MIRASYS

Mirasys Spotter Guide

Tel +358 (0)9 2533 3300

Email info@mirasys.com

https://www.mirasys.com

MIRASYS

CONTENTS

2 Introduction 13
3 Starting Spotter and Logging In 13
3.1 Postpone Spotter restart 14
3.2 Two-Factor Authentication (2FA) 15
3.2.1 How to Use 2FA During Login 15
4 Changing the Spotter language 15
5 Spotter UI 16
5.1 Spotter Title Menu 17
5.1.1 File 17
5.1.2 Adding Input devices 19
5.2 Spotter Device Tree 25
5.2.1 Profile 26
5.2.2 Device states 26
5.2.3 Alarms 27
5.2.4 Device name, thumbnail descriptions, and camera info 27
5.2.5 Profile search for folders 28
5.2.6 Open or close all folders in Spotter profile tree 29
5.2.7 Frequently Used Keyboard Shortcuts: 29
5.3 Spotter Utility Bar 29
5.3.1 Layouts 29
5.3.2 Plugins 29
5.3.3 Bookmarks 29
5.3.4 Saved tabs 29
5.3.5 Hide the Utility Bar 29
5.4 Spotter Device Numbering 30
5.5 Spotter Work Area 31
5.6 Spotter Playback panel 32
5.6.1 Playback panel controls 33
5.6.2 Date And Time Controls 34
5.6.3 Activity selection 35

5.6.4 Sharing Spotter view 36
5.6.5 Frequently Used Keyboard Shortcuts: 36
6 Real-time mode 37
6.1 Opening single camera or device 37
6.2 Opening device group 37
6.3 Virtual Cameras 38
6.3.1 Frequently Used Keyboard Shortcuts: 41
6.4 Camera Tour Controls 41
6.4.1 Frequently Used Keyboard Shortcuts: 43
6.5 Full-Screen Mode 43
6.5.1 Frequently Used Keyboard Shortcuts: 43
6.5.2 A single camera on the device tab 43
6.5.3 Multiple cameras on the device tab 44
6.6 Camera Toolbar 44
6.6.1 The camera toolbar can contain the following items: 44
6.6.2 Spotter Camera Settings 45
6.6.3 Spotter Export (Spotter Export Chapter) 48
6.6.4 Print 48
6.6.5 Two-Way Audio 49
6.6.6 Camera 50
6.6.7 Spotter Privacy 51
6.6.8 Image Controls 53
6.6.9 Highlight 54
6.6.10 View 56
6.6.11 Spotter Digital Zoom 59
6.7 Spotter Text channels 60
6.8 Audio channels 61
6.9 Spotter Digital I/O 62
7 Playback mode 64
7.1 Start instant playback 64
7.1.1 For users required to add a comment before playback mode 65

7.2 Playback selected time 66
7.2.1 Maximizing one stream 66
7.3 Spotter camera grid selection button 67
7.4 Image fit 69
8 Export 71
8.1 Export image 71
8.2 Add to video export 73
8.2.1 Supported export formats 76
8.2.2 Number of simultaneously exportable streams 77
8.3 Storyboard 77
8.3.1 Storyboard abilities 79
8.3.2 Adding Clips to Storyboard 79
8.3.3 Editing Clips In Storyboard 83
8.3.4 Descriptions And Comments 83
8.3.5 Preview 84
8.3.6 Drafts And Sharing 85
8.3.7 Clearing the storyboard 85
8.3.8 Settings 85
8.3.9 Exporting Storyboards 86
8.3.10 Viewing Storyboards 86
8.3.11 Other Viewing Modes 89
8.4 Create Archive 89
8.5 Open Media 91
8.6 Encryption and Authenticity Verification 92
8.6.1 Secure Export Format (SEF) 92
8.6.2 Encryption to safeguard exported video data 93
8.6.3 Watermarking for Authenticity Verification 93
8.7 Dual export 94
8.7.1 Enabling dual export for the user role: 94
8.7.2 Configuring dual export settings in Spotter settings: 96
8.7.3 Exporting with dual export: 96

9 Bookmarks 97
9.1 Creating a bookmark 97
9.2 Editing a bookmark 98
9.3 Deleting a bookmark 99
9.4 Bookmarks in the timeline panel 100
9.5 Sharing bookmarks with selected users 100
10 Search Tools 102
10.1 The search tab contains multiple search tools: 102
10.2 Alarm Search 103
10.2.1 Alarm start and end time 103
10.2.2 Alarms to be included in the search 103
10.2.3 Search backward, forward, or most recent alarms 105
10.2.4 Stop or pause the search 105
10.2.5 Display alarm information 106
10.2.6 Commenting alarms 106
10.3 Motion Search 107
10.4 Person search 110
10.4.1 Modes 111
10.4.2 Thumbnails 111
10.4.3 Camera grids 112
10.5 Text data search 113
10.6 Thumbnail Search 114
10.6.1 Using Thumbnail search 114
10.7 Smart Search 117
10.7.1 Smart Search plugin for LPR, FR, OR, and similarity searching 117
10.7.2 Search parameters 118
10.7.3 Search results 118
10.7.4 Additional Options 119
10.7.5 How to search for FR and LPR detection events 121
10.7.6 People Object Recognition 122
10.7.7 Vehicles Object Recognition (OR) 125

10.7.8 Similarity Search 127
11 Layouts Management 129
11.1 Layouts contain all content settings of Spotter and are helpful when the user has perfected a monitoring view and wants to save it for future use. 129
11.2 Frequently Used Keyboard Shortcuts: 130
11.3 Saving the layout 130
11.4 Opening the layout 132
11.5 Editing the layout 133
11.6 Layout numbering 134
11.7 Sharing layout with selected users 135
12 Device Tabs Management 136
12.1 Frequently Used Keyboard Shortcuts: 136
12.2 Add new device tab 137
12.3 Renaming the device tab 138
12.4 Saving the device tab 139
12.4.1 Saving the device tab 139
12.4.2 Share tab content with selected users 140
12.5 Opening the saved device tab 141
12.6 Deleting the saved device tab 142
12.7 Automatic image fit 143
12.7.1 Automatic image fit: Crop 144
12.7.2 The automatic image fit: Stretch 145
12.7.3 The automatic image fit: OFF 146
12.7.4 Frequently Used Keyboard Shortcuts: 147
12.8 Camera Grids 147
12.8.1 Custom camera grids 148
12.8.2 Using custom camera grids 150
13 PTZ Control and Management 152
13.1 Enabling PTZ Control 152
13.2 Controlling PTZ camera 153
13.3 PTZ control in full screen 154
13.4 Settings 154

13.5 Zoom 154
13.6 Creating a preset 155
13.7 Using the presets 156
13.8 Creating camera tours 156
13.9 Using camera tours 157
13.10 Editing camera tours 157
13.11 Deleting camera tours 158
13.12 Setting up PTZ camera home position 158
14 Alarm Management 160
14.1 The alarms tab contains below functions: 160
14.2 Alarm List 160
14.2.1 Frequently Used Keyboard Shortcuts: 161
14.2.2 Opening an alarm from the alarm list 161
14.2.3 Alarm Export 164
14.2.4 Alarm Filtering 165
14.2.5 Acknowledge alarm 166
14.3 Alarm visualization 166
14.4 Alarm view 167
14.4.1 Alarm representation selection 169
14.4.2 Alarm display options 169
14.4.3 Lost signal 170
14.5 Alarm popup 170
14.5.1 Alarm popup plugin settings 170
14.6 Signal Lost Alarms 172
14.7 Showing the Alarm Name in Alarm Popup View 173
14.8 Use of Multiple Alarm Monitors 174
15 Daylight Savings Time (DST) 177
15.1 Introduction 177
15.2 Impact of DST on Video Surveillance Systems 177
15.2.1 Spring Forward 177
15.2.2 Fall Back 178

15.3 Best Practices for Handling DST Transitions in Mirasys VMS 179
16 System Monitoring 179
16.1 System Monitoring contains: 179
16.2 Camera Audit 179
16.2.1 The main report page provides information on the 179
16.2.2 Auditing the cameras 180
16.2.3 Camera Audit signal loss time period 187
16.3 Diagnostic 187
16.4 Watchdog Event Search 188
17 Failover Logs 189
17.1 Failover log in Spotter 189
17.2 Failover events 190
17.2.1 Information - white info icon 190
17.2.2 Warning - yellow warning icon 190
17.2.3 Error - red error icon 190
18 Plugins 191
18.1 Spotter Alarm View 191
18.1.1 Alarm representation selection 191
18.1.2 Alarm display options 192
18.1.3 Lost signal 192
18.2 Spotter Alarm Popup 193
18.2.1 Alarm popup opening and closing 194
18.2.2 Alarm popup plugin settings 194
18.2.3 Alarm representation selection 194
18.2.4 Alarm filtering 195
18.3 Smart Recognition 195
18.3.1 Open the plugin and view live detection events 195
18.3.2 What / Who Filtering 196
18.3.3 Reset filters 199
18.3.4 Customizable UI 199
18.3.5 Export 199

18.3.6 Add face or license plate to identity 199
18.3.7 Quick search 200
18.4 Smart List Management 200
18.4.1 Open the plugin and access the list management 200
18.4.2 Main plugin view 202
18.4.3 Add a new identity or modify a selected identity 203
18.5 Spotter Easy LPR 206
18.5.1 Main features 206
18.5.2 How to use Easy LPR 207
18.6 Spotter Camera Carousel 234
18.6.1 Camera grid tour settings 234
18.7 Incident Reporting 237
18.7.1 Opening the Incident Report 237
18.7.2 Creating an Incident Report 237
18.7.3 Adding evidence to the Incident Report 238
18.7.4 Editing the Incident Report 241
18.7.5 Exporting the Incident Report & Daily Log 242
18.7.6 Searching the Incident Reports 243
18.8 Monitor Manager 243
18.8.1 Enable Monitor Manager Plugin 244
18.8.2 Monitor Manager Device Grid 244
18.8.3 Time slider: Control Monitor Manager from Operator Console 244
18.9 Mirasys Video Wall Management (AVM) 245
18.9.1 Mirasys Video Wall Management Device Grid 245
18.9.2 Time search AVM from Operator Console. 245
18.10 Profile Maps 245
18.11 Profile Map Devices 246
18.12 Spotter Storage Locker 247
18.12.1 Searching the Storage Locker content 247
18.13 Spotter Web Browser 248
18.14 VLC Player plugin 249

18.14.1 Play 250
18.14.2 Auto-play 250
18.14.3 Show or hide URL 251
19 Input devices 251
19.1 DirectX devices 251
19.1.1 DirectX control devices 251
19.1.2 Spotter 252
19.2 AXIS joystick 253
19.2.1 Refactoring in Mirasys 8.3.3 253
19.2.2 Default setup support 254
19.2.3 Axis T8311 default setup 254
19.2.4 Axis T8312 keypad default setup 255
19.2.5 Axis T8313 jogdial default setup 255
19.2.6 Related links 255
19.3 VM Desktop default setup (DirectX and AXIS) 255
19.3.1 VM Desktop default setup 256
20 Spotter 360 Cameras 260
20.1 360 De-Warping 260
20.1.1 Configuring 360 camera de-warping 260
20.1.2 Single view 261
20.1.3 Panorama 262
20.1.4 Quad 263
20.2 Direct Control of 360 Cameras 264
21 Spotter Settings 265
21.1 Spotter General Settings 266
21.1.1 Language 266
21.1.2 Password settings 266
21.1.3 Automatic logon 267
21.1.4 Default layout 267
21.1.5 Protection 268
21.2 Spotter Video export 268

21.2.1 Export video 269
21.3 Spotter Image export 270
21.3.1 Export an image 270
21.4 Spotter Storyboard Settings 270
21.5 Spotter Storyboard draft settings 272
21.5.1 Password Protection for Drafts 272
21.5.2 Accessing Storyboard Draft Settings 273
21.5.3 Configuring Storyboard Draft Settings 273
21.5.4 Opening a Password-Protected Draft 274
21.6 Spotter Alarm Settings 274
21.6.1 Spotter Alarm visualization settings 274
21.6.2 Spotter Alarm View settings 275
21.6.3 Spotter Alarm popup settings 276
21.7 Spotter Plugin Specific Settings 278
21.7.1 Spotter AVM Operator Console settings 279
21.7.2 Spotter Camera Carousel settings 280
21.7.3 Spotter Monitor Manager settings 281
21.7.4 Spotter Profile Map settings 282
21.7.5 Spotter Profile Map Devices settings 283
21.7.6 VLC Player settings 283
21.7.7 Spotter Web Browser settings 285
21.7.8 Spotter Camera 360 settings 286
21.7.9 Spotter VCA visualization settings 287
21.8 Spotter Streaming Settings 288
21.9 Spotter Video settings 289
21.9.1 Video decoding 289
21.9.2 Video rendering 290
21.9.3 Video scaling 290
21.9.4 Video data format 290
21.10 Spotter Display Settings 290
21.10.1 Show on top of the video 291

21.11 Spotter Data Cache Settings 295
21.12 Spotter Advanced Settings 296
21.12.1 Video 296
21.12.2 External AVM API 296
21.12.3 Public Web API 297
21.12.4 VCA usage 297
21.12.5 PTZ control default settings 297
21.12.6 Main server reconnection 297
21.12.7 Activity data 297
21.12.8 Frequently Used Keyboard Shortcuts: 297
22 Spotter Keyboard Shortcuts 297
22.1 Spotter keyboard shortcuts 297
22.2 Windows 297
22.3 Alarms 298
22.4 Dialogs 298
22.5 Show/hide components 298
22.6 Moving focus 299
22.7 Full-screen window 299
22.8 Tabs 302
22.9 Profile window 303
22.10 Playback time and speed 303
22.11 Misc 304
22.12 Item selection in a tab 305
22.13 PTZ camera control 305
22.14 I/O control 306
22.15 Camera tour 306
22.16 Camera view 306
22.17 Camera window settings 306
22.18 Export time 307
23 Spotter About Screen 307

Spotter Guide

1 INTRODUCTION

Mirasys Spotter is a modern, easy-to-use application for viewing live and recorded video and exporting video clips.

Mirasys Spotter can be used to create multi-monitor configurations with multiple independently operating device tabs and windows.

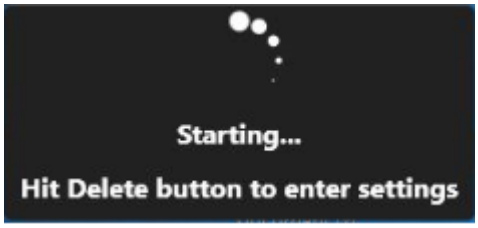
A spotter can also be used to connect to multiple different VMS Servers simultaneously.
Spotter supports camera tours, alarms, audio, I/O feeds, text channels, the opening of video archives and clips, as well as layouts for storing and accessing desired configurations.

A spotter is expandable with various plug-ins like Mirasys Video Wall (MVW) video matrix option (add-on).
This feature's availability depends on the VMS type you have purchased (Base, Pro or Enterprise).

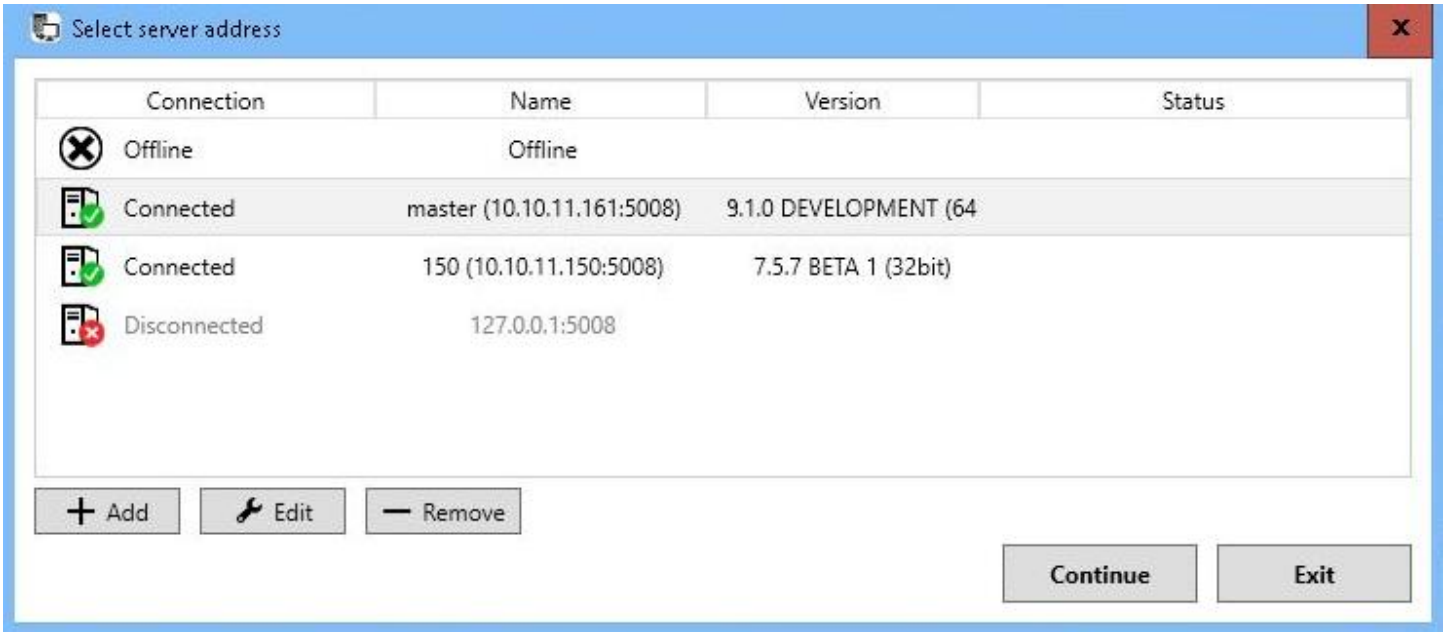
2 STARTING SPOTTER AND LOGGING IN



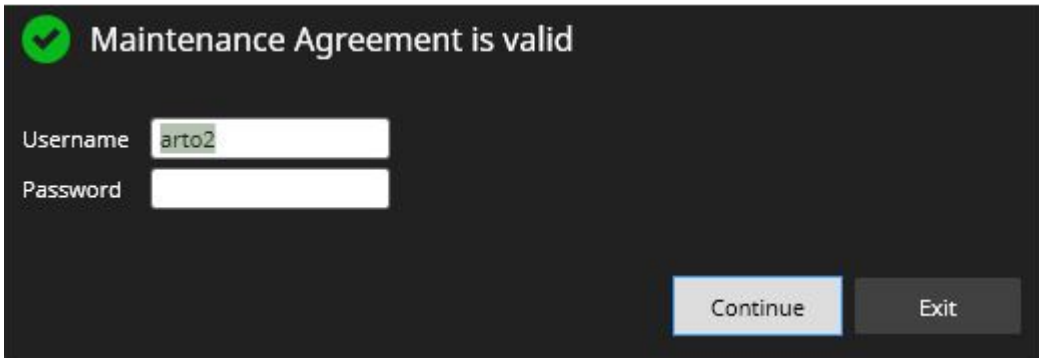
A Spotter is started by double-clicking the Spotter icon on the desktop. It is also possible to start Spotter automatically when the computer boots up.
It is possible to create shortcuts that control to which Main Server Spotter connects. The application launcher dialogue for site selection can be accessed by pressing the "Delete" button on the initial dialogue when the spotter is launched as administrator.



The site selection list contains the list of all the Main servers that have been configured. More servers can be added, or the details of existing servers can be edited with the add and edit options. Users can choose a server and press "**Continue**" to log in to that server.



The system will log in to the last server if the site selection screen is not accessed during Spotter's startup. It is possible to log in to different versions and servers that are 32-bit or 64-bit versions. The settings and other site-specific information and resources for different servers are stored separately. After choosing a server and continuing, the login screen is shown (unless the user has selected automatic login for this server).



The user can enter his/her username and password here and then "Continue" to log in. It is possible to have multiple Spotter windows logged in to different servers simultaneously. After logging in to one server, the user can re-start Spotter from the desktop icon, enter the site selection dialogue and select another site. All site-specific operations such as layout saving only affect the Spotter settings to which the user is logged.

2.1 Postpone Spotter restart

When the system is updated, and there comes an event that the client needs to be restarted, if postpone Spotter restart is set on Spotter user roles, then the client restart is postponed. Postponing time is defined in the Spotter user role. Postpone time and the possibility to trigger Spotter restart are shown in Spotter UI.

2.2 TWO-FACTOR AUTHENTICATION (2FA)

Two-Factor Authentication (2FA) provides an additional layer of security for your account by requiring a second verification step in addition to your username and password. This ensures that only authorized users can access the system, protecting sensitive video data and system configurations.

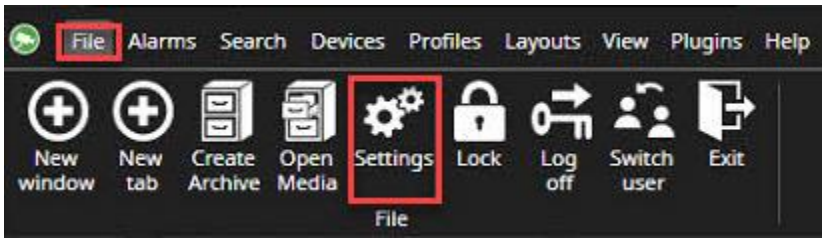
2FA is enabled in System Manager by your System Administrator.

2.2.1 How to Use 2FA During Login

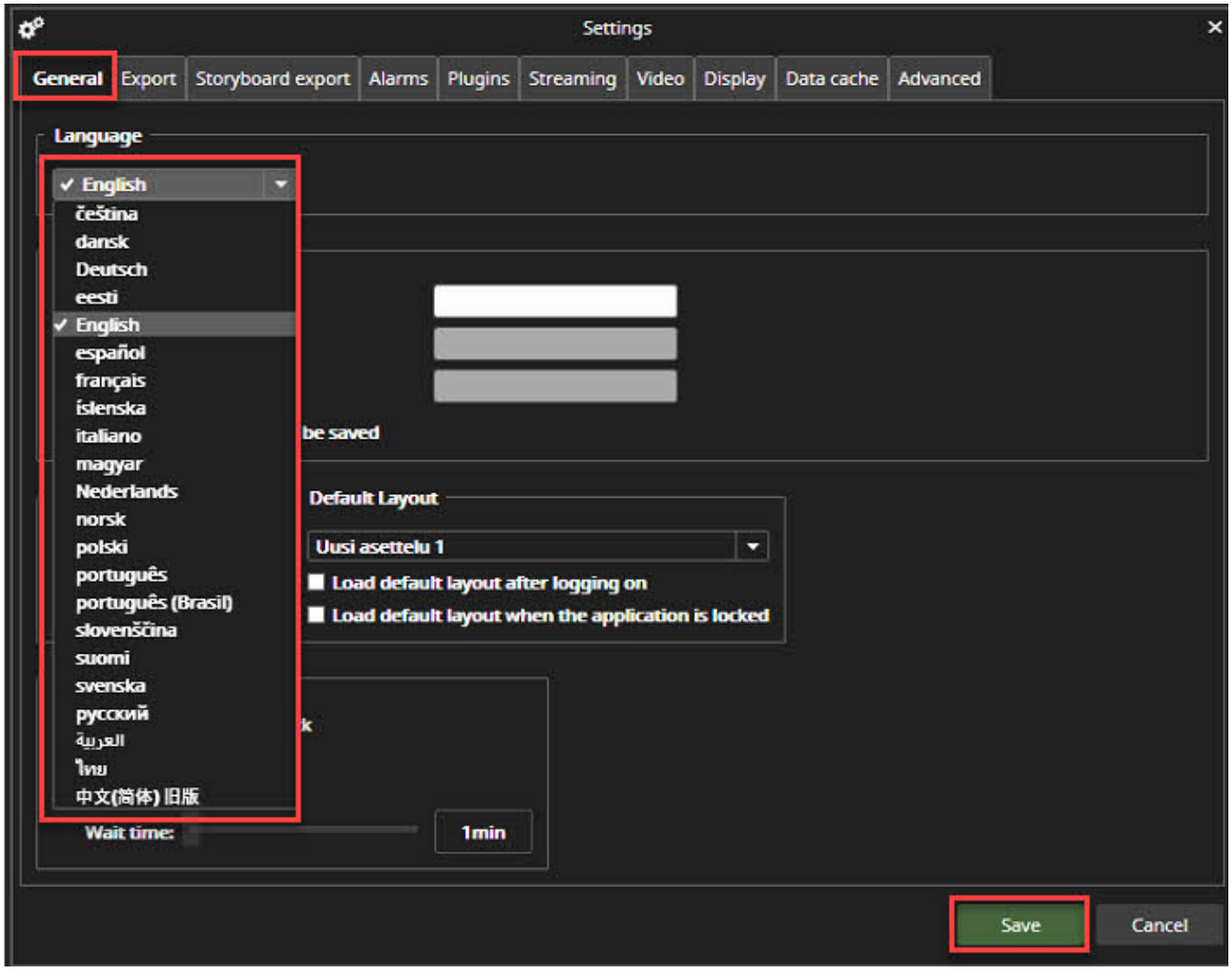
1. Log in as Usual, entering your username and password.
2. You must scan the QR code and enter the generated code the first time you log in.
3. You will be prompted to enter the code from your authenticator app.
4. After verifying your identity with the 2FA code, you will be securely logged in to the VMS.

3 CHANGING THE SPOTTER LANGUAGE

1. Click **File\Settings**



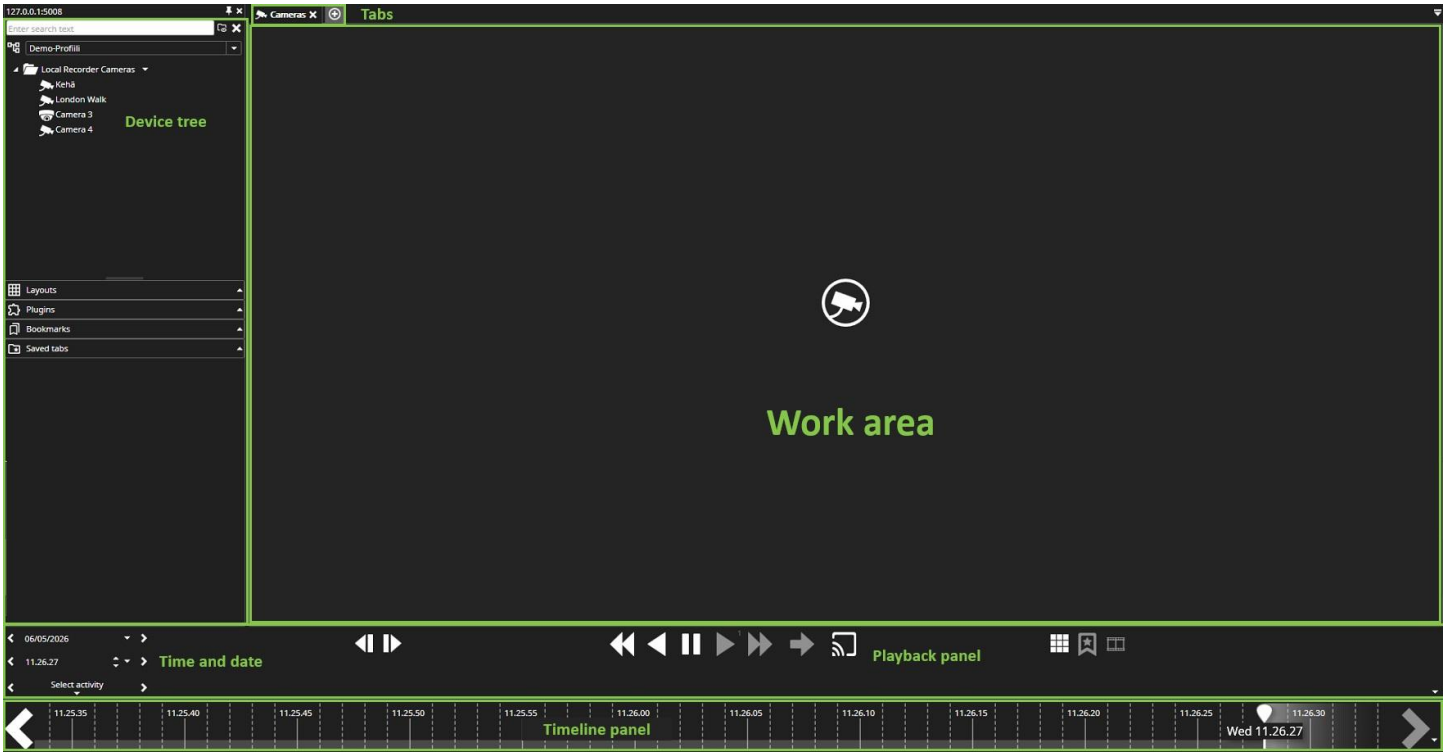
2. Select a correct language from the drop-down list



3. Click **Save**

4 SPOTTER UI

Here you can see an overview of the different Spotter user interface components.



4.1 Spotter Title Menu

4.1.1 File

Various functions can be accessed from the File menu.

4.1.1.1 New Window

New Windows opens independent Spotter Window, which can be dragged for example to another monitor.

4.1.1.2 New tab

A new tab creates a new device tab in the work area.

4.1.1.3 Create Archive

See more from Create Archive

4.1.1.4 Open Media

The opening created archive or media clip

4.1.1.5 Settings

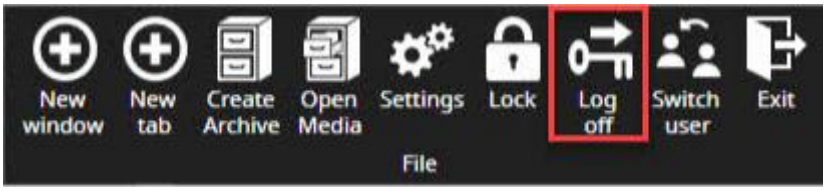
See more from Settings

4.1.1.6 Lock

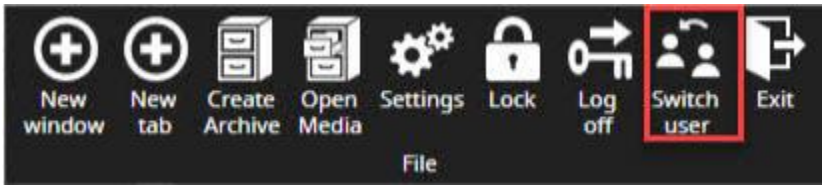
The user can manually lock and log off Spotter from the File menu.

4.1.1.7 Log off

Using Log off, users can end the Spotter session and go back to the login screen.



4.1.1.8 Switch user

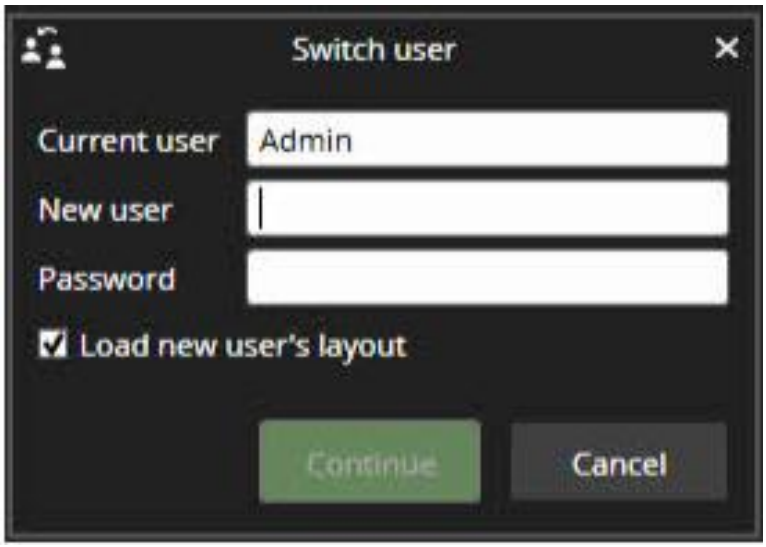


Switch user option allows change logged users without logoff.

When the **Switch user** is selected, the current user is shown.

1. Enter a new username and password
2. Click **Continue**

As default new user´s layout is loaded



4.1.1.9 Exit

- With the Exit, the user can close the Spotter application

4.1.1.10 Alarms

See more from Alarm Management

4.1.1.11 Search

See more from Search Tools

4.1.1.12 Devices

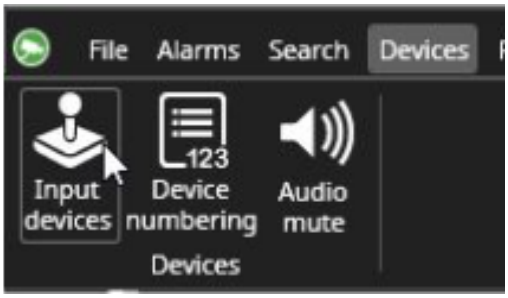
4.1.1.12.1 Input devices

You can use any DirectX compatible joystick as a control device.
A joystick can be fully configured, and each button can be assigned a customizable function.
Before a joystick can be taken into use, it needs to be configured, first in Windows, then in Spotter.
To calibrate a joystick in Windows, open the Control Panel and find "Set up USB game controllers" under "Devices and printers".

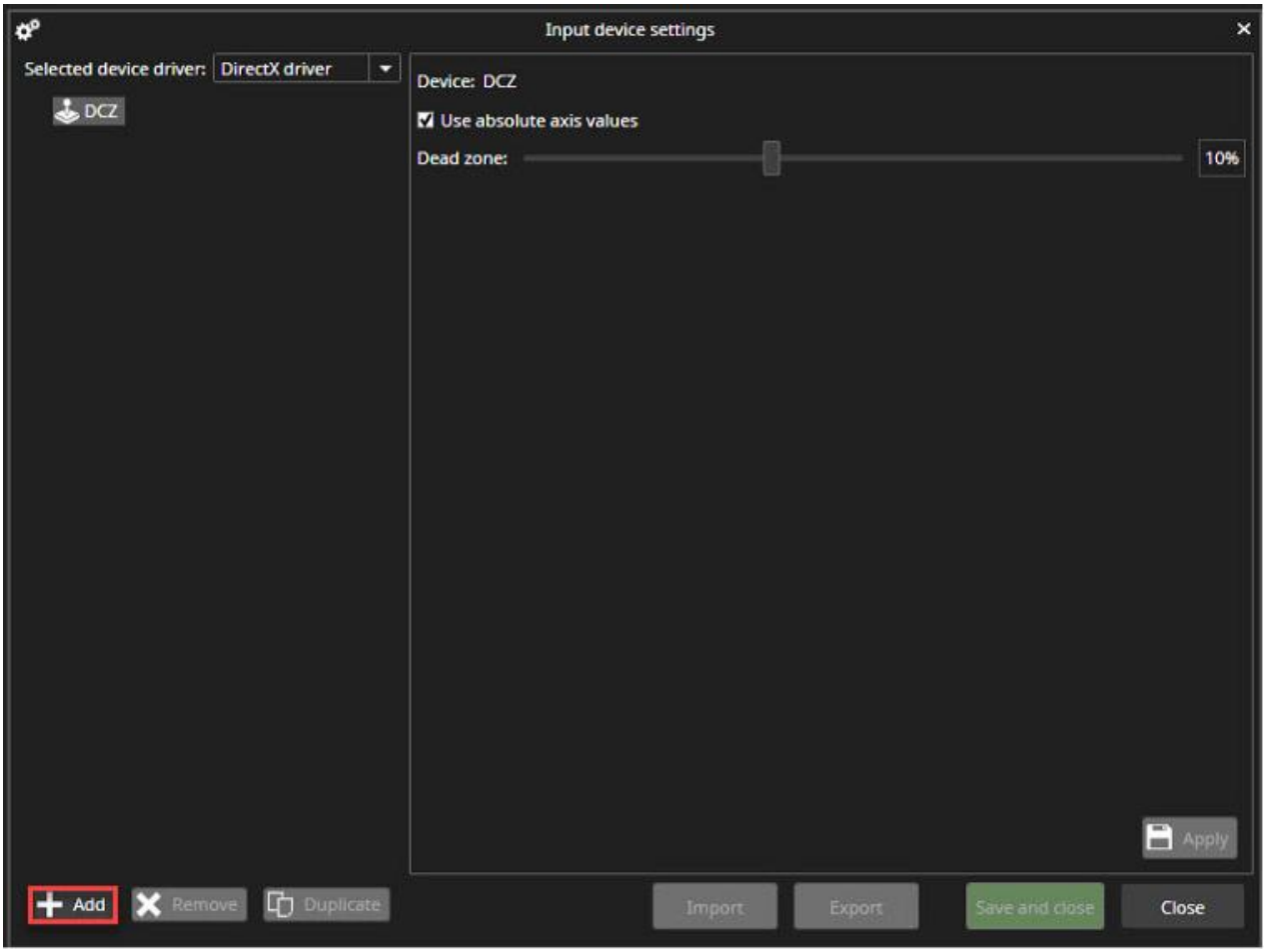
Follow the instructions on calibrating the joystick.

4.1.2 Adding Input devices

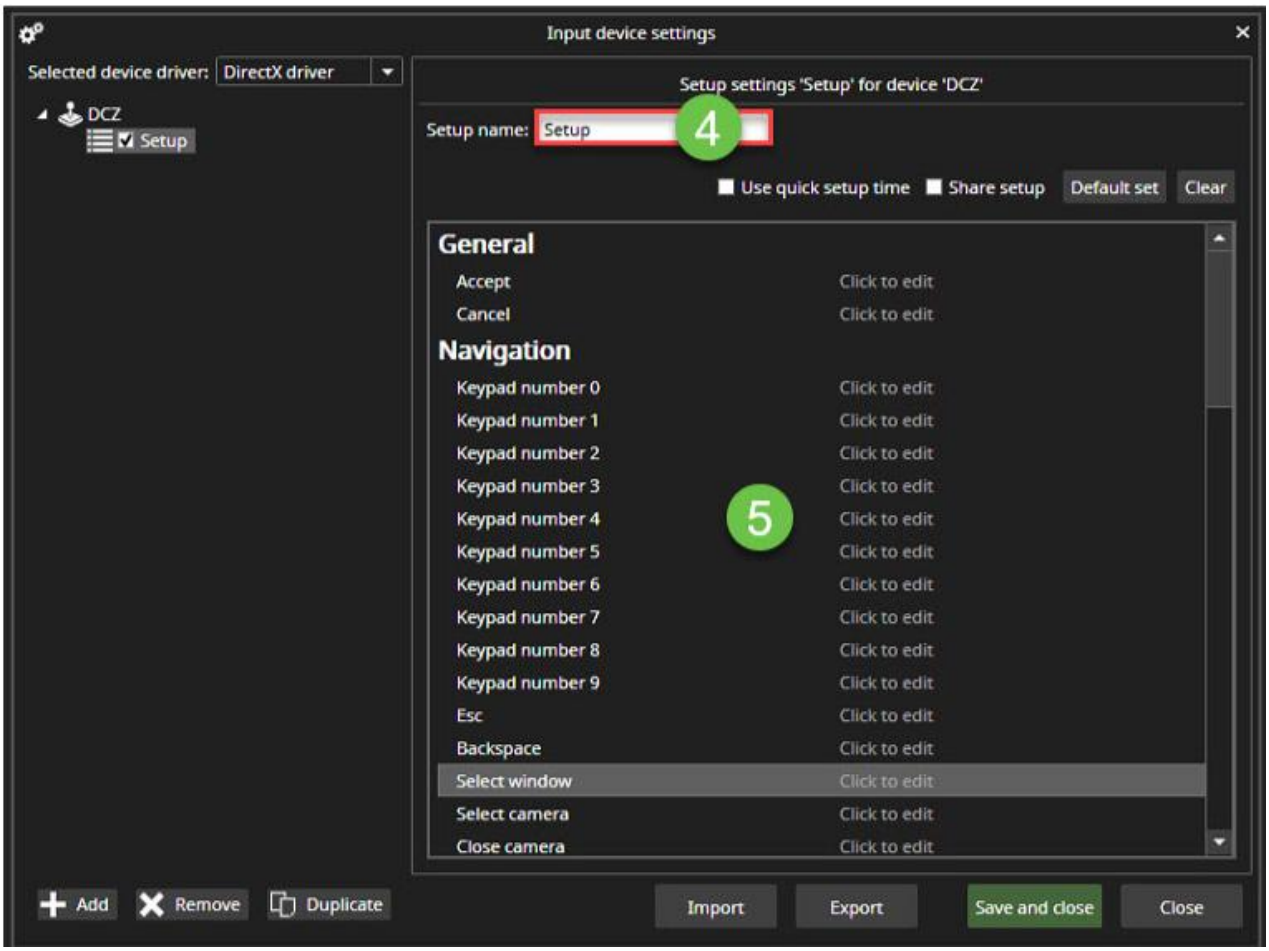
1. Start Spotter
2. Go to **Devices** and open **Input devices**



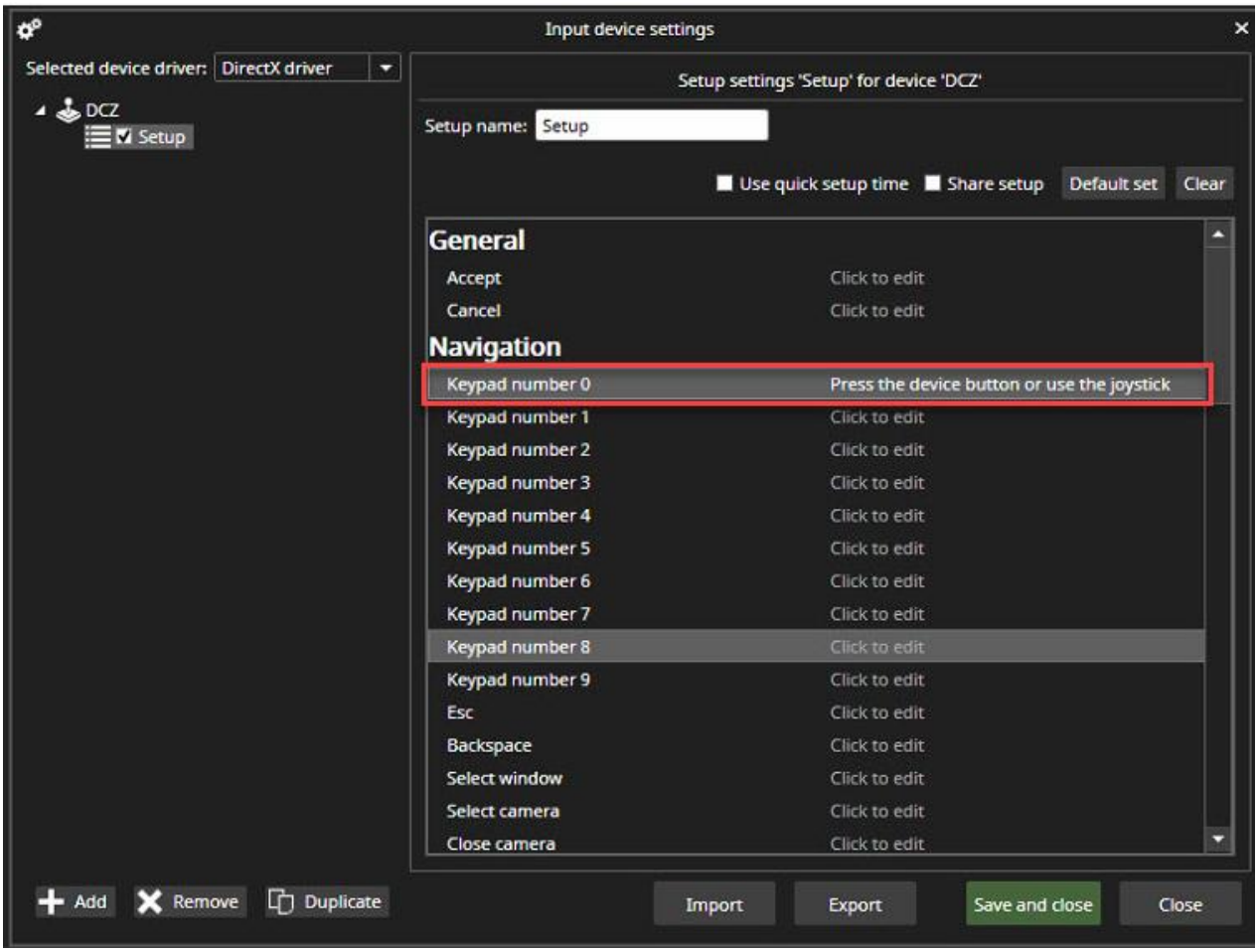
1. If the "Setup" line item is not visible, add it using the "+ **Add**" button.



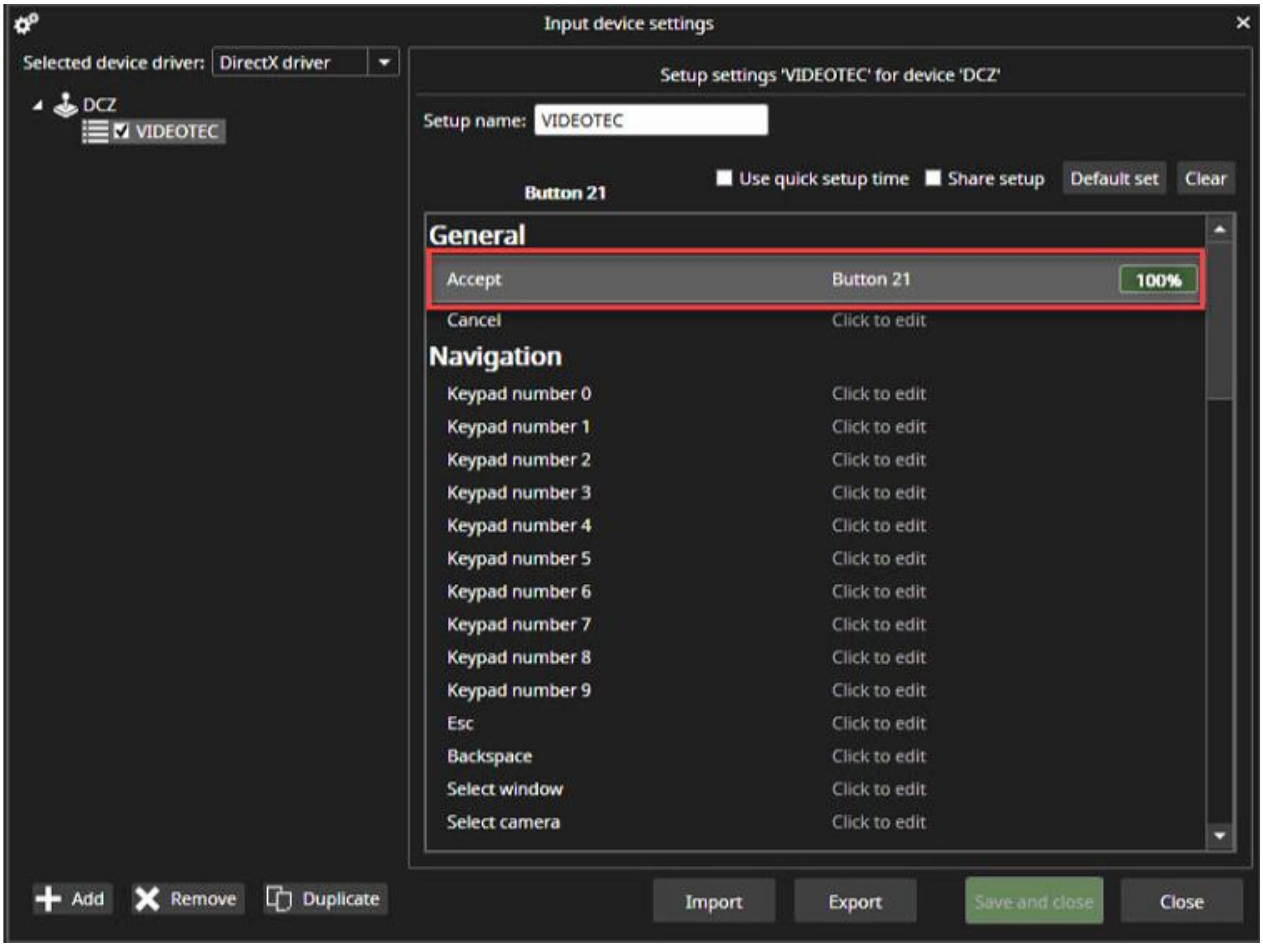
1. Define the Setup name
2. Start configuring the buttons by clicking **Click to edit**



1. Select functions from the list
2. Click **Press the device button or use the joystick**



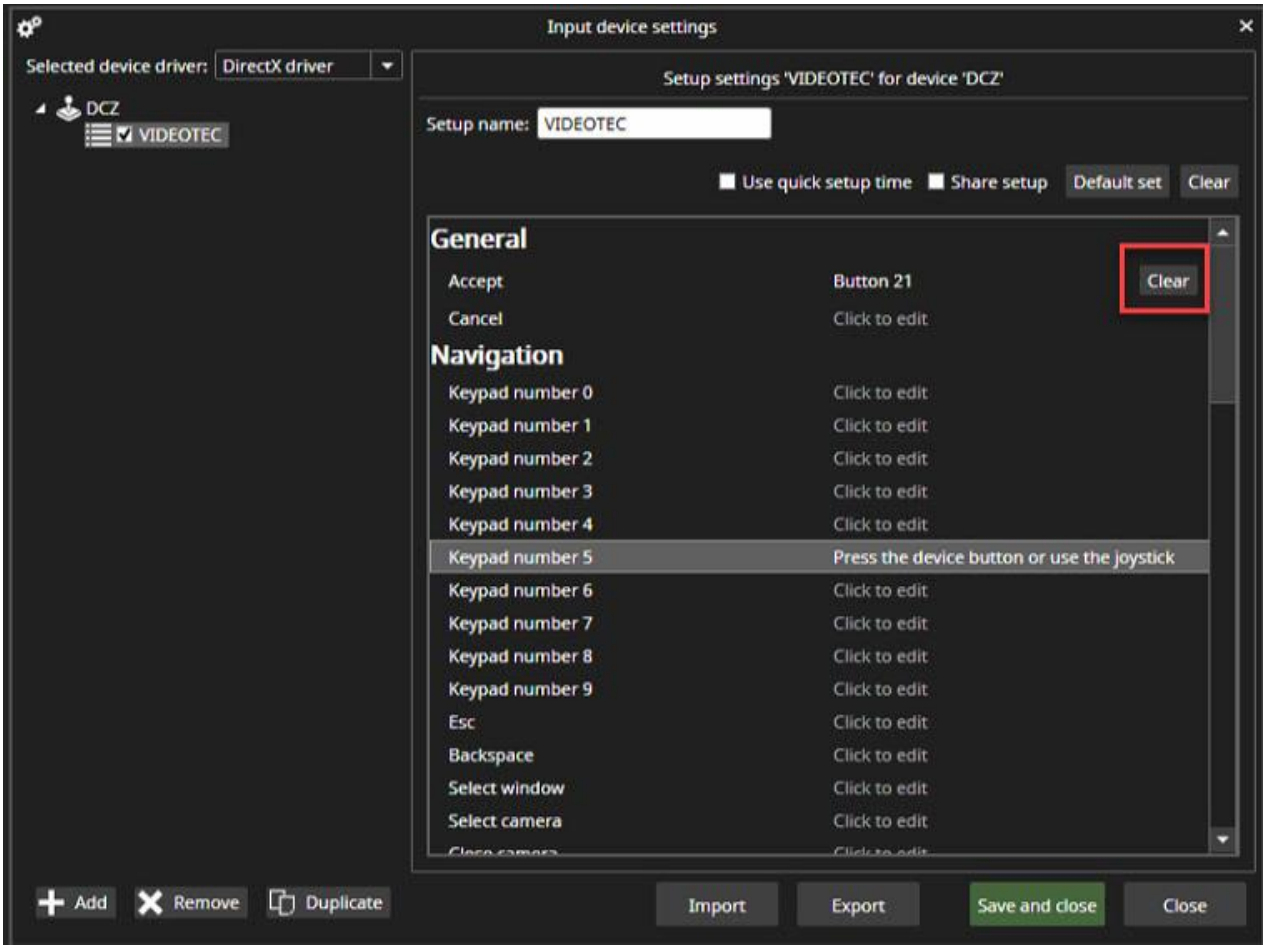
1. Press the select button until the value reaches 100% and the release button



1. When the button is correctly initialized, the clear button appears at the end of the line
2. PTZ Pan/tilt and Zoom speed can be set by entering a minimum and maximum value. The default range is 1-16.



1. Repeat the actions and finalize by clicking **Save and close**



4.1.2.1 Profiles

Profiles contain all profiles, which has been added to the user group

4.1.2.2 Layouts

4.1.2.3 View

4.1.2.3.1 View-tab contains view options for:

- Zoom
- Edit Custom grids
- Playback
- Timeline
- Device tree
- Description

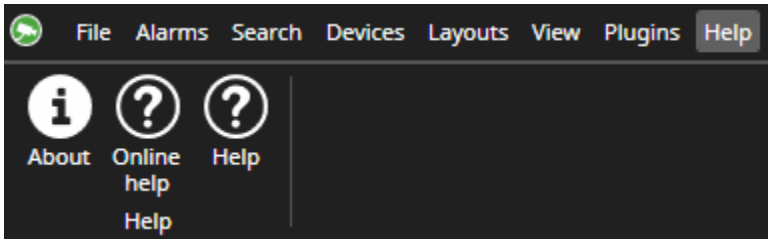
- Alarms
- Storyboard
- Tabs
- Utility Bar
- Auto Hide

4.1.2.4 Plugins

See more from Plugins

4.1.2.5 Help

Spotter contains built-in help. The help is accessible from the Help menu or by pressing the F1 key.

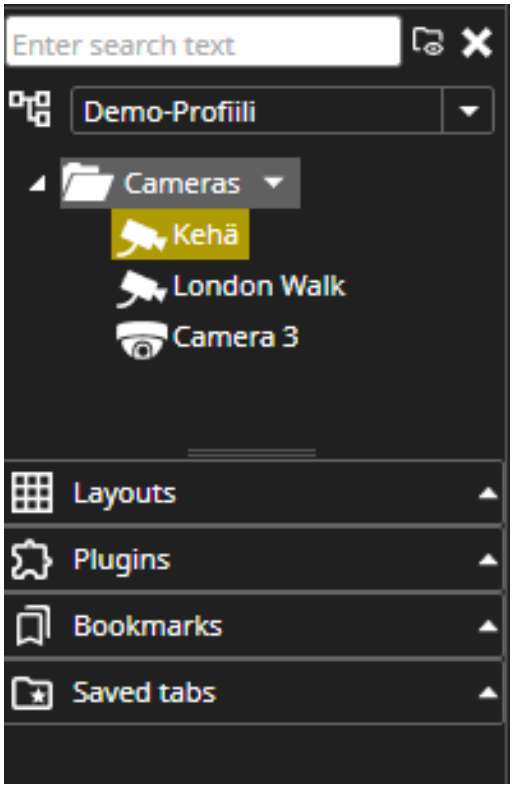


Spotter PDF help guide can be directly accessed by clicking **Help** on the Help menu. The guide is available in English, Finnish, and German: if one of these languages has been selected in Spotter, the guide will be in the selected language. If a different language has been selected in Spotter, the English version of the guide will be displayed. The guide is opened with the default PDF document reader.

Help contains information on new features and valuable things like keyboard shortcuts and links to view training videos.

4.2 SPOTTER DEVICE TREE

The Device tree title shows the name of the Main Server that Spotter is connected to.
Below is a search field that can be used to filter the tree contents.
Any text entered in the area can be removed with the "X" control or by pressing the Esc-key.
This also clears all profile folder searches.



The Device tree contains five different types of content that can be opened to the work area.

4.2.1 Profile

The currently selected profile, which includes the cameras and other devices, is the first item.
The shape can be changed from the title menu.
Each profile folder can be searched independently using profile folder search.

4.2.2 Device states

When the device is in another state, for example, no signal, connecting, and connection, there is an icon on top of the device symbol.

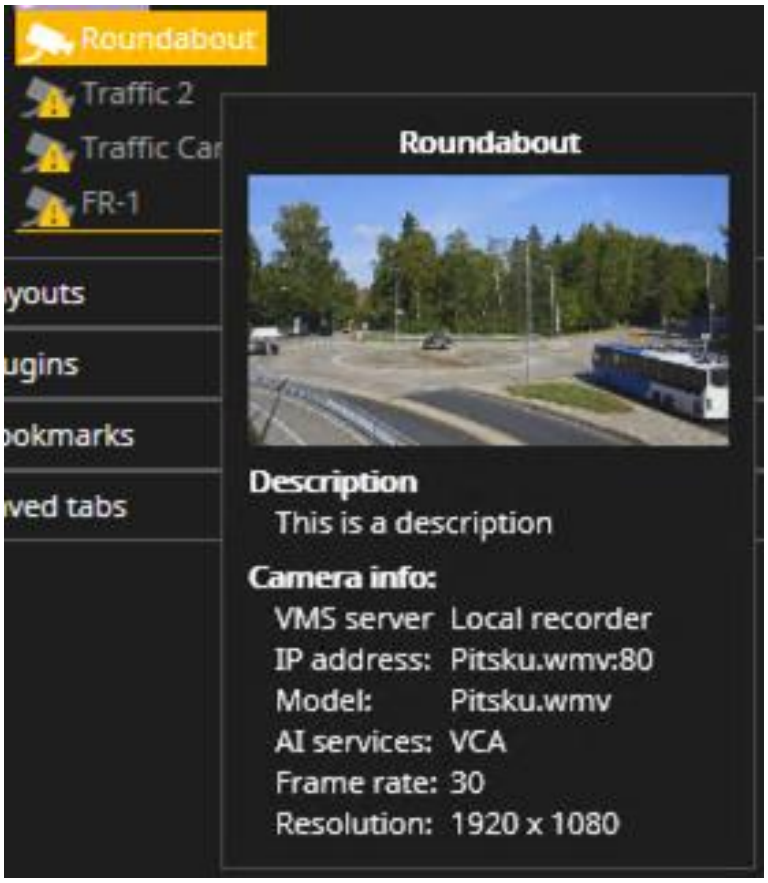


4.2.3 Alarms

If a device is used as a trigger or an alarm action in an active alarm, it has a yellow highlight colour.
The colours for active and ended alarms can be adjusted in the **Alarm Visualization Settings**
Alarms can also be assigned a custom colour that can be specified for each alarm separately.

4.2.4 Device name, thumbnail descriptions, and camera info

The name and description are visible in the device tooltip—unique icons for the System Manager Profile Settings devices.



When an Operator has permission to see the Camera info in Spotter, they will see the information chosen in System Manager in the tooltip, indicating what information it is (VMS Server, Server info, IP address, Camera model, AI features used, Resolution, Frame rate settings), and this information will be searchable through the search bar above the device tree in Spotter.

4.2.5 Profile search for folders

Profile search results can be adjusted with the “Show content” option when searching for folders. When the option is enabled, search results will include folders matching the search term and their full contents. If the option is disabled, only the folders matching the search term will appear (folder content is not displayed).

Show content can be enabled or disabled by clicking the folder icon next to the search bar. When the option is enabled, the icon turns white.

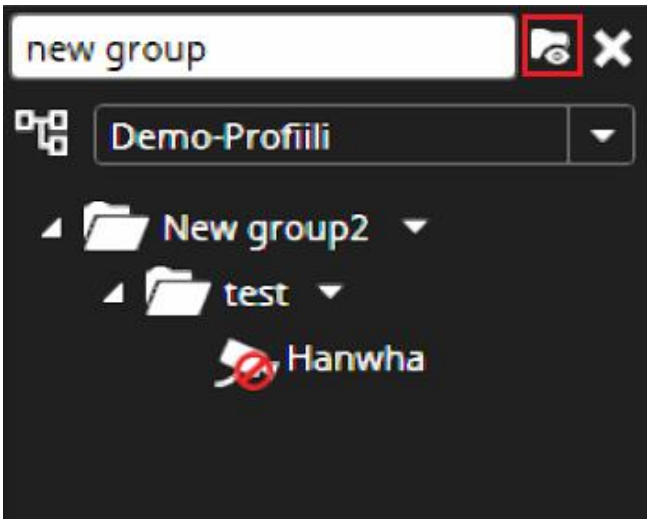


Figure 1 Results matching the search are displayed, including folder content

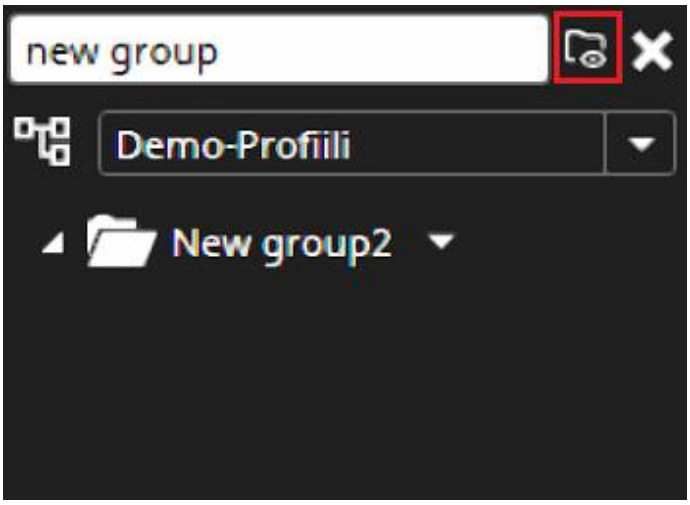


Figure 2 Only results matching the search text are displayed

4.2.6 Open or close all folders in Spotter profile tree

All profile folders in the Spotter profile tree can be opened or closed at once to save time. The option Expand All opens all folders, and the option Collapse All closes all folders.

Opening or closing all profile folders:

1. Right-click on top of the profile tree folder
2. Select either **Expand All** if you wish to open all folders or **Collapse All** if you wish to close all folders

4.2.7 Frequently Used Keyboard Shortcuts:

Shortcut	Description
Ctrl+Alt+D	Cycle between the different device tree view modes

4.3 Spotter Utility Bar

The Utility Bar is located under the Device Tree, and shows the following:

4.3.1 Layouts

Contains all the available layouts for the current user if configured.

4.3.2 Plugins

Contains all plugins, which are enabled in the main server license

4.3.3 Bookmarks

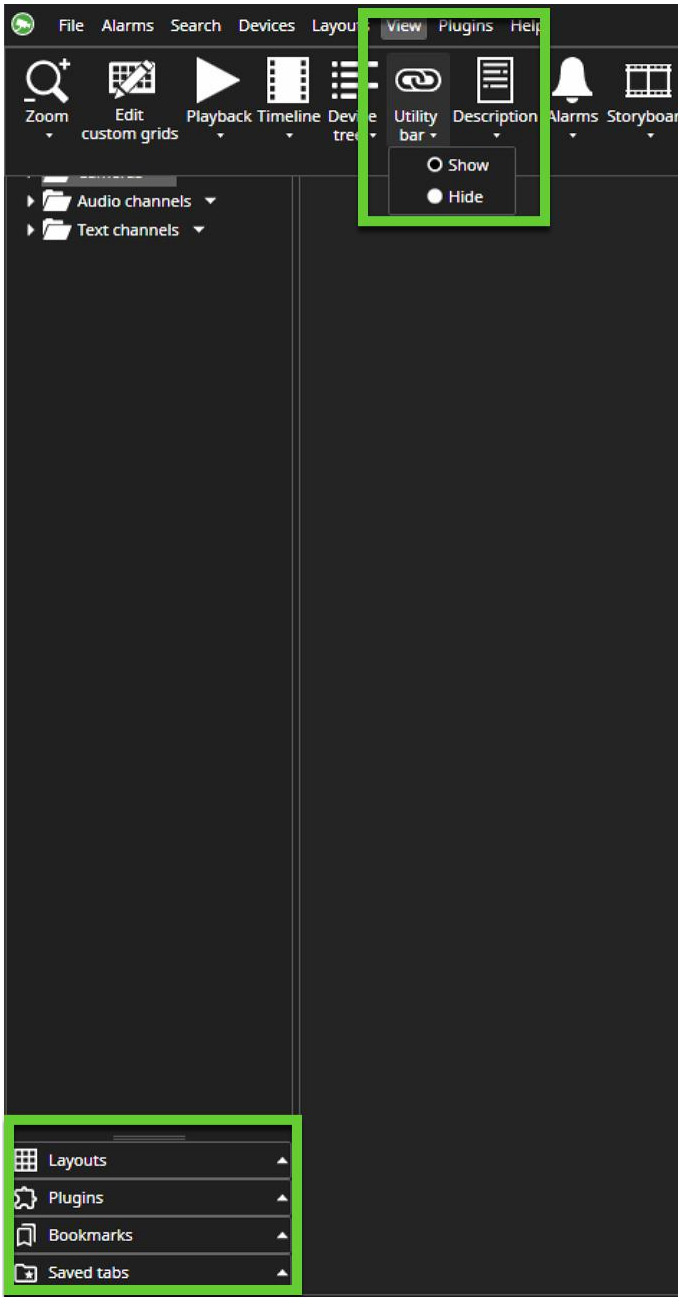
Contains all specific user-saved and shared bookmarks

4.3.4 Saved tabs

Contains all tabs that the user has saved.

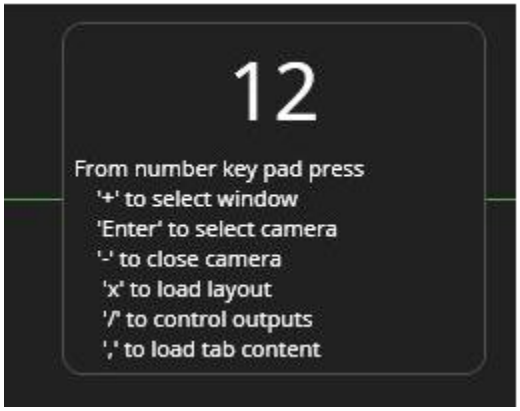
4.3.5 Hide the Utility Bar

To hide the utility bar, go to **View** in the top menu. Under the **Utility Bar**, you can select to show or hide it. The utility bar is displayed by default.



4.4 SPOTTER DEVICE NUMBERING

The shortcut numbers for cameras are assigned via the system manager at the profile level.
The configured keyboard shortcuts can be accessed anywhere in Spotter by using the numeric keypad.
The entered numbers show up in a popup dialogue.



The dialogue can be positioned anywhere in the Spotter window, and it will remember the set location.

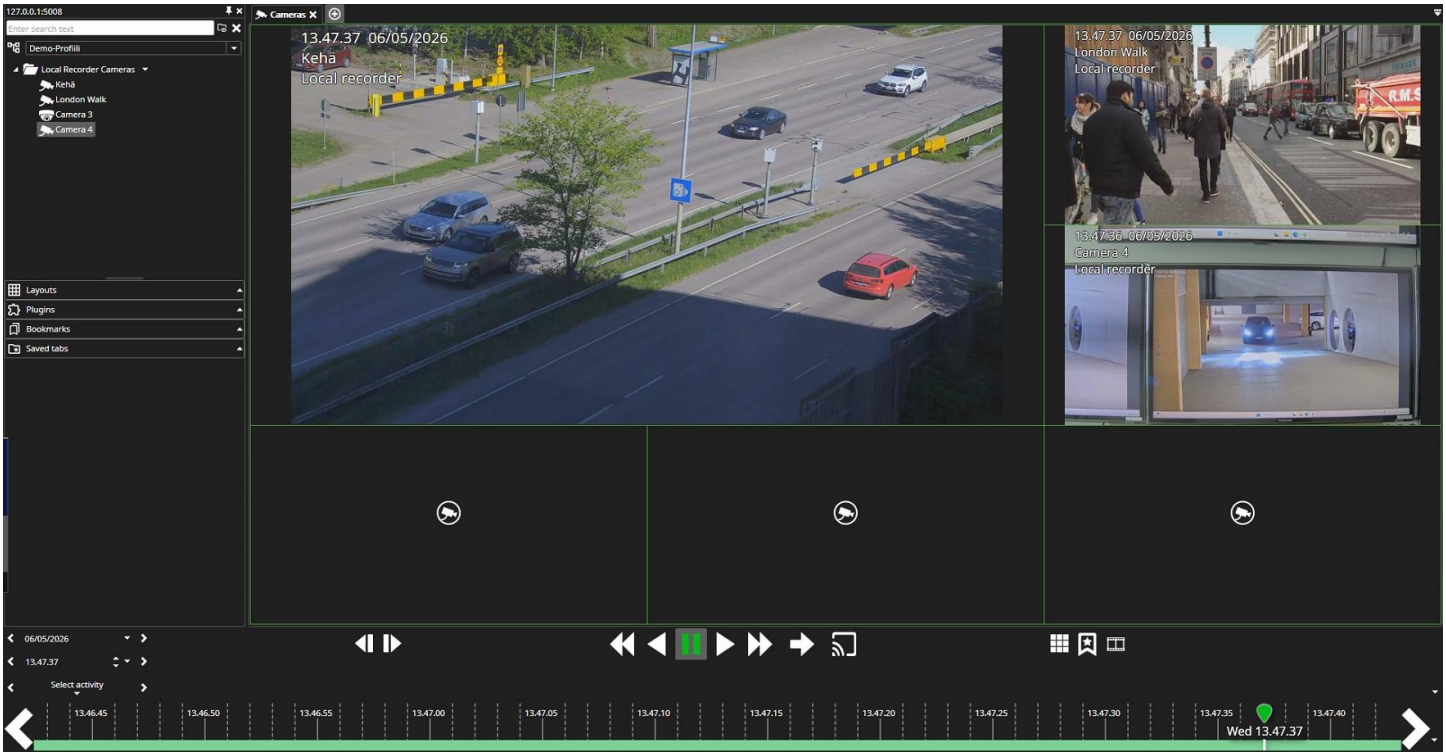
When the following Numpad keys follow the numbers:

- Enter: The camera is opened.
- Double-Enter: The camera is opened and maximized, and if a PTZ camera, the PTZ control is assumed.
- "+": Spotter window is selected.
- "-": the camera is closed.
- "/": layout is loaded.
- ",": saved tab is loaded.

The device numbering settings can be exported and imported to another PC. The import works only if the same profile is active.

4.5 Spotter Work Area

The work area is the region of the Spotter window where the content of the devices can be viewed.
When cameras and other devices are added to the work area, they automatically open the stream to the playback position or the live position of the work area.



4.6 SPOTTER PLAYBACK PANEL



With the playback buttons, the user can choose the direction and speed of the playback.
With each mouse click, the speed can be increased (**left click**) or decreased (**right-click**).
The speed is indicated with a small number on the button.





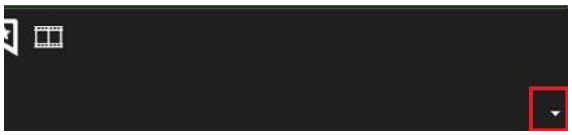
Very low speeds 1fps, 0.1x, 1/8x, 1/4x and 1/2x are accessible only with the slider or by clicking with mouse right button on the playback button to reduce the speed.

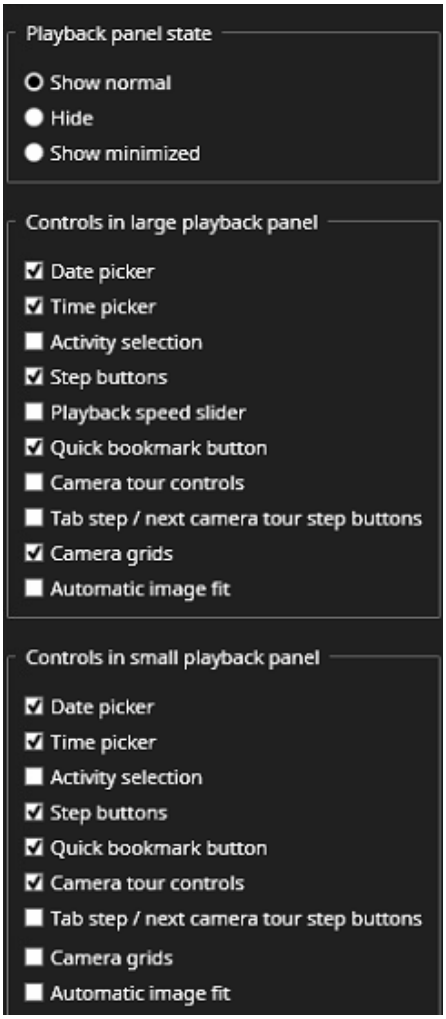


If the user wants to go to real-time mode, there is a **Go to current time** button.

4.6.1 Playback panel controls

Using the small arrow to the right of the playback panel, the user can configure which controls are displayed in the two available view modes for the playback panel.





4.6.1.1 Playback panel state

- Show normal
- Hide
- Show minimized

4.6.1.2 Controls in the large playback panel

- Date picker – Set the date of the footage you wish to view
- Time picker - Set the time of the footage you wish to view
- Activity selection – Select an activity to move to
- Step buttons - Step forward or backward in the footage by one frame
- Playback speed slider - Set the playback speed with the slider control
- Quick bookmark button – Create a fast bookmark of the footage
- Camera tour controls – Options for camera tours
- Tab step / next camera tour step buttons – Move between camera tours
- Camera grids – Select the grid type for cameras to be displayed in
- Automatic image fit – Set image fitting to Off, Crop, or Stretch

4.6.1.3 Controls in the small playback panel

- Date picker
- Time picker
- Activity selection
- Step buttons
- Quick bookmark button
- Camera tour controls
- Tab step / next camera tour step buttons
- Camera grids
- Automatic image fit

The only control that is not available in minor view mode is the Speed slider.

4.6.2 Date And Time Controls

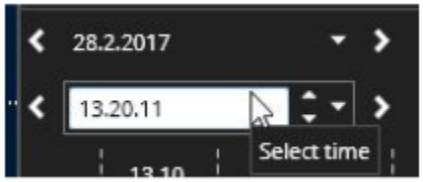


The date and time controls show the selected date and time.

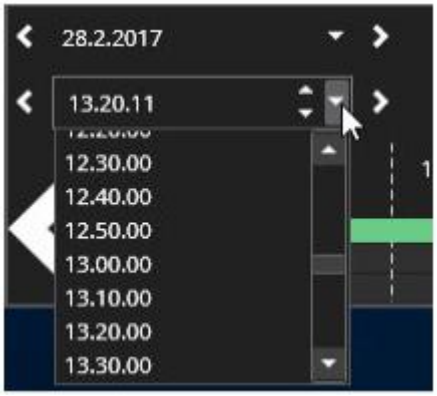
The user can change the date by opening the calendar.



The buttons left and the date adds or subtracts one day from the currently shown day.
It is also possible to click on the date box and enter the date manually.
The buttons left and right of the time add or subtract one hour.
Like with the date selector, it is possible to click on the time box and manually enter the time box.

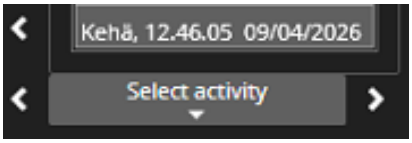


It is also possible to quickly set time with 10-minute accuracy using the pulldown menu.



4.6.3 Activity selection

With the Select Activity function, you can go to an activity by choosing an activity from the list. The arrow buttons can be used to move to the next or the previous activity.



4.6.4 Sharing Spotter view

Spotter view can be shared by clicking “Cast tab content to viewing station” on the playback panel. The viewing station can be selected from the dialog that opens up. The sharing can be stopped by clicking again the same button that was clicked to start sharing, and selecting “Stop sharing“ in the dialog window.



Figure 3 Cast tab content to viewing station

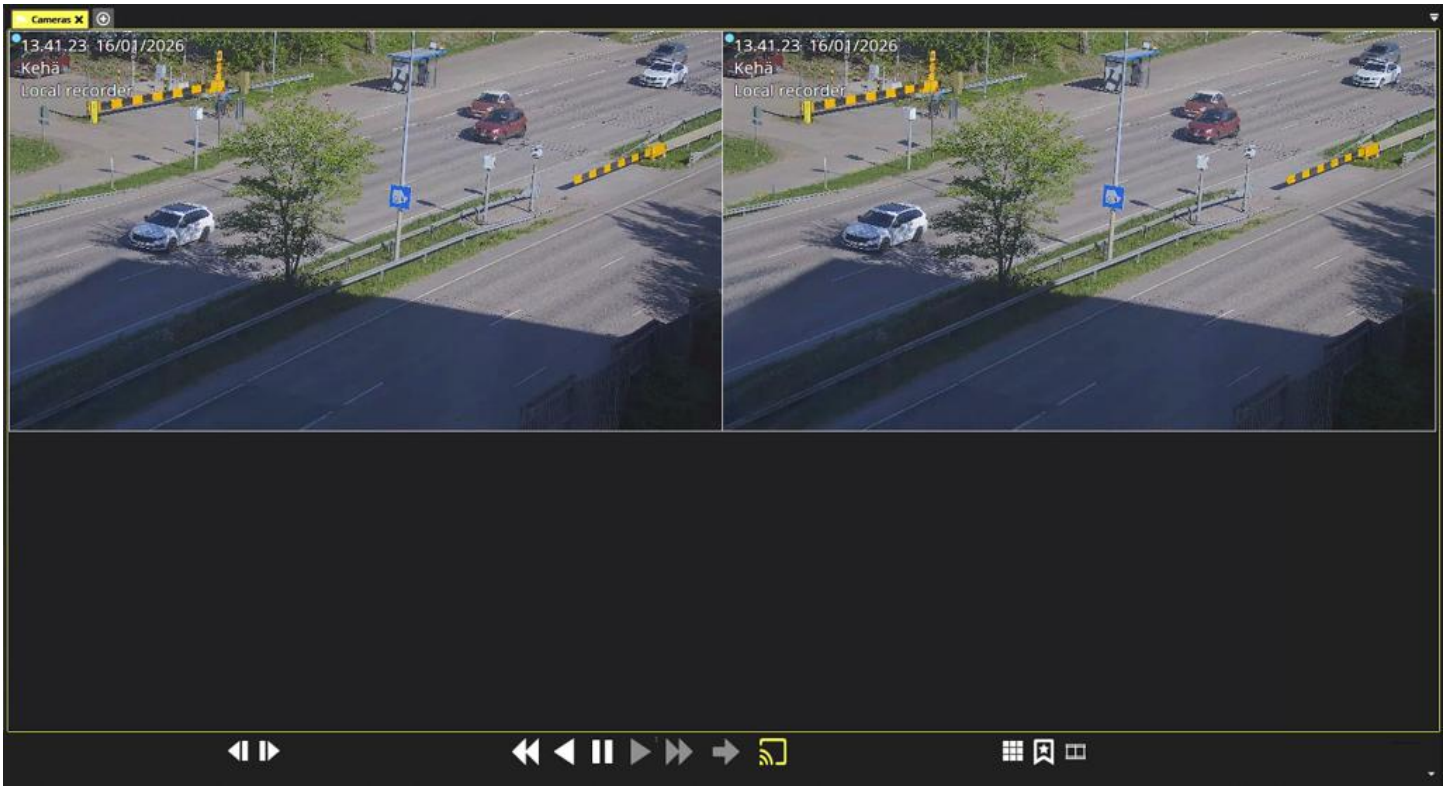


Figure 4 Spotter when sharing is active

4.6.5 Frequently Used Keyboard Shortcuts:

Shortcut	Description
Ctrl+Right	Set playback time +30 seconds.
Ctrl+Left	Set playback time -30 seconds. If in real-time mode, switch to playback mode first, and set 1x speed.
Ctrl+Space	Pause playback.

Ctrl+Enter	Go to real-time.
Ctrl+Alt+C	Cycle between different view modes.

5 REAL-TIME MODE

Real-time mode is shown when the playback controls are white and grey, and the timeline indicator is white. Selected cameras show the current time in the upper left corner of the stream.



5.1 OPENING SINGLE CAMERA OR DEVICE

- Double click camera from device tree
- Drag camera from device tree to the work area

5.2 OPENING DEVICE GROUP

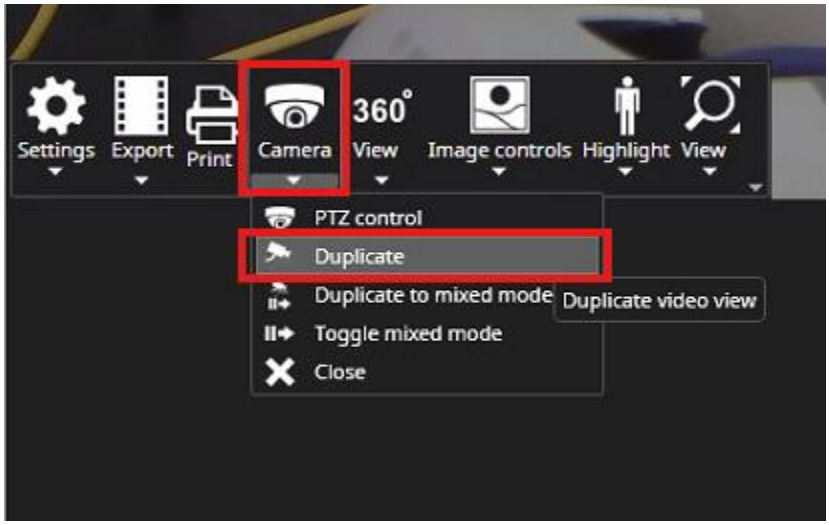
- Double click device group from device tree
- Drag device group from device tree to the work area



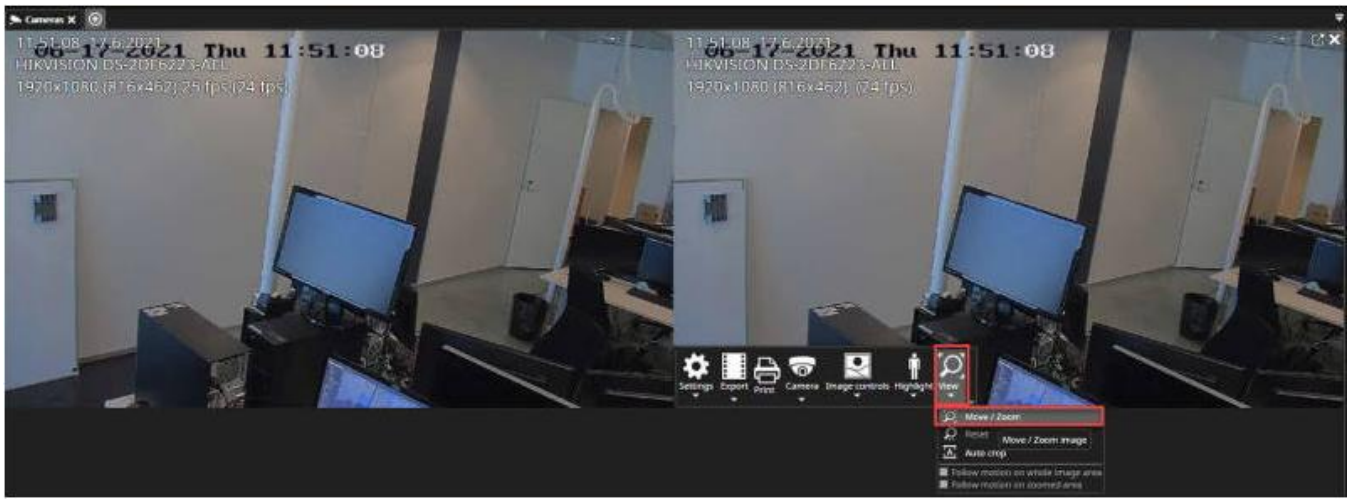
The camera name and timestamp are shown on the top left corner of the camera.
The visibility and colour of the name and the timestamp can be controlled from Spotter\File\Settings\Display or the Camera toolbar\Settings\Display
The camera recording indicator is a small blue dot next to the timestamp.
It is displayed when the camera is recording.

5.3 VIRTUAL CAMERAS

1. Open camera to the real-time view
2. Open camera toolbar
3. Select **Camera**
4. Select **Duplicate**



1. Open **View**
2. Select **Move/Zoom**

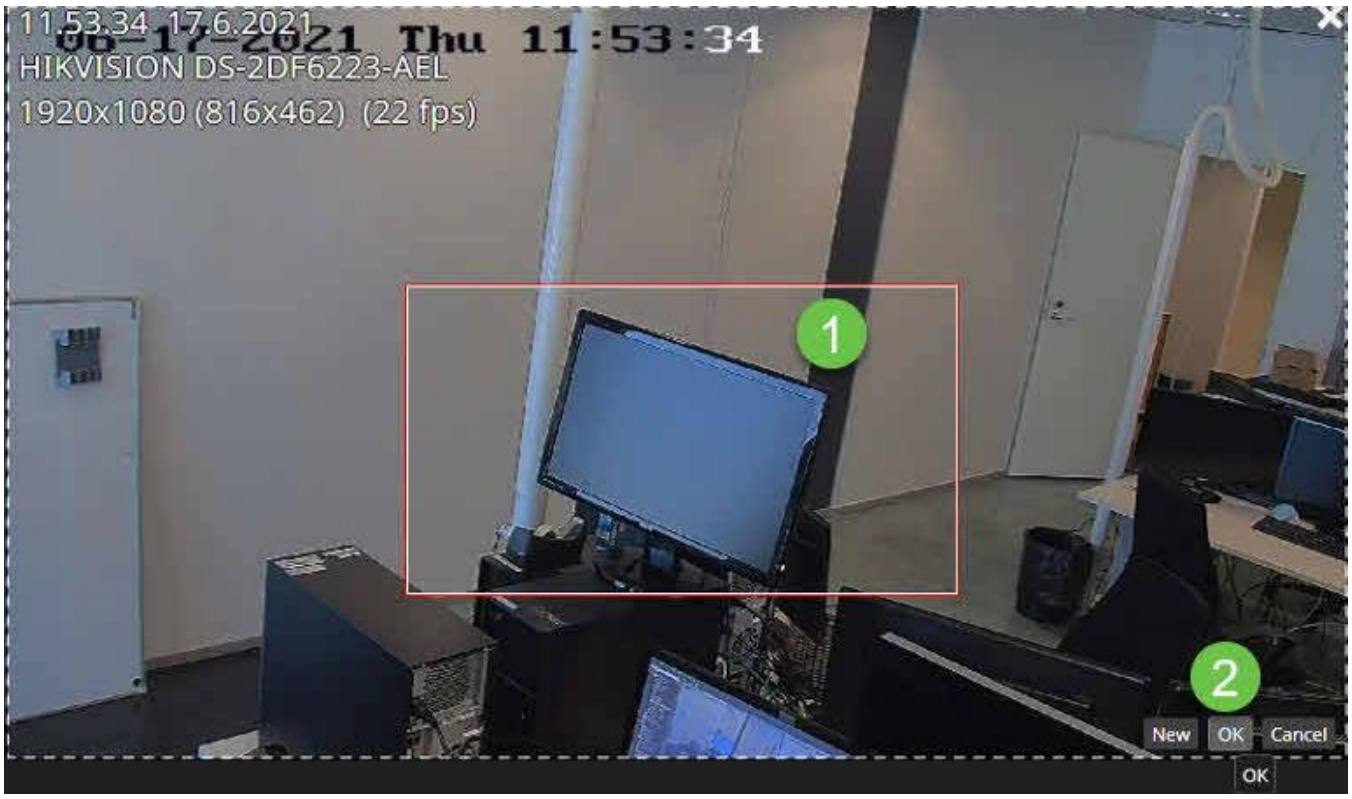


Mouse wheel movements will make the virtual camera rectangle larger or smaller.

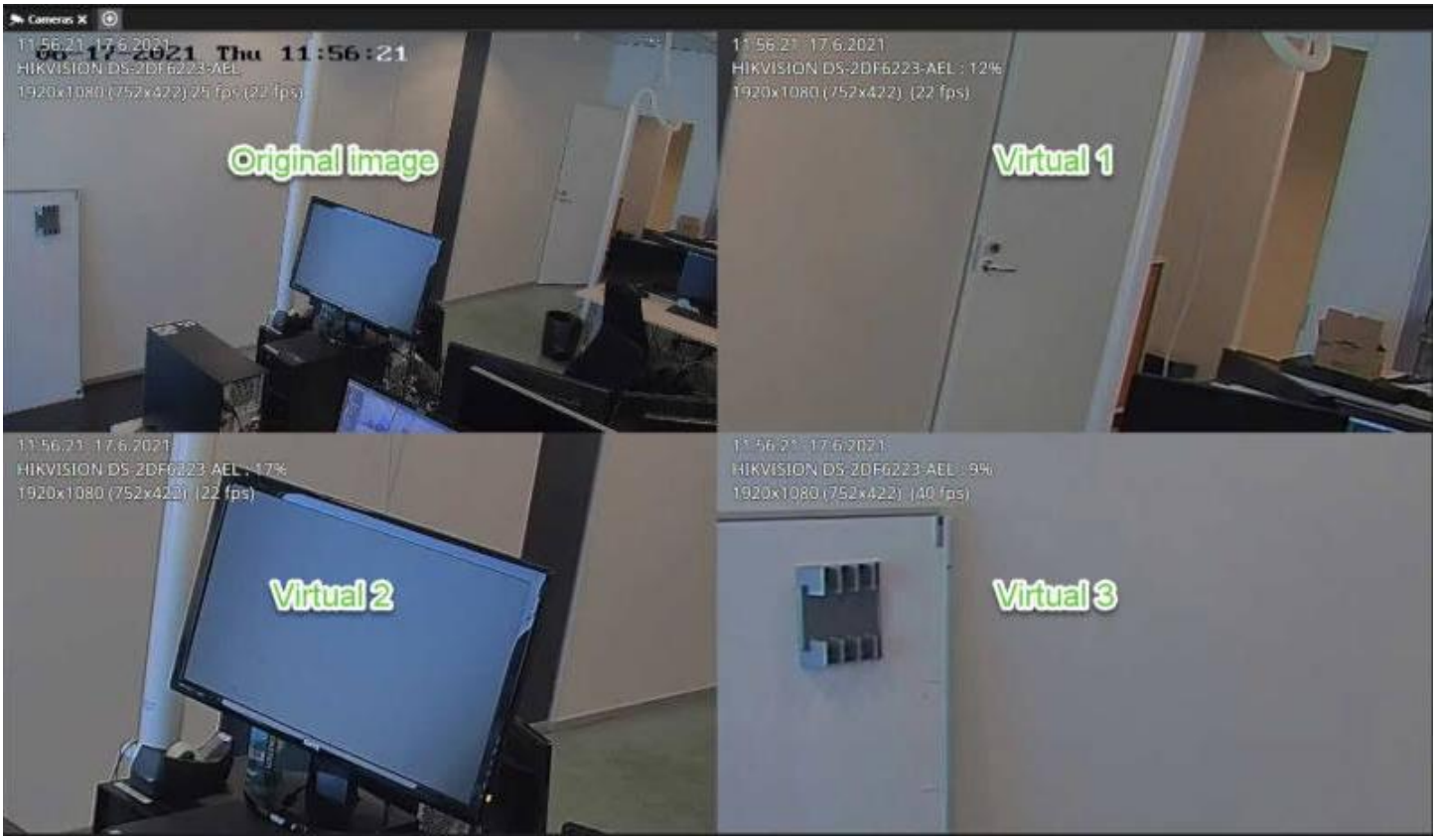
The size can also be adjusted by dragging the edge of the rectangle with mouse and left-click.

The size will also change from the keyboard "page up" and "page down" buttons.

1. Draw zoomed area
2. Click **OK**



Create more virtual cameras, if needed



5.3.1 Frequently Used Keyboard Shortcuts:

NOTE: Only when in virtual camera editing mode.

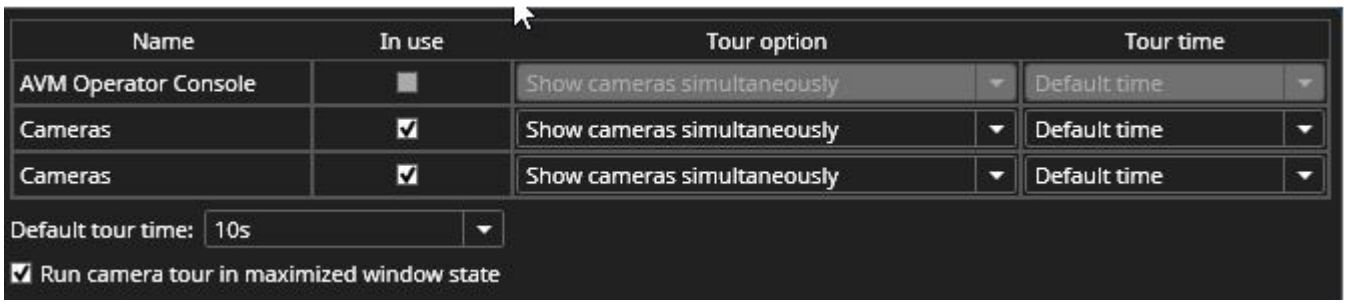
Shortcut	Description
Arrow left	Moves the red box to the left.
Arrow right	Moves the red box to the right.
Arrow up	Moves the red box up.
Arrow down	Moves the red box down.
Page Up	It makes the box more significant (zoom out).
Page Down	It makes the box smaller (zoom in).

5.4 Camera Tour Controls

Camera tour controls can be configured to be seen in both standard and large view mode playback panels.



Control is enabled when there is more than one tab open in Spotter.
Settings are opened from the "Cogwheel" icon.
There is a row for each tab. Particular tabs like plugin tabs have disabled functionalities and are by default disabled.



After each tab, there is an option to enable or disable the tab. All tabs can be added to a tour if desired.
There are two options for the Tour.
The user can either show cameras simultaneously or show cameras one by one.
If devices are shown one by one, it is possible to have a tour with just one tab.
The tour time can be selected at the last row individually, or the user can set a default time and define it at the lower-left corner.
There is also an option to run the camera tour in maximized window state on the lower-left corner. This checkbox is selected by default.



When the tour is running, it is indicated with a rotating orange arrow. The Camera borders are also highlighted in orange.
There is also a counter underneath the controls that counts the time set for each tour step.
The user can also select the forward and backward arrows to move between tour steps.
The tour is stopped if the user selects another operation in Spotter. For example, the image or clip export stops the tour.

Note: A camera tour can also be operated in the Agile Video Matrix (AVM) with the AVM Operator Console. In AVM, the counter is not displayed.

5.4.1 Frequently Used Keyboard Shortcuts:

Shortcut	Description
F12	The toggle camera tour starts and pauses state.
Ctrl + F12	Steps to next camera tour view.

5.5 Full-Screen Mode

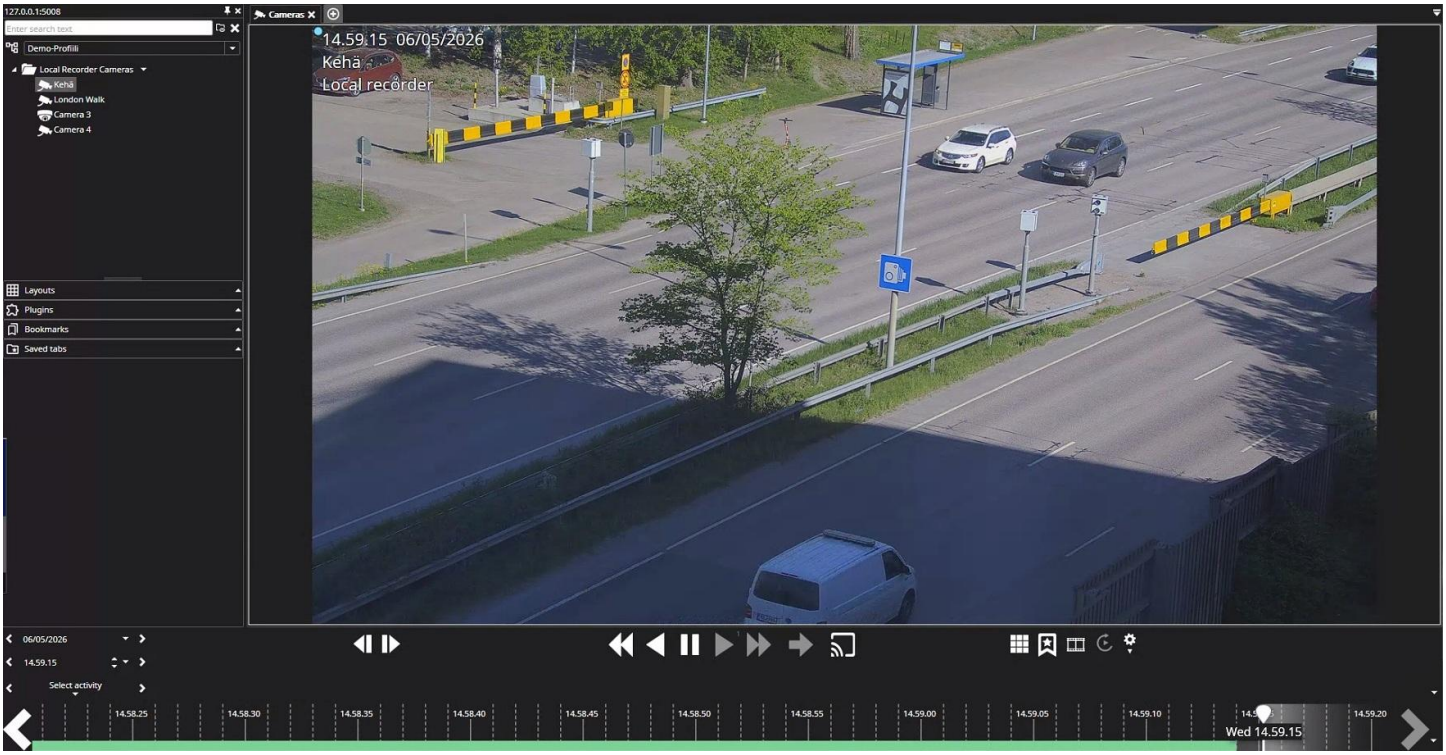
A single-camera can be maximized to cover the whole work area with the maximize control or double-clicking it. The whole work area of a Spotter window can be made to be full screen by pressing the F11 key or double-clicking the tab control.
The second press of the F11 key (or the Esc key or mouse right double click) will return to the original window size.

5.5.1 Frequently Used Keyboard Shortcuts:

Shortcut	Description
F11	Maximize the current tab to full-screen size.
F11 or Esc	Restore maximized tab to average size (when no camera is selected).

