User manual

MOBOTIX HUB Desk Client 2024 R2

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Beyond**Human**Vision

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What's new?

In MOBOTIX HUB Desk Client 2024 R2

Restructuring of the user assistance

- The presentation of the user assistance has been restructured to better address the different roles and tasks that MOBOTIX HUB Desk Client users have. The restructuring continues for the next several releases. For this release, the sections **Viewing video and working with views** and **Creating views** have been expanded and focus on describing all the benefits and ways of solving tasks related to these goals.

- Smart maps are now available in all versions of MOBOTIX HUB VMS. You can only use Google Maps, Bing Maps, and CAD file overlays in some versions.

- The Map Migration Tool has been added to help the process of switching from the traditional maps functionality to smart maps. Use this tool for guided assistance to add overlays and devices.

- When you search for people in MOBOTIX HUB Desk Client, you can now search for, for example, the color of people's hair and clothes, the type of pattern on their clothes, types of facial hair, and more. When you search for vehicles, there have also been some updates to give you more search options, such as, type of vehicle.

MOBOTIX HUB Access

- The way you select to show or hide access request notifications has been updated.

In MOBOTIX HUB Desk Client 2024 R1

Installation of the user assistance

- Previously, when you installed MOBOTIX HUB Desk Client, the user assistance was also installed and available after running the installer. With this update, the user assistance is no longer part of the software installation, but you can install the user assistance separately. See .

Exporting video sequences

- When you export video sequences in media player format, you can now export the video sequences as an individual file (containing a single video sequence) or as a combined file (containing multiple, combined video sequences.)

The **Fundamentals** section has been updated with the following content:

- Important MOBOTIX HUB VMS concepts.

- Solving typical tasks.

- Learning how to use MOBOTIX HUB Desk Client.

New **Deploying and logging in** section

- All existing content about installing, upgrading, minimum requirements, licensing, logging in to MOBOTIX HUB Desk Client, and the initial customization of your MOBOTIX HUB Desk Client installation now exists in the new **Deploying and logging in** section.

In MOBOTIX HUB Desk Client 2023 R3

Multiple views tabs:

- You can create as many tabs with views as you want in MOBOTIX HUB Desk Client's main window and in detached windows. Tabs with views are named after the selected view.

Restore windows and tabs at login:

- Improved functionality and descriptions. See Restore windows and tabs when logging in on page 70 and Define to restore windows and tabs when logging in on page 75.

Adding, deleting, or editing devices on smart map:

- You can add and enable output devices the same way as input devices. See Adding, deleting, or editing devices on smart map on page 302.

Adding, deleting, or editing custom overlays on smart map:

- In Shapefiles, you can add fill- and line colors to make your shapefiles look sharper. See Adding, deleting, or editing custom overlays on page 298.

In MOBOTIX HUB Desk Client 2023 R2

Redesign of the main timeline:

- Documentation about the main timeline has been updated to reflect the redesign. See also The main timeline on page 56.

- To optimize the display for viewing video, two new features for hiding the main timeline during inactivity have been added. See Hide the main timeline on page 90.

- The documentation for the different configuration options for the timelines has been updated. See Configuration options for timelines on page 89.

Two new guides for specific audiences:

- A MOBOTIX HUB Desk Client getting started guide aimed at new users.

- A MOBOTIX HUB Desk Client – Player quick guide aimed at operators and authorities or other security professionals outside your organization who receive exported video in the MOBOTIX HUB Desk Client – Player format.

Privacy Masking:

- Adding and removing privacy masks now apply to all video sequences in exports from cameras you select in the **Export list**.

In MOBOTIX HUB Desk Client 2023 R1

A new **Views** tab replaces the **Live** and **Playback** tabs:

- On the **Views** tab, you can select to view video in live or playback mode with a new toggle switch.

- When in playback mode, the same features and functionalities are available as they were on the **Playback** tab.

- When in live mode, the same features and functionalities are available as they were on the **Live** tab.

The buttons for respectively **Export**, **Evidence lock**, and **Video restrictions** have been moved from the lower-right corner of the MOBOTIX HUB Desk Client to the workspace toolbar in the upper-right corner.

MOBOTIX HUB Incident Manager:

- To comply with GDPR or other applicable laws concerning personal data, administrators of MOBOTIX HUB Management Client can now define a retention time for incident projects.

In MOBOTIX HUB Desk Client 2022 R3

MOBOTIX HUB Incident Manager:

- The MOBOTIX HUB Incident Manager extension is now also compatible with MOBOTIX HUB L4, MOBOTIX HUB L3, and MOBOTIX HUB L2 version 2022 R3 or later.

- MOBOTIX HUB Incident Manager can now show more than 10,000 incident projects.

In MOBOTIX HUB Desk Client 2022 R2

MOBOTIX HUB Incident Manager:

- The first release of this extension.

- The MOBOTIX HUB Incident Manager extension is compatible with MOBOTIX HUB L5 version 2022 R2 and later and with MOBOTIX HUB Desk Client version 2022 R2 and later.

XProtect LPR:

- On the **LPR** tab, you can now see the license plate style associated with an **LPR** event.

Bookmarks:

- When you enter a keyword to filter your search results for bookmarks, you can now decide where the system should search for the keyword: in all bookmark fields, in the **Headline** only, or in the **Description** only. See Search for bookmarks on page 163.

In MOBOTIX HUB Desk Client 2022 R1

Export:

- Everything related to exporting video data now lives on a dedicated tab called **Exports**. See also The Exports tab on page 52.

In MOBOTIX HUB Desk Client 2021 R2

Export:

- To increase security, the MOBOTIX HUB format is the default export format. To enable other export formats, please contact your system administrator.

New camera icons:

- New camera icons allow you to distinguish between fixed cameras and PTZ cameras.

Vertical scrolling of views and cameras:

- Use **Shift** in combination with the scroll-wheel to move the navigation area to the left or right.

Removed features:

- Camera navigator

- Simplified mode. This feature has also been removed in MOBOTIX HUB Desk Client – Player which is used to view video exports.

In MOBOTIX HUB Desk Client 2021 R1

Searching:

- Sort your search results by **Relevance**. See also Sorting options on page 173.

- Administrators can control the number of cameras that are allowed in one search.

Smart map:

- Get an overview of the different types of devices in a cluster. When you are zoomed out, click a cluster[1] to see the types and number of devices within a specific area. See Information shared by the cluster icon on page 110.

- Improved zoom capability. Double-click a cluster to zoom in on grouped devices. See also Zoom in and out on a smart map on page 112.

Security:

- Basic users can change their password, either on their own initiative or if an administrator enforces the need for change. See Change password (basic authentication only) on page 73.

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[1]a grouping of devices or plug-in elements – or a combination - on the smart map displayed visually as a circular icon with a number. Clusters appear on certain zoom levels indicating the number of devices or plug-in elements within a particular geographical area.

Fundamentals

Introduction

What is MOBOTIX HUB Desk Client?

MOBOTIX HUB Desk Client is a desktop application with which you can view video and listen to audio from cameras and other devices connected to your MOBOTIX HUB VMS system. Through MOBOTIX HUB Desk Client, you can access live and recorded video, audio, and metadata, as well as control cameras and other connected devices. You can perform advanced searches to find video and audio data and supported metadata stored on the server.

MOBOTIX HUB Desk Client is available in multiple languages. Its adaptable user interface can be optimized for individual users' tasks and adjusted according to specific skills and authority levels.
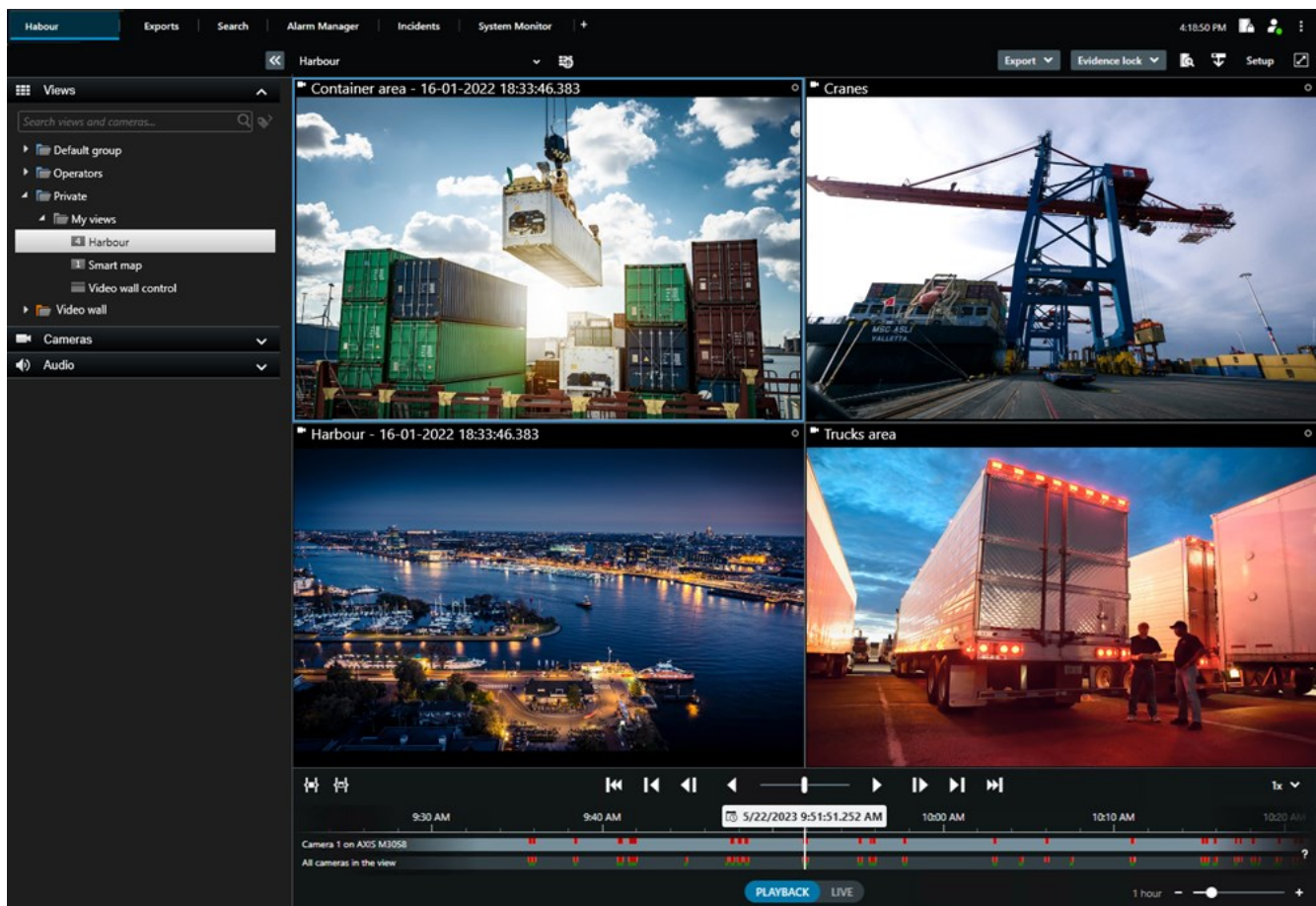
Important MOBOTIX HUB VMS concepts

Available functionality

About available functionality

Being able to log in and use MOBOTIX HUB Desk Client doesn't automatically give you access to the complete set of software features.

Why? Because what functionality in MOBOTIX HUB Desk Client is available for you depends on which:

- MOBOTIX HUB VMS product your organization has purchased

- MOBOTIX HUB extensions or other third-party solutions your organization has purchased

- User permissions your system administrator has given you

- Default values for MOBOTIX HUB Desk Client settings that your system administrator has defined for you or that you have defined yourself.

Your user permissions

MOBOTIX HUB Desk Client includes an extensive number of features. It is, among other things, the system administrator of your MOBOTIX HUB VMS system who controls if you have access to a given feature.

When the system administrator creates you as a user in the MOBOTIX HUB VMS system, you have, per default, no user permissions.

Usually, when you have no user permissions to a feature, all the user interface elements related to the feature are hidden in MOBOTIX HUB Desk Client. For example, if you don't have permission to export video, all **Export** buttons and the **Export** default tab are hidden.

The features each user can see and use in MOBOTIX HUB Desk Client can vary considerably, even within the same organization.

As an example, the following can be functionalities that the administrator does NOT grant you user permissions to:

- Log into MOBOTIX HUB Desk Client

- View alarms, live video, or recorded video

- Search for video

- Export video

- Enter setup mode

- Create shared views

- View video from specific cameras

- Apply bookmarks or evidence locks

User permissions can also vary depending on the time of day, day of the week, and a combination of multiple factors. An example can be that you can only view live video from a specific camera during work hours from Monday to Friday. Still, when you're at work, you can see all recorded video from the camera regardless of when the video was recorded.

With the video restriction feature, investigators can temporarily overrule your user permissions to the video from specific cameras for a certain time period.

Your organization's MOBOTIX HUB products and extensions

The features available in MOBOTIX HUB Desk Client also depend on the MOBOTIX HUB VMS product, MOBOTIX HUB extensions, and third-party solutions your organization has purchased.

There are multiple MOBOTIX HUB VMS products. The top MOBOTIX HUB VMS product includes the complete list of features, while the remaining MOBOTIX HUB VMS products have fewer features.

If your organization has purchased one of the top MOBOTIX HUB VMS products, they include one or more MOBOTIX HUB extensions. The extensions add functionality to MOBOTIX HUB Desk Client. Similarly, your organization can also have purchased other MOBOTIX HUB extensions or third-party solutions that add additional functionality to your MOBOTIX HUB Desk Client.

If you're curious, ask your system administrator about which MOBOTIX HUB VMS product and extensions your organization has, and visit the Product comparison chart to see the functionality set included with your organization's purchases.

Defined values of MOBOTIX HUB Desk Client settings

You can customize MOBOTIX HUB Desk Client in many ways.

Within the MOBOTIX HUB Desk Client settings, you can change parts of MOBOTIX HUB Desk Client's behavior and which functionality are available to you.

The system administrator might set default values for certain or all settings or delegate the configuration responsibility to you. You might have the right to modify the default values for specific settings, though in some cases, you're not allowed to make any changes.

You can change the settings anytime, but changing some settings may require you to restart MOBOTIX HUB Desk Client.

The settings you define are saved in your local user account on your computer.

Here are a few examples of MOBOTIX HUB Desk Client settings:

- Show/hide bounding boxes on video.
- Show/hide audio recordings on the timeline tracks in the main timeline.
- The default path for snapshots.
- Restore your views from last login.

You can find all MOBOTIX HUB Desk Client settings here:

- On the global toolbar, select the **Settings and more** menu, and then select **Settings**.

Views and view items

You view video in MOBOTIX HUB Desk Client by selecting and switching between views in live or playback mode.

Views resemble tables. In MOBOTIX HUB Desk Client, the cells in the table are called view items. A view can have from one to a hundred view items to display different content.

The content is often video from cameras, but it can also be maps, web pages, still images, text, hotspots, carousels, Matrix, or other types of content.
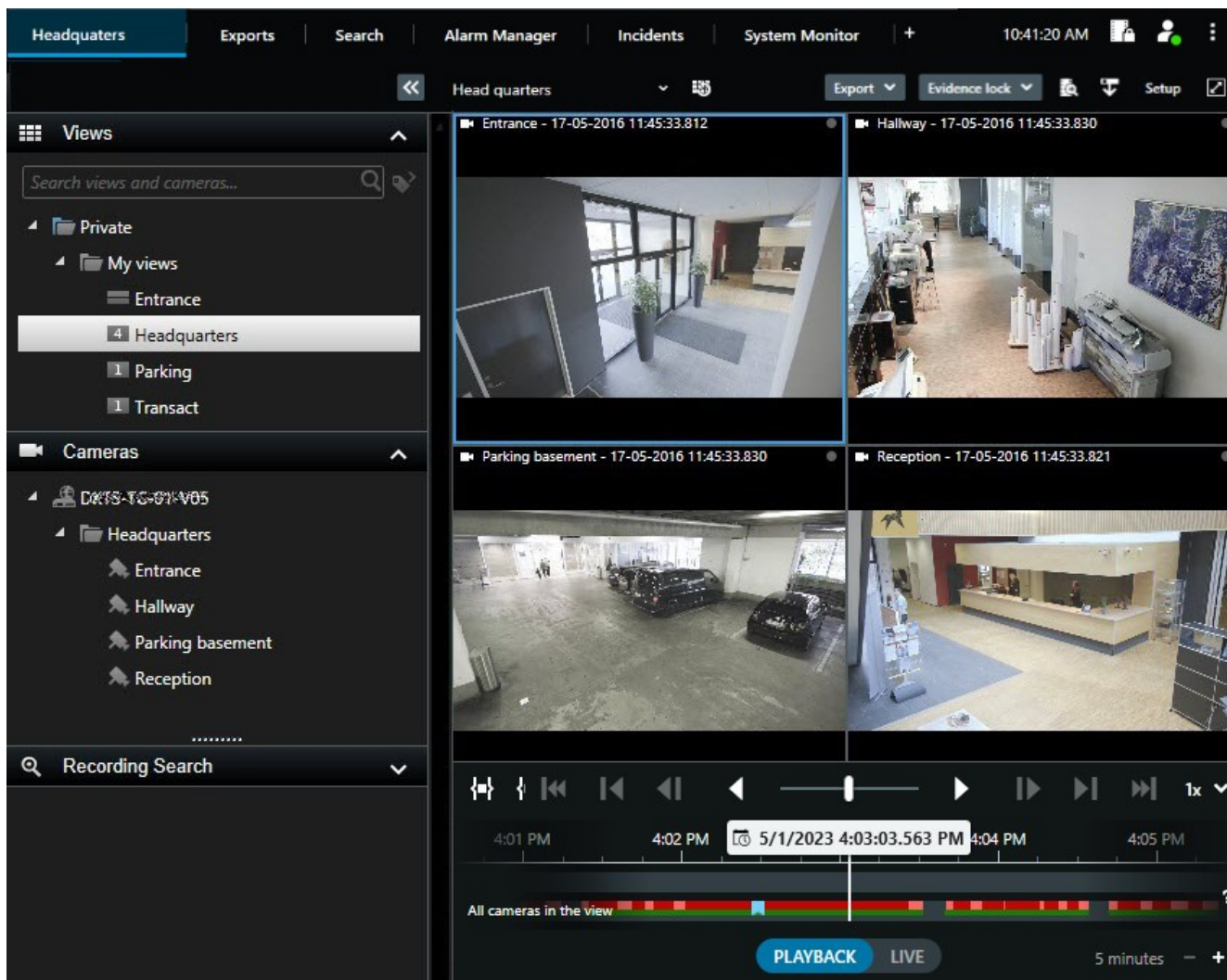
You can have as many views as you need and add the video from the same cameras or other content to as many views and view items as you want.

You can add the dewarped video from a fisheye camera to multiple view items to display different areas of the video in each view item. You can still move inside the video in a camera view item with digital zoom in both live and recorded video.

Views can be shared or private.

- Shared views: available to multiple users, typically created by system administrators or supervisors.

- Private views: available only to the user who created them.

  You can create private views if you have permission to switch to setup mode. Private views are stored under the **Private** folder and are available for you from any computer when logged in to MOBOTIX HUB Desk Client.

You can also always drag new content from the default panes in to view items in an existing view. Your changes are, however, only temporary unless you have permission to edit the view and have entered setup mode first.

Creating views with content and video from cameras that cover different areas or for specific purposes or tasks is a good idea. For example, different views with all cameras covering:

- The reception area in building 1

- Parking area A

- All hallways in building 1

- All entrances to all your buildings

- The perimeter of your area

Content in view items

View items often contain video from cameras, enabling you to see what is going on, but you can also add other types of content to view items:

Content types	Purposes and benefits
Alarms	Share a list of prioritized alarms so MOBOTIX HUB Desk Client users can focus on and respond to alarm-related incidents.
Cameras	Show live video feeds or recorded video from cameras.
Carousels	Shows the live video from each camera in a camera group in rotation so you're aware of what is happening in your area.
Hotspots	See video in higher quality in the hotspot view item by selecting a camera in one of the other view items in the same view.
Maps and Smart Maps	Access your cameras and devices on the MOBOTIX HUB VMS system through a geographical map. The map improves the situational awareness in your area.
Matrix	You and your colleagues can send live video streams to each other to improve awareness of and collaboration around incidents.
Static images	For example, share a snapshot of a suspect or a diagram of emergency exits.
Text	For example, send a message, share instructions, or post a work schedule for security personnel.
HTML pages	Provide links, online instructions, or show company web pages.

If your organization uses any of the MOBOTIX HUB extensions, you can also add content related to these extensions:

Content types	Purposes and benefits
Access Monitor	Requires MOBOTIX HUB Access. Add access monitors to your views, for example, for a specific door.
LPR	Requires XProtect LPR. Add LPR cameras to your views.
Video Wall controls	Requires MOBOTIX HUB Video Wall. Push video from cameras and other types of content to your video walls.
Transact	Requires XProtect Transact. You can add metadata from, for example, point-of-sales systems to your views.

The live, playback, and setup modes

There are three modes in MOBOTIX HUB Desk Client:

- Live

- Playback

- Setup

The live and playback modes are for viewing live and recorded video. You switch between playback and live mode with the **PLAYBACK LIVE** switch on the main timeline.

You can create and edit private and shared views when you're in setup mode. You can also, for example, configure PTZ preset positions, PTZ patrolling profiles, and Maps or Smart Maps.

You enter setup mode by selecting **Setup** on the workspace toolbar.
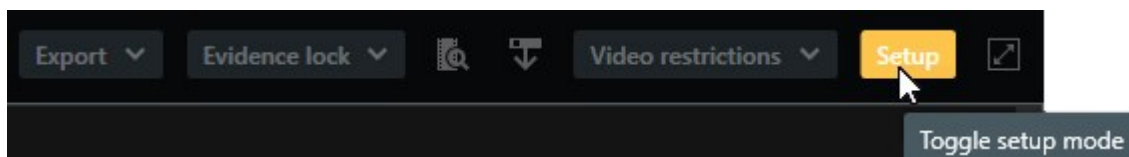
Rules

A simple way to describe what rules are is to say that rules are what make your life as an operator or investigator easier.

Your system administrator creates and defines rules that determine how MOBOTIX HUB Desk Client behaves.

Having the right rules for your tasks and your organization's needs is important. As a user of MOBOTIX HUB Desk Client, you can't create rules yourself, but you will often be the first person to identify the need for new rules.

Well-defined rules help you focus on what is important, reduce your workload, increase your situational awareness, improve your response times, and improve internal communication in case of incidents.

For example, some rules create events and alarms automatically when an incident occurs. Other rules you activate manually through, for example, overlay buttons inside camera view items.

There are numerous possibilities for how your system administrator can create and define rules. Here are a few examples:

Rule example	Rule behavior example	Benefit examples for MOBOTIX HUB Desk Client users
Start recording when something happens and stop recording when nothing is going on	The MOBOTIX HUB VMS only saves relevant recordings, for example, 30 seconds before someone opens a gate and 30 seconds after the gate is closed again.	With less recorded video, it is easier to find relevant recordings.
Improve the quality of the video shown in a view item when something happens	The MOBOTIX HUB VMS shows the video of the most important incidents in a higher quality. For example, when someone opens a door, the video from the camera surveying the door is shown in higher quality than otherwise in your view.	It is easier to identify the person entering a building.
Trigger events and alarms when something happens	The MOBOTIX HUB VMS notifies you when something specific happens. For example, when a car enters your area. How you're notified depends on the rule, but a few possible ways are: • Inside MOBOTIX HUB Desk Client: events and alarms in the alarms list, indications on maps, placing bookmarks, and many others. • Outside MOBOTIX HUB Desk Client: emails, text messages, activation of sirens, and many others.	You and your colleagues are notified when something happens.
Temporarily move a PTZ camera to a specific position, zoom in on what is happening, and return the PTZ camera to its original position after a	The MOBOTIX HUB VMS moves a PTZ camera to cover an area where an incident occurs while zooming in for you to see details better. The PTZ camera returns to its initial position and zoom level, giving you the overview again.	You and your colleagues are presented with the most relevant video and can react quickly.

specified time period.	An example:	
	• A door opens, and the PTZ camera that usually surveys the entire reception area moves slightly and zooms somewhat into the area near the door. • The PTZ camera returns to its original position and zoom level after 30 seconds.	
Share live video in Matrix view items when something happens	The MOBOTIX HUB VMS sends live video showing an incident into a view item with Matrix content in one or more shared views. For example, when someone breaches the perimeter of your area.	You and your colleagues are made aware of an critical incident and can react quickly if you need to.
Switch cameras between day and night mode based on the time of day	The MOBOTIX HUB VMS switches between cameras' day/night mode in a specific camera group to display the best video quality.	Ensures you and your colleagues have the best quality live and recorded video.

Incidents, events, actions, and alarms

In MOBOTIX HUB VMS context, the terms incidents, events, actions, and alarms have different meanings, and they each play their part in rules.

Term	Explanation	Scenario
Incident	An incident is something that is happening in real life.	Someone opens a door. In this scenario, we call the door Door1.
Event	In MOBOTIX HUB VMS, an event is when a rule is defined to recognize an incident. Then, the real-life incident becomes an event in the MOBOTIX HUB VMS. The source of events can, among others, come from motion in the video, external sensors, data received from other applications, and user input.	The door sensor attached to Door1 registers that someone opens the door. A rule turns the registration into a Door1Opened event.

Action	An action is when a rule in MOBOTIX HUB VMS is defined to use an event to make something happen in your MOBOTIX HUB VMS. The action can be to start recording, move a PTZ camera, share video from a camera as Matrix content, and much more.	When a rule registers the Door1Opened event, the rule triggers the MOBOTIX HUB VMS to start recording video from the camera near Door1 in a higher quality for two minutes.
Alarm	An alarm is when a rule in MOBOTIX HUB VMS is defined to use an event to notify relevant people that an incident has occurred. The notification can be through output devices, emails, text messages, and other means.	When a rule registers the Door1Opened event outside office hours, the rule activates a siren and sends a text message to the head of security.

You can find all events and alarms in the alarms list in MOBOTIX HUB Desk Client.

Bookmarks, evidence locks, and video restrictions

You can tag video sequences with bookmark, evidence lock, and video restriction tags. The benefits of each feature tag are different, so you apply them for different purposes.

Bookmarks

You use bookmarks to improve the sharing of video sequences internally and externally.

- Internally, because you can add additional information about these tagged sequences and you and your colleagues can search for them. This means that more can, for example, help handle incidents and investigations.

- Externally, because you can easily export the tagged video sequences.

Evidence locks

Tagging video sequences with evidence locks have the same benefits as bookmarks, but you also protect the tagged video sequences from being deleted for a defined duration.

Protecting video sequences from deletion is helpful if they are essential evidence in, for example, a court case or significant investigation, and you, therefore, need to keep these sequences longer than you usually would.

Video restrictions

Investigators can tag video sequences with video restriction tags to restrict access to the video sequences for a defined duration. Both in live and recorded video.

Investigators typically apply video restriction tags if the video is privacy sensitive, related to a high-profile incident, or both.

The following examples demonstrate reasons to restrict access to video temporarily:

- Prevent leaks to the media about the details of an incident.

- Keep the investigation and details of an incident to a few key investigators.

- Allow the police to conduct a thorough investigation in peace.

- Protect the privacy of people in the video.

You can simultaneously apply video restrictions and evidence locks to the video sequences

Maps and Smart Maps

There are two map features designed to improve your situational awareness: Maps and Smart Maps.

With both features, you can create a virtual representation of your areas of interest. You can place icons representing different cameras and other devices in the locations where they are mounted.

Examples of a map and a smart map, respectively:

You can interact with a camera or device by selecting the icon the represents them on the map. When a rule registers an event or triggers an alarm, the icon representing the related camera or device is highlighted, helping you identify where an incident has occurred.

The Smart Maps feature are more advanced than the Maps feature. With the Maps feature, you can only use still images to visualize your area and buildings.

Maps use still images to visualize your area and buildings, but Smart Maps can combine geographic information systems like Google Maps, Bing Maps, and OpenStreetMap with still images and CAD drawings. The extra functionality give you a more accurate overview of your cameras across one or multiple locations.

Bounding boxes

If you have cameras or integrations that can identify the whereabouts of objects and send metadata to your MOBOTIX HUB VMS, the MOBOTIX HUB VMS can place visual indicators called bounding boxes around the objects in the video.

The bounding boxes help you monitor the whereabouts of important objects for your organization and business.

A bounding box is a rectangular border that encloses an object in a camera image in MOBOTIX HUB Desk Client. The default color of the box is yellow, but your system administrator can have selected a different color.

If you can enter setup mode, you can select to show or hide bounding boxes from individual cameras. If you can't enter setup mode and you can see bounding boxes, your MOBOTIX HUB system administrators have enabled them for you.

Privacy masks

Your system administrator can blur or cover areas in a camera's field of view to protect private or public areas, such as windows of a private residence. In MOBOTIX HUB Desk Client, the privacy masks are applied in live, playback, and exports.

Privacy masks can be permanent or liftable. Permanent privacy masks have full solid coverage by default, while liftable masks have 50% blurring. Your system administrator defines if any of the types of privacy masks appear on your camera.

The following image shows five windows in an adjacent building covered by permanent privacy masks:

If your system administrator has defined privacy masks as liftable and you have the right user permissions, you can temporarily lift all privacy masks in MOBOTIX HUB Desk Client.

In this example, there are two types of privacy masks: the solid gray area is a permanent privacy mask and the blurred area is a liftable privacy mask.

> When you export video, you can add more privacy masks to the exported video.

Adaptive streaming and hardware acceleration

In MOBOTIX HUB Desk Client, there are two settings you can use to reduce the network load of sending video feeds and improve your computer's decoding capability and performance.

Adaptive streaming and playback

Your system administrator can configure cameras to send multiple video streams to MOBOTIX HUB Desk Client in different resolutions, and that several of these video streams are recorded. If that is the case, you can in MOBOTIX HUB Desk Client define to switch between which stream is shown in a camera view item to achieve best video quality versus bandwidth balance.

So, adaptive streaming is used when multiple live video streams from the same camera can be shown in the same view item. Adaptive playback is the same, just for playing back recorded video. The method enables MOBOTIX HUB Desk Client to automatically select the video streams with the best match in resolution to the streams requested by the view items.

Hardware acceleration

Hardware acceleration uses GPU resources to improve the decoding capability and performance of the computer running MOBOTIX HUB Desk Client. Hardware acceleration is beneficial when viewing multiple video streams with high frame rate and high resolution.

> ✎ You can't use all GPU resources for hardware acceleration. If in doubt, ask your supervisor or system administrator.

Solving typical tasks

Viewing video and working with views

Some of the most fundamental tasks for a user of MOBOTIX HUB Desk Client include:

- Viewing video from cameras
- Listening to audio from microphones
- Accessing other data from devices added to your MOBOTIX HUB VMS system.

Here are a few ways you can do these tasks.

Selecting views

You view video and other content by selecting different views. If there is audio, you can hear it. You select views:

- From the **Views** pane.
- From the views selection list in the workspace toolbar.
- Through keyboard shortcuts if you have assigned keyboard shortcuts to your views.
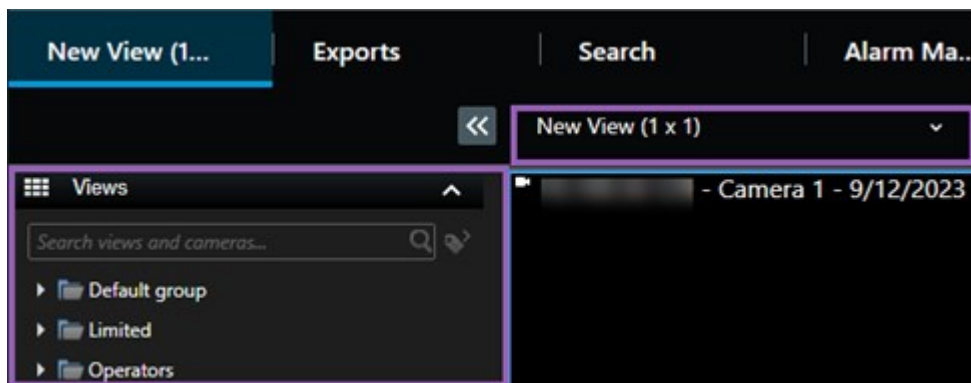
View items and content-related menus and overlay buttons

If you select a view item in a view, a menu related to the content in the view item is shown at the bottom of the view items.

For example, overlay buttons can give you quick access to pan or zoom in the video.

To view details in the content of a view item, you can double-click the view item to maximize it.

Navigating the video

On the main timeline, you can switch between viewing live and recorded video and go back and forth in the recorded video. You can also search for video or other content.
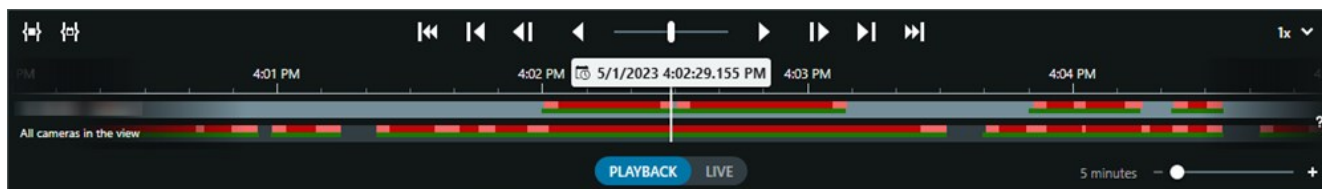
Multiple windows and tabs

To view video from multiple views simultaneously, you can send views to detached windows. You can also have multiple views tabs in all your open windows.

To restore all your windows and tabs the next time you log into MOBOTIX HUB Desk Client, remember to enable the setting for restoring them.

Navigating cameras

MOBOTIX HUB Desk Client has features for viewing live and recorded video, going back and forth in time in recorded video, zooming in on details in the video, and much more.

You can see and use different navigation features depending on several factors. They include:

- The type of camera

- The camera's capabilities

- If you're viewing video in live or playback mode

- Your user permissions

Zoom in and out

In live and playback mode, you can digitally zoom in and out on the video from any supported camera.
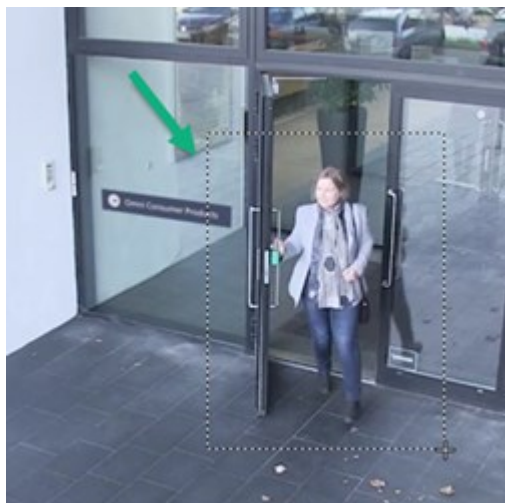
You can only use optical zoom in live video if the selected camera has movable camera lenses. If you zoom in or out optically, this also affects what is recorded.

PTZ (pan-tilt-zoom)

You can use digital PTZ in the video from any supported camera in live and playback mode.

In live video, you can physically move (pan, tilt, and zoom) the view direction and focal length of a PTZ camera. If you move a PTZ camera, this also affects what is recorded.

You can add the dewarped video from a fisheye camera to multiple view items to display different areas of the video in each view item. You can still move inside the video in a camera view item with digital zoom in both live and recorded video.

Time navigation

You can go back and forth in time in recorded video. To find video sequences, use the controls in the main timeline to change the time for all cameras' video in the view. You can also go back and forth in the recorded video displayed in a single camera view item. This is called independent playback.
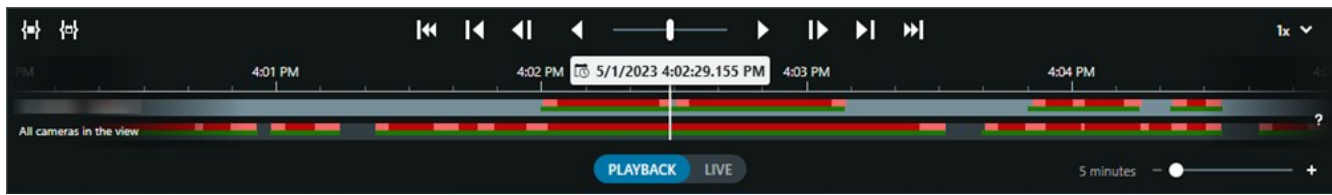
Patrolling

Through MOBOTIX HUB Desk Client and without leaving your office, you can manually patrol the buildings and areas you protect by turning the view angle of PTZ cameras in different directions and selecting different views.

If your system administrator has created rules for patrolling, you have dedicated views and view items set up for patrolling. The rule-based patrolling can include:

- PTZ cameras turning

- Cameras zooming in on areas

- The showing of video feeds from one camera after the other in carousel view items, for example, 20 seconds of video from each camera in a camera group.

Improving your situational awareness

MOBOTIX HUB Desk Client has many built-in features that facilitate your awareness of what is happening in the buildings and areas you protect.

Which features are available to you depends on your organization's MOBOTIX HUB VMS product and possible extensions, as well as your user permissions.

MOBOTIX HUB Access

With MOBOTIX HUB Access, you can integrate with access control systems and control who can enter your area and buildings from within MOBOTIX HUB Desk Client.

XProtect LPR

XProtect LPR identifies and captures license plate information from vehicles and combines it with the corresponding video. You can compare recognized number plates with predefined lists and initiate automated actions through rules. For example, issuing parking charges and opening gates to allow registered cars to enter an area.

Maps

With the two map features, Map and Smart Map, you can visualize the area and buildings you protect and the location of the cameras and other devices added to your MOBOTIX HUB VMS system.

Both map features can highlight cameras or devices when a rule creates an event or alarm associated with the camera or device. With this behavior, you instantly know where the incident has happened, enabling you to respond quickly and relevant to the situation.
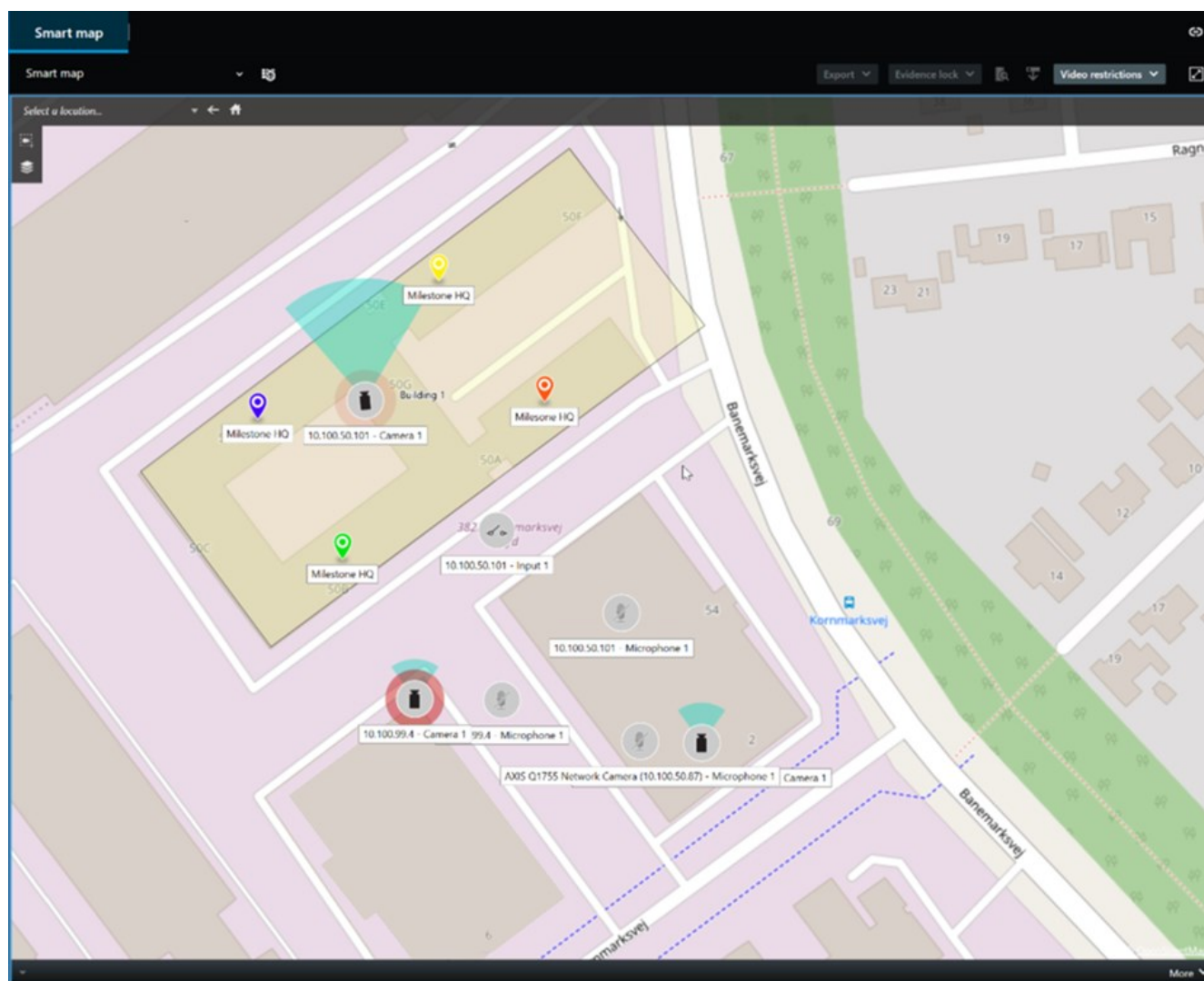
Patrolling

Through MOBOTIX HUB Desk Client and without leaving your office, you can manually patrol the buildings and areas you protect by turning the view angle of PTZ cameras in different directions and selecting different views.

If your system administrator has created rules for patrolling, you have dedicated views and view items set up for patrolling. The rule-based patrolling can include:

- PTZ cameras turning

- Cameras zooming in on areas

- The showing of video feeds from one camera after the other in carousel view items, for example, 20 seconds of video from each camera in a camera group.

Matrix

The Matrix feature is useful for sharing live video streams when you discover an incident. You and your colleagues can send live video streams to each other through shared views with Matrix view items.

If your system administrator has defined rules, these can also trigger sharing of video when events occur.

Hotspot

The hotspot feature is a great situational awareness feature that, based on rules, can share live video of incidents with you.

Exactly when the shared video is shown in a hotspot view item depends entirely on the rules defined by your system administrator.

Compared with the Matrix features, the hotspot feature has the benefit that you can define that the view item with hotspot content shows the video in better quality than the video in the other view items. If you select a view with a large view item for the hotspot content, you and your colleagues can clearly see what is happening in the shared video.

Events and alarms

Rules create events and alarms. This behavior makes you aware of ongoing incidents and enables you to respond more quickly and targeted to the incidents.

Sharing video

About sharing video

Collaboration is important but also by nature difficult. That's why MOBOTIX HUB Desk Client has several features that facilitate collaboration with your colleagues and security personnel inside or outside your organization.

Which sharing feature is best depends on who you want to share the video with, the scenario, and your preference.

Sharing video with colleagues inside your organization

The following features are excellent choices for sharing video with your colleagues inside your organization

MOBOTIX HUB Video Wall

The MOBOTIX HUB Video Wall extension is designed explicitly for fulfilling organizations' needs for sharing video. It is ideal for control centers with multiple operators.

MOBOTIX HUB Incident Manager

Users of MOBOTIX HUB Incident Manager can besides video save all the incident information in incident projects. From the incident projects, they can track the status and activities of each incident. In this way, the users can manage incidents effectively and easily share strong incident evidence, both internally with colleagues and externally with authorities.

Matrix
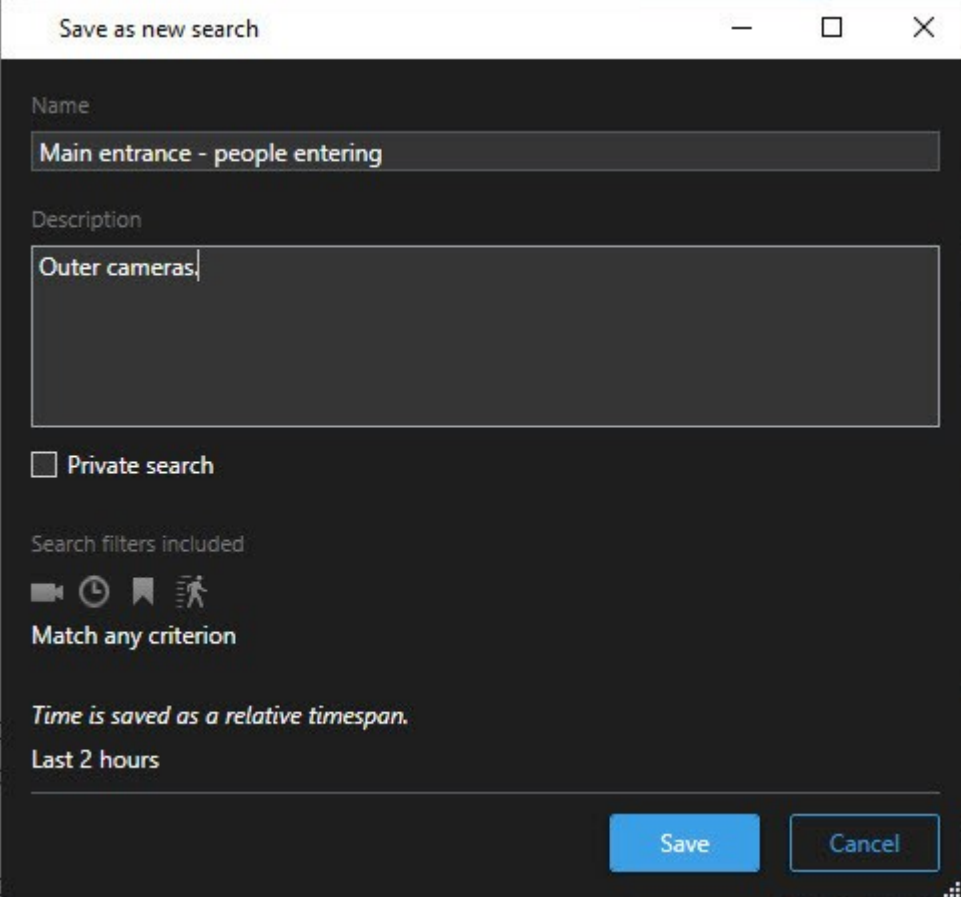
The Matrix feature is useful for sharing live video streams when you discover an incident. You and your colleagues can send live video streams to each other through shared views with Matrix view items.

If your system administrator has defined rules, these can also trigger sharing of video when events occur.

Bookmarks, evidence locks, and search

You can search for bookmarks and evidence locks. A search is faster and more precise than using the various controls in the main timeline. Your search also finds all video sequences that are tagged with the same bookmark or evidence lock.

To improve sharing and collaboration, you can save a search as a public search. A saved public search is available for your colleagues so they can easily find the tagged video sequences.

Maps and alarms

Maps and alarms are both situational awareness and video sharing functionalities. However, sharing video is indirect because you have to select representations of cameras on the map or an alarm in the alarms list to view the video.

When a camera on the maps indicates that something has happened that needs your attention or an alarm appears on the alarms list, this is triggered by the rules defined by your system administrator.

Sharing video with security personnel outside your organization

The best option for sharing video about incidents with people outside your organization is to make an export with the relevant video sequences.

If it is a severe incident that needs to go to court, you would generate the export with digital signatures and keep a copy of the export yourself to ensure that you have the video available after the defined retention time for all video in your MOBOTIX HUB VMS system. If your MOBOTIX HUB VMS product supports evidence locks, you can also apply evidence locks on the video showing the incident.

The MOBOTIX HUB Incident Manager extension is designed to fulfill organizations' needs for saving and exporting video and generating reports with the documented activities for each incident.

Investigating and documenting incidents

Investigation and documentation of incidents

MOBOTIX HUB Desk Client has many built-in features that facilitate the investigation and documentation of incidents. There are also MOBOTIX HUB extensions explicitly developed for these purposes.

The features available to you depend on the MOBOTIX HUB VMS product, possible extensions, and your user permissions.

Which feature is best depends on the scenario and your preferences.

MOBOTIX HUB Incident Manager

MOBOTIX HUB extension developed for capturing video evidence and documenting and managing incidents. See .

Bookmarks, evidence locks, and searches

You can tag the video sequences showing an incident with bookmarks and evidence locks.

You can search for bookmarks and evidence locks. A search is faster and more precise than using the various controls in the main timeline. Your search also finds all video sequences that are tagged with the same bookmark or evidence lock.

To improve sharing and collaboration, you can save a search as a public search. A saved public search is available for your colleagues so they can easily find the tagged video sequences.

When you tag video with evidence locks, the tagged video sequences are not deleted after the retention time defined for all video sequences in your MOBOTIX HUB VMS system.

Events, alarms, and the alarms list

If you're viewing live video, keeping an eye on new events and alarms on the alarms list is a good idea. The events and alarms could be triggered by an incident you need to investigate. If you only view recorded video, open the alarms list a couple of times every day to check if there have been incidents that you need to investigate.

Export

Save video outside the MOBOTIX HUB VMS system and share the exported video with others.

Scenario: You discover an incident while watching live video

> ✏️ This example scenario only covers how to investigate and document incidents with built-in MOBOTIX HUB Desk Client features.

Let's say you discover an incident while watching live video or because an alarm is triggered. Let's also assume that you're not dispatched to deal with the incident on site. Then you would typically:

1. Call the security personnel handling with the situation on site.

2. Instantly start applying bookmarks to the relevant video sequences so you can easily share the video with colleagues and find the video sequences again through a search.

3. Continuously inform the security personnel on site about any developments in the incident.

4. Follow the cause or effect of the incident if it moves or spreads to new areas by switching to other view items or views, and add bookmarks to these video sequences, too.

When the incident has stopped, you would typically:

1. Search for your bookmarks.

2. Adjust the bookmarks' start and end times to ensure all video sequences covering the incident are included.

3. You would probably export the bookmarked video as documentation and share it with relevant security personnel inside or outside your organization.

4. As an alternative–or addition–to the export, you can apply evidence locks to the video sequences to ensure the video sequences are not deleted at the retention time defined for all video in your MOBOTIX HUB VMS system.

5. Gather testimonials from security personnel on site about how they experienced the incidents.

Scenario: You discover an incident after it happened

> ✏️ This example scenario only covers how to investigate and document incidents with built-in MOBOTIX HUB Desk Client features.

Let's say you meet up at work and discover that someone has vandalized your windows by throwing paint on them. You know there was no paint when you left the day before.

In this scenario, you would typically:

1. Find the views with the cameras covering the areas with the vandalized windows.

2. In playback mode, use the features on the main timeline to browse the video from the time you left the day before. If you have set up an alarm that would have been triggered by the incident, you could also look at your list of alarms.

3. Find the video showing the time when the windows were vandalized and bookmark it. Also, now you know how the persons entered and left your area. Find the video showing their movement around your area and bookmark it too.

4. You would probably export the bookmarked video as documentation and share it with relevant security personnel inside or outside your organization.

5. As an alternative–or addition–to the export, you can apply evidence locks to the video sequences to ensure the video sequences are not deleted at the retention time defined for all video in your MOBOTIX HUB VMS system.

Configuring MOBOTIX HUB Desk Client for all users

Your system administrator configures most of the MOBOTIX HUB VMS system, but there are still elements your MOBOTIX HUB Desk Client supervisor must configure for all users of MOBOTIX HUB Desk Client.

If you can enter setup mode and configure elements for all MOBOTIX HUB Desk Client users, you can define one or more of the following:

- Create and edit shared views

- Create view groups

- Add content to view items

- Define camera properties

    - Video buffering

    - Image quality

    - Frame rate

    - Title bar

- Define which video stream from a camera to show in a view item (adaptive streaming)

- Define carousels, hotspot, and Matrix content and their behavior

- Assign shortcut numbers to views

- Create web pages with links and scripts

- Create and edit maps

    - Place cameras and other devices on the maps

- Create overlay buttons

- Define MOBOTIX HUB Video Wall controls

Optimizing your computer's performance

There are a few elements that only the individual users of MOBOTIX HUB Desk Client can configure on their own computers with MOBOTIX HUB Desk Client.

Keyboard shortcut keys

In MOBOTIX HUB Desk Client, you can define several keyboard shortcut keys that can help you complete tasks faster. Here are a few examples:

- Open a new tab

- Take a snapshot

- Lift/reapply privacy masks

- Close all detached windows

- Activate outputs

- Zoom in/out

- Go to a specific preset position

- Activate the different controls in the main timeline

- Select a specific view.

Adaptive streaming and playback

If you enable the **Adaptive streaming** setting, you can reduce the network load when sending video streams across your network.

To check the status of the **Adaptive streaming** on your computer:

Open the **Settings and more** menu, select **Settings**, and then the **Advanced** tab to check if the **Adaptive streaming** setting is enabled on your computer. If not, enable it.

> To use adaptive streaming in live video, your system administrator must have configured cameras to send at least two live video streams in different resolutions to the MOBOTIX HUB VMS system. To use adaptive playback, at least two video streams in different resolutions are recorded. Also, your MOBOTIX HUB Desk Client supervisors have defined views using multiple streams.

Hardware acceleration

If you enable the **Hardware acceleration** setting, you can improve your computer's decoding capability and performance.

To check the setting for **Hardware acceleration** in your MOBOTIX HUB Desk Client:

Open the **Settings and more** menu, select **Settings**, and then the **Advanced** tab, to check if hardware acceleration is enabled on your computer. If not, enable it.

> Hardware acceleration uses GPU resources. If your computer doesn't have GPU resources, you can't use hardware acceleration.

> ✎ You can't use all GPU resources for hardware acceleration. If in doubt, ask your supervisor or system administrator.

Complying with privacy data laws

Your system administrator must ensure that the MOBOTIX HUB VMS system complies with your country's privacy data laws. For example, how long is video saved in the MOBOTIX HUB VMS system, that users can only view video and data that they have a valid reason to access, and the application of privacy masks to cover, for example, the windows in a private residence.

But MOBOTIX HUB Desk Client users also play a part in keeping your organization compliant with the privacy data laws of your country.

Exported content

Make sure that you:

- Protect the exported files.
    - When exporting, select to protect the exported files with a password.
    - Safely store the exported files so unauthorized persons can't access them.
- Only share exported content with persons or organizations with a legitimate purpose.
- Only keep exported content for as long as it serves a purpose.
- During an export, apply additional privacy masks on the video to prevent recipients of export from viewing areas in the video that are irrelevant or private.

> ✎ You can only apply additional privacy masks when you export in the MOBOTIX HUB format.

Evidence locks

Your system administrator has defined the durations for how long you can select to protect video and data with evidence locks.

But you must make sure that you:

- Select an evidence lock duration corresponding to how long you foresee that you need to keep the video or data.
- Remove evidence locks from video or data if you no longer need them as evidence.

Monitoring the health of your system

To know as soon as a camera or other component in your MOBOTIX HUB VMS system fails is essential for the uninterrupted protection of your areas and buildings.

On the **System Monitor** tab, you find a dashboard that displays the health of all your MOBOTIX HUB VMS system components. On the dashboard, you can instantly identify if, for example, a camera has stopped working and start rectifying the situation. You can also see if a component is overloaded, for example, if one of your recording servers is about to run out of disc space or memory.
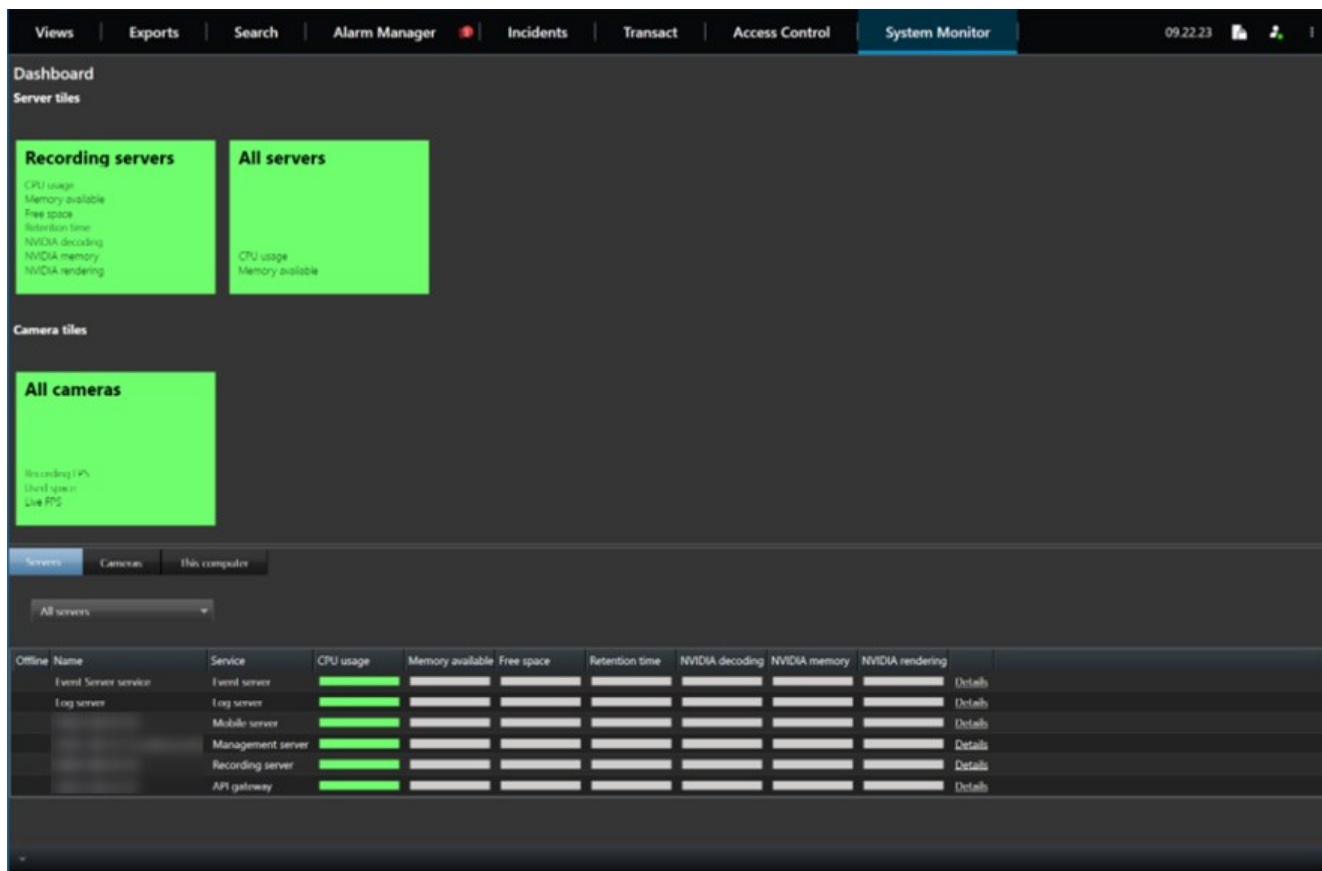
By default, there are tiles representing all **Recording servers**, **All servers**, and **All cameras**. You can customize these default tiles' monitoring parameters and create new ones. For example, you can create tiles representing single servers, cameras, camera groups, or server groups.

Understand the user interface

User interface overview

MOBOTIX HUB Desk Client is a desktop application designed to help you manage and view video from the cameras that are connected to your MOBOTIX HUB VMS system.

References in our documentation made to the positioning of user interface elements presume that you're using MOBOTIX HUB Desk Client with a left-to-right language layout. See also .

From the MOBOTIX HUB Desk Client desktop app, you have access to workspaces and features such as:

1. Default tabs like **Views**, **Exports**, **Search**, **Alarm Manager**, and **System Monitor**, located in the upper-left corner of the MOBOTIX HUB Desk Client. See Default tabs on page 51.

2. Default panes for setting up views and cameras, located below the default tabs. See Setup mode on page 243.

3. The global toolbar with access to **Evidence lock list**, **User profile**, and **Settings and more**, located in the upper-right corner. See Global toolbar on page 53.

4. The workspace toolbar with access to **Export**, **Evidence lock**, and **Setup**, located just below the global toolbar. See Workspace toolbar on page 54. The features in the workspace toolbar changes according to the selected tab.

5. Main timeline. The main timeline is available if you select the **Views** tab. It is located at the bottom of the window. See The main timeline on page 56.
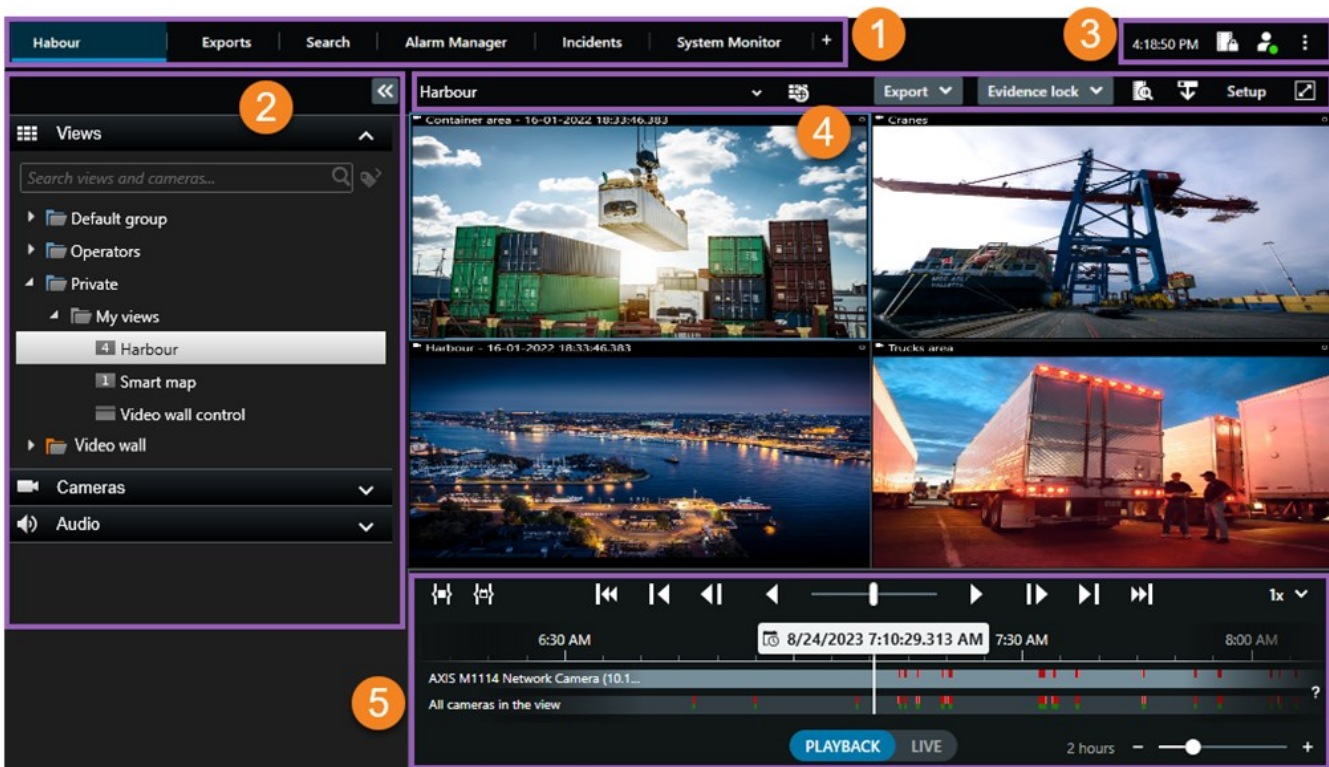
Default tabs

MOBOTIX HUB Desk Client comes with a set of default tabs for your daily tasks.

Some of the MOBOTIX HUB extensions have tabs that are specific to their functionality. See Generally about extensions on page 59.

> ✎ If you can't see some of the default tabs, you don't have the permissions required to access them.

The main views tab

You can create as many tabs with views as you want in MOBOTIX HUB Desk Client's main window and in detached windows. Tabs with views are named after the selected view.

In live mode, you can view live video feeds, and work with audio, carousels, hotspots, Matrix, Smart Map, pan-tilt-zoom (PTZ) control, digital zoom, independent playback, and more.

In playback mode, you can investigate recorded video by playing it back. The main timeline gives you advanced features for browsing recorded video. You can also start searching from any camera or view, and document what you find by exporting evidence. To protect evidence from being deleted from the database, you can add evidence locks to your recorded video.

Additionally, you can:

- Listen to audio when connected to selected MOBOTIX HUB VMS systems

- If your MOBOTIX HUB VMS product supports Smart Map, you can access the cameras added to your MOBOTIX HUB VMS system in a geographical interface

- Use hotspots, digital zoom, or carousels, print images, and more

From live or playback mode, you can enter setup mode, where you can set up views for your cameras and other types of content.

The Exports tab

When you want to export video data, you add the relevant sequences to the **Export list**. For each sequence in the **Export list**, you can change the time span by selecting **Start time** and **End time**. See also Exporting video, audio, and still images on page 204.

You can choose which formats to use for the export, and for each format, you can change the **Export settings**. See also Export settings on page 213.

After you select **Export**, you specify an **Export name** and an **Export destination**. Then, you can create the export.

The exports that you create are stored in the folder that you specified in the **Create export** window > **Export destination** field. See also View exported video on page 210.

The Search tab

On the **Search** tab you can search through all your recordings and apply filters to refine your search. For example, you can use filters to find vehicles, people, or recordings with motion detected in specific areas.

From the search results, multiple actions are available. See also Actions available from search results on page 168.

The Alarm Manager tab

On the **Alarm Manager** tab, you can view and respond to incidents or technical problems that have triggered an alarm. The tab displays an alarms list, an alarms preview, and any available maps.

The System Monitor tab

The color-coded tiles on the **System Monitor** tab provide an overview of the current state of the computer running MOBOTIX HUB Desk Client, your system servers, cameras, and additional devices.

- Green: **Normal** state. Everything is running normally

- Yellow: **Warning** state. At least one monitoring parameter is above the defined value for the **Normal** state

- Red: **Critical** state. At least one monitoring parameter is above the defined value for the **Normal** and **Warning** state

If a tile changes color and you want to identify the server or parameter that caused the change, select the tile. This opens an overview at the bottom of the screen. Select **Details** for information about why the state changed.

> If a tile displays a warning sign, a data collector for one of your monitored servers or cameras may not be running. If you place your mouse above the tile, the system shows you when it last collected data for the relevant tile.

Global toolbar

On the global toolbar, in the upper-right corner of the MOBOTIX HUB Desk Client, you have access to information about your MOBOTIX HUB Desk Client and how to change the settings. This includes:
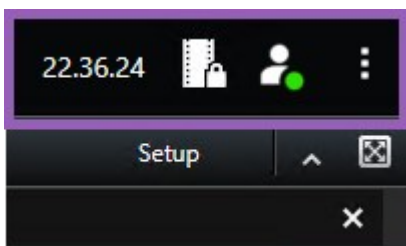
Time zone

Set up time zone. See Show current time in title bar on page 333.

Shortcut to evidence lock list

The **Evidence lock list** shows evidence locks you have created. You can sort, filter, and search the evidence locks list and see detailed information about each evidence lock. See also View evidence locks on page 199.

User menu

On your **User menu**, you can see your **Login information**, and you can log out from the MOBOTIX HUB Desk Client. See Log in on page 69. **Login information** contains information about the status of the MOBOTIX HUB VMS servers that your MOBOTIX HUB Desk Client is connected to.

> A red circle on the **User menu** indicates that one or more servers are unavailable.

Select **Login information** to view the server status.

- Available servers are displayed in green.

- Unavailable servers are displayed in red. If servers are not available at the time you log in, you can't use cameras or features belonging to those servers. When you have viewed the status, the red button will stop flashing even if the server is still unavailable.

The number of servers you see reflects the number of servers retrievable from the MOBOTIX HUB VMS system at the time you logged in. Particularly if you connect to large hierarchies of servers, occasionally, more servers can become available after you log in. The server list is a static representation of server status. If a server is unavailable, it will display a reason in the **Status** field when you select it. To connect to the server, select **Load Server**. The server status for that server will then be updated. If a server continues to be unavailable for longer periods of time, contact your system administrator for advice.

Settings and more window:

The **Settings and more** window covers:
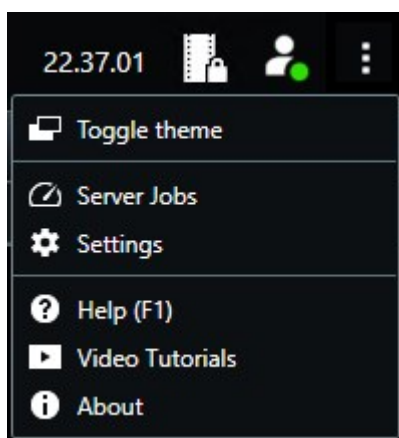
- **Toggle theme**—you can switch the MOBOTIX HUB Desk Client theme to dark or light.

- **Server jobs**—depending on your user permissions to retrieve data from interconnected hardware devices or cameras that support edge storage, you can view the server jobs created for each data retrieval request for these devices. See View all edge retrieval jobs on page 191.

- **Settings**—you can configure MOBOTIX HUB Desk Client settings and behavior, joysticks, keyboard shortcuts, language, and more. See also The Settings window on page 332.

- **Help**—you can access the help system, play online video tutorials, or view version number and plug-in information.

- **About**—information about the latest MOBOTIX HUB Desk Client plug-ins and versions.

Workspace toolbar

On the workspace toolbar in MOBOTIX HUB Desk Client, you have access to several important features that help you perform your daily tasks. These features include:

Feature	Description
Select view	Shortcut to the **Views** pane to the left.
Reload view	Select **Reload view** to restore your original view.
Export	Export video evidence. See also Exporting video, audio, and still images on page 204.
Evidence lock	Create evidence lock to prevent evidence from being deleted. See also Create evidence locks on page 196. View evidence locks on video sequences. See also View evidence locks on page 199.
Retrieve data	Retrieve recordings from interconnected hardware devices or cameras that support edge storage.
Setup	Enter setup mode. See also Setup mode on page 243.
Toggle full screen mode ▨	Toggle between full screen and a smaller window that you can adjust to the size you want.
Lift privacy masks	Users with sufficient user permissions can temporarily lift privacy masks[1]. See also Lift and reapply privacy masks on page 104.

Timelines

Several timelines

There are several timelines in MOBOTIX HUB Desk Client that you can use for going back and forth in your recordings.

