

Video analytics system for cities
and business

VEZHA

VEZHA

User Guide for Smoke & Fire Detection Plugin

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Description of VEZHA Smoke & Fire Detection

What this module of the VEZHA system can do:

- Recognition and notification of the appearance of smoke or open flames.
- Storing data on the occurrence of smoke or fire on objects of observation.

Smoke & Fire Detection can be used for:

- Timely registration of the facts of fire or smoke in the area under surveillance.
- Control of fire safety in the area under surveillance.

The main functionality of Smoke & Fire Detection module. How it works:

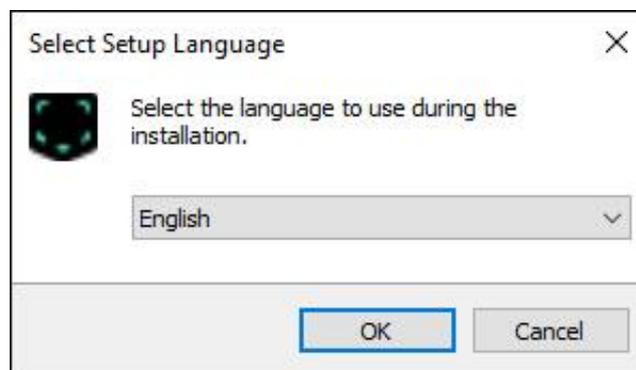
- Recognition of open fire or smoke.
- Notification of the occurrence of open fire or smoke in the area under surveillance.

When an open fire or smoke is detected in the frame, the system sends a notification and records the data: frame, time and camera.

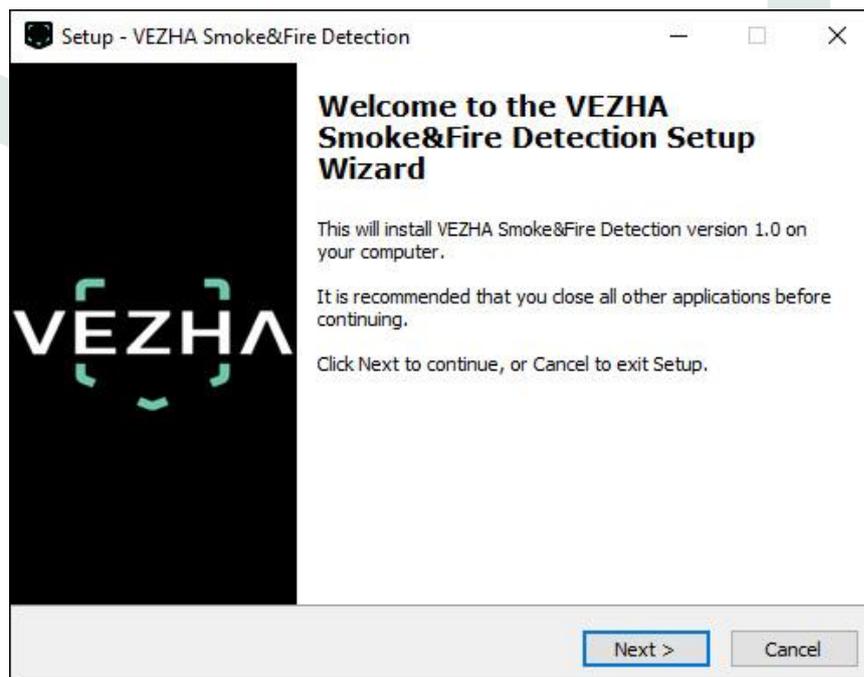
1. Installation

Before installation of VEZHA Smoke & Fire Detection PlugIn – Milestone Xprotect Management Client 2020 and Milestone Xprotect Smart Client 2020 R2 need to be installed on Your system.

- 1) Launch the installer by double-clicking the downloaded file with the left mouse button VEZHA_SmokingFireDetection_Setup.
- 2) In the window that opens, select the language that will be used during the installation process. To go further, click **OK**. To abort the installation, click **Cancel**.

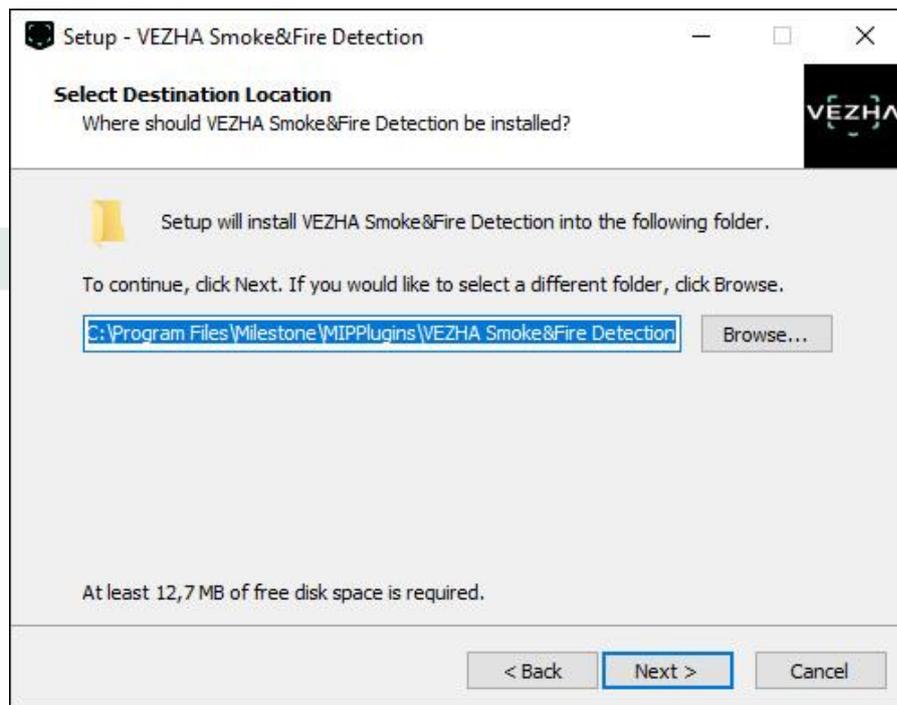


- 3) In a new window, read the installation recommendations and click **Next** to continue the installation, or the **Cancel** button to abort the installation.