5.5.2 A single camera on the device tab

A single camera can be maximized to cover the whole work area with the mouse **RIGHT** double-clicking it.
The second mouse **RIGHT** double-click returns the original size.



5.5.3 Multiple cameras on the device tab

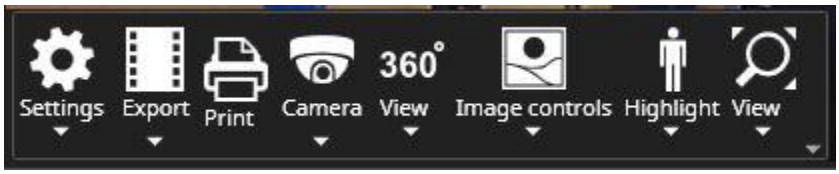
5.5.3.1 A single-camera full-screen

A single camera can be maximized to cover the whole work area with the mouse **LEFT** double-clicking it.The second mouse **LEFT** double-click returns a single camera to the original size.

5.5.3.2 Device tab full-screen

A whole device tab can be maximized to cover the whole work area with the mouse **RIGHT** double-clicking it.The second mouse **RIGHT** double-click returns the device tab to the original size.

5.6 CAMERA TOOLBAR



The camera toolbar is displayed when the mouse is moved over a camera or if a camera is selected with other means.If the mouse is not moved for some time, the camera toolbar disappears automatically.

5.6.1 The camera toolbar can contain the following items:

- Settings

- Export
- Print
- Camera
    - Dome control, duplicate modes
- 360 camera de-warping
- Two-way audio
- Image controls
- Highlight
- View or virtual zoom

5.6.2 Spotter Camera Settings

All the camera-specific settings are saved to layouts when a user saves a layout.See the Layouts of this guide for further information.

The camera settings contain the camera-specific settings for:



5.6.2.1 Streaming

5.6.2.1.1 Multistreaming

- Spotter chooses the recording stream automatically (default)
- Use Viewing stream if it is configured for the camera
- Use Streaming stream if it is configured for the camera
- Use recording streams always

5.6.2.1.2 Update image

- Continuously, which draws all images from the camera even when there is no motion detected
- When motion is detected(image is updated only when VMS has detected motion)
- When motion is detected, minimum interval(min. 1 second and max 60 seconds).

Below the image update settings is a button to update the current image update settings for all cameras on this tab.

When a new camera is opened to the work area, the image update settings default to the setting defined in **Spotter\File\Settings\Streaming**.

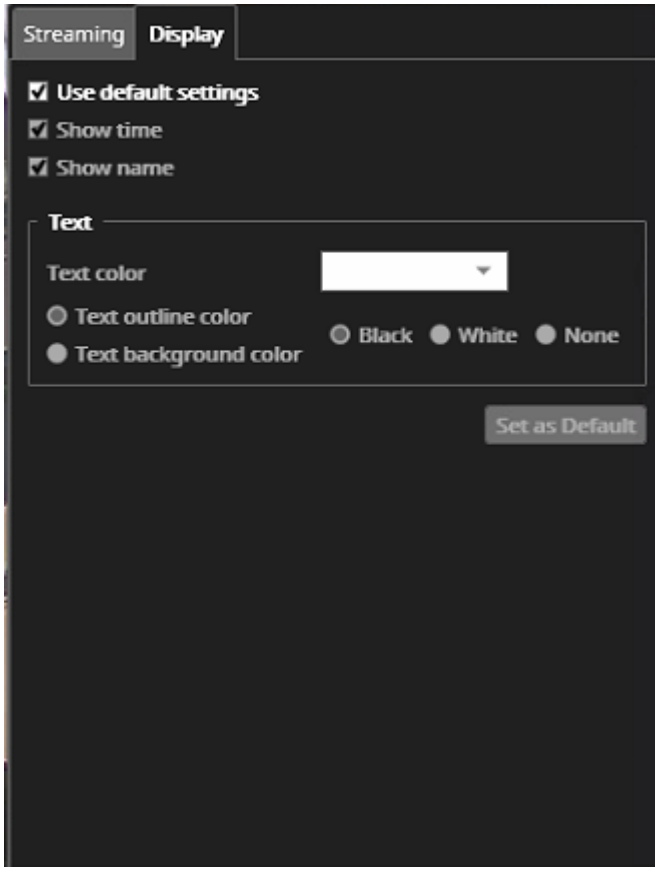
5.6.2.1.3 The ThruCast

- Always from the VMS server
- Stream from VMS server if connected, otherwise, stream from the camera
- Continuously stream from the camera

The ThruCast settings are remembered for the camera, so even if the camera is closed, the next time it is opened, it will be using the same ThruCast settings last time.

5.6.2.2 Display

The display settings control if the name and timestamp are shown on top of the camera and the colour used for the text and the text outline.If the user finds a nice colour that he prefers, he can set a new global default for all cameras.



5.6.3 Spotter Export (Spotter Export Chapter)

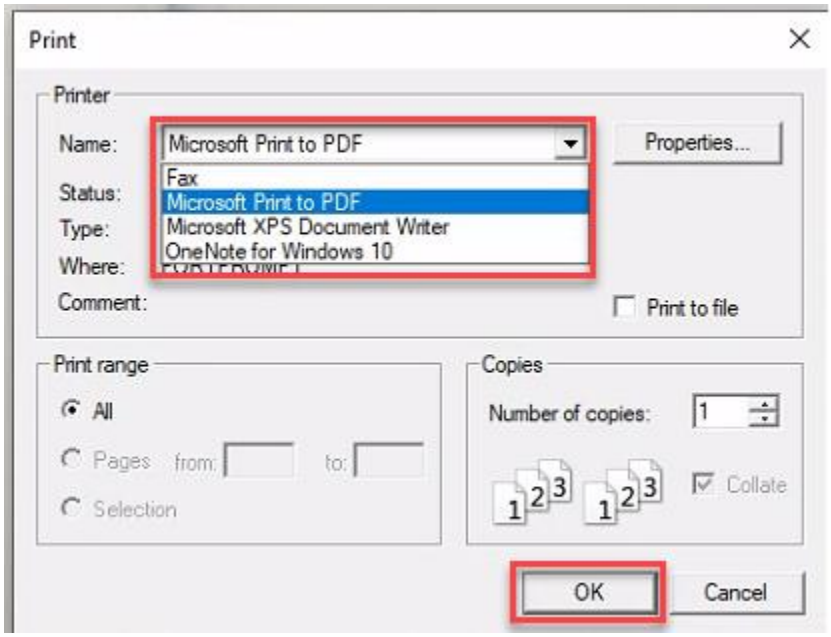
See more under Export image
See more under Add to video export
See more from Add to storyboard

5.6.4 Print

1. Open camera toolbar
2. Click **Print**



1. Select the printer
2. Click OK



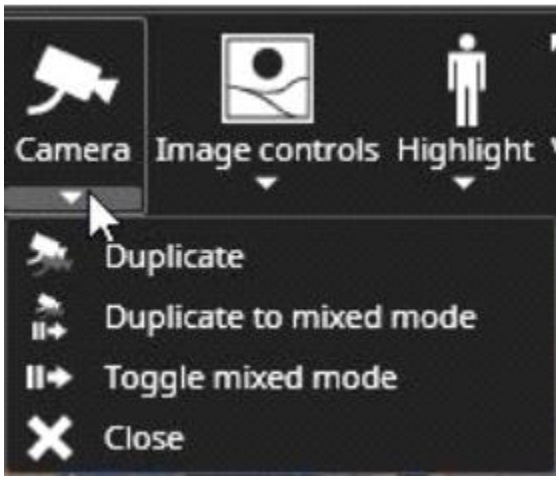
5.6.5 Two-Way Audio

If the camera has two-way audio configured, the menu item becomes active. Two-way audio can be in three different modes.



In the closed mode, the audio channels are not open. In the listening mode, the user will hear audio from the camera and any potential audio going to the camera from any other VMS client.
The audio channel from the current user is not open. In the talk mode, the user can hear the audio from the camera, and the audio channel from the current user is open, so the audio is broadcasted to the camera. The toolbar icon has red (to camera) and green (from camera) volume indicators, which show if there is audio going to or coming from the camera. The channel volumes can be adjusted from the sliders.

5.6.6 Camera



5.6.6.1 Duplicate

See more information from Virtual Cameras

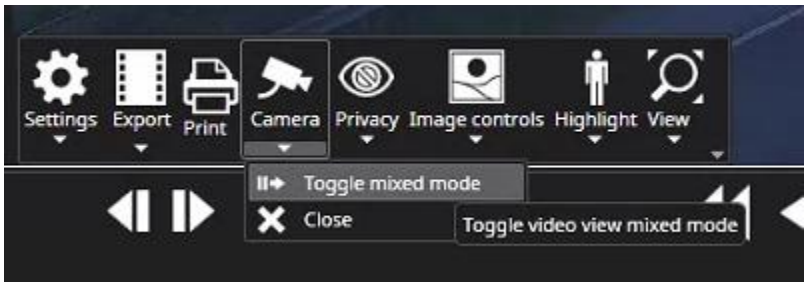
5.6.6.2 Duplicate to mixed mode

The Mixed Playback Mode allows users to review playback on specific cameras while monitoring real-time situations in other cameras and doing this while staying in the same Spotter tab. The mode is accessed by pressing the Ctrl key and then selecting cameras currently open on the Spotter screen with a mouse left-click. The selected cameras will then be highlighted with a thick green border. The user can select multiple cameras by keeping the Ctrl key pressed and continuing to select other cameras. The selection is cancelled by clicking somewhere without keeping the Ctrl key pressed.



When a number of cameras are highlighted like this, they are in mixed playback mode. Other cameras that are not selected are always in real-time. The cameras in mixed playback can now be controlled with the time slider balloon, the playback controls, or a joystick jog-wheel.

5.6.6.3 Toggle mixed mode



5.6.7 Spotter Privacy

If you have been assigned sufficient permissions, you will also access the "Privacy" menu.
In here, you may be given access to turn on/off the privacy zones (if you have sufficient permissions to do this and the functionality has been enabled for the specific cameras).

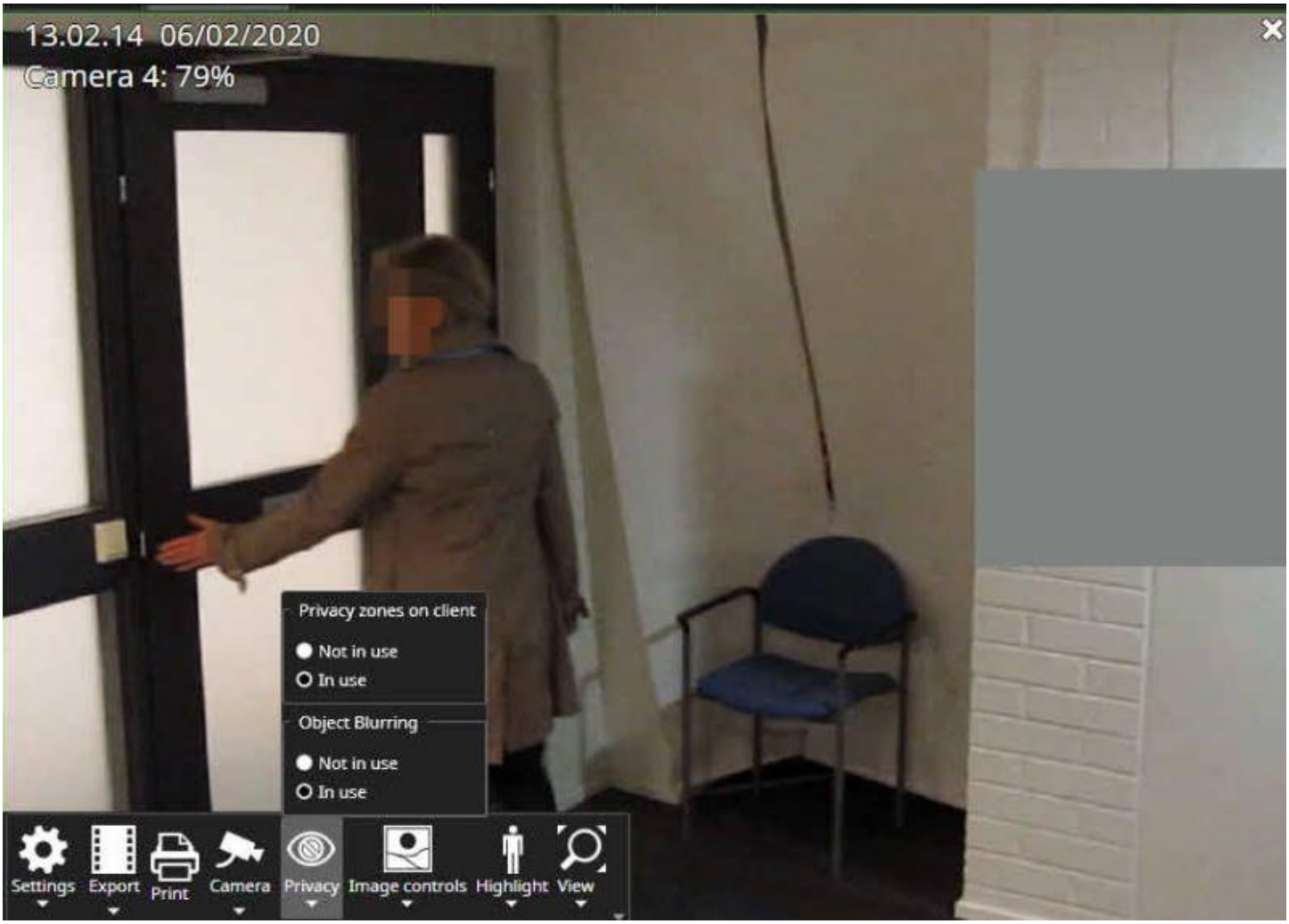
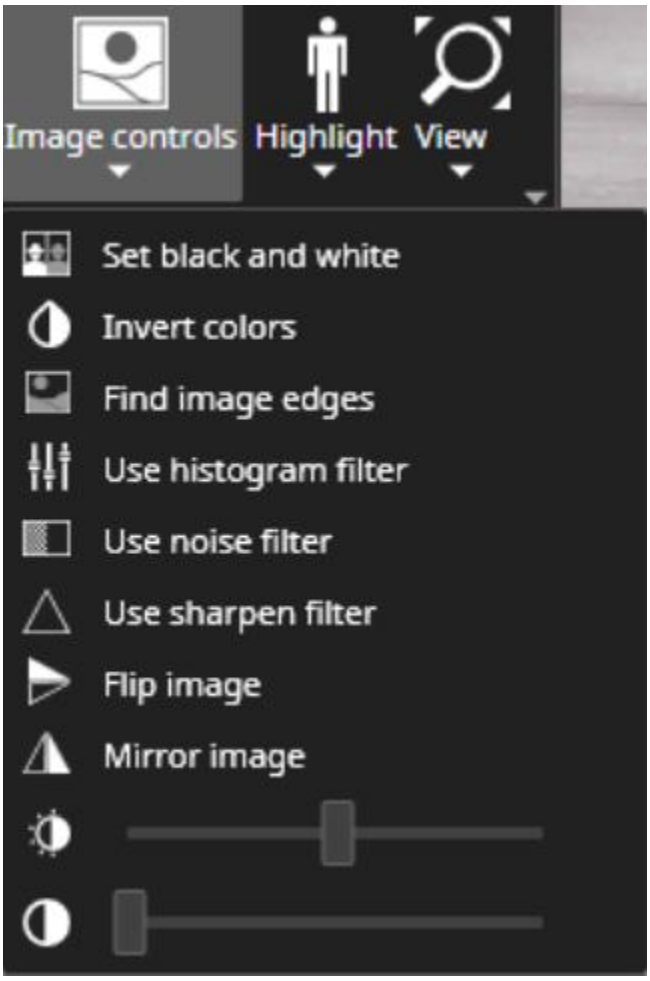


Figure 5 Examples of facial blurring- and privacy masks that could be disabled from the privacy menu.

5.6.8 Image Controls



The Image Control plugin has various options to adjust the camera image:

- Option to turn the image into a black and white image
- Invert colours filter
- Edge highlight filter
- Histogram filter (a form of contrast optimization filter)
- Noise reduction filter
- Image sharpening filter
- Image flip (flips the image along the horizontal axis)
- Image mirror (mirrors the image along the vertical axis)

- Brightness adjustment slider
- Contrast adjustment slider

5.6.9 Highlight

The metadata objects for LPR and FR events contain bounding box elements and labels (identity name in FR metadata and license plate number in case of LPR metadata). These bounding boxes and labels can be displayed in the Spotter application if the VCA visualization plugin is enabled and the user selects to show VCA in the video view control panel.

5.6.9.1 VCA visualization requirements

Spotter needs to get metadata to visualize objects.

- The license must have VCA channels.
- VCA must be enabled for the camera in System Manager settings or license plate recognition or face recognition needs to be used
- The database must be installed (for metadata playback)
- For best results, hermeneutic motion detection should be used
- Both VCA Core and Mirasys metadata can be used, although there can be some differences in how objects are detected

5.6.9.2 Visualization

- Highlight moving objects such as cars and walking persons
- Show the track that the object has taken on the camera screen
- Show textual info shows textual info related to the tracked object
- Show VCA zones and lines after they have been configured using the VCA configurator
- Show a client-only VCA event counter
- Reset all counters on a camera screen
- VCA visualization can be set on for all cameras from the tab menu
- VCA visualization states are kept in memory and stored on a local PC for each user
    - camera VCA state is remembered so that when the camera is opened, its VCA states are set to ones that were used before
- VCA visualization can be set on / off also with AVM

The client-only VCA counters are local to the Spotter application and not integrated into the Mirasys Reporting+ application.They are meant for short term reporting and can be reset by clicking on the counter on the camera screen.

5.6.9.2.1 Smart recognition metadata visualization

There are two “Highlight“ menu items for the “license plate” and “face” moving objects visualization (drawing borders and name/license plate number):

- Show license plates
- Show faces

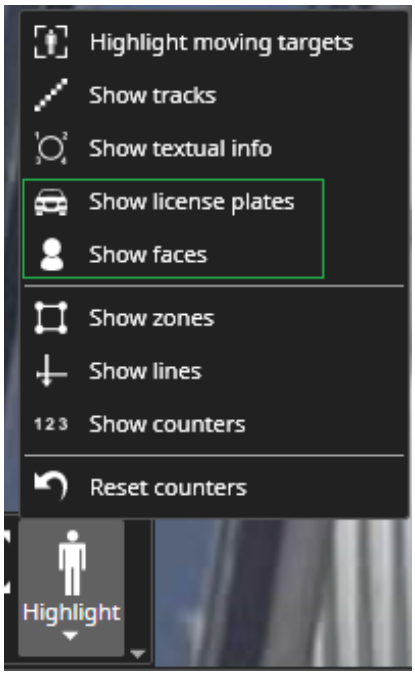


Figure 6 Smart recognition visualization items

The menu items are enabled only when the camera is configured for any VCA detection.

5.6.9.2.2 Settings for VCA visualization in Spotter

- The line color can be changed
- Line thickness can be changed
- Trail maximum length can be changed
- The zone color can be changed

5.6.9.2.3 Advanced settings

In advanced settings, there is a setting to allow VCA for all cameras, even if the VCA is not configured for the camera. This is useful in cases where metadata is received from 3rd party system (for example, from data drivers) that will not use recorder VCA.

5.6.10 View

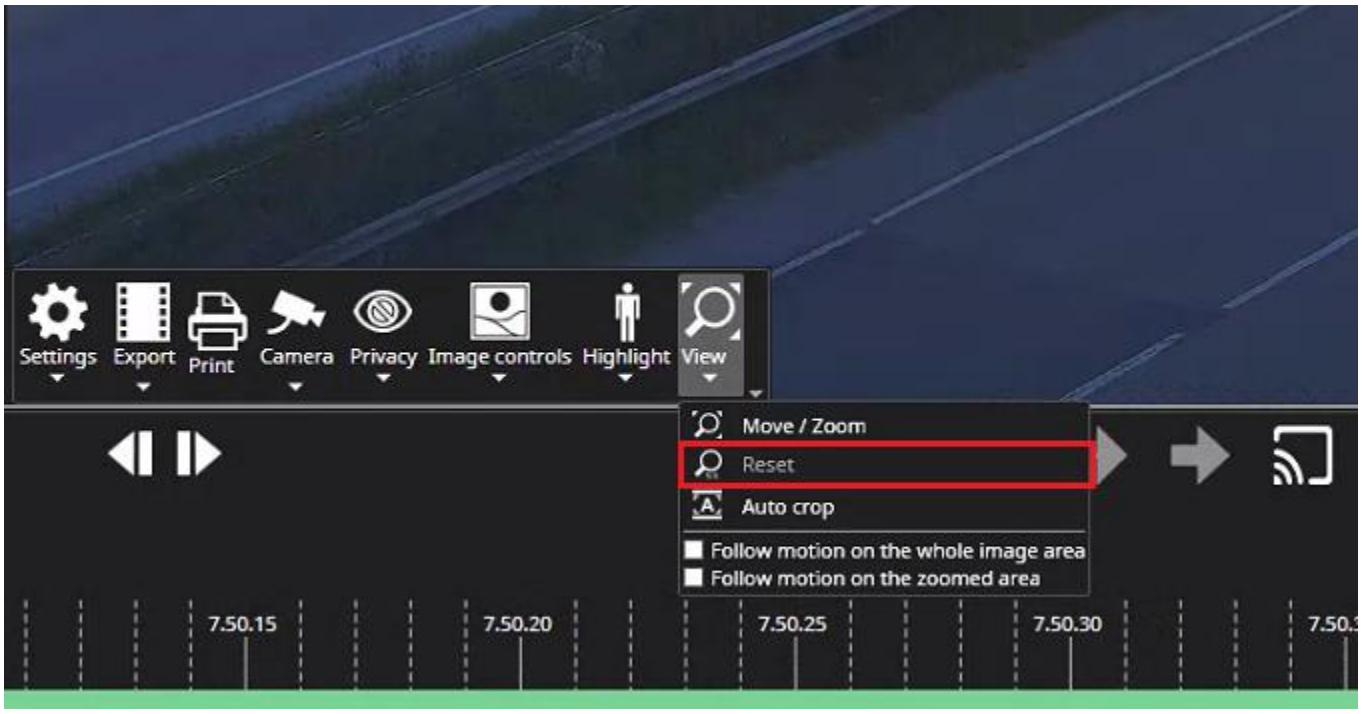
5.6.10.1 Move / zoom



Read more about **Move / Zoom** from Virtual Cameras and Spotter Digital Zoom.

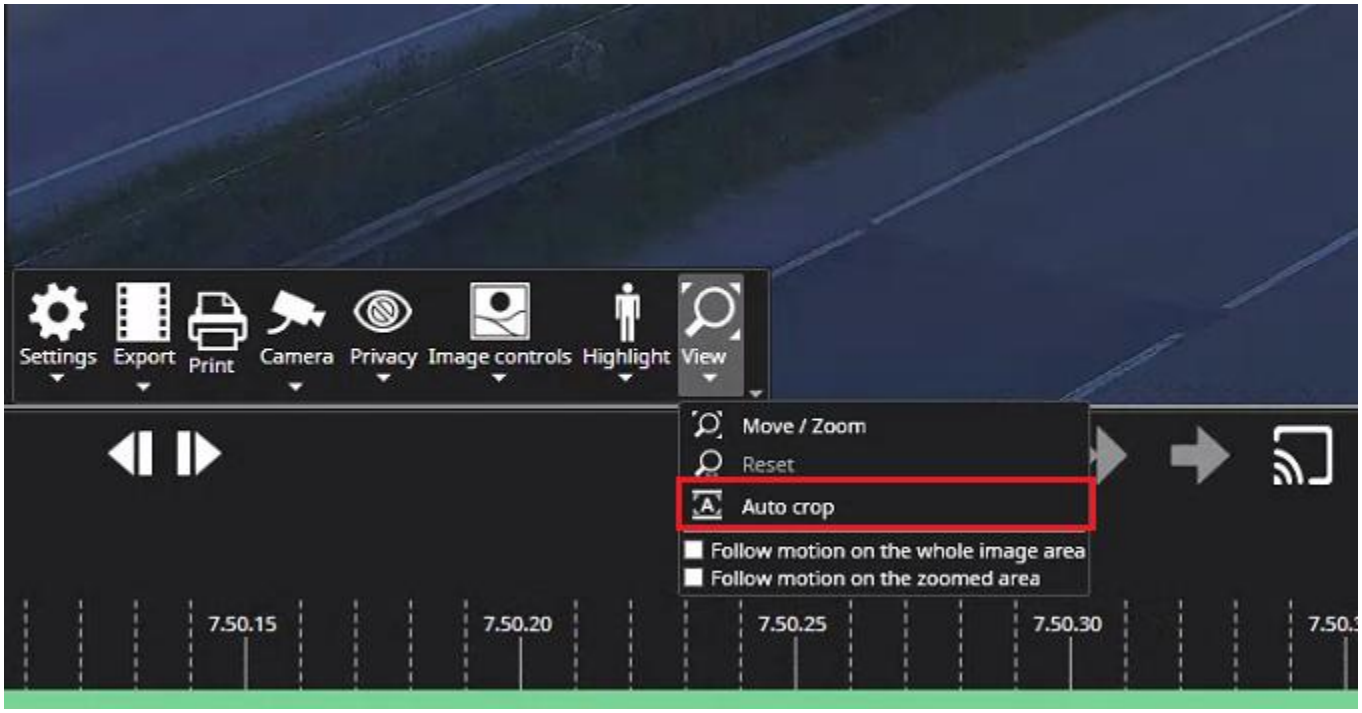
5.6.10.2 Reset

Reset to the full image



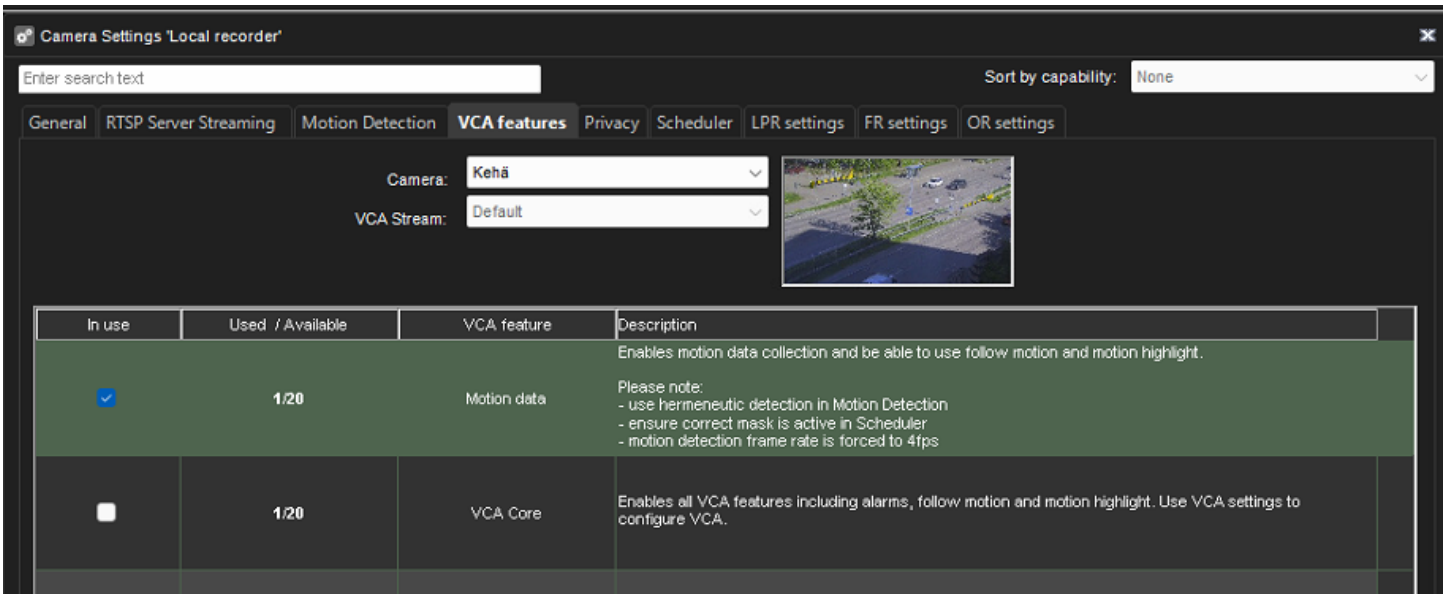
5.6.10.3 Auto crop

Enables Auto image cropping to the image



5.6.10.4 Follow motion on the whole image area

Before **Follow motion on the whole image area** can be used, VCA feature **Motion data** must be enabled from the **VCA features** tab.

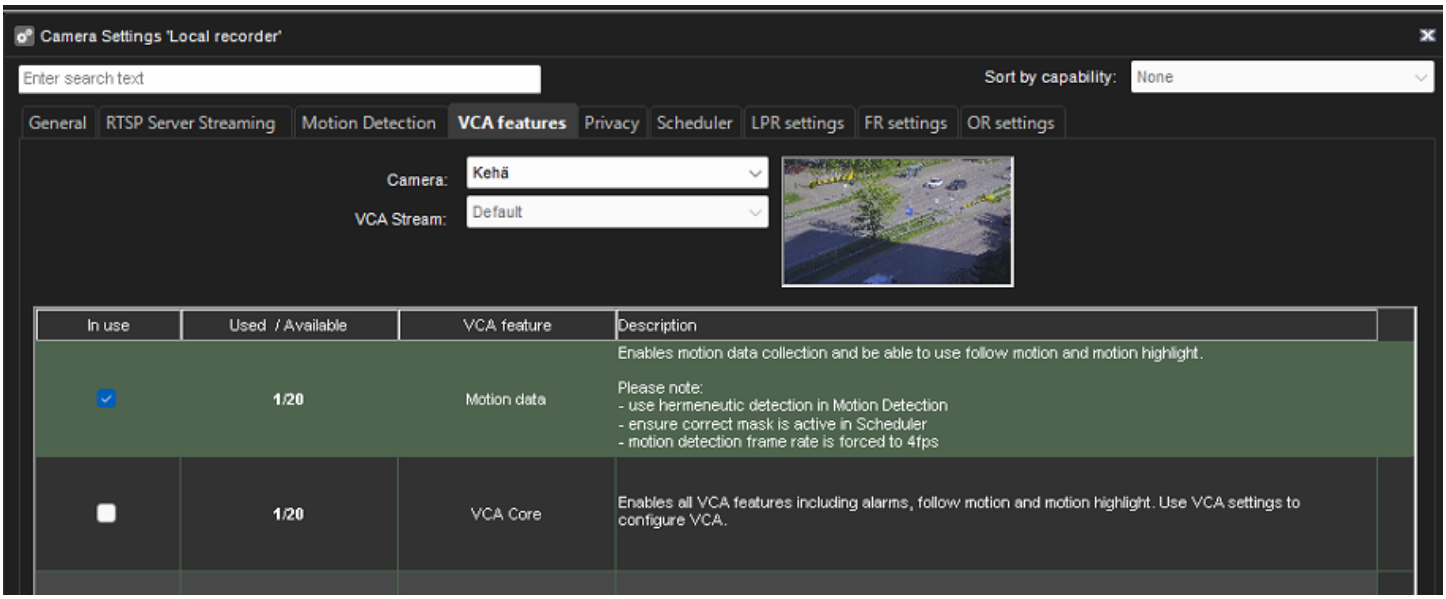


When Follow motion on the whole image area is enabled, then Spotter automatically follows motion in the camera area.



5.6.10.5 Follow motion on the zoomed area

Before **Follow motion on the zoomed area** can be used, VCA feature **Motion data** must be enabled from the **VCA features** tab.



When **Follow motion on the zoomed area** is enabled, then Spotter automatically follows motion in that area of the image, which has been set to the zoomed state.



5.6.11 Spotter Digital Zoom

In the camera view, it is possible to digitally zoom a selected rectangle of it or zoom in on it. The selected rectangle can open as its view.

5.6.11.1 Digital zoom with mouse

5.6.11.1.1 Area zoom (shift key + mouse left button)

Pressing the shift key and the mouse left button, a sizeable rectangle appears in the mouse position. Keeping the mouse's left button down can change the rectangle area size. If the shift key is pressed when releasing the left mouse button, the rectangle area is zoomed to view size. Zoomed view returns to normal side either clicking the mouse right button or selecting the Reset button from View drop-down button.

5.6.11.1.2 Zoom in (mouse right button + mouse scroll)

Pressing the mouse's right button down over a view, a zoom cross appears over the view. The zoomed area can be changed by moving the mouse when the mouse right button is pressed. Mouse scroll can then be used for zooming in and out when the mouse button is pressed. The current zoomed view stays in view when releasing the mouse's right button. When pressing the right button again, zooming can continue. Mouse the right button click overview, and return the view to normal size.

5.6.11.2 Digital zoom with View drop-down button



- Move / Zoom

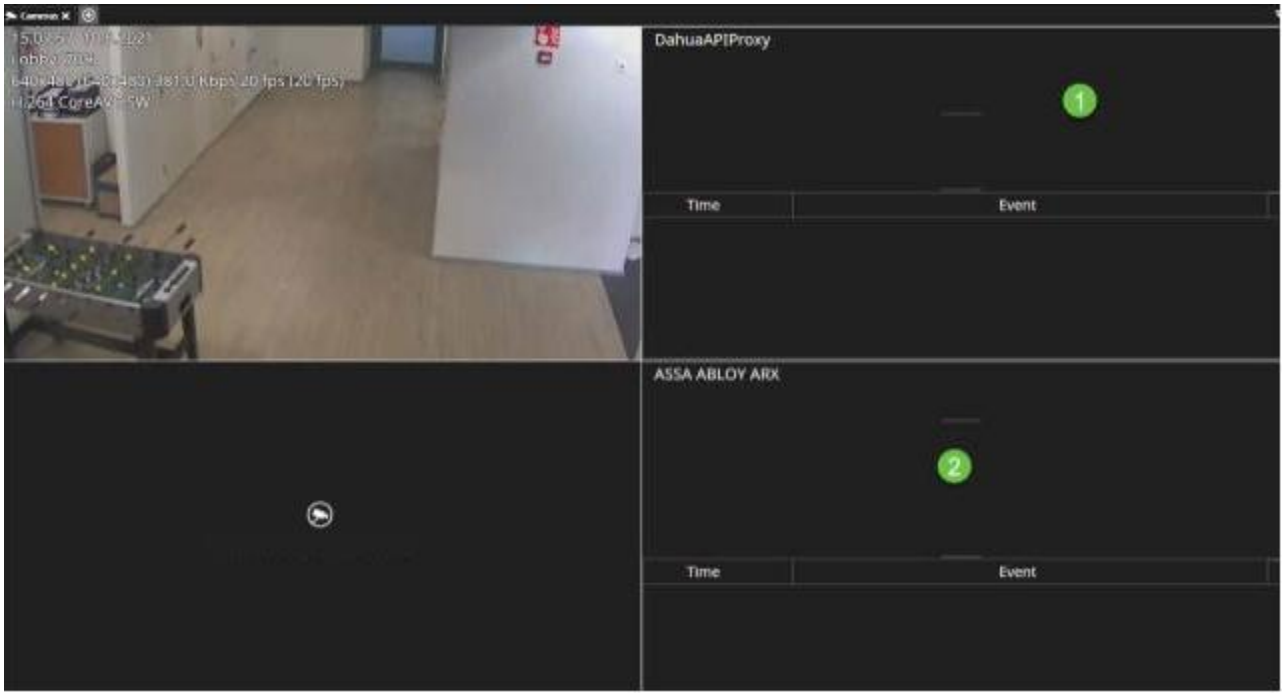
- Opens sizeable rectangle overview. Rectangle size and position can change. On the view right bottom corner buttons open the selected rectangle as a new view (New), zoom the rectangle area in this view (OK), or cancel zooming (Cancel). Selected new zoom views can see as dashed line rectangles on the original view.

- Reset
  - Resets view zooming to original size. Same as the mouse's right button press over the view.
- Auto crop
  - Set/reset auto crop for this view
- Follow motion on the whole image area, enabled only if VCA is configured to this camera.
- Follow motion on the zoomed area, enabled only if VCA is configured to this camera.

5.7 SPOTTER TEXT CHANNELS

When the text channel is opened, the below information is shown:

- Text channel name
- Time of the event
- Event name



5.8 AUDIO CHANNELS

Audio channels have a little blue note symbol indicating that the channel is open.The channel opens automatically if it is added to the component panel.Audio channels have a similar pull-down control as outputs to control mute, unmute and volume.



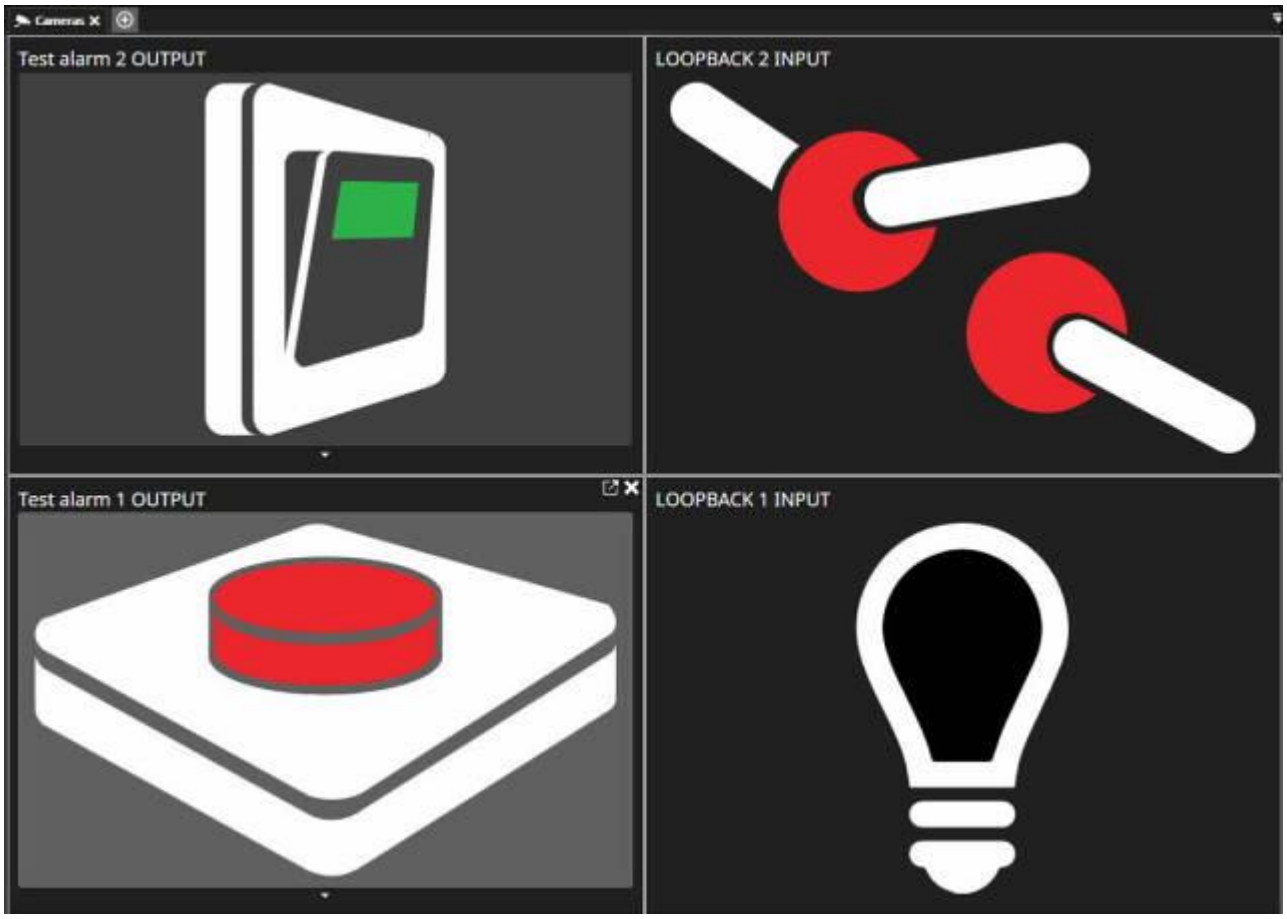
All component panel components, inputs, outputs and audios can be closed from the individual component close controls.

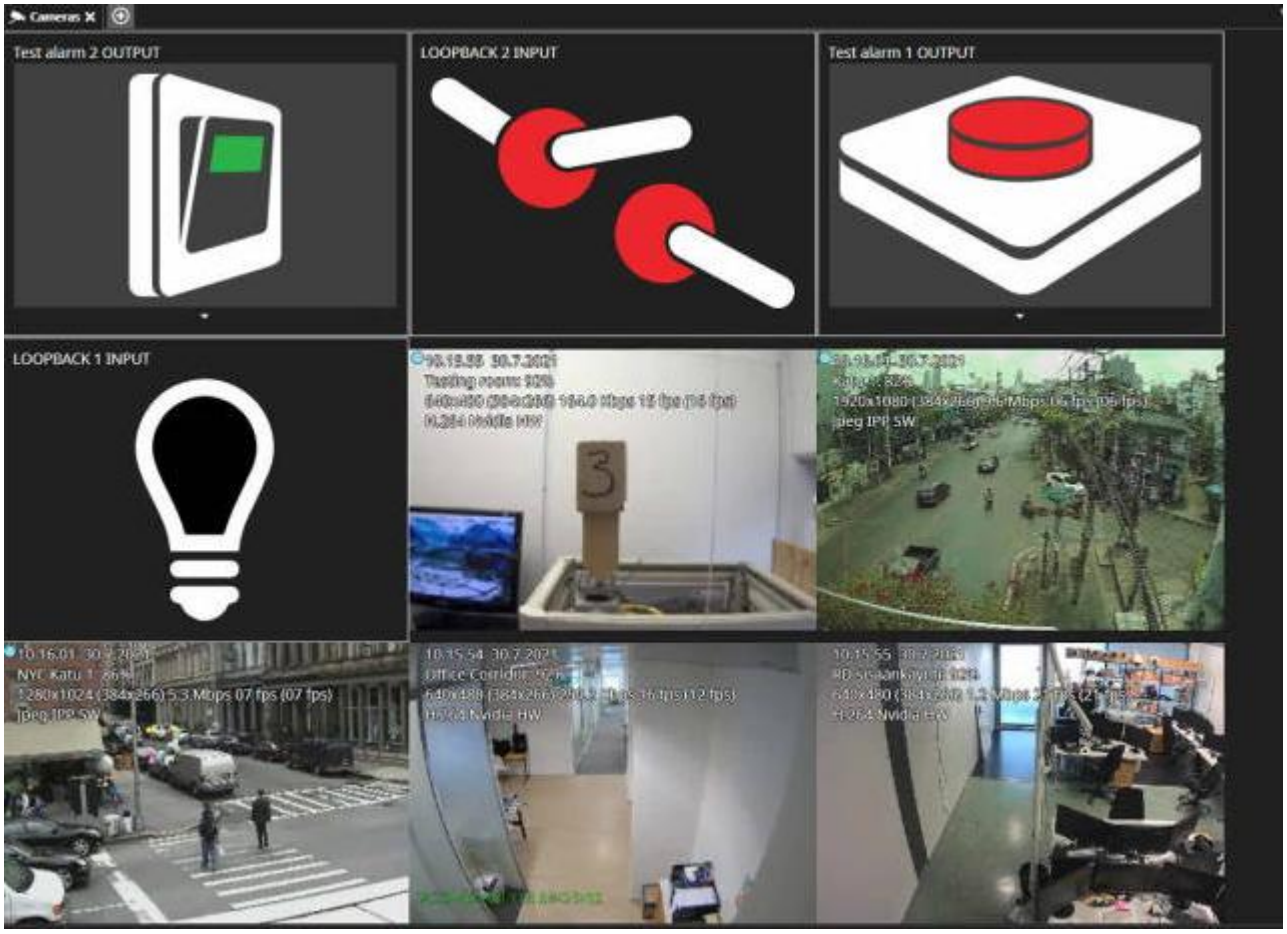


The whole component panel can be closed from the component panel close control.When the devices are on the grid cell, they can be closed via the usual way with the top right corner "X" control.

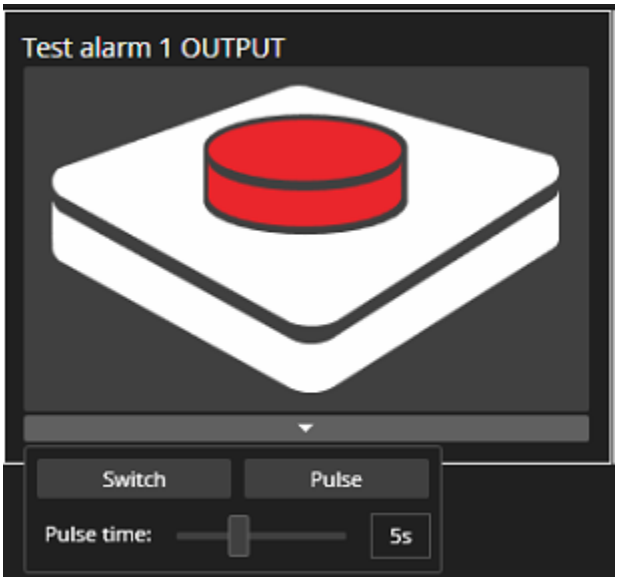
5.9 SPOTTER DIGITAL I/O

The component panel width can be adjusted, and it can also be collapsed only to show the I/O control.When the I/O devices are added to the camera grid cell, they take over the entire grid cell.





Outputs have a small pull-down menu that allows control of state switch, pulse and pulse duration.

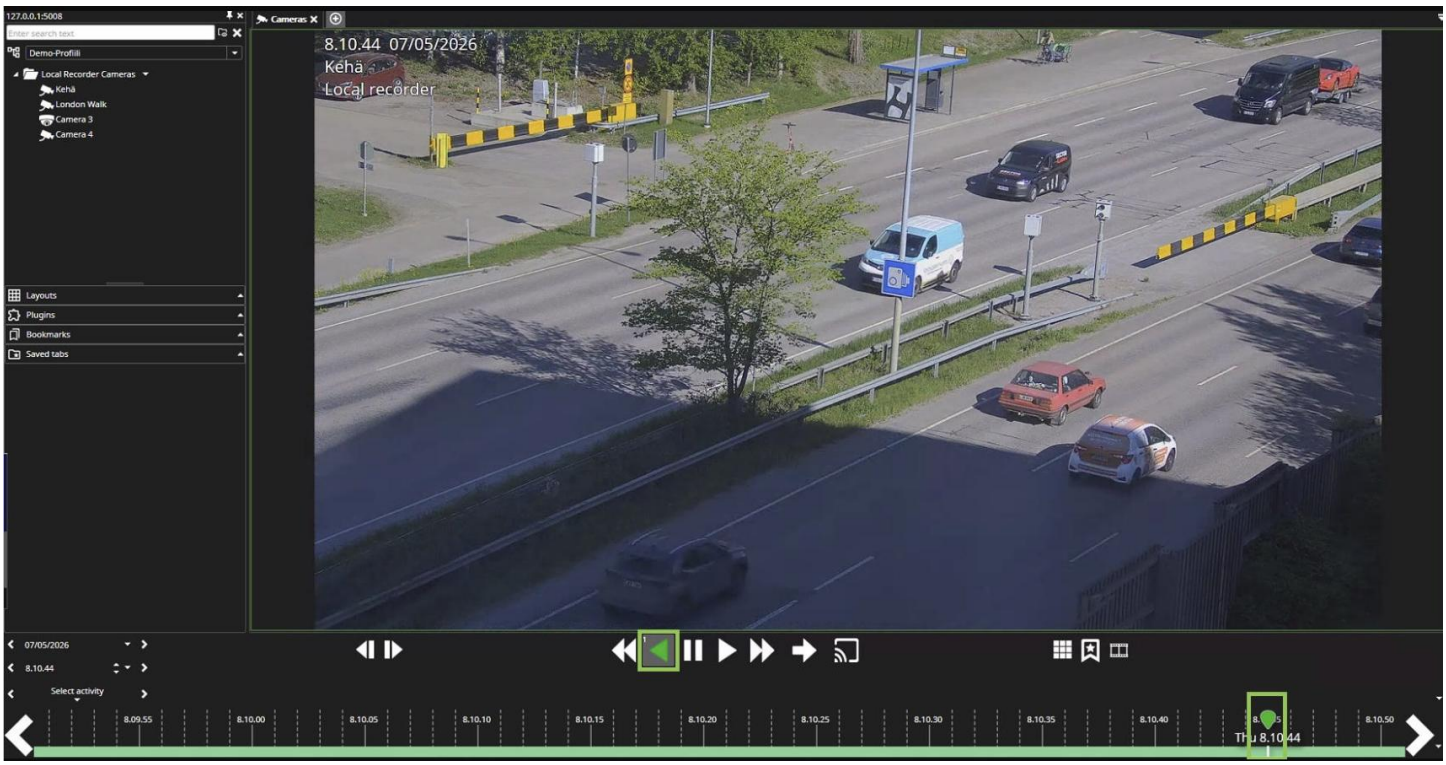


Tel +358 (0)9 2533 3300
Email info@mirasys.com
https://www.mirasys.com

Please note that output states can also be toggled from the device tree by clicking on the output control.The default action of the outputs is defined in the System Manager – Profiles section.

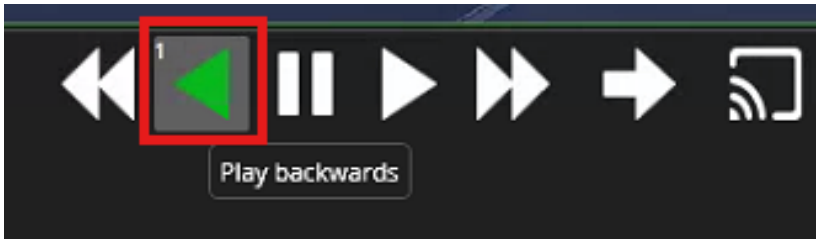
6 PLAYBACK MODE

When the playback mode is used, Spotter shows always latest recorded time from those cameras, which the user has selected to the view



6.1 START INSTANT PLAYBACK

1. Select camera or cameras from the device tree(double-click or drag to the work area)
2. Click the **Play backwards** button
3. Change playback speed with the mouse button



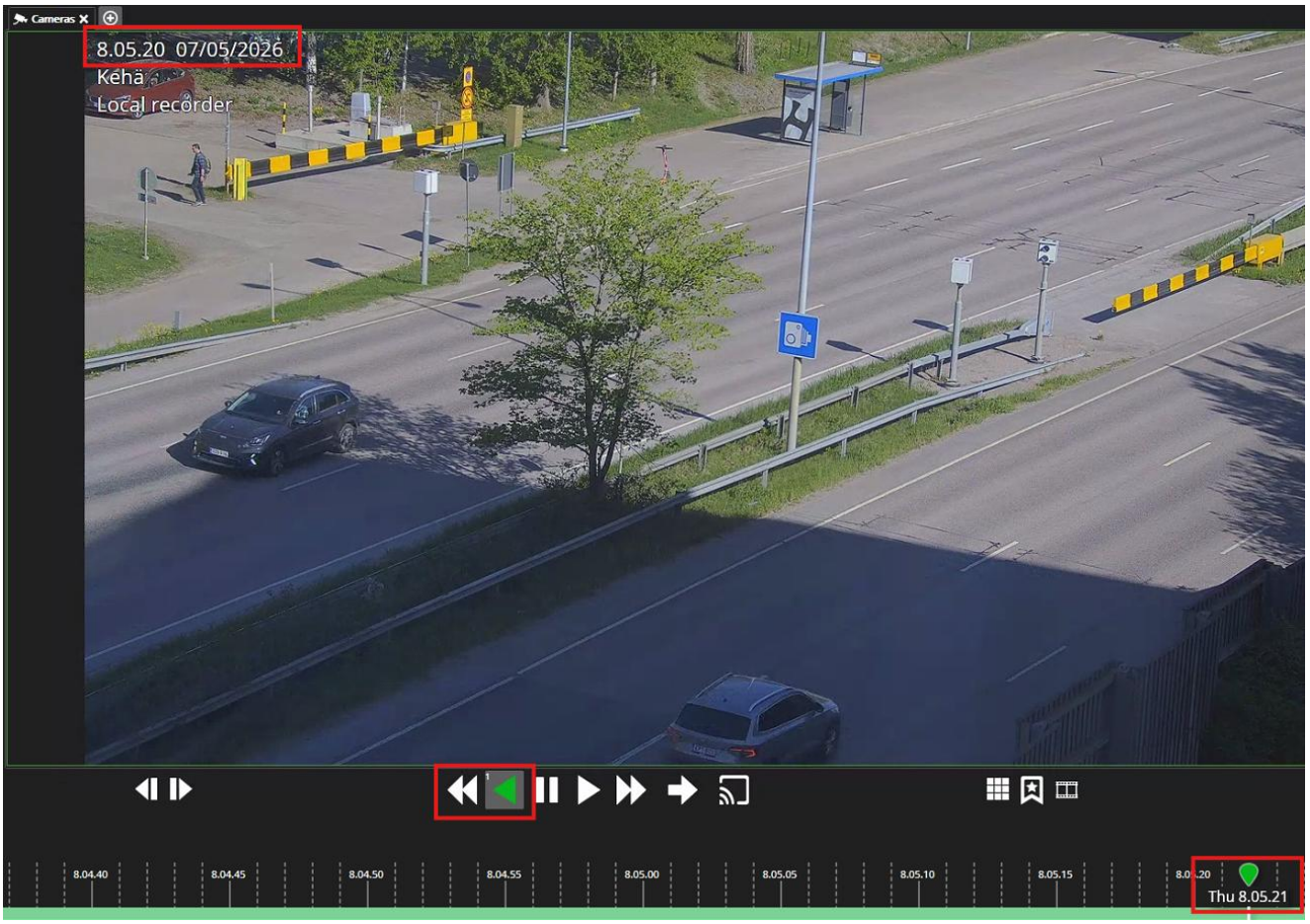


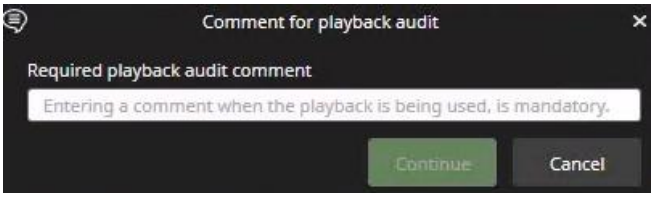
Figure 7 The playback time is shown in the upper left corner and the timeline

6.1.1 For users required to add a comment before playback mode

When a Playback audit comment is required, then in real-time mode, the StepBackward and StepForward buttons are disabled.

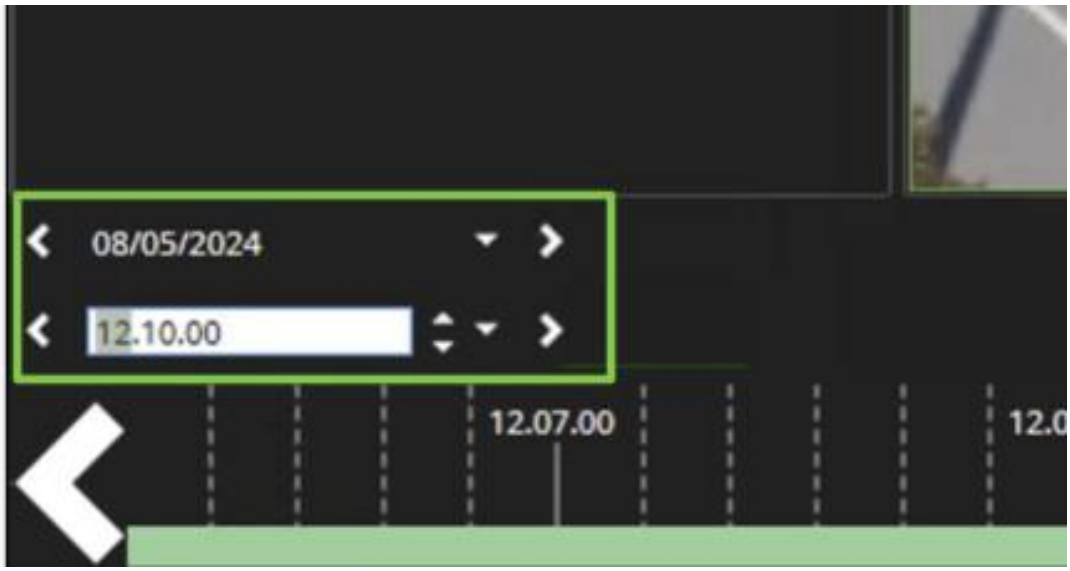
When a user adds a comment and moves to playback mode, the buttons are enabled again.

When loading a layout with streams in playback mode, a comment needs to be added by the user before the layout is loaded.



6.2 PLAYBACK SELECTED TIME

1. Select camera or cameras from the device tree(double-click or drag to the work area)
2. Use **Select date** or **Select time** to go to the needed time
3. Use the playback controls for the playback



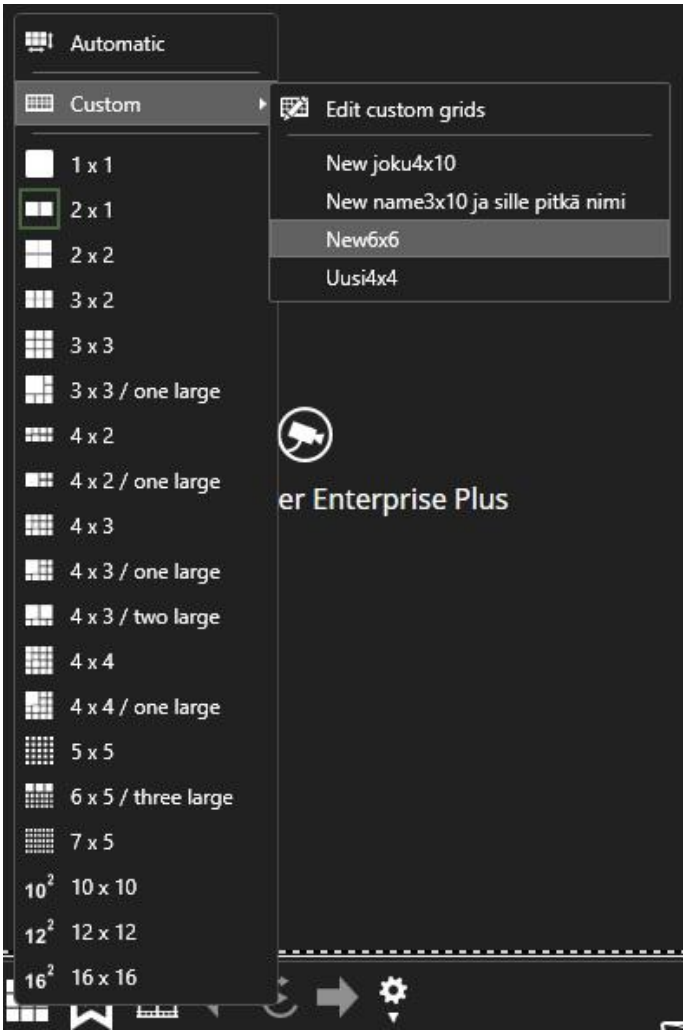
6.2.1 Maximizing one stream

When one stream from a playback group is maximized, other streams are removed from the playback group so that playback will continue only with the maximized stream.

For the text data channels, the text data playback stream is not taken out from the playback group in order for Spotter to keep the text data view updated so that when the maximized stream is restored, the text data stream displays proper data. When maximizing one stream from a playback group, you will see the timeline moving, but the video material will not change. If you need to play only the maximized video, the text data streams should be closed before you maximize the video stream, and after the restore, text data streams should be reopened.

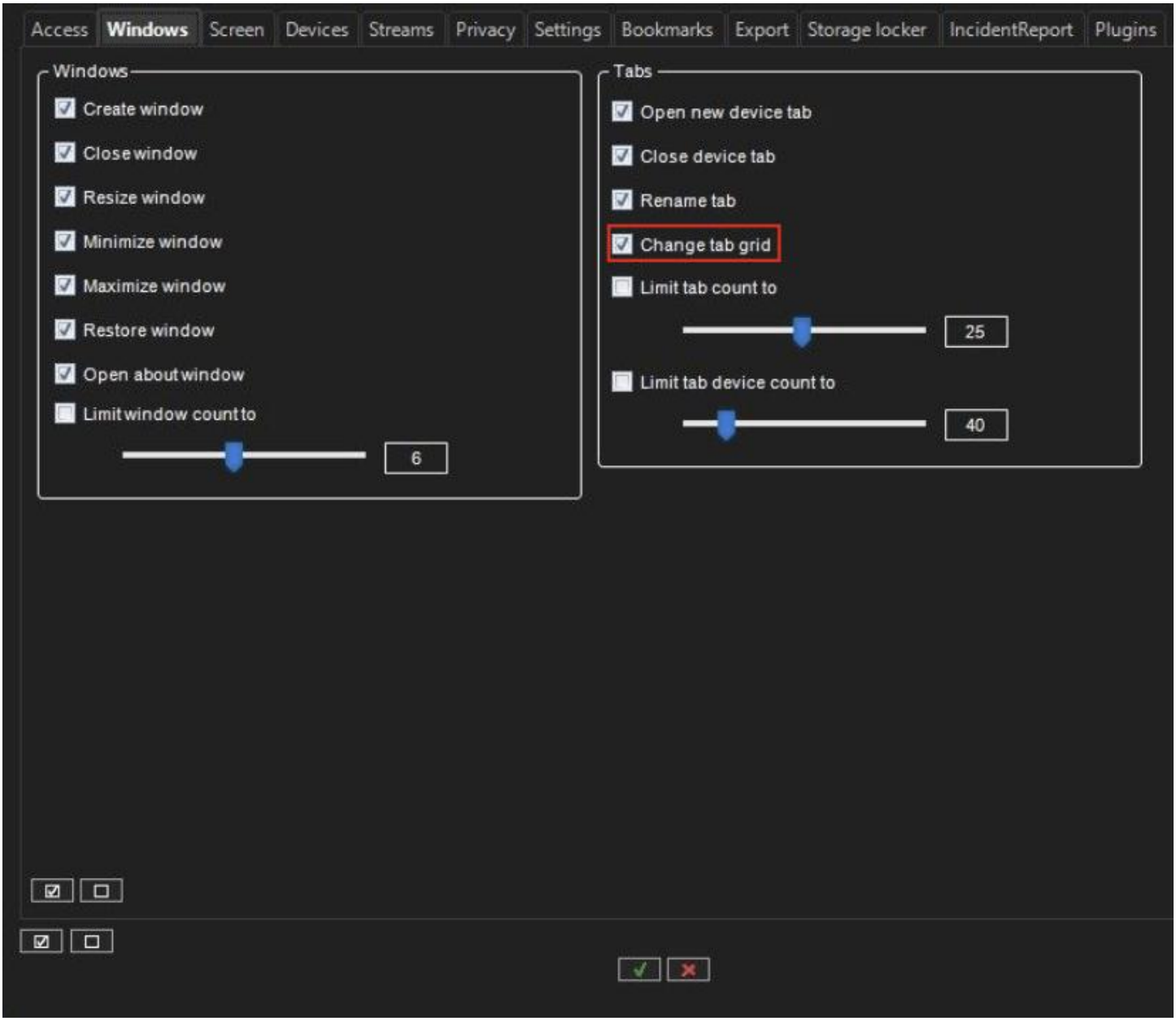
6.3 SPOTTER CAMERA GRID SELECTION BUTTON

Spotter playback panel UI has a popup button to open the camera grid selection list.

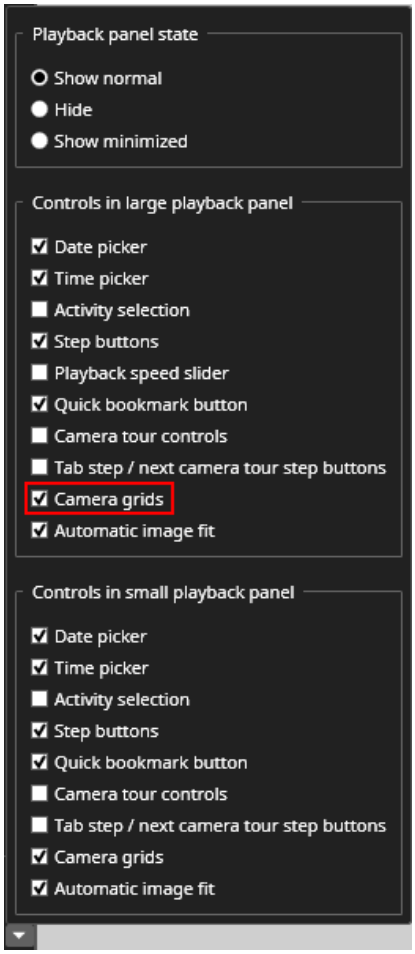


This button is visible if both following rules are filled:

The "Change tab grid" setting is enabled in user group Spotter roles.

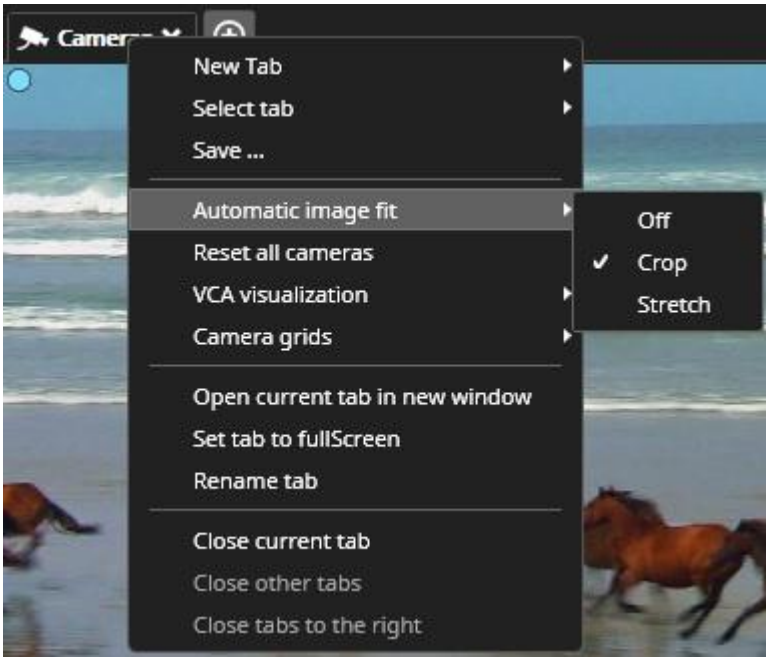


Camera grids are enabled in playback panel controls settings:



6.4 IMAGE FIT

Image fit modes can be changed from the tab context menu:



Or from a button at the playback panel:

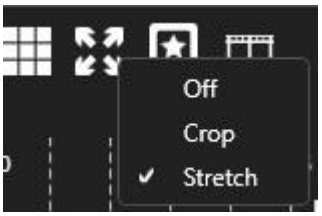
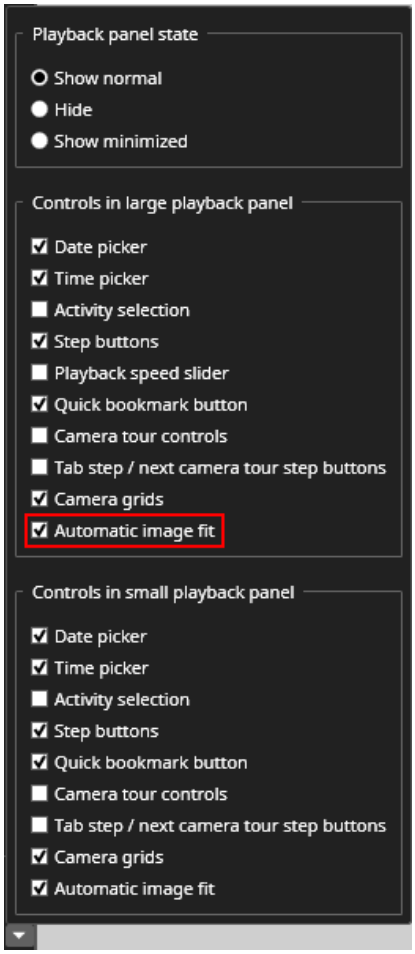


Image fit modes are the following:

- Off
    - Keep the image view scaling the same as the original image, and show the whole image at the view area.
- Crop
    - Try to keep the image view scaling the same as the original image, fill all available view areas and cut part of the image off if needed.
- Stretch
    - Change image scaling to stretch the whole image in the available view area.

The image fit button is visible in the playback panel if it is enabled in the playback panel controls settings:



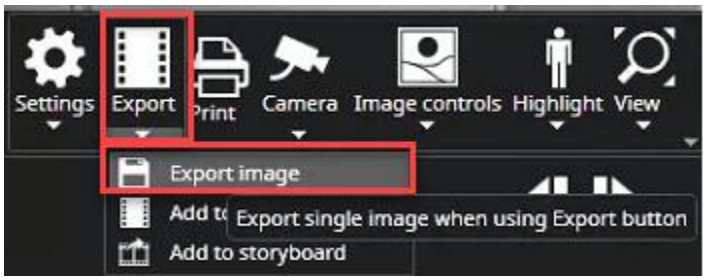
7 EXPORT



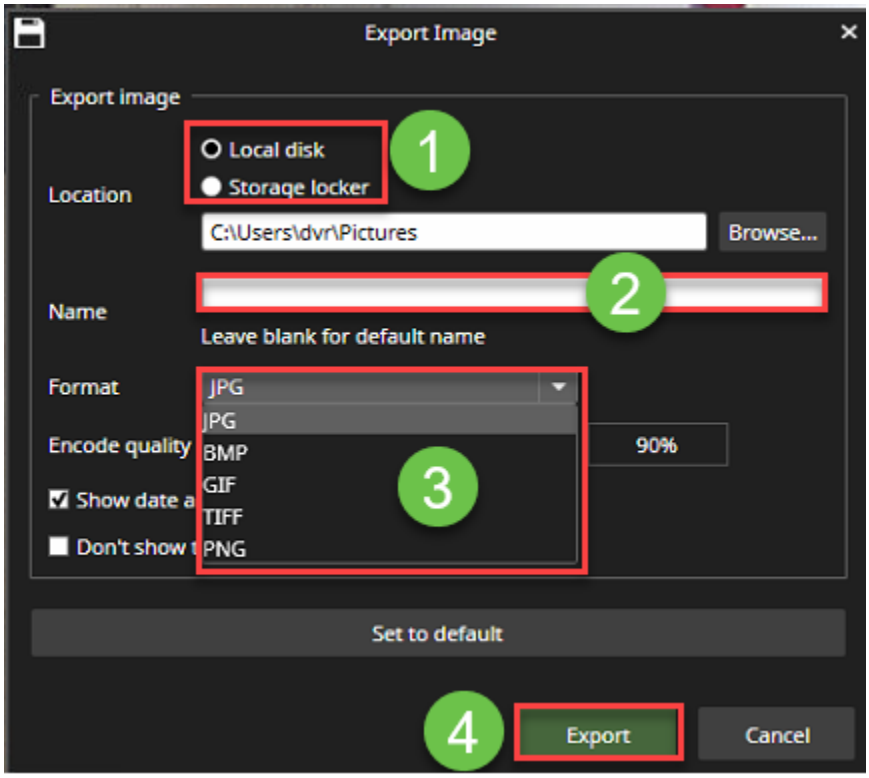
7.1 EXPORT IMAGE

1. Move the mouse cursor top of the image
2. Click **Export**

3. Select **Export image**



1. Select the location
2. Set name
3. Select the format
4. Click **Export**

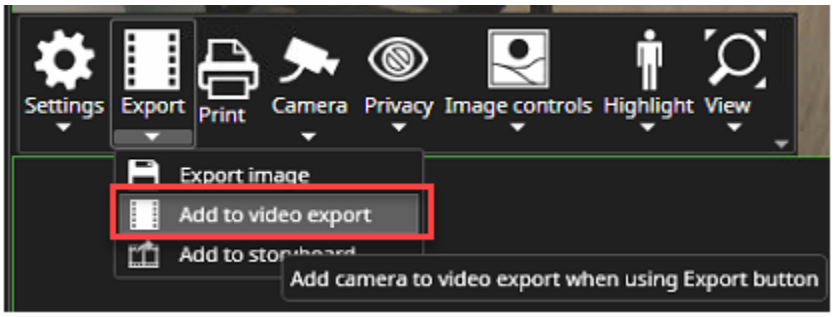


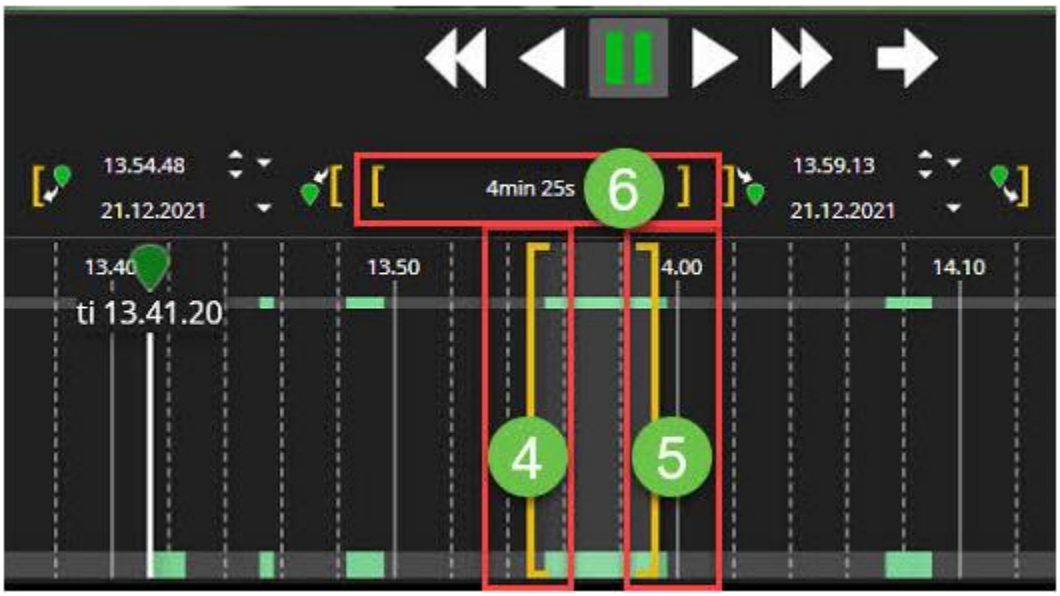
7.2 ADD TO VIDEO EXPORT

The user can create a media clip with the Spotter, which contains max. 8 cameras.

All devices, which are selected to **Add to the video export** area will be added to the media clip

1. Open camera toolbar from needed camera
2. Click **Export**
3. Select **Add to video export**



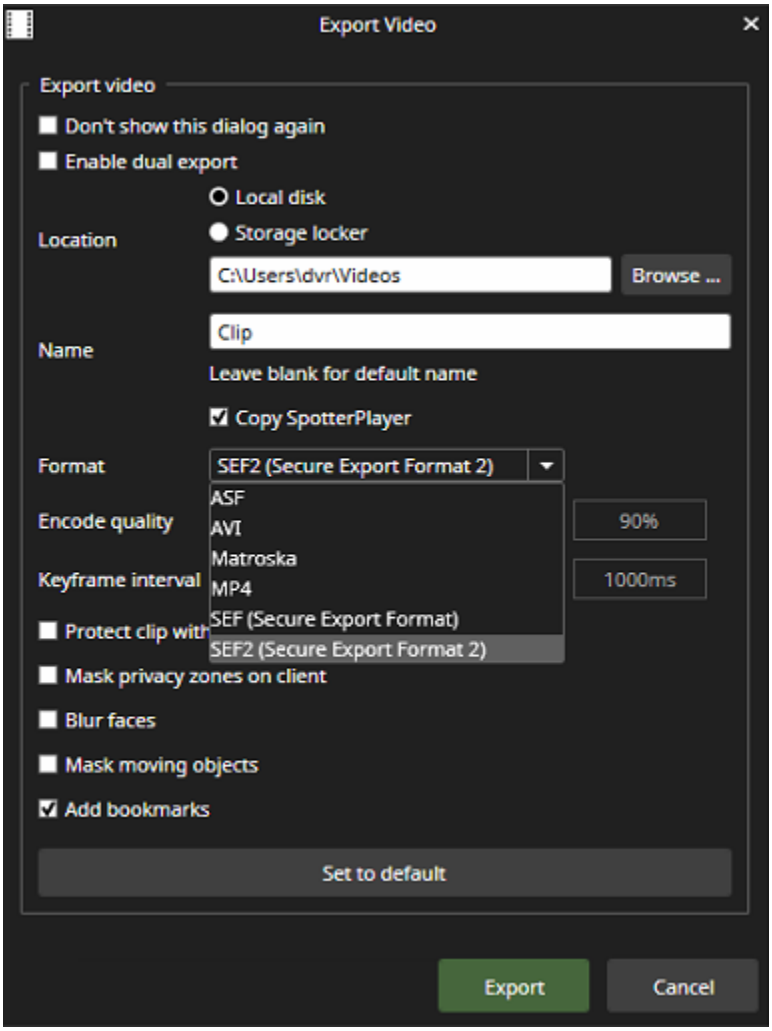
1. Set media clip starting point using **LEFT** yellow bar
2. Set media clip endpoint using **RIGHT** yellow bar
3. The Middle area shows the total length of the media clip
4. 

Select **Start to video export**

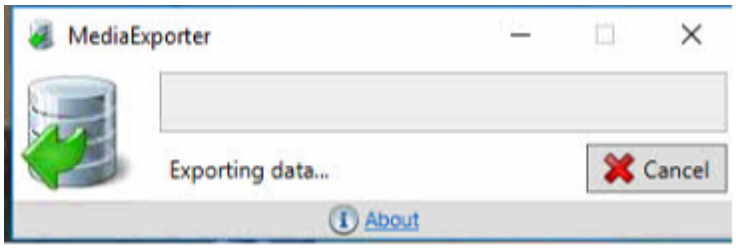
5. 

Select the location

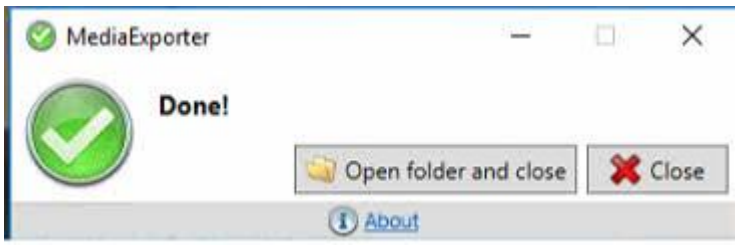
6. Set name
7. Select Format
8. Enable all other needed options
9. Click **Export**



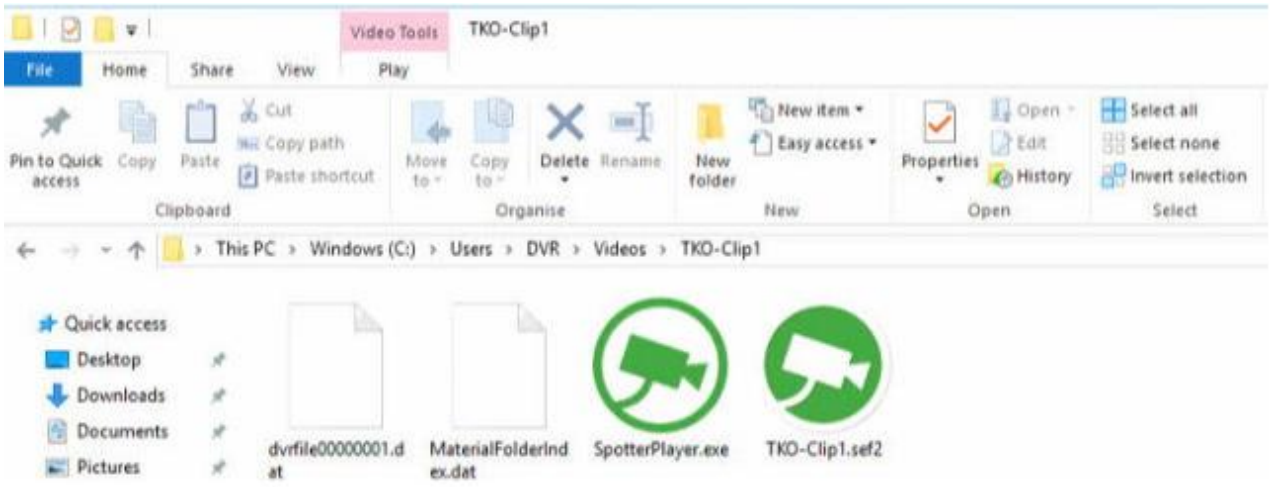
MediaExporter show exporting data process



When MediaExporter has finalized the video export, the user can access the location folder by clicking **Open folder and close**



The folder contains all necessary files and **SpotterPlayer.exe**



7.2.1 Supported export formats

- ASF
- AVI
- Matroska
- MP4
- SEF and SEF2

The fastest export file format is **SEF** (**Secure Export Format**). It can be viewed with **Spotter** or **SpotterPlayer**.

- SEF - video with subtitles audio, text data **(authenticity protected format)**
- SEF2 - video with subtitles audio, text data **(authenticity protected format)**
- ASF- video with subtitles audio, text data **(authenticity protected format)**

- AVI - video, audio
- MP4 (new in version 9.x) - video with subtitles

Using the **SEF2** enables:

- Protecting the video material with the password,
- Software side privacy zones in the export,
- Blur faces(The blurring needs to be enabled for the camera to be included in the export.)
- Mask moving objects(The blurring needs to be enabled for the camera to be included in the export.)

Original Format	**Export Format**					
	ASF	AVI	Matroska	MP4	SEF	SEF2
H.264	supported	supported	supported	supported	supported	supported
H.265	supported	not supported	supported	supported	supported	supported

7.2.2 Number of simultaneously exportable streams

In some cases, it is necessary to export a large number of streams into a single video clip. The number of streams that can be exported into a single clip goes up to 32 in Spotter. The maximum number of exportable streams depends on the export format:

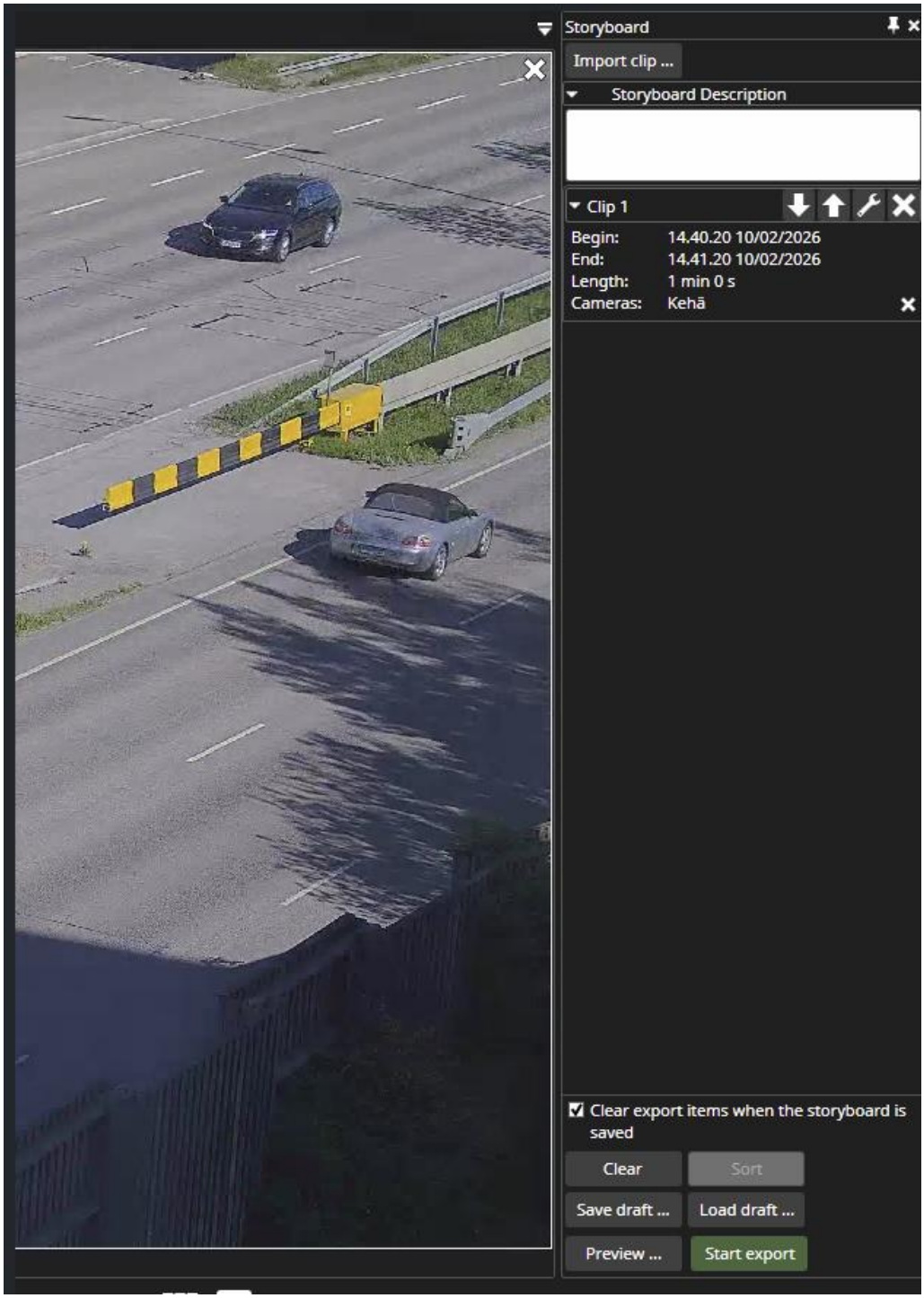
- SEF/SEF2: 32 streams
- ASF/Matroska: 8 streams
- MP4/AVI: 1 stream

Streams added to the export list can be viewed in the export panel. If the number of streams is greater than eight, the streams can be viewed by scrolling vertically. If the number of exportable streams exceeds the upper limit for the export format, a warning message is displayed.

7.3 STORYBOARD

An essential feature of any video management system is creating authentic video export material for law enforcement authorities. With Storyboard, it is possible to create a movie-like video export that makes it extremely easy for the recipient of the clip to view and understand instantly and accurately the chain of events. Storyboards can be viewed with the regular Spotter client application or the separate, standalone SpotterPlayer executable that is now exported as the default player for exported video.

MIRASYS



Tel +358 (0)9 2533 3300
Email info@mirasys.com
https://www.mirasys.com

7.3.1 Storyboard abilities

A storyboard is constructed from individual clips.

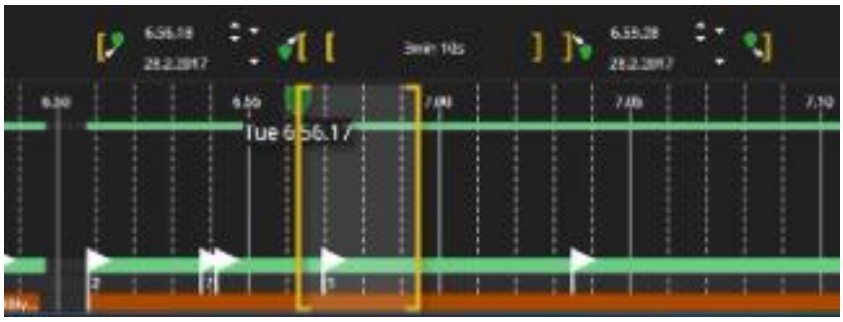
A single Storyboard can contain a maximum of 63 camera streams.

- Create a movie-like viewing experience from surveillance video material.
- Maintain complete material authenticity.
- View material in the Storyboard in sequential playback mode or an all-cameras real-time mode.
- Add clarifying comments and descriptions to activities.
- Have a viewer for control of displaying of comments as subtitles.
- Playback in continuous replay mode.
- Save drafts and share the Storyboard with other system users.

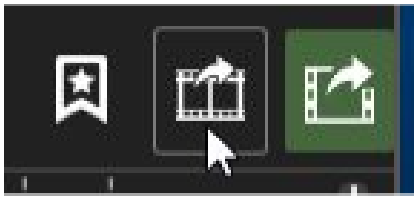
In addition to these abilities in Spotter, the time slider makes editing export clips very easy.

7.3.2 Adding Clips to Storyboard

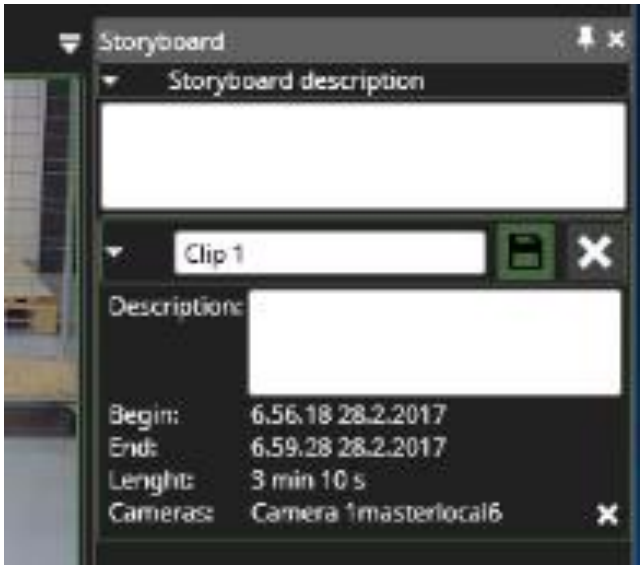
These clips can contain up to 8 cameras, but for the most "movie like" experience, it is preferable to use a single camera per clip. The recommended way to start storyboard creation is to find the camera and event that will be the first clip in the storyboard and adjust the first clip export start and end times usually with the export mode activity panel.



After this, add the clip to the storyboard with the "Add clip to storyboard" button.



This adds the clip as the first clip.

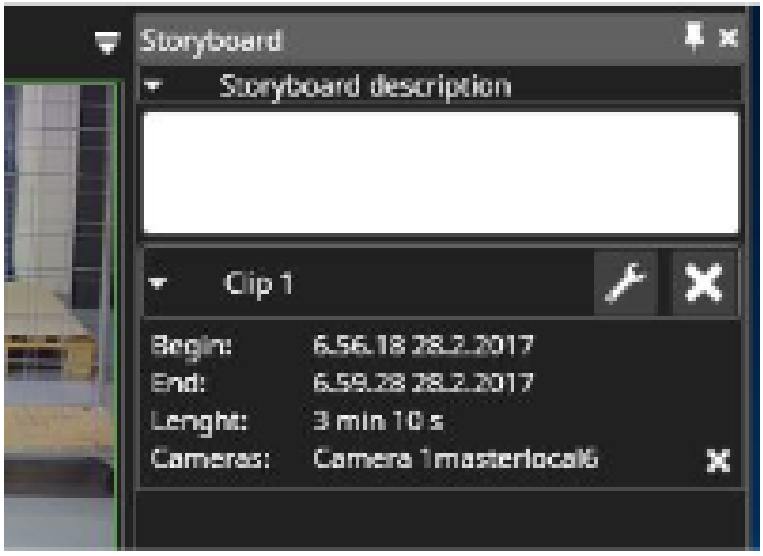


The clip is still in edit mode (white text boxes and the "Save" icon). The clip name or description can be edited. Any change in the clip start or end times or camera content is still reflected in the clip contents.

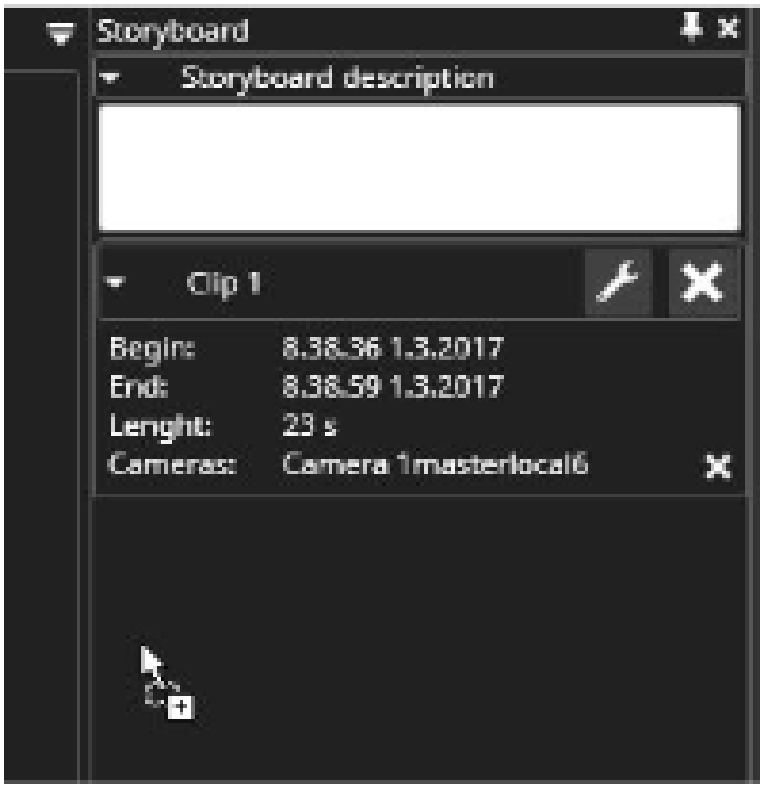
If no editing is needed, click the "Save" button.



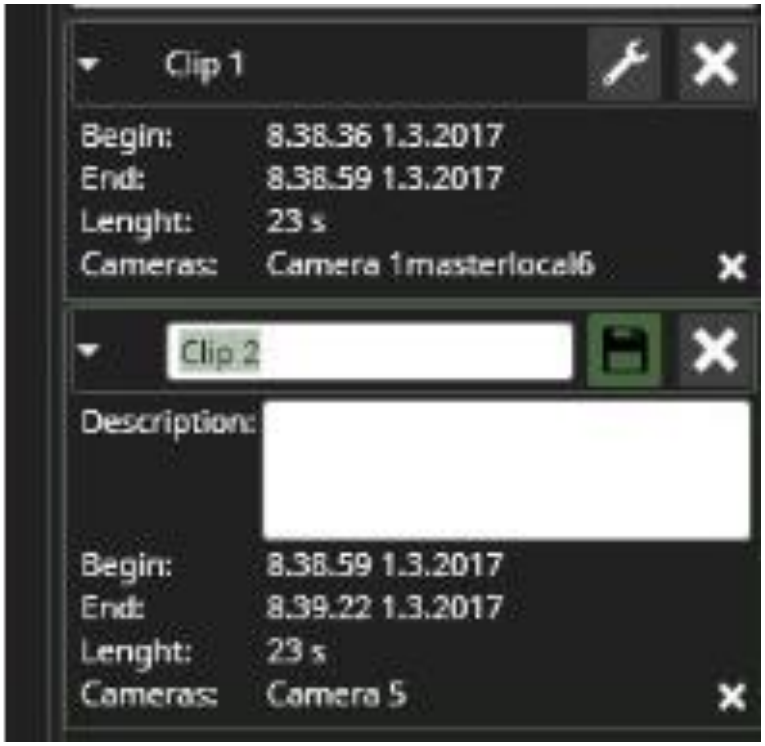
Now the clip is saved (texts change to non-white), and the following clip can be added to the storyboard.



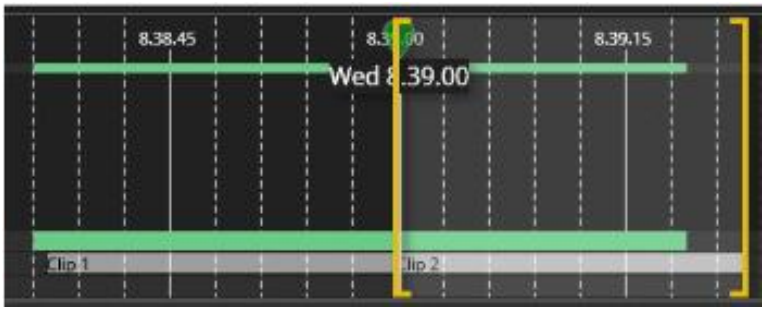
The most convenient way to add the following clip is to find the camera, open it to the work area, and drag it below the first clip in the storyboard.



This will set the next clip's start time to match the end time of the previous clip and copy the clip duration. The clip opens in edit mode, and the start and end times can be fine-tuned.



The clips are highlighted in the activity panel. Note that it is all right if the clips overlap.



1. This same process can be repeated to add more clips to the storyboard. When it becomes difficult to drop a new camera to the list, the recommended way is to drop the new camera to the scroll bar.This will add the camera as the last clip. If a camera is dropped on top of an existing clip in the storyboard list, it will be added to that clip as an extra camera.

There are other ways to add content to the storyboard:

- With the camera toolbar export control.
- By dragging and dropping from different search result screens and the device tree.
- With a right-click option from the alarm list.

7.3.3 Editing Clips In Storyboard

Clips appear in the storyboard, always in time order, ordered by the clip's start time. A clip can be opened for editing later by pressing the "Edit" button.



When a clip is opened for editing:

- Any other clips in edit mode are automatically saved.
- The name and description are editable and changed to white to indicate this.
- The export time slider is populated with the devices from the clip.
- The start and end times are editable and can be adjusted.
- Devices can be added to the export time slider, and saving the clip will add them to the storyboard.

If someone has created a bookmark for the clip time that is not already in the clip, editing the clip and saving the clip will add the bookmark to the storyboard.

If the start time is adjusted so that it is now earlier than before and before another clip, the clips are rearranged in the storyboard list automatically.

The start and end times of the clips can overlap. The start time of a later clip can be earlier than the end time of the previous clip.

You have several options for playback, but in the default setting, the clips are played sequentially, the first one to the end before the next one starts, even if the clip times overlap. The overlapping times are indicated in the time slider by a slight difference in the color of the clips where they overlap.