The main timeline has the most features, but other less feature-rich timelines are available in specific contexts.

The timelines can look slightly different, but they have much in common.

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[1]A blurred or solid color that covers an area of the video in the camera view. The defined areas are blurred or covered in live, playback, hotspot, carousel, smart map, smart search, and export modes in the clients.

The main timeline
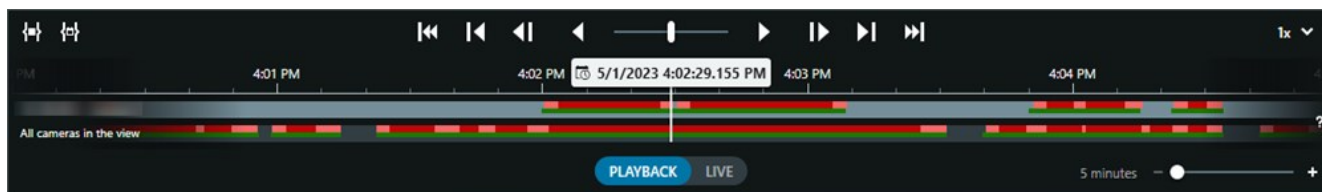
The main timeline displays an overview of time periods with recordings from cameras and other devices in your current view. The main timeline is available on the views tabs and has various controls you can use to navigate your recordings during investigations or to select recording sequences for export, protection with evidence locks, addition of bookmarks, or other.

Select a views tab and switch to playback mode to show all the timeline controls.

You can adjust how your timelines look and behave. Select which recording types and other elements to show on the timeline tracks. For example, would you like to show recorded audio and bookmarks? You can also select how to play back gaps between recordings. You can also hide the main timeline during inactivity to free as much of the display for viewing video in MOBOTIX HUB Desk Client. See .

The timeline tracks

- The upper timeline track shows the recording periods of the selected camera.
- The lower timeline track shows the recording periods of all the cameras in the view, including the selected camera.

If you have detached windows that are synced in time with the main window, recordings from cameras and devices in these windows are also shown on the lower timeline track.

Color legend

On the timeline track, the different types of recordings have different colors. The most important colors to know are:

- Light-red indicates recordings
- Red indicates recordings with motion
- Light green indicates recordings with outgoing audio
- Green indicates recordings with incoming audio

For a legend of all the colors currently shown on the timeline tracks, select **Color codes legend** [?] to the right of the timeline tracks.

Bookmarks

Timeline tracks show bookmarks with a blue bookmark icon . To view the bookmarked video, place your mouse over the icon.

Additional markers

If additional data sources are available in your MOBOTIX HUB VMS system, incidents from these sources are shown as markers in colors other than blue. The incidents can appear as pop-ups in the timeline tracks.

The vertical line
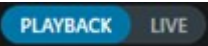
The vertical line shows the location of the playhead from where recordings are currently played back. This is called the main playback time, and the text above shows the exact date and time for the video currently played back. The main playback time applies to all the cameras in the view and any synchronized views unless you're viewing independent playback from some of the cameras. If there is no recorded video from one or more cameras in the view matching the main playback time, the last frame from the camera database before the main playback time is shown, but the frame is dimmed.

Navigating the recordings from the timeline

You can move through your recordings using the main timeline controls.

- Drag the timeline tracks left or right. Hold CTRL while dragging for slower movement.

- Use the timeline controls, mouse scroll wheel, or select the date above the playhead to go to a specific time.

The timeline controls

Controls	Description
PLAYBACK LIVE	Switch between playback or live mode.
▮ (slider)	Go back and forth in the video in different speeds. The further you drag the control to the sides, the faster the playback speed.
◀ ▶ ❚❚	Play backward ◀ or forward ▶ in time. When you select one of the play buttons, the button turns into a pause button ❚❚.
◀❚ ❚▶	Move to the frame just before ◀❚ or after ❚▶ the one currently viewed.
❙◀ ▶❙	Move to the start of the previous sequence ❙◀ or the next sequence ▶❙.
❙◀◀ ▶▶❙	Move to the first sequence ❙◀◀ or last sequence ▶▶❙ in the database.
{� ◦} {◦ ◦}	There are two ways of selecting a period of recordings for export, creation of evidence lock or other. **Select start and end time in timeline** {◦ ◦}: Select to switch the timeline and the view into selection mode. Select which view items to include and drag the time selection brackets on the timeline tracks to change the start and end time for the video sequences you want to select. **Select start and end time in calendar** {◦ ◦}: Select to specify the start and end date and time from a calendar. The timeline track jumps to the selected start time, and the time selection brackets surround the selected time period.
1x ⌄	Change the playback speed.
20 minutes − ●————— +	Specify the timespan of the timeline tracks. Alternative: use **CTRL** + scroll wheel.

The context-specific timelines

There are several timelines that help you investigate and navigate your recordings in specific contexts.

These context-specific timelines often only have one timeline track and a few to none of the controls available in the main timeline. But when they have timeline controls, they work the same way as the ones on the main timeline.

Timeline	Available from	Purpose	Learn more
Independent playback	All views tabs	While viewing live video, you can decide to view and go back and forth in the recordings from one of the cameras in your view.	View recorded video independently of the main timeline on page 155
Bookmark	All views tabs	If a sequence of recordings has a bookmark, you can easily find and go to this sequence.	Bookmark window on page 192
Search	The **Search** tab	If you have searched for something on the **Search** tab, the search timeline gives you an overview of recordings matching your search. You can select the different found recordings to view them.	The search timeline on the Search tab on page 167
Export	The **Export** tab	If you have selected recordings for export, you can go back and forth in the selected recordings and change the start and end times of the export.	Exporting video evidence on page 204

Extensions

Generally about extensions

MOBOTIX has developed various extensions. Extensions are products that extend the MOBOTIX HUB VMS products' functionality with additional specialized functionality.

As MOBOTIX HUB is an open platform, third-party extensions can also be integrated with your MOBOTIX HUB VMS system and add functionality to MOBOTIX HUB Desk Client.

> 🖊 Available functionality depends on the system you are using. See the complete feature list, which is available on the product overview page on the MOBOTIX website (https://www.mobotix.com/en/products/vms/mobotixhub).

In MOBOTIX HUB Desk Client, access to functionality from extensions also depends on your user permissions.

MOBOTIX HUB Access

MOBOTIX HUB Access integrates events from one or more access control systems with the features of the MOBOTIX HUB video management software. You can use MOBOTIX HUB Access with access control systems from vendors that offer a vendor-specific plug-in for MOBOTIX HUB Access.

> 🖊 If you have an **Access control** tab in MOBOTIX HUB Desk Client, you can access features from the MOBOTIX HUB Access extension.

The incidents registered by access control systems generate events in the MOBOTIX HUB VMS system.

- In live mode, you can monitor access control events in real time from the cameras associated with a door. In setup mode, you can customize your **Access monitor** view items with overlay buttons. In a map view item, you can drag access control units onto the map.

- On the **Access control** tab, you can view and investigate events, door states, or cardholders. You can search or filter on events and review any related footage. You can create a report of the events for exporting.

- When a person requests access and if your system is configured for it, a separate notification pops up with a list of related information next to the camera feed. You can trigger access control commands, such as locking and unlocking doors. Available commands depend on your system configuration.

MOBOTIX HUB Incident Manager

MOBOTIX HUB Incident Manager is an extension that enables organizations to document incidents and combine them with sequence evidence (video and, potentially, audio) from the MOBOTIX HUB VMS.

> If you have access to MOBOTIX HUB Incident Manager functionality in MOBOTIX HUB Desk Client, you can start an incident project under the **MIP plug-ins** pane and find existing incident projects on the **Incidents** tab. The presence of an **Incidents** tab alone doesn't indicate if you have access to the functionality offered by the MOBOTIX HUB Incident Manager extension.
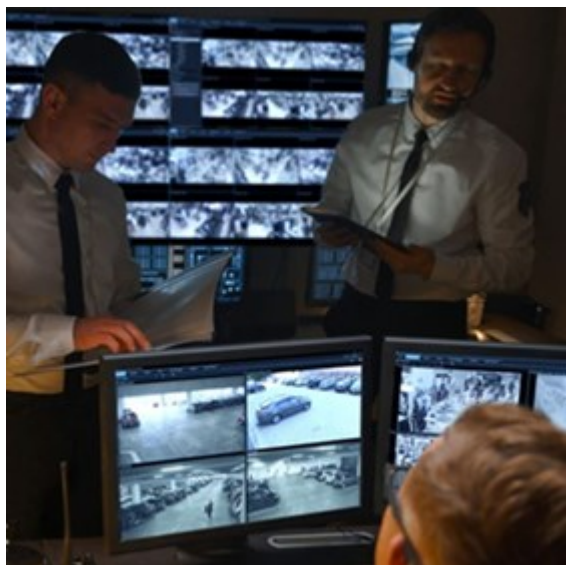
Users of MOBOTIX HUB Incident Manager can besides video save all the incident information in incident projects. From the incident projects, they can track the status and activities of each incident. In this way, the users can manage incidents effectively and easily share strong incident evidence, both internally with colleagues and externally with authorities.

MOBOTIX HUB Incident Manager helps organizations gain an overview and understanding of the incidents happening in the areas they survey. This knowledge enables the organizations to implement steps to minimize the chance that similar incidents happen in the future.

In MOBOTIX HUB Management Client, the administrators of an organization's MOBOTIX HUB VMS can define the available incident properties in MOBOTIX HUB Incident Manager to the organizations' needs. The operators of MOBOTIX HUB Desk Client start, save, and manage incident projects and add various information to the incident projects. This includes free text, incident properties that the administrators have defined, and sequences from the MOBOTIX HUB VMS. For full traceability, the MOBOTIX HUB VMS logs when administrators define and edit incident properties and when operators create and update the incident projects.

The MOBOTIX HUB Incident Manager extension is compatible with:

- MOBOTIX HUB L5 version 2022 R2 and later

- MOBOTIX HUB L4, MOBOTIX HUB L3, and MOBOTIX HUB L2 version 2022 R3 or later

- MOBOTIX HUB Desk Client version 2022 R2 and later

XProtect LPR

A MOBOTIX extension that is designed for recognizing license plates in cameras' video feed.

> ✎ If you have an **LPR** tab in MOBOTIX HUB Desk Client, you have access to features from the XProtect LPR extension.
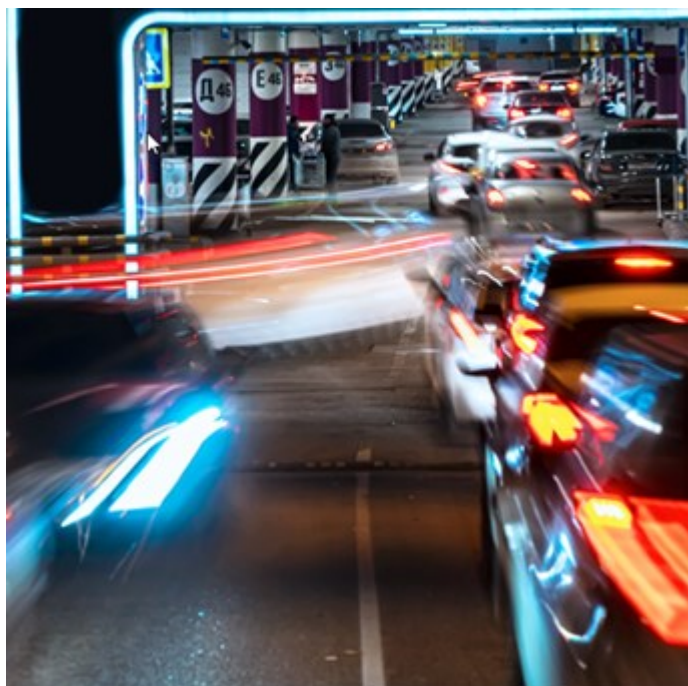
On the **LPR** tab, you can investigate LPR[1] events from all your LPR cameras and view the associated video recordings and license plate recognition data. Keep match lists updated and create reports.

The tab includes an LPR event list and an LPR camera preview. In the preview, you can view video associated with LPR event details. Below the preview, information about the license plate appears together with details from the match list and the license plate style that it is associated with.

You can filter the event list according to the period, country module, LPR camera, match list, or license plate style. Use the **Search registration number** field to search for a particular license plate registration number. By default, this list shows LPR events from the last hour.

You can specify and export a report of relevant events as PDF.

You can make updates to the existing match lists by using the **Match list** function.

MOBOTIX HUB Video Wall

MOBOTIX HUB Video Wall is an advanced extension that enables organizations to create video walls that meet their specific security demands. MOBOTIX HUB Video Wall provides an overview of all the video data in the MOBOTIX HUB VMS[2] system and supports any amount or combination of monitors.

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[1]Short for "license plate recognition".
[2]Short for "Video Management Software".

> ✏️ If your organization has the MOBOTIX HUB Video Wall extension, there is a video wall in your control room consisting of several physical displays. You can also send content to the video wall by selecting the camera's view item, then select **More** and **Send to Video Wall**.

MOBOTIX HUB Video Wall allows operators to view static video walls as defined by their system administrator with a fixed set of cameras and monitor layout. However, the video wall is also operator-driven in the sense that operators can control what is being displayed. This includes:

- Pushing cameras and other types of content to the video wall, for example images, text, alarms, and smart map

- Sending entire views to the monitors

- In the course of certain events, applying alternate presets[1]

Finally, display changes can be controlled by rules that automatically change the presets based on specific events or time schedules.

> ✏️ See also the separate MOBOTIX HUB Video Wall manual.

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[1]A predefined layout for one or more Video Wall monitors in MOBOTIX HUB Desk Client. Presets determine which cameras are displayed, and how content is structured on each monitor on the video wall.

XProtect Transact

XProtect Transact is an extension to MOBOTIX's IP video surveillance solutions that lets you observe ongoing transactions and investigating transactions in the past. The transactions are linked with the digital surveillance video monitoring the transactions, for example to help you prove fraud or provide evidence against a perpetrator. There is a 1-to-1 relationship between the transaction lines and video images.

> ✎ If you have a **Transact** tab in MOBOTIX HUB Desk Client, you have access to features from the XProtect Transact extension.

The transaction data may originate from different types of transaction sources, typically point of sales (PoS) systems or automated teller machines (ATM). When selecting a transaction line, a video still frame from each of the associated cameras is displayed in a preview area that allows you to review the recordings. Below the preview area, the transaction associated with the selected line is displayed as a receipt.

Learning how to use MOBOTIX HUB Desk Client

Access to user assistance

In the MOBOTIX HUB Desk Client interface, pressing **F1** takes you to the relevant topic in the MOBOTIX HUB Desk Client user assistance. The user assistance topics are tailored to assist you with the task you're currently working on.

From MOBOTIX HUB Desk Client 2024 R1, the user assistance is not installed with the software, but you can install it separately.

If you haven't installed the user assistance, pressing **F1** displays a window with information about where to find and download the user assistance.

Additional help resources

> If the MOBOTIX HUB Desk Client user assistance don't provide the information you need, contact your reseller.

Deploying and logging in

Licensing and system requirements

Minimum system requirements

For information about the system requirements for the various VMS applications and system components, go to the MOBOTIX website (https://www.mobotix.com/en/media/4821).

Verify if your computer meets the requirements

View information about your system, for example the version of the operating system and DirectX, and the devices and drivers installed:

1. Open the **Start** menu and type **dxdiag**.

2. Select the **dxdiag** text to open the **DirectX Diagnostic Tool** window.

dxdiag

Run command

3. On the **System** tab, view the system information.

Maximum number of displays

In the MOBOTIX HUB Desk Client, there is no limitation to how many displays you can attach to your computer.

The maximum number depends on your hardware (display adapters, etc.) and your Windows version.

Licensing

If your organization has a license for an MOBOTIX HUB VMS product and perhaps MOBOTIX HUB extensions, you do not need any additional licenses to install and use MOBOTIX HUB Desk Client.

When your system administrators install the MOBOTIX HUB VMS, they activate the licenses for your organization's MOBOTIX HUB VMS products and MOBOTIX HUB extensions.

Installing and upgrading

Install MOBOTIX HUB Desk Client

You download MOBOTIX HUB Desk Client from the web page on the management server of your MOBOTIX HUB VMS system and install it on your computer.

> To ensure that you have access to all the new features and functions included in your MOBOTIX HUB VMS system, use the version of MOBOTIX HUB Desk Client that matches your MOBOTIX HUB VMS version. You can also use a newer version of MOBOTIX HUB Desk Client. It might offer some performance improvements. Ask your system administrator for advice.

1. Open your browser and enter the URL or IP address of the management server:

   - To install MOBOTIX HUB Desk Client on the management server: (*http://localhost/installation*)

   - To install MOBOTIX HUB Desk Client on a different computer than the one running the management server: (*http://[IP_address]/installation*)

2. Optionally, change the language of the web page.

3. On the web page, find the MOBOTIX HUB Desk Client installer and select **All Languages**.

4. Run the downloaded MOBOTIX HUB Desk Client installer and follow the installation instructions.

5. If you want access to the MOBOTIX HUB Desk Client user assistance, you can download and install it. See Install the MOBOTIX HUB Desk Client user assistance on page 67.

Install the MOBOTIX HUB Desk Client user assistance

If you want access to the MOBOTIX HUB Desk Client user assistance, you can download and install the MOBOTIX HUB Desk Client user assistance in various languages. Each language has its own language package, which you install separately. The user assistance also explains how to use MOBOTIX HUB Desk Client functionality from any MOBOTIX HUB extensions your organization might have.

If you haven't installed the user assistance, pressing **F1** displays a window with information about where to find and download the user assistance.

- Contact your reseller for a zip file with the user assistance files and guidance on installing them.

Upgrading MOBOTIX HUB Desk Client

In most cases, the process of upgrading MOBOTIX HUB Desk Client is similar to how you initially installed the software and user assistance.

For exceptions and explanations, see the following information:

Message: New version available

When you log in and a message informs you that a new version of the MOBOTIX HUB Desk Client is available, your system administrator has updated the MOBOTIX HUB VMS system. Download and install the new version to ensure you have access to the new features and functions.

Suggested installation path in the installer

When you upgrade, use the suggested installation path in the installer to keep your user settings. If you want to use another path, you have to remove the current installation of MOBOTIX HUB Desk Client and then install the newer version.

Upgrading to a newer MOBOTIX HUB Desk Client version than the MOBOTIX HUB VMS version

You can install a version of MOBOTIX HUB Desk Client that is newer than the version of the MOBOTIX HUB VMS system, but the features and functions available to you will match those available on the MOBOTIX HUB VMS system. See Verify the current version of MOBOTIX HUB Desk Client on page 68 and contact your supervisor or system administrator for advice.

Verify the current version of MOBOTIX HUB Desk Client

Knowing the version of your MOBOTIX HUB Desk Client and MOBOTIX HUB Desk Client plug-ins is important if you want to:

- Upgrade

- Verify the version is compatible with your MOBOTIX HUB VMS version

- Contact support

Steps:

1. On the global toolbar, select the **Settings and more** menu.

2. Select **About**.
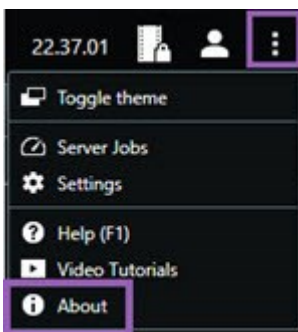
Troubleshooting: installation attempts

Here are error messages that might be shown when you try to install MOBOTIX HUB Desk Client.

You cannot install MOBOTIX HUB Desk Client on this operating system. The OS is not supported.

You have tried to install MOBOTIX HUB Desk Client on a computer that has a Windows operating system that is not supported by MOBOTIX HUB Desk Client. Upgrade your operating system and try again.
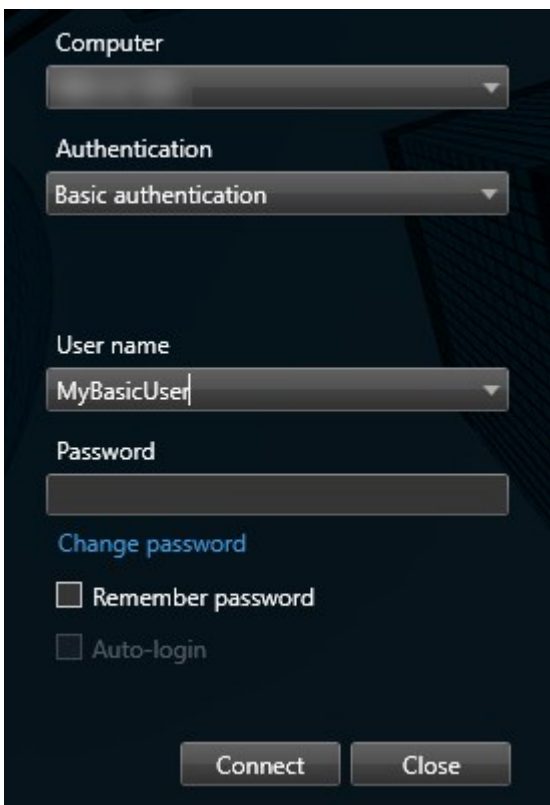
A system error has occurred. This product can only be installed on 64-bit Windows installations.

You have tried to install MOBOTIX HUB Desk Client on a computer with a Windows operating system that is not 64-bit. Upgrade your operating system and try again.

Logging in and out

Log in

1. Start MOBOTIX HUB Desk Client. The login window is displayed.

2. Specify the name or address of the management server that you want to connect to.

3. Select one of these authentication methods:

   - **Windows authentication (current user)**–log in using the Windows user credentials that match your current login.

   - **Windows authentication**–log in with Windows user credentials that are different from your currently used Windows user credentials.

   - **Basic authentication**–log in as a basic user. Your system administrator defines basic users in MOBOTIX HUB Management Client.

   - [Name of external IDP[1]]–select this option to log in with an external IDP.

4. Select **Connect**.

> ✎ How long it takes to log in depends on the complexity and configuration of your organization's MOBOTIX HUB VMS system.

A few additional steps and questions might appear depending on the configuration of your MOBOTIX HUB VMS system and product extensions. See also:

- Restore windows and tabs when logging in on page 70

- Allow HTTP connections on page 71

If a problem occurs during login, you receive an error message. See Troubleshooting: login attempts on page 71.

Possible additional login options

Restore windows and tabs when logging in

To quickly get started with your tasks, you can restore all the windows and tabs left open when you last logged out of MOBOTIX HUB Desk Client.

- When logging in and the **Restore windows and tabs** window opens, select if you want to restore.

Perhaps your MOBOTIX HUB VMS system administrator has already configured that you're asked if you want to restore, but you can also define it yourself. See Define to restore windows and tabs when logging in on page 75.

Log in with authorization

When you log into the MOBOTIX HUB Desk Client, you might be asked for additional authorization for your login.

- In the login window, both you and your supervisor must enter your login credentials.

If in doubt about who can authorize you, contact your supervisor or system administrator.

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[1]An external entity that can be associated with the MOBOTIX HUB VMS to manage user identity information and provide user authentication services to the VMS.

Log into access control systems

If your organization has an access control system, you can be asked for additional login credentials when you log into MOBOTIX HUB Desk Client.

- In the log in window for your access control system, enter your login credentials.

If you don't know your login credentials for your access control system, contact your supervisor or system administrator.

Allow HTTP connections

If your MOBOTIX HUB VMS system doesn't have a certificate installed, you can't connect with the newest available security model in MOBOTIX HUB. The security model is based on the HTTPS network protocol.

- To allow HTTP connections, select **Remember my choice. Do not show this message again**.

> If your MOBOTIX HUB Desk Client is connected to a MOBOTIX HUB VMS system or a federated site using the older security model (HTTP), a **Not secure** information message is shown to the left of the global toolbar.

See also .

Troubleshooting: login attempts

You might see the following messages and warnings when you log in to MOBOTIX HUB Desk Client.

Your user permissions do not allow you to log in at this point in time. User permissions can vary depending on time of day, day of week, etc.

You have tried to log in at a time when your user permissions don't allow you to log in.

How to fix: Wait until you're permitted to log in. Contact your system administrator if in doubt about your user permissions.

You do not have access to any part of the application. Contact the system administrator.

You currently have no access permissions to any part of the MOBOTIX HUB Desk Client.

How to fix: Contact your system administrator, who can change your access permissions if required.

Application is not able to start, because two (or more) cameras are using the same name or ID...

This error message only appears in a rare scenario where someone uses a backed-up, unchanged configuration from one MOBOTIX HUB VMS system on another MOBOTIX HUB VMS system. Result: different cameras try to use the same identity, and MOBOTIX HUB Desk Client users can't access the MOBOTIX HUB VMS system.

How to fix: Contact your system administrator.

Authorization failed: You cannot authorize yourself.

You have entered your own credentials in the **Authorized by** field.

How to fix: Contact a person with authorization permissions. This could be your supervisor or your system administrator. The person must enter their credentials to authorize your login.

Authorization failed: You do not have permission to authorize.

You have tried authorizing a user, but you don't have the user permission to do so.

How to fix: Ask your system administrator to check that you have the necessary permissions to authorize other users or ask someone with sufficient user permissions to authorize the user.

Failed to connect. Check the server address.

The management server of the MOBOTIX HUB VMS system is not at the specified server address.

How to fix: Verify that you have entered the correct server address. The *http://* or *https://* prefix and port number are required as part of the server address (example: *https://123.123.123.123:80*, where *:80* indicates the port number). Contact your system administrator if in doubt.

Failed to connect. Check the user name and password.

The MOBOTIX HUB VMS system can't recognize the specified user name and/or password.

How to fix: Verify your user name is correct and enter your password again. User names and passwords are case-sensitive. For example, there is a difference between **Amanda** and **amanda**.

Failed to connect. Maximum number of clients are already connected.

The maximum number of clients allowed to connect to the MOBOTIX HUB VMS system simultaneously has been reached.

How to fix: Wait for a while before connecting again. If you urgently need access to the MOBOTIX HUB VMS system, contact your system administrator. Your system administrator can extend the number of simultaneously connected clients.

Connection using an old security model. You cannot connect to the web page using the newest security model.

You try to log into MOBOTIX HUB VMS system that doesn't have a certificate installed.

How to fix: Contact your system administrator or select **Allow** to log in using HTTP. HTTP is a network protocol that operates without the use of a certificate.

> If your MOBOTIX HUB Desk Client is connected to a MOBOTIX HUB VMS system or a federated site using the older security model (HTTP), a **Not secure** information message is shown to the left of the global toolbar.

You no longer have permission to do this

Your time-dependent user permissions no longer allow you to use a feature or functionality. Your user permissions can vary depending on time of day, day of week, etc. Therefore, you can likely use the feature or functionality at a later stage.

How to fix: Wait til later or contact your system administrator.

Due to system settings, your MOBOTIX HUB Desk Client session will expire within the next [...]

Your permissions to use MOBOTIX HUB Desk Client can depend on time of day, day of week, etc.

When that is the case, you will typically see this message a number of minutes or seconds before your session will be closed. Your system administrator defines when the message is sent.

How to fix: Wait til later or contact your system administrator.

No user activity detected recently, your MOBOTIX HUB Desk Client session will expire within the next [...]

The MOBOTIX HUB Desk Client closes for security reasons if you haven't used the application for a while. Typically, this message appears some minutes or seconds before the session closes. Your system administrator defines when the message is sent.

Log out

- On the global toolbar, select the **User menu** and then **Log out**.
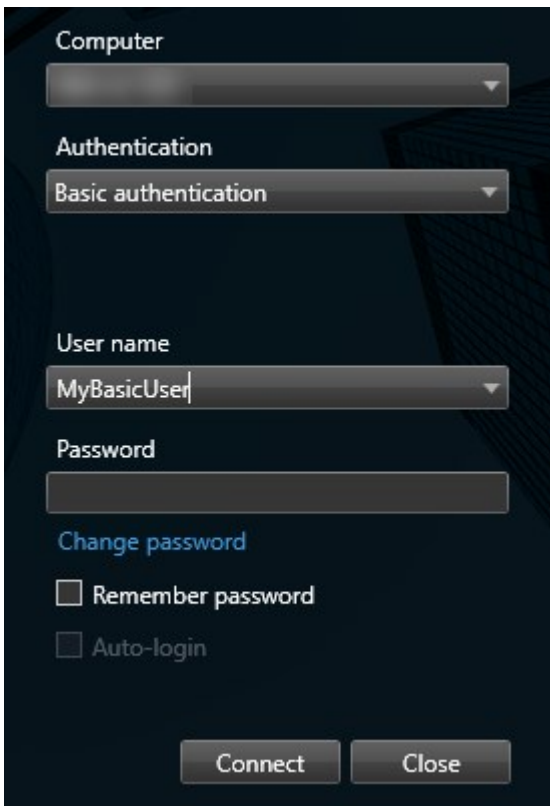
MOBOTIX HUB Desk Client restarts. The login window is shown so you can log in again.

Change password (basic authentication only)

If you log in as a basic user (**Basic authentication**) and your MOBOTIX HUB VMS system uses version 2021 R1 or later, you can change your password.

If you choose a different authentication method, only your system administrator can change your password. Changing your password often increases the security of your MOBOTIX HUB VMS system.

1. Start MOBOTIX HUB Desk Client. The login window is displayed.

2. Specify your login information. In the **Authentication** list, select **Basic authentication**. A link with the text **Change password** appears.

3. Select **Change password**.

4. Follow the instructions and save your changes.

5. Log in to MOBOTIX HUB Desk Client using your new password.

Customizing your MOBOTIX HUB Desk Client installation

Defined values of MOBOTIX HUB Desk Client settings

You can customize MOBOTIX HUB Desk Client in many ways.

Within the MOBOTIX HUB Desk Client settings, you can change parts of MOBOTIX HUB Desk Client's behavior and which functionality are available to you.

The system administrator might set default values for certain or all settings or delegate the configuration responsibility to you. You might have the right to modify the default values for specific settings, though in some cases, you're not allowed to make any changes.

You can change the settings anytime, but changing some settings may require you to restart MOBOTIX HUB Desk Client.

The settings you define are saved in your local user account on your computer.

Here are a few examples of MOBOTIX HUB Desk Client settings:

- Show/hide bounding boxes on video.

- Show/hide audio recordings on the timeline tracks in the main timeline.

- The default path for snapshots.

- Restore your views from last login.

You can find all MOBOTIX HUB Desk Client settings here:

- On the global toolbar, select the **Settings and more** menu, and then select **Settings**.

Change the language of MOBOTIX HUB Desk Client

MOBOTIX HUB Desk Client is available in several languages.

1. On the global toolbar, select the **Settings and more** button.
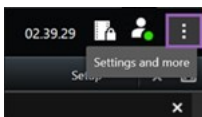
2. Select **Settings**.

3. On the **Language** tab, select the language you want to use.

Right-to-left languages

MOBOTIX HUB Desk Client supports certain right-to-left languages. If you use one of these languages, the user interface's layout also changes to right-to-left. Buttons, toolbars, and panes move to the opposite side of, for example, English. You can select to keep the layout left-to-right when you select to use a right-to-left language.

Define to restore windows and tabs when logging in

You can define if you want to restore the windows and tabs left open when you last logged out of MOBOTIX HUB Desk Client. With everything restored when logged in, the workspace is arranged to your preferences.

1. On the global toolbar, select the **Settings and more** button.
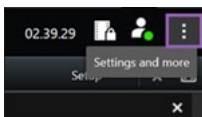
2. Select **Settings**.

3. On the **Application** tab, open the dropdown menu for the **Restore windows and tabs** setting.

4. Select the option that suits you best:

- **Last**: Always restore all windows and tabs you had open when you logged out of MOBOTIX HUB Desk Client.

- **None**: Never restore the windows and tabs you had open when you logged out of MOBOTIX HUB Desk Client.

- **Ask**: When logging in, you're asked if you want to restore your MOBOTIX HUB Desk Client windows and tabs from last session.

Add a joystick for video and user interface navigation

Most joysticks work in MOBOTIX HUB Desk Client as soon as you connect them to the USB port on your computer.

For others, you must install their drivers and manually add them in MOBOTIX HUB Desk Client. This is also true if you connect your joystick to a serial port or through an IP address.

To add the joystick manually, do the following:

1. On the global toolbar, select the **Settings and more** button.
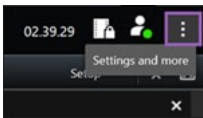
2. Select **Settings**.

3. On the **Joystick** tab, select **Add**.

4. Select the driver you have installed for your joystick and define the joystick's properties.

   > Depending on the driver, the property values might be prefilled, or you must enter them manually. You can only add the joystick if you enter the correct property values. Contact the joystick vendor if you need clarification on the property values.

5. Select **Add**.

6. On the **Joystick** tab, define the different axis movements, dead zone, and button settings for the joystick. See Joystick settings on page 340.

Change the sound of the sound notifications

Having different sound notifications on different computers with MOBOTIX HUB Desk Client can be useful. The sound file plays whenever events or motion are detected. You can change the sound file to have a different notification sound on each computer, but you need administrator rights to do so.

The sound file, called `Notification.wav`, is located in the MOBOTIX HUB Desk Client installation folder. Typically: `C:\Program Files\MOBOTIX\MOBOTIX HUB Desk Client`.

- If you want to use another .wav file, simply name the file `Notification.wav` and copy it to the MOBOTIX HUB Desk Client installation folder.

> Using different sound files for different cameras or distinguishing between event- and motion-detection is not supported.

No longer allow HTTP connections

You can clear the setting that allows you to log in to an MOBOTIX HUB VMS system using a network protocol with a connection that use an older security model (HTTP). See Allow HTTP connections on page 71.

1. On the global toolbar, select **User menu**.

2. Select **Login information**.

3. Select **Clear**.

4. Select **OK**.

Learning how to use MOBOTIX HUB Desk Client

Access to user assistance

In the MOBOTIX HUB Desk Client interface, pressing **F1** takes you to the relevant topic in the MOBOTIX HUB Desk Client user assistance. The user assistance topics are tailored to assist you with the task you're currently working on.

From MOBOTIX HUB Desk Client 2024 R1, the user assistance is not installed with the software, but you can install it separately.

If you haven't installed the user assistance, pressing **F1** displays a window with information about where to find and download the user assistance.

Additional help resources

> If the MOBOTIX HUB Desk Client user assistance don't provide the information you need, contact your reseller.

Viewing video and working with views

Viewing video

Viewing and recordings

You view video in MOBOTIX HUB Desk Client by selecting and switching between different views in live or playback mode.

If there are no views, you can create them. See .

If a camera has a microphone or separate microphones are added, you can listen to live or recorded audio. If a camera has a speaker, you can broadcast audio.

Video from cameras is not always recorded. Typically, recording is triggered by motion, schedules, or events. Data from devices and audio from microphones are usually recorded continuously.

If you see bounding boxes in the video, a device associated with the camera is sending metadata to the system.

Open a view and maximize a view item

To view live or recorded video, you select a view that contains the relevant video.

1. Select the main views tab.

2. On the **Views** pane, select the view containing the relevant video.

   Alternatively, if the view has a shortcut number, you can select the view with ***** + [shortcut number] + **Enter** on the numeric keypad. For example, to select a view with shortcut number **1**, press ***** + **1** + **Enter**.

   > ✅ Assigned numbers are shown in parentheses before the view names on the **Views** pane.

3. To maximize a view item to see the details in the content of the view item, select the view item and double-click or press Enter. To minimize, double-click or press Enter again.

See and .

Display a window in full-screen mode

You can hide your menus and controls by sending your view to full-screen mode to optimize your viewing interface.

- On the workspace toolbar, select **Toggle full screen mode** ⬈.

- To exit full-screen mode, move your mouse cursor to the top of the window and select **Toggle full screen mode** ⬈.

Send video to a hotspot

If you have a hotspot view item, you can display magnified, higher quality video in it from another camera view.

- Select any camera view to show its video in the hotspot view item.

> ✅ You can recognize a hotspot view item by the ▣ icon in the title bar.

View video in carousel view items

In live mode, a carousel view item rotates between camera feeds at defined intervals. Carousel view times enables you to patrol and be aware of what is happening in areas of interest.

The timing of the carousel begins when you open the view. So, if you have two views with the same carousel view item open, you're watching two separate timings of the same carousel.

> ✅ You can recognize a carousel view item by the ⏻ icon in the title bar.

1. Open a view that contains a carousel.

2. Do one of the following actions:

    - To continue to view the same video in the view item, on the camera toolbar, select **Start / stop carousel** ⏸. Select **Start / stop carousel** ▶ again to start the carousel.

        > ✏️ If you zoom in on the video in a carousel view item, the carousel automatically stops.

    - To show video from the next or previous camera in the carousel view item, select **Previous camera** ◀ or **Next camera** ▶.

View the status of live video

In live mode, at the top of each camera view item, camera indicators show the status of the video.

Indicator	Description
🏃	Motion is detected. The indicator is shown until you acknowledge that you have seen it by selecting the view item to reset the motion indicator.
	✏️ In the camera properties, you can add sound to notify you when there is motion.
📵	The server connection to the camera is lost.
●	Video from the camera is being recorded.
▬	A connection to the camera is established. This icon is only relevant for live video.
▶	Playing back recorded video.
◻	No new images were received from the server for more than two seconds.

View recorded video independently of the main timeline

If you want to review video in a view item, you can play back the video independently of the other video in the view. In playback mode, the playback is independent of the selected main timeline. In live mode, the playback is independent of the live video.

> ✏️ You can't use this feature for view items with hotspots, carousels, or Matrix content.

1. Select the view item and from the camera toolbar, select **Independent playback** 🎦.

   The top bar for the view item with the camera turns yellow, and the independent playback timeline appears:

   - In live mode, the video starts playing from 10 seconds before the time you selected **Independent playback**.

   - In playback mode, if playing, the video jumps 10 seconds in the opposite direction. If paused, the video remains paused at the current time.

2. To see the recorded video from another time, drag the independent playback timeline.

3. To synchronize the recorded video from all cameras in your view to the independent playback time, select **Use the selected time on the playback timeline** ![icon] .

   Now, the video is synchronized to the time you initially selected for the independent playback in playback mode.

Go back and forth in time in recorded video

You can move through your recordings using the main timeline controls.

- Drag the timeline tracks left or right. Hold CTRL while dragging for slower movement.

- Use the timeline controls, mouse scroll wheel, or select the date above the playhead to go to a specific time.
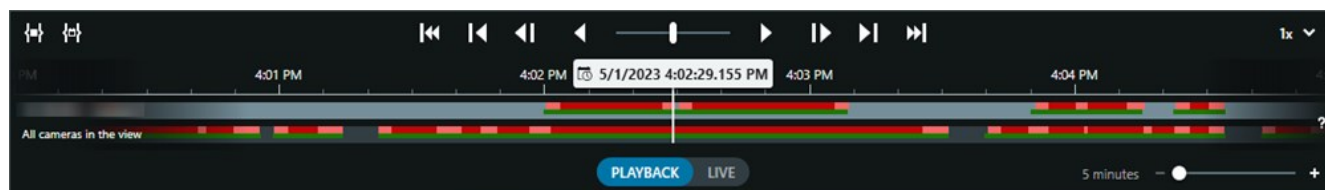
See also The main timeline on page 56.

Search for cameras and views

If you know the name of a view or a camera, or the characteristics or descriptions of a camera, you can search for them in all your views groups.

For example:

- Camera descriptions: Your system administrator has given all your outdoor cameras an **Outdoor** tag.

- Camera capabilities: PTZ, audio, input, and output.

Your search results include cameras and any views they are part of.

1. On the **Views** tab and in the **Search views and cameras** field, enter the text that you want to search for.

   Alternatively, select ![icon] next to the search field to select one of the common search keywords.

2. From the search results, you can select:

   - A view to open the view.

   - One or more cameras to view the video in a temporary view. Select a camera or press **Ctrl** or **Shift** to select multiple cameras, and then press **Enter**.

Working with multiple open views

Additional windows and views tabs

In addition to your main window, you can have several extra detached windows with open views. You can also have multiple views tabs open in both your main window and detached windows.

Additional views tabs

All your windows have a main views tab, but you can open additional views tabs.
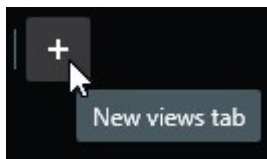
Detached windows

You can send views to two types of detached windows: floating and display (primary, secondary, and so on).

- Floating window: A detached window with all tabs and controls visible.
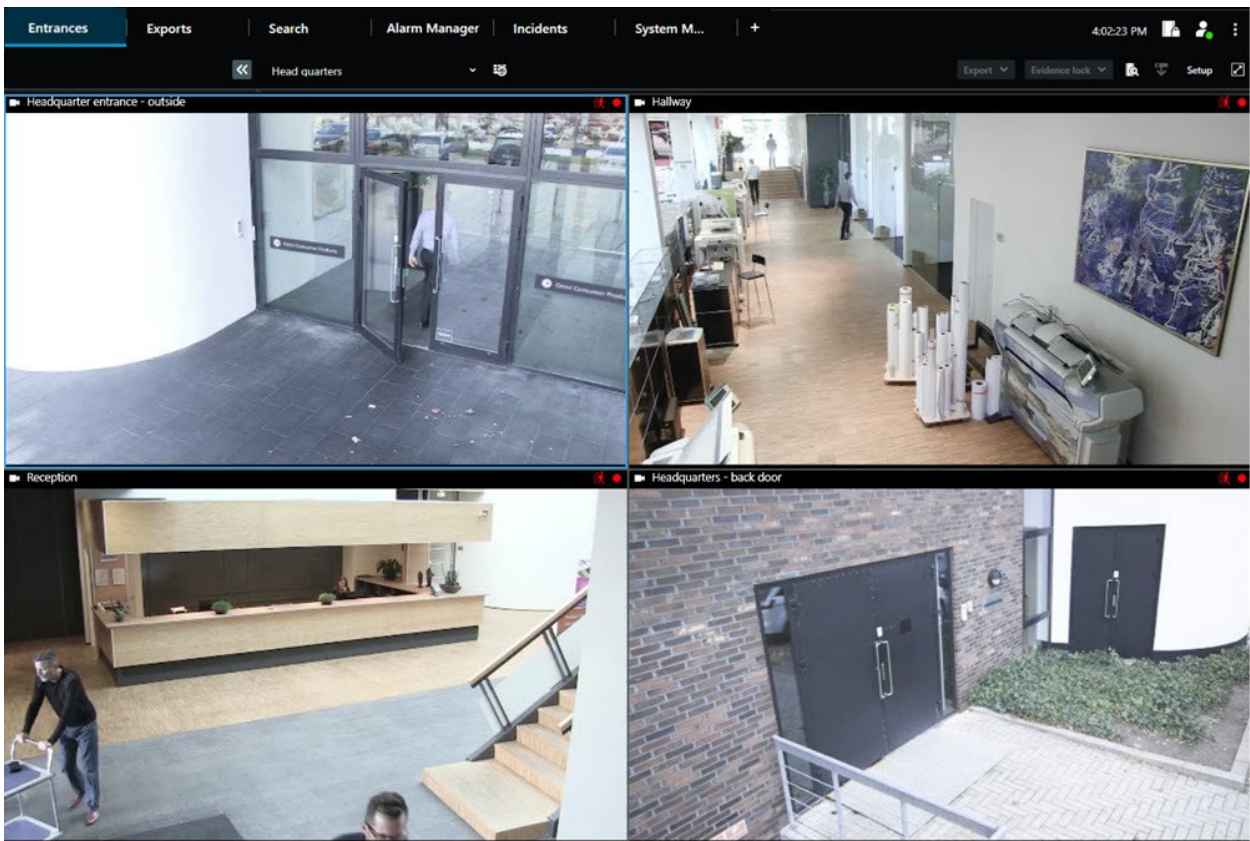
- Display window (primary, secondary, and so on): A full-screen window where all tabs and controls are hidden. To close this window, move your mouse cursor to the top of the window and show hidden buttons such as the **Close** button.
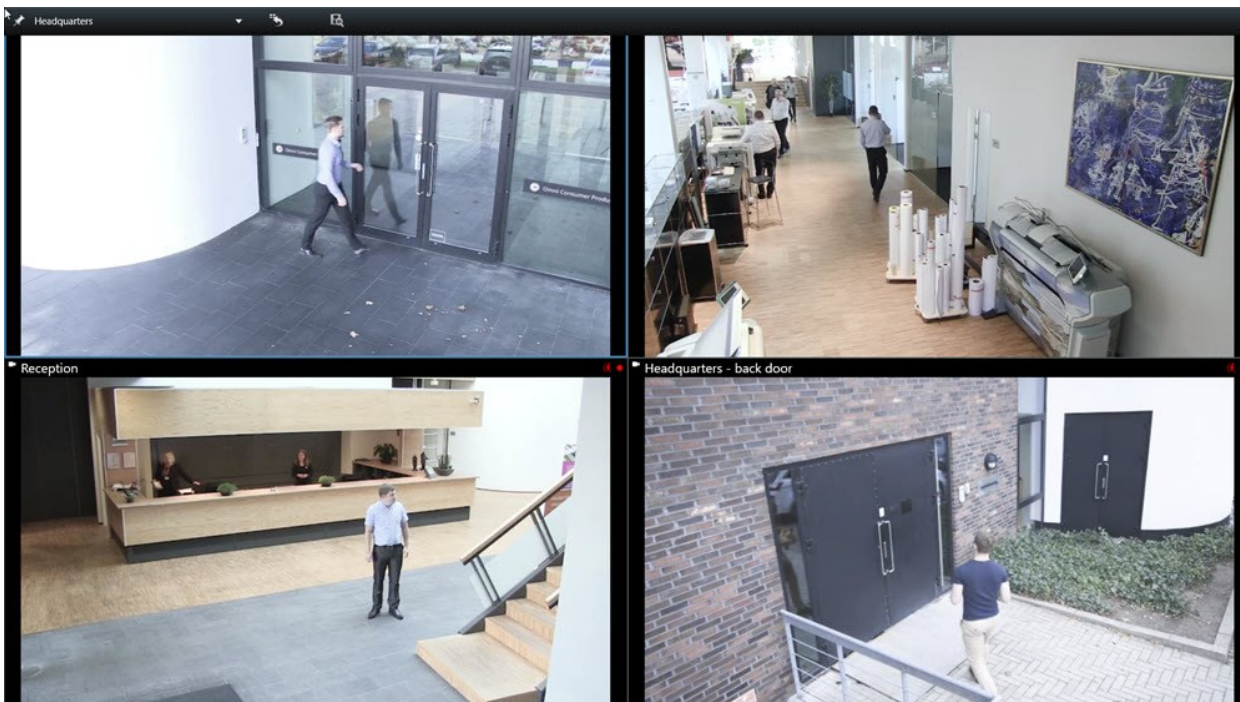
Open an additional views tab

To switch between different views, you can open as many views tabs as needed in the main and detached windows.

1. On the default tabs, select **New views tab**.
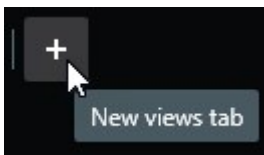
2. Select the view that contains the relevant video. The name of the new views tab is now the name of the view you selected.

3. To close the additional views tab, select **Close tab**.

> 📝 You can assign shortcut keys to the opening and closing of additional views tabs. On the **Settings and more** menu, select **Settings**. Select the **Keyboard** tab and, finally, the **Application** category. Now you can assign shortcut keys for the options **Close selected tab** and **Open a new views tab**.

> 📝 You can't close the main tabs on the default menu, you can only close the additional tabs.

Send a view to a detached window

If you have several monitors and want to view video from multiple views at the same time, you can send views to detached windows as a display window or a floating window.

You can open any number of detached windows and drag them to any monitor that is connected to your computer.

1. On the **Views** pane, right-click the view you want to send to a detached window.

2. Select **Send view to** and then the detached window to send the view to.
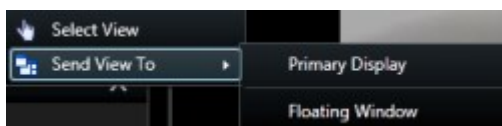
See also .

> 📝 When you log out of MOBOTIX HUB Desk Client, information about all open windows and tabs is stored on the local computer. To have your workspace arranged as you prefer as soon as you have logged in to MOBOTIX HUB Desk Client, you can define to restore all the windows and tabs. See .

Sync the time in a detached window with the main window

If you're investigating an incident, you can ensure that a detached window displays video from the same time as that of the main window.

1. In the detached window, select **Sync time with the main views tab** .

2. The main timeline is now hidden in the detached windows.

3. In the main window, use the main timeline to go back and forth in the video in both the main window and in the detached window.

Select another open view and then a view item

If you have multiple views open, you can easily switch between them with the mouse or the keyboard. You can also combine the selection options. For example, select the view with your mouse and then select the view item with one of the keyboard options.

- Do one of the following.

	Select a view and then a view item.
	If you have a view with a shortcut number, press ***** + [shortcut number] + **Enter** on the numeric keypad to select it. Select the relevant view item with the arrow keys 2, 4, 6, and 8 on the numeric keyboard.
	Press **Alt** and all open views are given a number. Press the number for the view you want to select and then all view items in the selected view is given a number. Press the number for the view item you want to select.

✅ You can multitask by using keyboard shortcuts and your mouse or joystick at the same time. For example, you can move a PTZ camera with your joystick and open a view with a keyboard shortcut.

Show/hide the camera title bar and camera indicators for all views

Knowing the status of the shown video is helpful. For example, is the video being recorded? But you might prefer not to show the camera indicators.

1. On the global toolbar, select **Settings and more**.
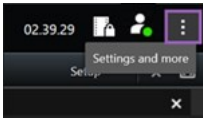
2. Select **Settings**.

3. On the **Application** tab and for the **Default for camera title bar** option, select **Show** or **Hide**.

> ✎ If you choose not to display the title bar, you can't see the visual indicators for motion and events. As an alternative, you can use sound notification.

The camera toolbar (camera view items)

All camera view items have a camera toolbar. The camera toolbar is available in live and playback mode and appears when you place the cursor inside a camera view item.

> ✔ If you want to temporarily hide the camera toolbar when you move your mouse between view items, press and hold the **CTRL** key.

The icons you see in the toolbar depend on:

- The products and features available to you.

- Whether you're viewing video in live or playback mode.

- The features available for the type of camera shown in the view item.
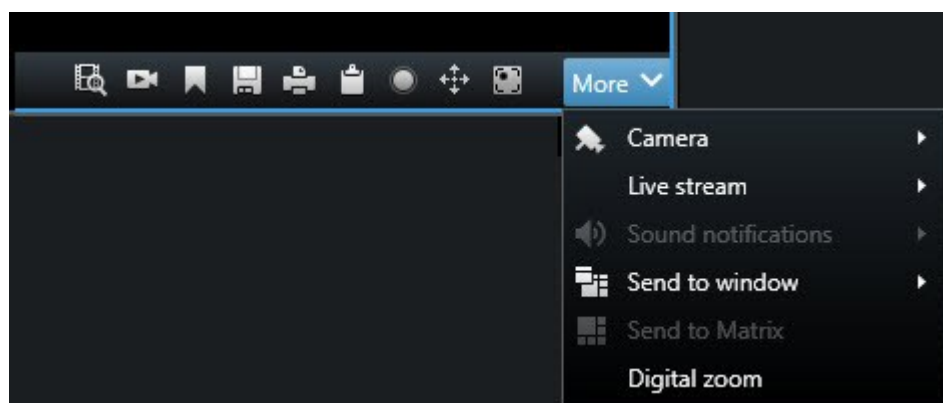
Feature	Description
	Go to a device on your smart map on page 113
	Start search from cameras or views on page 170.
	View recorded video independently of the main timeline on page 80.
	Add or edit bookmarks on page 194.
	Take a snapshot to share on page 129.
	Print surveillance report from single cameras on page 211.
	Copy images to clipboard on page 213.
	Record video manually on page 129.
	Pan, tilt, and zoom in live video on page 97.
	Requires MOBOTIX HUB Incident Manager. Starts an incident project.
More > **Camera**	Replace video in a camera view item on page 94

Feature	Description
More > **Send to window**	Send a camera view item to another open view on page 94
More > **Send to Video Wall**	Shares the camera stream by sending it to one of your video walls.
More > **Send to Matrix**	Send video to a Matrix view item on page 130
More > **Digital zoom**	Zoom digitally in camera view items on page 95.

Minimize the camera toolbar

You can minimize the camera toolbar in a view item to give the video more focus.

1. Select a camera view item.

2. On the camera toolbar, select [⌄] to minimize.

To maximize the camera toolbar again, select [⌃].

> ✅ If you want to temporarily hide the camera toolbar when you move your mouse between view items, press and hold the **CTRL** key.

Change the time shown in the camera toolbar

The time zone that is defined server-side can differ from your current time zone or the time zone of your computer.

- To change the time shown in the camera toolbar, open the **Settings** window and go to **Advanced** > **Time zone**.

Configuration options for timelines

You can customize the timelines to suit your needs.

- Choose which recording types and elements to show on the timeline tracks (for example, recorded audio, and bookmarks).

- Choose how to handle gaps between recordings.

- Hide the main timeline during inactivity to maximize your display for viewing video.

Configure playback of gaps between recordings

You can adjust how the main timeline plays back gaps between recordings.

If, for example, all cameras in a view have no recordings in the same period, there is no need to play back the non-recordings at average speed. Therefore, the timeline is, by default, configured to skip the playback of gaps between recordings. If you want to change this behavior, you can.

1. On the global toolbar, select **Settings and more**, and then **Settings**.

2. In the **Settings** window, select **Timeline**.

3. Set the **Playback** option to either **Skip gaps** or **Do not skip gaps**.

Configure what to show on the timeline tracks

For a clearer overview of your recordings, bookmarks, and markers, you can adjust what is shown on the timeline tracks:

1. On the global toolbar, select **Settings and more**, and then **Settings**.

2. In the **Settings** window, select **Timeline**.

3. Choose to show or hide recordings from different devices or sources. Each type of recording is color-coded on the timeline track:

   - **Incoming audio**

   - **Outgoing audio**

   - **Additional data** (metadata coming from other sources)

   - **Additional markers** (from other sources)

   - **Bookmarks**

   - **Motion indication** (recordings with motion)

   - **All cameras timeline** - (information about all recordings from all cameras in the view)

Hide the main timeline

To expand your video display, you can hide the main timeline after a few seconds of inactivity.

How much of the main timeline is hidden depends on whether you view video in live or playback mode. In live mode, the entire main timeline is hidden. In playback mode, all but the timeline tracks are hidden. The main timeline is fully shown as soon as you interact with your computer again.

1. On the global toolbar, select **Settings and more**, and then **Settings**.

2. In the **Settings** window, select **Timeline**.

3. Choose when to hide the main timeline:

   - **Hide the timeline during inactivity** - for all views except Video Wall views. Default value is never.

   - **Hide the timeline in Video Wall views** - for Video Wall views. Default value is after 5 seconds.

Sound notifications

You can enable sound notifications for camera view items to alert you when special attention is needed such as motion detection or event triggers, even if you're not actively viewing live video. These notifications are only active for the views that are currently open and visible.

You and your system administrator can configure that a sound notification is played when:

- Motion is detected.

- Events happens.

> MOBOTIX HUB Desk Client only plays sound notifications from selected, open, and visible views. If you minimize a window or maximize a camera view item, you won't receive sound notifications from the hidden view items.

Mute sound notifications

In live mode, you can temporarily mute sound notifications from camera view items.

1. Select a camera view item with video from a camera with a microphone.

2. On the camera toolbar, select **More** > **Sound notifications** > **Mute**.

3. To unmute, select **More** > **Sound notifications** > **Mute** again.

Default keyboard shortcuts

MOBOTIX HUB Desk Client includes default keyboard shortcuts to help you move/swap view items, reset view items, open views, and move content between views. For example, you can use your joystick or mouse to move a PTZ camera and use a keyboard shortcut to send the camera view item to a hotspot or other view at the same time.

> You can multitask by using keyboard shortcuts and your mouse or joystick at the same time. For example, you can move a PTZ camera with your joystick and open a view with a keyboard shortcut.

You can also assign custom shortcut key combinations for actions in MOBOTIX HUB Desk Client. See .

Keyboard keys	To do this
Enter	Open a view and maximize a view item on page 78.
Alt +[view number] + [view item number]	Select another open view and then a view item on page 86.

Keyboard keys	To do this
/+Enter (numeric keypad only)	Resets a view item to is default content. See Reset a view item or view on page 95.
/+/+Enter (numeric keypad only)	Resets a view to is default content. See Reset a view item or view on page 95.
2, 4, 6, and **8** (arrow keys) (numeric keypad only)	Select the view item next to the current one (right, left, above, or below). Select another open view and then a view item on page 86.
/ + **<camera shortcut number> +Enter** (numeric keypad only)	Replace video in a camera view item on page 94. Requirement: Your system administrator has assigned a shortcut number to the camera. ✅ Assigned numbers are shown in parentheses before the camera name on the **Views** pane.
*+<view shortcut number> +Enter (numeric keypad only)	Open a view and maximize a view item on page 78. Requirement: you have assigned a shortcut number to a view. ✅ Assigned numbers are shown in parentheses before the view names on the **Views** pane.

Troubleshooting: No video or bounding boxes

Why is there no video?

There are several reasons why you may suddenly be unable to see video from cameras in MOBOTIX HUB Desk Client.

Possible causes include:

- Ongoing maintenance on a camera or the network.

- Network disruptions.

- Your system administrator has given you permission to view video only during certain hours.

- Your system administrator has revoked your permission to view video from a camera.

- Your system administrator has changed the configuration of your MOBOTIX HUB VMS.

Cannot show bounding boxes. Check if your computer's system time is correct. If the system time is not the issue, contact your system administrator.

This message appears when one or more camera view items can't show bounding boxes.

The bounding boxes and video are not synchronized.

If your computer's system time is not the issue, your system administrator need to ensure that the bounding box metadata and the video from the recording server are properly synchronized.

Modifying views temporarily

Private and shared views

Views can be shared or private.

- Shared views: available to multiple users, typically created by system administrators or supervisors.

- Private views: available only to the user who created them.

  You can create private views if you have permission to switch to setup mode. Private views are stored under the **Private** folder and are available for you from any computer when logged in to MOBOTIX HUB Desk Client.

The **Views** pane contains:

- A **Private** folder: contains your private views, accessible from any computer when logged in. This can include an automatically generated default view with video from all your cameras.

- **Shared** folders: contain view groups with shared views. Protected folders have a padlock icon and cannot be modified by regular users.

Changing views temporarily

You can temporarily change the cameras in a view to quickly see relevant video during an incident or investigation.

If you want to permanently change the content of a view and create new views, you must be in setup mode. See .

View another video stream from the same camera

You can temporarily view video in a higher resolution if a camera is set up to send multiple streams:

1. Select a camera view item.

2. On the camera toolbar, select **More**.

3. Select **Live stream** and then choose a stream.

Replace video in a camera view item

If you have a view open, and something happens that is not in the view, you can temporarily replace video from one camera with another.

1. Select the camera view item to replace.

2. From the camera toolbar, select the relevant camera or use a numeric keypad shortcut, press **/+<camera shortcut number>+Enter**.

3. To restore the view, select **Reload view** or press **/+/+Enter** on the numeric keypad.

> ✎ If you want to change your view permanently, on the workspace toolbar, select **Setup**.

Move/swap camera view items within a view

You can temporarily move camera view items within a view for easier comparison:

1. Select the camera view item to move.

2. Use the title bar to drag it to another camera view item.

3. To restore the view, select **Reload view** or press **/+/+Enter** on the numeric keypad.

> ✎ If you want to change your view permanently, on the workspace toolbar, select **Setup**.

Send a camera view item to another open view

To view video of an incident from cameras in different views, you can temporarily send video from one view to another open view.

1. Select the camera view item to include in another view.

2. On the camera toolbar, select **More** and **Send to window**.

3. Select the open view and the view item to replace.

4. To restore the view, select **Reload view** or press **/+/+Enter** on the numeric keypad.

> ✎ If you want to change your view permanently, on the workspace toolbar, select **Setup**.

Create a temporary view through search

You can quickly create a temporary view by searching for cameras.

1. On the **Views** tab, use the **Search views and cameras** field to search for cameras.

   Additionally, you can select [icon] next to the search field to use common search keywords.

2. Select a view from the search results.

3. Select one or more cameras (use **Ctrl** or **Shift** to select mulitple cameras) and then press **Enter** to create the temporary view.

If you want to save your view, on the workspace toolbar, select **Setup**.

Reset a view item or view

To restore temporarily changed content:

- **Reset a camera view item:** press **/+Enter**.

- **Reset all cameras in a view:** on the workspace, select **Reload view** [icon] or press **/+/+Enter** on the numeric keypad.

Panning, tilting, and zooming in video

Differences between optical and digital zoom

Zooming capabilities vary depending on the type of camera you are using. Both fixed and pan-tilt-zoom (PTZ) cameras can zoom, but there are important distinctions between optical and digital zoom.

Optical zoom

With optical zoom, a camera's lens physically moves to provide the required angle of view without losing image quality. If you zoom in and out optically, it affects what is recorded.

When viewing live video from a PTZ camera, you typically use the PTZ camera's optical zoom features.

Digital zoom

Digital zoom simulates optical zoom, but the digitally zoomed portion has a lower quality than the original image.

With digital zoom, the required portion of an image is enlarged by cropping the image and then resizing it back to the pixel size of the original image—a process called interpolation.

Zoom digitally in camera view items

You can zoom in digitally to see close-up details in both live and playback mode.

The process is the same for all camera types, but there are some key differences:

- **Digital Zoom:** Available for fixed and fisheye cameras, for all recorded videos.

- **PTZ Cameras:** When you zoom in on live video from a PTZ camera, the camera lens moves, changing the focal length and affecting what is recorded.

To zoom in:

1. Select the camera view item. If you can't zoom in video, on the camera toolbar, select **More** and then **Digital zoom**.

2. Zoom in on an area:

    - **Mouse wheel:** Scroll to zoom in or out.

    - **Click and drag:** If the cursor is crosshair-shaped, select a corner of the area you want to zoom in on, drag to the opposite corner, and release the button.

    - **Keyboard shortcut:** Press **SHIFT** and then hold and move the mouse to select a zoom level from a slider.
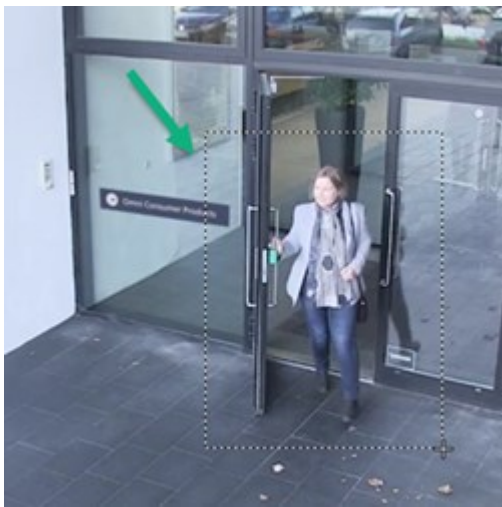
3. If you want to zoom in on another area, in the overview frame, use the directional PTZ navigation buttons to drag the zoom area frame or select a position outside the zoom area frame.
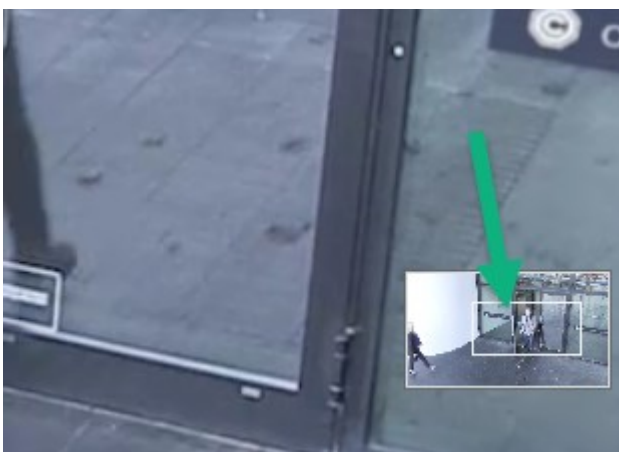
Adjust the zoom

1. Use the directional PTZ buttons to shift the zoomed-in area.

2. In the overview frame, drag the zoom area or click outside the zoom area to reposition.

Return to normal zoom

1. Press the mouse wheel or middle mouse button.

2. Scroll the mouse wheel to zoom out.

3. Click the Home icon on the PTZ navigation buttons.

Pan, tilt, and zoom in live video

You can pan, tilt, and zoom in live video to focus on specific areas.

While the methods for PTZ and fisheye cameras are similar, panning, tilting, and zooming in PTZ cameras physically moves the camera's direction or lenses, which affects both what you see and what is recorded.

1. In live mode, select the view item with video from the PTZ camera or fisheye camera.

2. Use these different methods to investigate:

   - **PTZ Navigation Buttons:** Use these buttons to pan, zoom in or out, and tilt.
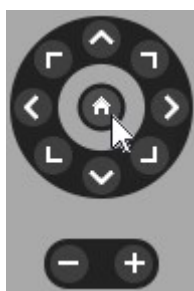
   - **Virtual Joystick:** If the mouse cursor is a black arrow, click inside the view item and hold the left mouse button to pan/tilt the camera in the direction the arrow is pointing.

   - **Click-to-Center:** If the mouse cursor is crosshair-shaped, click inside the view item to center the pan/tilt around where you selected. If the crosshair has a square, you can zoom in on an area with your mouse.

   - **Preset Positions:** If you have defined a favorite position for a fisheye camera or PTZ preset positions for a PTZ camera, you can move the cameras to these positions. See Pan, tilt, and zoom in video with favorite fisheye positions on page 99 and Pan, tilt, and zoom in video with preset positions on page 99

3. To return to the default position of your PTZ camera, select **Home**.

For all zoom options, see Zoom digitally in camera view items on page 95.

Define a preset position for a PTZ camera

If you frequently use the same pan, tilt, and zoom movements with your PTZ camera, you can save these positions as presets for quick access.

1. Select the camera view item with video from the PTZ camera.

2. On the camera toolbar, select the PTZ icon to open the PTZ menu.

3. Select **Manage PTZ presets** to open the window.
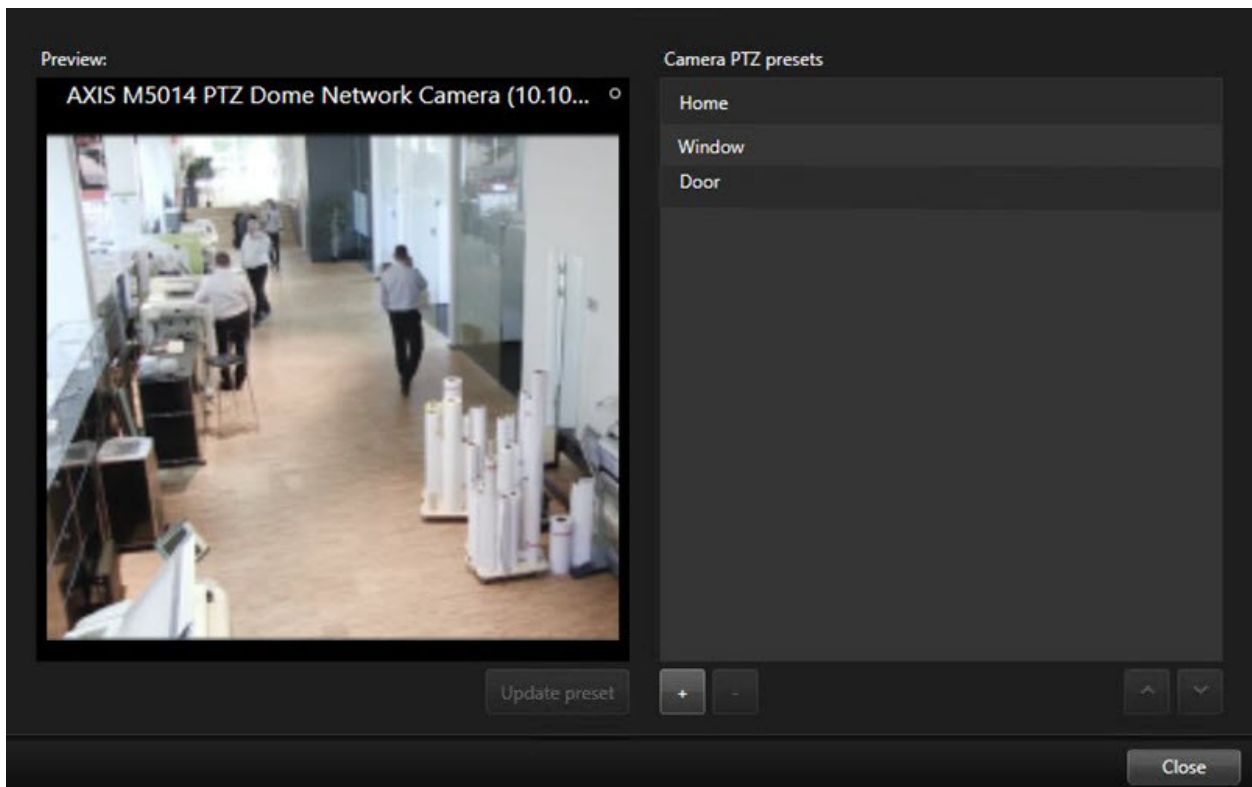
4. Select the plus icon to add a new preset position.

5. Select your preset position and give it a name.

6. Use the PTZ buttons to go to the relevant position and select **Update preset** to save.

7. If you want to sort your presets, use the up or down arrows to reorder the preset positions in the list.

Edit a preset position for a PTZ camera

You can rename or change the preset positions for your PTZ camera:

1. Select the view item with the video from the PTZ camera.

2. On the camera toolbar, select the PTZ icon to open the PTZ menu.

3. Select **Manage PTZ presets** and select the PTZ preset position you want to edit:

   - To edit the name, select it and enter a new one.

   - To change the camera position, use the PTZ buttons to go to the desired position and then select **Update preset** to save.

4. If you want to sort your presets, use the up or down arrows to reorder the preset positions in the list.

5. Select **Close** to exit the window.

Pan, tilt, and zoom in video with preset positions

Preset positions enable you to quickly move a PTZ camera to commonly used directions and zoom levels.

To make the PTZ camera move to a preset position:.

1. Select the view item with the video from the PTZ camera.

2. On the camera toolbar, select **PTZ** to open the PTZ menu.

3. In the PTZ menu, select a preset position from the list to move the camera to the desired direction and zoom level.

   The PTZ icon appears green until the camera reaches the preset position.

Locked Preset Positions: Your system administrator can lock preset positions, indicated by a padlock icon on the PTZ menu. Locked positions cannot be changed.

