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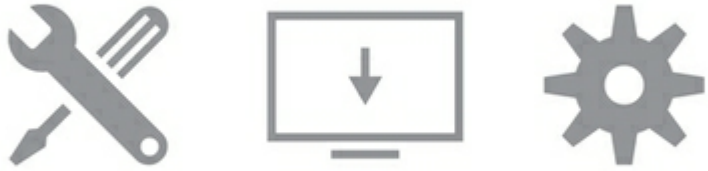
FAST



TERRA 4D Viewer

Release 2.6

User Guide

extend your view
TERRA 4D


TE-RRA

Contents

1 Introduction

TERRA 4D is a security and safety management software. It comes in two parts:

- The Viewer, used for control and operation tasks.
- The Configurator, used for the configuration of all system setting, assets and devices.

This User Guide gives you all the information necessary for successfully operating the TERRA 4D Viewer.

Note: The availability of program functions depends on the actual setting of user rights. Some functions may not be available to every user. The User Guide describes the full range of functions.

1.1 About TERRA 4D

extend your view TERRA 4D

TERRA 4D is a geo-referenced security and safety management software.

TERRA 4D is applied to protect people, property and critical infrastructure assets.

TERRA 4D converges all your security cameras, sensors, subsystems, data sources and operating procedures into a single unified and comprehensive platform.

TERRA 4D integrates multiple security and safety applications and controls them through an intuitive user interface, providing for greater overview and quicker response.

TERRA 4D allows the presentation of various data sources in a layered 3D geographical visualization.

With TERRA 4D, you

- monitor all security-relevant activities in real time, indoor and outdoor
- manage intruder alarm, fire detection, production control, building management and other systems
- access live and recorded sensor and subsystem data
- replay all data including video in time-synchronized fashion
- coordinate security interventions and staff

With TERRA 4D, you will

- improve overall security
- reduce risk
- increase efficiency

1.2 Safety and Compliance

TERRA 4D is capable of controlling the movement of cameras and other safety installations. It is also a tool for comprehensive outdoor and indoor surveillance.

Personal requirements

TERRA 4D may only be operated by especially informed and trained personnel.

Moving equipment

When operating TERRA 4D, always take care that no damage is done by moving cameras, doors or barriers.

Legal restrictions

When operating TERRA 4D, always act in compliance to legal and company regulations regarding personal and data privacy.

1.3 About this User Guide

Symbols and Styles

In this User Guide, the following symbols and text styles are used.

- Elements of the user interface, like buttons and input fields, are shown in **bold** characters.
- System messages, directories and files are shown in *italics*.
- Emphasized text is underlined.
- Cross-references and links are blue and underlined.

Content

Printable manual and online help feature the same content.

Online Help

Use the navigation tree to browse the contents of this help system.

By clicking at the **Help** icon in the programs user interface, the online help system will come up with the topic related to the current screen or function.

Feedback

Please do not hesitate to contact FAST Protect for feedback on this User Guide. See the appendix for contact information.

2 Start and Setup

This section describes how to start and exit the TERRA 4D Viewer and how to adjust basic settings.

2.1 Starting Up

Provided that the software has been successfully installed and the login credentials are known, begin working with TERRA 4D by first starting the client and then the Viewer program.

If the client and/or the Viewer is already running, please skip these steps.

Client Startup

Start the TERRA 4D client from the Windows Start menu. This tray icon will appear:

Click the icon with the right mouse button and select **Login...**

In the login window, enter the requested data.

Viewer Startup

Start the TERRA 4D Viewer from the Windows Start menu.

The Viewer window will appear.

Exit

Quit the Viewer by selecting **Exit** from the **File** Menu.

It is also possible to log out from the client via its context menu.

Shift Changes

Whenever an operator is replaced by another, a logout and a login should be performed. The Viewer will stop after logout, but restart immediately after login with the previous layout and status.