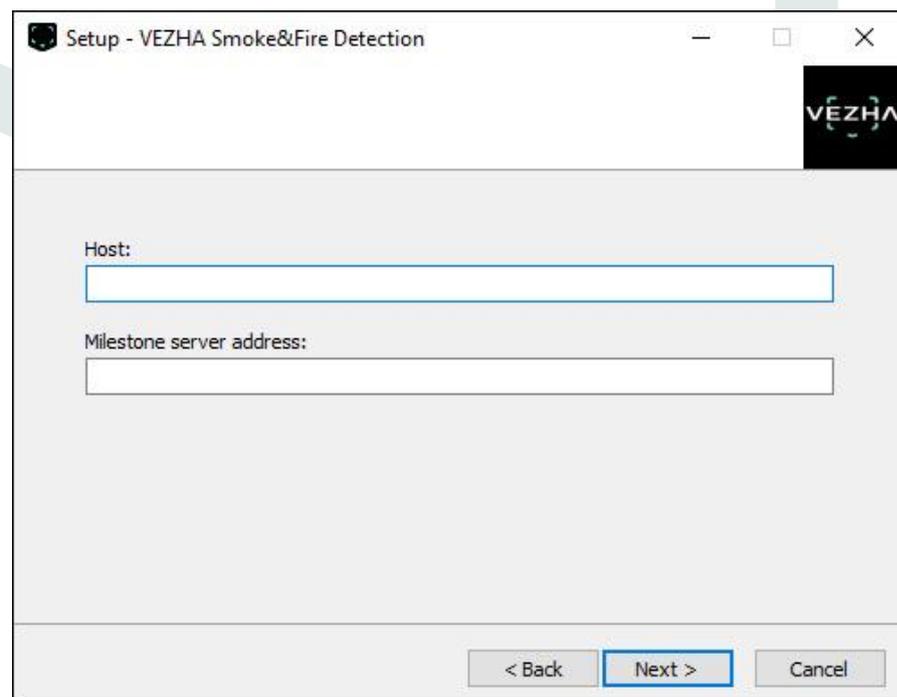




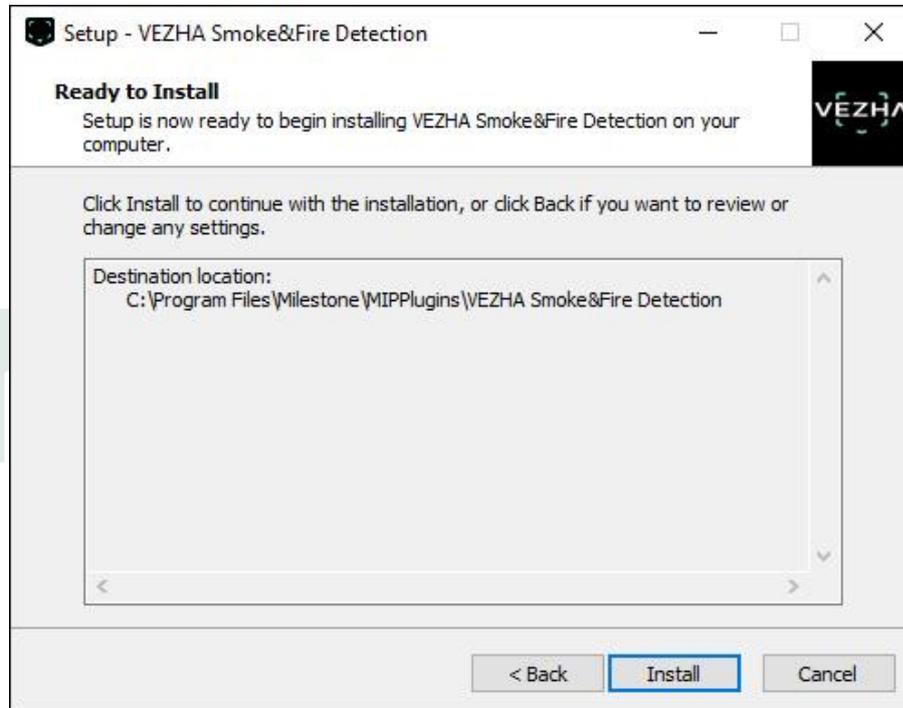
4) In the **Select Destination Location** window using the **Browse** button, specify the place where you want to install the plugin. The plugin must be installed in the **Milestone** folder with other plugins. After selecting the desired folder, click **Next** to continue the installation or **Cancel** to abort the installation.



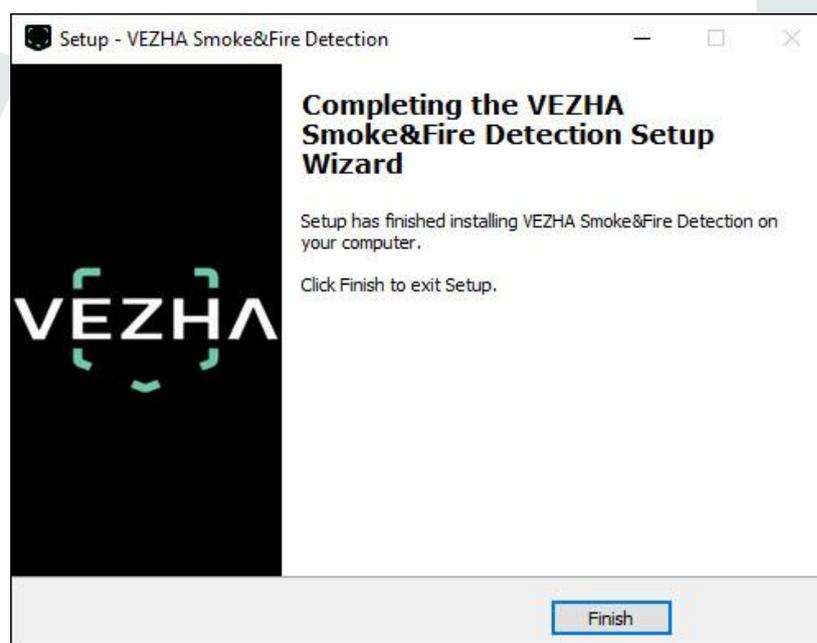
5) In this window, for correctly program work, you must correctly fill the fields and click **Next** to continue the installation or **Cancel** to abort the installation.



6) Click **Install** to start installation.

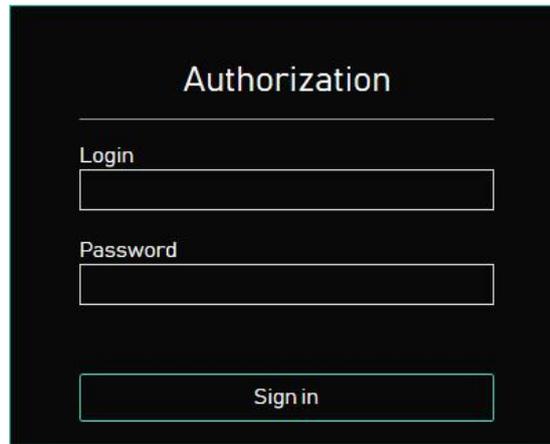


After the installation is completed, click **Finish**.