Home Position: Selecting the preset position "Home" will move the camera to its home preset position.

Define a favorite fisheye position

You can save a frequently used direction and focal length as a favorite position for your fisheye camera.

> For each fisheye camera, you can only save one favorite position at a time.

1. Select the view item with video from the fisheye camera.

2. On the camera toolbar, select **PTZ** to open the PTZ menu.

3. Pan, tilt, and zoom in the video to go to the desired position.

4. Select **Save fisheye lens positions**.

Pan, tilt, and zoom in video with favorite fisheye positions

You can quickly move to an often-used direction and focal level by selecting a defined favorite fisheye position.

1. Select the view item with video from the fisheye camera.

2. On the camera toolbar, select **PTZ** to open the PTZ menu.

3. To go to the defined favorite fisheye position, select **Load fisheye lens positions**.

Patrolling

Patrolling

MOBOTIX HUB Desk Client includes various patrolling features for PTZ cameras, improving situational awareness in different scenarios:

- Rule-controlled patrolling.

    -

    -

- Manual patrolling, where you manually start patrolling by triggering a patrolling profile.

    -

    -

- Reserve PTZ sessions so only you can control a PTZ camera because of a critical incident or camera maintenance.

    -

Start and stop a manual patrolling session

You can start a PTZ camera patrolling session manually if, for example, the rule-based patrolling doesn't screen an area of a room properly or there is no defined rule-based patrolling.

To start a manual patrolling session, your user must have a higher PTZ priority than the user or rule that's currently controlling the camera.

1. Select the view item with the PTZ camera that should start patrolling.

2. On the camera toolbar, select **PTZ** to open the PTZ menu.

3. Below the **Manage PTZ presets** entry, find the patrolling profiles configured for this camera.

4. Select the wanted patrolling profile.

    On the PTZ menu, all users can see that a patrolling profile is running when it has a checkmark .

5. To stop the manual patrolling, select the profile again.

    The MOBOTIX HUB VMS resumes the camera's regular patrolling, and the camera is again available to other users.

Stop and start a rule-based patrolling session

If your system administrator has defined a rule that makes a PTZ camera patrol, you can stop the rule-based patrolling if an incident occurs. For example, to keep or move the camera in a specific direction.

You can stop a patrolling session if you have a higher PTZ priority than the user or rule currently controlling the camera.

1. In live mode, select the view item with the relevant PTZ camera.

2. On the camera toolbar, select **PTZ** to open the PTZ menu.

   When the PTZ icon is red, the PTZ camera is patrolling, or another user is manually controlling the camera.

3. Select **Stop PTZ patrolling**.

4. Now, you can manually pan, tilt, zoom, or keep the PTZ camera in the current direction.

5. To resume the rule-based patrolling, select the **Stop PTZ patrolling** command again.

Pause rule-based or manual patrolling sessions

If the system administrator has given you PTZ priority permissions, you can pause rule-based patrolling sessions or manual patrolling sessions started by other users.

You can pause a patrolling session if you have a higher PTZ priority than the user or rule currently controlling the camera.

1. In live mode, select the view item with the relevant PTZ camera.

2. On the camera toolbar, select **PTZ** to open the PTZ menu.

   When the PTZ icon is red, the PTZ camera is patrolling, or another user is manually controlling the camera.

3. Select **Pause patrolling**.
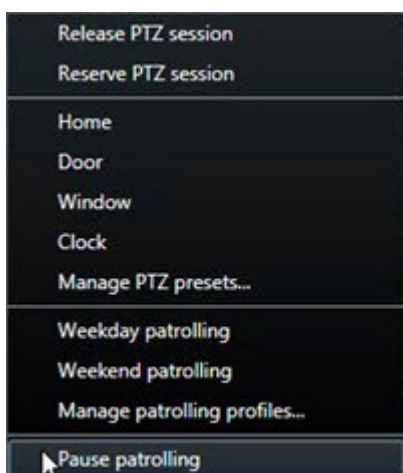
The PTZ icon turns green for you and red for all other MOBOTIX HUB Desk Client users.

> 🖉 Patrolling is no longer paused if you pan, tilt, or zoom with the camera.

4. To resume the rule-based patrolling again or free the camera so other users can control it, select **Pause patrolling**.

Reserve and release a PTZ session

If a PTZ camera needs maintenance or an incident occurs that requires you to have complete control over the PTZ camera, you can reserve the right to control it for a duration your system administrator has defined.

When you reserve a PTZ session, no other users can control the camera, including those who have higher PTZ priority permissions. You can then release the PTZ session when you no longer need it to let other users control the camera, or to resume the regular rule-based patrolling. If you forget to, the reservation ends after a duration of time your system administrator has defined.

> 🖉 You can't reserve a PTZ session if a user with a higher priority than yours is already controlling the camera or if another user has already reserved the camera.

To reserve a PTZ session:

1. In live mode, select the camera view item with video from the PTZ camera to reserve.

2. On the camera toolbar, select **PTZ** to open the PTZ menu.

3. Select **Reserve PTZ session**. If you have started a manual patrolling, it automatically stops.

   You have now reserved the PTZ camera, and a timer shows the remaining time of the reserved PTZ session.

To release a PTZ session:

1. In live mode, select the view item with the PTZ camera you reserved.

2. On the camera toolbar, select **PTZ** [icon] to open the PTZ menu.

   The green color of the icon indicates that you're currently controlling the PTZ camera.

3. On the menu, select **Release PTZ session**.

Lifting privacy masks

Privacy masking

Your system administrator can blur or cover areas in a camera's field of view to protect private or public areas, such as windows of a private residence. In MOBOTIX HUB Desk Client, the privacy masks are applied in live, playback, and exports.

Privacy masks can be permanent or liftable. Permanent privacy masks have full solid coverage by default, while liftable masks have 50% blurring. Your system administrator defines if any of the types of privacy masks appear on your camera.

The following image shows five windows in an adjacent building covered by permanent privacy masks:

If your system administrator has defined privacy masks as liftable and you have the right user permissions, you can temporarily lift all privacy masks in MOBOTIX HUB Desk Client.

In this example, there are two types of privacy masks: the solid gray area is a permanent privacy mask and the blurred area is a liftable privacy mask.

> ✏️ When you export video, you can add more privacy masks to the exported video.

See also Add privacy masks to recordings during export on page 208.

Lift and reapply privacy masks

In some situations, you might need to review an area that's covered by a privacy mask. You cannot lift liftable privacy masks if you haven't been given the permissions to do so.

1. On the global toolbar, select **Settings and more** and **Lift privacy masks**.
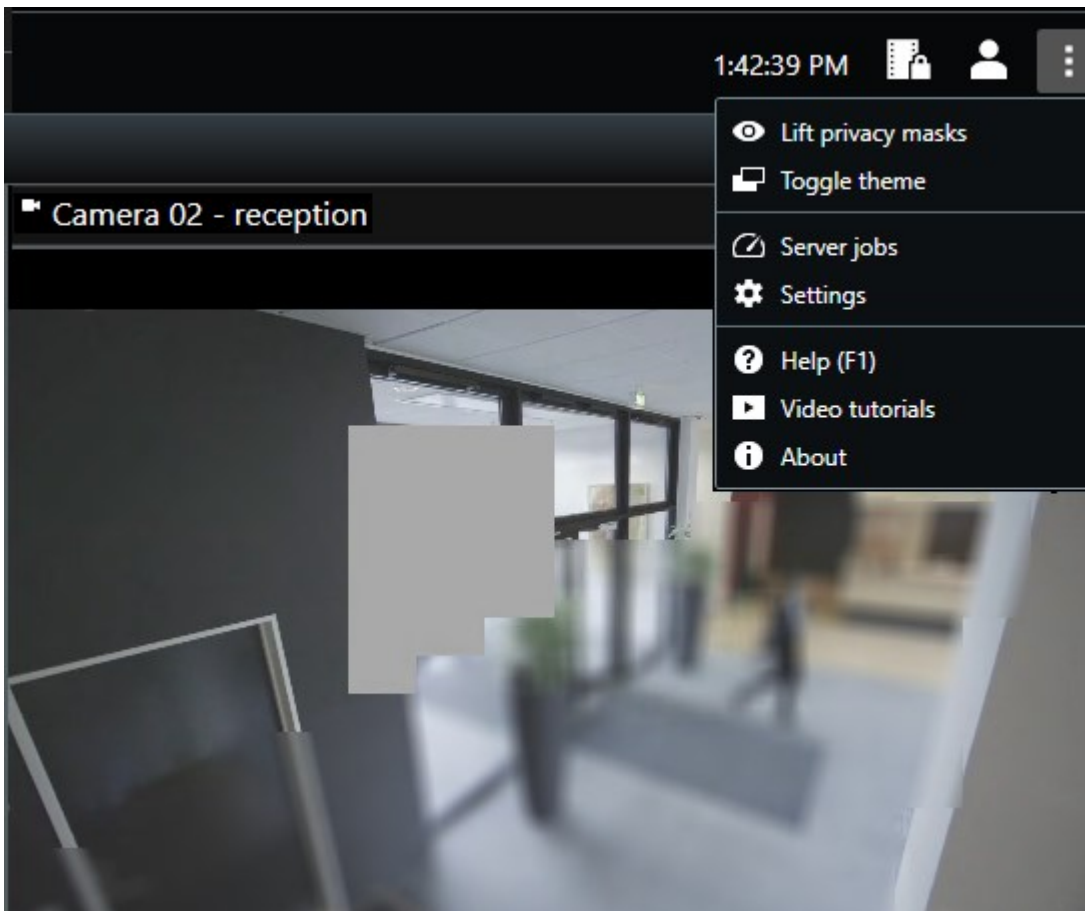
If you have the right permissions, the liftable privacy masks now disappear. Permanent privacy masks still cover their areas.
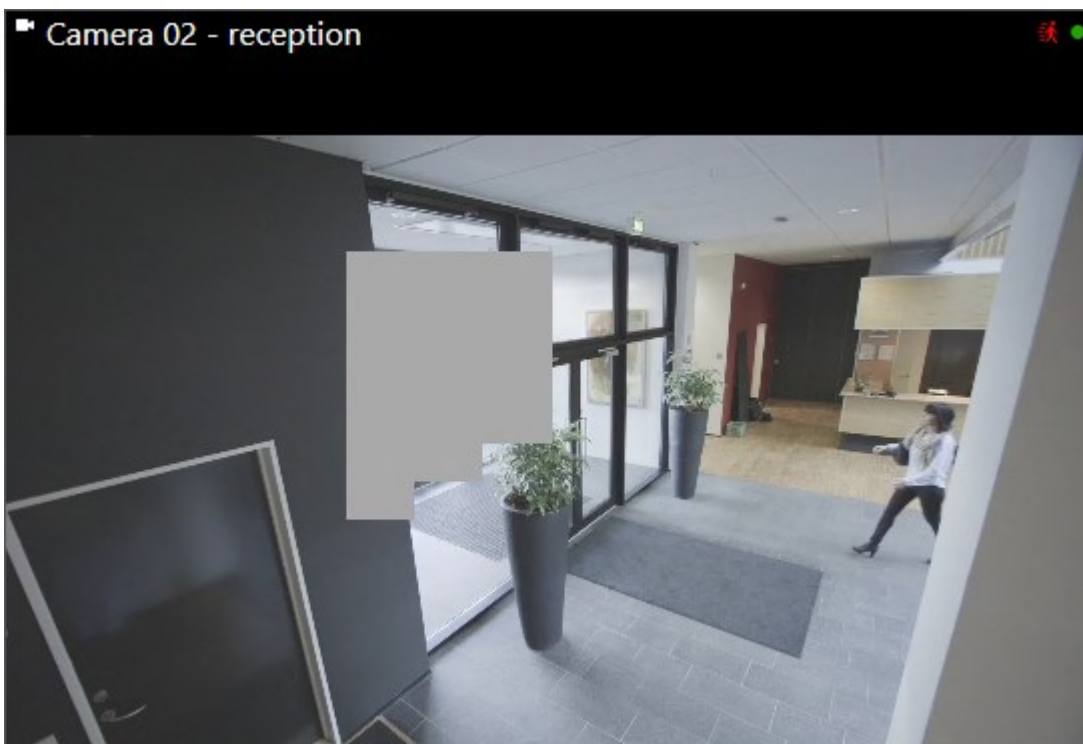
If you don't have sufficient user permissions, you'll see a window that asks you to contact a supervisor
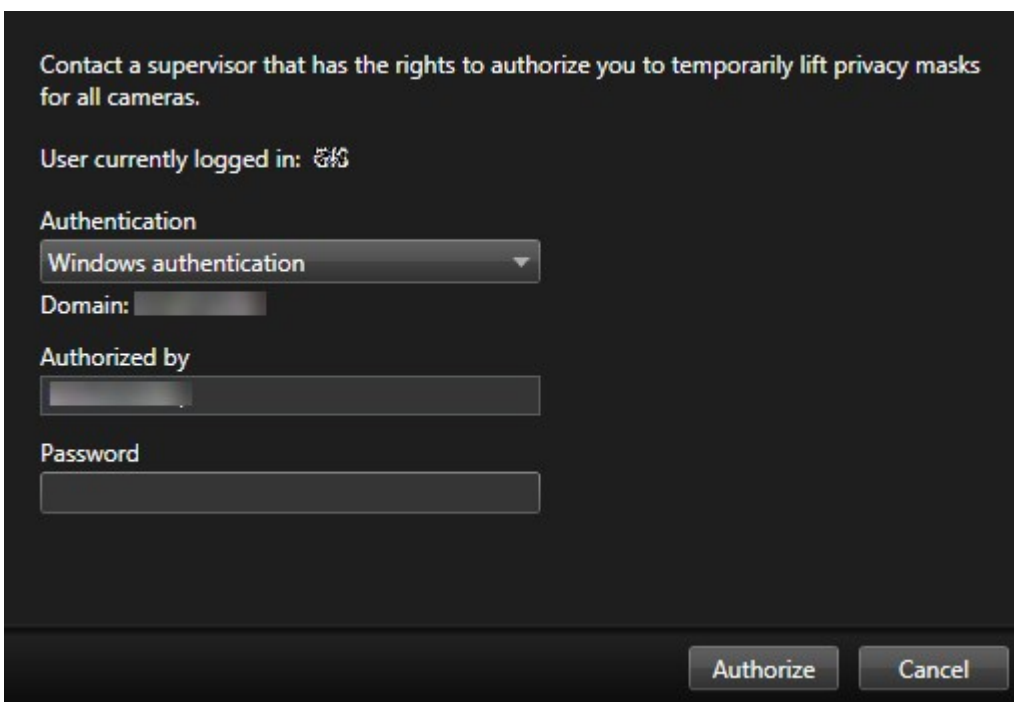
2. To reapply the liftable privacy masks, select **Settings and more** and **Apply privacy masks**.

   If you forget to reapply privacy masks, they are reapplied automatically after a time defined by your system administrator. The default time is 30 minutes.

Getting a geographical overview with maps

Maps and Smart Maps

There are two map features designed to improve your situational awareness: Maps and Smart Maps.

With both features, you can create a virtual representation of your areas of interest. You can place icons representing different cameras and other devices in the locations where they are mounted.

Examples of a map and a smart map, respectively:

You can interact with a camera or device by selecting the icon the represents them on the map. When a rule registers an event or triggers an alarm, the icon representing the related camera or device is highlighted, helping you identify where an incident has occurred.

The Smart Maps feature are more advanced than the Maps feature. With the Maps feature, you can only use still images to visualize your area and buildings.

Maps use still images to visualize your area and buildings, but Smart Maps can combine geographic information systems like Google Maps, Bing Maps, and OpenStreetMap with still images and CAD drawings. The extra functionality give you a more accurate overview of your cameras across one or multiple locations.

Working with Smart Maps

Smart Maps

Smart Maps in MOBOTIX HUB VMS display an interactive, real-time view of your organization's locations. Smart Maps display cameras, alarms, and other devices on a digital map of your locations to make it easier for you to monitor and respond to incidents.

You can use a smart map to:

- Get an advanced overview of your locations: with all security devices mapped out on the smart map, you can quickly identify and address potential issues.

- Get visual feedback right away: when an alarm is triggered, the smart map shows the exact location, allowing you to quickly assess and respond to the situation.

- Navigate devices efficiently: access live camera feeds by selecting icons on the smart map. Navigate between different areas without searching through lists.

- Control security devices directly on the smart map: adjust cameras, acknowledge alarms, and carry out other tasks directly from the map interface.

- Monitor locations from a central view: manage multiple locations from a single map. Smart maps combine your security operations across locations into one view to help you carry out your work more efficiently.

On smart maps, you can zoom out to see all of your locations in multiple cities, regions, countries, and continents, and quickly go to each location to view video from the associated cameras.

Example: on a smart map, you can review footage from cameras at your facilities in one place, then zoom out, pan across the world with a single drag of the mouse, and then zoom in on the cameras in your facilities in a different geographic location.

Smarts Maps can connect with online services, such as MOBOTIX Map service, Google Maps, or Bing Maps, that contain the physical locations that your organization protects.

> Most Smart Map functionality is available in all versions of MOBOTIX HUB VMS. Note that support for Google Maps, Bing Maps, and CAD file overlays is available in MOBOTIX HUB L5 and MOBOTIX HUB L4 only.

Presentation of devices and alarms on a smart map

How devices look on a smart map

How devices appear on a smart map change based on how close they are to each other and how much you zoom in or out. Their appearance also depend on the number of devices you've selected.

Devices near each other relative to the zoom level

When cameras and other devices are close to each other, and you zoom out, the devices are grouped in clusters and displayed visually as circular icons. The cluster icon includes information about the number of devices inside that cluster.
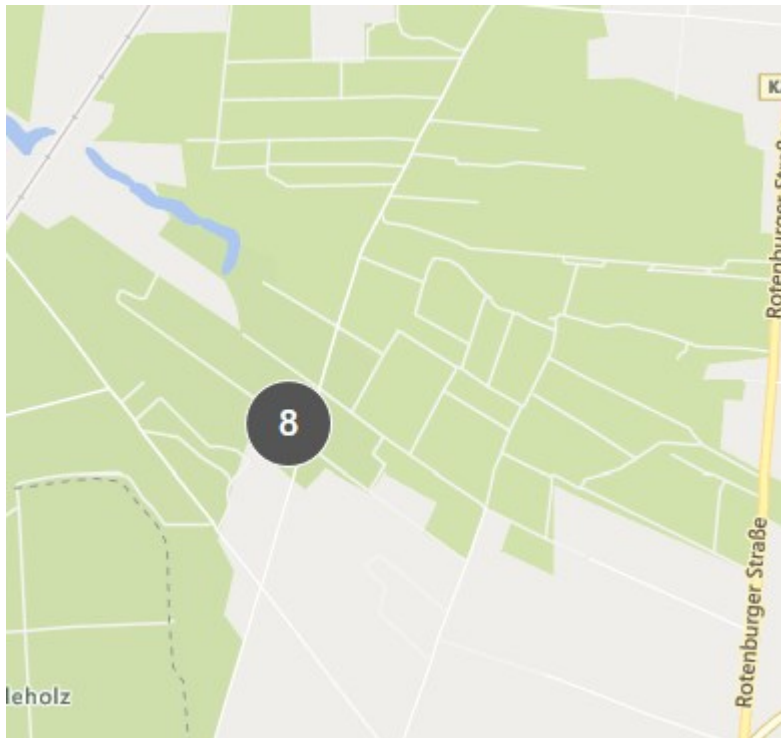
Devices far from each other relative to the zoom level

When you zoom in, for example, by double-clicking the cluster, you can see the individual devices and any sub-clusters.
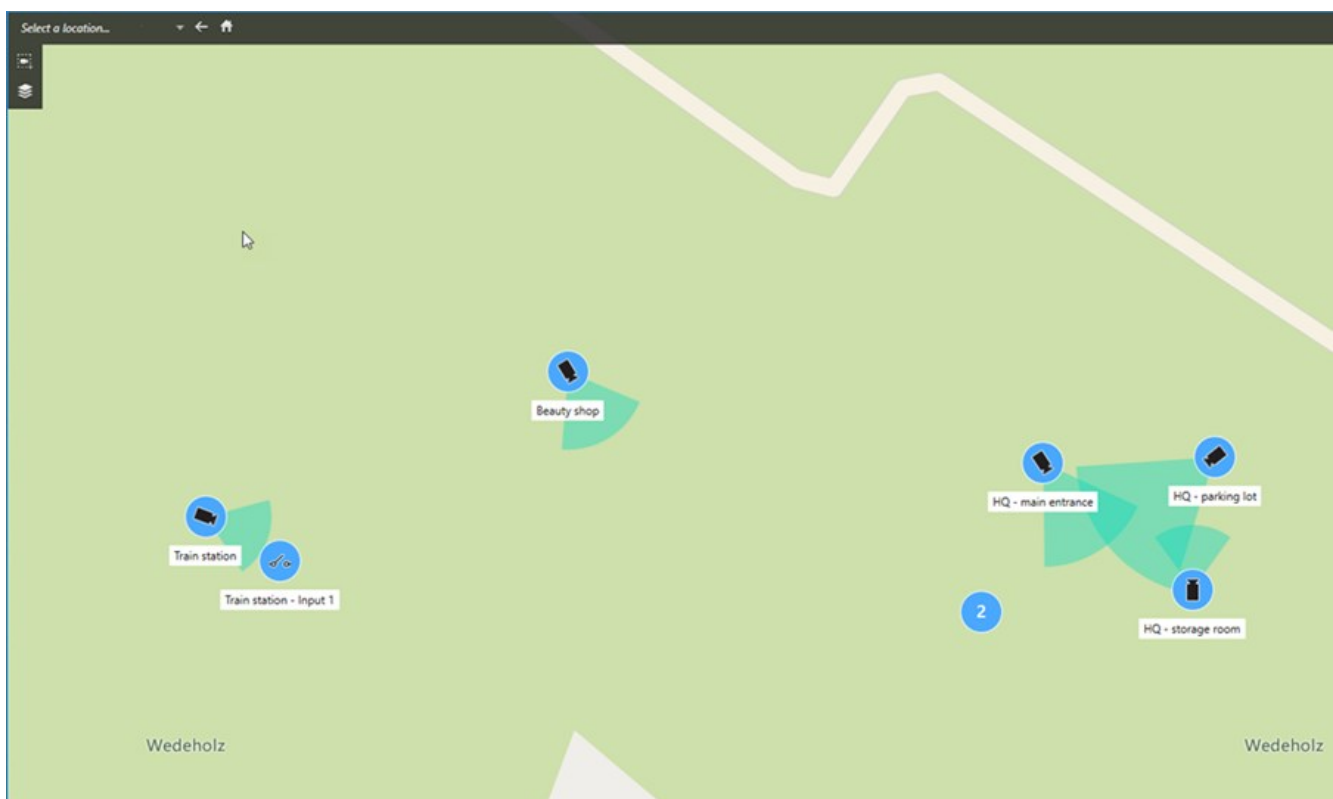
Information shared by the cluster icon

If a cluster contains different types of devices, for example, cameras, input devices, and microphones, the cluster icon shows the number of devices. If a cluster contains only one type of device, the cluster shows both the type of device and the number of devices.

Click the cluster icon to get an overview of the different types of devices in that cluster.
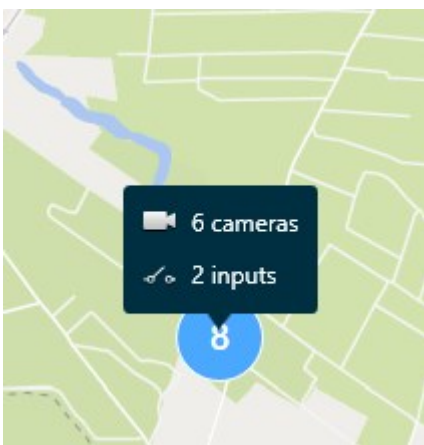
The look of selected devices and clusters

When you select devices and clusters on smart maps, they turn blue. You can select any combination and number of devices and clusters.

If you see a cluster icon that looks this way, only some of the devices inside the cluster are selected:
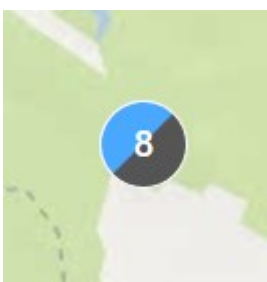
How alarms look on a smart map

If you have got the right permissions, you can see alarms on smart maps.
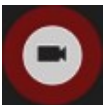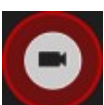
If a device triggers an alarm and the device is added to your smart map, the alarm will appear as a red circle around the device or the icon for the cluster with the device inside. See Adding, deleting, or editing devices on smart map on page 302.
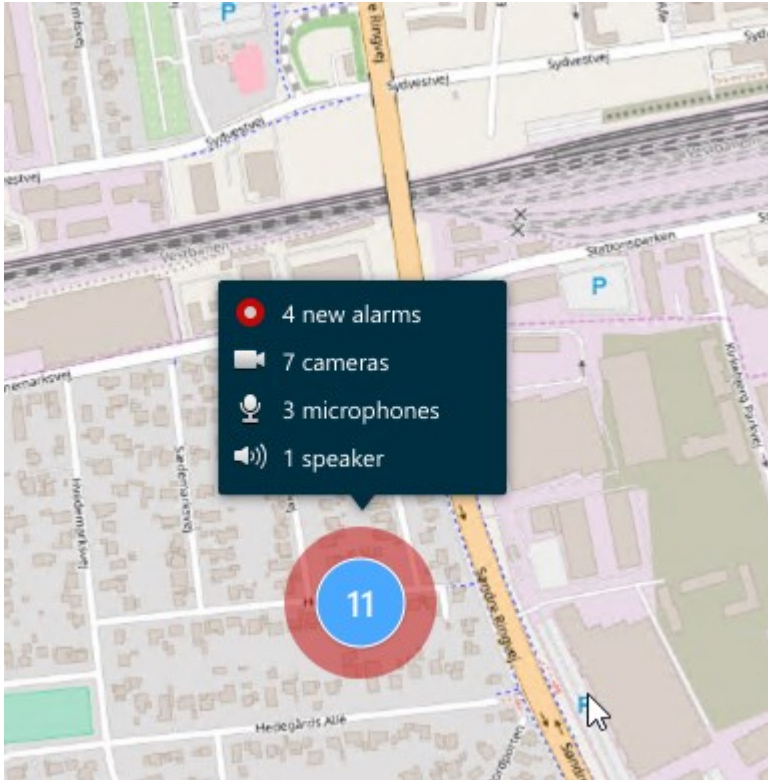
The icons below show how alarms appear on a smart map, depending on whether the device triggered the alarm or if the alarm is only related to the device that triggered it.

The examples show a camera icon, but the principle is the same for all devices and clusters.

Icon	Description
	This is a source camera: the camera that triggered the alarm.
	This is a related camera: a camera associated with the selected source camera, which triggered the alarm. This icon appears when you have selected the source camera.
	This is both a source camera and a related camera: This camera triggered an alarm, and the camera is also associated with another source camera with an alarm. This icon appears when you have selected the other source camera.

Movements on smart maps

Zoom in and out on a smart map

You can zoom in on the smart map to see all cameras and other devices in a location. You can also zoom out from one location to get an overview of all your locations and to zoom in on a different location.

When you have selected a smart map, you can zoom these ways:

- Use the scroll wheel on your mouse.

- If you have clusters, double-click cluster or right-click it and select **Zoom to**. The smart map zooms to a level where all the devices or sub-clusters within the cluster are visible.

- Press and hold the **SHIFT** key and drag the pointer to select an area on the smart map. The map zooms in and centers on your selection.

> You can experience limits on how much you can zoom in on a map if you're using one of the following services:
>
> - Bing Maps
>
> - Google Maps
>
> - OpenStreetMap
>
> If you exceed the zoom limitation, the smart map can't display the geographic background. Other layers with devices and shapefile images are still displayed.

Go to a defined location on a smart map

To quickly access specific areas, you can jump to defined locations on a smart map.

1. Select the view that contains the smart map.

2. In the upper-left corner of the view, open the **Select a location** list. If you have already selected a location, the location is displayed in the list.
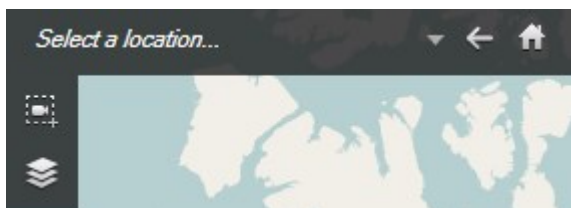
3. Select a location in the list to go to that location on the smart map.

Go back to previous locations on a smart map

When you move from one location on the smart map to another, MOBOTIX HUB Desk Client keeps a history of your visits. The history records locations that you both pan/zoom to and also click on. It does not record locations if you only pan or zoom to them.

When you backtrack, the location you just left is removed from the history. It includes only forward movements and is cleared when you select another view.

- Select ← **Back** to go back to the previous location. Click multiple times to go further back.
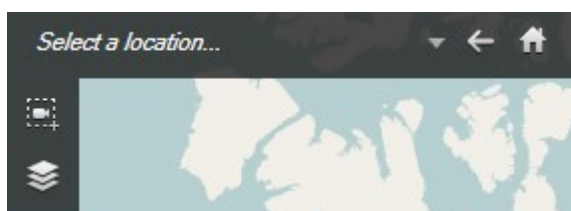
Go to a device on your smart map

If your system administrator has specified the device's geo-coordinates, you can go to the place on the smart map where the device is and view it in its geographic context. This is useful if, for example, you forgot the location of a device or if you want to check nearby devices.

You can go to the device in two ways.

From the **Views** pane:

1. Open the **Views** pane.

2. Search for the device. If the device exists, it's shown in the search results.

3. Place your mouse over the device to go to it.

4. Select to go to the device. The smart map opens in a floating window.

From the camera toolbar:

1. Select the view and the view item that contains the camera to go to on the smart map.

2. From the camera toolbar, select to go to the camera.
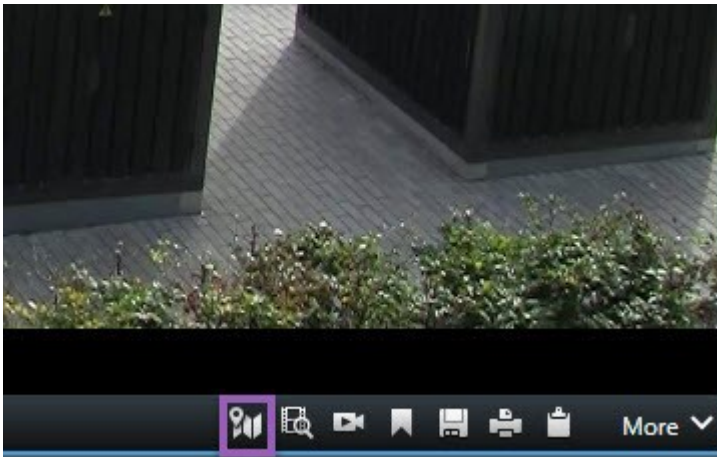
Go to a custom overlay on your smart map

If your smart maps have custom overlays, for example, CAD drawings of buildings, you can quickly go to them.

1. On the smart map, select **Show or hide layers and custom overlays** . A window opens.

2. Go to the **Custom overlays** section.

3. Select next to the overlay you're looking for to go to the location on the smart map.

Viewing video and listening to audio from your smart maps

Preview live video from one camera

You can preview video from a single camera on a smart map. The live video is displayed in a preview window. To view recorded video from the camera, you can start independent playback or send the video to a new floating window.

1. Select the smart map and find the camera to view video from.

2. Double-click the camera, or right-click and select **Live preview**. The live video feed is displayed in the **Preview** window.
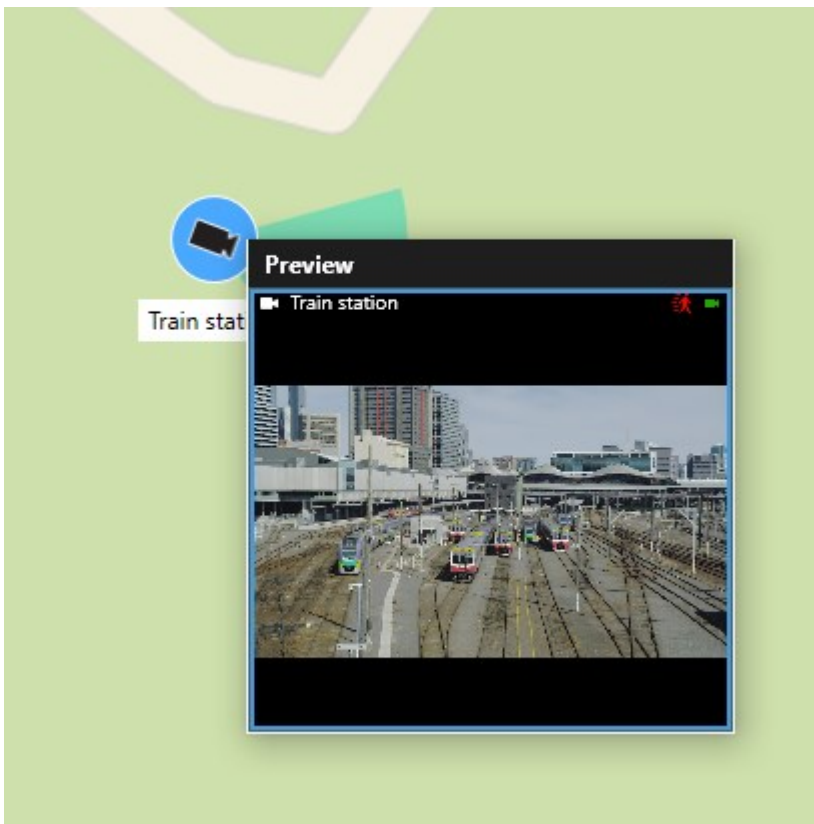
3. To play back and investigate the video in more detail:

   - In the **Preview** window, select **Independent playback**.

   - Or, in the **Preview** window, select **More**, **Send to window**, and then **New floating window**.

Preview live video from multiple cameras

You can preview live video from up to 25 cameras on a smart map at the same time. To view the recorded video, you can send it to a new floating window.

1. Select the smart map and find the cameras to view video from.

2. Select the cameras using one or more of these methods:

   - Press and hold the **CTRL** key at the same time as you select the cameras.

   - In the toolbar, select the **Select multiple cameras** icon , then select and drag to select the cameras within an area.

   - Double-click a cluster icon to zoom in and select the devices and potential sub-clusters inside the cluster.

   - Select at least one cluster to select all cameras in the clusters in one go.

3. Right-click any of the selected cameras or clusters and select **Live preview**, or press **Enter**.
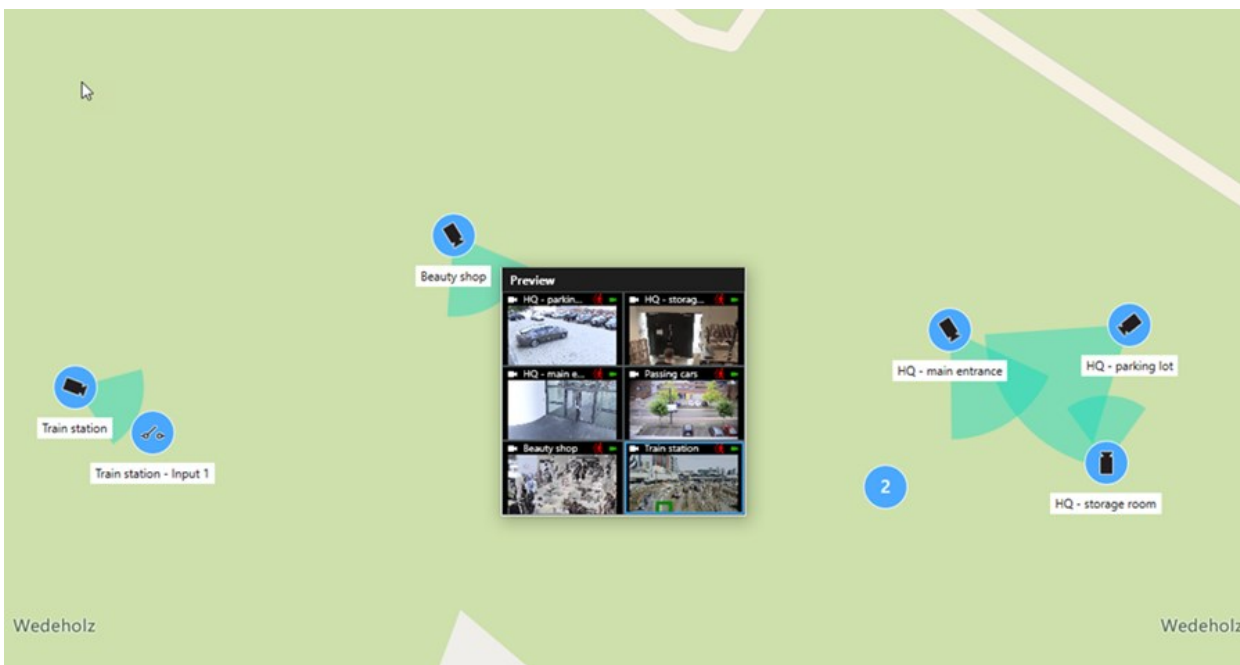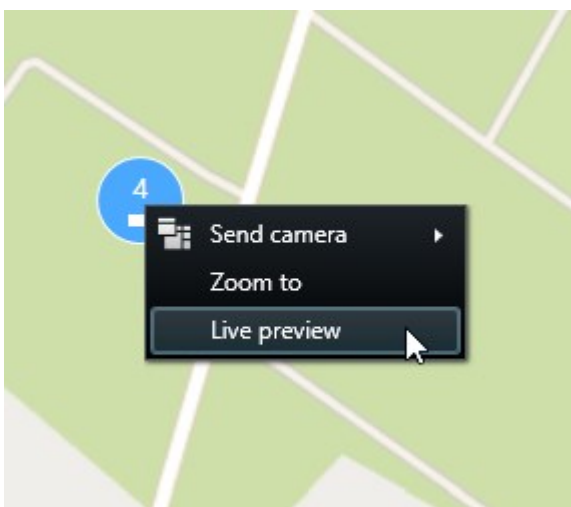
4. To play back and investigate the video in more detail:

   - In the **Preview** window, select **Independent playback**.

   - Or, in the **Preview** window, select **More**, **Send to window**, and then **New floating window**.

View video from a view with both hotspot and smart map

If you have a view with both a smart map and a hotspot view item, you can watch the video from cameras on the smart map in the hotspot view item. Each time you select a camera on the smart map, its video is shown in the hotspot view item. This method is quicker and easier than previewing the video or viewing the video in another view that has a hotspot.

1. Open the view with the smart map and the hotspot view item.

2. Find the cameras on the smart map.

3. Select the cameras to view video from. When you select a camera, its video is displayed in the hotspot view item.

View video in any view with a hotspot but no smart map

If you have a view with a hotspot view item, you can view the video from cameras on a smart map in the hotspot view item, even if they are in different views.

When you select a camera on the smart map in one view, its video is displayed in the hotspot view of another view.

1. On the **Views** pane, right-click the view with the hotspot.

2. Select **Send view to** and select a display option, for example, **Floating window**.

3. Arrange the views with the hotspot and the smart map on your monitor or monitors so you can see both.

4. Find the cameras on the smart map.

5. Select the cameras. When you select a camera, its video is displayed in the hotspot view item.

Listen to audio from your smart map

If any microphones are added to your smart map, you can listen to audio from one microphone at a time in live mode.

1. Select your smart map.

2. Find the microphone on the map.

3. Double-click the microphone to mute or unmute it.

   You can also right-click the microphone and select **Mute microphone** or **Unmute**.

Hiding and showing layers

Layers on a smart map

A smart map has multiple layers. Each layer contains different elements.

You can hide the elements on a smart map layer. This feature is useful when you want to focus on a specific element or simplify the display on the smart map.

Layer	Elements
System elements	Cameras and other devices. Links and locations.
Custom overlays	Bitmap images, CAD drawings, and shapefiles.
Geographic backgrounds	The basic world map or one of the following services: • Bing Maps • Google Maps • OpenStreetMap

Show or hide layers on a smart map

You can show or hide layers on your smart map, including the geographical background. This feature is useful when you want to focus on a specific element or simplify the display on the smart map.

1. Select your smart map.

2. On the toolbar, select **Show or hide layers and custom overlays**.

3. To show or hide the layers with **System elements** and **Custom overlays**, select or clear the check boxes.

> Hiding the **System elements** layer mutes all microphones until you show the layer again. Manually muted microphones remain muted.

4. To hide the **Geographic background** layer, select **None**.

   The geo-references still apply to the smart map even if the geographic background layer is hidden.

Troubleshooting: Smart Maps

I don't see any devices on my smart map

If you don't see any cameras or other devices on your smart map, the system elements layer is likely hidden. To enable it, see Show or hide layers on smart map on page 297.

My device doesn't appear on the smart map

If one or more devices should appear on the smart map, but don't, then it's likely that the devices haven't been geographically positioned.

To resolve this issue, either:

- Drag the devices onto the smart map from the device hierarchy. You can only do this action if device editing is enabled on your user profile.

- Or ask your system administrator to specify the geo-coordinates in the device properties in MOBOTIX HUB Management Client

Working with Maps

Maps

With a map, you get a physical overview of your MOBOTIX HUB VMS system. You can instantly see the cameras and other devices added to the map and the direction in which the cameras are pointing. You can use maps for navigation. Maps can be grouped into hierarchies so that you can drill down through hot zones, from overview perspectives to detailed perspectives, for example, from city level to street level, or from building level to room level.

You can view recorded video from cameras in a preview window when you move your mouse over a camera icon on the map. The status information in playback mode is **not** based on recorded data, but retrieved from the elements' current status, as displayed in live mode.

An example of a map with camera elements and hot zone:
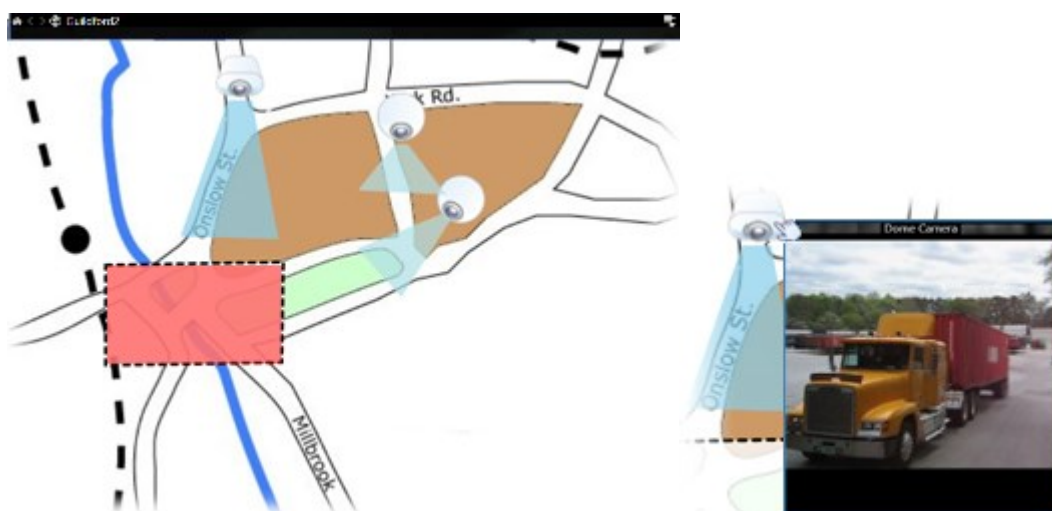
How a map looks

Maps are still images on which elements representing cameras and other devices in your MOBOTIX HUB VMS system are added. Maps do not have to be geographical maps, although they often are. Depending on your organization's needs, photos and other kinds of image files can also be used as maps.

> Maps are not the same as a smart map. See Differences between maps and smart maps on page 293.

On maps you can see the status of your devices. The status visualization graphically displays the status of elements added to a map. When a map is fully operational and in the normal state, there is no status visualization.

An example of a map with fully operational devices and a hot zone:
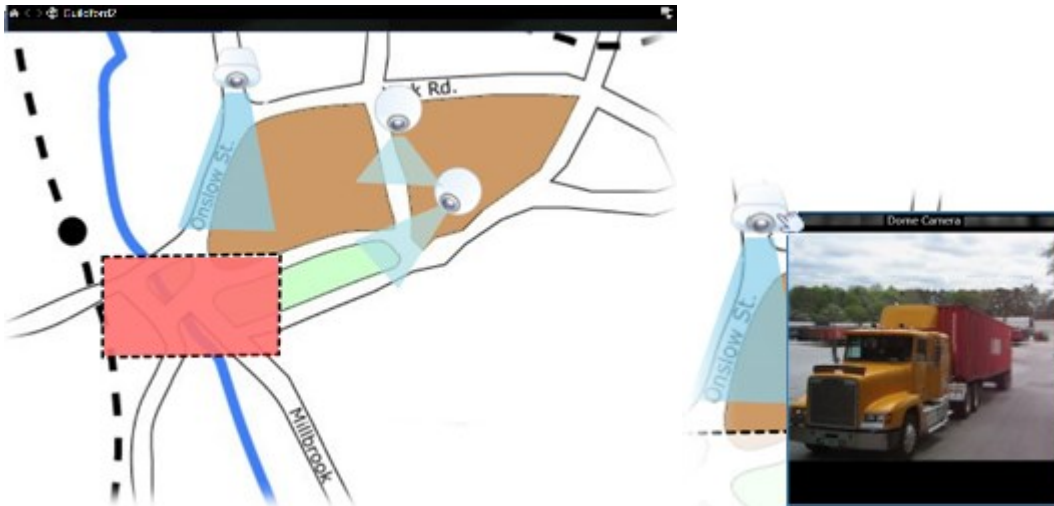
An example of a map with not fully operational devices and with status visualization:

The **Status visualization** window lets you define the visual appearance of maps' status indication.

Indicator	Description
	Attention needed - when an element requires attention, but is still working; for instance when a server is running out of disk space. Note that the device in question is not necessarily included on the map. The default display color is yellow.
	Not operational - when there is an error on the element, for example if a server can't connect to a microphone or speaker. The default display color is orange.

Indicator	Description
	Alarms - when an element has an alarm attached to it. The default display color is red.
	Disabled/status unknown - when an element has been disabled on the surveillance server, or when it is not possible to obtain status information from a server. The default color is purple.
	Ignore status - when an element has a status that does not need attention, for example, if you're already aware of what the issue is. The default color is blue.

The status of a map mirrors the status of all elements on the map. Up to four names of affected servers can be listed in the map title bar. In cases where an unavailable server causes disabled elements on the map, but the server itself is not included on the map, the map is displayed in the **not operational** state, even though the map only contains **disabled** elements. If the unavailable server **is** included on the map, the map is simply displayed with the **disabled/status unknown**. Status information is also available in the **Map overview**.

View video and start recording from a map

You can preview video from a single camera on a map. The live video is displayed in a preview window and you can send it to a floating window.

1. Place your mouse pointer over a camera on a map to see a live preview from the camera.

2. Select the title bar of the preview window to keep the window open as a separate floating window.

To start recording, right-click the required camera and select **Start recording for # minutes**. Particular user permissions may be required to use this feature.

A **fixed camera** is displayed on the map with an associated view zone that shows the camera's angle of view.

A **PTZ camera** is displayed on the map with any PTZ preset positions defined for the camera on the surveillance system. The presets are illustrated as colored angles that radiate from the PTZ camera icon. Each angle represents a particular preset. Note that the angles are very likely to need adjustment to match the camera's preset angles. To adjust an angle, simply drag it to a suitable size and position. If a camera has more than 25 presets, no angles are initially displayed since the angles would be too small to be useful. In such cases, you can add required angles individually by dragging the presets from the required camera from the **Element selector** window onto the map. To go to one of a PTZ camera's presets, simply select the preset on the map. This works in the floating preview window, on the map itself, as well as in hotspot positions. See . Alternatively, right-click the camera, select **PTZ presets**, then select the required preset.

View recorded video from cameras on a map

You can view recorded video from cameras in a preview window when you move your mouse over a camera icon on the map. The status information in playback mode is retrieved from the camera's current live status.

- You can use digital zoom and PTZ controls from the camera preview if the camera supports this. In the preview window, either select the More button and select digital zoom or use the PTZ (see Pan, tilt, and zoom in live video on page 97) controls that appear. If you have PTZ preset postions set up for a particular camera, you can activate the preset position by selecting the preset in the preview.

- To view all the cameras (a maximum of 25 in one view) on a map simultaneously in a floating window, click the **Send all cameras to floating window** icon at the top of the map title bar:

> If you have more than 25 cameras on a map that you send to a floating window, it will not always be the same cameras you see.

How elements interact with maps

You can use map elements to interact with the actual devices in the following ways:

Cameras

Place your mouse cursor over a camera on a map to see a live preview from the camera. Select the title bar of the preview to display it as a separate floating window. You can resize the floating window by pulling its corners. To start recording, right-click the required camera and select **Start recording for # minutes**. Particular user permissions may be required to use this feature.

A **fixed camera** is displayed on the map with an associated view zone that shows the camera's angle of view. Note that the angle on the map is very likely to need adjustment to match the camera's angle of view. To adjust the angle, simply drag it to a suitable size and position.

A **PTZ camera** is displayed on the map with any PTZ preset positions defined for the camera on the MOBOTIX HUB VMS system. The presets are illustrated as colored angles that radiate from the PTZ camera icon. Each angle represents a particular preset. Note that the angles are very likely to need adjustment to match the camera's preset angles. To adjust an angle, simply drag it to a suitable size and position. If a camera has more than 25 presets, no angles are initially displayed since the angles would be too small to be useful. In such cases, you can add required angles individually by dragging the presets from the required camera from the **Element selector** window onto the map. To go to one of a PTZ camera's presets, simply select the preset on the map. This works in the floating preview window, on the map itself, as well as in hotspot view items. See Add a hotspot to a view on page 231. Alternatively, right-click the camera, select **PTZ presets**, then select the required preset.

Microphones

Place your mouse over a microphone; press and hold the left mouse button to listen to incoming audio from a microphone, or right-click the microphone and select **Listen to microphone**. You can't use microphones in map views in playback mode.

Speakers

Place your mouse over a speaker; press and hold the left mouse button to talk through the speaker. You can't use speakers in map views in playback mode.

Events

Select an event on the map (see Alarms on page 132) to activate it, or right-click the event and select **Activate event**. When left-clicking an event, the mouse cursor briefly changes to a lightning symbol to indicate that the event is being activated.

Alarms

Select an alarm on the map (see Alarms on page 132) to view it, or right-click the alarm and select **Activate Alarm**. Right-click to acknowledge the alarm.

Output

Select an output on the map to activate it, or right-click the output and select **Activate output**. When you select an output, the mouse cursor briefly changes to a lightning symbol to indicate that the output is being activated.

Hot zones

A hot zone is usually colored, so it is easy to recognize. Select a hot zone to go to the sub-map associated with the hot zone, or right-click the required hot zone and select **Go to sub-map**.

If the hot zone appears with a dotted outline, no map is associated with the hot zone.

> On some MOBOTIX HUB VMS systems, maps from several different servers may be in a map hierarchy. This can mean that when you select a hot zone, the sub-map is unavailable because its server is unavailable. Servers can become unavailable because of scheduled maintenance or network problems. Contact your system administrator if the problem persists.

> A hot zone can point to a map that you don't have access permissions to and the MOBOTIX HUB Desk Client will inform you about this. Because user permissions can be time-based, you might not be able to access a map that you could previously. This can be because you don't have access during certain hours of the day or certain days of the week. Contact your system administrator if in doubt about your user permissions.

Plug-ins

Plug-in elements are available only if used on MOBOTIX HUB VMS system. Examples of plug-in elements: access control systems, fire detection systems, etc.

Interconnected hardware

Because interconnected hardware that is part of a MOBOTIX Interconnect system is offline at times, you can often see error statuses on the interconnected hardware element on a map.

Understand the map hierarchy on your maps

The **Map overview** window provides you with an overview of the map hierarchy set up in the MOBOTIX HUB Desk Client. To open the **Map overview** window, right-click the map and select **Map overview** or select the icon 🌐 on the map title bar.

A plus sign (+) next to a map indicates that the map could have one or more sub-maps attached to it as hot zones. Selecting a map in the **Map overview** immediately displays the selected map in the view.

> Content in the **Map overview** may take some time to load if you're connected to a very large MOBOTIX HUB VMS system with many maps.

> If you're connected to a MOBOTIX HUB VMS system that supports MOBOTIX Federated Architecture, you can only add maps from the MOBOTIX HUB VMS system server you logged in to. MOBOTIX Federated Architecture is a system setup with related but physically separate MOBOTIX HUB VMS systems. Such a setup can be relevant for, for example, chains of shops with many separate—but related—MOBOTIX HUB VMS systems.

> See the MOBOTIX HUB Comparison Chart on https://www.mobotix.com/en/products/vms/mobotixhub for information about which MOBOTIX HUB VMS products support MOBOTIX Federated Architecture.

Send cameras from a map to a floating window

To view all the cameras (a maximum of 25 in one view) on a map simultaneously in a floating window:

1. In live or playback mode, select the map that contains the cameras you want to view in a floating window.

2. At the top of the map title bar, select **Send all cameras to floating window** .

The floating window displays a maximum of 25 cameras in the view.

> If you send more than 25 cameras on a map to a floating window, it will not always be the same cameras you see.

View status details on maps

Status details are available for cameras (for example, resolution, image size, and bit-rate) and servers (for example, CPU usage, memory, network usage).

- To display status details, right-click the required element and select **Status details**. Status details are displayed in a separate, floating window

> If you see an error message saying that the event server has insufficient access permissions to the recording servers, you will not be able to view status details from recording servers. The error message relates to the Event Server service, which handles map-related communication on the MOBOTIX HUB VMS system. The Event Server service is managed on the MOBOTIX HUB VMS system server. Contact your system administrator, who will be able to handle the issue.

Navigate a map

If the map is larger than the view area in the MOBOTIX HUB Desk Client, or if you have zoomed in on the map, you can pan the map to see otherwise hidden areas. Click the map anywhere outside of added elements, and the map centers on the clicked spot. Pan the map by selecting and dragging the map in any direction.

- To use the zoom function on a map, right-click the map and select **Zoom in** or **Zoom out** as required. Or use the **Zoom to standard size** function to zoom back to normal size.

> Alternatively, use your mouse's scroll wheel to zoom; scroll up to zoom in, scroll down to zoom out.

If **Auto maximize map** is enabled and your map position in the view is part of a view with several view positions, the map is automatically maximized to full screen after a period of time as defined in setup mode in the **Properties** pane. To revert to the original view, double-click the map anywhere outside of any added elements.

Listening to and broadcasting audio

Audio

MOBOTIX HUB Desk Client supports both incoming and outgoing audio.

- Incoming audio is the audio coming from microphones attached to cameras. It is always recorded, even when no video is being recorded.

- Outgoing audio is the audio you broadcast through speakers. It is only recorded if your MOBOTIX HUB VMS product supports two-way audio. Recording outgoing audio is essential if you need to prove that an operator gave specific instructions through the speakers.

Depending on your user permissions and your MOBOTIX HUB VMS product, you can:

- Listen to live audio from microphones attached to cameras in live mode.

- Use speakers connected to cameras to talk to audiences in live mode.

- Listen to recorded audio from cameras with microphones, speakers, or both in playback mode.

Listen to audio

On the main views tab, when you select a camera view item in live or playback mode, you also select its microphone, and you can listen to its audio.

- Select a camera view item in a view to listen to the audio.

You can also listen to recorded audio independently of the selected camera view item.

- On the **Audio** pane, select a microphone to listen to the audio from the microphone.

Audio and maps

If your views contain maps with microphones, you can listen to audio by selecting the relevant microphone element.

- Select the microphone element and hold the mouse button for as long as you want to listen.

> ✎ If you can't hear audio from a camera's microphone, check if your computer's speaker is muted. On the **Audio** pane, clear the **Mute** check box. If the issue continues, the speaker might be disabled—contact your system administrator. Other MOBOTIX HUB Desk Client users generally can't hear broadcasts through speakers, but they might if microphones are nearby.

Broadcasting audio

Broadcasting

If you need to communicate with people standing close to speakers, you can broadcast audio to them. When you select a camera view in live mode, the system also selects the corresponding speaker, letting you broadcast the audio through it.

The **Audio** pane and **Level meter** display the broadcast volume. If the volume level is low, move closer to the microphone, and check the microphone connection and setup if you don't see the volume level.

Depending on your MOBOTIX HUB VMS product, your system might be able to record the outgoing audio. If a microphone is near a speaker, it might pick up and record the broadcast.

Broadcast audio to one speaker

You can talk or broadcast audio to people near a speaker attached to a camera.

1. On the **Audio** pane, select a speaker to broadcast audio to.

2. Select and hold down **Talk** for as long time as you want to talk. If the **Talk** button is disabled, your computer doesn't have a speaker installed, or the speaker is disabled. If the list displays **No speaker sources**, no speakers attached to cameras are available.

   Alternatively, if the camera view item has an overlay button for broadcasting audio, select the overlay button. If the **Speakers** list is unavailable on the **Audio** pane, your MOBOTIX HUB VMS system doesn't support two-way audio.

> ✎ If the **Microphones** list shows **Missing hardware on local PC**, your computer either doesn't have a microphone installed or it is disabled. If it shows **No microphone sources**, no microphones are attached to the cameras.

Audio and maps

If your views contain maps with speakers, you can broadcast audio by selecting the relevant speaker element.

- Select the speaker element and hold down the mouse button for as long time as you want to talk or broadcast audio.

Broadcast audio to multiple speakers

You can talk or broadcast audio to people near multiple speakers attached to a camera.

1. On the **Audio** pane, in the **Speakers** list, select **All speakers**.

2. Select and hold down **Talk** for as long as you want to talk.

> If you've selected **List only devices from current view** on the **Audio** pane, some devices might not be shown.

> If the **Microphones** list shows **Missing hardware on local PC**, your computer either doesn't have a microphone installed or it is disabled. If it shows **No microphone sources**, no microphones are attached to the cameras.

Lock to selected audio devices

When you select a camera view item in a view, the audio devices attached to the camera are also selected. You can listen to audio from the camera and broadcast audio to it.

In some situations, you might want to listen to and broadcast audio from one specific camera while viewing video from other views and cameras.

Example: You need to listen and talk to a crime victim through the microphone and speaker attached to camera A. At the same time, you need to view video from cameras X, Y, and Z in other views to follow the criminal's whereabouts.

1. On the **Audio** pane, select the relevant microphone and speaker.

2. Select **Lock to selected audio devices**.

3. Remember to clear **Lock to selected audio devices** again when the incident is solved.

Only list audio devices associated with open views

If your MOBOTIX HUB VMS system contains large numbers of microphones and speakers, the lists for the microphone and speaker on the **Audio** pane might be long. The number of audio devices can make it difficult to find the audio devices you're looking for.

To avoid this scenario, you can limit the lists to only show devices that contain microphones and speakers relevant to the currently opened views.

- On the **Audio** pane, select **List only devices from current view**.

Adjusting the audio volume

There are no options to change the audio volume in MOBOTIX HUB Desk Client, but you can adjust them elsewhere:

- The audio settings in Windows.

- The recording volume on the microphone or through the camera device's configuration interface.

- The output volume on the speaker or through the camera device's configuration interface.

Contact your system administrator if you're having trouble with the audio volume.

> The **Level meter** on the **Audio** pane shows the input volume (what you broadcast) and gives an idea of the output volume (audio from the speaker).

Audio settings overview

When you view live or recorded video, you have the following audio settings on the **Audio** pane:

Name	Description
Microphones	Listen to audio on page 125
Mute	Select to mute either microphones or speakers.
Speakers	Select the speaker to broadcast audio to.
Talk	Broadcast audio to one speaker on page 126 Broadcast audio to multiple speakers on page 127
Level meter	Adjusting the audio volume on page 128
Lock to selected audio devices	Lock to selected audio devices on page 127
List only devices from current view	Only list audio devices associated with open views on page 127

Gathering and sharing evidence

Contributing to investigations and solution of incidents

When you view live or recorded videos, you can play a key role in securing evidence for investigators and sharing information with colleagues when incidents occur. Even if your system administrator has set up the MOBOTIX HUB VMS to record automatically, you might need to manually start recording to capture evidence in certain cases.

You can share views showing the incident, the camera name, bookmark the incident, or send video to a video wall or a Matrix view item.

Record video manually

Recording live video can be useful when you spot something interesting. You can start recording from multiple cameras at the same time, but you must select each camera individually.

1. Select the view item with the video you want to record.

2. On the camera toolbar, select one of the following options:

    - **Start recording for # minute(s)/second(s)**

      When it's started, the recording continues for several minutes. Your system administrator has defined how many minutes. You can't stop the recording manually.

    - **Start manual recording**

      When it's started, recording continues for several minutes or seconds, as determined by your system administrator, or until you select **Stop manual recording** .

Take a snapshot to share

When you view live or recorded video, or search for video, you can take an instant snapshot[1] to share.

In live or playback mode:

- Select a camera, hotspot, or carousel view item, then on the camera toolbar, select **Create snapshot** .

On the **Search** tab:

- Search and select a search result, then on the blue bar at the bottom, select **Create snapshot**.

Share the snapshot. Privacy masks in video are also displayed in snapshots.

Bookmark video

If you have the right user permissions, you can add bookmarks to live video so your colleagues can search for the bookmarked video.

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[1]An instant capture of a frame of video at a given time.

1. Select a camera view item, and from the camera toolbar, select **Add bookmark** .

   Alternatively, on the **Search** tab, select one or more search results and select the **Bookmark** icon in the blue bar at the bottom of the **Search** tab.

2. Optionally, give the bookmark a name and a description to help your colleagues find the right video.

3. Select **OK**.

4. Inform your colleagues that you have added bookmarks to video sequences related to the incident. They can search for bookmarks you have created, the bookmark ID, or text in the name and description. Ensure you share the necessary information so your colleagues can quickly find the video showing the incident

Sending video to shared views with Matrix view items

Viewing Matrix content

The Matrix feature is useful for sharing live video streams when you discover an incident. You and your colleagues can send live video streams to each other through shared views with Matrix view items.

If your system administrator has defined rules, these can also trigger sharing of video when events occur.

You can recognize a Matrix view item by the icon in the title bar. If your view contains multiple Matrix items, the primary item shows the first received video stream. The next streams are shown in the primary item, which then pushed the previous streams to secondary items.

In playback mode, Matrix items display the last sent video.

Send video to a Matrix view item

When you see an ongoing incident that requires the assistance of your colleagues, you can send video from a camera to views with Matrix view items so they can instantly see what is going on.

1. Select the camera view item with the video to share.

2. On the camera toolbar, select **More** > **Send to Matrix**.

3. From the list, select the relevant Matrix recipient.

4. When you're done, you can notify your colleagues to make sure they see the Matrix-shared video.

Reacting to incidents

Working with alarms and events

Events and alarms

In MOBOTIX HUB, events and alarms are core features that enable you to monitor cameras and other devices in the system and to respond to security incidents in MOBOTIX HUB Desk Client.

- Events refer to specific incidents detected by the VMS, such as motion detection, camera tampering, or system status changes. These events are typically generated by connected devices like cameras, sensors, or the VMS itself. Each event is logged with relevant details, such as the time, location, and type of incident.

- Alarms are triggered responses to predefined events. When a particular event meets the criteria set within the MOBOTIX HUB VMS, an alarm is activated. You can configure alarms to prompt various actions, such as notifying security personnel, initiating recording, or triggering automated system responses like locking doors or turning on lights. When an incident triggers an alarm, a map or smart map can be displayed to give you geographical awareness of where the incident has taken place. You can receive desktop and sound notifications in Windows that appear whenever an alarm is triggered. For availability of maps, smart maps, and desktop notifications in your MOBOTIX HUB Desk Client setup, consult your system administrator.

Together, events and alarms provide you with a strong framework within your VMS for identifying, analyzing, and responding to potential security threats. You can use maps, smart maps, and Windows notifications for quick response to alarms.

Events

An event in MOBOTIX HUB VMS is a predefined incident that can be set up to trigger an alarm. Events are either predefined system incidents or user-defined events, for example analytics events or generic events. Events are not necessarily linked to an alarm, but they can be.

Typically, events are activated automatically and in the background, for example, through detected motion or by data from other applications. You can also manually activate events. The VMS uses events to trigger actions, such as starting or stopping recording, changing video settings, activating output[1], or combinations of actions.

When you activate an event from your MOBOTIX HUB Desk Client, it automatically triggers actions on the VMS system, for example recording on a particular camera with a particular frame rate[2] for a particular period of time. Your system administrator determines what happens when you manually activate an event.

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[1]Data going out of a computer. On IP surveillance systems, output is frequently used for activating devices such as gates, sirens, strobe lights, and more.
[2]A measure indicating the amount of information contained in motion video. Typically measured in FPS (Frames Per second).

Reacting to incidents

Alarms

> This feature is only available in certain MOBOTIX HUB VMS systems. For more information, see the product comparison chart: https://www.mobotix.com/en/products/vms/mobotixhub

On the MOBOTIX HUB VMS server, virtually any kind of incident or technical problem - events - can be set up to trigger an alarm. Alarms and events can all be viewed on the **Alarm Manager** tab, which provides a central overview of your VMS incidents, status, and possible technical problems.

You cannot set up alarm triggers yourself in the MOBOTIX HUB Desk Client. Your system administrator sets up alarm triggers when they configure the MOBOTIX HUB VMS system. The **Alarm Manager** tab is either displayed or hidden depending on the settings defined by your system administrator.

The **Alarm Manager** tab provides a dedicated view for your alarm or event handling. The tab itself displays the number of active alarms. More than nine alarms are shown with a . The **Alarm Manager** tab includes an alarm list, an alarm preview for previewing video associated with individual alarms or events, and possibly also a map that displays the geographical location of the camera associated with the alarm.

The relationship between events and alarms

> This feature is only available in certain MOBOTIX HUB VMS systems. For more information, see the product comparison chart: https://www.mobotix.com/en/products/vms/mobotixhub

Incidents or technical problems that occur in your MOBOTIX HUB system are known as events. The term event refer to any occurrence or activity captured by the surveillance system that may require user attention or action. For example, if you have motion detection enabled on your cameras and motion is detected that detects motion, this is an event.

For example, if you have motion detected enabled on cameras in your system and movement is detected on a camera where motion detection is set up, this is an event.

To respond to events, your system administrator sets up alarms in MOBOTIX HUB. When an event is activated, an alarm is triggered and displayed in MOBOTIX HUB Desk Client.

For example, when the motion detection event is triggered, a corresponding alarm is shown in MOBOTIX HUB Desk Client to indicate that motion was detected.

You can view alarms and events on the **Alarm Manager** tab, which provides a central overview of your incidents, statuses, and possible technical problems. Users of MOBOTIX HUB Desk Client cannot set up alarm triggers directly. The system administrators can set up alarm triggers when they configure the MOBOTIX HUB VMS system.

> Your system administrator defines whether to display or hide the **Alarm Manager** tab.

The **Alarm Manager** tab provides users with a dedicated view for alarm or event handling. The tab itself displays the number of active alarms. When more than nine alarms have been triggered, they are indicated with a notification button that says (9+) .

The **Alarm Manager** tab also includes an alarm list, an alarm preview for previewing video associated with individual alarms or events, and possibly also a map that displays the geographical location of the camera associated with the alarm.

Manually activate events

You can manually activate an event. There is no confirmation when you have activated an event. The list of events[1] you can select is grouped by event server, and the camera or device that the event is associated with.

- In live mode, expand the **Event** pane, then click **Activate**.

> ✎ Global events appear under the relevant event server. If an event server is listed with a red icon, it is unavailable and you cannot activate events on it.

Using the Alarm list

The **Alarm List** displays incoming alarms. The most recent alarms are displayed at the top of the list. The alarm list can display several different types of alarms, including those triggered by

Alarms or events with associated video are displayed with an icon that indicates there is video attached (▣).

- To preview a still image from the time of the alarm or event, place your mouse over the icon.
- To preview recorded video from the camera or cameras associated with the alarm or event, select the alarm or event in the list.
- To stop a repeating alarm sound, select the alarm associated with the sound in the list.

In the alarm list, you can:

- decide how you want the list to appear
- filter the columns
- drag the columns to different positions
- right-click to show or hide certain columns.
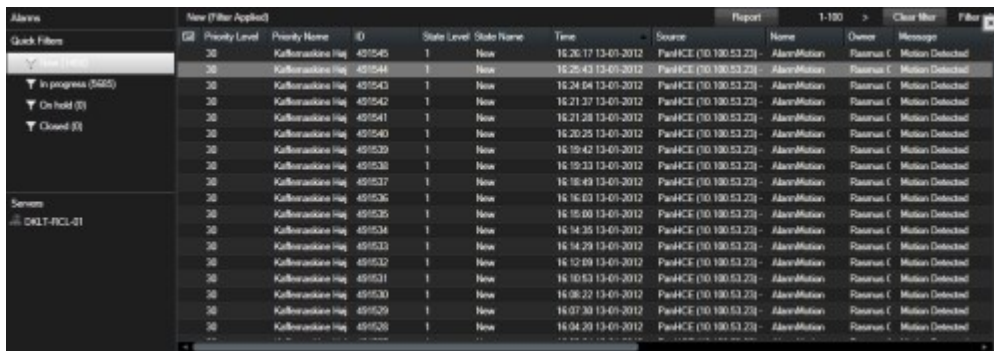
> ✎ The event list does not display system- or user-generated events, such as motion detection or archive failure.

The list is updated every three (3) seconds.

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[1]A predefined incident occurring on the surveillance system; used by the surveillance system for triggering actions. Depending on surveillance system configuration, events may be caused by input from external sensors, by detected motion, by data received from other applications, or manually through user input. The occurrence of an event could, for example, be used for making a camera record with a particular frame rate, for activating outputs, for sending e-mails, or for a combination thereof.

> ✅ To see a list of events, enter setup mode and select **Event** in the **Properties** pane. See also Alarm list settings on page 254.

Servers in alarm list

On the left-hand side of the alarm list, you can view the event servers that the alarms originate from.

Many MOBOTIX HUB VMS systems only have a single event server, but some systems consist of several event servers in a hierarchy. All the event servers you have access to are listed, and you can filter alarms by event servers.