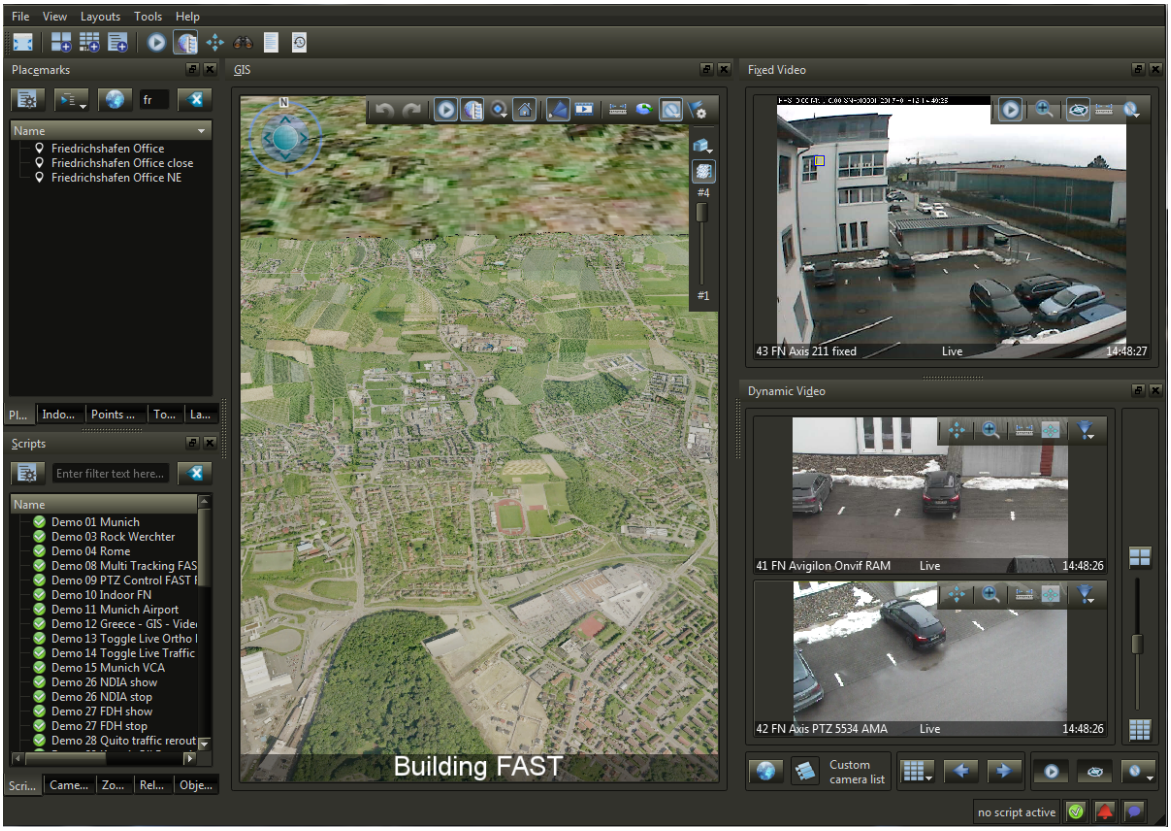
Server Connection

While the TERRA 4D is running, it is connected with a server. If for some reason this connection gets lost, a message will pop up stating this fact. Under normal circumstances a short connection loss will be resumed automatically and no data gets lost. If on the other hand the connection can not be reestablished after a short time, the TERRA 4D and client software should be quit and restarted after the connection has been checked and reestablished. In this case all data after the connection failure will be lost.

2.2 Viewer Settings

The Viewer settings are located inside the Configurator application.

3 User Interface



Viewer GUI example

This section explains the basic functions of the user interface. The layout above is only an example, because it is highly configurable (see Managing Screen Layouts for further details)

