

INTELLIO VIDEO SYSTEM



User's Manual

(Version: 5.9)

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1. Introduction

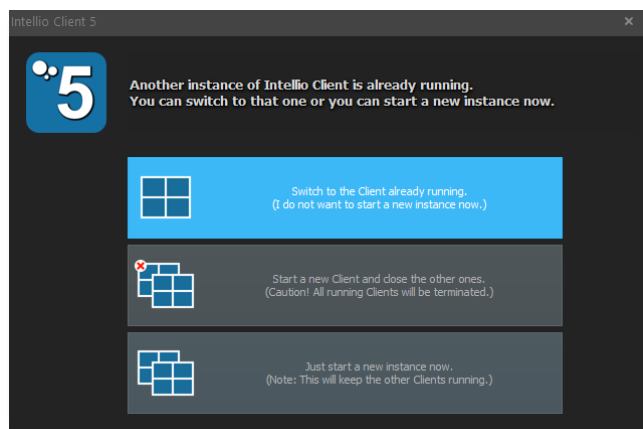
Operators are responsible for watching the live images continuously and take measures immediately in such cases. If something critical happened in the past the records have to be retrieved and such images have to be found on which the details of the critical event is visible. In some cases, it could be necessary to export the videos or images of a crime.

This guide consists of the introduction of those surfaces in the client program which are provide the possibility for live monitoring, playback and exporting the digital evidence. Furthermore, this guide contains the introduction of those functions which makes the operators work easier and more efficient.

2. Client startup



The client can be launched by clicking the **Intellio Client 5** icon. In case a client is already running in the system, a notification window pops up offering users to select one of three options: switch to the running client (without launching a new one); close the other running clients and launch a new one; or launch a new client without interrupting the other clients.



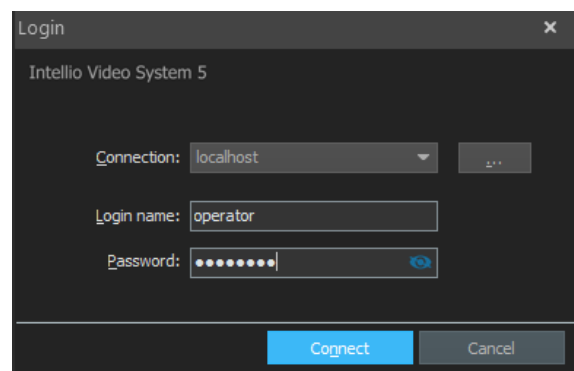
3. Login

When the client program starts, the **Login** window appears automatically. Later, this window can also be opened from the main menu by clicking the **Connect to a Site** button

The steps of logging in are the following:

- Select the connection from the **Connection** drop down list.
- Enter the **Login name** and **Password**. The password entered can be temporarily displayed by clicking on the icon to the right of the input field.
- Click the **Connect** Button.

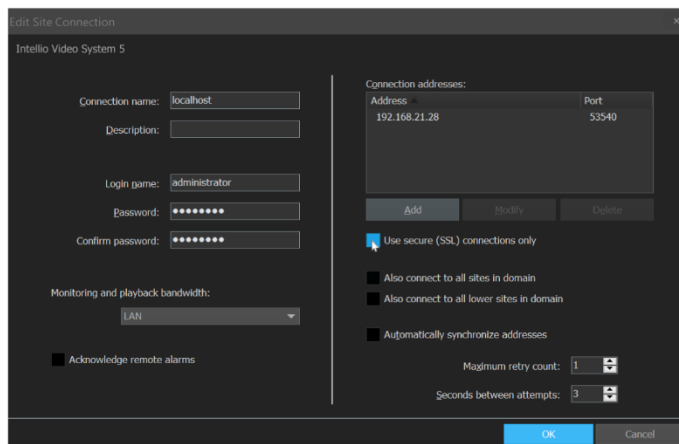
If a user has no authorization to a function, the client will inform about it.



3.1. Connection settings

If the SITE or connection you want to connect to is not listed, add it to the list by following these steps:

- In the Login window, click the ... button.
- The **Select Connection** window will appear, which is used to edit connections.
- Click the **Add** button to add a new connection.
- In the pop-up window, enter the connection properties.
- In the **Connection name** field, enter the name of the connection. In the **Connection addresses** list, add the name or IP address of the server or servers, the port number (if you haven't changed the server port settings, the default TCP port is 53540).
- Check that all data and selected options are correct.
- Click the **OK** button.
- In the **Login** window, select the configured connection.
- Enter your username and password for the SITE.



When adding or editing a connection, you have the option to enter authentication credentials (username/password), which will be saved. For such connections, the system will only request any missing credentials during login

Note: *Saving the username and password can pose a serious security risk, so this option is recommended only for connections with very limited user rights.*

If the Client connects to a SITE that includes multiple servers, not just a single one, it is recommended to add all SITE servers to the connection address list. You can manually enter the servers during connection editing, or check the **Automatically synchronize addresses** checkbox when setting up the connection. This feature retrieves the server addresses from the SITE at login, so you don't need to add them manually, and it also helps distribute clients to avoid unexpected network load.

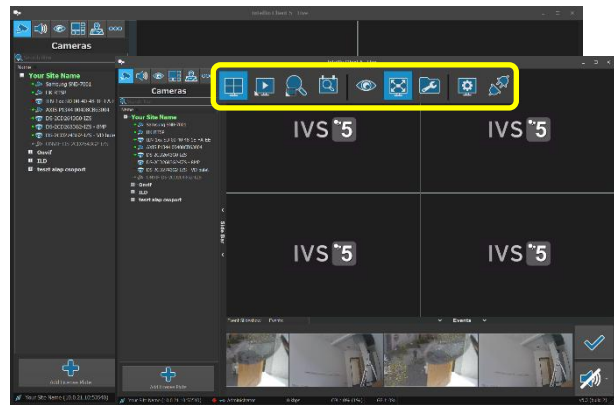
Intellio Client and **Intellio Server** support the latest version of the standard SSL/TLS encryption protocol. If this feature is enabled on a SITE's servers, communication between the client and server will automatically occur over a secure connection

For SITES consisting of servers with versions older than 5.2, this functionality is not available. By enabling the **Use secure (SSL) connections only** option, you can prevent the client from logging in to older SITES that do not yet support the standard SSL/TLS encryption.

Important: *Do not use this option if you want to log in to a SITE within a DOMAIN (containing multiple SITES) that does not support this encryption protocol.*

4. Main menu

The user interfaces of the IVS client can be reached through the hidden main menu. The main menu appears by clicking on the center of the client title bar (or when in full screen mode, on the upper center part of the primary monitor). The main menu hides automatically, when the mouse cursor leaves its area.



Main menu

4.1.1. Functions of the Main menu












		Function key
	Live monitoring	F1
	Playback / Slideshow / Bookmarks	F2
	Intelligent Event Browser / Motion Search / Object Search	F3
	Event Query	F4
	Load a View	-
	Fullscreen	F11
	System Configuration	F10
	Client Settings	-
	Connect to a Site / Disconnect	-

Alternatively, the functions can be accessed with the use of the function keys.

5. Toolbar


The toolbar ensures availability to the tools belonging to active functions, can be found at the top left corner of the client window. The available tools change according to the selected function.

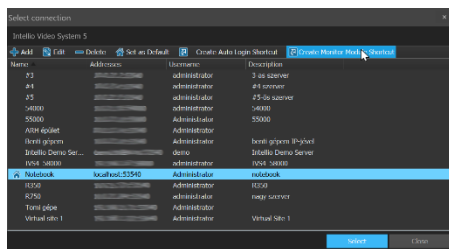
Switching between tabs can be done easily by using the shortcut **Ctrl+1...+8**. The toolbar's shortcuts will work on all interfaces that have a toolbar.

 Cameras	Hierarchical list of the available cameras on the connected sites. Enables to select cameras to be displayed.
 Audio	Audio inputs from the cameras of the SITEs available to the user in the system. Allows you to select a separate audio input for the camera.
 Views	List of the available local and global views, view sequences and management of them.
 Layouts	List of the standard and widescreen layouts.
 Map	List of the available maps in the system.
 PTZ Control	PTZ control panel.
 More	Shows the other panels.
 Monitor Wall	List of the available remote monitors, which can be controlled from the client, and their settings.
 Partitions	List of the available partitions, and their status. The status can be controlled from the tab.
 Alarm detectors	Display of user-selected detectors currently in alarm state.
 Intelligent Live View	Setting up and activating the Smart Live view of the cameras available to the user in the system.

6. Monitor Wall

By using the **Intellio Monitor Wall** it is possible to connect several dedicated client PCs and monitors to the system. When a client runs in *Monitor Wall* mode, its layouts, and the displayed cameras on them can be changed remotely through another client, so the controlling of a complex system from only one client computer becomes possible. To use the Monitor Wall please do the following:

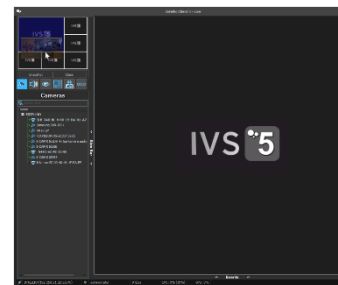
- Start **Intellio Client**, but do not click Connect.
- Click on the  **More** button.
- Select a connection to a server than click on **Shortcut for Monitor Module** button.
- Close the Client and use the created **shortcut** on the Windows desktop to start the client in monitor mode. The client will run in full screen mode.
- Now connect to the same server with another Client (from another workstation) and go to **Live Image / Monitors Wall** menu (Within the toolbox, open the other menu, the first button).
- In the upper left corner of the menu, open the **Registered monitors on site** tree branch, then click on it with the right mouse button and press the **Update** button that appears. After that, select one of the connected monitors (e.g. **Primary**). Then the **Toolbar** will move down and above the buttons of the **Toolbar** will appear the layout present on the selected monitor, showing the names of the cameras.
- To change a layout or camera on a given monitor, simply drag the camera to the appropriate location on the layout from the list of available cameras (**Toolbar / Cameras**) or do the same with a layout (**Toolbar / Layouts**), an intelligent live image (**Toolbar / Other / Intelligent Live View**), or even with a view (**Toolbox / Views**).



Creating shortcut for the Monitor Wall



Refreshing Monitors



Changing Layout

Note: in the case of the connection used for the monitor wall, the username and password data must be entered in advance in the connection editor window for the client to log in automatically.

The user account running the monitor wall client must have the following rights as a minimum:

- Domain / View sites
- View / Video monitoring
- Cameras / Access to cameras (or specified cameras)

7. Client settings

The **Client Settings** window can be accessed from the main menu. This is where all client settings can be made, which affect the quality of monitoring and the mode of display, but do not influence the internal operation of the system.

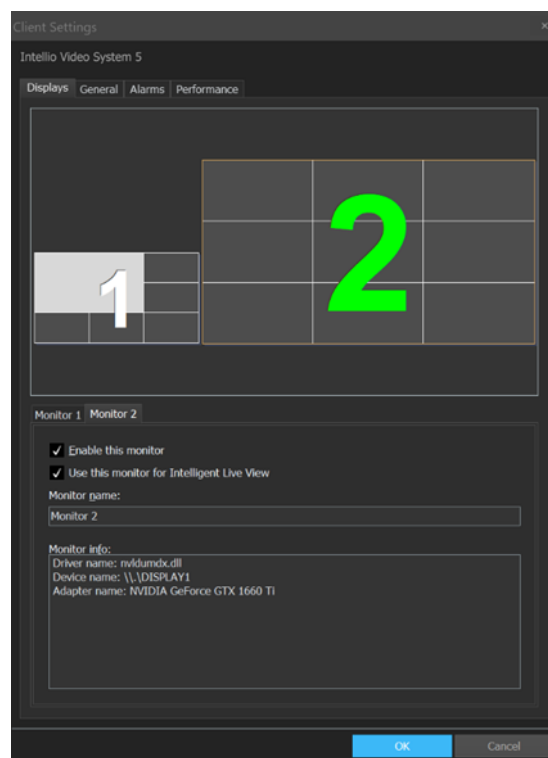
7.1. Displays

The **Displays** tab contains the settings for the displays. The displayed screens indicate the number of possible displays available. The number of currently used displays can of course be less than this, but the monitor configured as primary is always enabled and cannot be disabled.

If the **Use this monitor for Intelligent Live View** option is enabled, the monitor will be used for Intelligent Live View.

The display devices can be renamed, while the client displays the information regarding each display. When using more clients in monitor wall mode, it is recommended to use unique names for all monitors, as the client uses these names in the list of the **Registered monitors on sites**.

To easily identify displays, the client will display other information provided by the operating system.



7.2. General

The settings related to the display functions can be found on the **General** tab. In addition, the settings interface for the calibration of the joystick can also be accessed from here.

7.2.1. Live

Turn off reduced frame rate in Spots

If this function is enabled, all settings resulting in an fps reduction in the video of the **Intellio Orio / Visus** cameras displayed on the Spot panels will be temporarily suspended.

Show “Add License Plate” button on main screen

If this function is enabled, a button appears on the left bottom part of the live screen, which can be used to add a new license plate to the database.

7.2.2. Layout

Fit layout to window

This function enables the dynamic resizing of panels and adjusting them to the proportions of the screen.

Fit video image to window

Enables stretching of images transmitted by the camera to fit the panel. This may lead to a distortion of the image proportions.

7.2.3. Audio

Start audio automatically with the camera

This function enables automatically selecting an audio input assigned to a camera when that camera is selected in live video or playback. In other words, the audio assigned to the camera will start when the camera is in live video mode. In playback, the audio input track will appear on the timeline, with the audio starting when playback starts. If this option is disabled, the audio input needs to be selected manually.

7.2.4. Playback

Do not change the camera layout when entering into Playback mode

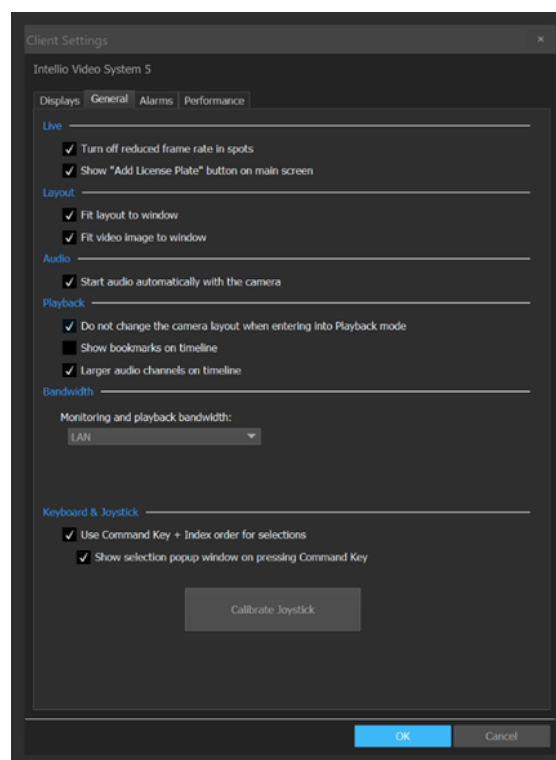
Select this to have all cameras from the live video displayed in playback mode. When left unselected, the camera displayed is the camera of the active panel, or - if unavailable – that of the Spot panel. In the lack of either of these, the first camera of the layout will be displayed.

Show bookmarks on timeline

With this feature, a small diamond will appear on the timeline where the bookmark is located during playback.

Larger audio channels on the timeline

With this option, the audio channel becomes wider in the timeline, making it more visible.



7.2.5. Bandwidth

Depending on the available bandwidth a limit can be set for the client, a value to be adhered to by the images transmitted for surveillance or playback through the automatic decreasing of the refresh rate or increasing of the compression rate. These settings are recommended to be changed on clients where monitoring and/or playback is done online or through private networks with a low bandwidth. This way, monitoring or playback of multiple cameras simultaneously will be uninterrupted. Restricting the bandwidth also automatically disables the **Views** and **Layouts**, whose usage are not viable with low bandwidths.