Alarm states

Alarms can be in one of the following states:
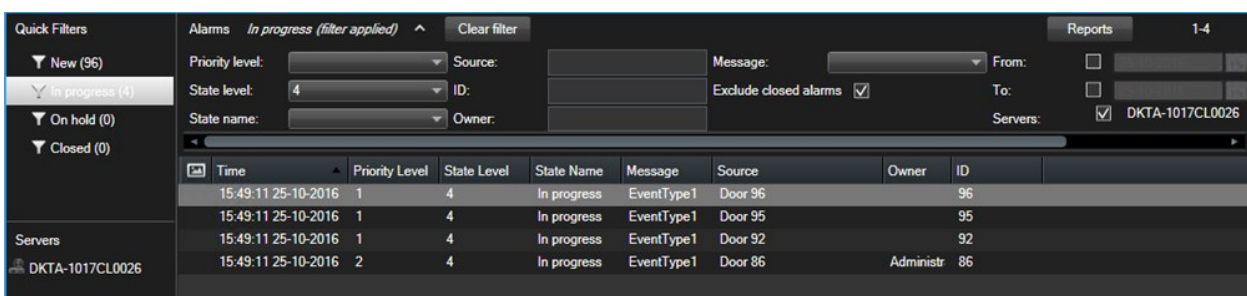
New, **In progress**, **On hold**, or **Closed**.

You can see the state of each alarm in the **Alarm List**, in the **State Name** column. Use the **Filters** pane to filter according to certain criteria. Initially, all alarms are in the **New** state, but its state is updated when an alarm is being handled.

Filter alarms

There are several ways you can filter the alarm list, so it displays just the alarms or events that you are interested in.

1. In the toolbar of the alarm list, click the **Custom (filter applied)** or **No filter** text. The text may be different, depending on the filter you've selected.

2. Enter the filter criteria on any of the columns you want to filter on. For example, if you enter a user ID in the **ID** field, the list only displays alarms assigned to that particular user.

3. You can combine filters, for example **State name** and **Owner** (assigned to).

4. To return to the unfiltered alarm list, click the **Clear filter** button.

5. To sort the content of the alarm list, click the title of the column.

> ✅ If your alarm handling views contain map content, you can also filter the alarm list by right-clicking an element (camera, event server, or similar) on the map, then selecting **Show alarms**. This makes the alarm list show only alarms from the selected element.

Responding to alarms

Viewing and editing details of an alarm

The are different ways you can respond to alarms.

- You can go to any view where you have added the **Alarm List** and double-click an alarm. The alarm opens in a separate window, where you can preview the alarm incident and its associated live video.

- Depending on how your MOBOTIX HUB VMS[1] system is configured, you might also receive alarm desktop notifications. Such notifications stay on your screen for 15 seconds. When you click a notification, it takes you directly to the **Alarm Manager** tab and opens the alarm window.

- You can also respond to the alarm by changing the fields in the table below:

Field	Description
State	The state of the alarm indicates if someone has take care of the event. You can change the state of the alarm. Typically, you would change the state from **New** to **In progress**, and then later to **On hold** or **Closed**.
Priority	Change the priority of the alarm.
Assigned to	Assign the alarm to a user in your organization, including yourself. The person you assign the alarm to becomes the owner of the alarm, and will appear in **Owner** column of the alarm list.
Comment	Write comments and remarks that are added to the **Activities** section. Comments typically relate to the actions you have taken. For example, "Suspect detained by Security", "Suspect handed over to police," or "False alarm." The **Comment** field appears at the bottom of the window.

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[1]Short for "Video Management Software".

Field	Description
Activities	The activities summarize how you have handled the alarm. The **Activities** section automatically includes: • any changes you or your colleagues make to alarm state or priority • any reassigning of alarms between users • any comments added. 📝 Depending on the configuration of the MOBOTIX HUB VMS server, the alarm can contain instructions about what to do when receiving the alarm. The instructions are defined on the server-side as part of the alarm definition. When that is the case, the activities are automatically displayed when you edit the alarm.
Print	Print a report that contains information about the alarm, such as the alarm history and a still image[1] from the time of the alarm, if an image is available.

Acknowledge alarms

When you have received an alarm, you can acknowledge the alarm to indicate that you are going to take care of it. In a system with many users, acknowledging the alarm makes it easier for all users to see who is handling what. You can only acknowledge new alarms.

1. In the alarm list, right-click the alarm and select **Acknowledge**. The alarm state changes to **In progress**.

2. To acknowledge multiple alarms at the same time, press and hold down the **CTRL** key, and then select the alarms you want to acknowledge.

3. Double-click an alarm to edit the details of the alarm, for example assigning the alarm to someone and adding instructions.

Disable all new alarms on selected event types

If an event is triggering false alarms, you might want to disable all new alarms on this type of event for some time.

For example, if there is a lot of movement around a camera and the movement is causing several false alarms, you can disable alarms on motion detection for this camera for 10 minutes. This way, false alarms won't disturb you, and you can focus on the alarms that need your attention. Disabling alarms affects all operators who are connected to the MOBOTIX HUB VMS system that you are also connected to.

You can disable all new alarms using the **Alarm Manager** or a map.

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[1]A single still image.

1. Using the **Alarm Manager**: in the alarm list, right-click an alarm and select **Disable all new alarms**.

   Using a map: right-click an alarm and select **Disable all new alarms** > **Disable**.

   The **Disable all new alarms** window appears.
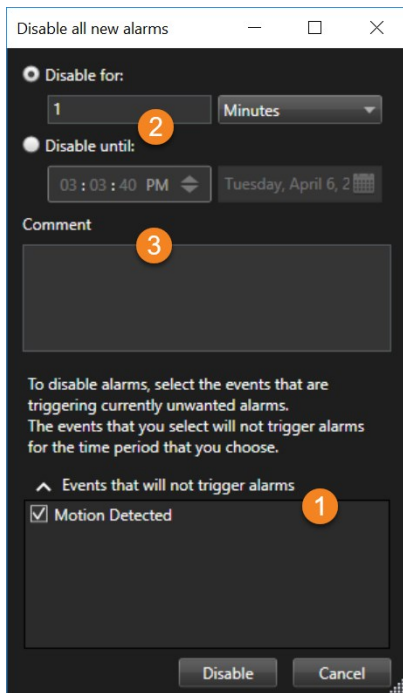
2. In the **Events that will not trigger alarms** list ❶, select which event types should not trigger alarms.

3. Specify until when or for how long the selected event types should not trigger alarms ❷.

4. Optionally, add a comment about why you are disabling alarms on the selected event types ❸.

If you right-click an event, an overview of disabled events appears, and you can see which event is disabled and what the time-out of that event is.

> ✏ You disable alarms per event server. If an event server fails and another event server takes over, any alarms disabled on the failed event server will again appear as alarms.

Ignore alarms on maps

On a map, you can ignore an alarm for an element for a duration of time. For example, if a camera is being repaired and therefore disconnected, you might want to ignore the error showing up on the map during the repair. When you ignore an alarm on a map, this does not remove the alarm from the alarm list, just the map.
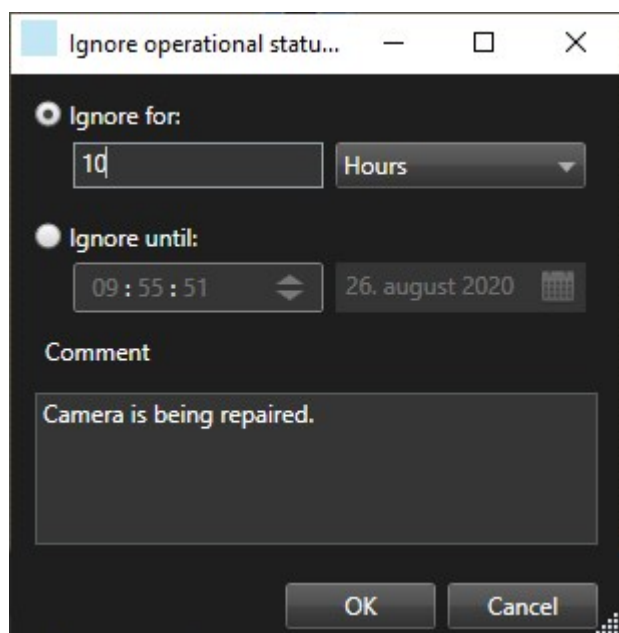
Close alarms

After acknowledging an alarm, typically you assign it to someone who investigates what is going on. During that time, the alarm will be in the state **In progress**. After handling the alarm, you can close it.

To close an alarm, in the **Alarm List**, do one of either:

- Right-click the alarm and select **Close**.

- Double-click the alarm, and in the **State** list, select **Closed**.

Print alarm reports

You can print a report with information about the alarm, including the alarm history and, if available, a still image from the time of the alarm. However, you cannot use this feature if you have selected multiple alarms in the alarm list. To comply with GDPR rules, by default, the name of the report creator is not shown in the printed report, while the name of the person who printed the report is. To display all names connected to the report, select the **Display names** button.

1. In the alarm list, right-click the alarm.

2. Select **Print**. A window appears.

3. To add a note, enter the text in the **Note** field.

4. Click the **Print** button.

Get statistics on alarms

Get statistical data about the alarms triggered in your MOBOTIX HUB VMS system over the:

- **Last 24 hours**

- **Last 7 days**

- **Last 30 days**

- **Last 6 months**

- **Last year**

The **Alarm Report** window shows two graphs that display the number of alarms filtered by categories, for example **Priority** or **State**, allowing you to compare the two graphs side by side.

Steps:

1. In the **Alarm List**, click the **Reports** button. A window appears.

2. Above the graphs, select the timespan, for example **Last 24 hours**.

3. In the **Select report** list, select one of these categories:

   - **Category**

   - **State**

   - **Priority**

   - **Reasons for closing**

   - **Site**

   - **Response time**

4. For each graph, select a sub-filter. For example if you selected **State**, you can select **New** in the first graph and **In progress** in the second. The graphs are populated.

5. To print the graphs as a PDF report, click .

Alarms on maps

If your alarm handling view contains one or more map positions, you can view alarms on the maps too. Maps display alarms based on the geographical location of the camera, event server or other device triggering the alarms, so you can instantly see where the alarm originates from. You can right-click and acknowledge, disable, or suppress the alarm directly from the map.

Camera elements display video in thumbnail format when you move your mouse over it. When used together with alarms, the graphical elements on maps display red circles around them if alarms occur. For example, if an alarm associated with a particular camera occurs, the graphical element representing that camera will immediately get a red circle around it, and you can then click the camera element and not only view video from the camera, but also handle the alarm through a menu that appears.

> ✅ If red is not an ideal color for signifying alarms on your maps, you can change this color.

Now, say the camera which has an alarm associated with it, is located on a street level map, but you are viewing a city level map. How will you then notice the alarm? No problem, thanks to hot zones—graphical representations linking different map hierarchy levels together. If an alarm is detected on the street level map, the hot zone on the city level map will then turn red, indicating that there is an alarm on a lower level map—even if there are map levels in between.

To return to an alarm list mode where you can see alarms from more than just the one element, click the required event server, priority or state in the alarm list.

Alarms on smart maps

If a device triggers an alarm and the device is added to your smart map, the alarm will appear as a red circle around the device or the icon for the cluster with the device inside. See Adding, deleting, or editing devices on smart map on page 302.

For more information about smart map icons, see Camera icons on page 177.

Working with video restrictions

Restricting access to videos

You can restrict access to selected live video and audio streams as well as recorded video and audio sequences to prevent unauthorized operators from viewing sensitive material.

Video restrictions (explained)

With the video restrictions functionality, you can limit access to video sequences (video, audio and device metadata) to only operators that are authorized to view restricted videos.

Live streams and recorded videos can both be restricted, and restrictions can be removed by operators authorized to do so when general access to the video material needs to be restored.

Restricted material can still be deleted and if you also want to prevent automatic or manual deletion of the restricted videos, you must apply evidence locks to the sequences as well.

> ✎ Depending on your user rights, you may be able to create, view, edit, and remove video restrictions.

Video restrictions and different sites

Video restrictions can be created on any cameras you can access, including cameras located on different sites.

If you have selected multiple cameras located on different sites and then create a video restriction on the selection, multiple restrictions will be created for the selected cameras, usually one per site for playback restrictions and multiple restrictions per site for live restrictions. The actual number of live restrictions will depend on the number of associated devices.

This means applying a restriction on multiple cameras on multiple sites will result in more than one restriction being created and displayed in the **Video restrictions list**. Each restriction displayed in the **Video Restrictions list** can be edited, maintained, and removed as a separate restriction.

Example of video restrictions created on multiple sites

An MOBOTIX HUB installation spans three sites:

- Site A: Contains three cameras, each with a microphone, a speaker, and metadata resulting in 12 available devices.

- Site B: Contains two cameras, each with a microphone, a speaker, and metadata resulting in 8 available devices.

- Site C: Contains only one camera with a microphone, a speaker, and metadata resulting in 4 available devices.

Playback restrictions created

If a user with access to all devices across all the three sites creates a playback restriction on all cameras for all sites, three playback restrictions will be created. Each playback restriction contains the respective devices (camera, microphone, speaker, and metadata) for each site.

Live restrictions created

If a user with access to all devices across all the three sites creates a live restriction on all cameras, 24 live restrictions will be created - one for each device on the site:

- 12 live restrictions for site A (12 devices)

- 8 live restrictions for site B (8 devices)

- 4 live restrictions for site C (4 devices)

The created restrictions are not linked to each other and each restriction can be edited, maintained and removed separately.

> ✏️ You cannot create live and playback restrictions at the same time. Instead you must create one restriction type first and then the other.

The created restrictions are not linked and each restriction can be edited, maintained and removed separately.

Video restrictions and Evidence locks

Video restrictions and evidence locks both prevent actions from being performed on video material by unauthorized users but there are significant differences.

Video restrictions prevent video or audio sequences from being viewed by unauthorized operators while evidence locks prevent video or audio sequences from being manually or automatically deleted.

When you create an evidence lock, you can also create a video restriction on the same video sequence as you are applying an evidence lock on by selecting the **Create playback video restriction** check box.

However, when you create a video restriction, you cannot also create an evidence lock at the same time. Instead. you must manually create the evidence lock on the same video sequence you created a video restriction on.

Once created, evidence locks and video restrictions must be edited, maintained and removed individually. There is no connection between a video sequence that has been restricted and any evidence locks applied to the same video sequence.

Create restrictions on live or recorded video

You can create restrictions on a live stream or recorded footage to prevent the content from being viewed by unauthorized operators. When creating a live restriction, all cameras in the current view will be selected to be included in the restriction by default. You can remove any cameras you do not want to include during restriction creation process but not after the live restriction has been created.

If you are creating a video restriction on recorded footage (playback restriction), you can remove the cameras from the playback restriction by editing the restriction.

When creating live restrictions for multiple cameras, one live restriction will be created per camera. When you create playback restriction for multiple cameras, only one restriction will be created, covering all the selected cameras.

For live video restrictions, the **Headline** field will contain the camera name and be disabled for user input. The **Description** and **Interval end** fields will also be empty and disabled for user input. As long as the live restriction is in effect, recorded footage of the live stream is also covered by the live restriction for the defined time interval. In effect, creating a live video restriction also creates a playback restriction on the same video sequence. When the live restriction is removed, you can select to maintain the playback restriction or you can remove the playback restriction as well.

If you want the playback restricted video to also be evidence locked, you must manually create an evidence lock on the video sequence.

Create a live restriction

1. In **Live** mode, select the camera view you want to restrict access to and click **Video restrictions** > **Create** to open **Create live restriction**. All cameras in the selected view are added by default to the restriction.

2. In the **Create live restriction** dialog > **Interval start** field, set the start time of the restriction.
   The default value of the restriction start time is 5 minutes back.

3. If necessary, in the right half of the **Create live restriction** dialog, click **Add camera** and select additional cameras to add to the restriction. You can also remove any cameras that should not be restricted.

4. Click **Create live restriction** to open the **Create live restriction** dialog. When the restriction has been created, click **Close** to close the dialog.
   You can click **Details** to get a more detailed overview of the creation process.

Create a playback restriction

Recorded video or audio footage can be restricted to prevent the content from being viewed by unauthorized operators.

You must define a start and end time for the restriction you want to create.

1. In **Playback** mode, select the cameras you want to restrict access to and in the main timeline, select the start and end time for the interval you want to create a restriction for. You can select **Set start and end time on timeline** to select start and end times from the timeline tracks or **Set start and end time in calendar**.

2. In the toolbar, click **Video restrictions** > **Create** to open the **Create playback restriction** dialog.

3. In the **Create playback restriction** dialog:

    1. In the **Headline** field, enter a headline for the restriction. A short, unique headline will enable other operators to locate the restriction faster.

    2. In the **Description** field, enter a description of the restriction.

    3. In the **Interval start** and **Interval end** fields, make sure the defined restriction interval is appropriate for the sequence you want to restrict. You can also enter new interval start and end times. If the start and end times are identical, the interval start will automatically be adjusted back by 5 minutes.

    4. In the right half of the **Create playback restriction** dialog, click **Add camera** and select additional cameras to add to the restriction.

4. Click the **Create restriction** button to open the **Create playback restriction** dialog.

5. In the **Create playback restriction** dialog, click **Create restriction** to confirm your choice.

6. When the restriction has been created, click **Close** to close the dialog.
   You can click **Details** to get a more detailed overview of the creation process.

Once the restriction is created, you can add additional cameras by opening the restriction in the **Video restrictions list** and editing the restriction settings.

Creating new restrictions on cameras that already contain restrictions

Since restrictions can be applied to individual cameras, cameras in the current view, and in camera groups, it is quite possible that new restrictions might be created on cameras that already contain restrictions.

Live restrictions

If a new live restriction is created on a camera that already contains a live restriction, the start time of the existing live restriction will be updated if the start time of the new live restriction is earlier than the start time of the existing live restriction.

If the start time of the new live restriction is the same or later than the start time of the existing live restriction, then the start time of the existing live restriction will not be changed.

Playback restrictions

Creating a new playback restriction on a camera that already contains a playback restriction will result in two playback restrictions for the same camera.

The scenarios described above only apply to creating new restrictions on cameras that already contain restrictions. You can always edit existing restrictions to change interval times as well as add or remove cameras.

View restricted video

Operators assigned permissions to view restricted video or audio, can view the material normally. When displayed, the footage will contain a warning that the material is currently restricted.

Operators not assigned permissions to view restricted video or audio will not be able to view the footage and the camera containing the material will be marked as restricted in the user interface.

Restricted videos can be viewed in the **Live** or **Playback** mode by opening the camera view directly and playing the video material.

You can also open a camera view from the **Video restrictions list** if you are assigned sufficient user permissions to access the list.

View a restricted video from the Video restrictions list.

1. In **Live** or **Playback** mode, click **Video restrictions** > **View** to open the **Video restrictions list** dialog.

2. In the **Video restrictions list**, use the filters and search field to locate the restrictions you want to view.

3. Select the restrictions you want to view and click **View**.
   Some restrictions may contain multiple cameras and you can only view 100 cameras at the same time.

Edit video restrictions

You can edit existing video restrictions, depending on your user rights, for example changing the restriction start and end times, adding additional cameras, and updating the restriction heading and description.

You can only edit the restriction settings for the restricted video. Any evidence lock settings created on the restricted video must be edited separately.

You can only edit or remove restrictions on cameras located on the site you are currently logged on to.

Edit one or more live restrictions

You can only change the restriction start time for live restrictions.

You can access the **Video restrictions list** from either **Live** or **Playback** mode.

1. In **Live** or **Playback** mode, click **Video restrictions** > **View** to open the **Video restrictions list** dialog.

2. In the **Video restrictions list**, use the filters and search field to locate the restrictions you want to edit.

3. Select the restrictions you want to edit and click **Edit** to open the **Edit live restriction** dialog.

4. In the **Edit live restriction** dialog, update the **Interval start** field and click **Save changes** to display the progress of the updates in the **Edit live restriction** dialog.

5. When the changes have been updated in the **Edit live restriction** dialog, click **Close** to close the dialog.
   You can click **Details** to get a more detailed overview of the update.

Edit one or more playback restrictions

You can update all settings of multiple playback restrictions – changing the headline, description, interval start and end times as well as adding additional cameras to the restrictions.

You can access the **Video restrictions list** from either **Live** or **Playback** mode.

1. In **Live** or **Playback** mode, click **Video restrictions** > **View** to open the **Video restrictions list** dialog.

2. In the **Video restrictions list**, use the filters and search field to locate the restrictions you want to edit.

3. Select the restrictions you want to edit and click **Edit** to open the **Edit playback restriction** dialog.

4. In the **Edit playback restriction** dialog, update any relevant restriction settings and click **Save changes** to display the progress of the updates in the **Edit playback restriction** dialog.

5. When the changes have been updated in the **Edit playback restriction** dialog, click **Close** to close the dialog. You can click **Details** get a more detailed overview of the update.

Remove video restrictions

When a restriction is removed, the underlying video material (live and recorded) becomes available again for viewing by operators as usual.

You can only edit or remove restrictions on cameras located on the site you are currently logged on to.

Removing a restriction will not change the status of any applied evidence locks on the same video sequence. If a video sequence has been locked, the evidence lock on the video must still be deleted if the video is to be deleted.

Removing playback restrictions

You cannot remove multiple playback restrictions at the same time. You must select and remove one playback restriction at a time.

Remove playback restrictions

1. In **Live** or **Playback** mode, click **Video restrictions** > **View** to open the **Video restrictions list** dialog.

2. In the **Video restrictions list**, use the filters and search field to locate the restrictions you want to remove. Live restrictions are displayed at the top of the list and each live restriction is marked with a green LIVE icon. Playback restrictions are displayed under the live restrictions.

3. Select the playback restriction you want to remove and click **Remove** to open the **Remove playback restriction** dialog.

4. In the **Remove playback restriction** dialog, click **Remove restrictions** to remove the selected playback restriction and open the **Delete playback restriction** dialog.

5. In the **Delete playback restriction** dialog, click **Close** when the removal process is done.
   Click **Details** to get a more detailed overview of the removal status.

Removing a live restriction

You can select and remove multiple live restrictions, but you cannot mix restriction types – that is select both playback and live restrictions for removal at the same time.

When a restriction on a live stream is removed, the recorded footage of the same video sequence can be restricted by default. An operator can choose not to keep restrictions on the recorded footage when removing restrictions on the live video stream.

During the creation process of a playback restriction of a restricted live stream, you will not be able to add additional or remove existing cameras. You can however, edit the playback restriction after the restriction has been created and then remove or add additional cameras.

Remove live restrictions

1. In **Live** or **Playback** mode, click **Video restrictions** > **View** to open the **Video restrictions list** dialog.

2. In the **Video restrictions list**, use the filters and search field to locate the restrictions you want to remove. Live restrictions are displayed at the top of the list and each live restriction is marked with a green LIVE icon.

3. Select the live restrictions you want to remove and click **Remove** to open the **Remove live restrictions** dialog.

4. In the **Remove live restriction** dialog, select **Create restriction on recorded footage** to create a playback restriction on the live restriction you are removing.
   Clear the **Create restriction on recorded footage** check box if you do not want to create a playback restriction to replace the live restriction you are removing.

5. Click **Remove live restriction** to remove the selected live restriction and open the **Remove live restriction** dialog.

6. In the **Remove live restriction** dialog, click **Close** when the removal process is done. Click **Details** for a detailed overview of the removal status.

Exporting restricted videos

Only operators that have been assigned viewing rights to restricted footage can access the material and export the footage.

The Video restrictions list

The **Video restrictions list** displays all existing video restrictions on camera devices across all sites, with live restrictions displayed at the top of the list and then restrictions on recorded footage (playback restrictions).

Only operators assigned permissions to see and manage restrictions can open the **Video restrictions list**.

You can select one or more restrictions to edit the restriction settings or remove the restrictions but you can only edit or remove restrictions on cameras located on the site you are currently logged on to.

Some actions will not be possible if different restriction types (Live and Playback) have been selected, for example it is not possible to view restriction settings if the selection consists of different restriction types.

Hidden or undisplayed live restrictions

If a video restriction only exists on a non-camera device, (for example on a camera microphone or on camera speakers), the live restriction will exist but will not be displayed in the **Video restrictions list** because the **Video restrictions list** only displays existing video restrictions on camera devices.

When a live restriction is applied on a camera, all devices are included in the restriction. When the live restriction is removed, the restriction will be removed for all devices of the hardware (microphones, cameras, speakers, and metadata) but if the live restriction removal is only partially successful, some devices may still contain restrictions. If these devices are microphones or speakers, and/or is metadata, the remaining restriction will not be displayed in the **Video restrictions list** but the camera itself will still be restricted.

You can force the hidden live restriction to be displayed in the **Video restrictions list** by creating a new restriction on the camera containing the hidden live restriction. This will update the existing live restriction and display it in the list so it is no longer hidden.

Searching and filtering the list

If there are many restrictions in the list, you can apply filters to the list to reduce the number or restrictions.

You can also locate specific restrictions by using the **Search** field. The **Search** field will filter the list by applying the search criteria to all restriction headlines and descriptions.

Search

Search the restriction list by entering a part of the restriction headline or description in the **Search** field.

Filter

Apply one or more filters to narrow and reduce the number of restrictions displayed in the list. The defined filters are cumulative. The filtered list can also be searched if necessary.

Restriction type:

- **All**: Displays all (live and playback) restrictions in the list.

- **Playback**: Displays only playback restrictions in the list.

- **Live**: Displays only live restrictions in the list.

Interval/Created at:

- **Today**: Displays all restrictions that have been created today.

- **Yesterday**: Displays all restrictions that were created yesterday.

- **Last 7 days**: Displays all restrictions that have been created within past 7 days.

- **All**: Displays all restrictions with a start interval.

- **Custom**: Define your own date interval as a filter.

Created by:

- **All**: Displays all restrictions created by any user, including you.

- **Only me**: Displays all restrictions created by you.

Cameras:

- **All**: Displays all restrictions for all cameras.

- **Select**: Displays restrictions on the selected cameras only.

Video restrictions list settings

Name	Description
Headline	The title of the restriction. When filtering the **Video restrictions list**, the contents of the **Headline** and **Description** fields are included in the search filter. Only available for playback restrictions when editing.
Description	A longer, more detailed description of the restriction. When filtering the **Video restrictions list**, the contents of the **Headline** and **Description** fields are included in the search filter. Only available for playback restrictions when editing.
Interval start	Adjust the start date and time for the video sequences you want to restrict
Interval end	Adjust the end date and time for the video sequences you want to restrict.
Add camera	Click to select more cameras to add to the restriction. Only available for playback restrictions when editing.
Remove all	Click to remove all cameras from the restriction. Only available for playback restrictions when editing.

Video restriction status messages

Message	Description and result	Scenarios and solution
Restriction created / removed / updated successfully	All went well. **Result:** The video restriction is created, updated, or removed.	

Message	Description and result	Scenarios and solution
Restriction created / removed / updated successfully	If the creation, update or removal of a video restriction was not entirely successful, a message is displayed, and the progress bar is yellow. Click **Details** to see what went wrong. **Result:** The video restriction is created, updated, or removed but without including some of the selected cameras and/or their related devices. Some devices may still contain restrictions.	**Scenario**: Some of the recording servers with devices included in the video restriction are offline. **Solution**: Wait for the recording server to come online. **Scenario**: Your system administrator has changed your video restrictions user rights after you logged into MOBOTIX HUB Desk Client. **Solution**: Contact your system administrator.
Restriction created / removed / updated successfully	If the creation, update, or removal of a video restriction is not successful, a message is displayed, and the progress bar is red. Click **Details** to see what went wrong. **Result:** The video restriction is not created, updated, or removed.	**Scenario**: All the recording servers with devices included in the video restriction are offline. **Solution**: Wait for the recording servers to come online. **Scenario**: The management server is offline. **Solution**: Wait for the management server to come online.

FAQ

FAQ: alarms

I see an alarm desktop notification, but it disappears before I can respond. How do I find it again?

Go to the **Alarm Manager** tab and look in the alarm list. If you do not see the alarm, it may have been filtered out. Try changing the filter settings.

> ✅ If the alarm list is configured to show events instead of alarms, click the **Setup** button. In the **Properties** pane on your left-hand side, select **Alarm** in the **Data Source** list and click **Setup** again.

FAQ: bookmarks

How do I find bookmarked incidents?

Go to the **Search** tab, set a timespan, select the cameras that may have recorded the incident, and then click **Search for** > **Bookmarks**.

I cannot find a particular bookmark. Why?

There may be several reasons why you cannot find the bookmark:

- Your user permissions do not allow you to view the bookmark.

- The bookmark has been deleted by a user with permissions to delete bookmarks.

- The bookmarked video no longer exists in the database.

Can I bookmark my search results?

Yes. When you have performed a search that returns a list of search results, you can bookmark any of these search results. See .

FAQ: notifications

Why do I not receive any desktop notifications when new alarms occur in my MOBOTIX HUB VMS system?

Desktop notifications for alarms must be enabled by your system administrator in MOBOTIX HUB Management Client. Otherwise, you will not receive any.

I see an alarm desktop notification, but it disappears before I can respond. How do I find it again?

Go to the **Alarm Manager** tab and look in the alarm list. If you do not see the alarm, it may have been filtered out. Try changing the filter settings.

> ✅ If the alarm list is configured to show events instead of alarms, click the **Setup** button. In the **Properties** pane on your left-hand side, in the **Data Source** list, select **Alarm** and click **Setup** again.

Will I receive multiple desktop notifications if multiple alarms occur within a few seconds?

A desktop notification stays on the screen for 15 seconds. If multiple alarms occur consecutively within a few seconds, you will still only see one desktop notification. When you click the desktop notification, the most recent alarm opens in the alarm window. To view the previous alarms, go to the alarm list.

Investigating and documenting incidents

Investigating incidents

Investigating incidents

You investigate incidents mainly in playback mode by using the main timeline to browse recorded video. To view recorded video, you must find a view that shows video from the cameras that you are interested in. The views are available in the **Views** pane. For each camera that appears in a view, different actions are available, for example taking snapshots or launching search. See . If something catches your attention, you can zoom in to take a closer look using the virtual joystick.

You can perform advanced searches on the **Search** tab and use the search results as a starting point for further investigation or actions, for example exporting and bookmarking.

If the incident is associated with an alarm, go to the **Alarm Manager** tab, or select a view where the **Alarm List** has been added.

If you have an **Incidents** tab in MOBOTIX HUB Desk Client, you have MOBOTIX HUB Incident Manager[1]. See the MOBOTIX HUB Incident Manager documentation. If you do not have MOBOTIX HUB Incident Manager or want to investigate incidents with the built-in MOBOTIX HUB Desk Client functionality, you use the features and methods described in this section.

Viewing recorded video

There are different ways of viewing recorded video:

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[1]A product integrated into some surveillance systems, which enables the control of live camera views on remote computers for distributed viewing. Computers on which you can view Matrix-triggered video are known as Matrix-recipients.

In playback mode
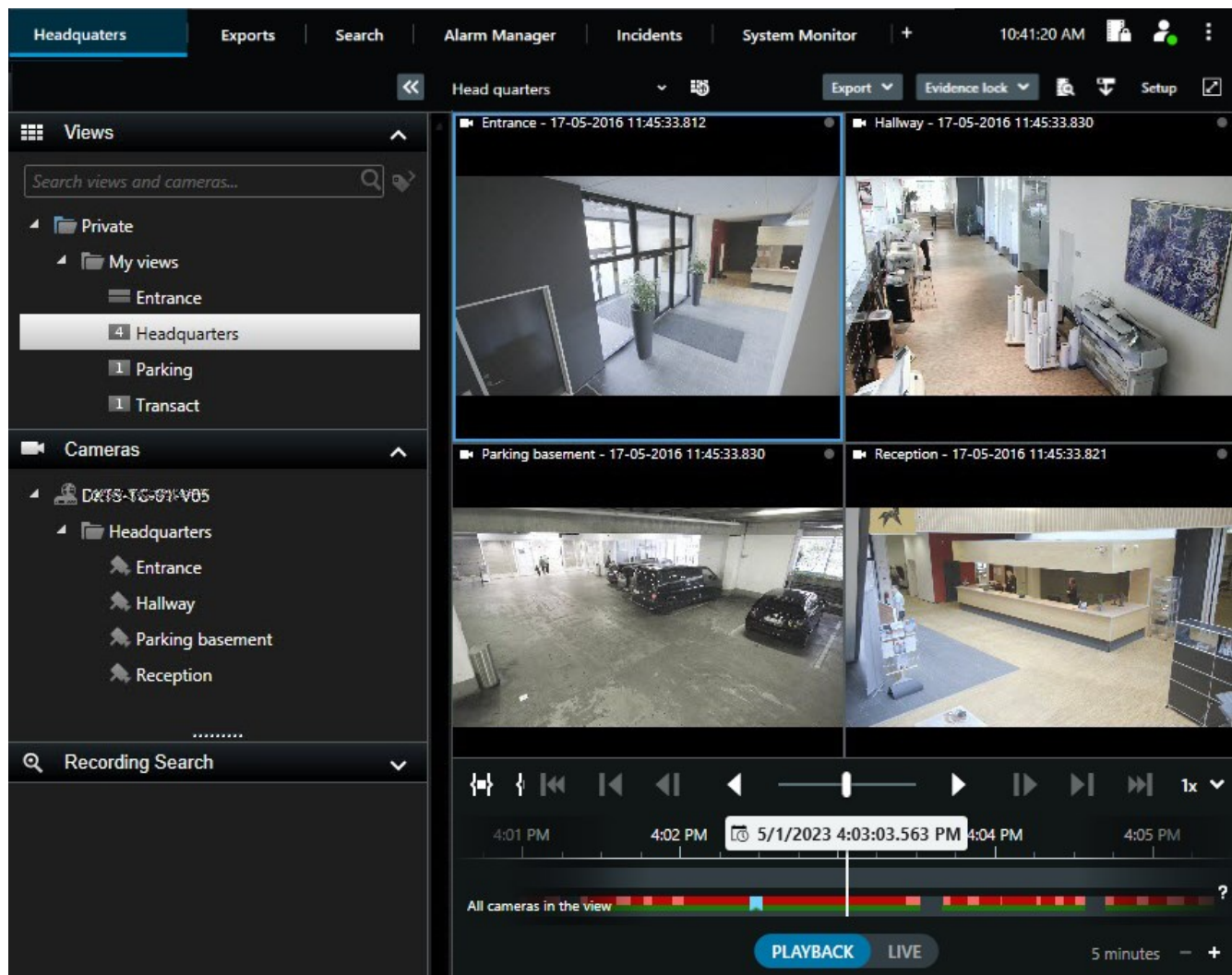
In playback mode, all cameras in a view display recordings from the same time shown in the main timeline. You can play back or browse recordings by using the controls and features in the main timeline.

However, you can also view and navigate recordings from individual cameras independently of the time in the main timeline. **Independent playback** must be enabled in the **Functions** settings. See also .

If you are accessing your cameras through the tree structure in the **Cameras** pane, you can open individual cameras in a new window when in playback mode.
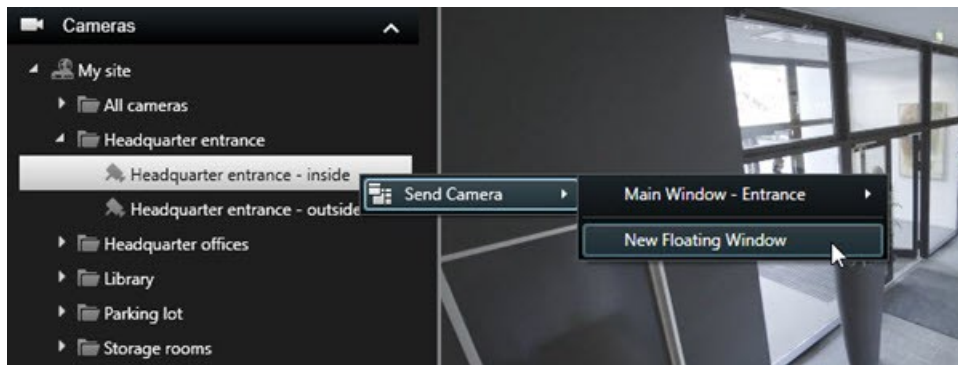
In live mode

In live mode, you can watch recorded video for individual cameras by clicking the button in the camera toolbar. This will open a new window where you can play back or browse the recordings. **Camera playback** must be enabled. See also Functions settings on page 335.

On the Search tab

The search results are basically video sequences that you can play back:

- Preview the search results. See also Preview video from search results on page 171

- Play back the search results in full screen mode or in a detached window. See also Open search results in detached windows on page 171

Viewing video in Playback mode
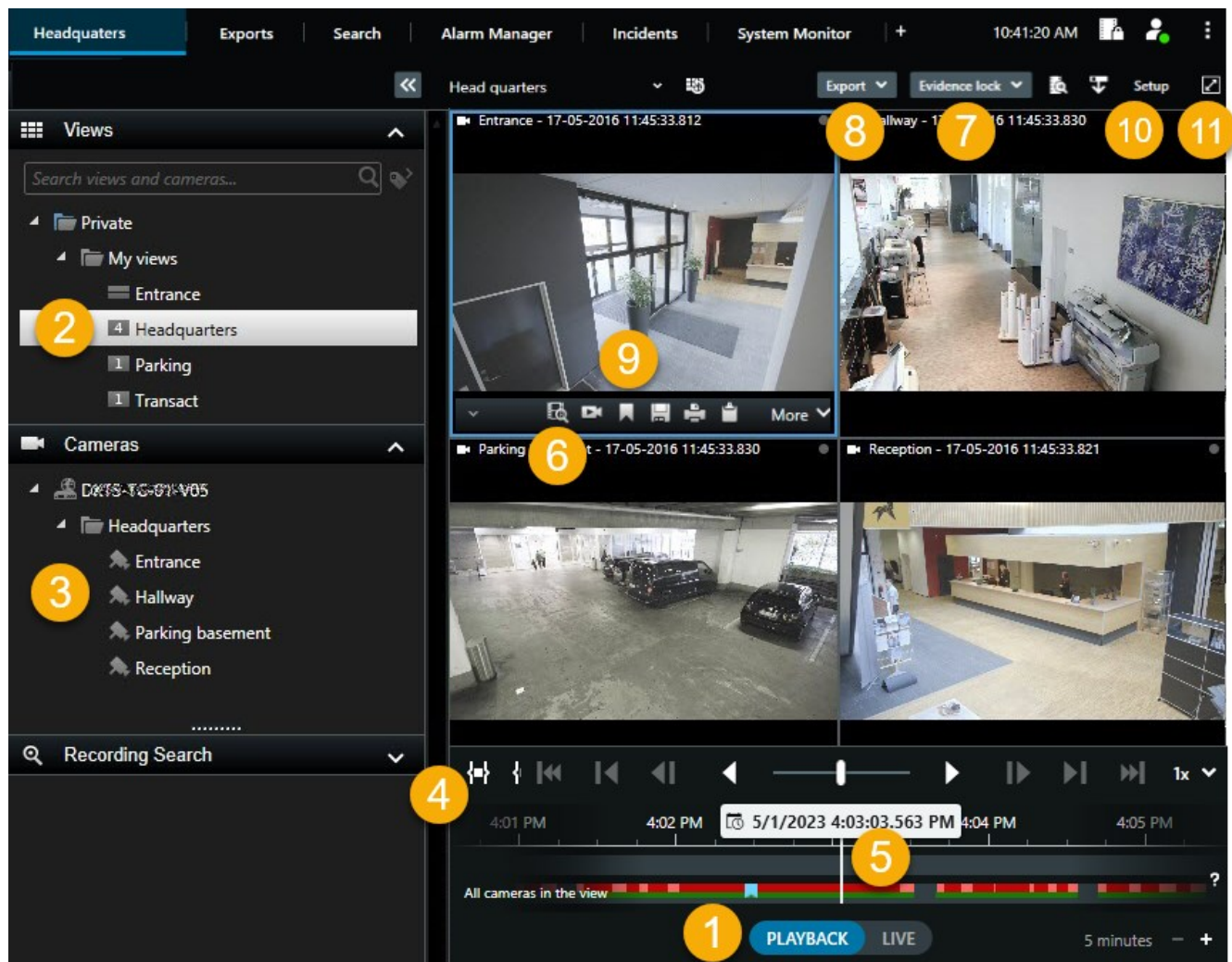
Number	Description
1	View recorded video in playback mode.
2	Select a view in the tree structure or use keyboard shortcuts. See Default keyboard shortcuts on page 91
3	Change individual cameras temporarily. See Changing views temporarily on page 93.
4	Select a time span for exporting video. See also The timeline controls on page 57.

Number	Description
5	Browse using the main timeline. See Navigating the recordings from the timeline on page 57.
6	Open a new search window with the camera preselected. See also Start search from cameras or views on page 170.
7	Create an evidence lock.
8	Export video data. See also Exporting video, audio, and still images on page 204.
9	Perform various actions on the camera toolbar. See The camera toolbar (camera view items) on page 87.
10	Enter or exit setup mode to add cameras and other types of content to your views.
11	Switch to full screen mode.

View recorded video independently of the main timeline

You can play back video independently for individual cameras. In playback mode, the playback is independent of the selected main timeline. In live mode, the playback is independent of the live video.

> You can only use this feature for ordinary view items with a single camera, not for view items with hotspots, carousels, or Matrix content.

Requirements

In the **Settings** window > **Functions** tab, you must set the **Independent playback** option to **Available**.

Steps:

1. Move your cursor to the bottom of the camera from which you want to view recorded video independently. On the toolbar that appears, select **Independent playback**.

   The top bar for the view item with the camera turns yellow, and the independent playback timeline appears:

   In live mode, the video starts by replaying the video from 10 seconds before selecting the **Independent playback** button. In playback mode, what happens depends if the video is played or paused. If playing, the independent playback jumps 10 seconds from the current time on the main timeline in the opposite direction of the current playback direction and plays the video. If you have paused the video when in playback mode and select independent playback, the video remains paused at the current time on the main timeline.

2. Optionally. Drag the independent playback timeline to see recorded video from another time.

3. Optionally. To view recorded video from all cameras in your view from the same time as in the view item with independent playback, click the **Use the selected time on the playback timeline** button: .

   This displays all cameras synchronized to the time you initially selected for the independent playback in playback mode.

Investigate your search results

There are different ways of investigating incidents that you have found on the **Search** tab:

- Open the search result in a detached window in playback mode. See also

- Open the search result in a detailed view. Do one of the following:

  - In the list of search results, double-click the search result to view it in full screen mode. Double-click again to return to the list of search results

  - If you are previewing your search result in the preview area, double-click inside the video image. The search result opens in full screen mode. Double-click again to return to the preview area

Searching

Searching for video data

The search features are available mainly on the **Search** tab, but they are integrated with viewing video in live and playback mode.

Search for video

The **Search** tab lets you search for video recordings, and - based on the search results - lets you take action, for example by exporting.

What can you search for?

- Video sequences

- Video sequences with motion

- Bookmarked video

- Video sequences with alarms

- Video sequences with events

- Video sequences with people

- Video sequences with vehicles

- Video recorded at a certain location

Requirements

- Searching for people, vehicles, and location is only available if these search categories were enabled by your system administrator

- Searching for vehicles is also available if you have XProtect® LPR installed in your system. For more information, ask your system administrator

> The search categories **Alarms**, **Events**, **People**, **Vehicles**, and **Location** are only available if you are using one of these products:
>
> - MOBOTIX HUB L5
>
> - MOBOTIX HUB L4
>
> You can only combine search categories if you are using one of the products mentioned above.

Steps:

1. Click the arrow to select a predefined time span, or define your own **Custom interval**.
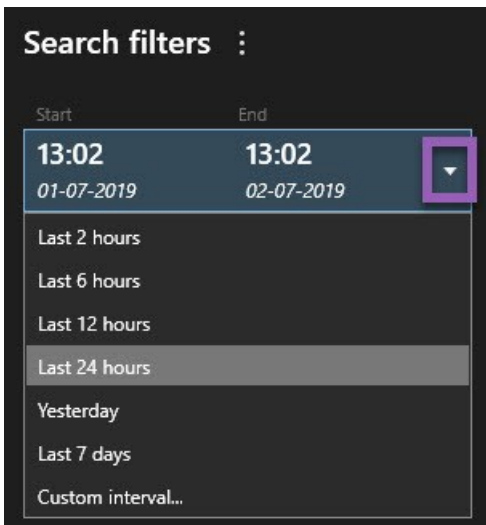
2. In the **Selected cameras** list, do one of the following to add cameras to your search:
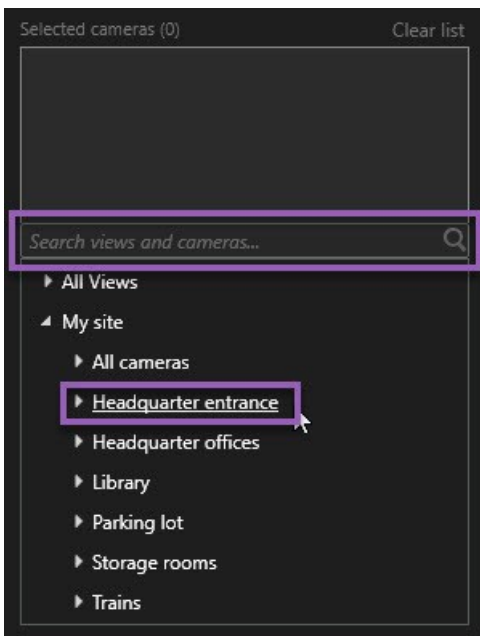
   - Use the search function to find cameras or views

   - Manually select the cameras in the tree structure. To add all cameras within a view, select the name of the view

   As you add cameras, the search is run immediately.

3. Click **Search for** to select the search categories. You can use search categories alone or combined.
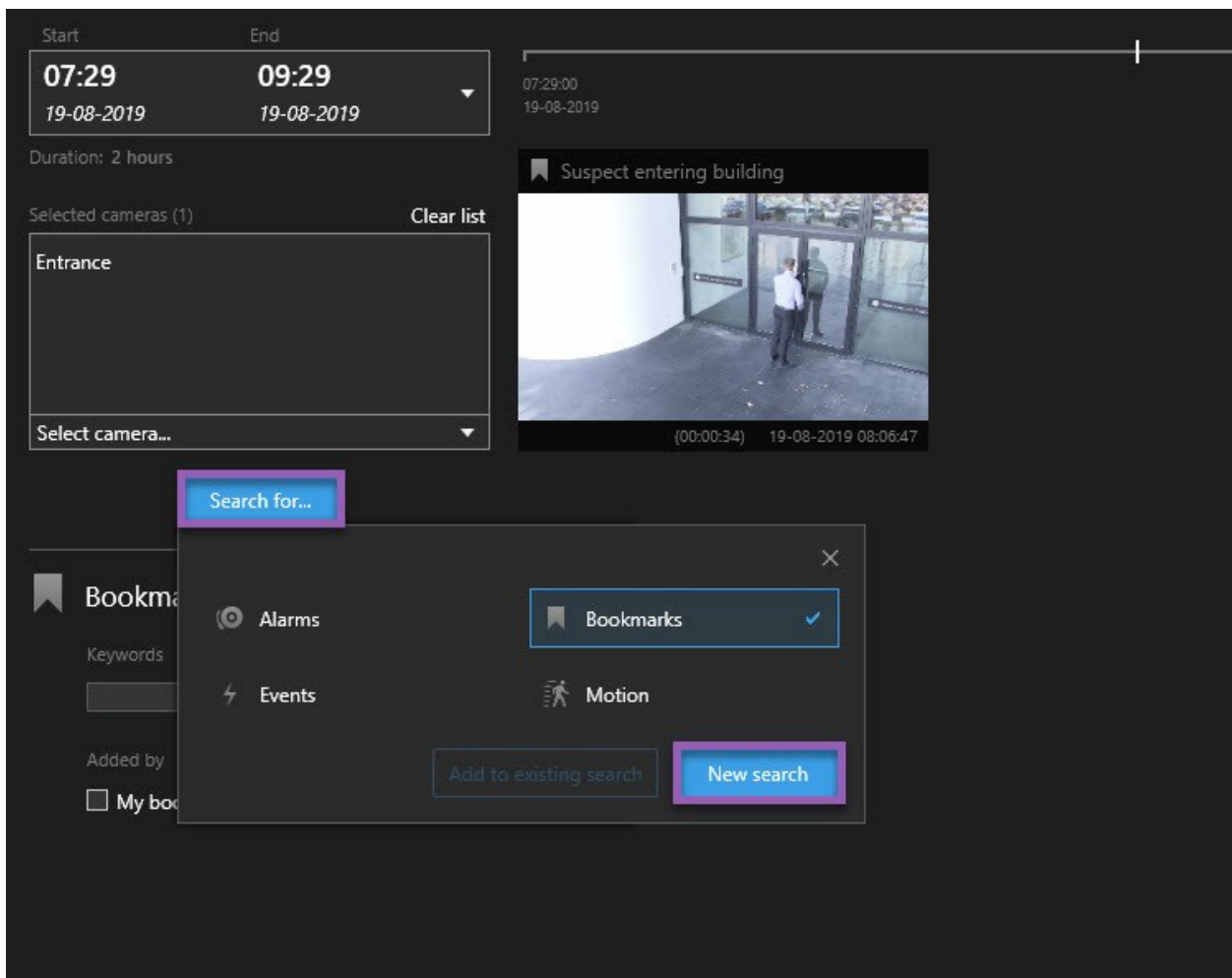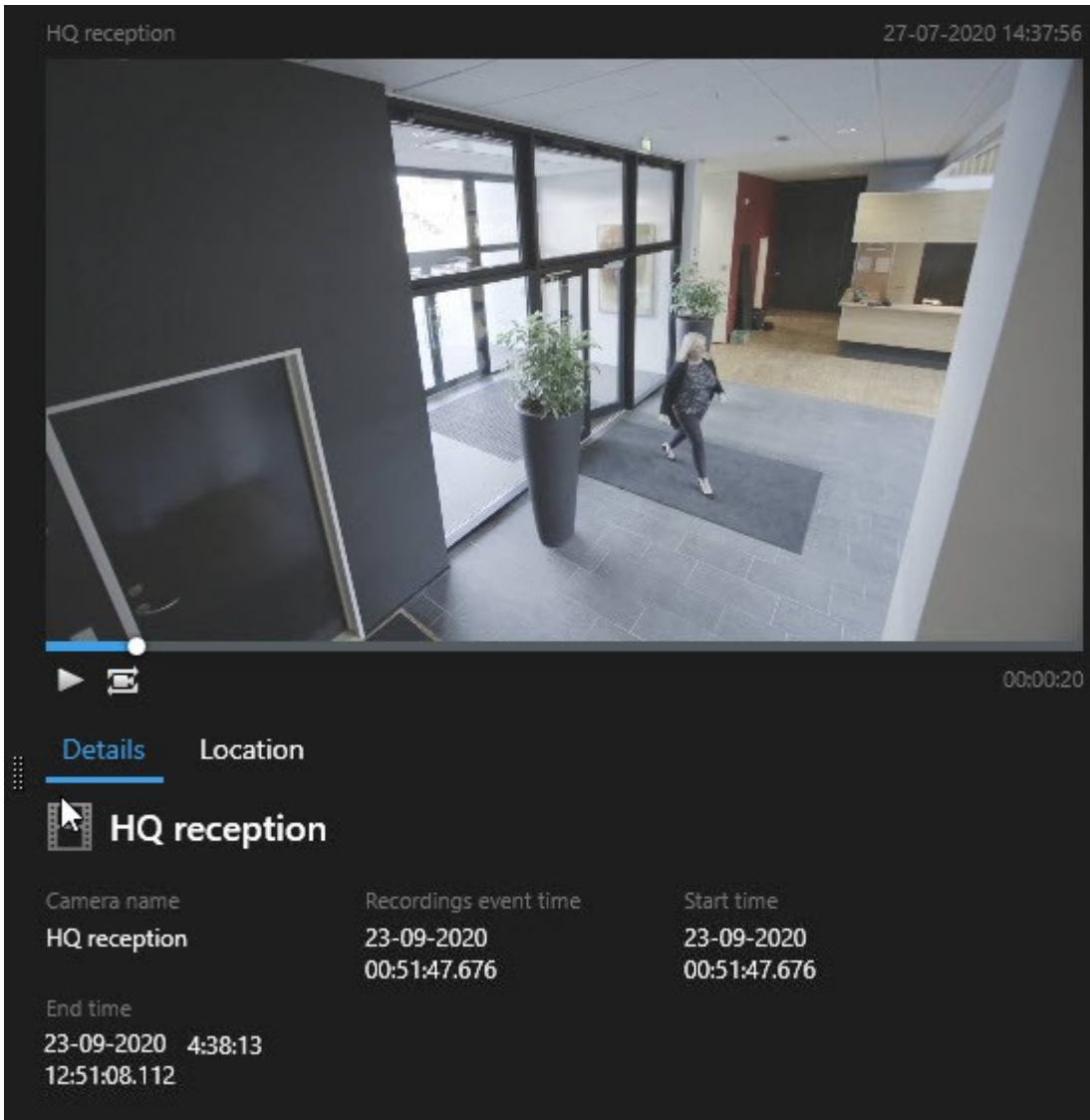
4. For each search category that you add, you can refine the search by adding search filters. See also FAQ: searching on page 186.
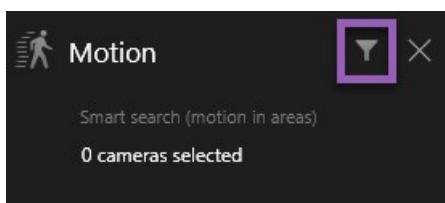
5. To preview the video of a search result, select the search result and, in the preview pane, click ▶.

> ✅ To play back the video sequence in full-screen mode, double-click the search result.

6. To make the action bar appear, hover over the search results, one by one, and select the blue check box that appears.

The blue action bar appears:

Search for motion (smart search)

When you search for video recordings with motion, you can apply smart search[1] filters to show only search results with motion in areas that you define.

Example

Use smart search to find video footage of a person entering through a doorway that is monitored by multiple cameras.

Requirements

To use smart search filters, smart search must be enabled on your user profile by your system administrator.

Steps:

1. On the **Search** tab, select a time span.

2. Select the cameras that you want to include in your search.

3. Click **Search for** > **Motion** > **New search**. If the database has any recordings with motion within the selected time span and cameras, the recordings appear as thumbnail images in the search results pane.

---

[1]A search feature that lets you find video with motion in one or more selected areas of recordings from one or more cameras.

4. To find motion in selected areas only:

   1. Below **Motion**, click **0 cameras selected**.
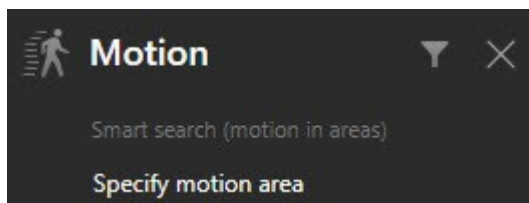
   A dialog box appears with a list of the cameras that you selected.

   2. Select one camera at a time and, in the red preview area, click and drag to unmask at least one area. The system will look for motion only in that area. You can unmask multiple areas.
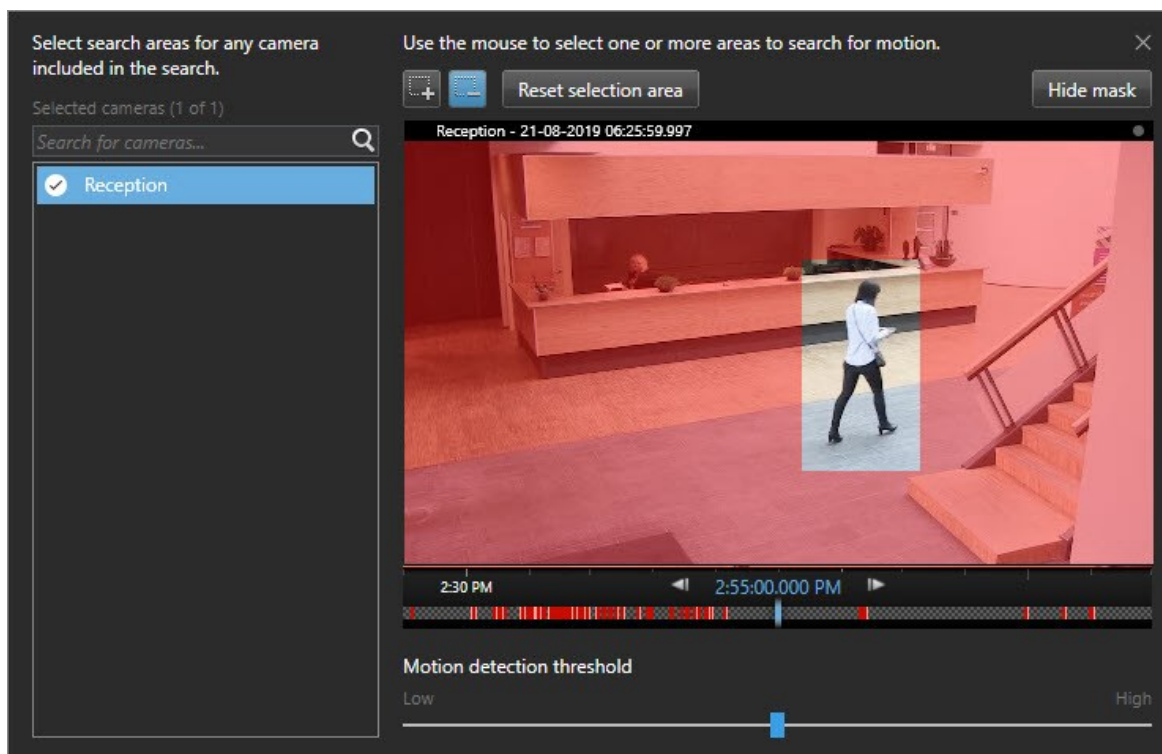
   > ✅ The sensitivity of the motion detection is defined by your system administrator in Management Client on individual cameras. However, you can use the slider to adjust the sensitivity. For more information, see Motion search thresholds on page 163.

   3. Automatically, the search is run. Click outside the dialog to return to the search results.

   4. To perform actions, for example bookmarking search results, hover over the search results and select the check box ☑. The action bar appears.

Motion search thresholds

When you search for motion in selected areas of a camera, you can adjust the motion threshold. The motion threshold determines how sensitive the motion search mechanism is:

- The higher the threshold, the more motion is required to activate motion detection. Likely, this will produce fewer search results

- The lower the threshold, the less motion is required to activate motion detection. Likely, this will produce more search results

Search for bookmarks

You can find incidents that are bookmarked by you or others for any number of cameras.

Steps:
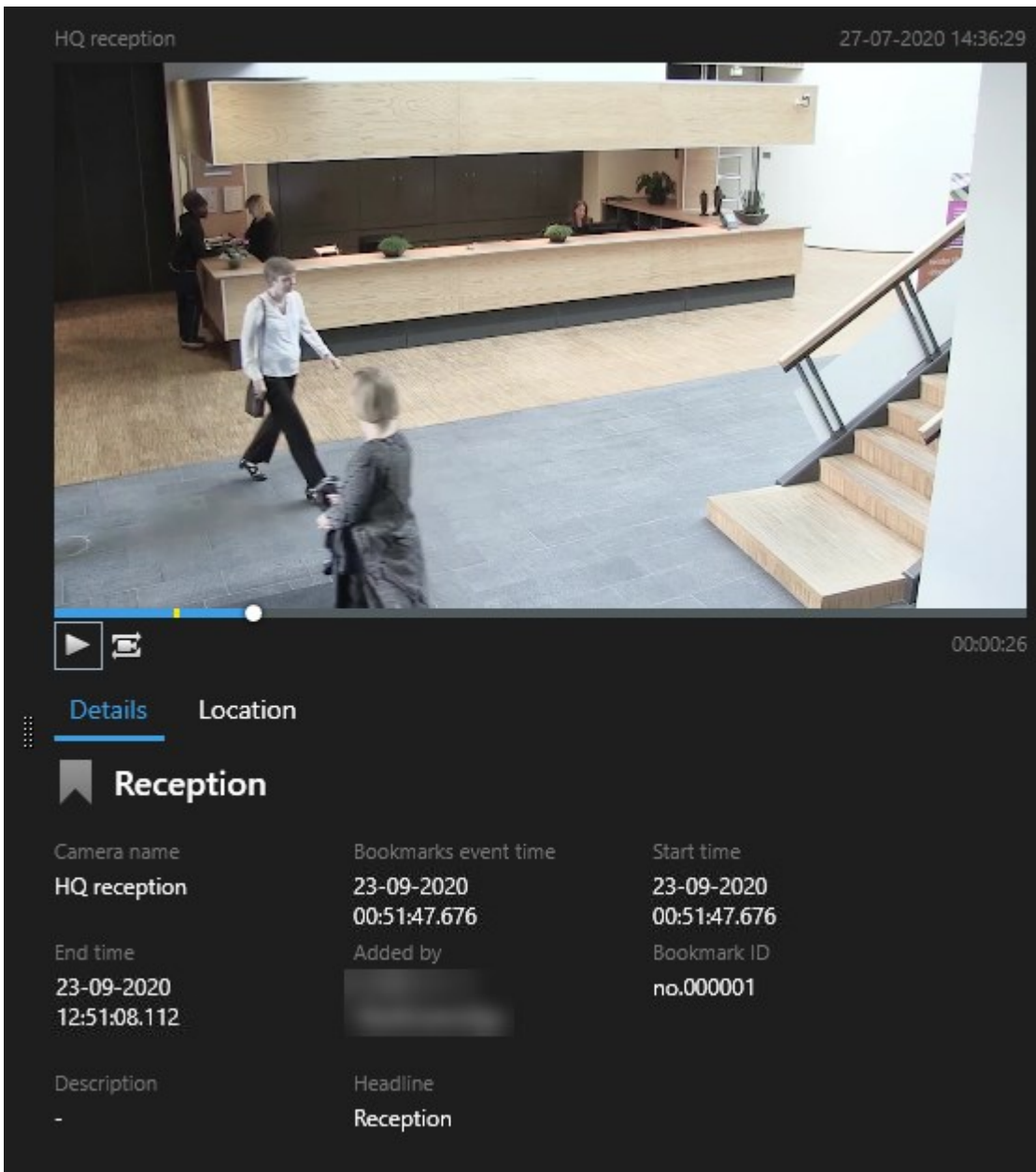
1. Select the cameras that you want to include in your search.

2. Click **Search for** > **Bookmark** > **New search**. If the database has any bookmarked recordings, they appear as thumbnail images in the search results pane.

3. Optionally, enter a keyword to filter the search results. The keyword can be:

   - The full **Bookmark ID**, for example `no.000004`

   - Who the bookmark was added by, for example `site\user2`

   - Any text that appears in the **Headline** or in the **Description**

> ✎ By default, the system will search for the keyword both in the **Headline** and in the **Description**. Use **Search for keyword in** to change that.

4. To preview the video sequence and bookmark details, select a search result and play back the video in the preview pane on the right-hand side.

5. To view the recording in full-screen mode, double-click the search result.

6. To perform other actions, for example editing the bookmark, hover over the search result and select the check box ☑. The action bar is displayed.

Investigating and documenting incidents

Search for alarms

When you search for video recordings associated with alarms, you can apply search filters to show only search results with certain alarms, for example alarms in a certain state that are assigned to a specific operator.

Steps:

1. Select the cameras that you want to include in your search.

2. Click **Search for** > **Alarms** > **New search**.

3. Apply search filters to narrow down search results. You can filter for:

    - **Priority**

    - **State**

    - **ID** - Type the full ID to filter for it

    - **Owner**

    - **Server** - available only if you are using MOBOTIX Federated Architecture™

    > If you are using MOBOTIX Federated Architecture™, the **Priority** and **State** filters are applied across all connected sites.

Search for events

When you search for video recordings associated with events, you can apply search filters to show only search results with certain events, for example events that come from a specific source or server.

Steps:

1. Select the cameras that you want to include in your search.

2. Click **Search for** > **Events** > **New search**.

3. Apply search filters to narrow down search results. You can filter for:

    - **Source**

    - **ID** - Type the full ID to filter for it

    - **Server** - available only if you are using MOBOTIX Federated Architecture™

Search for people

> This search category and its search filters are only available if they were enabled by your system administrator.

When you search for video recordings that include people, you can apply search filters to show only search results with people that have certain characteristics, for example people of a certain age or height.

1. Select the cameras that you want to include in your search.

2. Click **Search for** > **People** > **New search**.

3. Apply search filters to narrow down search results. You can filter for:

   - **Age** - Filter for people in a certain age range

   - **Gender** - Filter for males or females

   - **Height** - Filter for people in a certain height range

   - **Face** - Select the check box to limit search results to people whose face is visible

Search for vehicles

> This search category and its search filters are only available if they were enabled by your system administrator.
>
> Searching for vehicles is also available if you have XProtect® LPR installed in your system.
>
> For more information, ask your system administrator

When you search for video recordings that include vehicles, you can apply search filters to show only search results with certain vehicles, for example a vehicle with a certain license plate that was issued by a certain country.

1. Select the cameras that you want to include in your search.

2. Click **Search for** > **Vehicles** > **New search**.

3. Apply search filters to narrow down search results. You can filter for:

   - **Color** - Filter for vehicles of certain colors

   - **License plate** - Type a part of a license plate number or the full license plate number to filter for it

   - **Country** - Filter for license plates that were issued by certain countries

     > This search filter is only available if you have XProtect® LPR installed in your system.

   - **Vehicle speed** - Filter for vehicles moving at a certain speed

   - **Vehicle type** - Filter for types of vehicles, for example trucks

   - **Match list** - Filter for license plates that are part of certain match lists

     > This search filter is only available if you have XProtect® LPR installed in your system.

Search for video at location

> ✎ This search category and its search filters are only available if they were enabled by your system administrator.

When you search for video recordings recorded at a certain location, you can apply search filters to show only search results in a specific location.

1. Select the cameras that you want to include in your search.

2. Click **Search for** > **Location** > **New search**.

3. Apply search filters to narrow down search results. You can filter for geographic coordinates by specifying the latitude and longitude coordinates and the radius of the search area.

Search results, settings, and actions

This section describes the search timeline and the different settings and things you can do while searching.

For information about saving and managing searches, see .

The search timeline on the Search tab

The search timeline gives you an overview of how the search results are distributed. You can also navigate the search results.

The scope of the search timeline changes according to the selected time span, for example **Last 6 hours**.

The white markers indicate where the search results are.

Individual markers may indicate that there are multiple search results. By hovering over the markers, information is displayed about the time and the cameras that recorded the events or incidents.

To navigate the search results, click a marker. The marker turns blue, and the associated search result is marked with a blue border.

If the marker that you select shows more than one search result, the first search result is marked.

> If a marker indicates more than 10 search results, a message will inform you about the number of search results and the number of associated cameras.

Actions available from search results

Based on your search results, there are multiple actions available. Some actions are available in the blue action bar, others in the preview area.

> The actions available may differ depending on your user permissions.

Action	Description
	Add the selected sequences to the **Exports** tab > **Export list**. All the sequences that you add to the **Export list** are ready for export on the **Exports** tab. See also Exporting video, audio, and still images on page 204.
	Create PDF reports with information about the search results, for example still images from the video sequences.

Investigating and documenting incidents

Action	Description
🔖	Bookmark multiple search results at the same time.
🖊	Edit multiple bookmarks at the same time.
🔒	Add evidence locks to protect the video sequences and data from related devices, for example audio, from being deleted.
⊡	Open multiple search results in a detached window, where you can view the video in live or playback mode, export, create evidence locks, and retrieve recordings from devices and cameras belonging to interconnected VMS systems.
💾	Take multiple snapshots of your search results at the same time.
⏭	When you are previewing video, you can transfer the current time to the independent playback timeline. This is useful, for example, if you want to look at related cameras in playback mode at the time that an incident took place.

Merged search results

If you are using multiple search categories, and the search results overlap in time, they are merged into one. In some situations into multiple search results. This happens when different search criteria match video from the same camera within the same time span. Instead of returning different search results that show basically the same video sequences, MOBOTIX HUB Desk Client simply gives you one search result that contains all details, for example the camera name, indications of event time, and search categories.

Examples:

Find vehicle on Memory Lane 15

Suppose you want to find a vehicle of the type truck on Memory Lane 15 within the last two hours. To configure your search:

1. Select 10 cameras placed in the right area.

2. Set **Duration** to **Last 2 hours**.

3. Add the search category **Vehicles** and filter on **Truck**.

4. Add the search category **Location** and filter on the geo coordinates of the address and a search radius.

5. Select the **Match all criteria** check box.

> For more information, see Search for vehicles on page 166 or Search for video at location on page 167.

Find bookmarked alarm

Two days ago an alarm went off in your MOBOTIX HUB VMS system. To make it easy to find the alarm again, you bookmarked it. Now you want to find the bookmark again to make an export. To configure your search:

1. If you remember which camera recorded the incident, select the camera. Otherwise, select a range of possible cameras.

2. Set **Duration** to **Last 24 hours**, or specify a **Custom interval**.

3. Add the search categories **Bookmarks** and **Alarms**.

4. Select the **Match all criteria** check box.

> For more information, see Search for bookmarks on page 163 or Search for alarms on page 165.

Matching any or all search criteria

If you are using MOBOTIX HUB L5 or MOBOTIX HUB L4, you can use multiple search categories in the same search. While configuring your search, specify whether your search must match any or all the search categories.
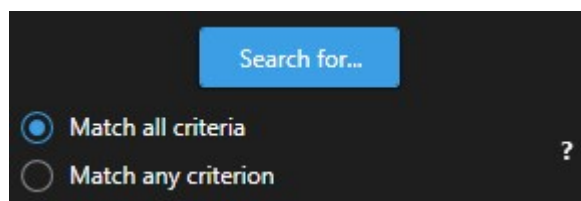
Matching all criteria gives you fewer but more accurate search results. In addition, if the search results overlap, they are combined into fewer results. See also Merged search results on page 169.

Matching any criterion gives you more but less accurate search results.

> Actions that are normally available in the action bar may not be available for merged search results. This happens if the action that you are trying to perform cannot be used with one of the search categories. See also After selecting a search result, certain actions may not be available in the blue action bar. on page 187

Start search from cameras or views

If you are looking for something specific in one or more video streams, you can start search from a single camera, or from an entire view. The search workspace opens in a new floating window.

Steps:

1. Switch to live or playback mode.

2. To search a single camera:

    1. Hover over the view item. The camera toolbar appears.

    2. Click [icon]. A new **Search** window opens, and a search for recorded video starts immediately based on the camera in the view item.

3. To search all cameras in a view:

    1. Make sure the correct view is open.

    2. At the top of the view, click [icon]. A new **Search** window opens, and a search for recorded video starts immediately based on the cameras in the view.