3.1 Menus

Here the menus of the Viewer are described

3.1.1 File Menu

Exit	Quit the Viewer

3.1.2 View Menu

Manage Bookmarks...	Renames and deletes media player bookmarks. Renaming is done by double-clicking a name in the grid. See Media Player for details on bookmarks.
Full Screen	Switches to a full screen display and back
Stereo Mode	Switches to a stereo display mode that can be viewed with 3D glasses or another 3D display device (e.g. Nvidia 3D Vision Kit). Use **Mono Mode** to switch back to normal display.
Add Fixed Media Window	Adds a new fixed media window. As the new window appears, it can be moved to s suitable screen position and can show video or GIS content. See Media Windows for details.
Add Dynamic Video Window	Adds a new dynamic video grid window. As the new window appears, it can be moved to s suitable screen position and can show video content based on different references. See Dynamic Video Window for details.
Add Device Tree	Adds a new device tree. As the new device tree window appears, you give it a name and select which type of devices it will contain. See Working with Devices for details.
Player	Shows or hides the media player window. See Media Player for details.
Layers	Shows or hides the layers tree. See Working with GIS Views for details.
PTZ	Shows or hides the PTZ control for cameras. See Working with Camera Views for details.
GIS Search	Shows or hides the GIS search window, where you can search for geographic locations. See here for details.
Workflows	Shows or hides a window displaying active workflows. See Setting Up Workflows for details.
Incident History	Use to see and manage the list of incidents. See Handling Incidents for details.
Main Toolbar	Shows or hides the main toolbar.

You may also use the right mouse button on menu and toolbar areas to select viewing options from a pop-up menu.

3.1.3 Layout Menu

Manage Layouts ...	Use to create, re-define or delete screen layouts. See Managing Screen Layouts for details.

From the list of available layouts, select the most suitable for you current needs.

3.1.4 Tools Menu

Manage Tracker List ...	In order to track an object created by a tracking device a tracker can be created. See Tracker List for details.
Reporting ...	To use the reporting functions. See Reporting for details.

3.1.5 Help Menu

User Guide	Opens the user guide for the Viewer
Shortcuts	Displays list of keyboard shortcuts. See Shortcuts for details.
About	Displays information about the Viewer

3.2 Toolbar

The main toolbar gives quick access to some often used features.


Switches to a full screen display and back.


Adds a new media window.


Add a new dynamic video window.


Adds a new device tree.


Shows or hides the media player.


Shows or hides the layers tree.


Shows or hides the PTZ camera control.


Shows or hides the GIS search window.


Shows or hides the workflow window.


Shows the incident history dialog.

There are toolbars in other places, like media and GIS windows. They are described in the respective sections.

3.3 Windows

The Viewer window consists of the menu, the toolbar (which can be hidden) and a number of sub-windows of various types. Any window can be moved to any location of the screen. It may be either docked (lining up with other windows), stacked (selectable via tabs below) or undocked (floating above other windows).

Window Controls

A window can be moved by dragging it with a mouse by their upper frame (title bar). In multi-screen setting, windows can be dragged across all screens.

A window can be controlled by clicking the icons located in its upper right corner:

 Undock a window.

 Closes a docked window.

 Minimizes an undocked window.

 Maximizes an undocked window.

 Closes an undocked window.

To dock an undocked window, drag it to the desired location and release the mouse button.

Windows can be re-sized by dragging the sliders between adjacent windows.

By right-clicking the title bar of a window, a context menu pops up where you can open frequently used windows or close any open window.

Window Types

There are different types of windows:

- Tree windows – Show lists of layers or devices.
- Media windows – Show either GIS or camera views.
- Player window – Show the media player.
- Other windows – Dockable windows used for various functions like reporting, workflows, etc.
- Pop-up windows – Undocked windows offering functions of temporary interest, like GIS search.

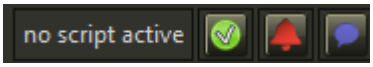
Windows of various types have their own context menus and some have their own toolbars.

Windows of all kinds can be stacked in one place and accessed via tabs.

3.4 Shortcuts

Many program functions, options and even devices can also be reached by keyboard shortcuts. To see a list of the currently defined shortcuts, select **Help – Shortcuts** from the menu.

3.5 Status



The status line at the right bottom shows some status information:

Script status area	Shows if an script is running and messages defined in it to display here, like *"Script step 1/3. Layout setting".*
	Server connection info, here "*Connection okay*" and *"Connection lost"*
	Stops the blinking frame and alarm sound if an alarm was released.
	This is no status icon, it is a button to upon the Messages window.

4 Operation

This section describes all the main operational tasks.

4.1 Managing Screen Layouts

Whether there is just one monitor or an array, screen space is always limited. The camera and GIS views suited for one surveillance task may not be suited for another. This is why TERRA 4D is able to store different screen layouts and restore them easily.