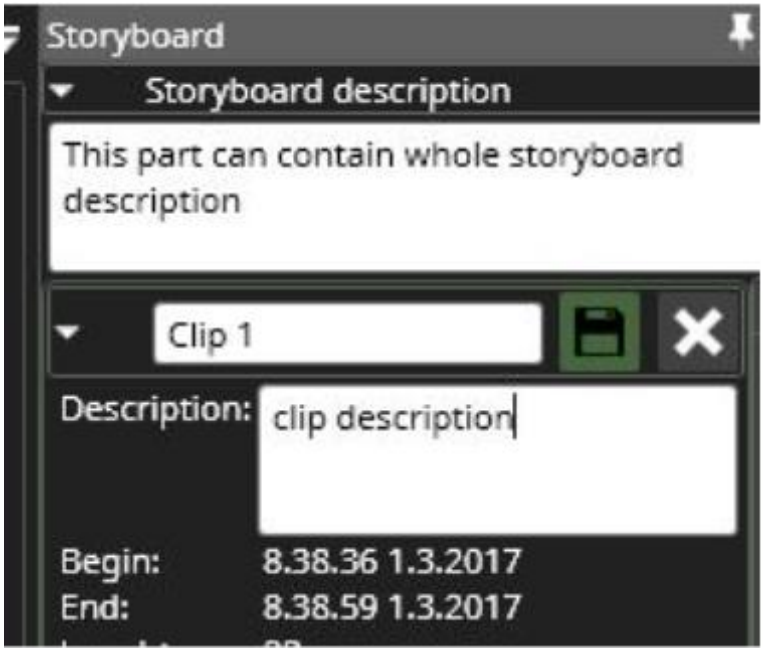


Please note that if the storyboard is long, the clips can be minimized with the click of the clip title.

7.3.4 Descriptions And Comments

The storyboard has several types of descriptions:

- Whole storyboard description
- Individual clip descriptions
- Bookmarks



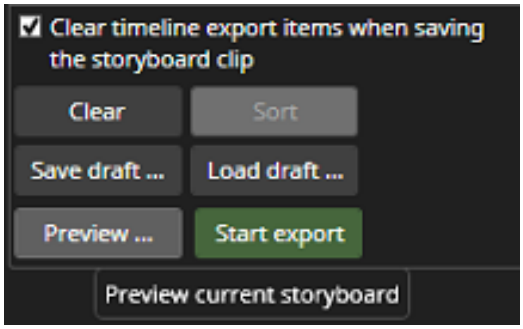
The descriptions are shown to viewers of the storyboard as subtitles.The timing of showing the descriptions is based on the start time of the clip or bookmark. Description texts are also exported in HTML text format to the target folder for further use for the target audience.

7.3.5 Preview

During the construction of a storyboard, it is possible to preview the storyboard by pressing the "Preview" button.

This opens a new Spotter window where the draft storyboard can be previewed.

After previewing, it is recommended to close the window and make any desired adjustments to the storyboard in the original Spotter window.



Preview opens in a unique Spotter window, first to full screen, but the window can also be resized.

7.3.6 Drafts And Sharing

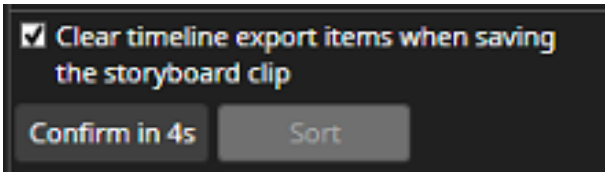
It is possible to save storyboard drafts by pressing the "Save draft..." button.

This will open a dialogue where the user can enter a name for the draft storyboard. If there are many users interested in draft storyboards, it is recommended to save the storyboard to a shared location, such as a network drive. Then the draft storyboards can be opened by anyone who has access to the same profile used to generate the storyboard draft. The location can be defined in settings. The "Load draft" button can be used to load a draft storyboard.

Please note that closing the Spotter window or exiting Spotter will clear any unfinished and unsaved storyboard contents.

7.3.7 Clearing the storyboard

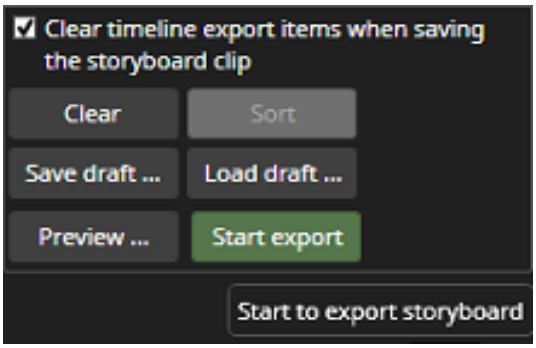
Clearing the storyboard requires confirmation from the user, preventing loss of storyboards if the clear button is clicked accidentally. After clicking the clear button once, the user must click the button again within five seconds to confirm the clearing, otherwise the storyboard will not be cleared. The number of seconds left to confirm appears on the button.



7.3.8 Settings

Settings for the storyboard are described in Storyboard Settings.

7.3.9 Exporting Storyboards



When the storyboard is ready to be exported, press the "Start Export" button.

This will open a dialogue where the location and name can be adjusted.

If no information is given, a default location and default name will be used. Please note that large storyboards can take some time to export. It is also possible to export the individual video clips from the time slider button.

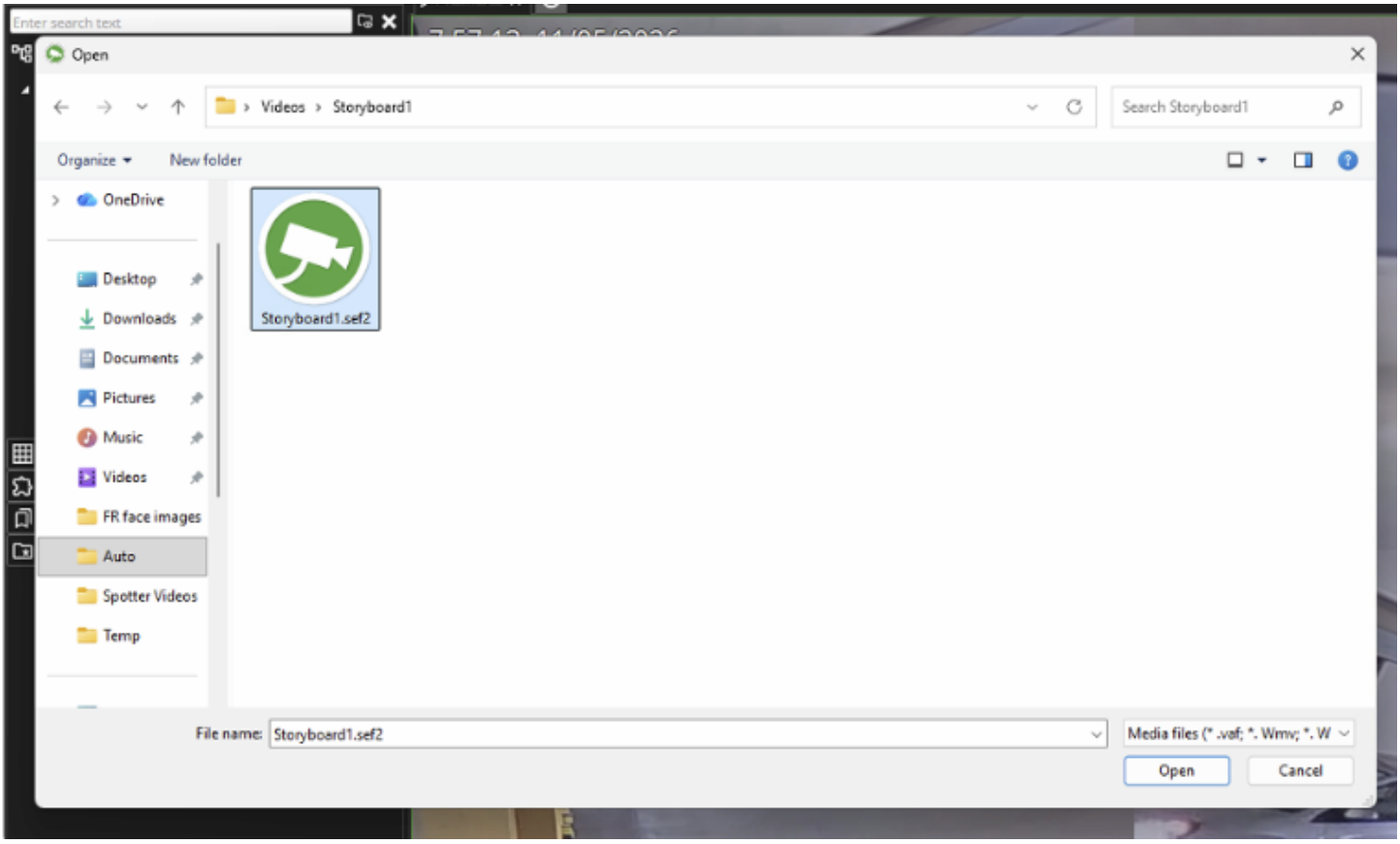
The SpotterPlayer application will also be exported to the target folder if it is not already there. In addition to the media, the HTML text attachment with a summary and details of the storyboard is also exported to the target folder.

7.3.10 Viewing Storyboards

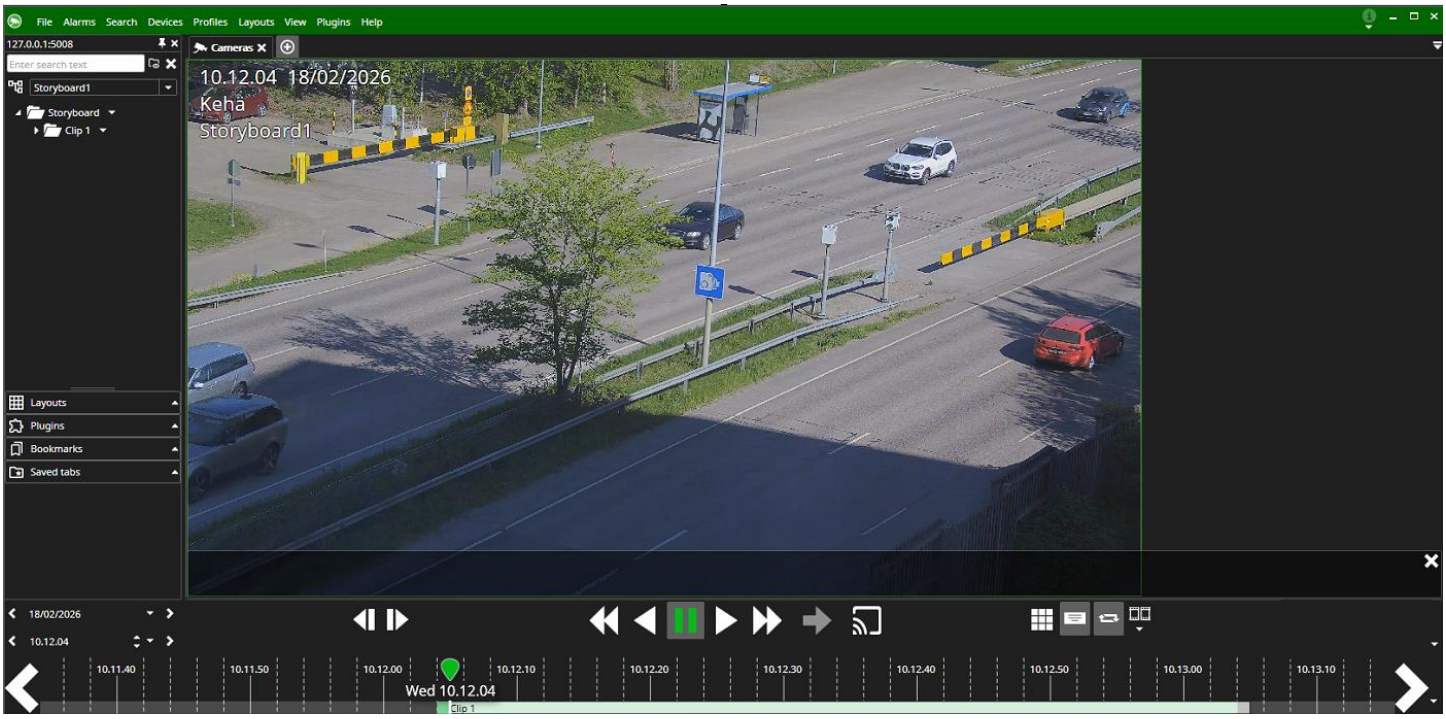
A storyboard can be viewed with Spotter or with the SpotterPlayer.Media can be opened by pressing the F4 key or by "Open media" from the File menu or by double-clicking the storyboard file in the file system.



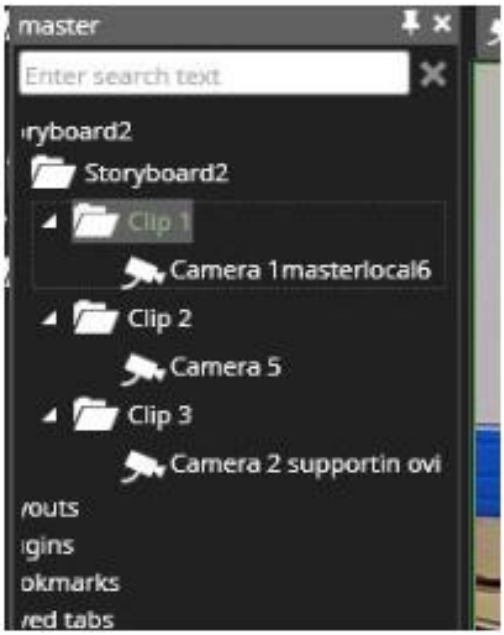
Then the storyboard can be opened from the file selection dialogue



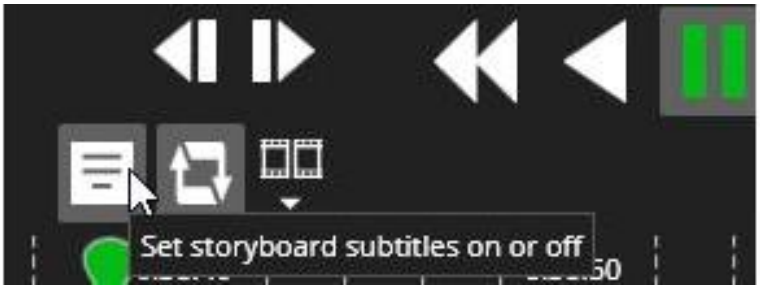
Media opens in "Media view" mode with a green window title.



The clip will default open with the comment subtitles on and the player in "Repeat" mode. The individual clips are seen in the device tree area.



The repeat and subtitle settings and the playtime settings can be changed from the buttons next to the playback controls.



7.3.11 Other Viewing Modes



The sequential mode is the default playback mode. It plays the clips in time order, ordered by the start time of the clip. It plays each clip entirely before moving to the next so that the time can jump backwards in this mode.

You can switch the playback mode at any time. If you switch to "Playback all" mode, all cameras in the storyboard are opened.

Note that when you start to play in this mode, the storyboard is played in real-time, and the time does not jump backwards when clips overlap.

In the manual mode, no camera is opened or closed automatically, and you can choose which camera to open from the device tree.

7.4 CREATE ARCHIVE



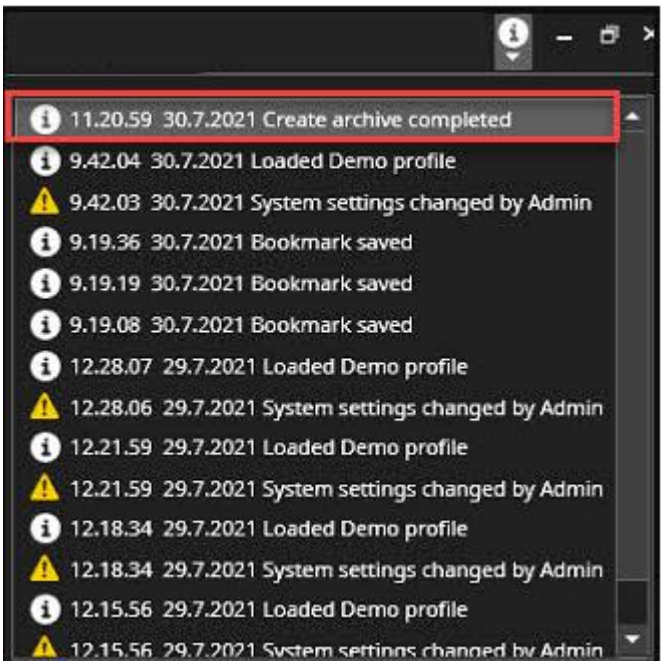
The archive is a tool for material backup and copying a larger amount of the material from multiple cameras. Archived material can be opened with the Spotter or SpotterPlayer

Archive creation is only allowed if the archiving feature is enabled in the license.

1. Set name of the archive
2. Set password protection, if needed
3. Set the location
4. Set length of the archive
5. Select archived components
6. Click **Create**



When the archive is done, you will see a notification in the UI upper right corner.

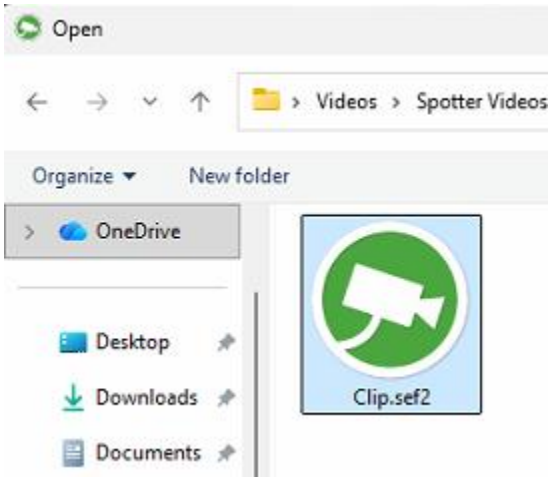


7.5 Open Media

Archives or video clips are opened by the F4 key or the File menu "Open Media" option.



1. Click Open Media
2. Browse the location of the clip or archive



3. Select archive file or clip(**SEF**)

7.6 Encryption and Authenticity Verification

The Mirasys Spotter system is designed to provide a secure and user-friendly environment for managing video recordings, including live and archived footage. Central to this system is the Spotter Player, a media player seamlessly integrated within the client application, and the Secure Export Format (SEF), a format designed for the fast and secure export of video files.

Spotter Player is built into the client application and does not require a separate installation. The user can select to have it copied with the export. It allows you to play exported media clips, archives, or storyboards and view them similarly to when using the full application and accessing recordings on a server.

7.6.1 Secure Export Format (SEF)

Spotter Player is always started offline, so it can only be used to open exported SEF and WMV clips and archives. The fastest export file format is SEF (Secure Export Format). It can be viewed with Spotter or Spotter Player.

The use of digital watermarks for authenticity verification is particularly associated with the **SEF2** format, which is an extension of the original SEF format with additional security and privacy features. The SEF2 format supports exported videos with subtitles, audio, and text data— it is an authenticity-protected format that also enables:

- Protecting the video material with a password,
- Software side privacy zones in the export,
- Face blurring (needs to be enabled on the camera side to be included in the export)
- Mask moving objects

7.6.2 Encryption to safeguard exported video data

Mirasys employs robust encryption techniques to safeguard exported video data. AES encryption with a 256-bit key encrypts image data, layout data, bookmarks, and storyboard data. This selective encryption ensures that critical components of the video and its metadata are secured against unauthorized access or tampering. AES is a widely recognized encryption standard that provides a high level of security, making it suitable for protecting sensitive video data in SEF files.

SHA1 (Secure Hash Algorithm 1) is used for hashing. Hashing is converting an input (or 'message') into a fixed-size string of bytes, typically a digest that represents the original string. While SHA1 is not an encryption technique per se, it complements the encryption process by ensuring data integrity and authenticity, allowing the system to detect any alterations to the data.

The SEF data container itself is not encrypted so that the overall file structure remains accessible for system functions, such as verifying file integrity or managing file access. In contrast, the content within the container is encrypted for security.

You have the option to password-protect SEF clips during the export process. When exporting SEF clips in Spotter, you select to password-protect the clip. If password protection is selected, the password will be requested in a separate dialog. When the correct password is entered, the clip is opened.

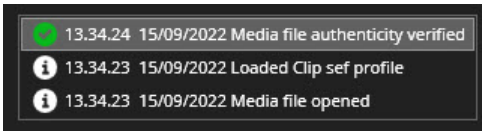
Decryption occurs dynamically when a password-protected SEF clip is accessed in the Spotter system. For image data, decryption is performed on the fly, meaning it is decrypted in real time as it is accessed without storing decrypted data on the disk. This approach enhances security by ensuring that sensitive decrypted data is not left vulnerable on storage media. Spotter passes the password with other export parameters to Media Exporter, which encrypts the clip. Encrypted SEF clips are saved with the extension ".esef."

7.6.3 Watermarking for Authenticity Verification

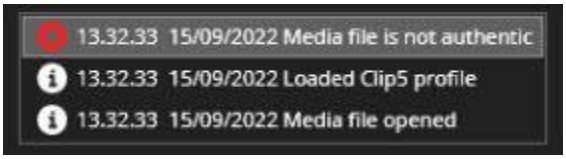
An essential feature of the Mirasys system is using digital watermarks to verify the authenticity of exported video material. The watermark is a digital signature confirming the video content's originality and integrity.

The Spotter system automatically verifies the authenticity of media files when they are played back using Spotter Player or Spotter. This process checks for the presence of the digital watermark to ascertain if the media file is authentic.

Upon verification, the system informs the user of the authenticity status of the media file through notifications. If the media file is authentic, a notification stating "Media file authenticity verified" is shown.



Conversely, if the media file is not authentic, the user is notified with a message stating "Media file is not authentic."



7.7 DUAL EXPORT

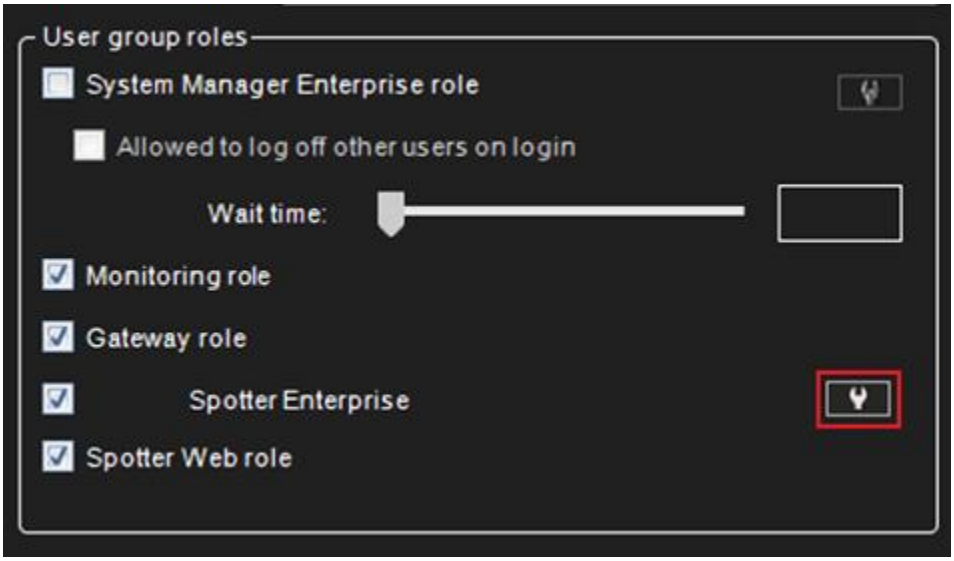
Content from Spotter can be exported in two different formats and into two different locations simultaneously with dual export. Dual export can be enabled for the user role in user role settings. When dual export is enabled, the settings can be configured separately for the primary and secondary export in Spotter. The exportable content for dual export includes:

- Video clips
- Images
- Storyboards
- Storyboard drafts

Note that dual export is turned off by default in user role settings. The option to enable dual export is not visible in Spotter if dual export has not been enabled in System Manager first.

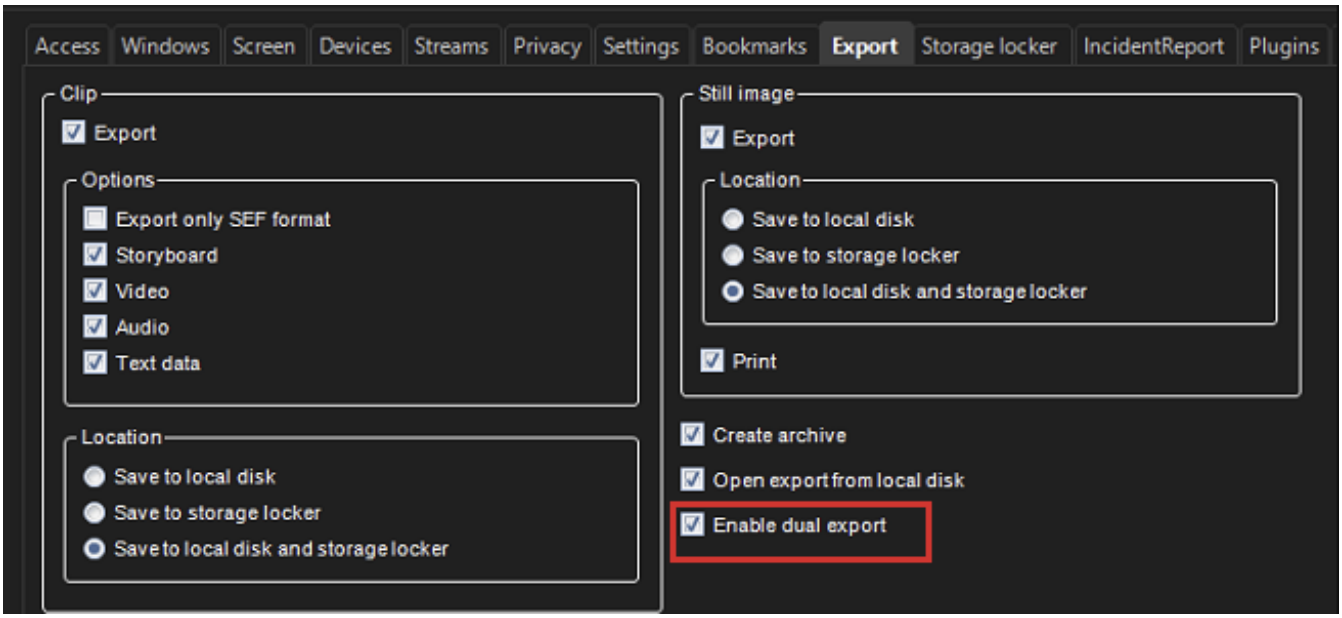
7.7.1 Enabling dual export for the user role:

1. Go to the **Users and User groups** tab in System Manager
2. Double-click on a user group
3. Click **Edit Mirasys Spotter Enterprise role properties** in the User group roles section

1. 

Go to the **Export** tab

2. Tick the checkbox for Enable dual export
3. Save changes

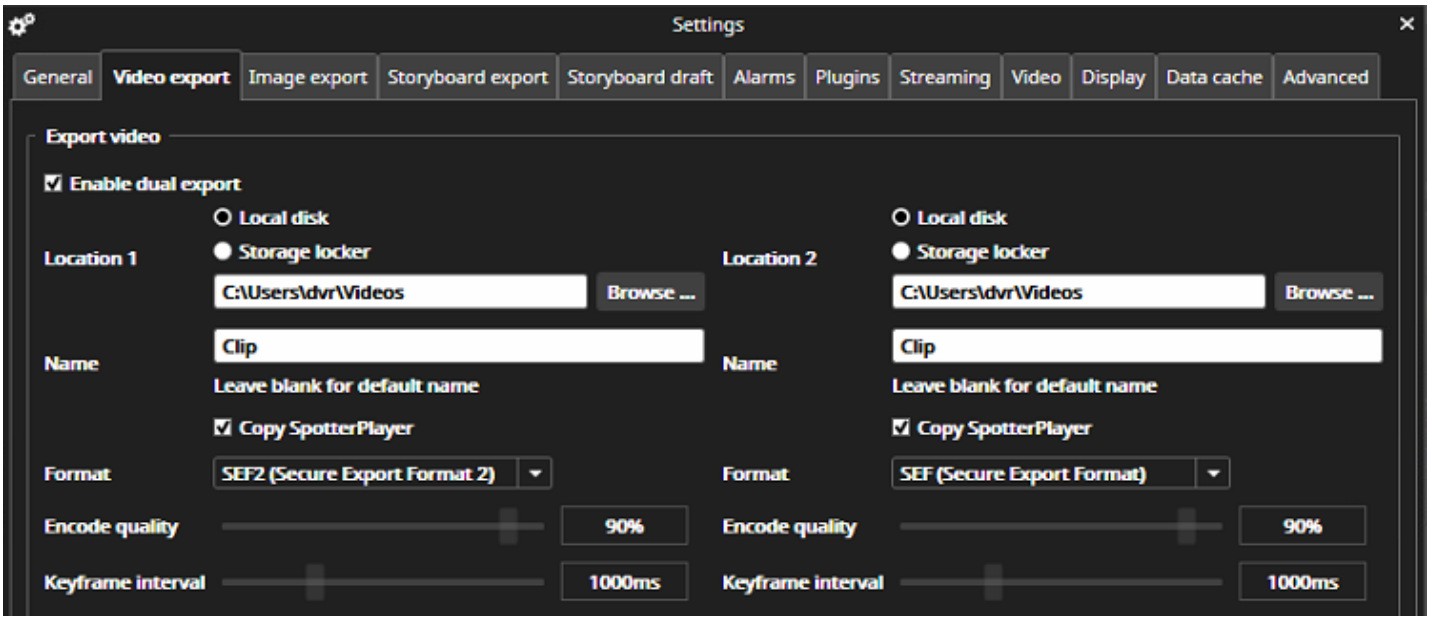


After dual export has been enabled in user role settings, it can be enabled in Spotter. The option to enable dual export in Spotter can be found in settings, under the content export tabs. When the checkbox for Enable dual export is ticked, the option to configure settings for two exports becomes available. Settings for secondary export can also be configured in the export dialog when exporting video clips or storyboards.

Dual export must be enabled separately for different types of exportable content in Spotter settings.

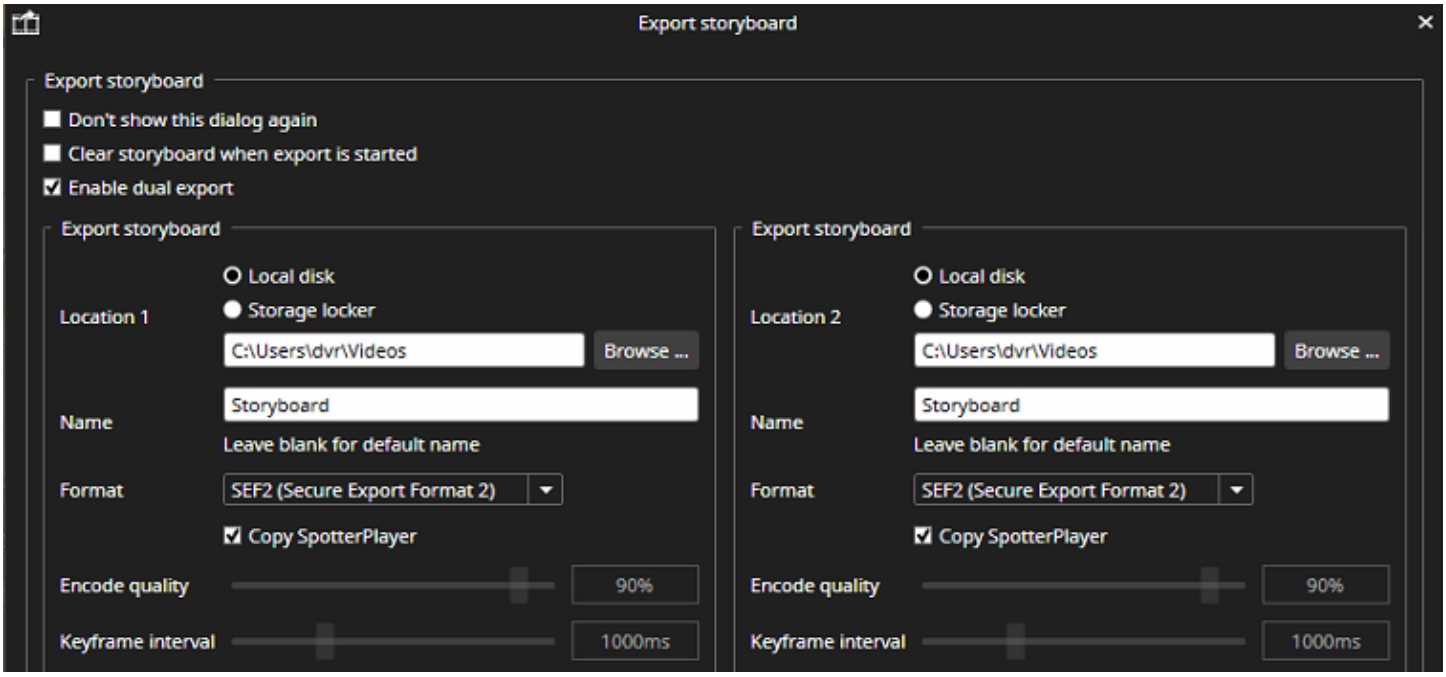
7.7.2 Configuring dual export settings in Spotter settings:

1. Go to Spotter **Settings**
2. Go to the desired export tab (Video, Image, Storyboard, or Storyboard Draft)
3. Tick the checkbox for Enable dual export
4. Configure settings for primary and secondary export
5. Click **Save**



7.7.3 Exporting with dual export:

1. In the Spotter camera toolbar menu under **Export**, select the content type you wish to export
2. Configure the settings for the exports in the export view if needed (ensure that Enable dual export has been selected)
3. Click **Export**



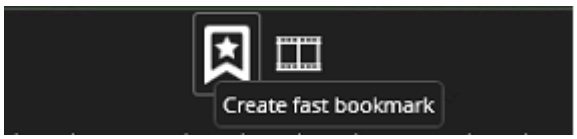
The two exports occur concurrently, and the progress of each export is shown in its own dialog box, both of which are visible on the screen at the same time. The user will be notified if one of the exports fails.

8 BOOKMARKS

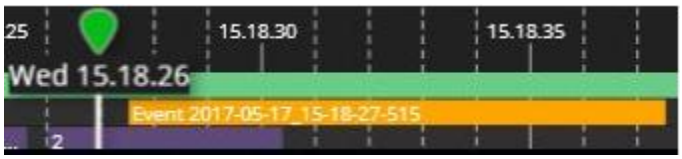


8.1 CREATING A BOOKMARK

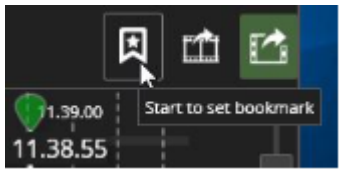
A bookmark can be created quickly by pressing the **Create fast bookmark** button or with the keyboard combination Ctrl+Alt+B.



This will create a 10-second-long bookmark to the position of the playback indicator with the content that was open on the tab where the button was pressed.



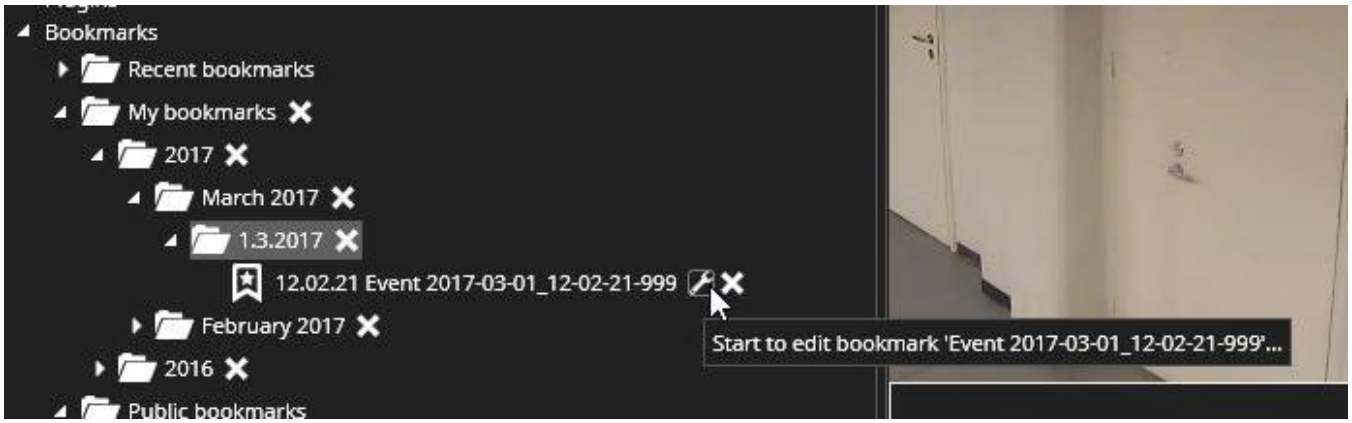
A second way to create a bookmark is to take the content to the export mode activity panel and then click on the "**Start to set bookmark**" button.



8.2 EDITING A BOOKMARK

The bookmark can be later edited if desired.

1. Open Bookmarks from the device tree
2. Select needed bookmark and click **Start to edit bookmark** icon



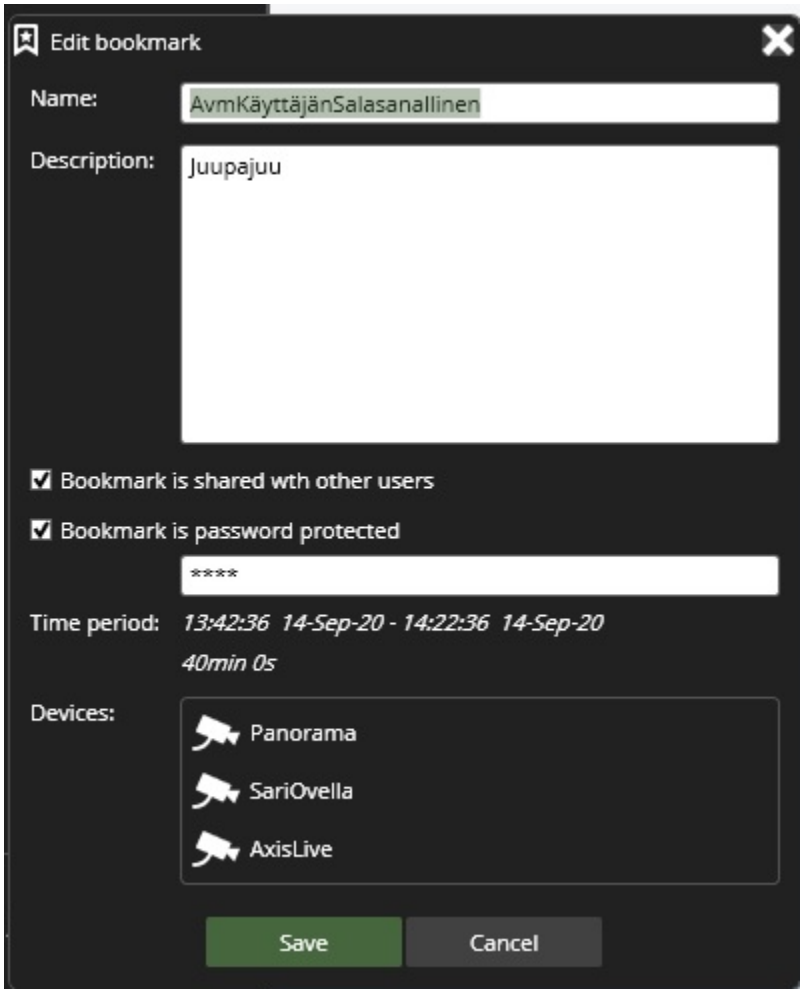
The bookmark editing view is a separate dialogue.

You can edit values:

- Name
- Description
- Bookmark is shared with other users

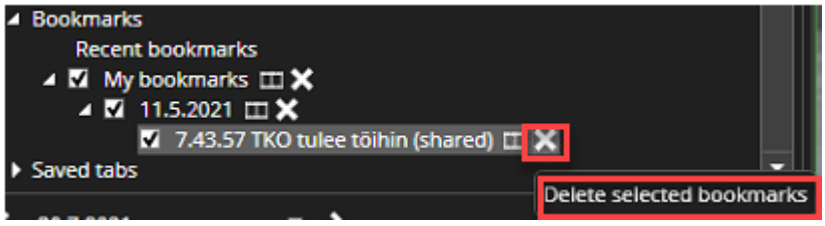
- Bookmark is password protected

When you have finalized the modification, please click **Save**



8.3 DELETING A BOOKMARK

Bookmarks can be deleted one by one or by folder with the ”X” control in the device tree.



The bookmark menu will show which bookmarks have been shared with other users.

8.4 BOOKMARKS IN THE TIMELINE PANEL

If so configured, bookmarks are displayed on the timeline panel and can be accessed also from there with a right mouse click.

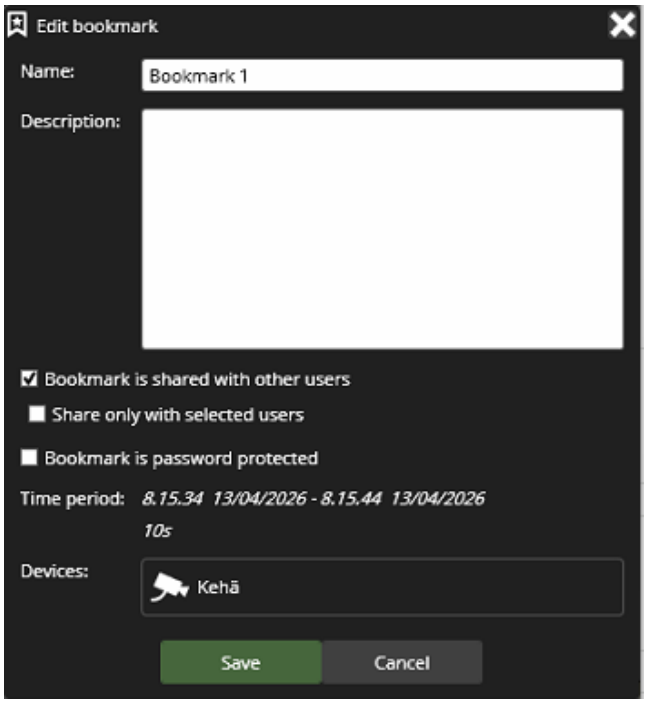


Also, if other users have shared bookmarks, the user who did the sharing is shown in parenthesis after the bookmark title.

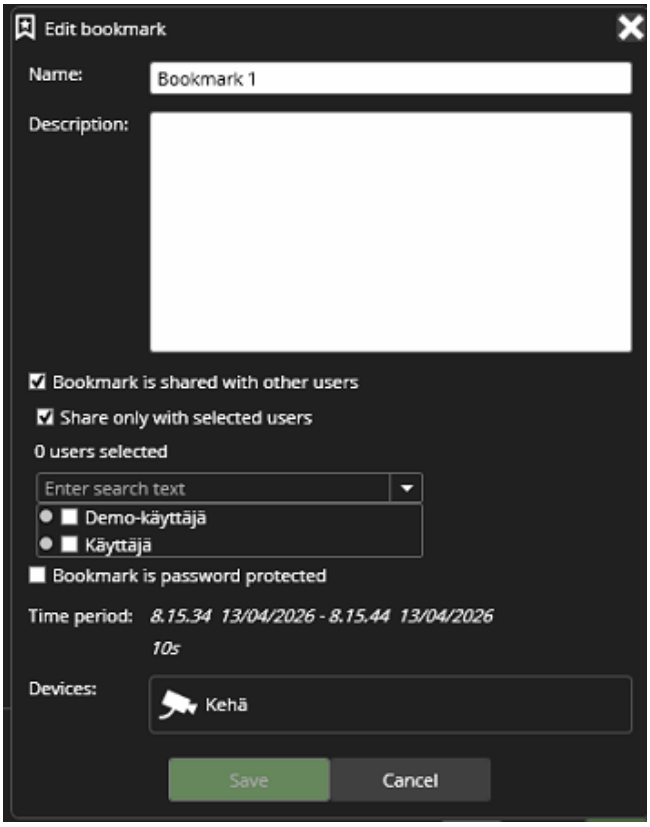
Password-protected bookmarks are not shown in the timeline before the bookmark is opened from the bookmark list by entering the correct password.

8.5 SHARING BOOKMARKS WITH SELECTED USERS

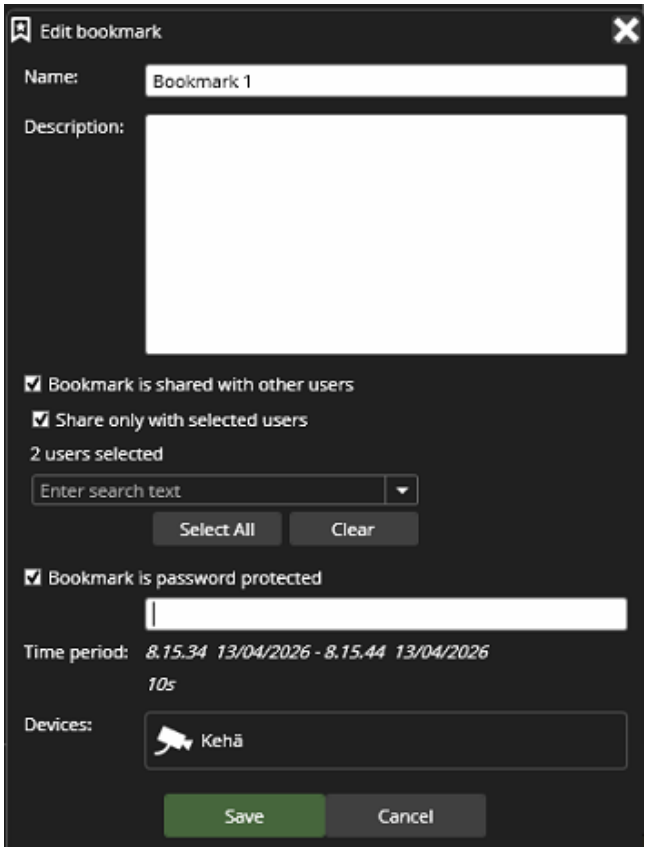
1. Once a bookmark is created, edit the bookmark and fill in the bookmark data, and you can share it with selected users by clicking the **Bookmark is shared with other users.**



1. By default, a bookmark is shared with all users. To share with specific users, enable the checkbox **Share only with selected users**, and select the users from the dropdown menu.



1. There is also an option to add password protection to a shared bookmark by enabling the check box **Bookmark is password protected**.



For password-protected bookmarks, the password must be given when opening the bookmark. This also applies to bookmarks that the user owns and has created.

9 SEARCH TOOLS

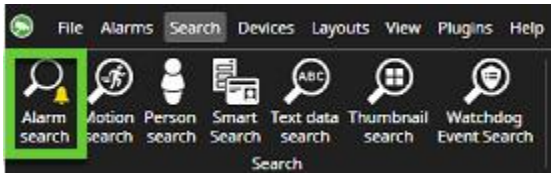
9.1 THE SEARCH TAB CONTAINS MULTIPLE SEARCH TOOLS:

- Alarm Search
- Motion search
- Person search
- Text data search
- Thumbnail search
- Watchdog Event Search

9.2 ALARM SEARCH

In Spotter > Search > Alarm Search, Operators can use the Alarm Search to easily find Alarms. This tab is a separate tab plugin.

Open **Alarm Search** from the top Menu under **Search** to search for **Alarms**.



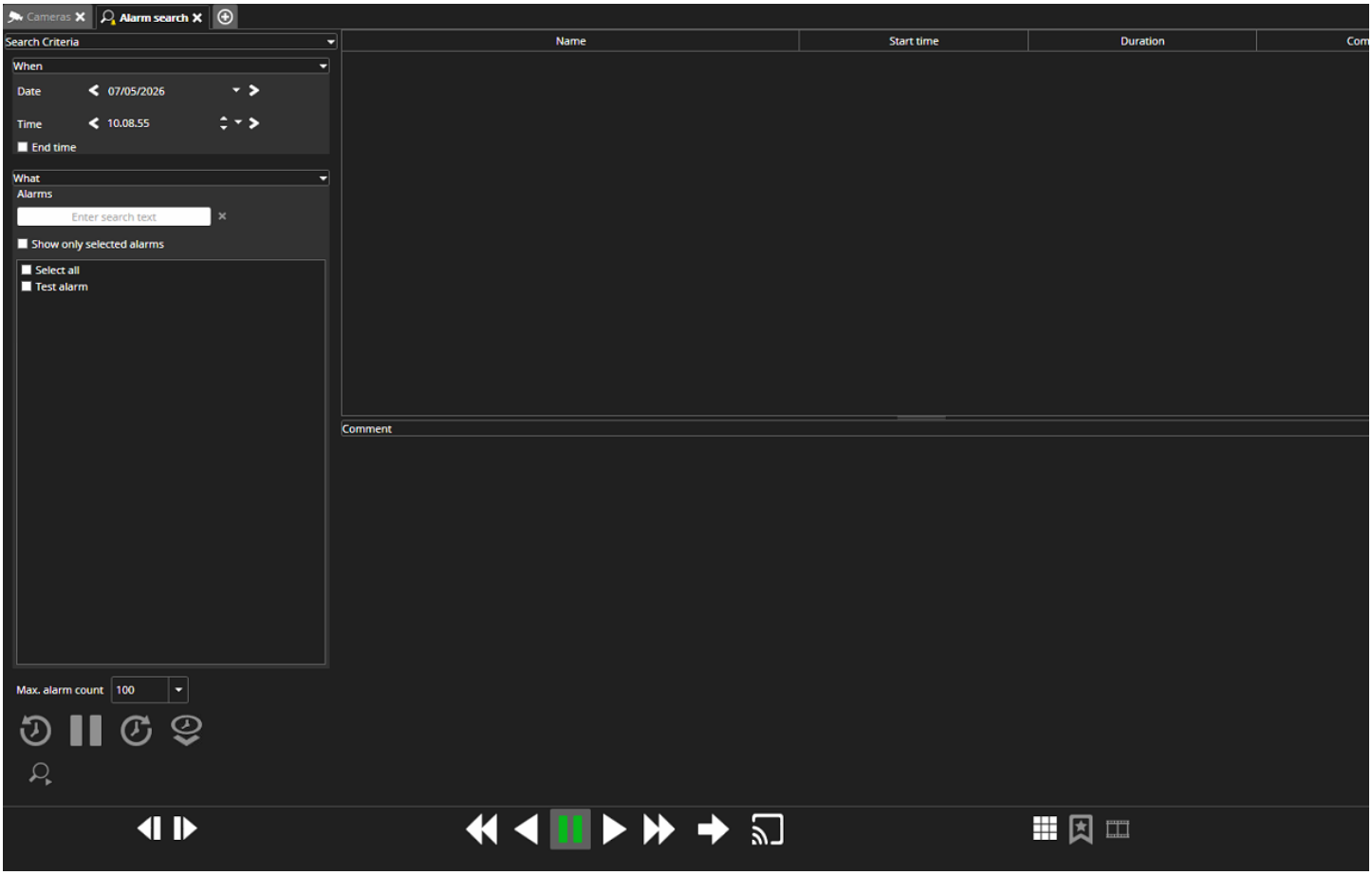
9.2.1 Alarm start and end time

There are options to set the alarm search start time with Date and Time selections on the right side of the alarm search tab. It is also possible to set the end time.

9.2.2 Alarms to be included in the search

Below the Time Settings, under **Alarms**, there is an alarm drop-down list. It contains all alarms that are included in the selected profile. The user can search for one alarm or several alarms.

Alarms that should be included in the search can be selected by ticking the box next to the alarm. There is also an option to search for all alarms.

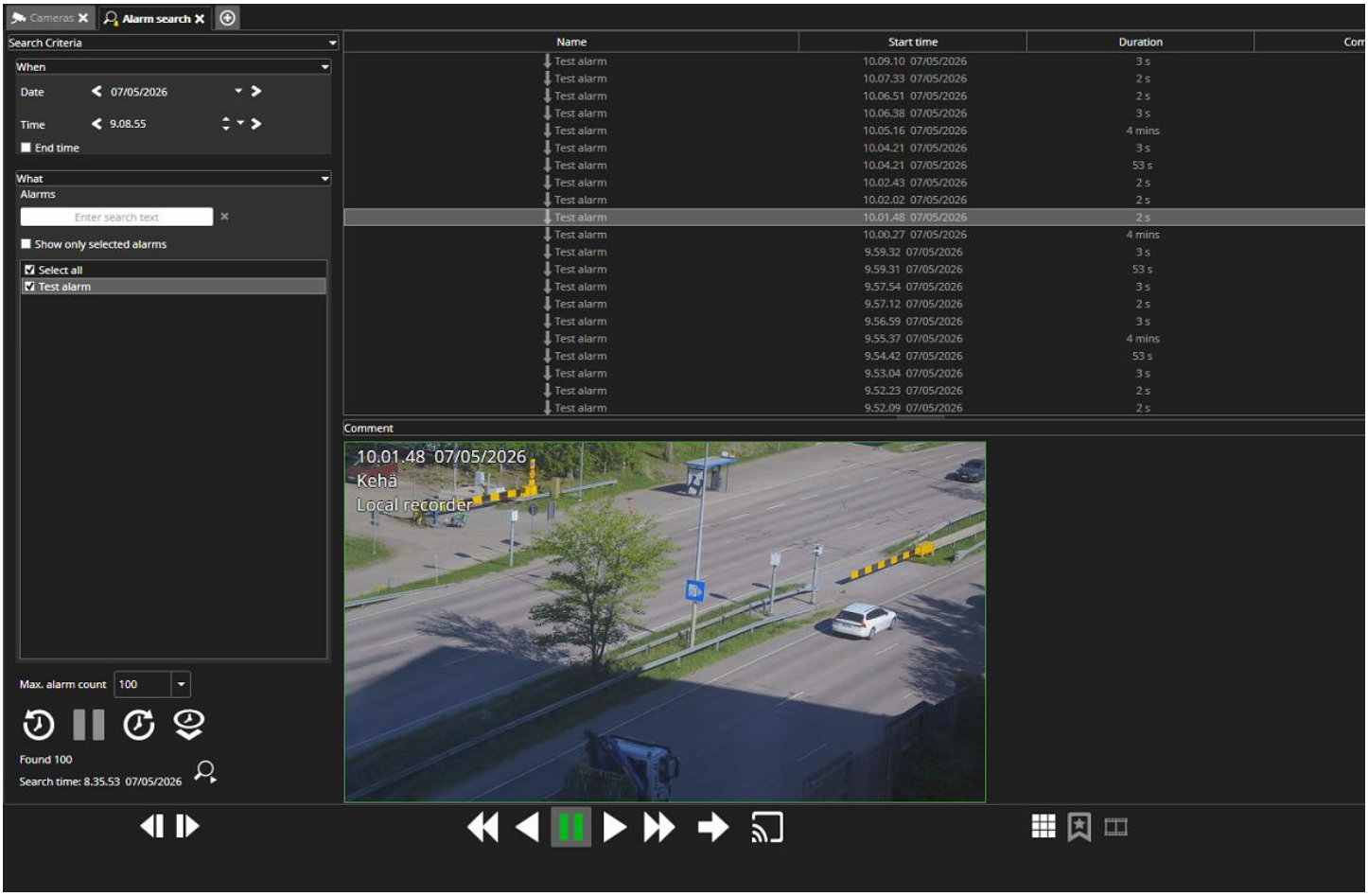


9.2.2.1 Free text search

The alarms included in the selected profile can also be searched using a free text search.

When typing in the free text field, the alarms matching the free text search are automatically selected in the drop-down. They can be unselected by unticking the **Select searched** box, and individual alarms can be selected instead by ticking the box next to the Alarm in the drop-down menu. This functionality makes it easier to select a group of Alarms with similar naming.

The free text search can be done several times until you have narrowed down all Alarms that you want to include in the search.



9.2.3 Search backward, forward, or most recent alarms

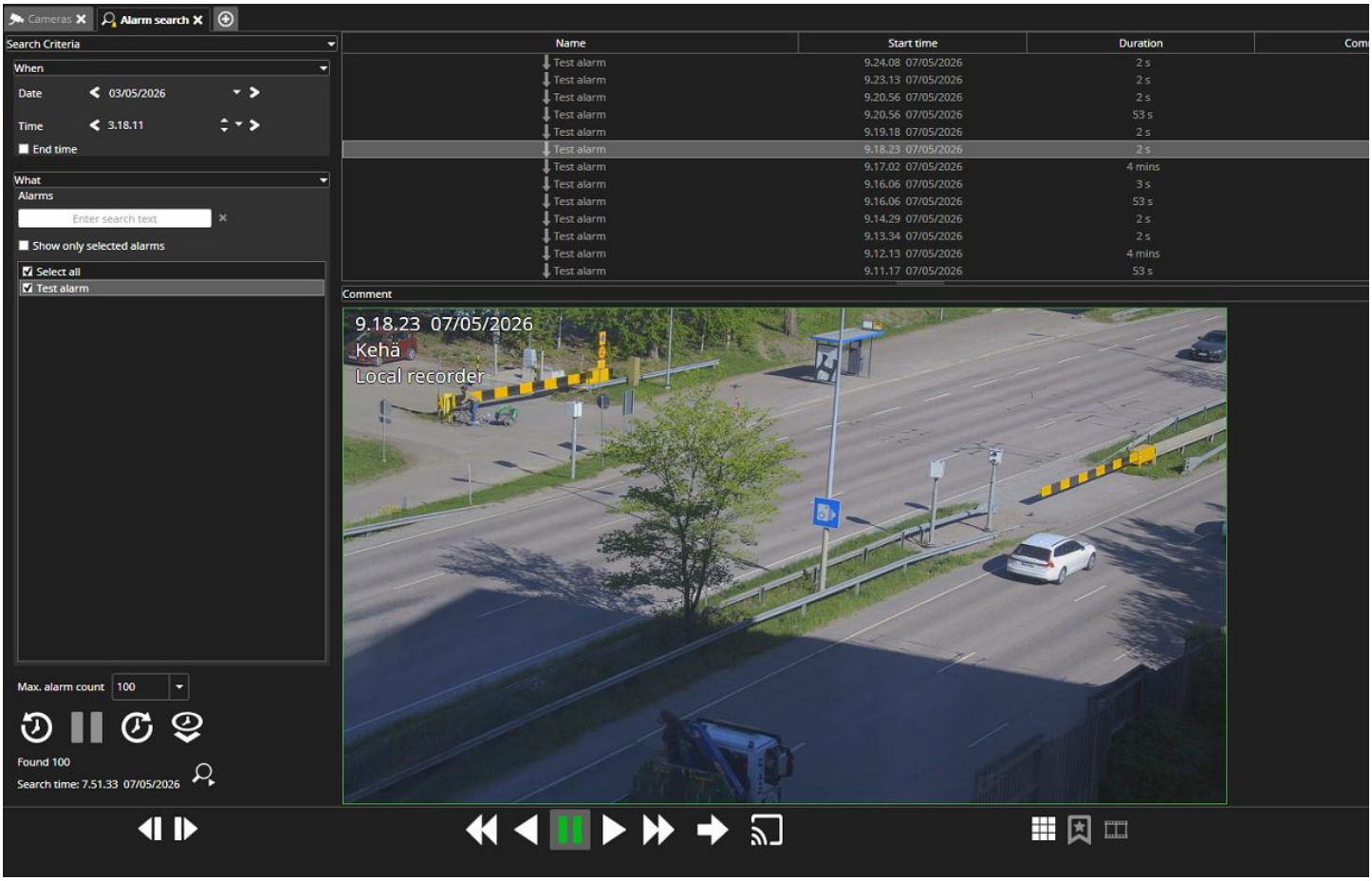
On the bottom left side of the alarm search tab are buttons to start the search. There is a search backwards and search forward button with a clock icon.The search goes backwards or forwards from the set time. Next to the search backwards and forward buttons, another button searches for the most recent alarms.

9.2.4 Stop or pause the search

When a search runs, the pause button between the search backward and the search forward becomes active, and the user can stop or pause the search.

The last found item becomes the new time after the alarm search time and date searches are changed. This way, the user can repeat the exact search further if necessary.

Alarm results are displayed in a list that shows the alarm name, alarm start time, duration and comment. The user can sort the list by clicking on the title fields.



9.2.5 Display alarm information

Selecting a single alarm shows detailed information of the alarm in a tooltip.

When an alarm is selected, the cameras and other devices mapped to it are displayed in the alarm preview field to the right of the result list.

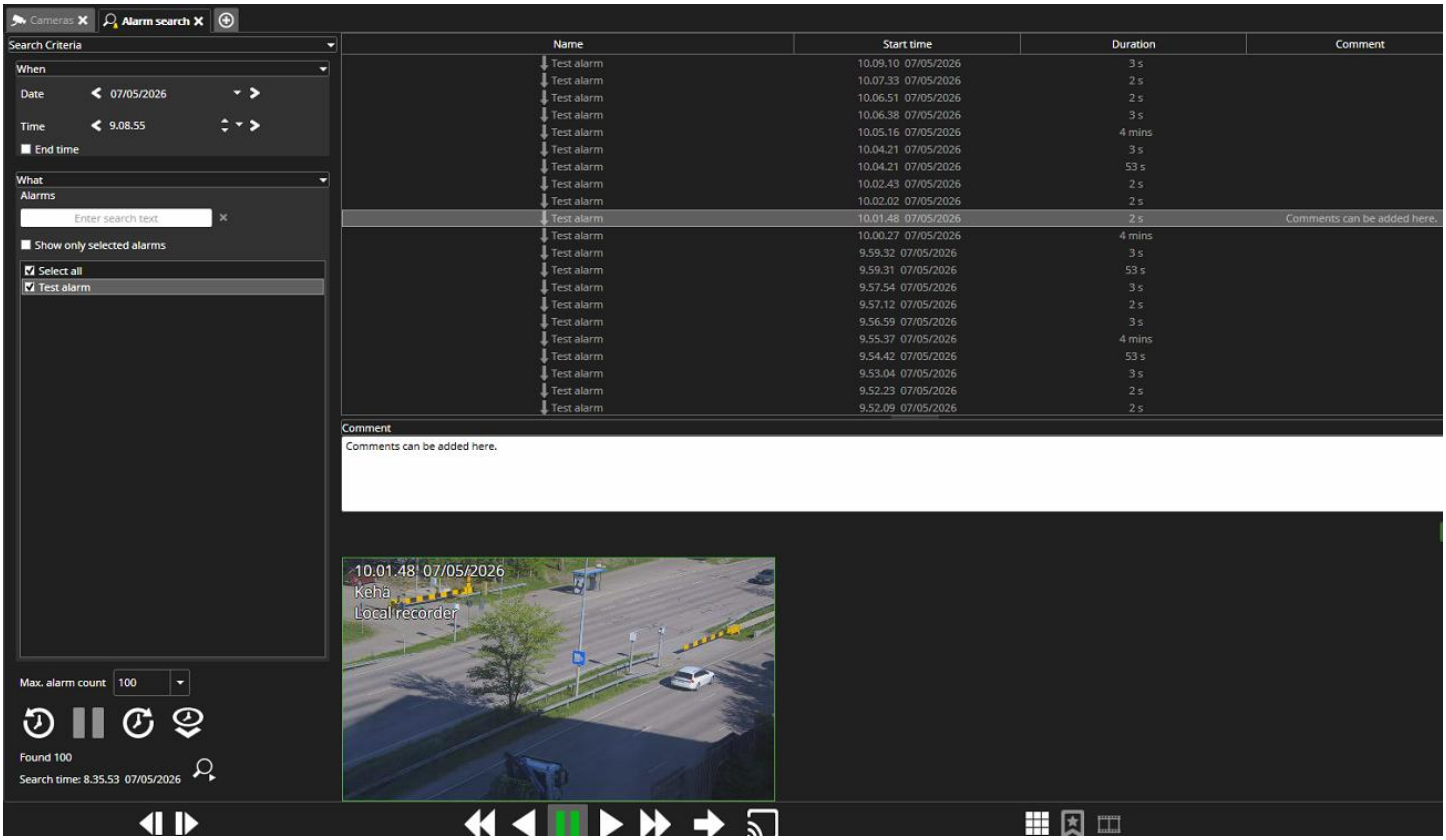
The playback controls can be used to review results.

Each click will refresh the contents on the right.The tooltip shows the name, start time, end time, duration, priority, trigger, action and alarm description and alarm acknowledgements if these are set to alarm and the comment.

Double-clicking on an alarm occurs in the list, opens up the alarm in the alarm view tab.

9.2.6 Commenting alarms

Comments can be added to alarms in the alarm search view.



1. Select alarm from the list
2. Click with the mouse in the comment field below the preview area, and write the comment.
3. Click **Save**

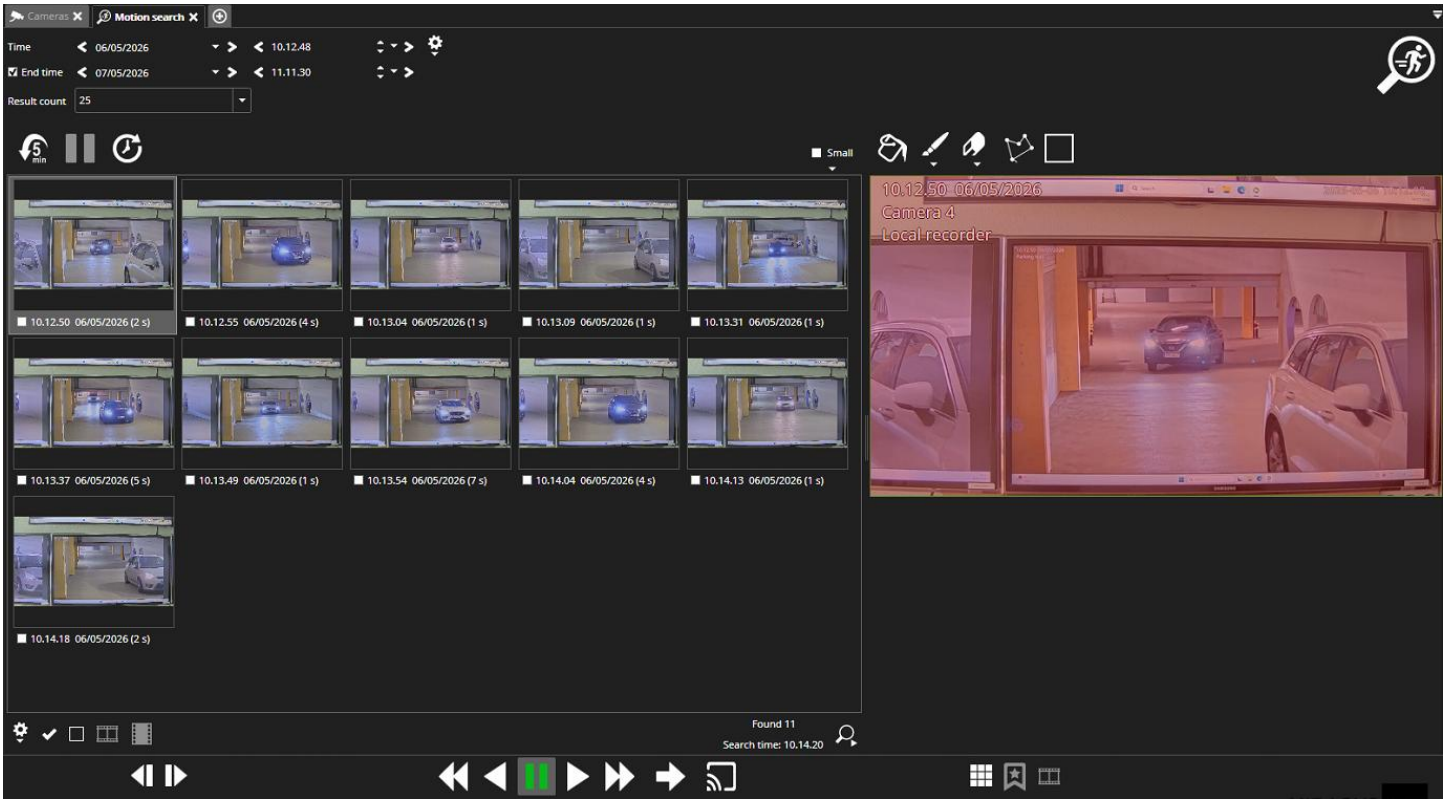
Another way to add a comment is to start writing the comment after selecting the result list's alarm. In this case, the Enter key will save the comment.

The comment is displayed on a single line in the result list and a separate Comment field below the alarm component preview area. This way, it is possible to use the Enter key to enter newline characters.

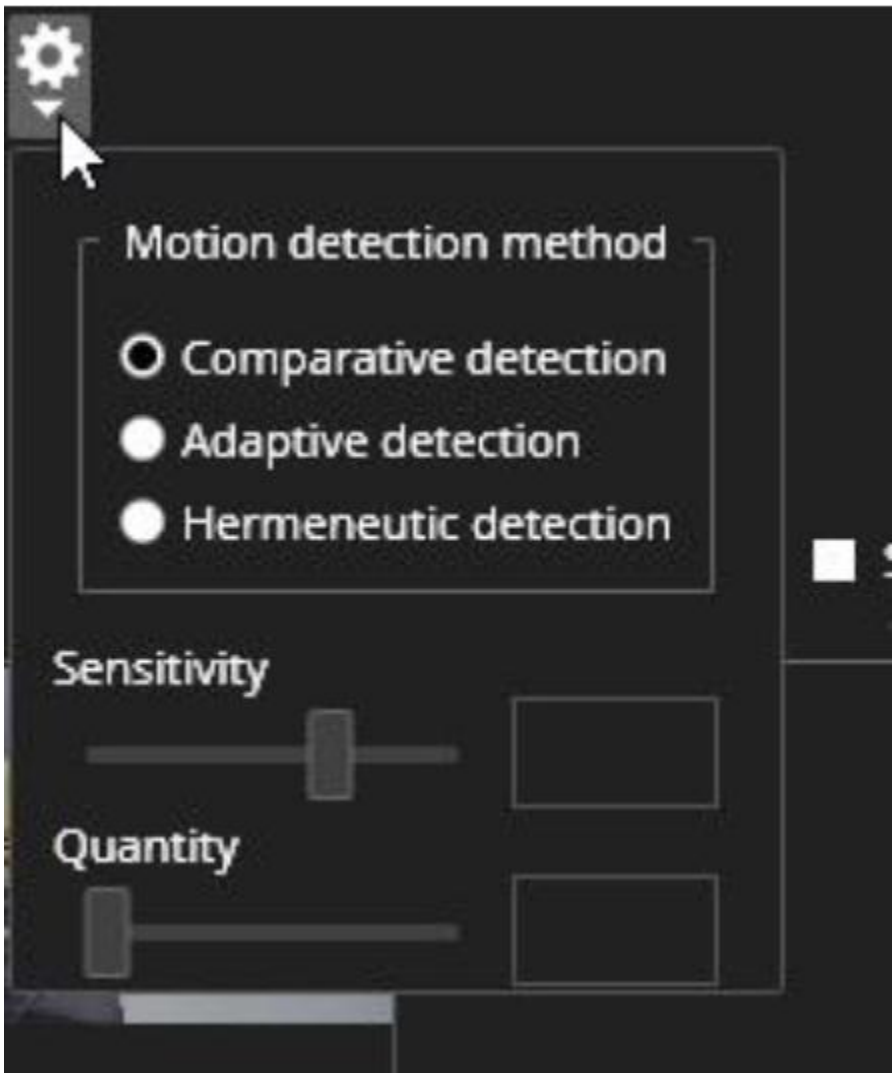
9.3 MOTION SEARCH



With the Spotter Motion Search plugin, the user can open a new tab and select Motion search. A camera can be selected by double-clicking a camera in the device tree or by dragging and dropping it to the Motion search tab. Motion search works only if camera playback is allowed.

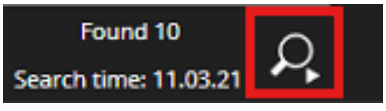


The search results can be clicked, and the camera area on the right will be updated to show the image. The playback controls can then be used to review the event. It is possible to play all results in sequence.
The playback will jump to the following result at the end of the previous one. The search settings can be adjusted with the **Settings** button.

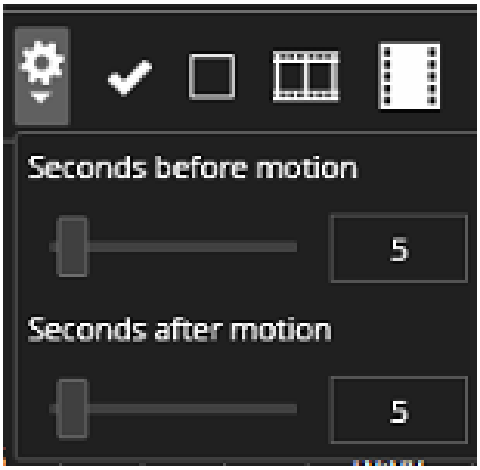


Comparative detection	For stable indoor conditions
Adaptive detection	For outdoor conditions with changing light levels
Hermeneutic detection	A sophisticated method for environments with image "noise" (such as heavy weather). Requires more system resources than other methods.

The user can search for more results with the **Search more** button in the lower right corner. Search continues from the time of the last found item.

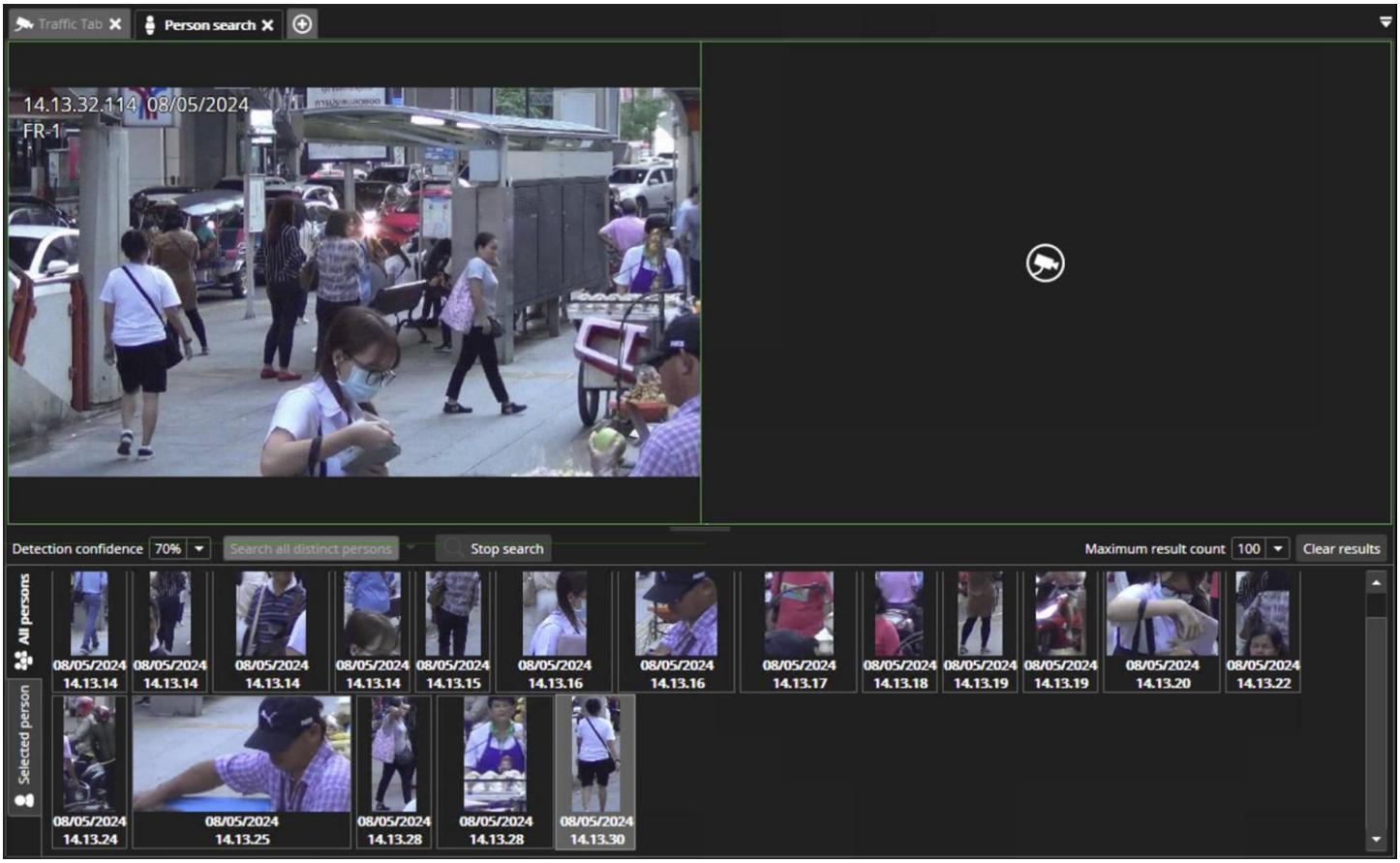


Export options are located in the lower left corner. You can set the seconds before and after motion by clicking the **settings** button. The durations are added only to exported clips or storyboards, not to the clip previews in the plugin.



9.4 PERSON SEARCH

Using the Person search plugin requires a license.



9.4.1 Modes

- Playback mode: all persons are detected (this is the default mode)
- Person search mode: the selected person is searched from played videos
- All persons search mode: search all persons, try to display the same person only once

9.4.2 Thumbnails

Found persons are shown in a thumbnail list. There are separate lists for all persons and selected person search results.

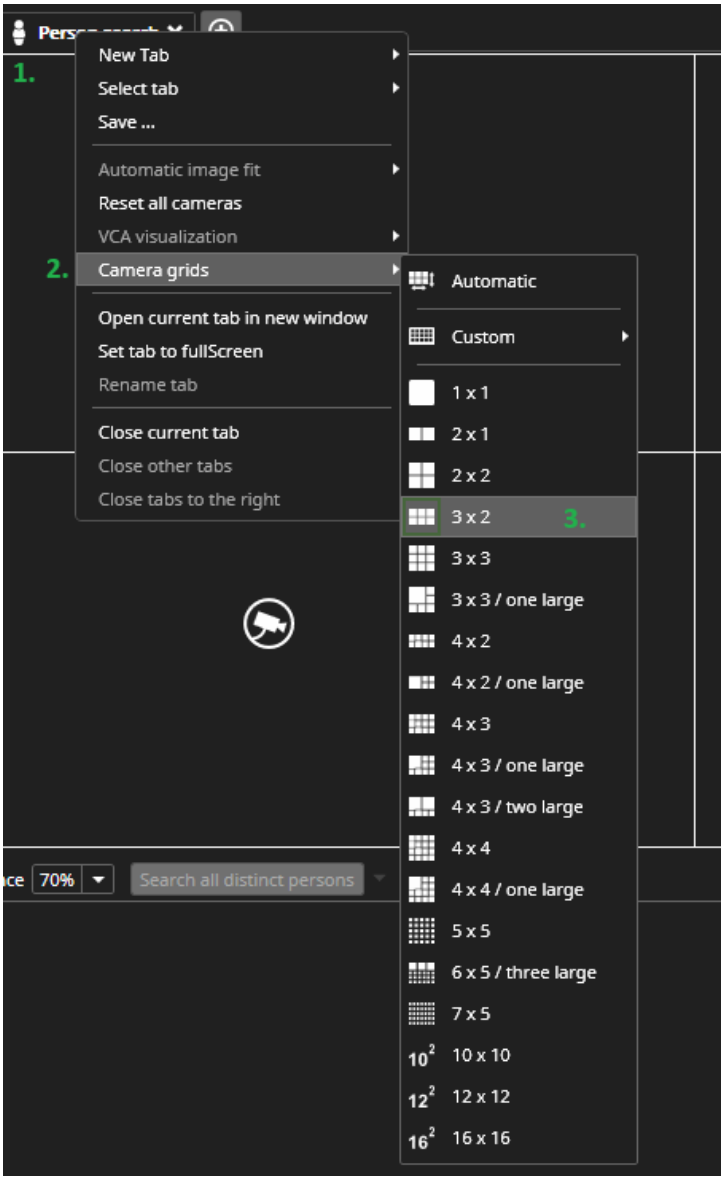
- Thumbnail mouse click (or Enter key) shows the thumbnail location in the video
- Thumbnail mouse double-click opens the thumbnail video playback in a new tab

9.4.3 Camera grids

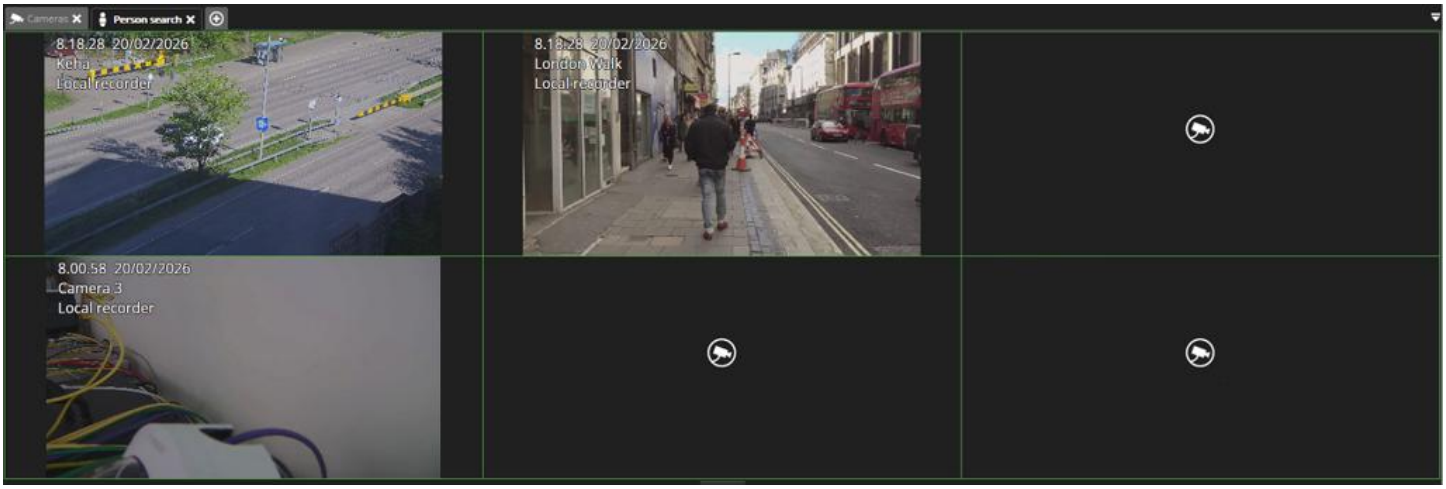
By changing the camera grid selection, more streams can be displayed in the Person search plugin.

How to change camera grid selection:

- Right-click on top of the Person search plugin tab
- Hover the mouse over **Camera grids**
- Select the grid type from the list

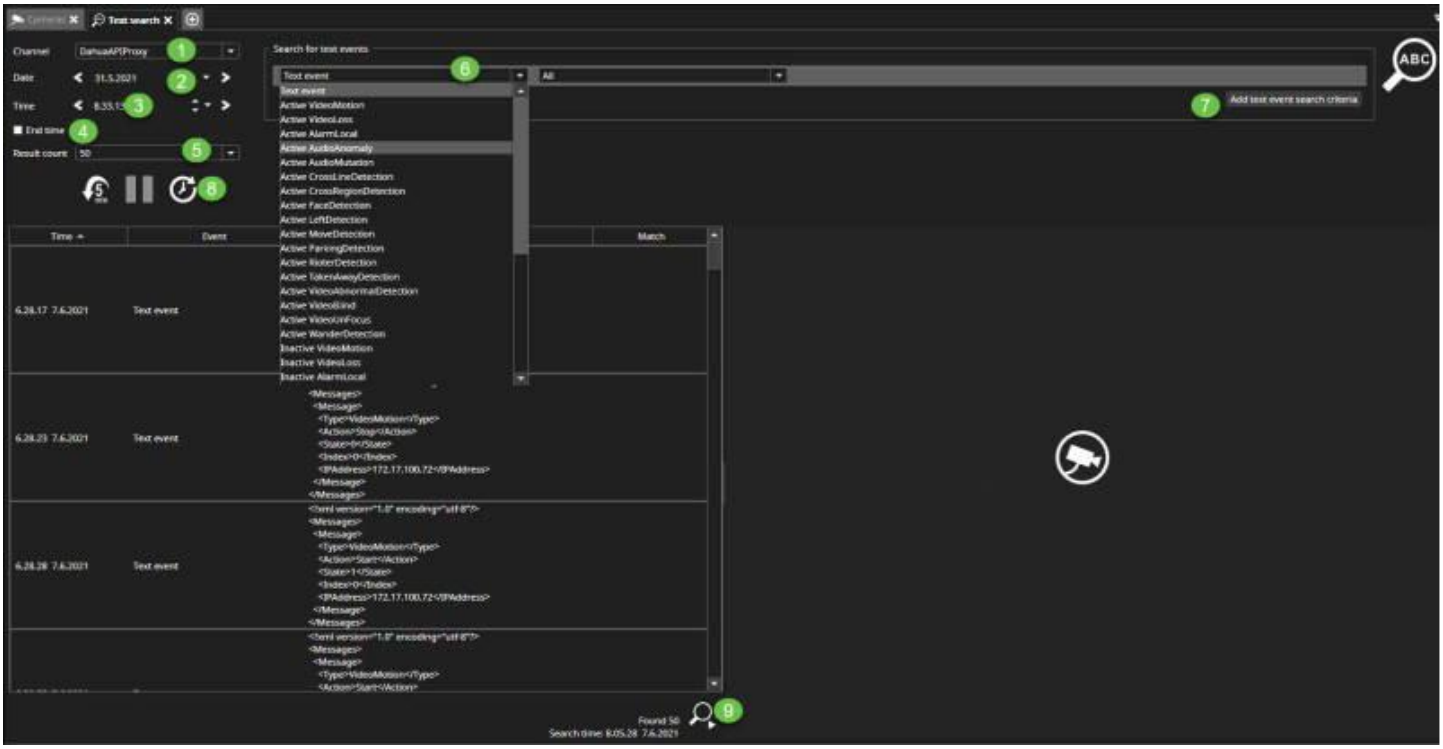


The selected grid type is displayed, and streams can be added to the grid. Streams are displayed in order of addition, but a stream can be moved by dragging with the left mouse button.



9.5 TEXT DATA SEARCH

1. Select channel for the search
2. Select the search start date
3. Select the search start time
4. Select the search end time, if needed
5. Select result count(default 50)
6. Select searched event
7. Add text event search criteria, if needed
8. Start text search
9. From the lower right corner can be found the total amount of searched events



9.6 THUMBNAIL SEARCH

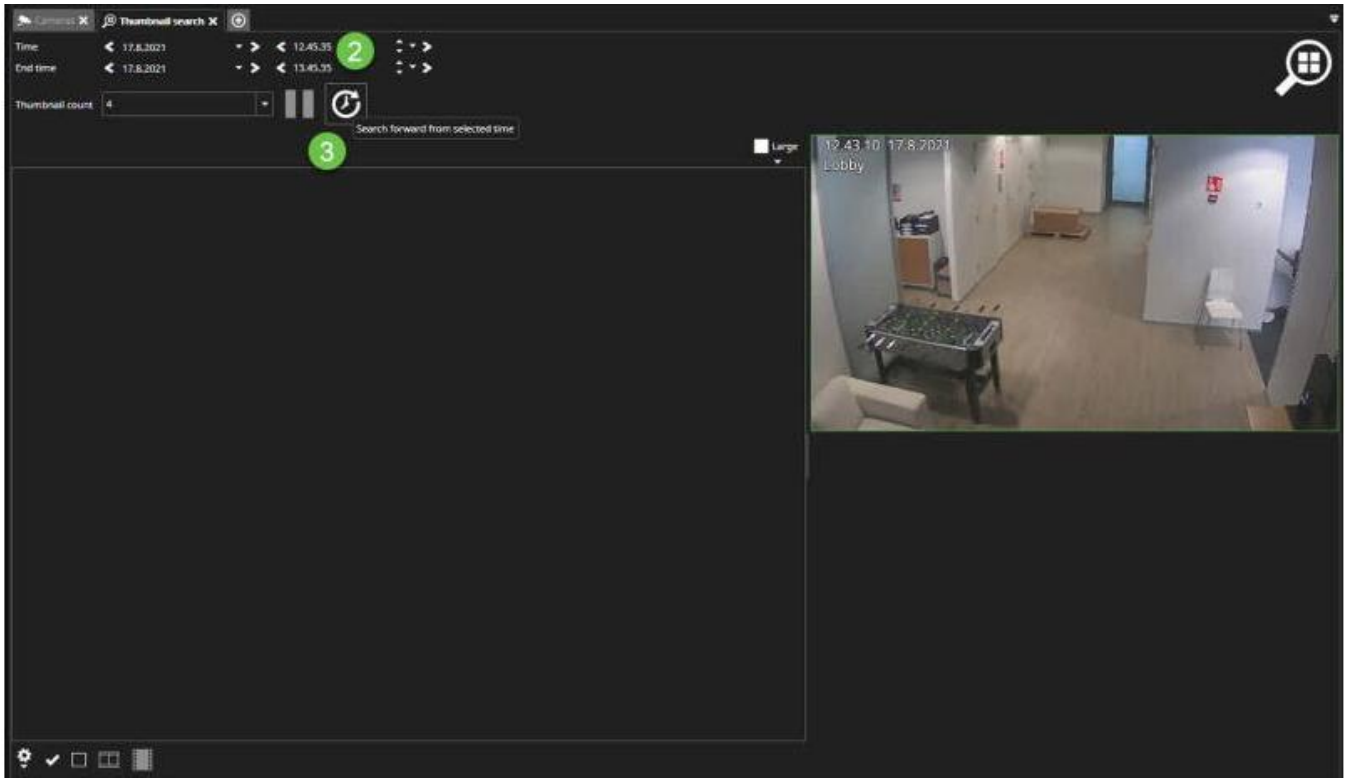
A Thumbnail search gives the user a quick way to inspect camera material visually. It is mainly meant for scenarios where some visual change in the camera view can be noticed, and the user wants quickly to find the time when this change has happened. When the Thumbnail search is started, it fetches thumbnails from stored video and displays them on the results view.

9.6.1 Using Thumbnail search

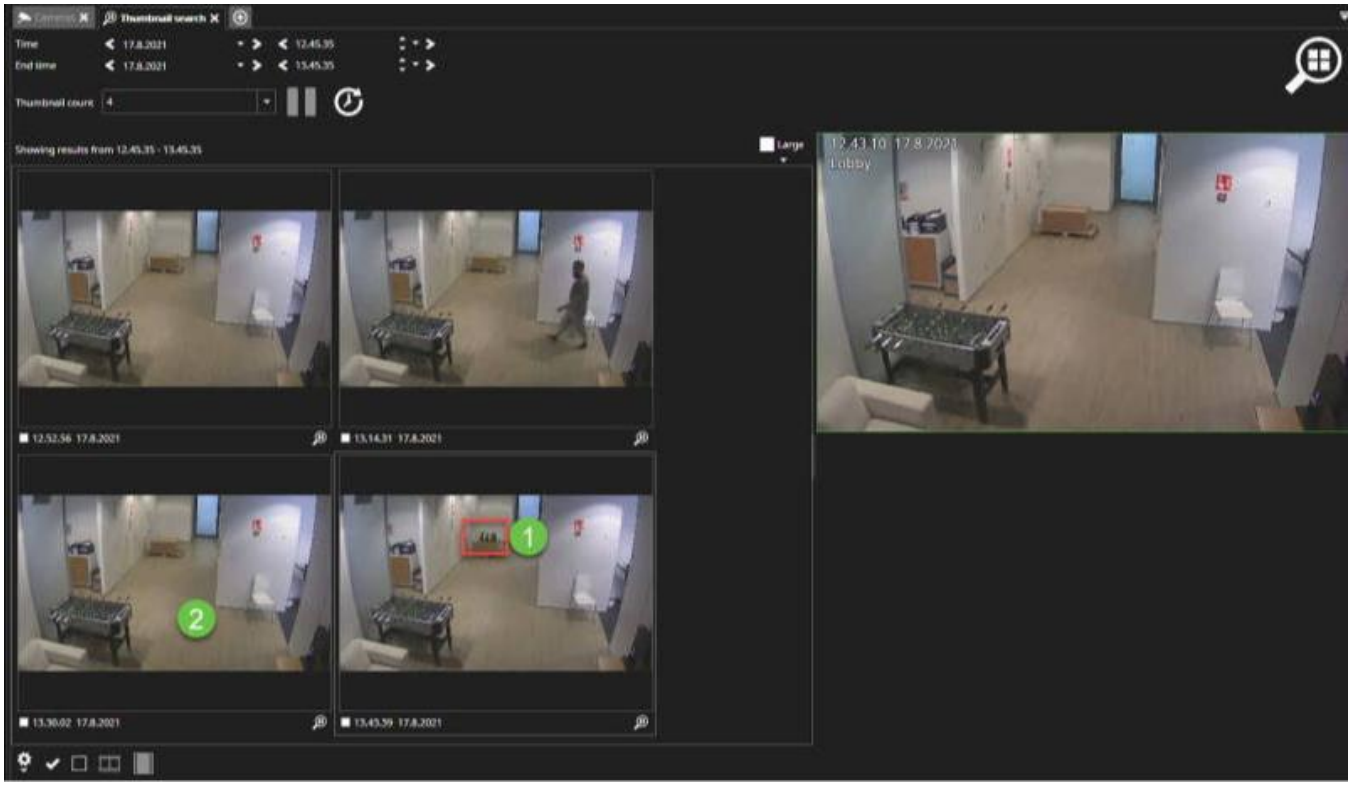
1. Open Thumbnail search



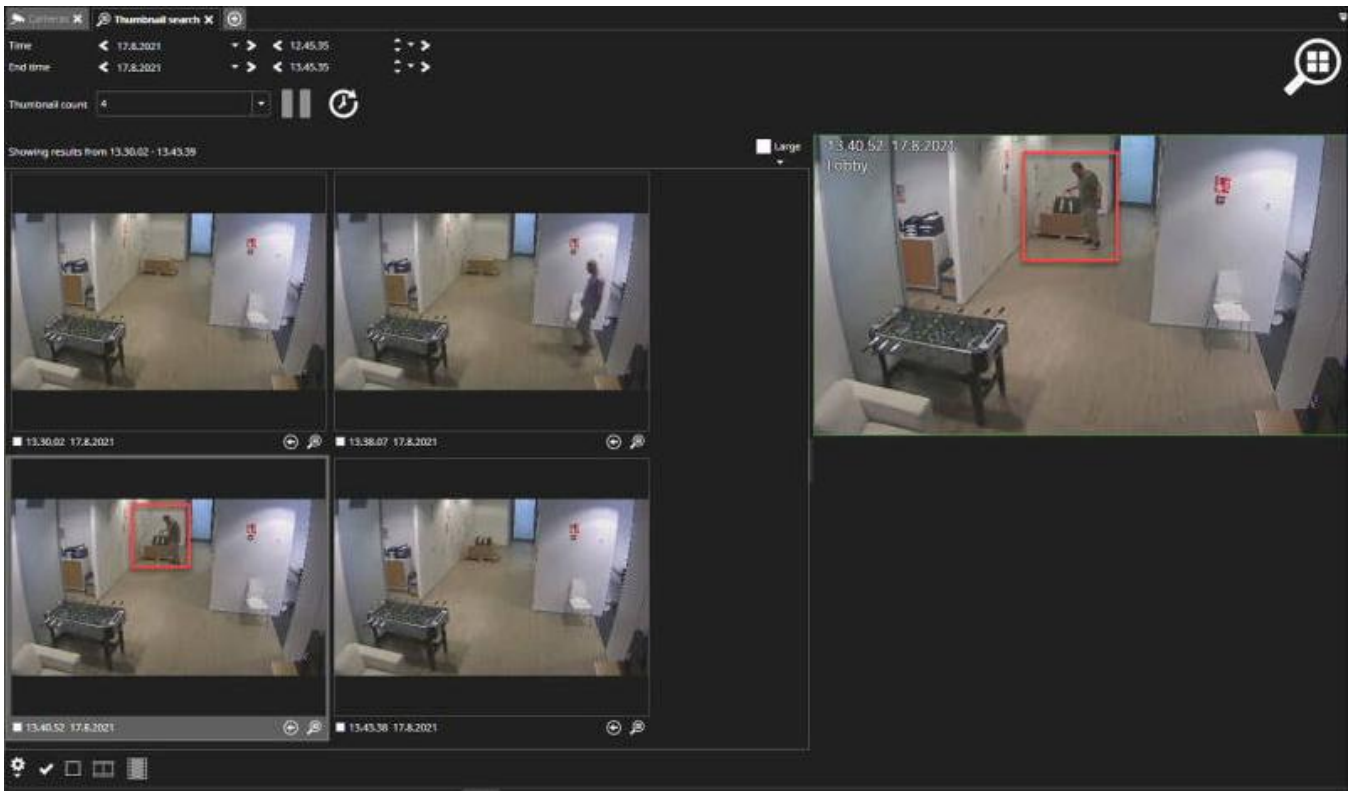
1. Select camera from the device tree
2. The set time period for the search
3. Click **Search forward from the selected time**



1. When you find change from the image
2. Please click the image after that



1. Thumbnail search shows time just before the change
2. You can start playback and use normal playback controls.



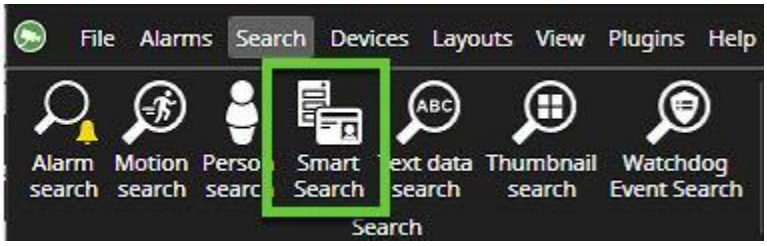
9.7 SMART SEARCH

The Smart Search plugin is used for Licence Plate Recognition (LPR), Face Recognition (FR), Similarity Search for people, and Object Recognition (OR) search. For live search, please use the Smart Recognition plugin.

All recognition smart searches require licenses for each recognition stream.

9.7.1 Smart Search plugin for LPR, FR, OR, and similarity searching

1. You can use smart search by selecting it under Search > Smart Search in Spotter, or by clicking the Smart Search plugin under plugins in the left-hand side menu.