The bandwidth of the connection between the server and the client can be selected from a dropdown menu. The set value will be approximated from the lower end by the system. Upon playback this bandwidth is applied to the images transmitted to the client.

7.2.6. Keyboard and joystick

In the case of live images, special key combinations can be used to quickly display the cameras and to quickly access some other functions.

Use Command Key + Index order for selections

By selecting it, the new key combinations become the default. By disabling it, the client can be controlled in the usual way in previous client versions.

Show selection popup window on pressing Command Key

You can enable a pop-up information window when each command button is pressed.

To use special key combinations, you must configure the Index lists for the cameras, actions, and partitions during system configuration.

Calibrate Joystick

Opens the settings interface to calibrate the joystick connected to the client.

7.3. Alarms

7.3.1. Alarms

Disable dropping camera to spot on alarm

This function disables camera images from being displayed on the Spot panels in case of alarms. You can read about this feature in the [Spot Panel](#) section.

Disable changing view on alarm

The alarms triggered by detectors can be assigned a view change. Any view change previously assigned to an alarm can be disabled here (e.g. in case of monitor walls).

View changing time on multiple alarms

In case there are multiple concurrent alarms, the client program will keep switching between the views affected. Here you can set the time interval between view switches.

Enable acknowledging of alarms remotely on Monitor Walls

By enabling this option, when acknowledging the alarms, they will also be acknowledged on the connected Monitor Wall clients.

7.3.2. Live events

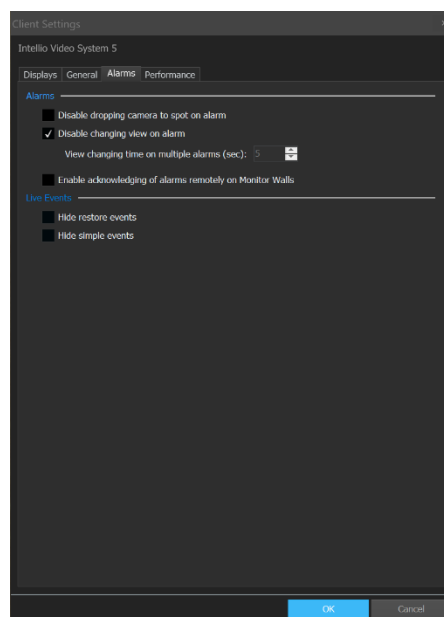
On the **Live Image** interface, in the lower Events bar, the signals and alarms generated by the detectors are displayed. The type of events displayed can be limited.

Hide restore events

Disable the display of restore events from detectors that send alarm events.

Hide simple events

Disabling the display of simple events (such as license plate recognition) that do not have a restore event associated with them.



7.4. Performance

7.4.1. Global

Optimize to performance

When this function is enabled, all camera images not displayed on the Spot Panel will be streamed from the secondary video channel, ignoring all other conditions related to secondary video channels. As a result, all displayed live images—except for those on the Spot Panel—will show the secondary stream. You can find more information about this function in the [Secondary video channel](#) section.

Turn off camera image cache

It does not cache the images of cameras previously used in each view, which results in slightly slower view switching, but reduces memory usage.

Disable events slideshow at the live screen

This function disables the event images in the **Events** dropdown menu, resulting in lower memory consumption.

Turn off YUV full-range color correction postprocessing

This function disables the post processing of images, resulting in lower processor usage.

Do not log out when the workstation gets locked

By default, when the workstation is locked (or the remote desktop is closed), the Intellio Client temporarily logs out and disconnects from the servers. Enabling this option can disable this feature, so for example, an ongoing export process will not be interrupted.

7.4.2. Playback

Disable the automatic refreshing of the timeline

This function disables the automatic refreshing of the timelines on the playback interface.

7.4.3. Enable hardware accelerated video decoding

Enabling the hardware acceleration functions supported by the computer's built-in graphics card. If hardware acceleration is enabled, the graphics card will assist the processor in displaying camera images.



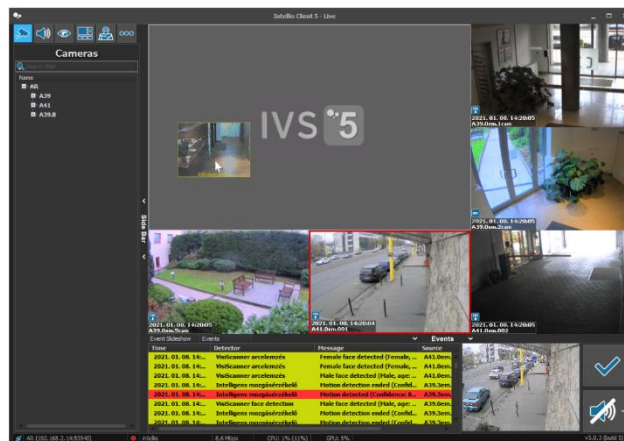
8. Live Monitoring

Live mode surface is for live monitoring. To open the surface, click on **Live** mode button on the main menu, or press the **F1** function key.

8.1. Selecting cameras for monitoring

From the **Toolbar / Cameras** menu, drag a camera or camera group to a panel (the first panel in the case of a camera group) of a layout of your choice where you want to place a camera. When a camera or camera group is selected, the images transmitted by the cameras in the group will appear on the monitor almost immediately.

It is also possible to mount several consecutive cameras on the panels at the same time. To do this, grab the first camera you want to drag and hold down the **Ctrl** key while dragging. The number of consecutive cameras that are grabbed and the number of panels available will be used.

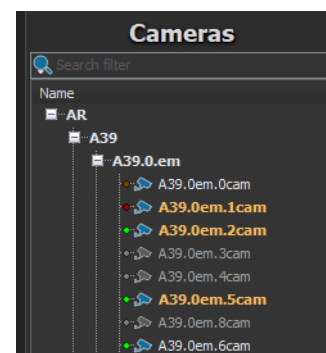


The names of the cameras that have already been placed on the layout are shown in bold and in orange within the **Cameras** menu.

The camera name is preceded by a coloured status indicator with the following meanings:

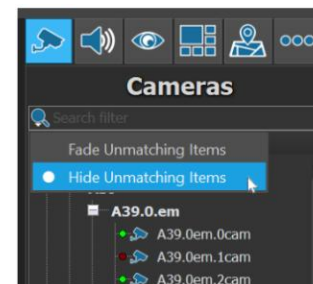
- Lights up green when the camera is online
- Gray (with camera icon and camera name) when offline
- Flashes orange when there is motion in the camera image
- Flashes red when there is an alarm on the camera

If you want to remove a camera from a panel, just grab it with the left mouse button and drag it to an area outside the panel.



8.1.1. Quick search for cameras by name

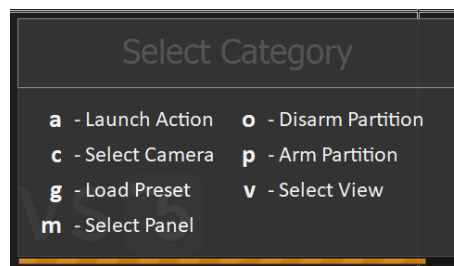
You can easily and quickly find the camera you want to display – even in the case of hundreds of cameras – with the help of the search box found on the top of the camera panel. Click on the magnifying glass icon to fade or hide unmatching items.



8.1.2. Selecting cameras by keyboard

To display cameras quickly in a given panel, you can use specific key combinations. These are:

- **a** - Start action
- **c** - Select camera
- **g** - Load preset
- **m** - Select panel
- **o** - Disarm partition
- **p** - Arm partition
- **v** - Select view



By default, the appearance of the selectable hotkeys window is enabled in the client settings, which can be displayed by pressing the **Space** key.

Furthermore, when the corresponding function button is pressed, a selector window for the function pops up, containing additional selectable options. These options are called **Indexes**, and they can be edited. For example, the camera indexes can be edited using the **Index List** button found in the **System Settings / Devices / Cameras** menu. There is also an index list editor button in the **Actions** and **Partitions** menu.

Selecting a camera panel and placing a camera image can be done in three ways, as demonstrated by the following example. Selecting the camera panel:

1. By default:

- Press the **Space** key, after which a list of available hotkeys will pop up.
- Press the **m** key (it is not necessary to press the **Space** key, the hotkeys work without it), then press the number of the selected panel (e.g. for a 16-frame: 10, or if you have two monitors and want it on the first monitor display: 1 10)
- Then, by pressing **Enter**, the desired camera panel is immediately selected. If you do not press **Enter**, the selection takes effect after the yellow countdown bar at the bottom of the pop-up window has run down.

2. Without popup window:

- Press the **m** button, then press the number of the selected panel (e.g. 10 or 1 10, see previous example). After a few seconds, the panel will be selected.

3. The version used in previous client versions (can be selected in the client settings):

- Determine the serial number of the panel you want to select. Panels are numbered per monitor, from left to right, top to bottom. (If the client manages more than one monitor, then the number of the monitor must always be inserted in front of the serial number of the panel, similar to the previous examples.)
- Enter the serial number of the panel (e.g. 10 or 1 10, see first example)
- Press the **m** key.

After that, the selected panel gets a white frame. Then select the camera:

1. By default:

- Press the **c** button, then select the camera number from the list.
- After pressing **Enter**, the camera image will immediately appear on the previously selected panel. If you do not press **Enter**, the selection takes effect after the yellow

countdown bar at the bottom of the pop-up window has run down. If the image of the selected camera is already displayed on any panel, the image of the camera will not be moved from its original location, but the white frame indicating the selection will appear around the image of the original camera.

2. Without popup window:

- Press **c** and enter the camera number.
- After a few seconds, the camera image will appear according to the previous point.

3. The version used in previous client versions (can be selected in the client settings):

- Enter the number of the selected camera.
- Press the **c** key.
- The selected camera appears in the previously selected panel.

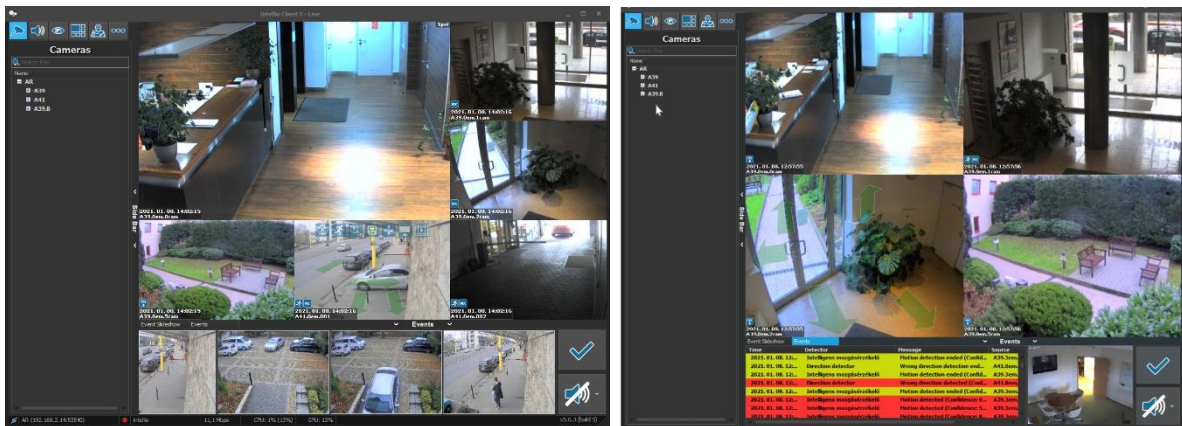
The cameras that can be displayed are always the cameras registered on the primary login Site, the indexes of cameras on other Sites are not taken into account to avoid collisions.

Other key combinations (Start Action, Manage Partition, Load Preset) are only possible as described in the first two points above.

*Note: for the first two options, the hotkeys can be chained together. E.g.: **m1c1**: will put the camera with index number 1 on the first panel.*

8.2. Displaying events

When not in full-screen display mode, the current **Event Images** or **Events** are displayed on the **Events** panel at the bottom of the screen, which can be hidden as desired. Double-clicking on a selected event image or event opens the **Playback** interface, displaying the camera, detector, and detector-related metadata associated with the event.



8.3. Acknowledging an alarm and managing the alarm sound

The Live View interface has two buttons located in the bottom right corner that allow you to acknowledge events and mute the client's audio.



The **Acknowledge Alarm** button allows acknowledging all active alerts. By pressing the button, all camera panel frames that were flashing red will return to their default state, the yellow and red background colour of events in the lower Event row will disappear, and the client's audio alert will stop, and an entry will be made in the system Event Log about the acknowledgment.



The **Alarm sound** can be adjusted separately. In the dropdown menu, there is an option to **mute** the client's sound for 1, 5, 20, or 60 minutes. During this time, only the camera panel frame flashing in red, the status indicator dots in the camera list, or the events in the lower Events bar will show that one of the cameras triggered an alarm. The use of this button is restricted by permissions.

8.4. The status icons of the Live video

During monitoring there are several bluish icons that can be appearing in the lower left corner of the camera panel. These icons relay important information about the state of the cameras and the status of the data stream. Here are some explanations:



Motion Detection: This icon indicates that there is motion detected within the camera's field of view, which detects significant changes beyond the allowed threshold in the designated area.



Recording: When this icon appears, the image is stored on the server. Most often it accompanies the motion detection icon, especially in motion-based storage mode.



Reduced FPS: It appears if the camera automatically lowers its frame count.

















EPTZ: The icon indicates that the camera is utilizing its full resolution to display the original image, with a specific area displayed in its original resolution. This is a camera-side function, and while it's active, any detector operation related to image processing will be suspended.





DPTZ: Basic digital PTZ, a client-sided function, which allows the detectors to work undisturbed. It signals the operator, that the displayed image is just a part of a bigger area.

8.5. Camera menu

When the mouse cursor is over a camera image, a toolbar appears on the upper section of the camera image. This is the Camera menu which provides quick access to a number of camera functions.

-  **Camera Settings.** The most important settings interfaces of the camera are available, such as video image, image compression, motion sensor, detectors, etc. The available settings interfaces vary by camera type.
-  **MetaData.** Displaying the camera's detectors and other visual information (metadata) in the camera image
-  **IntelliZoom**
-  **Saving Frames (export)**
-  **PTZ Presets**
-  **PTZ Guard Tour**
-  **E-PTZ**
-  **Monitor panel functions:** Display FPS, Spot panel management, Monitor Panel disabling, Camera Navigation
-  **Downloading Original Frame** (only in case of playback, and in case of low bandwidth)
-  **Manual Entry** (in case of license plate recognition detectors)
-  **Jump to instant playback**
-  **Audio.** Switch on/off audio belonging to the camera
-  **I/O operation.** Control the **Multi I/O** outputs or **Execute programs** assigned to the camera (select from the pull-down menu for more than one operation)
-  **Switch button between thermal and visible image** (only for thermal cameras)

In case of network traffic restrictions, a padlock icon appears in the lower right corner of the camera image, which can be used to lock the camera image. If the camera image is not locked (default setting), the client will remove the camera from the live view after a certain period of time (5 minutes) to save network traffic. However, if you want the camera's live image to remain on screen, activate the lock using the padlock icon.

-  Camera image is not locked. The client automatically removes the live image from the panel after 5 minutes.
-  Camera image locked. The client continuously displays the live image on the panel.

8.6. Selecting Monitor Layout


The layouts can be selected based on how many camera images the operator wants to display simultaneously. It is recommended to choose a layout that is easy to overview for everyone, but it is also possible for each operator to store a personalized layout using **Views**. To select a layout, choose any layout from the **Toolbar/Layouts** menu and then drag it to the appropriate monitor.

8.7. Spot panel

The Spot panel is a special monitor location that allows easy identification of alarm events, instantly displaying a live image of the camera in alarm status

In **Intellio Video System**, the position of the Spot panel is freely selectable. The position of the Spot Panels for the layouts suggested by the factory setting can be freely changed, disabled in the suggested locations and enabled elsewhere.