The Viewer comes with some default layouts and some more which are set up during initial configuration and commissioning. These predefined layouts are always available by selecting them from the **Layout menu**.

Settings Stored With Layouts

In addition, it is possible to save any manually set up layout. What will be saved are:

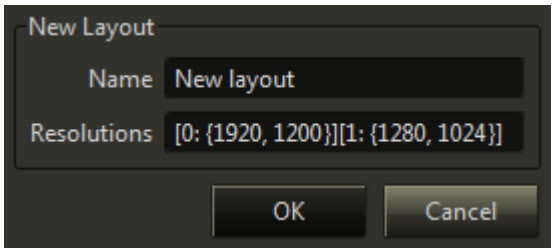
- size and position of the main window
- sizes and positions of sub-windows (lists, media windows, ...)
- media currently assigned to the media windows (camera views, GIS views)
- GIS position and visible GIS layers
- Filter settings, sorting, column sizes of lists
- any other changeable data

Saving Layouts

Whenever a current layout looks suitable it can be saved to be able to recall it easily. To do so open the **Manage Layouts** dialog and proceed as follows:

1. Select **Layout – Manage Layouts ...** from the main menu. The dialog opens:

2. In the pop-up window, click **New**.
3. A dialog **Add Layout ...** opens to give the layout a proper name. It also shows the current screen resolutions - including screen numbers - used for this layout for information.



4. The layout will appear in the list. The ID is set automatically. In order to change the name afterward, just double-click the name and overwrite it with a suited name.
5. If you check **Is frozen**, this layout can not be modified further. Windows and their positions are fixed.

Overwrite Saves the current layout under the name of an existing layout. This is a way to improve an existing layout.

Delete Deletes the selected layout. A dialog will ask if the complete layout should be deleted or just one resolution set.

Close Quit managing screen layouts. Changes will be saved

Editing 'Name' and 'Is frozen' properties

These properties can be changed in the table by double clicking ('Name') or by checking / un-checking the check box ('Is frozen') cell.

Note: In order to activate a layout which has its 'Is frozen' property changed, it needs to be reloaded.

Frozen Layouts

There is an option to freeze layouts. When a frozen layout is selected the windows can not be rearranged and the window type can not be changed. This is useful to avoid changing layouts accidentally and also to limit layout adjustments for user groups.

Multiple screen Layouts

In an environment with multiple screens, windows can be dragged and placed just like on a single screen. Docking, instead, is only possible inside the main window. A multi-screen layout can also be saved and used in any other workplace as long as there is the same number of screens and resolution of these screens. This way it is possible to have different layouts for the same number of screens.

Layout loading behavior

Using existing layouts with previously unused monitor configuration will result in loading the next best layout in store by trying to match layouts from top down:

- Try to match in same monitor count layouts, if there is a layout with same or lower screen resolutions use first match
- Try lower screen counts and try to match screen resolution for these layouts
- Try to use next bigger layout. This may result in bad looking layout.
- Try first existing layout. This may result in bad looking layout.
- Open viewer without any layout

4.2 Working with Devices

About Devices

Devices are all kinds of security-relevant items. Cameras, places, routes, communication means and so forth are grouped by type and presented in lists. A list of devices is called a device tree. From the tree, they can be drawn into media windows and thus made available for your surveillance and operation needs.

The devices that are actually available in your system have to be introduced (defined or imported) to the system. This process is part of the system configuration and described in a separate user guide. Configuration is typically done before the system gets operational. The operator's task is to apply the devices according to his/her daily security routines. The operator needs a good understanding what types of devices are available and what can be done with them.