2. Log In

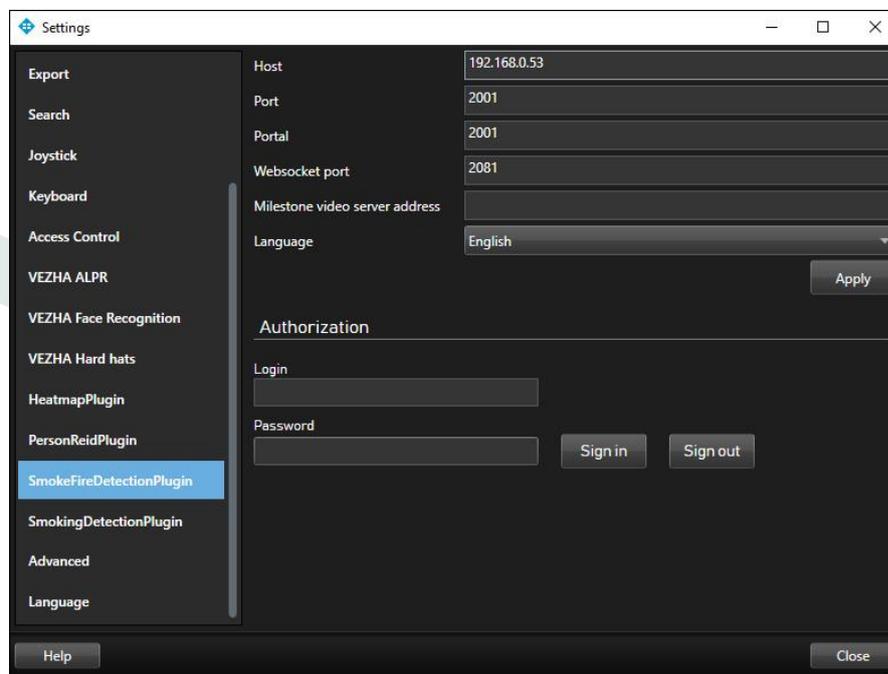
To enter the system you need to go through authorization. To do this, enter the **Login** and **Password** in the appropriate fields of the modal window and click **Sign in**.



The image shows a dark-themed modal window titled "Authorization". It contains two input fields: "Login" and "Password". Below these fields is a "Sign in" button. The window is centered on the screen with light gray decorative shapes on either side.

3. Settings

In order to open the **VEZHA Smoke & Fire Detection** settings, click the icon in the upper right corner of the screen. Select  and click **Settings**. In the window that opens, select the **VEZHA Smoke & Fire Detection** tab.



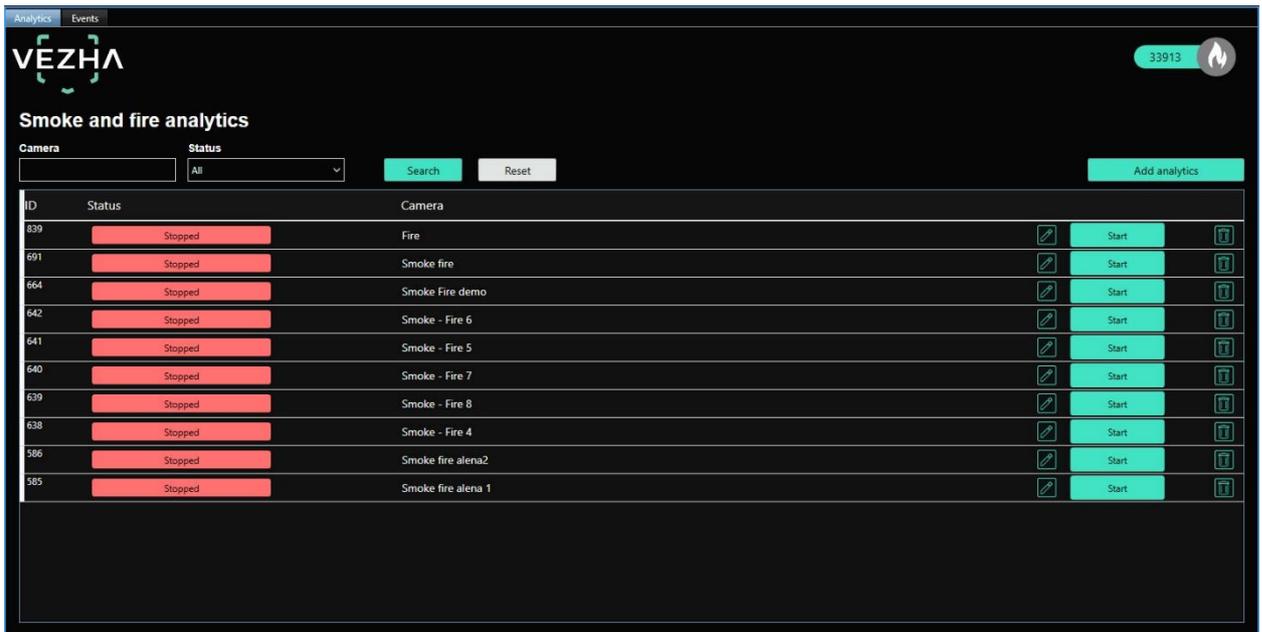
To change the server settings in the VEZHA Smoke & Fire Detection tab, you can edit the following fields: **Host**, **Port**, **Portal**, **Websocket port**, **Milestone video server address**.

To change the language, use the **Language** field and select most convenient for you.

To make changes, click **Apply** and reload the plugin.

4. Analytics

This tab is developed to view the list of analytics with the ability to add, edit, delete analytics, view video from active analytics in real time.



The screenshot displays the 'Analytics' tab in the VEZHA system. The main heading is 'Smoke and fire analytics'. Below this, there are search filters for 'Camera' (a text input field) and 'Status' (a dropdown menu set to 'All'). There are 'Search' and 'Reset' buttons, and an 'Add analytics' button on the right. The main area contains a table with the following data:

ID	Status	Camera	Actions
639	Stopped	Fire	[Edit] [Start] [Delete]
691	Stopped	Smoke fire	[Edit] [Start] [Delete]
664	Stopped	Smoke Fire demo	[Edit] [Start] [Delete]
642	Stopped	Smoke - Fire 6	[Edit] [Start] [Delete]
641	Stopped	Smoke - Fire 5	[Edit] [Start] [Delete]
640	Stopped	Smoke - Fire 7	[Edit] [Start] [Delete]
639	Stopped	Smoke - Fire 8	[Edit] [Start] [Delete]
638	Stopped	Smoke - Fire 4	[Edit] [Start] [Delete]
586	Stopped	Smoke fire alena2	[Edit] [Start] [Delete]
585	Stopped	Smoke fire alena 1	[Edit] [Start] [Delete]

4.1. Analytics Search

At the top of the screen is a search field.