2. Smart Search plugin is opened and it can be used to search for detection events that have occurred in the past. Found results are shown in results list with detection and identity details.
3. See the sub-pages of this page for how to search for FR, LPR, and Object recognition events, as well as how to do a similarity search.
4. To allow more space for the list viewing, it is possible to click the arrow at the top-right corner of the search criteria. The space occupied by the video, and the list can also be adjusted by clicking and dragging.

9.7.2 Search parameters

There are several search parameters that can be used to define when, where, and what is being searched. Different search criteria can be searched for by typing in the text field of the list box, narrowing down the selectable options to results matching the search.

- **Time** - Start time and optional search end time
- **Detection type** - Faces, License Plates or Attributes.
- **Cameras** - All cameras or selected cameras.
- **Object** - Faces, license plate numbers, attributes or search for similar faces.
- **Identity** - All, unknown or selected identities.
- **List** - All, unknown or selected identity lists.
- **Search for** - Free text search uses detected plate numbers and identity fields.
- **Result count** - Maximum number of result rows.

After selecting all appropriate search parameters, the search can be started by clicking the Search button.

9.7.3 Search results

Search results are shown in the recognition event list with the following fields.

- **Time** - Time and date of the recognition.

- **Camera** - Name of the camera and thumbnail of the full image.
- **Detection** - Face or license plate recognition event thumbnail, recognized information, and recognition confidence value.
- **Identity** - Matched identity information.
- **List** - Identity list information that the matched identity belongs to.

List content can be arranged by field type by clicking the list header.

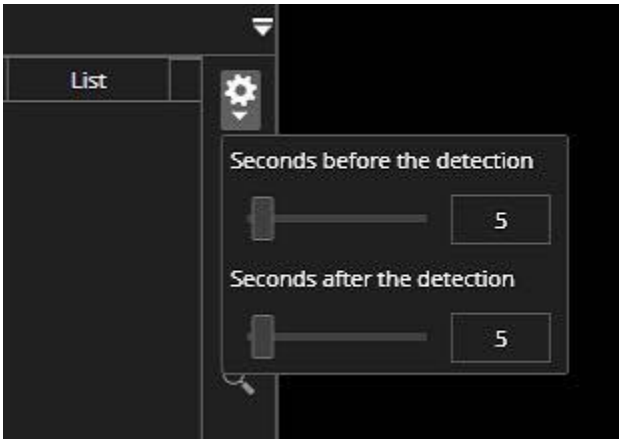
The face recognition event shown in the Smart Search event list displays both the matched identity default image and the matching face image. If the matched identity image is different than the default identity image, the best-matched identity image and the default identity image are shown.

9.7.4 Additional Options



9.7.4.1 Detection window

Under settings, you can select the time added before and after detection.



9.7.4.2 Add to export

The selected event can be added to the storyboard or to clip export. Recognition event pre and post-record time can be adjusted from the drop-down settings button.

9.7.4.3 Save to PDF file

Search results with all recognition details can be saved to a PDF report file. The file can be saved locally or to Storage Locker. Notice that this depends on user role settings.

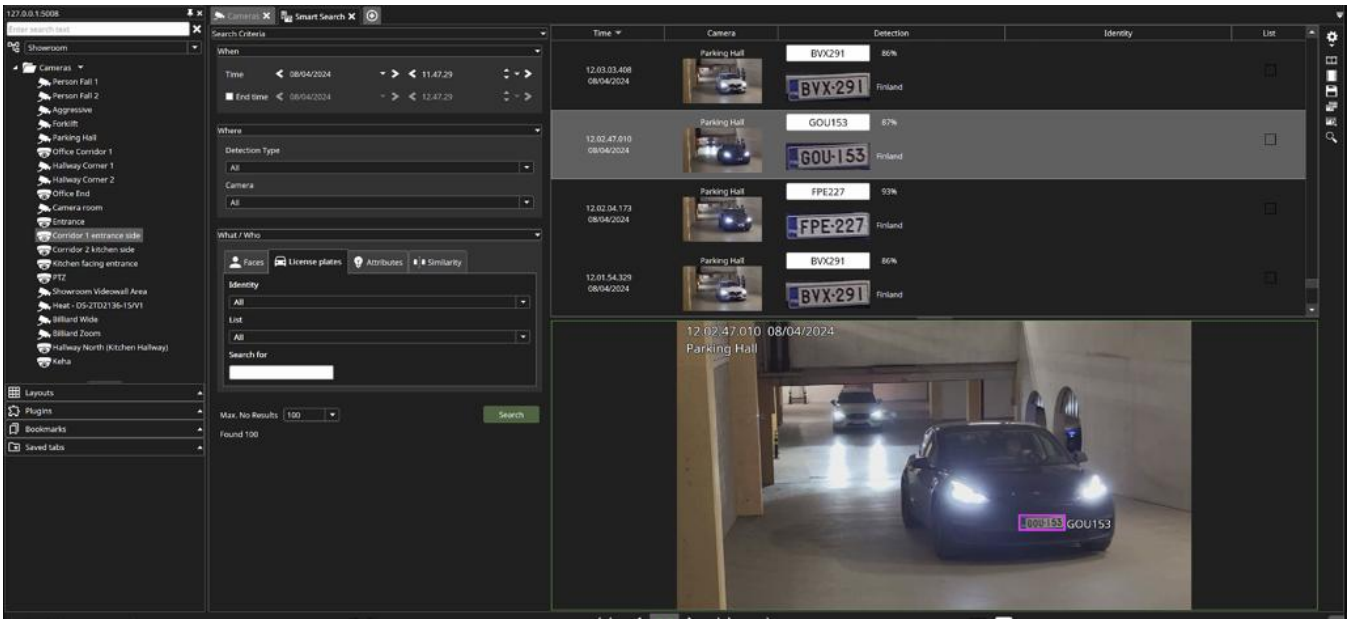
9.7.4.4 Add face or license plate to identity

Found license plate or face can be added to a new identity or existing identity. These functionalities are only possible if the user is authorized to change the identity information. By clicking the add new identity or add to existing identity buttons, the Smart List Management plugin is opened. See more information in the Smart List Management plugin documentation.

9.7.4.5 Quick search

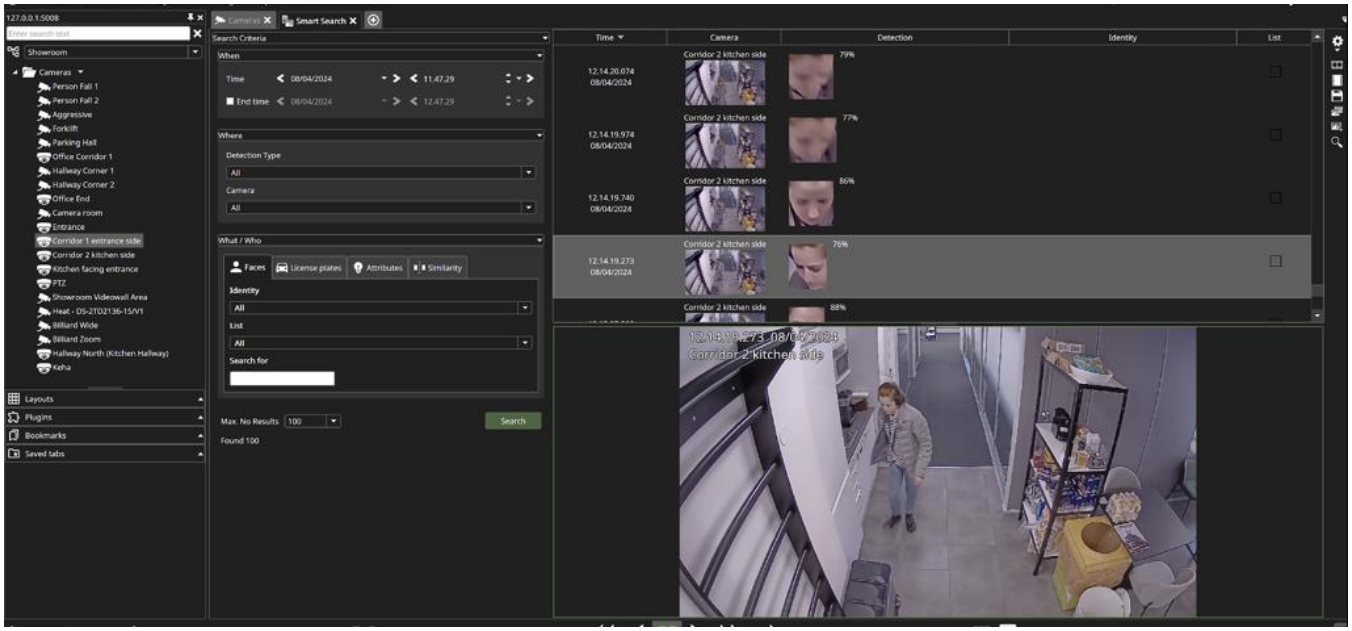
Found license plate or face can be used for a more detailed search. By clicking the quick search button, search parameters are updated with the selected recognition event details to easily perform a search for found faces and license plates.

9.7.5 How to search for FR and LPR detection events

1. 

Search start time and optional search end time under the section **When**.

2. Select the service(s) you want to use under the section **Where**. This will filter out the cameras for which you have that service installed.
3. Select the camera(s).
4. Select the identities and lists that you want to use for the search under the section **What / Who** or do a free text search.
5. Select the maximum number of results to display.
6. Click Search.
7. View the search results displaying the Time, Camera, Detection, Identity and List used.



9.7.6 People Object Recognition

9.7.6.1 Attributes - People

Search for person attributes using our Smart Search. When you select Attributes followed by Vehicles, you can select from 4 types of clothing/accessories:

- Hat
- Top
- Bottom
- Bag

For the **Top** attribute the user can select the following from colors:

- Black
- White
- Gray
- Red
- Yellow
- Blue

- Green
- Other*

For the **Bottom** attribute the user can select the following from colors:

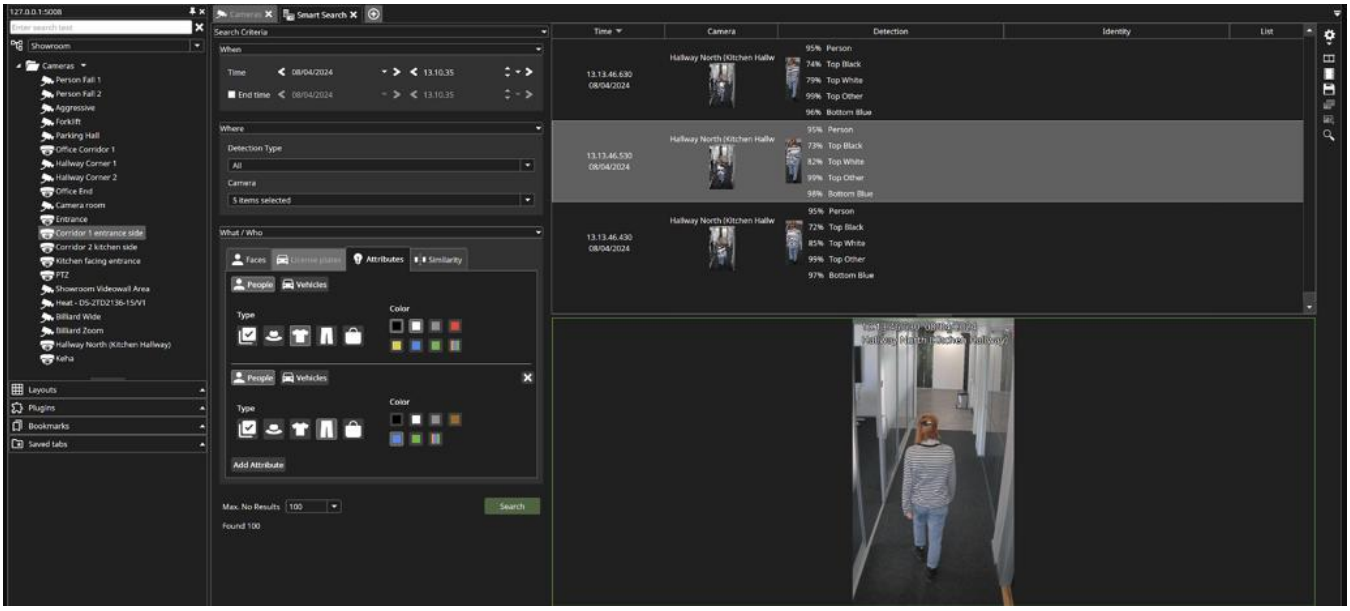
- Black
- White
- Gray
- Blue
- Brown
- Green
- Other*

**Other corresponds to colors that are not on the list, any patterns in clothing or colors that can be tricky to fit into one of the categories.*

It is not possible to specify the color of headwear or bag.

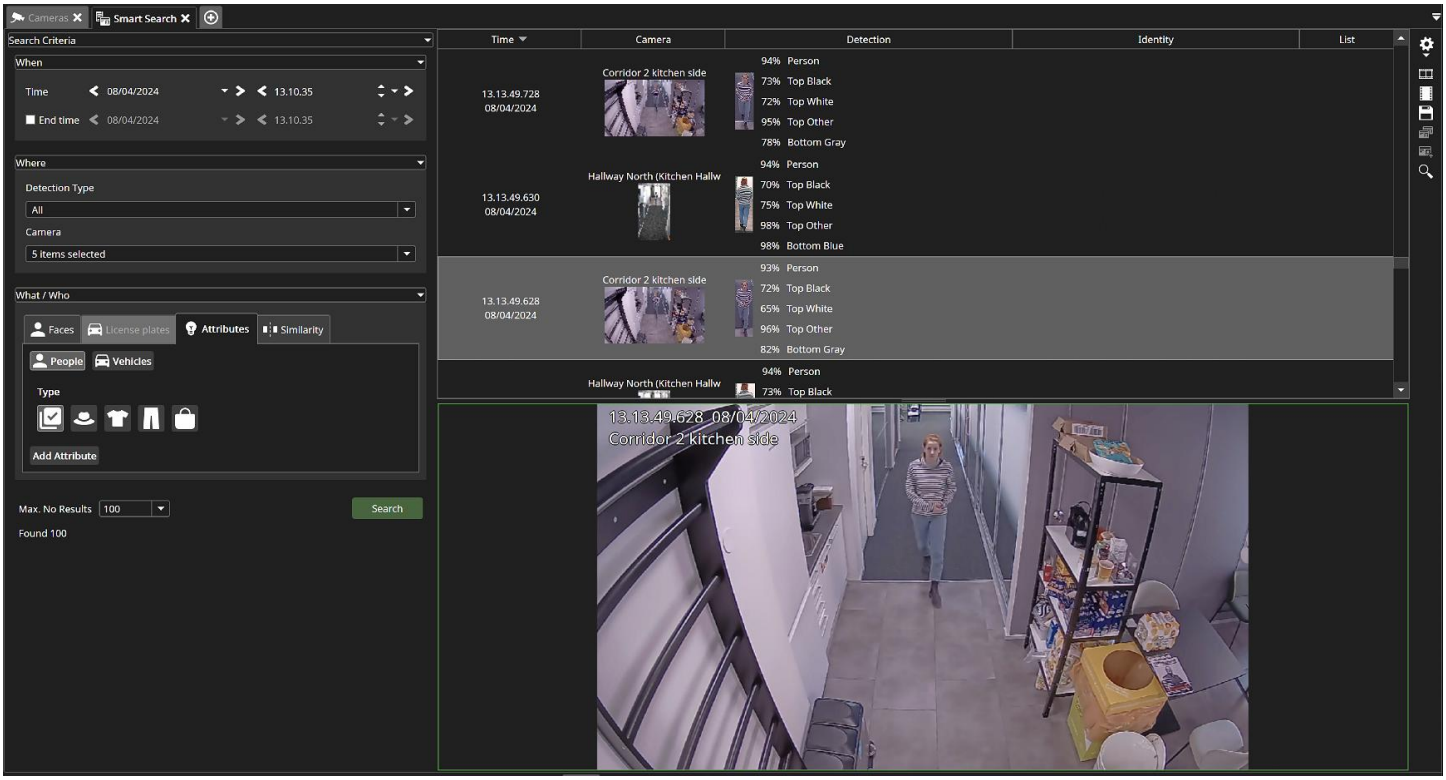
9.7.6.2 OR detection events for people

1. Search start time and optional search end time under the section **When**.
2. Select the service(s) you want to use under the section **Where**. This will filter out the cameras for which you have that service installed.
3. Select the camera(s).
4. Select to search for people attributes.
5. Select the attributes you would like to search for. For persons you can search for a person that has several different attributes. Like upper body clothing and color, lower body clothing and color, if they are wearing headwear, and if they are carrying a bag. To add search attributes when searching for a person, click **Add attribute**. You can for example search for a person with a white top, blue trousers, wearing a hat and carrying a bag by adding attributes.

1. 

Select the maximum number of results to display.

2. Click Search.
3. View the search results displaying the Time, Camera, Detection, Identity and List used.
4. Under settings, you can select the time added before and after detection.



9.7.7 Vehicles Object Recognition (OR)

9.7.7.1 Attributes - Vehicles

Search for vehicle types and colors using our Smart Search. When you select Attributes followed by Vehicles, you can select from 6 vehicle types for detection:

- Car
- Bus
- Van
- Truck
- Motorcycle
- Bicycle

For every attribute, **except** motorcycle and bicycle, the user can also select colors to search for:

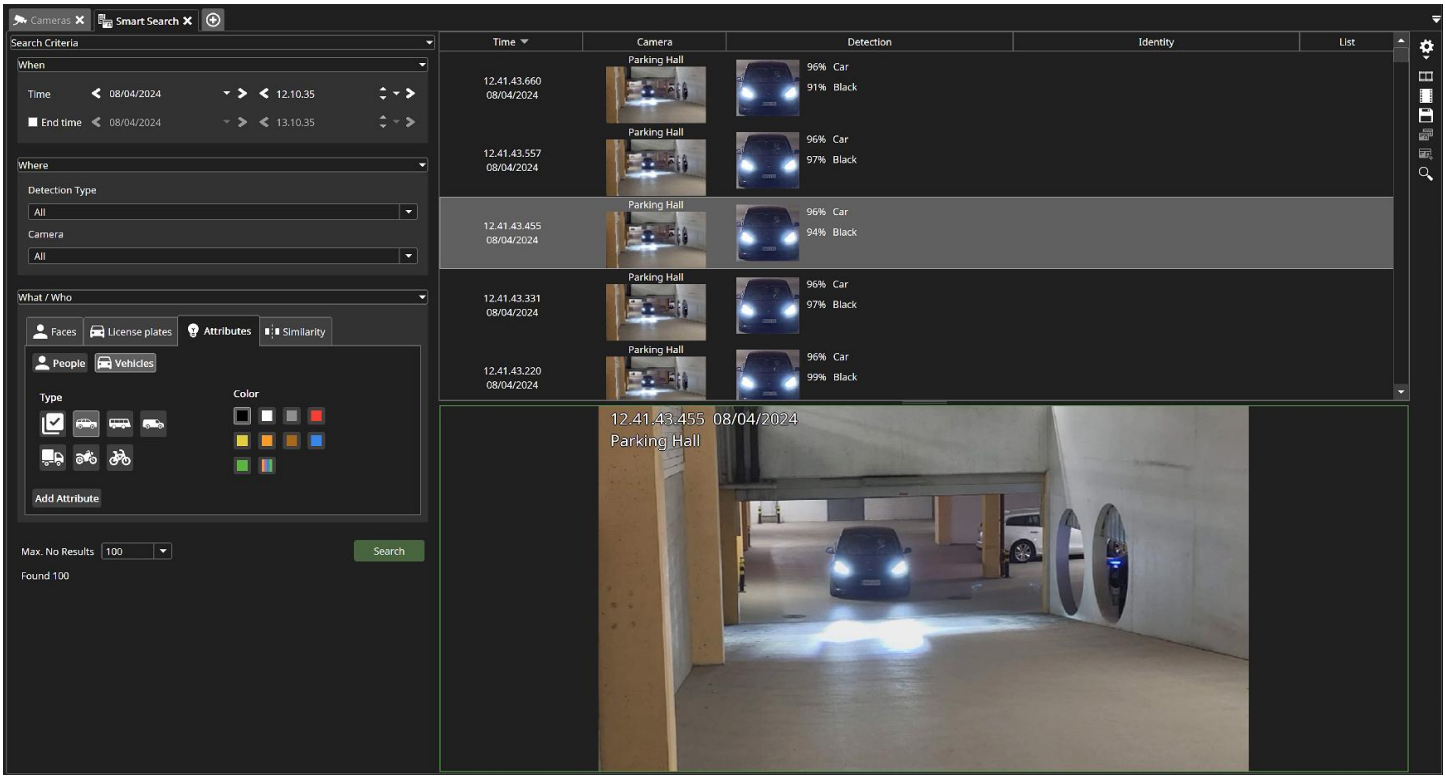
- Black
- White
- Gray

- Blue
- Green
- Red
- Orange
- Yellow
- Brown
- Other*

*Other corresponds to colors not on the list and vehicles with multiple colors or patterns can also be found under others.

9.7.7.2 OR detection events for vehicles

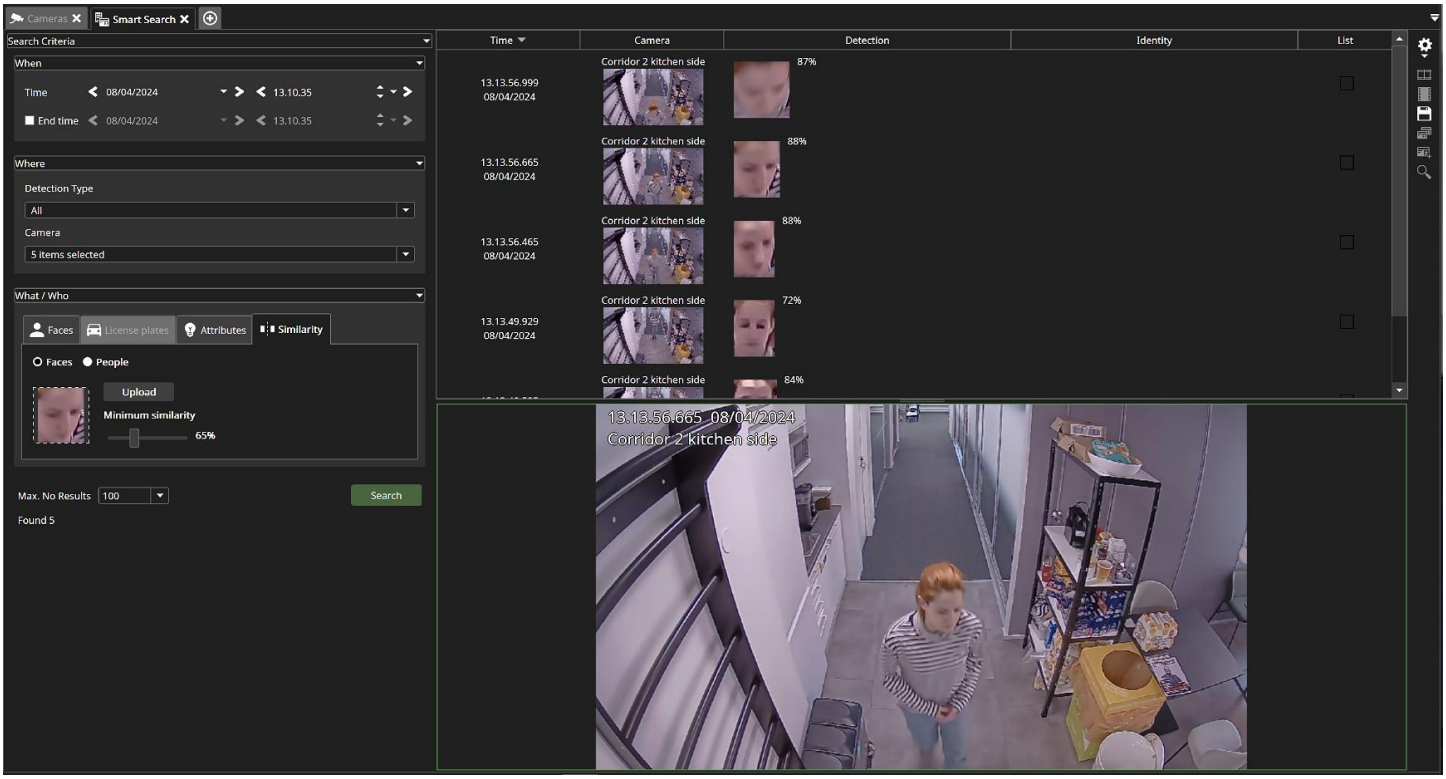
1. Search the start time and optional search end time under the section **When**.
2. Select the service(s) you want to use under the section **Where**. This will filter out the cameras for which you have that service installed.
3. Select the camera(s).
4. Select to search for vehicle attributes.
5. Select the attributes you would like to search for. For vehicles, you can choose type of vehicle, and color(s). For example, search for a car that is both red and white.



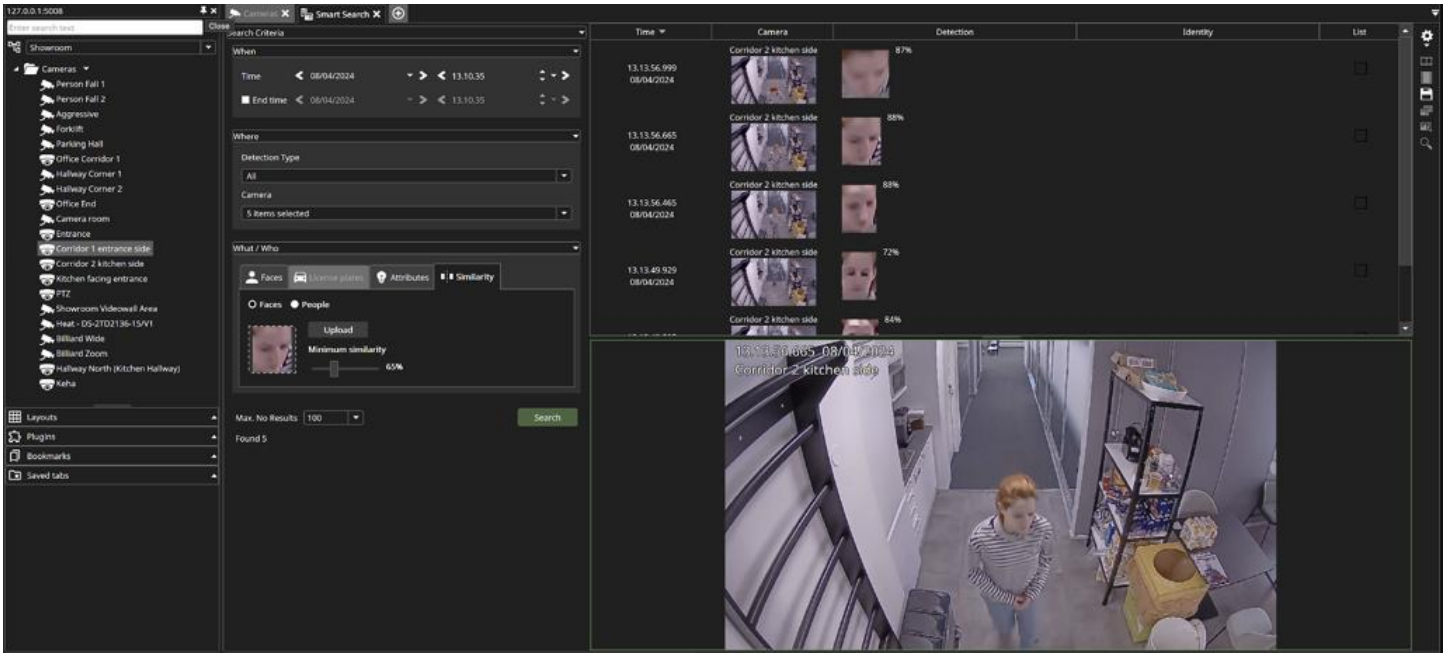
1. Select the maximum number of results to display.
2. Click Search.
3. View the search results displaying the Time, Camera, Detection, Identity and List used.
4. Under settings, you can select the time added before and after detection.

9.7.8 Similarity Search

When using **similarity** search the user can upload a picture of a face and use the slider to adjust the similarity percentage of the results.



1. Select whether to search for only faces, or for people.
2. Upload a picture of the face or person you are looking for.
3. Select the acceptable minimum similarity percentage by adjusting the slider.
4. Select the maximum number of results to display.
5. Click Search.
6. View the search results displaying the Time, Camera, Detection, Identity and List used.



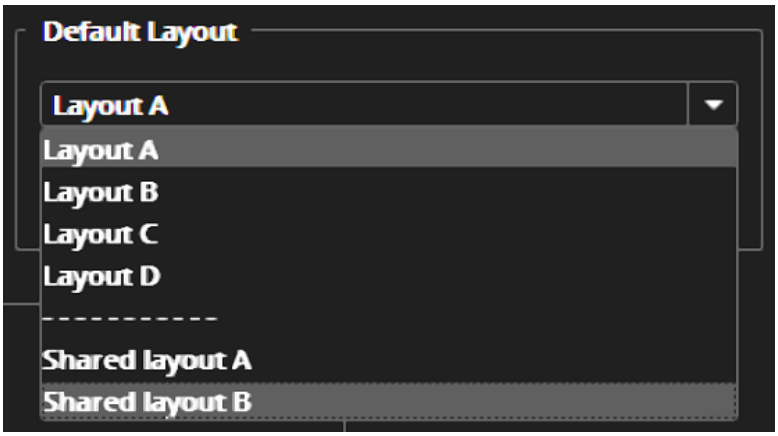
10 Layouts Management

10.1 Layouts contain all content settings of Spotter and are helpful when the user has perfected a monitoring view and wants to save it for future use.

Layouts contain, for example, the following:

- Spotter window location and size (full-screen or regular)
- View component visibility settings
- Virtual camera settings
- Toolbar option settings such as image showing, 360 camera settings, VCA visualization settings and image control settings
- Camera tour settings
- Playback position, i.e., date and time
- Tab names and order
- Plugin specific settings, for example, Agile Virtual Matrix (AVM) settings and content

Layouts are arranged similarly in Spotter's settings and the Layouts menu. The layouts are divided into two groups: shared layouts and the user's own layouts (My layouts). Items in both groups are sorted in alphabetical order. In the General tab in Spotter settings, the user's own layouts and shared layouts are separated by a line in the Default Layout dropdown menu to make a clear distinction between the two.

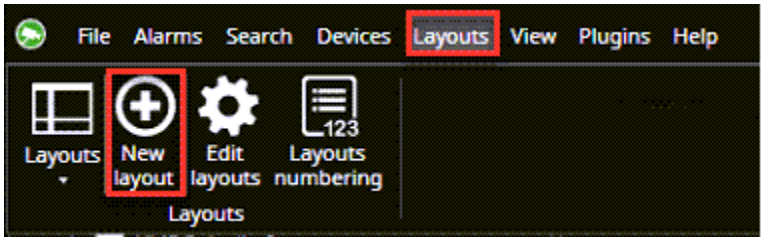


10.2 Frequently Used Keyboard Shortcuts:

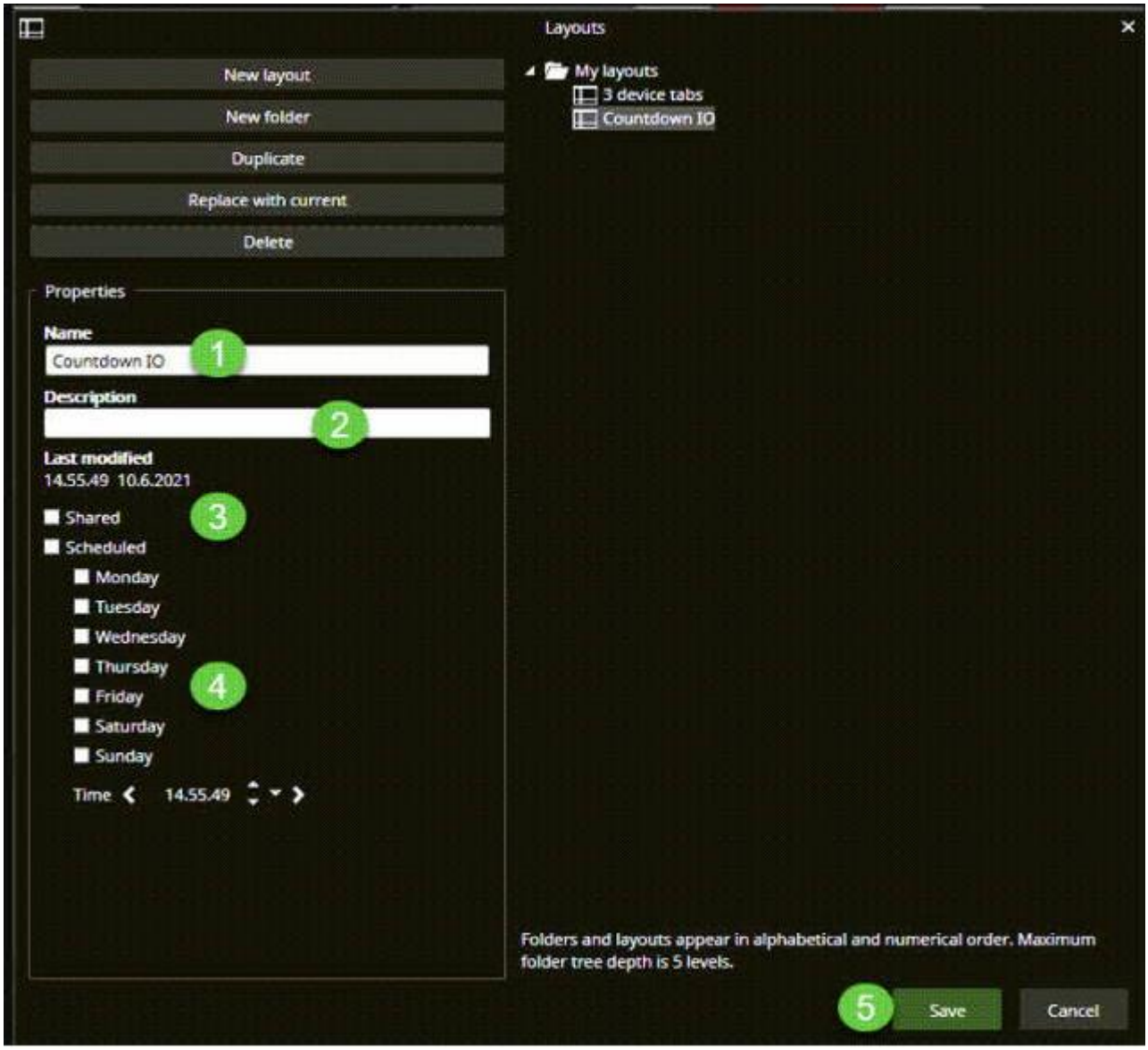
Shortcut	Description
Ctrl+L	Open layout menu (layout name selection can be changed with arrow keys, Esc closes menu without selecting layout).
Ctrl+M	Takes the user to new layout saving.
Ctrl+Up	Load previous layout (same order as in the layout menu).
Ctrl+Down	Load following layout (same order as in the layout menu).

10.3 Saving the layout

1. Open all needed components to the work area
2. Click **Layouts**
3. Select **New layout**

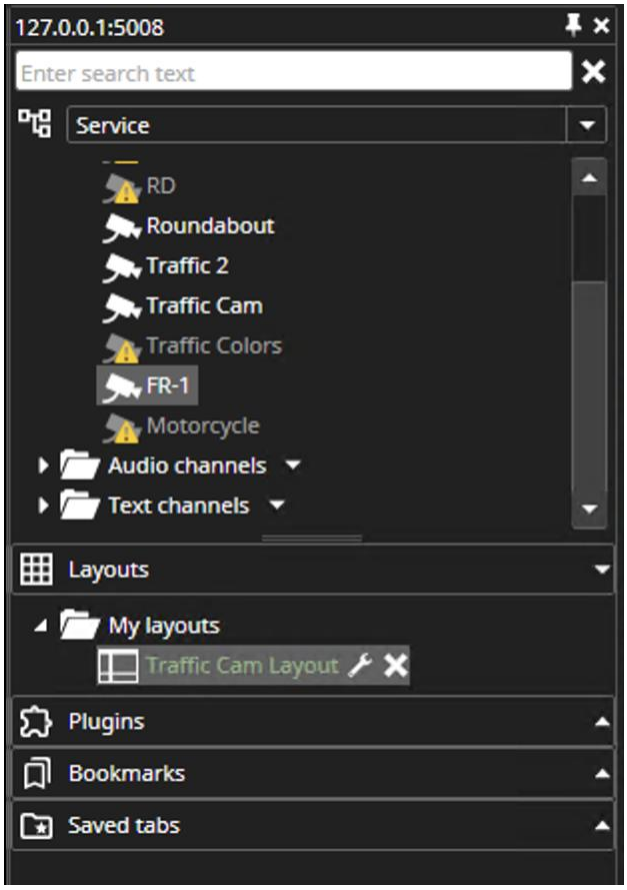


1. Enter the name of the layout
2. Enter the description, if needed
3. Set sharing options, if needed
4. Set schedule options, if necessary
5. Click **Save**



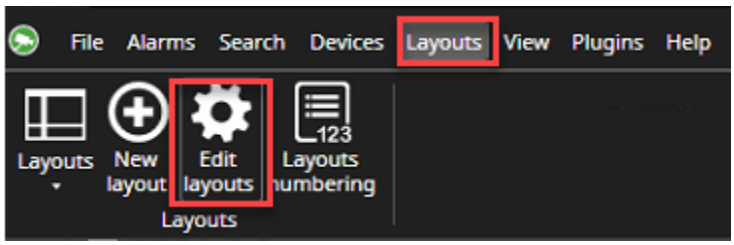
10.4 Opening the layout

1. Open Layouts from the device tree
2. Double-click top of the layout name



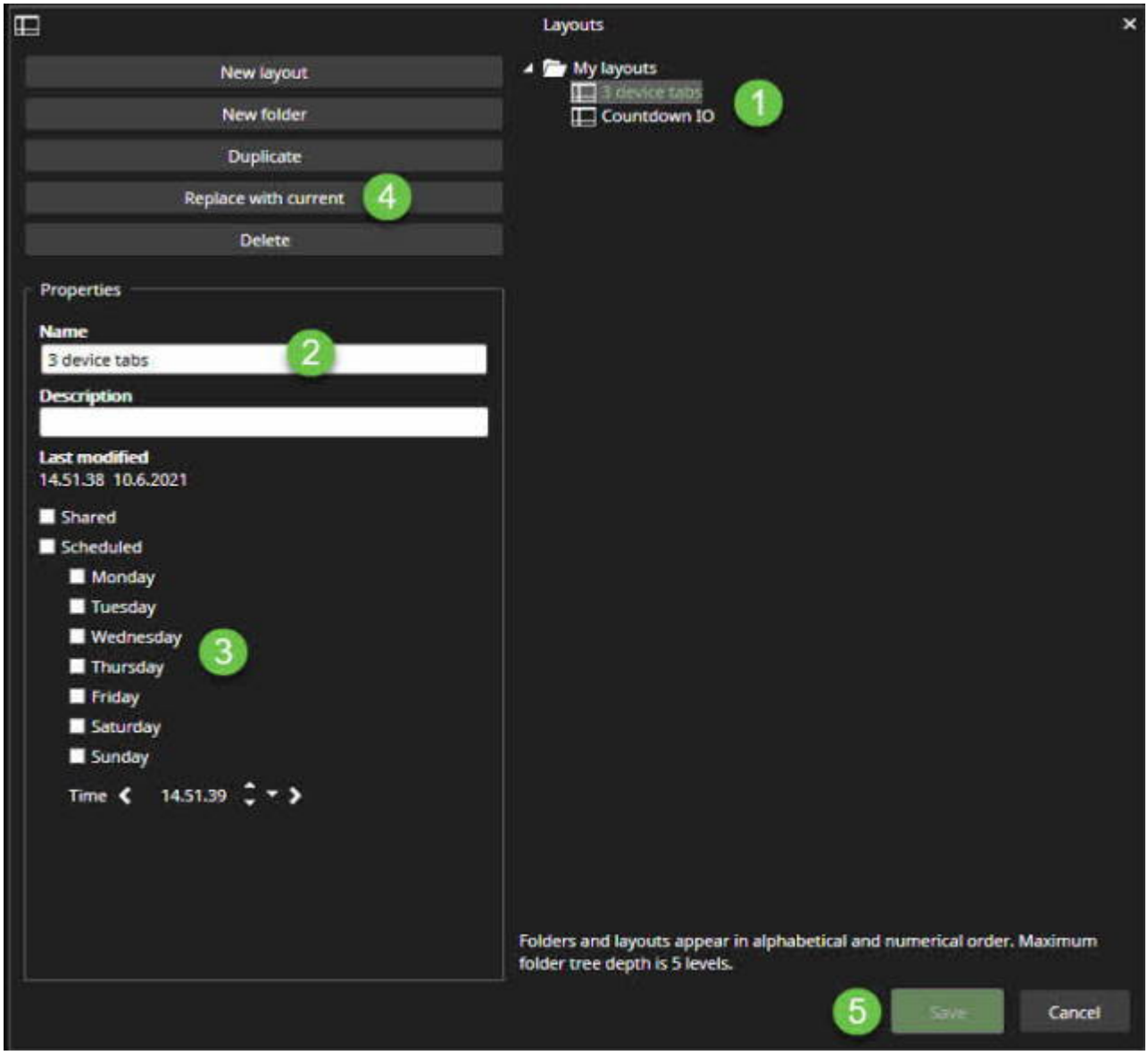
10.5 EDITING THE LAYOUT

1. Select needed devices into the Spotter working area
2. Go to the **Layouts**
3. Select **Edit layouts**



1. Select the layout from the list
2. Modify the name, if needed

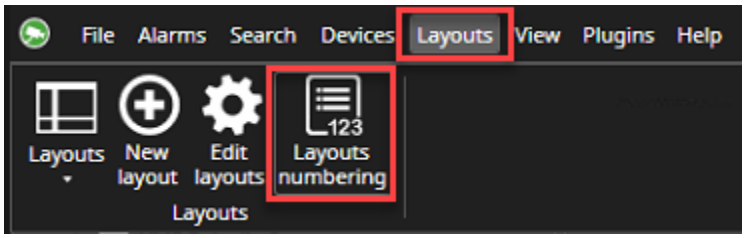
3. Set schedule settings, if needed
4. Click **Replace with current**
5. Click **Save**



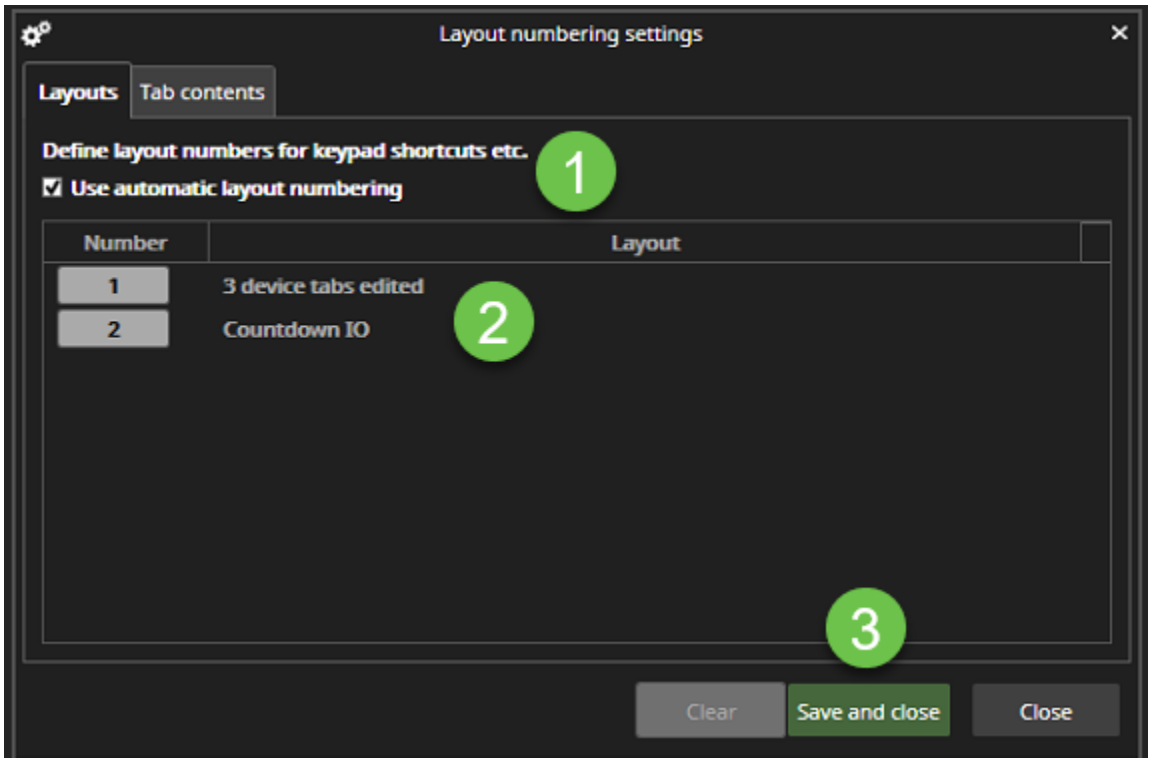
10.6 LAYOUT NUMBERING

1. Open **Layouts**

2. Select Layouts numbering



1. Set Use automatic layout numbering, if needed or disable to use manual numbering
2. Set manual numbering for the layouts
3. Click **Save and Close**



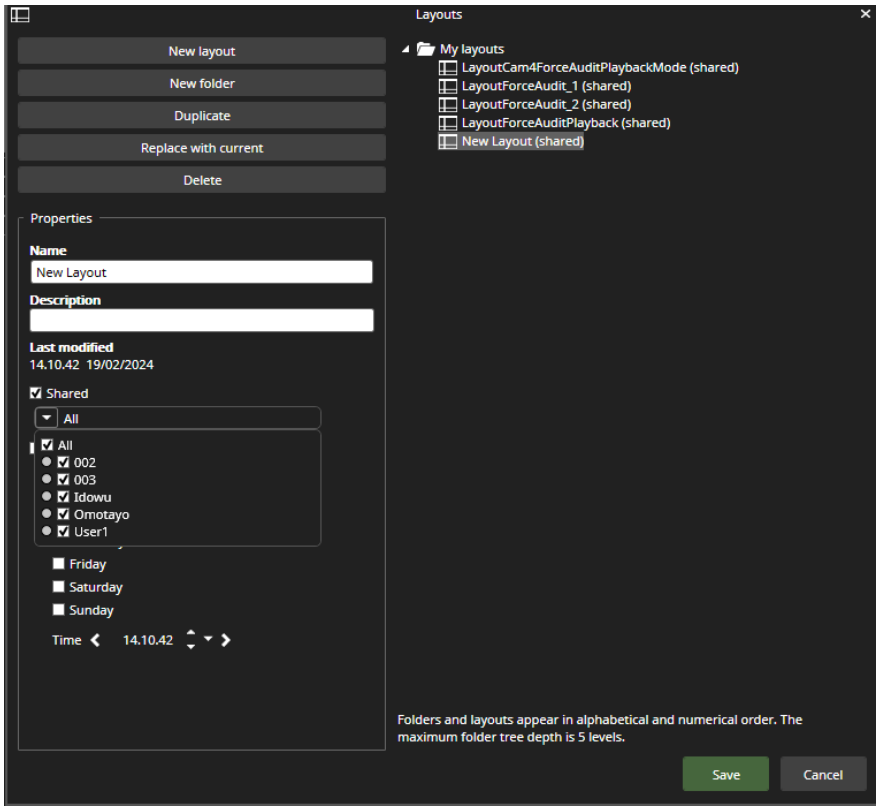
10.7 SHARING LAYOUT WITH SELECTED USERS

User can create a layout in Spotter under Layouts > New Layout. Layout(s) can be shared among other user in the same user group or other user groups if they have the same profile.

Public names are displayed if filled in the user account and If layout's owner's public name is changed, new name comes in use after profiles to client is reloaded or Spotter is restarted or after user switch.

To share the layout:

1. Name the layout.
2. Tick the share box.
3. Select whether to share the layout with all users or with selected users.



11 Device Tabs Management

Only streams of cameras that are on the open tab are sent to the Spotter.Cameras on the "hidden" tabs are not using network bandwidth to the Spotter but will resume instantly when the tab is activated.Tabs can be reordered by dragging them to a different position.They can also be dragged outside the Spotter window to move the content to a new, automatically created window.If the Ctrl key is pressed when dragging, a copy is made instead of moving.

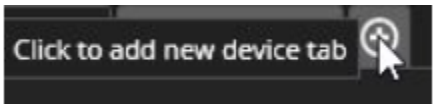
11.1 Frequently Used Keyboard Shortcuts:

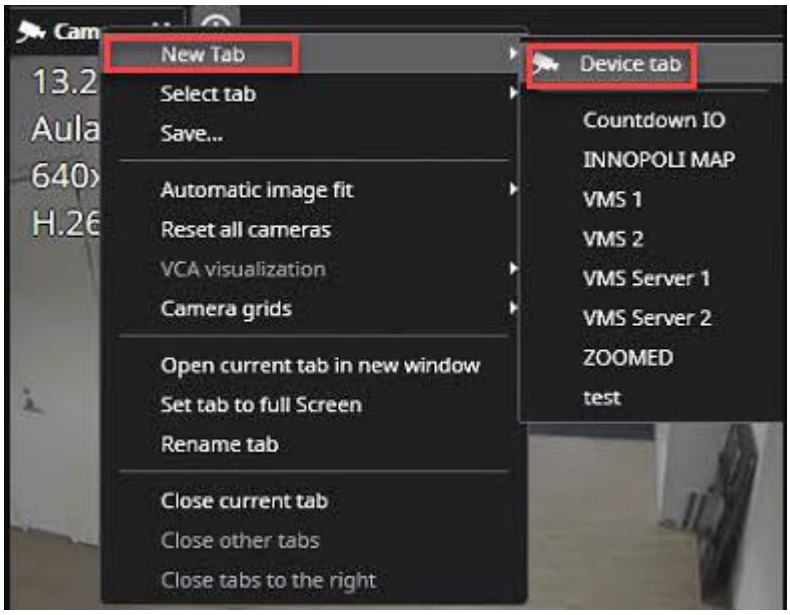
Shortcut	Description

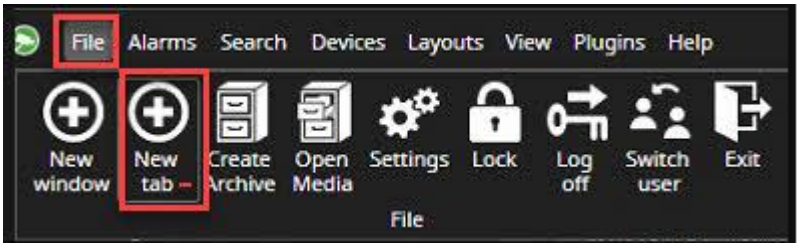
Ctrl+Shift+T	Open tab menu.
Ctrl+Shift+W	Close current tab.
Ctrl+Tab	Select the next tab. If the currently selected tab is the last, select the first tab in the window. The addition (+) tab is not selected.
Ctrl+Shift+Tab	Select the previous tab. If the currently selected tab is the first tab, select the last tab in the window. The addition (+) tab is not selected.
Ctrl+Alt+V	Hide/show tab controls.

11.2 ADD NEW DEVICE TAB

The work area can have multiple device tabs.New tabs are created by clicking the "New tab" control or from the File menu.



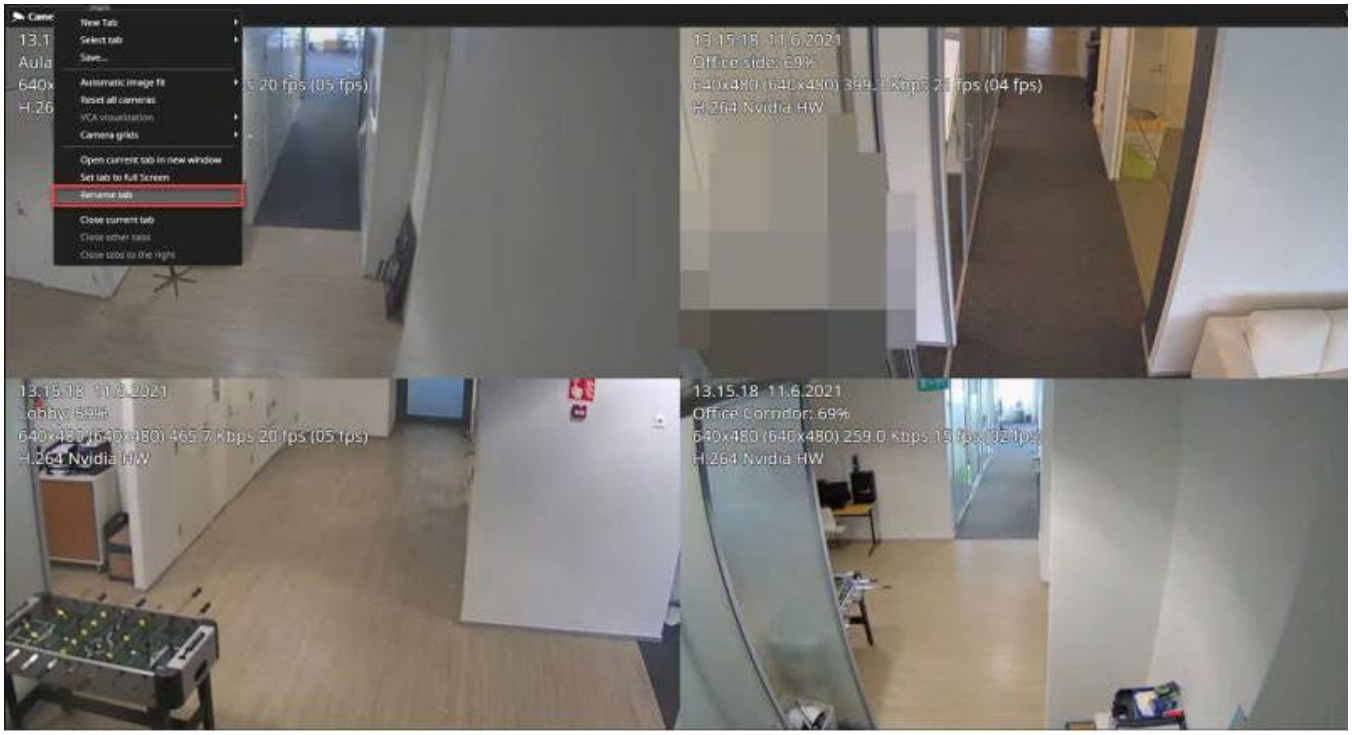




11.3 RENAMING THE DEVICE TAB

The tab menu can be accessed with right-click

1. Right-click top of the device tab name
2. Select **Rename tab**



Enter the name of the tab and press enter after the renaming of the device tab, the user can easily organize needed cameras to correct the device tab.

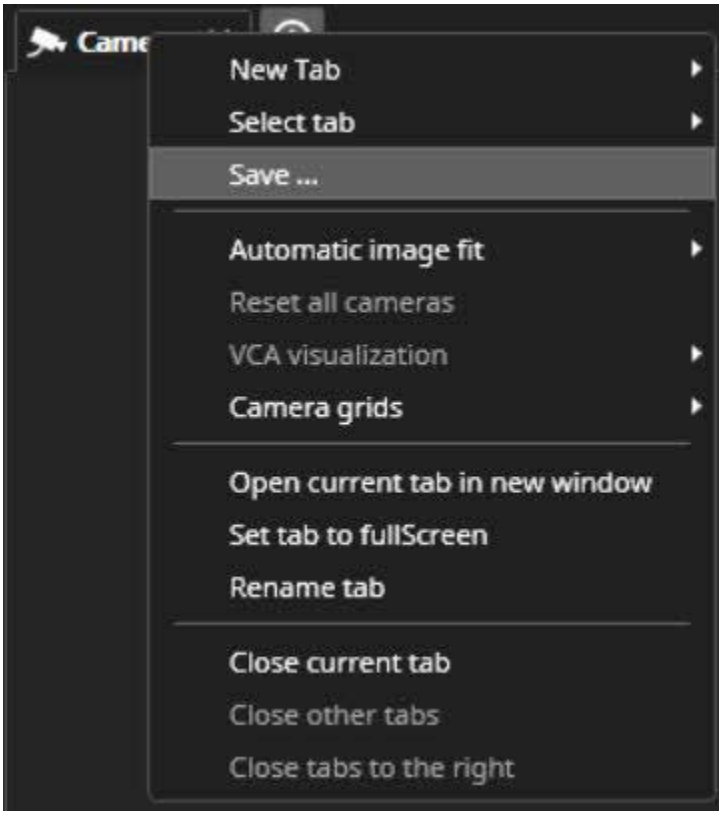


11.4 SAVING THE DEVICE TAB

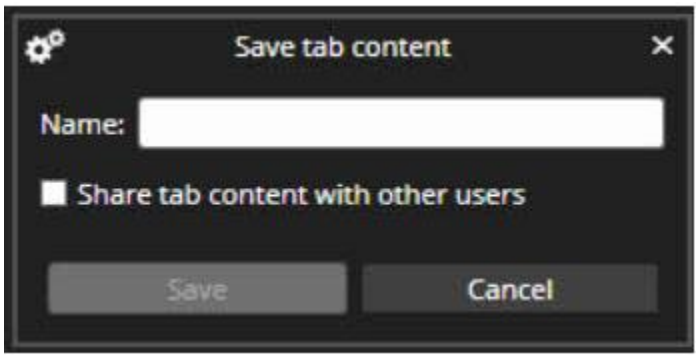
11.4.1 Saving the device tab

Device tab saving gives the user fast access to needed devices from the device tree

1. Open needed cameras to the device tab
2. Right-click top of the device tab name
3. Select **Save...**



1. Enter the name of the save tab
2. Click **Save**



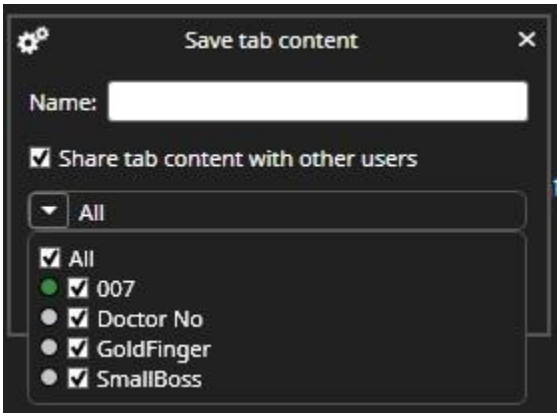
11.4.2 Share tab content with selected users

11.4.2.1 Users can share tab content with selected users after saving a tab in Spotter.

- A list of potential users is presented for selection, including the option to share the tab with all users.
- Users are listed alphabetically, with logged-in users (indicated by a green dot) displayed first, followed by those not logged in (indicated by a grey dot), also in alphabetical order.
- The Spotter profile tree displays all tabs saved by the user, tabs shared by others to all users, and tabs specifically saved for the logged-in user, filtered by accessible profiles.
- Sharing can be restricted based on the assigned user role.

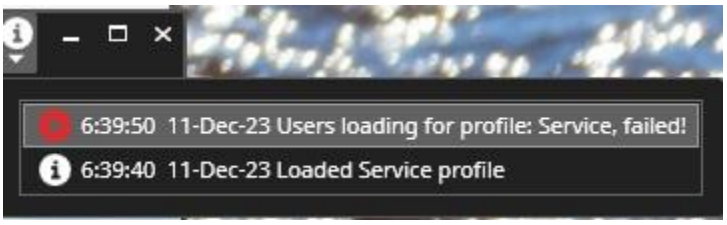
11.4.2.2 How to share tab content

1. To share tab content with other users, go to **Save tab content** and check the box **Share tab content with other users**. A list of users in alphabetical order is displayed. The list has two parts, with the logged-in users (indicated by a green dot) displayed first in alphabetical order, and the logged-off users (indicated by a grey dot) displayed second.
2. Check the box displayed before the user(s) you want to share the tab content with.
   If you want to share tab content with all users, check the box **All**. This will share the tab content with all users under the same profile.



11.4.2.3 Saving failure or User information request failure

In case of tab content saving failure or user information request failure, error messages in the information list is printed:



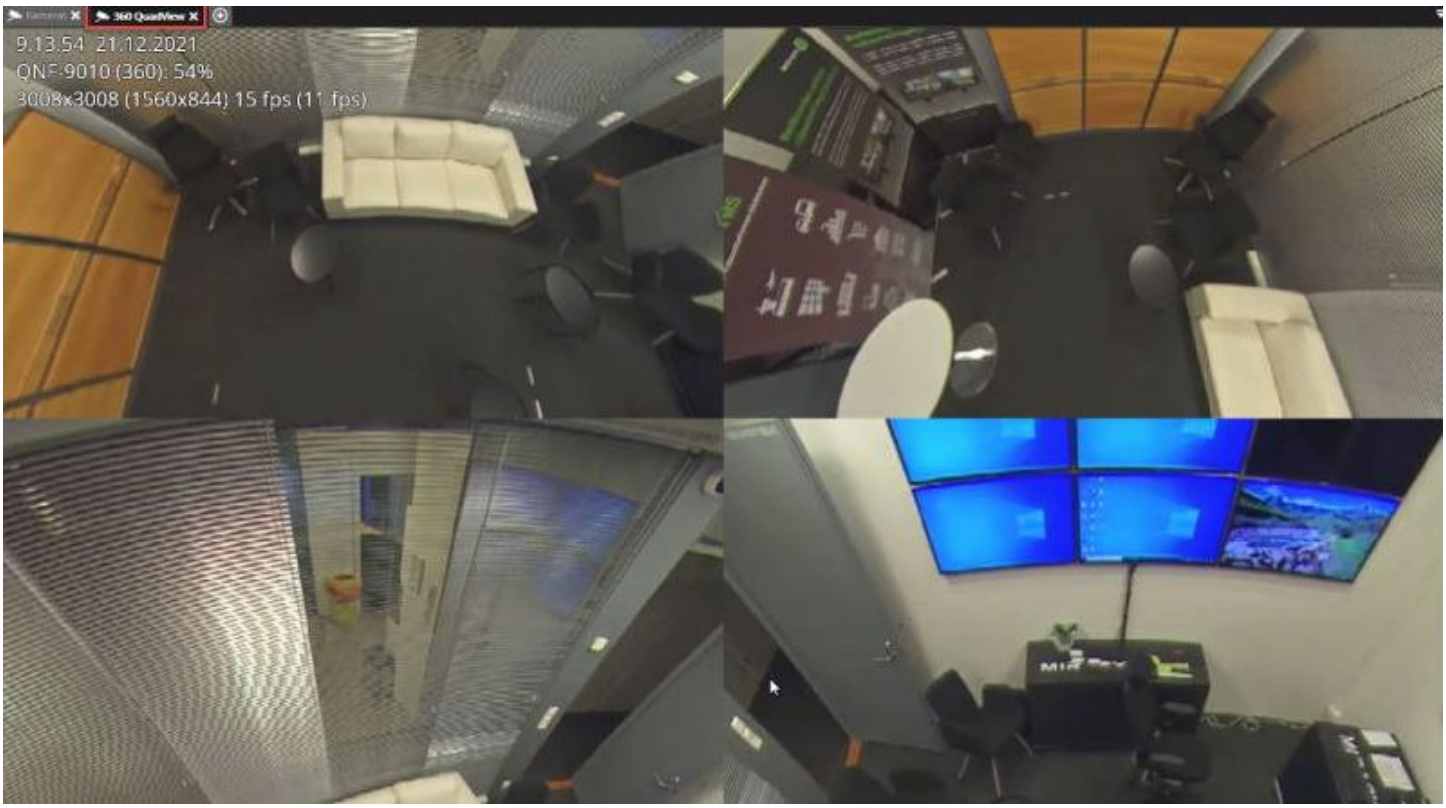


11.5 OPENING THE SAVED DEVICE TAB

1. Open the **Saved tabs** from the device tree
2. Double-click correct saved tab name

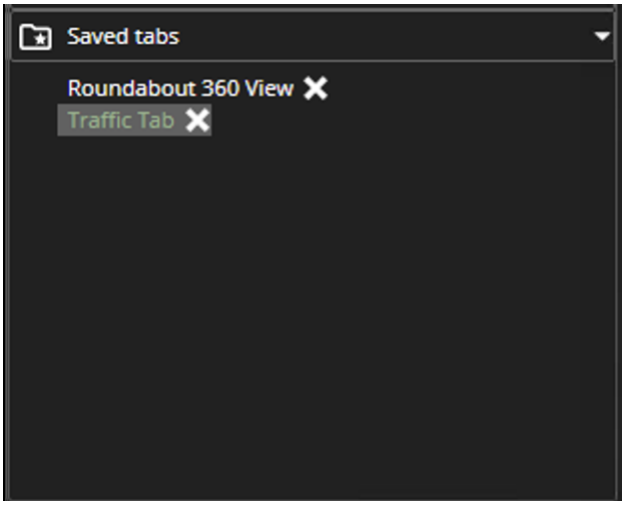


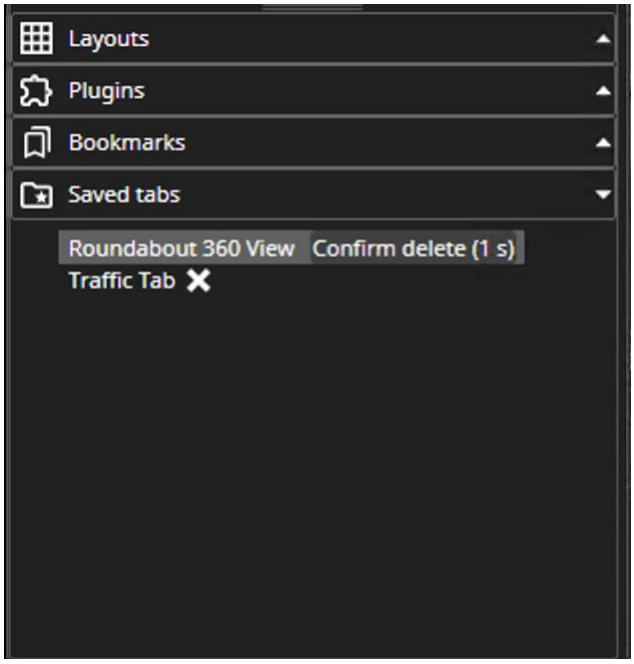
After the loading of the saved tab, Spotter shows all devices, which were opened during the saving. If the device tab was renamed, that name is also shown.



11.6 DELETING THE SAVED DEVICE TAB

1. Open the **Saved tabs** from the device tree
2. Click **X** from that saved tab, which is needed to delete
3. Confirm delete

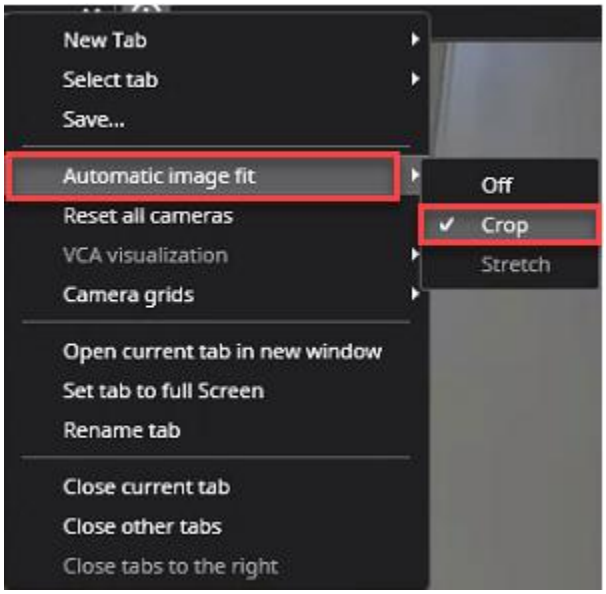


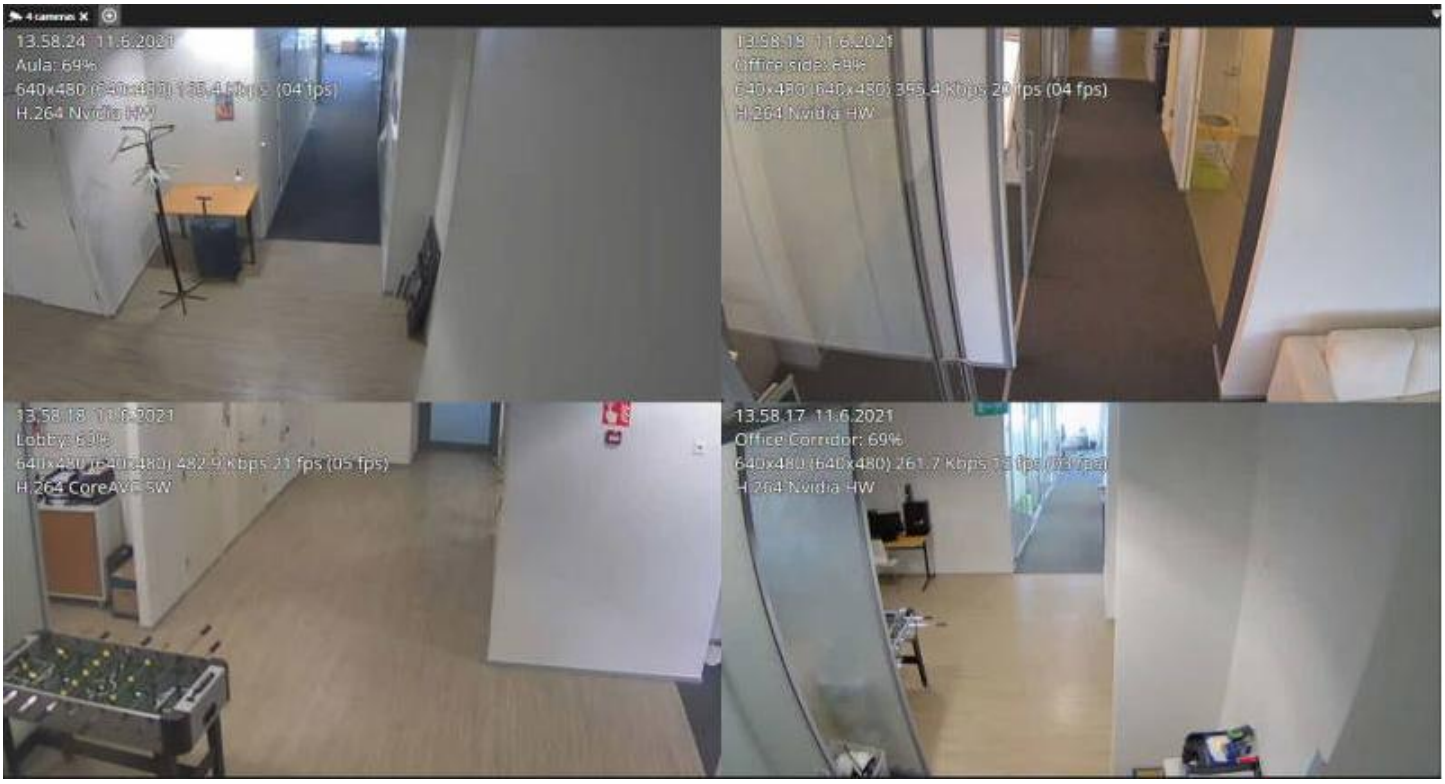


11.7 AUTOMATIC IMAGE FIT

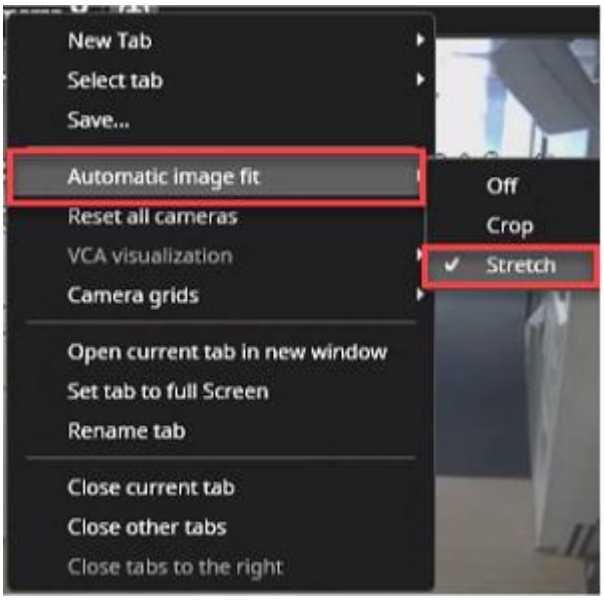
The default image fit setting can be adjusted in the tab menu and **Automatic image fit**.The default option for new device tabs is "**Crop**".The setting can be changed to "**Off**" or "**Stretch**".The **Stretch** option is not available for the automatic grid.

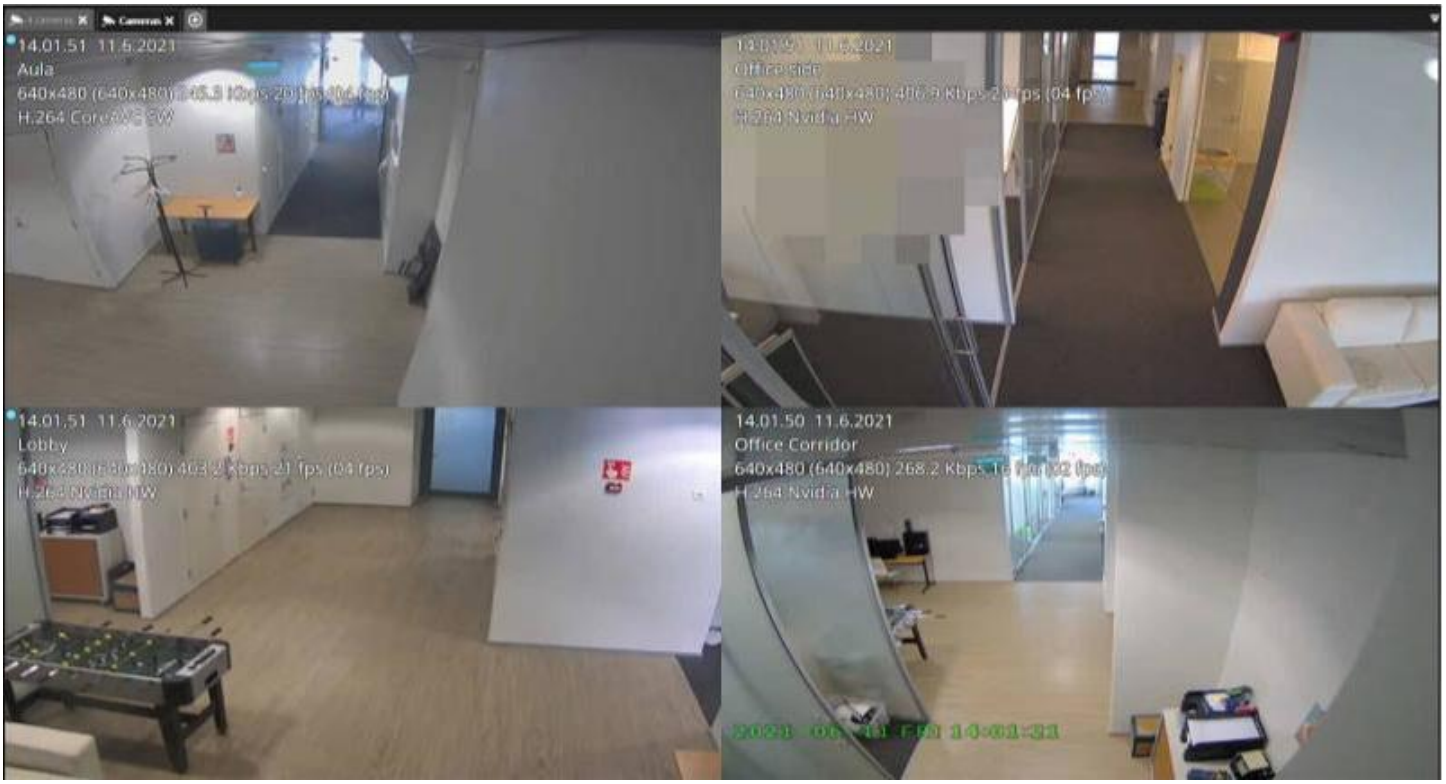
11.7.1 Automatic image fit: Crop



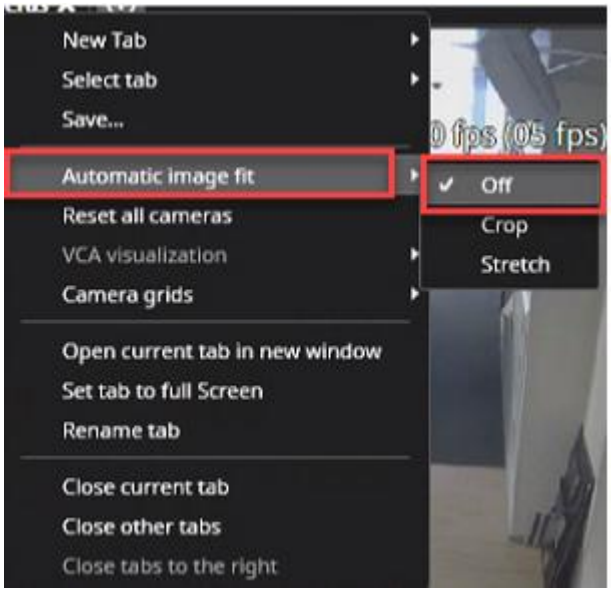


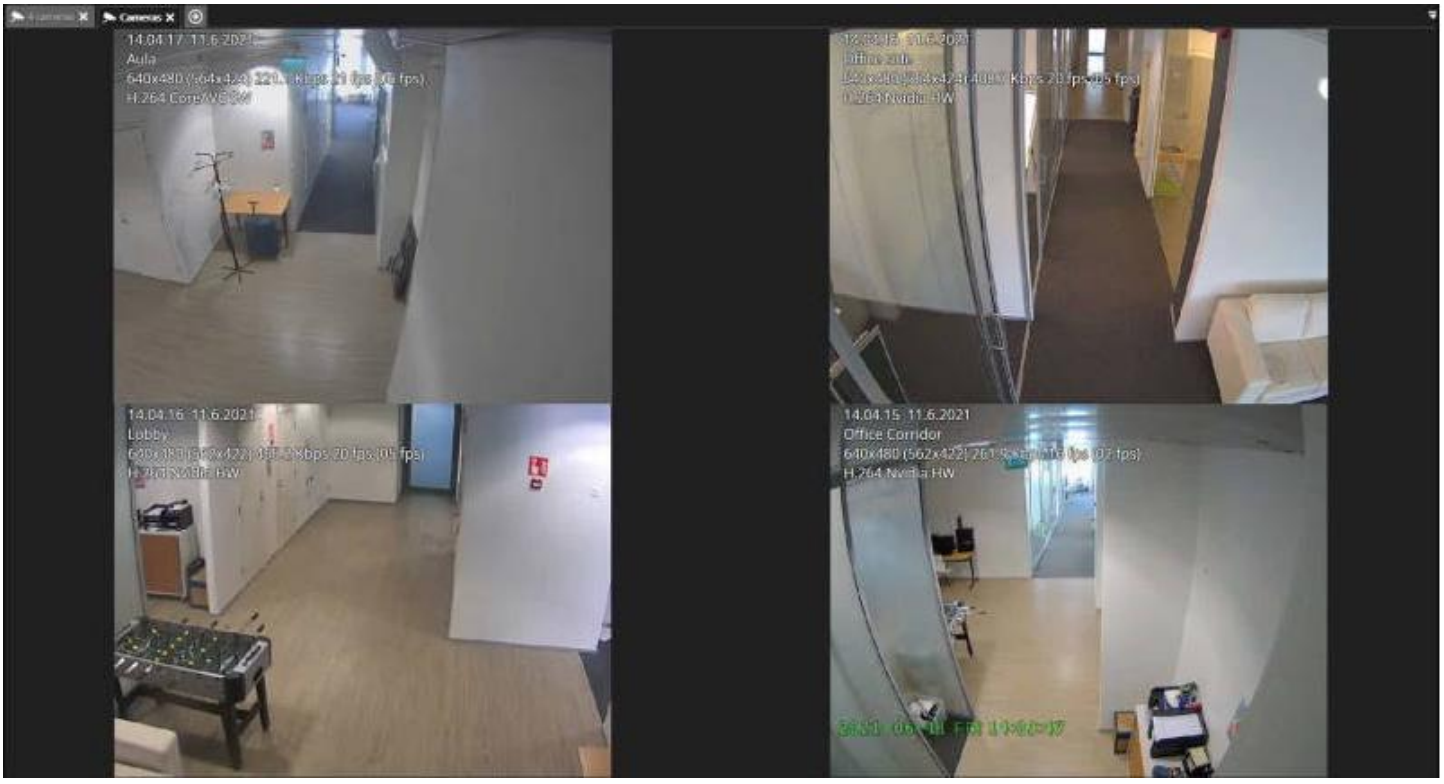
11.7.2 The automatic image fit: Stretch





11.7.3 The automatic image fit: OFF





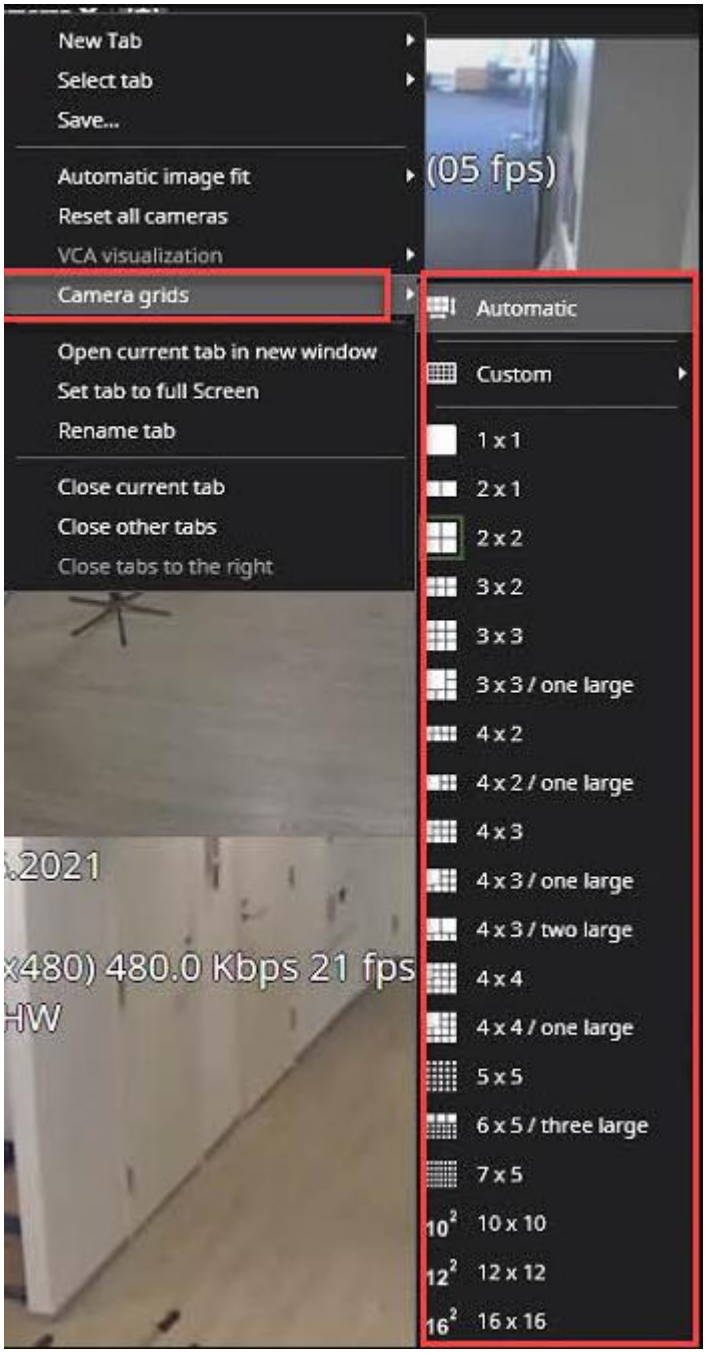
Automatic cropping will crop the image to fit the current aspect ratio of the work area.
This works best in automatic view mode if there are 4 or 9 cameras on the screen. In static grid mode, the auto-cropping makes cameras fit the aspect ratio of the fixed grid cell.This option is only available for fixed or custom grids.

11.7.4 Frequently Used Keyboard Shortcuts:

Shortcut	Description
Ctrl+Shift+S	Sets the auto stretch on and off for the current tab.
Ctrl+Shift+C	Sets the auto crop on and off for the current tab.

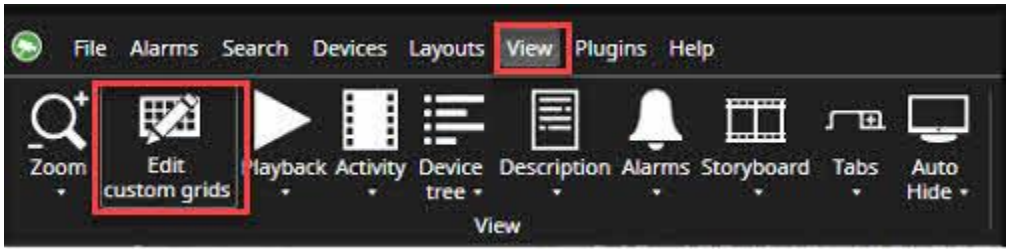
11.8 Camera Grids

The default view mode of the work area is automatic. Cameras appear all using the same size in this mode, and the position and size change automatically as more cameras are added. There are also fixed grids available, where some cameras can be more significant than others, and cameras stick to the fixed view mode grid and do not move around like in automatic mode. The fixed grids are available from the tab menu

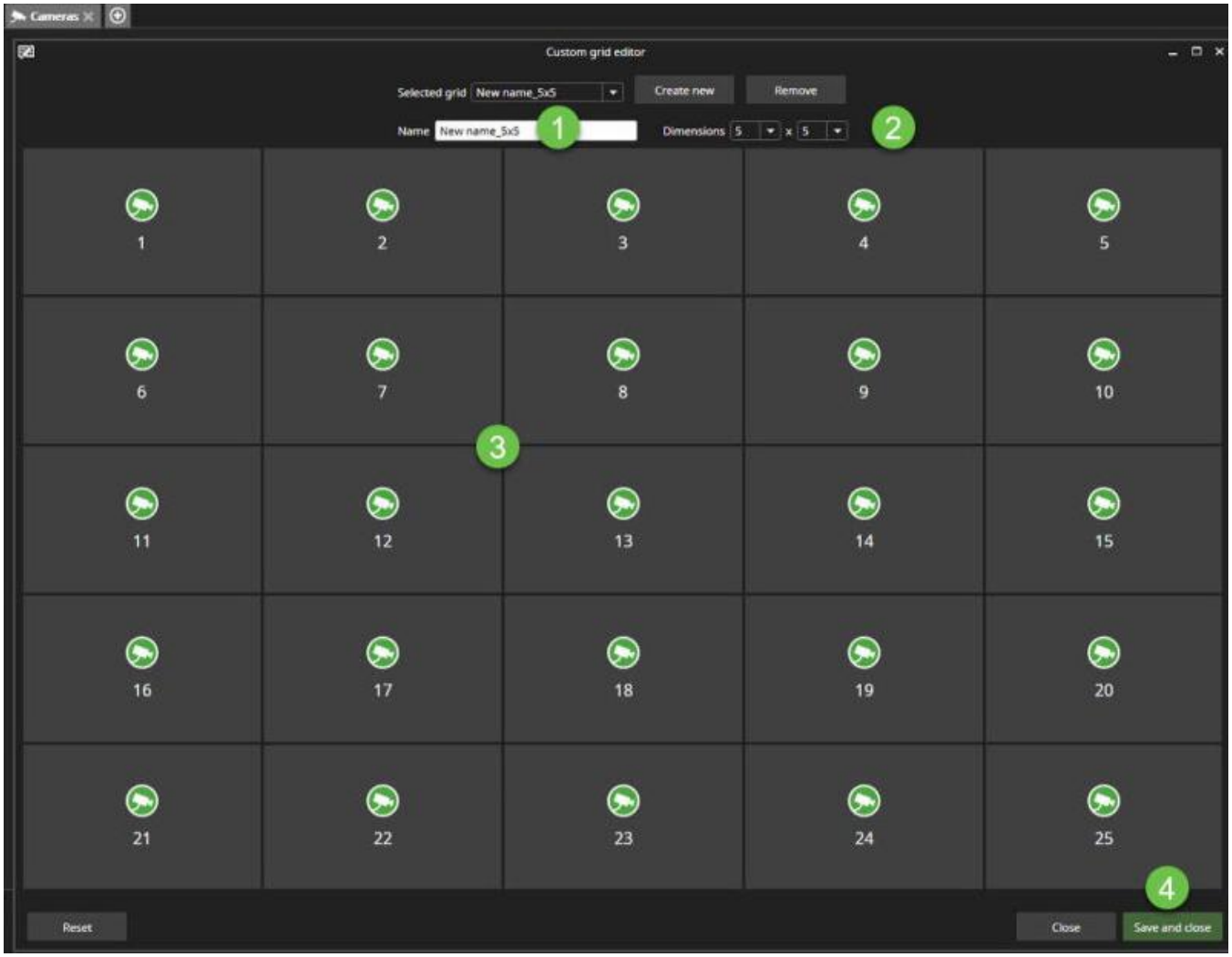


11.8.1 Custom camera grids

1. Click View
2. Open **Edit custom grids**

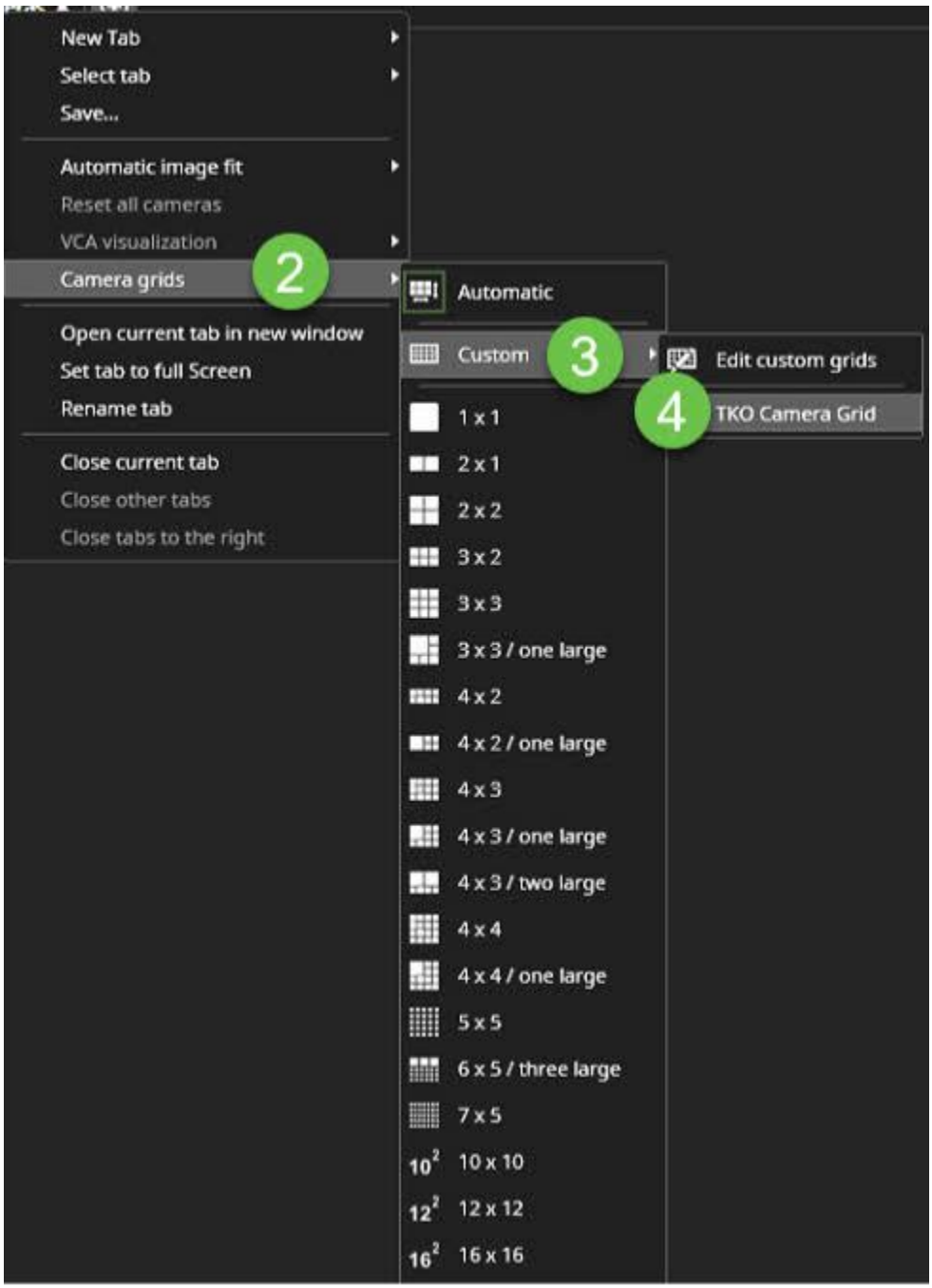


1. Enter the name of the camera grid
2. Set dimensions
3. Set the needed amount of the windows and their size
4. Click **Save and Close**

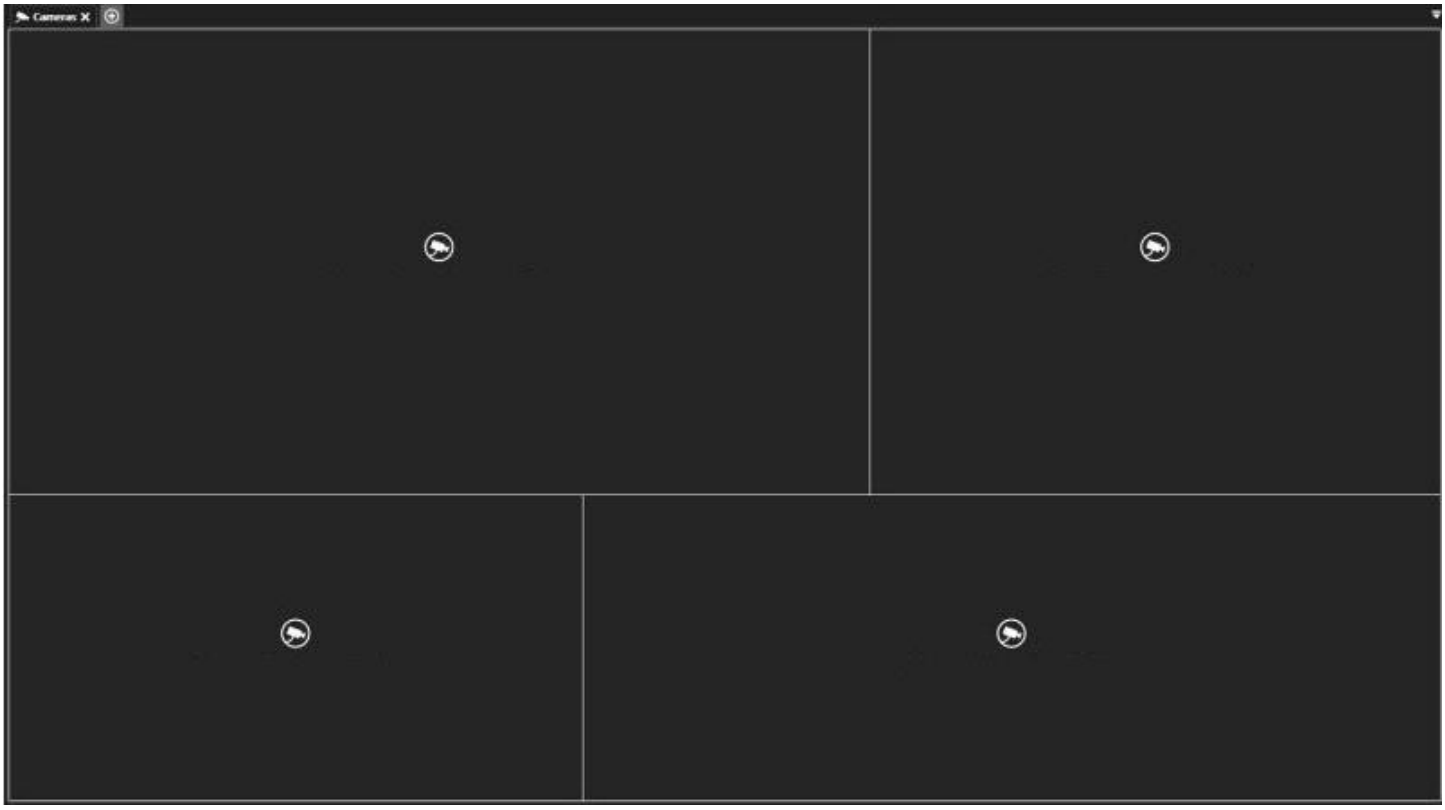


11.8.2 Using custom camera grids

1. Right-click top of the device tab name
2. Open **Camera grids**
3. Select **Custom**
4. Select needed custom camera grid name



After the loading, the user can see a custom grid view



12 PTZ Control and Management

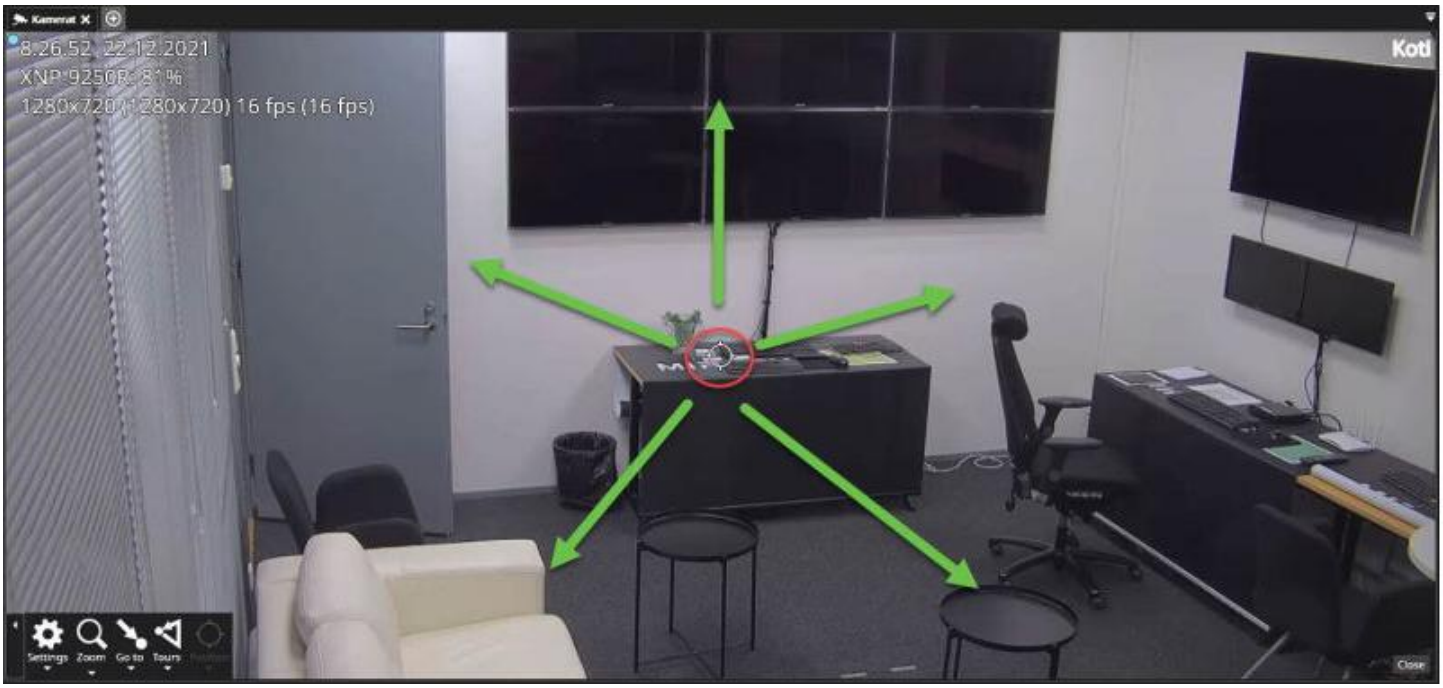
12.1 Enabling PTZ Control

1. Open needed camera to the real-time view
2. Open camera toolbar
3. Click **Camera** and select **PTZ control**



12.2 CONTROLLING PTZ CAMERA

PTZ camera can be controlled with the mouse left button and dragging in the needed direction or with keyboard arrow keys.