To enable or disable a spot panel, move the mouse to the camera menu (*it will not work with an empty panel*), click on the  monitor symbol, and choose the **Spot** option. To determine whether a camera is in a Spot panel or not, just check the upper right corner of the camera image. If there is a **Spot** designation there, then the function is active.

The priority of an alarm defines its appearance in the Spot panels. If a high priority and a low priority alarm arrive at the same time, and there is only one Spot panel, only the high will be shown. If there is some time between them, the higher one will override the lower one, displaying it. The lower priority alarm will only show up, if there was no higher or equal priority alarm in the near past, and just until a higher priority alarm arrives to override it.

8.8. The Secondary video stream

In cases of some cameras the IVS is capable of using a second – e.g. lower resolution – video stream, providing optimal usage of client resources. The IVS uses the secondary video stream for display in the following cases:

- Optimize to performance enabled and monitoring takes place on one monitor with more than six panels.
- Optimize to performance enabled and monitoring takes place on two or more monitors with more than four panels on the display.
- The IntelliZoom function is not active.
- The DPTZ function is not active.
- The Magnifier function is not active.
- It is not a Spot monitor.


If any one of the conditions above are unfulfilled, the image displayed is transmitted via the primary image stream.

8.9. Double click on a panel

The function of a double click on a panel depends on the displayed layout, and the settings of the desired panel. If you double click on a Spot panel, the camera will go to 1 panel Spot view. By double clicking on a standard panel, the camera will go to a Spot panel, in order to first provide high resolution display of the primary video stream. If the layout does not contain a Spot panel, the camera goes to 1 panel Spot view. If you double click on the 1 panel view activated this way, the original layout will be reset.

8.10. Displaying OSD metadata

Metadata collected and stored by IVS help to check the proper working of the system. The available metadata depends on the type of cameras. The Intellio cameras offer the most metadata info which are related for example to motion detectors, tracker, and detectors. In case of other cameras (e.g. ONVIF, RTSP Stream, Axis etc.) the metadata are pretty limited.

By clicking  icon of the camera menu, displaying of metadata is controllable per camera. By selecting icon, the menu of the metadata related to the camera appears:

- **OSD:** Operational parameters related to the camera (e.g. image, camera properties, server information, etc.), grouped in an organized manner
- **Smart MetaData:** information on moving objects detected by the camera
- **Monitoring:** information about the motion sensor that controls camera monitoring
- **Tracking:** Information about the camera's tracking system
- **Recording:** Information about the motion detector that controls the camera's recording

In the menu, the camera detectors can also be found (if they exist), and their metadata can also be displayed.

When it comes to meta data, there may be multiple pieces of information that can be displayed for a single meta data type. In this case, selecting the meta data will bring up a submenu where the individual pieces of information can be toggled on or off.



The currently displayed meta data is indicated by a checkmark in front of it.

Displaying Stopped Objects


In case of appropriate environment, the tracker of Intellio Visus (ILD) cameras are capable of detecting the stopped object, and adapts the slow changes of images, so tries to keep the stopped object as long as it can. For objects detected in this way, IVS makes it possible to display the duration of stops, and playback footages which are related to appearing and stops directly.

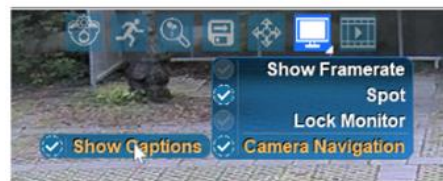
To mark stationary objects, simply turn on the display of the camera tracker from the camera menu. Stopped objects are marked by the IVS with an orange marker. Move the



mouse hover a marked object, and the information of stop is appearing. By using the  button it is possible to playback directly the footage of object appearing, while the  button is related the footage of object stopping.

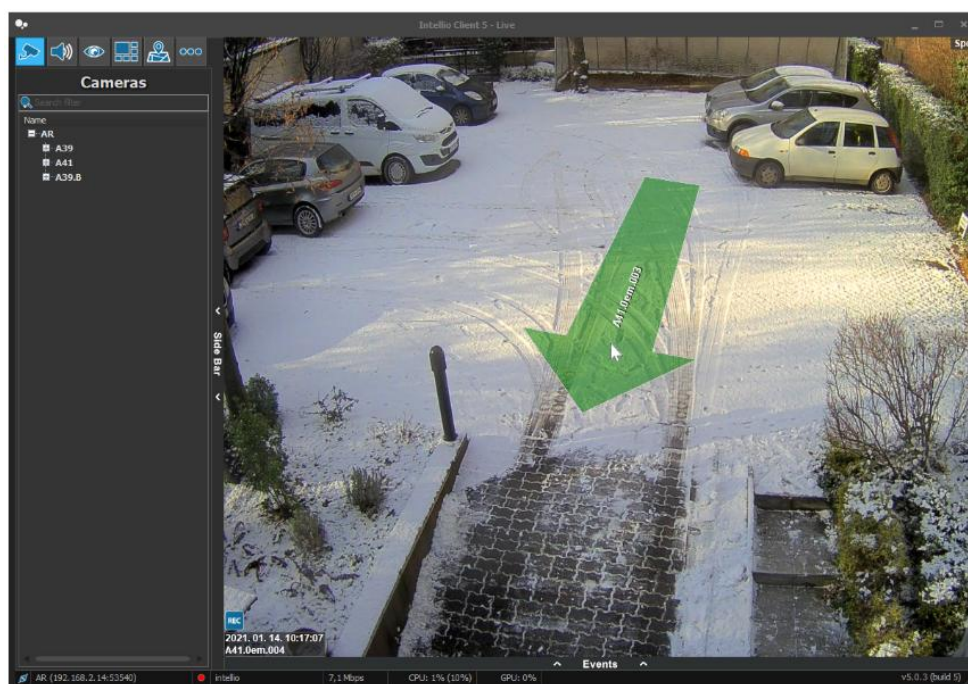
8.11. Camera Navigation

With this feature you can set up clickable on-screen arrows with the help of which it is possible to efficiently navigate between the cameras. The camera navigation works both in live view and in playback mode. You can enable the feature from Monitor panel functions  menu. The visibility of the captions appearing under the arrows can also be configured in this menu.



When camera navigation is enabled, green translucent arrows appear on the image area if the mouse pointer is placed over it. Moving the mouse over a specific arrow makes its colour darker, and if enabled, the navigation name appears as well. Clicking on the arrow switches the panel to the assigned camera. Navigation can be continued further if the loaded camera also contains navigation arrows, allowing for a virtual walk-through of the object.

Arrows that switch back to the previous camera will appear blue (if there's any).



Note: the PTZ camera control takes precedence over camera navigation. If the arrows are placed in the PTZ control circle, they will not work.

8.12. Selecting Audio Channels

It is also possible to play back audio inputs that are set up in the system while viewing the live camera feeds. If an audio input is assigned to a camera, you can turn it on or off from the camera menu that corresponds to the camera feed. If it is not assigned to a camera, you can manage the desired audio channel in the **Toolbar / Audios** menu. The audio channels can be turned on or off, their volume can be adjusted, and an overload indicator shows the activity of the channel.



8.13. IntelliZoom



The IntelliZoom function in the camera menu allows for the automatic tracking and zooming of moving objects. The **Source** allows the user to adjust which type of moving objects the zooming function should respond to (by default it is the objects detected by the Tracker), while the **Settings** options are used to adjust the display of the function on the screen.



The settings of IntelliZoom do not affect either the recorded footage or the operation of the detectors.

8.14. DPTZ

It is recommended to use the DPTZ function if you wish to inspect a specific part of the camera's field of view without interfering the operation of the camera (unlike using EPTZ function, where the zoomed-in image displayed will be recorded as is), or if you wish to display the zoomed-in area on a separate panel. It's also possible to display a part of the full image as an individual image on the client.

The digital PTZ behaves as a camera preset: these presets can be saved as views, so it is possible to monitor various zoomed-in views of the same camera on two or more different panels. These zoom positions can also be saved and reloaded later. The function does not affect recording; the entire field of view will continue to be stored.

The use of DPTZ is simple, select the camera on which you want to apply digital zoom, then hold down the **Shift** key. You can adjust the zoom level using the mouse scroll wheel, and you can move the observed area by pressing the left mouse button and moving the mouse. The icon indicating the operation of the function continuously shows which camera image displayed is DPTZ active. This feature can also be used during playback.

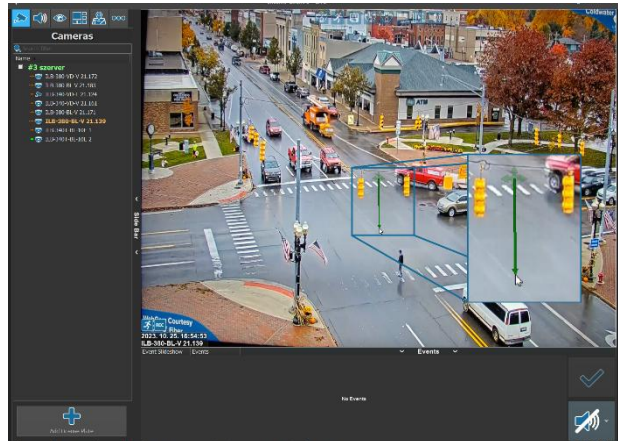
The EPTZ and the PTZ functions are temporarily suspended when the DPTZ function is in operation. Consequently, neither the EPTZ, nor the PTZ movement and zoom functionalities remain operational.

8.15. Controlling the PTZ and EPTZ

The PTZ and the EPTZ can be controlled in the monitors with three different ways.

Mouse

- If moving the mouse on the monitor area of the PTZ / EPTZ camera, a green cross will appear.
- The near vicinity of the cross it will be flashing indicating that the PTZ / EPTZ became movable.
- To move, press the **left mouse button** anywhere near the cross and hold the mouse pointer in the direction you want to move the camera.
- A green arrow shows the direction of movement, while its length symbolizes the speed of movement.
- Use the mouse wheel for zooming.



One alternative to moving with the mouse is the centre point movement, with which, by clicking anywhere within the observed area, the camera moves so that the place of the click is in the centre of the observed area, however, this method of movement is not supported by all cameras. If the camera supports centre point movement, it can be enabled in the **Toolbar / PTZ menu**.

Joystick

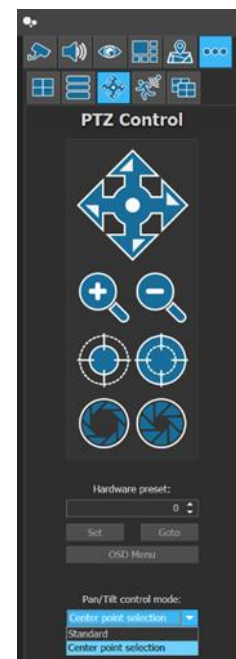
- Select a camera, then use the joystick to control the camera.

The joystick can be configured in the **Client Settings / General** tab using the Calibrate Joystick button, but it should also work with default settings.

Keyboard


- Select the camera you want to move.
- Use the cursor keys on your keyboard to move, and the **+ / -** keys to zoom in and out.
- Note that the movement speed of the camera changes depending on the length of the key press: the longer you hold down the arrows, the faster the camera moves.

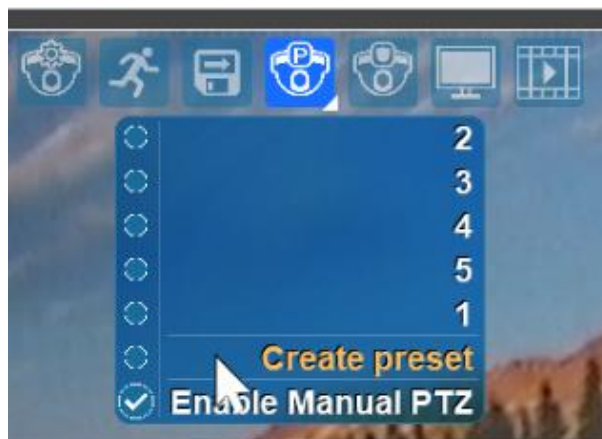
With the EPTZ function it is not possible to set the **Preset**s and the **Guard tours**, but the function is aborted by the camera after one minute of idle operation and returns to normal mode.




8.15.1. Presets

PTZ cameras allow for the saving of important positions that can be recalled at any time. Follow the steps below to save a position:

- Select the desired PTZ camera and move it to the appropriate position.
- From the camera menu, select the symbol,  then the **Create Preset** option under the displayed presets.
- In the appearing window enter the name of the preset.




To load a preset:

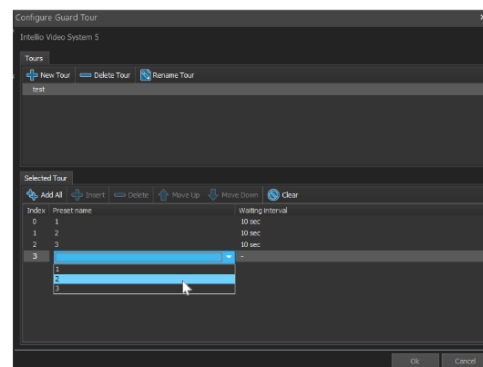
- Select the symbol  from the camera menu, then select the one to be loaded from the presets that appear.
- You can also select a preset with a hotkey if this function is enabled in the Client Settings. Select the desired camera, press the g hotkey, and select the desired position.

8.15.2. Guard Tour

The PTZ can automatically jump to existing presets and jump to the next one after a certain time. To configure the **Guard Tour**:

- Move the mouse above the camera view.
- From the appearing camera menu select the **Configure Guard Tours**  function.

- Click button **New Tour**.
- Enter the name of the tour.
- In the **Selected Tour** tab select the name of one of the Preset from the drop-down menu.
- Set the **Waiting interval** after the PTZ will jump to the next preset in the list.
- Select an optional number of Preset by clicking on **Click here to add preset** and set the interval to them.
- Click **OK**.



To start the created Patrol, select the Patrol icon from the camera menu (same as before), then choose the appropriate patrol name. To stop it, select the **Stop Patrol** option at the same place.

8.15.3. Manual tracking

If enabled, an Intellio PTZ camera can automatically track a manually selected moving object while zooming in on it. To perform this action, hold down the **Alt** key on the keyboard and **left-click** on the object you want to track in the camera image.

8.16. Views

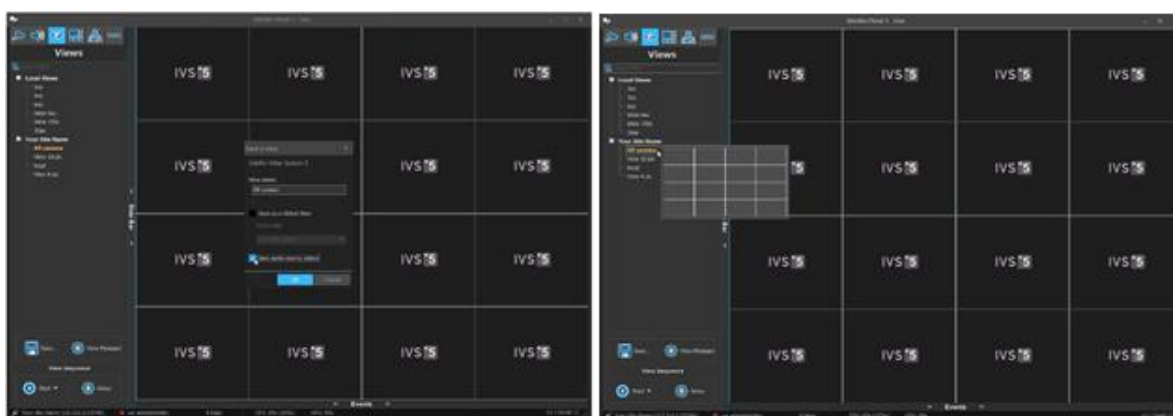
The frequently used layouts with the assigned camera can be saved as a **View**. The views can be saved, loaded, sequenced and edited (name and type only).

