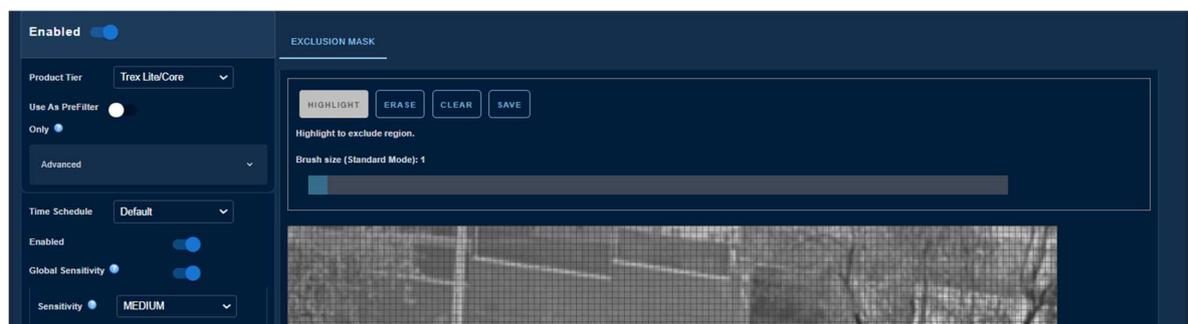
Our next step is to configure the sensitivity.

This parameter as per its sensitivity level can be applied to the entire image using the option "Global Sensitivity "option available on the image above.

Alternatively, the sensitivity can be individually adjusted and applied per region of interest.


- **Please select a starting level of sensitivity.**

After testing your configuration, if you find this sensitivity is not enough or it is too high, not triggering or triggering too many events you can always reduce the sensitivity level to lower. For the purpose of this document, we will choose "MEDIUM".

If sensitivity per region is not enable, the chosen value is applied to all regions.

8.   Detection Mode:

Depending on your use case needs, camera positioning, location etc, we offer 3 detection modes you can select from:
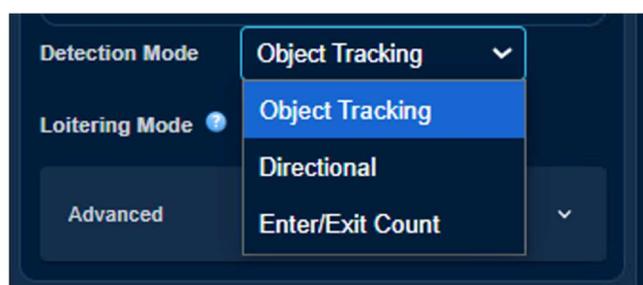

- **Object Tracking:** We can detect, alert and track across the FOV and highlight the object that has triggered the detection. This can be a Person, vehicle, animal etc. For the purpose of this guide, we will choose "Object Tracking".

- **Directional:** We will detect but only alert if the object movement direction has complied with the pre-configured directional trigger. (IE. From left to right or vice versa).

- **Enter/Exit Count:** We will detect and alert every time an object has entered or exited a particular region of interest defined on the camera FOV.

Loitering Mode: If you wish to track, larger targets for longer, please ensure that Loitering Mode is enable. This is not recommended for noisy video feeds.

# 9.   Advanced: Hybrid Tier Levels

- Please select "Advanced"

- From the new list now available please enable "Hybrid Tier Levels"

This video analytic engine module will improve nearby target detection and tracking. Recommended for Thermal cameras in hot environments.
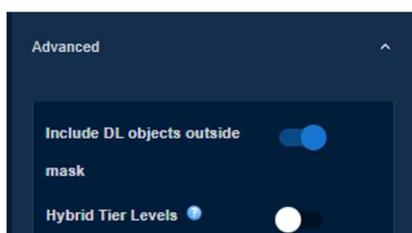
10.   Advanced: Object Size:

- Please select "Global Min (Minimum) Target size "and enable each option accordingly.
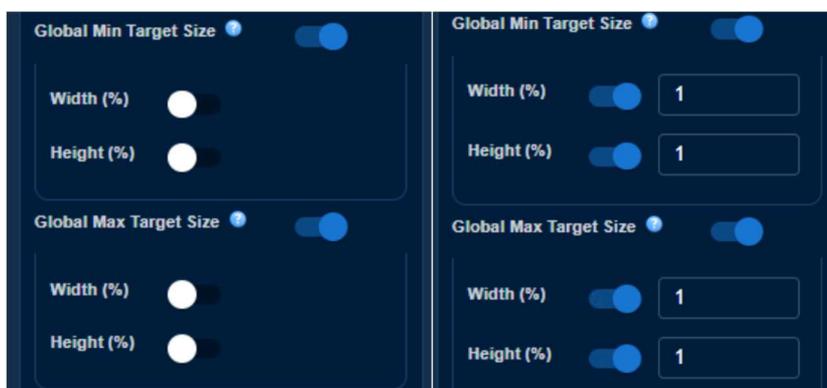
- Please select "Global Max (Maximum) Target size "and enable each option accordingly.