    3. Depending on your goal, change the time span, search categories and filters, or similar. For more information, see .

Open search results in detached windows

You can open a search result in a new window. The window opens in playback mode allowing you to investigate the incident using the main timeline and perform other actions, for example exporting video.

1. Hover over the search result and select the blue check box that appears.
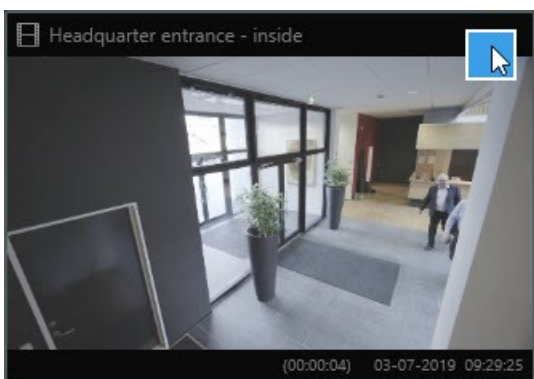
2. The blue action bar appears:

3. Click [icon] to open the search result in a new floating window in playback mode.

4. To move the window to a different monitor, click and drag the window and release when appropriate.
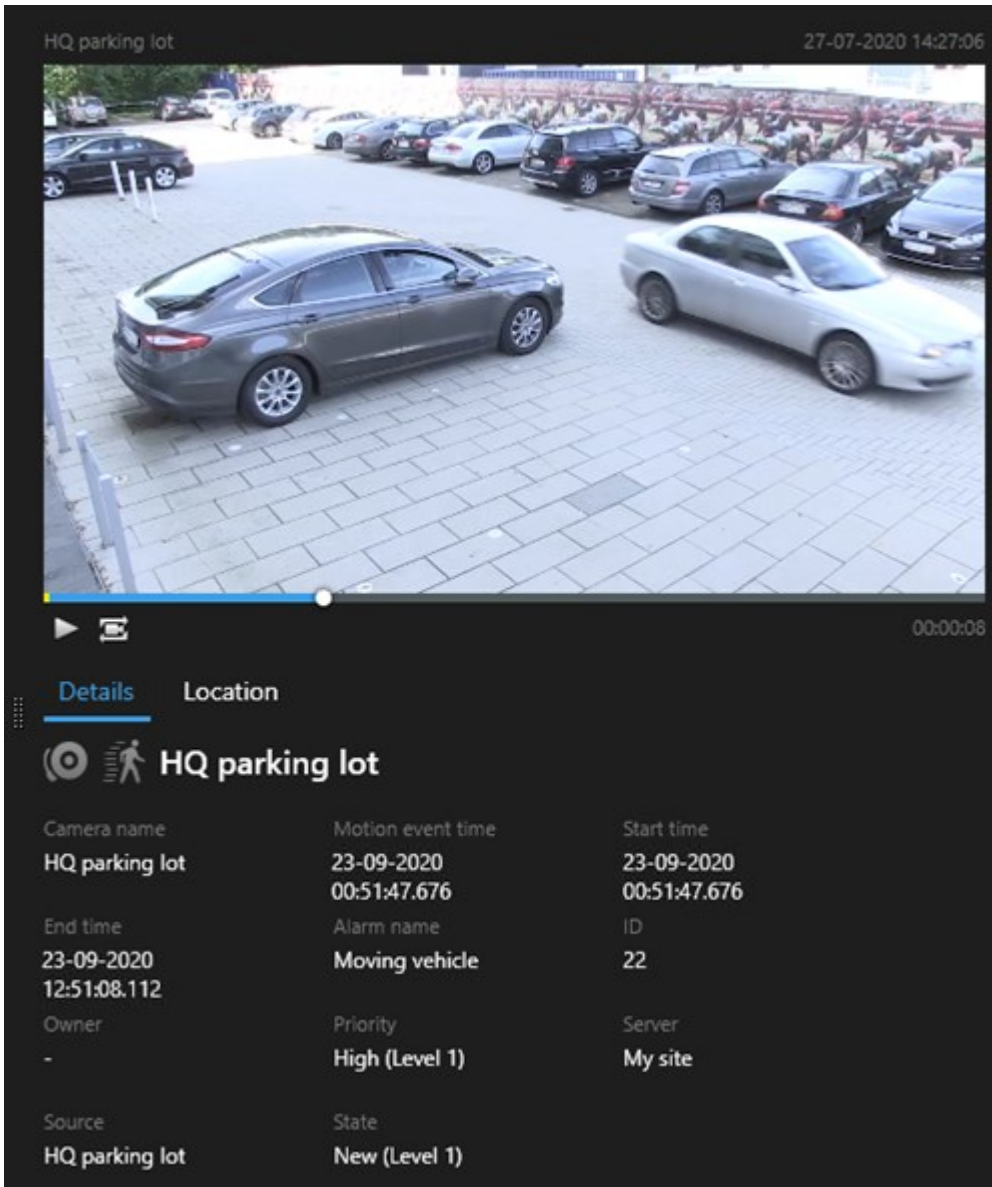
Preview video from search results

To determine whether you have found the video sequence you were looking for, you can do a quick preview.

Steps:

1. When you have run a search on the **Search** tab, select a search result. A still image from the associated video sequence appears in the preview area.

2. Click to play back the video.

3. To preview the video in full-screen mode, double-click the individual search results. Double-click again to return to the search results.

4. Scroll with your mouse wheel to zoom in or out. You can even click and drag to zoom in on a specific area.

The yellow marker in the search timeline indicates the event time. Hover over the marker to view the event time.

Multiple markers appear in the same search timeline when search results are combined.
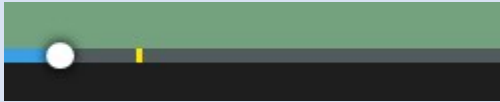
This happens, for example, if you have searched for **Motion** and **Vehicles**, and the search result match both criteria. In this example, one marker would indicate when the motion started. The other marker would indicate when the vehicle was identified as a vehicle.

Show or hide bounding boxes during search

During search, bounding boxes help you identify objects, for example based on motion detection. You can turn the bounding boxes on or off.

The bounding boxes mostly appear in the thumbnail images of your search results. However, if your VMS system is configured to search for metadata, bounding boxes may also appear when you preview video from the search results.

Steps:

1. Go to the **Search** tab and run a search.

2. In the upper-right corner below **Bounding boxes**, do one of the following:

- Select **Show** to make the bounding boxes appear

- Select **Hide** to hide the bounding boxes
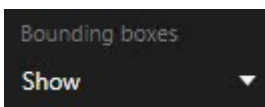
Sorting options

You can sort your search results by:

Name	Description
Relevance	This sorting option is only available if you are using one of these products: • MOBOTIX HUB L5 • MOBOTIX HUB L4 **Relevance** means different things depending on how your search is configured: • None or one search category selected - the search result with the newest event time is displayed first • Multiple search categories selected/**Match any criterion** - the search result with most matching search categories is displayed first. If two search results have the same number of matching search categories, the search result with the newest event time is displayed first • Multiple search categories selected/**Match all criteria** - the search result with most event times is displayed first. If two search results have the same number of event times, the search result with the newest event time appears first
Newest event time	Search results with the most recent event time appear first.
Oldest event time	Search results with the oldest event time appear first.
Newest start time	Search results with the most recent start time appear first.
Oldest start time	Search results with the oldest start time appear first.

Locate cameras while searching

If your VMS system is configured to use smart map [1], you can view the geographical location of the cameras in a smart map preview while searching for video and related data.

Requirements

[1]A map functionality that uses a geographic information system to visualize devices (for example, cameras and microphones), structures, and topographical elements of a surveillance system in geographically accurate, real-world imagery. Maps that use elements of this functionality are called smart maps.

- You are using one of these MOBOTIX HUB products:

    - MOBOTIX HUB L5

    - MOBOTIX HUB L4

- Cameras must be geographically positioned. If in doubt, ask your system administrator

Steps:

1. Select the search result that you are interested in.
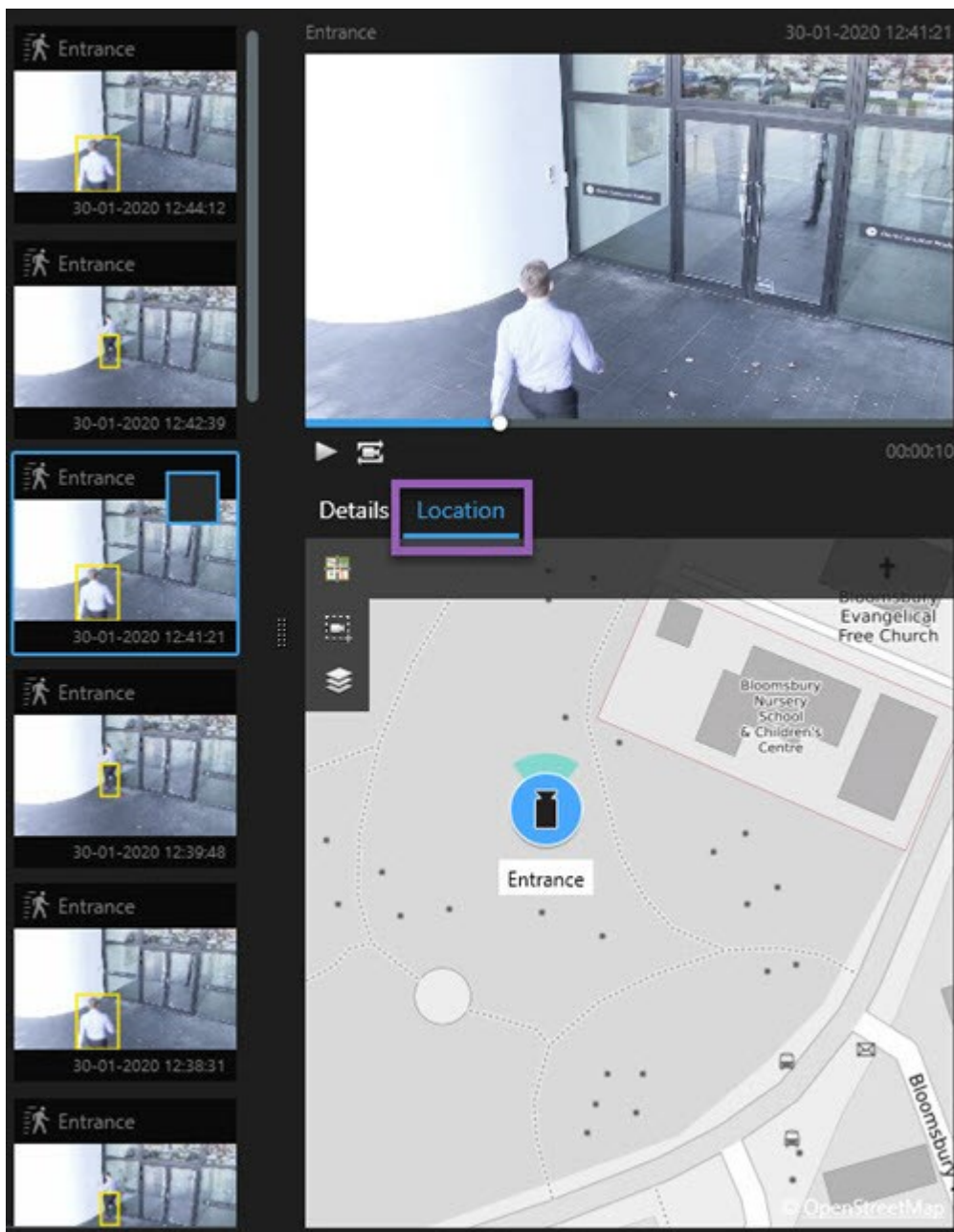
2. In the preview area, click **Location**. The camera is displayed in its geographic context.

3. To get an overview of the surroundings, you can zoom out with the scroll wheel on your mouse, or if the camera is a PTZ camera, you can pan.

4. To return to the camera, click **Re-center**.

Camera icons

Some of the icons described in this topic appear only in the **Location** area on the **Search** tab, whereas icons with red are associated with alarms and also appear in views that contain the smart map. The icons differ depending on the situation.

In the table below:

- Gray background indicates that you have *not* selected the camera

- Blue background indicates that you have selected the camera

Icon	Tabs/modes	Description
	Search tab	The camera is not associated with any of the search results.
	Search tab	You have selected the search result that the camera is associated with.
	Live mode, **Playback** mode, and **Search** tab	This is a source camera: a camera that triggered an alarm.
	Live mode, **Playback** mode, and **Search** tab	This is a related camera: a camera associated with the selected source camera, which triggered the alarm. This icon only appears after you select a source camera.
	Live mode, **Playback** mode, and **Search** tab	This is both a source camera and a related camera. This camera: • Triggered an alarm, and • Is associated with the selected source camera, which triggered the alarm This icon only appears after you select a source camera.

✏️ Source cameras and related cameras are defined in MOBOTIX HUB Management Client as part of the alarm definition.

Bookmark search results

To document or share incidents that you have found by searching, you can bookmark multiple search results at the same time. Bookmarking incidents allows you or other operators to find the incidents later.

Steps:

1. For each search result that you want to bookmark, hover over it and select the blue check box ✅.

2. In the blue action bar, click 🔖. A window appears. The picture reflects the situation where you have selected two search results.
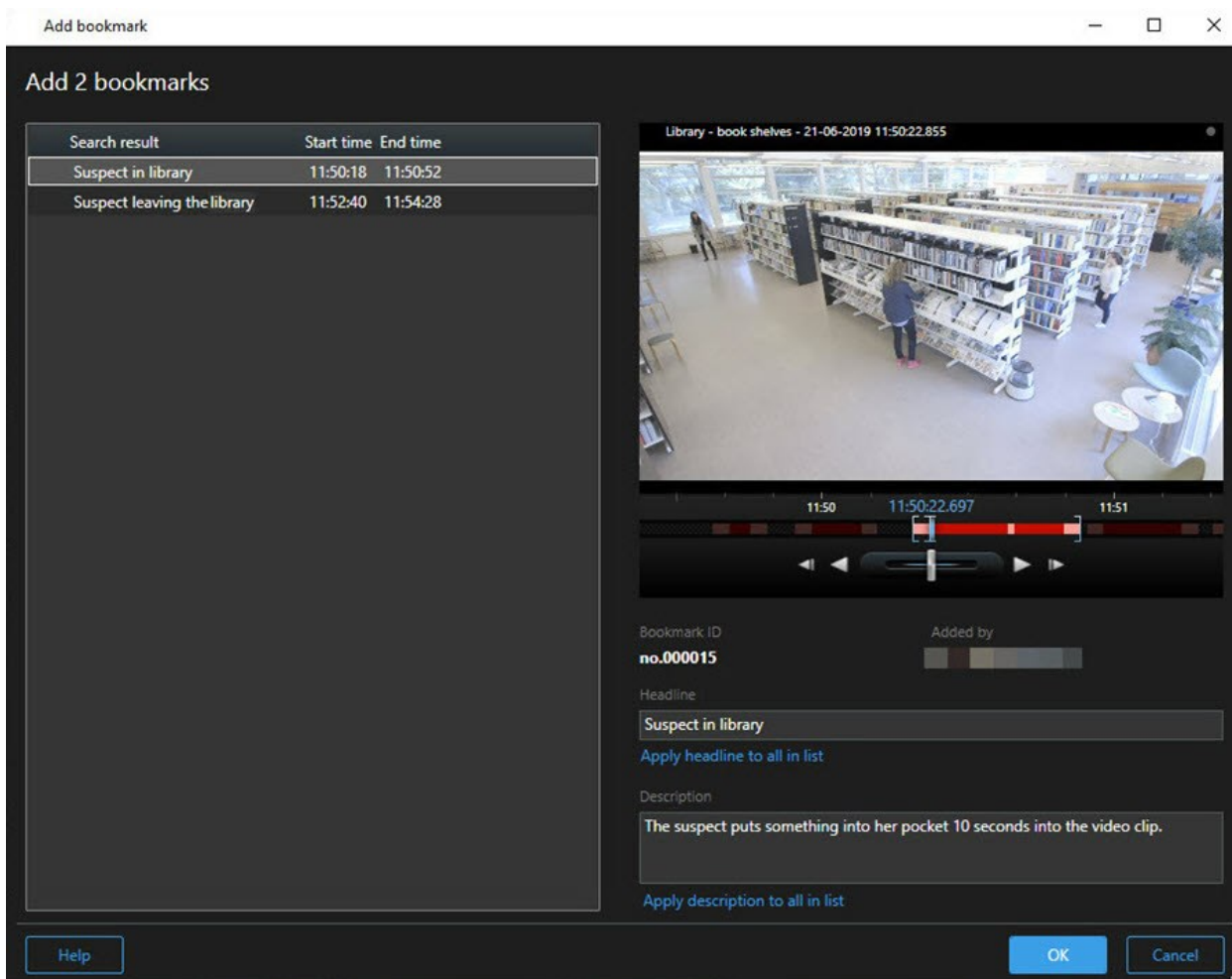
3. Select the search results one by one to add details to the bookmarks and follow these steps:

    1. To change the default time span, drag the handles in the search timeline to a new position.

    2. Enter a headline and possibly also a description of the incident.

    3. If you want the same headline or description to apply to all the bookmarks, click:

        - **Apply headline to all in list**

        - **Apply description to all in list**

4. Click **OK** to save the bookmarks. A progress bar informs you when the bookmarks are created.

> ✎ If MOBOTIX HUB Video Wall is set up in your system, click **Display on Video Wall** to send a
> bookmark to a monitor in a Video Wall.

Edit bookmarks from search results

You can edit the details of bookmarks in your system, for example the time span, headline, and description. You can also edit multiple bookmarks at the same time.

Requirements

You must have the user permissions to edit bookmarks. This is done by your system administrator in Management Client under **Roles** > **Overall Security**.

Steps:

1. On the **Search** tab, find the bookmarks that you want to edit. When you perform the search, make sure that you have selected **Search for** > **Bookmarks**.

2. For each bookmark that you want to edit, hover over it and select the blue check box .

3. In the blue action bar, click . A window appears.
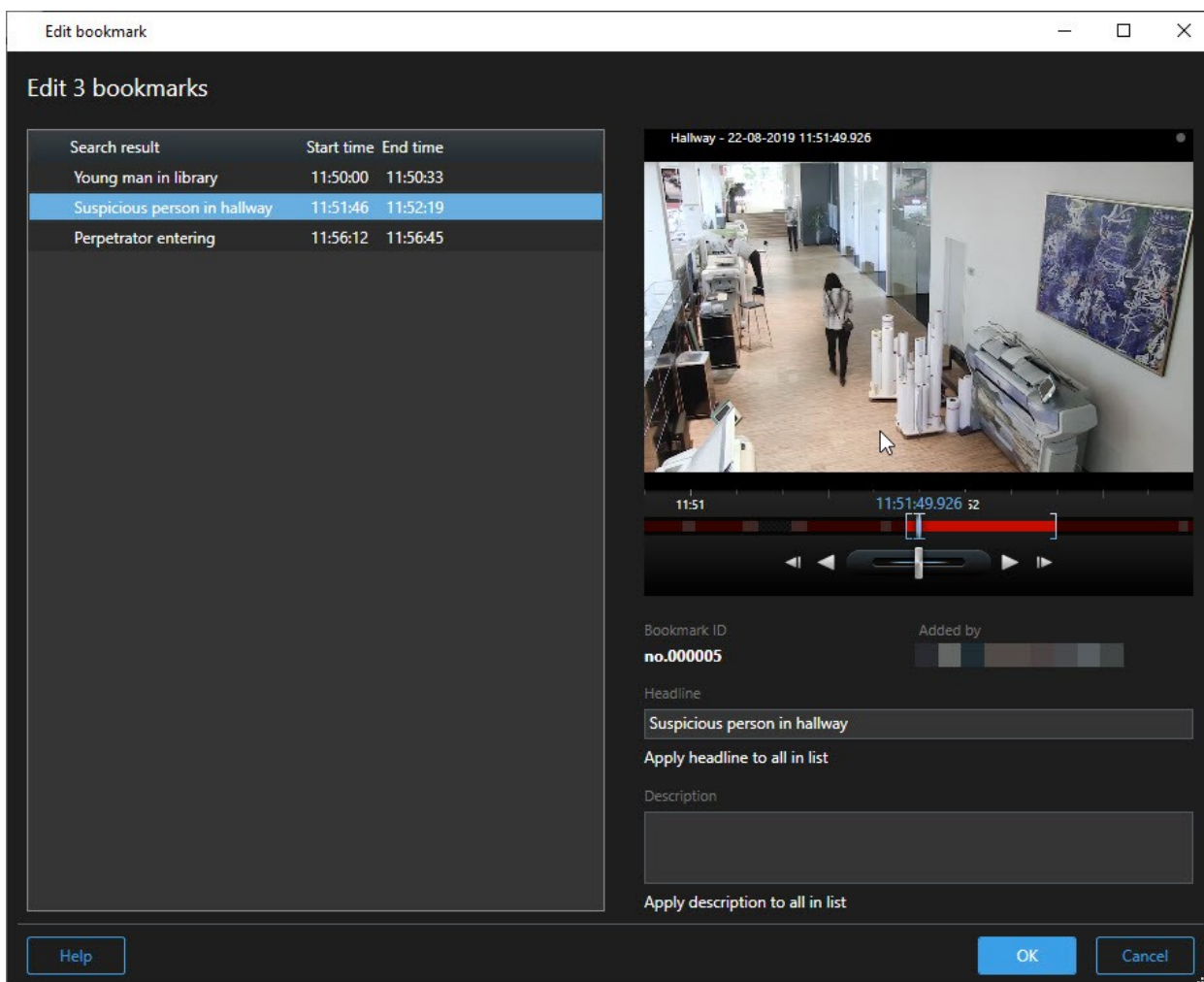
4. Select the search results one by one to edit the details, for example time span, headline, and description.

5. Click **OK** to save your changes. A progress bar informs you when the changes are saved.

> 🖉 If MOBOTIX HUB Video Wall is set up in your system, click **Display on Video Wall** to send the bookmarks a video wall.

Take snapshots from search results

To save and share still images from your search results, you can take multiple snapshots[1] at the same time.

Steps:

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[1]An instant capture of a frame of video at a given time.

1. When you have performed your search, hover over the search results, one by one, and select the check box ☑.

2. In the blue action bar, click ⋯ and select **Create snapshot**. A progress bar informs you when the snapshots are created.

3. To locate the snapshots on your computer, go to the location that is specified in the **Settings** dialog > **Application** > **Path to snapshots**.

Transfer the search time to the main timeline

When you are previewing a search result on the **Search** tab, you can synchronize the time in main timeline with the time in the search timeline. This is useful if, for example, you have found an incident, and you want to investigate what happened at that time on other cameras.

1. On the **Search** tab, select a search result.

2. In the preview area, click ⊡ to transfer the current time in the search timeline to the main timeline. You will stay on the **Search** tab.

3. To check other related cameras, switch to playback mode and select a view that contains the cameras that you are interested in. The main timeline is now in sync with the search result.

Managing your searches

> 🖉 This feature is only available in certain MOBOTIX HUB VMS systems. For more information, see the product comparison chart: https://www.mobotix.com/en/products/vms/mobotixhub

You can save your searches to reuse them and share them with other operators[1]. Depending on your user permissions, you can also access and use the searches made by others, unless they are private. When a search has been saved, you can:

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[1]A professional user of an MOBOTIX HUB client application.

- Change the name and description, and make the search private or public.

- Modify how the search is configured, for example by adding or removing cameras or by adjusting the search categories.

- Delete the searches as they become obsolete.

Save searches

You can save your searches, so you can reuse them later or share them with other operators.

Requirements

To save new searches that will be available to other users of your VMS[1] system, the **Create public searches** user permission must be enabled on your role in MOBOTIX HUB Management Client.
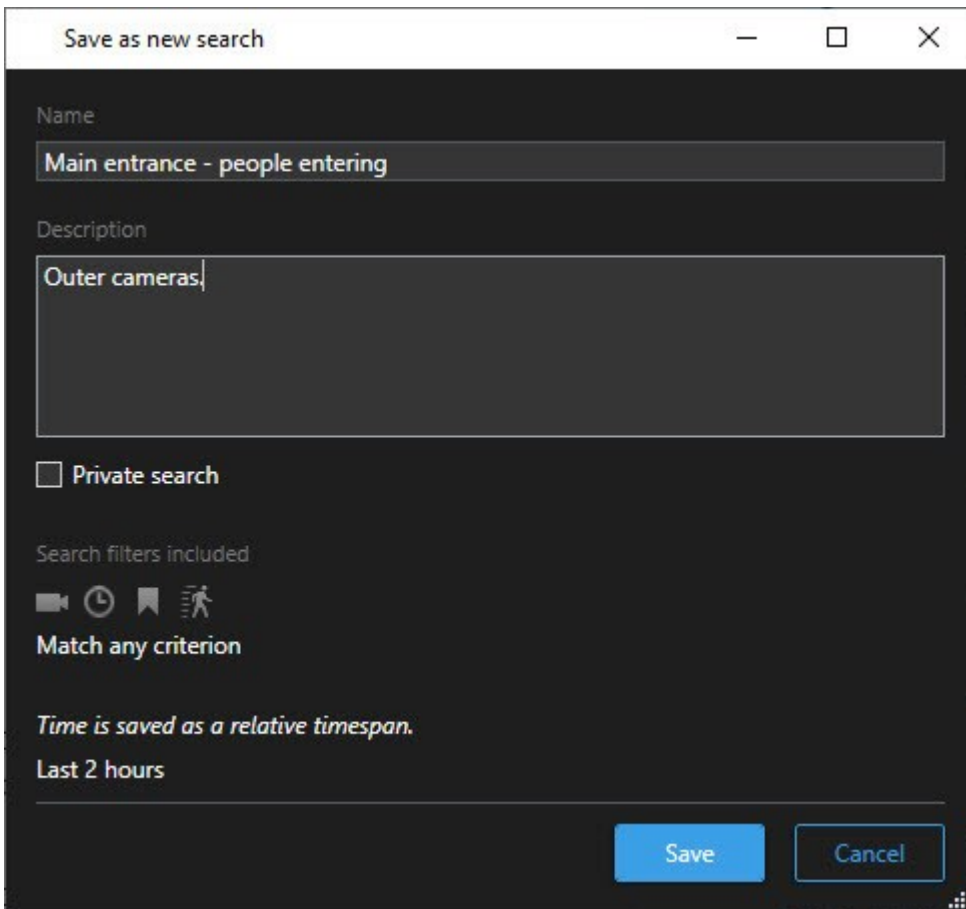
Steps:

1. On the **Search** tab, configure your search. See Searching for video data on page 156.

2. Click ⋮ to the right of **Search filters**.

---
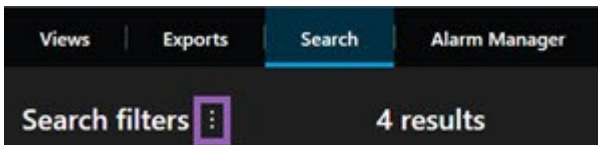
[1]Short for "Video Management Software".

3. In the list that appears, click **Save as**. A window appears.

4. Select a name that will make it easy for you to find the search, and possibly also a description. Later, when you use keywords to find the search, the search includes both the **Name** and the **Description** fields.

5. To make the search visible only to you, select the **Private search** check box.

6. Click **Save**. A progress bar informs you when the search is saved.

> ✅ To get an overview of saved searches, click ⋮ and then **Open and manage searches**.

Find and open saved searches

Requirements

To find and open public searches, the **Read public searches** user permission must be enabled on your role in MOBOTIX HUB Management Client.

Steps:

1. On the **Search** tab, click to the right of **Search filters**.
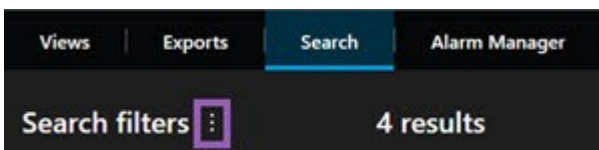
2. In the list that appears, click **Open and manage searches**. A window appears.
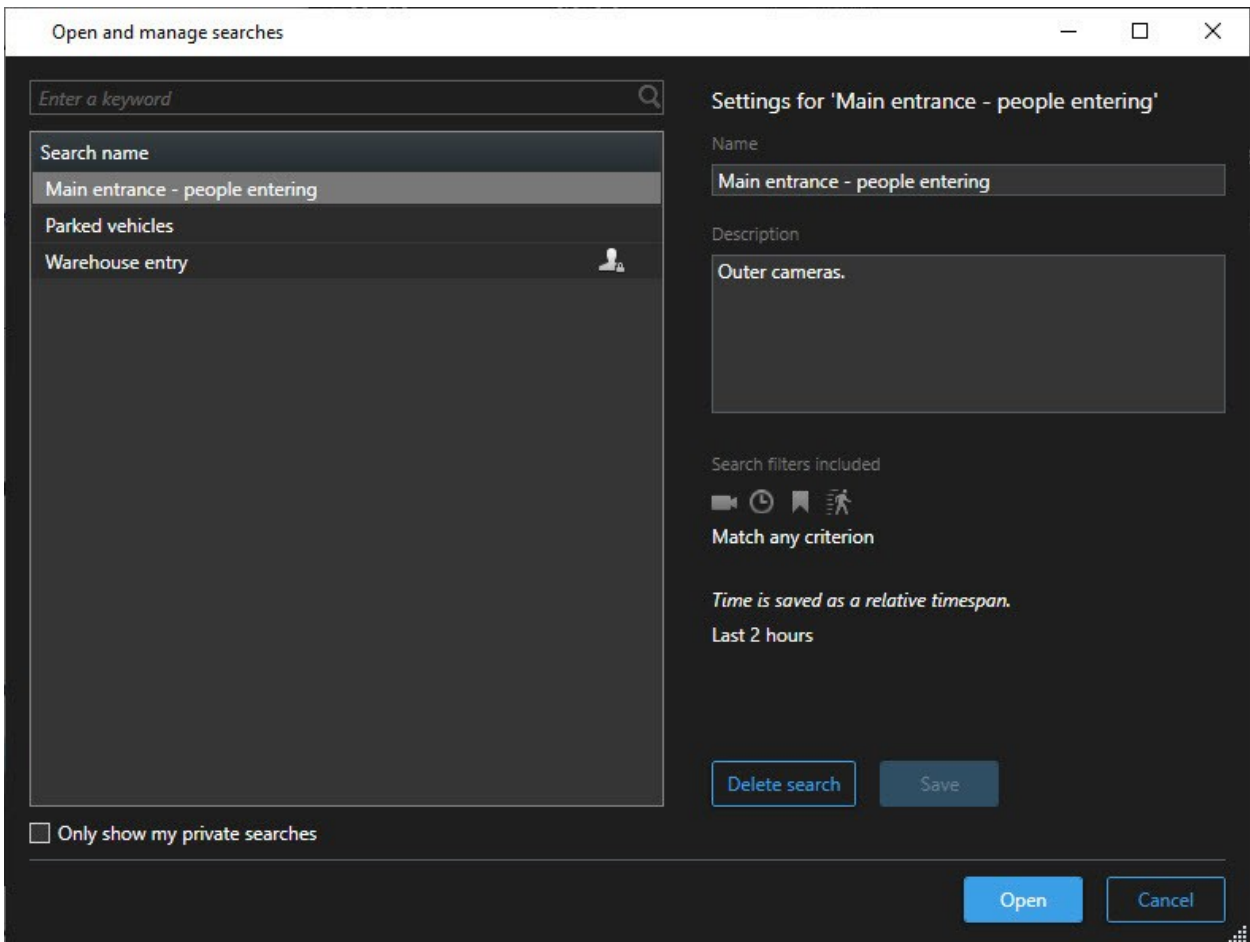
3. Find and double-click the search that you want to open, or click **Open**. Immediately, the search is run.

> ✅ If many searches are listed, you can use keywords to find the search. The search includes both the **Name** field and the **Description** field.

4. You can modify the search, for example by adding cameras. Click > **Save** to save the changes.

Edit or delete saved searches

> 🖉 This feature is only available in certain MOBOTIX HUB VMS systems. For more information, see the product comparison chart: https://www.mobotix.com/en/products/vms/mobotixhub

You can change the details of a saved search, or you can change how the search is configured, for example the search categories.

If the searches become obsolete, you can delete them.

Requirements

The following user permissions are enabled on your role in MOBOTIX HUB Management Client:

- To find and open public searches, the **Read public searches** user permission must be enabled

- To edit a public search, the **Edit public searches** user permission must be enabled

- To delete a public search, the **Delete public searches** user permission must be enabled

Learn how to:

Edit the details of a saved search

1. On the **Search** tab, click ⋮ to the right of **Search filters**.
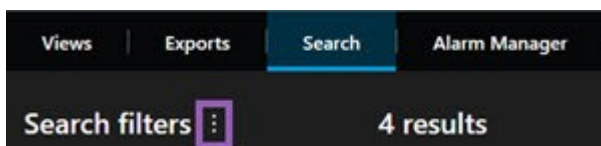
2. In the list that appears, click **Open and manage searches**. A window appears.

3. Find and select the search that you want to change.

4. Make your changes, for example by entering a name for the search, and click **Save**.

Change how a search is configured

1. On the **Search** tab, click ⋮ to the right of **Search filters**.
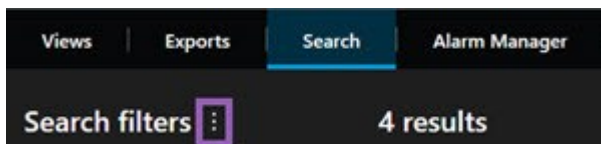
2. In the list that appears, click **Open and manage searches**. A window appears.

3. Find and double-click the search that you want to open, or click **Open**. Immediately, the search is run.

> ✅ If many searches are listed, use the search function to find the search.

4. Modify the search, for example by adding cameras, and click ⋮ > **Save**.

Delete a saved search

1. Open the **Open and manage searches** window as described above.

2. Find and select the search that you want to delete.

3. Click **Delete search**.

FAQ: searching

Can I start search from individual cameras?

Yes. When you are looking at a specific camera in live or playback mode, you can send the camera to a new **Search** window. To start search, click ⬛ in the camera toolbar.

Can I start search from all cameras in a view?

Yes. When you are looking at cameras in a view in live or playback mode, you can send these cameras to a new **Search** window. To start search, click ⬛ above the view.

I am running a search, but even after a while MOBOTIX HUB Desk Client still seems to be searching. Why is that?

If the **Duration** covers a wide timespan, for example two weeks, or you have selected many cameras, there may be thousands of search results, and it may take a while for MOBOTIX HUB Desk Client to find all the search results.

MOBOTIX recommends that you refine your search to narrow down the search results.

How do filters work with search?
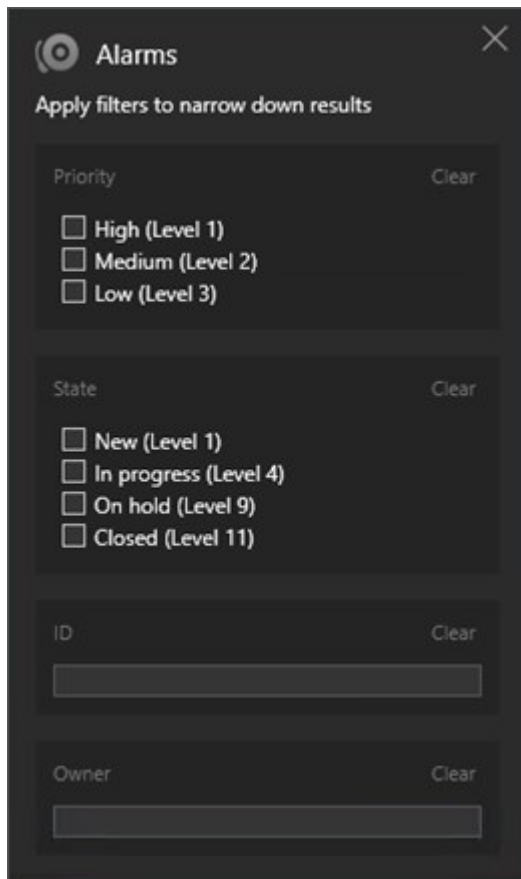
When you apply multiple filters, for example both **Priority** and **State**, you filter for results that match all the applied filters.

When you select multiple values within one filter, for example **High**, **Medium**, and **Low** within the **Priority** filter, you filter for results that match at least one of those values.

Why are some of the thumbnail images grayed out?

A grayed out thumbnail image in the list of search results means that currently no recordings are available for the camera at trigger time. There may be multiple reasons, for example that the recording server is down.

Why is the action that I need not available in the action bar?

After selecting a search result, certain actions may not be available in the blue action bar.

This happens if you select a search result that matches more than one search category at the same time, and the action that you are trying to perform does not support one of those search categories.

Example: You search for **Bookmarks** and **Motion**, and one of the search results contain both motion and a bookmark. In this case, editing or deleting the bookmark is not possible.

> ✏️ The scenario described in this section may also apply to actions pertaining to third-party software that is integrated with your MOBOTIX HUB VMS system.

Why is the action that I need only applicable to some of my search results?

If you are trying to use one of the actions in the blue action bar on multiple search results, you may see a tool tip informing you that the action can only be applied on a subset of the search results.

This happens when at least one of the selected search results is not supported by the action that you are trying to perform.

> ✏️ The scenario described in this section may also apply to actions pertaining to third-party software that is integrated with your MOBOTIX HUB VMS system.

The thumbnail images in the search results are too small. How do I make them bigger?

You can increase the size of the thumbnails by dragging the slider in the image to the right.
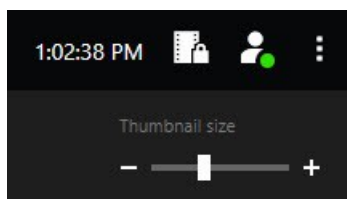
I am trying to save a new search. Why is the Private search check box disabled?

If the **Private search** check box is grayed out and preselected, you do not have the permissions to **Create public searches**. The search that you are about to save is only available to you.

I am trying to open or find a search. Why is the Only show my private searches check box disabled?

If the **Only show my private searches** check box is grayed out and preselected in the **Open search** or **Manage searches** window, you do not have the permissions to **Read public searches**. You can only view your own private searches.

I have changed a search. Why can I not save the changes?

If you change how an existing search is configured, for example if you have added a camera, and the **Save** button is disabled, you do not have the permission to **Edit public searches**. Also, you will not be able to change the details of the search, for example the name and description.

Why can I not delete a search?

If the **Delete** button is disabled in the **Manage searches** window, you do not have the permission to **Delete public searches**.

What happened to smart search?

When the **Sequence Explorer** tab was retired, smart search was moved to the **Search** tab. To use the smart search feature, create a search, select **Motion**, and finally unmask an area. See also .

What is the difference between start time and event time?

When you search for video recordings on the **Search** tab, each search result has a start time, end time, and event time. The start time and end time indicate the beginning and end of an event, respectively. The event time is the most interesting or important part of the video sequence. For example, if you are searching for motion, the event time is when the motion starts. Or, if you are identifying objects, the event time is the time of the most reliable identification.

I am searching for bookmarks. Will the search find bookmarks where the start time or end time falls outside of the search timespan?

Yes. As long is there is an overlap in time, bookmarks will be found. Here is an example: If the search timespan is today between 1:00 pm and 3:00 pm, and there is a bookmark where the start time is today 11:00 am and the end time is today 2:00 pm, then the bookmark will be found.

What is a relative timespan?

When you save a search where you have selected a predefined timespan, for example **Last 6 hours**, you will be notified that the timespan is relative. It means that the last six hours are relative to your current time. Regardless of when you run the search, it will always return search results from the last six hours.

Troubleshooting: searching

Error messages and warnings

Unable to create report

You have tried to create a surveillance report based on one or more search results, but the report could not be created. There may be different reasons:

- You have already created a report with the same name in the same location, and the report is currently open. To resolve the issue, close the report, and try again.

- You do not have the user permissions to save reports in the report destination. To resolve the issue, specify a different path in the **Create report** window.

You cannot open this search, because certain data sources are not available to you

These are some of the possible reasons why you cannot open the search:

- The person who created the search used one or more search categories that are not available to you. To resolve the issue, create a new search.

- The search that you are trying to open uses search categories that are not available in the version of MOBOTIX HUB Desk Client that you are using. To resolve the issue, download a newer version of MOBOTIX HUB Desk Client.

- The search categories that are not available to you may require additional licenses. Please contact your system administrator.

This device has not been placed on the smart map

You have selected a search result, but the associated device is not displayed on the smart map in the preview area. The reason is that the device has not been geographically positioned. To resolve this issue, do one of the following:

- Go to your smart map and add the device. See Add devices to smart map on page 303

- Ask your system administrator to specify the geo coordinates in the device properties in MOBOTIX HUB Management Client

Working with recodings from edge storage and MOBOTIX Interconnect

Recordings from edge storage and MOBOTIX Interconnect

There are two types of cameras with edge storage:

- Cameras with memory cards on which the recordings are saved.

- Interconnected cameras that are part of another MOBOTIX HUB VMS installation and that you have access to through MOBOTIX Interconnect™.

When you have the necessary user permissions, you can manually retrieve recordings from cameras with edge storage. Retrieval of recordings can also happen automatically through rules defined by your MOBOTIX HUB VMS administrator. See also the MOBOTIX Interconnect setups section in the administrator manual for MOBOTIX HUB VMS.

The main timeline and edge retrieval

If you select a camera with edge storage, the light and medium gray colors on the timeline tracks show whether the recordings on an edge storage are retrieved to your local recording server:

- The light gray color with the legend **Unknown** indicates that the recordings are not retrieved. Before a retrieval attempt, you can't see if there are recordings to retrieve from the edge storage.

- The medium gray color with the legend **Data requested** indicates that retrieval is in process.
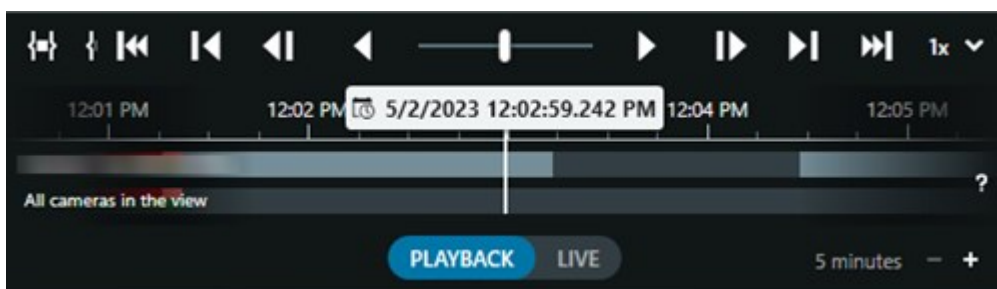
When the recordings are retrieved, the timeline tracks use the same colors as for all your recordings. See Color legend on page 56.

Retrieve recordings manually

You can manually retrieve recordings to store them on your recording servers. Usually, you do this when an incident has occurred that you want to investigate and/or when you need to store the recordings for a longer time.

1. Select a camera with edge storage.

2. In the main timeline, select **Set start and end time on timeline** ⟨⟩ to select the start and end time of the relevant recordings.

3. In the workspace toolbar in the top-right corner, select **Retrieve data** ⟱.

4. Optionally, select more cameras that you want to retrieve recordings from.

5. Select **Start retrieval**.

   In the notification area at the top, you can view the progress or stop the retrieval job.

View all edge retrieval jobs

If you want to see all ongoing and recent retrieval jobs started by rules, yourself, or other operators, in the top-right corner, in the **Settings and more** menu, select **Server jobs**. You can see the status of the retrieval jobs and stop ongoing jobs if needed.

Applying bookmarks and evidence locks

Bookmarks

> 🖊 This feature is only available in certain MOBOTIX HUB VMS systems. For more information, see the product comparison chart: https://www.mobotix.com/en/products/vms/mobotixhub

Bookmarks allow you to quickly find or share relevant video sequences with other users of the system. Detailed bookmarks make it easier to find the bookmarks after creating them. To enable details, see Enable detailed bookmarks on page 255.

Adding bookmarks

You can add bookmarks to video sequences in live or recorded video. When you bookmark a sequence, the bookmark is saved with an ID and information about the user who created it. You can give your bookmarks a heading and a description. Bookmarks are searchable, so operators can easily find them later.

You can find and edit bookmarked video sequences by using:

- The search functionality on the **Search** tab.

- The main timeline in playback mode.

> 🖊 The ability to add and view bookmarks depends on your user permissions.

Bookmark window

The **Bookmark** window appears only when you have enabled detailed bookmarks. See .

The layout of the bookmark window changes depending on where you are in MOBOTIX HUB Desk Client, and if you are adding one or multiple bookmarks. Click below to see images of the window.

Single bookmark
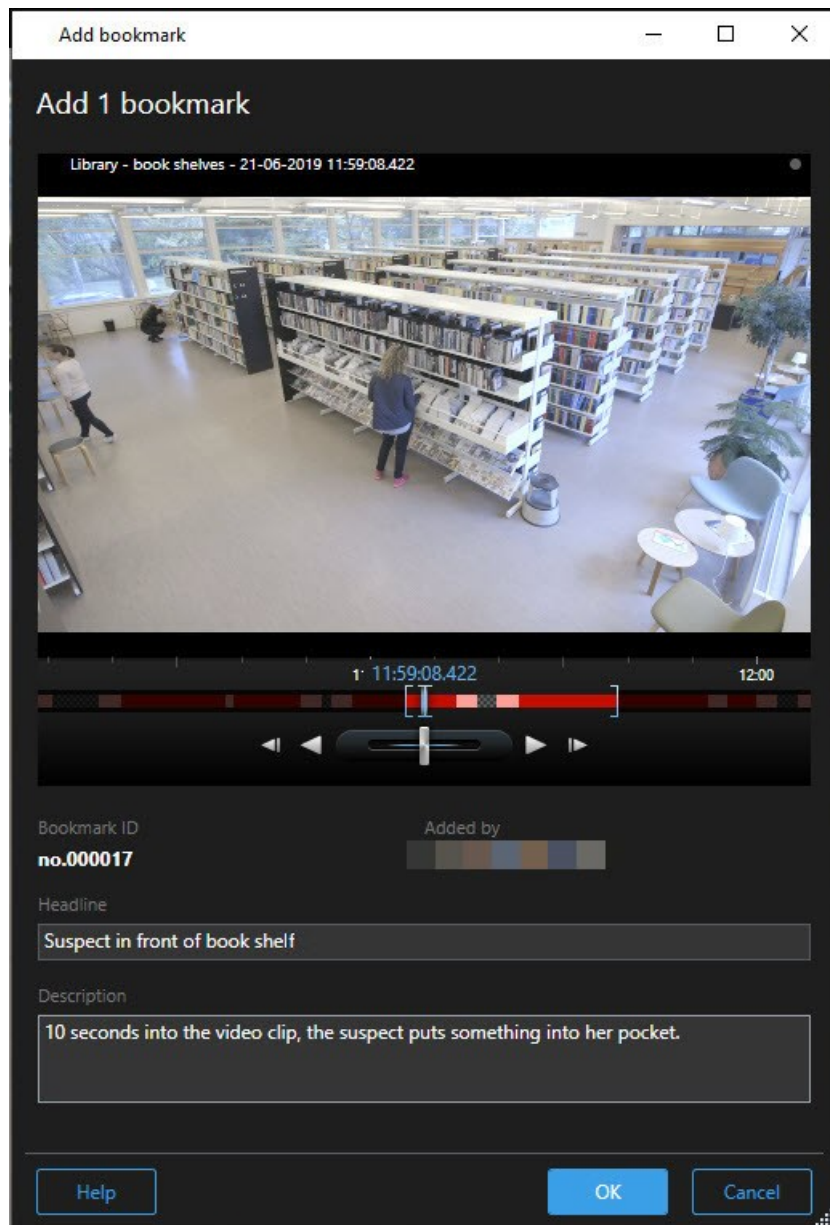
Multiple bookmarks
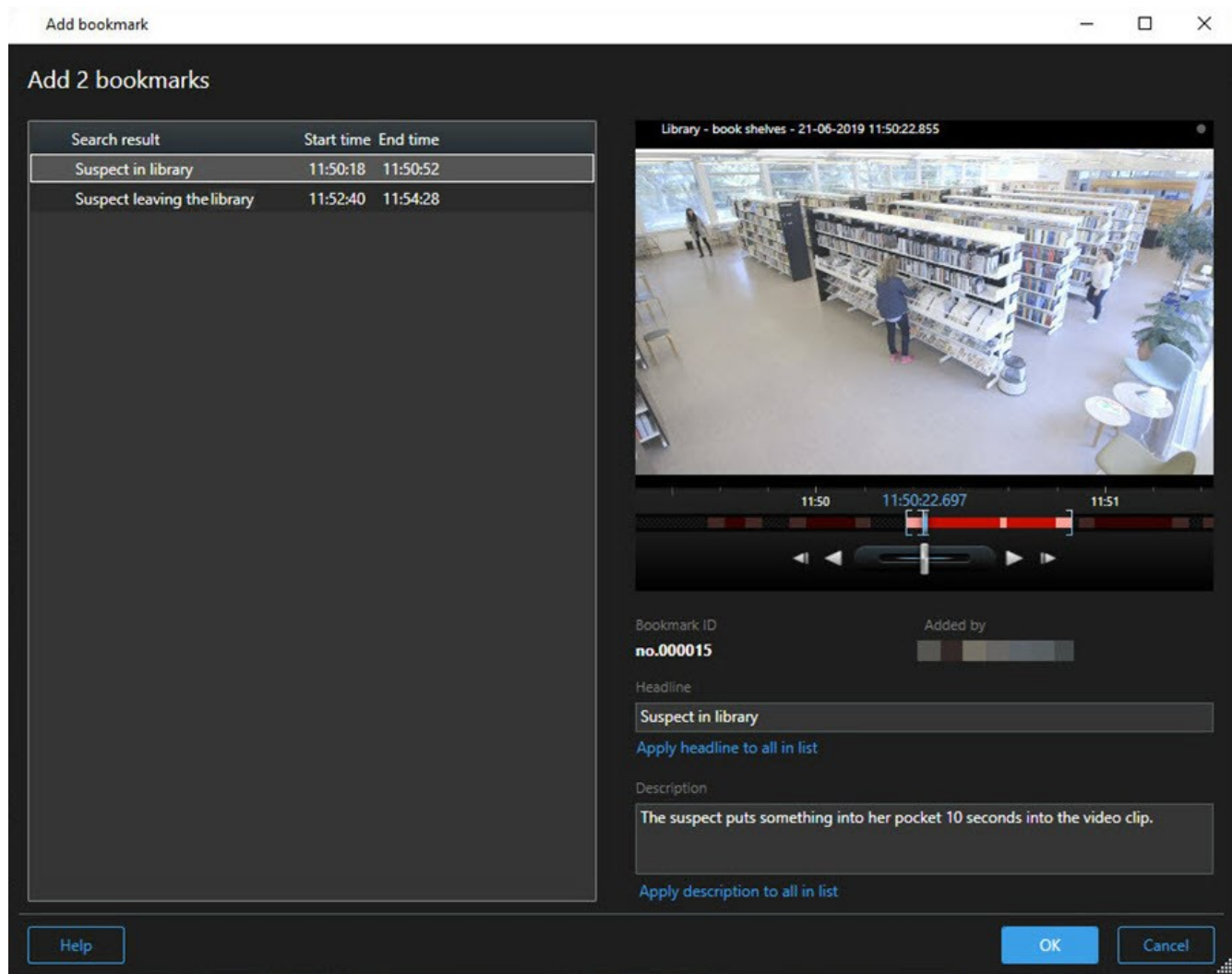
Fields in the **Bookmark** window.

Name	Description
Bookmark ID	A number that automatically is assigned to the bookmark.
Added by	The person who created the bookmark.
The bookmark timeline	The time selection brackets shows the start and end time of the bookmarked sequence. To change the start and end time, drag the brackets.

Name	Description
Headline	Specify a headline containing a maximum of 50 characters.
Apply headline to all in list	Only visible if you are creating multiple bookmarks. Click the text to use the same headline for all bookmarks.
Description	Lets you specify a description.
Apply description to all in list	Only visible if you are creating multiple bookmarks. Click the text to use the same description for all bookmarks.

Add or edit bookmarks

You can add bookmarks to live and recorded video. If you have enabled detailed bookmarks, you can give the bookmark a name and a description. You can even adjust the time span. Later, you can find and edit the bookmark details.

Requirements:

Detailed bookmarks must be enabled. For more information, see .

Steps:

1. Select the required camera in the view.

2. Click the bookmark icon ![icon]. With details enabled, the **Bookmark** window appears where you can add a detailed description of the incident.

3. Enter a name for the bookmark.

4. The default length of a bookmarked sequence is determined on the surveillance system server, but you can change this by dragging the start and end time brackets.

5. (optional) Describe the incident.

6. Click **OK**.

> ✅ To find and edit the bookmark later, go to the **Search** tab and search for bookmarks. See Search for bookmarks on page 163.

Delete bookmarks

You can delete bookmarks created by yourself or others. If you delete a bookmark, it is removed from the database, and you can no longer find it.

Requirements

You must have the user permission to delete bookmarks. This user permission is controlled by your system administrator.

Steps:

1. On the **Search** tab, find the bookmarks that you want to delete.

2. In the search results, hover over each of these bookmarks and select the blue check box ☑.

3. In the blue action bar, click [···] and select **Delete bookmark**. A window appears.
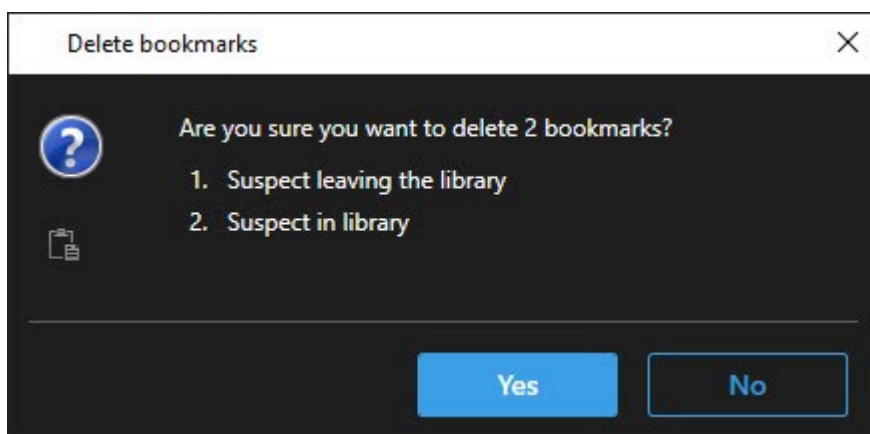
4. Click **Yes** to delete the bookmarks.

> ✏️ There may be restrictions in your system preventing you from deleting certain bookmarks. In that case, you will be notified.

Find or export bookmarked video

After creating bookmarks, you can find the bookmarks again on the **Search** tab. Suppose you want to find an incident that you bookmarked within the last six hours on camera 1, then you would set the duration to **Last 6 hours**, select camera 1, and add the **Bookmarks** search criterion. See also Search for bookmarks on page 163.

You can also export the bookmarked video. See also Actions available from search results on page 168.

FAQ: bookmarks

How do I find bookmarked incidents?

Go to the **Search** tab, set a timespan, select the cameras that may have recorded the incident, and then click **Search for** > **Bookmarks**.

I cannot find a particular bookmark. Why?

There may be several reasons why you cannot find the bookmark:

- Your user permissions do not allow you to view the bookmark.

- The bookmark has been deleted by a user with permissions to delete bookmarks.

- The bookmarked video no longer exists in the database.

Can I bookmark my search results?

Yes. When you have performed a search that returns a list of search results, you can bookmark any of these search results. See .

Locking video evidence

You can add, edit, and delete evidence locks, but you can also export them and play back video with evidence locks.

Evidence locks

With the evidence lock functionality, you can protect video sequences from being deleted, for example while an investigation or trial is ongoing. This protection also covers audio and other data from devices related to the selected cameras.

Once an evidence lock is in place, the system prevents the data from being deleted automatically based on the retention time of the system.

> 📝 Depending on your user permissions, you may be able to create, view, edit, and delete evidence locks.

Create evidence locks

You can create an evidence lock to prevent video recordings and related data from being deleted.
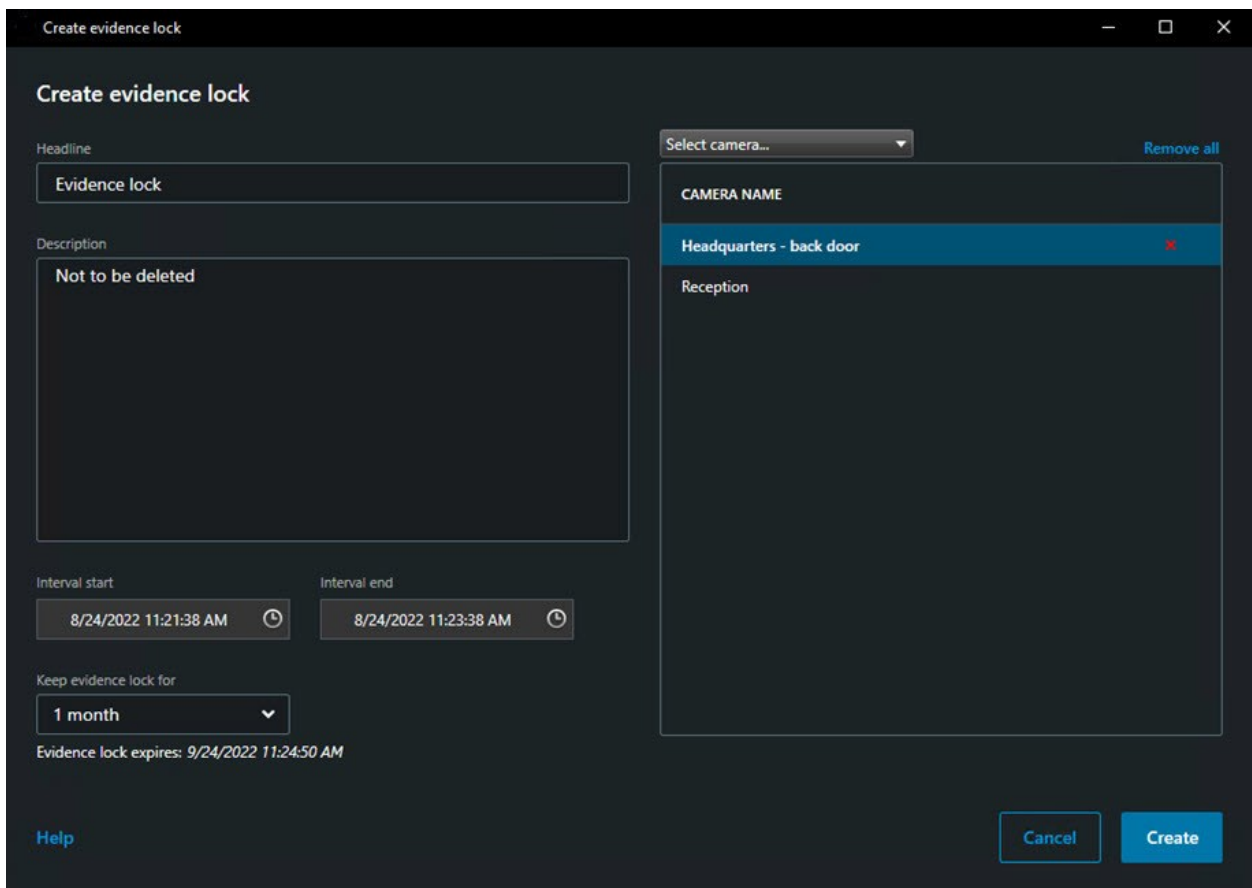
Create evidence locks in playback mode

1. In the main timeline, select **Set start and end time on timeline** or **Set start and end time in calendar**.

   ⊬⊣ ⊬⊣

2. Select the start and end time for the video sequences you want to protect from deletion.

3. Select the cameras that have video sequences and data from related devices that you want to protect.

4. In the upper right corner, click **Evidence lock** > **Create**. A window appears.

5. Give the evidence lock a headline and, optionally, a description.

6. For information about the remaining fields, see Evidence lock settings on page 201.

7. Click **Create**. If the evidence lock was created successfully, you can click **Details** to see what went well and what did not. See Evidence lock status messages on page 202.

Create evidence locks on the Search tab

1. In the list of search results, select the video sequences that you want to protect from being deleted. The action bar appears. Data from related devices will also be protected.

2. Click ![icon]( ) > ![icon]( ) **Create evidence lock**. In the window that appears, the cameras associated with the selected search results are listed.

3. Give the evidence lock a headline and, optionally, a description.

4. The time span covers all the selected search results. To change the time span, use the **Interval start** and **Interval end** fields.

5. For information about the remaining fields, see Evidence lock settings on page 201.

6. Click **Create**. A window appears informing you about the progress of the evidence lock. Click **Details** to see what went well and what did not. See Evidence lock status messages on page 202.

View evidence locks

1. Switch to playback mode.

2. On the workspace toolbar in the upper-right corner, click **Evidence lock** and select **View**.

3. If you want to stay in live mode instead of in playback mode, select **Evidence lock** on the global toolbar.
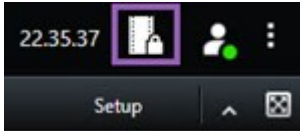
A list of existing evidence locks with devices that you have permission to access appears.

4. Search for text in the headlines and descriptions, sort the different columns and/or use the filter options to make it easier to find the wanted evidence lock.

5. Select an evidence lock and click **Details** to see the cameras included in the evidence lock and other information.

Edit evidence locks

Depending on your user permissions, you can edit evidence locks, for example time interval, cameras, and how long to keep the evidence lock.

1. Switch to playback mode.

2. In the upper the right corner, click **Evidence lock** and select **View**, or select **Evidence lock** on the global toolbar.
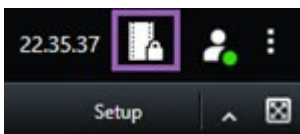
3. Select an evidence lock and click **Details**. A window appears.

4. To make the interval of the evidence lock shorter or longer, use the **Evidence lock interval start** and **Evidence lock interval end** fields.

5. To change the time that the evidence lock is valid for, select a value in the **Keep evidence lock for** list.

6. When done, click **Update**.

7. A window shows if the update was successful. Click **Details** to see what went well and what did not. See also .

Play back video with evidence locks

You can always play back video in playback mode regardless if the video is protected or not. If you want to play back video sequences that are included in a specific evidence lock, do the following:

1. Switch to playback mode.

2. In the upper right corner, click **Evidence lock** and select **View**.

3. If you want to stay in live mode instead of in playback mode, select **Evidence lock** on the global toolbar.
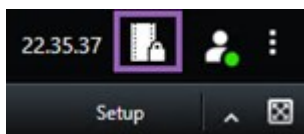
A list of existing evidence locks with devices that you have permission to access appears.

4. Select an evidence lock and click **Play back**. A new window opens and you can see a view with all the cameras in the evidence lock.

5. Use one of the timeline controls to go to a specific time or simply click **Play forward**.

Export locked video evidence

When you export evidence locks[1], also the data from devices related to the cameras is included in the export.

1. Switch to playback mode.

2. On the workspace toolbar in the upper-right corner, click **Evidence lock** and select **View**.

3. If you want to stay in live mode instead of in playback mode, select **Evidence lock** on the global toolbar.
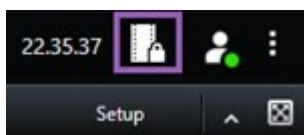
A list of existing evidence locks with devices that you have permission to access appears.

4. Select an evidence lock and click **Add to export list**.

5. Continue with the export process. See Adjusting export settings on page 206 and Create the export on page 207.

Delete evidence locks

When you delete an evidence lock, you do not delete the video sequences but do only remove the protection of them. If the video sequences are older than the system's default retention time, the system informs you about this and you can keep the evidence lock to prevent that the video sequences are automatically deleted by the system after the removal of the protection.

---

[1]A video sequence that is protected, so it cannot be deleted.

1. Switch to playback mode.

2. In the upper right corner, click **Evidence lock** and select **View**.

3. If you want to stay in live mode instead of in playback mode, select **Evidence lock** on the global toolbar.
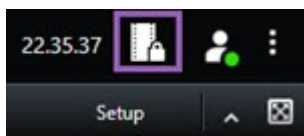
   A list of existing evidence locks with devices that you have permission to access appears.

4. Select one or more evidence locks and click **Delete**.

5. A window shows if the deletion was successful. Click **Details** to see what went well and what did not. See also .

Evidence lock settings

Name	Description
Headline	The headline of the evidence lock.
Description	A description of the evidence lock.
Interval start	Adjust the start date and time for the video sequences you want to protect.
Interval end	Adjust the end date and time for the video sequences you want to protect.
Keep evidence lock for	Specify for how long you want to keep the evidence protected. Depending on your user permissions, you have the following options: hour(s), day(s), week(s), month(s), year(s), indefinite, or user-defined. If you select **User-defined**, click the calendar button to select a date and then adjust the time manually. When done, the date and time for when the evidence lock expires is shown.
Select camera	Click to select more cameras to include in the evidence lock.
Create playback video restriction	Create a playback video restriction on the same video sequence you are creating an evidence lock for. The video restriction is not connected to the evidence lock and must be edited, maintained and removed manually.
Remove/Remove all	Click to remove one selected camera or all cameras from the evidence lock.

Evidence lock filters

Name	Description
Lock interval	Filter your evidence locks based on the start time of the interval they are protected in. Available options are today, yesterday, last 7 days and all.
Created	Filter your evidence locks based on when they were created. Available options are today, yesterday, last 7 days, all and custom interval. If you select custom interval, you select the start and end date in a calendar.
Expiry date	Filter your evidence locks based on when they expire. Available options are today, tomorrow, next 7 days, all and custom interval. If you select custom interval, you select the start and end date in a calendar.
Users	Filter for evidence locks created by all users or just by you.
Cameras	Filter for evidence locks with data from any camera or select one or more cameras that must be included in the evidence locks.

Evidence lock status messages

Message	Description and result	Scenarios and solution
Succeeded	All went well. **Result**: The evidence lock is created/updated/deleted.	
Only partially successful	If the creation, update or deletion of an evidence lock was not entirely successful, an only partially successful message is shown and the progress bar is yellow. Click **Details** to see what went wrong. Result: The evidence lock is created/updated/deleted but without including some of the selected cameras and/or their related devices. Additionally, this can be because a recording server is offline, in which case the evidence lock is configured, but not yet applied on the actual	**Scenario**: Some of the recording servers with devices included in the evidence lock are offline. **Solution**: Wait for the recording server to come online.

Message	Description and result	Scenarios and solution
	video. In this case, the evidence lock will be applied to the video when the recording server becomes available. You can verify that the locks are applied by looking at the size of the lock. An indication of size means that the lock is applied.	**Scenario:** One or more devices have recordings on recording servers that are not upgraded to 2020 R2 or later. **Solution**: Upgrade the recording servers to version 2020 R2 or later. **Scenario:** Your system administrator has changed your evidence lock user permissions after you logged into MOBOTIX HUB Desk Client. **Solution**: Contact your system administrator.
Failed	If the creation, update or deletion of an evidence lock is not successful, a failed message is shown and the progress bar is red. Click **Details** to see what went wrong. Result: The evidence lock is not created/updated/deleted.	**Scenario:** All the recording servers with devices included in the evidence lock are offline. **Solution**: Wait for the recording servers to come online. **Scenario:** The management server is offline. **Solution**: Wait for the management server to come online. **Scenario:** Only for update and deletion: You do not have user permissions to one or more devices in the

Message	Description and result	Scenarios and solution
		evidence lock. **Solution**: Contact your system administrator. **Scenario**: One or more devices have recordings on recording servers that are not upgraded to 2020 R2 or later. **Solution**: Upgrade the recording servers to version 2020 R2 or later.

Exporting

Exporting video evidence

If you need to document an incident that has occurred, for example, to provide legal evidence, you can export a video sequence from MOBOTIX HUB Desk Client. If you need to prove that the video evidence has not been tampered with, you can export it in the MOBOTIX HUB format. If you use this format, you can "lock" the evidence behind a digital signature that verifies the authenticity of the exported video.

Exporting video, audio, and still images

You export video and associated audio in different formats. Depending on your VMS system, you can also export still images and other types of data that might be available.

Export formats

MOBOTIX HUB Desk Client enables you to export in one or more of the following formats:

Format	Description
MOBOTIX HUB format	Use the MOBOTIX HUB format to include the MOBOTIX HUB Desk Client – Player along with the export. The MOBOTIX HUB Desk Client – Player is the only media player that can play this format. To verify that the exported evidence has not been tampered with, select **Export settings** > **MOBOTIX HUB format** > **Include digital signature**. This setting enables the **Verify signatures** button in the

	MOBOTIX HUB Desk Client – Player.
Media player format	Use a format that requires no MOBOTIX HUB knowledge, and that most media players can play. You only need an installed media player to play this format.
Still images	Export a still image file from each frame for the time period you have selected.

When you export video sequences with the **Export as media player format** option, you can export them in two formats:

- **Individual files** format that exports a file for each video sequence you have added to the export list.

- **Combined file** format that exports a single file that contains all the video sequences you have added to the export list, according to the order you have arranged them. To rearrange any of your added video sequences before you start an export, use the arrows to reorder the files in the export list.
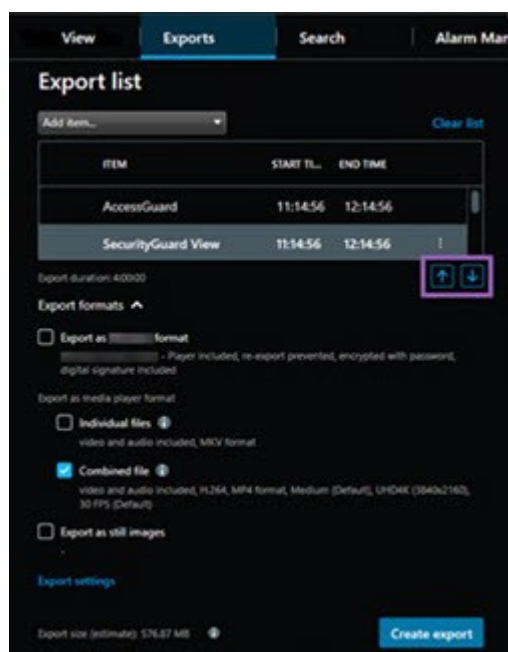
Add video sequences to the Export list

You must add video sequences to the **Export list** before you can create the export. You can add files from several places in MOBOTIX HUB Desk Client:

1. From the **Exports** tab, in the **Export list**, select **Add item** to add the video sequences.

2. From the **Search** tab, for each search result to export, select the blue check box , then select **Add to export list** in the blue action bar. To select all your search results, select one search result and press **Ctrl+A**. In the blue action bar that is displayed, select **Add to export list** .