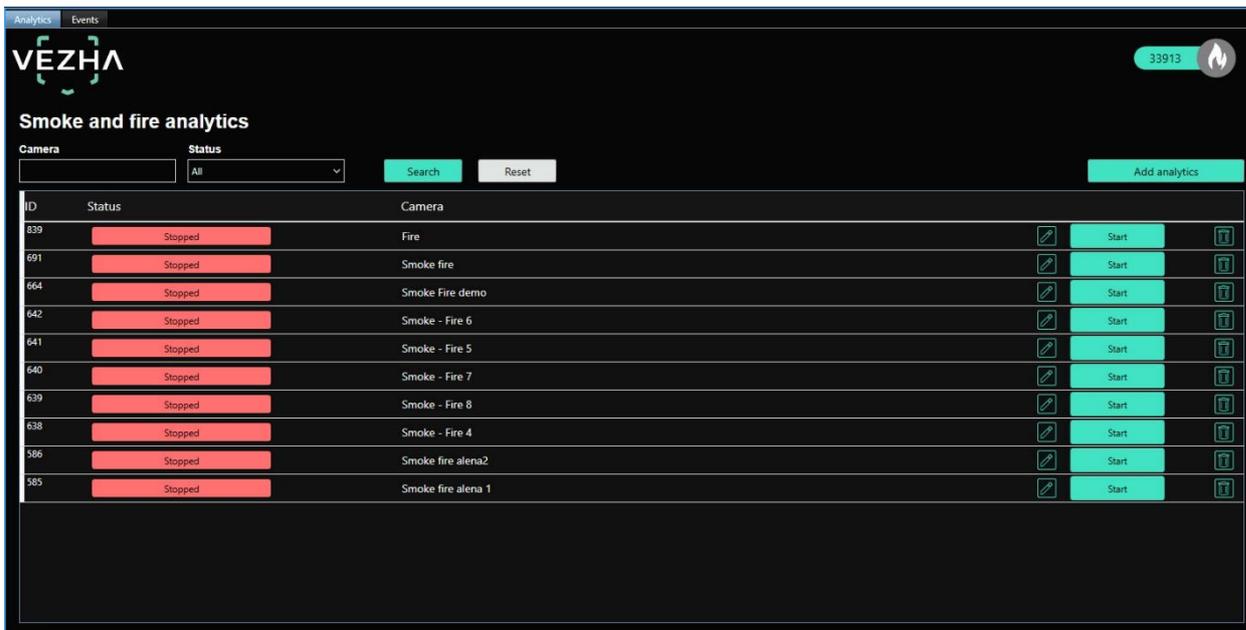
This close-up shows the search filters for 'Smoke and fire analytics'. It includes a 'Camera' text input field, a 'Status' dropdown menu currently showing 'All', and 'Search' and 'Reset' buttons.

To find the analytics you need, enter the name of the camera or select the analytics status.

To start the search, click the **Search** button.

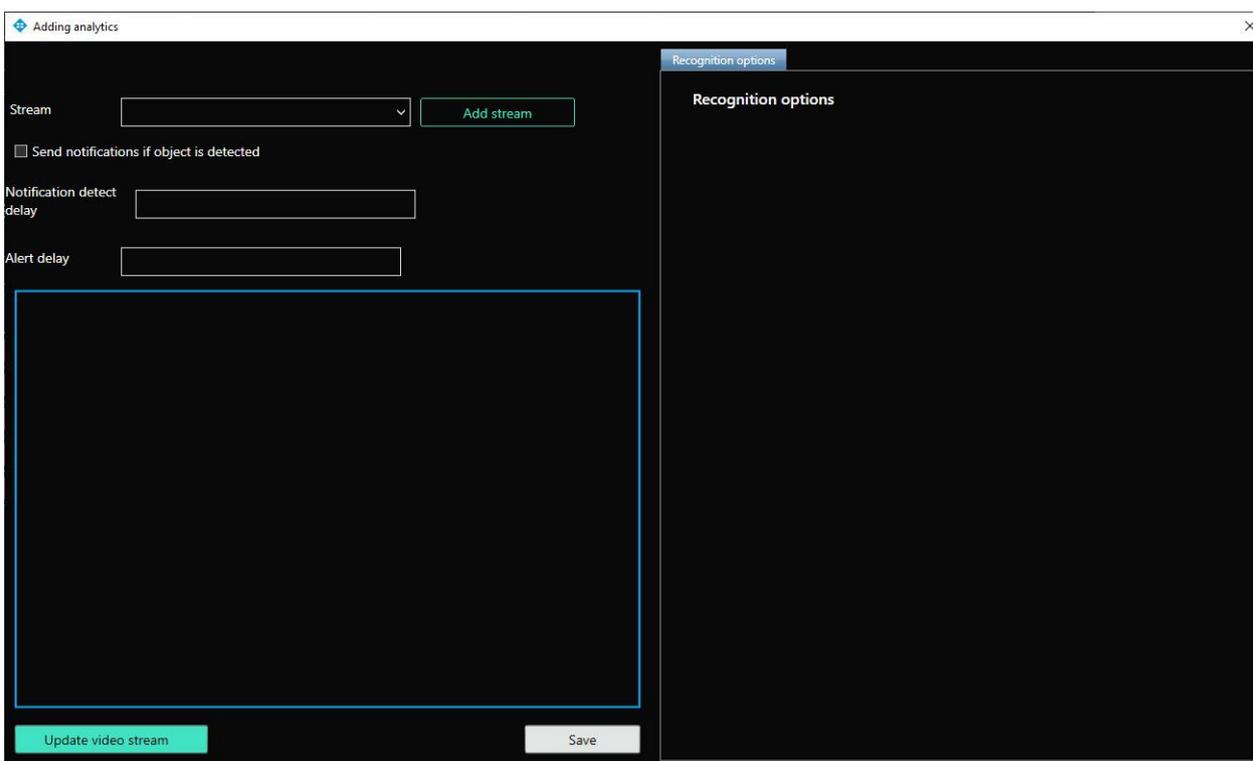
4.2. Add analytics

To add analytics, push button **Add analytics**.



ID	Status	Camera	Start
839	Stopped	Fire	Start
691	Stopped	Smoke fire	Start
664	Stopped	Smoke Fire demo	Start
642	Stopped	Smoke - Fire 6	Start
641	Stopped	Smoke - Fire 5	Start
640	Stopped	Smoke - Fire 7	Start
639	Stopped	Smoke - Fire 8	Start
638	Stopped	Smoke - Fire 4	Start
586	Stopped	Smoke fire alena2	Start
585	Stopped	Smoke fire alena 1	Start

New window will appear.



Adding analytics

Stream:

Send notifications if object is detected

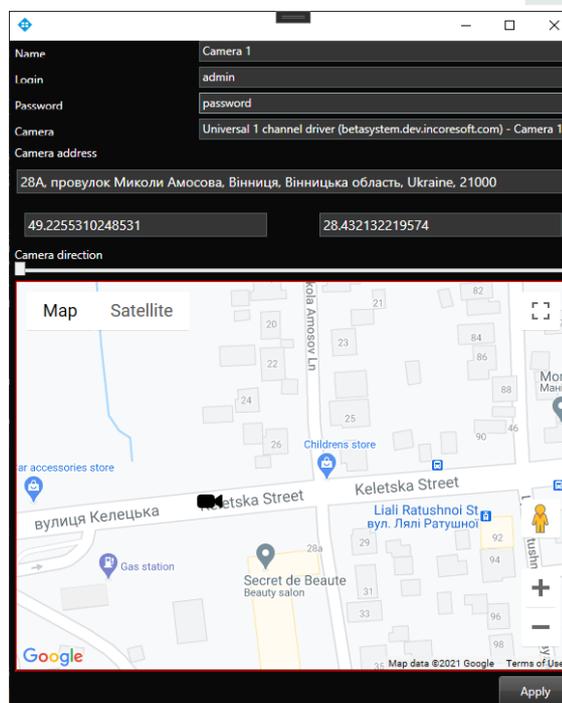
Notification detect delay:

Alert delay:

Recognition options

Field name	Description
Stream	Click on the field and select a name from the drop-down list cameras. The video stream will be used to create analytics.
Send notification if smoke & fire is detected	Check the box Send notifications if smoke and fire is detected to create your own event to send notifications.
Notification detect delay, seconds	The time after which the system will send notifications about detection. The recommended time is 5-10 seconds.
Alert Delay	Smoke & Fire checking frequency. Possible range from 1 to 60 sec. The recommended value is 1 sec.