Enter the values for the minimum and maximum object target size using a percentage of size of the object in the FOV. This can be configured by object Width and Hight.

Please note: The detection object below the minimum and above the maximum values entered, will not generate an alert.

Once you have entered the values above, under Apply Settings options:

If you wish to apply the current configuration settings to a particular pre-defined time schedule, please select it from the dropdown menu.

Alternatively, you can apply it to "All" time schedules available. Please select the "APPLY" button to apply the configuration changes.
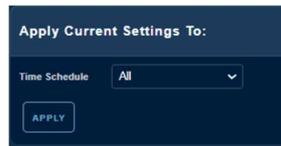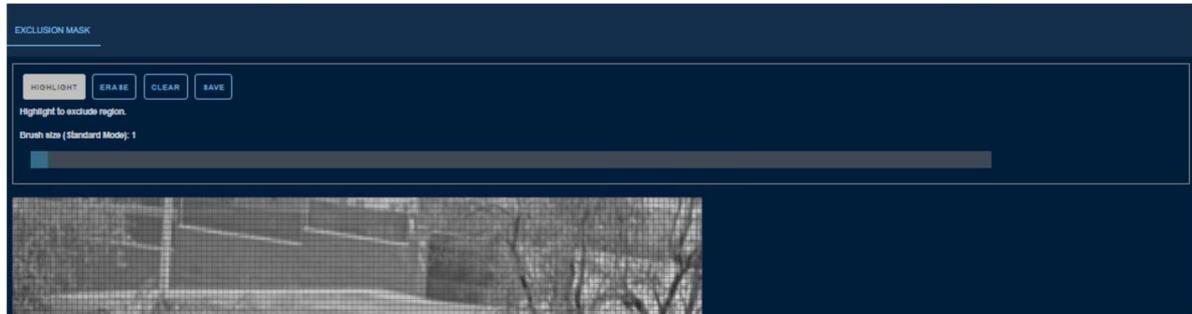

11.   Resume of Options: (Suggestion)
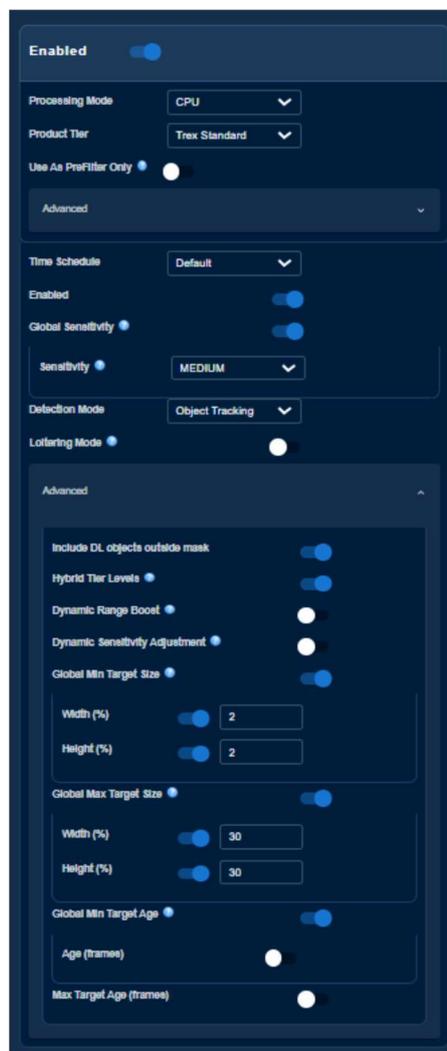
This is a good configuration using CPU as the processing time, TREX standard, tracking at close and mid-range distance, minimum and object size applied.

12. Exclusion Mask Configuration:

In this area, using the Brush Size, please select any area of the FOV you wish to exclude.

This could be a private area you do not wish to detect and track.