8.16.1. Save, load and edit Views

When creating a view, you must decide whether the view should be accessible from other clients or not. If the view is only accessible from the current computer, it is called **Local** (this is the default), otherwise it is a **Global** view. In the case of global views, the view must be assigned to a Site, as not all Sites have access to each other's cameras, so there is no point in creating a view that simultaneously monitors cameras from multiple Sites (there are exceptions, such views can occur with full administrator rights, but they must also be placed under a Site). Saved views can be loaded with a single click.

The process of saving:

- Arrange the cameras as needed.
- Set the spot panels, OSD, DPTZ, and any other displaying parameters which you want to save.
- Select the **Save...** button in the **Views** menu of the side bar.
- Enter the name of the view and enable the global view if necessary (local views can be loaded only on that client where the view had been saved, global views can be loaded by every operator who connects to the same site).
- For a global view, select the Site for which you want to create the view.
- Optionally, select the **Save Audio Inputs** state check box, then press **OK**.



Saved views are listed under **Toolbar / Views**. By double-clicking on their names, any of them can be loaded immediately or dragged to the individual screens.

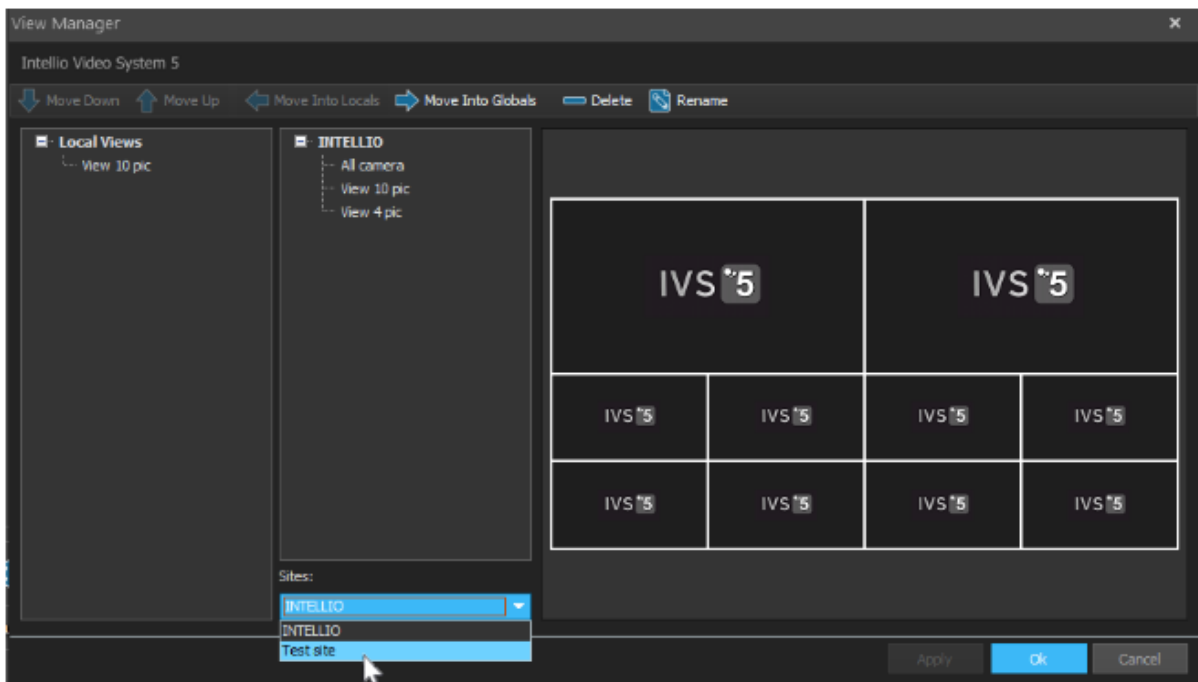
According to the client settings, a view can be loaded by entering the serial number of the View (increasing from top to bottom), then by pressing the **V** key, or vice versa as default: after

pressing the **V** key, you can call up the desired view by entering the serial number of the selected view.

To delete or edit a view, move the mouse button above the view name on the view's list, click the right button of the mouse and select the desired option. Only the view's name can be changed here. If you wish to edit the view, you will need to open the **View Manager**.

8.16.2. View Manager

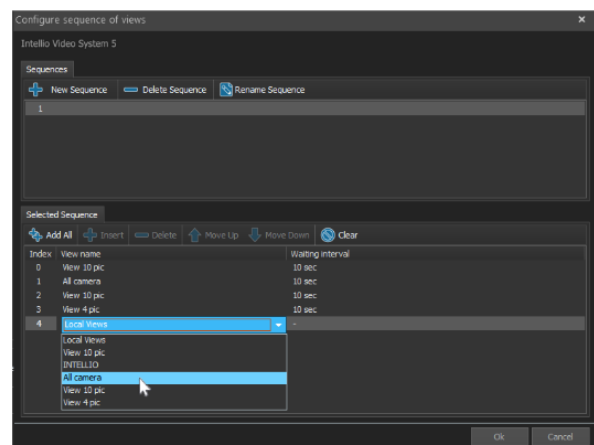
The View Manager can be opened with the identically called View Manager button on the **Views** menu point of the sidebar. When editing, depending on the user authorizations, each view of the Domain can be changed, deleted, renamed, regrouped, while the listing of the views can be altered, too.



8.16.3. View sequences

Switching between views can also be made automatic. To set this up, follow these steps:

- Select **Live / Views**.
- Click on button **Configure**.
- Select or create a sequence, then add the views and the interval to it.
- After added all the views and the intervals press **OK**.



8.17. Intelligent Live View

The Intelligent Live View function provides effective assistance in monitoring cameras that are in an alarm or signal state. In such cases, the system dynamically alternates the image distribution and the cameras displayed on it, so that the live images of the cameras in the alarm or signalling state are primarily visible. It is typically useful in situations where there is generally no movement on most cameras.

When using the Intelligent Live View Function, it is possible to configure which stream should appear in a fixed position and which should be handled dynamically. More than one configuration can be created. It is also possible to choose which configuration we want to activate.

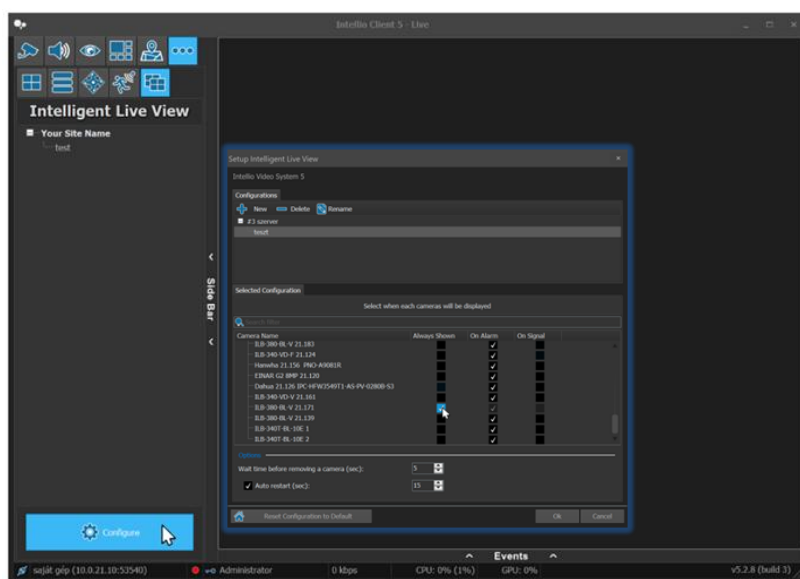
Before using the Intelligent Live View function, you will have to configure which monitors should have the function enabled, see [Displays](#) section.

Note: The **Intelligent Live View** and **View Sequences** are mutually exclusive, i.e. only one of the two functions can be active at a given time.

Managing Intelligent Live Views

To access Intelligent Live View, select the **Others / Intelligent Live View** panel from the toolbar. At the bottom of the panel that appears, click the **Settings** button.

The window that appears allows you to create, delete, and modify Intelligent Live View configurations. At the top of the window, there is a toolbar for various functions. Below that, the existing Intelligent Live View configurations are grouped by SITE, and at the bottom, the camera settings of the selected Intelligent Live View configuration are displayed.



Each configuration allows individual display settings for each camera. By adjusting the checkboxes, you can specify whether a camera should always be displayed, only during an alarm and/or notification, or never appear when the given configuration is active. The **Options / Wait time before removing a camera (sec)** setting controls how many seconds should pass after a notification/alarm before a camera is removed from an Intelligent Live View layout or the view switches back to a layout with fewer divisions.

The **Auto restart (sec)** feature allows the Intelligent Live View to resume automatically after a set time if it is stopped by double-clicking a camera image to open it in a large panel.

Creating an Intelligent Live View

- Open the **Setup Intelligent Live View** window.
- Click on the **New** button.
- Type the view name in the popup window.
- Set the parameters of the view and the cameras (by default all the cameras are set to **Alarm Only**).
- Save the view by clicking the **Ok** button.

Changing an Intelligent Live View

- Open the **Setup Intelligent Live View** window.
- Select the view you want to change.
- Change the necessary parameters of the view and the camera.
- Save the changes by clicking on the **Ok** button.

Deleting an Intelligent Live View

- Open the **Setup Intelligent Live View** window.
- Select the view you want to delete.
- Press **Delete** to delete the view.
- Save the changes by clicking the **Ok** button.

Activating an Intelligent Live View

To activate an Intelligent Live View, select the **More / Intelligent Live View** panel on the toolbar. On the top of the panel, you will find the created Intelligent Live View configurations. By moving the mouse over the desired configuration, the activation option will appear. Click the switch with the left mouse button to activate it.

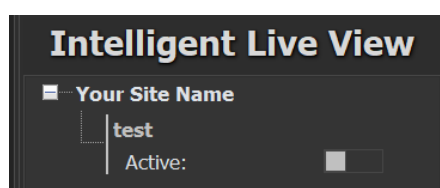
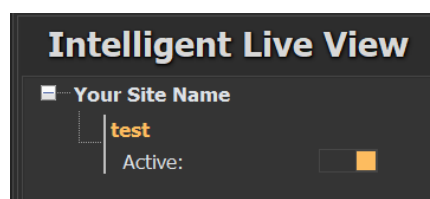
The active Intelligent Live View is marked with orange colour.

Stopping an Intelligent Live View

Move your mouse pointer over the active Intelligent Live View marked with orange colour and click on the switch that appears to stop that Intelligent Live View.

An active Intelligent Live View can also be stopped by selecting another Intelligent Live View.

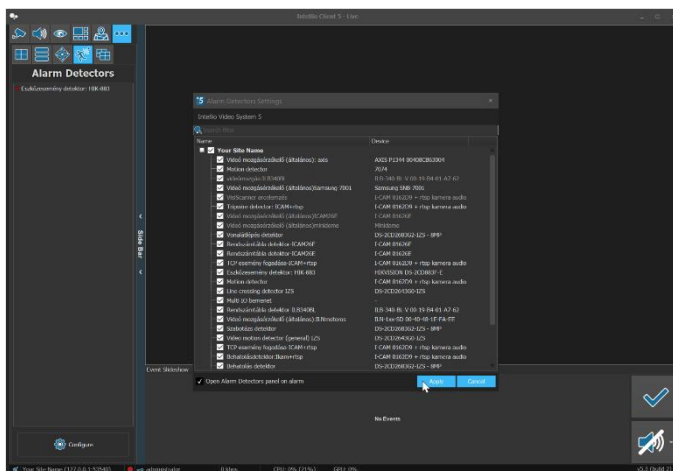
Note: that within a client program, only one Intelligent Live View can be active at a time. An Intelligent Live View can also be applied to a client monitor operating in a video wall mode.




8.18. Alarm detectors

In the **Alarm Detectors** panel, it is possible to see which detectors are giving an alarm. In the configuration window, you can select detectors that may be important to monitor. In the setup window, enabled detectors are displayed in white, and disabled detectors are grey.

At the bottom of the window, the **Show Alarm Detectors panel** option should be enabled when using the IVS live view display with the toolbar closed. If this option is enabled, the Alarm Detectors toolbar automatically appears when a new alarm is triggered.



8.19. Fullscreen mode

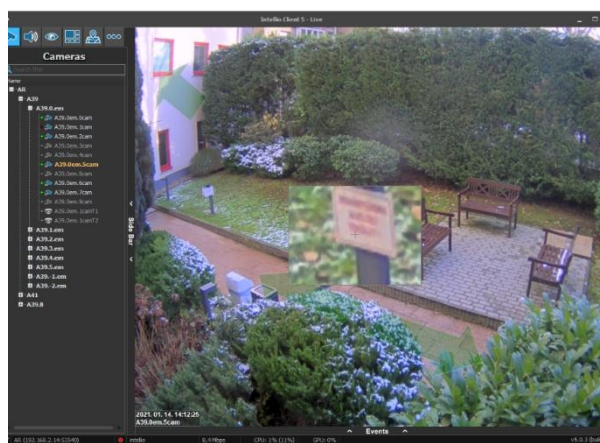
To switch between normal and full screen mode, click on the **Fullscreen**  button or press **F11**. By pressing the **Esc** button on the keyboard, the client switches back to normal mode.

In full screen mode only, the current view is shown, the toolbar is not displayed on the left side of the screen, events are not displayed on the bottom of the screen, and no possibility to acknowledge events.

8.20. Zooming (Fast Zoom)

By holding down the **Ctrl** key, you can see a zoomed-in mini view of the area where the mouse pointer is currently located. While holding **Ctrl**, you can increase or decrease the zoom level by pressing the **W** and **S** keys. The same effect can be achieved by holding **Ctrl** and using the mouse scroll wheel.

This type of zooming works on every camera, since it is a client-side digital zoom, but this is the reason why the resolution of the magnified area will be poor.




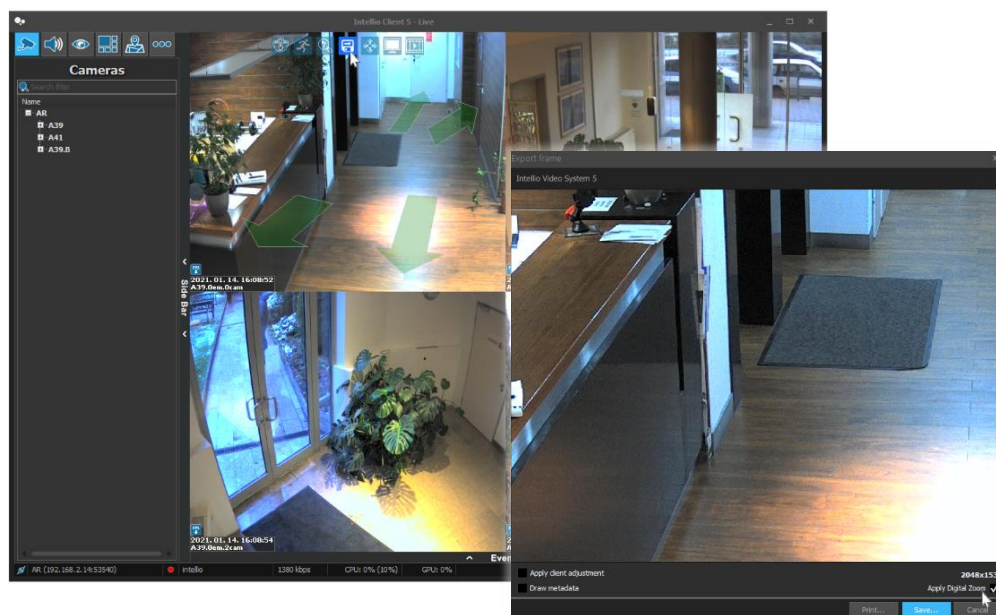
Note: zooming does not work simultaneously with the DPTZ function. Therefore, if the DPTZ icon is displayed on the panel, this function will not work.

8.21. Exporting and printing an image

During the live monitoring or playback, it is possible to print or save a certain image to the hard disk. The compression i.e. the format of the image can be selected from the common (**JPEG**, **BMP**, **PNG**) types, and **DDS** (DirectX Surface Format).