12.3 PTZ CONTROL IN FULL SCREEN

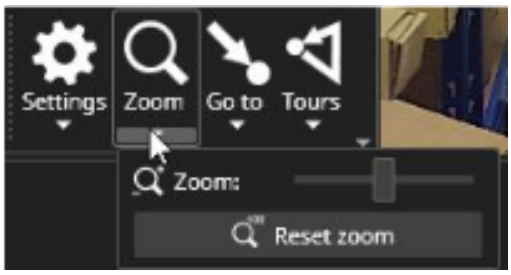
PTZ control can be used while in full-screen mode. To maximize or restore the video view, click the corresponding buttons. Double-clicking the video view is disabled when the PTZ control is in use to ensure that the PTZ control functionalities can be used properly.

12.4 SETTINGS



The PTZ settings menu contains iris and focuses slider controls and editing the camera home position.The home position can be selected from the currently saved presets or tours.It is also possible to define how long the camera takes until it returns to the home position and if the switch to the home position is made only if it is not in some other tour or preset position.

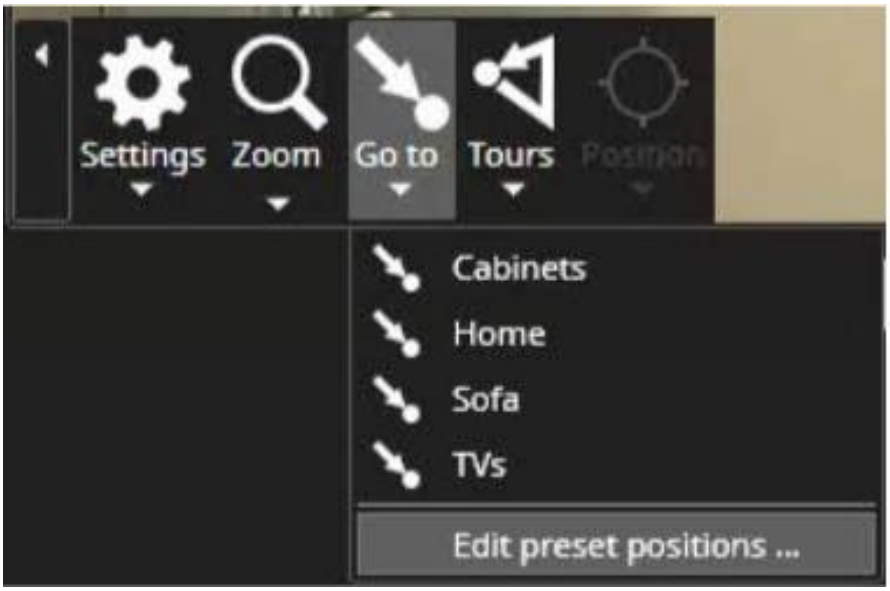
12.5 ZOOM



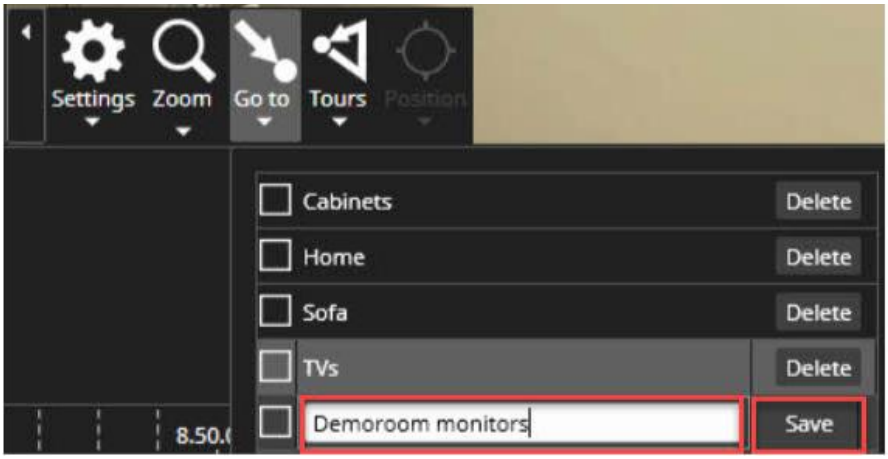
The zoom settings menu allows controlling the camera zoom. The camera zoom can also be controlled from the keyboard or the mouse wheel.

12.6 CREATING A PRESET

1. Open needed camera to the real-time view
2. Open camera toolbar
3. Click **Camera** and select **PTZ control**
4. Control PTZ camera to the needed position
5. Click **Go to** and select **Edit preset positions**

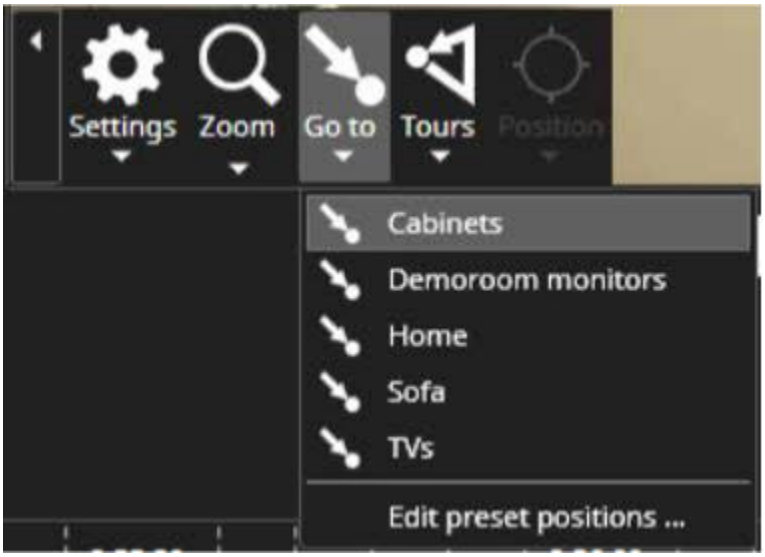


1. Enter the name of the preset and click **Save**



12.7 USING THE PRESETS

1. Click **Go to** and click mouse left button top of the needed preset

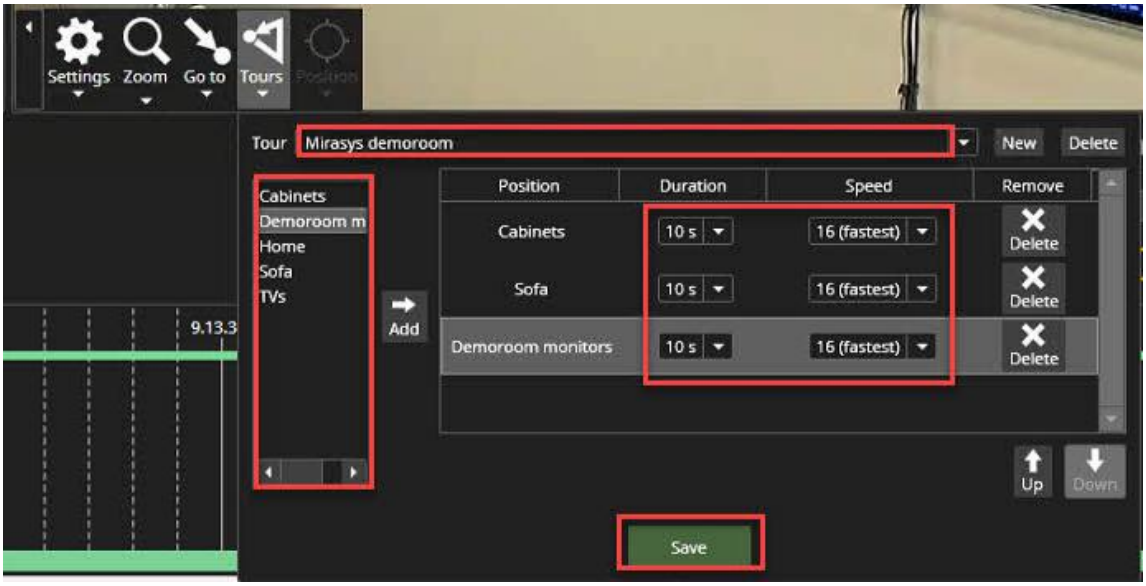


12.8 CREATING CAMERA TOURS

1. Click **Tours** and select **Edit camera tours**



1. Set the name of the tour
2. Select presets for the tour
3. Set duration for each camera
4. Set transition speed between the presets
5. Click **Save**



12.9 USING CAMERA TOURS

1. Open needed camera to the real-time view
2. Open camera toolbar
3. Click **Camera** and select **PTZ control**
4. Click **Tours a**nd activate the needed camera tour



12.10 EDITING CAMERA TOURS

1. Open needed camera to the real-time view
2. Open camera toolbar

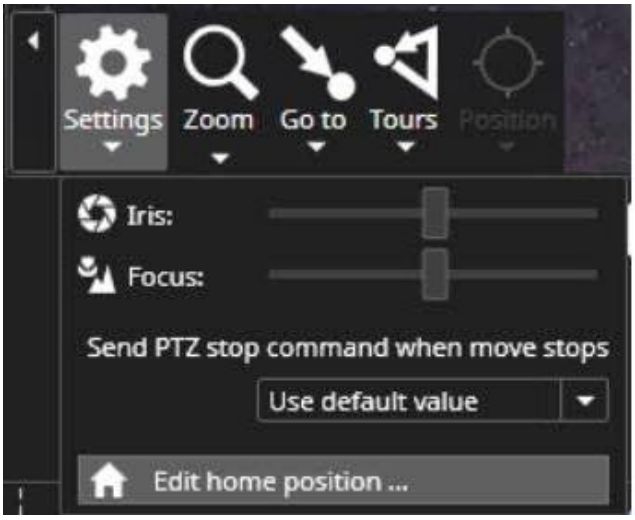
3. Click **Camera** and select **PTZ control**
4. Click **Tours a**nd select **Edit camera tours**
5. Select tour from the list
6. Do modifications and click **Save**

12.11 DELETING CAMERA TOURS

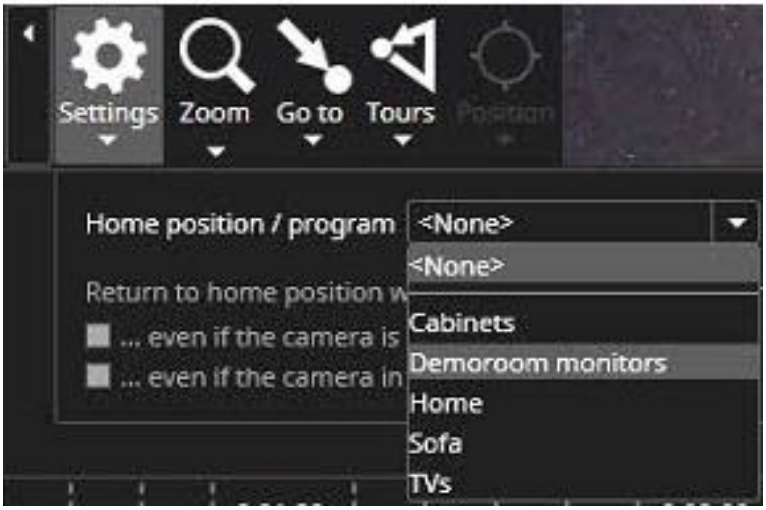
1. Open needed camera to the real-time view
2. Open camera toolbar
3. Click **Camera** and select **PTZ control**
4. Click **Tours a**nd select **Edit camera tours**
5. Select tour from the list
6. Click **Delete**
7. Click **Save**

12.12 SETTING UP PTZ CAMERA HOME POSITION

1. Open needed camera to the real-time view
2. Open camera toolbar
3. Click **Camera** and select **PTZ control**
4. Click **Edit home position**



1. Select the correct home position or program from the list



1. Define settings for:
    a. **Return to home position when the camera is not used in:**
    b. **...even if the camera is in a preset position**
    c. **...even if the camera in the program tour**



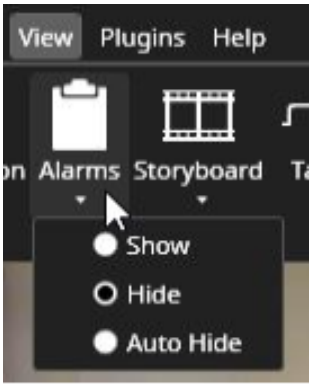
13 Alarm Management

13.1 The alarms tab contains below functions:

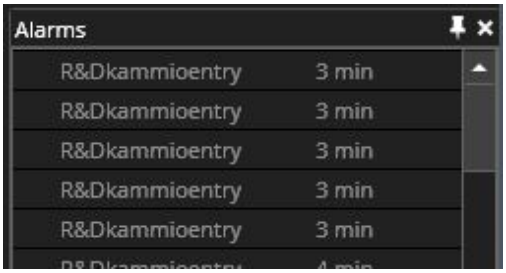
- Alarm list behavior
- Alarm view
- Alarm popup
- Alarm search

13.2 Alarm List

In Spotter, each Spotter window can have its alarm list. The alarm list visibility is controlled from the **View** menu.



In the alarm window, you can see the name and the priority of each alarm.



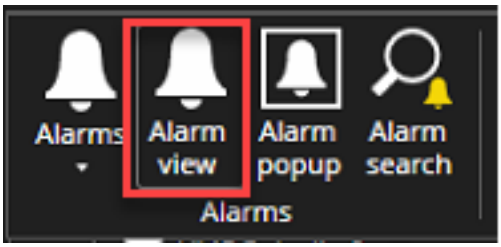
To the right of the alarm name, you can how much time has elapsed since the alarm started. This is displayed in hours, minutes, and seconds.

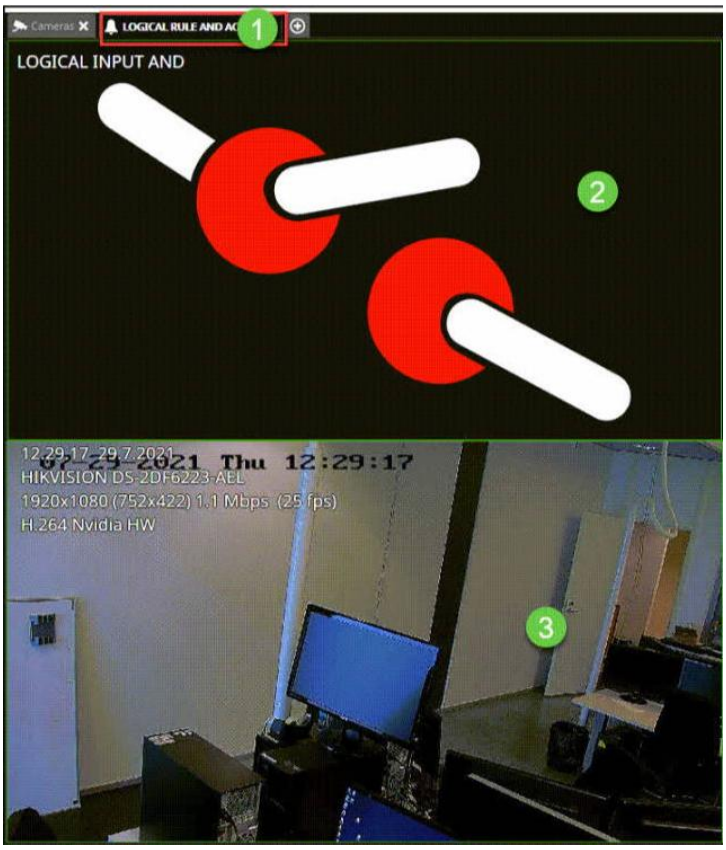
13.2.1 Frequently Used Keyboard Shortcuts:

Shortcut	Description
F5	Focuses on the first alarm.
Ctrl+F5	Show/hide alarm window.
Enter	Opens the alarm in the alarm view tab.
Space	Acknowledges the focused alarm.
Ctrl+Alt+A	Hide/show the alarm list.

13.2.2 Opening an alarm from the alarm list

When you double-click an alarm name, the Alarm view tab is opened, and you can see all components related to the alarm for triggers and actions.

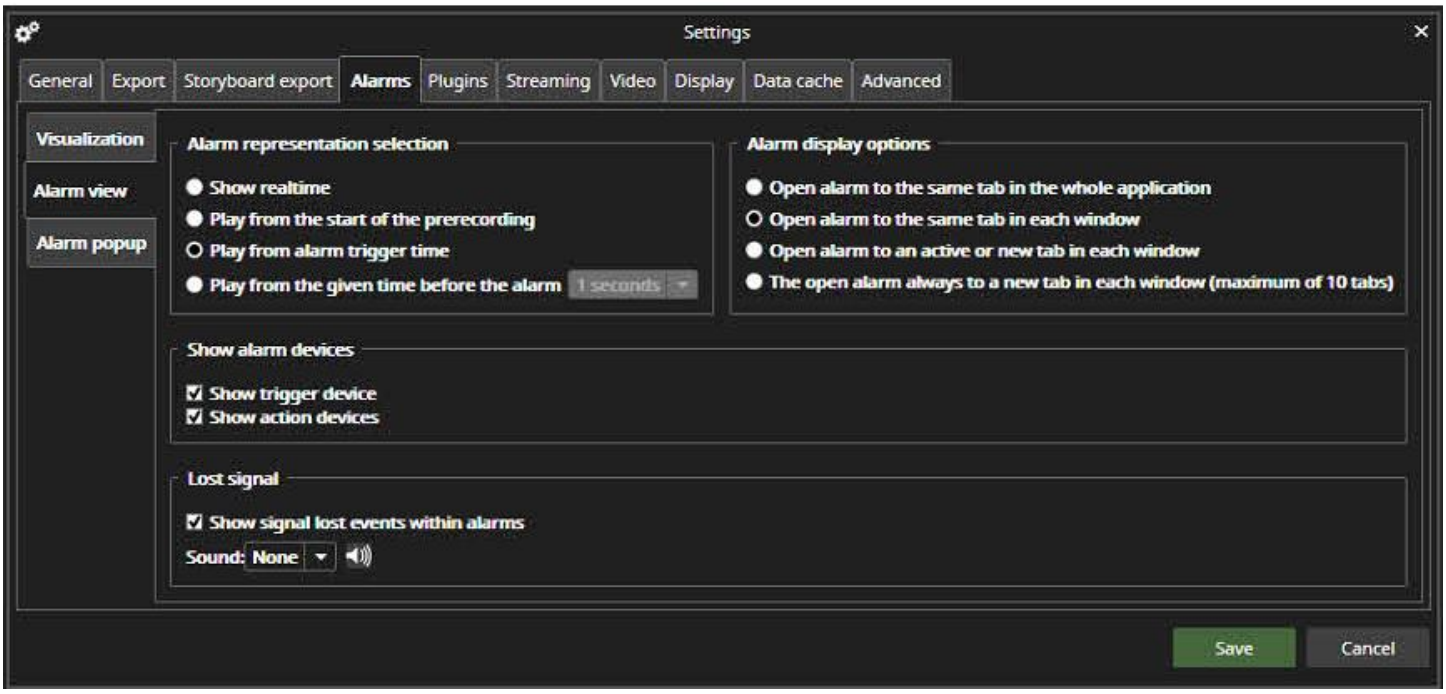




1. Name of the alarm
2. Trigger of the alarm
3. All action components of the alarm

13.2.2.1 Alarm view settings

The Alarm view settings can be configured under **Settings** > **Alarms** > **Alarm view**.



13.2.2.1.1 Alarm representation selection

The Alarm representation selection defines what time the alarm is being played when it is opened from the alarm list. Here you have the possibility to:

- Show real-time
- Play from the start of the alarm pre-recording time
- Play from alarm trigger time (default option)
- Play from the given time before the alarm(1- 60 seconds)

13.2.2.1.2 Alarm display options

You can define how the alarm is opened, with the following options:

- Open alarm to the same tab in all whole application
- Open alarm to the same tab in each window
- Open alarm to an active or new tab in each window
- Open alarm always to a new tab in each window(maximum of 1 10 tabs)

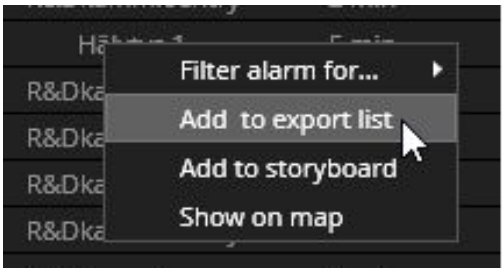
13.2.2.1.3 Lost signal

- Show signal lost events within alarms

13.2.3 Alarm Export

Alarms are exported by dragging the alarm from the alarm list or the alarm view to the export area.
The alarm list also has an option in the single alarms right-click menu to add an alarm to the export area.

Alarm export contains pre-event and post-event recording times



13.2.3.1 Immediate Alarm Export to a specified folder

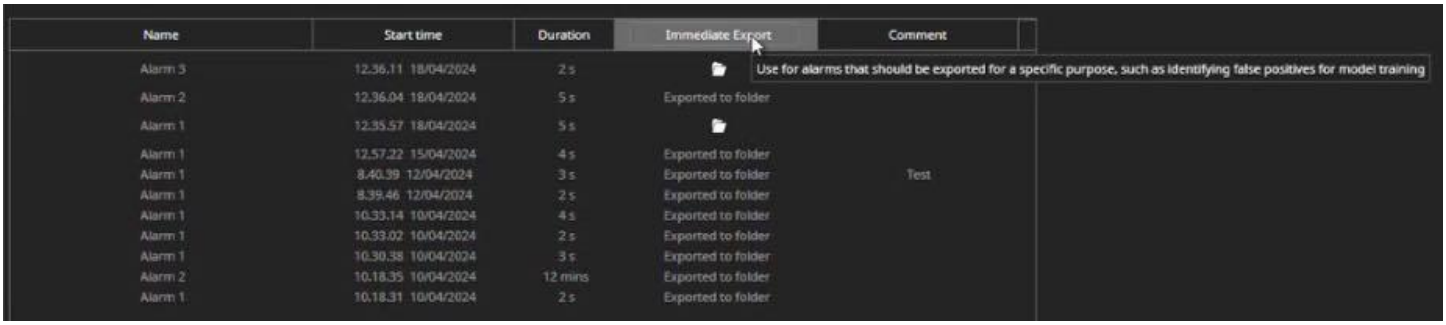
When system administrators enable and configure this feature, it is possible to directly export an alarm to a specific folder in Alarm Search from the Alarms table in Spotter. This feature can be used for a specific purpose, such as exporting false positives for AI model training.

13.2.3.1.1 Immediate Alarm Export settings

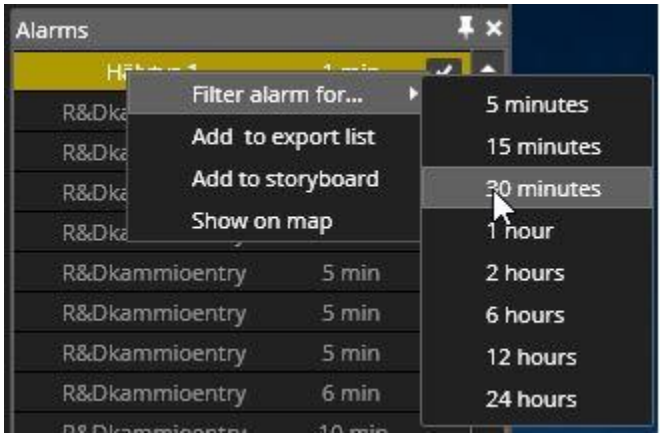
1. Click **File** in the top menu and select **Settings**.
2. Click the **Alarm export** tab in Settings. This tab is hidden if you do not have the user role for it, which is enabled by your System Administrator in the System Manager application.
3. Tick the box **Enable alarm export**.
4. Select the location to which you want to make the export.
5. Name the folder.
6. Select if you want to copy Spotter player.
7. Select exporting format.
8. Select Encode quality.
9. Check the boxes to select the following options:
    - Protect clip with password
    - Mark privacy zones on client
    - Blur faces
    - Mask moving objects
    - Add bookmarks
10. Click **Save** to save settings.

13.2.3.1.2 How to use Immediate Alarm Export

1. Click **Alarm** in the top menu, and then click **Alarm search**. In the Alarm search result table, the **Immediate Export** column is visible when alarm export is enabled in the settings above.
2. To make an immediate alarm export, click the folder icon in the **Immediate Export** column.
3. When the export is made, the folder icon changes to the text Exported to folder so you can easily keep track of which alarms have been exported.



13.2.4 Alarm Filtering



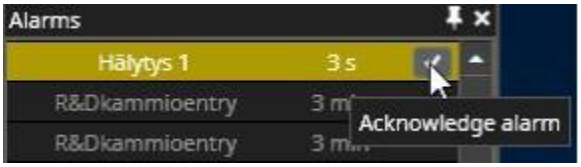
The alarm window also can filter alarms. Filtering can be done by selecting an alarm and opening the right-click menu. The user can filter an alarm for 5, 15, or 30 minutes, or 1, 2, 6, 12 or 24 hours.The alarm is removed from the standard alarm list during the filtering, and new occurrences are not shown.The alarm sound and alarm pop-up are also disabled during filtering.The maximum number of filtered alarms is 50.



The filtered alarms are moved to a filtered list underneath the alarm window. The filtered list can be in an open or closed state.Each filtered alarm has a counter that shows how much longer the alarm remains filtered.There is also a button to remove alarm filtering. Filtered alarms can be unfiltered at any time.Although alarms are inactive in the

filter window, they still show an alarm state.If a filtered alarm is inactive, it is greyed out, and when it is active, it has a white font.If there are no filtered alarms, the filtering window is not displayed underneath the alarm window.The filtering window is displayed in all Spotter windows if it has also the alarms window open.The alarm view can be opened for filtered alarms by a mouse double-click or drag and drop.

13.2.5 Acknowledge alarm

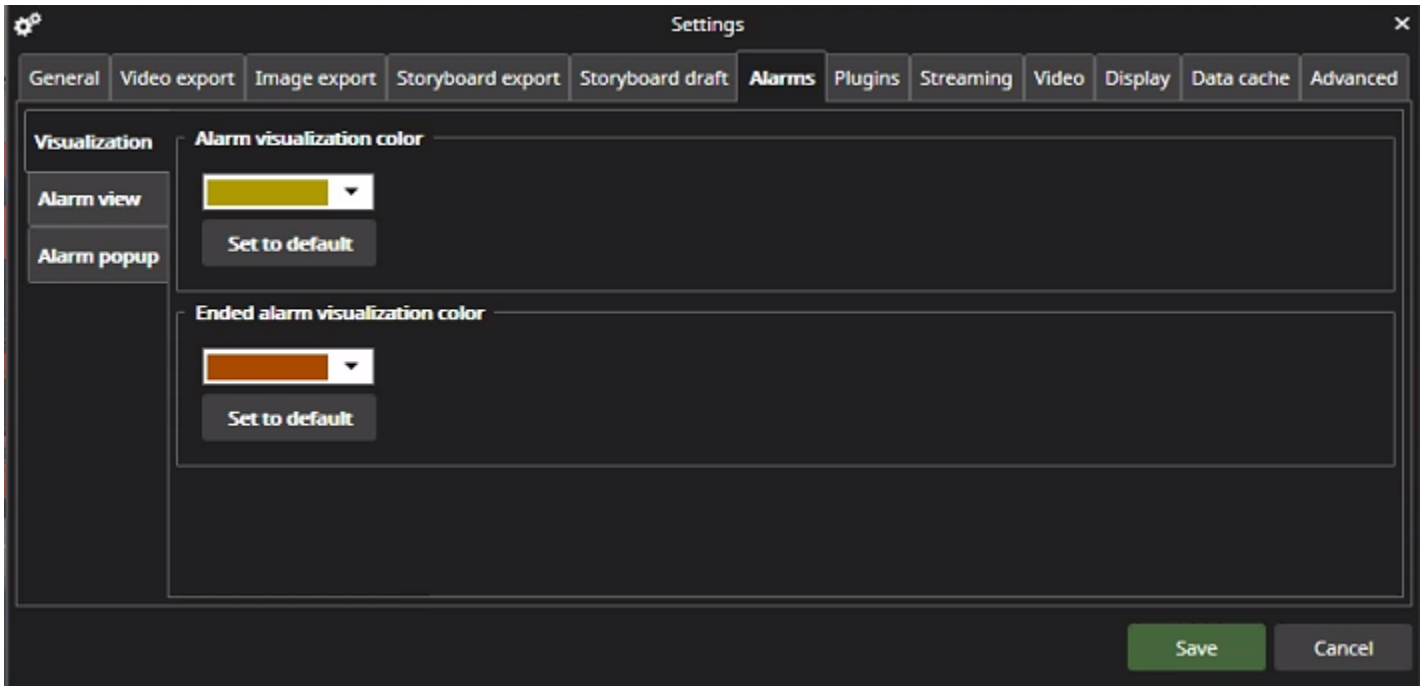


It is also possible to acknowledge alarms. For active alarms, there is an "**Acknowledge alarm**" button.The button is visible for all alarms during their duration. It is also possible to set this option active in the System Manager application's Alarm settings. In that case, the alarm is active until the user acknowledges it.The maximum amount of alarms in the alarm window is 100.If the limit is exceeded, then the oldest inactive alarm is removed.Underneath the alarm window, there is a pull-down window with options to show all alarms (default) or only active alarms.

13.3 ALARM VISUALIZATION

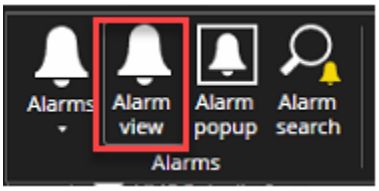
Alarm visualization settings can be configured from Spotter\Settings\Alarms\Alarm visualization

Alarm visualization allows a selection of the alarm highlight colour for active and ended alarms.



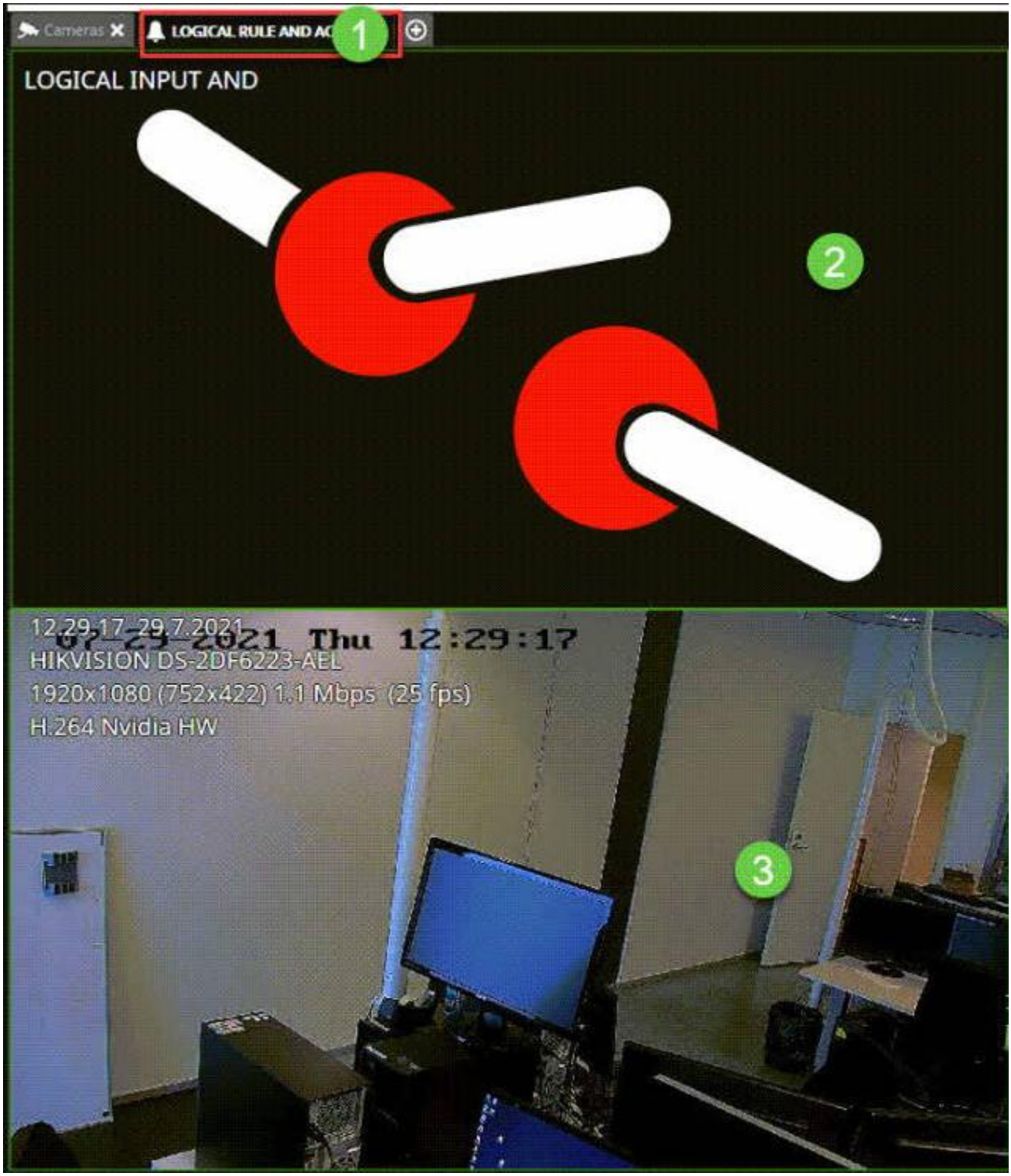
13.4 ALARM VIEW

The alarm view tab shows all components, which are related to the alarm(alarm trigger and actions) when the alarm is opened from the alarm list.



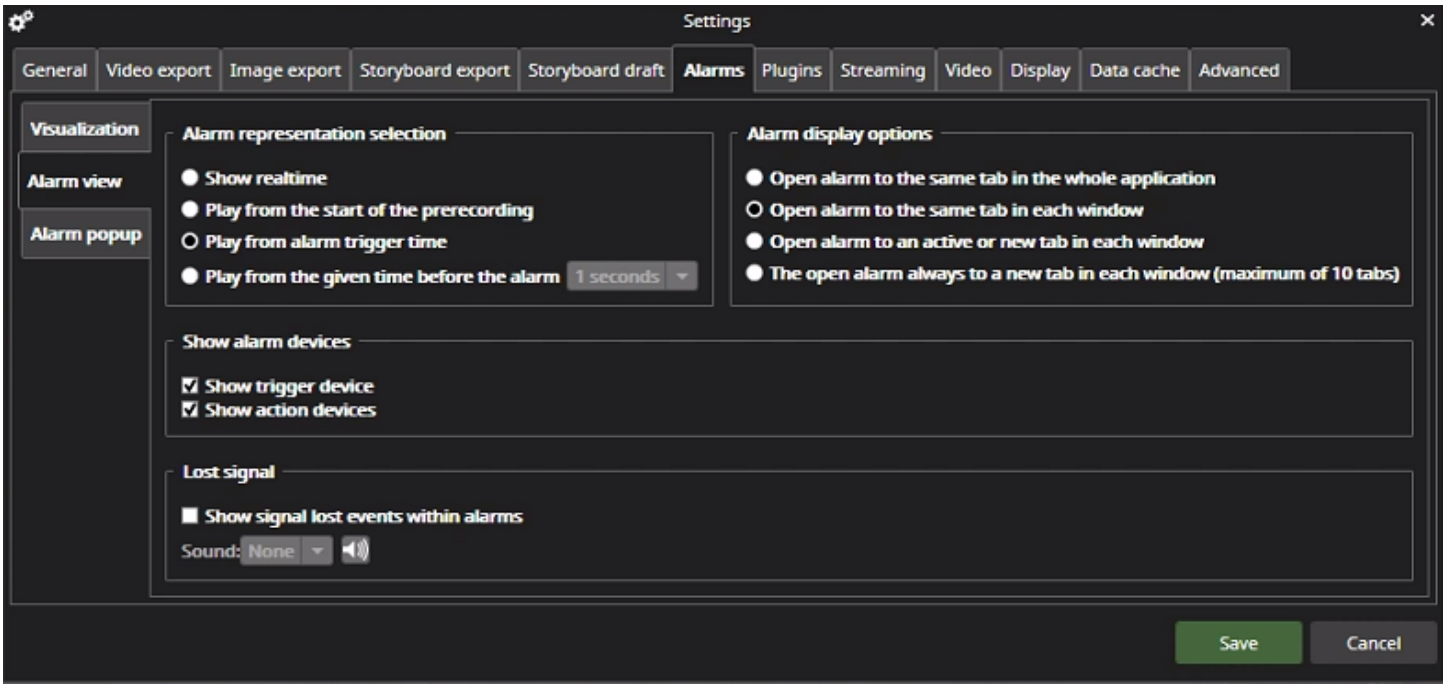
1. Name of the alarm
2. Trigger of the alarm
3. All action components of the alarm

MIRASYS



Tel +358 (0)9 2533 3300 Email info@mirasys.com https://www.mirasys.com

Alarm view settings can be configured from Spotter\Settings\Alarms\Alarm view



13.4.1 Alarm representation selection

The Alarm representation selection defines what time the alarm is being played when it is opened from the alarm list. The possibilities are:

- Show real-time
- Play from the start of the alarm pre-recording time
- Play from alarm trigger time (default option)
- Play from the given time before the alarm(1- 60 seconds)

13.4.2 Alarm display options

It is also possible to define how the alarm is opened. The possibilities are:

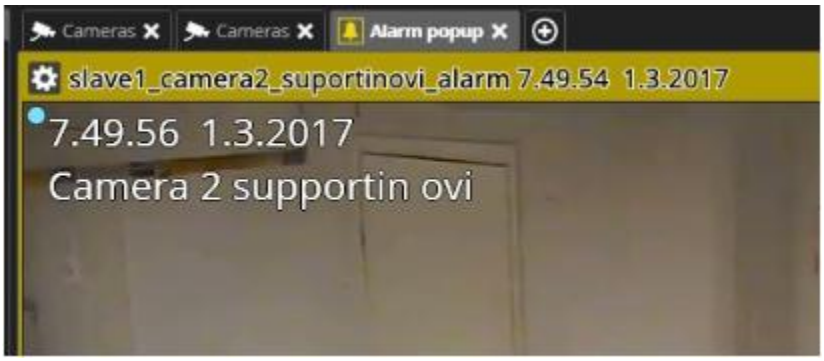
- Open alarm to the same tab in all whole application
- Open alarm to the same tab in each window
- Open alarm to an active or new tab in each window
- Open alarm always to a new tab in each window(maximum of 1 10 tabs)

13.4.3 Lost signal

- Show signal lost events within alarms

13.5 ALARM POPUP

The alarm popup plugin can be used to alert a user when a new alarm is activated. The popup window can be a new tab or placed in a camera grid cell. The popup can be opened from the Alarms menu or the device tree.



When the alarm popup tab is open, any new alarm components are automatically opened to it, and they remain there for as long as the alarm is active.The popup is by default highlighted with yellow colour when an alarm is triggered.

Alarm popup settings define how the Alarm popup view opens and closes. **The default setting is that the Alarm popup is not opened and closed automatically if it is not open.**
Alarm popup settings can be configured from Spotter > Settings > Alarms > Alarm popup.
Please see the documentation under the Spotter Guide > Alarm Management > Alarm popup

13.5.1 Alarm popup plugin settings

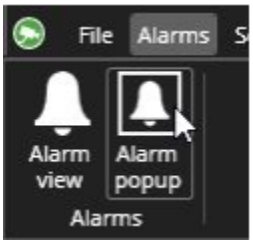
Alarm popup settings also defines how long the alarm components are displayed in the popup tab. The possibilities are:

- Alarm components are closed when the alarm ends (default option)
- Close alarm components on alarm post-recording end
- Close alarm components after a specified time of alarm ended(5 seconds – 30 minutes).
- Show alarm status border around alarm popup plugin
- Activate window on alarm start
- Show alarm title
- Show alarm trigger device

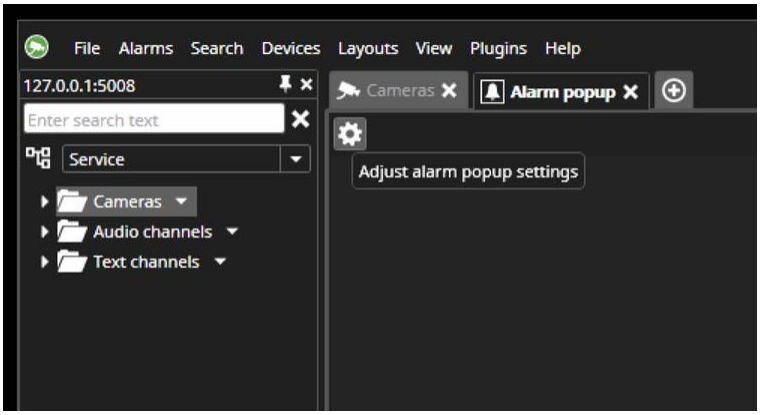
- Show alarm action devices

13.5.1.1 Default alarm filtering settings for alarm popup

In Alarm popup settings, it is possible to configure the behaviour of the alarm popup.



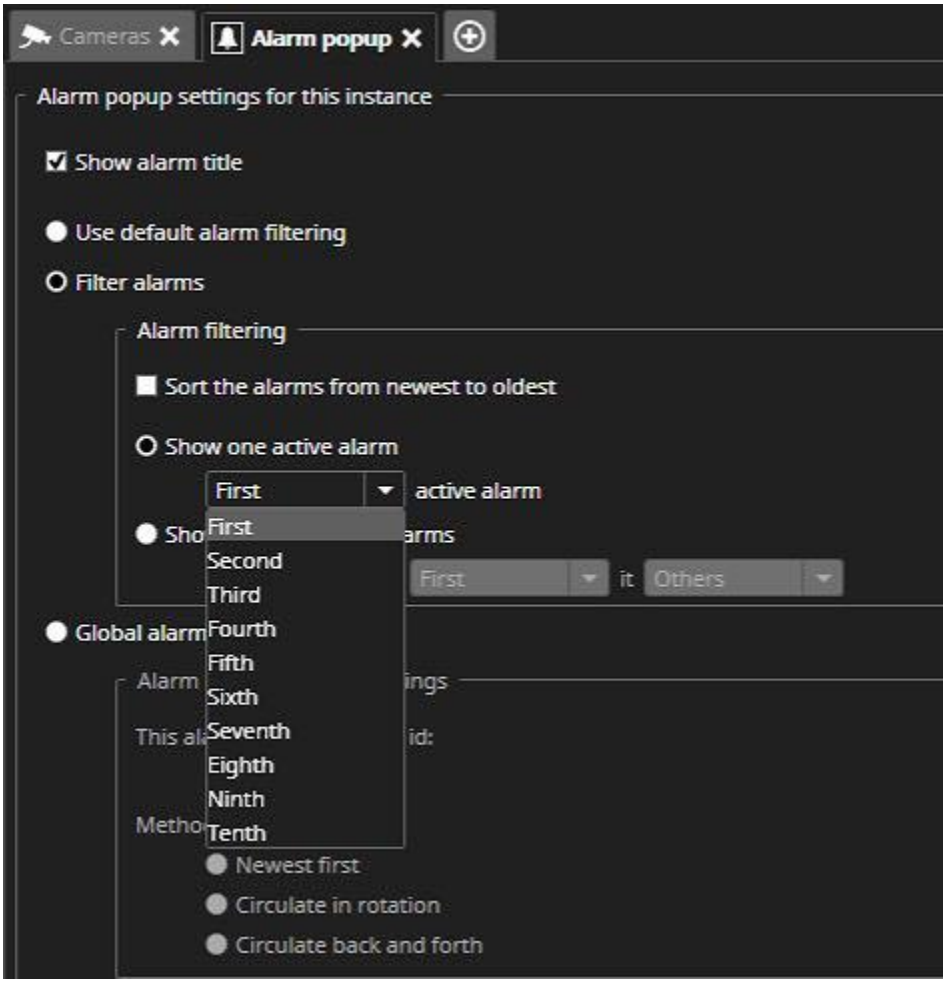
If no option is selected, **Use default alarm filtering** is selected by default.



13.5.1.2 Filter alarms

These settings are mainly used for multi-monitor systems, and you want to use several alarm popup windows.

Under Filter alarms, you can select what to show on a specific monitor. For example, you want to see the first alarm that occurs. Then you can select settings for the second monitor, and select to only see the second alarm that occurs, and so on.

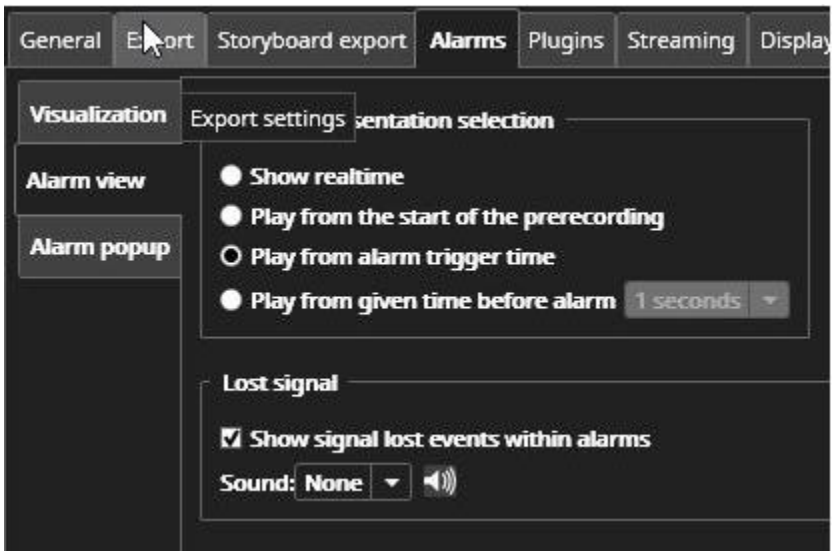


The settings are not saved, you simple choose to use the settings by clicking **Use**.

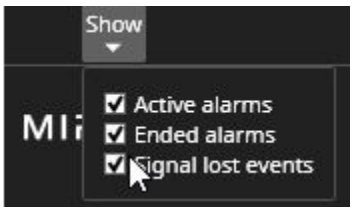
If you want to save the settings, you can either use the Save tab functionality or you can use Layouts, by creating a new Layout and the Alarm popup settings will be saved to the Layout.

13.6 Signal Lost Alarms

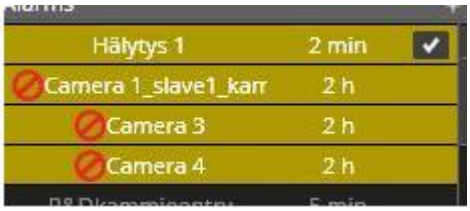
It is also possible to show cameras that lose the video signal as alarms in the Spotter window.This is achieved by activating the setting "Show signal lost events within alarms" in Spotter Settings' alarms tab. In the same place, the user can choose from preformatted alarm sounds, which sound is played when the signal lost event occurs.



Signal lost events are shown in the alarm list if the "Show" configuration is set to show them. By default, the signal lost alarms are not shown, so to get the feature working, the user needs to open the alarm list and select the signal lost from the configuration list.



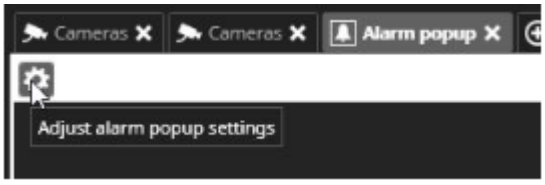
The setting is saved into layouts.Even if the alarm list is hidden, if the "show" filter is configured to show the signal lost event, the sound file is played when the event happens.If the alarm list is configured to show the signal lost as an alarm, it appears with the lost icon.



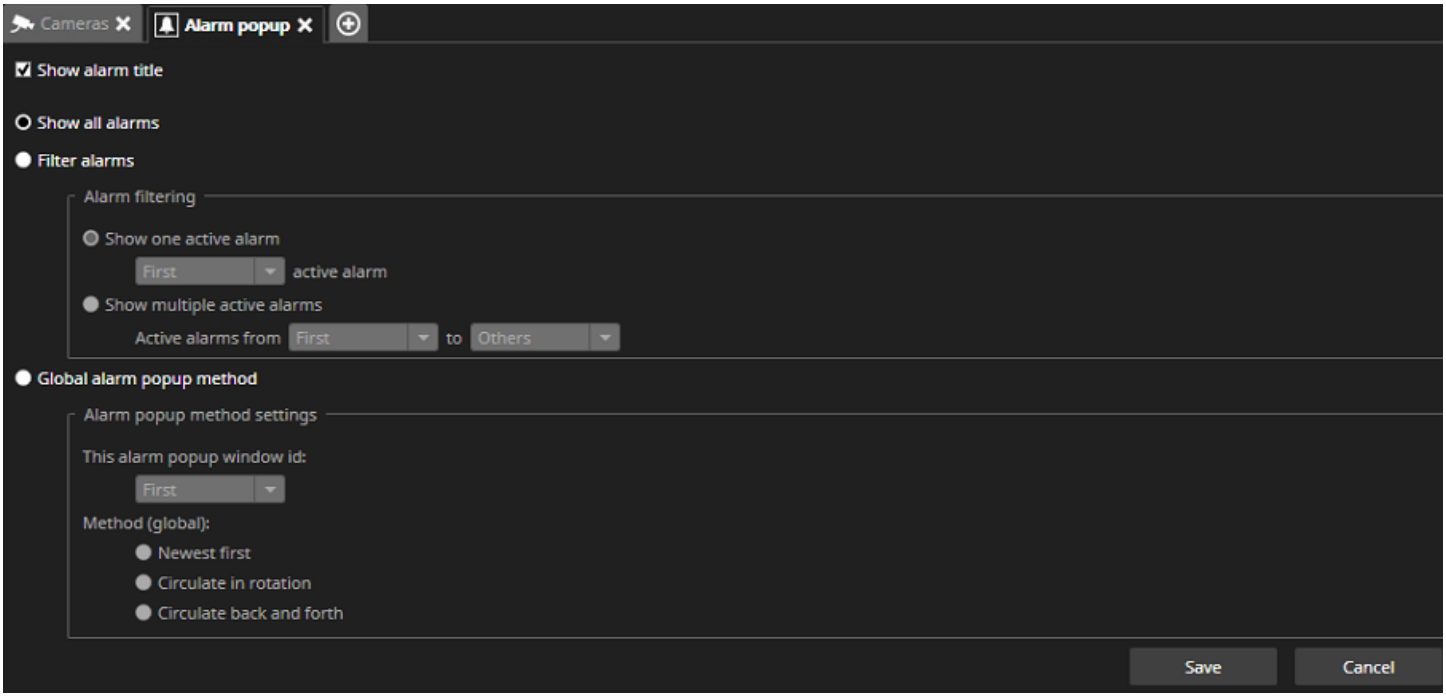
When the signal returns, the event is still visible, but now it is shown as ended (greyed out).The tooltip shows further information.

13.7 Showing the Alarm Name in Alarm Popup View

The alarm name can be controlled from both Spotter settings (system default) and alarm popup-specific settings. When the user is "administrator" or has System Manager rights in the user group, he can see the Alarm Popup setting view.



Clicking this will open the Alarm popup in setting view:



The visibility of the alarm title can be controlled here for this single instance of the Alarm popup. When activated, it displays the alarm name with the popup. If there are multiple active alarms, their names are listed on top of each other.



13.8 Use of Multiple Alarm Monitors

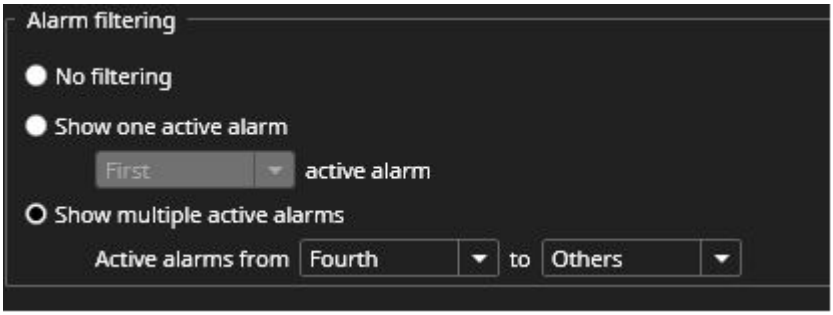
With the same Alarm popup settings as above, it is possible to configure the system to use multiple alarm monitors so that only a single alarm (or multiple if desired) is shown on each monitor. The system can be configured, for example, to have four separate alarm monitors. Then alarm monitor number 1 will show the oldest alarm, monitor 2 will show the second oldest alarm, and 3 will show the third oldest alarm. Monitor 4 can, for example, be configured to show the rest of the alarms.



The configuration is done by defining which alarm the Alarm popup should show. For configuring alarm monitor 1, the first active alarm should be selected in the filtering.



For the second and third, a new alarm popup should be opened and then the filtering adjusted accordingly. For the 4th and additional alarms, the setting should be changed like this:

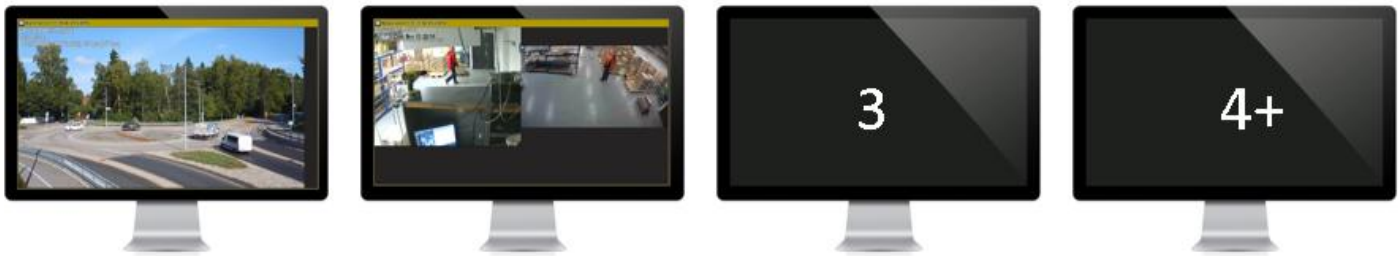


With these four-alarm popup windows open and configured, the layout should now be saved. When there are no active alarms, the alarm monitors display a clarification number to know which monitor. When there is only one alarm active, it is displayed on the first monitor.



If two alarms are active, the oldest is displayed on the first monitor, and the newer alarm opens on the second monitor.

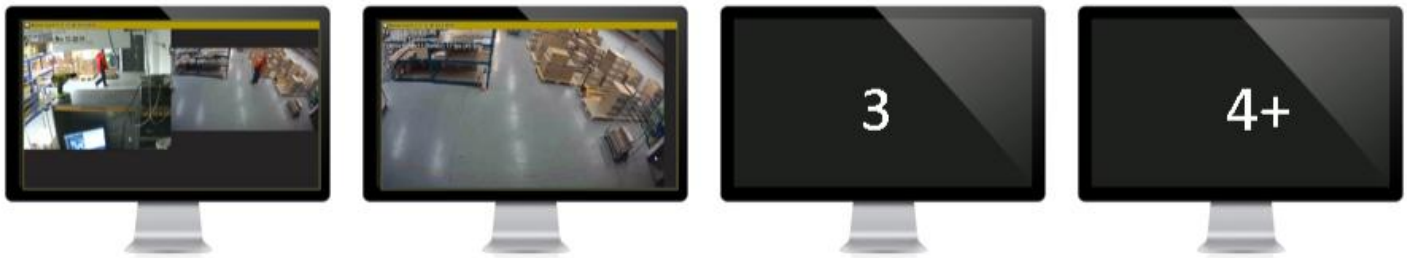
Tel +358 (0)9 2533 3300
Email info@mirasys.com
https://www.mirasys.com



The third alarm is on the third monitor.



When the oldest alarm ends, it will be closed from the first monitor (1).The monitors will automatically refresh so that the alarm previously in monitor 2 is now in monitor 1, and so on.



If the alarm settings have been defined so that alarm components are kept open longer than the alarm duration, the move of alarms will happen only when the alarm components are closed.

In this case, the alarm colour in monitor one will change from the active alarm colour to the ended alarm colour.The alarm popup filter setting is saved to layouts and saved tabs.When using AVM, it is recommended to create a camera tab, open the alarm popup to the camera tab, configure the filter, and then save it with the appropriate name.The tab can then be opened to AVM using the AVM Operator Console.

It is also possible to configure the multiple alarm monitors to show the Alarm popup and Profile map side by side by configuring the Profile map to use similar filtering settings as the alarm popup.

Tel +358 (0)9 2533 3300 Email info@mirasys.com https://www.mirasys.com

14 Daylight Savings Time (DST)

This guide explains how to handle potential issues caused by the Daylight Saving Time (DST) transitions when using our video management software (VMS). It also provides instructions on retrieving recorded footage during DST transitions, particularly the first hour after the time change.

14.1 Introduction

Daylight Saving Time involves adjusting clocks forward by one hour in the spring ("spring forward") and back by one hour in the fall ("fall back"). The specific time of the change varies across countries and regions, but the general principle remains the same globally.

Our VMS stores footage using Coordinated Universal Time (UTC).
UTC is **not** affected by DST adjustments. This ensures that no recorded material is lost or duplicated.

14.2 Impact of DST on Video Surveillance Systems

DST transitions can cause confusion when reviewing footage because the local time on the system changes, even though UTC remains consistent.

While no footage is lost or duplicated in UTC, the change in local time may affect how it is presented to users:

- The skipped hour may lead users to think that footage is missing.
- The repeated hour may cause confusion, as it creates two sets of footage with the same local timestamp.

14.2.1 Spring Forward

During the spring DST transition, clocks are moved forward by one hour, skipping over a specific hour. Since our system operates on UTC, this hour is not recorded because it effectively does not exist in the local time.

No video will be recorded for the hour that is skipped during the spring DST transition (the specific hour depends on the local time zone).
Users may perceive missing footage, but the skipped hour simply does not exist in the system's local time.

14.2.1.1 Material Retrieval During Spring Forward

In the case of spring forward, understand that the skipped hour does not exist in the system. The last available footage before the time change will be just before the time changes to summertime, and the next available footage will be an hour later. There is no footage to retrieve for the skipped hour.

Spring Forward

The specific hour that is skipped will not have any footage. This hour will vary depending on the time zone where the system is located.
Retrieving recordings: The last available footage before the time change will be just before the skipped hour, and the next available footage will resume after the skipped hour.

14.2.2 Fall Back

In the fall, clocks are moved back by one hour, repeating a specific hour. Because our system operates in UTC, this means that **two separate sets** of footage will be recorded for the repeated hour.

When using the Spotter application time selection on duplicated hour, all time requests are converted to the second hour. This means that when using the Spotter timeline, the playback plays the materials and does to search from the second hour.

To access the materials for the first hour, operators can start the playback forward from the hour before the Daylights Savings time shift or start the backward playback from the hour of the Daylight Savings time shift time.

14.2.2.1 Instructions for Material Retrieval during Fall Back

For the Fall Back transition, two separate hours will be recorded. These two separate hours can be differentiated by the system's timestamp. You can ensure that the correct hour is being accessed by reviewing the system log or watermark, which indicates the actual time of the recording.

1. Review the system logs and event logs to identify the exact times when the system adjusted its clock.
2. **When using the Spotter application time selection on duplicated hour, all time requests are converted to the second hour**. This means that when using the Spotter timeline, the playback plays the materials and does to search from the second hour.
3. **To access the materials for the first hour**, operators can start the playback forward from the hour before the Daylights Savings time shift or start the backward playback from the hour of the Daylight Savings time shift time.

Fall Back
The specific hour will be recorded twice, once before the clock is adjusted back and once after.
Retrieving recordings: Distinguishing Between Two Recorded Hours. Review the system log or watermark to differentiate between the two sets of footage from the repeated hour.
When using the Spotter application for playback, note that all time requests during the duplicated hour default to the second occurrence of that hour.
To retrieve footage from the first occurrence of the duplicated hour, you can:

- Start playback from the hour before the DST adjustment.
- Use backward playback starting from the hour after the DST change.

14.3 Best Practices for Handling DST Transitions in Mirasys VMS

To minimize confusion and ensure that the system behaves as expected during DST transitions, it is important to follow these best practices:

1. Notify all operators and users about the upcoming DST change and explain its impact on recorded footage, particularly the skipped hour during spring forward and the duplicated hour during fall back.
2. Ensure that all system components, including servers, cameras, and associated devices, are synchronized with an accurate time source to prevent time drift during the transition.
3. For time-stamped footage, prepare operators for potential confusion in these timestamps during and after the transition.
4. After the DST change, check the footage during the transition period. Ensure that recordings from before and after the time change are intact and accessible.
5. In the case of fall back, be aware that two sets of footage exist for the same hour. Ensure operators know how to differentiate between the two periods of recording.
6. For systems that trigger based on motion or alarms, review any events that occurred during the time change to ensure they were recorded properly.

15 System Monitoring

15.1 System Monitoring contains:

- Camera Audit
- Diagnostic
- Watchdog Event Search

15.2 Camera Audit

Camera health audit is a plugin that allows the operators to ascertain that every camera of the system works appropriately – plus that the cameras have not been turned/tampered/blocked.

15.2.1 The main report page provides information on the

1. Name of the camera
2. Footage start time
3. Footage end time
4. Footage Days/Hours
5. Current status of the camera

6. Image loss
7. Reference image
8. Current image
9. Audit status
10. Comments



15.2.2 Auditing the cameras

1. Select cameras by control- and shift-clicking
2. Click **Audit selected cameras**

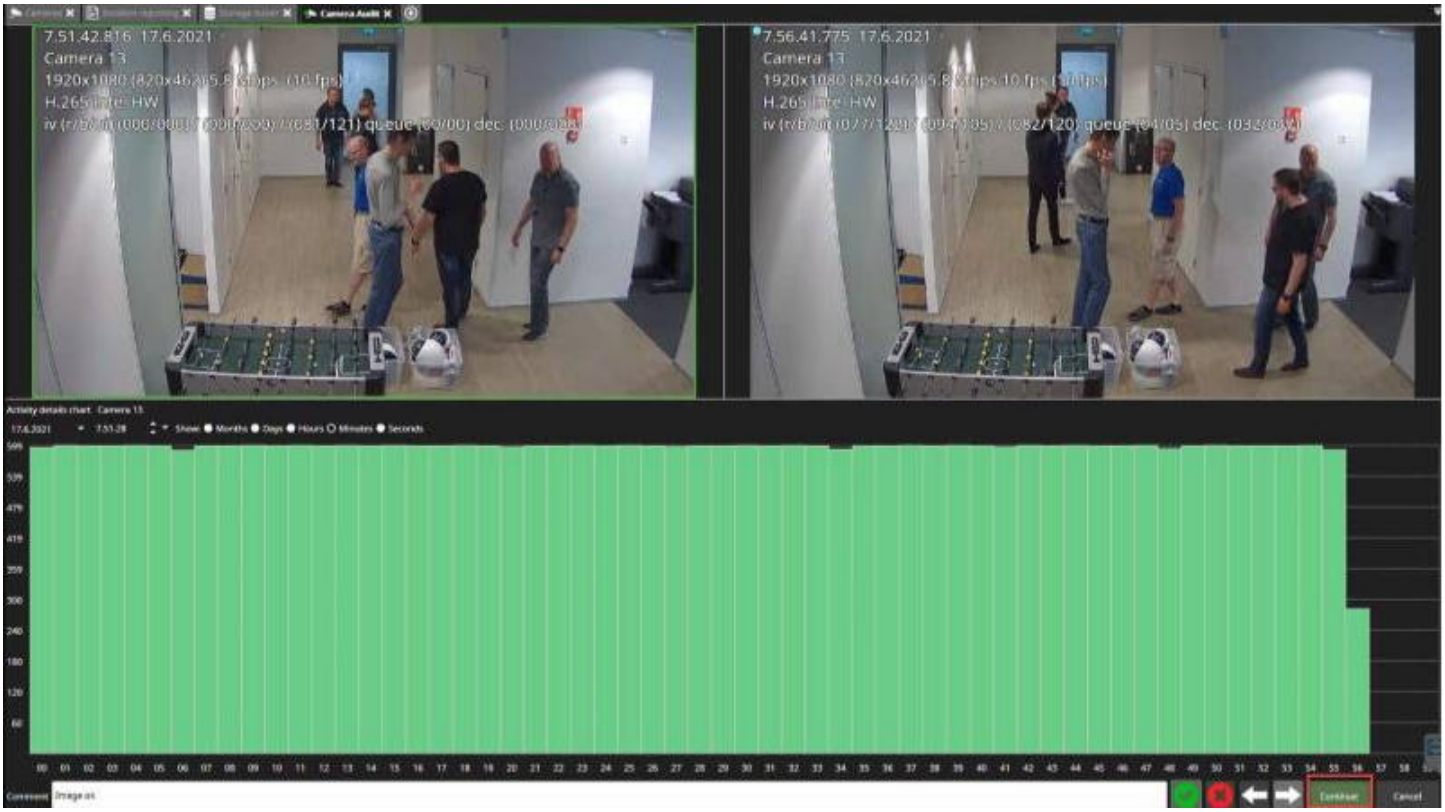


The camera audit view shows the following information:

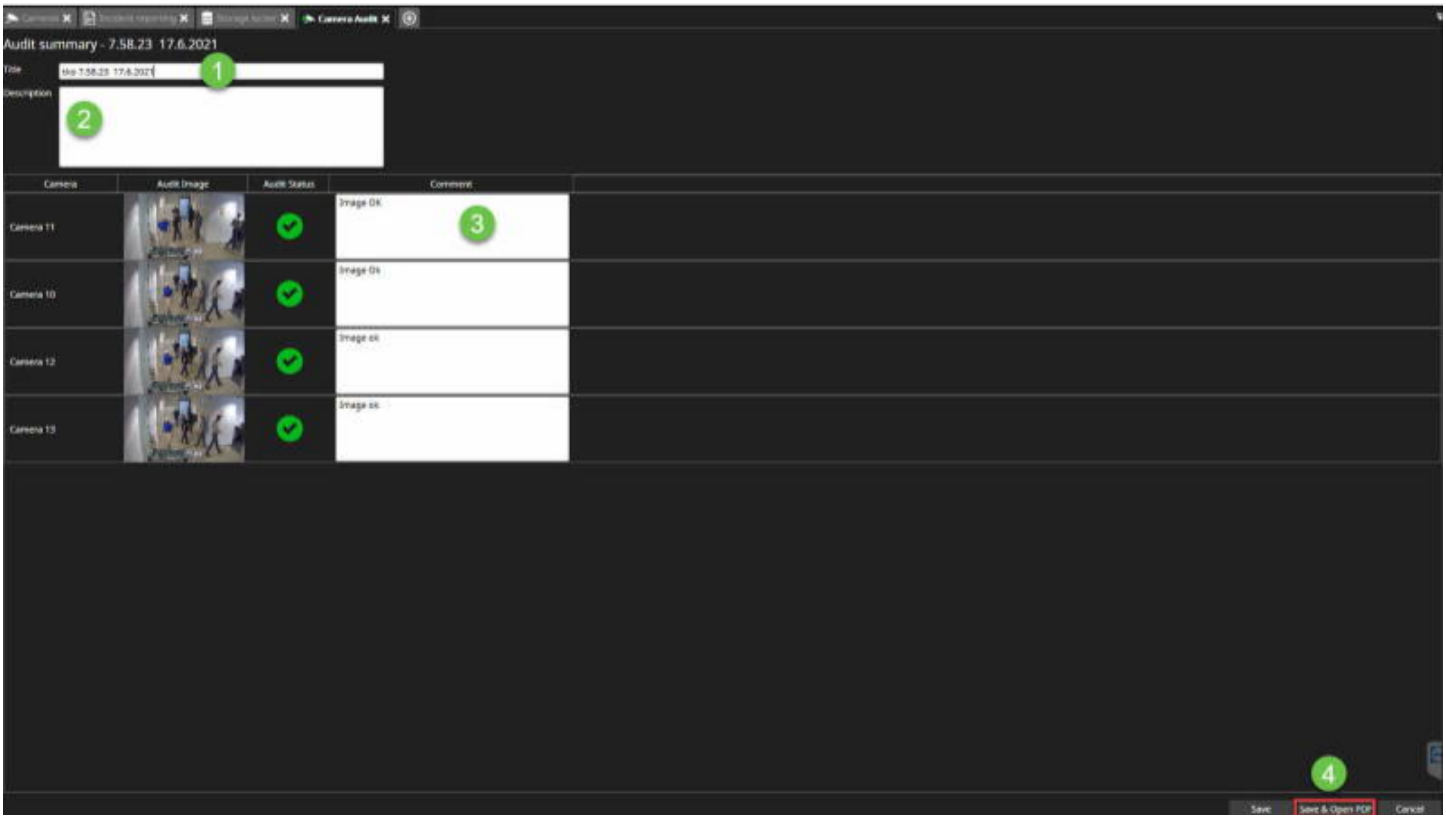
1. Playback view from the camera
2. Real-time view from the camera
3. Amount of the frames received from the camera
4. You can add a comment to the camera audit report
5. Click **Go to the next camera** continue



1. Repeat the actions with all cameras and click **Continue**



1. Enter the title of the camera audit
2. Type the description, if needed
3. Edit the comments, if needed
4. Click **Save & Open PDF**



From the PDF view, you can do the following actions:

1. See an overall view of the camera audit report
2. Add camera audit report to the daily log
3. Export camera audit



15.2.2.1 Add to the daily log

1. Click **Add to the daily log**
2. Set the name of the daily log
3. Select **Attach to new daily log or attach to an existing daily log**
4. Click **Save**



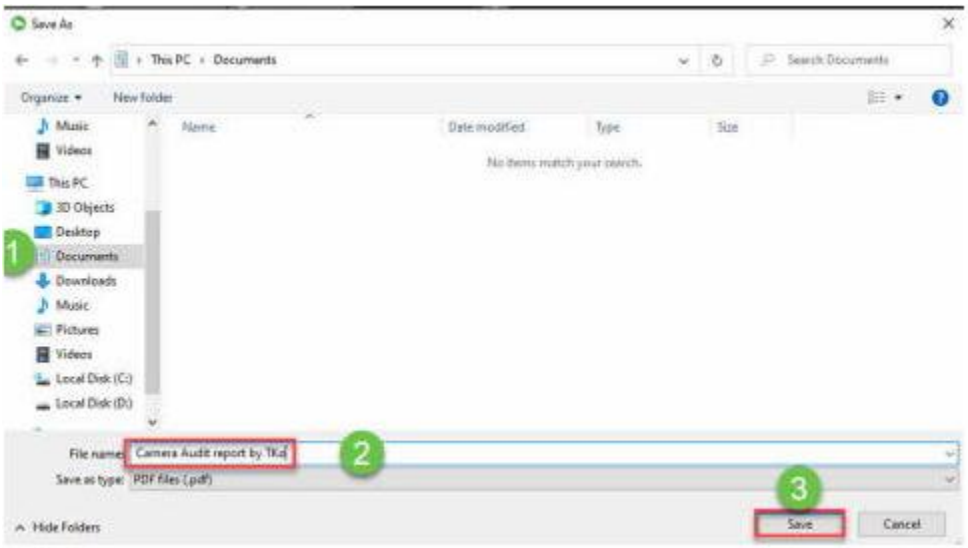
After the saving, you will see a message **Added to the daily log**



15.2.2.2 Exporting the camera audit report

Click Export

1. Select the location
2. Set name for the camera audit export
3. Click **Save**



15.2.3 Camera Audit signal loss time period

No signal information for cameras is displayed in the Spotter camera audit plugin. The time period for signal loss can be selected from the following options:

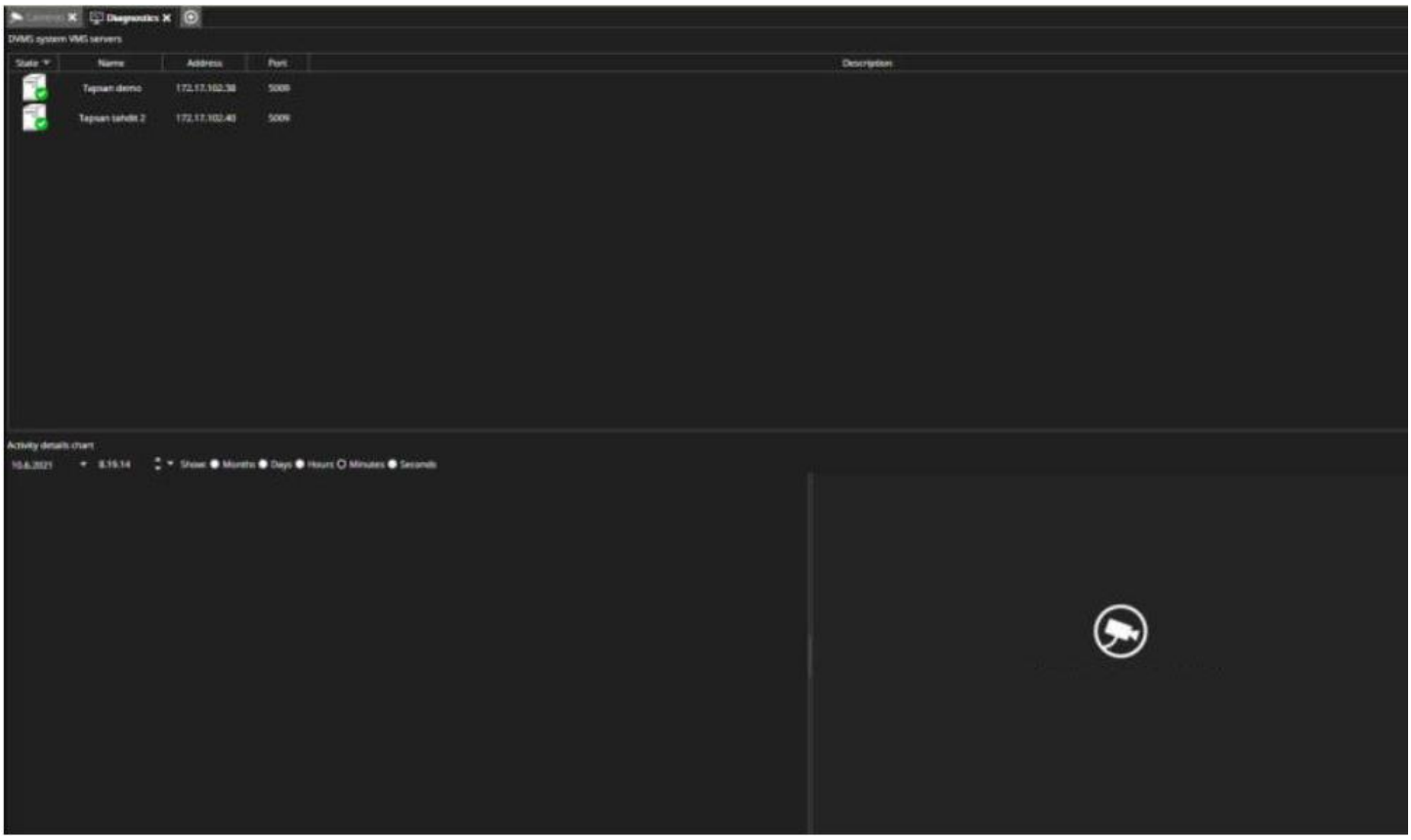
- 1 Day
- 7 Days
- 15 Days
- 30 Days
- 90 Days

Selecting a time period for showing camera signal loss:

1. Select **Plugins** from the Spotter title menu
2. Select **Camera Audit**
3. Select the time period from the dropdown menu

15.3 DIAGNOSTIC

Diagnostic shows the name, IP address and the status of the VMS servers, which are connected to the main server



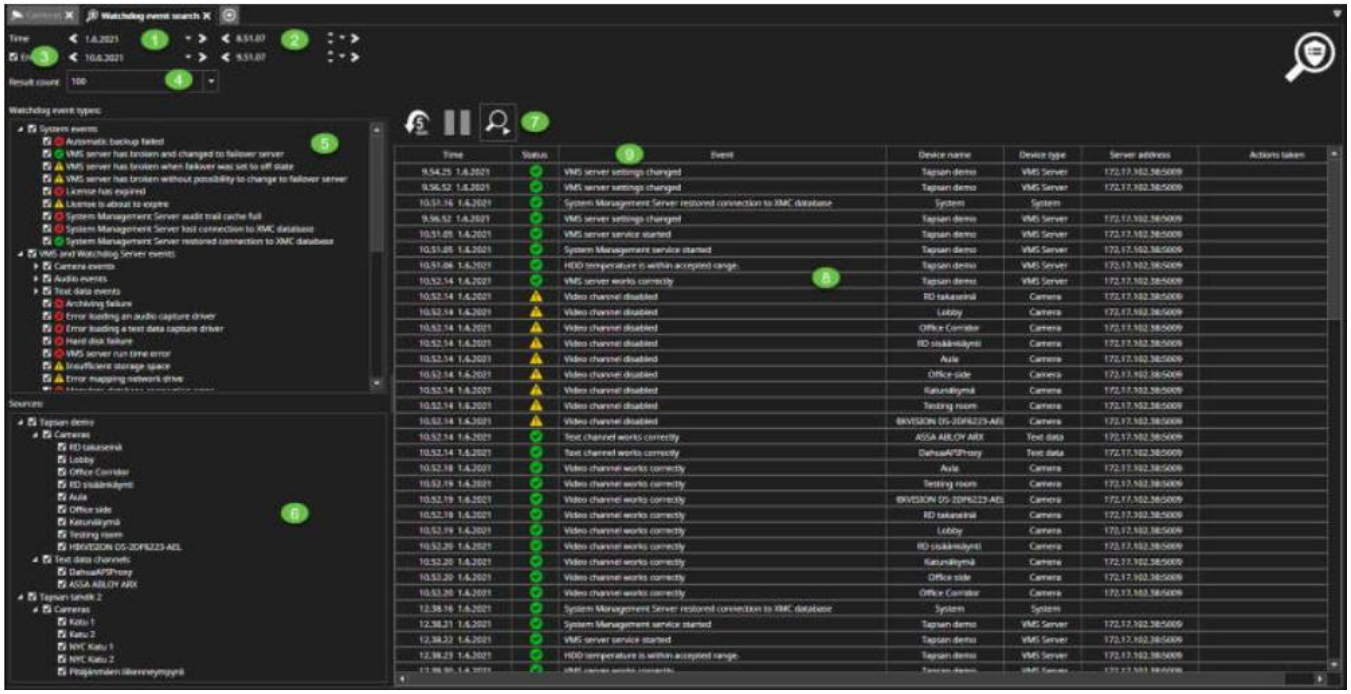
15.4 WATCHDOG EVENT SEARCH

1. Click **Search**
2. Select **Watchdog Event Search**



1. Select start date for the search
2. Select start time for the search
3. Set the search end time, if needed
4. Set the result count(Default 50)

5. Filter the Watchdog event types, if needed(Default all events are selected)
6. Filter the sources, if needed(Default all servers connected to the main server are enabled)
7. Start search
8. All Watchdog Events are shown in the list
9. The user can sort out the found event using header columns

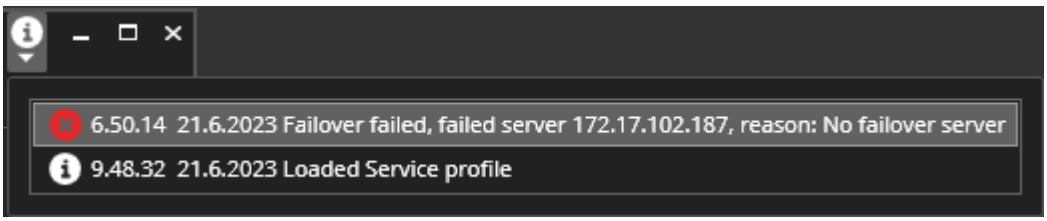


16 FAILOVER LOGS

16.1 FAILOVER LOG IN SPOTTER

To see failover events in Spotter, the user role for that must be enabled in System Manager Spotter user role settings. By default, failover events are not shown in Spotter.

When failover events are received in Spotter, the log is shown in the Notifications drop-down menu. The notifications icon blinks a few seconds every time a new notification is added.



Failover event is sent only once in cases:

- Recorder failure detected, but the recorder is already in the failover process.
- Recorder failure detected, but no failover recorders are free in the system.

The situation cleared when the failover for the recorder was done.

16.2 FAILOVER EVENTS

Failover events are categorized with severity. The severity of the information is shown with different icons.

16.2.1 Information - white info icon

- Failover in progress
- Failback in progress
- Material copy in progress
- Failover ready
- Failback ready
- Material copy ready

16.2.2 Warning - yellow warning icon

- Failover failed, reason: Skipped, failover already running

16.2.3 Error - red error icon

- Failover failed
- Failback failed
- Material copy failed

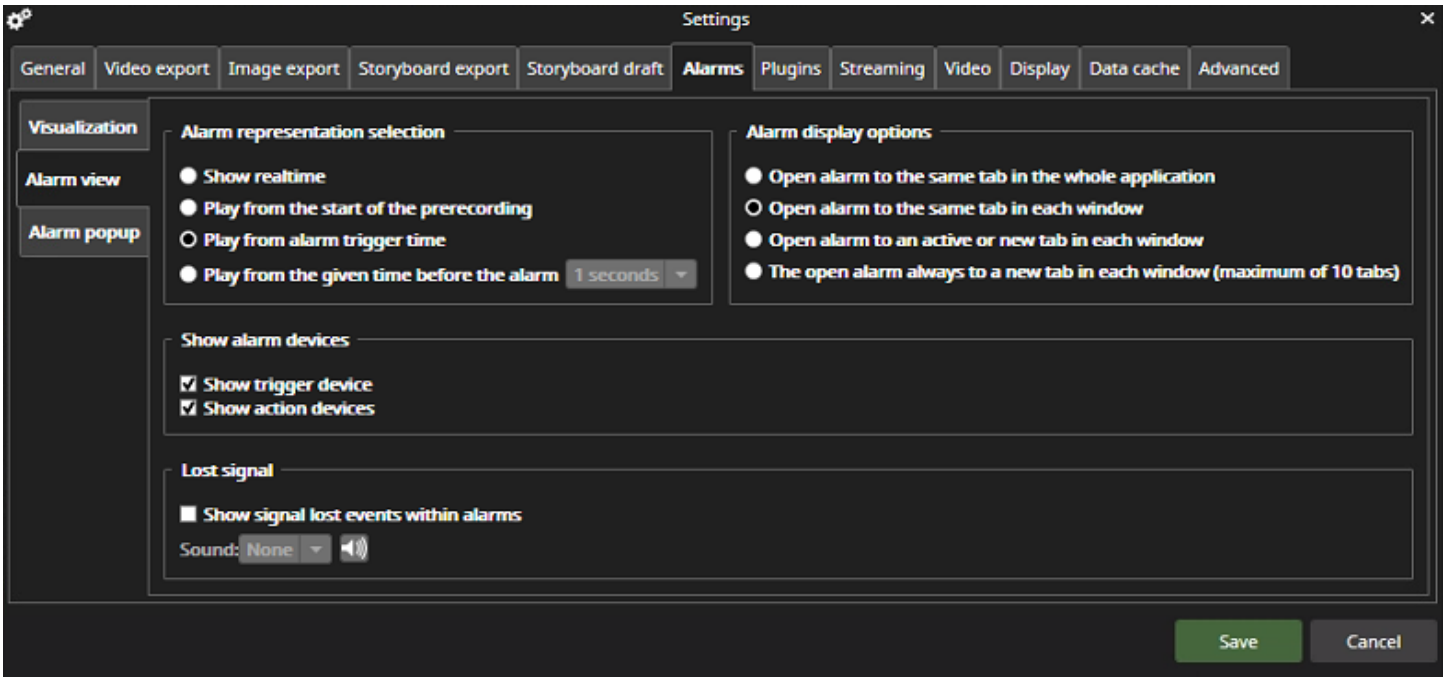
Errors are shown with detailed info part

- Failover server in the wrong state
- Incompatible
- Internal error

- Invalid log state
- No failover serve
- No failover server connection
- No license
- No recorder
- No recorder settings
- Operation canceled
- The server is in the wrong state
- Settings saving failed

17 PLUGINS

17.1 SPOTTER ALARM VIEW



17.1.1 Alarm representation selection

The Alarm representation selection defines what time the alarm is being played when it is opened from the alarm list. The possibilities are:

- Show real-time
- Play from the start of the alarm pre-recording time
- Play from alarm trigger time (default option)
- Play from the given time before the alarm(1- 60 seconds)

17.1.2 Alarm display options

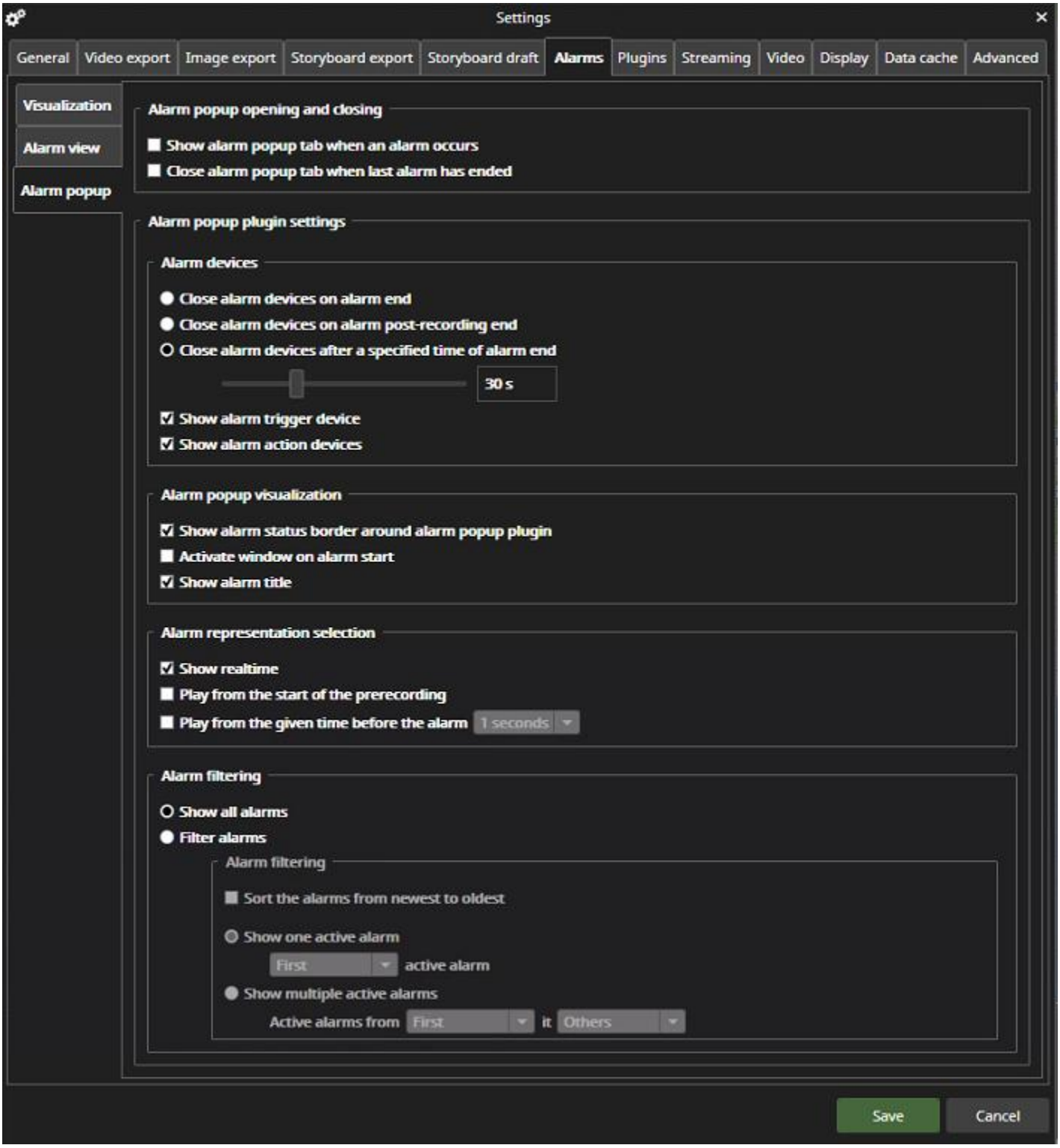
It is also possible to define how the alarm is opened. The possibilities are:

- Open alarm to the same tab in all whole application
- Open alarm to the same tab in each window
- Open alarm to an active or new tab in each window
- Open alarm always to a new tab in each window(maximum of 1 10 tabs)

17.1.3 Lost signal

- Show signal lost events within alarms

17.2 SPOTTER ALARM POPUP



Alarm pop-up settings define how the Alarm pop-up view opens and closes.

The default setting is that the Alarm pop-up is not opened and closes automatically if it is not open.

17.2.1 Alarm popup opening and closing

If the user wants the Alarm popup to not open normally and only when an alarm happens, he should select the first checkbox.

If the user wants the Alarm popup closed automatically after the last active alarm ends, he should check the second checkbox.

17.2.2 Alarm popup plugin settings

The second part of the Alarm popup settings defines how long the alarm components are displayed in the popup tab. The possibilities are:

- Alarm components are closed when the alarm ends (default option)
- Close alarm components on alarm post-recording end
- Close alarm components after a specified time of alarm ended(5 seconds – 30 minutes).
- Show alarm status border around alarm popup plugin
- Activate the window on the alarm start
- Show alarm title
- Show alarm trigger device
- Show alarm action devices

17.2.3 Alarm representation selection

- Show real-time (default)
- Play from the start of the prerecording
- Play from the given time before the alarm(1-60 seconds)

Playback streams and live streams can be selected to be viewed simultaneously in the alarm pop-up plugin by ticking the checkbox for Show real-time and one of the playback options under Alarm representation selection.

17.2.4 Alarm filtering

- Show all alarms
- Filter alarms
    - Sort the alarms from newest to oldest
    - Show one active alarm
    - Show multiple active alarms

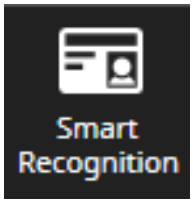
17.3 Smart Recognition

The Smart Recognition plugin is a Spotter plugin that shows Face Recognition (FR), License Plate Recognition (LPR), and Object Recognition (OR) events.

> Object, license plate and face recognition requires license for each recognition stream.

17.3.1 Open the plugin and view live detection events

1. Click the Spotter plugin toolbar item to open the plugin:



When you open the plugin, it displays all live events.

1. Select if you want to filter by LPR, FR, and OR under **Where**. This will determine which cameras are displayed for selection.
2. Select which cameras to use under **Where** to narrow down the events displayed.
3. Under **What / Who** the tabs for the select services and cameras will be enabled depending on the services and cameras selected under **Where**. All selections under these tabs will apply when applying the filter.
4. Click **Apply**.

For example, if you are selecting both OR and LPR services and cameras, the attributes selected for vehicles in the OR tab and the LPR tab will be applied when filtering out the events when you click **Apply**. The FR tab will be disabled.

17.3.2 What / Who Filtering

Different filters can be searched for by typing in the text field of the list box, narrowing down the selectable options to results matching the search.

17.3.2.1 Faces

Filter recognition events based on **Identity**, and **List** (the identity list information that the matched identity belongs to, if applicable).

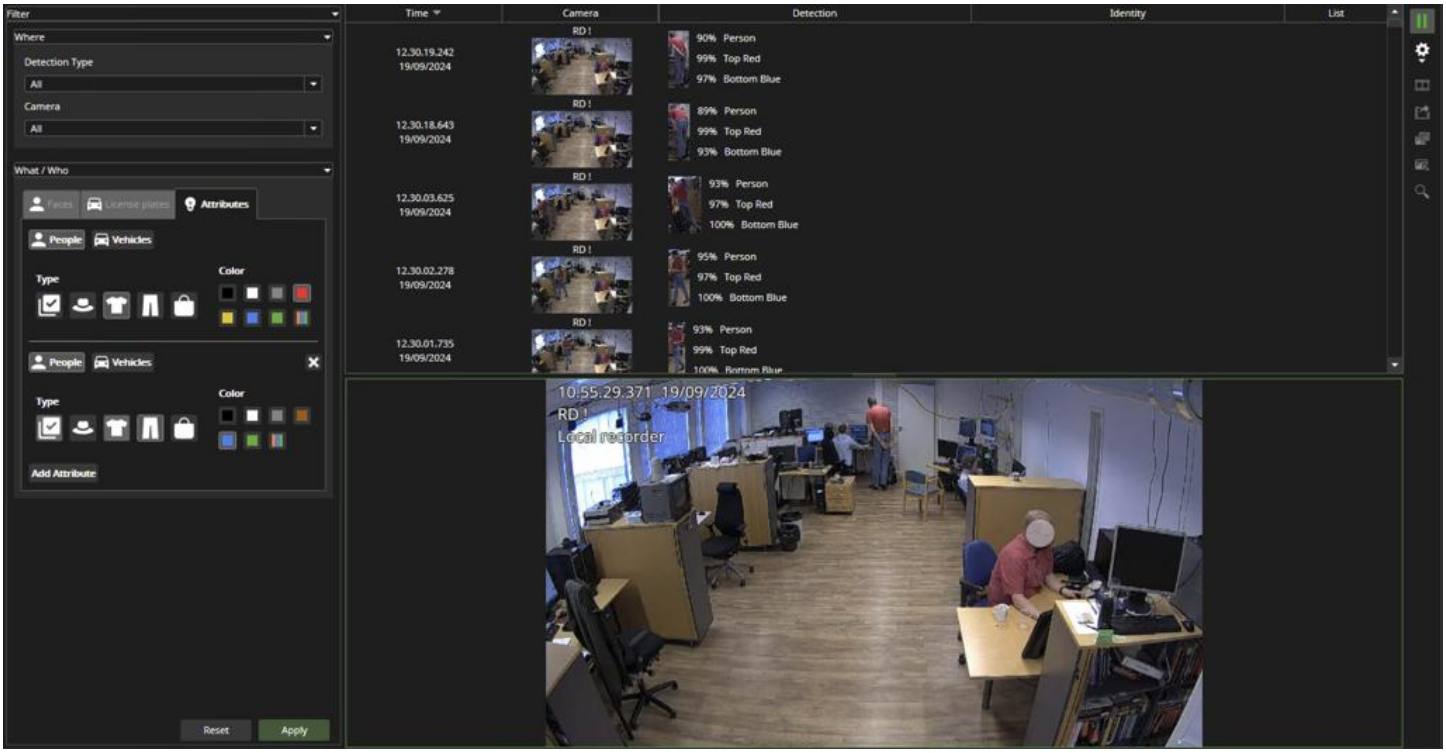
> The face recognition event shown in the Smart Recognition event list displays both the matched identity default image and the matching face image. If the matched identity image is different than the default identity image, the best-matched identity image and the default identity image are shown.

17.3.2.2 License plates

Filter recognition events based on **Identity**, and **List** (the identity list information that the matched identity belongs to, if applicable).

17.3.2.3 Attributes - People

Select the attributes for object recognition to find people based on upper or lower body wear color and whether they are wearing headwear or carrying a bag. To add filtering attributes, click **Add attribute**. You can, for example, filter out live events to find a person with a white top, blue trousers, wearing a hat, and carrying a bag by adding attributes.



You can select from 4 types of clothing/accessories:

- Hat
- Top
- Bottom
- Bag

For the **Top** attribute, you can select the following colors:

- Black
- White
- Gray
- Red
- Yellow
- Blue
- Green
- Other*

For the **Bottom** attribute, you can select the following colors:

- Black
- White
- Gray
- Blue
- Brown
- Green
- Other*

**Other corresponds to colors that are not on the list, any patterns in clothing or colors that can be tricky to fit into one of the categories.*

It is not possible to specify the color of headwear or bag.