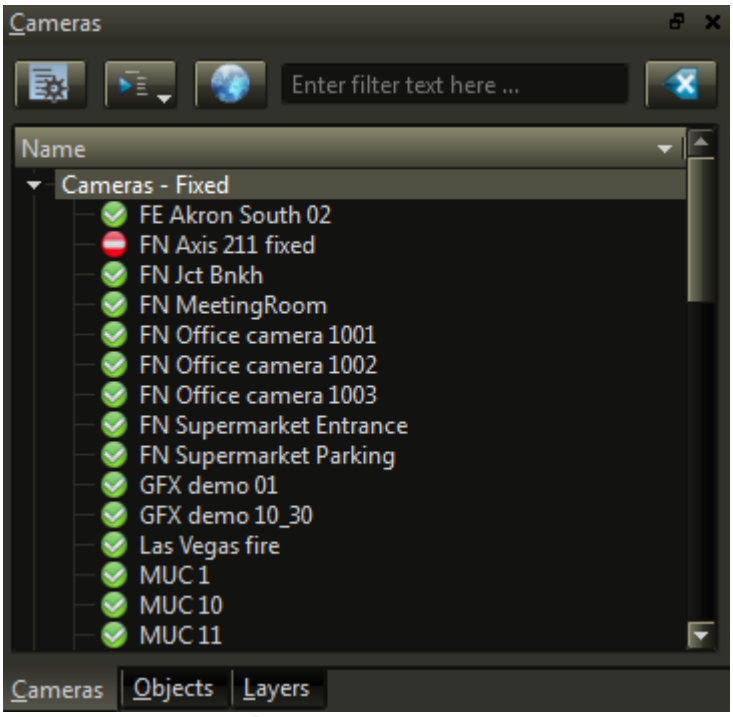
4.2.1 Device Types

Alphabetical list of devices types:

Type	Description	Context menu
Cameras	All the cameras that are part of the system	Show options
Communication Objects	A list of intercepted communications	Show options Tracking options Playback
Incidents	Incidents (alarms) that have been released. You won't see incidents as long as no actual incident has been released	Show options Incident options
Indoor Entities	Rooms or other places inside buildings. Inside the indoor entities all the devices like camera and IO devices are listed.	Show options
Interventions	Interventions that have been started during incident handling	Show options Intervention options
IO Devices	Functional item, e.g. a signal or a gate	Show options
Missions	Imported data container with recorded data for playback	None
Objects	Tracked objects which are generated by sensors like: radar devices, tracking devices, camera sensors	Show options
Placemarks	A distinct geographical location. See Working with GIS Views for further information.	None
Points of interest	A location with no defined view	Show options
Resources	A list of mobile units and their status	Show options Status change options
Scripts	A function carrying out pre-defined Viewer actions. Scripts are set up in the Configurator.	None
Schedules	A schedule holds enabled/disabled times	Edit Schedule
Sensor Platforms	A list of moving platforms carrying sensors	Show options
Status device	Device which deliver a status, e.g. camera sensors, communication devices, radar devices and tracking devices	Show options
Tour	Routes of e.g. security personnel	Play options
Zone	A geographical location with some extent, e.g. a fence	Show options

4.2.2 Device Tree

Trees are shown in a window like this:



Stacked device trees

Hint: In order to expand or collapse all items in the tree, hold down the 'ALT'-key while clicking on any triangle beneath an item.

The above screenshot shows a window containing three stacked trees (Cameras, Objects, Layers) with the camera tree visible.

Device trees can be arranged by dragging them to the desired position. They can be a floating window or a docked window. Also, they can be stacked together with other device trees or any other window type and become accessible via the tabs at the window bottom (cf. above figure). With a little practice, the operator will soon be familiar with the best way of positioning device tress on the screen.

4.2.3 Device Icons

The device icons show the current status of the device. In the list you see the default icons, at some devices like *IO device* you can define them in the Configurator.

 The device is operational.

 The device has an error.

 TERRA 4D is trying to get the state of the device.

 The default alarm icon, when an alarm appears.

 An alarm is pending.

 The alarm is acknowledged.

 The device is switched on.

 The device is switched off.

 An incoming call is recognized.

 An outgoing call is recognized.

 An incoming SMS is detected.

 An outgoing SMS is detected.

 Placemark icon.

Note: Layers also appear as trees. Layers are not devices but properties of the GIS model. See GIS Views.

Each device tree has its own set of controls:

Shows a dialog where you can change the tree name and the device type.
For some device types options can be selected, mostly concerning subtypes to be considered.

Shows a dialog where you can re-group the devices.
Device type – The default grouping, by type
Categories – According to the category given in device configuration
Avatar – Symbolic representation (e.g. for different camera types)
Indoor / Platform – Devices are grouped with their indoor entity parents. If not indoor, they are shown as *Uncategorized*.
Sensors – Devices are grouped according to the parent sensor which created the device

Shows devices pertaining to currently open GIS views.