The steps of exporting an image are the following:

- Move the mouse over the camera image from what you want to export an image.
- Select the **Save Image to File**  option from the camera menu.
- On the appearing **Export frame** pop-up window shows a small preview of the picture. With the help of the **Apply client adjustment** checkbox the client filter can be used on the image. The **display of metadata** (detectors, masks, etc.) on the exported image can be set with the Show Metadata check box.
- If **DPTZ** feature is active on the panel, by selecting **Apply Digital Zoom** checkbox, the size of the exported image can be changed between enlarged and original.




- Click on **Save...** button to save the image.
 - In **Save as** window enter the name of the image (default naming: **camera name_yymmdd_hhmmss**), select the file type and click on **Save** button.
- Click on **Print...** button to print the image.
 - Select the printer you want to use in the **Print** window. If necessary, change the properties of the printer, set number of copies then press **Ok** to start printing.

8.22. Manual entry

Automatic license plate recognition-based access control may require this feature. If automatic license plate recognition is unable to read the license plate, and as a result, it does not provide or only provides an incorrect license plate number, then by clicking on the **Manual entry**  icon in the camera menu, the correct license plate can be manually entered, and vehicle access can be granted accordingly.

8.23. I/O Action

The camera menu icon  allows you to manually activate the **Multi IO** or **Program Start actions** assigned to the cameras. With the help of this function, it is easy for the operator to start various controls (e.g. barrier opening, emptying, etc.) directly from the camera image based on the image content. Several actions can be assigned to a camera, in which case the specific control can be selected by clicking on the icon from the drop-down menu. For a single action, the icon initiates the action directly. The assignment of actions to cameras can be done on the **System Configuration / Alarm / Actions** page in the setting of the respective **Multi IO** or **Program Start** operation.

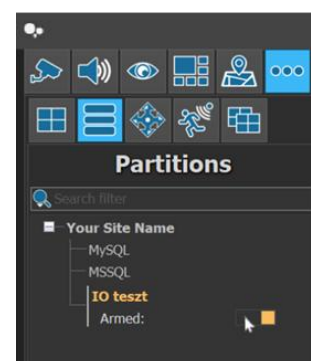


8.24. Controlling Partitions

The **Toolbar / Partitions (Ctrl+7)** panel allows the operator to directly modify the state of the system partitions, thus affecting its operation (e.g. executing actions, notifying alarms and events, etc.). By selecting the panel, the list of allowed partitions is displayed grouped by SITE.

The status of each partition is indicated by colours:

- orange: the partition is armed.
- grey: the partition is disarmed.



To modify the status of a partition, move the mouse over the partition you want to modify, and then use the switch that appears to set the desired status.

Note: *the status of partitions can be changed by the scheduler, so a manual setting can be overwritten at any time by a scheduled command.*

9. Playback

To play back recorded footage, select the **Playback** menu from the main menu or press the **F2** function key. If you have previously used the Slideshow or Bookmarks functions, press the **F2** key repeatedly until the Playback function appears.

Depending on the client settings the playback interface has either one camera or all of the cameras of the live monitoring on display.

The footage of any particular camera can be played back from the camera menu of the live video by clicking on the  icon.

On the **Toolbar** you can switch between the **Cameras** and the **Playback** menu points with the **Tab** key.

9.1. Selecting cameras for playback

Selecting cameras and recorded audio works similarly to live view. Choose an appropriate layout (**Toolbar / Layouts**), then drag the desired cameras from the **Toolbar / Cameras** list into the panels for playback.

To playback events, detectors can also be selected. In this case, the notification timestamps of the selected detector events will appear in the event list and timeline. The detectors assigned to the camera can be found at the camera itself. To display them, click on the "+" button in front of the camera and select the desired detectors. The camera's detectors can also be turned on and off with the **Detector Events** menu of the camera menu.

The detectors not assigned to a camera can be found in the **System detectors** in the camera list.

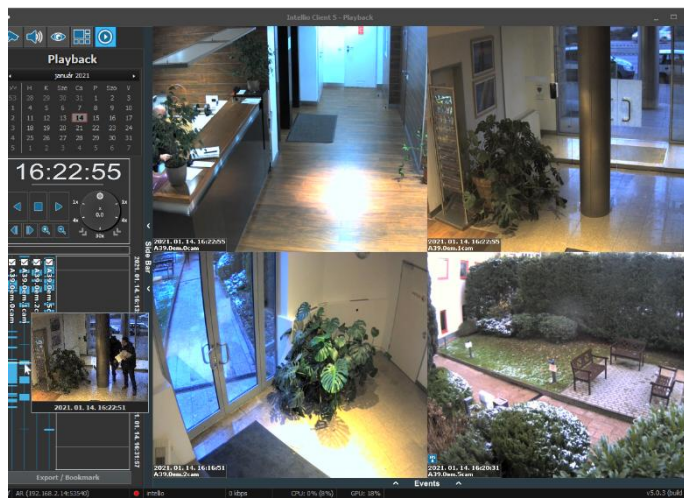
The sound belonging to the camera can be switched on and off from the camera menu in the upper part of the camera image. Audio inputs not assigned to the camera can be managed in the list displayed in the menu item **Toolbar / Audios**. The audio channels can be switched on and off, their volume can be changed, and a control indicator shows the activity of the channel.

Saved views can also be used to quickly select cameras.

Note: *The maximum number of cameras that can be played back at once is 16. Layouts and saved views containing more than this number of panels cannot be used for playback.*

9.2. Selecting the date of playback, timeline

The **Toolbar / Playback** menu point is for controlling the playback. From the calendar above the month and day of the playback can be selected. By clicking on the clock (below the calendar), the exact hour and minute can be set where from the playback will start. After defining the time, the horizontal white line in the timeline shows the actual time of playback. By using the timeline, it is possible to move smoothly between the footage and also it can be noticed where are recorded footage. During playback the actual time is displayed with a horizontal white line.



The color of the vertical axis of the timeline indicates the type of the buffer.

- Light blue: normal buffer
- Dark blue: long-term buffer
- Red: emergency buffer
- Grey: archive buffer
- Brown: Device-side buffer (NVR)



9.3. Moving on the timeline

The timeline provides easy and quick navigation between recorded recordings. To move the timeline, hold down the right mouse button to move the timeline up and down. When playing back more than 10 cameras, you can move the time bar left and right with the horizontal slider above the time bar. By double-clicking on a given point in the timeline with the left button, the playback will jump to the time corresponding to that point.








The time interval on the timeline can be increased / decreased - from 15 minutes to 24 hours - by clicking on the **Zoom out** / **Zoom in** button. It is possible to move between one by one between the events. To jump to the previous / next event click on **Previous event** / **Next event** buttons. At the top of each playback data track (image, sound, detector), there is a radio button to control whether the movement between events should take into account the data of that track or not. For example, it is possible to move between the events of a selected detector while the images of the displayed cameras are updated synchronously.

In case you wish to skip only one frame, use the left and right arrow keys. These buttons work on the playback interface even if the playback menu is not the active function. The only exception is the roll down panel of Events. In case this is the active panel, the right-left arrow keys are inactive, while the up-down keys will jump from event to event.

9.4. Playback

To control the playback, use the panel on the left side of the playback screen:



-  Play backward by 1x speed.
-  Stop playback.
-  Play forward by 1x speed.
-  Jump to the previous event.
-  Jump to the next event.
-  Decrease the timeline interval.
-  Increase the timeline interval.




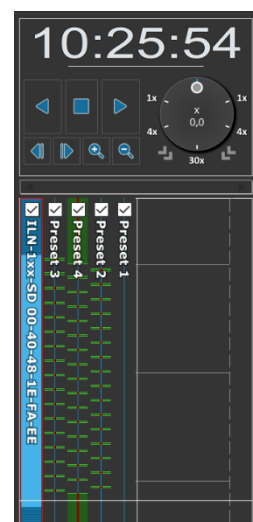
Changing playback speed between 0-30x, forward and backward. Values between 0-1 result in slower, values between 1-30 result in faster playback. The actual speed is signalled at centre of the button. To change the speed, drag the red point, and set the desired speed while pressing the left mouse button. Or use the middle scroll button on the mouse and scroll the button to the desired state. The changes are applied immediately.

During playback the statuses of the special modes of the camera are displayed (e.g. decreased frame rate or EPTZ mode).

9.5. Preset-based Playback

In case of PTZ cameras preset playback is possible (using the hidden PTZ preset detectors). During preset playback only the positions belonging to the chosen preset detectors are displayed.

- Select the desired PTZ camera.
- By using the  button of camera menu, select one or more preset positions.
- The selected presets will be displayed on the timeline next to camera.
- By disabling the checkbox on the camera timeline, you can navigate through the images of the chosen presets, and you can also play them back.



10. Exporting

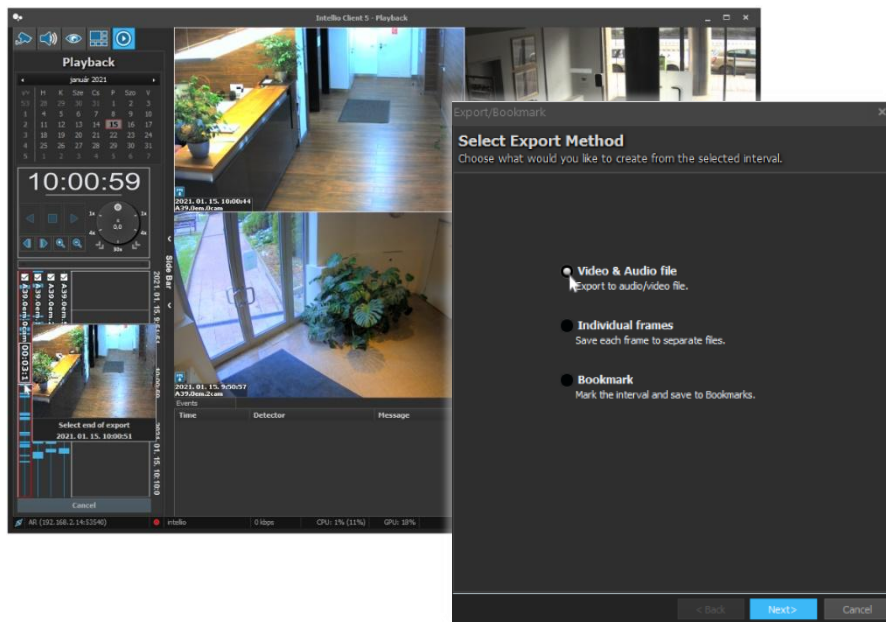
10.1. Exporting images

Exporting captured frames works in the same way as live images (see [Exporting and printing an image](#)).

10.2. Exporting video

The exported format of the video will be AVI, MP4 or individual frames. Video from up to 4 cameras can be exported simultaneously. Exporting function is available on the **Playback** interface. The steps of exporting are the following:

- Select the timeline of the camera to be exported. (When exporting multiple cameras at the same time, hold down the **Ctrl** key)
- Press the **Export / Bookmark** button.
- Move the mouse pointer to the beginning of the period to be exported, then press the left mouse button once, then repeat all this at the end of the period to be exported.
- In the window that appears, select the export method, and depending on the selected method, the export wizard guides you through the export process. Select the **Video & Audio file** option if you want to export the period as a video file. With the **Single frames** option, you can export 1 camera as a series of frames. With the **Bookmark** option, you can create a bookmark for the given time interval, containing the selected cameras and audio inputs.



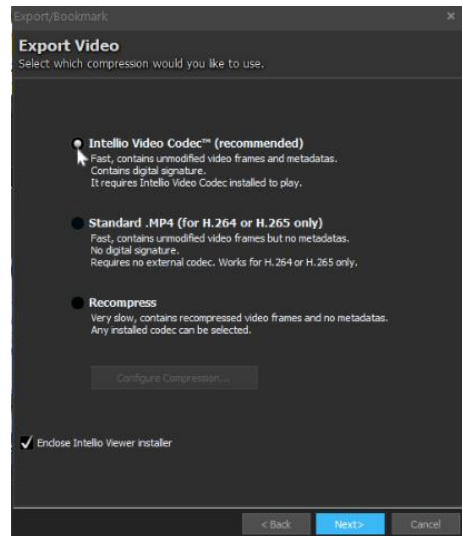
10.2.1. Video and Audio File

There are 3 options when exporting a video file. Select the export mode, then use the **Next** button to go to the settings panel for that mode.

By enabling **Enclose Intellio Viewer installer** option, the installer of Intellio Viewer (including the Intellio Video Codec) is saved to the selected path.

Intellio Video Codec

In IVS, this is the recommended way when exporting a video file. Exporting is fast, the exported file contains all frames and all metadata, unmodified. The file is digitally signed, and Intellio Video Codec is required to play it. The recommended player is [Intellio Viewer](#), which is able to enlarge the image content, display all metadata (motion, detector information, etc.) and check the authenticity of the exported material.



Standard MP4

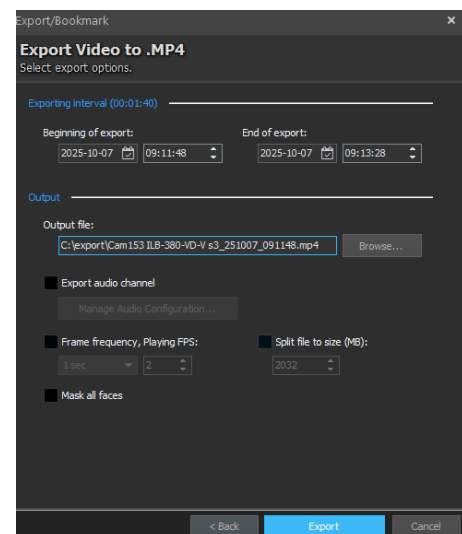
The standard MP4 export can be used only for cameras which use H.264/H.265 encoding. The exporting process is fast, and the exported file contains all unmodified frames, but does not contain metadata and digital signature. No external decoder is required for playback.

Recompress

The exporting process is very slow; the exported file contains recompressed video frames and does not contain metadata and digital signature. Any installed VFW (Video for Windows) codec can be selected, select one of them by pressing **Configure Compression...** button, before going to the next step.

Export options

- If necessary, specify the **time interval** in the window that appears.
- Select the **Output file** location, and if necessary, set the frame frequency and playback FPS value (the maximum frame rate of the video).
- To export **audio** sources, tick the checkbox, and select the audio sources. (It is not possible to export an audio source without video.)
- By enabling the **Mask all faces** option, human faces in the exported video will be blurred. The export process may be very slow depending on the performance of the client computer, so use this option with caution. Additionally, face blurring can only be enabled if the server has the IVS-PRIVACY module.
- Set **maximum size** of the files.



- Click on the **Export** button.

Upon successful completion of the export, the client will offer to view the file, and the created file will be available in the specified path. [Intellio Viewer](#) is recommended for viewing AVI files, mp4 files can also be viewed with the built-in video player programs of the operating system.

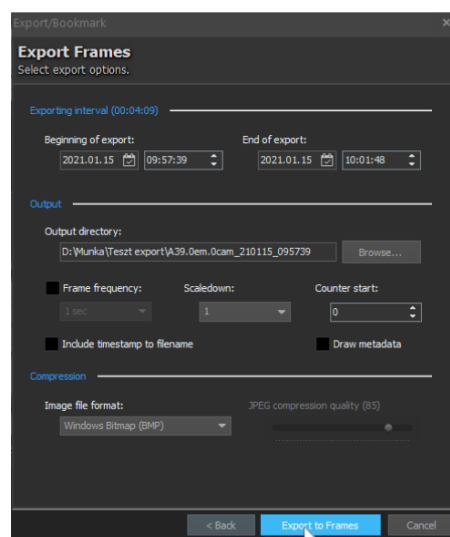
When exporting more than one video simultaneously an ***.rcv** format file is also created at the target location. This file allows the **Intellio Viewer** to simultaneously play the recorded footage. The Intellio Viewer is installed automatically when you install the IVS client. The latest version can be downloaded from the Intellio website.