In order to create new analytics click **Add stream**.

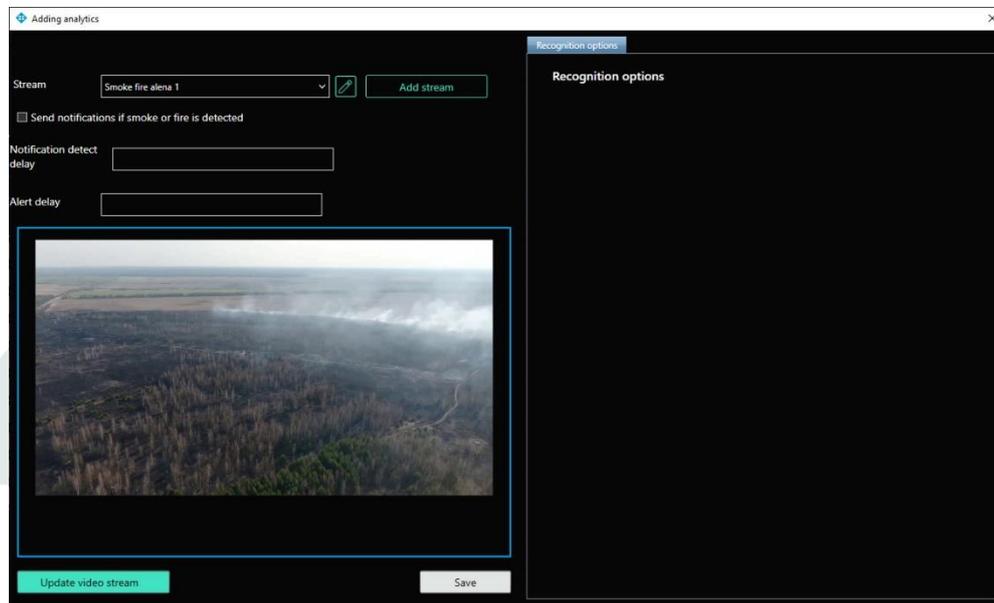


Fill the fields:

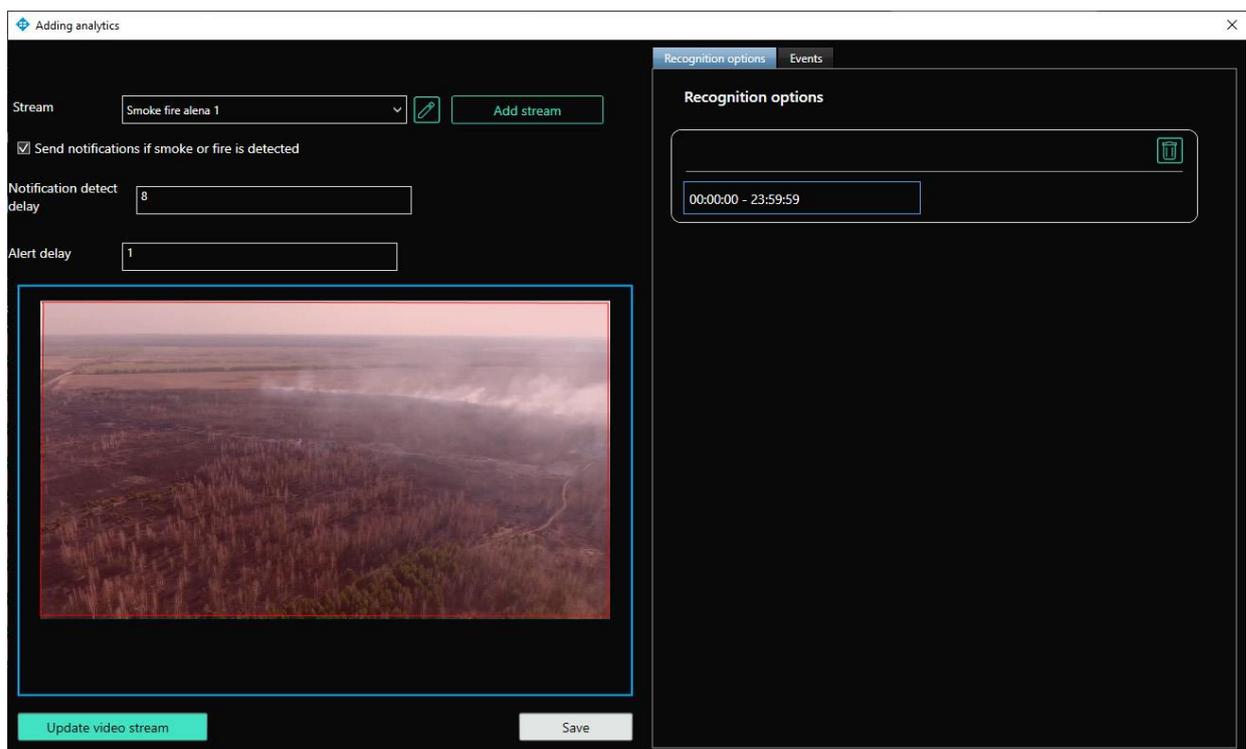
Field name	Description
Name	Enter the name of the video stream in the field. This field will be displayed in all components of the program that use video streams.
Login	Enter the name of the current user in the field.
Password	Enter password.
Camera	Select a camera from the drop-down list.
Camera address	Enter the address in the field, or select on the map below the location of the camera. The system will automatically determine the location coordinates.
Camera direction	drag the slider to change the direction of the camera. Indication of camera rotation helps in determining the direction of the vehicle.

To save changes, click **Apply**.

Example: Press **Stream** in selector and choose your stream. Related to this stream picture will appear below.