3. From the **View** tab, in **Playback** mode, you have two options for adding video sequences to the **Export list**:

   Option 1:

   1. In the timeline, select **Set start and end time on timeline** to select the start and end time of the sequence to export.

   2. For each item to include in the export, select the associated check box . If you want to export all your search results at the same time, choose the **Select all** button on the workspace toolbar in the upper-right corner.

   3. Select **Export** > **Export** to add the selected video sequences to the **Export list**. This action automatically takes you to the **Exports** tab. Alternatively, select **Export** > **Add to export list** to add the selected video sequences to the **Export list** while you remain in playback mode and can add more sequences to the export list.

   Option 2:

   1. In the **Evidence lock list**, select an existing evidence lock.

   2. Select **Add to export list** to add the selected video sequence with evidence lock to the **Export list** and to stay in playback mode, or select **Evidence lock** > **View** > **Evidence lock list**.

> To export several video sequences from the same camera on the **Export list**, select the sequence and click the split camera icon .

Adjusting export settings

When you have added at least one video sequence to the **Exports** tab > **Export list**, you must also select at least one export format. See Export formats on page 204. Optionally, you can adjust export settings. See Export settings on page 213.

Under the **Export list**, select at least one export format. See Export formats on page 204.

For each video sequence on the **Export list**, you can change the **Start time** and the **End time**.

You can add privacy masks to video sequences to cover different video areas. See also Add privacy masks to recordings during export on page 208.

For each format, you can change the **Export settings**. See Export settings on page 213.

> ✓ The duration of the export and the number of cameras affect how long it takes to complete the export.

Create the export

After you added at least one sequence to the **Exports** tab > **Export list** and selected at least one export format, you can create the export.

> ✎ You might not have user permissions to export video data.
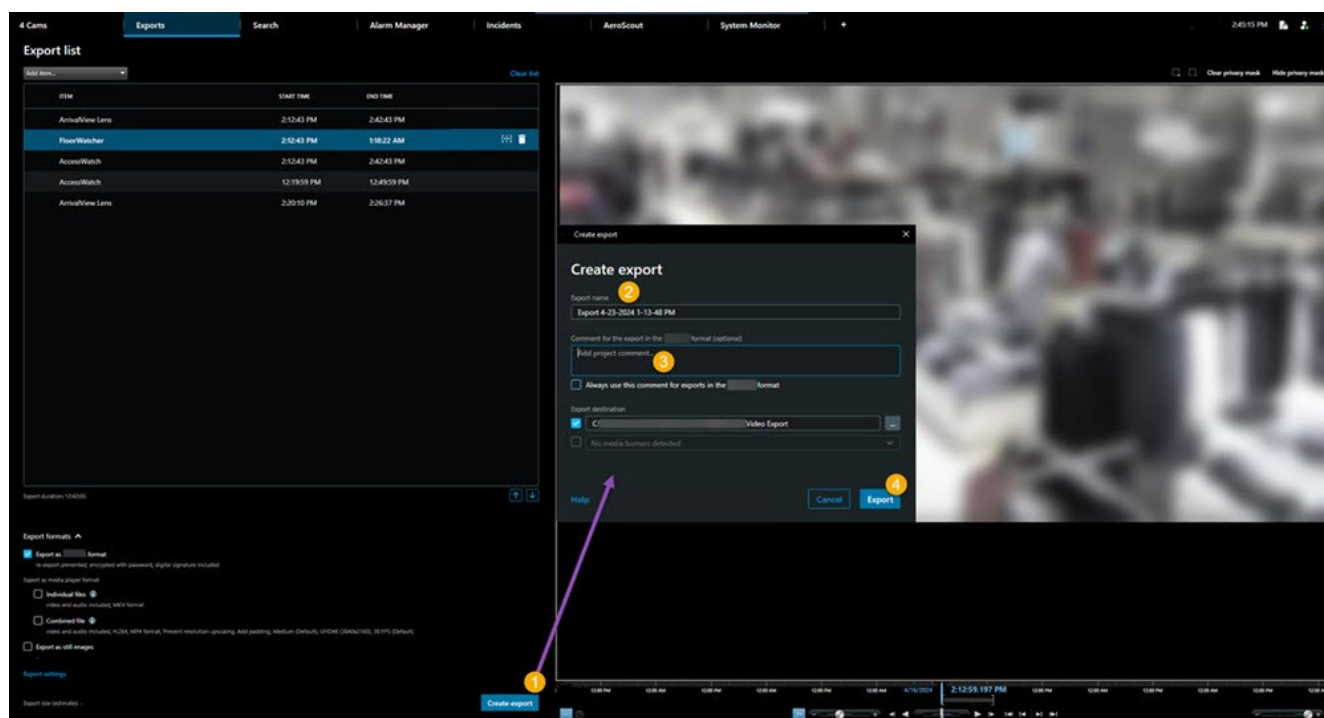
1. Select the **Create export** button. The **Create export** window opens.

2. In the **Export name** field, an export name is automatically created for you. You can change the name.

3. In the **Export destination** field, specify a path for the export. The export you create is stored in the folder you choose here.

4. Select **Export** to export the evidence.

5. The export is created and stored in the folder that you specified as the **Export destination**. See also .

To stop an export before it's finished, select **Cancel**, then confirm by clicking **Cancel** in the displayed window. You can always restore your export list after canceling it, by selecting **Restore export list**. In the same way, you can restore the export list after failed and successful exports. When you restore an export list, it has the same order as the original export list and you don't need to reorder any video sequences.

If you start an export of a combined file and you delete or rename one of the video sequences in the export list before the files are combined, that specific video sequence will be missing in the final exported file. It is listed as **Completed with errors**, **Failed**, or **Partly failed** in the export result window. You must create a new export.

You are now ready to store and share the video safely.

Add privacy masks to recordings during export

When you export video, you can add privacy masks to cover selected areas. When someone watches the exported video, the areas with privacy masks appear as solid blocks.

> The privacy masks you add here apply to all the video sequences in the current export from the camera you selected in the **Export list**. If you remove a privacy mask from one video sequence, it is also automatically removed from all other video sequences for that camera. The export may already include privacy masks which your system administrator has already defined for certain cameras. See also Privacy masking on page 103.

1. On the **Exports** tab > **Export list**, select the camera you want to add a privacy mask to.

2. For each area you want to add a privacy mask to, click the ⊞ button, and drag the pointer over the area.

3. To remove a part of a privacy mask, click the ⊟ button, and drag the pointer over the area you want to remove a privacy mask from. Repeat this step for each part you want to remove.

> To temporarily hide privacy masks, click and hold the **Hide privacy mask** button.

4. Click **OK** to return to the **Exports** tab.

> The preview image contains an invisible grid with cells. If the area you select includes any portion of a cell, the system adds a privacy mask to the entire cell. The result can be that the system adds a privacy masks to slightly more of the image than you intended.

> If you export video that contains privacy masks, the export process may take significantly longer and the export file size may be larger than usual, particularly if you export in the MOBOTIX HUB format.

Storyboards

The storyboard function helps you paste together video sequences from one camera or from multiple cameras into one cohesive flow. You can use the sequence of events, the storyboard, as proof of evidence in internal investigations or the court of law.

You can skip all sequences that are not relevant and avoid wasting time looking through long sequences of video that you do not need. Also, you avoid wasting storage space on stored sequences that do not contain relevant video.

Export storyboards

You can create a storyboard by pasting together video sequences into one cohesive flow and then export it.

1. In playback mode, start by opening a view that contains items that you want to add to your storyboard.

2. In the timeline, click ⧉.

3. Select the start time and the end time for the storyboard.

4. For each item in the view that you want to add, select the corresponding check box and click **Export** > **Add to export list**.

   Repeat steps 1-4 until you have added all items that you need for your storyboard.

5. Continue with the export process. See Adjusting export settings on page 206 and Create the export on page 207.

Export locked video evidence

When you export evidence locks[1], also the data from devices related to the cameras is included in the export.

1. Switch to playback mode.

2. On the workspace toolbar in the upper-right corner, click **Evidence lock** and select **View**.

3. If you want to stay in live mode instead of in playback mode, select **Evidence lock** on the global toolbar.
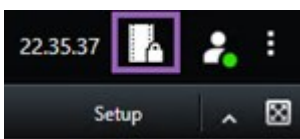
   A list of existing evidence locks with devices that you have permission to access appears.

4. Select an evidence lock and click **Add to export list**.

5. Continue with the export process. See Adjusting export settings on page 206 and Create the export on page 207.

View exported video

The exports that you create are stored in the folder that you specified in the **Create export** window > **Export destination** field.

---

[1]A video sequence that is protected, so it cannot be deleted.

1. To view the exported video immediately after creating it:

    1. In the upper-right corner of MOBOTIX HUB Desk Client, select **Export details**.

        In the **Export details** window > **Export location** field, a link shows the location of the output folder.

    2. Click the link to open the output folder and to access the exported files.
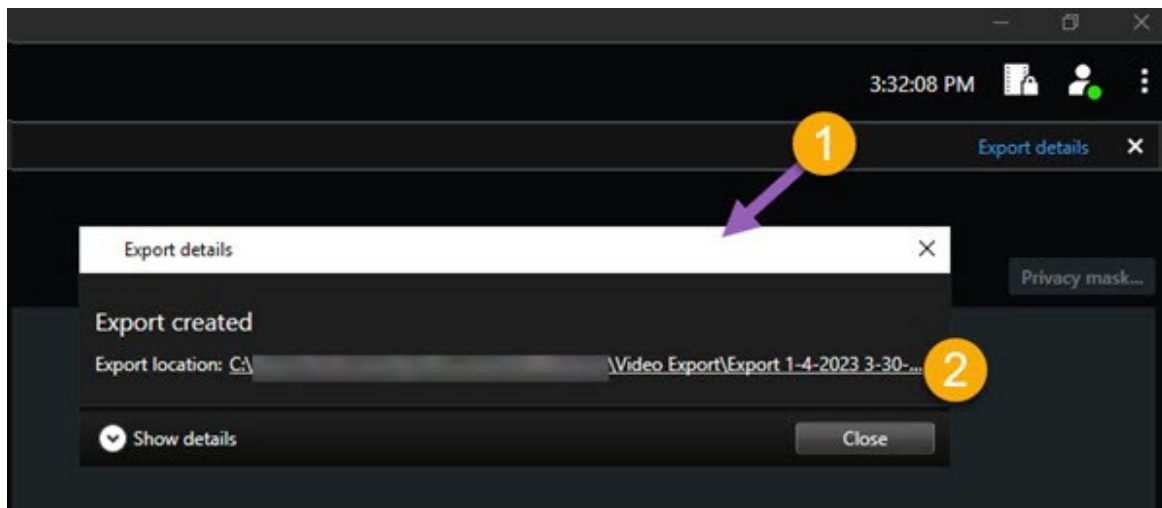
2. If you exported video at a previous point in time:

    1. Go to the folder where you store exports. The default location is `C:\Users\[username]\Documents\MOBOTIX\Video Export`. You can check the folder location in the **Create export** window > **Export destination** field. This works only if you always use the same export destination.

    2. Depending on the output format, open the relevant folder and double-click the video file or still image. If the format is **MOBOTIX HUB format**, double-click the MOBOTIX HUB Desk Client – Player file with the .exe extension.

Printing or creating surveillance reports

Depending on your needs, you can either print surveillance reports on the fly based on still images from surveillance cameras, or you can create surveillance reports that you save to your computer.

See also Print alarm reports on page 138 and Get statistics on alarms on page 138.

Print surveillance report from single cameras

You can print single still images and related information from live cameras or from recorded video. Notes that you add are also printed.

1. To print a recorded still image, switch to playback mode.

2. To print a live still image, switch to live mode.

3. Open the view that contains the camera you are interested in.

4. Hover over the view item. The camera toolbar appears.

5. Click the icon. A window appears.
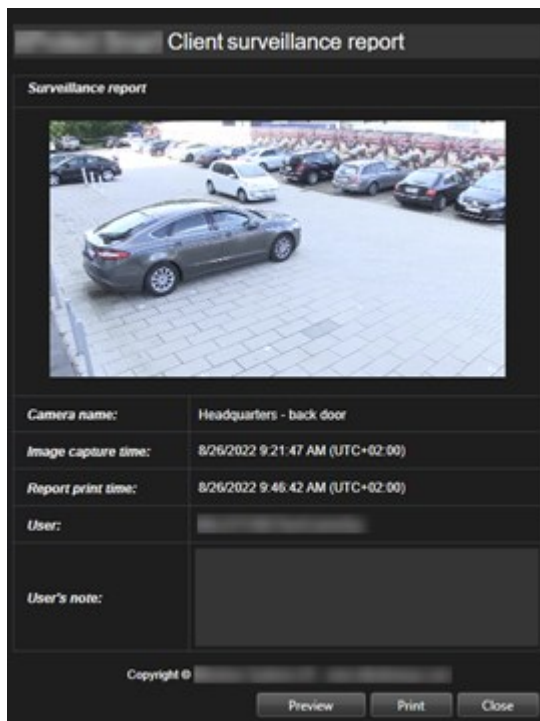
6. Add notes if required.

7. Click **Print**. The Windows **Print** dialog appears.

8. If necessary, change the print settings and print. Otherwise, just click **Print**.

> ✔ You can also print information about alarms if your organization uses the alarm handling features. See also Alarms on page 132.

Create reports from search results

Based on search results, you can create a surveillance report that contains information about the events or incidents, for example still images, event time, information about the cameras, and notes. The report is saved as a PDF file.

1. Go to the **Search** tab and run a search.

2. For each search result that you want to include in the report, hover over it and select the blue check box .

3. In the blue action bar, click . A window appears.

4. Change the default report name into something meaningful. In the report, the name is displayed as the page header.

5. To change the folder that the report is saved to, in the **Report destination** section, click [...] and select a different folder.

6. Optionally, write a note in the **Report note** field.

7. Click **Create**. A progress bar shows that the report is generated.

Creating PDF report... Cancel ✕

8. When the report is generated, select **Details** from the progress bar.

9. Select **Open** to open the report or click the link to open the report's destination folder.

Report details ✕

Completed

Report location: C:\Operator

Open   Close
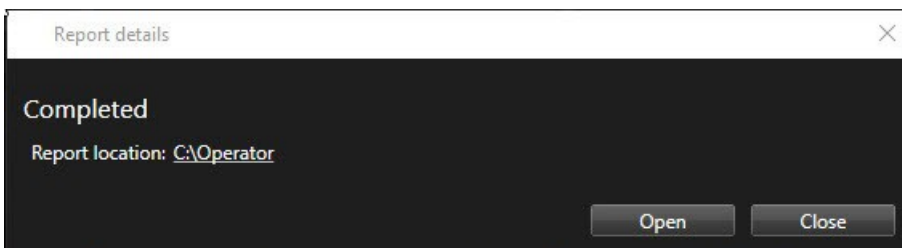
✔ To change the layout of the report, open the **Settings** dialog, click **Advanced**, and then select a different value in the **PDF report format** list.

Copy images to clipboard

You can copy single still images from selected cameras. Copied images can then be pasted (as bitmap images) into other applications, such as word processors, e-mail clients, etc. You can only copy a single image from one camera at a time.

- On the camera toolbar, click the **Copy to clipboard** button 📋 to copy an image

You can now paste (CTRL+V) the image into your application of choice.
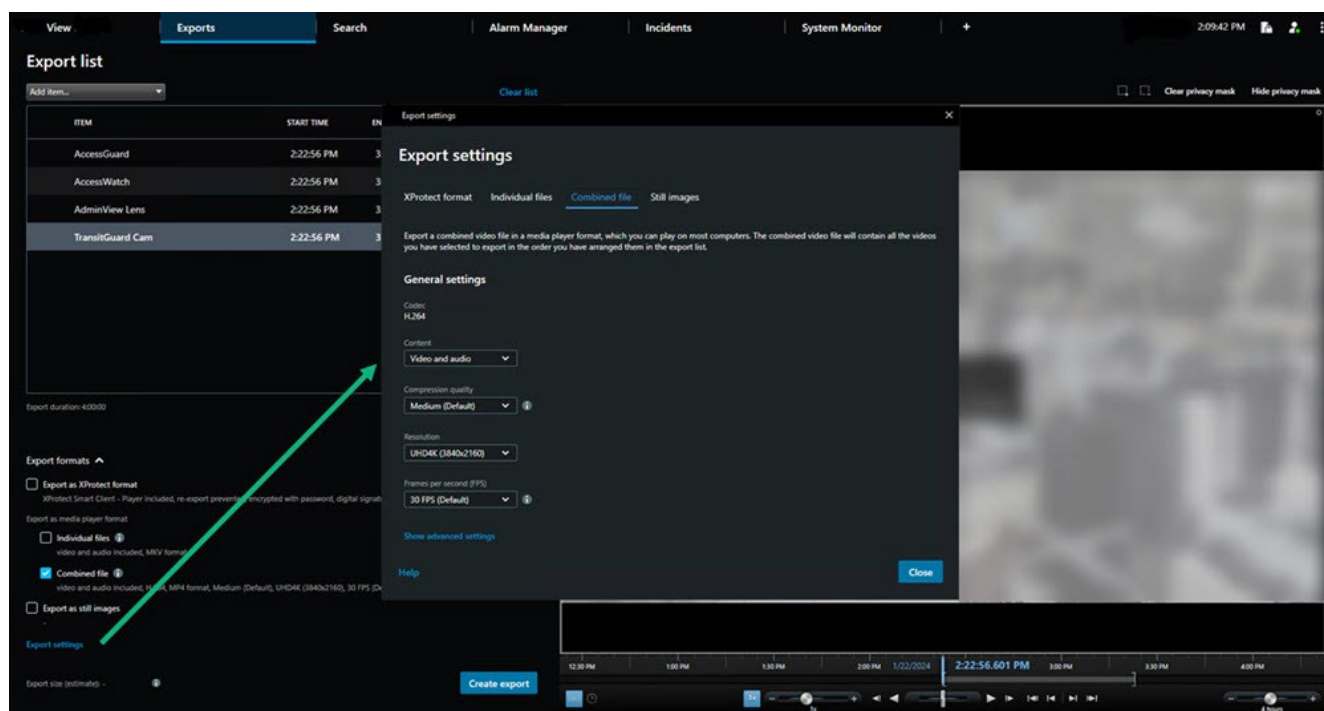
Export settings

On the **Exports** tab, you can choose which formats to use for the export:

For each format, you can change the **Export settings**:

> Your system administrator specifies which formats and which export settings are available to you.
>
> For security reasons, only the MOBOTIX HUB format is available by default. Please contact your system administrator to enable other export formats.

Your export settings are saved. These settings are available the next time you export. If a setting is not available, you do not have permisssions to access it.

MOBOTIX HUB format settings

Choose the MOBOTIX HUB format to create an export that can only be opened on a Windows computer in MOBOTIX HUB Desk Client – Player.

> To open exports that are created in MOBOTIX HUB version 2020 R1 or later, you must use MOBOTIX HUB Desk Client version 2020 R1 or later.

Name	Description
Include	Include the MOBOTIX HUB Desk Client – Player application with the exported data. The exported

Name	Description
MOBOTIX HUB Desk Client – Player	data can only be viewed with the MOBOTIX HUB Desk Client – Player.
Prevent re-export	Prevent your recipients from re-exporting the data in any format to ensure that the data has not been tampered with.
Encrypt with password	Encrypt the export using the encryption standard AES-256. When you select **Export** > **Create export**, you are asked to enter a password that is at least eight characters long. To open and view the exported data, the recipient of the export must enter the password.
Include digital signature	Include a digital signature to your exported database. Depending on your surveillance system settings, the video or audio might already contain a signature. If this is the case, these signatures will be verified during export and if successfully verified, added to the export. If verification fails, the export for the device will also fail. When opening the exported files, the recipients can verify the signature in MOBOTIX HUB Desk Client – Player. ✎ If you do not include a digital signature, neither the signature from the server or the export will be included, and the export will succeed even if the video or audio has been tampered with. Digital signatures can be excluded during the export process in two different situations: • If there are areas with privacy masks[1], digital signatures for the recording server will be removed from the export • If the data you are exporting is very close to the current date and time, the digital signature for the recording server might not be included for the whole sequence. In this case, only part of the export will have digital signatures added The export process will complete, but when you verify the signatures, you will see that the digital signatures for the recording server were removed or partially OK.
Comments	Open the **Add comments to export** window, where you can add comments to individual cameras or to the export project as a whole.

---

[1]A blurred or solid color that covers an area of the video in the camera view. The defined areas are blurred or covered in live, playback, hotspot, carousel, smart map, smart search, and export modes in the clients.

Media player format settings—individual files

Choose the media player format **Individual files** to export standard video or audio sequences as individual files that the recipient can view or listen to on computers with a standard media player installed. The computer must also have the codec you use for the export installed.

To get the smallest export size possible, select the MKV media player format. If not enabled, please contact your system administrator.

Name	Description
Export content	Export video only, audio only, or both video and audio.
Export format	Export video in the AVI[1] format or in the MKV[2] format.
Codec	Your choice of codec[3] will affect the quality and size of the AVI file. You can change the codec, but we recommend that you keep the default codec settings, unless you have a good reason to change these. The codec that you use must be similar on the computer where you intend to play the exported video.
Include timestamps	Add the date and time from the VMS system to the exported video. The timestamp will be displayed at the top of the exported video.
Reduce frame rate	Reduce the frame rate for the export. Every second image will be included, yet still play back in real-time.
Video texts	Open the **Video texts** window where you can create pre- and post-texts for the AVI file. These texts will be added to all cameras for the export and displayed as still images before (**Pre-slides**) or after (**Post-slides**) the video.

[1]A popular file format for video. Files in this format carry the .avi file extension.

[2]Short for "Matroska Video". An MKV file is a video file saved in the Matroska multimedia container format. It supports several types of audio and video codecs.

[3]A technology for compressing and decompressing audio and video data, for example in an exported AVI file.

⚠️ MKV format: If you have not used privacy masking in video recorded in JPEG or MPEG-4/H.264/H.265 formats, no transcoding takes place on recorded video in the export. The recorded video is kept in the original quality. In contrast, if you have used privacy masks or have recorded video using any other codec, recorded video is transcoded into JPEG in the export.

Media player format settings—combined file

Choose the media player format **Combined file** to export several video or audio sequences from various cameras combined into one file that the recipient can view or listen to on computers with a standard media player installed.

Name	Description
General settings	
Export content	Export video only, or both video and audio.
Export format	Export video in the MKV[1] format or in the MP4[2] format.
Compression quality	The compression quality setting affects the file size. The higher the compression quality you choose for the encoder to apply, the bigger the file size.
Resolution	The option you select will determine the maximum resolution of the output file. As multiple video sequences are combined into one video file, individual camera resolution and aspect ratio can make the resolution change during playback, but only to a lower resolution than selected.
Frames per second	Frames per second indicates the number of frames shown per second. The higher amount of frames, the bigger the file size.
Advanced settings	
Resolution settings	To control the output resolution and help with compatibility with mobile devices, you can use these options: **Prevent upscaling**: To prevent video from low-resolution cameras from being scaled up and

---

[1]A popular file format for video. Files in this format carry the .avi file extension.

[2]Short for "Matroska Video". An MKV file is a video file saved in the Matroska multimedia container format. It supports several types of audio and video codecs.

Name	Description
	thereby looking grainy, you can select this option to avoid increasing output resolution beyond its original size. **Add padding**: Combining video sequences from different cameras into one file can change the resolution during playback. Some media players do not support that. This option will add padding around the video to ensure that the resolution is the same for the entire video.

Still images settings

Choose the still image format to export a still image for each frame of each video sequence. The images are in the JPEG[1] format.

Name	Description
Include timestamps	Add the date and time from the VMS system to the exported images. The timestamp will be displayed at the top of the exported images.

Settings on the Exports tab

Name	Description
Export list	Lists the items selected for export, for example video sequences. For each item, you can change the time span by clicking the start time or the end time. After selecting a new date and time, click **Go To**. You can also change the time span by dragging the handles underneath the preview area. Click an item to see a preview of the sequence in the preview area. You can remove an item from the **Export list** list by clicking the **Remove** icon ▯ next to it. If you want to split the item into two, click the **Split** icon ⊞ in the preview area.

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[1]An image compression method, also known as JPG or Joint Photographic Experts Group. The method is a so-called lossy compression, meaning that some image detail will be lost during compression. Images compressed this way have become generically known as JPGs or JPEGs.

Name	Description
Add item	Use the **Add item** button to select other items that you want to include in the export.
Remove all	Use the **Remove all** button to clear the **Export list**.
Export name	The program automatically fills this in with the local date and time, but you can rename it.
Export destination	**Path** - when you specify a path, the folders you specify do not have to be existing ones. If they do not already exist, they are created automatically. A path may already be suggested in this field. **Media burner** - you can specify a burner that you want to send the export to. In this way, you create the export and make sure it is written directly to an optical media in one go.
Privacy mask	Click to add privacy masks to the video. The privacy masks cover the selected area with a solid, black area. The privacy masks that you add here only apply to the current export and for the selected video. The export may already include video with privacy masks configured by your system administrator. For more information, see Privacy masking on page 103.

Repair a database exported in MOBOTIX HUB format

If an exported database in MOBOTIX HUB format is corrupt, you can repair it by opening it with MOBOTIX HUB Desk Client – Player.

1. Open the folder that contains the exported video and run the DeskClient-Player.exe file.

2. If the exported video is password protected, enter the password.

3. Select **Connect**.

4. Select the **Setup** button in the upper-right corner.

5. Expand the **Overview** pane and select **Open database** .

> ⚠️ Do never attempt to open a live database or live archive with MOBOTIX HUB Desk Client – Player, as this may damage the indexing of your recordings, and as a result, they become unavailable.

6. Select the folder containing the relevant exported database. The default folder for databases with exported video is `C:\Users\[user name]\Documents\MOBOTIX\Video Export\[name of export]\Client Files\Data\Mediadata\[name of device]`. When you select an exported database, the device name appears next to the **Camera**, **Microphone**, or **Speaker** field.

> If the system cannot identify a camera, for example, when you open archived recordings, the device name will be **Unknown** and all three types of devices will be added as **Unknown** devices (even if they don't exist) with the exported database file name assigned. If there is no device, the field contains **N/A**.

7. If the exported database you're trying to open is corrupt, the wizard repairs it.

FAQ: exporting

Can I export audio too?

When exporting in the media player and in the MOBOTIX HUB formats, you can—if your surveillance system supports this—include recorded audio in the export. Export in the MOBOTIX HUB format is only available if connected to selected surveillance systems. When exporting in the still image format, you cannot include audio.

>

If I export a bookmarked sequence, what is included in the export?

The entire bookmarked sequence (see Adding bookmarks on page 191) is included, from the specified start to the specified end time.

Can I include local video clip files in my export?

No, you can only include sequences from cameras or other devices that are connected to your VMS system.

If I export a sequence, what is included in the export?

The entire sequence, from the first image of the sequence to the last image of the sequence.

If I export a sequence with an evidence lock, what is included in the export?

All data protected from deletion is included: all the cameras and data from devices related to the cameras, from the first to the last images of the selected interval.

Can I export fisheye lens recordings?

Yes, provided your surveillance system supports the use of 360° lens cameras (i.e. cameras using a special technology for recording 360° images).

What can I do to reduce the file size of the export?

You cannot compress the export files to reduce the size of the export. To get the smallest export size possible, select the MKV media player format. If not enabled, please contact your system administrator.

Why can't I specify an export path?

You can usually specify your own path, but if you are connected to certain types of surveillance systems, the surveillance system server may control the export path setting and you cannot specify your own path. See Your organization's MOBOTIX HUB products and extensions on page 28.

Why have digital signatures been removed in my exported video?

There are two scenarios where digital signatures are excluded during the export process:

- If there are areas with privacy masks, digital signatures for the recording server will be removed in the export.

- If the data you are exporting is very close to the current date and time, the digital signature for the recording server might not be included for the whole sequence.

The export process will complete, but when you verify the signatures, you will see that the digital signatures for the recording server were removed or only partially added.

Can I protect the evidence I export from being tampered with or ending in the wrong hands?

Yes. When you export in the MOBOTIX HUB format, you can protect the exported evidence with a password and add a digital signature to the exported material. You can also prevent your recipients from re-exporting the material. See MOBOTIX HUB format settings on page 214.

Troubleshooting: Exporting

At least one database file is using an unsupported encryption algorithm

If you see this warning, your current MOBOTIX HUB VMS system uses AES-256 for encrypting exported video data to comply with the FIPS 140-2[1] security standard. However, the system which was used to create the export uses a different encryption standard.

To resolve the issue, do one of the following:

- Re-export the video data using an upgraded version of MOBOTIX HUB Desk Client. The version must be equal to or newer than your current version

- Though MOBOTIX recommends always using the latest version of MOBOTIX HUB Desk Client, you can open the export using an older version of MOBOTIX HUB Desk Client in offline mode

- Open the export on a computer where FIPS mode is disabled. See also https://docs.microsoft.com/en-us/windows/security/threat-protection/fips-140-validation#using-windows-in-a-fips-140-2-approved-mode-of-operation

> ✎ MOBOTIX recommends that you password-protect your data. To do this, select the **Encrypt with password** check box in the **Export settings** window > **MOBOTIX HUB format**.

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[1]A U.S. government standard that defines the critical security parameters that vendors must use for encryption before selling the software or hardware to U.S. government agencies.

Monitoring the health of your system

Checking the server connection

Check the status of your server connection

You can check the status of your server connection, for example, to see if you are using an older security model (HTTP) or the newest security model (HTTPS).

If multiple sites are connected through MOBOTIX Federated Architecture, you can also check the connected sites. MOBOTIX Federated Architecture enables organizations to connect related but physically separate MOBOTIX HUB VMS systems. For example, such a setup can be relevant for chains of shops.

1. On the global toolbar, select the **User profile** button.
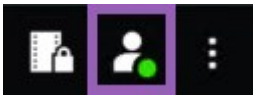
2. Select **Login information** and check the status of your connection. The status can be **Secure - Connected**, **Non-secure - Connected**, or **Not connected**.

> If your MOBOTIX HUB Desk Client is connected to a MOBOTIX HUB VMS system or a federated site using the older security model (HTTP), a **Not secure** information message is shown to the left of the global toolbar.

Monitoring your system in MOBOTIX HUB Desk Client

Monitor your system

The **System Monitor** tab gives you an overview of the current status of your servers, connected devices, and the computer running MOBOTIX HUB Desk Client.

For more information, see Default tabs on page 51.

Monitor client resources
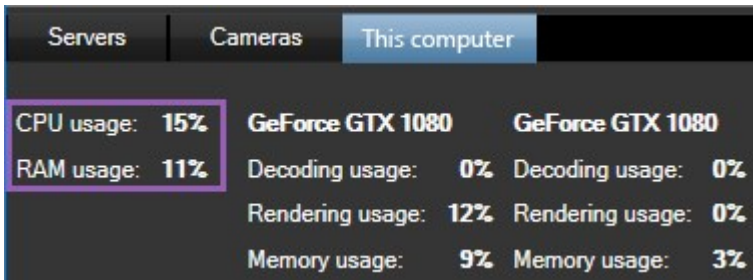
The number of cameras in a view together with the resolution, frame rate[1], and codec[2] results in a load on your PC running MOBOTIX HUB Desk Client. To observe the current load on **CPU**, **RAM**, and NVIDIA GPU resources:

---

[1]A measure indicating the amount of information contained in motion video. Typically measured in FPS (Frames Per second).
[2]A technology for compressing and decompressing audio and video data, for example in an exported AVI file.

1. Click and drag the **System Monitor** tab to undock it to a detached window.

2. Select **This computer**.

3. Select a view to monitor the load of the current view.

> If your client PC has additional NVIDIA display adapters installed, the load on these GPU's are also visible.

> If the load is too high, you can add GPU resources to your PC by installing multiple NVIDIA display adapters. MOBOTIX does not recommend the use of Scalable Link Interface (SLI) configuration of your NVIDIA display adapters.

System Monitor tab with MOBOTIX Federated Architecture

If you run MOBOTIX Federated Architecture™, the **System Monitor** tab is divided into two parts:

- One pane displays a hierarchical tree-structure representing your federated architecture

- The other pane is a browser-based area with relevant system data for the selected server

Click any server in the site pane to see its system data.

If you move away from the tab or log out of the system and come back, the **System Monitor** tab remembers which server is selected in your federated architecture and continues to display system data from this server.

You can drag the **System Monitor** tab to an independent window to monitor multiple servers.

Creating views

Creating views

Private and shared views

Views can be shared or private.

- Shared views: available to multiple users, typically created by system administrators or supervisors.

- Private views: available only to the user who created them.

  You can create private views if you have permission to switch to setup mode. Private views are stored under the **Private** folder and are available for you from any computer when logged in to MOBOTIX HUB Desk Client.

The **Views** pane contains:

- A **Private** folder: contains your private views, accessible from any computer when logged in. This can include an automatically generated default view with video from all your cameras.

- **Shared** folders: contain view groups with shared views. Protected folders have a padlock icon and cannot be modified by regular users.

Creating views

Creating views involves a series of overall steps that you typically complete in the following order:

1. If want to save a new view under a new group, you create the group first. See Create a view group on page 225.

2. You create the view itself. See Create a view on page 225.

   > 🖉 Consider if copying and adjusting an existing view is faster than creating a new one. See Copy a view or view group on page 226.

3. You add content to the view. See Adding content to views on page 224.

4. (optional) You assign shortcut numbers to the view to enable users to switch between views quickly. See Assign a shortcut number to a view on page 226.

5. (optional) You add overlay buttons to the different camera view items in a view to enable the users to trigger actions directly from the views. See Add an overlay button to a camera view item on page 230.

Adding content to views

You can add various types of content to your views, such as video from cameras or maps. For a full list of content types, see Content in view items on page 30.

When creating shared views for a group of users, ensure:

- Users have the necessary permissions to view the content.

- Users have the same or a later version of MOBOTIX HUB Desk Client that supports the features.

Create a view group

You can make it easier to find and manage your views by organizing them into groups. Your system administrator may already have set up some groups, but you can usually create your own within existing view groups.

1. On the workspace toolbar, select **Setup**.

2. On the **Views** pane, select the **Private** or shared view group that you want to add a group to.

3. At the bottom of the **Views** pane, select **Create new group** 📁.

4. Name the group.

5. Select **Setup** again to exit setup mode and save your changes.

You can now create views within your new group.

Create a view

To create new views with different layouts and content combinations:

1. On the workspace toolbar, select **Setup**.

2. On the **Views** pane, select the view group to add the view to.

3. At the bottom of the **Views** pane, select **Create new view** ▦.

4. Choose a layout and number of view items.
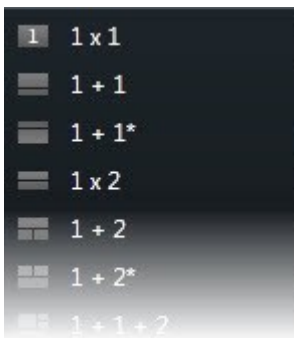
5. Name the view.

6. Select **Setup** again to exit setup mode and save your changes.

> ✎ If your system administrator changes camera properties and user permissions in the MOBOTIX HUB VMS system, it may require you to re-create one or more views.

Create a temporary view through search

You can quickly create a temporary view by searching for cameras.

1. On the **Views** tab, use the **Search views and cameras** field to search for cameras.

   Additionally, you can select [icon] next to the search field to use common search keywords.

2. Select a view from the search results.

3. Select one or more cameras (use **Ctrl** or **Shift** to select mulitple cameras) and then press **Enter** to create the temporary view.

If you want to save your view, on the workspace toolbar, select **Setup**.

Copy a view or view group

You can copy a view or a group with all its views and paste them to another place on the **Views** pane.

If you have permissions, you can also copy a private view to a shared view group, making it available to more users.

1. On the workspace toolbar, select **Setup**.

2. Select the view or group you want to copy.

3. At the bottom of the **Views** pane, select **Copy** [icon], or press **CTRL+C**.

4. Browse to where you want to paste the view, select **Paste** [icon], or press **CTRL+V**.

5. To rename the copied view or group, right-click it and select **Rename** [icon].

Assign a shortcut number to a view

Assign shortcut numbers to views so you can quickly switch between views. See .

1. Select the view you want to assign a shortcut number to.

2. On the workspace toolbar, select **Setup**.

3. At the bottom of the **Views** pane, in the **Shortcut** field, enter a shortcut number, and then press **Set**.

   The shortcut number appears in parentheses before the view name.

4. Select **Setup** again to exit setup mode and save your changes.

Adding video to view items

Add a camera to a view

To view video from a camera, you must first add the camera to a view.

1. On the workspace toolbar, select **Setup**.

2. Select the view.

3. On the **System overview** pane, select a server ⬛ and expand the folders to find the relevant cameras.

> ✏️ If a server has a red icon, it is unavailable, and its cameras are not listed.

4. Select a camera and drag it to a view item, or select a folder to add all cameras within it to your view.

> ⚠️ **Check permissions for shared views:** Ensure that users have permission to view video from the cameras in your shared view. If in doubt, contact your system administrator.

5. On the **Properties** pane, specify camera properties (for example, live stream and PTZ click mode). See The camera settings (Properties pane) on page 236.

6. Select **Setup** again to exit setup mode and save your changes.

Define the dimension of the video in a view item

You can choose to maintain the original dimensions of the video or stretch it to fill the view item.

1. On the workspace toolbar, select **Setup**.

2. Select the view and the camera view item containing the video stream you want to adjust.

3. On the **Properties** pane, use the **Maintain image aspect ratio** option:

   - Select to keep the dimensions of the original video. This option can result in black space around the video.

   - Clear to stretch the video to fill the view item. This option fills the view item uniformly but may distort the video.

> ✅ To apply the same settings for all camera, hotspot, and carousel view items, define the settings for one view item, then select **Apply To All** in the **Properties** pane.

4. Select **Setup** again to exit setup mode and save your changes.

Show/hide the camera title bar and indicators

The camera title bar and video indicators provide useful status information (for example, recording status), but hiding them can free up space for the video.

1. On the workspace toolbar, select **Setup**.

2. Select the relevant view and camera view item.

3. On the **Properties** pane, under **Display settings** and **Use default display settings**, select or clear **Show title bar**.

> ✅ To apply the same settings for all camera, hotspot, and carousel view items, define the settings for one view item, then select **Apply To All** in the **Properties** pane.

4. Select **Setup** again to exit setup mode and save your changes.

> ✏️ If you choose not to display the title bar, you won't see the visual indicators for motion and events. As an alternative, you can use sound notification.

See also .

Show bounding boxes around important objects

If you have cameras or integrations that can identify the whereabouts of objects and send metadata to your MOBOTIX HUB VMS, the MOBOTIX HUB VMS can place visual indicators called bounding boxes around the objects in the video.

The bounding boxes help you monitor the whereabouts of important objects for your organization and business.

1. On the workspace toolbar, select **Setup**.

2. Select the relevant view and the camera view item.

3. On the **Properties** pane, under **Display settings**, select **Show bounding box layer**.

4. Select **Bounding box providers** to enable the metadata device. If there is only one provider, it is automatically selected.

5. Select **Setup** again to exit setup mode and save your changes.

Bounding boxes also appear when you:

- Export video in the MOBOTIX HUB format. See .

- Print still images. See .

If bounding boxes don't appear, see .

Remove jitter from live video

Live video may sometimes jitter due to minor bandwidth or network issues. Jitter appears as irregular movement, such as choppy video when a person is walking. To smooth out live video, you can add a small buffer before displaying it in MOBOTIX HUB Desk Client. Although this buffering introduces a slight delay, the video appears smoother.

Important considerations

- **Delayed response:** avoid using video buffering for pan-tilt-zoom (PTZ) cameras if you need instant response for joystick operations, because the delay will be noticeable.

- **Memory usage:** Video buffering can increase memory usage, so keep it as low as possible.

To remove jitter:

1. On the workspace toolbar, select **Setup**.

2. Select the view and the camera view item with the live video stream you want to smooth.

3. On the **Properties** pane, under **Video buffering**:

    - Select **Use default video buffer** to use the buffer defined by your system administrator. See also Application settings on page 332.

    - Clear **Use default video buffer** and expand the **Video buffer** list to select a buffer from **None** to **Maximum - (2 seconds)**.

    > ✓ To apply the same settings for all camera, hotspot, and carousel view items, define the settings for one view item, then select **Apply To All** in the **Properties** pane.

4. If you don't see **Video buffering** on the **Properties** pane, in the **Settings and more** menu, select **Settings**, and on the **Functions** tab, set **Setup** > **Edit video buffering** to **Available**. See also Functions settings on page 335.

5. Select **Setup** again to exit setup mode and save your changes.

Adding camera commands to camera view items

Overlay buttons

If a camera offers auxiliary commands, you can give direct access to the commands in live mode by adding overlay buttons to the camera view item displaying the video. You can add overlay buttons to perform tasks like activating speakers, triggering events, or moving PTZ cameras.

- **Permissions:** You can add overlay buttons for auxiliary commands even if you do not have permission to perform them. Users with the appropriate permissions will be able to use these buttons. In setup mode, overlay buttons you lack permission to use will appear dimmed, and they will not be visible in live mode.

- **Documentation:** Refer to the camera's documentation to see which auxiliary commands are available.

Overlay buttons appear when you move your mouse over individual camera view items in live mode.

Add an overlay button to a camera view item

You can add overlay buttons[1] to your camera view items to perform tasks such as activating speakers, triggering events, or moving PTZ cameras directly from your views.

Overlay buttons appear when you move your mouse over individual camera view items in live mode.

You can add as many overlay buttons as you need.

1. Select the view where you want an overlay button.

2. On the workspace toolbar, select **Setup**.

3. In the **Overlay buttons** pane, select and drag the command to the camera view item.

4. Place and resize the overlay button.

5. To change the text of the overlay button, double-click it, then select the check box to save your change or to discard the changes.

6. Select **Setup** again to exit setup mode and save your changes.

---

[1]A button appearing as a layer on top of the video when you move your mouse cursor over individual view items with cameras when in live mode. Use overlay buttons to activate speakers, events, output, move PTZ cameras, start recording, clear signals from cameras.

Replace a camera but keep its settings

You can replace a camera in a view but retain the settings for that view item.

1. On the workspace toolbar, select **Setup**.

2. In the **Views** pane, select the view and camera view item to replace.

3. In the **Properties** pane, select the ellipses button next to the **Camera name** field.

4. Select the new camera.

5. Select **Setup** again to exit setup mode and save your changes.

Add a carousel to a view

A carousel view item shows live video from each camera in a camera group in rotation so you're aware of what is happening in your area.

1. Select the view.

2. On the workspace toolbar, select **Setup**.

3. On the **System overview** pane, drag the **Carousel** item to a view item.

4. In the **Carousel setup** window, under **Cameras**, double-click each camera to add to the carousel.

5. In the **Selected cameras** list, arrange the cameras to define the sequence.

6. Enter the display duration for the cameras in the carousel. You can specify a value for all or for each camera.

7. (optional) Adjust the carousel's settings on the **Properties** pane under **Carousel setup**.

> ✎ The **Live stream** setting on the **Properties** pane apply to all cameras in the carousel.

8. Select **Setup** again to exit setup mode and save your changes.

Add a hotspot to a view

A hotspot view item displays video feeds in a higher resolution enabling users to see details more clearly while also saving bandwidth on your remote connections.

There are two types of hotspots:

- Global hotspots: Display the selected camera, whether it's in the main window or a secondary display.

- Local hotspots: Display the selected camera within the local display.

> ✅ It's recommended to add a hotspot to the largest view item, such as the large view item in a **1+7** view.

1. Select the view.

2. On the workspace toolbar, select **Setup**.

3. On the **System overview** pane, drag the **Hotspot** item to the relevant view item.

4. (optional) On the **Properties** pane, modify the properties for the hotspot.

5. Select **Setup** again to exit setup mode and save your changes.

Add Matrix content to a view

Matrix view items enable users to share live video feeds with each other to improve awareness and collaboration around incidents. Rules defined by your system administrator can also trigger the sharing of Matrix content when specific incidents occur..

You can add as many Matrix view items to a view as required, so that you can watch Matrix-shared video in multiple view items at the same time. The first Matrix view item you add is the primary one, the second the secondary, and so on, which determines how the video is shown. You can change the ranking when in setup mode.

1. Select the view.

2. On the workspace toolbar, select **Setup**.

3. On the **System overview** pane, drag the **Matrix** item to the required view item. A Matrix icon appears.

4. On the **Properties** pane, define the Matrix properties.

   - **Window index**: If you have more Matrix view items, select which one is the primary Matrix view item, the secondary and so forth. The primary view item shows the latest Matrix-triggered video, the secondary shows video from the previous, and so forth.

   - **Connection settings**: Select the primary Matrix view item to specify the **TCP port** (default 12345) and **Password** for transferring Matrix-triggered video from MOBOTIX HUB VMS server to the MOBOTIX HUB Desk Client view. All Matrix view items in the view inherit the settings. Contact your system administrator about which port number or password your organization uses.

5. Select **Setup** again to exit setup mode and save your changes.

Change the PTZ click mode

The PTZ click mode determines how you move a PTZ camera with your mouse. You can set the default PTZ click mode for a camera view item based on your preferences.

1. On the workspace toolbar, select **Setup**.

2. Select the view and the camera view item with a PTZ camera.

3. On the **Properties** pane, expand the **PTZ click mode** list and choose:

   - **Use default**: Select to use the PTZ click mode defined by your system administrator. Users can't change this setting.

   - **Click-to-center**: Choose this if you often pan to fixed objects, such as moving from a door to a window.

   - **Virtual joystick**: Choose this if you often track moving objects.

   > ✅ To apply the same settings for all camera, hotspot, and carousel view items, define the settings for one view item, then select **Apply To All** in the **Properties** pane.

4. Select **Setup** again to exit setup mode and save your changes.

Playing sound notifications

Sound notifications

You can enable sound notifications for camera view items to alert you when special attention is needed such as motion detection or event triggers, even if you're not actively viewing live video. These notifications are only active for the views that are currently open and visible.

You and your system administrator can configure that a sound notification is played when:

- Motion is detected.

- Events happens.

> ✏️ MOBOTIX HUB Desk Client only plays sound notifications from selected, open, and visible views. If you minimize a window or maximize a camera view item, you won't receive sound notifications from the hidden view items.

Play sound notifications on motion

If you do not actively view live video all the time, you can configure MOBOTIX HUB Desk Client to play a simple sound notification when motion is detected in the video.

1. On the workspace toolbar, select **Setup**.

2. Select the view and the camera view item you want to enable sound notifications for.

3. On the **Properties** pane, in the **Sound on motion detection** list select:

   - **Always off**: Disable sound notifications for motion detection.

   - **Always on**: Play a sound notification for detected motion.

   > ✎ The frequency of sound notifications depends on the motion detection sensitivity configured by your system administrator.

   > ✓ To apply the same settings for all camera, hotspot, and carousel view items, define the settings for one view item, then select **Apply To All** in the **Properties** pane.

4. Select **Setup** again to exit setup mode and save your changes.

Play sound notification on event

You can configure MOBOTIX HUB Desk Client to play sound notifications when specific events related to a camera occur.

Prerequisite:

Your system administrator must have configured notifications on events on the MOBOTIX HUB VMS system server.

1. On the workspace toolbar, select **Setup**.

2. 2. Select the view and the view item you want to enable sound notifications for.

3. On the **Properties** pane, in the **Sound on motion detection** list select:

   - **Always off**: Disable sound notifications for events.

   - **Always on**: Play a sound notification for each detected event.

   > ✓ To apply the same settings for all camera, hotspot, and carousel view items, define the settings for one view item, then select **Apply To All** in the **Properties** pane.

4. Select **Setup** again to exit setup mode and save your changes.

Improving bandwidth, CPU, and GPU usage

Bandwidth, CPU, and GPU usage improvement

The best way to improve the overall performance of your MOBOTIX HUB VMS system and MOBOTIX HUB Desk Client installations is for the system administrator to configure the cameras to send multiple streams and configure your MOBOTIX HUB VMS system to use adaptive streaming.

The following information provides alternative ways of improving network bandwidth and CPU and GPU usage in MOBOTIX HUB Desk Client when you create your views.

Select a fixed live stream

If your system administrator has set up camera to send multiple streams, you can choose a live stream that uses less bandwidth.

1. On the workspace toolbar, select **Setup**.

2. On the **Views** pane, select the view and the camera view item to replace.

3. On the **Properties** pane, expand the **Live stream** list and select your preferred live stream option.

    > ✅ If your MOBOTIX HUB VMS uses adaptive streaming, select **Default**.

    > ✅ To apply the same settings for all camera, hotspot, and carousel view items, define the settings for one view item, then select **Apply To All** in the **Properties** pane.

4. Select **Setup** again to exit setup mode and save your changes.

Only refresh live streams with motion

To reduce network bandwidth and CPU usage, you can configure MOBOTIX HUB Desk Client to refresh a camera view item only when motion is detected. When there is no motion, a still image from the last detected motion is shown with a gray overlay and the message **No motion**.

This setting can significantly reduce your computer's CPU usage, depending on the motion detection sensitivity configured by your system administrator.

1. On the workspace toolbar, select **Setup**.

2. Select the view and the camera view item to update only when there's motion.

3. On the **Properties** pane, select **Update on motion**.

    > ✅ To apply the same settings for all camera, hotspot, and carousel view items, define the

> ✅ settings for one view item, then select **Apply To All** in the **Properties** pane.

4. Select **Setup** again to exit setup mode and save your changes.

The camera settings (Properties pane)

You can fine-tune how video is displayed in camera view items, adjust how you pan, tilt, and zoom using your mouse or joystick, and set up sound notifications for motion detection.

To customize these settings, in **Setup** mode, in the **Properties** pane, you can view and edit properties for the selected camera.
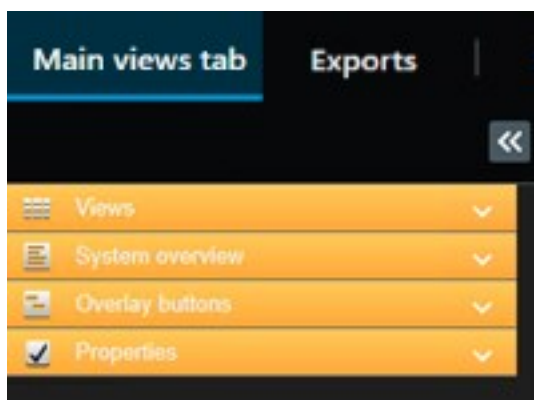
Setting	Description
Ellipse button next to **Camera name**	Replace a camera but keep its settings on page 231
Live stream	Select a fixed live stream on page 235
PTZ click mode	Change the PTZ click mode on page 232
Maintain Image Aspect Ratio	Define the dimension of the video in a view item on page 227
Update on motion	Only refresh live streams with motion on page 235
Sound on motion detection	Play sound notifications on motion on page 233

Setting	Description
Sound on event	Play sound notification on event on page 234
Display settings	Show/hide the camera title bar and indicators on page 227 Show bounding boxes around important objects on page 228
Video buffering	Remove jitter from live video on page 228
Apply to all	Select to quickly apply the properties you selected for one camera view item on all camera view items in the view.

Adding other content to view items

Add an alarm list to a view

To enable operators to quickly focus on and respond to incidents, you can add a prioritized alarm list to one view item and an alarm preview to another.

Typically, both the alarm list and alarm preview are placed within the same view:

- The alarm list displays prioritized alarms with multiple filtering options.

- The alarm preview shows the video related to the selected alarm.

To add an alarm list and preview:

1. Select the view.

2. On the workspace toolbar, select **Setup**.

3. On the **System overview** pane, expand **Alarms** and drag the **Alarm List** to a view item.

4. Drag the **Alarm Preview** to another view item.

5. Select **Setup** again to exit setup mode and save your changes.

Add a smart map to a view

If you have created a smart map with a virtual presentation of the protected area and the locations of all cameras and security devices added to the MOBOTIX HUB VMS, you can add this smart map to your views to improve situational awareness

1. Select the view.

2. On the workspace toolbar, select **Setup**.

3. On the **System overview** pane, drag an existing **Smart map** item to a view item in your view.

4. Select **Setup** again to exit setup mode and save your changes.

Add a map to a view

If you have created a virtual map of an area, including the locations of all cameras and security devices added to the MOBOTIX HUB VMS, you can add this map to your views to improve situational awareness.

1. Select the view.

2. On the workspace toolbar, select **Setup**.

3. On the **System overview** pane, drag the **Map** item to a view item in your view.

4. Select either **Create new map** or **Use existing map**. A triangle next to a map name indicates that the map might include at least one sub-map. The sub-maps are also added.

5. If you have selected **Create new map**, in the **Name** field, enter a name for the map

6. Select **Browse** to find and select the image file you want to use as a map.

7. Select **Setup** again to exit setup mode and save your changes.

> ✅ If your view includes a map view item, also having a hotspot view item enables users to quickly select different cameras on the map and view their video in the hotspot

Add a web page to a view

You can embed web pages into your views, such as online instructions or company web pages, alongside the video from cameras or other content.

The supported formats are HTML, PHP, and ASP.
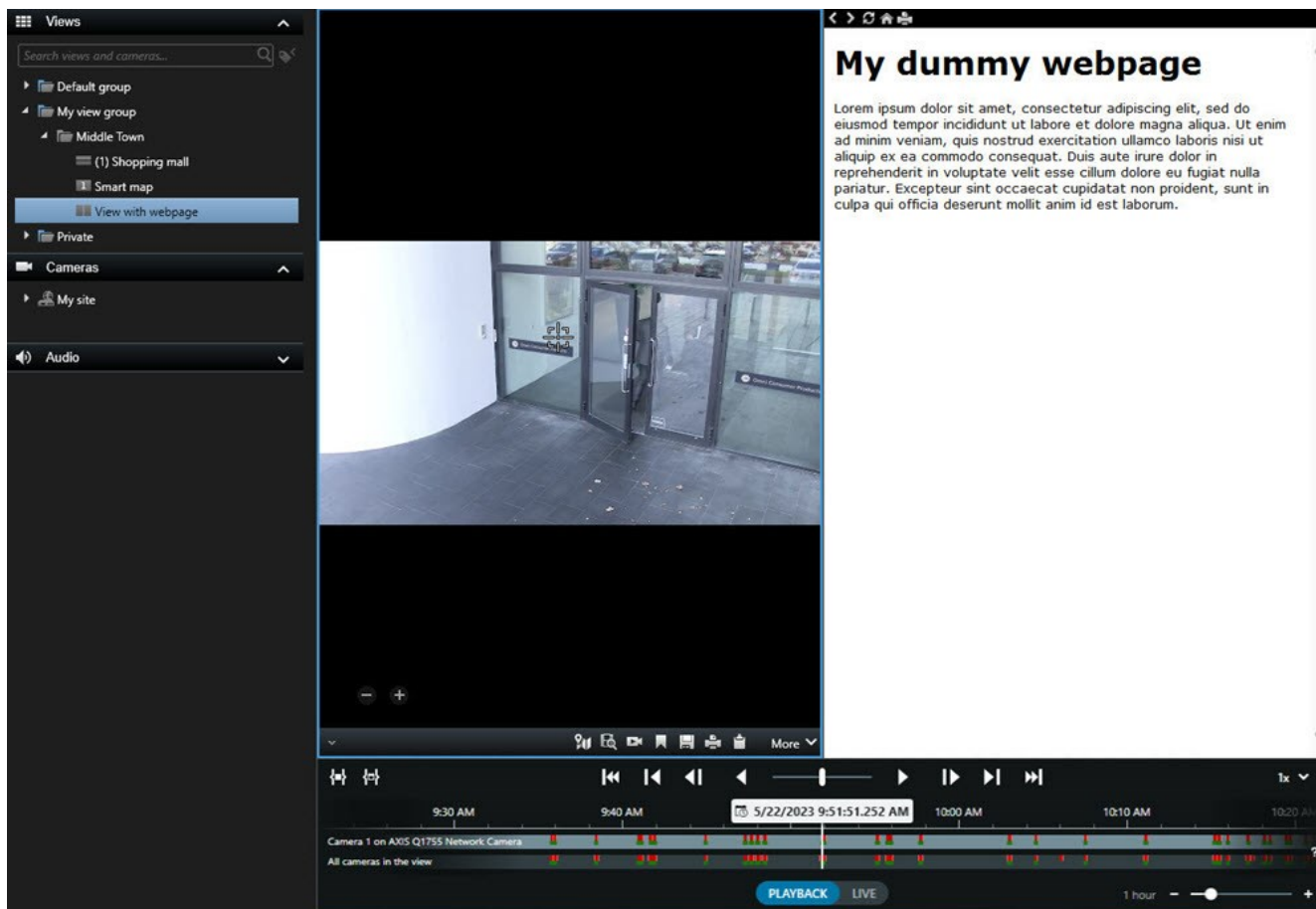
1. Select the view.

2. On the workspace toolbar, select **Setup**.

3. On the **System overview** pane, select and drag the **HTML page** item to one of the view items.
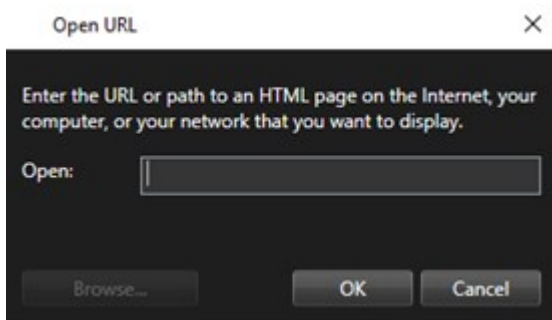
4. Enter the web address of the web page.

5. Expand the **Properties** pane to verify the web page properties and change them if needed. See Web page properties on page 240.

6. Select **Setup** again to exit setup mode and save your changes.

Web page properties

Property	Description
Display mode: Standard	Uses Microsoft Edge for web pages located on a web server using HTTP or HTTPS.
Display mode: Compatibility	Uses Internet Explorer for web pages that: • Are located locally (computer, network, or on an FTP server) • Use other network protocols than HTTP and HTTPS • Contain scripts designed to interact with MOBOTIX HUB Desk Client • Use an older version of HTML
Scaling	Select the scaling of the web page. ✎ This option is only available if the display mode is set to **Compatibility**.
Hide toolbar	Select to hide the navigation toolbar ⟨ ⟩ ⟳ ⌂ 🖶 .

Troubleshooting: Attempts to add a web page to a view

These scenarios can occur when you add a web page to a view item:

I am getting a script error when adding a web page to a view

The web page uses scripts that are not supported by the browser used to render the web page. Changing the **Display mode** in the web page properties might resolve the issue.

I am getting a script error when loading a view that contains a web page

The web page uses scripts that are not supported by the browser used to render the web page. Changing the **Display mode** in the web page properties might resolve the issue.

I have used scripting to add navigation buttons or clickable images to my HTML page, but the HTML page does not work as intended. Consider the following:

• Have you set **Display mode** to **Compatibility**? Only **Compatibility** mode supports scripting.

• Have you used the correct syntax in your HTML code?

• Is HTML scripting enabled in MOBOTIX HUB Management Client or in the **Client.exe.config** file?

• Does the intended audience have the user permissions to access certain cameras, views, features, or tabs in MOBOTIX HUB Desk Client?

Add an image to a view

You can add still images to your views, such as a snapshot of a suspect or a map with emergency exits.

1. Select the view.

2. On the workspace toolbar, select **Setup**.

3. On the **System overview** pane, drag the **Image** item to a view item.
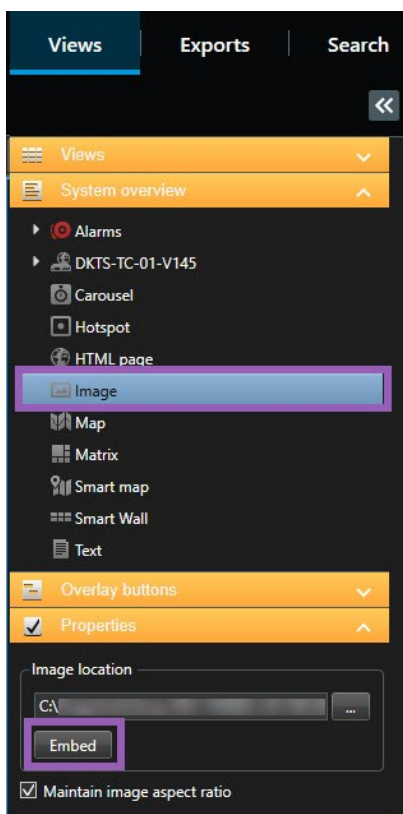
4. Find and select the relevant image file.

5. To make the image available to others, on the **Properties** pane, select **Embed**. The file is now stored in the system.

6. Select **Setup** again to exit setup mode and save your changes.

Add text to a view

You can add text content to view items inside a view. For example, you might want to send a message or instructions to operators or post a work schedule for security personnel. The character limit is 1,000 characters.

1. Select the view.

2. On the workspace toolbar, select **Setup**.

3. On the **System overview** pane, drag the **Text** element to where you want the text to appear in the relevant view item and enter the text.

4. Select **Setup** again to exit setup mode and save your changes.

To change your text after you have saved the view, select **Setup** again, and then select **Edit text** on the **Properties** pane.

> You can insert tables from products such as Microsoft Word and Microsoft Excel, but you cannot make changes to them.

Configuring functionality for all users

Setup mode

Setup mode

In setup mode, you can create views for your devices and other types of content, you can add overlay buttons, and set the properties for the cameras and other types of devices.
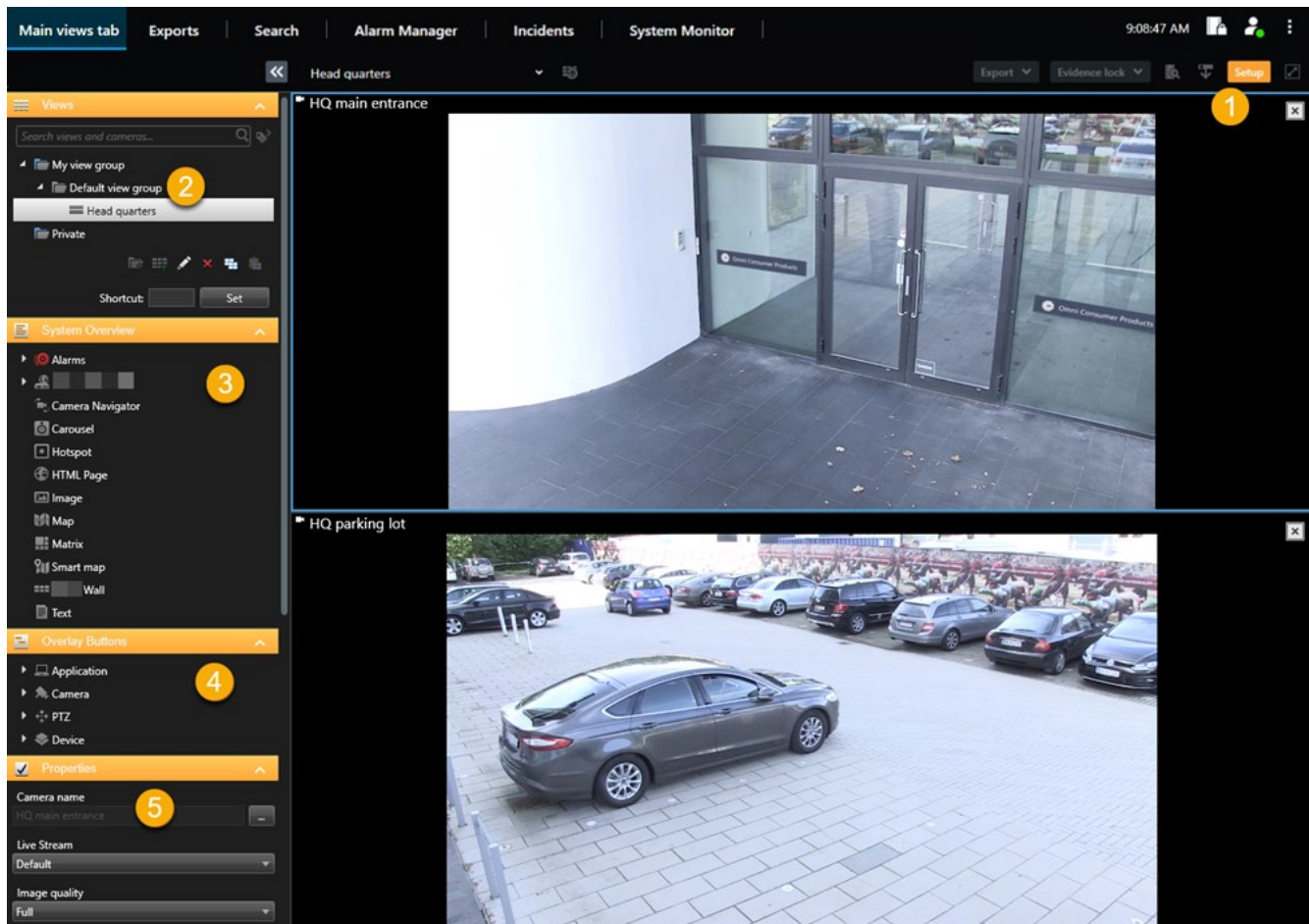
Number	Name	Description
1	**Setup**	When you enter setup mode, parts of the user interface are highlighted.
2	**Views**	Create views and groups for your views. See Creating views on page 224.

Number	Name	Description
3	**System overview**	Add cameras and other types of devices and content to your views. See Adding content to views on page 224.
4	**Overlay buttons**	Add overlay buttons to cameras to trigger auxiliary commands. See Overlay buttons on page 229.
5	**Properties**	Set the camera properties. See The camera settings (Properties pane) on page 236.

Enabling adaptive streaming

Adaptive streaming advantages and requirements

Adaptive streaming improves the decoding capability and performance of the computer running MOBOTIX HUB Desk Client. This is useful when you view multiple live video streams in the same view.

To take advantage of adaptive streaming, your cameras must have multiple streams defined with different resolutions. This enables MOBOTIX HUB Desk Client to automatically select the closest match to the resolution requested by the view item. Now MOBOTIX HUB Desk Client does not have to scale down the default streams with an unnecessary high resolution. This reduces the load on the CPU and GPU decoding resources and reduces the load on the network.

To ensure the video quality, the closest match is defined as equal or higher than the resolution requested by the view item if possible. This is to avoid the upscaling of the streams. The table below shows the video streams that adaptive streaming selects based on view item requests from MOBOTIX HUB Desk Client.

Resolution requested by a view item	Closest match of available video streams	
636 x 477	Video stream 1	640 x 480 (VGA)
644 x 483	Video stream 2	1280 x 720 (WXGA-H)
1920 x 1080	Video stream 3	1920 x 1080 (FHD)
1920 x 1440	Video stream 4	3840 x 2160 (4K UHD-1)

> 🖉 When zooming, the live video stream requested is always the one with the highest resolution.
>
> Bandwidth usage is often reduced when the resolution of the requested streams is reduced. Bandwidth usage also depends on other settings in the configurations of the defined streams.

Enable adaptive streaming

Enable adaptive streaming to improve the performance of computers running MOBOTIX HUB Desk Client.

1. From the **Settings and more** menu, select **Settings**.

2. On the **Advanced** tab, select **Adaptive streaming**.

3. There are two settings for adaptive streaming: **Disabled** and **Enabled**.

   Select **Enabled**.
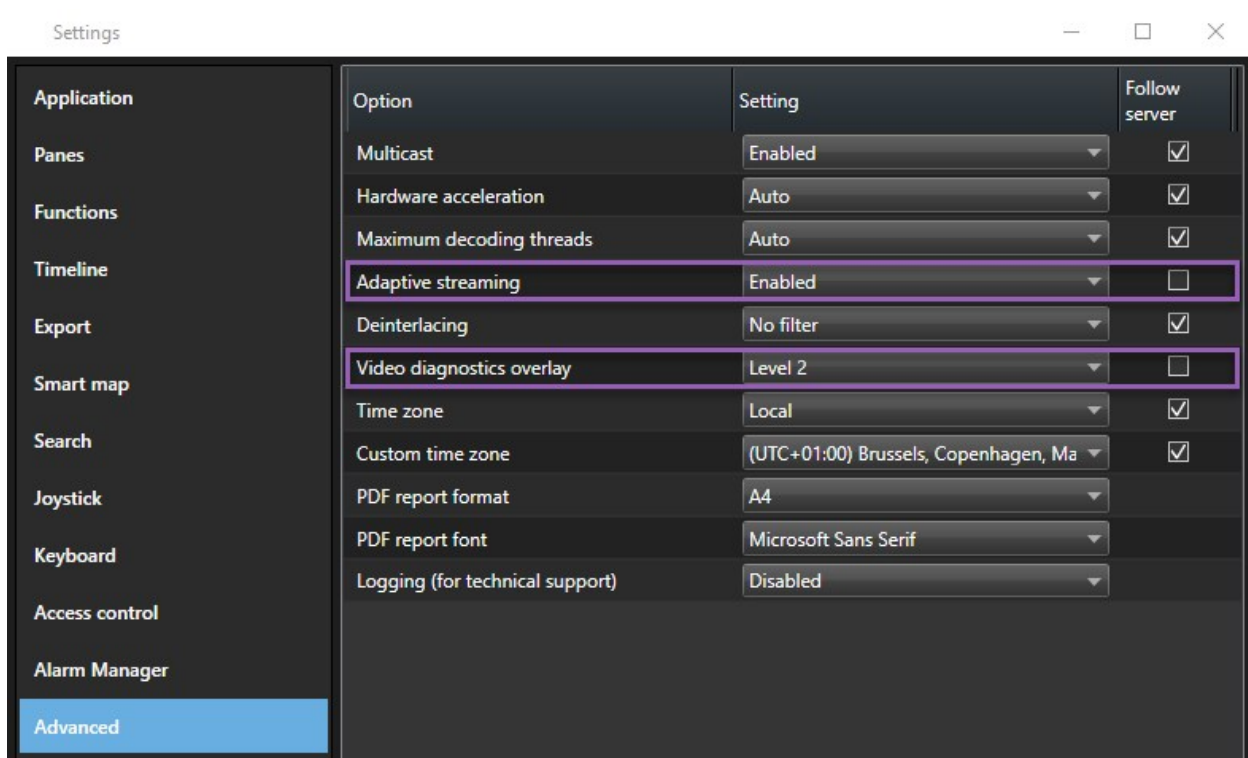
4. Go to **Video diagnostics overlay**.