Please find an example of an Area of exclusion, drawn with a medium size Brush. Once the desired area correctly identified and highlighted. Options to "ERASE", and "CLEAR" are available.
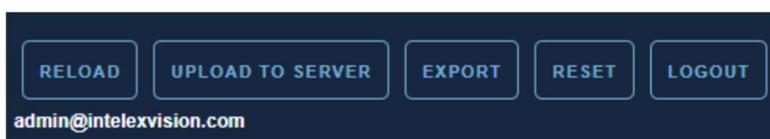
- **Once the Exclusion area is highlighted Please press "SAVE".**
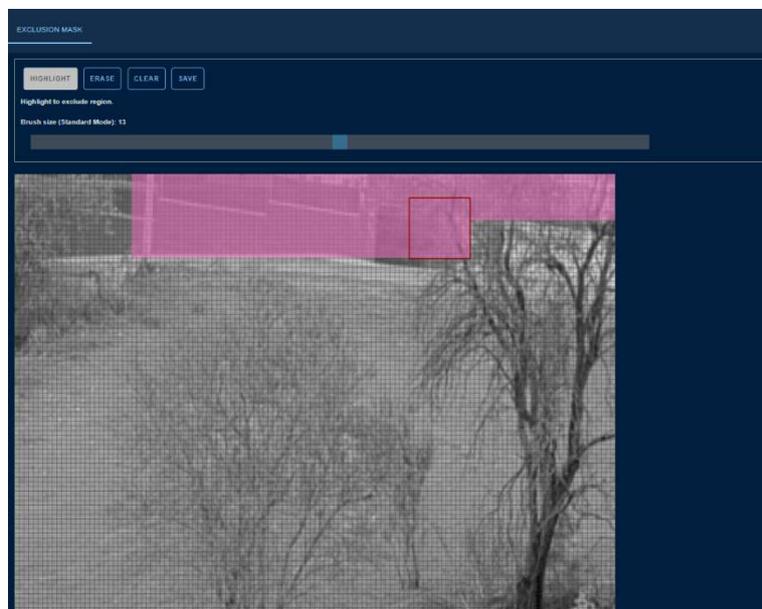
13. Saving Changes:

Once you have achieved the desired detection and tracking configuration, it is important to save these changes and applying them to the video analytic engine.

- **Please select the option "UPLOAD TO SERVER" from the top right hand side menu as per the image provided below:**

Once the option to upload is triggered, a new window will prompt more details.
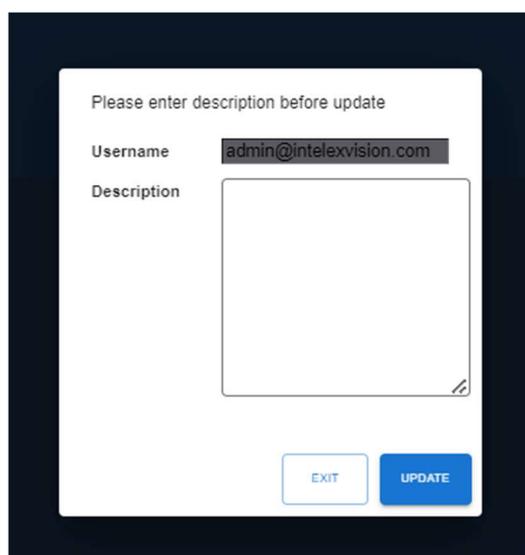
- Please select the option "update" to apply the new configuration changes to the FireFly server.

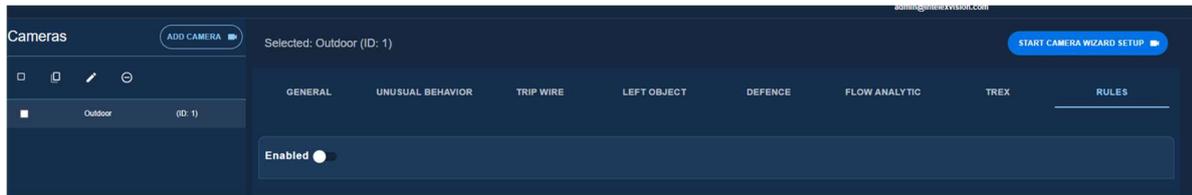Please allow for the timer to finish before reloading the screen.

Once this process has been completed, you can now continue to another page or option.