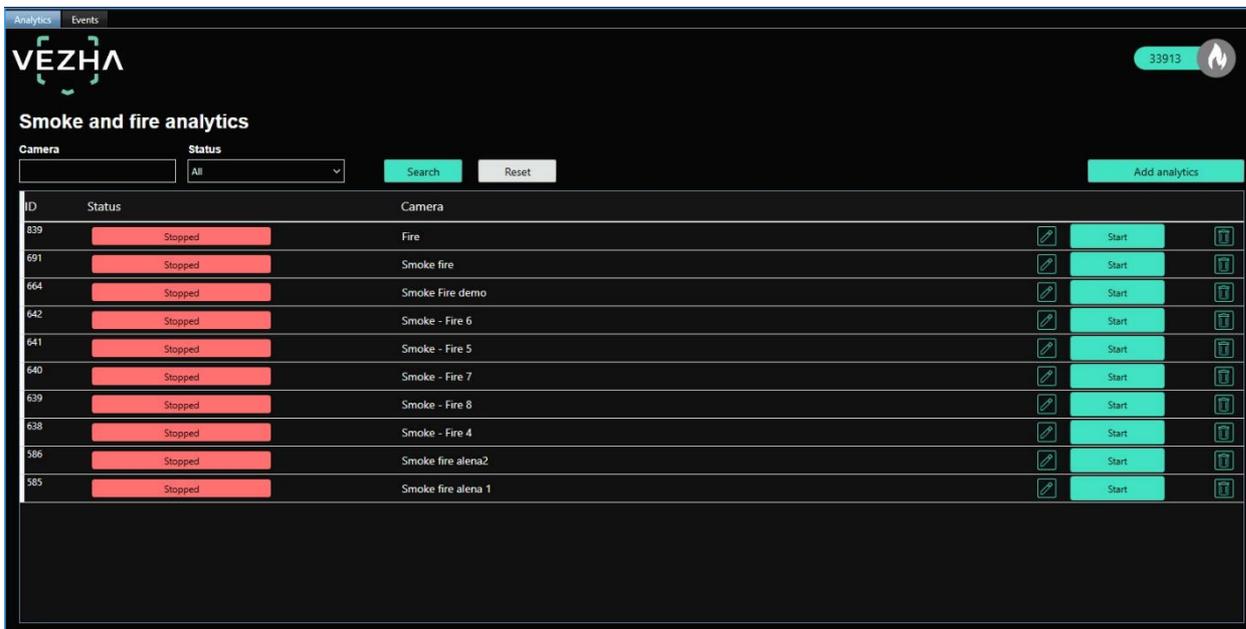
Then you may set the area you want be detected by drawing any shape you want, for example as a red rectangle on the picture. Also you may mark checkbox **Send notifications if smoke or fire is detected**, set time in seconds in **Notification detect delay** (recommended 5-10 seconds), **Alert delay** (recommended 1 second) and set analytics working time from the right side, but exactly in time format: 00:00:00 – 23:59:59



At the end click button **Save** and wait analytics to be added.

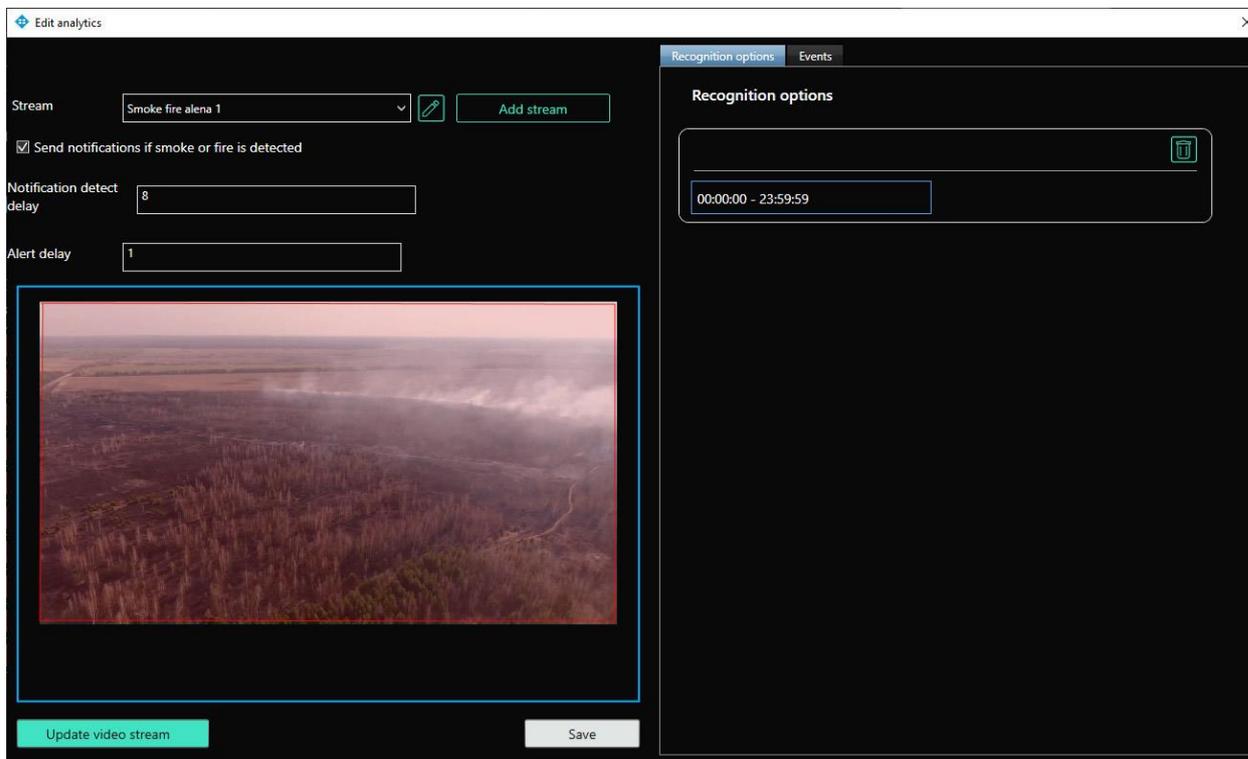
4.3. Edit analytics

Press  icon.



ID	Status	Camera			
839	Stopped	Fire		Start	
691	Stopped	Smoke fire		Start	
664	Stopped	Smoke Fire demo		Start	
642	Stopped	Smoke - Fire 6		Start	
641	Stopped	Smoke - Fire 5		Start	
640	Stopped	Smoke - Fire 7		Start	
639	Stopped	Smoke - Fire 8		Start	
638	Stopped	Smoke - Fire 4		Start	
586	Stopped	Smoke fire alena2		Start	
585	Stopped	Smoke fire alena 1		Start	

The window **Edit analytics** will appear with settings which was set when analytics were added. If you want edit detection area press  icon to delete it. Then you can set a new area.



Stream:

Send notifications if smoke or fire is detected

Notification detect delay:

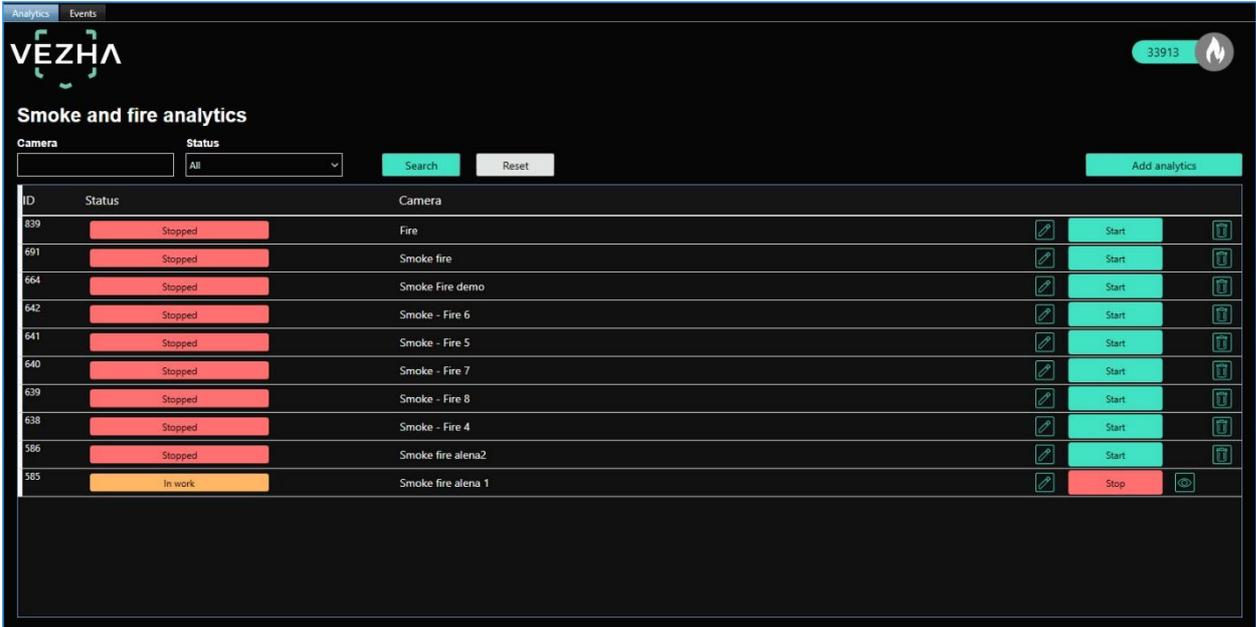
Alert delay:

Recognition options:

When all changes are done you should press button **Save** and wait until all changes are saved.

4.4. Start, Stop, Watch Analytics

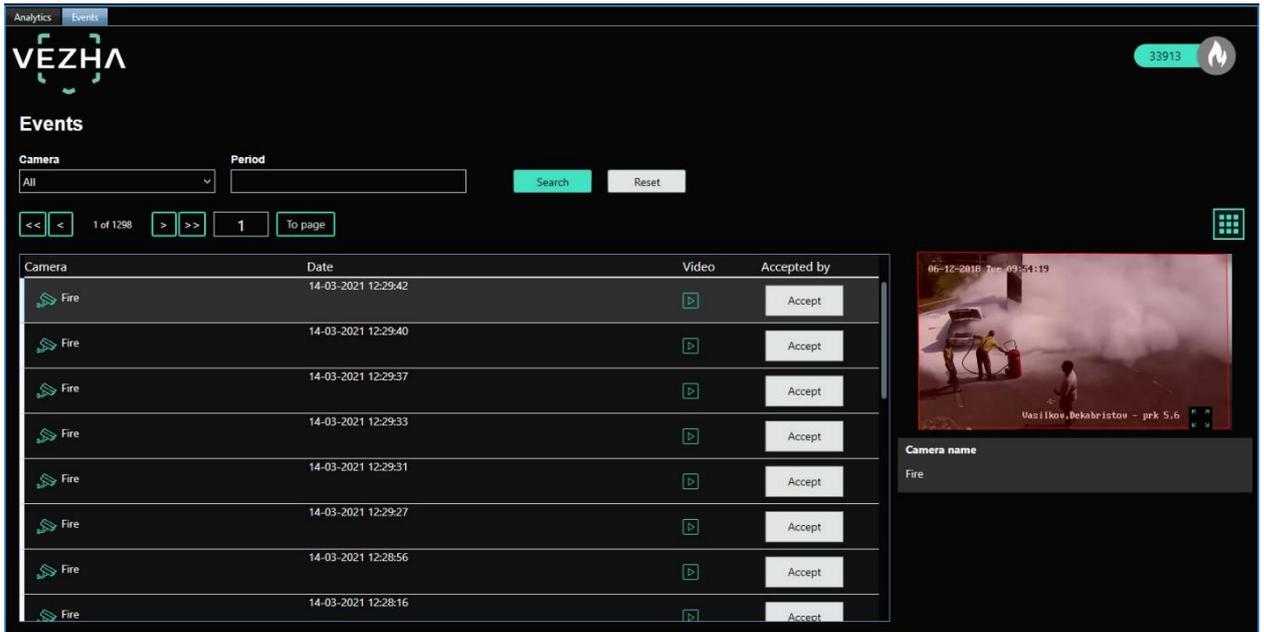
When your analytics are ready you may start any by pressing button . When it needs to be stopped you should press red button . Also you may watch running analytics by clicking corresponding  icon on picture below.



ID	Status	Camera			
839	Stopped	Fire			
891	Stopped	Smoke fire			
664	Stopped	Smoke Fire demo			
642	Stopped	Smoke - Fire 6			
641	Stopped	Smoke - Fire 5			
640	Stopped	Smoke - Fire 7			
639	Stopped	Smoke - Fire 8			
638	Stopped	Smoke - Fire 4			
586	Stopped	Smoke fire alena2			
585	In work	Smoke fire alena 1			

5. Events

Next section in VEZHA Smoke & Fire Detection Plugin menu is **Events**.



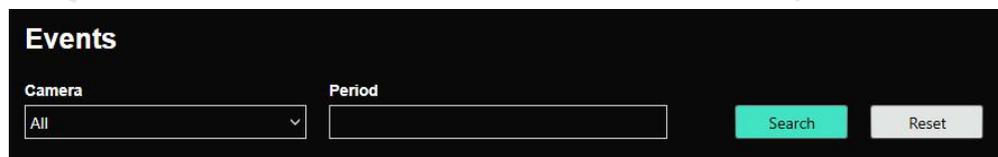
The screenshot displays the VEZHA Events management interface. At the top, there's a search bar with 'Camera' set to 'All' and an empty 'Period' field. Below the search bar are navigation controls showing '1 of 1298' items and a 'To page' input. The main area contains a table of detected events:

Camera	Date	Video	Accepted by
Fire	14-03-2021 12:29:42	[Play]	Accept
Fire	14-03-2021 12:29:40	[Play]	Accept
Fire	14-03-2021 12:29:37	[Play]	Accept
Fire	14-03-2021 12:29:33	[Play]	Accept
Fire	14-03-2021 12:29:31	[Play]	Accept
Fire	14-03-2021 12:29:27	[Play]	Accept
Fire	14-03-2021 12:28:56	[Play]	Accept
Fire	14-03-2021 12:28:16	[Play]	Accept

On the right, a video player shows a fire scene with the camera name 'Fire'.

You may review all pictures one by one and if accept it click button **Accept**.