5. To make the current video resolution of the stream visible, select **Level 2**.

   > 🖉 This setting applies to all view items. The default setting is **Hide**.

6. The video diagnostics overlay should now be **Enabled**.

   Try to resize the view window from small to large, large to small and check if the **Video resolution** value changes.
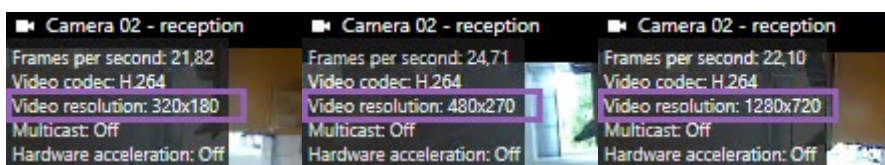
If the value doesn't change, continue to examine your available live video streams from your cameras so you can enable adaptive streaming, if possible.

Check available live video streams

To take advantage of adaptive streaming, two or more live video streams with different resolutions must be configured in your camera settings.

> The only supported video resolution format for adaptive streaming is **width x height**. Video resolution formats presented from a camera as 720p, mode2, VGA or a like are not supported.

> Not all cameras support multi-streaming.

Multi-streaming allows multiple streams per device to be configured on the server. If multiple streams are configured and adaptive streaming is enabled, you can select **Adaptive streaming** or one of the other available streams.

To make sure that **Adaptive streaming** is configured in a view:

1. Click **Setup** to configure the view.

2. In **Properties**, click the **Live stream** dropdown list, and the list of available live video streams appears.

3. Check if two or more live video streams are available and select **Adaptive streaming**.
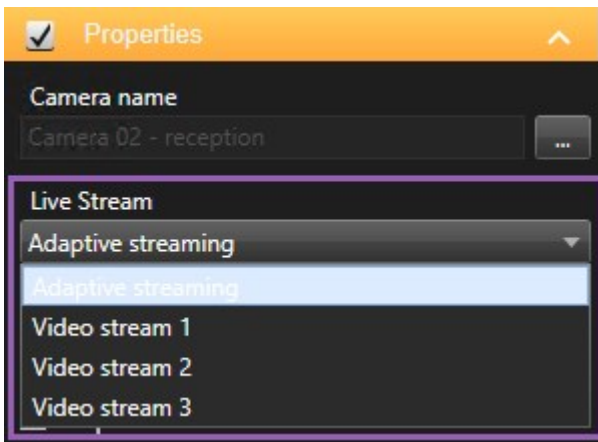
> If only one live video stream is available, add more live video streams for the camera in MOBOTIX HUB Management Client.

4. Click **Setup** to close the view configuration.

To make sure that **Adaptive streaming** is selected in a **Live** view item:

1. Click the **More** dropdown list.

2. Select **Live stream**, and the list of available live video streams appears.

3. Check if two or more live video streams are available and select **Adaptive streaming**.
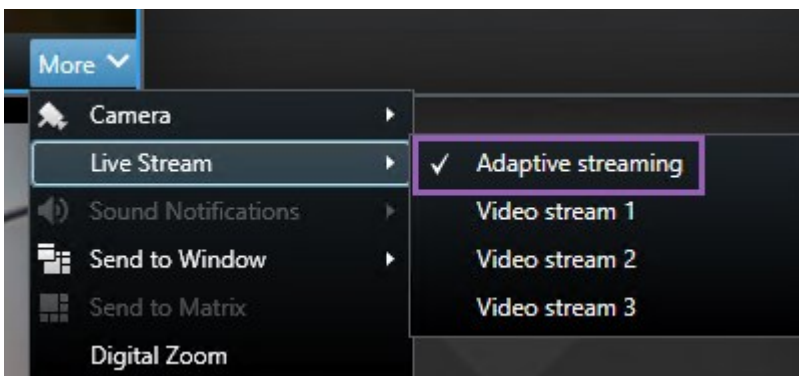
Enabling hardware acceleration

Hardware acceleration advantages and requirements

Hardware acceleration improves the decoding capability and performance of the computer running MOBOTIX HUB Desk Client. This is particularly useful when you view multiple video streams with high frame rate[1] and high resolution.

> MOBOTIX HUB Desk Client supports hardware accelerated decoding using Intel® and NVIDIA® GPUs. MOBOTIX does not recommend the use of Scalable Link Interface (SLI) configuration of your NVIDIA display adapters.

You can only use hardware acceleration with the operating systems Microsoft® Windows® 10 (build 1809), Windows® Server 2016, or later versions.

> Only non-virtual environments are supported.

---

[1]A measure indicating the amount of information contained in motion video. Typically measured in FPS (Frames Per second).

Check hardware acceleration settings

1. Go to **Settings** > **Advanced** > **Hardware acceleration**.

2. There are two settings for hardware acceleration: **Auto** and **Off**.

   Select the default setting **Auto**.
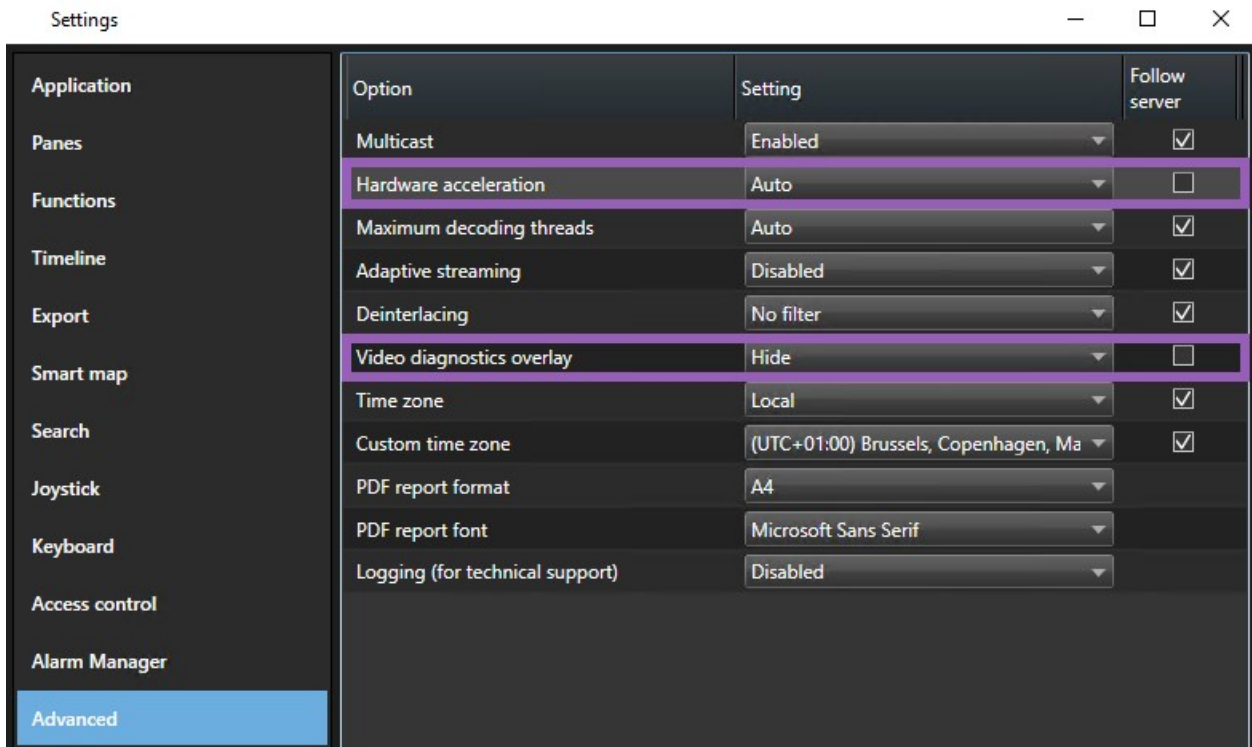
3. Go to **Video diagnostics overlay**.

4. To make the current status of the stream, including the GPU resource used for hardware acceleration visible, select **Level 2**.

   > 🖉 This setting applies to all view items. The default setting is **Hide**.

   The video diagnostics overlay status for **Hardware acceleration** can be: **Intel**, **NVIDIA** or **Off**.
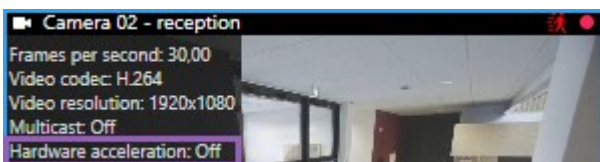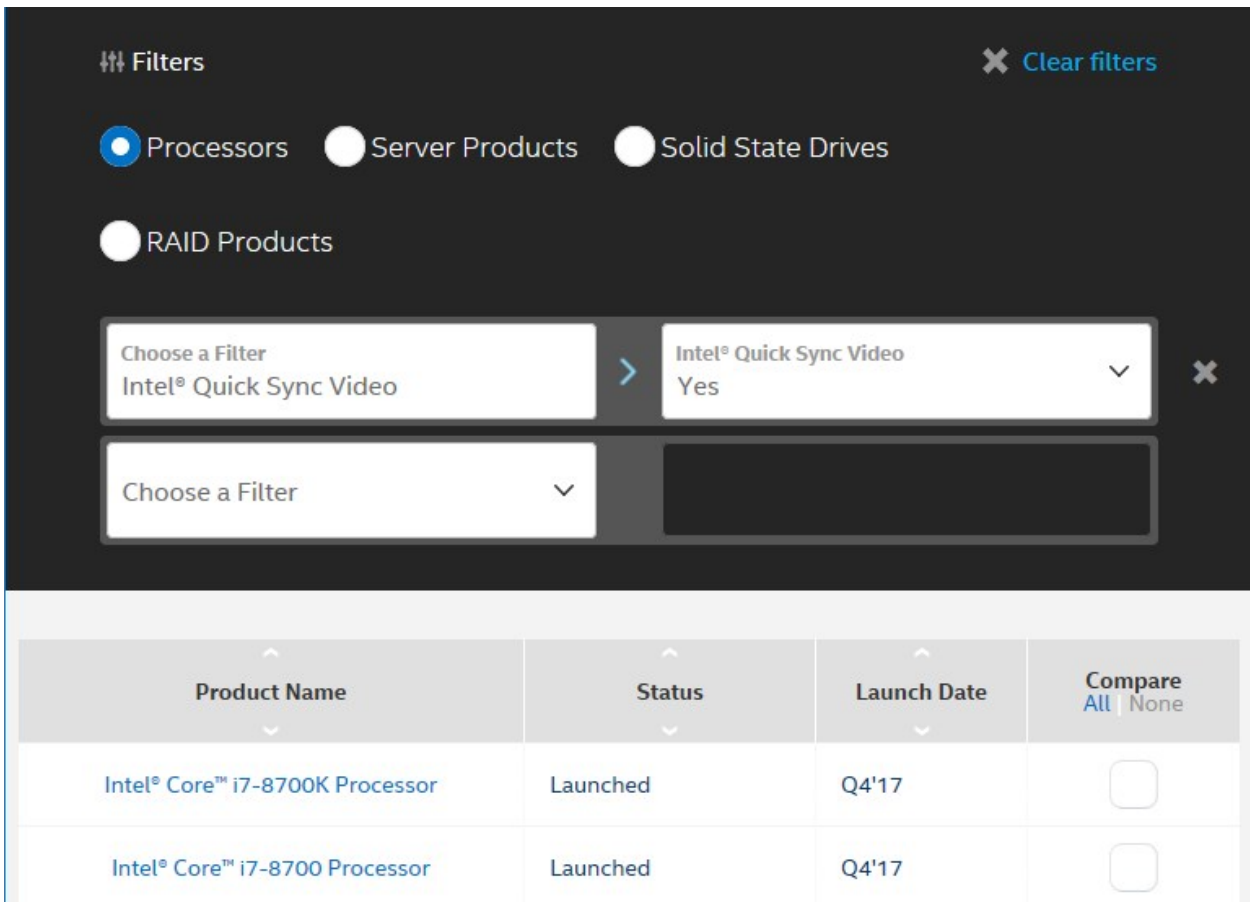
   If the status is **Off**, continue to examine your computer so you can enable hardware acceleration, if possible and make sure that all hardware acceleration resources are utilized.

5. Use the **System Monitor** to check the current MOBOTIX HUB Desk Client decoding performance. See .

Check CPU Quick Sync support

To verify that your processor supports Intel Quick Sync Video:

1. Visit the Intel website
(https://ark.intel.com/content/www/us/en/ark/search/featurefilter.html?productType=873&0_
QuickSyncVideo=True).

2. In the menu, set **Processors** and **Intel Quick Sync Video** filter to **Yes**.

3. Find your CPU in the list.

Examine the Device Manager

Make sure that an Intel or NVIDIA display adapter is present in Windows Device Manager.
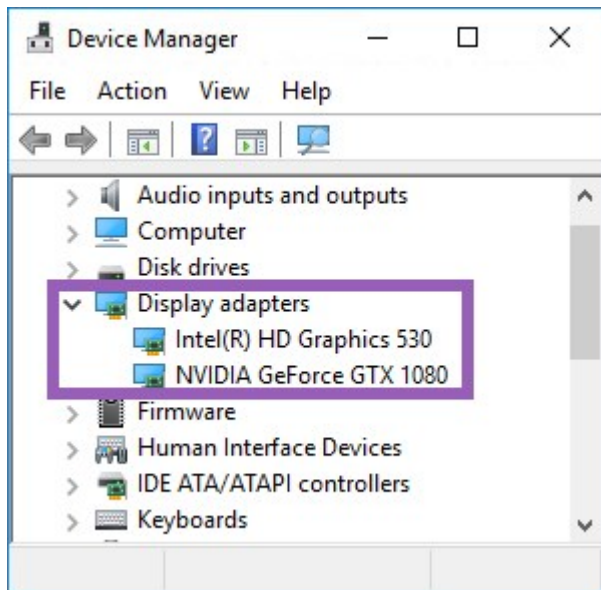
⚠️ You can connect your displays to any display adapter available. If a more powerful display adapter is available in your computer, typically NVIDIA or AMD®, connect your displays to this adapter to use all available GPU resources for hardware accelerated decoding and rendering.

⚠️ Not all NVIDIA display adapters supports hardware acceleration. See Check NVIDIA hardware acceleration support on page 251.

If the Intel display adapter is not present, enable the Intel display adapter in the BIOS. See Enable the Intel display adapter in the BIOS on page 251.

Check NVIDIA hardware acceleration support

NVIDIA products have different compute capabilities.

✏️ Hardware accelerated decoding using NVIDIA GPUs requires compute capability version 6.x (Pascal) or newer.

To find the compute capability version of your NVIDIA product, visit the NVIDIA website (https://developer.nvidia.com/cuda-gpus/).

Enable the Intel display adapter in the BIOS

If another display adapter card, for example NVIDIA or AMD, is available in your computer, the onboard Intel display adapter may be disabled, and you must enable it.

The Intel display adapter is located on the motherboard as a part of the CPU. To enable it, look for graphics, CPU or display settings in the computer BIOS. The vendor's motherboard manual may be helpful to find the relevant settings.

> ✅ If changing the settings does not enable the onboard Intel display adapter, you can try to move the display adapter card to another slot and then connect the display to the motherboard. In some cases, this can enable the onboard display adapter.

Update the video driver

Make sure that the driver version for all your display adapters are updated to the newest version available from Intel or NVIDIA.

> ✏️ The Intel driver version provided by the PC vendor can be an older version and may not support Intel Quick Sync Video.

There are two ways of updating your video driver. Manual download and install or using a driver update utility.

Intel

Manual download and install:

1. Go to the Intel download website (https://downloadcenter.intel.com/).

2. Enter the name of your integrated display adapter.

3. Manually download and install the driver.

For automatic detection and updates of Intel components and drivers:

1. Download Intel Driver and Support Assistant (https://www.intel.com/p/en_us/support/detect/).

2. Run the assistant to auto search for the drivers.

3. Choose to update the driver for Graphics.

NVIDIA

Option 1: Manually find drivers for my NVIDIA products.

1. Go to the NVIDIA download drivers website (https://www.nvidia.com/Download/index.aspx/).

2. Enter the name of your product and the operating system.

3. Manually download and install the driver.

Option 2: Automatically find drivers for my NVIDIA products.

1. Go to the NVIDIA download drivers website (https://www.nvidia.com/Download/index.aspx/).

2. Select **GRAPHICS DRIVERS**.

3. Your system is scanned.

4. Download and update the driver.

Check memory modules configuration

If your system supports more than one memory channel, you can increase the system performance by making sure that a minimum of two channels have a memory module inserted in the correct DIMM slot. Refer to the motherboard manual to find the correct DIMM slots.

Example:

A system with two memory channels and a total of 8 GB of memory obtains the best performance using a 2 x 4 GB memory module configuration.

If you use a 1 x 8 GB memory module configuration, you only use one of the memory channels.

Configuring alarms and events

Alarms and alarm settings

Add alarms to views

By adding the following items to your views, you can share a list of prioritized alarms allowing operators to put focus on and respond to alarm-related incidents. Typically, you would add both of the following to the same view:

- The **Alarm List** shows a prioritized list of alarms and has multiple filtering options

- The **Alarm Preview** lets you preview video from the alarm that is selected in the **Alarm List**

> To perform the following steps, you need a view layout with at least two view items.

Steps:

1. On the **Views** pane, select the view where you want to add the **Alarm List** and the **Alarm Preview**.

2. On the workspace toolbar, select **Setup**.

3. On the **System overview** pane, expand **Alarms** and drag the **Alarm List** to a view item.

4. Drag the **Alarm Preview** to a different view item.

5. Select **Setup** again to exit setup mode and save your changes.

Configuring functionality for all users

Alarm list settings

In setup mode, you can select whether or not you want to see the alarms or events grouped by servers in a navigation tree and how many alarms or events you want the list to display at a time. This is also where you specify whether you want the alarm list to display alarms or events.

Name	Description
Show navigation tree	Select to display the navigation tree on the left of the alarm list. The navigation tree lets you view alarms or events grouped by server and filter for alarms with different states.
Max. rows to fetch	Controls the maximum number of lines to fetch and display in the alarm list. By default, the alarm list displays up to 100 alarms or events at a time. This provides a good response time because retrieving and displaying larger numbers of alarms or events can take time. If there are more than 100 alarms or events, click the following button to view and retrieve the next 100 alarms: ⬛ 1-100 > In the field, you can set the maximum numbers of rows from 1 to 999.
Data Source	Select whether you want to display a list of alarms or events in the **Alarm List**. The event list does not display system or user-generated events, such as motion detection or archive failure.

Alarm preview settings

If alarms or events have video associated with them, when you select a particular alarm in the **Alarm List**, the alarm preview displays the recorded video from the selected alarm or event. If there are many cameras associated with an alarm, or if you have selected more than one alarm, the preview displays several previews. If there is no video associated, the alarm preview will be gray. You can change the alarm preview's properties in setup mode.

Name	Description
Show duplicate cameras	Select to display video from duplicate cameras several times in the alarm preview. The alarm preview reflects what is selected in the alarm list. Because you can select multiple alarms or events, video from the same camera may appear several times in the alarm preview if some of the selected alarms or events relate to the same camera.

Name	Description
Show event source cameras	Select to display video (if any) from the camera for which the alarm or event has been set up on the surveillance system server. ✎ We do not recommend clearing this field.
Show related cameras	Select to display video from related cameras in the alarm preview. You can display associated video from up to 16 related cameras for a single alarm or event. You cannot determine the number of related cameras in the MOBOTIX HUB Desk Client; the number may vary from alarm to alarm, and is specified as part of the surveillance system configuration.
Show overlay	Only relevant if using the alarm preview together with a plug-in capable of displaying overlay information, such as lines tracking the paths of moving objects, or similar. This is not default functionality in the MOBOTIX HUB Desk Client.

Configuring bookmarks

Detailed bookmarks

✎   This feature is only available in certain MOBOTIX HUB VMS systems. For more information, see the product comparison chart: https://www.mobotix.com/en/products/vms/mobotixhub

Enable detailed bookmarks

To efficiently manage and search for your bookmarks, you can enable a setting that allows you to give your bookmarks a name and a description and to change the default time span for bookmarks.

1. On the global toolbar, select **Settings and more** ⋮ and then **Settings** ⚙.
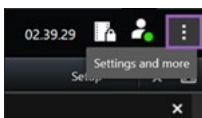
2. Select the **Functions** tab.

3. To enable detailed bookmarks for live video, locate the row with the **Bookmark** function in **Live** mode and change the setting to **Add bookmark details**.

4. To enable detailed bookmarks for recorded video, locate the row with the **Bookmark** function in **Playback** mode and change the setting to **Add bookmark details**.

5. Click **Close** to save the changes.

Configuring patrolling profiles

Patrolling profiles

Depending on your surveillance system, you can create, edit, and delete patrolling profiles. See Your organization's MOBOTIX HUB products and extensions on page 28.

Add patrolling profile

When you add a patrolling profile[1], you and other users can see the new patrolling profile in the PTZ menu.

1. In the view, select the relevant PTZ camera where you want to add a new patrolling profile.

2. On the camera toolbar, click the PTZ icon to open the PTZ menu.

3. Click **Manage patrolling profiles** to open the dialog box.

4. Follow the steps below and click **OK** to close the **Manage patrolling profiles** window.

5. Click below the **Patrolling profiles** list to add a new patrolling profile.

6. Enter a name for the profile and press **Enter**. You can always rename it later.
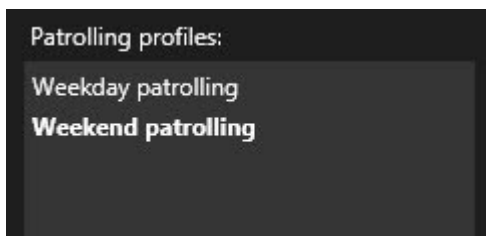
The new patrolling profile is added to the **Patrolling profiles** list. You can now specify the positions and other settings for the patrolling profile.

Delete patrolling profile

To delete an existing profile, select the profile and click .

Edit patrolling profile

Specify positions in a patrolling profile

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[1]The exact definition of how patrolling with a PTZ camera is carried out, including the sequence for moving between preset positions, timing settings, etc. Also known as a "patrol scheme".

1. Select the patrolling profile:

2. Click [+] below the **Positions** list to add a preset position [1].

   PTZ presets are defined by your system administrator. Depending on your user permissions, you can define PTZ presets by selecting **Manage PTZ presets**. See Define a preset position for a PTZ camera on page 98.

3. In the list, select a PTZ preset.

4. Repeat adding presets until you have selected all necessary positions in the patrolling profile:
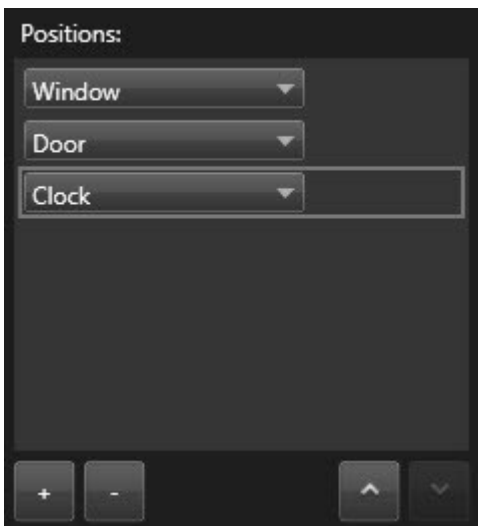
5. Use the up or down arrows to move a PTZ preset in the list.

   The camera uses the PTZ preset at the top of the list as the first stop when it patrols according to the patrolling profile. The PTZ preset in the second position from the top is the second stop, and so forth.

Specify the time on each position

When patrolling, the PTZ camera by default remains for five seconds on each position specified in the patrolling profile.

To change the number of seconds:

---

[1]Can be used for making the PTZ camera automatically move in different defined directions when particular events occur, and for specifying PTZ patrolling profiles.

1. Select the patrolling profile in the **Patrolling profiles** list.

2. Select the PTZ preset that you want to change the time for in the **Positions** list:

3. Specify the time in the **Time on position (sec)** field.

4. If required, repeat for other presets.

Specify an end position

You can specify that the camera should move to a specific position when patrolling ends. You do that by selecting an end position on the patrolling profile.

1. Select the patrolling profile in the **Patrolling profile** list.

2. Below **On finish, go to**, select one of the presets from the drop-down list as the end position.

> You can select any of the camera's PTZ presets as the end position, you are not limited to the presets used in the patrolling profile. You can also choose not to specify an end position at all, but to keep the default setting: **No end position**.

Creating a geographical overview

Creating smart maps

Before you can take advantage of smart map features, you must complete a few configuration tasks in MOBOTIX HUB Desk Client. You can only view a smart map if it has been added to a view.

See also Add smart maps to views on page 259. For more information, see Smart Maps on page 108.

Differences between maps and smart maps

MOBOTIX HUB Desk Client includes map features that can help you visualize your surveillance system and quickly respond to incidents.

- **Maps**: this type of map is based on still images that do not contain geographical references. You can add devices such as cameras, microphones, and recording servers. You can also add alarms, events, and access controls that let you interact with your surveillance system directly from the map. You must manually position device and feature elements on the map. For more information, see Maps on page 119.

- **Smart map**: this type of map uses a geographic information system to accurately reflect geography in the real world. These advanced features can give you a more exact overview of your cameras in multiple locations.

  You can also:

    - Use the Bing Maps and the Google Maps services (available in MOBOTIX HUB L5 and MOBOTIX HUB L4 only.)

    - Use the OpenStreetMap map project as geographic backgrounds.

    - Add computer-aided design (CAD) drawings, shapefiles, and images as overlays (CAD files are available in MOBOTIX HUB L5 and MOBOTIX HUB L4 only.)

> Maps and smart maps are not interchangeable. If you are using maps, you can use the image file as a smart map, but you must add the devices again. You cannot transfer maps with devices to a smart map but you can link a smart map to maps. For more information, see Adding, deleting, or editing links on smart map on page 276.

Add smart maps to views

By default, the basic world map is displayed. When you add smart maps, you can change the geographical background.

To add a smart map[1], you must add it to a view:

1. In live or playback mode, select the view that you want to add to the smart map.

2. On the workspace toolbar, select **Setup**.

3. Expand the **System overview** pane, and then drag the **Smart map** item to the relevant position within the view.

4. Select **Setup** again to exit setup mode and save your changes.

Now you can change the geographic background.

Change geographic backgrounds on smart maps

By default, the basic world map displays when you add a smart map to a view. After you have added the smart map to a view, you can select a different geographic background. Every user who uses the smart map sees the new background the next time that they display this view.

Requirements

Geographic backgrounds from Bing Maps and Google Maps are available only in MOBOTIX HUB L5 and MOBOTIX HUB L4. Your system administrator must also make them available in MOBOTIX HUB Management Client.

To change the background:

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[1]A map functionality that uses a geographic information system to visualize devices (for example, cameras and microphones), structures, and topographical elements of a surveillance system in geographically accurate, real-world imagery. Maps that use elements of this functionality are called smart maps.

1. Select the view that contains the smart map.

2. In the toolbar, click ⊞ **Show or hide layers and custom overlays**.

3. Under **Geographic backgrounds**, select the background and the type of detail that you want to display. For example, if you want to see topographical information, select **Terrain**. If you want to see roads, select **Road**.

Geographic backgrounds

You can use the following services as the geographic backgrounds of your smart map[1]:

- Bing Maps

- Google Maps

- OpenStreetMap

After you have selected the geographic background, you can add the devices, for example cameras, and custom overlays, for example shapefiles. For more information, see Custom overlays on page 264.

Types of geographic backgrounds

After you have added a smart map[2] to a view, you can use one of the following geographic backgrounds:

- **Basic world map**: use the default geographic background provided in MOBOTIX HUB Desk Client. This map is intended for use as a general reference, and it does not contain features such as country boundaries, cities, or other details. However, like the other geographic backgrounds, it does contain geo-reference data

- **Bing Maps**: connect to Bing Maps

- **Google Maps**: connect to Google Maps

  > ✎ Bing Maps and Google Maps are available in MOBOTIX HUB L5 and MOBOTIX HUB L4 only. The use of both services requires internet access.

- **OpenStreetMap** - connect to:

  - A commercial tile server of your own choice

  - Your own, online or local tile server

---

[1]A map functionality that uses a geographic information system to visualize devices (for example, cameras and microphones), structures, and topographical elements of a surveillance system in geographically accurate, real-world imagery. Maps that use elements of this functionality are called smart maps.
[2]A map functionality that uses a geographic information system to visualize devices (for example, cameras and microphones), structures, and topographical elements of a surveillance system in geographically accurate, real-world imagery. Maps that use elements of this functionality are called smart maps.

See

- **None** - this option hides the geographic background. Note that the geo-reference data remains there. See also

By default, Bing Maps and Google Maps display satellite imagery. You can change the imagery, for example to aerial or terrain, to see different details.

OpenStreetMap tile server

If you use OpenStreetMap as the geographic background for your smart map, you need to specify a tile server. You can specify a local tile server, for example if your organization has its own maps for areas such as airports or harbors, or you can use a commercial tile server.

> ✏️ To use a local tile server, you do not need internet access.

The tile server address can be specified in two ways:

- In MOBOTIX HUB Management Client - you set the tile server address on the Desk Client profiles. The server address applies to all MOBOTIX HUB Desk Client users assigned to the Desk Client profiles

- In MOBOTIX HUB Desk Client - you set the tile server address in the **Settings** dialog. The server address applies only to that installation

Change OpenStreetMap tile server
Requirements

If the tile server specified server-side has been locked for editing, the field is grayed out and you cannot change the server address. Contact your system administrator to help you enable the feature in MOBOTIX HUB Management Client.

Steps:

1. On the global toolbar, select **Settings and more** ⋮ and then **Settings** ⚙.

2. In the left section, click **Smart map**.

3. In the **OpenStreetMap server** field, do one of the following:

   - Enter the server address. If the field is grayed out, it has been locked server-side

   - To use the server specified server-side, if any, select the **Follow server** check box

4. Click **Close**. Next time you load your smart map, it will use the OpenStreetMap server that you have specified.

> ⚠️ If no server address is specified, or the server address is invalid, then OpenStreetMap is not available as a geographic background.

Showing or hiding layers on smart map

You can turn layers on and off on your smart map depending on what you want to see.

Layers on smart map

A smart map has multiple layers. Each layer contains different elements.

You can hide the elements on a smart map layer. This feature is useful when you want to focus on a specific element or simplify the display on the smart map.

Layer	Elements
System elements	Cameras and other devices. Links and locations.
Custom overlays	Bitmap images, CAD drawings, and shapefiles.
Geographic backgrounds	The basic world map or one of the following services: • Bing Maps • Google Maps • OpenStreetMap

> ✎ Bing Maps and Google Maps are available as geographic backgrounds only if your system administrator has enabled them in MOBOTIX HUB Management Client. For more information, see Geographic backgrounds on page 260.

Order of layers

All system elements of each type are on the same layer[1]. For example, all cameras are on the same layer. If you hide the camera layer, all cameras are hidden. From top to bottom, layers for system elements are arranged in the following order: locations, cameras, links, and geographic background. You cannot change this order.

---

[1]The geographic background on a smart map, a custom overlay, or a system element, for example a camera. Layers are all the graphic elements that exist on the smart map.

The geographic background is always the lowest layer on a smart map. You can switch between geographic backgrounds, but you can select only one geographic background at a time.

Custom overlays are added as separate layers, and are stacked in the order in which they were added to the smart map. You rearrange the order by configuring default settings for the map.

Example

A city planner has a shapefile that shows the city boundaries, and a shapefile that includes all major roads within the city. The planner can arrange the order of layers so that the roads display on top of the city boundaries. This gives a general view of where cameras are in the city, and the ability to zoom in to see the name of the street that a particular camera is on.

Show or hide layers on smart map

You can show or hide layers on your smart map, including the geographical background. This is useful, for example, when you want to focus on a specific element on the smart map, or just simplify what is shown on the smart map.

1. Select your smart map.

2. On the toolbar, select ⬙**Show or hide layers and custom overlays**.

3. To show or hide the **System elements** and **Custom overlays** layers, select or clear the check boxes.

   > ✎ Hiding the **System elements** layer mutes all microphones until you show the layer again. Manually muted microphones remains muted.

4. To hide the **Geographic background** layer, select **None**.

   Even if the geographic background layer is hidden, the geo-references still apply to the smart map.

   > ✎ Even if the geographic background is hidden, if you, for example, add a new shapefile that contains spatial reference, the system still uses the spatial reference to place the file correctly on the map.

Specify default settings for smart map

After adding a smart map to a view, and you have added the overlays, cameras, and links, you can specify the default settings for the custom overlays. You can also delete custom overlays to clean up.

Steps:

1. Click **Setup**.

2. Click ![icon] **Manage default settings**.

3. Do any of the following:

   - To show or hide an overlay, select or clear the check box

   - To rearrange the order, use the drag handle in front of the overlay to drag it to a new position in the list. Layers are ordered from top to bottom in the list

   - To delete an overlay, hover the pointer over the overlay, and then click **Delete**

4. Click **Save**.

Adding, deleting, or editing custom overlays

Custom overlays

You can add the following types of files as custom overlays on a smart map in MOBOTIX HUB Desk Client:

- **Shapefile** - can contain geo-spatial vector data, such as points, lines, polygons, and attributes that represent objects on a map, such as walls, roads, or geographical features like rivers or lakes. For example, city planning and administration offices often use shapefiles because they scale well when you zoom in and out, and their file size is often smaller than CAD drawings or bitmap images

- **CAD** - a computer-aided design (CAD) drawing is useful as an overlay because, like shapefiles, CAD data can use a coordinate system and spatial reference to provide accurate geographical context. For example, you can use a detailed ariel map or a road map of a location

- **Image** - if you have an image file, such as the floor plan of a building, you can add it as an overlay on the smart map. You can use the following types of image files: PNG, BMP, GIF, JPG, JPEG, PHG, TIF, and TIFF

> ✎ To put custom overlays into focus, you can temporarily hide other types of layers. See Layers on smart map on page 262.

Custom overlays and locations

You can quickly jump to custom overlays that you have added to your smart map as described in Go to a custom overlay on your smart map on page 114. However, in the settings, you can establish a connection between custom overlays and locations. This means that whenever you add a new custom overlay, MOBOTIX HUB Desk Client creates a location with the same name as the overlay on the exact same spot on the map. The location of the custom overlay now becomes available in the **Select a location** list.

The overlay and location are not linked. For example, you can delete or rename the location without changing the overlay, and vice versa.

> To turn on this feature, see Add locations to custom overlays (smart map) on page 266.

Add custom overlay on smart map

Increase the level of detail on your smart map by adding custom overlays. When you add a custom overlay[1], MOBOTIX HUB Desk Client creates a location with the same name as the overlay.

Steps:

1. Select the view that contains the smart map, and then click **Setup**.

2. Click ⬖ **Add a custom overlay**:

   - If the overlay is geo-referenced, click anywhere on the smart map. MOBOTIX HUB Desk Client uses the geo-reference information to place the overlay in the correct geographic location. Additionally, the smart map will center on the overlay at a default zoom level

   - If the overlay is not geo-referenced, go to the point on the map where you want to add the element, and then click the point on the smart map

     > ✔ Before you add an overlay, it's a good idea to zoom in to the place on the map where you want to put it. This makes it easier to accurately position the overlay.

3. Enter a name for the overlay.

4. Depending on the file type you select:

   - **Image** - select the image file, and then click **OK**

   - **Shapefile** - select the SHP file. If you have a PRJ file, MOBOTIX HUB Desk Client will find it, and you can just click **OK**. If you do not have a PRJ file, you can reposition the overlay manually after you add it. You can also apply fill- and line colors. Adding colors can make the shapefile stand out more on the smart map

   - **CAD** - select the DWG file. If you have a PRJ file, click **OK**. If you do not have a PRJ file, and you want to use geo-referencing to position the file on the smart map, enter the spatial reference identifier (SRID), and then click **OK**. If you do not have a PRJ file or an SRID, you can reposition the overlay manually after you add it

     > For more information about the types of overlays, see Custom overlays on page 264.

---

[1]A user-defined, graphic element that users can add to a smart map, for example to illustrate a floor plan in a building, or to mark borders between regions. A custom overlay can be an image, a CAD drawing, or a shapefile.

Add locations to custom overlays (smart map)

You can configure MOBOTIX HUB Desk Client to automatically add locations to custom overlays[1] on your smart map. This allows you to jump to the custom overlays through the **Select a location** list.

Steps:

1. On the global toolbar, select **Settings and more** [icon] and then **Settings** [icon].

2. Go to the **Smart map** tab.

3. In the **Create location when layer is added** list, select **Yes**.

4. Close the dialog to save the changes.

> [icon] For more information, see Custom overlays and locations on page 264.

Delete custom overlay on smart map

1. Select the view that contains the smart map, and then click **Setup**.

2. In the toolbar, click [icon] **Manage default settings**.

3. Hover the pointer over the custom overlay, and then click **Delete**.

4. Click **Save** to delete the custom overlay.

5. Optional: If a location was created for the custom overlay, you might want to delete that as well. For more information, see Adding, deleting, or editing locations on smart map on page 277.

Make areas in shapefiles more visible (smart map)

> [icon] This topic is relevant only if you are using shapefiles with polygons.

If you want to use a shapefile on your smart map that consists of polygons in close proximity, you may need to distinguish the individual polygons from each other. You do that by decreasing the opacity of the color you pick for the shapefile. The borders of the polygons will stand out.

Steps:

---

[1]A user-defined, graphic element that users can add to a smart map, for example to illustrate a floor plan in a building, or to mark borders between regions. A custom overlay can be an image, a CAD drawing, or a shapefile.

1. Follow the steps described in .

2. When selecting the color, drag the **Opacity** slider to the left until you are ok with the level of transparency.

3. Click **Save**.

Adjust position, size, or alignment of custom overlay

You can move an overlay to a different place on the map, make it larger or smaller, and rotate it. For example, this is useful if your overlay is not geo-referenced, or the overlay is geo-referenced but for some reason does not align exactly with the geographic background.

Steps:

1. Select the view that contains the smart map, and then click **Setup**.

2. Right-click the overlay, and select **Edit position**.

3. To resize or rotate the overlay:

   - Click and drag a corner handle

   - To rotate the overlay around a specific point, move the pivot point to that place on the map. Then click and drag a corner handle

4. To move the overlay on the map, click and drag the overlay.

5. To save the change, click **Save**.

Adding, deleting, or editing devices on smart map

You can add devices to a smart map in their actual positions in your environment. This gives you a good overview of your surveillance system, and can help you respond to a situation. For example, if you want to follow a suspect during an ongoing incident, you can click the cameras on the map to view their footage.

After you add a camera to a smart map, you can adjust the field of view for the camera icon so that it reflects the field of view of the actual camera. This makes it easy to find the camera that is covering a particular area. Additionally, you can select an icon to represent the camera on the map, which can help you identify the type of camera on the map.

You can work with the following device types on smart maps:

- Cameras

- Input devices

- Output devices

- Microphones

Add devices to smart map

If the geo-coordinates of the device have been specified in MOBOTIX HUB Management Client by your system administrator, the device will automatically be positioned on the smart map when you add it. If not, you must position the device yourself in its exact geographic location.

✅ If your system administrator has specified the geo-coordinates of the device, MOBOTIX HUB Desk Client you can easily find the device on a smart map. Contact your system administrator to enable thisbenefit inMOBOTIX HUB Desk Client.

Add devices to smart map

1. Select the view that contains the smart map, and then click **Setup**.

2. To add a device or a group of devices:

> ✅ Before you add the device, it's a good idea to zoom in to the location on the map. This makes it easier to accurately position the device if the device has no geo-coordinates.

- Expand the **System overview** pane, find the device or device group, and then drag it to the point on the smart map where you want to display it. You can drag devices afterward to reposition them

- On the smart map toolbar, select **Add a device** > select the device type.

  - Example: In the case of a camera, select **Add a camera**, and then select the camera.

- Drag the device to the smart map

3. To save the change, click **Setup** to exit setup mode.

Change field of view and direction of camera

Once the camera has been added to the smart map, you can change field of view and direction by adjusting the camera icon.

✅ If you are zoomed out on the map, you may have to zoom in until the field of view is displayed.

1. Select the view that contains the smart map that you want to work with.

2. Click **Setup** to edit the camera icon.

3. Click the camera icon.

4. Use the rotate handle to point the camera in the right direction.

5. To adjust the width, length, and angle of the field of view, click and drag the handles at the front edge of the field of view.

6. To save your changes, click **Setup** to exit setup mode.

Select or change device icon

You can choose a device icon that matches the type of device that you are using.

1. Select the view that contains the smart map that you want to work with.

2. Click **Setup**, and then double-click the device icon on the map.

3. Click **Pick icon**, and then select the icon for the device.

4. Click **Setup** again to save the change.

Show or hide device information

You can show or hide information about devices on a smart map. This is useful, for example, when you want to increase or reduce the amount of content on your smart map.

1. Select the view that contains the smart map that you want to work with.

2. Click ▧ **Show or hide layers and custom overlays**.

3. Select or clear the check boxes for the information to show or hide.

Remove devices from smart map

You can remove devices, for example if devices have been physically removed or were added by mistake. By removing a device, the positioning information of the device, for example the geo coordinates, are removed from your VMS system.

Requirements

These user permissions must be enabled in MOBOTIX HUB Management Client:

- Editing of smart maps

- Editing of devices

Steps:

1. Navigate to the device that you want to remove.

2. On the workspace toolbar, select **Setup**.

3. To remove a single device, right-click the device and click **Remove**.

   Example: In the case of a camera, click **Remove camera**.

4. To remove several cameras:

    1. On the smart map toolbar, click **Select multiple cameras**.

    2. Click and drag to select multiple cameras. Other types of devices, for example input devices, are not included in the selection.

    3. Right-click and select **Remove cameras**.

5. To remove several devices that are not cameras:

    1. On the smart map, press and hold Ctrl.

    2. While holding down Ctrl, click the devices that you want to remove.

    3. Right-click one of the selected devices and select Remove.

6. Select **Setup** again to exit setup mode and save your changes.

> ✅ You can also delete a single device by selecting it and then pressing **DELETE** on your keyboard.

Adding, deleting, or editing links on smart map

Links on smart map

You can add links that go to locations on your smart map, or go to the static maps in MOBOTIX HUB Desk Client. This lets you quickly visit locations, or display another type of map without changing to another view. You cannot link to another smart map. For more information, see Differences between maps and smart maps on page 258.

Links display locations and maps as follows:

- A link to a location displays the location in the current view. To return to a location that you previously viewed, click ← **Back** on the smart map toolbar

- A link to a map displays the map in a detached window. This lets you access both types of maps at the same time. You can view and interact with the map but you cannot make changes in the detached window, such as adding cameras

> ✎ If you color code links, or want to make them more visible on the map, you can specify a color for the link. By default, links to smart map locations are blue, and links to legacy maps are red. If you use a different color, it is a good idea to use the same color for each type of link. For example, this can make it easier to distinguish between links when you use layers to filter items on the map.

Add link to smart map location or map

Adding links to your smart map lets you quickly visit locations, or display another type of map without changing to another view.

Steps:

1. Select the view that contains the smart map, and then click **Setup**.

2. Go to the point on the map where you want to add the link.

3. In the map toolbar, click ⚲⁺ **Add a link**, and then click the point on the map where you want the link to be.

4. Specify whether you want to link to a smart map location, or a map, and then click **Add**.

5. Enter a name for the link.

> ✅ You can display the title of the link on the smart map if you select **Icon and text** as the display style. Typically, names indicate where the link takes you.

6. In the **Destination** field, select the map or location that the link goes to.

7. In the **Display style** field, specify whether to display the name and link icon, or only the link icon on the map.

8. Optional: Click **Color** to specify a color for your link.

Edit or delete link on smart map

Once you have added a link on your smart map, you can edit or delete it.

Steps:

1. On the workspace toolbar, select **Setup**.

2. To edit the link, right-click the link and select **Edit link**.

3. To delete the link, do one of the following:

   - Right-click the link and select **Delete link**

   - Select the link and press **DELETE** on your keyboard

Adding, deleting, or editing locations on smart map

Locations on smart map

You can create locations at the points on the smart map that are of interest to you. For example, you can create locations for your home office, and satellite offices. Not only do locations give you a full picture of your environment, they are also useful for navigating the smart map.

> Depending on your configuration, when you add a custom overlay, MOBOTIX HUB Desk Client may add a location with the same name as the overlay. For example, this makes it easier to go to the overlay on the smart map when you are zoomed out. The overlay and location are not, however, linked. For example, you can delete or rename the location without changing the overlay, and vice versa. For more information, see Adding, deleting, or editing custom overlays on page 264.

Home locations for smart map

Home locations are specific to the view item they are set in. You can have different home locations in different view items. If a home location is not specified for a view item, the view item displays the whole world, regardless of the type of background you are using. This is also the case if you delete the home location.

While you are working with the smart map, you can click 🏠 **Home** to return to the home location. This is similar to resetting the smart map in the view. You return to the default settings for the view item, and the system deletes the history of the locations you visited.

> Selecting a new home location affects everyone who uses the view item. If someone else had set another location as home, you are changing their setting.

Add location to smart map

To keep track of the places that are of interest to you, you can add locations that allow you to quickly navigate to those places on the smart map.

Steps:

1. Select the view that contains the smart map, and click **Setup**.

2. If needed, pan and zoom in to the point on the smart map where you want to add the location.

3. In the toolbar, click ⊙⁺ **Add a location**, and then click the point on the smart map.

4. Give the location a name, and then add the following optional details:

   - Specify a zoom level to apply when someone goes to the location on the smart map

   - Select a color for the location icon. Color-coding locations is useful, for example, for distinguishing between types of locations. This could be based on the function of the location or its type, or indicate the location's priority

   - Optional: Make the location your home location. The smart map centers on this location, and applies the default zoom level setting for it, when you click 🏠 **Home**

Edit or delete location on smart map

Once you have added locations on your smart map, you can delete them or edit the settings, for example deleting the home location.

Steps:

1. On the workspace toolbar, select **Setup**.

2. To edit a location, right-click the location and select **Edit location**.

3. To delete a location, do one of the following:

   - Right-click the location and select **Delete location**

   - Select the location and press **DELETE** on your keyboard

Linking between locations

For example, you can create a patrol route by creating a series of links between locations. Create a link at location A that goes to location B, and a link at location B that goes to location C, and so on. For more information, see Adding, deleting, or editing links on smart map on page 276.

Adding, deleting, or editing buildings on smart map

Buildings on smart map

Buildings on the smart map[1] are depicted as polygons with four edges. Once added, you can adjust the dimensions, angles, and size to match the actual shape and position of the building.

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[1]A map functionality that uses a geographic information system to visualize devices (for example, cameras and microphones), structures, and topographical elements of a surveillance system in geographically accurate, real-world imagery. Maps that use elements of this functionality are called smart maps.

If the building is a multistory building, you can start adding levels and add cameras to the individual levels. This allows you to navigate the cameras inside the building, level by level.

To help you illustrate the interior of a level, you can add custom overlays to levels, for example an image illustrating a floor plan. For more information, see .

Buildings are automatically given a name, for example **Building 4**. MOBOTIX recommends that you change the name. This makes it easier for you to distinguish buildings from one another.

Add buildings to smart map

Instead of using images or shapefiles to illustrate buildings, you can add an outline of a building. Afterwards, you can change the dimensions, angles, and size to match the shape and position of the actual building.

Requirements

Smart map editing has been enabled on your Desk Client profile in MOBOTIX HUB Management Client.

Steps:

1. On the workspace toolbar, select **Setup**.

2. Navigate to the place on the smart map, where you want to position the building.

3. Click and place the cursor in the relevant position on the smart map.

4. Click again. A rectangle is added to the smart map. If zoomed out, the zoom level automatically increases.

5. If necessary, use the corner handles to adjust the shape and position of the actual building.

6. Select **Setup** again to exit setup mode and save your changes.

Edit buildings on smart map

Once a building has been added to the smart map, you can change the name of the building, and adjust the position, the size, dimensions, and angles. You can also add, remove, or reorder levels.

Requirements

Smart map editing has been enabled on your Desk Client profile in MOBOTIX HUB Management Client.

Steps:

1. Navigate to the building on your smart map. If necessary, zoom in.

2. On the workspace toolbar, select **Setup**.

3. Click anywhere inside the building. A blue-ridged border indicates that you can edit the building.

4. To rename the building, go to the top of the right-side pane and click ![pencil]. Change the name and click ![check]. To cancel, press **Esc**.

5. To adjust the corners, click and drag them to a new position.

6. To add or remove levels, see .

7. Select **Setup** again to exit setup mode and save your changes.

Delete buildings on smart map

If a building is no longer needed, you can delete it. Next time someone logs into MOBOTIX HUB Desk Client or reloads, the building is gone.

Requirements

Smart map editing has been enabled on your Desk Client profile in MOBOTIX HUB Management Client.

Steps:

1. Open the smart map.

2. On the workspace toolbar, select **Setup**.

3. Do one of the following:

   - Right-click the building and select **Delete**

   - Select the building, and press **DELETE** on your keyboard

> ![check] An alternate way of deleting a building: In the ![icon] **Manage default settings**, scroll down to the **Buildings** section, hover on the building, click **Delete** and then **Save**.

Managing levels and devices in buildings (smart map)

Devices and levels in buildings

When you add a device to a building, by default, the device is associated with the default level if one has been specified. Otherwise, the device is assigned to the first level. However, you can change this and associate the device with any other level, or several levels at the same time.

More facts:

- If no levels are selected, the device is visible on all levels

- If you add a building on top of a device that is already positioned, by default, the device is associated with all levels

- If you expand the boundaries of a building so that it covers a device that is already positioned, the device is associated only with the level that is selected

> ✏️ If you readjust the boundaries of the building so that it no longer covers the device, the device is no longer associated with the building.

Floor plans and devices in buildings

To help you visualize the interior of the levels in a building, you can add floor plans as custom overlays. With a floor plan in place, it is easier to precisely position the device. For more information, see .

The devices that you position are associated with levels, not custom overlays. If you delete a level inside a building with devices and a custom overlay, the devices stay in their geographical position, but are no longer associated with the level. However, the custom overlay is deleted together with the level.

If you reorder a level, both the devices and the custom overlay stay with the level. The devices maintain their geographical position.

Add or remove levels from buildings

After adding a building to your smart map, you can add any number of levels. The first level is assigned the number **1**, the next **2**, and so forth. Afterwards, you can rename and reorder the individual levels.

Requirements

Smart map editing has been enabled on your Desk Client profile in MOBOTIX HUB Management Client.

Steps:

1. Navigate to the building on your smart map. If necessary, zoom in.

2. Select the building. A pane appears on the right-hand side.

3. Click the **Setup** button to enter setup mode.

4. Click **Add level** .

5. To edit the level name:

    1. Click the dots and select **Rename**.

    2. Enter a new name.

6. To delete a level, click the dots and select **Delete**. Devices on this level stay in their geographical position, but they are no longer associated with the level.

7. Click **Setup** to exit setup mode.

Change order of levels in buildings (smart map)

Requirements

Smart map editing has been enabled on your Desk Client profile in MOBOTIX HUB Management Client.

Steps:

1. Navigate to the building on your smart map. If necessary, zoom in.

2. Select the building. A pane appears on the right-hand side showing you the levels of the building.

3. On the workspace toolbar, select **Setup**.

4. Click and drag the dotted area to the correct position. Any associated devices and custom overlays stay with the level.

5. Select **Setup** again to exit setup mode and save your changes.

Set default level for buildings (smart map)

If a particular level in a building is more relevant than others, for example the ground floor, you can set that level as the default level. When you open your smart map and go to the building, automatically the default level is selected.

If you navigate away from the building and back, MOBOTIX HUB Desk Client brings you to the level where you left off.

Requirements

Smart map editing has been enabled on your Desk Client profile in MOBOTIX HUB Management Client.

Steps:

1. Navigate to the building on your smart map. If necessary, zoom in.

2. Select the building. A pane appears on the right-hand side showing you the levels of the building. The default level is highlighted.

3. Click **Setup** to enter setup mode. Notice the asterisk . It indicates where the current default level is.

4. On the level you want to set as the default level, click the dots .

5. Select **Set as default**.

6. Select **Setup** again to exit setup mode and save your changes.

Add floor plans to levels (smart map)

You can add custom overlays, for example floor plan images, to the levels in your building to help you illustrate the interior of a level inside a building. As you navigate the levels, automatically the associated floor plans are displayed.

Requirements

Smart map editing has been enabled on your Desk Client profile in MOBOTIX HUB Management Client.

Steps:

1. Navigate to the building on your smart map. If necessary, zoom in.

2. Select the building. A pane appears on the right-hand side showing you the levels of the building.

3. On the workspace toolbar, select **Setup**.

4. Select the level where you want to add the custom overlay.

5. In the upper left corner, click **Add a custom overlay**, and then click anywhere inside the building outline. A window appears.

6. Select the type of custom overlay. For more information, see Custom overlays on page 264.

7. Select the location on your computer where the file is stored and click **Continue**. The custom overlay is displayed as a blue outline.

8. Drag it onto the outline of the building and use the pivot point and corner handles to rotate and reposition the custom overlay.

9. In the bar at the top, click **Save**.

10. Select **Setup** again to exit setup mode and save your changes.

Delete floor plans on levels (smart map)

If a floor plan on a level inside a building has changed, you may need to replace the custom overlay illustrating the floor plan. MOBOTIX recommends that you delete the old floor plan, before adding a new one.

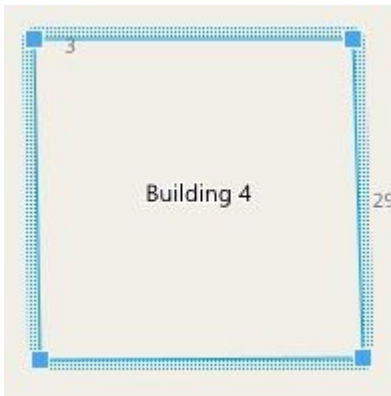**Requirements**

Smart map editing has been enabled on your Desk Client profile in MOBOTIX HUB Management Client.

Steps:

1. Navigate to the building on your smart map. If necessary, zoom in.

2. Select the building. A pane appears on the right-hand side showing you the levels of the building.

3. On the workspace toolbar, select **Setup**.

4. Select the level where the custom overlay is.

5. Right-click anywhere on the custom overlay and select **Delete custom overlay**.

6. Select **Setup** again to exit setup mode and save your changes.

> ✅ To edit the position or size of the floor plan, right-click the custom overlay and select **Edit position**. Now you can move, rotate, and change the size of the custom overlay.

Add devices to buildings (smart map)

After creating a building and adding levels, you can add devices to the building. If you've specified a default level, the devices are associated with it. If not, the devices are associated with the first level. You can change the level and associate the device with any of the levels in the building.

Requirements

Smart map editing has been enabled on your Desk Client profile in MOBOTIX HUB Management Client.

Steps:

1. Go to the building on your smart map. Zoom in if needed.

2. On the workspace toolbar, select **Setup**.

3. To add a device, click its icon.

   Example: in the case of a camera, click 📹 **Add a camera**.

4. Click again on the location to position the device. A window is displayed.

5. Select the device and click **OK**. For each device to add, repeat steps 3-5.

6. To associate a device with one or more levels, right-click the device and select the required levels.

7. Select **Setup** again to exit setup mode and save your changes.

> ✏️ If you haven't selected any level, the device is visible on all levels.

Creating maps

Add maps to views

You can add existing maps to views or create new ones.

1. On the workspace toolbar, select **Setup**.

2. In the **System overview** pane, drag the **Map** item to a position in the view. A window appears.

3. Select either **Create new map** or **Use existing map**. A triangle next to a map name indicates that the map might have one or more sub-maps. Sub-maps and the elements they contain are also added.

4. In the **Name** field, enter a name for the map. The name will be displayed in the title bar of the position.

> ✅ If you leave the **Name** field blank and click **Browse**, the **Name** field displays the name of the image file you select.

5. Click **Browse** to browse for the image file to use as a map.

6. Click **Open** to select image file.

7. Click **OK**.

8. Select **Setup** again to exit setup mode and save your changes.

> ✏️ If you are connected to a surveillance system that supports MOBOTIX Federated Architecture, you can only add maps from the surveillance system server you logged in to.

Map settings

In setup mode, you can use the **Properties** pane to adjust a number of settings for individual maps.

Name	Description
Home map	Displays the map that forms the basis of the particular map view. The field is read-only, but you can change the map by clicking the selection button ▦ to open the **Set up map** window.
Rename map	Edit the name of your map.
Change background	Change the map, but keep the elements on the map in their relative positions to each other.
Icon size	The **Icon size** drop-down list lets you select the size of new elements added to the map, ranging from **Tiny** to **Very large**. You can re-size icons on the map by pulling the sizing handles in the corners of the icons.
Show name	The **Name** check box lets you enable/disable whether names of elements are displayed when adding new elements.

Name	Description
	✅ If you have added an element to the map and the element name is not displayed on the map, right-click the required element and select **Name**. If you do not want the element name displayed, right-click the name and select **Delete text**. **Icon size** drop-down list lets you select the size of new elements added to the map, ranging from **Tiny** to **Very large**. You can re-size icons on the map by pulling the sizing handles in the corners of the icons.
Allow pan & zoom	Select to allow pan and zoom on the map in live mode.
Auto maximize map	Select to automatically maximize the map to full screen in Live mode when the MOBOTIX HUB Desk Client has not been used for the number of seconds defined in **Timeout**. The maximum number of timeout seconds is 99999.
On mouse over	Select to display a live video preview when you move the mouse over a camera.
Use default display settings	Select to define that the preview window looks the same as your other views. Clearing this check box lets you define the **Title bar** and **Live indicator** settings for previews. **Title bar**: select to display a title bar with the name of the camera. **Live indicator**: select to display the indicator for live video, which flashes green when the image is updated. See View the status of live video on page 79. You can only select **Live indicator** if you have also selected **Title bar**.
Status visualization	Select to graphically display the status of the elements added to a map. See View status details on maps on page 124.
Enable status details support	When selected, you can see status details on cameras and servers in live and playback mode.
Automatically change map on alarm	Select to automatically change the map in the preview when you select an alarm to display the map for the camera that the alarm relates to.
Only show on hover	Select to only show camera view zones and PTZ presets when you move your mouse over the camera, view zone or preset. This setting is useful if you have several cameras on a map with overlapping view zones or several presets. The default value is to show view zones and presets.

Tools in the map toolbox

The map toolbox consists of a number of tools for configuring the map. Selecting either **Camera**, **Server**, **Microphone**, **Speaker**, **Event**, or **Output** opens the **Element selector** with a list of cameras, servers, microphones, speakers, events, and output, allowing you to place these elements on the map.

The right-click menu for maps

By right-clicking maps or map elements on the **Setup** tab, you get access to a shortcut menu.

Change the background of a map

If you need to update the map but want to keep all the information on it, you can just replace the map background (if you have the necessary map edit user permissions). This allows you to keep all your cameras, and other elements in their relative positions on a new map. Select **Change map background**, by right-clicking the map or in the **Properties** pane.

Remove the map

Right-click the map in the view, and select **Remove Map**. This will remove the entire map, including added elements representing cameras, microphones, speakers, etc. The map is only removed from the view. The image file will still exist on the surveillance system, and can thus be used for creating a new map.

You can also remove a map through the **Map overview**.

Add and remove elements from maps

1. In setup mode, right-click the map and select **Toolbox**.

2. In the toolbox, click the required element icon to open the **Element selector** window.

3. You can use the filter to quickly find a required element: enter a search criterion to narrow down the list of displayed elements to fit your search criterion.

4. Select the element and drag it onto the map.

5. To remove an element, right-click the unwanted element (camera, hot zone, server, event, output, microphone, or speaker) and select **Remove [element]**.

6. To move an element, click and drag it to a new position on the map.

7. To change the orientation of an element, select it and place your mouse over one of the element's sizing handles. When the mouse pointer changes appearance to a curved arrow, click and drag the element to rotate it.

> ✅ You can use the selector tool from the toolbox to select and move elements on a map, or to pan the map.

> ✅ If your map has a color that makes it difficult to see the elements on the map, try creating a text box and fill it with a color that makes it stand out from the map. Add the required elements to the map, then drag them into the text box.

Add a hot zone to a map

1. In setup mode, right-click the map and select **Toolbox** (see).

2. In the toolbox, select the **Hot zone** tool:

3. Move the mouse pointer onto the map. The mouse pointer now displays the hot zone icon and a small white cross to indicate that hot zone drawing is enabled.

   To draw the hot zone, click the map where you want to start drawing the hot zone. The starting point is now indicated by a large blue dot—also known as an anchor—on the map:

   The hot zone drawing tool makes straight lines only; if you want a rounded hot zone border, you must use several small straight lines.

4. Click the hot zone starting point to complete drawing the hot zone. The hot zone is now outlined with a dotted line, indicating that no sub-map has been attached to the hot zone.

   > ✅ You can alter the outline of a hot zone by pulling the hot zone anchors.

5. To attach a sub-map to the hot zone, double-click the dotted hot zone to open the **Map Setup** window.

You can change the color of the hot zone using the color tool. Using different colors for hot zones helps users differentiate between adjacent hot zones.

> If you are connected to a surveillance system that supports MOBOTIX Federated Architecture (see Your organization's MOBOTIX HUB products and extensions on page 28), a maximum of 20 hot zones on a single map can point to maps from other surveillance system servers. There is no such limit for hot zones pointing to maps belonging on the server to which you are logged in.

Change the appearance of map elements

You can change the color of texts, backgrounds, hot zones, etc. on maps to differentiate map elements from each other.

1. In **setup** mode, right-click the map and select **Toolbox**.

2. Select the element that you want to change.

3. In the toolbox, select the color fill tool. This will open the **Color selection** window.

> ✓ Use the color picker tool to use an existing color from the map.

4. Only relevant for text elements: Select whether you want the color change to apply to text or background.

5. Select the color from the color palette—you can see a preview of the selected color in the EXAMPLE box.

6. Click the map element to fill it with the new color.

Adjusting Gradient

Use the **Gradient** slider to adjust how the element color fades from left to right.

Dragging the slider to the far right will make the element color fade instantly. Dragging the slider to the far left will make the element color almost not fade at all.

Drag the **Gradient** slider to the required level, then click the map element to apply color and gradient.
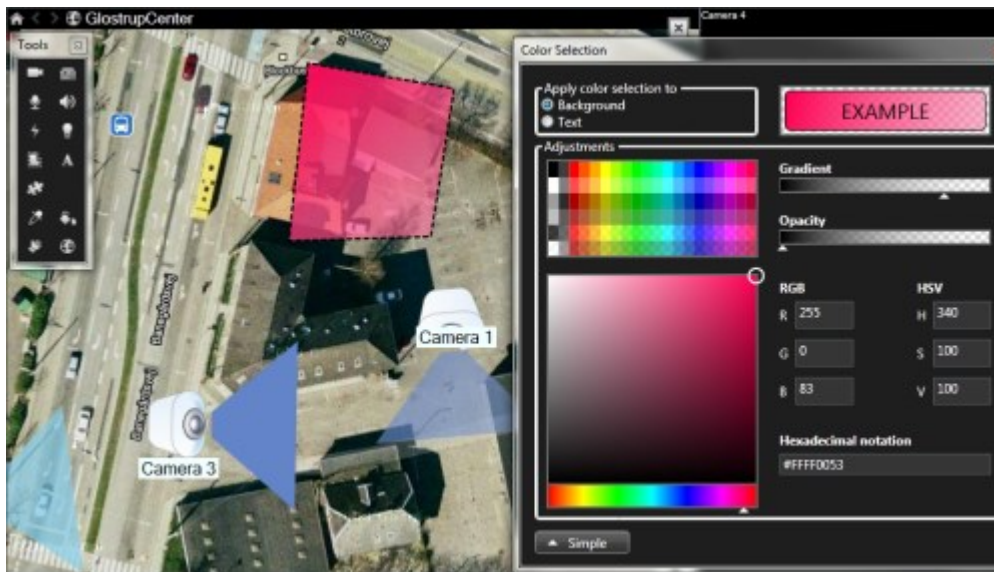
Adjusting Opacity

Use the **Opacity** slider to adjust the transparency of the color fill.

Dragging the **Opacity** slider to the far right will make the color completely transparent, while dragging the **Opacity** slider to the far left makes the color completely solid.

Drag the **Opacity** slider to the required level, then click the map element to apply color and opacity.
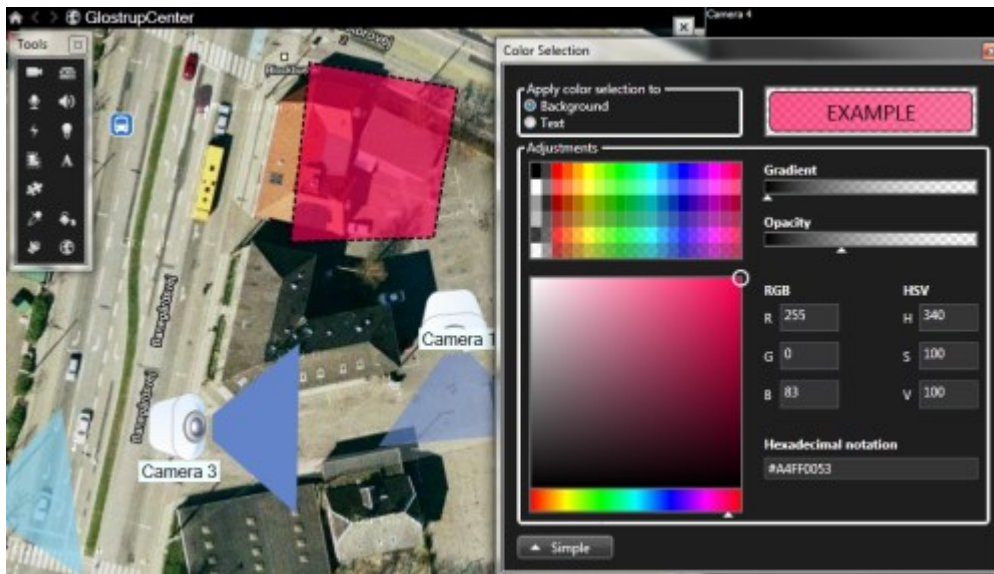
Advanced Color Change

You can fill map elements with any color you like. Click the **Color selection** window's **Advanced** button to access the advanced color selection options. Do one of the following:

- Use the color slider to select the main color shade, then drag the color circle to select the required tone.

- Enter the hexadecimal color code in the **Hexadecimal notation** field.

Edit and rotate labels on a map

All elements on a map have a label, making it easy to identify them.

If you have a great number of elements on a map, it can be difficult to have enough room for all the labels. You can edit the name of the devices, by selecting the label and then entering a new (shorter) name for the device.

> ✏️ When you rename a label, you are only changing the label on the map, not the name of the camera or element in the system.

You can also make sure your labels don't overlap by rotating them. To rotate a label on a map:

- Select the label and place your mouse over one of the sizing handles. When the mouse pointer changes appearance to a curved arrow, click and drag the label to rotate it

> ✏️ Another way to save space on a map is to select only to show view zones and PTZ presets on hover (see).

Add/edit text on a map

You can insert text anywhere on the map, for example, to inform users of maintenance situations.

1. In setup mode, right-click the map and select **Toolbox**.

2. In the toolbox, select the text tool:

3. In the **Font selection** window, edit your text settings.

   > ✅ You can always edit your text settings; click the required text box and select the text tool from the toolbox, then change the text settings for the selected text box.

4. On the map, click where you want to place the text.

5. Enter your text. Press **ENTER** on your keyboard to make the text box expand downwards.

> ✅ You can use the color fill tool to change the text color and background.

> ✅ You can move the text box around; select the selector tool, grab the text box on the map, and move the text box.

Creating smart maps

Before you can take advantage of smart map features, you must complete a few configuration tasks in MOBOTIX HUB Desk Client. You can only view a smart map if it has been added to a view.

See also Add smart maps to views on page 293. For more information, see Smart Maps on page 108.

Differences between maps and smart maps

MOBOTIX HUB Desk Client includes map features that can help you visualize your surveillance system and quickly respond to incidents.

- **Maps**: this type of map is based on still images that do not contain geographical references. You can add devices such as cameras, microphones, and recording servers. You can also add alarms, events, and access controls that let you interact with your surveillance system directly from the map. You must manually position device and feature elements on the map. For more information, see Maps on page 119.

- **Smart map**: this type of map uses a geographic information system to accurately reflect geography in the real world. These advanced features can give you a more exact overview of your cameras in multiple locations.

  You can also:

  - Use the Bing Maps and the Google Maps services (available in MOBOTIX HUB L5 and MOBOTIX HUB L4 only.)

  - Use the OpenStreetMap map project as geographic backgrounds.

  - Add computer-aided design (CAD) drawings, shapefiles, and images as overlays (CAD files are available in MOBOTIX HUB L5 and MOBOTIX HUB L4 only.)

> ✏️ Maps and smart maps are not interchangeable. If you are using maps, you can use the image file as a smart map, but you must add the devices again. You cannot transfer maps with devices to a smart map but you can link a smart map to maps. For more information, see Adding, deleting, or editing links on smart map on page 310.

Add smart maps to views

By default, the basic world map is displayed. When you add smart maps, you can change the geographical background.

To add a smart map[1], you must add it to a view:

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[1]A map functionality that uses a geographic information system to visualize devices (for example, cameras and microphones), structures, and topographical elements of a surveillance system in geographically accurate, real-world imagery. Maps that use elements of this functionality are called smart maps.

1. In live or playback mode, select the view that you want to add to the smart map.

2. On the workspace toolbar, select **Setup**.

3. Expand the **System overview** pane, and then drag the **Smart map** item to the relevant position within the view.

4. Select **Setup** again to exit setup mode and save your changes.

Now you can change the geographic background.

Change geographic backgrounds on smart maps

By default, the basic world map displays when you add a smart map to a view. After you have added the smart map to a view, you can select a different geographic background. Every user who uses the smart map sees the new background the next time that they display this view.

Requirements

Geographic backgrounds from Bing Maps and Google Maps are available only in MOBOTIX HUB L5 and MOBOTIX HUB L4. Your system administrator must also make them available in MOBOTIX HUB Management Client.

To change the background:

1. Select the view that contains the smart map.

2. In the toolbar, click ⬚ **Show or hide layers and custom overlays**.

3. Under **Geographic backgrounds**, select the background and the type of detail that you want to display. For example, if you want to see topographical information, select **Terrain**. If you want to see roads, select **Road**.