Filters devices by the entered search string.

Clears the filter field.

4.2.4 Applying Devices

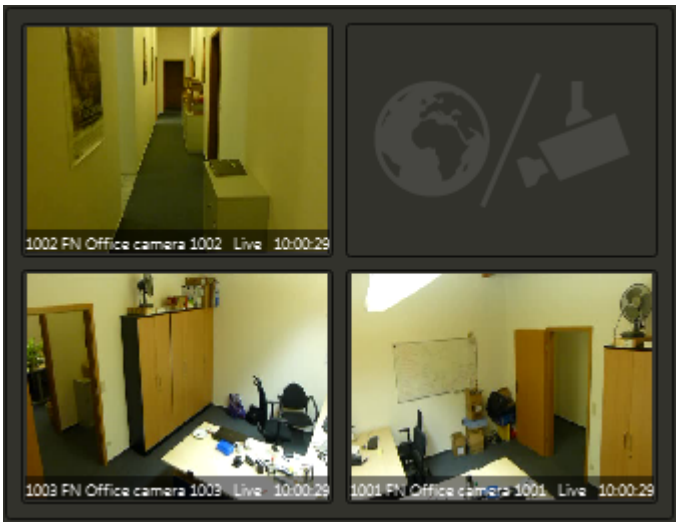
To activate or apply a device, it has to be selected from the tree, either by double-clicking it or by dragging it to a GIS or media window. The display depends on the device type and the window. For example, if a camera is applied in a media window, the actual (live, if possible) camera view will show in the camera window. If it is applied in a GIS view, the view navigates to the camera position. If there is no clear way for the system to determine a suitable media window, an arrow appears in all suitable media windows. Just click in the window where the device shall appear.

Double Click

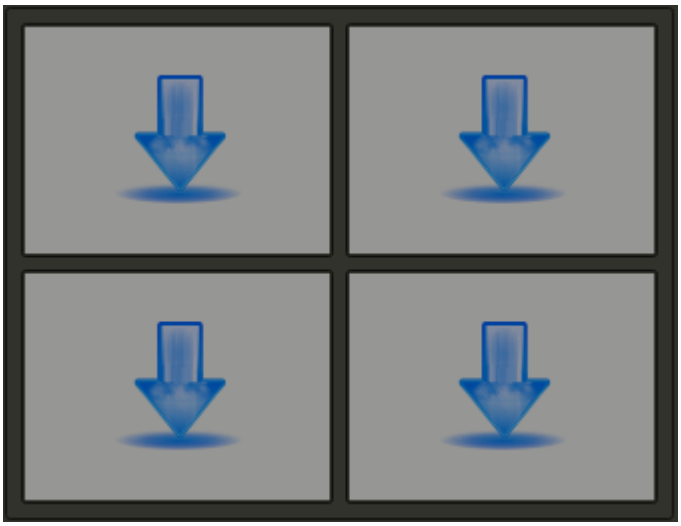
By double-clicking at a device name, the system will try to select the best way to display the device.

Examples:

Given a four split fixed media window with three cameras showing three video views and one open grid position:

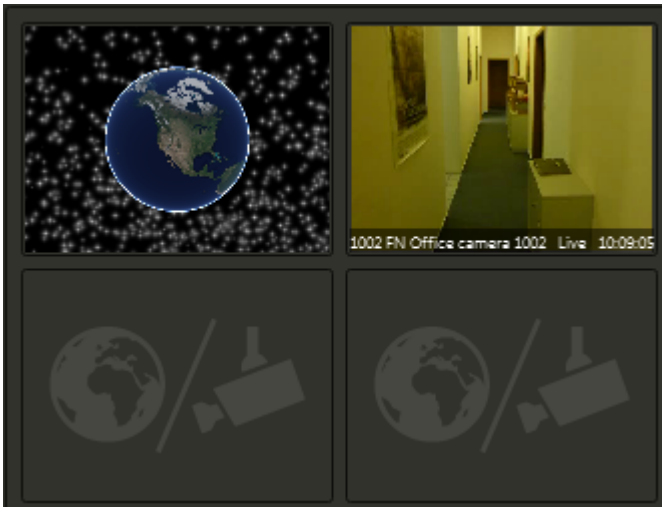


A double click on a camera within a device tree will show on all four positions the selector arrow as the system could not determine if the user wants to show the new camera in the open spot left or exchange an existing camera view.