Note: the Intellio Viewer does not support to play mp4 files.

10.2.2. Export to Individual Frames

At any given time, only one camera footage can be exported as a series of individual frames.

- If necessary, specify the time interval in the window that appears.
- Select the location of the files to be created.
- With the **Frame frequency** option, you can specify how often a new picture is taken.
- Use **Zoom out** to adjust the image size reduction.
- You can change the name of the exported images with the **Counter start** parameter.
- The time stamp is the internal time of the camera processor at the moment the image was taken.
- Enable the display of metadata if you want to see information about the detectors on the images.
- Set the desired image format.
- Press the **Export** button.



10.2.3. Saving Bookmarks

- If necessary, specify the time interval in the window that appears.
- Type the name of the bookmark.
- Type the description of the bookmark; this is done in order to make future Bookmark identification easier.
- Click on the **Bookmark** button.

10.3. Playing exported video using Intellio Video Codec


10.3.1. What is in the Footage?

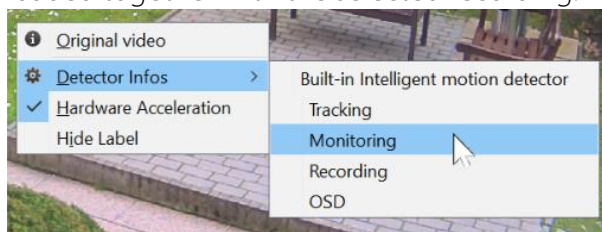
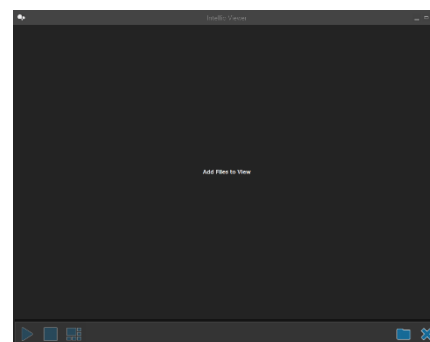
The videos saved using the **Intellio Codec** have the following contents:

- The video stream in a high compression/good quality format.
- Tracker and metadata information generated by the cameras.
- Recording, frame rate and other video related information stored by the Intellio servers.

The files are in a standard Microsoft Windows compatible **.avi** video format.

10.3.2. Necessary Steps for Playback with Intellio Viewer

- Intellio Viewer is recommended for playing the video, which includes the **Intellio Video Codec** package. It is advisable to always include this with the exported recordings. The video can also be played with other programs that support the use of VFW codecs (e.g. Microsoft Windows Media Player).
- Start **Intellio Viewer**.
- Use the  button to select the file to be played. (To play back multiple cameras at the same time, select the **rcv** file created during export)
- The Intellio Codec is then automatically loaded together with the selected recording.
- To display motion information embedded in the recording, such as Intellio camera tracking information, right-click on the image of the given camera.
- In the menu that appears, select and at the same time enable the Monitoring menu item in the example above.
- The video will then be played with the embedded motion information.
- Intellio Viewer can zoom in on the playback recording. Use the mouse wheel to zoom. Moving the enlarged area is possible by holding down the left mouse button.




Note: When using a third-party application for playback, a small IVS icon will appear on the Windows system tray which is found in the lower right corner of your desktop. This icon can be used to control the embedded motion information.

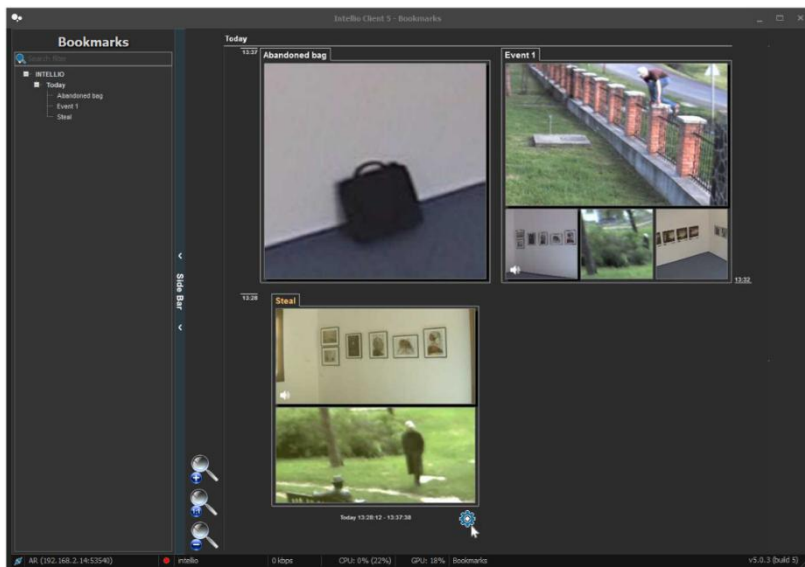
11. Bookmarks

By using Bookmarks, the recordings can be tagged, so they can easily be found, played back or exported in the future.

Using Bookmarks requires the user to have **Export** rights. With these rights the bookmarks can be viewed on any of the clients that are connected to the SITE.

Bookmark mode can be accessed from the second group of icons  in the main menu or by pressing **F2** the right number of times.

The list of existing bookmarks can be found on the left side of the screen grouped chronologically. The main list is in the centre of the screen (from top to bottom in descending chronological order). The bookmarks in the main list are displayed with snapshots (max. 4 pcs / bookmark). If the camera contains a detector, the snapshot is selected intelligently and displayed magnified using the detector. The amount of magnification is determined by the magnifier buttons to change the magnification.

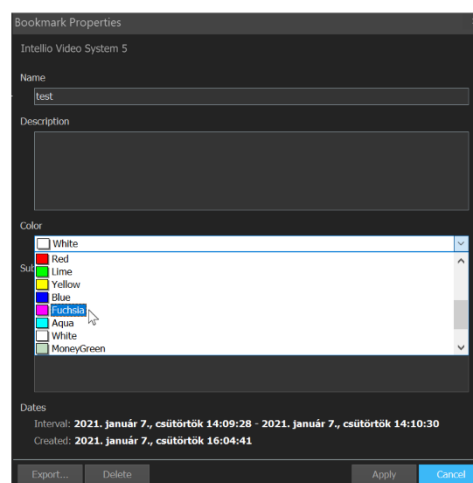


The main and grouped lists are synchronized, meaning that if a selection is modified in one list, then the other list will be modified as well. You can scroll through the main list by pressing and holding the left mouse button, or with the help of the scroll wheel.


Creating Bookmarks

Creating a bookmark is similar to exporting video footage (see [Exporting video](#)), the only difference is that a bookmark can contain any number of cameras or audio sources.

You can specify different colours for bookmarks. During playback, a small diamond with the selected colour will appear in the timeline, indicating that there is a bookmark at that time. This is only visible if the **Show bookmarks on timeline** option is enabled in the client settings (see [Client settings](#)).



Managing Bookmarks

In the main list hover over the bookmark, you want to manage. By clicking the  icon the **Manage Bookmarks** window appears.

Bookmark Playback

To play a footage referenced by a bookmark, simply double click with the left mouse button on the desired bookmark in the main list.

Editing Bookmarks

It is only possible to change the name and description of a bookmark. It is not possible to add or remove cameras to/from an existing bookmark.

- Open the **Manage Bookmarks** window.
- Change the desired data.
- Click the **Apply...** button.

Deleting Bookmarks

Deleting a bookmark will not delete the footage. If the footage shown in the bookmark is still available, then that footage can be viewed after the bookmark has been deleted.

- Open the **Manage Bookmarks** window.
- Click the **Delete** button.
- Confirm your selection.

Exporting content of a Bookmark

- Open the **Manage Bookmarks** window.
- Click the **Export...** button.

When exporting footage marked by a bookmark, the only limitation is that no more than 4 cameras can be exported at once. If the bookmark includes more than 4 cameras, a window will appear after clicking the export button where you must select the cameras you want to export. If there are 4 or fewer cameras, all of them are selected by default.

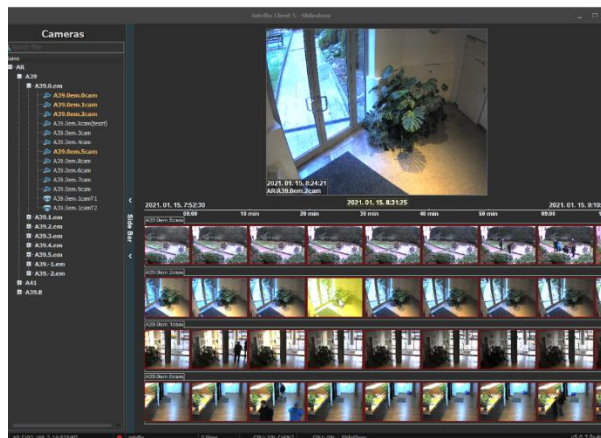
After selecting the cameras, the export process continues as usual. The start and end times are defined by the bookmark but can be adjusted in the export window if needed.

12. Slideshow

Slideshow-based search is especially effective for finding events that cause a permanent, clearly visible change in the area monitored by the camera (e.g., the appearance or disappearance of an object).

The **Slideshow** mode can be accessed from the second group of icons in the main menu or pressing **F2** the right number of times.

To add a camera, drag the selected cameras onto the slideshow bars. To remove a camera's slideshow bar, click on the name above the bar and, while holding the **left mouse** button, drag the camera off the bar. Slideshow-based search can be performed on up to four cameras at the same time to ensure proper display size.



By holding down the left mouse button, you can scroll through the slideshow images left and right. The image under the mouse pointer will be displayed in the panel. Using the scroll wheel, you can increase or decrease the time interval between images, helping you quickly find events that caused lasting, visible changes.

If you click once on a slideshow image to select it, that image will remain fixed in the panel and will not disappear. While the mouse pointer is over the image, you can use the magnifier by scrolling the mouse wheel to adjust the zoom level. Clicking the image again will remove the selection.

If you double-click on a slideshow image, the client switches to playback mode, and playback will start from the time the image was captured.

13. Smart Playback

In addition to simple, time-based search options, Intellio also provides a number of more powerful retrieval options. The **Intelligent Event Browser** and **Intelligent Motion Search** interfaces can be used to filter through events and review event images using pre-created or post-created detectors, while the **Intelligent Object Search** can be used to search based on changes in the pattern of image segments.

The Intelligent Event Browser and Intelligent Motion Detector are particularly effective with the **built-in Intelligent Motion Detector** in the **Intellio ILD (Visus)** camera. These **hidden detectors** are not visible by default, but can be enabled from a pop-up menu in the detector list by right-clicking on the **Show Hidden Detectors** menu item.

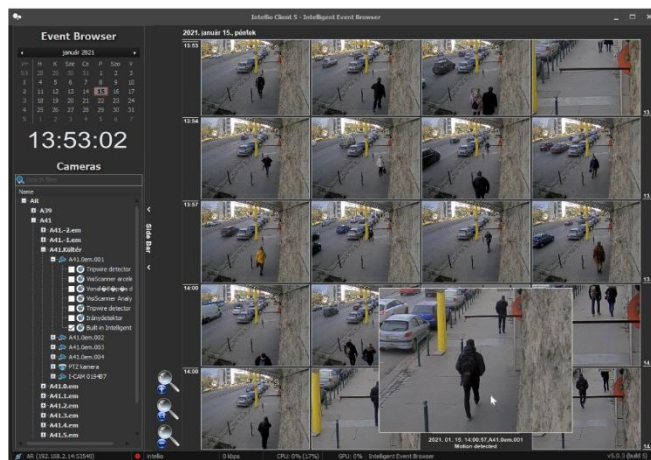
For **Intellio ILB (Initio)**, some **Hanwha** and **Hikvision** cameras, you can also create a **Virtual Detector** from the right-click pop-up menu using the **Add** menu. For more information about these detectors, see the [Intelligent Motion Search](#) chapter.

13.1. Intelligent Event Browser

The Intelligent Event Browser provides a powerful interface to quickly review the frames associated with different detector events. You can effectively review event images from **pre-defined detectors** as well as **subsequently created** motion data filtered by **Virtual Detectors**.

The interface controls consist of just a camera detector list, a calendar and a scrollable list of event frames.

The required detector can be selected from the camera detector list or right-click on the camera name to add a new Virtual Detector. The list contains detectors for each camera. To select one or more detectors, check the checkbox next to the detector name. Then the frames of the detector events will appear in chronological order, starting with the date selected in the calendar.



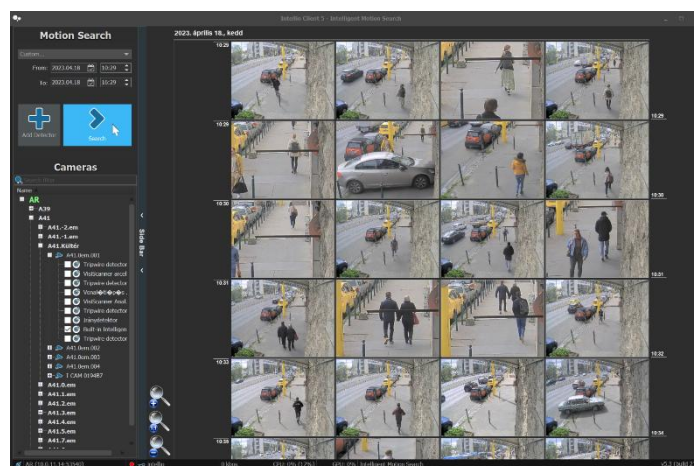
You can jump backwards or forwards in time within the frames using the mouse wheel, or by selecting a date in the calendar. By hovering the mouse cursor over a frame, a new window will open and the footage showing the event will be played back automatically.

This interface gives a quick overview of the various alerts pertaining to a selected detector (motion, entry to area, intrusion, etc.) and simple events (vehicle license plates, human faces, etc.).

For information on setting up and using detectors, see the [Intelligent Motion Search](#) chapter.

13.2. Intelligent Motion Search

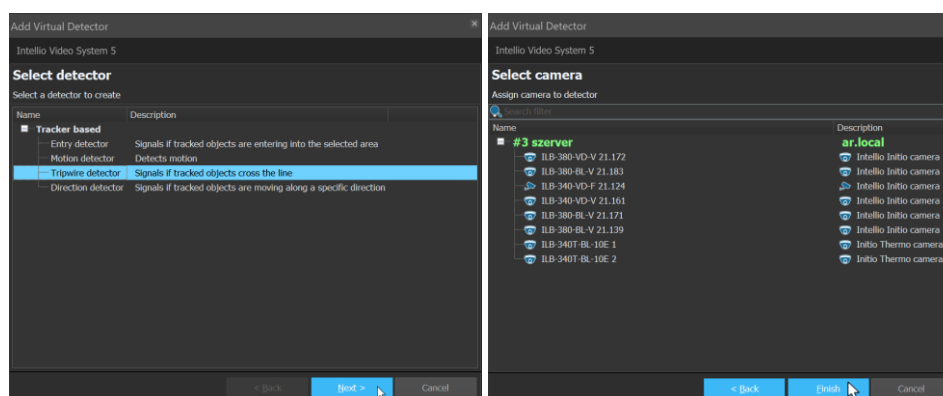
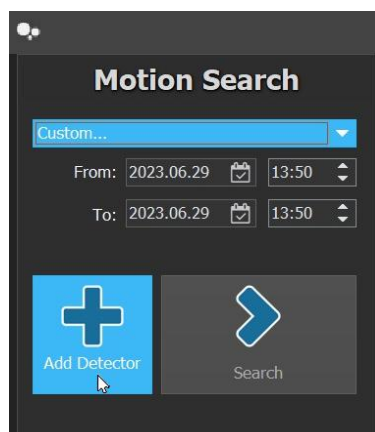
The Intelligent Motion Search feature - similar to the [Intelligent Event Browser](#)-, allows you to browse through event images of **pre-defined real or hidden detectors**; and **Virtual detectors** created after the event date. However, the Intelligent Motion Search function displays event images within a definable time interval.