17.3.2.4 Attributes - Vehicles

Filter events to see vehicles based on type and colors using our Smart Search. When you select Attributes followed by Vehicles, you can select from 6 vehicle types for detection:

- Car
- Bus
- Van
- Truck
- Motorcycle
- Bicycle

For every attribute, **except** motorcycle and bicycle, you can also select colors to search for:

- Black
- White
- Gray
- Blue

- Green
- Red
- Orange
- Yellow
- Brown
- Other*

**Other corresponds to colors not on the list and vehicles with multiple colors or patterns can also be found under others.*

17.3.3 Reset filters

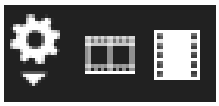
If you want to reset the filtering, click **Reset**.

17.3.4 Customizable UI

To allow more space for the list viewing, it is possible to click the arrow at the top-right corner of the filtering criteria. The space occupied by the video, and the list can also be adjusted by clicking and dragging.

17.3.5 Export

The selected event can be added to the storyboard or to clip export. Recognition event pre and post-record time can be adjusted from the drop-down settings button.



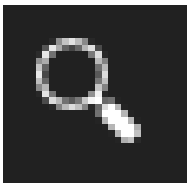
17.3.6 Add face or license plate to identity

A recognized license plate or face can be added to a new identity or existing identity. These functionalities are only possible if the user is authorized to change the identity information. By clicking the add new identity or add to existing identity buttons, the Smart List Management plugin is opened. See more information in the Smart List Management plugin documentation.



17.3.7 Quick search

Recognized license plates or faces can be searched by using the Smart Search plugin. In the Smart Recognition plugin, there is a quick search button that opens the Smart Search plugin. The recognized license plate or face information from selected recognition events is filled up automatically to easily perform a search for recognized faces and license plates.

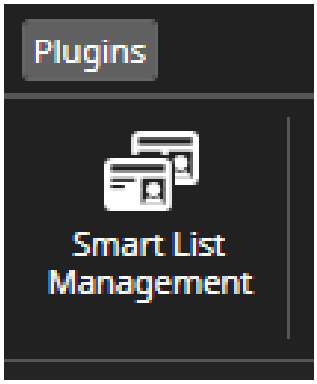


17.4 Smart List Management

The Smart List Management plugin can be used to define the identities and identity lists on the Spotter side for users with permission to do list management changes but cannot access the System Manager application.

17.4.1 Open the plugin and access the list management

Click the Spotter plugin toolbar item to open the plugin:



If a list management service is available and contains identities only (no identity lists are configured) and the user has permission to access identities, you will see the main plugin view dialog below:

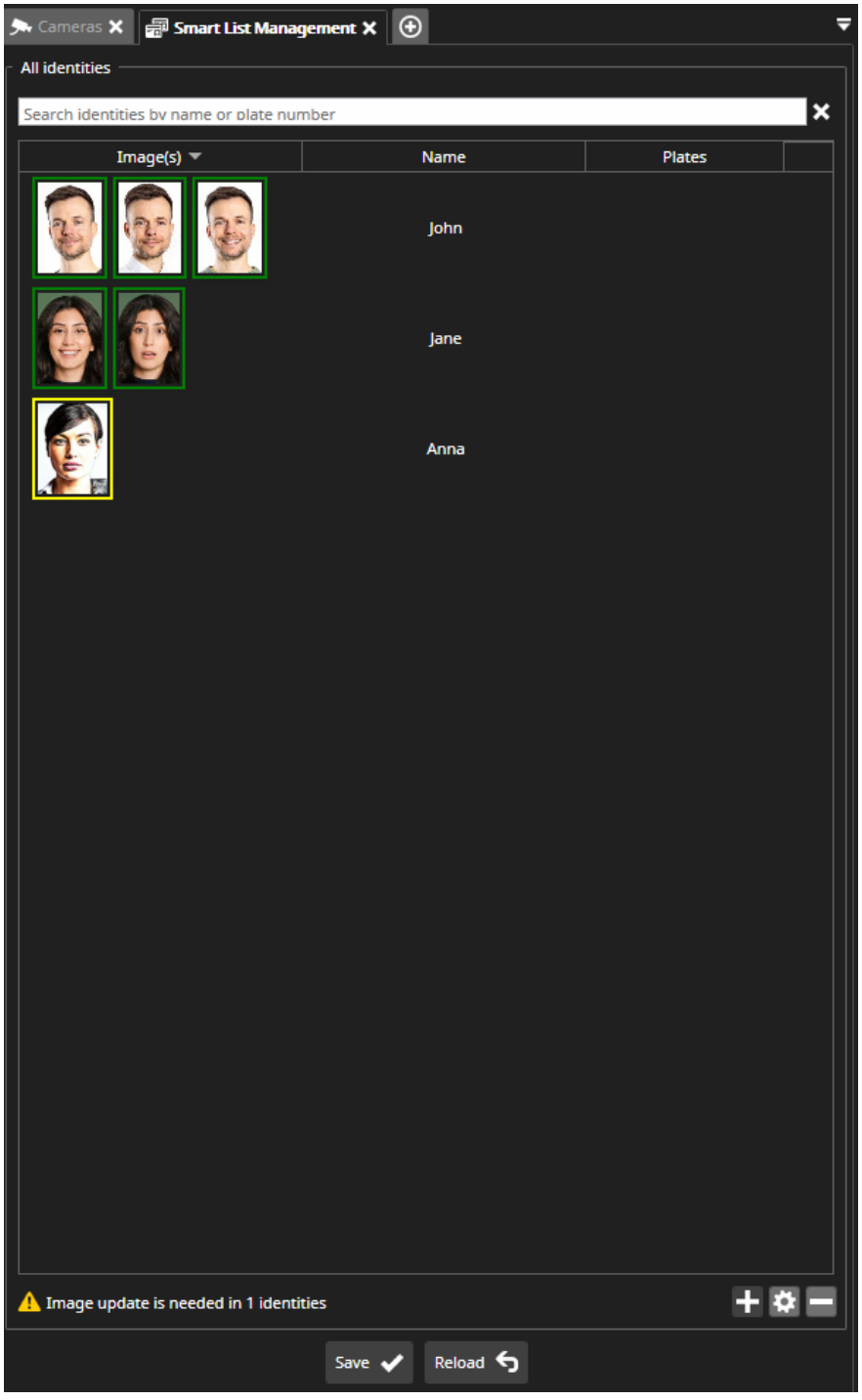


Figure 8 The main view of the plugin (identities)

If a list management service is available and contains identity lists and you have permission to access them, you will see the main plugin view dialog below:

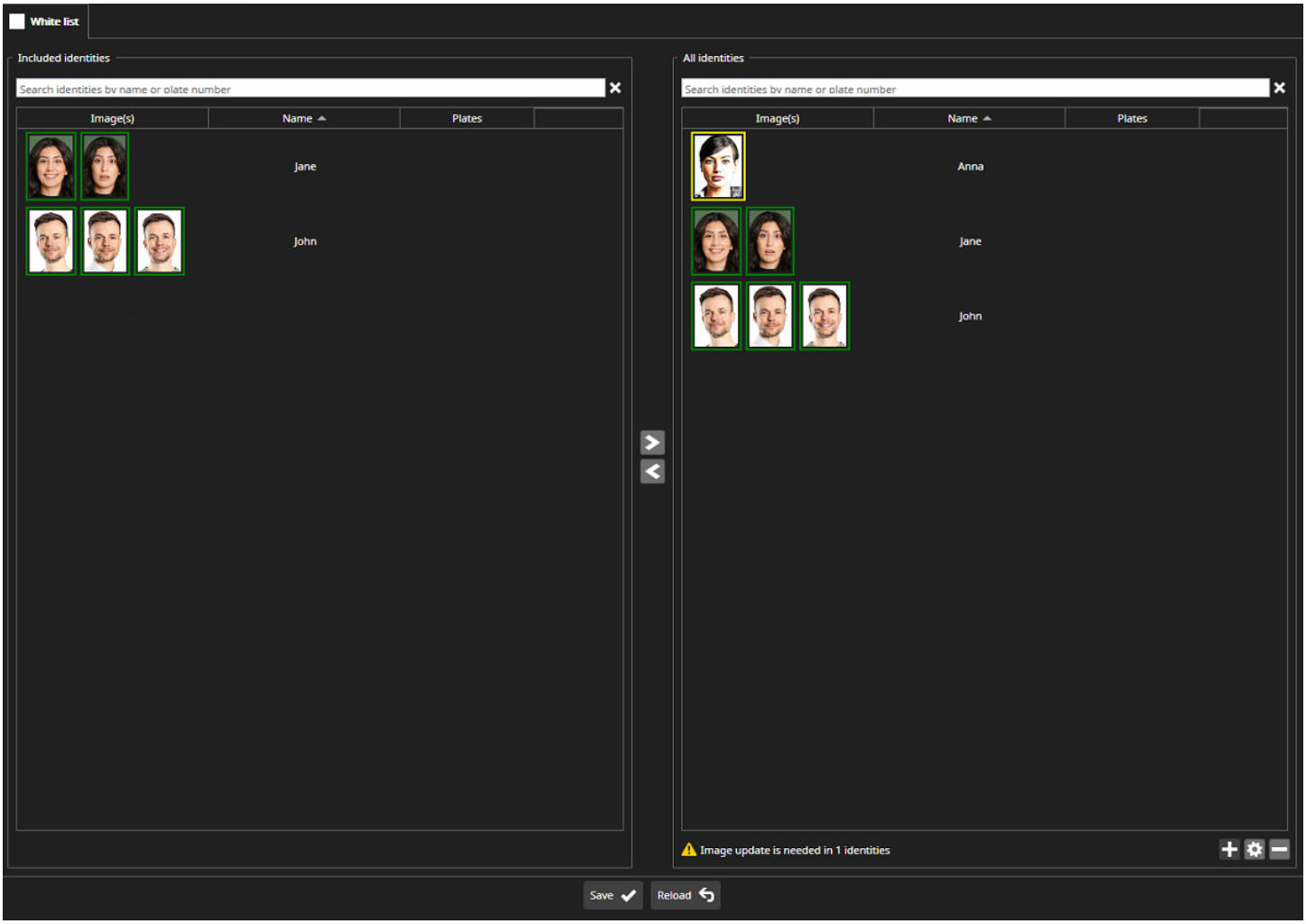


Figure 9 The main view of the plugin (lists)

17.4.2 Main plugin view

In the main view of the plugin, you can switch between lists, add identities to the selected list or remove identities from the list, and add and remove identities. In addition, you can modify the selected identity by double-clicking on it or using the “Modify identity“ button.

17.4.2.1 Search

Above the lists of identities, you can find the **Search** fields: when you type text in the search field, the list of identities is automatically filtered if the text is found in identity names or plates.

17.4.3 Add a new identity or modify a selected identity

In Spotter Smart plugins (Smart Recognition and Smart Search), you can add a new identity or add a new face or plate number to an existing identity by selecting a face or license plate detection event.

- By clicking the **Add Identity** button, the Smart List Management plugin will be opened, and in the "Add Identity" view, you can fill the information and save a new identity
- By clicking the **Add face image or plate number to an existing identity** button, the Smart List Management plugin will be opened, and in the Identity Selection view and you can select which identity should be updated.

After selection, you can click the **Add** button (or double-click the selected identity), and the Modify Identity view will be opened.

Adding the face or plate number is only possible if the user is authorized to change the identity information.

When you add a new identity or modify a selected identity, it will be opened in the Add/Modify view below:

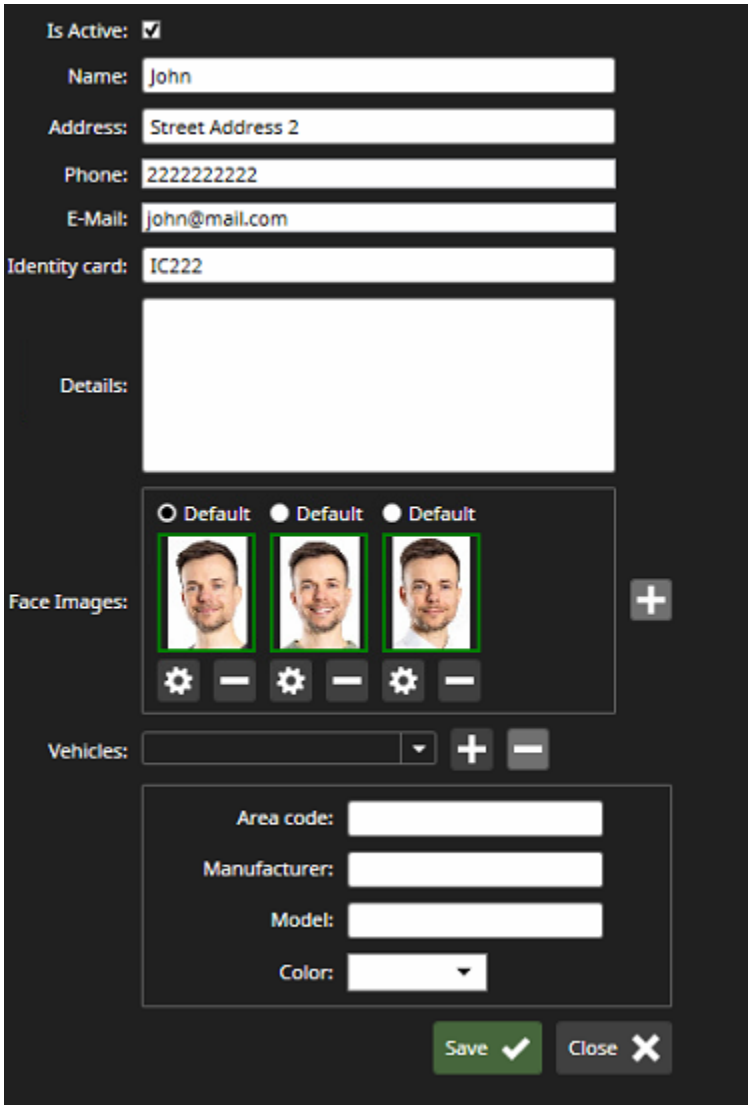


Figure 10 View to add/modify the identity

Here you can fill in identity details, add/remove face images and add/remove vehicles.

One face image is the default, so it is used as a thumbnail in all plugins and identity lists. An identity image can be set as the default image by clicking the radio button for **Default** above the image:

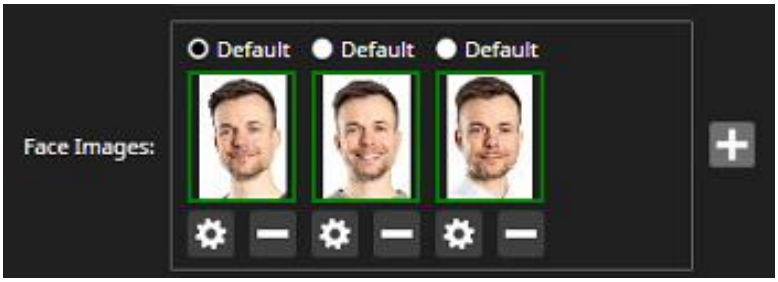


Figure 11 Set selected face image as default

17.4.3.1 Service error/no identity lists

If something is wrong with the service or there are no identity lists, then you will see an empty dialog with the message below:

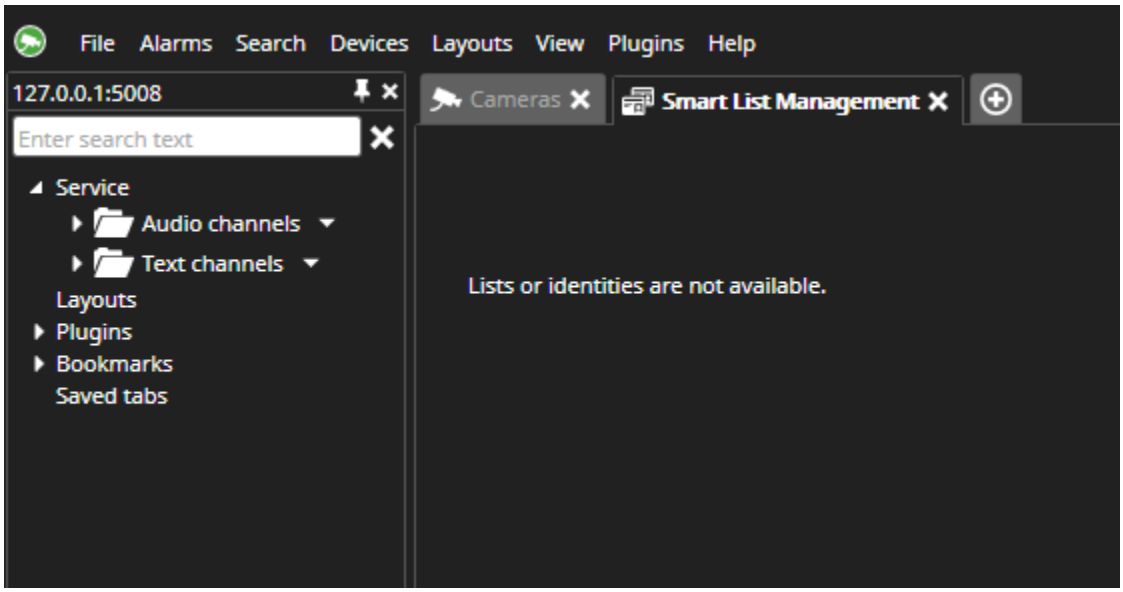


Figure 12 List management data is not available message

17.4.3.2 Save and reload

There are two buttons in the bottom part of the main view: **Save** and **Reload**. you can reload all data from the list management service by clicking the **Reload** button. In this case, all data (identities and lists) will be reloaded from the service, and all changes will not be saved. You should click **Save** to save the changes, and all data will be stored in the list management service.

17.4.3.3 Automatic data reloading

If the plugin receives a notification that list management data was changed by another user/application, then all data will be reloaded automatically, and you will receive the message below:

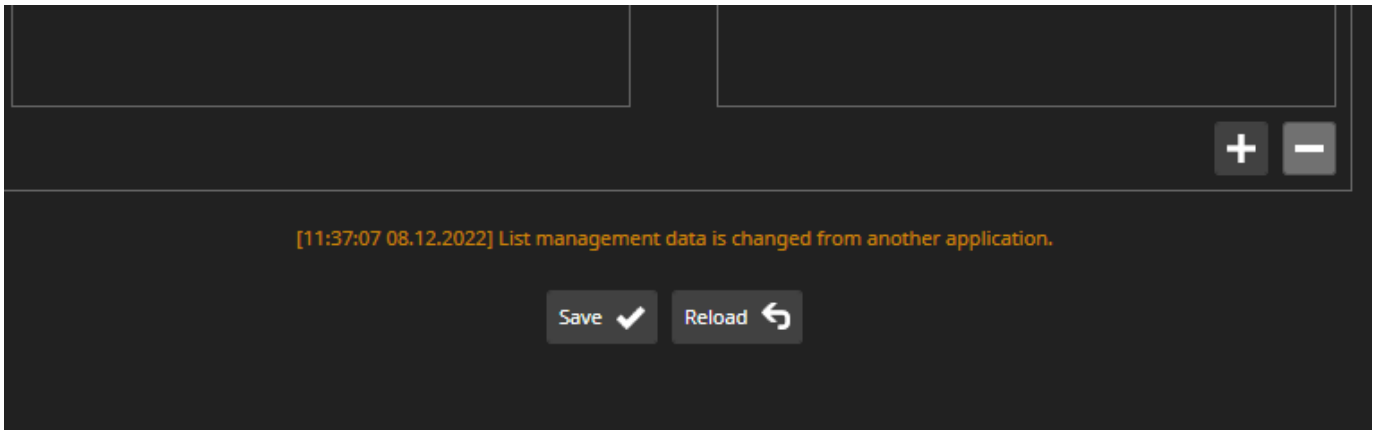
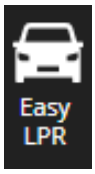


Figure 13 List management data is reloaded message

All views will be closed, and the main view will be displayed after reloading. If you had some unsaved changes, then after reloading, all these changes will be lost.

17.5 SPOTTER EASY LPR

Easy LPR Spotter plugin can be opened from Plugins:

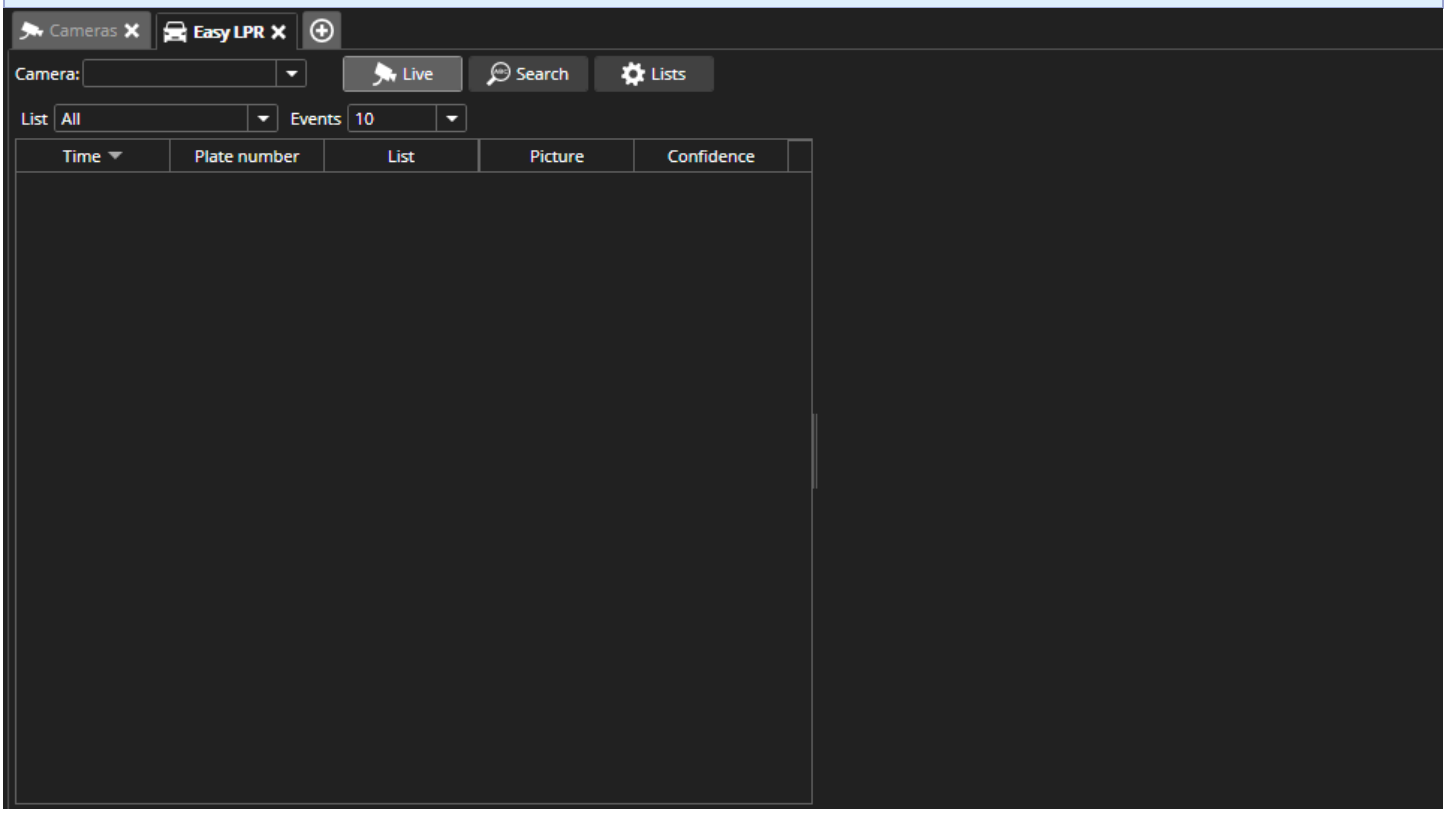


17.5.1 Main features

- Live monitoring from one camera at the same time
- Plate number search from one camera at the same time
- Plate number list Management
    - Black list
    - White list
- Importing and exporting plate number lists
- Uploading plate number list to the cameras
- Digital output controlling based on:

- Other plate detected
- Black list plate detected
- White list plate detected

Check supported cameras from [Supported IP Camera List.]



By default, the Easy LPR functionality is related to LPR camera-generated events. Events are saved into the VMS server database, which is used to search events in Spotter's EasyLPR plugin.

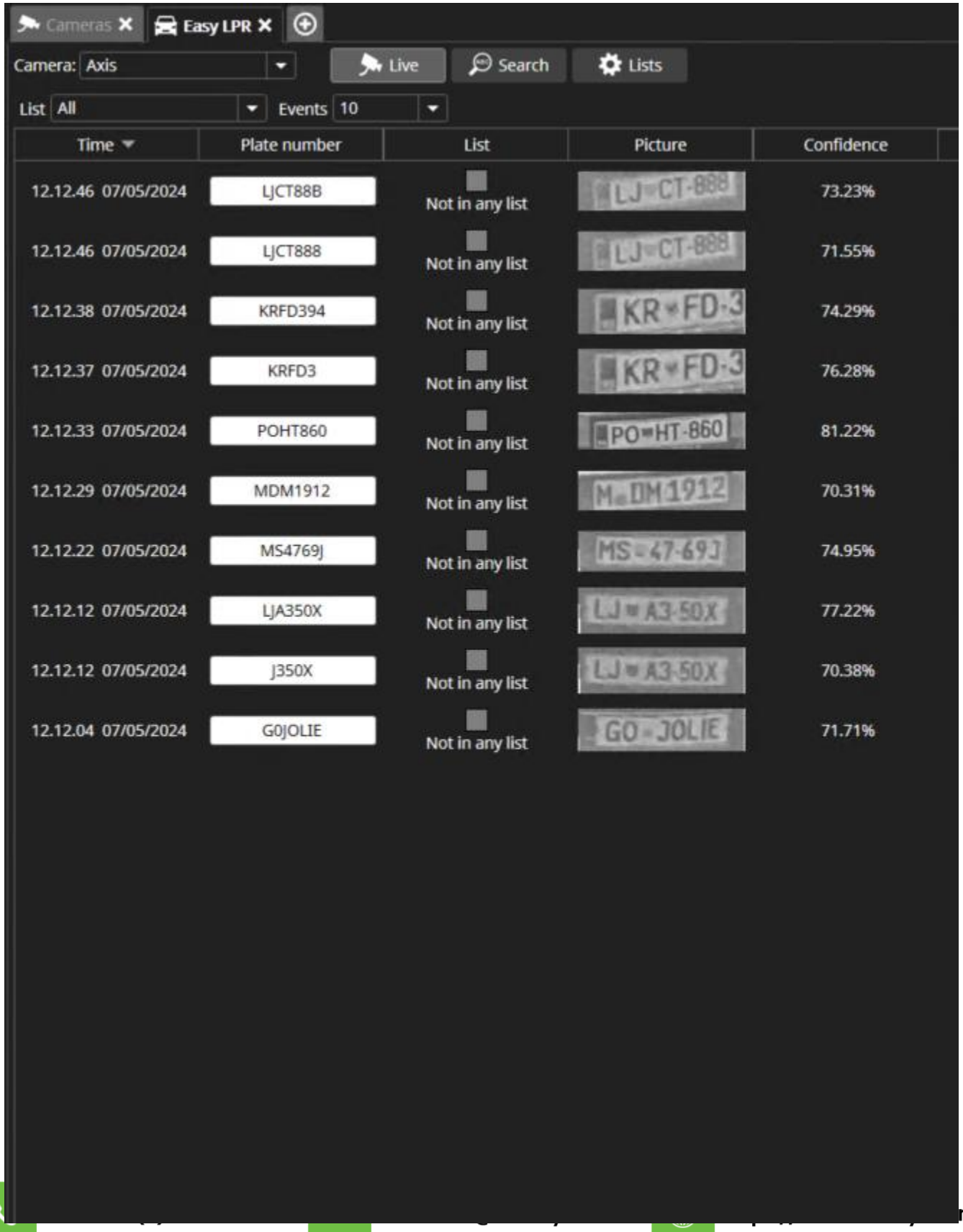
As an alternative, LPR camera-generated events can be used in the Smart LPR plugin and Smart List Management.

17.5.2 How to use Easy LPR

Easy LPR contains the following functionalities:

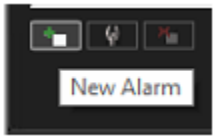
- Live monitoring from 1 camera at the same time
- The search of the number plates
- Lists Management
- Digital output controlling based on lists

MIRASYS


Cameras
Easy LPR
Camera: Axis
Live
Search
Lists
List All
Events 10
Time
Plate number
List
Picture
Confidence
12.12.46 07/05/2024 LJCT88B Not in any list 73.23%
12.12.46 07/05/2024 LJCT888 Not in any list 71.55%
12.12.38 07/05/2024 KRFD394 Not in any list 74.29%
12.12.37 07/05/2024 KRFD3 Not in any list 76.28%
12.12.33 07/05/2024 POHT860 Not in any list 81.22%
12.12.29 07/05/2024 MDM1912 Not in any list 70.31%
12.12.22 07/05/2024 MS4769J Not in any list 74.95%
12.12.12 07/05/2024 LJA350X Not in any list 77.22%
12.12.12 07/05/2024 J350X Not in any list 70.38%
12.12.04 07/05/2024 G0JOLIE Not in any list 71.71%

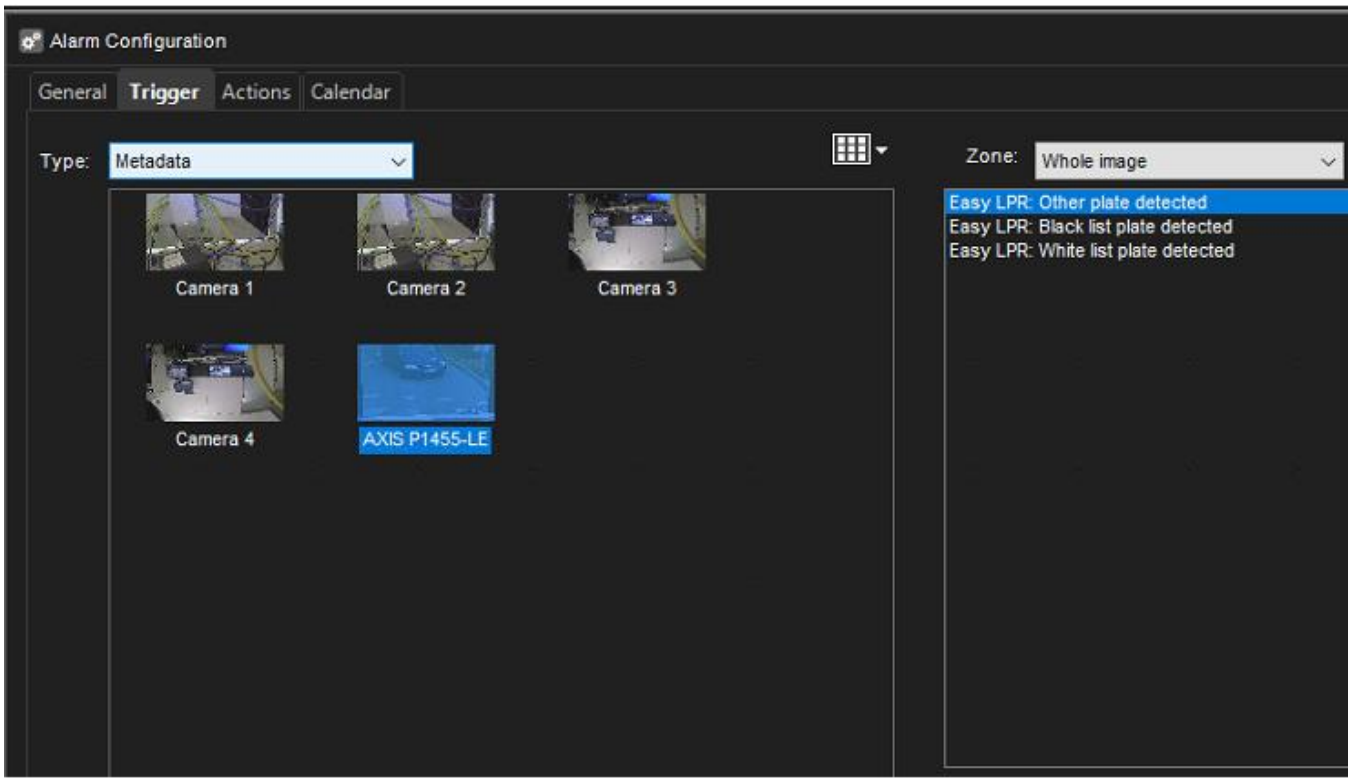
17.5.2.1 Creating an alarm from an Easy LPR event

1. Go to the **VMS Servers** tab
2. Open **Alarms**
3. Click **New Alarm**



1. Enter all needed information in the **General** tab
1. Open **Trigger** tab
1. Select trigger type **Metadata**
1. Select LPR camera
1. Select correct event:

- **Easy LPR: Other plate detected**
- **Easy LPR: Black list plate detected**
- **Easy LPR: White list plate detected**

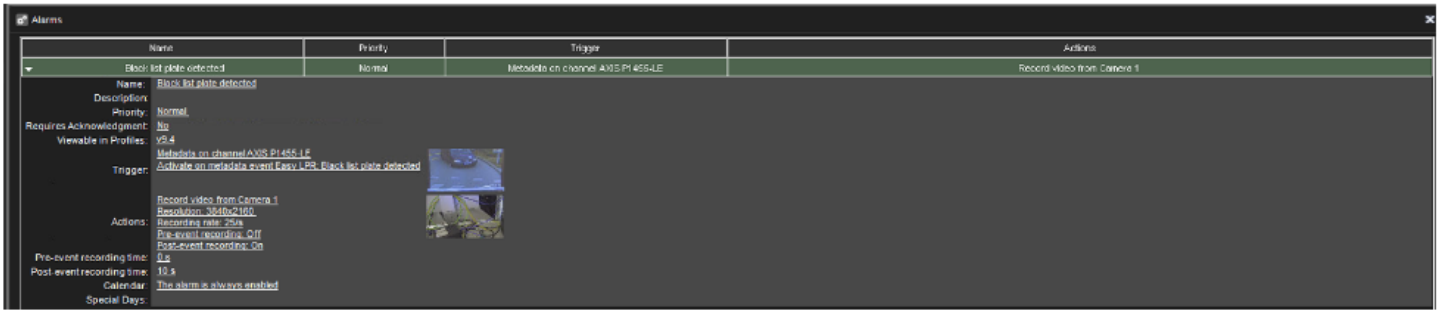


1. Enter the actions of the alarms

10. Set calendar

11. Check overall view of the alarm

12. Click **OK** to confirm an alarm creation



17.5.2.2 Spotter Easy LPR Live

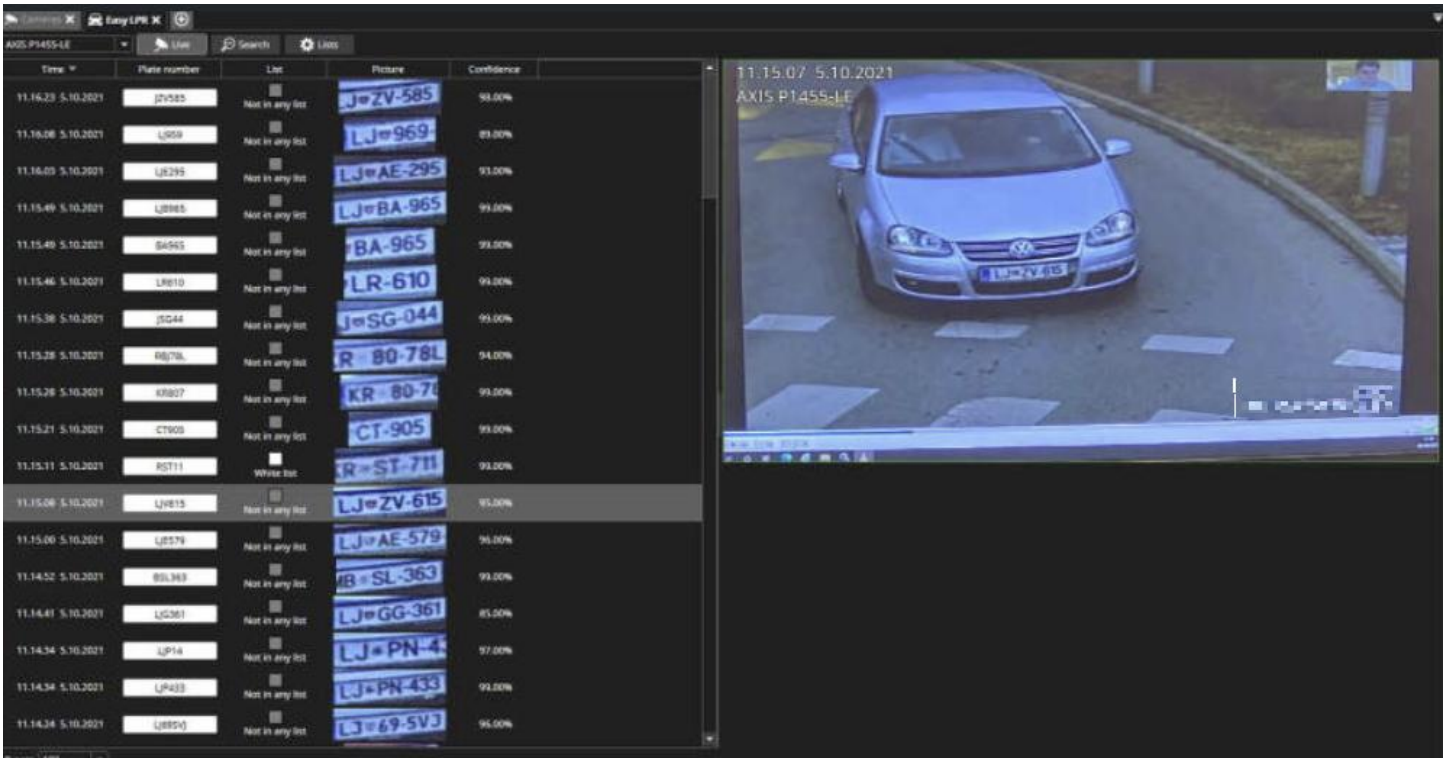
The live tab shows the following information:

1. The selection of the LPR camera

2. Time of the plate detection
3. Plate number
4. Plate list
5. Picture of the plate number
6. Confidence of the plate reading
7. Live view from the LPR camera



When the plate information is clicked by the mouse, then the view changes to the playback mode and show the recorded situation.



17.5.2.2.1 Filtering the Live view (supported since V9.5.0)

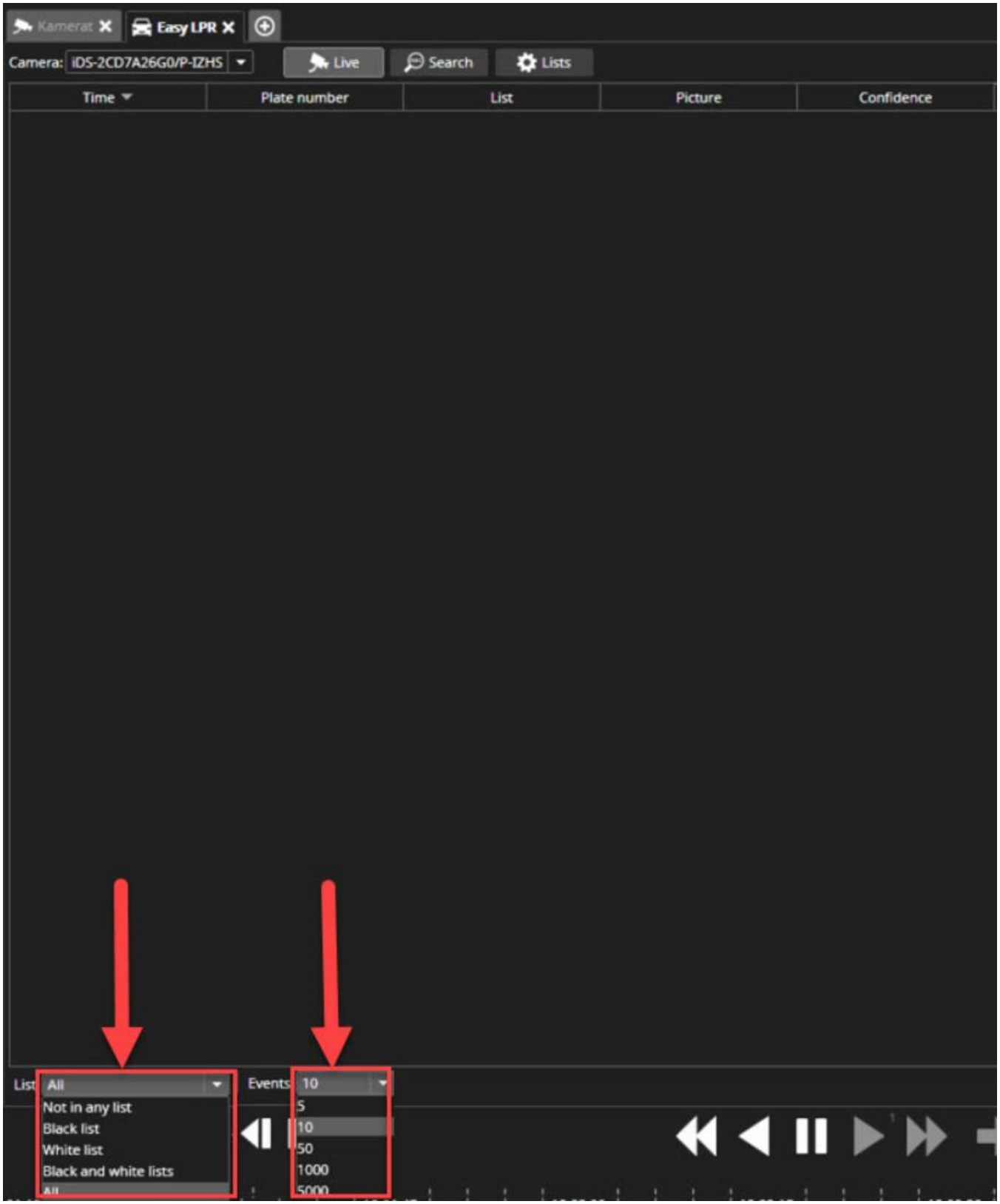
The user can which list are shown in the Live view. Options are:

- All
- Not in any list
- Black list
- White list
- Black list and White list

The user can set the amount of the result in the Live view. Options are:

- 5, 10, 50, 1000 and 5000

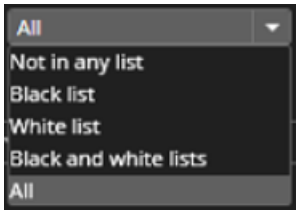
MIRASYS



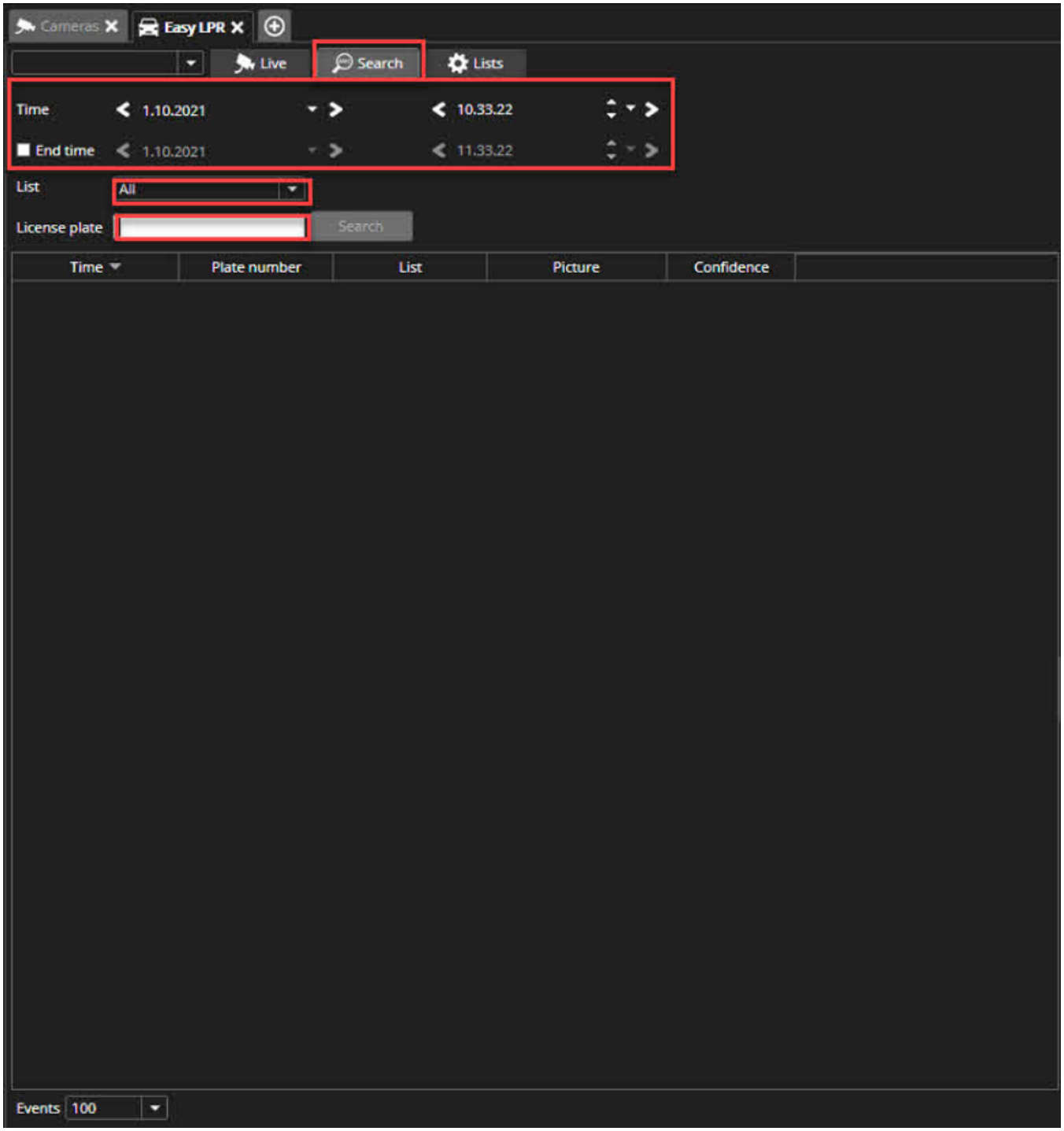
Tel +358 (0)9 2533 3300 Email info@mirasys.com https://www.mirasys.com

17.5.2.3 Searching License plates

1. Open **Search** tab
2. Select LPR camera from the upper left corner
3. Select time and date
4. Enter **End time**, if needed
5. Select list for the search
    a. All
    b. Not in any list
    c. Black list
    d. White list
    e. Black and white list



6. Enter license plate(partial information is also accepted)
7. Click **Search**



Search will show all results. The user can playback selected time and use all normal playback functions.



17.5.2.4 Spotter Easy LPR Lists

17.5.2.4.1 With the Easy LPR Lists Management, the users can do the following actions:

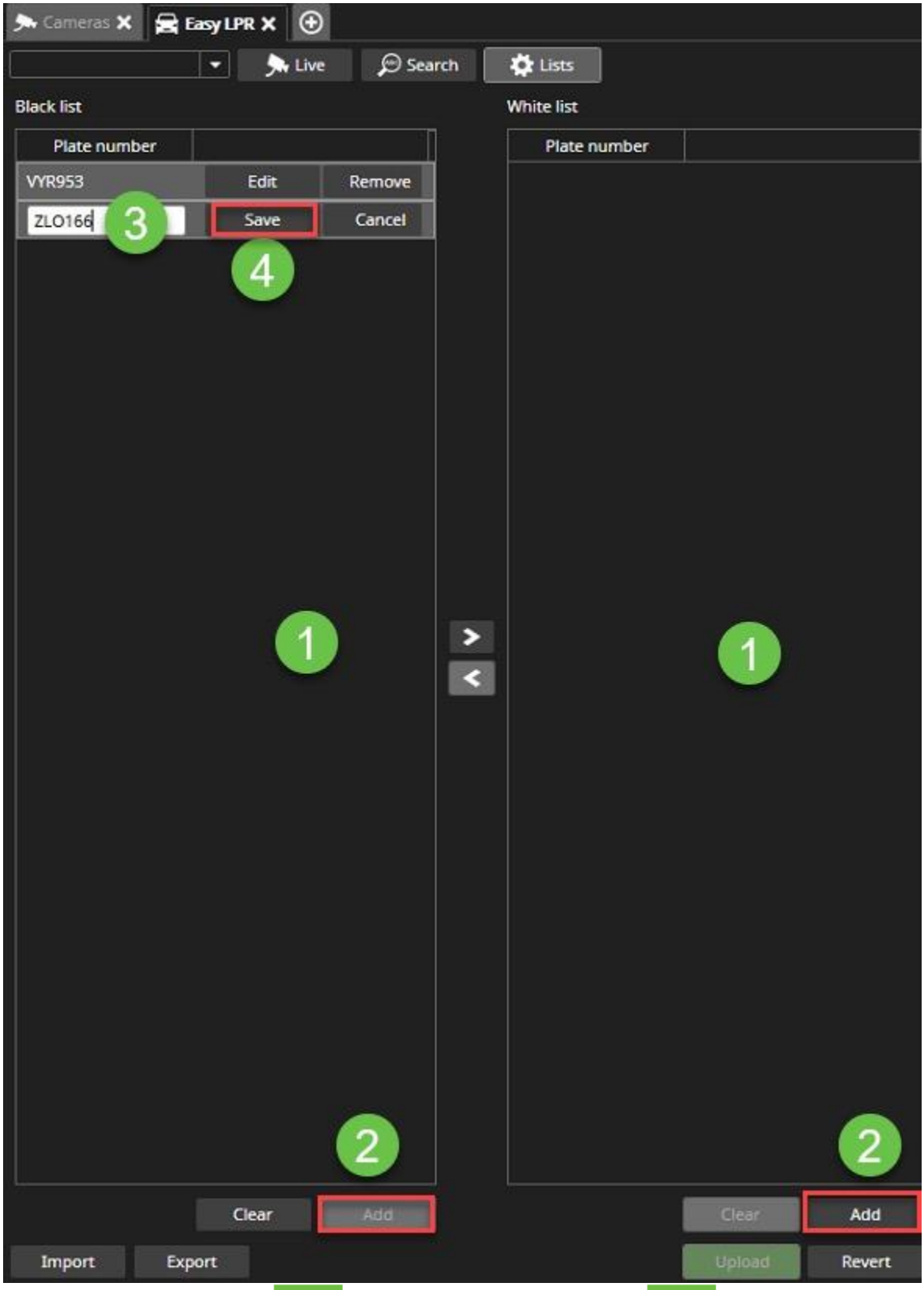
- Add plate number
- Edit plate numbers
- Move plate numbers between the lists
- Export plate numbers from the Spotter to the PC(CSV)
- Import edited plate number lists to the Spotter
- Upload lists from the Spotter to the LPR cameras

Please remember to upload lists to the cameras after any change.

17.5.2.4.2 Adding plate number to Lists

1. Select the **Black list** or **White list**
2. Click **Add**
3. Type the plate number
4. Click **Save**

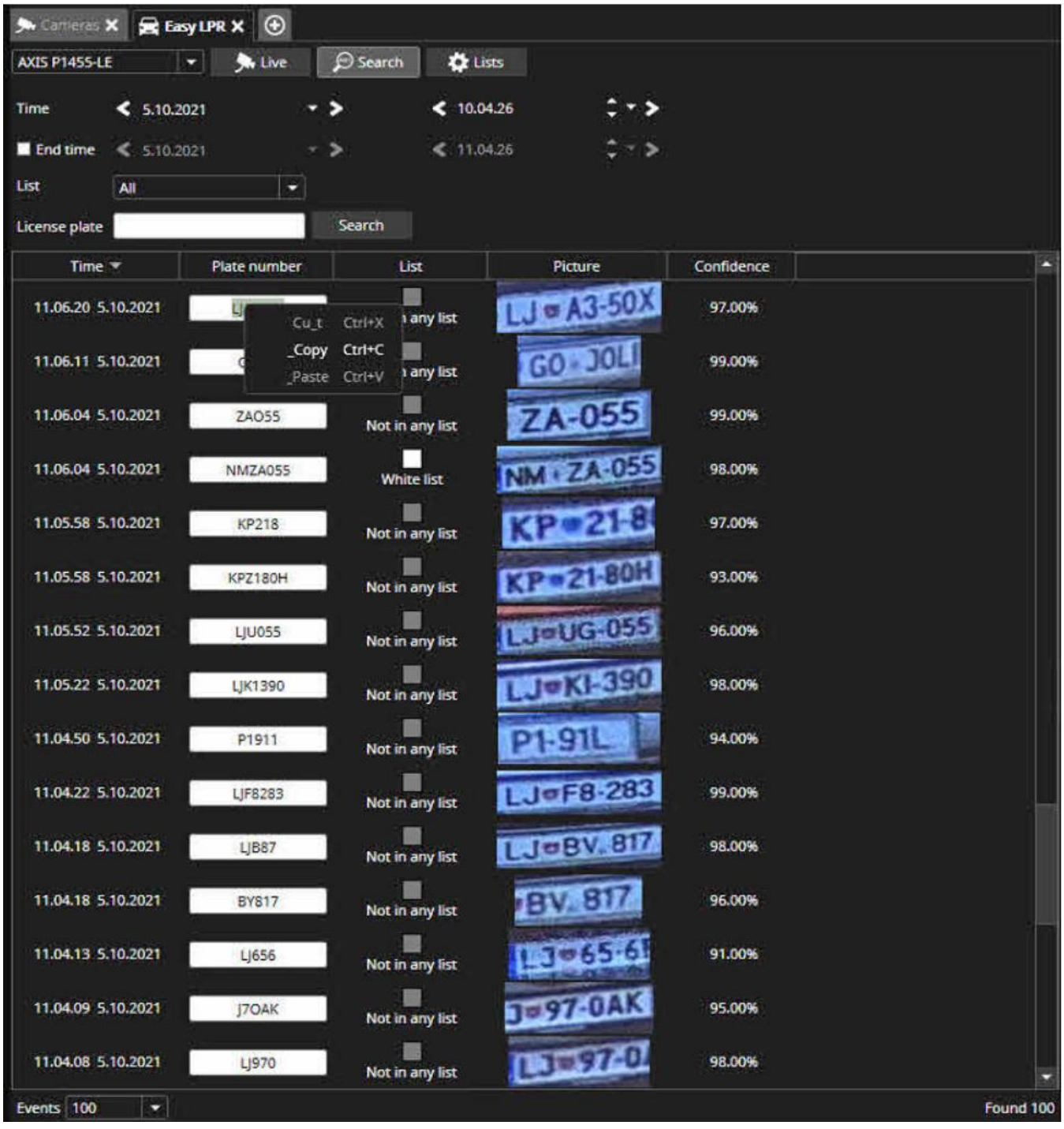
MIRASYS



Tel +358 (0)9 2533 3300
Email info@mirasys.com
https://www.mirasys.com

17.5.2.4.2.1 Adding plate number from the search view

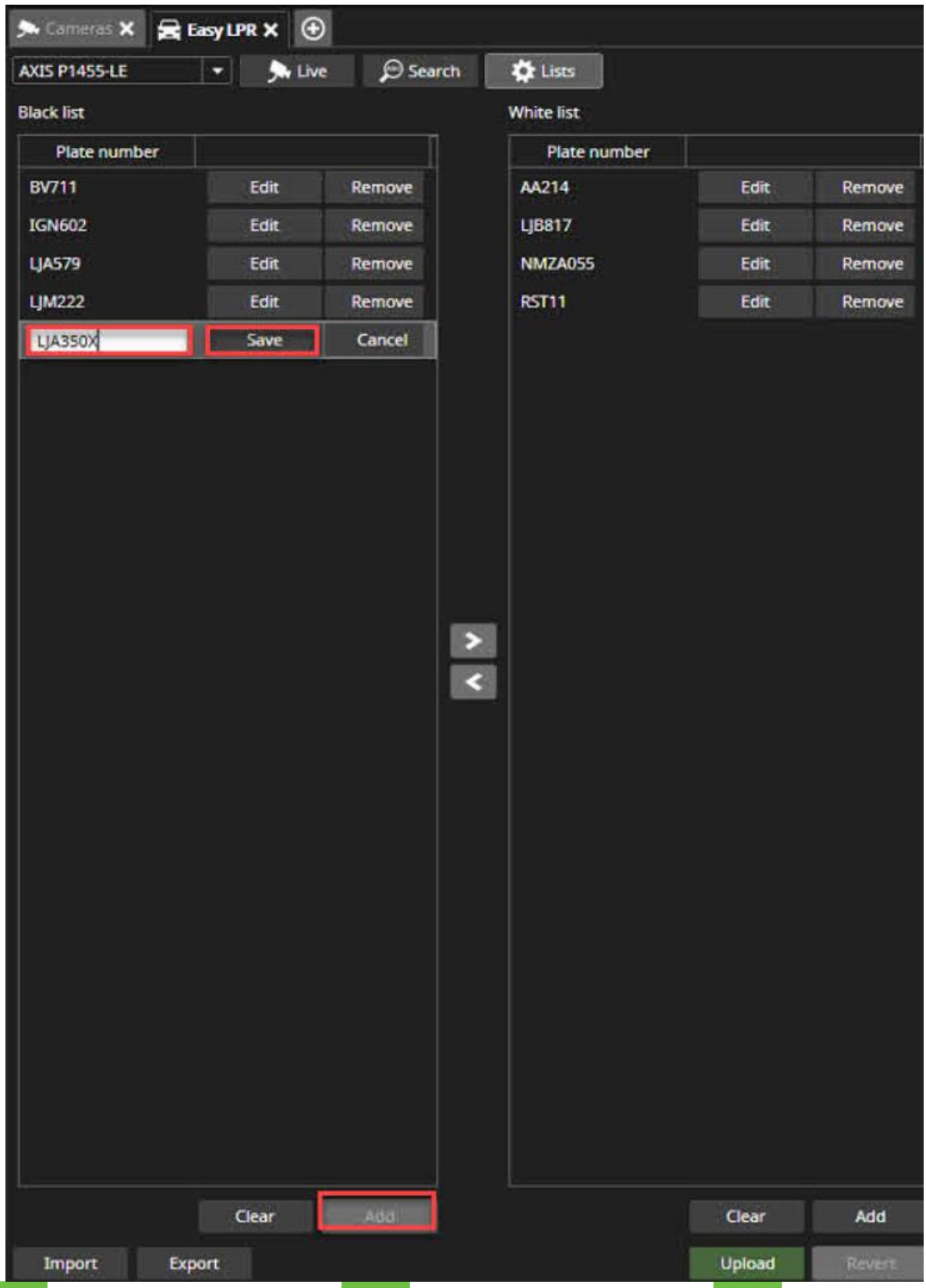
1. Double-click plate number field
2. Right mouse click top of the plate number
3. Click **Copy**


Cameras
Easy LPR
AXIS P1455-LE
Live
Search
Lists
Time
5.10.2021
10.04.26
End time
5.10.2021
11.04.26
List
All
License plate
Search
Time
Plate number
List
Picture
Confidence
11.06.20 5.10.2021
11.06.11 5.10.2021
11.06.04 5.10.2021
ZAO55
Not in any list
97.00%
99.00%
11.06.04 5.10.2021
NMZA055
White list
98.00%
11.05.58 5.10.2021
KP218
Not in any list
97.00%
11.05.58 5.10.2021
KPZ180H
Not in any list
93.00%
11.05.52 5.10.2021
LJU055
Not in any list
96.00%
11.05.22 5.10.2021
LJK1390
Not in any list
98.00%
11.04.50 5.10.2021
P1911
Not in any list
94.00%
11.04.22 5.10.2021
LJF8283
Not in any list
99.00%
11.04.18 5.10.2021
LJB87
Not in any list
98.00%
11.04.18 5.10.2021
BY817
Not in any list
96.00%
11.04.13 5.10.2021
LJ656
Not in any list
91.00%
11.04.09 5.10.2021
J7OAK
Not in any list
95.00%
11.04.08 5.10.2021
LJ970
Not in any list
98.00%
Events 100
Found 100

4. Open **Lists**

5. Select current list
6. Click **Add**
7. Paste plate number
8. Click **Save**

MIRASYS

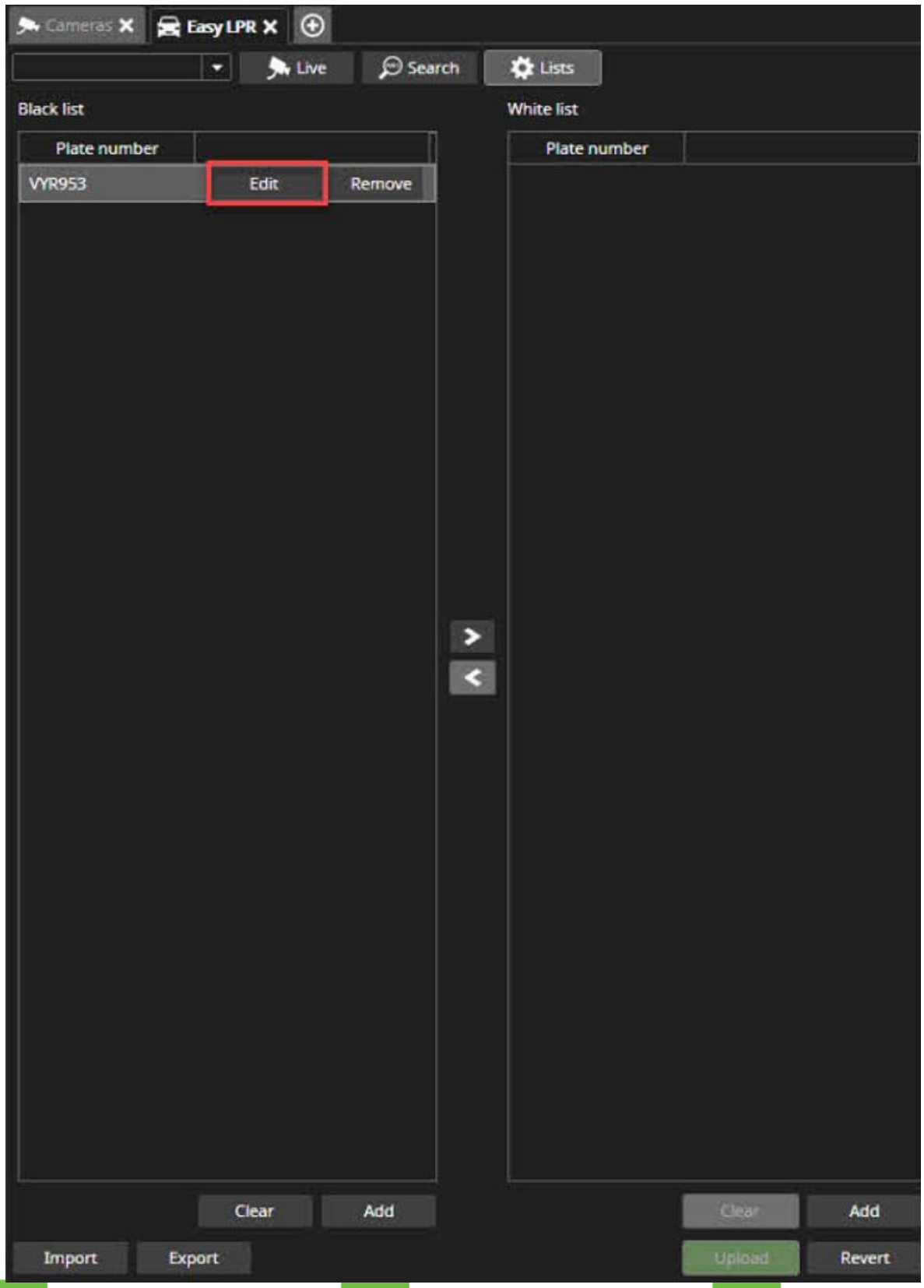


Tel +358 (0)9 2533 3300 Email info@mirasys.com https://www.mirasys.com

17.5.2.4.3 Editing plate number in Lists

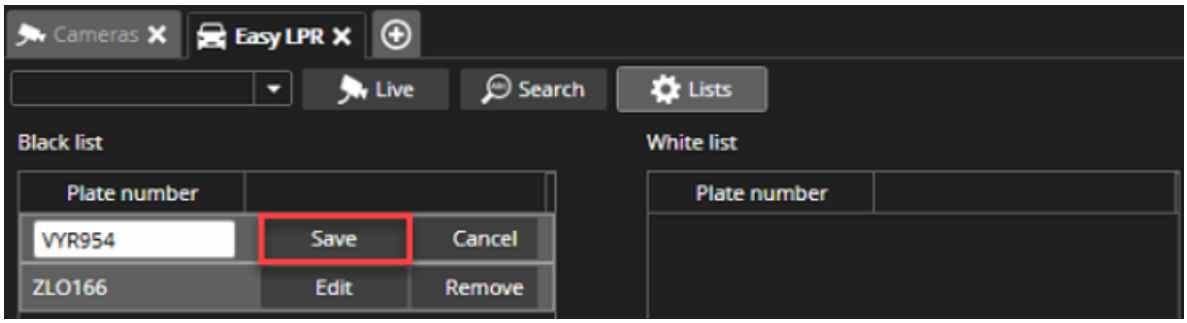
1. Select the plate number
2. Click **Edit**

MIRASYS



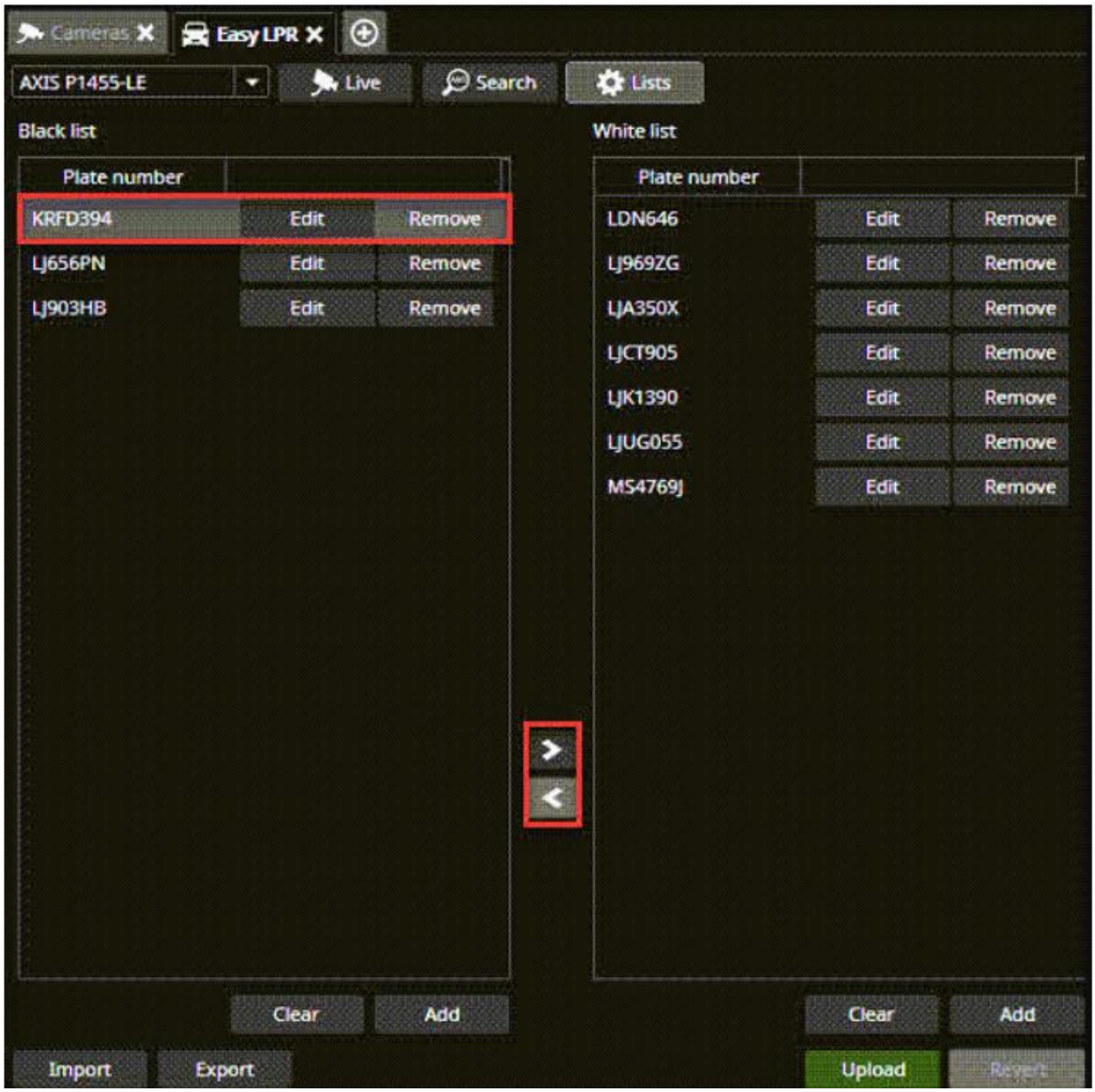
Tel +358 (0)9 2533 3300
Email info@mirasys.com
https://www.mirasys.com

3. Do the modification and click **Save**



17.5.2.4.4 Moving between the lists

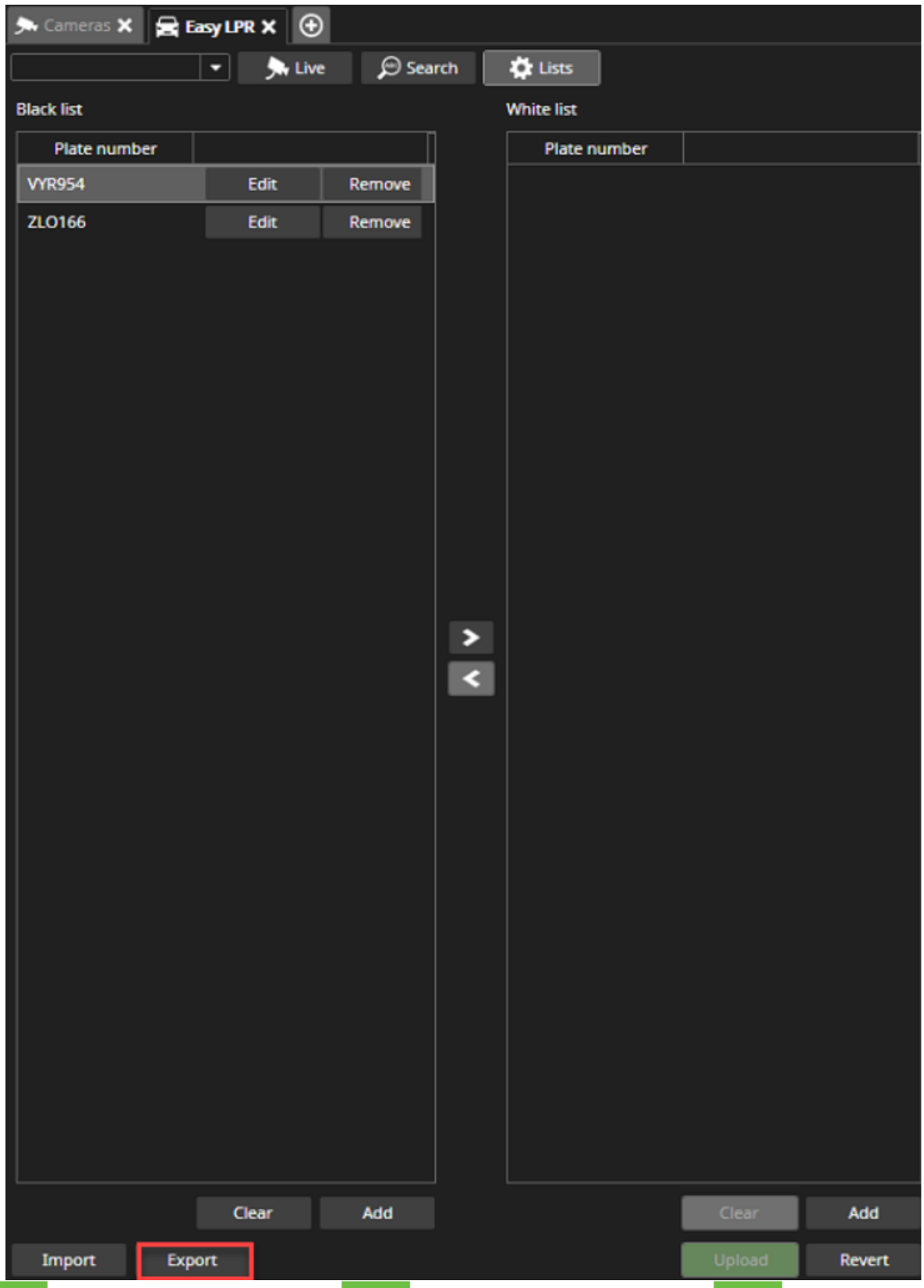
1. Select the plate number from the list
2. Click arrow to move needed list



17.5.2.4.5 Exporting plate numbers

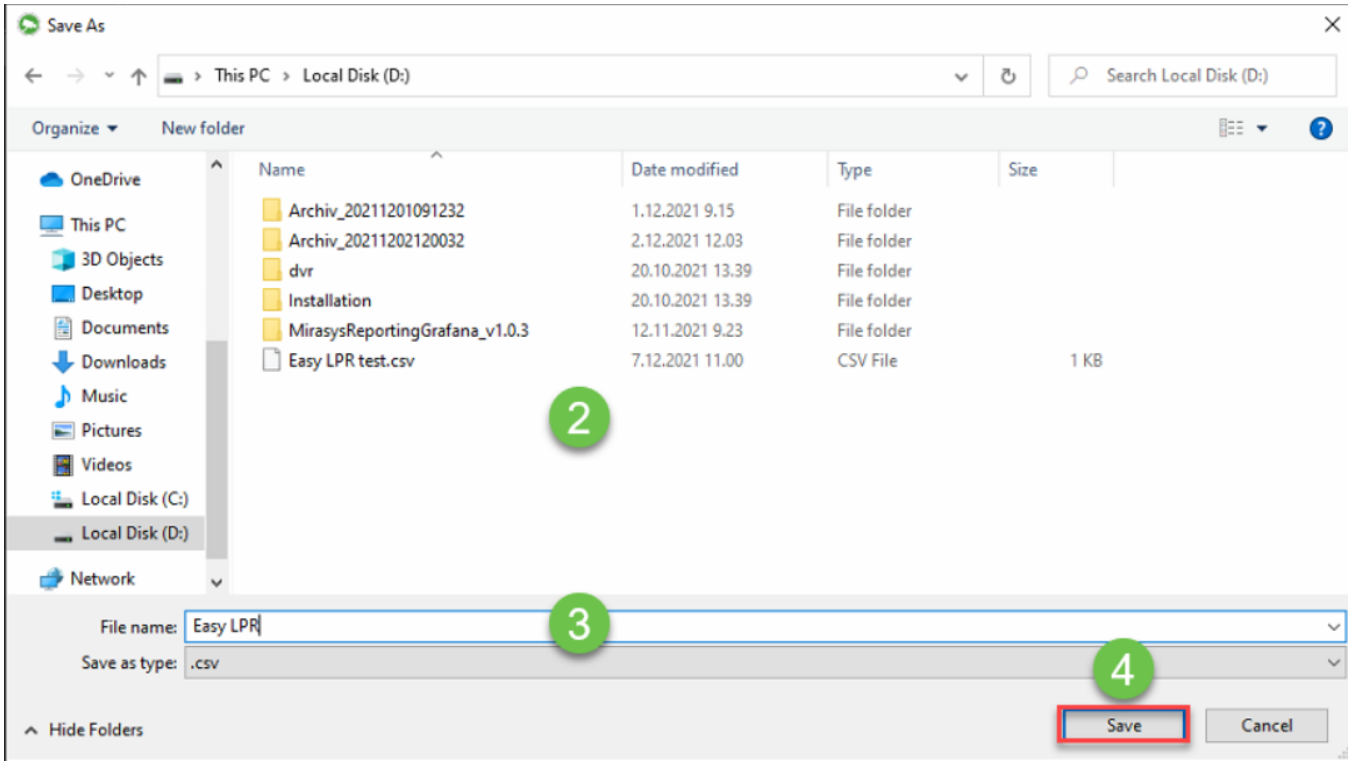
1. Click **Export**

MIRASYS



Tel +358 (0)9 2533 3300
Email info@mirasys.com
https://www.mirasys.com

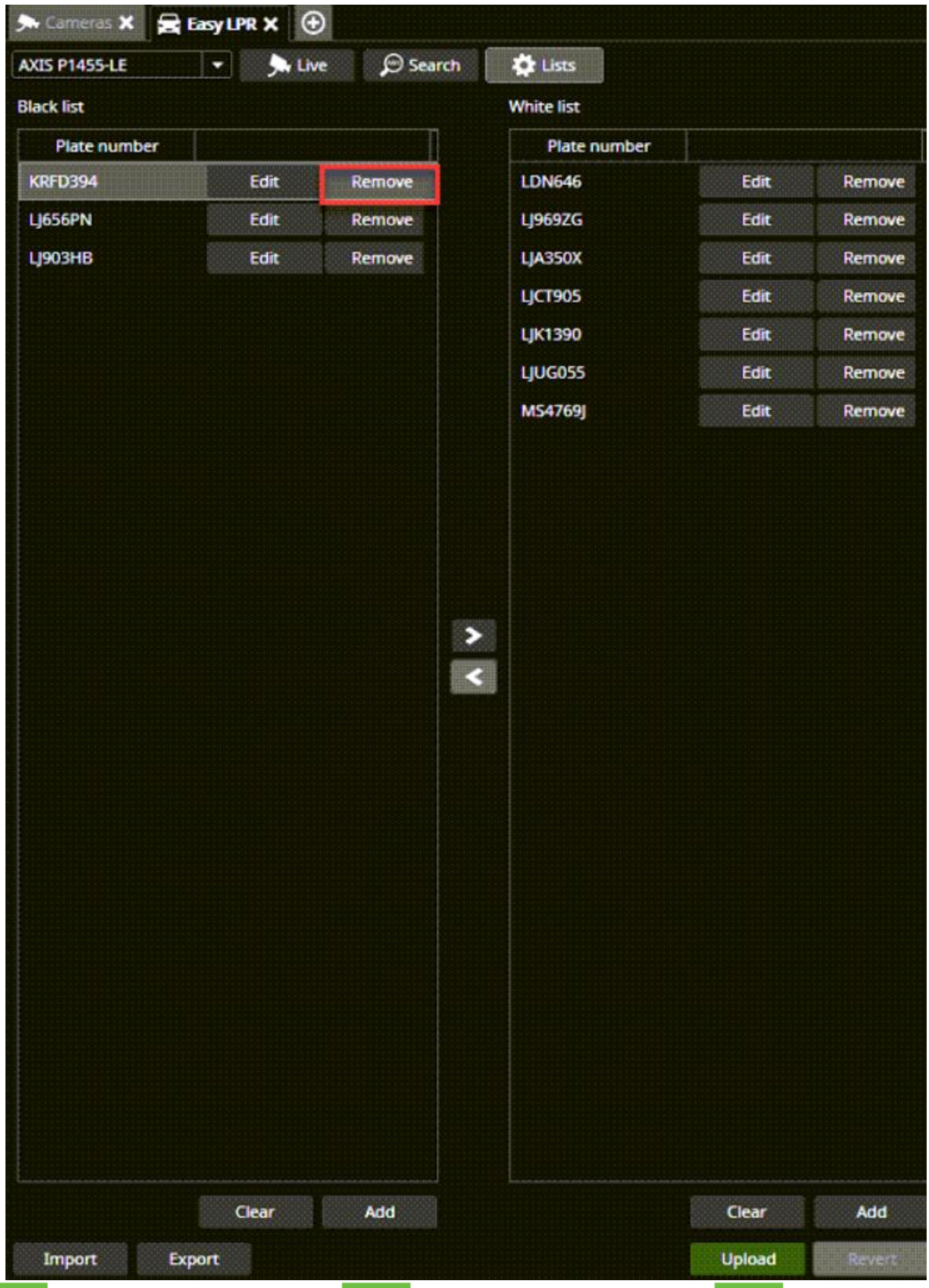
2. Define the destination folder
3. Set the file name(.csv)
4. Click **Save**



17.5.2.4.6 Removing plate number

1. Select the plate number from the list
2. Click Remove

MIRASYS



Tel +358 (0)9 2533 3300 Email info@mirasys.com https://www.mirasys.com

17.5.2.4.7 With the import, the user can import a large number of plate numbers at the same time

1. Open exported CSV file

CSV content is shown below:

Plate number, List (1 = black list / 2 = white list)

LJ656PN,1

LJ731CV,1

LJZV585,1

LJZV584,2

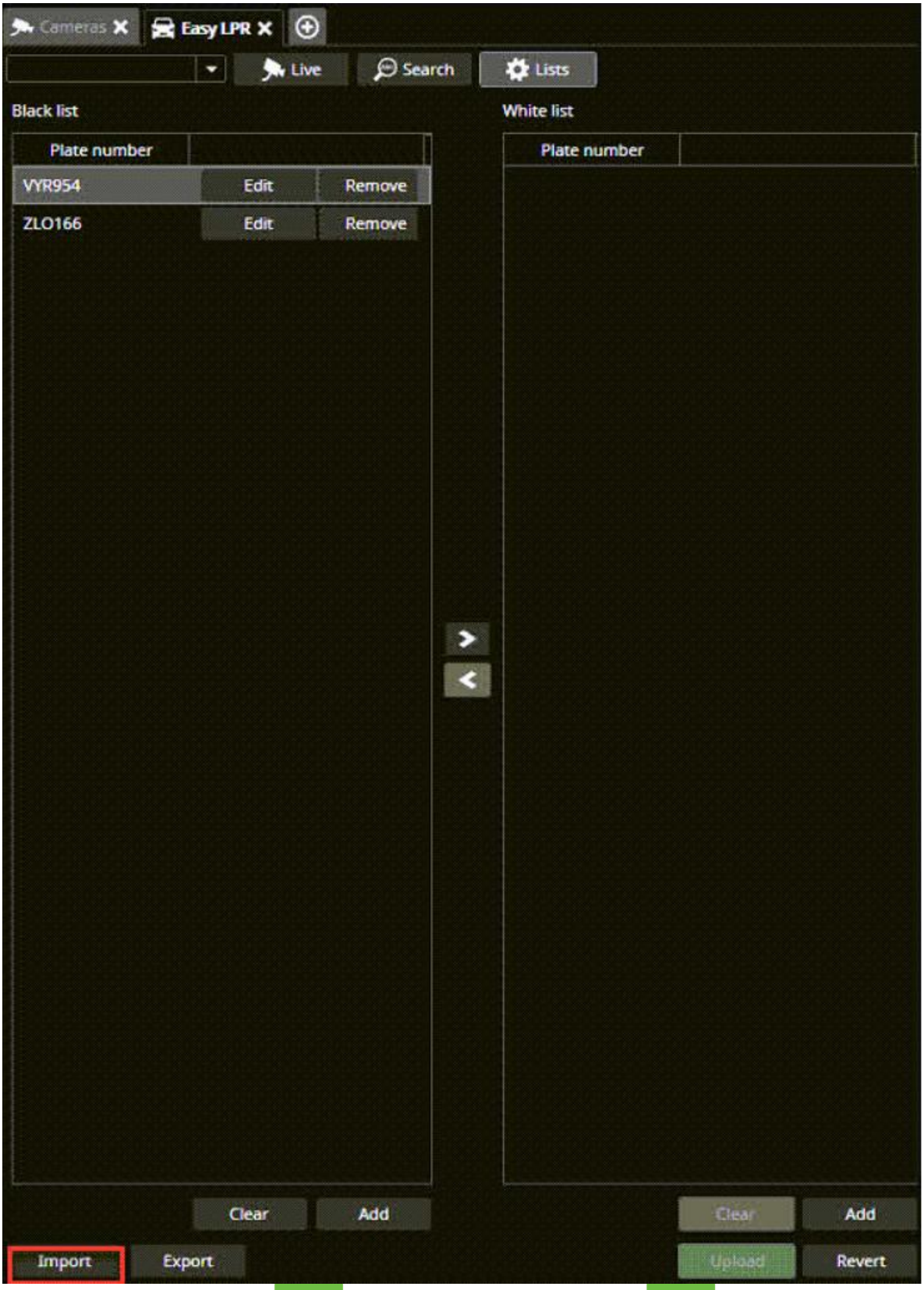
2. Add a new line with format ZLO166,2 for each new plate number

3. Select correct list(**List 1 = Black list, List 2 = White Lis**t)

4. Save changes

5. Click **Import**

MIRASYS



Tel +358 (0)9 2533 3300 Email info@mirasys.com https://www.mirasys.com

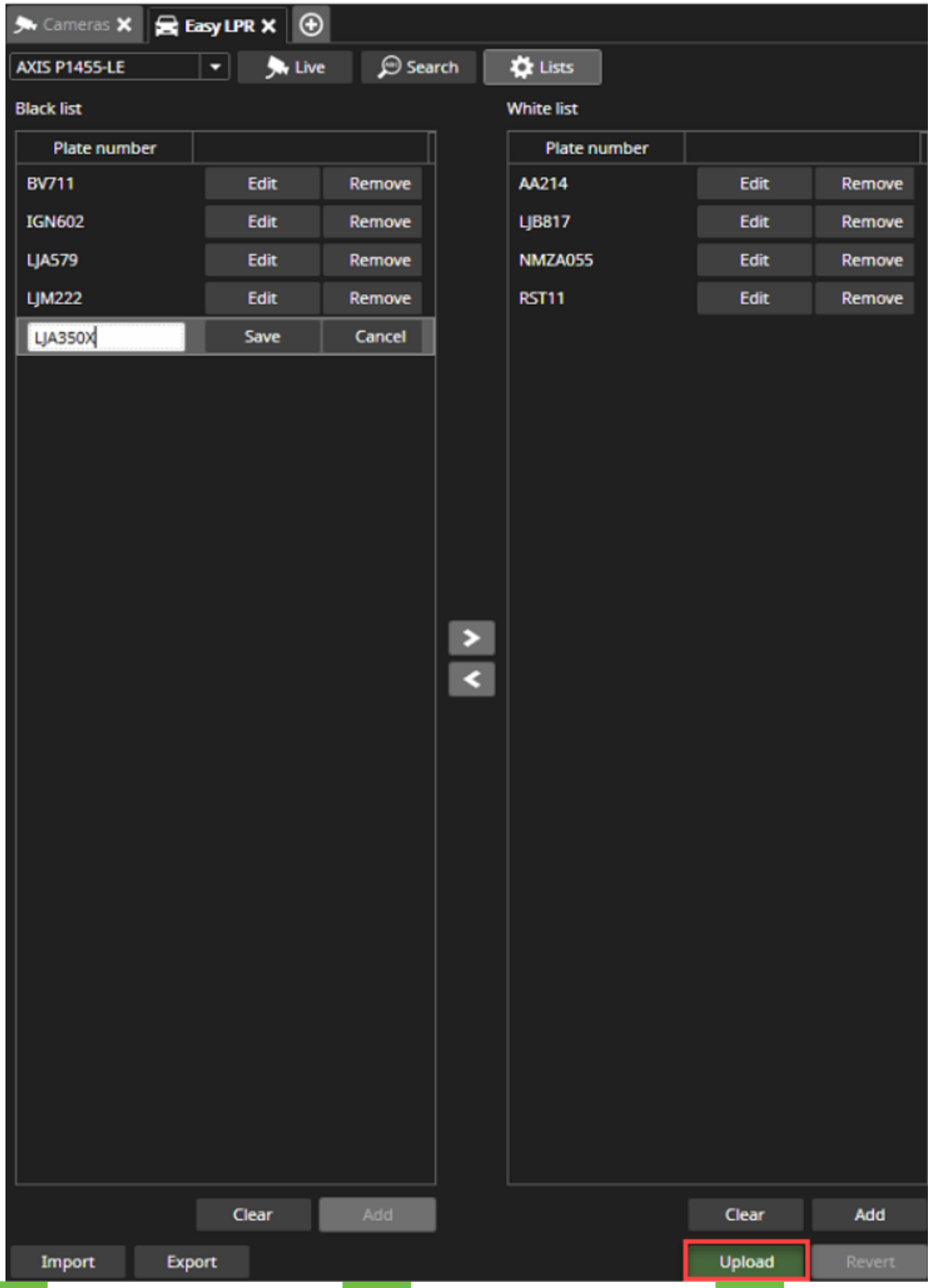
6. Browse to the location of the CSV file

7. Select the file and click **Open**

17.5.2.4.8 With the upload, the user can upload created black & white lists to the camera

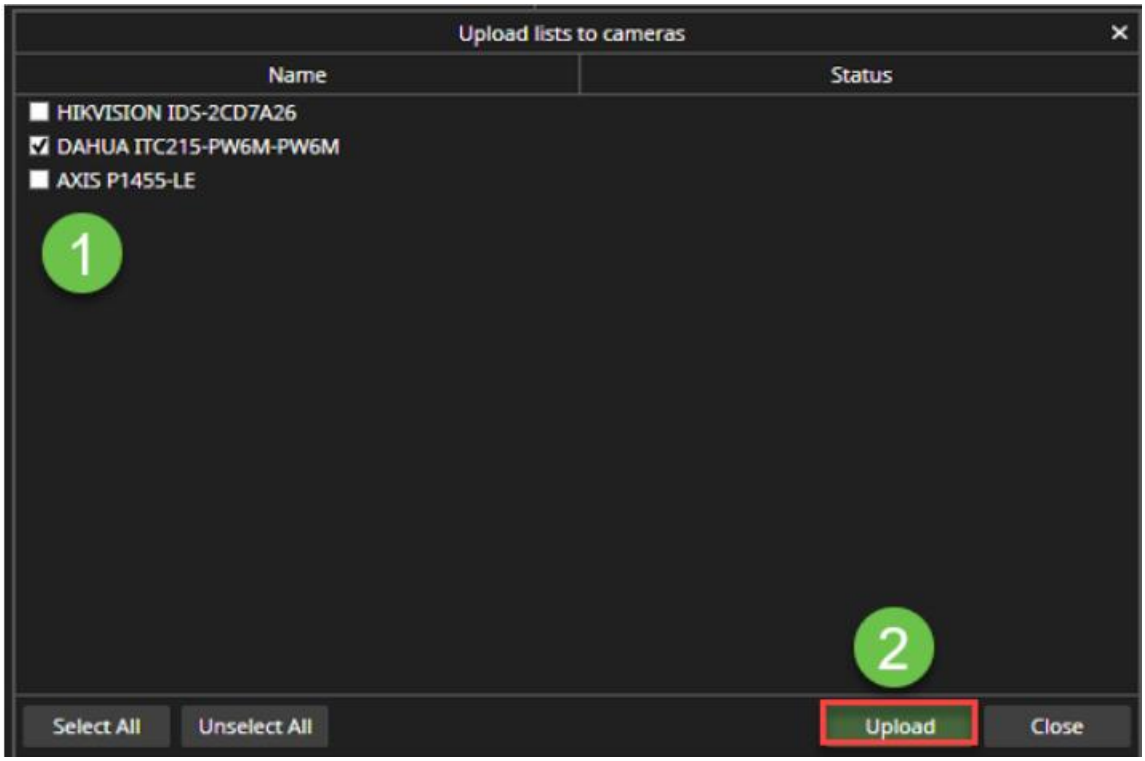
1. Select camera, which list will be uploaded
2. Click **Upload**

MIRASYS

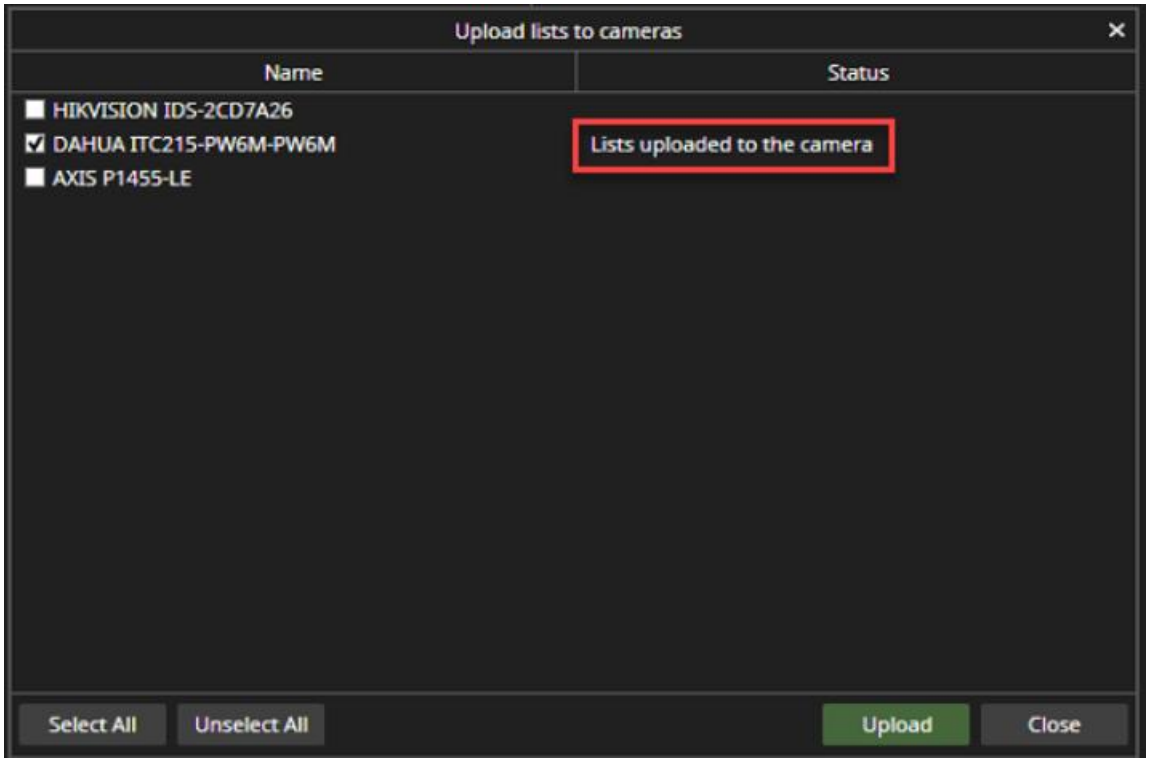


Tel +358 (0)9 2533 3300 Email info@mirasys.com https://www.mirasys.com

1. Select cameras, where lists are uploaded
2. Click **Upload**



After the upload, the status field shows the information **List uploaded to the camera**

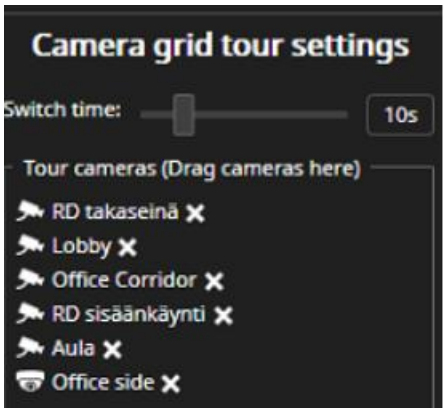


17.6 SPOTTER CAMERA CAROUSEL

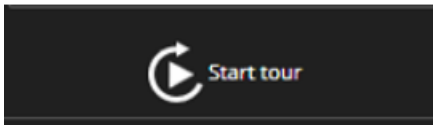
The Camera Carousel plugin allows users to create a lightweight camera tour on a single Spotter tab camera cell.