Geographic backgrounds

You can use the following services as the geographic backgrounds of your smart map[1]:

- Bing Maps

- Google Maps

- OpenStreetMap

After you have selected the geographic background, you can add the devices, for example cameras, and custom overlays, for example shapefiles. For more information, see Custom overlays on page 298.

Types of geographic backgrounds

After you have added a smart map[2] to a view, you can use one of the following geographic backgrounds:

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[1]A map functionality that uses a geographic information system to visualize devices (for example, cameras and microphones), structures, and topographical elements of a surveillance system in geographically accurate, real-world imagery. Maps that use elements of this functionality are called smart maps.
[2]A map functionality that uses a geographic information system to visualize devices (for example, cameras and microphones), structures, and topographical elements of a surveillance system in geographically accurate, real-world imagery. Maps that use elements of this functionality are called smart maps.

- **Basic world map**: use the default geographic background provided in MOBOTIX HUB Desk Client. This map is intended for use as a general reference, and it does not contain features such as country boundaries, cities, or other details. However, like the other geographic backgrounds, it does contain geo-reference data

- **Bing Maps:** connect to Bing Maps

- **Google Maps:** connect to Google Maps

> Bing Maps and Google Maps are available in MOBOTIX HUB L5 and MOBOTIX HUB L4 only. The use of both services requires internet access.

- **OpenStreetMap** - connect to:

    - A commercial tile server of your own choice

    - Your own, online or local tile server

    See Change OpenStreetMap tile servers

- **None** - this option hides the geographic background. Note that the geo-reference data remains there. See also Layers on smart map on page 296

By default, Bing Maps and Google Maps display satellite imagery. You can change the imagery, for example to aerial or terrain, to see different details.

OpenStreetMap tile server

If you use OpenStreetMap as the geographic background for your smart map, you need to specify a tile server. You can specify a local tile server, for example if your organization has its own maps for areas such as airports or harbors, or you can use a commercial tile server.

> To use a local tile server, you do not need internet access.

The tile server address can be specified in two ways:

- In MOBOTIX HUB Management Client - you set the tile server address on the Desk Client profiles. The server address applies to all MOBOTIX HUB Desk Client users assigned to the Desk Client profiles

- In MOBOTIX HUB Desk Client - you set the tile server address in the **Settings** dialog. The server address applies only to that installation

Change OpenStreetMap tile server
Requirements

If the tile server specified server-side has been locked for editing, the field is grayed out and you cannot change the server address. Contact your system administrator to help you enable the feature in MOBOTIX HUB Management Client.

Steps:

1. On the global toolbar, select **Settings and more** [icon] and then **Settings** [icon].

2. In the left section, click **Smart map**.

3. In the **OpenStreetMap server** field, do one of the following:

   - Enter the server address. If the field is grayed out, it has been locked server-side

   - To use the server specified server-side, if any, select the **Follow server** check box

4. Click **Close**. Next time you load your smart map, it will use the OpenStreetMap server that you have specified.

> ⚠️ If no server address is specified, or the server address is invalid, then OpenStreetMap is not available as a geographic background.

Showing or hiding layers on smart map

You can turn layers on and off on your smart map depending on what you want to see.

Layers on smart map

A smart map has multiple layers. Each layer contains different elements.

You can hide the elements on a smart map layer. This feature is useful when you want to focus on a specific element or simplify the display on the smart map.

Layer	Elements
System elements	Cameras and other devices. Links and locations.
Custom overlays	Bitmap images, CAD drawings, and shapefiles.
Geographic backgrounds	The basic world map or one of the following services: • Bing Maps • Google Maps • OpenStreetMap

> Bing Maps and Google Maps are available as geographic backgrounds only if your system administrator has enabled them in MOBOTIX HUB Management Client. For more information, see Geographic backgrounds on page 294.

Order of layers

All system elements of each type are on the same layer[1]. For example, all cameras are on the same layer. If you hide the camera layer, all cameras are hidden. From top to bottom, layers for system elements are arranged in the following order: locations, cameras, links, and geographic background. You cannot change this order.

The geographic background is always the lowest layer on a smart map. You can switch between geographic backgrounds, but you can select only one geographic background at a time.

Custom overlays are added as separate layers, and are stacked in the order in which they were added to the smart map. You rearrange the order by configuring default settings for the map.

Example

A city planner has a shapefile that shows the city boundaries, and a shapefile that includes all major roads within the city. The planner can arrange the order of layers so that the roads display on top of the city boundaries. This gives a general view of where cameras are in the city, and the ability to zoom in to see the name of the street that a particular camera is on.

Show or hide layers on smart map

You can show or hide layers on your smart map, including the geographical background. This is useful, for example, when you want to focus on a specific element on the smart map, or just simplify what is shown on the smart map.

1. Select your smart map.

2. On the toolbar, select **Show or hide layers and custom overlays**.

3. To show or hide the **System elements** and **Custom overlays** layers, select or clear the check boxes.

   > Hiding the **System elements** layer mutes all microphones until you show the layer again. Manually muted microphones remains muted.

4. To hide the **Geographic background** layer, select **None**.

   Even if the geographic background layer is hidden, the geo-references still apply to the smart map.

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[1]The geographic background on a smart map, a custom overlay, or a system element, for example a camera. Layers are all the graphic elements that exist on the smart map.

> Even if the geographic background is hidden, if you, for example, add a new shapefile that contains spatial reference, the system still uses the spatial reference to place the file correctly on the map.

Specify default settings for smart map

After adding a smart map to a view, and you have added the overlays, cameras, and links, you can specify the default settings for the custom overlays. You can also delete custom overlays to clean up.

Steps:

1. Click **Setup**.

2. Click **Manage default settings**.

3. Do any of the following:

   - To show or hide an overlay, select or clear the check box

   - To rearrange the order, use the drag handle in front of the overlay to drag it to a new position in the list. Layers are ordered from top to bottom in the list

   - To delete an overlay, hover the pointer over the overlay, and then click **Delete**

4. Click **Save**.

Adding, deleting, or editing custom overlays

Custom overlays

You can add the following types of files as custom overlays on a smart map in MOBOTIX HUB Desk Client:

- **Shapefile** - can contain geo-spatial vector data, such as points, lines, polygons, and attributes that represent objects on a map, such as walls, roads, or geographical features like rivers or lakes. For example, city planning and administration offices often use shapefiles because they scale well when you zoom in and out, and their file size is often smaller than CAD drawings or bitmap images

- **CAD** - a computer-aided design (CAD) drawing is useful as an overlay because, like shapefiles, CAD data can use a coordinate system and spatial reference to provide accurate geographical context. For example, you can use a detailed ariel map or a road map of a location

- **Image** - if you have an image file, such as the floor plan of a building, you can add it as an overlay on the smart map. You can use the following types of image files: PNG, BMP, GIF, JPG, JPEG, PHG, TIF, and TIFF

> To put custom overlays into focus, you can temporarily hide other types of layers. See Layers on smart map on page 296.

Custom overlays and locations

You can quickly jump to custom overlays that you have added to your smart map as described in Go to a custom overlay on your smart map on page 114. However, in the settings, you can establish a connection between custom overlays and locations. This means that whenever you add a new custom overlay, MOBOTIX HUB Desk Client creates a location with the same name as the overlay on the exact same spot on the map. The location of the custom overlay now becomes available in the **Select a location** list.

The overlay and location are not linked. For example, you can delete or rename the location without changing the overlay, and vice versa.

> ✎ To turn on this feature, see Add locations to custom overlays (smart map) on page 300.

Add custom overlay on smart map

Increase the level of detail on your smart map by adding custom overlays. When you add a custom overlay[1], MOBOTIX HUB Desk Client creates a location with the same name as the overlay.

Steps:

1. Select the view that contains the smart map, and then click **Setup**.

2. Click 📑 **Add a custom overlay**:

   - If the overlay is geo-referenced, click anywhere on the smart map. MOBOTIX HUB Desk Client uses the geo-reference information to place the overlay in the correct geographic location. Additionally, the smart map will center on the overlay at a default zoom level

   - If the overlay is not geo-referenced, go to the point on the map where you want to add the element, and then click the point on the smart map

     > ✅ Before you add an overlay, it's a good idea to zoom in to the place on the map where you want to put it. This makes it easier to accurately position the overlay.

3. Enter a name for the overlay.

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[1]A user-defined, graphic element that users can add to a smart map, for example to illustrate a floor plan in a building, or to mark borders between regions. A custom overlay can be an image, a CAD drawing, or a shapefile.

4. Depending on the file type you select:

- **Image** - select the image file, and then click **OK**

- **Shapefile** - select the SHP file. If you have a PRJ file, MOBOTIX HUB Desk Client will find it, and you can just click **OK**. If you do not have a PRJ file, you can reposition the overlay manually after you add it. You can also apply fill- and line colors. Adding colors can make the shapefile stand out more on the smart map

- **CAD** - select the DWG file. If you have a PRJ file, click **OK**. If you do not have a PRJ file, and you want to use geo-referencing to position the file on the smart map, enter the spatial reference identifier (SRID), and then click **OK**. If you do not have a PRJ file or an SRID, you can reposition the overlay manually after you add it

> For more information about the types of overlays, see Custom overlays on page 298.

Add locations to custom overlays (smart map)

You can configure MOBOTIX HUB Desk Client to automatically add locations to custom overlays[1] on your smart map. This allows you to jump to the custom overlays through the **Select a location** list.

Steps:

1. On the global toolbar, select **Settings and more** and then **Settings**.

2. Go to the **Smart map** tab.

3. In the **Create location when layer is added** list, select **Yes**.

4. Close the dialog to save the changes.

> For more information, see Custom overlays and locations on page 299.

Delete custom overlay on smart map

1. Select the view that contains the smart map, and then click **Setup**.

2. In the toolbar, click **Manage default settings**.

3. Hover the pointer over the custom overlay, and then click **Delete**.

4. Click **Save** to delete the custom overlay.

5. Optional: If a location was created for the custom overlay, you might want to delete that as well. For more information, see Adding, deleting, or editing locations on smart map on page 311.

[1]A user-defined, graphic element that users can add to a smart map, for example to illustrate a floor plan in a building, or to mark borders between regions. A custom overlay can be an image, a CAD drawing, or a shapefile.

Make areas in shapefiles more visible (smart map)

> ✏️ This topic is relevant only if you are using shapefiles with polygons.

If you want to use a shapefile on your smart map that consists of polygons in close proximity, you may need to distinguish the individual polygons from each other. You do that by decreasing the opacity of the color you pick for the shapefile. The borders of the polygons will stand out.

Steps:

1. Follow the steps described in .

2. When selecting the color, drag the **Opacity** slider to the left until you are ok with the level of transparency.

3. Click **Save**.

Adjust position, size, or alignment of custom overlay

You can move an overlay to a different place on the map, make it larger or smaller, and rotate it. For example, this is useful if your overlay is not geo-referenced, or the overlay is geo-referenced but for some reason does not align exactly with the geographic background.

Steps:

1. Select the view that contains the smart map, and then click **Setup**.

2. Right-click the overlay, and select **Edit position**.

3. To resize or rotate the overlay:

   - Click and drag a corner handle

   - To rotate the overlay around a specific point, move the pivot point to that place on the map. Then click and drag a corner handle

4. To move the overlay on the map, click and drag the overlay.

5. To save the change, click **Save**.

Adding, deleting, or editing devices on smart map

You can add devices to a smart map in their actual positions in your environment. This gives you a good overview of your surveillance system, and can help you respond to a situation. For example, if you want to follow a suspect during an ongoing incident, you can click the cameras on the map to view their footage.

After you add a camera to a smart map, you can adjust the field of view for the camera icon so that it reflects the field of view of the actual camera. This makes it easy to find the camera that is covering a particular area. Additionally, you can select an icon to represent the camera on the map, which can help you identify the type of camera on the map.

You can work with the following device types on smart maps:

- Cameras

- Input devices

- Output devices

- Microphones

Add devices to smart map

If the geo-coordinates of the device have been specified in MOBOTIX HUB Management Client by your system administrator, the device will automatically be positioned on the smart map when you add it. If not, you must position the device yourself in its exact geographic location.

> ✅ If your system administrator has specified the geo-coordinates of the device, MOBOTIX HUB Desk Client you can easily find the device on a smart map. Contact your system administrator to enable thisbenefit inMOBOTIX HUB Desk Client.

1. Select the view that contains the smart map, and then click **Setup**.

2. To add a device or a group of devices:

> ✅ Before you add the device, it's a good idea to zoom in to the location on the map. This makes it easier to accurately position the device if the device has no geo-coordinates.

- Expand the **System overview** pane, find the device or device group, and then drag it to the point on the smart map where you want to display it. You can drag devices afterward to reposition them

- On the smart map toolbar, select **Add a device** > select the device type.

  - Example: In the case of a camera, select **Add a camera**, and then select the camera.

- Drag the device to the smart map

3. To save the change, click **Setup** to exit setup mode.

Change field of view and direction of camera

Once the camera has been added to the smart map, you can change field of view and direction by adjusting the camera icon.

> ✅   If you are zoomed out on the map, you may have to zoom in until the field of view is displayed.

1. Select the view that contains the smart map that you want to work with.

2. Click **Setup** to edit the camera icon.

3. Click the camera icon.

4. Use the rotate handle to point the camera in the right direction.

5. To adjust the width, length, and angle of the field of view, click and drag the handles at the front edge of the field of view.

6. To save your changes, click **Setup** to exit setup mode.

Select or change device icon

You can choose a device icon that matches the type of device that you are using.

1. Select the view that contains the smart map that you want to work with.

2. Click **Setup**, and then double-click the device icon on the map.

3. Click **Pick icon**, and then select the icon for the device.

4. Click **Setup** again to save the change.

Show or hide device information

You can show or hide information about devices on a smart map. This is useful, for example, when you want to increase or reduce the amount of content on your smart map.

1. Select the view that contains the smart map that you want to work with.

2. Click ▤ **Show or hide layers and custom overlays**.

3. Select or clear the check boxes for the information to show or hide.

Remove devices from smart map

You can remove devices, for example if devices have been physically removed or were added by mistake. By removing a device, the positioning information of the device, for example the geo coordinates, are removed from your VMS system.

Requirements

These user permissions must be enabled in MOBOTIX HUB Management Client:

- Editing of smart maps

- Editing of devices

Steps:

1. Navigate to the device that you want to remove.

2. On the workspace toolbar, select **Setup**.

3. To remove a single device, right-click the device and click **Remove**.

   Example: In the case of a camera, click **Remove camera**.

4. To remove several cameras:

    1. On the smart map toolbar, click **Select multiple cameras**.

    2. Click and drag to select multiple cameras. Other types of devices, for example input devices, are not included in the selection.

    3. Right-click and select **Remove cameras**.

5. To remove several devices that are not cameras:

    1. On the smart map, press and hold Ctrl.

    2. While holding down Ctrl, click the devices that you want to remove.

    3. Right-click one of the selected devices and select Remove.

6. Select **Setup** again to exit setup mode and save your changes.

> ✅ You can also delete a single device by selecting it and then pressing **DELETE** on your keyboard.

Adding, deleting, or editing links on smart map

Links on smart map

You can add links that go to locations on your smart map, or go to the static maps in MOBOTIX HUB Desk Client. This lets you quickly visit locations, or display another type of map without changing to another view. You cannot link to another smart map. For more information, see .

Links display locations and maps as follows:

- A link to a location displays the location in the current view. To return to a location that you previously viewed, click ⬅ **Back** on the smart map toolbar

- A link to a map displays the map in a detached window. This lets you access both types of maps at the same time. You can view and interact with the map but you cannot make changes in the detached window, such as adding cameras

> ✏️ If you color code links, or want to make them more visible on the map, you can specify a color for the link. By default, links to smart map locations are blue, and links to legacy maps are red. If you use a different color, it is a good idea to use the same color for each type of link. For example, this can make it easier to distinguish between links when you use layers to filter items on the map.

Add link to smart map location or map

Adding links to your smart map lets you quickly visit locations, or display another type of map without changing to another view.

Steps:

1. Select the view that contains the smart map, and then click **Setup**.

2. Go to the point on the map where you want to add the link.

3. In the map toolbar, click 🔗 **Add a link**, and then click the point on the map where you want the link to be.

4. Specify whether you want to link to a smart map location, or a map, and then click **Add**.

5. Enter a name for the link.

> ✅ You can display the title of the link on the smart map if you select **Icon and text** as the display style. Typically, names indicate where the link takes you.

6. In the **Destination** field, select the map or location that the link goes to.

7. In the **Display style** field, specify whether to display the name and link icon, or only the link icon on the map.

8. Optional: Click **Color** to specify a color for your link.

Edit or delete link on smart map

Once you have added a link on your smart map, you can edit or delete it.

Steps:

1. On the workspace toolbar, select **Setup**.

2. To edit the link, right-click the link and select **Edit link**.

3. To delete the link, do one of the following:

   - Right-click the link and select **Delete link**

   - Select the link and press **DELETE** on your keyboard

Adding, deleting, or editing locations on smart map

Locations on smart map

You can create locations at the points on the smart map that are of interest to you. For example, you can create locations for your home office, and satellite offices. Not only do locations give you a full picture of your environment, they are also useful for navigating the smart map.

> Depending on your configuration, when you add a custom overlay, MOBOTIX HUB Desk Client may add a location with the same name as the overlay. For example, this makes it easier to go to the overlay on the smart map when you are zoomed out. The overlay and location are not, however, linked. For example, you can delete or rename the location without changing the overlay, and vice versa. For more information, see Adding, deleting, or editing custom overlays on page 298.

Home locations for smart map

Home locations are specific to the view item they are set in. You can have different home locations in different view items. If a home location is not specified for a view item, the view item displays the whole world, regardless of the type of background you are using. This is also the case if you delete the home location.

While you are working with the smart map, you can click 🏠 **Home** to return to the home location. This is similar to resetting the smart map in the view. You return to the default settings for the view item, and the system deletes the history of the locations you visited.

> Selecting a new home location affects everyone who uses the view item. If someone else had set another location as home, you are changing their setting.

Add location to smart map

To keep track of the places that are of interest to you, you can add locations that allow you to quickly navigate to those places on the smart map.

Steps:

1. Select the view that contains the smart map, and click **Setup**.

2. If needed, pan and zoom in to the point on the smart map where you want to add the location.

3. In the toolbar, click ⊙⁺ **Add a location**, and then click the point on the smart map.

4. Give the location a name, and then add the following optional details:

   - Specify a zoom level to apply when someone goes to the location on the smart map

   - Select a color for the location icon. Color-coding locations is useful, for example, for distinguishing between types of locations. This could be based on the function of the location or its type, or indicate the location's priority

   - Optional: Make the location your home location. The smart map centers on this location, and applies the default zoom level setting for it, when you click 🏠 **Home**

Edit or delete location on smart map

Once you have added locations on your smart map, you can delete them or edit the settings, for example deleting the home location.

Steps:

1. On the workspace toolbar, select **Setup**.

2. To edit a location, right-click the location and select **Edit location**.

3. To delete a location, do one of the following:

   - Right-click the location and select **Delete location**

   - Select the location and press **DELETE** on your keyboard

Linking between locations

For example, you can create a patrol route by creating a series of links between locations. Create a link at location A that goes to location B, and a link at location B that goes to location C, and so on. For more information, see Adding, deleting, or editing links on smart map on page 310.

Adding, deleting, or editing buildings on smart map

Buildings on smart map

Buildings on the smart map[1] are depicted as polygons with four edges. Once added, you can adjust the dimensions, angles, and size to match the actual shape and position of the building.

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[1]A map functionality that uses a geographic information system to visualize devices (for example, cameras and microphones), structures, and topographical elements of a surveillance system in geographically accurate, real-world imagery. Maps that use elements of this functionality are called smart maps.

If the building is a multistory building, you can start adding levels and add cameras to the individual levels. This allows you to navigate the cameras inside the building, level by level.

To help you illustrate the interior of a level, you can add custom overlays to levels, for example an image illustrating a floor plan. For more information, see .

Buildings are automatically given a name, for example **Building 4**. MOBOTIX recommends that you change the name. This makes it easier for you to distinguish buildings from one another.

Add buildings to smart map

Instead of using images or shapefiles to illustrate buildings, you can add an outline of a building. Afterwards, you can change the dimensions, angles, and size to match the shape and position of the actual building.

Requirements

Smart map editing has been enabled on your Desk Client profile in MOBOTIX HUB Management Client.

Steps:

1. On the workspace toolbar, select **Setup**.

2. Navigate to the place on the smart map, where you want to position the building.

3. Click and place the cursor in the relevant position on the smart map.

4. Click again. A rectangle is added to the smart map. If zoomed out, the zoom level automatically increases.

5. If necessary, use the corner handles to adjust the shape and position of the actual building.

6. Select **Setup** again to exit setup mode and save your changes.

Edit buildings on smart map

Once a building has been added to the smart map, you can change the name of the building, and adjust the position, the size, dimensions, and angles. You can also add, remove, or reorder levels.

Requirements

Smart map editing has been enabled on your Desk Client profile in MOBOTIX HUB Management Client.

Steps:

1. Navigate to the building on your smart map. If necessary, zoom in.

2. On the workspace toolbar, select **Setup**.

3. Click anywhere inside the building. A blue-ridged border indicates that you can edit the building.

4. To rename the building, go to the top of the right-side pane and click [pencil icon]. Change the name and click [checkmark icon]. To cancel, press **Esc**.

5. To adjust the corners, click and drag them to a new position.

6. To add or remove levels, see .

7. Select **Setup** again to exit setup mode and save your changes.

Delete buildings on smart map

If a building is no longer needed, you can delete it. Next time someone logs into MOBOTIX HUB Desk Client or reloads, the building is gone.

Requirements

Smart map editing has been enabled on your Desk Client profile in MOBOTIX HUB Management Client.

Steps:

1. Open the smart map.

2. On the workspace toolbar, select **Setup**.

3. Do one of the following:

   - Right-click the building and select **Delete**

   - Select the building, and press **DELETE** on your keyboard

> ✅ An alternate way of deleting a building: In the [icon] **Manage default settings**, scroll down to the **Buildings** section, hover on the building, click **Delete** and then **Save**.

Managing levels and devices in buildings (smart map)

Devices and levels in buildings

When you add a device to a building, by default, the device is associated with the default level if one has been specified. Otherwise, the device is assigned to the first level. However, you can change this and associate the device with any other level, or several levels at the same time.

More facts:

- If no levels are selected, the device is visible on all levels

- If you add a building on top of a device that is already positioned, by default, the device is associated with all levels

- If you expand the boundaries of a building so that it covers a device that is already positioned, the device is associated only with the level that is selected

> ✎ If you readjust the boundaries of the building so that it no longer covers the device, the device is no longer associated with the building.

Floor plans and devices in buildings

To help you visualize the interior of the levels in a building, you can add floor plans as custom overlays. With a floor plan in place, it is easier to precisely position the device. For more information, see Add floor plans to levels (smart map) on page 317.

The devices that you position are associated with levels, not custom overlays. If you delete a level inside a building with devices and a custom overlay, the devices stay in their geographical position, but are no longer associated with the level. However, the custom overlay is deleted together with the level.

If you reorder a level, both the devices and the custom overlay stay with the level. The devices maintain their geographical position.

Add or remove levels from buildings

After adding a building to your smart map, you can add any number of levels. The first level is assigned the number **1**, the next **2**, and so forth. Afterwards, you can rename and reorder the individual levels.

Requirements

Smart map editing has been enabled on your Desk Client profile in MOBOTIX HUB Management Client.

Steps:

1. Navigate to the building on your smart map. If necessary, zoom in.

2. Select the building. A pane appears on the right-hand side.

3. Click the **Setup** button to enter setup mode.

4. Click **Add level** ⊕ Add level .

5. To edit the level name:

   1. Click the dots [⠿ 2 ⋯] and select **Rename**.

   2. Enter a new name.

6. To delete a level, click the dots [⠿ 2 ⋯] and select **Delete**. Devices on this level stay in their geographical position, but they are no longer associated with the level.

7. Click **Setup** to exit setup mode.

Change order of levels in buildings (smart map)

Requirements

Smart map editing has been enabled on your Desk Client profile in MOBOTIX HUB Management Client.

Steps:

1. Navigate to the building on your smart map. If necessary, zoom in.

2. Select the building. A pane appears on the right-hand side showing you the levels of the building.

3. On the workspace toolbar, select **Setup**.

4. Click and drag the dotted area [⠿ 2 ⋯] to the correct position. Any associated devices and custom overlays stay with the level.

5. Select **Setup** again to exit setup mode and save your changes.

Set default level for buildings (smart map)

If a particular level in a building is more relevant than others, for example the ground floor, you can set that level as the default level. When you open your smart map and go to the building, automatically the default level is selected.

If you navigate away from the building and back, MOBOTIX HUB Desk Client brings you to the level where you left off.

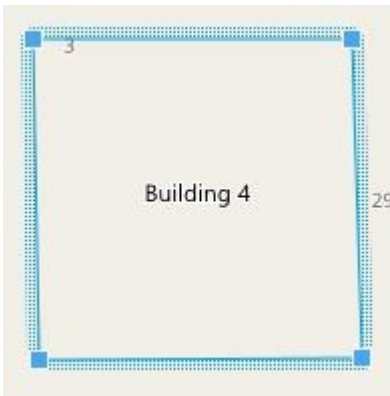**Requirements**

Smart map editing has been enabled on your Desk Client profile in MOBOTIX HUB Management Client.

Steps:

1. Navigate to the building on your smart map. If necessary, zoom in.

2. Select the building. A pane appears on the right-hand side showing you the levels of the building. The default level is highlighted.

3. Click **Setup** to enter setup mode. Notice the asterisk . It indicates where the current default level is.

4. On the level you want to set as the default level, click the dots .

5. Select **Set as default**.

6. Select **Setup** again to exit setup mode and save your changes.

Add floor plans to levels (smart map)

You can add custom overlays, for example floor plan images, to the levels in your building to help you illustrate the interior of a level inside a building. As you navigate the levels, automatically the associated floor plans are displayed.

Requirements

Smart map editing has been enabled on your Desk Client profile in MOBOTIX HUB Management Client.

Steps:

1. Navigate to the building on your smart map. If necessary, zoom in.

2. Select the building. A pane appears on the right-hand side showing you the levels of the building.

3. On the workspace toolbar, select **Setup**.

4. Select the level where you want to add the custom overlay.

5. In the upper left corner, click **Add a custom overlay**, and then click anywhere inside the building outline. A window appears.

6. Select the type of custom overlay. For more information, see Custom overlays on page 298.

7. Select the location on your computer where the file is stored and click **Continue**. The custom overlay is displayed as a blue outline.

8. Drag it onto the outline of the building and use the pivot point and corner handles to rotate and reposition the custom overlay.

9. In the bar at the top, click **Save**.

10. Select **Setup** again to exit setup mode and save your changes.

Delete floor plans on levels (smart map)

If a floor plan on a level inside a building has changed, you may need to replace the custom overlay illustrating the floor plan. MOBOTIX recommends that you delete the old floor plan, before adding a new one.

Requirements

Smart map editing has been enabled on your Desk Client profile in MOBOTIX HUB Management Client.

Steps:

1. Navigate to the building on your smart map. If necessary, zoom in.

2. Select the building. A pane appears on the right-hand side showing you the levels of the building.

3. On the workspace toolbar, select **Setup**.

4. Select the level where the custom overlay is.

5. Right-click anywhere on the custom overlay and select **Delete custom overlay**.

6. Select **Setup** again to exit setup mode and save your changes.

> ✅ To edit the position or size of the floor plan, right-click the custom overlay and select **Edit position**. Now you can move, rotate, and change the size of the custom overlay.

Add devices to buildings (smart map)

After creating a building and adding levels, you can add devices to the building. If you've specified a default level, the devices are associated with it. If not, the devices are associated with the first level. You can change the level and associate the device with any of the levels in the building.

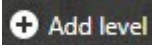**Requirements**

Smart map editing has been enabled on your Desk Client profile in MOBOTIX HUB Management Client.

Steps:

1. Go to the building on your smart map. Zoom in if needed.

2. On the workspace toolbar, select **Setup**.

3. To add a device, click its icon.

   Example: in the case of a camera, click   📹⁺   **Add a camera**.

4. Click again on the location to position the device. A window is displayed.

5. Select the device and click **OK**. For each device to add, repeat steps 3-5.

6. To associate a device with one or more levels, right-click the device and select the required levels.

7. Select **Setup** again to exit setup mode and save your changes.

> ✏️ If you haven't selected any level, the device is visible on all levels.

Migrating from maps to smart maps

Migration from map to smart map

You can use the Map Migration Tool to migrate from the maps functionality to smart maps in a few steps. The Map Migration Tool enables you to transfer existing map overlays from the maps functionality to the smart map, so you don't need to manually add devices to the smart map. Smart maps are more advanced than maps. They can connect with map services like Google Maps or Bing Maps and, in advanced multi-site setup, enable you to monitor multiple sites from a central location.

With smart maps, you can:

- connect existing offline maps with online map services like Google Maps, Bing Maps, OpenStreet Map, or the MOBOTIX Map service.

- access the maps of other locations from a one, central map in MOBOTIX HUB Desk Client if your MOBOTIX HUB VMS is part of a MOBOTIX Federated Architecture setup.

- get visual feedback right away: when an alarm is triggered, the smart map shows the exact location of the alarm, allowing you to quickly assess and respond to the situation.

Migrating from a map to a smart map with the Map Migration Tool

Use the Map Migration Tool to migrate map overlays and the position of devices from your existing map to a smart map. For more information, see

In the map migration process, you must:

- Add the smart map to a view.

- Add a map overlay to the smart map.

- Import the map overlay to the smart map.

- Import all the devices from the map or add only the map overlay.

- Keep the map overlay's devices only or keep both the map overlay's image and devices.

Prerequisites:

- MOBOTIX recommends that you back up your configuration before you proceed with the map migration to avoid scenarios where you unintentionally move devices on the smart map.

- To set up a new smart map, you must have at least one view set up with a free view item.

- You must have access to setup mode in MOBOTIX HUB Desk Client.

Add the smart map to a view

1. On the top ribbon of MOBOTIX HUB Desk Client, enter setup mode.

2. In the **Views** pane, go to **System overview**, locate **Smart maps**, and drag it into the view.

Add a map overlay to the smart map

1. On the left-hand toolbar of the smart map, click **Add a custom overlay or import a map**.

2. Place your mouse cursor over the position on the smart map where you want to add the map overlay, then click to place it.

3. In the **Add custom overlay** window, optionally give the map overlay a name, and then select **Maps**.

4. In the list of available maps shown below the drop-down list, select the map to add. The import of the map then begins. If you didn't enter a name of the map overlay, the map is automatically given the same name as the file name of the map overlay.

Import the map overlay to the smart map

1. In the window that is displayed, review the information message. Before you proceed, make sure that your system configuration is already backed up.

2. Select **Continue** to import the map overlay.

3. Place the imported map overlay in a geographically correct context on the smart map.

4. Resize, move, or rotate the map overlay to match the correct position or building layout on the smart map.

5. When you're satisfied with the size and position of the map overlay, save the changes.

Import all the devices from the map or add only the map overlay

1. In the **Import devices** window:

   - To only import the map overlay, select **Only add overlay**. A Windows Desktop notification confirms that no devices have been added. You have successfully migrated your overlays to smart maps without adding any devices.

   - To import both the map overlay and the map's associated devices, select **Import devices**. This way, you add all devices associated with the map overlay to the smart map.

2. If you have imported the devices associated with this map overlay already, then choose either of these options:

   - To not make any changes to the positions of the devices, select **Keep position**.

   - Alternatively, to match the new position of the map overlay, select **Update position**.

Keep the map overlay's devices only or keep both the map overlay's image and devices

This task is only relevant if you chose **Import the devices** in the previous step.

1. In the **Keep image overlay** window, choose either **Only keep the devices** or **Keep image and devices**.

   - If you select **Only keep the devices**, the map overlay is removed from the smart map and only the devices from the map overlay are added to the smart map.

   - If you select **Keep image and devices**, both the map overlay and its associated devices are added to the smart map.

   When you've made your choice, a Windows Desktop notification is displayed to confirm that you've now added the devices.

Repeat this process for each map overlay to add to your smart map. If you need to, you can add the same map overlay to the smart map again, for example, to update the position of existing devices on the smart map.

FAQ: maps

Which image file formats and sizes can I use for maps?

You can use bmp, gif, jpg, jpeg, png, tif, tiff, and wmp file formats for maps.

Image file size and resolution should preferably be kept under 10 MB and 10 megapixels. If you use larger image files, this can cause low performance in the MOBOTIX HUB Desk Client. You cannot use images larger than 20 MB and/or 20 megapixels.

Maps are displayed in the MOBOTIX HUB Desk Client on the basis of the graphic file's properties, and adhering to Microsoft standards. If a map appears small, you can zoom in.

Can I change the background of a map but keep the cameras in their relative positions?

Yes. If you need to update the map but want to keep all the information on it, you can just replace the map background (if you have the necessary map edit user permissions). This allows you to keep all your cameras, and other elements in their relative positions on a new map. Select **Change map background**, by right-clicking the map or in the **Properties** pane.

FAQ: smart map

Can I remove devices from my smart map?

Yes. See .

Can I show the same device on multiple levels in a building?

Yes, you start by placing the device on one level. Next, right-click the device, select **[device] visible on levels** and then specify additional levels that you want the device to be associated with.

Can I adjust the building outline to match a round building?

On the smart map, building outlines are square. MOBOTIX recommends that you use the corner handles to adjust the shape of the building to cover the actual building.

What files types can I use as floor plans in a building?

You can use any of the supported custom overlays:

- Shapefiles

- CAD drawings

- Images

See .

What is the maximum size of custom overlays?

The maximum size of custom overlays are as follows:

- CAD drawings: 100 MB

- Images: 50 MB

- Shapefiles: 80 MB

> The maximum size can adjusted by changing the values in the **client.exe.config** file. Please contact your system administrator.

Can I add multiple floor plans to the same level?

Yes, you can add any number of floor plans to the same level, for example one for the north-wing and one for the south-wing.

What if a device in a building is not associated with any levels?

In that case, the device is visible an all levels.

Dissociating a device from the levels in a building is relevant, for example, if the device is located inside an elevator. When you add a device to a building, automatically the device is associated with the selected level. To dissociate the device, in setup mode, right-click the device, select **[device] visible on levels**, and make sure that no levels are selected.

If I move a building with a floor plan, will the floor plan move with it?

No, the floor plan stays in its original, geographic location and is visible only in setup mode. You must manually reposition the floor plan.

If I reorder a level within a building, will the devices stay with the level?

Yes, the devices stay with the level.

What happens to floor plans and devices when I delete a building?

The floor plans are deleted, but the devices remain.

Troubleshooting: Smart map

Problems

I don't see any devices on my smart map

If you don't see any cameras or other devices on your smart map, the system elements layer is likely hidden. To enable it, see Show or hide layers on smart map on page 297.

My device doesn't appear on the smart map

If one or more devices should appear on the smart map, but don't, then it's likely that the devices haven't been geographically positioned.

To resolve this issue, either:

- Drag the devices onto the smart map from the device hierarchy. You can only do this action if device editing is enabled on your user profile.

- Or ask your system administrator to specify the geo-coordinates in the device properties in MOBOTIX HUB Management Client

Error messages and warnings

Cannot save the map. Cannot perform the operation.

You're trying to add devices to a smart map manually in MOBOTIX HUB Desk Client. A probable cause is that you're running MOBOTIX HUB Desk Client 2017 R1 against an installation of MOBOTIX HUB L5 2017 R2. MOBOTIX HUB Desk Client looks for the position of the device on the event server, but in version 2017 R2 or newer of MOBOTIX HUB L5 the geo coordinates are stored on the management server.

To resolve the issue, upgrade MOBOTIX HUB Desk Client to version 2017 R2 or newer.

This device has not been placed on the smart map

You have selected a search result, but the associated device is not displayed on the smart map in the preview area. The reason is that the device has not been geographically positioned. To resolve this issue, do one of the following:

- Go to your smart map and add the device. See Add devices to smart map on page 303

- Ask your system administrator to specify the geo coordinates in the device properties in MOBOTIX HUB Management Client

Creating login scripts

Login scripts

Scripts for logging into MOBOTIX HUB Desk Client

You can use scripting to control parts or all of the login procedure in MOBOTIX HUB Desk Client.

- If using **Basic authentication** or **Windows authentication**, you can make the MOBOTIX HUB Desk Client login window open with a pre-filled server address and user name fields so users only have to enter a password to log in.

- If using **Windows authentication (current user)**, you can make the MOBOTIX HUB Desk Client connect to the surveillance system automatically, based on the user's current Windows login.

> ⚠️ Scripting the login procedure based on **Basic authentication** or **Windows authentication** requires that you add non-encrypted, sensitive information to an SCS file that you store locally with the MOBOTIX HUB Desk Client program files:
>
> - Host name
> - Username
> - Password
>
> Storing non-encrypted information may compromise the security of your system or GDPR compliance. The information in the SCS file can be read:
>
> - By anyone who can access the file
> - In the memory footprint of the MOBOTIX HUB Desk Client application that was started by the SCS file or a command-line that delivers the username and password
>
> MOBOTIX recommends that you use **Windows authentication (current user)**. If you must use **Basic authentication** or **Windows authentication**, you should limit access to the SCS file.

Scripting for log in - parameters

You can use these parameters:

ServerAddress

Refers to the URL of the Management server that MOBOTIX HUB Desk Client connects to.

The following example shows the MOBOTIX HUB Desk Client login window with *http://ourserver* in the **Server address** field:

```
Client.exe -ServerAddress="http://ourserver"
```

The default authentication type is **Windows authentication (current user)**. Unless you change this, using the **AuthenticationType** parameter (described in the following section), the login window automatically displays the current Windows user in the **User name** field.

UserName

Refers to a specific user name.

The following example shows the MOBOTIX HUB Desk Client's login window with *http://ourserver* in the **Server address** field, and **Tommy** in the **User name** field:

```
Client.exe -ServerAddress="http://ourserver" -UserName="Tommy"
```

> ✎ This parameter is relevant only for **Windows authentication** and **Basic authentication**. You use the **AuthenticationType** parameter to control which authentication method to use.

Password

Refers to a specific password.

The following example shows the MOBOTIX HUB Desk Client's login window with *http://ourserver* in the **Server address** field, **Tommy** in the **User name** field, and **T0mMy5Pa55w0rD** in the **Password** field:

```
Client.exe -ServerAddress="http://ourserver" -UserName="Tommy" -
Password="T0mMy5Pa55w0rD"
```

> ✎ This parameter is relevant only for **Windows authentication** and **Basic authentication**. You use the **AuthenticationType** parameter to control which authentication method to use.

AuthenticationType

Refers to one of MOBOTIX HUB Desk Client's three possible authentication methods: **Windows authentication (current user)** (called **WindowsDefault** in startup scripts), **Windows authentication** (called **Windows** in startup scripts), or **Basic authentication** (called **Simple** in the startup scripts).

The following example shows the MOBOTIX HUB Desk Client login window with *http://ourserver* in the **Server address** field, **Basic authentication** selected in the **Authentication** field, **Tommy** in the **User name** field, and **T0mMy5Pa55w0rD** (masked by asterisks) in the **Password** field:

```
Client.exe -ServerAddress="http://ourserver" -UserName="Tommy" -
Password="T0mMy5Pa55w0rD" -AuthenticationType="Simple"
```

If you use **Windows authentication**, the example is:

```
Client.exe -ServerAddress="http://ourserver" -UserName="Tommy" -
Password="T0mMy5Pa55w0rD" -AuthenticationType="Windows"
```

If you use **Windows authentication (current user)**, the **UserName** and **Password** parameters would not be necessary, and the example looks like this:

```
Client.exe -ServerAddress="http://ourserver" -AuthenticationType="WindowsDefault"
```

Script

Refers to a full path to an .scs script (a script type targeted at controlling the MOBOTIX HUB Desk Client).

The following example uses an .scs script to login:

```
Client.exe -Script=c:\startup.scs
```

Example of an .scs script for logging in to *http://ourserver* with the current Windows user:

```
<ScriptEngine>

  <Login>

    <ServerAddress>http://ourserver</ServerAddress>

    <AuthenticationType>WindowsDefault</AuthenticationType>

  </Login>

</ScriptEngine>
```

You can use many of the MOBOTIX HUB Desk Client's function calls (see View a list of function calls) to add further functionality to .scs scripts. In the following example, we have added a line so the .scs script from the previous example will also minimize the MOBOTIX HUB Desk Client application:

```
<ScriptEngine>

 <Login>

   <ServerAddress>http://ourserver</ServerAddress>

   <AuthenticationType>WindowsDefault</AuthenticationType>

 </Login>

 <Script>SCS. Application.Minimize();</Script>

</ScriptEngine>
```

Format

Valid parameter formats are:

```
{-,/,--}param{ ,=,:}(("."')value(",'))
```

Examples:

```
-UserName Tommy
```

```
--UserName Tommy /UserName:"Tommy" /UserName=Tommy -Password 'Tommy'
```

Scripting HTML page for navigation

You can use scripting to create HTML pages that let you switch between views. HTML pages can be added to your views, so they appear together with video from your cameras.

Example: In an HTML page, you can insert a clickable floor plan of a building that allows operators to simply click a part of the floor plan to instantly switch to a view that displays video from that part of the building.

Requirements

- If your MOBOTIX HUB VMS system supports Desk Client profiles, you must enable HTML scripting on the required Desk Client profiles in MOBOTIX HUB Management Client.

- If your MOBOTIX HUB VMS system does not support Desk Client profiles, you must enable HTML scripting in the **Client.exe.config** file.

In the following, you will see examples of HTML pages for MOBOTIX HUB Desk Client navigation:

- A simple HTML page with buttons

- A more advanced HTML page with a clickable image map

- A check list for system administrators outlining the tasks involved in creating and distributing HTML pages to MOBOTIX HUB Desk Client operators

Example of an HTML page with button navigation

A very quick solution is to create an HTML page with buttons for navigation. You are able to create a wide variety of buttons on the HTML page. In this example, we will just create two types of buttons:

- **Buttons for switching between the MOBOTIX HUB Desk Client's views**

  Required HTML syntax:

  ```
  <input type="button" value=" Buttontext" onclick="SCS. Views.SelectView
  ('Viewstatus.Groupname. Viewname');">
  ```

  Where **Viewstatus** indicates whether the view is shared or private (if the HTML page is to be distributed to several users, the view **must** be shared).

  Example from a real button:

  ```
  <input type="button" value="Go to Shared Group1 View2" onclick="SCS.
  Views.SelectView('Shared.Group1. View2');">
  ```

  This button would allow users to go to a view called **View2** in a shared group called **Group1**.

  Buttons for switching between live and playback mode: Bear in mind that, depending on the users' permissions, some users may not be able to switch to a mode.

  Required HTML syntax for **Live mode**:

  ```
  <input type="button" value="Buttontext" onclick="SCS. Application.ShowLive();">
  ```

  Required HTML syntax for **Playback mode**:

  ```
  <input type="button" value="Buttontext" onclick="SCS. Application.ShowBrowse();">
  ```

> ✅ For advanced users it is possible to create many other types of buttons using the approximately 100 different function calls available for the MOBOTIX HUB Desk Client.

In the following we have created two shared groups in the MOBOTIX HUB Desk Client. We have called them **Group1** and **Group2**. Each group contains two views, called **View1** and **View2**.

We have also created an HTML page with buttons allowing users to switch between our four different views as well as between the live and playback modes. When viewed in a browser, our HTML page looks like this:

HTML page with buttons for navigating between views and tabs

We have saved the HTML page locally, in this case on the user's C: drive. When the HTML page is to be used for navigation, saving the HTML page locally is necessary to open it in compatibility mode. See .

When saving the HTML page locally, save it at a location to which an unambiguous path can be defined, for example in a folder on the user's C: drive (example: `C:\ myfolder\file.htm`). Saving the HTML page on the user's desktop or in the user's **My Documents** folder will not work properly due to the way Windows constructs the path to such locations.

We then imported the HTML page into the required MOBOTIX HUB Desk Client views.

Example of an HTML page with image map navigation

You can also create an HTML page with more advanced content, for example, an image map allowing users to switch between views.

In the following example we have kept the two groups and two views from the previous example. Instead of using buttons, we have created an HTML page with an image of a floor plan, and created an image map based on the floor plan. Viewed in a browser, our HTML page looks like this:
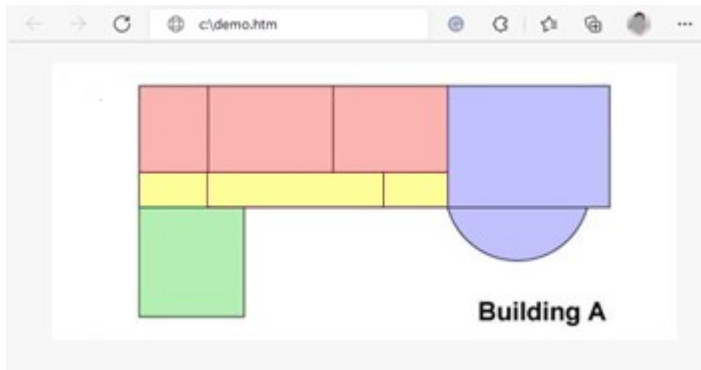
HTML page with image map for navigating between views

For this example, we divided the floor plan into four colored zones, and defined an image map area for each zone. Users can click a zone to go to the view displaying cameras from that zone.

For instance, the red zone on our image map mirrors the **Go to Shared Group2 View2** button from the previous example. If you click the red zone, you will go to **View2** in **Group2**.

Importing the HTML page

Importing a navigation HTML page into a view is in principle no different from importing any other type of HTML page into a view in the MOBOTIX HUB Desk Client. See Add a web page to a view on page 238.

> - The HTML page should be stored locally on the operator's computer
>
> - For the navigation to work properly, you may want to import the HTML page into several views

System administrator's check list

To create and distribute navigation HTML pages to MOBOTIX HUB Desk Client operators, do the following:

1. **Create** the required HTML page. The navigation controls in the HTML page must match the views users see in the MOBOTIX HUB Desk Client. For example, in order for a button leading to **View1** to work, a view called **View1** must exist in users' MOBOTIX HUB Desk Client installations. If you intend to distribute the HTML page to a group of users, the views in which the HTML page will be used should be placed in shared groups.

2. **Save** the HTML page locally on each computer on which it will be used. When saving the HTML page locally, save it at a location to which an unambiguous path can be defined, for example in a folder on the user's C: drive (example: `C:\myfolder\file.htm`). Saving the HTML page on the user's desktop or in the user's **My Documents** folder will not work properly due to the way Windows constructs the path to such locations.

3. **Import** the HTML page into the required views in MOBOTIX HUB Desk Client. See Add a web page to a view on page 238.

4. **Test** that the navigation controls on the imported HTML page work as intended.

> For information about troubleshooting, see .

Access to user assistance

Enable or disable access to the user assistance

If your system administrator has given you permission, you can enable or disable direct access to the user assistance in MOBOTIX HUB Desk Client.

1. On the global toolbar, select **Settings and more** and then **Settings** .
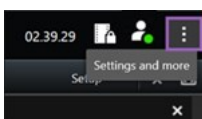
2. From the **Application** tab and in the **Help** list, select one of the following options:

   - **Unavailable** to disable the user assistance.

     When you press **F1**, nothing happens. Context-sensitive links and **Help** buttons within MOBOTIX HUB Desk Client are no longer visible.

   - **Available** to enable the user assistance.

     When you press **F1**, the relevant topic in the MOBOTIX HUB Desk Client user assistance is opened. Context-sensitive links and **Help** buttons are available.

Overview of MOBOTIX HUB Desk Client settings

Overview of the MOBOTIX HUB Desk Client settings

The Settings window

The **Settings** window lets you control which features and elements, for example, language selection, joystick setup and keyboard shortcut setup, you want to use on each of the tabs.

On the global toolbar, select **Settings and more** and then **Settings** .
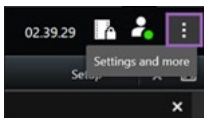
Application settings

Application settings let you customize the general behavior and look of your MOBOTIX HUB Desk Client.

If available, the **Follow server** column lets you specify that you want your MOBOTIX HUB Desk Client to follow the recommended settings of the server. Certain settings are server-controlled, in which case, configuration on the server decides whether you can override the settings.

Name	Description
Application maximization	Specify how windows in MOBOTIX HUB Desk Client react when you click the **Maximize** button. To avoid that the Windows taskbar is covered when you maximize a window, select **Maximize as normal window**.
Camera error messages	Specify how the MOBOTIX HUB Desk Client displays camera-related error messages. These can be displayed as an overlay on top of the camera image or on a black background, or hidden completely. ⚠ If you **Hide** the camera error messages, there is a risk that the operator overlooks that the connection to a camera has been lost.

Name	Description
Server error messages	Specify how the MOBOTIX HUB Desk Client displays server-related message texts. These can be displayed as an overlay on top of the camera image or on a black background, or hidden completely.
Live video stopped message	Specify if the MOBOTIX HUB Desk Client displays a message when a camera is connected but the camera is not sending live video feed. The message can be displayed as an overlay on top of the camera image or on a black background, or hidden completely.
Default for camera title bar	Select whether to show or hide the camera title bar. The title bar displays the name of the camera and the colored indicators signifying events, detected motion, and video recordings. ✎ You can override this setting on individual cameras by adjusting camera properties for the camera(s) in setup mode.
Show current time in title bar	Specify whether to show or hide the current time and date (of the computer running the MOBOTIX HUB Desk Client) in the title bar.
Show in empty view positions	Specify what to show if there are empty view items in views, for example, you can select a logo or have just a black background displayed.
View grid spacer	Specify the thickness of the border between view items in views.
Default image quality	⚠ Specifying a default quality of video viewed in MOBOTIX HUB Desk Client is only relevant if you are viewing JPEG streams. If you are viewing other codecs like H264 and H265 and reduce the quality, you will increase the bandwith, CPU, and GPU usage when re-coding to JPEG. Note that image quality also affects bandwidth usage. If your MOBOTIX HUB Desk Client is used over the internet, over a slow network connection, or if for other reasons you need to limit bandwidth use, image quality can be reduced on the server by selecting **Low** or **Medium**. ✎ You can override this setting on individual cameras by adjusting camera properties for the camera(s) in setup mode.

Name	Description
Default frame rate	Select a default frame rate for video viewed in the MOBOTIX HUB Desk Client. ✎ You can override this setting on individual cameras by adjusting camera properties for the camera(s) in setup mode.
Default video buffer	If you require very smooth display of live video, without any jitter, it is possible to specify a video buffer. ✎ Video buffering can significantly increase memory usage for each camera displayed in a view. If you do need to use video buffering, keep the buffering level as low as possible.
Default PTZ click mode	Specify a default PTZ click mode for your PTZ cameras. Options are click-to-center or virtual joystick. You can override this setting on individual cameras by selecting a different default PTZ click mode for the camera.
Start mode of main window	Specify in which screen mode the main window of MOBOTIX HUB Desk Client opens after you have logged in. Options are **Full screen**, **Maximized**, **Window** and **Last**.
Restore windows and tabs	Specify whether you want to restore the windows and tabs left open when you last logged out of MOBOTIX HUB Desk Client. Options are: • **Last**: Always restore all windows and tabs you had open when you logged out of MOBOTIX HUB Desk Client. • **None**: Never restore the windows and tabs you had open when you logged out of MOBOTIX HUB Desk Client. • **Ask**: When logging in, you're asked if you want to restore your MOBOTIX HUB Desk Client windows and tabs from last session.
Hide mouse pointer	Specify whether you want the mouse pointer to be hidden after a period of inactivity. You can specify how much time you want to elapse before hiding the mouse pointer. The default option is after 5 seconds. Options are: • Never • After 5 seconds • After 10 seconds • After 20 seconds

Name	Description
	• After 30 seconds If you move the mouse after a period of inactivity, it is enabled immediately.
Snapshot	
Path to snapshots	Specify the path indicating where you want your snapshots to be saved to.

Panes settings

The **Panes** settings let you specify whether you want a pane to appear on a particular tab.

> Some panes may contain functionality which may not be available to you, either because of your user permissions or the surveillance system you are connected to.

The **Mode** column displays where the pane is available, the **Function** column lists the name of the pane, and the **Setting** column lets you specify whether you want the pane to be available or unavailable.

If available, the **Follow server** column lets you specify that you want your MOBOTIX HUB Desk Client to follow the recommended settings of the server. Certain settings may already be server-controlled, in which case configuration on the server decides whether you can override the settings.

Functions settings

The **Functions** settings let you specify the functions (for example, playback in live mode) that you want to display on a particular MOBOTIX HUB Desk Client tab.

The **Mode** column displays where the pane is available, the **Function** column displays the name of the function, and the **Setting** column lets you specify whether or not you want the pane to be available.

If available, the **Follow server** column lets you specify that you want your MOBOTIX HUB Desk Client to follow the recommended settings of the server. Certain settings are server-controlled, in which case configuration on the server decides whether or not you can override the settings.

Name	Description
Live > Camera	The ability to play back recorded video from individual cameras while in live mode.

Name	Description
playback	
Live > **Overlay buttons**	The ability to view and use overlay buttons in live mode for activating speakers, events, output[1], moving PTZ[2] cameras, clearing indicators from cameras, etc.
Live and **Playback** > **Bookmark**	Select whether you want to add quick or detailed bookmarks from the view item toolbar or through ready-made overlay buttons in live or playback mode. Enabling or disabling this option in playback mode controls whether or not the corresponding button is enabled on the **Search** tab. ✎ Depending on your user permissions, access to adding bookmarks from some cameras may be restricted.
Live and **Playback** > **Print**	The ability to print in live or playback mode. Enabling or disabling this option in playback mode controls whether or not the corresponding button is enabled on the **Search** tab.
Live and **Playback** > **Bounding boxes**	The ability to show bounding boxes on live video in live mode or on recorded video in playback mode on all cameras. Bounding boxes are used for, for example, tracking objects. ✎ The bounding box feature is only available if connected to certain surveillance systems and to cameras that support metadata. Depending on your user permissions, access to bounding boxes from some cameras may be restricted.
Playback > **Independent playback**	The ability to play back recorded video from individual cameras independently in playback mode, where all cameras in a view otherwise by default display recordings from the same point in time (the playback time). See View recorded video independently of the main timeline on page 80.
Setup > **Edit overlay buttons**	The ability to add new or edit existing overlay buttons in setup mode. To add overlay buttons, the **Overlay buttons** list must be set to **Available** (you manage this on the **Panes** tab in the **Settings** window).
Setup > **Edit video buffering**	The ability to edit video buffering is part of the camera properties in setup mode. To edit video buffering, the **Setup** tab's **Properties** pane must also be made available (you manage this on the **Settings** window's **Panes** tab).

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[1]Data going out of a computer. On IP surveillance systems, output is frequently used for activating devices such as gates, sirens, strobe lights, and more.
[2]Pan-tilt-zoom; a highly movable and flexible type of camera.

Timeline settings

The **Timeline** settings let you specify the general settings for the timelines in MOBOTIX HUB Desk Client.

If available, the **Follow server** column lets you specify that you want your MOBOTIX HUB Desk Client to follow the recommended settings of the server. Certain settings are server-controlled, in which case, configuration on the server decides whether you can override the settings.

Name	Description
Incoming audio, **Outgoing audio**, **Additional data**, **Additional markers**, **Bookmarks**, **Motion indication**, and **All cameras timeline**	See Configure what to show on the timeline tracks on page 90.
Playback	See Configure playback of gaps between recordings on page 89.
Hide the timeline during inactivity and **Hide the timeline in Video Wall views**	See Hide the main timeline on page 90

Export settings

The **Export** settings let you specify general export settings.

If available, the **Follow server** column lets you specify that you want MOBOTIX HUB Desk Client to follow the recommended settings of the server. Certain settings may already be server-controlled, in which case, configuration on the server decides whether you can override the settings.

Name	Description
Export to	Select the path that you want to export to.
Privacy mask	Select whether you want to cover areas with privacy masks[1] in the exported video.
	The privacy masks that you add here only apply to the current export and for the selected video. The export may already include video with privacy masks configured by your system administrator. These privacy masks are configured in Management Client > **Devices** > camera > **Privacy masking**.

[1]A blurred or solid color that covers an area of the video in the camera view. The defined areas are blurred or covered in live, playback, hotspot, carousel, smart map, smart search, and export modes in the clients.

Overview of MOBOTIX HUB Desk Client settings

Name	Description
Media player format	Select whether or not you can export in the media player format.
Media player format - Video texts	Select whether you want video texts to be optional, required or unavailable when you export in the media player format. With video texts, the user can add overlay text on the exported recordings.
Media player format - Video codec properties	Select whether you want codec[1] configuration to be available or not when you export in the media player format. The codec properties depend on the selected codec. Not all codecs support this option.
MOBOTIX HUB format	Select whether or not you can export in the MOBOTIX HUB format.
MOBOTIX HUB format - Project comments	Select whether you want project comments to be optional, required, or unavailable when you export in the MOBOTIX HUB format.
MOBOTIX HUB format - Device comments	Select whether you want device comments to be optional, required, or unavailable when you export in MOBOTIX HUB format.
Still image export	Select whether or not you can export still images[2].

Smart map settings

Enter the Bing Maps key or Google Maps client ID or key for the Bing Maps API or Google Maps API that you use.

> ✎ You can edit these settings only if your administrator has allowed you to in MOBOTIX HUB Management Client.

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[1]A technology for compressing and decompressing audio and video data, for example in an exported AVI file.
[2]A single still image.

Name	Description
OpenStreetMap server	To use a different tile server (see Change OpenStreetMap tile server on page 295) than the one specified by your system administrator, enter the server address here.
Create location when layer is added	Specify whether to create a location when a user adds a custom overlay[1]. For more information, see Adding, deleting, or editing custom overlays on page 298.
Bing Maps key	Enter or edit the private cryptographic key that you generated for the Bing Maps API.
Client ID for Google Maps	Enter or edit the client ID that you generated for the Google Static Maps API.
Private key for Google Maps	Enter or edit the private cryptographic key that you generated for the Google Static Maps API.
URL signing secret for Google Maps	Enter the signing secret that you retrieved for the Google Static Maps API.
Remove cached smart map files	If you are using Google Maps as your geographic background, files are not cached. Smart map saves to the cache folder on your local computer so that it can load faster. Use this setting to specify how often you want to remove the cached files.

Search settings

The search settings let you customize the behavior of parts of the search functionality, mainly on the **Search** tab.

Name	Description
Auto-play video clip	By default, when you select a search result, video in the preview area is paused at the

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[1]A user-defined, graphic element that users can add to a smart map, for example to illustrate a floor plan in a building, or to mark borders between regions. A custom overlay can be an image, a CAD drawing, or a shapefile.

Name	Description
in preview area	event time. To make it start playing automatically, select **Yes**.
Loop video clip in preview area	By default, when you preview video from a search result, the video sequence is played back only once. To make it loop, select **Yes**.

Joystick settings

> You can control most PTZ cameras with a joystick, but not all PTZ cameras support joystick control.

When you add a new joystick, it is given a default pan-tilt-zoom (PTZ) configuration that you can customize.

Name	Description
Disable all joysticks	Select to disable all your joysticks.
Add	Select if you want to add a joystick for navigating in the video and the user interface. See Add a joystick for video and user interface navigation on page 76.
Select joystick	Select from the list of available joysticks.
Axis setup: Name	There are three axes: • X-axis (horizontal) • Y-axis (vertical) • Z-axis (the depth or zoom level)
Axis setup: Invert	Select to change the default direction the camera moves in when you move the joystick. For example, select to move a PTZ camera to the left when you move the joystick to the right and move down when you move the joystick towards you.
Axis	Select to use a fixed rather than a relative positioning scheme (moving the joystick moves the

Name	Description
setup: Absolute	joystick-controlled object based on the object's current position).
Axis setup: Action	Select the function for an axis: • Camera PTZ Pan • Camera PTZ Tilt • Camera PTZ Zoom • No action
Axis setup: Preview	Test the effect of your selections. When you have selected a function for the axis you want to test, move the joystick along the required axis to view the effect, indicated by a movement of the blue bar.
Dead zone setup: Pan/Tilt	Specify the dead zone for the joystick's pan and tilt functions. The further you drag the slider to the right, the larger the dead zone becomes, and the more you will have to move the joystick handle before information is sent to the camera. Dragging the slider to the far left disables the dead zone (only recommended for high-precision joysticks). Use the **Axis setup** preview to test the effect of your dead zone settings.
Dead zone setup: Zoom	Specify dead zone for the joystick's zoom function. The further you drag the slider to the right, the larger the dead zone becomes, and the more you will have to move the joystick handle before information is sent to the camera. Dragging the slider to the far left disables the dead zone (only recommended for high-precision joysticks). Use the **Axis setup** preview to test the effect of your dead zone settings.
Button setup: Name	The name of the button.
Button setup: Action	Select one of the available actions for the required joystick button.
Button setup: Parameter	If relevant, specify a parameter for the command or action. For example, if you want to specify the window and view item for the **Copy the selected camera view item** parameter, enter 2;1 to have the camera copied to the floating window (window 2), in the first view item (view item 1).
Button setup: Preview	Verify that you are configuring the right button, press the corresponding button on the joystick. The relevant button will display in blue in the Preview column.

Keyboard settings

Keyboard settings let you assign your own shortcut key combinations to particular actions in the MOBOTIX HUB Desk Client. The MOBOTIX HUB Desk Client also features a small number of default keyboard shortcuts immediately ready for use. See Default keyboard shortcuts on page 91.

Name	Description
Press shortcut key	Enter the key combination you want to use as a shortcut to a particular action.
Use new shortcut in	Select to define how you want to apply the shortcut: • **Global**: On all of the MOBOTIX HUB Desk Client tabs • **Playback mode**: Only on tabs with views • **Live mode**: Only on tabs with views • **Setup mode**: Only in setup mode
Categories and Commands	Select a command category and then select one of the associated commands. If you want all your views listed to allow you to create keyboard shortcuts for individual views, select the **Views.All** category. ✎ Some commands only work when the keyboard shortcut is used in certain contexts. For example, a keyboard shortcut with a PTZ[1]-related command will only work when using a PTZ camera.
Parameter	If relevant, specify a parameter for the command or action. For example, if you want to specify the window and view item for the **Copy the selected camera view item** command, enter 2;1 to have the camera copied to the floating window (window 2), in the first view item (view item 1).

Access control settings

Select whether or not you want access request notifications to pop up in MOBOTIX HUB Desk Client.

✎ If the **Follow Server** field is selected, your system administrator controls the setting of **Show access request notifications**.

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[1]Pan-tilt-zoom; a highly movable and flexible type of camera.

Alarm Manager settings

Name	Description
Start video playback second(s) before alarm	Start video playback some time before the alarm was triggered. This is useful when, for example, you want to see the moments before a door was opened.
Preview the most recent alarm	When this check box is selected, the selection in the alarms list will change to the most recent list item when a new alarm is triggered. If the check box is not selected, the selection in the alarms list will stay unchanged when a new alarm is triggered.
Play sound notifications for alarms	Specify whether you want alarms to play sound notifications. If the field is grayed out, it is has been locked by your system administrator in MOBOTIX HUB Management Client.
Show desktop notifications for alarms	Specify whether you want desktop notifications for alarms to be displayed. They will only appear when MOBOTIX HUB Desk Client is running. If the field is grayed out, it is has been locked by your system administrator in MOBOTIX HUB Management Client.
Use server settings	Select this check box to use the settings specified by your system administrator in MOBOTIX HUB Management Client.

Advanced settings

The **Advanced** settings let you customize advanced MOBOTIX HUB Desk Client settings. If you are not familiar with the advanced settings and how they work, just keep their default settings. If you connect to some surveillance systems, you have a **Follow server** column. You can use this column to make MOBOTIX HUB Desk Client follow the recommended settings of the server as set up in the Desk Client profiles. You may experience that certain settings are already server-controlled, in which case configuration on the server decides whether or not you are able to override those settings.

Name	Description
Multicast	Your system supports multicasting of live streams from recording servers to clients. If multiple MOBOTIX HUB Desk Client users want to view live video from the same camera, multicasting helps saving considerable system resources. Multicasting is particularly useful if you use the Matrix functionality, where multiple clients require live video from the same camera. Multicasting is only possible for live streams, not for recorded video/audio. **Enabled**: is the default setting. In the MOBOTIX HUB Management Client, the recording servers and cameras must also have the functionality enabled to make multicasting from servers to clients available. **Disabled**: multicasting is not available.
Hardware acceleration	Controls if hardware-accelerated decoding is in use. The load on the CPU is high in a view with many cameras. Hardware acceleration moves some of the CPU load to the Graphics Processing Unit (GPU). This improves the decoding capability and performance of the computer. This is useful, mainly if you view multiple H.264/H.265[1] video streams with a high frame rate[2] and a high resolution. **Auto** is the default setting. It scans the computer for decoding resources and always enables hardware acceleration if available. **Off** disables hardware acceleration. Only the CPU processes the decoding.
Maximum decoding threads	Controls how many decoding threads are used to decode video streams. This option can help you improve performance on multi-core computers in live as well as playback mode. The exact performance improvement depends on the video stream. This setting is mainly relevant if using heavily coded high-resolution video streams like H.264/H.265—for which the performance improvement potential can be significant—and less relevant if using, for example, JPEG or MPEG-4. Note that multi-threaded decoding generally is memory-intensive. The ideal setting depends on the type of computer you use, the number of cameras you need to view, and on their resolution and frame rate. **Normal** means that no matter how many cores your computer has, it will only use one core per view item with a camera. **Auto** is the default setting. Auto means that the computer uses as many threads per view item with cameras as it has cores. However, the maximum number of threads is eight, and the number of threads actually used may be lower, depending on which codec[3]

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[1]A compression standard for digital video. Like MPEG, the standard uses lossy compression.

[2]A measure indicating the amount of information contained in motion video. Typically measured in FPS (Frames Per second).

[3]A technology for compressing and decompressing audio and video data, for example in an exported AVI file.

Name	Description
	(compression/decompression technology) is used.
	Advanced users can manually select the number of threads used, with a maximum of eight. The number you select represents a maximum; the number of threads actually used may be lower, depending on the codec (compression/decompression technology).
	This setting affects all view items with cameras, in all views, in live as well as playback mode. You cannot specify the setting for individual view items with cameras or views. Because this setting may not be equally ideal for all of your view items with cameras and views, we recommend that you monitor the effects and, if required, re-adjust the setting to achieve the optimum balance between performance improvement and memory use.
Adaptive streaming	Controls if adaptive streaming is in use. The load on the CPU and the GPU is high in a view with many cameras. Adaptive streaming enables MOBOTIX HUB Desk Client to automatically select the live video streams with the best match in resolution to the streams requested by the view items. This decreases the load on the CPU and the GPU and thereby improves the decoding capability and performance of the computer.
	Disabled is the default setting. No automatic stream selection is done.
	Enabled scans the MOBOTIX HUB system configuration for available streams and selects the best matching ones for the selected view.
	Even though adaptive streaming can be enabled when only one stream is available, you must have at least two streams per camera with different resolutions to take advantage of adaptive streaming.
	This setting affects all views in live mode.
Deinterlacing	Interlacing determines how an image is refreshed on a screen. The image is refreshed by first scanning the odd lines in the image, then scanning every even line. This allows a faster refresh rate because less information is processed during each scan. However, interlacing may cause flickering, or the changes in half of the image's lines may be noticeable. With Deinterlacing, you convert video into a non-interlaced format. Most cameras do not produce interlaced video, and this option will not impact quality or performance of non-interlaced video.
	No filter is the default setting. No deinterlacing is applied, so the characteristic jagged edges may show up in images if objects are moving. This is because the even and odd lines of the full image

Name	Description
	are weaved together to compose the full resolution picture. However, these are not captured at the same time by the camera, so objects in motion will not be aligned between the two sets of lines, causing the jagged-edge effect. Performance impact: None.
	Vertical stretch top field: This option only uses the even lines. Each odd line will be "copied" from the previous (even) line. The effect is that jagged edges do not appear, but this is at the expense of reduced vertical resolution. Performance impact: Less expensive than the **No filter** option because only half the number of lines will need post-processing.
	Vertical stretch bottom field: This option only uses the odd lines. Each even line will be "copied" from the following (odd) line. The effect is that jagged edges do not appear, but this is at the expense of reduced vertical resolution. Performance impact: Less expensive than the **No filter** option because only half the number of lines will need post-processing.
	Content adaptive: This option applies a filter to areas of the image where jagged edges would otherwise show up. Where no jagged edges are detected, the image is left untouched. The effect is that jagged edges are removed and full vertical resolution is preserved in the areas of the image where no jagged edges are perceived. Performance impact: More expensive than the **No filter** option because the total CPU cost per decoded and rendered frame is increased by around 10%.
Video diagnostics overlay	View the settings and performance level of the video stream in the selected view. This is helpful when you must verify settings or diagnose a problem. Select between these options: **Hide**: No video diagnostics overlay. Default setting. **Level 1**: Frames per second, video codec, and video resolution. **Level 2**: Frames per second, video codec, video resolution, multicast, and hardware acceleration status. **Level 3**: Debug level. Mainly for system administrators to troubleshoot or optimize system performance.
Time zone	Change the time zone, for example if the time that is displayed in the camera title bar does not match your current time. Select a predefined time zone or a custom time zone: • **Local**: The time zone of the computer running the MOBOTIX HUB Desk Client • **Server time zone**: The time zone of the server • **UTC** • **Custom time zone**: If you want a particular time zone, select this option and then select from the list of available time zones in the **Custom time zone** field.

Name	Description
Custom time zone	If you have selected **Custom** in the **Time zone** field, you can select any time zone known by the computer. This is useful if two users in different time zones need to view an incident—having the same time zone makes it easier to identify and establish that they are watching the same incident.
PDF report format	Select A4 or letter format for your PDF reports. You can create reports of events.
PDF report font	Select a font to be used in your PDF reports.
Logging (for technical support)	Enable the logging of application events, for example when alarms are triggered. This is mainly to help technical support troubleshoot issues that may occur in MOBOTIX HUB Desk Client. There are different log files: • ClientLogger.log • MetadataLogger.log The logs are located here on the machine where MOBOTIX HUB Desk Client is installed: `C:\ProgramData\MOBOTIX\MOBOTIX HUB Desk Client\Logs.` ✎ These logs are different from the **System logs** in MOBOTIX HUB Management Client.

Language settings

Specify the language version of your MOBOTIX HUB Desk Client, including whether you want the user interface elements to be displayed right-to-left. Select from the list of available languages and then restart the MOBOTIX HUB Desk Client for the change to take effect. See.