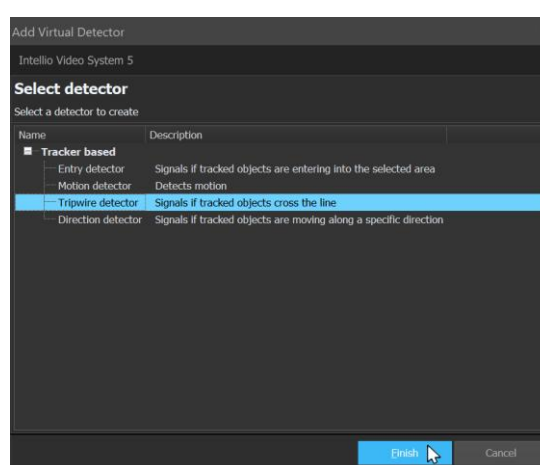
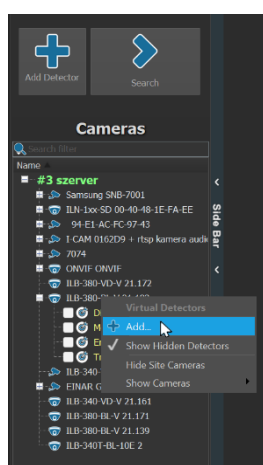
13.2.1. Creating a Virtual detector

Virtual detectors can be created on Intellio ILB (Initio) cameras, and on Hanwha and Hikvision cameras that support **Smart MetaData**. Virtual detectors can be created by right-clicking on the camera name and selecting **Add** from the menu; or by pressing the **Add Detector** button in the upper left part:

- After pressing the Add detector button, select the detector you want to use. After pressing the Next button, select the camera on which you want to use the detector. (Only cameras with Smart Metadata enabled are displayed in the list.)



- In the camera list, press the right mouse button on the desired camera to access the **Add** menu item. In the window that appears, select the detector you want to use.

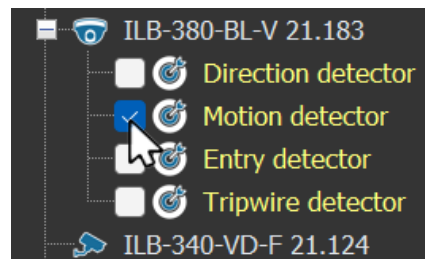


13.2.2. Search with detectors

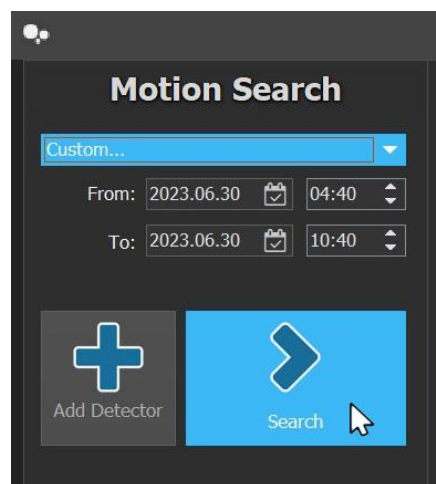
The date setting interface in the upper left corner is used for searching with the created virtual detectors, as well as the **Search** button below, which can be used to start the search between the set times.

The search process:

- Tick the created detector or detectors that you want to use. Detectors created in advance during the camera installation are shown in white character color, and Virtual detectors are shown in yellow color.

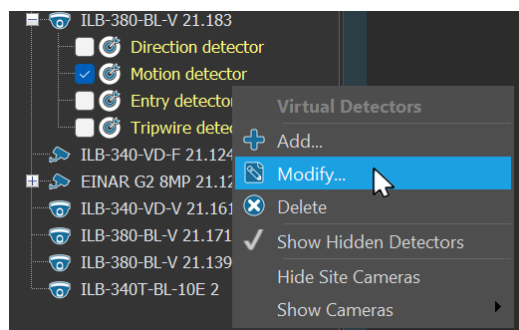


- Use the date setter to set the time interval for the search, then press the Search button.



- The displayed events are indicated by frames, which can be double-clicked to open the playback interface showing the image of the given camera at the time of the event. When returning from the interface to the Intelligent Motion Search interface, the result of the query does not disappear, so you can continue to browse through the results.

- A virtual detector can be deleted and modified by clicking on it with the right mouse button, and then you can choose from the drop-down menu: one option opens the detector settings window, and the other deletes the given detector. Virtual detectors are automatically deleted after 15 days from their last use.



13.2.3. Object filtering

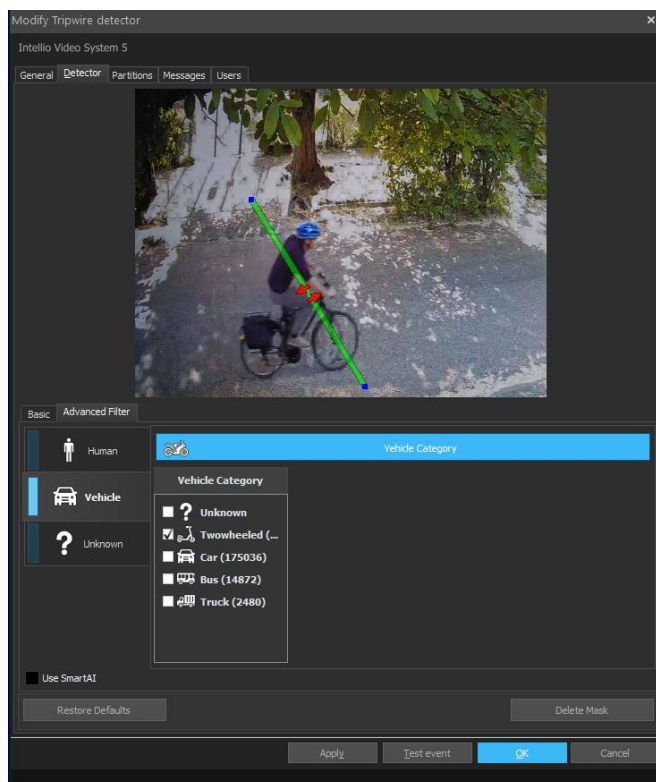
For any detector type, an event is triggered if, on the one hand, the moving object violates the motion/direction rule condition corresponding to the given detector type and, on the other hand, the camera detects that the moving object resembles a **Human** or a **Vehicle**, depending on the desired category enabled.

Unknown category detection can also be enabled separately when the camera fails to determine the type of moving object or the camera does not provide category information.

Depending on the camera manufacturer/type, in addition to the main categories, it is also possible to define different subcategories as conditions, e.g. the detector can be set to give a result only if a two-wheeled vehicle violates the rule of the given detector

If none of the categories is selected, the detector will also give an alarm if any category of object is detected.

The number in parentheses for each subcategory indicates how many objects of that subcategory were detected by the camera in the total image in the last period. This allows you to check whether the camera has detected any subcategory that you want to define as a filtering condition.



13.2.4. Virtual detector types

13.2.4.1. Intrusion detector

The Intrusion detector generates an event when the imaginary centre of the moving object crosses the boundary lines of the masked area. It doesn't matter if the movement is inside or outside the area.

General

You can name and give a description of the detector.

Detector

To create a mask:

To define a polygon, click on one of the desired corner points with the mouse, then move around defining the adjacent angle of the area you want to select. The corner points of the polygon can be moved later, but it is not possible to remove or add them, in this case, delete the given polygon and redraw it. Steps for drawing:

- Click the **left mouse button** on the starting point of the shape.
- Define the next corner point and **left-click** again.
- Repeat this until you have defined all corner points.
- **Right-click** to finish.

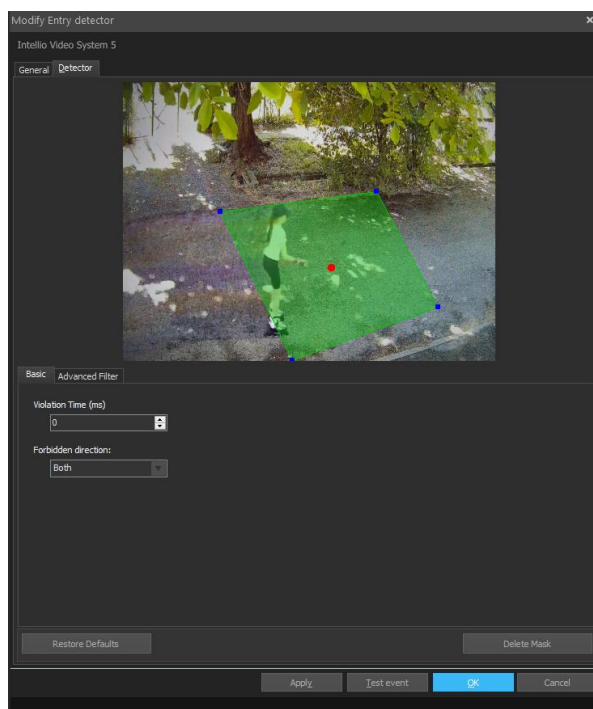
Since the detector indicates the crossing of boundary lines, the mask is drawn so that objects are detected on both sides of the boundary lines. So, for example, if you want to detect an entry into an area, the camera should detect the object while it is still outside the area, so that the path of the object can be formed when it crosses the boundary line.

Setting additional parameters of the detector:

- **Forbidden direction:** By default, the event images of entering and exiting the area designated by the mask are also visible. The search can be narrowed from the drop-down menu so that only entry or exit events are displayed.
- **Violation time:** The time between when an object enters the area and when it leaves or disappears can be used to narrow down the search. For example, it is possible to filter out moving objects that violate the mask boundaries for a short time by setting a value of 100 milliseconds a few times (this can reduce the number of false events). And, for example, you can filter out objects that violate the boundaries of the area and stay inside the area for a longer period of time by setting a value of 1000 milliseconds a few times. Thus, an intrusion will be triggered if the movement within the selected area is maintained for at least the violation time or the object does not exit / disappear within the violation time. In case of exit, no event will be generated if the object moves back into the area within the violation time.

For the explanation of the parameters under the **Advanced filter** tab, see the [Object filtering](#) chapter.

By pressing the **Restore Defaults** button, the default settings of the detector can be reset. With the **Delete Mask** button, only the mask is removed, and it is possible to draw a new mask.



13.2.4.2. Motion detector

Returns a moving object within the area defined by the mask as an event if the imaginary centre of the moving object moves within the selected area. If no mask is defined, the search is performed on the entire camera image. Only one mask can be added to the virtual detector.

General

You can name and give a description of the detector.

Detector

To create a mask:

To define a polygon, click on one of the desired corner points with the mouse, then move around defining the adjacent angle of the area you want to select. The corner points of the polygon can be moved later, but it is not possible to remove or add them, in this case, delete the given polygon and redraw it. Steps for drawing:

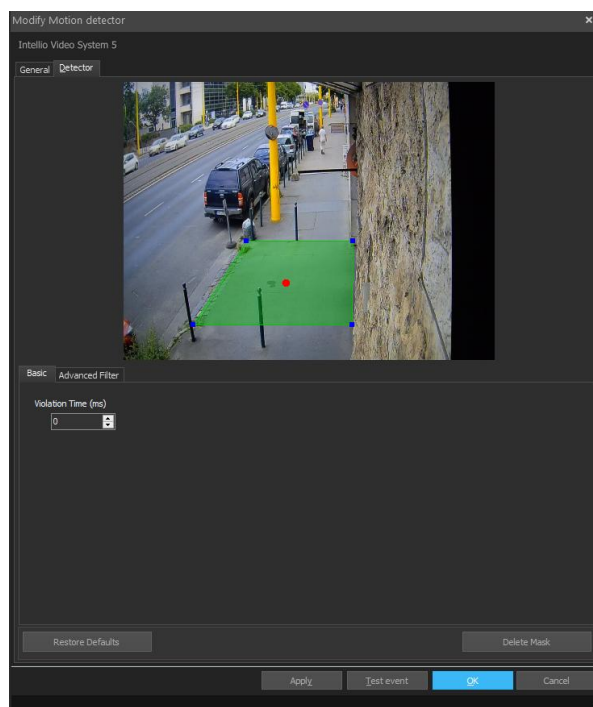
- Click the **left mouse button** on the starting point of the shape.
- Define the next corner point and **left-click** again.
- Repeat this until you have defined all corner points.
- **Right-click** to finish.

Setting additional parameters of the detector:

- **Violation time:** The movement generates an event in which the movement time of the object inside the mask lasts at least until the end of the violation time. By slightly increasing the violation time, movements that only momentarily violate the mask can be filtered out, thus reducing the number of incorrectly displayed event images. Additionally, by setting a longer violation time, slow-moving objects can trigger an event. No event is generated if the movement has stopped at the beginning of the moving object (covered by another object) and the last one is shorter than the violation time.

For the explanation of the parameters under the **Advanced filter** tab, see the [Object filtering](#) chapter.

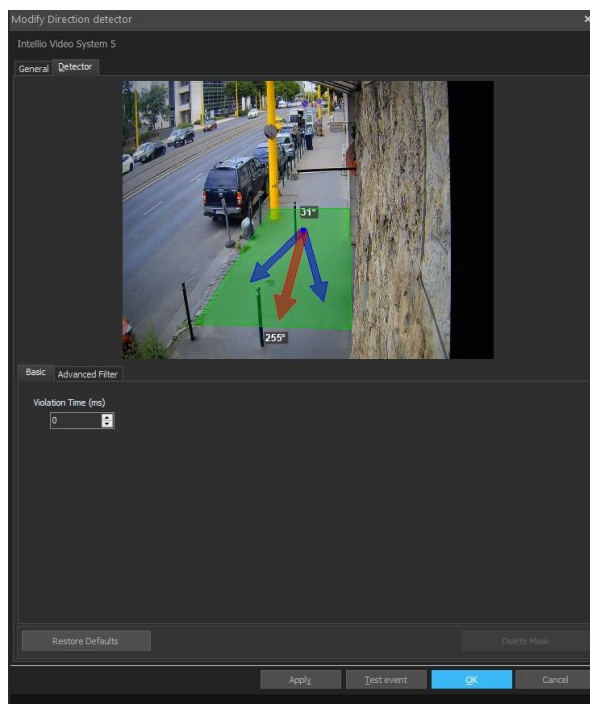
By pressing the **Restore Defaults** button, the default settings of the detector can be reset. With the **Delete Mask** button, only the mask is removed, and it is possible to draw a new mask.



13.2.4.3. Direction detector

During the visual inspection of the detector, only an area bounded by a single polygon can be created. Within this area, the prohibited direction is determined using the arrows that appear in the settings window, the heads of the arrows can be grasped and moved.

The red arrow shows the prohibited direction, while the blue arrows moving like a fan indicate the "tolerance" of the direction of movement. By setting a small aperture angle with the blue arrows, the detector only gives results if the direction of movement of the imaginary centre of the object within the mask perfectly matches the direction of the set red arrow. In the case of a large opening angle (maximum 90°), it will give results even in the case of approaching directions.



General

You can name and give a description of the detector.

Detector

To create a mask:

To define a polygon, click on one of the desired corner points with the mouse, then move around defining the adjacent angle of the area you want to select. The corner points of the polygon can be moved later, but it is not possible to remove or add them, in this case, delete the given polygon and redraw it. Steps for drawing:

- Click the **left mouse button** on the starting point of the shape.
- Define the next corner point and **left-click** again.
- Repeat this until you have defined all corner points.
- **Right-click** to finish.

Setting additional parameters of the detector:

- **Violation time:** Movement within the mask in the direction defined by the bearing angle (red arrow) and the tolerance angles (blue arrows) will only generate an event if it lasts at least the violation time. By increasing the violation time, you can filter for movements that only momentarily violated the prohibited direction, so the number of incorrectly displayed event images can be reduced. An event image is not created if the moving object ceases to exist after the start of the movement within the mask (it is repeatedly covered by some other object) and the last one is shorter than the violation time.