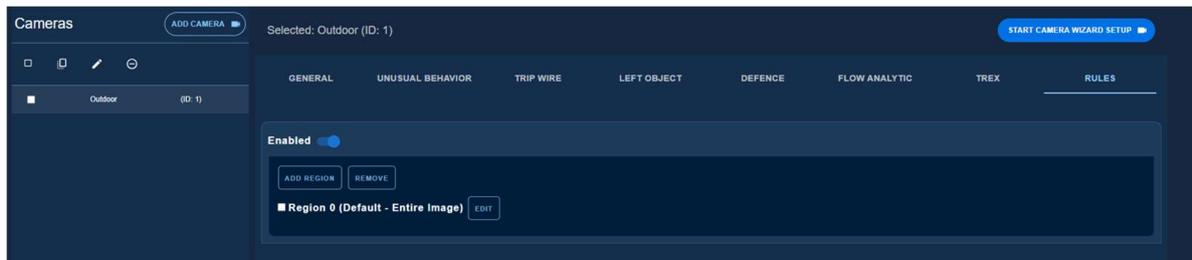- Please re-enter your credentials and select "LOGIN".

14.   Rule Configuration:

In this instance we will configure our video analytics Rules.

- Please select "RULES" and select "Enable".

Once it is "Enabled", you can now add a desired region of interest or by selecting "Region 0" it will apply your settings to the entire image as the default option.


Now with the "Region 0" (entire image) enable, you can select any pre-defined time schedule from the drop down menu.

If you do not have a preferred pre-defined time schedule you can select the "Default".
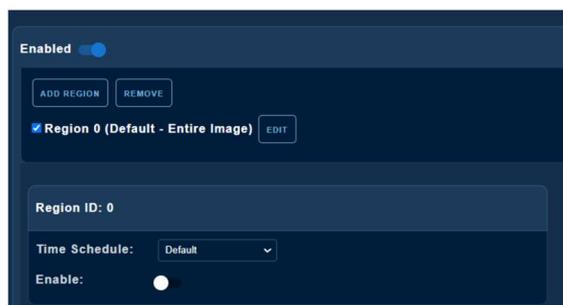
- **Please select the option "Enable" to begin to deliver the remaining Rule configuration.**

Now with the Rule engine time schedule enable, you can select a pre-configured template Rule to execute.
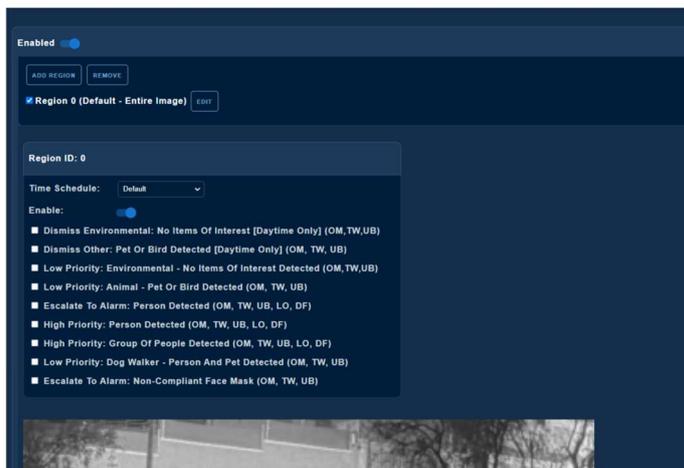
Depending on your needs, camera resolution, positioning and filed of view, you can enable one or multiple Rules to execute on this camera.

If you wish to have separate rules for a different region on the FOV, please use the "ADD REGION" option. Or you can erase an existing region of interest.

This is a practical example of detection, tracking and High Priority Alert generated once a person is successfully detected on the field of view.
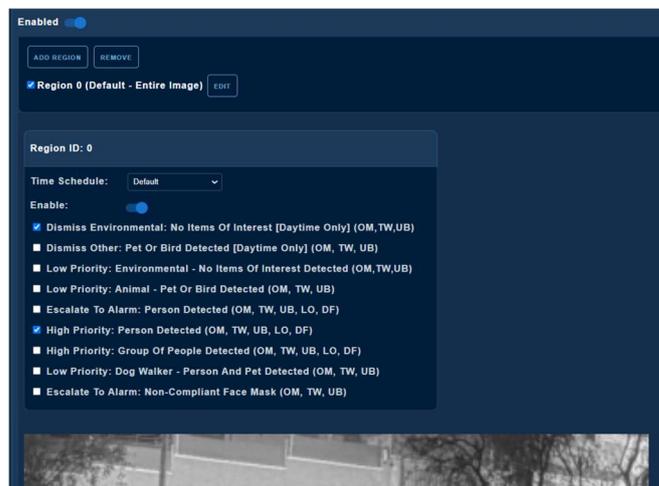
Please enable the Rules desired and select "Upload to server" as described under chapter 13: Saving changes.

Please review your settings and then test the detection sensitivity, distance etc and adjust accordingly. Please remember to "Upload to server" once you have perfected your settings.

If you have any questions or need any further support do not hesitate to reach us under:

CustomerServices@intelexvision.com