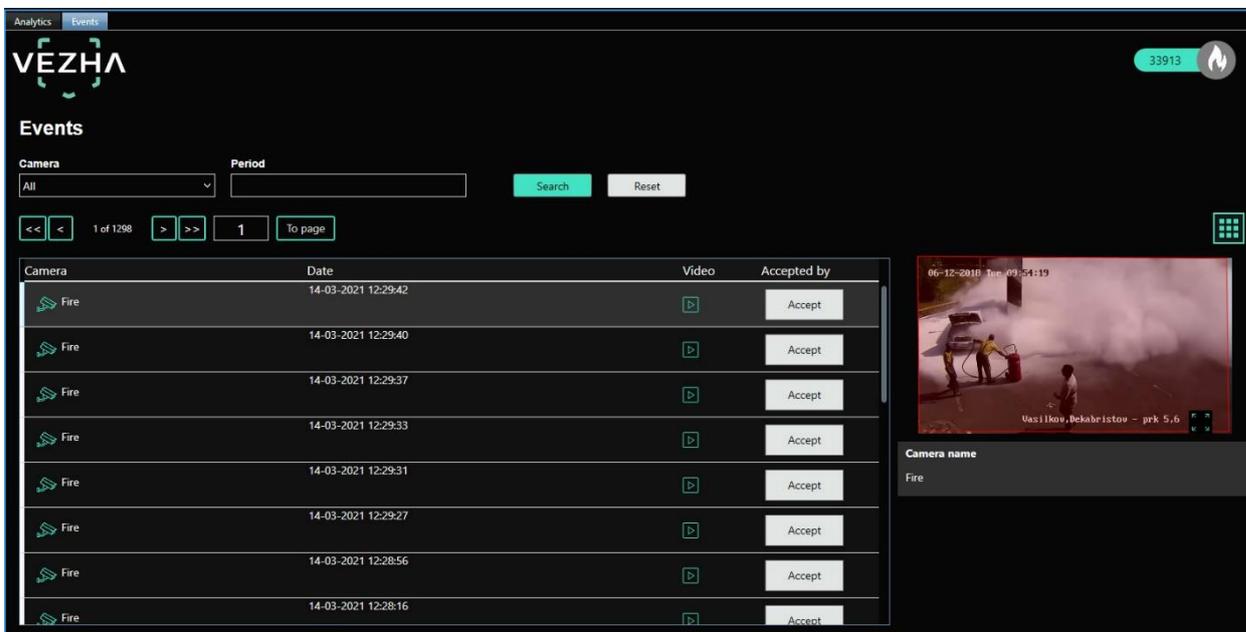
Click **Search** to display the search results. Click **Reset** to clear the input fields.



This close-up shows the search filter section of the Events interface. It includes a 'Camera' dropdown menu set to 'All', an empty 'Period' text input field, and 'Search' and 'Reset' buttons.

Field name	Description
Period	Select period of time for which the search will be performed.
Camera	Select the cameras by which search will be performed.

Click  icon to open events as a grid. Click  to see it as a list.

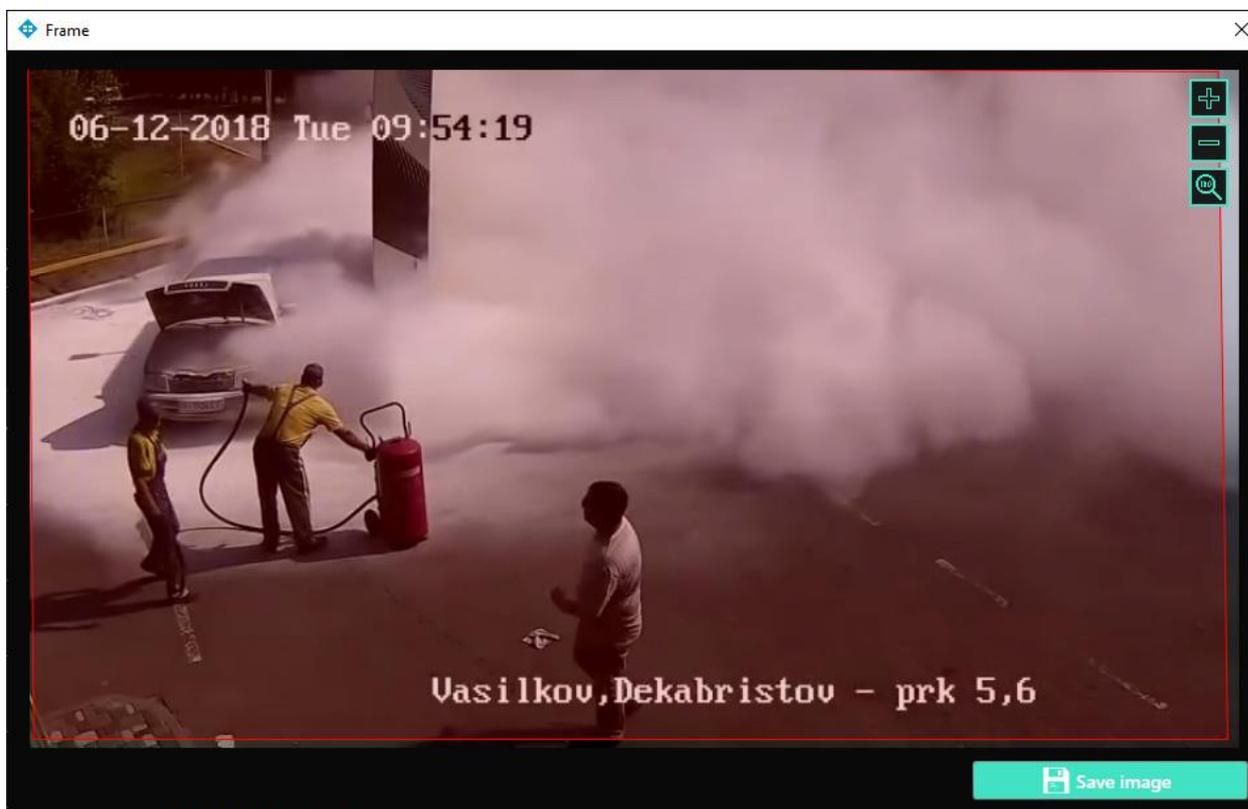


The screenshot shows the VEZHA Events interface. At the top, there's a navigation bar with 'Analytics' and 'Events' tabs. The VEZHA logo is on the left, and a user ID '33913' is on the right. Below the navigation, there's a search section with 'Camera' (set to 'All') and 'Period' fields, along with 'Search' and 'Reset' buttons. A pagination bar shows '1 of 1298' events and a 'To page' input field. The main area contains a table of events:

Camera	Date	Video	Accepted by
Fire	14-03-2021 12:29:42		Accept
Fire	14-03-2021 12:29:40		Accept
Fire	14-03-2021 12:29:37		Accept
Fire	14-03-2021 12:29:33		Accept
Fire	14-03-2021 12:29:31		Accept
Fire	14-03-2021 12:29:27		Accept
Fire	14-03-2021 12:28:56		Accept
Fire	14-03-2021 12:28:16		Accept

On the right side, there's a video player showing a fire incident. The timestamp is '06-12-2018 Tue 09:54:19'. Below the video, the camera name is 'Fire'. At the bottom right of the video player, there's a 'Save image' button.

In order to enlarge the frame click on the photo of interest (when using the grid view) or click on the enlargement icon  when using the list view.



The screenshot shows the VEZHA Frame interface. The main area is a large video frame showing a fire incident. The timestamp is '06-12-2018 Tue 09:54:19'. The camera name is 'Vasilkov, Dekabristov - prk 5,6'. At the bottom right, there's a 'Save image' button. The interface includes navigation icons for zooming in (+), zooming out (-), and a search icon.

Then you may save image by clicking button **Save image**.

About VEZHA:

Our mission is to create a safe environment
for residents of cities of all sizes
and to help Ukrainian businesses optimize their security
and safety management processes.

For more information visit: <https://vezha.io/>



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