17.6.1 Camera grid tour settings

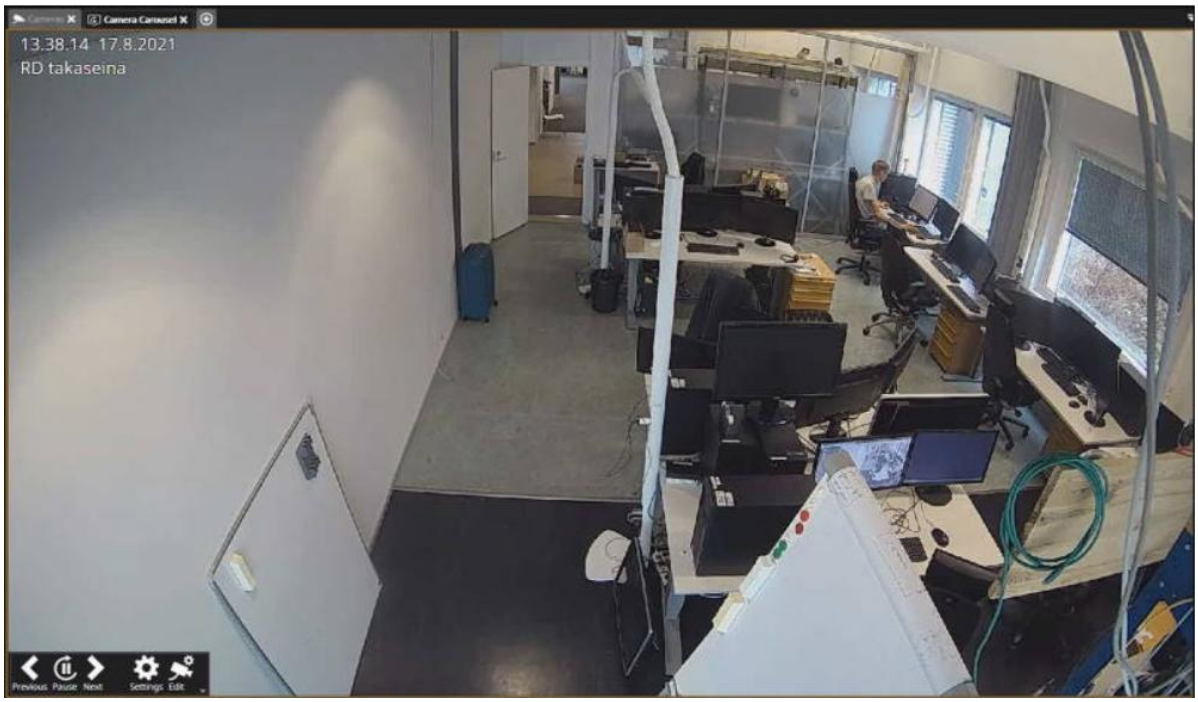
1. Open **Camera Carousel**
2. Drag needed cameras from the device tree to the camera carousel
3. Set switch time(from 5s to 30s)



4. Click Start tour

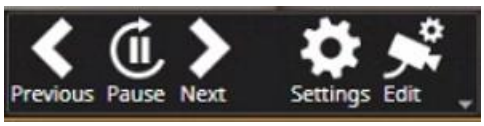


5. When the carousel is running, the camera grid cell is indicated with an orange border.



Mouse left-click opens toolbar with the options:

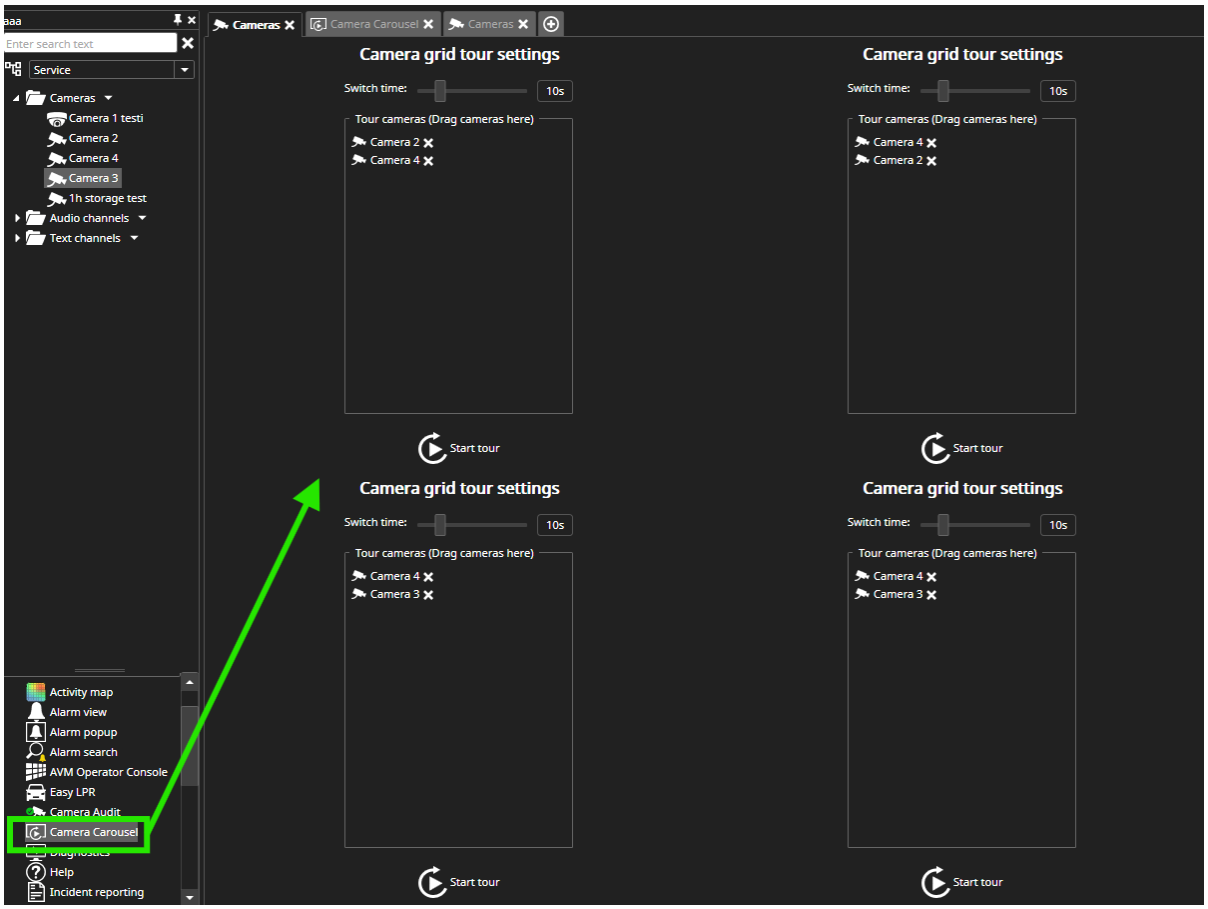
- Previous
- Pause
- Next
- Settings
- Edit



17.6.1.1 Running Camera Carousel in a Quad

Here's how you can run the Camera Carousel in a quad layout:

1. Open a new, empty tab.
2. Locate the Camera Carousel plugin in the available plugins list.
3. Drag and drop the plugin into the first empty camera cell on your new tab.
4. To create a quad view, repeat the drag-and-drop action three more times. Place the Camera Carousel plugin in the remaining empty cells of the tab.
5. Once the plugins are placed in each of the four cells, you can configure the cameras displayed in each Carousel.



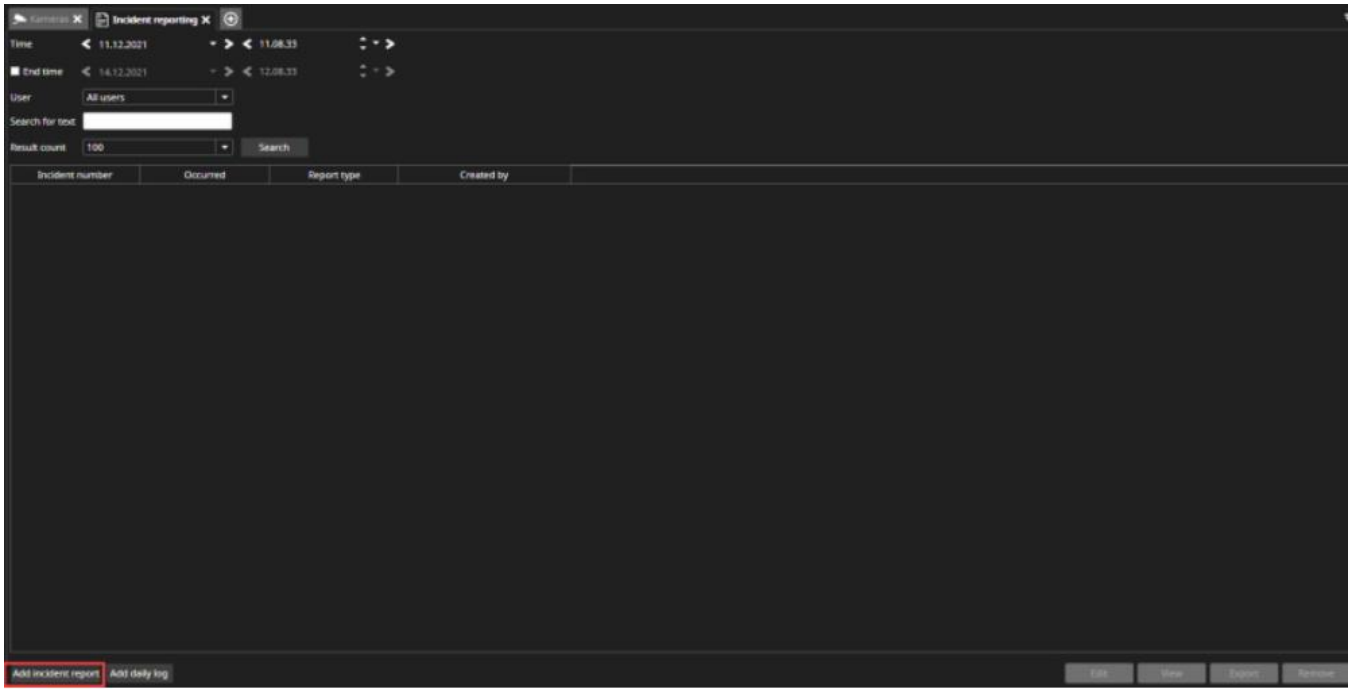
17.7 Incident Reporting

17.7.1 Opening the Incident Report

Open the Incident Reporting from the device tree

17.7.2 Creating an Incident Report

1. Click **Add Incident Report**



2. Select all necessary Incident Report details.

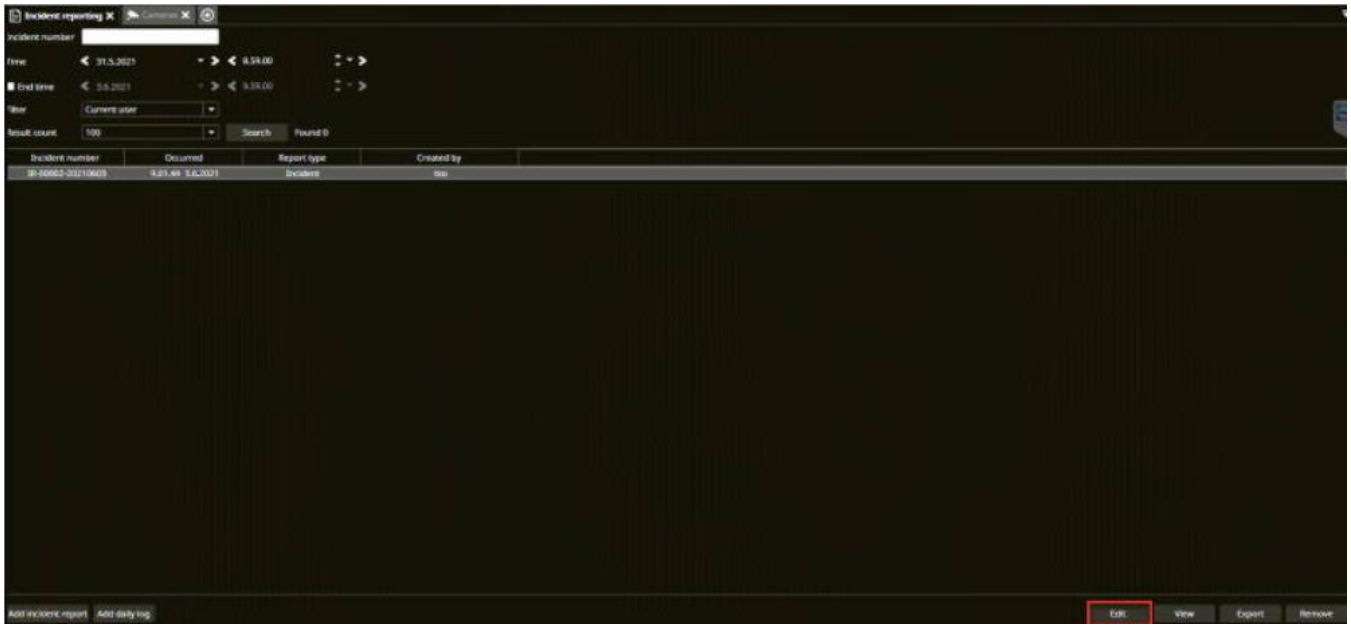
Department and **Incident location** fields are predefined by the administrator.



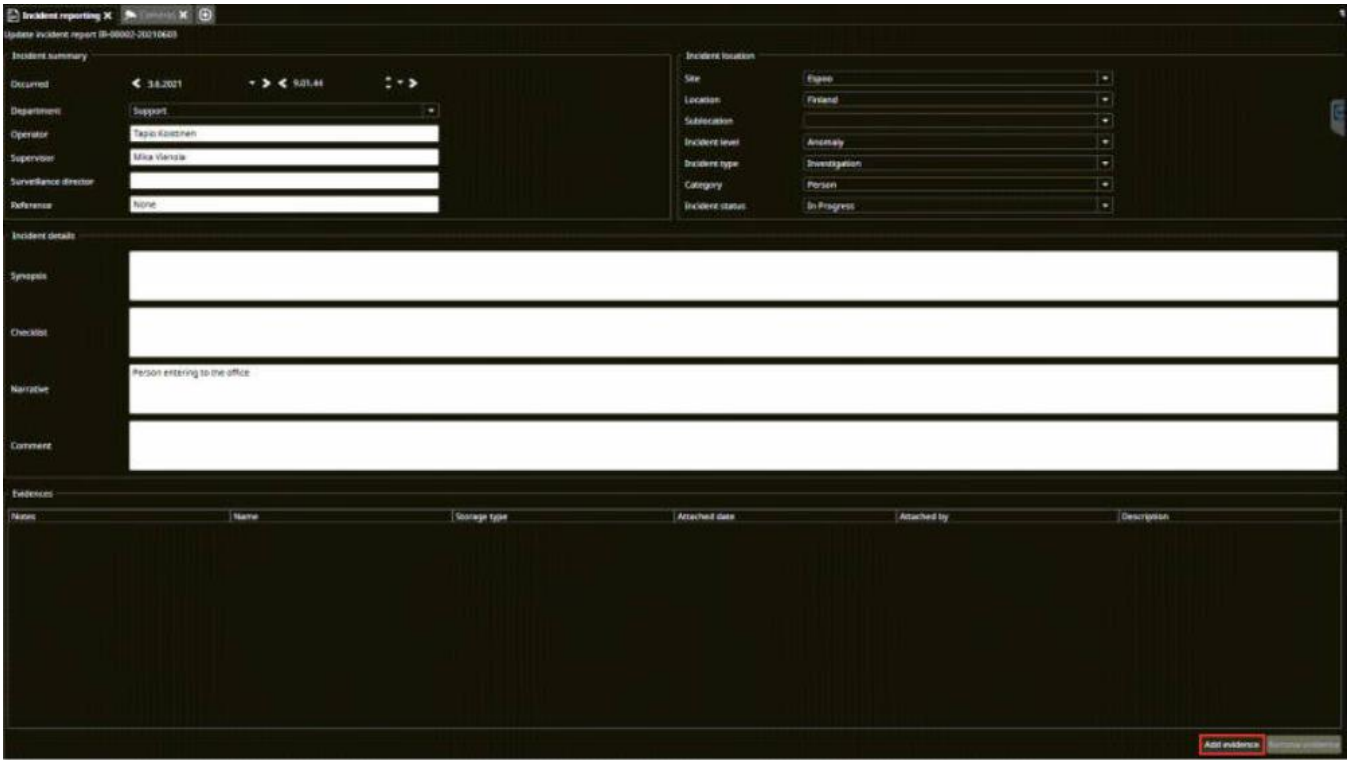
17.7.3 Adding evidence to the Incident Report

You can **add images, video clips and camera audit reports** as evidence.

1. Select the Incident Report from the list and click **Edit**



2. Click **Add evidence** from the lower-left corner



3. Click **Search** and select the evidence from the list
4. Click **Add**



5. Click **Save** to finalize

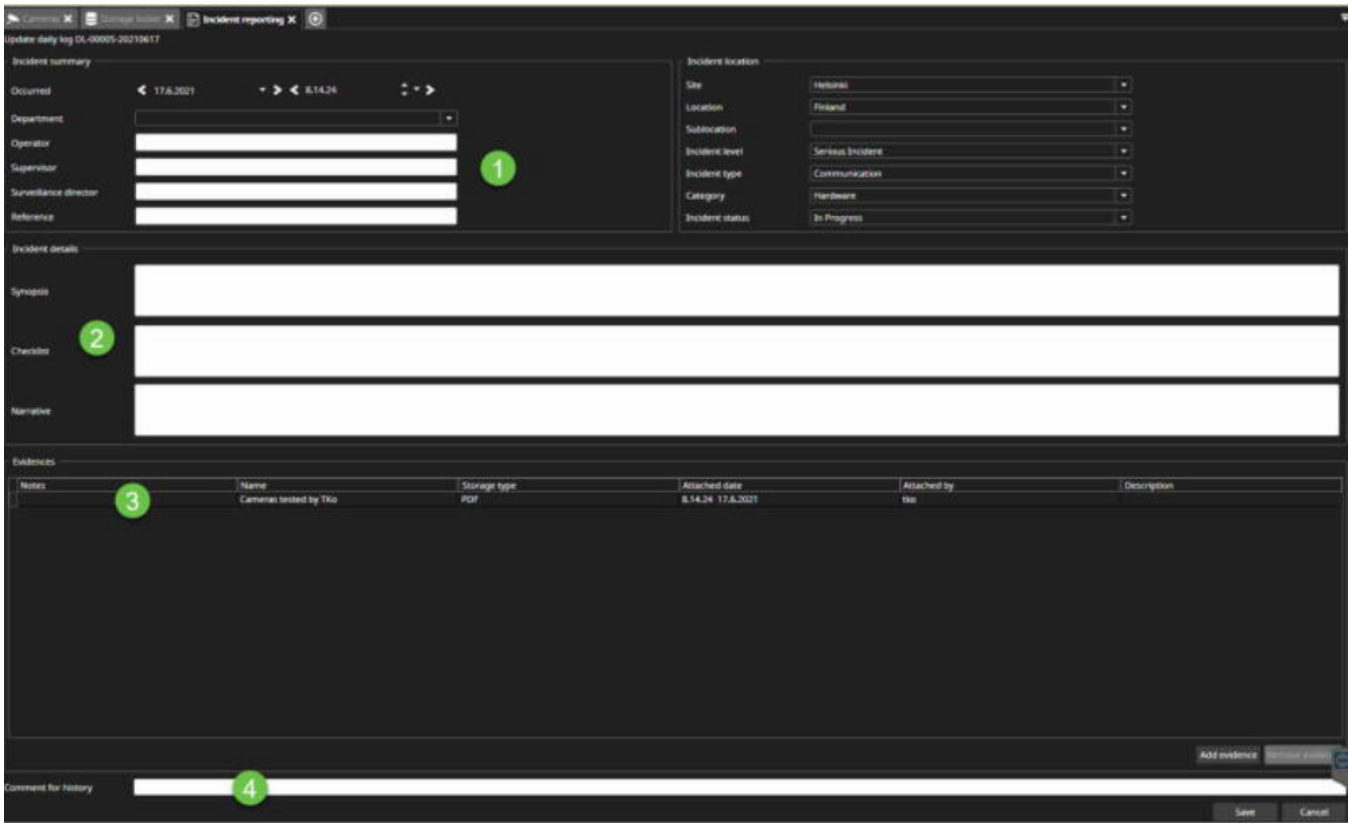


17.7.4 Editing the Incident Report

You can edit any Incident Report, which you have access to later.

The editable fields:

- Incident summary
- Incident location
- Incident details
- Add notes to the evidence
- Comment to history

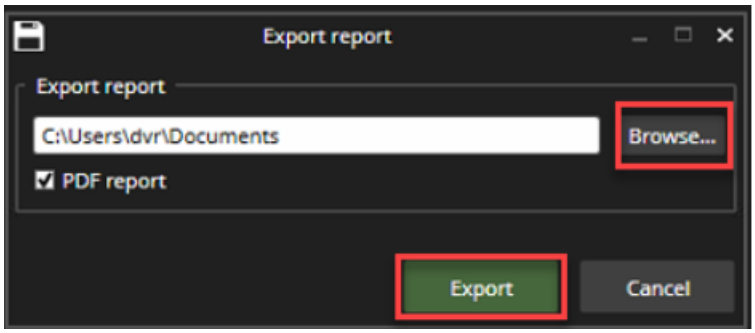


17.7.5 Exporting the Incident Report & Daily Log

1. Select Incident Report or Daily Log from the list
2. Click **Export**



3. Select the location
4. Click **Export**



17.7.6 Searching the Incident Reports

1. Enter free text to the **Search for text** field(text from Name, Description and Incident numbers fields)
2. Press **Enter** or **Search**

17.8 Monitor Manager

The Monitor Manager plugin is designed for controlling monitors attached to the local PC. It is mainly designed to use when the attached monitors are out of sight.

17.8.1 Enable Monitor Manager Plugin

To enable the monitor manager, you need to enable the AVM API in the Spotter settings.

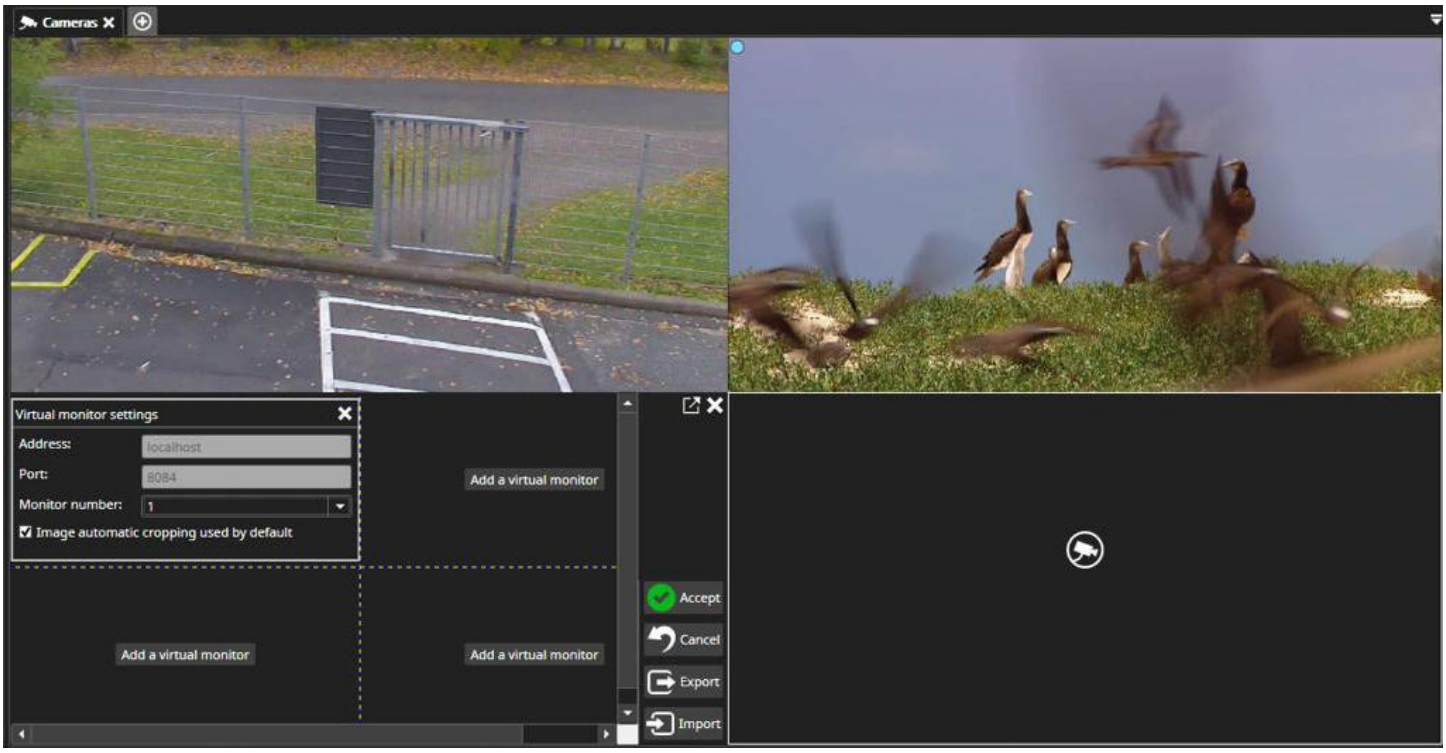
Go to **Spotter** > **File** > **Settings** > **Advanced** > **Enable External AVM API**

You will have to be logged in as an administrator to enable this.

17.8.2 Monitor Manager Device Grid

The user can control the Monitor Manager from the device grid while seeing the cameras in the same Spotter Window. Several Spotter windows and monitors are not necessary.

To use Monitor Manager in the device grid, open the Monitor Manager Plugin inside the device grid.



17.8.3 Time slider: Control Monitor Manager from Operator Console

The time slider can be used for time search at the Monitor Manager operator console. When the user releases the time slider green balloon, the operator console sends a time to search to the Display Server.

17.9 Mirasys Video Wall Management (AVM)

17.9.1 Mirasys Video Wall Management Device Grid

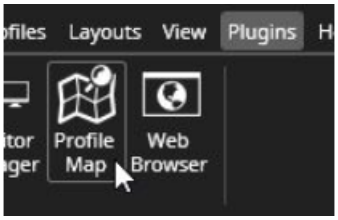
The user can control the AVM from the device grid while seeing the cameras in the same Spotter Window. Several Spotter windows and monitors are not necessary.

To use AVM in the device grid, open the AVM Plugin inside the device grid.

17.9.2 Time search AVM from Operator Console.

The time slider can be used for time search at the AVM operator console. When the user releases the time slider green balloon, the operator console sends a time to search to the Display Server.

17.10 Profile Maps



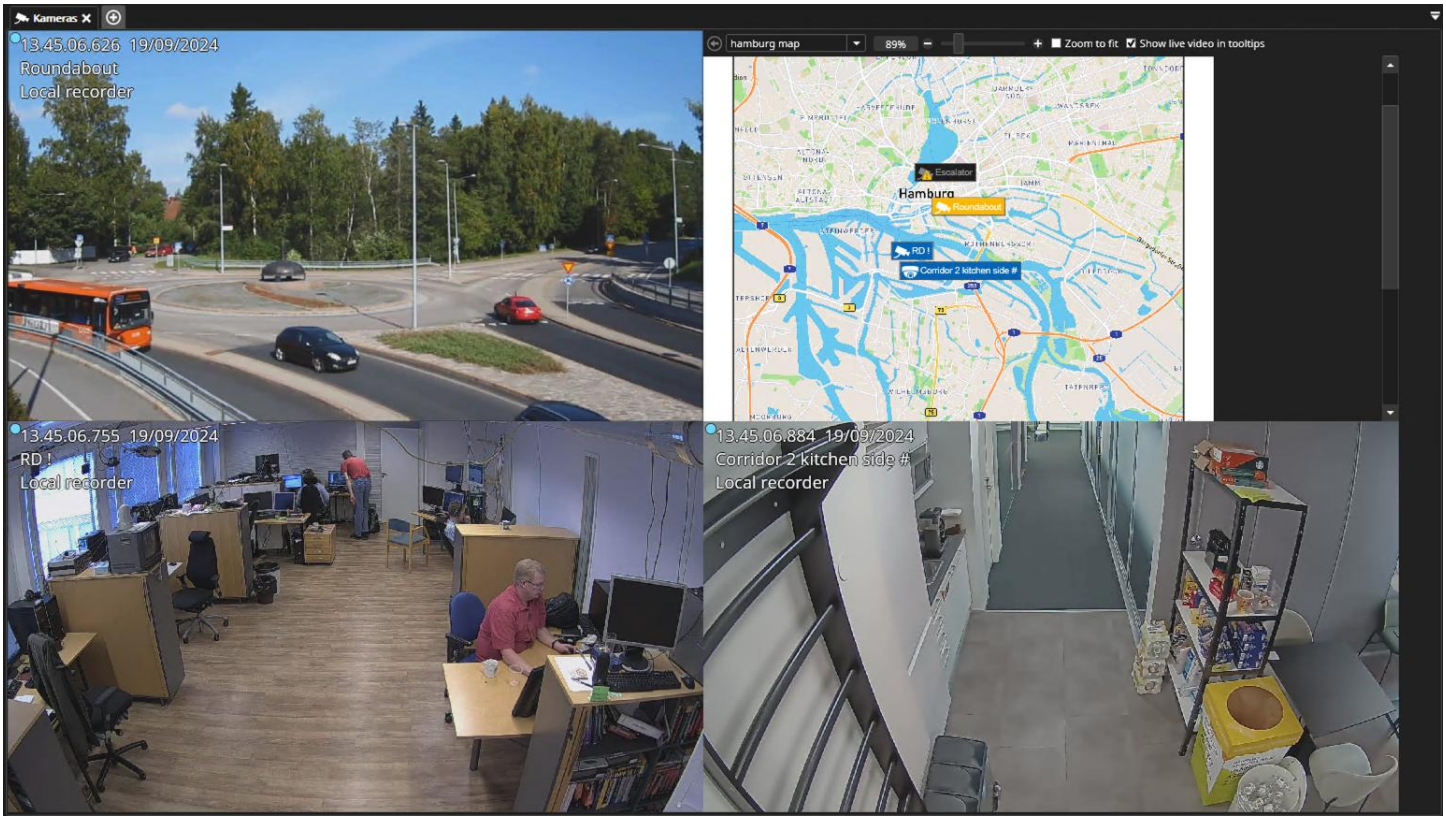
If the selected profile has a map defined, the Profile map plugin can show the map and its devices. The map can be a separate tab, or it can be embedded in a camera grid cell.

The map can include the following devices:

- Camera folders
- Cameras
- Audio
- Inputs
- Outputs
- Text data



Zoom to fit is selected by default for maps and can be unselected.



The devices on the map show status information the same way as in the profile tree. Alarms of all priorities are highlighted.

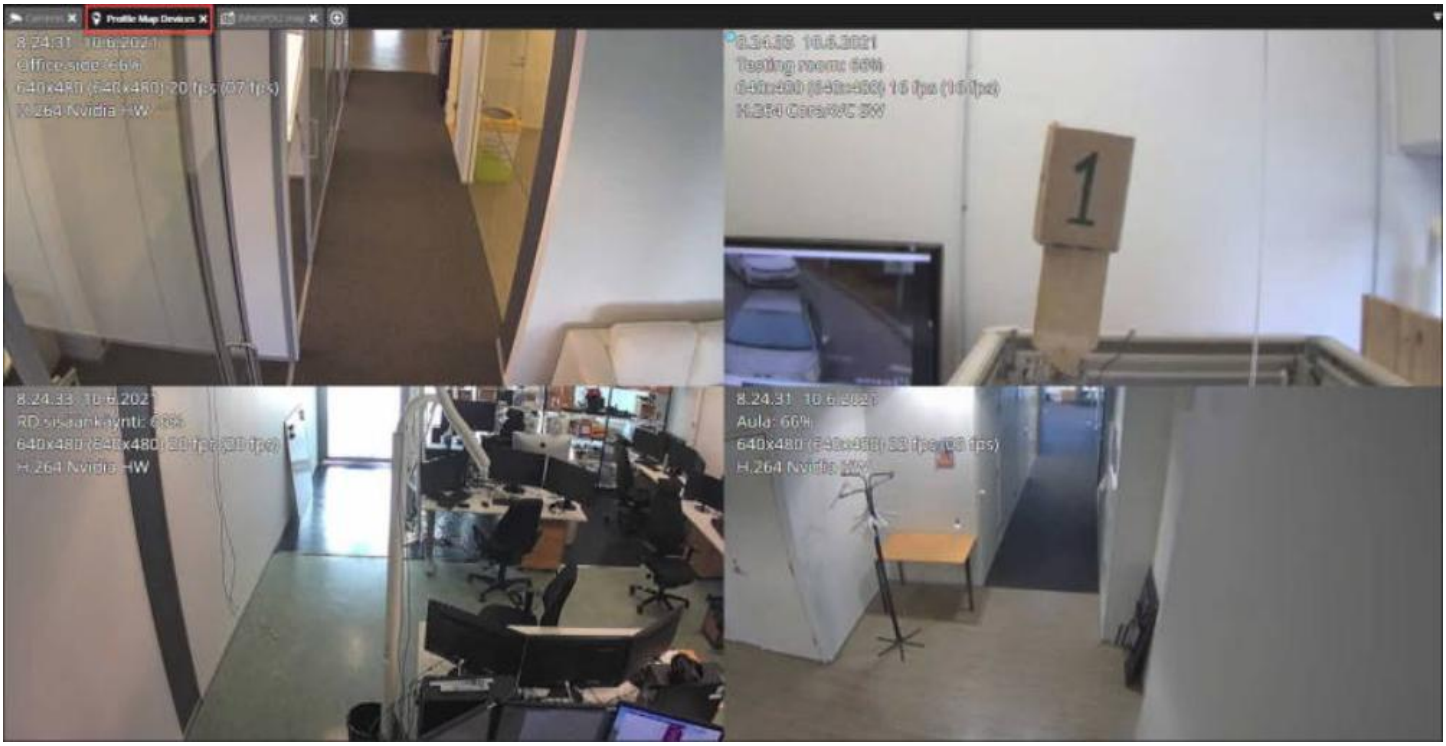
Double-clicking the device on a map opens it to a new tab. If a map is open and the user double-clicks an item in the profile tree, it is highlighted.

The device tree also has a "Show on map" option for each device in the right-click menu. The Profile Maps plugin can react to an alarm by switching the view to show the map view where a trigger for the alarm. This setting is controlled from Profile Maps settings.

There is also a setting for turning the alarm "pulse" animation on or off. Profile maps have the same kind of alarm filtering settings as the Alarm popup so that in the multiple alarm monitor case, it can be set to filter a certain number of active alarms for the map position reaction.

17.11 Profile Map Devices

When a customer opens the camera from the Profile Map, the Profile Map Devices tab is opened automatically and shows those cameras in real-time view.



Profile Map Devices default grid type is defined in the **Spotter settings\Plugins\Profile Map Devices**

17.12 Spotter Storage Locker

Storage Locker plugin can be used to

- Search stored items
- Open a selected picture, video clip or camera audit report PDF file for viewing
- Save selected picture, video clip or camera audit report PDF file to disk
- Delete selected storage locker item
- Edit selected item's name and description

17.12.1 Searching the Storage Locker content

Searches user-specified text from Name, Description and Incident numbers fields

1. Enter free text to the **Search for text** field(text from Name, Description and Incident numbers fields)
2. Start searching by clicking **Search**

You can enter the Incident number, Name or Description

17.12.1.1 Open
Open image, video clip or daily log

17.12.1.2 Save
Export content to the needed location

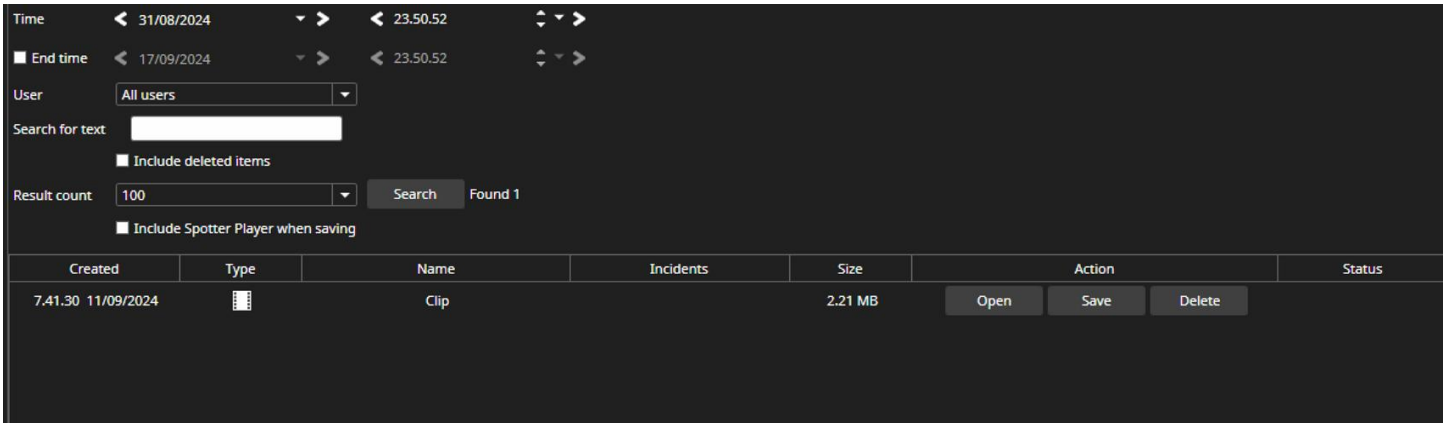
17.12.1.3 Delete
Delete the content

You can also:

- Change the name
- Add a description

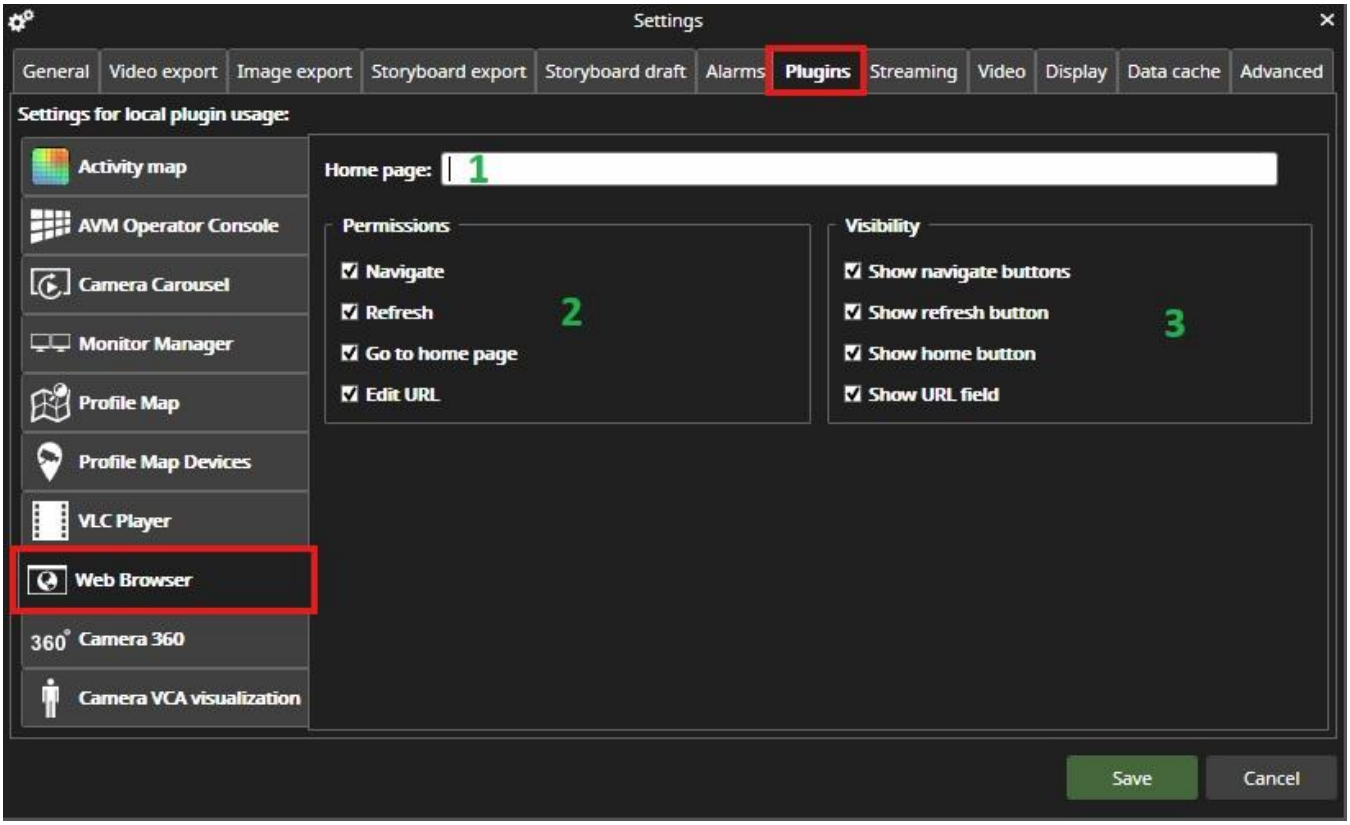
In the History area, you can see audit trail history.

Click **Save** from the lower-left corner to finalize changes. Tick the box **Include Spotter Player when saving** if you want to have easy access to Spotter Player to play the clips saved.



17.13 Spotter Web Browser
First, go to the **File\Settings\Plugins\Web Browser**

1. Set the **Home page**
2. Set the permissions for the browser
3. Set the visibility settings
4. Click **Save** to finalize changes

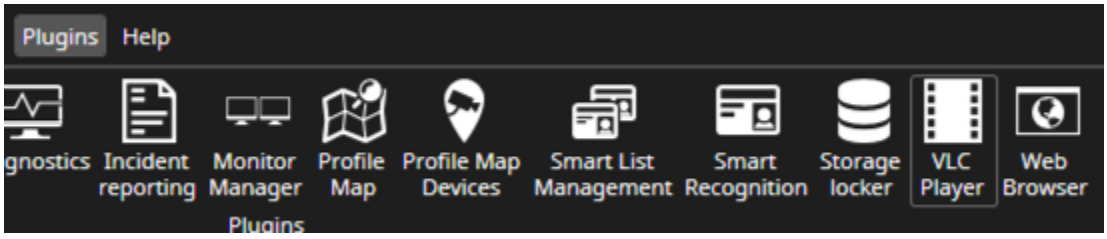
5. 

Go to the Plugins folder

6. Open Web Browser plugin

17.14 VLC PLAYER PLUGIN

In Spotter > Plugins > VLC Player, VLC's advanced playback options and streaming capabilities can be viewed within Mirasys VMS. Operators can open and control the player and directly integrate the available HLS streams.



There is a default setting in Spotter> Settings> Plugins tab> VLC Player to make it more convenient to play streams you would like to receive frequently or daily.

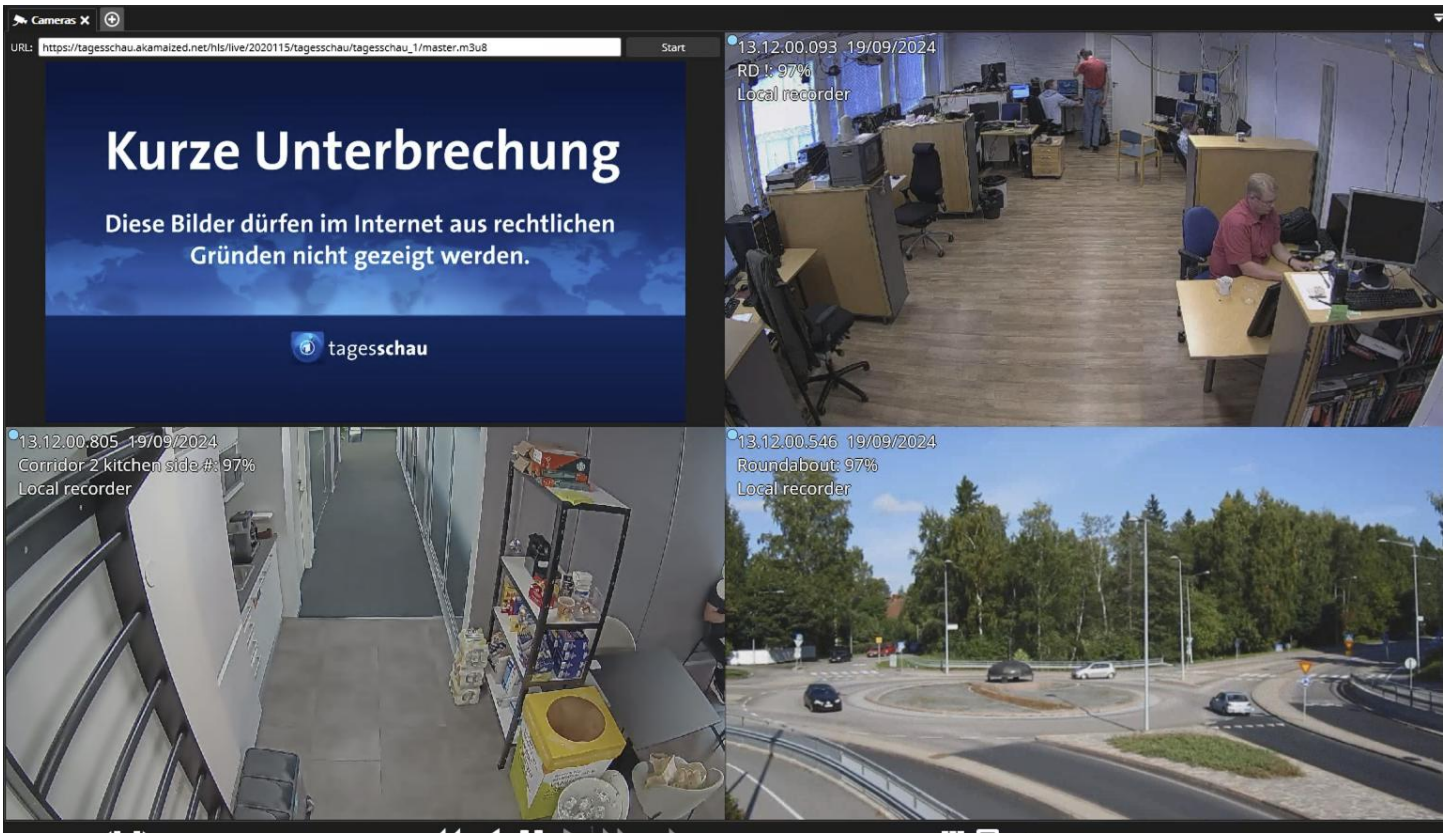
Use Layouts if you have several feeds open and want to use several monitors. You can also use save tab with VLC Player.

If you want to display the VLC Player stream in the Profile tree permanently, request that your System Administrator configure this in our System Manager > Profile settings.

17.14.1 Play

To play video in the VLC Player plugin:

1. Open VLC Player in Spotter > Plugins
2. Enter the URL of the stream in the top field.
3. Click **Start**.
4. The plugin will play the stream.



17.14.2 Auto-play

To use the default settings for the VLC plugin:

1. Open the Plugin default settings in Spotter > Settings > Plugins tab > VLC Player.
2. Enter the URL of the stream in the top field.
3. Tick the box **Auto-play**.

4. Click **Save**.

17.14.3 Show or hide URL

To show or hide the URL:

1. To show the URL, tick the **Show toolbar** box in Spotter> Settings> Plugins tab> VLC Player.
2. To hide the URL, untick the **Show toolbar** box.
3. Click **Save** to save any changes.

18 INPUT DEVICES

18.1 DIRECTX DEVICES

Spotter supports DirectX input devices that can be used mainly to control camera PTZ.

18.1.1 DirectX control devices

Spotter supports DirectX input devices (joysticks). They can control different Spotter functionalities, normally PTZ cameras.

The control devices have various axes and buttons. The driver detects these by using DirectX interfaces.

Operations (changes in device button states and Axis positions) are detected through the DirectX interface.

18.1.1.1 Control device settings

From the Spotter main menu, choose Spotter Device settings and then Control Device settings. In the device settings, you get a list of detected input devices.

Each input device can have common settings. Common device settings are:

- Use absolute axises
- Dead zone setting

Each device can have a number of different setups, but only one can be selected at a time. Input device setup maps input device button and axis changes to Spotter operation.

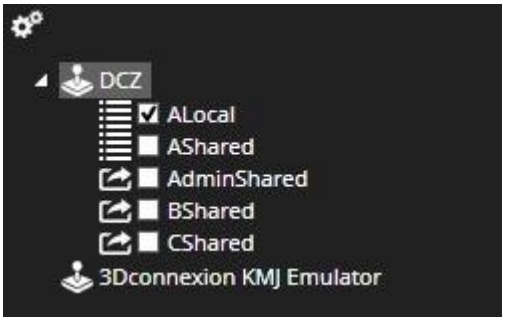
18.1.1.2 Shared device setups

In Adder, a shared folder is added under user device configuration to split own ad shared setups.

In Carp, a new boolean property of IsShared is added.

18.1.2 Spotter

In Input device settings, own and shared joystick settings are shown with different icons:



When shared settings are selected, only SaveAndClose and Close buttons are enabled. The content of the settings can not change.

18.1.2.1 Default setup support

Clear

To clear the setup

Default

To set the default setup

This only works if there are default setup defined for the detected device.

Default setups were added to devices

- DCZ
- CH Products IP Desktop Controller
- AXIS 295 Video surveillance joystick
- Hanwha SPC-7000

Default input device setups are disassembled to folder C:\Users\<WindowsUser>\AppData\Roaming\DVMS\DVR Application\DefaultPTZConfig. When the "Default" button is clicked, the default setup from the folder is read, and its config is loaded to UI. The default setup format is the same as when importing and exporting device setups.

18.1.2.2 Virtual joystick default setup

Default setup buttons:

- C1: The last camera remembers the last camera selection, so it goes to the last camera and calls up in the “active Selected Camera” position

- C2: Previous camera, UP, or PREVIOUS button will change “Active Selected Camera” to the PREVIOUS in the selected profile folder in the tree.
- C3: Next camera, DOWN button, will change “Active Selected Camera” to the next in the selected profile folder in the tree
- C4: Snapshot of active Camera Selected Saves a picture with date and time as name to the default location
- C5: Focus near
- C6: Focus far
- C7: Iris Open
- C8: Iris Closed
- C9: Window selected grid to full screen / back to normal
- C10: Ptz open / close
- C11: Quick Bookmark
- C12: Set selected window to Live
- C13: Quick Storyboard
- *: PTZ Home
- #: Navigate and select the camera

Right Buttons by jog shuttle Grid selection advance move to NEXT camera a. Right button when selected will go to the next camera in the grid as the “Active Selection” IE if they have 6 PTZs’ up. They hit the right button, which moves PTZ control to the NEXT camera, and the joystick can now control that camera.

Left Button by jog shuttle Grid selection advance move to PREVIOUS camera a. Left button when selected will go to the PREVIOUS camera in the grid as the “Active Selection” IE if they have 6 PTZs’ up. They hit the Left button, and it moves PTZ control to the PREVIOUS camera, and the joystick will now be able to control that camera.

18.2 AXIS JOYSTICK

AXIS joystick setup for Axis T8311, AXIS 8312, and AXIS 8313.

In Mirasys 8.33, default setups were added to the AXIS 295 Video surveillance joystick. Please read more here.

18.2.1 Refactoring in Mirasys 8.3.3

- The input device driver level was removed since Spotter only supports DirectX devices at the moment

- Input device settings buttons tooltips were added to give more information to the user about what buttons do
- The title was added to devise settings and setup settings
- Scrolling of the input device operations list was fixed to operate more smoothly

18.2.2 Default setup support

Two buttons were added to input device settings UI

Clear

To clear the setup

Default

To set the default setup

This only works if there are default setup defined for the detected device.

Default setups were added to devices

- DCZ
- CH Products IP Desktop Controller
- AXIS 295 Video surveillance joystick

Default input device setups are disassembled to folder C:\Users\<WindowsUser>\AppData\Roaming\DVMS\DVR Application\DefaultPTZConfig. When the "Default" button is clicked, the default setup from the folder is read, and its config is loaded to UI. The format of the default setup is the same as when importing and exporting device setup.

18.2.3 Axis T8311 default setup

Default setup buttons:

- X-axis: move left/right
- Y axis: move up / down
- Z axis: PTZ near / far
- J1: Ptz open/close
- J2: Select the camera
- J3: Quick select camera
- J4: Select the PTZ preposition
- L: Play backward

- R: Play forwards

18.2.4 Axis T8312 keypad default setup

Default setup buttons:

- Button 0 - Button 9: 0 - 9
- Button 10 (Tab): Navigate to select tab content
- Button 11 (Alt): Enter
- Button 12: Quick select window
- Button 13: Quick select camera
- Button 14: Ptz select preposition

18.2.5 Axis T8313 jogdial default setup

- Jog wheel: Play forward / backward
- Shuttle wheel: Step forward / backward
- Button 1: Quick bookmark
- Button 2:
- Button 3: Playback pause
- Button 4:
- Button 5 (L): Camera export image
- Button 6 (R): Quick storyboard

18.2.5.1 Changes in V9: Setup name added in selected device layout

To improve selected setup findings between different clients, the selected setup name is added to user layouts. If the setup instance id search does not match, then the search by setup name is tried.

18.2.6 Related links

https://www.axis.com/dam/public/57/bf/60/axis-t8310t8311t8312t8313--user-manual-en-US-38652.pdf

18.3 VM Desktop default setup (DirectX and AXIS)

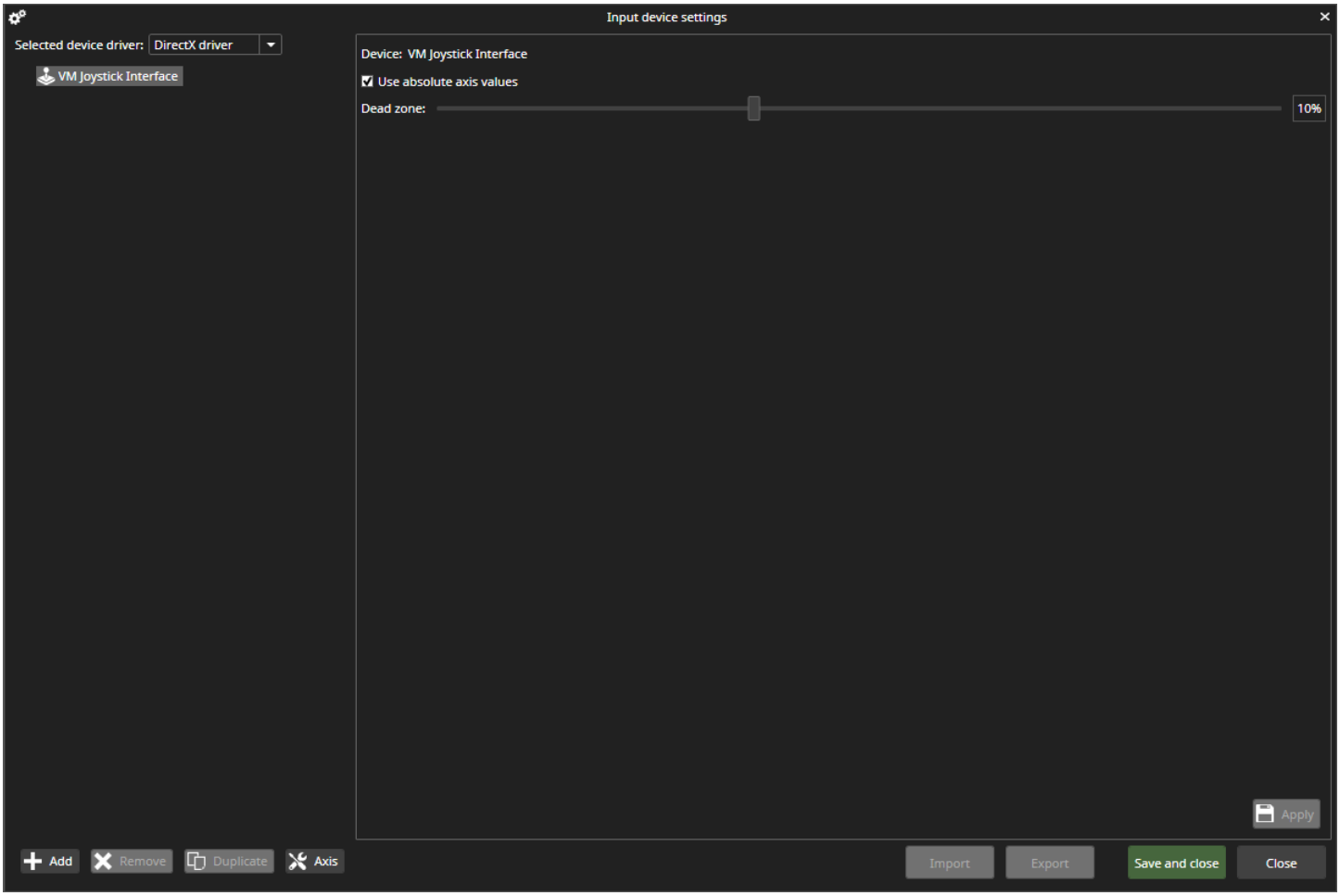
VM Desktop default setup for DirectX devices and AXIS joystick

18.3.1 VM Desktop default setup

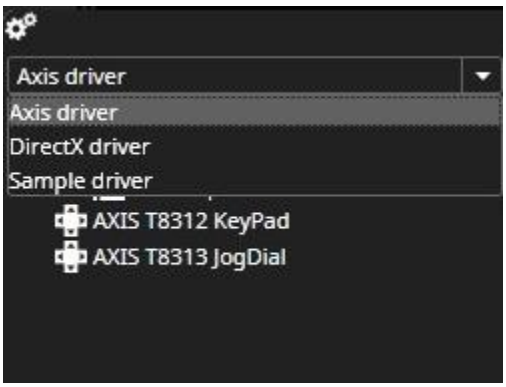


18.3.1.1 Device driver selection

In the device driver setup page, only one driver is seen at a time, the default selected driver is the DirectX driver.

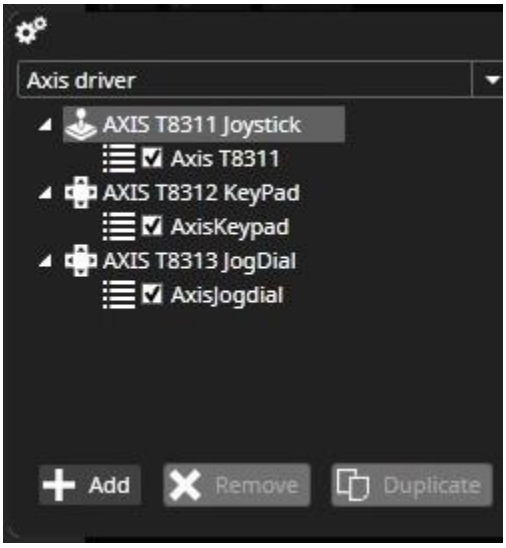


Used (= active) driver can be selected from combo box items:



Axis device driver supports AXIS T8311 Joystick, AXIS T8312 Keypad, and AXIS T8313 Jogdial.

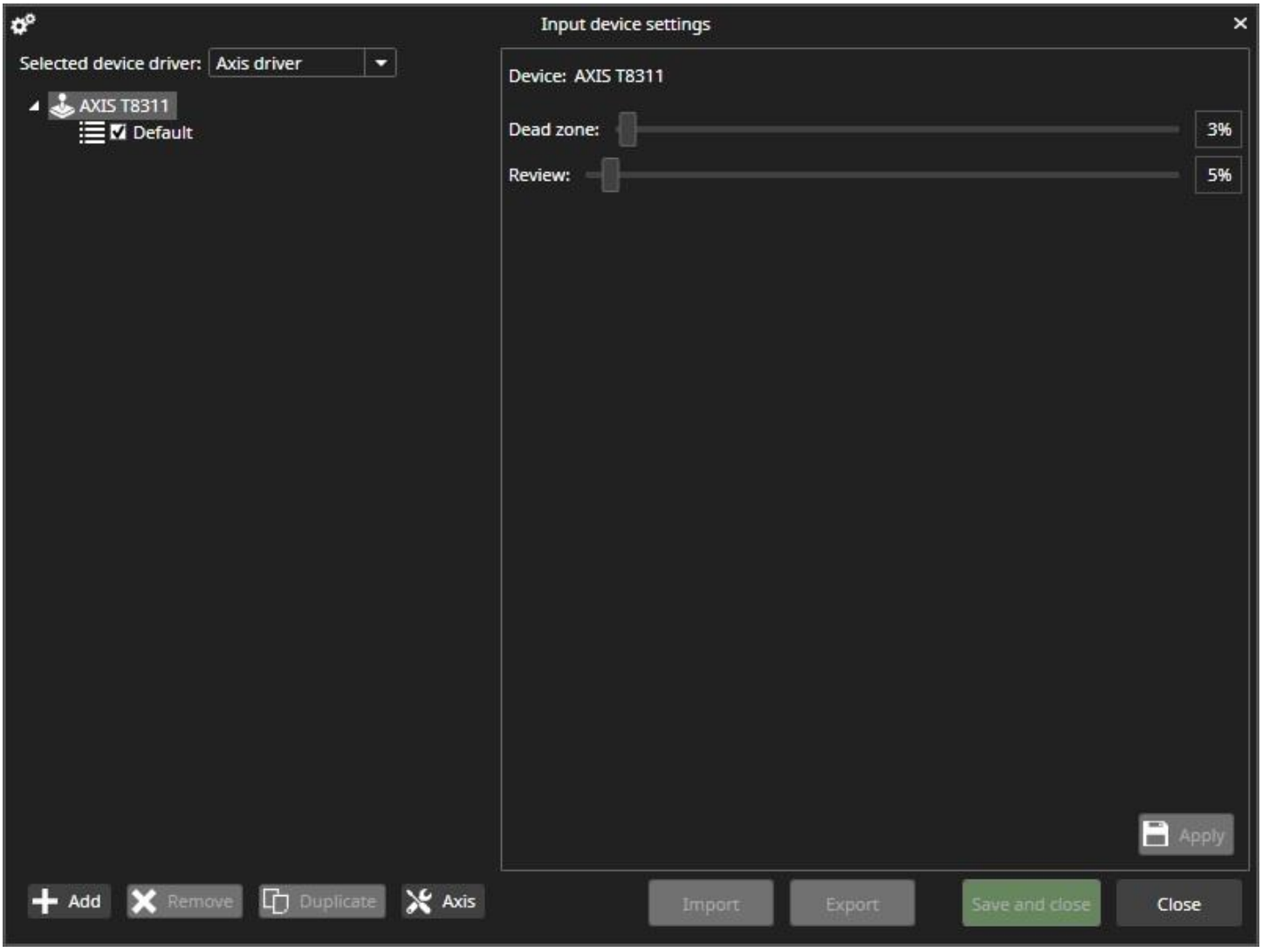
Tel +358 (0)9 2533 3300 Email info@mirasys.com https://www.mirasys.com



Note!
During the Axis device driver test period, we detected a case where the Axis device driver was not viewing ID driver selections in Spotter.log for an unknown reason, and the following error message appeared: Exception in reading parameter information from installed control device driver

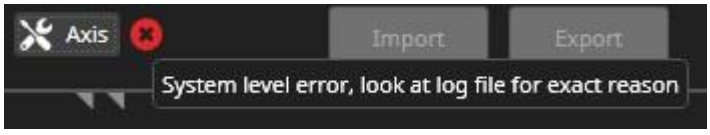
18.3.1.2 Changes in VMS 9.6.0

Automatic Axis device driver registration at Spotter start-up is removed, and a new Axis registration button is added in Input device settings.



Status of registration operation can see from status icon:





Tel +358 (0)9 2533 3300
Email info@mirasys.com
https://www.mirasys.com

19 SPOTTER 360 CAMERAS

19.1 360 DE-WARPING

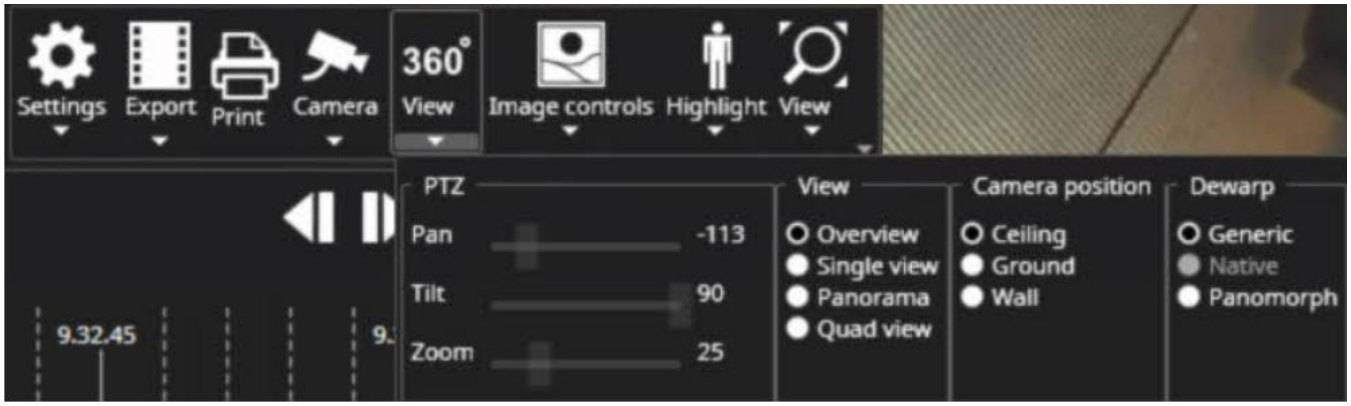
The 360 View toolbar control allows defining how a 360-camera image is de-warped (straightened) by the Spotter client.

The Plugin has controls to:

- Pan, Tilt and Zoom the de-warped image (available only for some de-warped modes and cameras)
- Select the de-warping mode
- Non-de-warped
- Single view
- Panorama (typically a double panorama, but some cameras only offer a single panorama view)
- Quad view (4 individual de-warped cameras that can be adjusted separately
- Camera mounting position control
- Lens selector

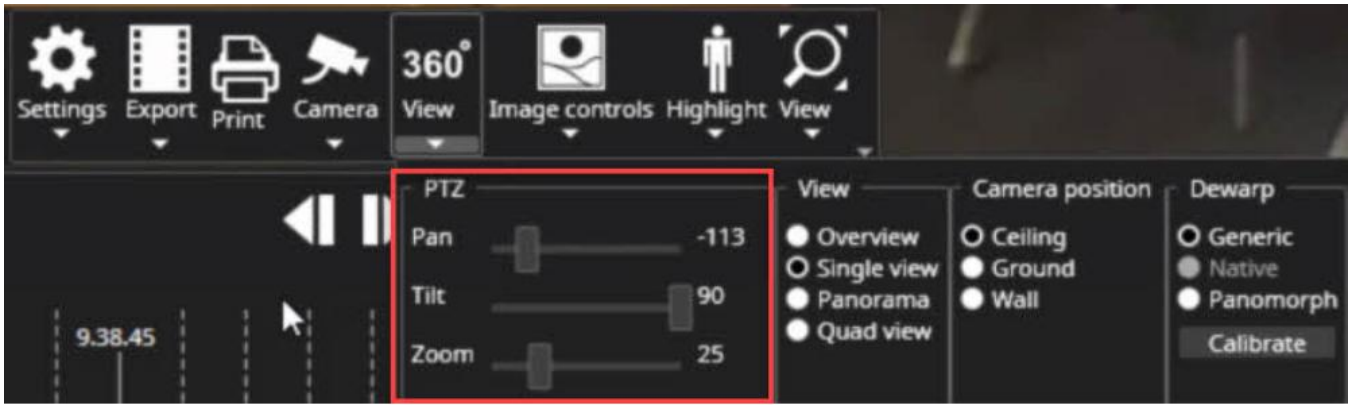
19.1.1 Configuring 360 camera de-warping

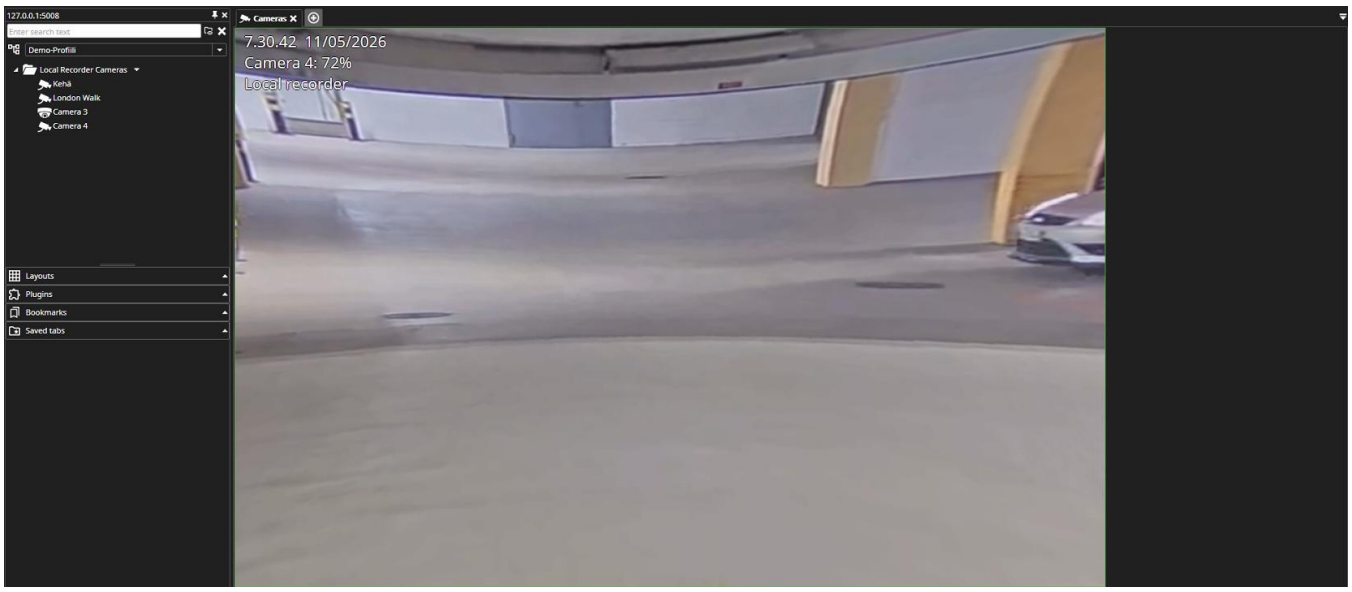
1. Open camera to the real-time view
2. Open camera toolbar
3. Select 360 View
4. Select Dewarp mode
5. Select Camera position(**Ceiling, Ground** or **Wall**)
6. Select View mode



19.1.2 Single view

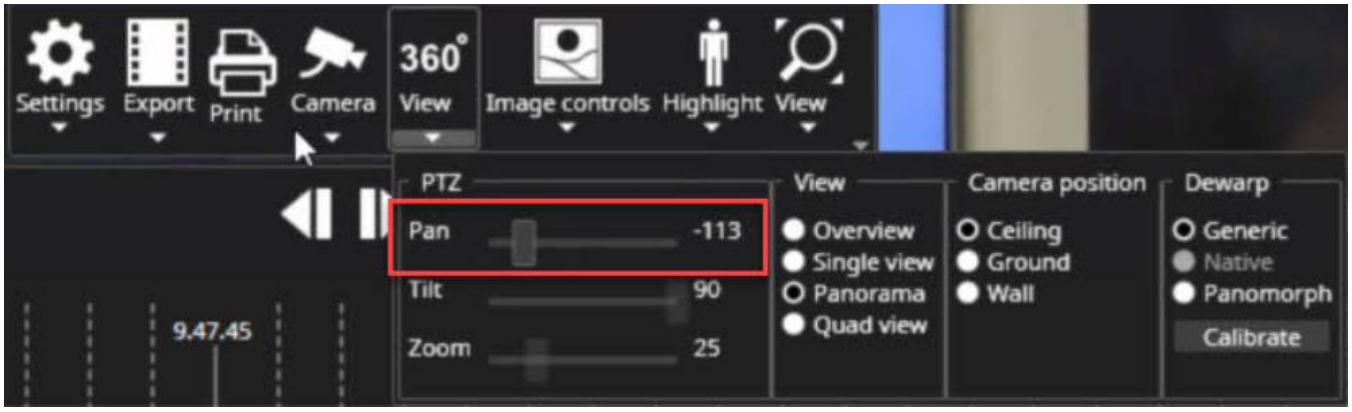
1. Select Single view mode
2. Adjust Pan, Tilt and Zoom





19.1.3 Panorama

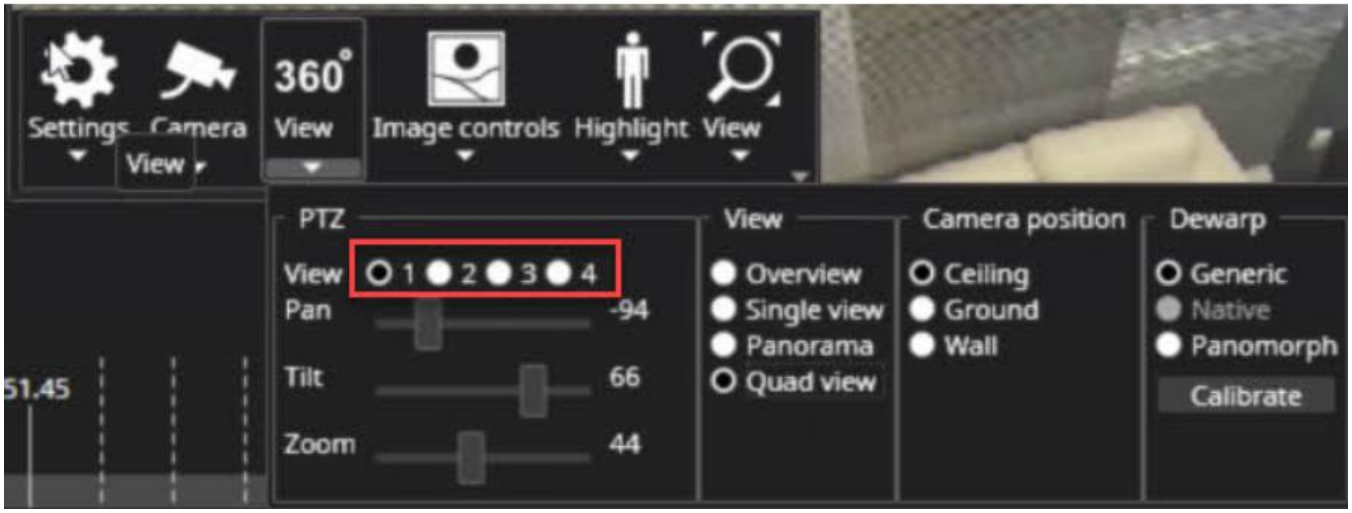
1. Select Panorama mode
2. Adjust Pan





19.1.4 Quad

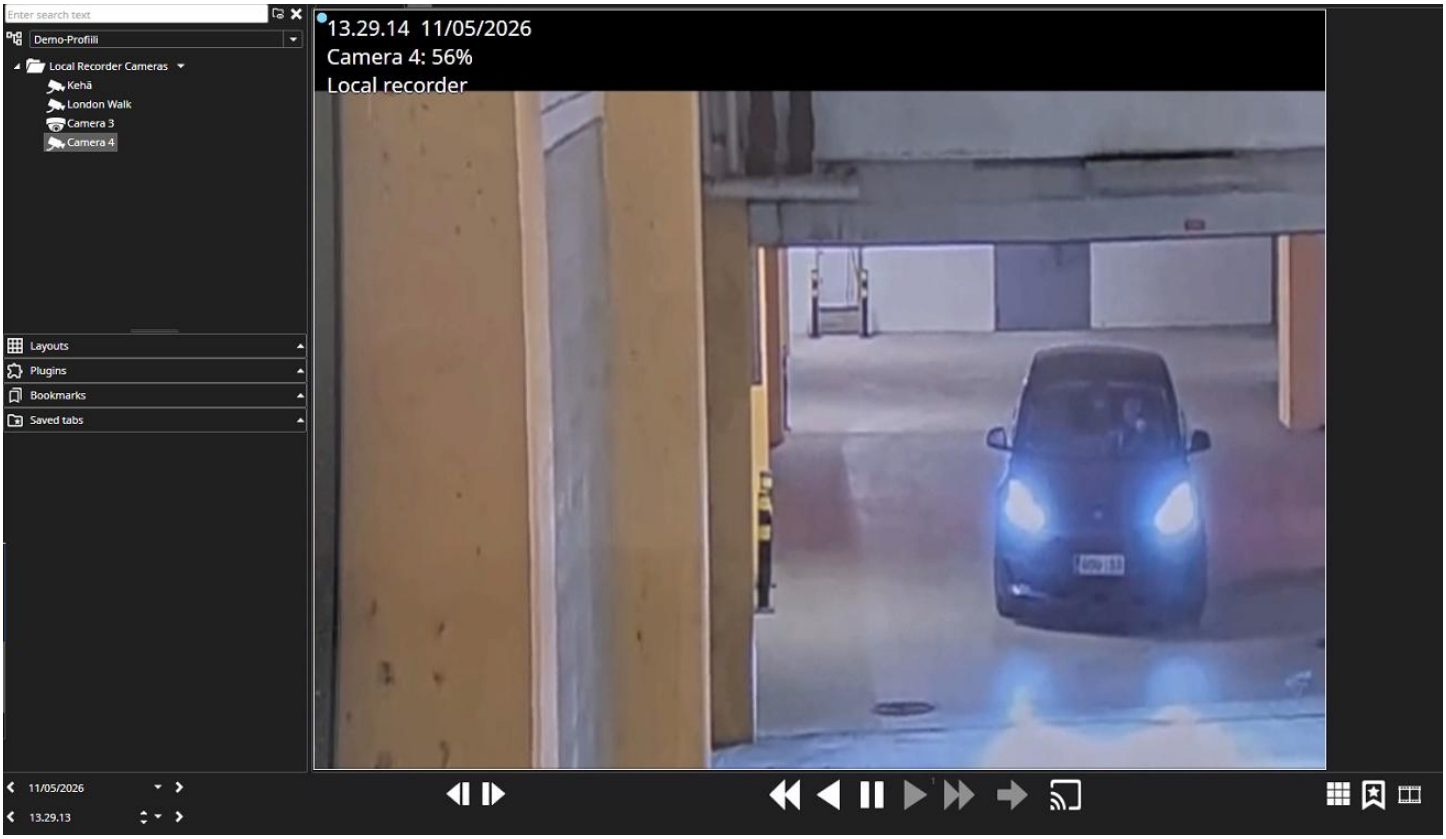
1. Select Quad view mode
2. Select view 1
3. Adjust Pan, Tilt and Zoom
4. Repeat same actions to View 2, 3 and 4





19.2 Direct Control of 360 Cameras

When 360 de-warping is in use, it is possible to click on top of the image and then move the mouse and use the mouse wheel to zoom. This will act as an ultra-fast virtual PTZ. When clicking again with the mouse, the control is released and the changes saved. The de-warp mode switches automatically to a single view when the camera is clicked. Sample view of a panorama de-warped camera:



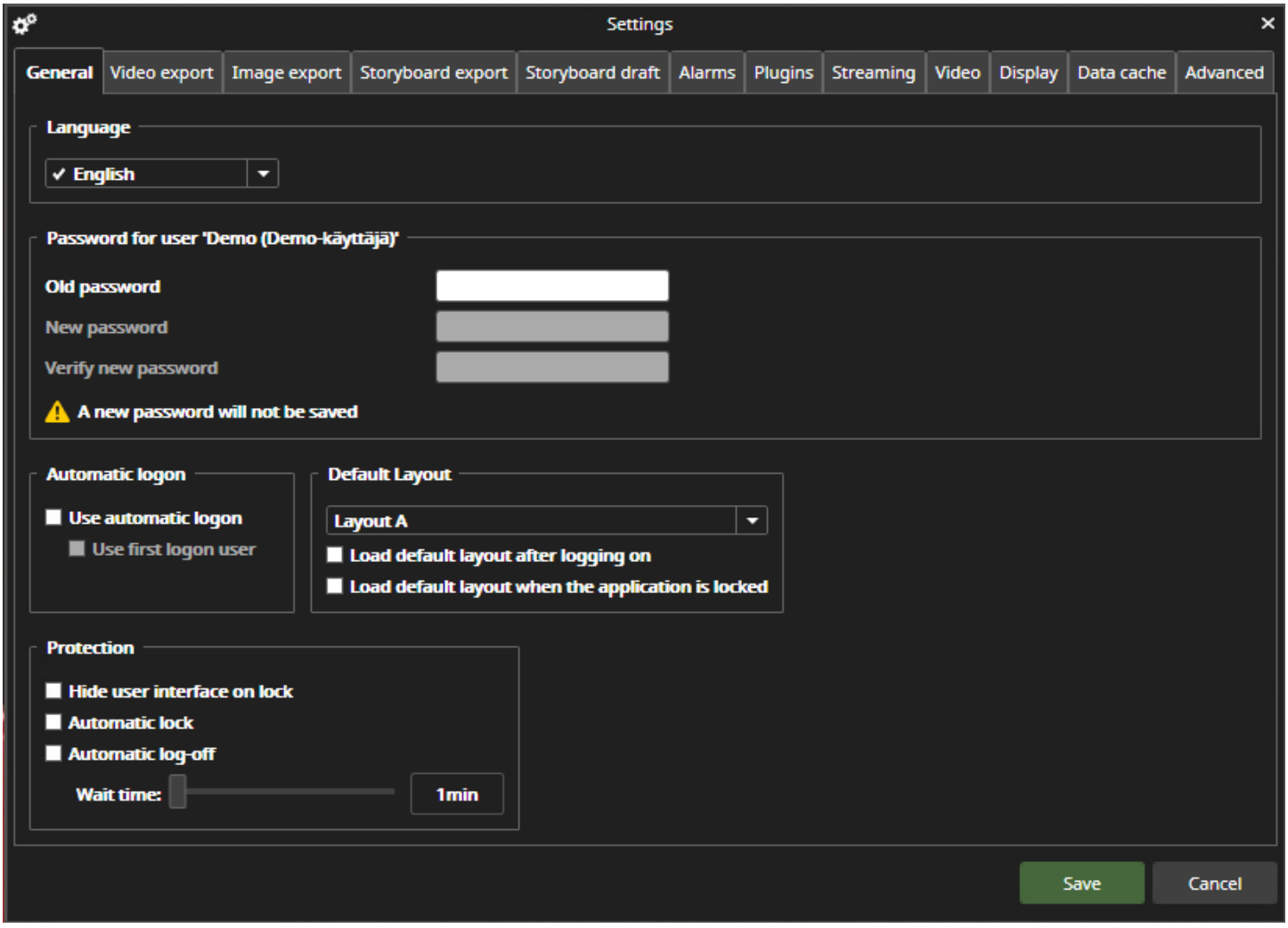
20 SPOTTER SETTINGS

Various functions can be accessed from the **Settings** menu.

- General
- Video export
- Image export
- Storyboard export
- Storyboard draft
- Alarms
- Plugins
- Streaming
- Video

- Display
- Data cache
- Advanced

20.1 SPOTTER GENERAL SETTINGS



20.1.1 Language

You can select the used language from the drop-down list

20.1.2 Password settings

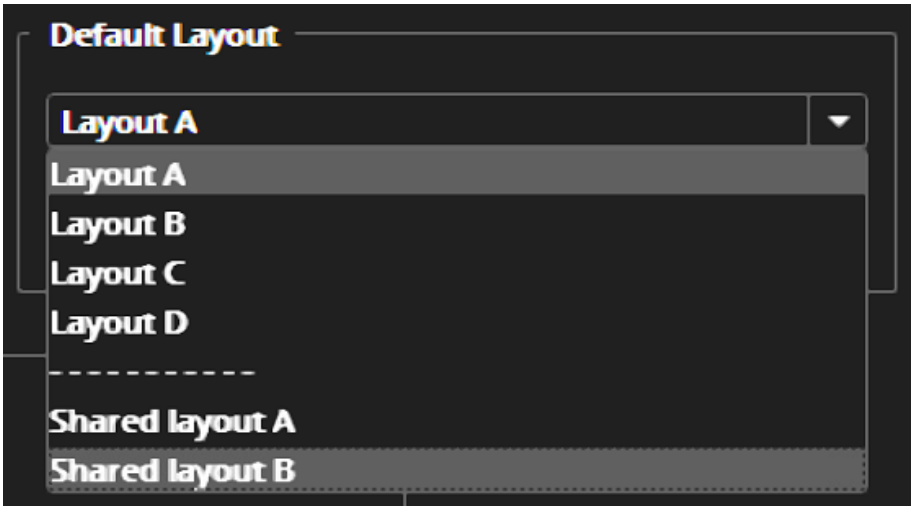
You can change the current user password

20.1.3 Automatic logon

- Use automatic log-on
    - When selected, Spotter logon is executed automatically
    - Example: User A logs on to Spotter and switch to User B. Under user B, select 'Use automatic log-on,' switch to User C, and under User, C log off Spotter. Next time when Spotter is started, it is automatically logged on as User C (was the user when logged off).
- Use the first log-on user.
    - When selected, Spotter logon is executed with the user who was the Spotter start-up logon user when this selection was made.
    - Example: User A logs on to Spotter, switch to User B under User B select 'Use automatic logon' and 'Use first login user', switch to User C, and under User C logs off Spotter. Next time when Spotter is started, it is automatically logged on as User A (the user who first logged on).

20.1.4 Default layout

You can select a layout from the layout drop-down list to a layout that is available to you. The user's own layouts and shared layouts are separated by a line.



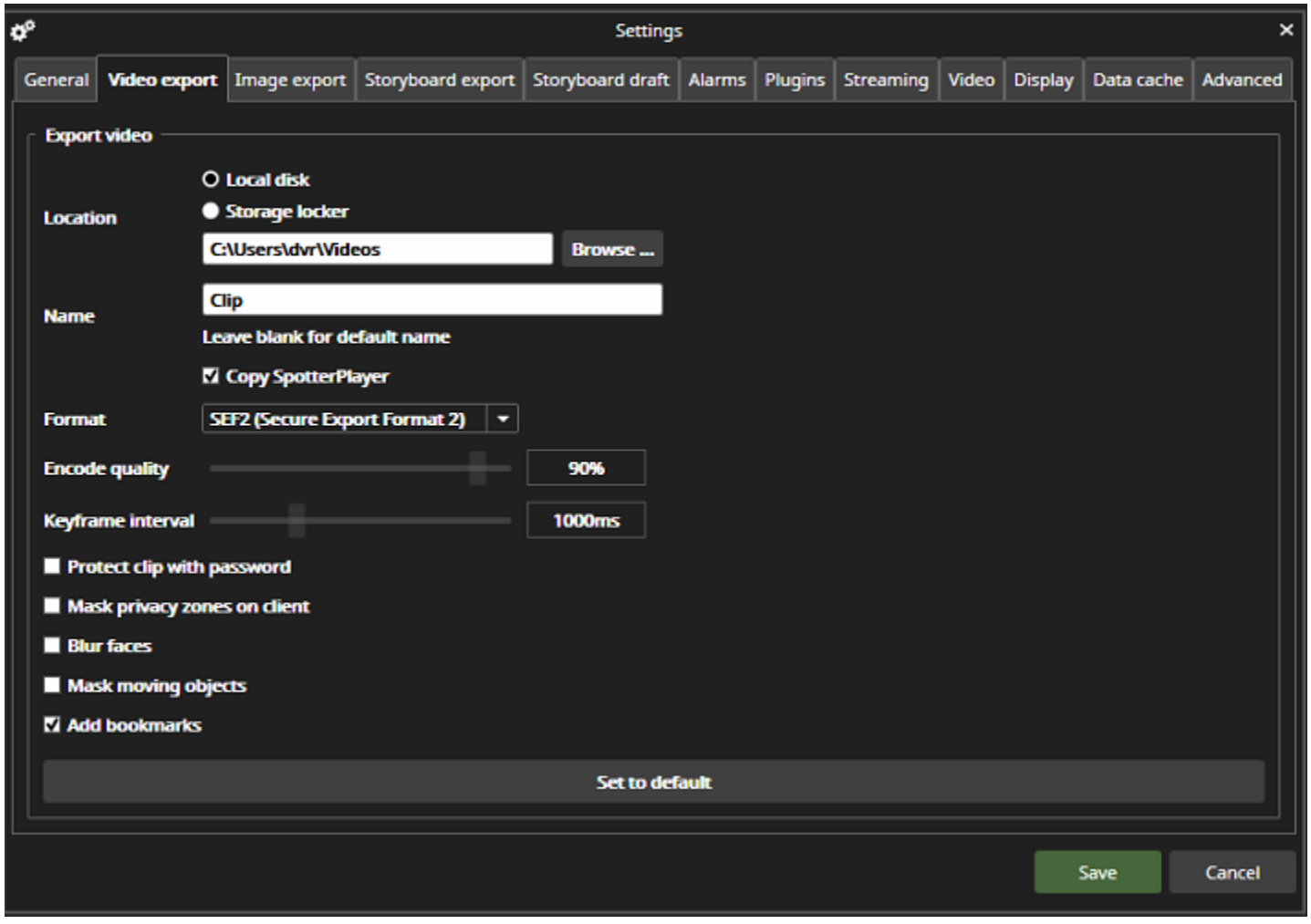
- Load default layout after logging on
    - If checked, load the selected layout after logging on
- Load default layout when the application is locked
    - If checked, load the selected layout when the application is locked

20.1.5 Protection

Can select behavior at lock and log off situations

- Hide user interface on lock
    - When selected, do not show the user interface when the application is locked, only an empty scene with locked information.
- Automatic lock and Automatic log off
    - When selected, lock/log off after selecting Wait time, between 1 minute to 24 hours.

20.2 SPOTTER VIDEO EXPORT



20.2.1 Export video

The Video export screen contains the following settings:

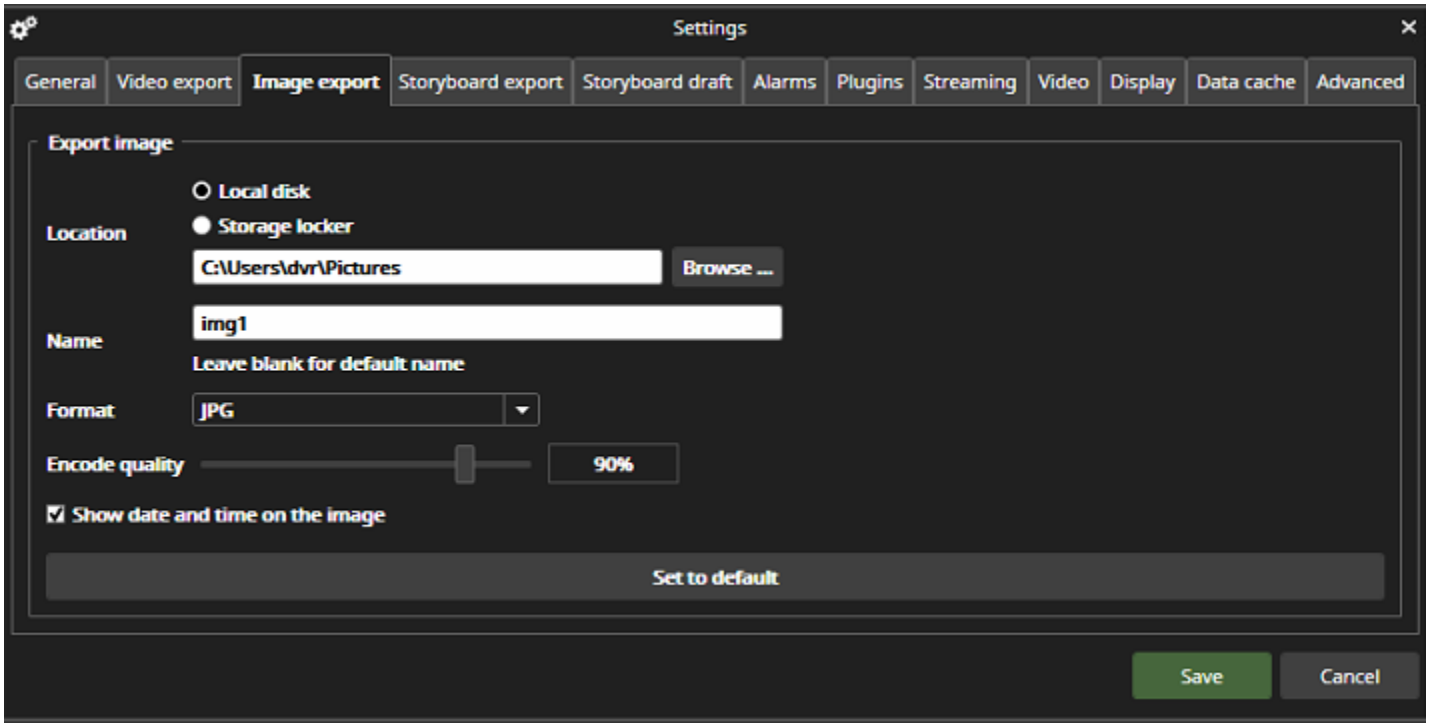
- Location for the video export
- Name of the video export
- Spotter Player copy settings
- Video format selection
- Encode quality
- Keyframe interval

20.2.1.1 Video format-specific settings

Based on the selected video format, the following settings are available:

- ASF
  - Add logo images to video
  - Add bookmarks
- AVI
- Matroska
- MP4
  - Add timestamp
  - Use HW for timestamp processing
- SEF
  - Add bookmarks
- SEF2
  - Protect clip with password
  - Mask privacy zones on client
  - Blur faces
  - Mask moving objects
  - Add bookmarks

20.3 SPOTTER IMAGE EXPORT



20.3.1 Export an image

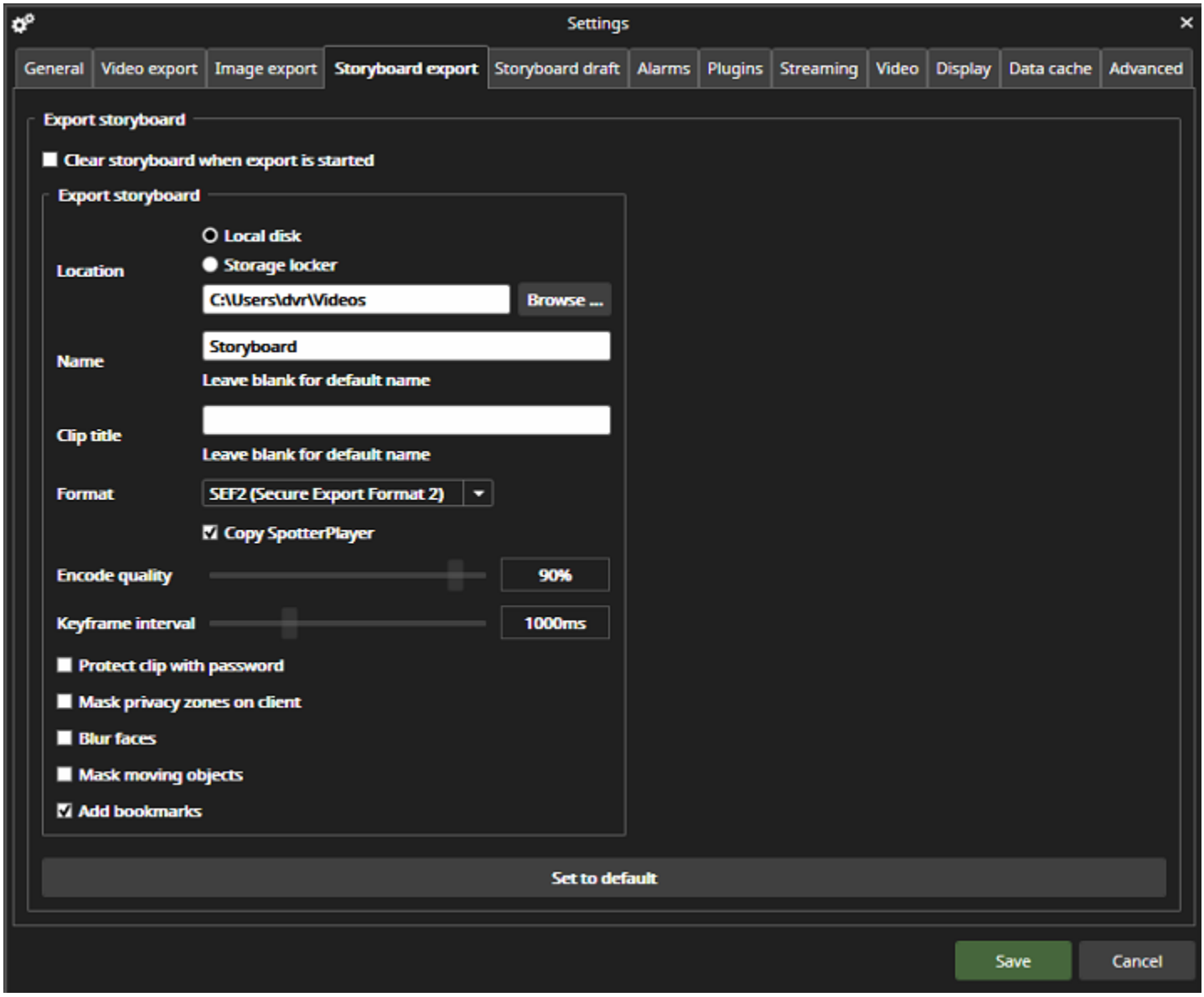
The Image export screen contains the following settings:

- Location for the image export
- Name of the image export
- Image format selection
- Encode quality
- Show date and time on the image

20.4 SPOTTER STORYBOARD SETTINGS

Storyboard settings contain the export target location and the target location for the draft storyboards. The name of the storyboard and the clips can be defined here.

If the names are left blank, a default name with a timestamp is used.



1. Select the location for the export and for saving the drafts.
2. Name the export folder.
3. Name the clip
4. Select the format for the export
5. Select any other abilities for the export:
    - Clear storyboard when export is started
    - Encode quality

Tel +358 (0)9 2533 3300 Email info@mirasys.com https://www.mirasys.com

- Keyframe interval
- Protect clip with password
- Mask privacy zones on client
- Blur faces
- Mask moving objects
- Add bookmarks

6. Save settings.

20.5 SPOTTER STORYBOARD DRAFT SETTINGS

The Storyboard Draft feature allows you to save and manage Storyboard drafts securely in Spotter. This guide explains how to configure, protect, and access your drafts.

Important Notes:

- Passwords **cannot be recovered**, so ensure that you keep a secure record.
- The password you set applies to both Storyboard drafts and their versions.
- Always use the correct password for the time the draft was saved, as password changes will affect future drafts, but not previously saved ones.

20.5.1 Password Protection for Drafts

When password protection is enabled, all drafts and versions will be encrypted.