For the explanation of the parameters under the **Advanced filter** tab, see the [Object filtering](#) chapter.

By pressing the **Restore Defaults** button, the default settings of the detector can be reset. With the **Delete Mask** button, only the mask is removed, and it is possible to draw a new mask.

13.2.4.4. Line crossing detector

This detector gives a signal when the set line is crossed in the prohibited direction. Lines with multiple breakpoints can be placed on the image. The imaginary centre of the moving object must pass through the line.

General

You can name and give a description of the detector.

Detector

Steps for drawing:

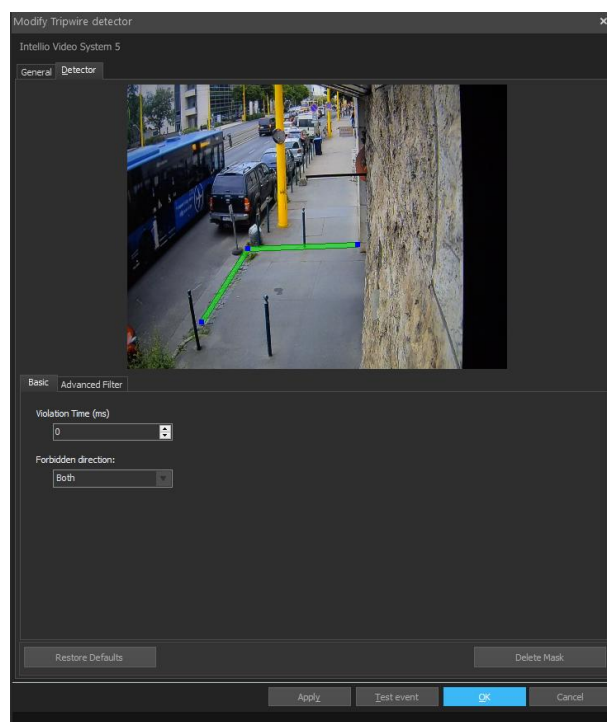
- The way to draw lines is similar to drawing a polygonal mask, with the difference that here the breakpoints must be selected with the **left mouse button**. You can close the complex line with the **right mouse button**. A peculiarity of the compound line is that the lines can cross each other, but this is rarely necessary in practice.
- To modify a previously created line, click on the line. The breakpoints of the line will then turn blue, indicating the possibility of modification.
- You can make the necessary changes by dragging the breakpoints (with the left mouse button). The edges can also be moved, not just the corners. To do this, drag the selected edge away by pressing the **left mouse button**.

Important: corners/edges cannot be removed from a line. In such a case, you must remove the selected line and then re-create the desired line.

Setting additional parameters of the detector:

- **Forbidden direction:** By default, the detector considers line crossings from both directions when displaying event images. If you want to narrow your search in one direction, select the appropriate one from the drop-down menu. The prohibited direction is always indicated by the red arrow.
- **Violation time:** In case of line crossing, if the same object causes another crossing within the violation time, the detector will only indicate the last event (due to the filtering of short-lived false events). If another crossing occurs outside the violation time, the sensor treats it as a new event. No event image is created if the moving object stops after crossing (for example, it is covered by some other object) and its duration is shorter than the violation time.

For the explanation of the parameters under the **Advanced filter** tab, see the [Object filtering](#) chapter.

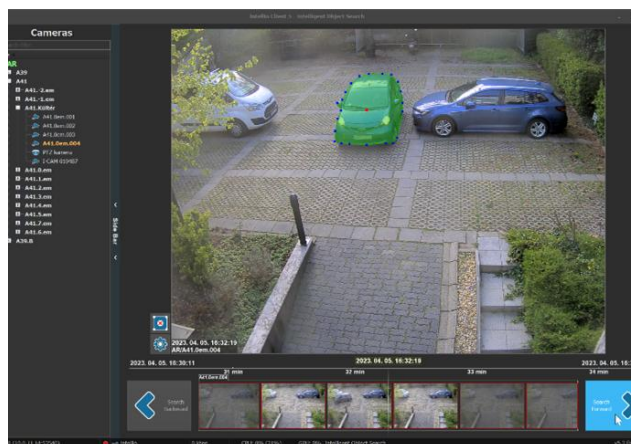




By pressing the **Restore Defaults** button, the default settings of the detector can be reset. With the **Delete Mask** button, only the line is removed, and it is possible to draw a new line.

13.3. Intelligent Object Search

This search option works on the recorded video from any type of camera and is based on monitoring the change of pixels. This method can be used if the searched for object was stationary for an extended period of time. It is, therefore, an ideal tool for observing parked cars.

Intelligent object search is easy to use. Just drag the necessary camera onto the panel, then select a frame from the frame slider where the object in question can be seen. The temporal spacing of the frames in the frame slider can be modified with the mouse scroll wheel. Moving across the frames can be done by holding the left mouse button pressed over the frame slider and moving the mouse.



After having selected the image frame, drag the highlighted area in the centre over to the object to be searched for. In case the default selection is inadequate, use the **Remove selection**  on the edge of the panel, then make a custom selection (clicking the left mouse button will create a new corner, while a right click will close the selection). The searching parameters are represented by a  icon.

Search parameters:

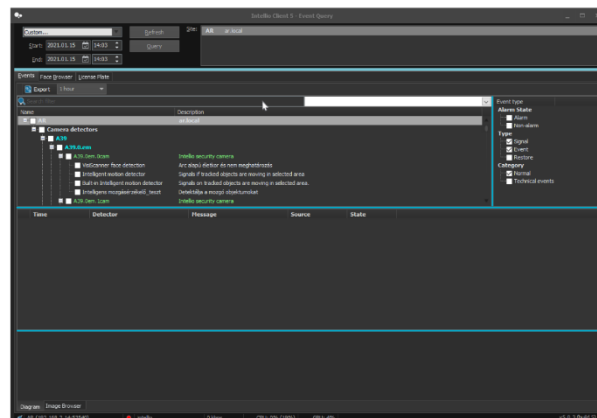
- the lost time required for a search to be successful (allowing the search to go uninterrupted even if the searched object is temporarily covered by another one),
- search type (quick search is performed quicker, but does not necessarily yield the first result, while the advanced search is performed slower, but filters through consecutive images),
- environmental sensitivity (changes in light conditions and other parameters in the area under surveillance).

Press the **Search Backward** or **Search Forward** buttons to scan the images before or after a particular moment in time in search of any changes. In case the search is successful, the image displayed will depict the moment of the change occurring.

14. Event Query

The **Event Query** included all kinds of event monitoring, tracking, face and plate recognizing option currently available. Some event detections require specific cameras, not every device capable to use every kind of detection. By pressing down the **F4** function key you automatically open this mode.

Set the starting and finishing time of the query or select one of the predefined periods from the roll-down menu, then select the **Site** and open one of the tabs required for making a query (**Events, Face Browser, License plate**).

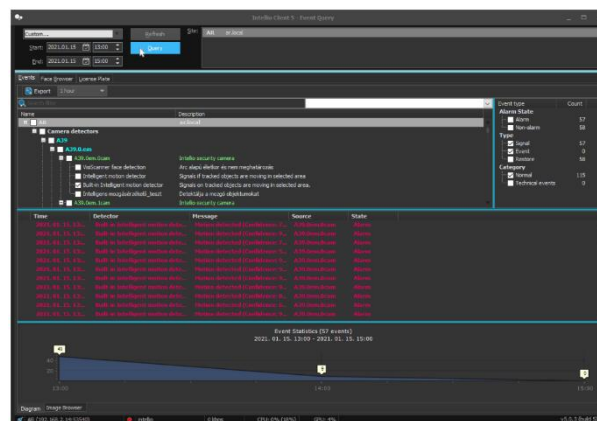


14.1. Events

The **Events** tab is a universal query page: it can list all the events of a selected type and represent them on a graph. In fact, dedicated tabs often yield more details for individual queries. For this reason, since the Events tab is universal, use it only if you have made sure it gives better results or there is no other way to query the events.

To start the query, follow these steps:

- Check the checkboxes of the selected cameras and events. For large quantities of detectors, the filters at the top of the list can be used to make selection easier. Use the filter input field and/or the drop-down list to filter the list items by name and/or detector types.
- Select the filters to apply.
- Click **Query** button.



After the query, there are two kind of display types of these events, accessible by selecting the tab on the lower left side of the client. These tabs are:

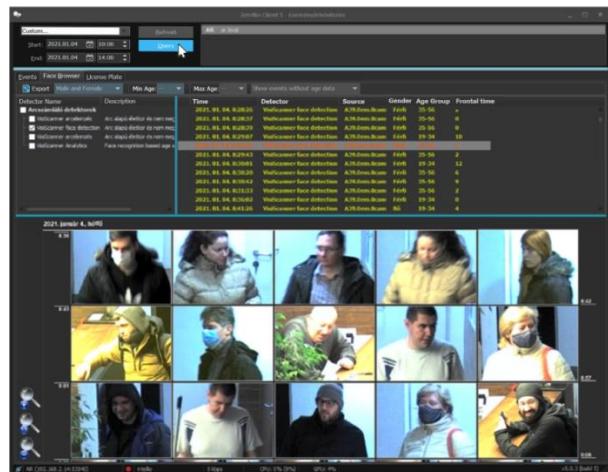
- **Diagram**: Shows the occurrence of the events on a timescale. It can be scaled by selecting a different time interval from the drop-down list.
- **Image Browser**: Each frame corresponds to an event. There are three options available here, you can zoom in, zoom out, or view the images in their original size using the magnifying glass icons in the lower left corner.

Double clicking on an event will result in the appearing of the **Playback**, showing the monitor of the camera on which, the registered event can be seen, and the time set on the time of the event. The detector belonging to a given event and the corresponding metadata are displayed at the same time.

14.2. Face Browser

The **Face Browser** is basically an event listing: it creates snapshots about events where faces were found. To start a query, follow these steps:

- Select the detectors by checking the checkboxes.
- Set the Gender distinction with the help of a drop-down list (**Male and Female, Male, Female**).
- Set the age groups to be listed.
- Use the event filter drop down list (Show events without age data, Hide events without age data).
- Click button **Query**.



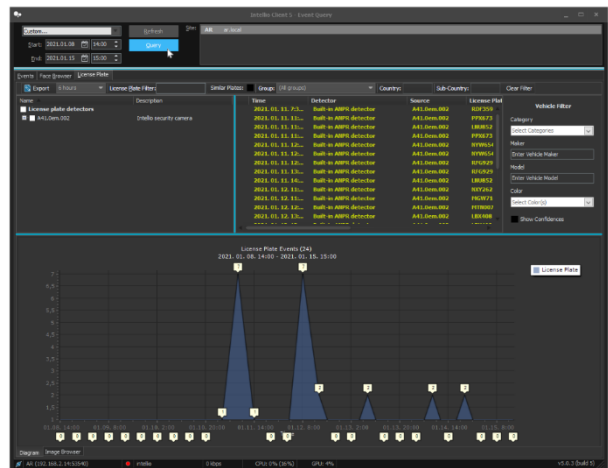
By double clicking on an event or on the related thumbnail, the client will start the **Playback**, showing the previously selected event.

The list can be exported to a file. To do this, click on the **Export** button, select the location and the format of the file then click **Save**.

14.3. License Plate

This query is used on the ANPR module-stored events. The filters of this tab allow for tracking back specific license plates and license plate groups easily.

License plate filter, **Country** and **Sub-Country** search for the co-occurrence of set characters in the relevant columns of the database, regardless of where the characters are located, thus they can also be used for searching for license plate fragments. With the **Direction filter** function, you can filter based on the direction of travel of the vehicles.



The results can be exported to an Excel database.

15. Map

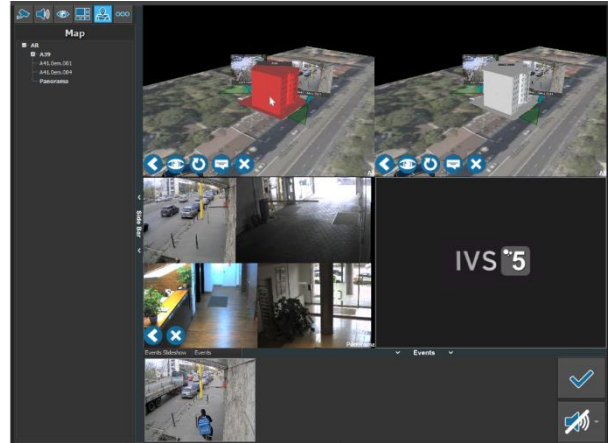
The Map enables viewing cameras based on their physical location and provides visual information for identifying and accessing the monitored area.

To use this function, the cameras must be placed and configured in the **System Configuration / Map** section, but if it was placed during installation (possibly afterwards), it simply needs to be placed on a panel on the **Live View**.

The list of available cameras and locations is

displayed in the **Toolbar / Map panel** .

Any location in the list can be dragged into any panel of any layout. After dragging the location, the size of the panel cannot be changed, and the Map cannot be pulled from the panel. The Map can be removed from the panel using the Close Map button in the menu bar in the bottom left corner of the panel, or by dragging a camera onto the panel.



For navigating on the Map, use the mouse. Moving in the directions is done by the left mouse button, rotating by the right mouse button. By using the mouse wheel, it can be zoomed in, or out.

Buttons for Maps



Back

This function takes back one level, "zooms out". With the help of this function there is possible to switch between levels of a building or take a look at the outer area of a building. It is also possible to switch between locations.



Change View

Switches between the axonometric and the over-the-top view type.



Switch Images

Changes the background picture to one of the other. If there is only one picture added to a location or a level, this function will have no effect.



Show/Hide Captions

With this button the names of the cameras and buildings can be displayed or hide.



Close

With this button the map can be closed, removed from the panel.

Map Functions

Depending on the configuration setup, the Map has the following functions:

- **Jump/Fly:** The Map has the ability to move between cameras in case there are incoming alarm signal. With the help of this function the map will show the latest alarm event and its location. With the flying animation on, the Map will not just switch between cameras, it's moving between them.
- **Camera Preview:** Above the cameras in a small area shows the live image of that device.
- **Projection:** The cameras project the live image on the map. This image can be transparent to a various degree.
- **Motion projection:** If the camera has the tracker turn on, and the function enabled, the Map displays the moving objects on the projected area, using symbolic figures to distinguish the type of objects.

The cameras of the map always display the status of the camera (online, offline, alarm). If the camera is in alarm state, it also displays the cause of the event. If in the settings it is enabled, in a case of the alarm event the map will automatically jump to the camera from where the alarm event came.

The map can also display the alert status of the system detectors.

Important: Alerts on the map will not automatically revert to normal status until these alerts have been acknowledged!

Panorama

Every panoramic view is attached to a map location; therefore, panoramic views can be created on the map. To view panoramic images, first place the selected panoramic images on a panel in the **Live** mode. This can be done in two ways:

- In **Live View**, the panoramic views are listed by name in the list under the **Toolbar / Map** menu item. Select the appropriate panorama and drag it onto the selected panel.
- If there is already a map on one of the panels, navigate to the appropriate location within it and select the object representing the panorama placed there. Then the map in the given panel switches to the selected panoramic view.

To quit panoramic view, click the **Close panorama** button in the toolbar in the lower left corner of the panel. Click the other button to navigate back to the map, to the location of the panoramic image.

Using Panorama

You can navigate within a panel in the panorama view using the mouse. By pressing the left mouse button, you can move the panoramic image both horizontally and vertically, so you can cover the entire field of view. The image can be enlarged with the mouse wheel or shrunk. If the current layout contains a Spot panel, by double-clicking on a point of the panoramic view, the image of the camera belonging to the point can be thrown onto the Spot panel.

It is possible to assign a preset position of a PTZ camera to each of the cameras that make up the panorama. The presets set in this way can be activated by clicking on the given camera of the panorama with the **Shift+left mouse button**, with which at the same time the switching PTZ camera is also placed in the Spot panel.