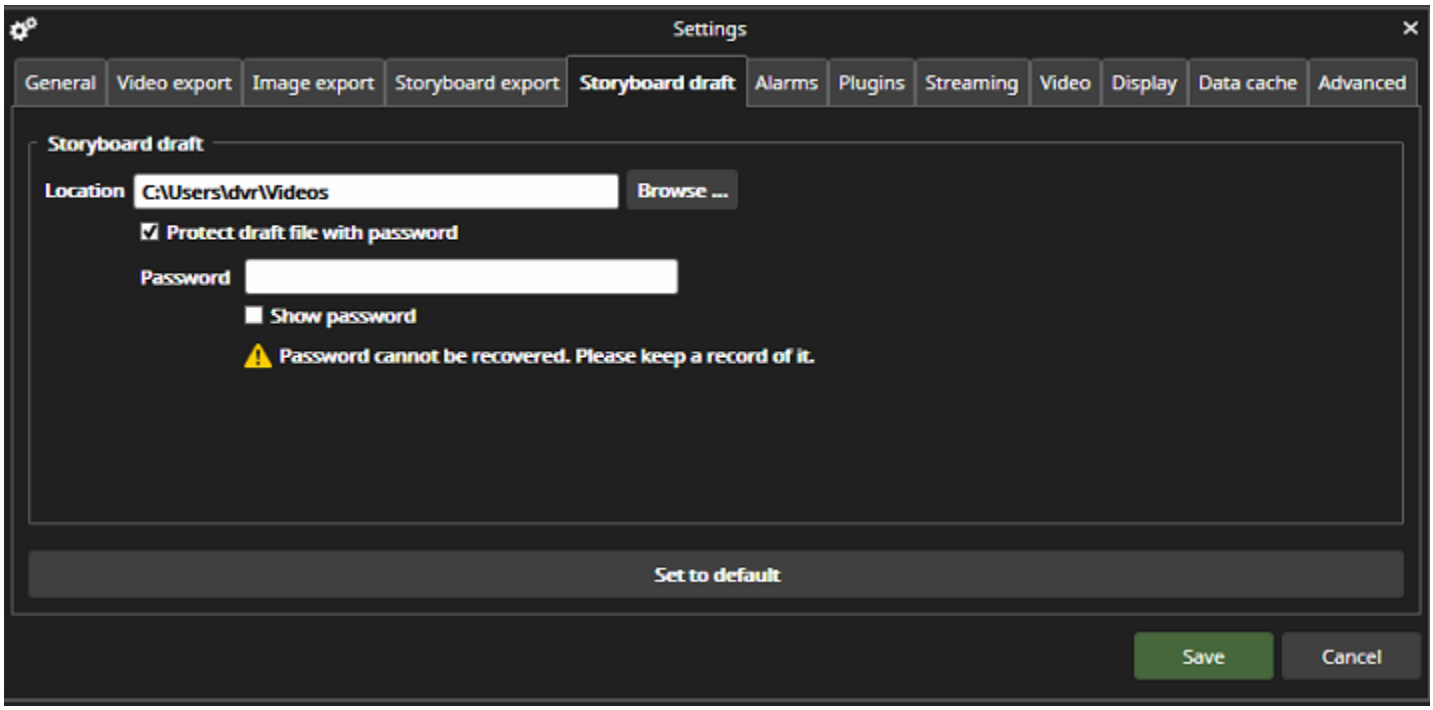
To open a password-protected draft, you will be prompted to enter the password that was active when the draft was saved.

Changing the Password

If you change the password in the settings, the new password will apply to any drafts saved after the change. For example:

- If the password was **0202** on December 14 and you changed it to **0204** on December 15 at 14:00, any draft saved before 14:00 on December 15 will still require **0202**, while drafts saved after 14:00 will require **0204**.

20.5.2 Accessing Storyboard Draft Settings



1. Open **Spotter**.
2. Navigate to **Settings**.
3. Select the **Storyboard draft** tab.

20.5.3 Configuring Storyboard Draft Settings

1. Define the folder where Storyboard drafts and their versions will be saved in **Storyboard draft** settings.
2. Check the box **Protect Draft with Password** to enable password protection for both Storyboard drafts and their versions.
3. Once the password protection is enabled, enter your desired password in the password field.

Password Warning: Passwords cannot be recovered, so make sure to securely store or remember your password.
The password will be securely stored in encrypted form in Spotter's settings file.

1. Check the **Show Password** box to reveal the password if needed while typing.
2. Clicking **Set to Default** resets all settings to their default values.
3. Click **Save** to apply changes or **Cancel** to discard them.

20.5.4 Opening a Password-Protected Draft

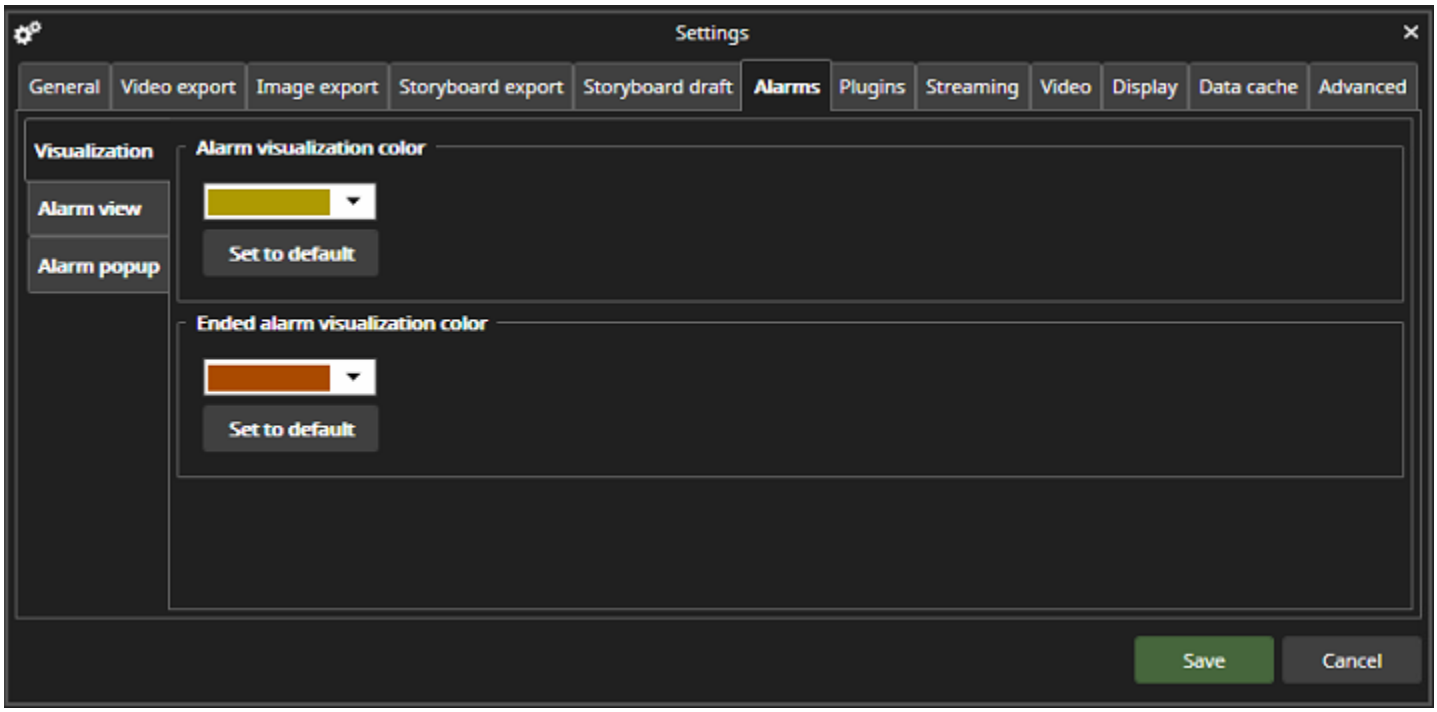
1. When opening a draft with password protection, Spotter will prompt you to enter the password.
2. If you click **Cancel**, the draft will not be opened.
3. The password must match the one used when the draft or draft version was saved.

20.6 Spotter Alarm Settings

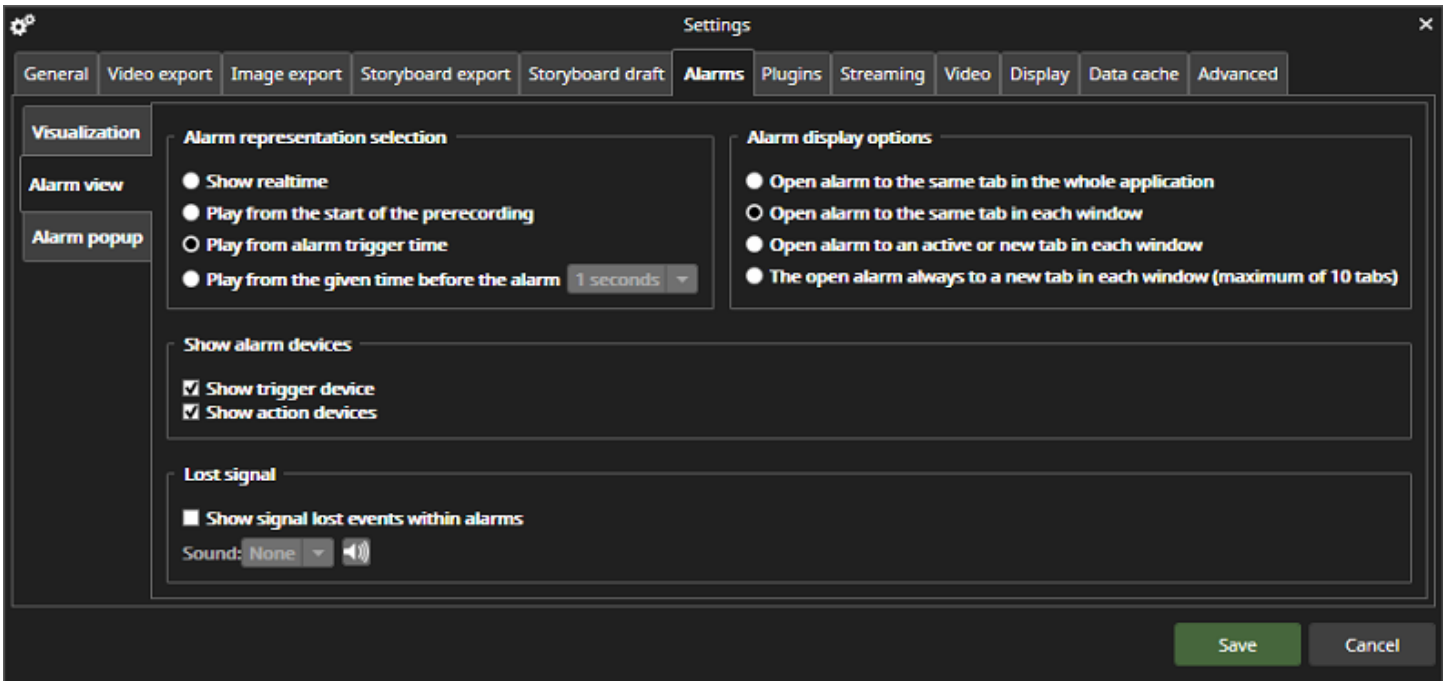
The alarm tab in settings is split for the Alarm visualization, Alarm view and Alarm popup sections.

20.6.1 Spotter Alarm visualization settings

Alarm visualization allows a selection of the alarm highlight color for active and ended alarms.



20.6.2 Spotter Alarm View settings



20.6.2.1 Alarm representation selection

The Alarm representation selection defines what time the alarm is being played when it is opened from the alarm list. The possibilities are:

- Show real-time
- Play from the start of the alarm pre-recording time
- Play from alarm trigger time (default option)
- Play from the given time before the alarm(1- 60 seconds)

20.6.2.2 Alarm display options

It is also possible to define how the alarm is opened. The possibilities are:

- Open alarm to the same tab in all whole application
- Open alarm to the same tab in each window
- Open alarm to an active or new tab in each window
- Open alarm always to a new tab in each window(maximum of 1 10 tabs)

20.6.2.3 Lost signal

- Show signal lost events within alarms

20.6.3 Spotter Alarm popup settings

Alarm popup settings define how the Alarm popup view opens and closes.

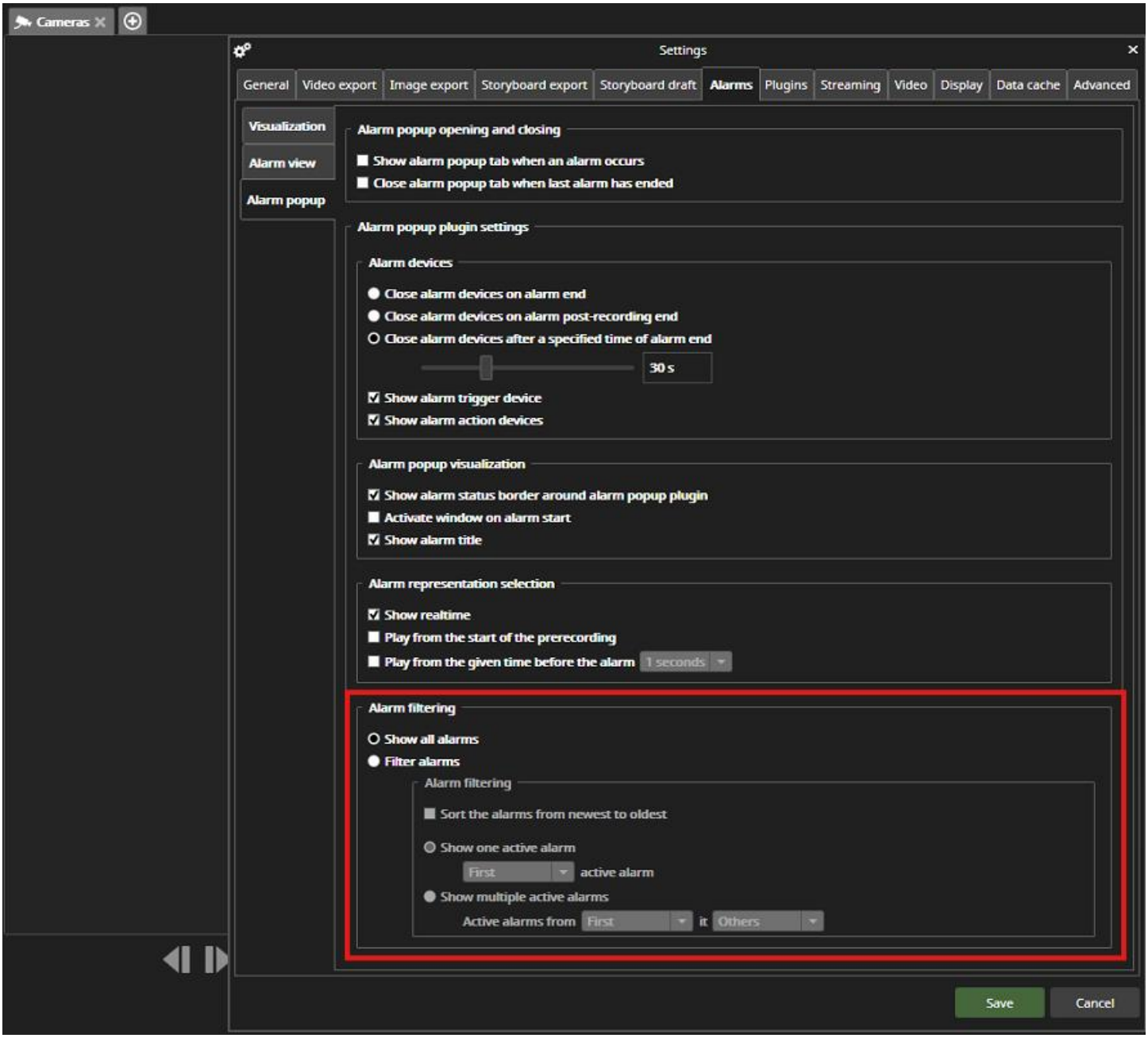
20.6.3.1 Alarm popup opening and closing

For alarm popup to open only when an alarm occurs, check the box **Show alarm popup tab when an alarm occurs**.

There is an option to automatically close the alarm popup tab when the latest alarm has ended, check the box **Close alarm popup tab when the last alarm has ended**.

20.6.3.2 Alarm representation selection

- Show real-time (default)
- Play from the start of the prerecording
- Play from the given time before the alarm(1-60 seconds)

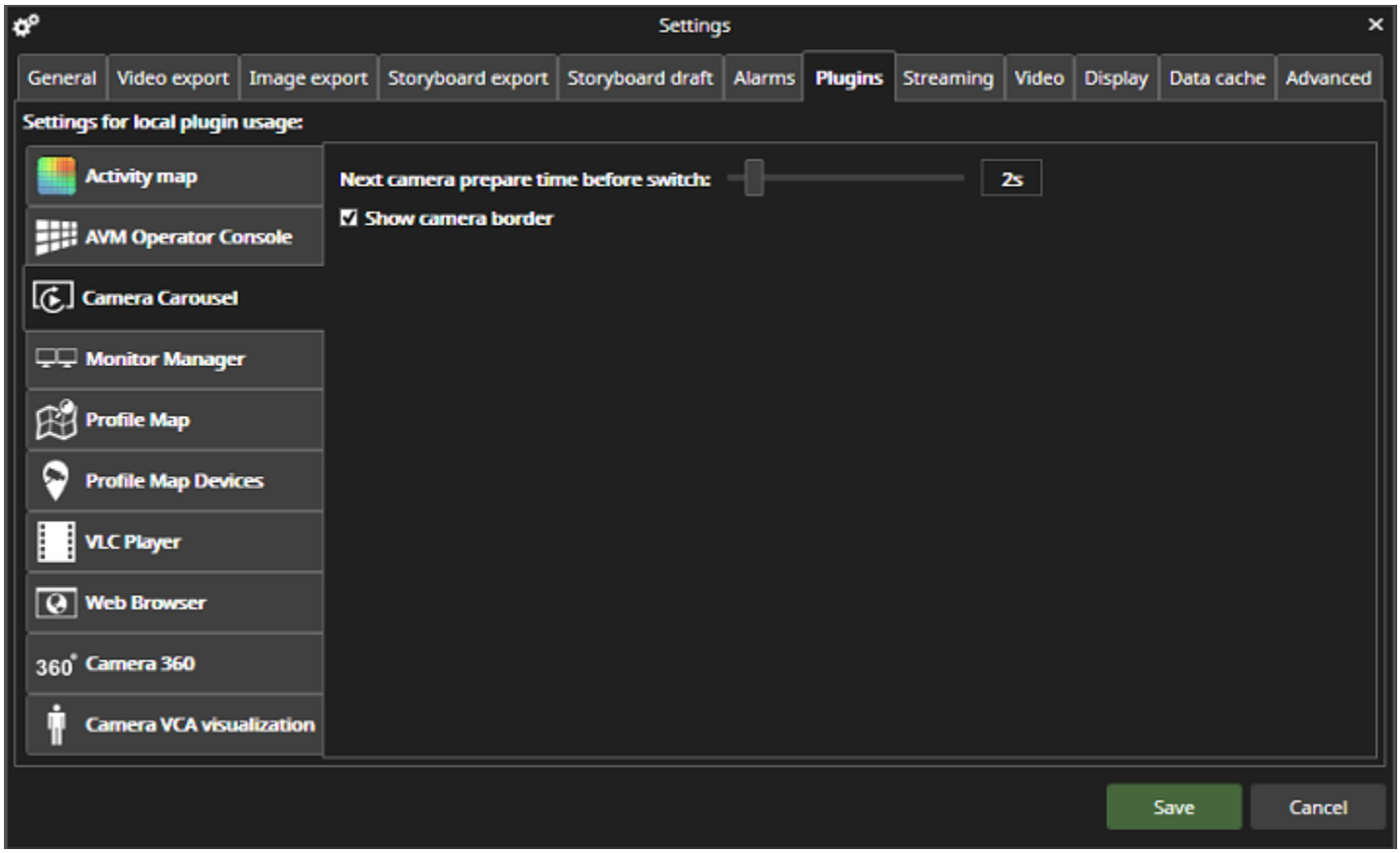


20.6.3.3 Alarm settings > Alarm popup

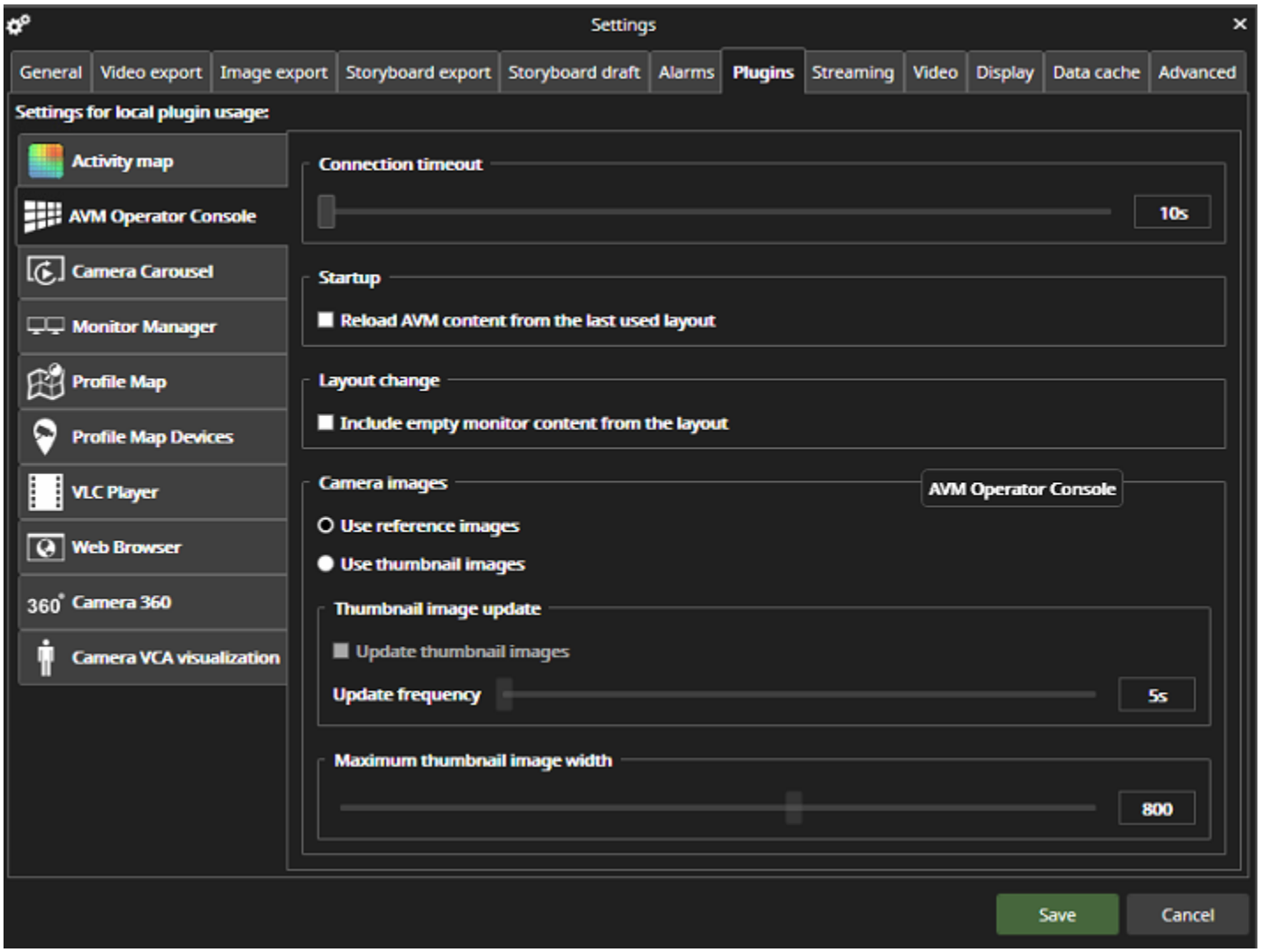
Under **File** > **Settings** > **Alarms** there are settings for how the Alarm popup will behave by default. There is a specific section for Alarm filtering. By default **Show all alarms** is selected. Here you can select specific settings, such as sorting the alarms from newest to oldest, and which alarms you want to show, for example only the first alarm, or the third to forth alarm.

20.7 SPOTTER PLUGIN SPECIFIC SETTINGS

This setting view contains all settings for the installed Spotter plugins not specified elsewhere. The settings visible here can be different based on what Spotter plugins are installed.



20.7.1 Spotter AVM Operator Console settings

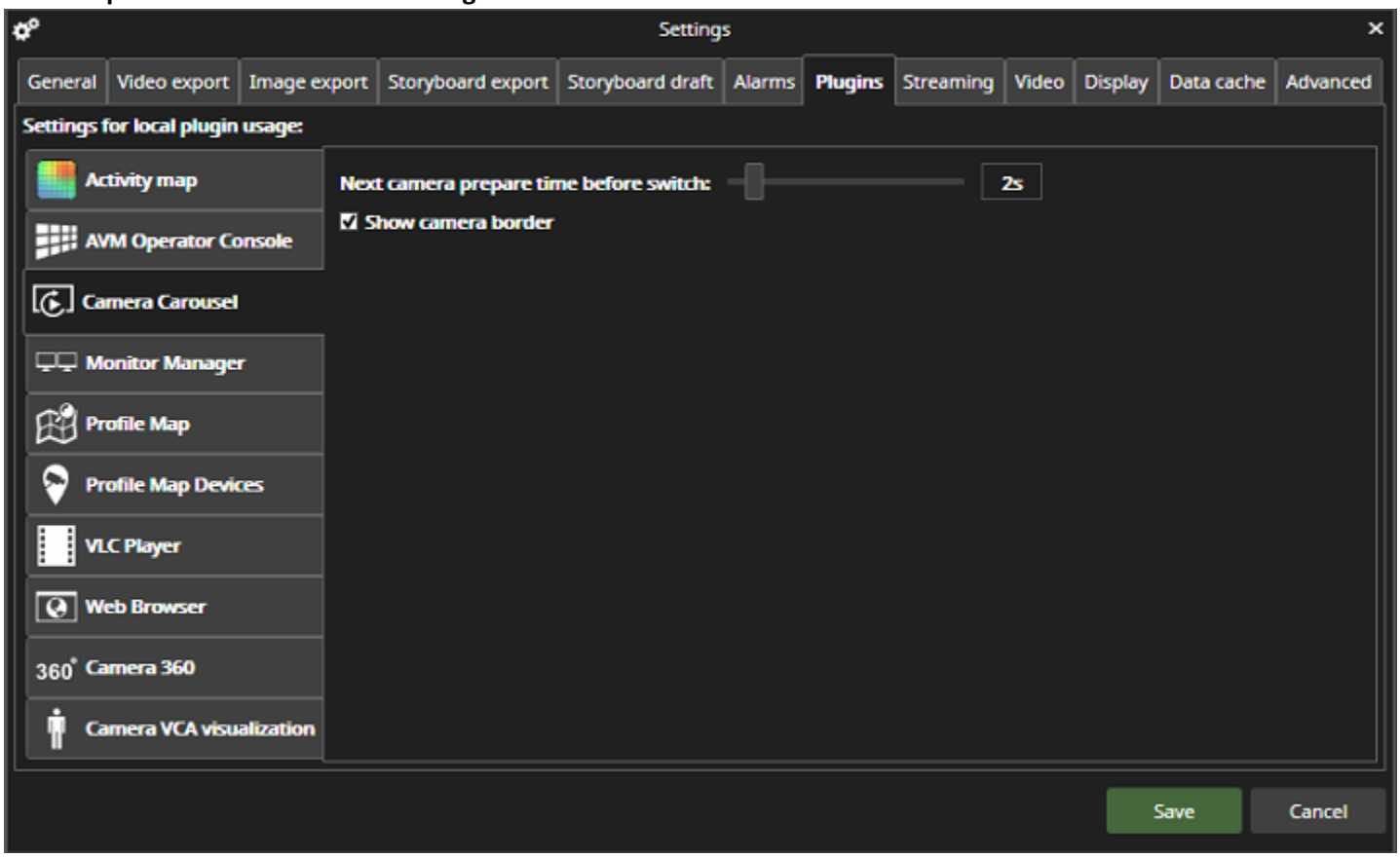


The AVM Operator Console view includes the following settings:

- Connection timeout (0-60 seconds)
- Startup
    - Reload AVM content from the last used layout
- Layout change
    - Include empty monitor content from the layout
- Camera images
    - Use reference images

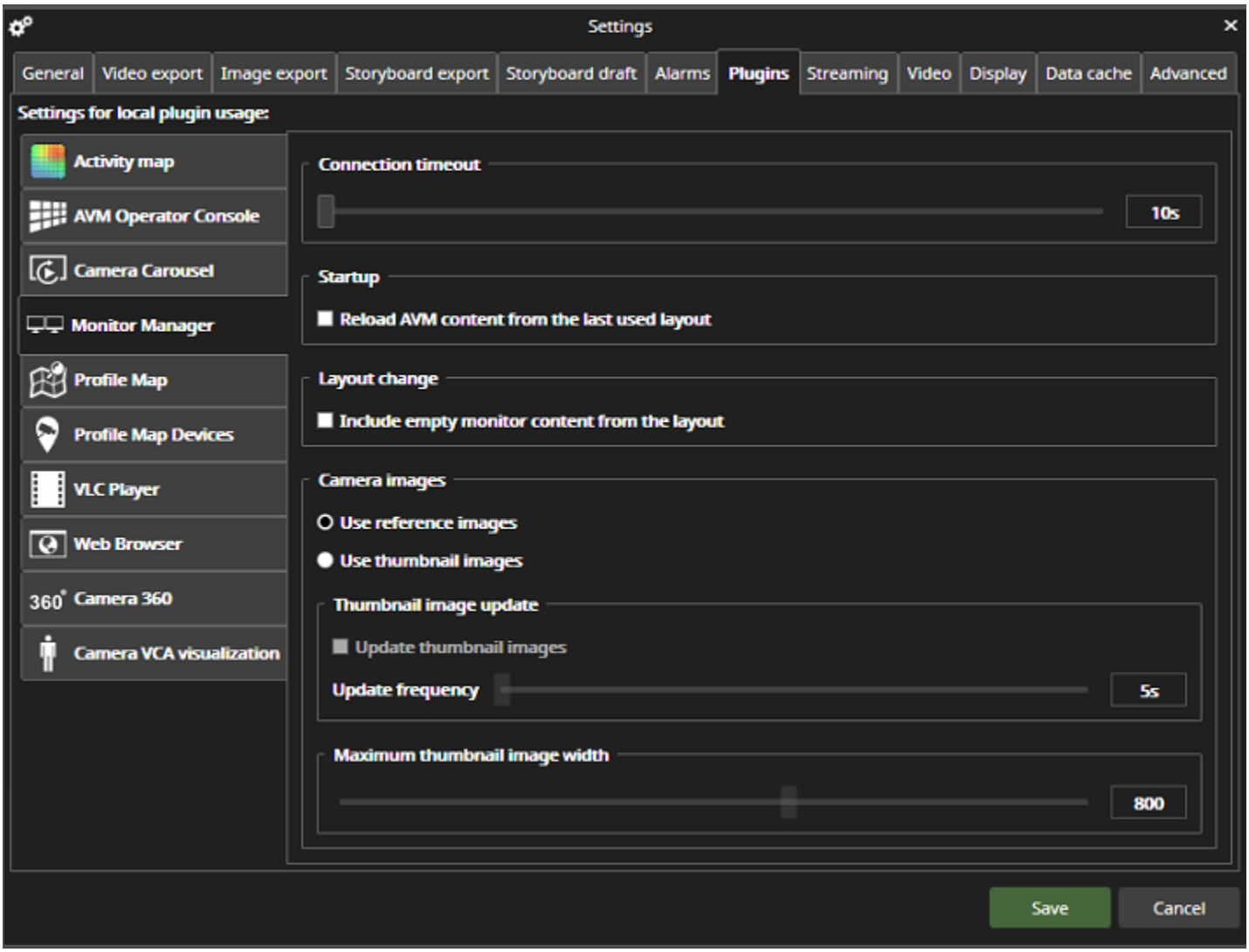
- Use thumbnail images
- Thumbnail image update
  - Update thumbnail images
  - Update frequency
- Maximum thumbnail image width

20.7.2 Spotter Camera Carousel settings



- Next camera prepare time before the switch
- Show camera border

20.7.3 Spotter Monitor Manager settings



20.7.3.1 Connection timeout

20.7.3.2 Startup

Reload AVM content from the last used layout

20.7.3.3 Layout change

Include empty monitor content from the layout

20.7.3.4 Camera images

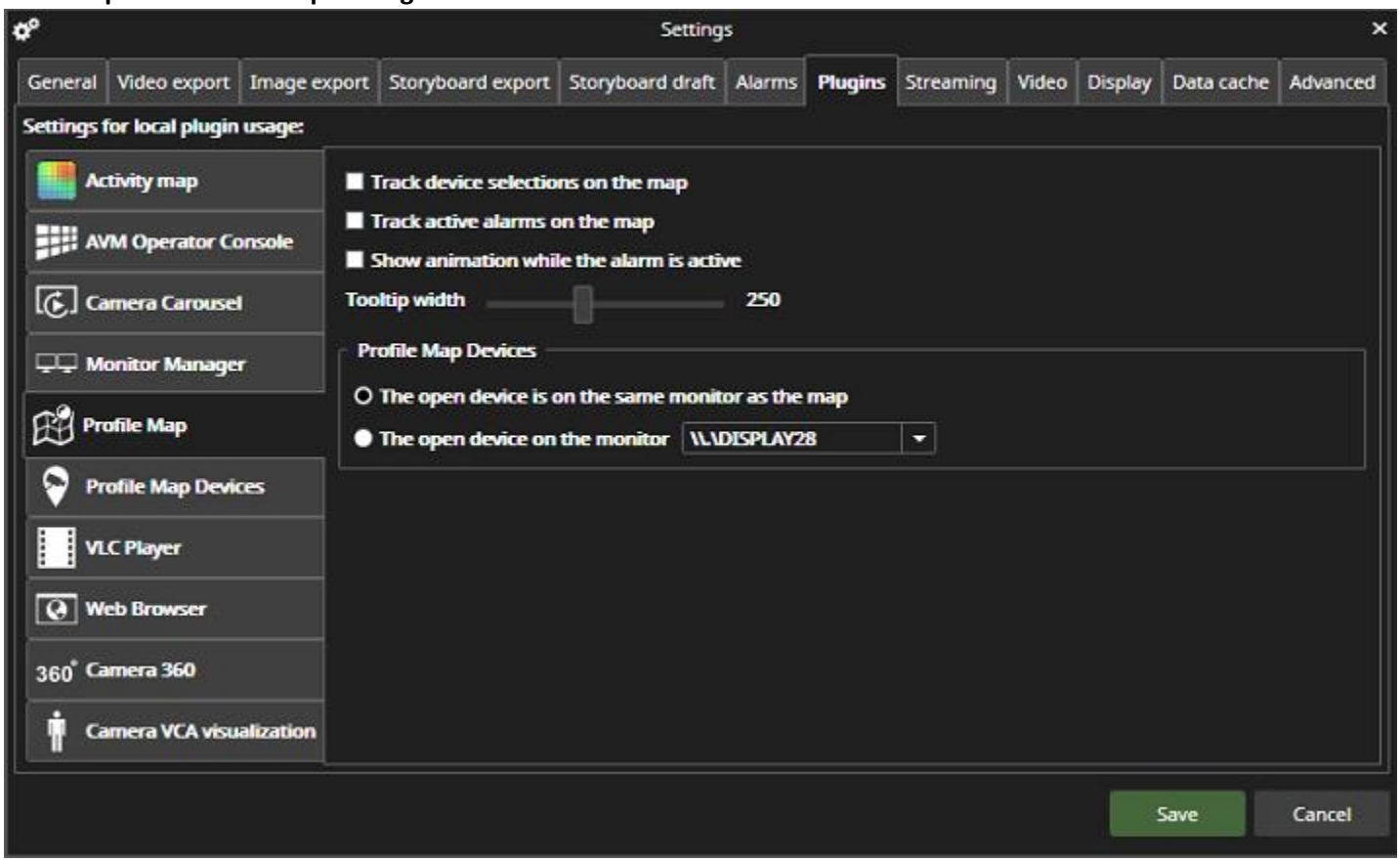
- Use reference images
- Use thumbnail images

20.7.3.5 Thumbnail images update

Update frequency

20.7.3.6 Maximum thumbnail image width

20.7.4 Spotter Profile Map settings

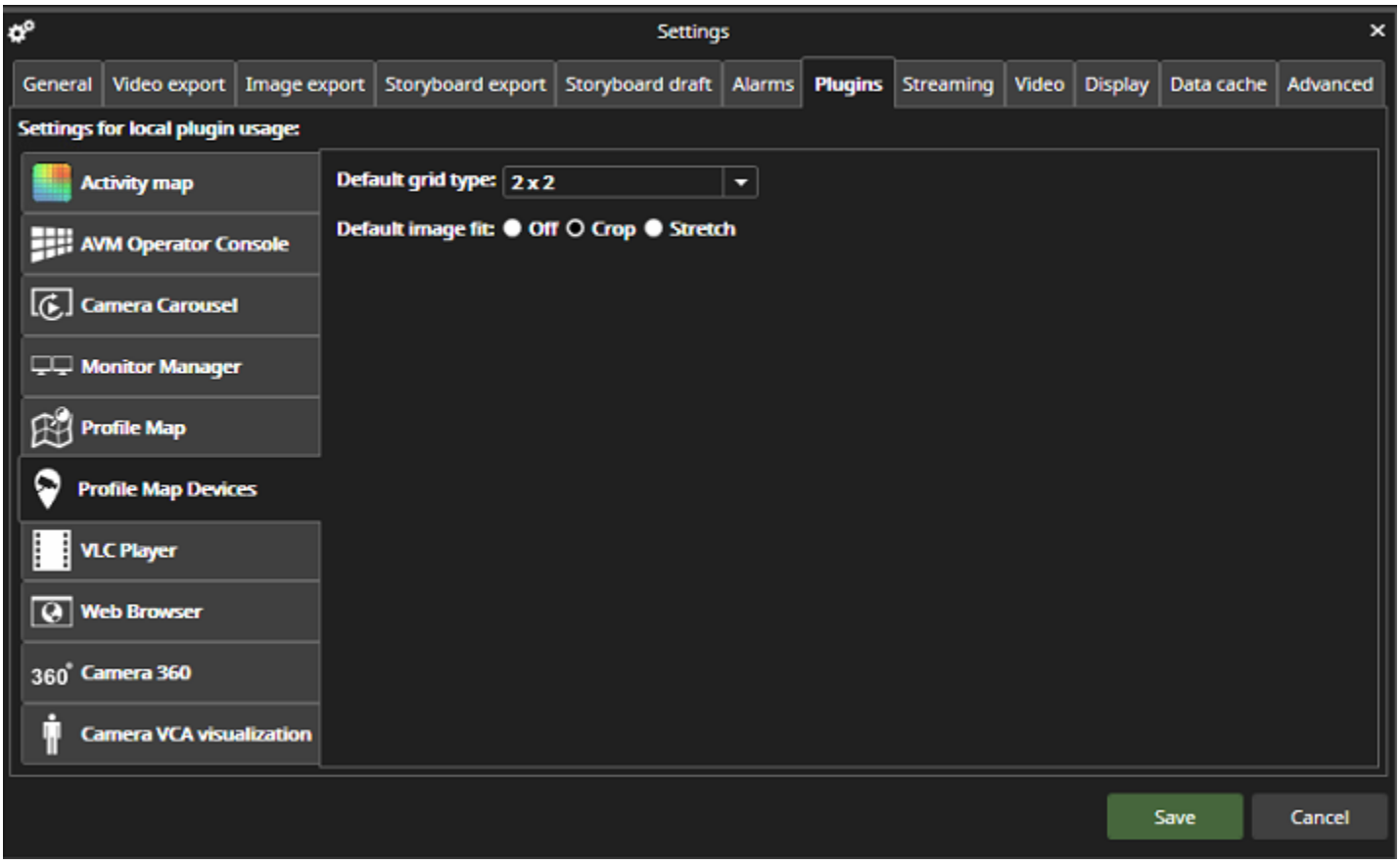


- Track device selections on the map
- Track active alarms on the map
- Show animation while the alarm is active
- Tooltip width

20.7.4.1 Profile Map Devices

- The open device is on the same monitor as the map
- The open device on the monitor:

20.7.5 Spotter Profile Map Devices settings

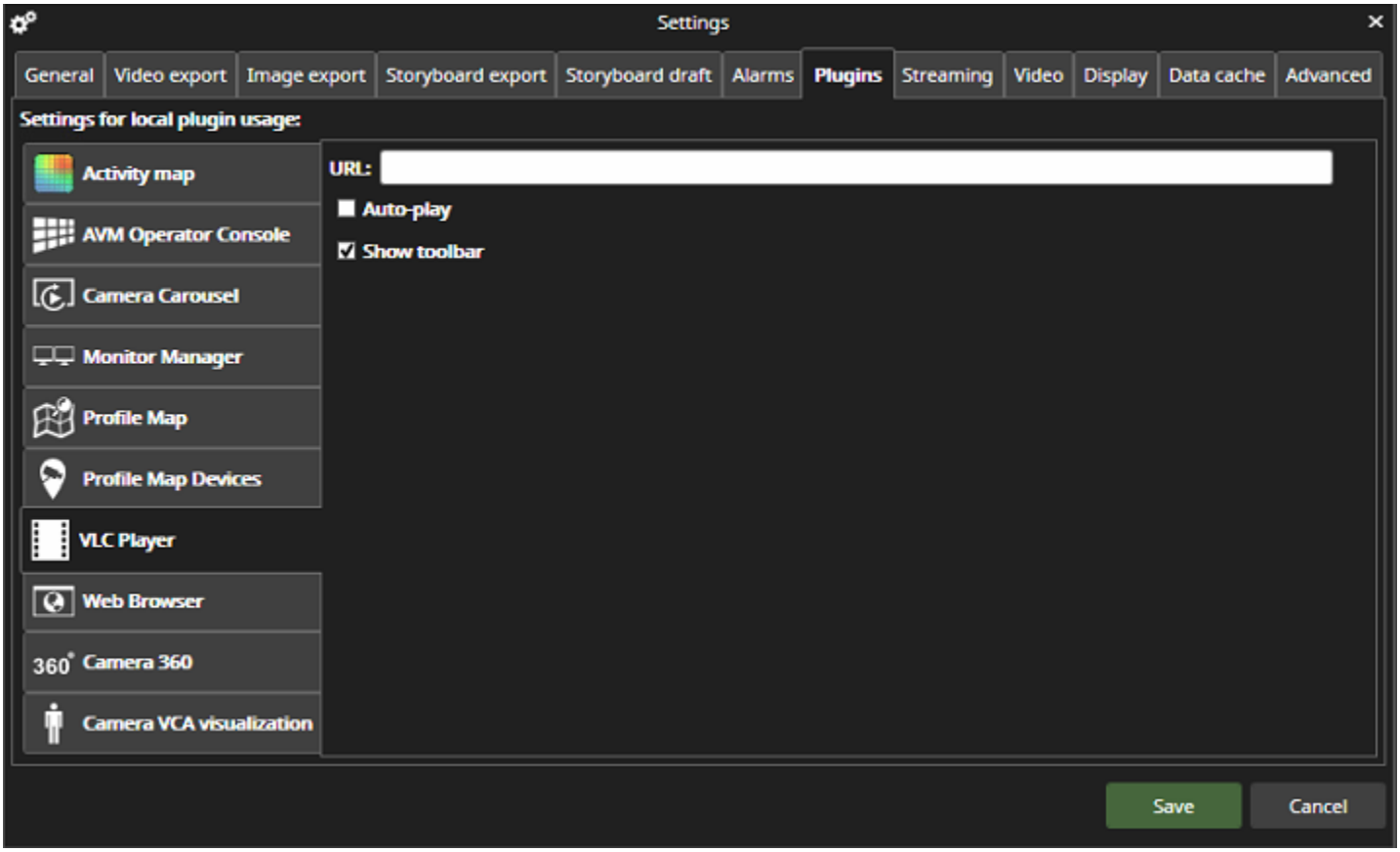


- Default grid type
- Default image fit
    - Off
    - Crop
    - Stretch

20.7.6 VLC Player settings

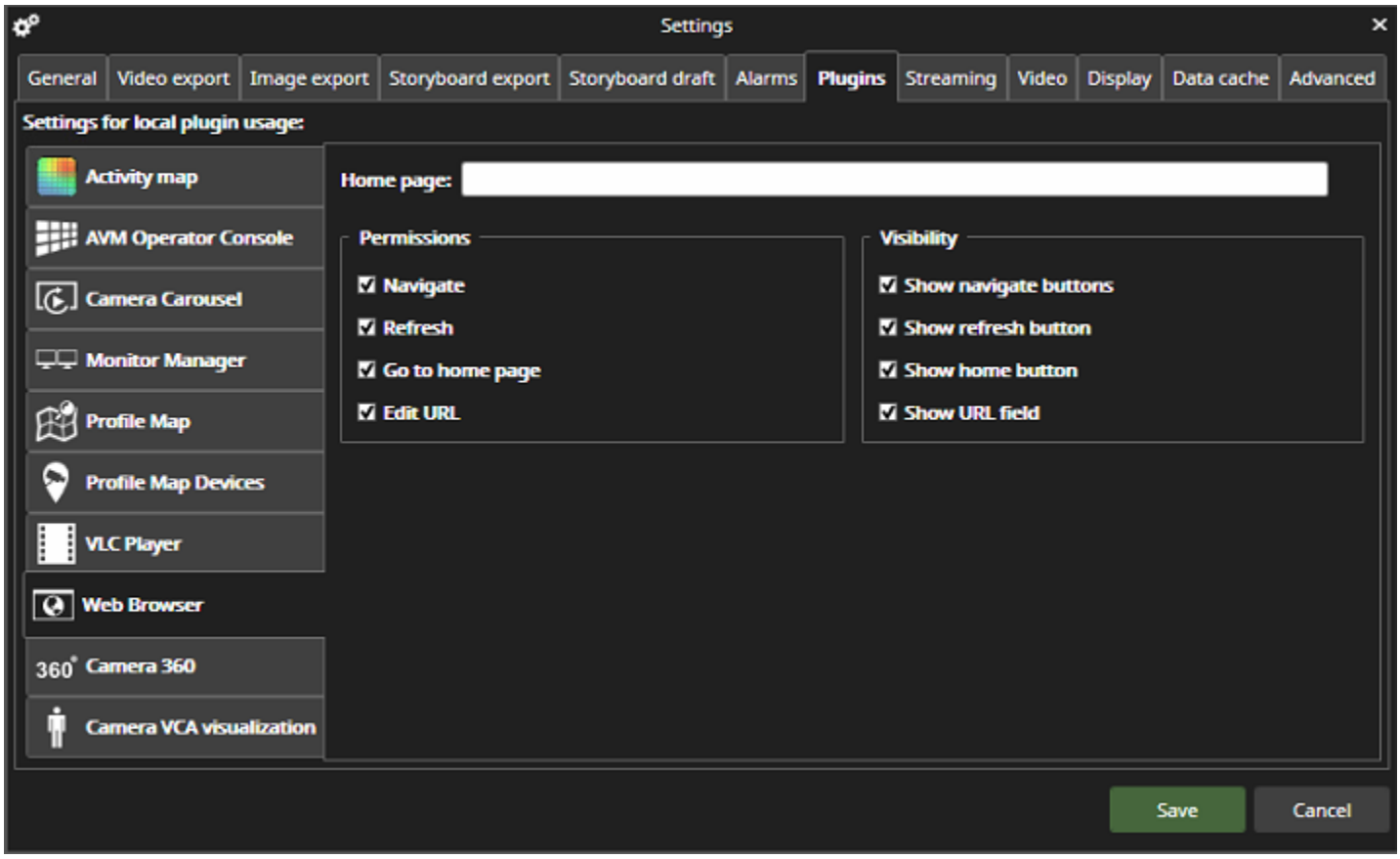
The VLC Player plugin allows operators to view and control advanced playback options and streaming capabilities, including HLS streams, directly within Mirasys VMS. You can set default streams for frequent use and configure auto-play settings. System Administrators can add VLC Player to profiles for permanent use via System Manager.

There is a default setting in Spotter> Settings> Plugins tab> VLC Player to make it more convenient to play streams you would like to receive frequently or daily.



If you want to display the VLC Player stream in the Profile tree permanently, request that your System Administrator configure this in our System Manager > Profile settings.

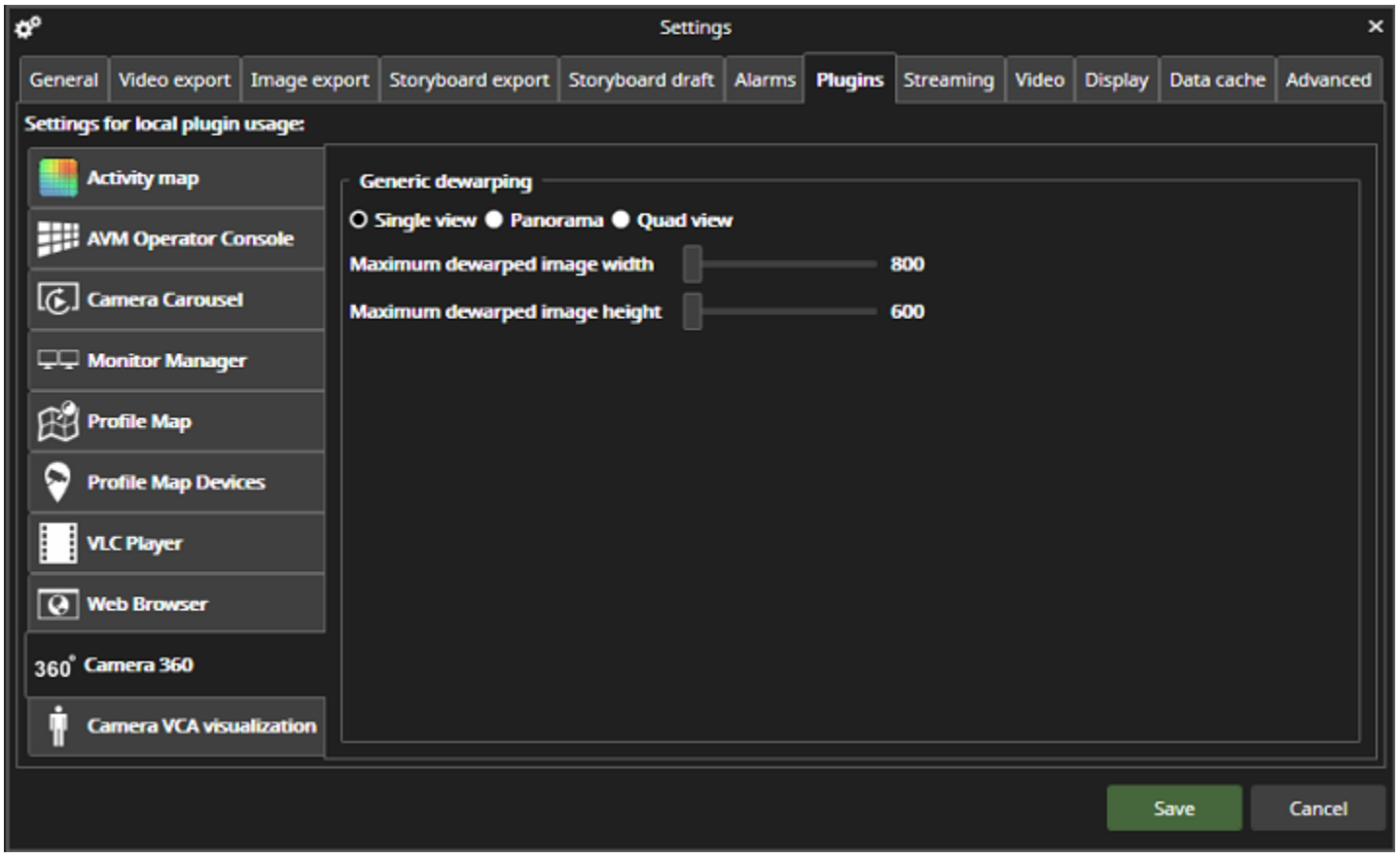
20.7.7 Spotter Web Browser settings



The Web Browser plugin has settings for

- Setting the home page where the plugin will go when it is opened.
- Permissions and visibility for controlling if the user can navigate, refresh, go back to the home page and edit the URL.
- Selecting the version of Internet Explorer that is used.

20.7.8 Spotter Camera 360 settings

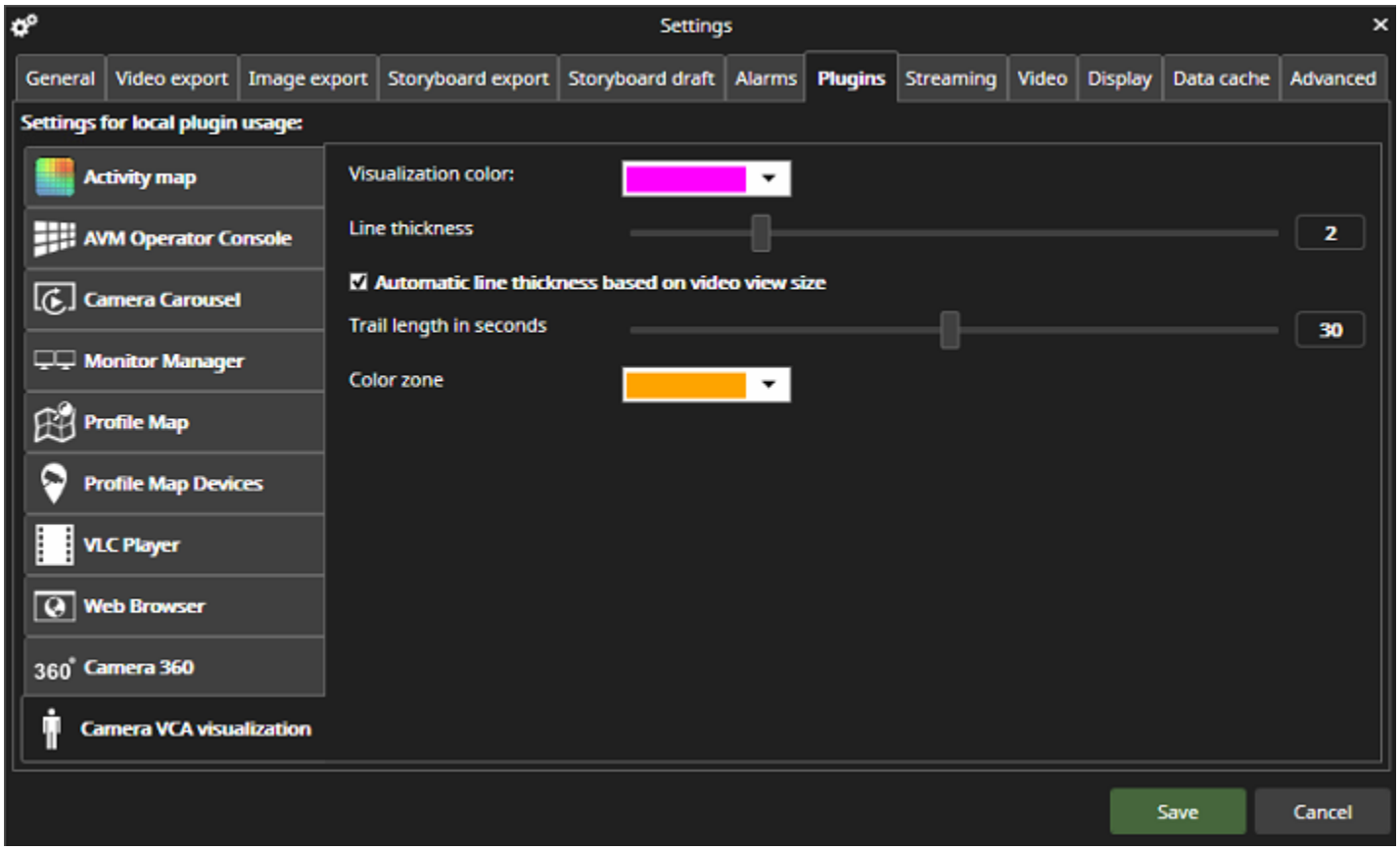


Camera 360 settings contain settings for:

20.7.8.1 Generic dewarping

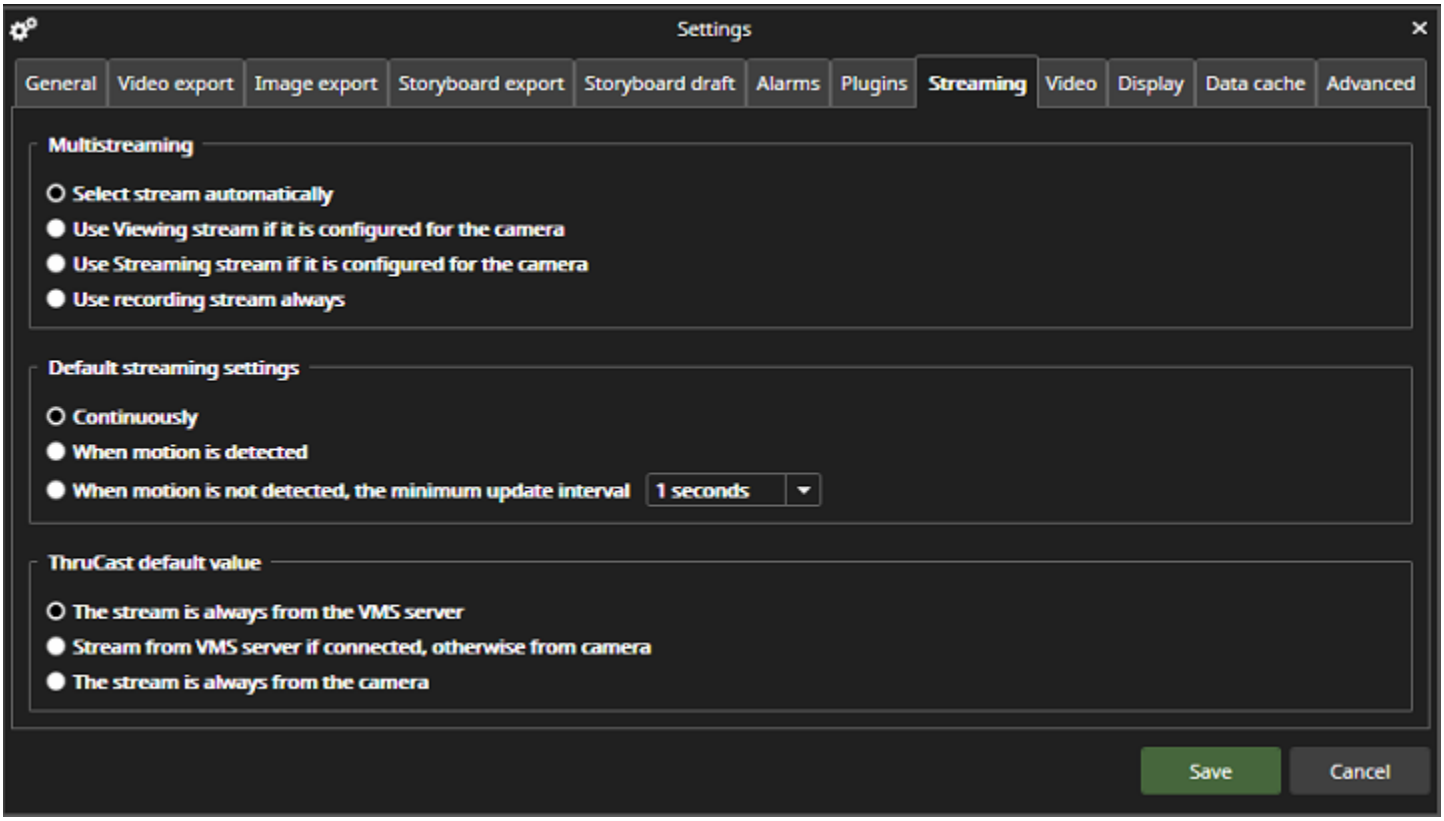
- Single view
- Panorama
- Quad view
- Maximum dewarped image width
- Maximum dewarped image height

20.7.9 Spotter VCA visualization settings



VCA visualization settings allow the user to change the colour of the VCA highlight and the movement trail, the movement trail length in seconds and the line thickness.
The VCA zone colour can be adjusted independently from the VCA highlight colour.

20.8 SPOTTER STREAMING SETTINGS

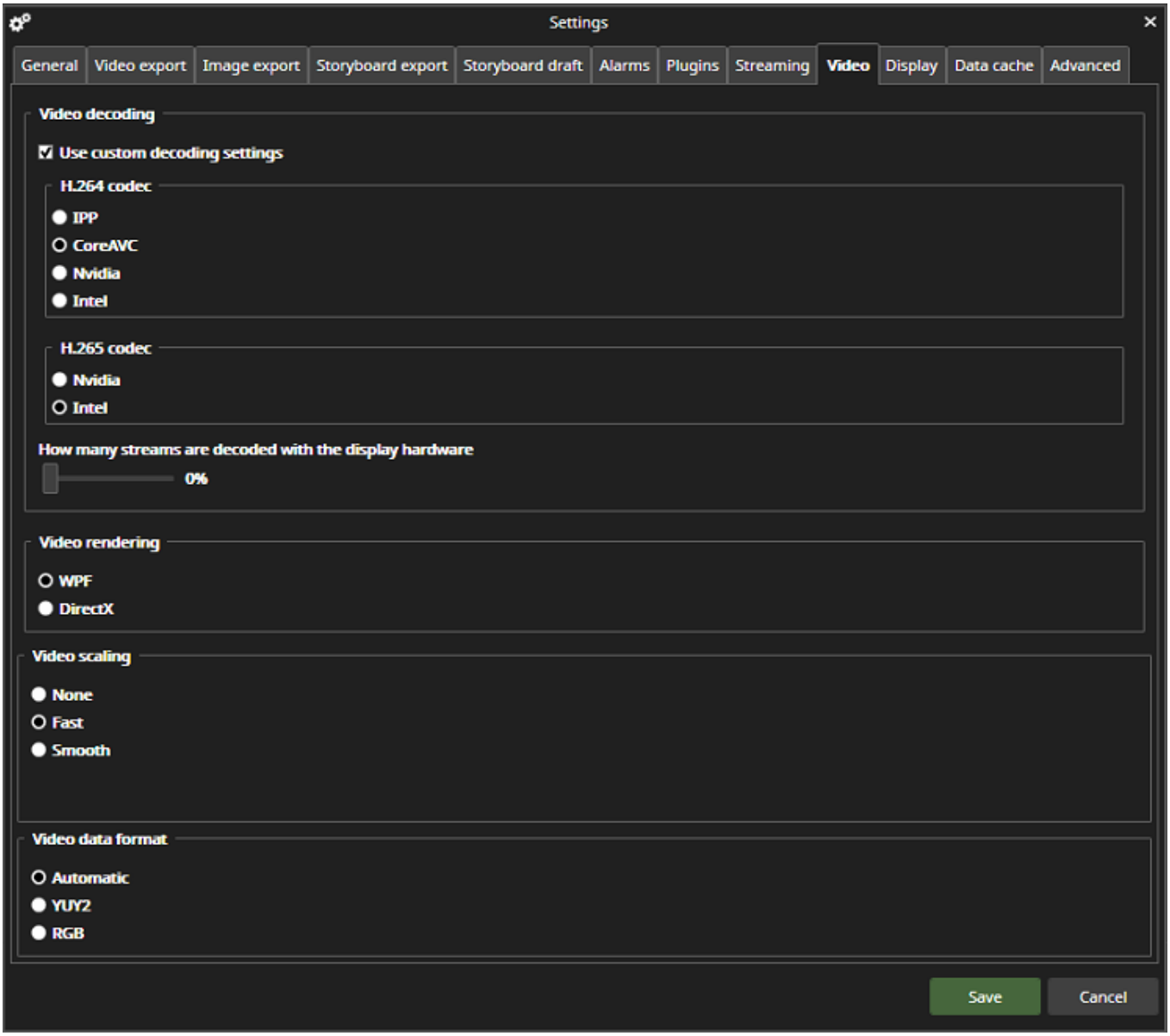


The streaming settings allow changing the default values for three areas of streaming.

- **Multistreaming**: Which stream from the camera is used for live viewing.
- **Default streaming settings**: Does Spotter draw all images always, or only based on motion detection.
- **ThruCast default value**: Whether the live view stream is directly from the camera (ThruCast) or the VMS Server.

The **ThruCast** and **Default streaming settings** can also be adjusted individually per camera from the camera toolbar menu.
These settings will override any settings up until now done for cameras.
However, after changing these settings, it is possible to customize individual cameras to use different settings, which are memorized per camera.
Setting "**Select stream automatically**" in the multi-streaming settings means that Spotter will choose the stream whose resolution most closely matches the area that the camera has on the device grid.

20.9 SPOTTER VIDEO SETTINGS



The video settings allow setting custom decoding and changing rendering technologies and video scaling to help improve performance depending on hardware.

20.9.1 Video decoding

Use custom decoding settings allows you to select a specific decoding setting and decide what percentage of streams are decoded using GPU.

20.9.1.1 H.264 codec

- **IPP:** uses CPU

- **CoreAVC:** Can use CPU or Nvidia CUDA
- **Nvidia:** requires Nvidia GPU
- **Intel:** uses CPU; if the processor chip has an Intel Graphics inbuilt GPU, it can also use the GPU

20.9.1.2 H.265 codec

- **Nvidia:** requires Nvidia GPU
- **Intel:** uses CPU; if the processor chip has an Intel Graphics inbuilt GPU, it can also use the GPU

20.9.1.3 How many streams are decoded with the display hardware

Defines the percentage of cameras that use CPU/GPU. If the decoding method Nvidia is chosen and the slider is set to, E.g. 50%, half of the cameras will be decoded using Nvidia, and the other half will use CoreAVC if they are H.264, and Intel CPU if they are H.265

20.9.2 Video rendering

Allows changing video rendering to **WPF** (default) or **DirectX**.

20.9.3 Video scaling

Options for video scaling include **None**, **Fast**, and **Smooth**. Smooth uses a different image drawing mechanism, and it will have a smoothening effect on video, especially if the framerate is high (over 20 fps). However, the smooth video scaling setting should not be used if the user has multiple Spotter windows open. Smooth video scaling will make the video image appearance better, but this setting increases the computer load slightly.

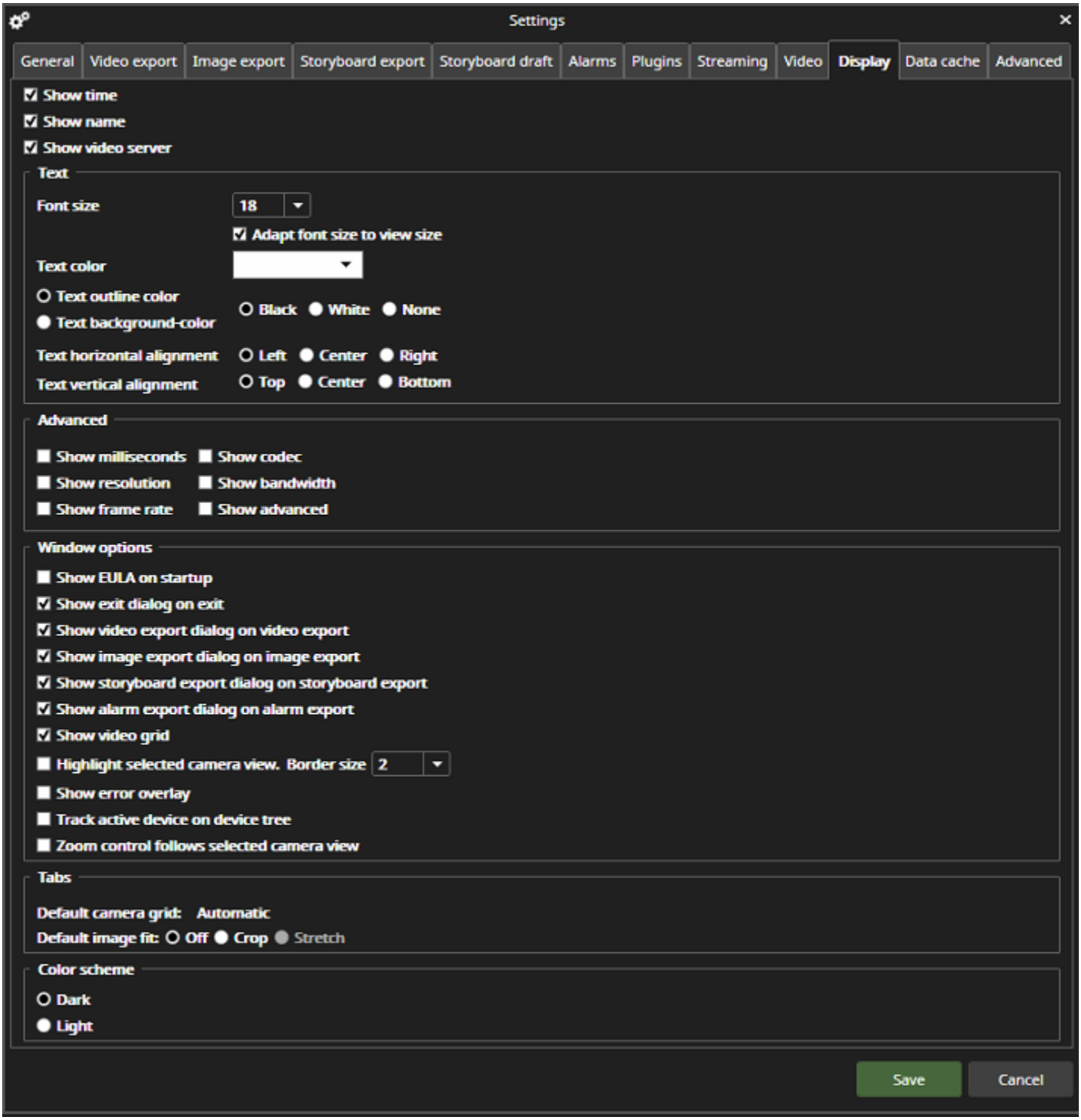
> Turning off video scaling can cause performance problems when dealing with numerous open streams or streams with high resolutions or frame rates.

20.9.4 Video data format

Determines the data format of the video. Can be selected to be **Automatic**, **YUY2**, or **RGB**.

20.10 Spotter Display Settings

You can optimize the display based on your requirements under the **Display** tab.

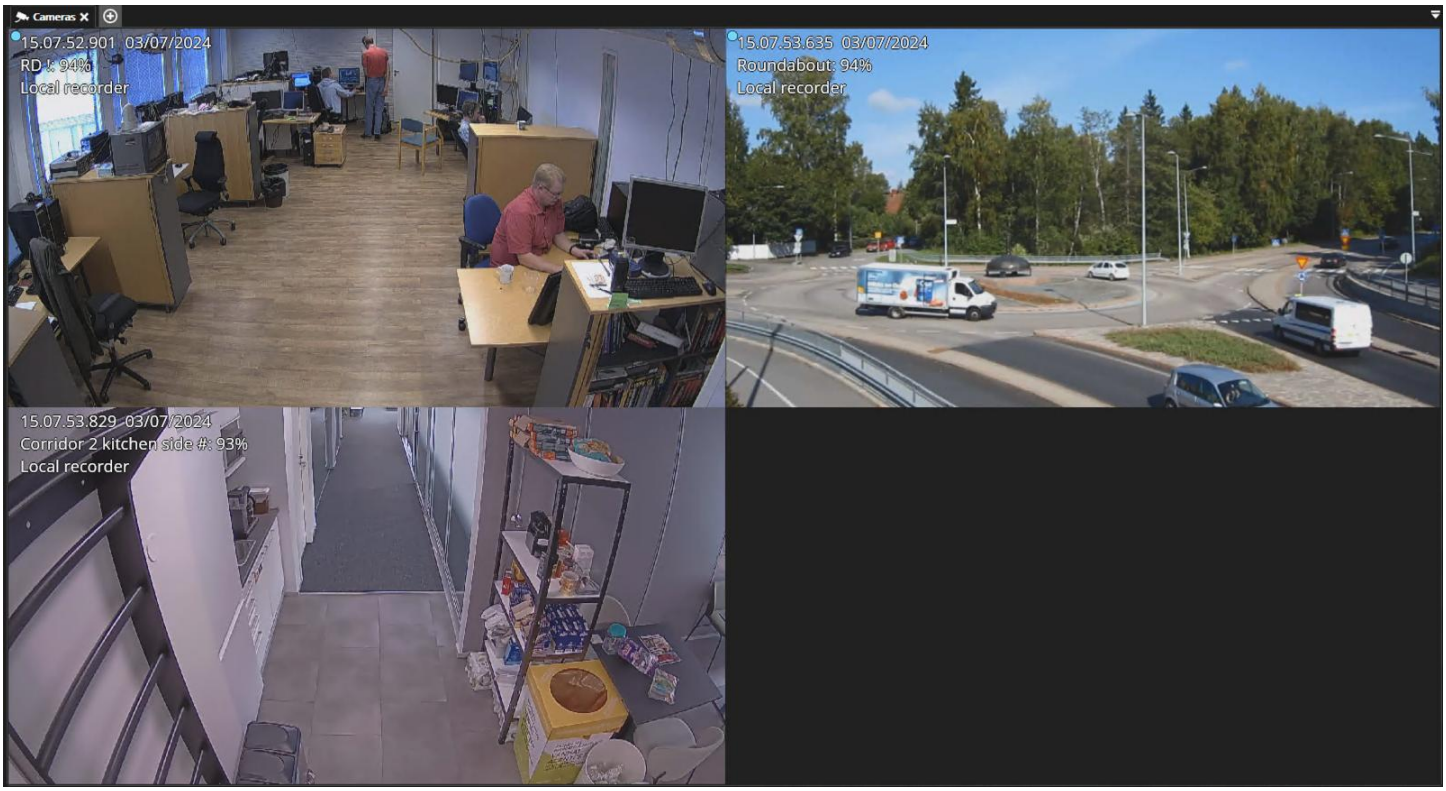


20.10.1 Show on top of the video

- Show time

- If set, show the image time on top of the video

- Show name
  - If set, show the camera name on top of the video
- Show video server
  - If set, show the VMS Server name on top of the video



20.10.1.1 Text

- Font size
  - Select the text font size on the video
- Adapt font size to view the size
  - Adapt font size to the best match for view size
- Text Color
  - Select text color from the available color palette
- Text outline color and Text background color

- Can adjust text lookout

- Text horizontal alignment and Text vertical alignment
  - Can select text position on video

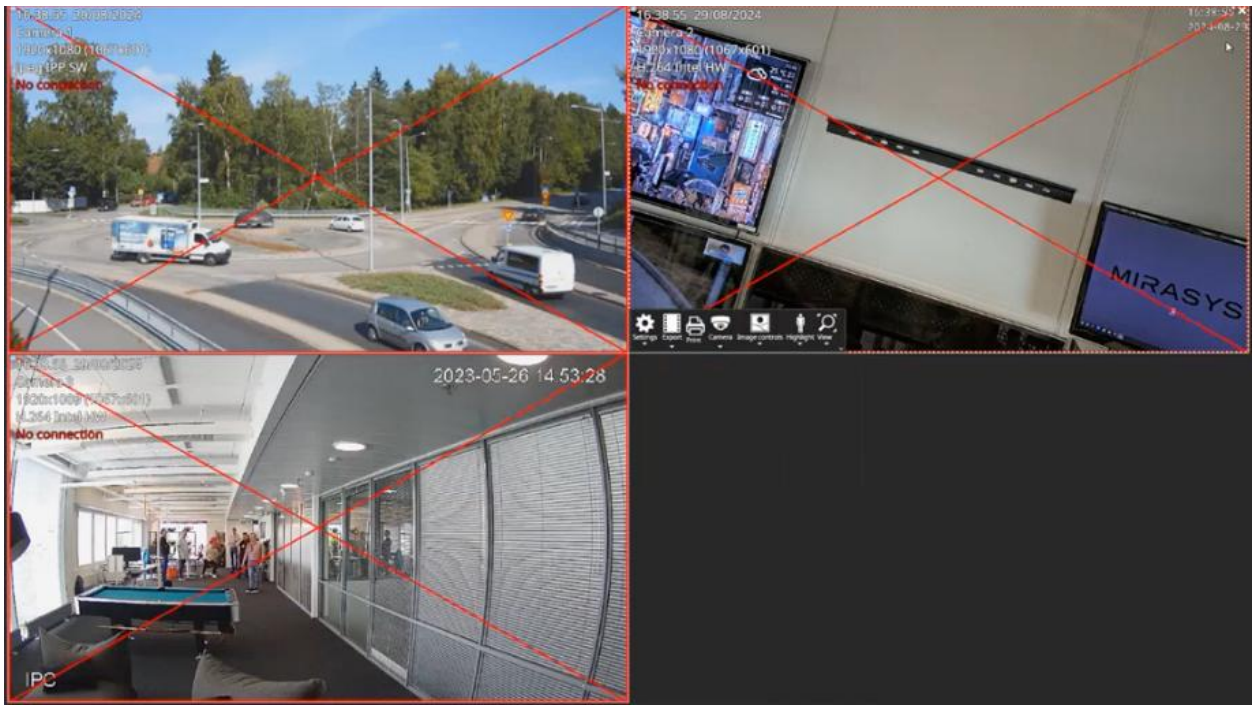
20.10.1.2 Advanced

- Show milliseconds
  - Show milliseconds with time
- Show resolution
  - Show image resolutions
- Show frame rate
  - Show image framerate
- Show codec
  - Show image compression codec
- Show bandwidth
  - The show displayed video stream bandwidth
- Show advanced
  - Show advanced information can use when analyzing streaming behaviors

20.10.1.3 Window options

- Show EULA on the startup
  - If selected, show EULA on the startup
- Show exit dialog on the exit
- Show video export dialog on video export
- Show image export dialog on image export
- Show storyboard export dialog on the storyboard export
- Show alarm export dialog on the alarm export
- Show video grid
  - Show video grid borders
- Highlight the selected camera view. Border size xx

- Show error overlay
    - Operators can see a red cross overlay on the Camera View when there is no video feed or another error, providing a clear visual indicator of issues.



- Track active devices on the device tree
    - If selected, highlight the active device on the device tree. Normally last selected is highlighted.
- Zoom control follows the selected camera view

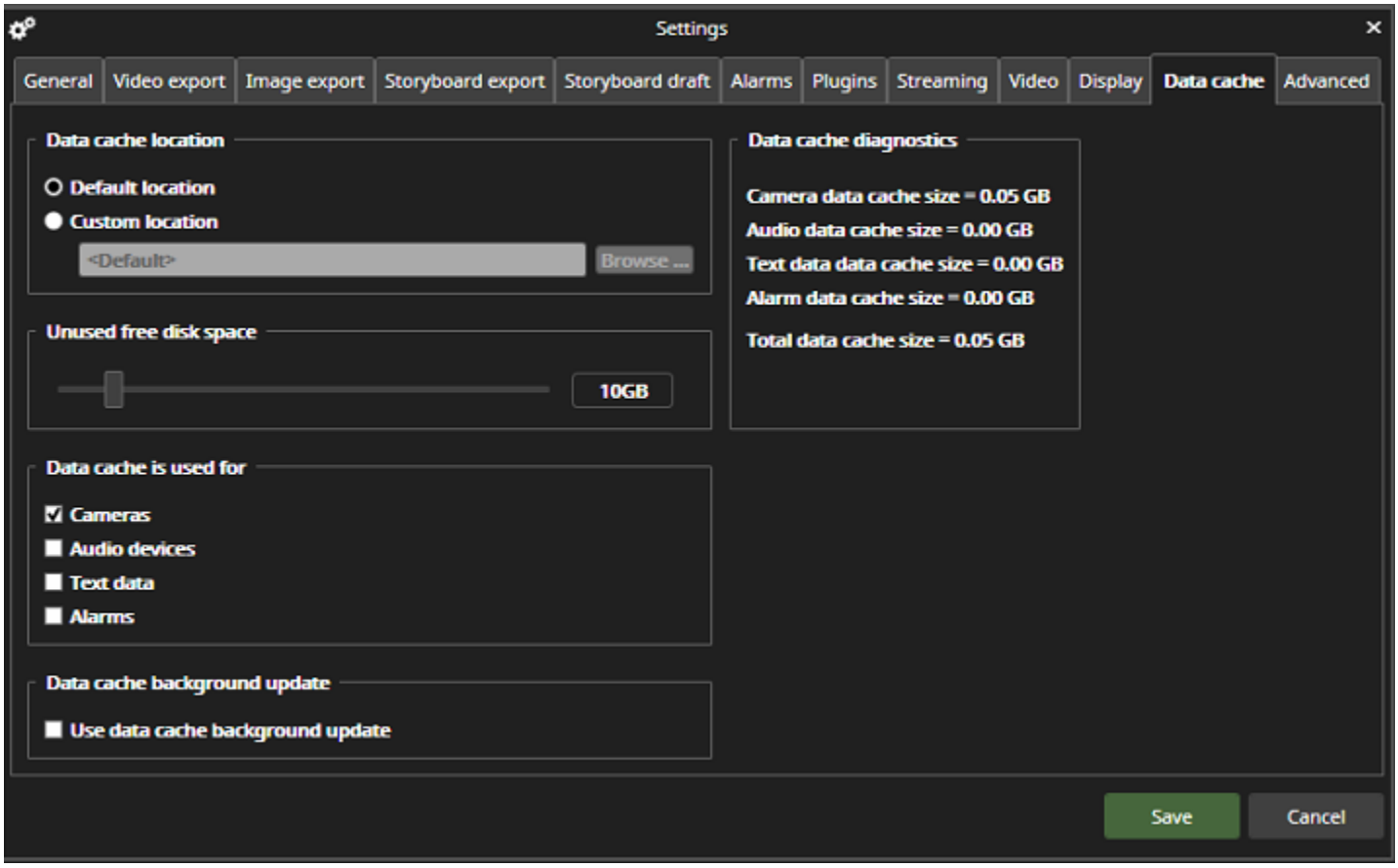
20.10.1.4 Tabs

- Default camera grid
    - Use the selected camera grid when opening a new tab
- Default image fit
    - Use selected image fit for newly opened cameras

20.10.1.5 Color scheme

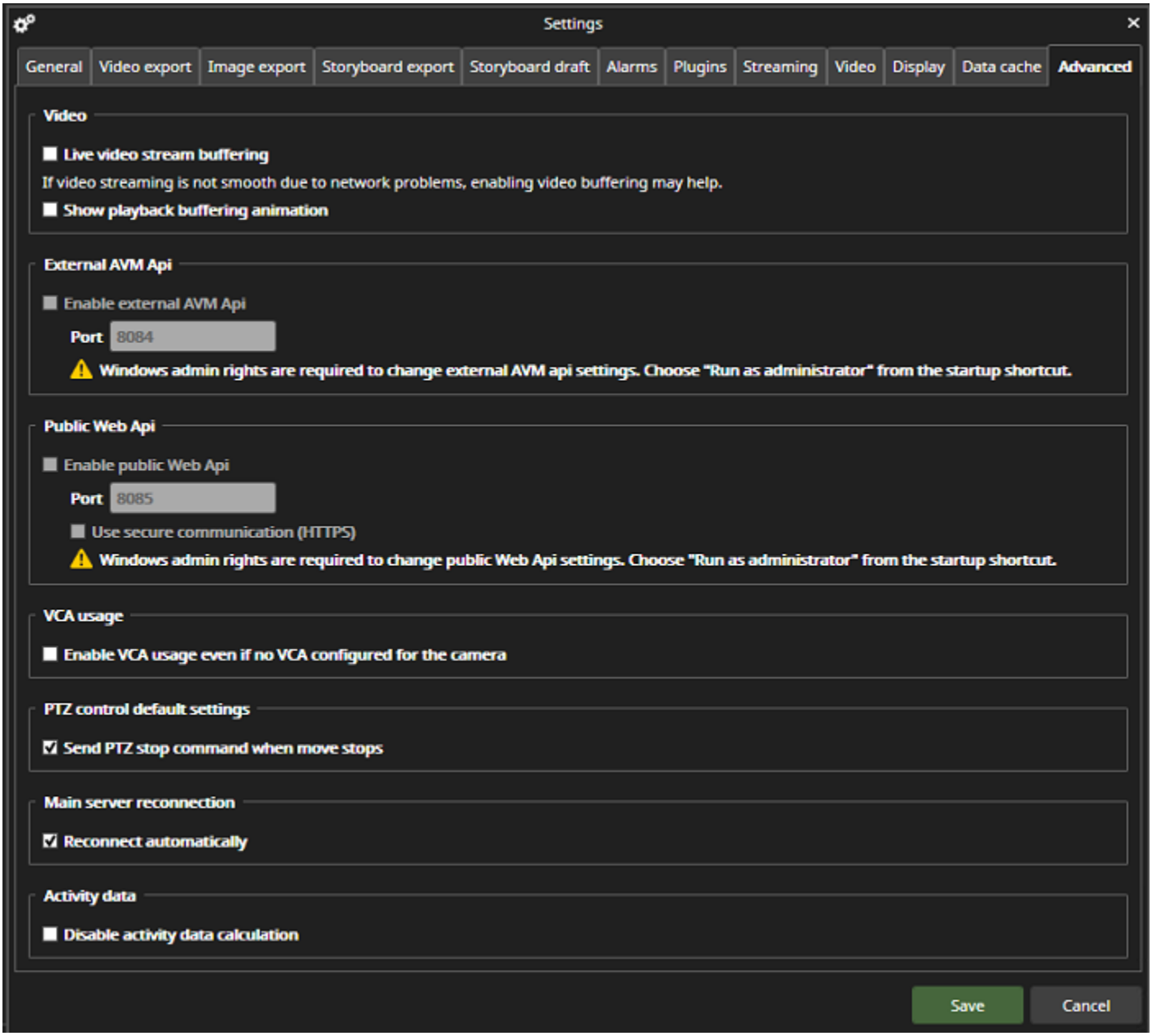
- Select a Dark or Light overall color scheme

20.11 SPOTTER DATA CACHE SETTINGS



Data cache speeds up camera and audio device activity data, text data, and alarm data retrieval when in use.
The system uses either C-drive or some other system hard disk for caching camera data.
The camera activity bar (blue bar on the time slider) is updated faster with cached camera data. The cache is profiled specifically.
For larger systems, it is recommended to set up a separate hard disk to store the cache data.
The cached data can be controlled from the dialogue that defines what data is cached:

20.12 Spotter Advanced Settings



20.12.1 Video

Using video buffering can help if the video stream appears choppy. Buffering will attempt to queue image frames dynamically to even out any time differences in arriving image frames.
The memory use is increased slightly, as is any possible delay with the video compared to real-time.

20.12.2 External AVM API

The AVM API (Application Programming Interface) must be activated in AVM Display Server use.

20.12.3 Public Web API

20.12.4 VCA usage

20.12.5 PTZ control default settings

20.12.6 Main server reconnection

The Main Server reconnection setting, if activated, will keep Spotter open also in case of loss of connection with the Main Server.

20.12.7 Activity data

Disabling the activity data calculation will make the camera material bar disappear from the activity panel, reducing the system load slightly.
It can be disabled if the user has no intention to use the activity panel (for example, in the AVM Display Server case).
Spotter has advanced video buffering that smooths out the effect of bursts in-network or an ill-behaving camera where the image frames are not arriving smoothly and regularly from the camera to Spotter.
Without the buffering on, Spotter draws the live images as fast as they arrive without regard for the frame rate or the image.

20.12.8 Frequently Used Keyboard Shortcuts:

Shortcut	Description
F3	Show settings window.

21 Spotter Keyboard Shortcuts

Keyboard shortcuts to use with Spotter. All keyboard shortcuts are always available when using Spotter unless otherwise noted.

21.1 Spotter keyboard shortcuts

Overview of all shortcuts.

21.2 Windows

Shortcut	Description
Ctrl+N	New Window
Alt+F4	Close current Window
Ctrl+Alt+F4	Exit Spotter

Shortcut	Description
Ctrl+Alt+F5	Log off Spotter
Ctrl+Alt+L	Lock Spotter

21.3 Alarms

Shortcut	Description
F5	Focuses to first alarm
Enter	Opens the alarm in alarm view tab
Space	Acknowledges the focused alarm
Ctrl+Alt+A	Show/Hide Alarm list

21.4 Dialogs

Shortcut	Description
Enter	Same as clicking OK-button in a dialog. If focus is on other button when Enter key is pressed, then the other button's action is executed instead.

21.5 Show/hide components

Shortcut	Description
F1	Show help plugin (if it exists).
Alt+F1	Show About window.
F2	Reset layout: Set main window to normal state (not maximized). 100% zoom. Show profile window, time panel and time slider. Close export panel in time slider. Focus is not in any component.
F3	Show settings window
Ctrl+F3	Show control device settings window
Shift+F3	Show number mappings settings window
F4	Opens the "Open media" dialog
Ctrl+F5	Show / hide alarm window

Shortcut	Description
Ctrl+F6	Show / hide profile window
Ctrl+F8	Show / hide time panel
Ctrl+Alt+C	Toggle between playback panel UI modes.
Ctrl+Alt+T	Toggle between timeline panel UI modes.
Ctrl+Alt+D	Show / hide device tree.
Esc	Close export panel on non full screen window
Shift+Ctrl+E	Show / hide description panel

21.6 Moving focus

Shortcut	Description
Tab	Move focus to next element within container component
Shift+Tab	Move focus to previous element within container component
F5	Move focus to first active alarm in alarm list. If no active alarm, move focus to first alarm in list. If alarm window is hidden, show it first
F6	Move focus to first item in profile tree. If device tree window is hidden, show it first
Alt+F6	Move focus to next item in profile tree.
Alt+Shift+F6	Move focus to previous item in profile tree.
F7	Move focus to first camera in current tab
F8	Move focus to time panel. If time panel is collapsed, open it first

21.7 Full-screen window

The following shortcuts work in a full-screen window.

Shortcut	Description
F1	Open help plugin (if it exists)
F2	Reset layout
F8	Move focus to time panel

MIRASYS

Shortcut	Description
Ctrl+F8	Show /hide time panel
Tab	Move focus to next control (next camera in tab)
Shift+Tab	Move focus to previous control (previous camera in tab)
Ctrl+P	Print video image
Ctrl+S	Save video image
Ctrl+Shift+D	Duplicate video view
Ctrl+Shift+Alt+D	Duplicate video view and set it to mixed playback mode
Ctrl+Tab	Select next tab
Ctrl+Shift+Tab	Select previous tab
Ctrl+T	Create new camera tab. When new camera is created, move focus to first item in device tree (to make it easier to add new cameras).
Ctrl+Shift+W	Close current tab
Esc or F11	Restore from full screen to normal state
Ctrl+D	Date selection
Ctrl+G	Time selection
Ctrl+E	Activity selection
Ctrl+Right	Set playback time +30 seconds
Ctrl+Left	Set playback time -30 seconds
Ctrl+Shift+Right	Set playback time +5 minutes
Ctrl+Shift+Left	Set playback time -5 minutes
Ctrl+Alt+Shift+Left	Set playback time -1 hour
Ctrl+Alt+Shift+Right	Set playback time +1 hour
Ctrl+Shift+Y	Set playback time +1 day
Ctrl+Y	Set playback time -1 day
Ctrl+Enter	Set to current time

MIRASYS

Shortcut	Description
Ctrl+Space	Pause playback
Shift+Left	Decrease playback speed
Shift+Right	Increase playback speed
Ctrl+0...Ctrl+9	Camera selection
Ctrl+W	Close selected camera
Alt+F6	Replace selected grid item with next profile folder item
Alt+Shift+F6	Replace selected grid item with previous profile folder item
Ctrl+Shift+Z	Replace selected grid item with last opened item
Alt+Enter	Maximize selected camera
Ctrl+Alt+1	Play forward on speed 1fps.
Ctrl+Alt+2	Play forward on speed 0.1x.
Ctrl+Alt+3	Play forward on speed 0.5x.
Ctrl+Alt+4	Play forward on speed 1x.
Ctrl+Alt+5	Play forward on speed 2x.
Ctrl+Alt+6	Play forward on speed 4x.
Ctrl+Alt+7	Play forward on speed 8x.
Ctrl+Alt+8	Play forward on speed 16x.
Ctrl+Alt+9	Play forward on speed 32x.
Ctrl+Alt+0	Play backward on speed 64x.
Ctrl+Alt+Shift+1	Play backward on speed 1fps.
Ctrl+Alt+Shift+2	Play backward on speed 0.1x.
Ctrl+Alt+Shift+3	Play backward on speed 0.5x.
Ctrl+Alt+Shift+4	Play backward on speed 1x.
Ctrl+Alt+Shift+5	Play backward on speed 2x.
Ctrl+Alt+Shift+6	Play backward on speed 4x.

Tel +358 (0)9 2533 3300 Email info@mirasys.com https://www.mirasys.com

Shortcut	Description
Ctrl+Alt+Shift+7	Play backward on speed 8x.
Ctrl+Alt+Shift+8	Play backward on speed 16x.
Ctrl+Alt+Shift+9	Play backward on speed 32x.
Ctrl+Alt+Shift+0	Play backward on speed 64x.
Ctrl+Shift+M	Toggle selected video mixed mode.

21.8 TABS

Shortcuts	Description
Ctrl+Tab	Select next tab. If currently selected tab is last tab, select first tab in the window. Addition (+) tab is not selected.
Ctrl+Shift+Tab	Select previous tab. If currently selected tab is first tab, select last tab in the window. Addition (+) tab is not selected.
Ctrl+T	Create new camera tab. When new camera is created, move focus to first item in device tree (to make it easier to add new cameras).
Ctrl+Shift+T	Open tab menu
Ctrl+Shift+W	Close current tab
F11	Toggle the current tab to full screen size and back. Double-clicking the right mouse button does same thing as F11.
Esc	Restore maximized tab to normal size (when no camera is selected)
Ctrl+Shift+C	Automatic image cropping on / off
Ctrl+Shift+S	Automatic image stretch on / off
Ctrl+Shift+R	Reset all camera zooms to full zoom
Ctrl+Shift+B	Set object box on / off
Ctrl+Shift+A	Set object tail on / off.
Ctrl+Alt+V	Show / hide tabs.

21.9 PROFILE WINDOW

Shortcut	Description
Enter (when a camera is selected)	Add camera to tab
Enter (when a a folder is selected)	Add all cameras in the selected tab and Expand the folder
Left (when selected folder is expanded)	Close the folder
Left (when selected node is not expanded)	Select parent folder
Right (when selected folder is not expanded)	Open the folder
Up and Down	Move selection up or down. When a camera is active, the buttons for that camera are shown in the tab (that camera becomes selected)
Space	Toggle bookmark checked / unchecked state when a bookmark is selected in device tree

21.10 PLAYBACK TIME AND SPEED

Shortcut	Description
Ctrl+D	Open date selection panel. Select date with arrow keys and accept selection with Enter. Both Enter and Esc closes date selection panel.
Ctrl+G	Open time selection panel. Select time with arrow keys and accept selection with Enter. When pressing a button, the panel stays open. Esc closes time selection panel.
Ctrl+Right	Set playback time +30 seconds
Ctrl+Left	Set playback time -30 seconds. If in realtime mode, switch to playback mode first, and set 1x speed.
Ctrl+Shift+Right	Set playback time +5 minutes
Ctrl+Shift+Left	Set playback time -5 minutes. If in realtime mode, switch to playback mode first, and set 1x speed.
Ctrl+Alt+Shift+Left	Set playback time -1 hour

Shortcut	Description
Ctrl+Alt+Shift+Right	Set playback time +1 hour
Ctrl+Shif+Y	Set playback time +1 day
Ctrl+Y	Set playback time -1 day
Ctrl+Enter	Go to realtime mode. No action if already in realtime mode.
Ctrl+Space	Pause / play
Shift+Right	Increase playback/fast forward speed. No action in realtime mode.
Shift+Left	Decrease playback/fast forward speed (when speed = 0, start play back/fast rewind). If in realtime mode, switch to playback mode and start playback at 0.5x speed.
Ctrl+Alt+Right or Ctrl+Alt+P	Display next video frame in playback mode
Ctrl+Alt+Left or Ctrl+Alt+O	Display previous video frame in playback mode
Ctrl+Alt+[number key 1..0]	Control different play forward speeds.
Ctrl+Alt+Shift+[number key 1..0]	Control different play backward speeds.

21.11 Misc

Shortcut	Description
Ctrl+L	Open layout folder in Spotter tree.
Ctrl+E	Open activity list menu and use arrow keys to select the activity and enter confirm the selection. Esc key closes the selection. Tab key closes the menu and selects the next control.
Ctrl+Up	Load previous layout (same order as in layout menu)
Ctrl+Down	Load next layout (same order as in layout menu)
Ctrl+Alt+B	Create quick bookmark
Ctrl+B	Open bookmarks folder in Spotter device tree
Ctrl+Alt+Shift+M	Write to log detailed information about memory usage
Ctrl+M	New layout

Shortcut	Description
Numbad number +Numbad x	Load layout with this number (layout numbering configured under: Layouts – Layout numbering)

21.12 ITEM SELECTION IN A TAB

Shortcut	Description
Ctrl+1 to Ctrl+0	Set focus to n:th item in tab (0=10th)
Tab	Next item (if the tab has keyboard focus)
Shift+Tab	Previous item (if the tab has keyboard focus)
Ctrl+Shift+N	Next item
Ctrl+Shift+P	Previous item
Esc	Remove item selection

21.13 PTZ CAMERA CONTROL

Shortcut	Description
Arrow buttons	Moving the camera left, right, up, down (also intermediate directions) Long press increases the moving speed
Page up	Zoom out
Page down	Zoom in
Home	Full unzoom
End	Full zoom
Double enter	Maximize camera and take PTZ control for selected camera shortcut number.
Ctrl+H	Go to PTZ home position or start home tour.
Ctrl+Shift+H	Run all current profile dome cameras to home position. • Spotter role CanRunPtzCameraGroupToHome must be enabled for user group and IsDomeTakeControlAllowed flag for dome camera must be set.

21.14 I/O CONTROL

Shortcut	Description
Arrow buttons	Change focus between action button, content popup button and close button when focus in component panel
Space	Performs default action when item is selected from the profile tree

21.15 CAMERA TOUR

Shortcut	Description
F12	Toggle camera tour start and pause state
Ctrl+F12	Steps to next camera tour view
Ctrl+Shift+F12	Steps to previous camera tour view

21.16 CAMERA VIEW

Shortcut	Shortcut
Alt+C	Toggle selected views automatic crop on / off
Alt+R	Reset selected views digital zoom

21.17 CAMERA WINDOW SETTINGS

Shortcut	Shortcut
Ctrl+W	Close current camera
Alt+Enter	Maximize current camera view
Double enter	Maximize/minimize current camera view (if camera is open)
Esc	Restore maximized tab to normal size (when no camera is selected)
Ctrl+P	Print image
Ctrl+S	Save image
Ctrl+Shift+D	Create duplicated camera view

Ctrl+Alt+Shift+D	Create duplicated camera view and put it to mixed playback mode.
Numeronäppäimistön numero + Enter	Add camera with given shortcut number
Numeronäppäimistön numero + plus-näppäin	Activate monitor/window with given monitor number
Numeronäppäimistön numero + miinus-näppäin	Close camera with given shortcut number

21.18 Export time

Shortcut	Description
Alt+I	Zoom to export time period.
Alt+Y	Go to export start time.
Alt+U	Go to export end time.
Alt+Ctrl+Y	Set current time to export start time.
Alt+Ctrl+U	Set current time to export end time.

22 Spotter About Screen

The Spotter About window contains information about the installed plugins and their licenses.