By clicking onto any selector arrows, the video will show in that position and all other selectors will be removed. If the 'ESC'-key is pressed the selection is aborted and all views will show their content as before.

Given a four split fixed media window with a GIS view and a single video view:



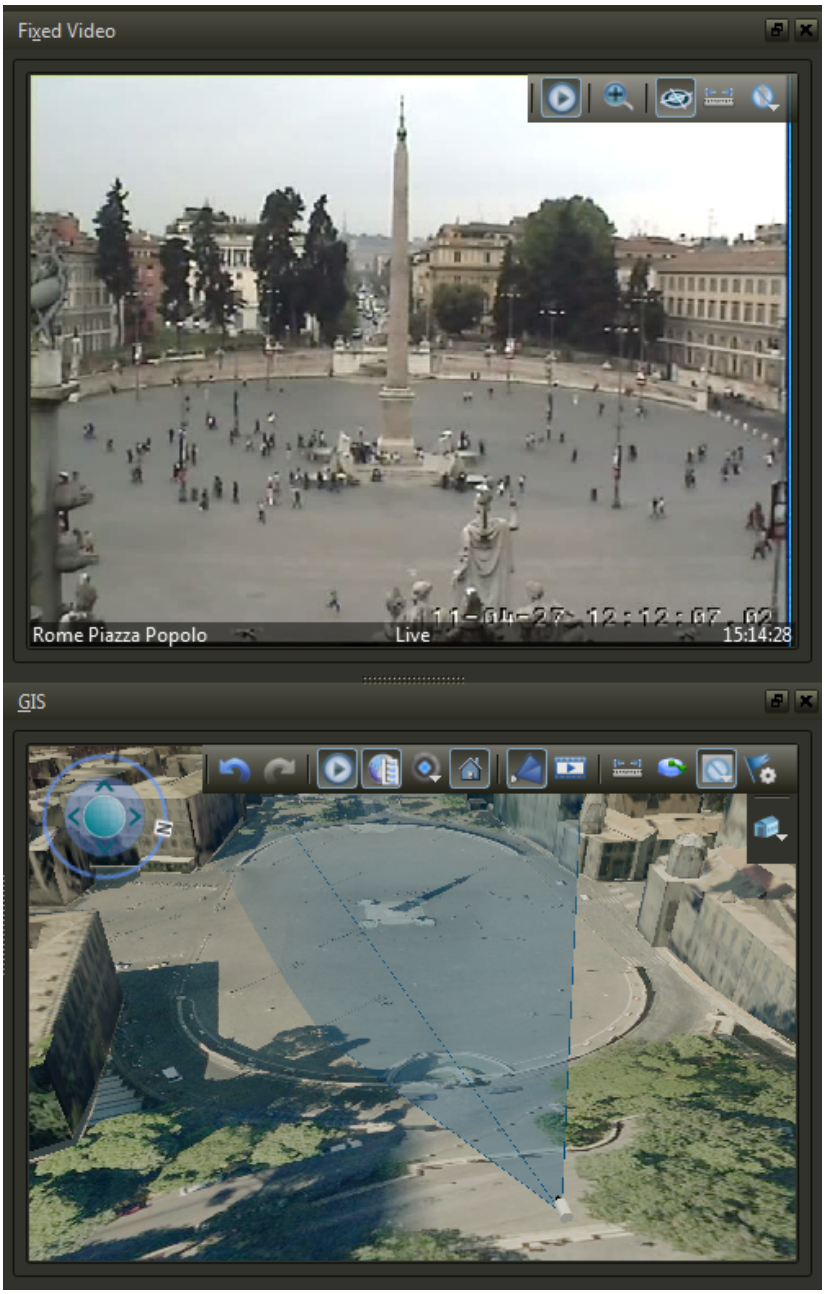
A double click on a camera will apply the camera to the video view and a double click on a placemark, an object or any other device with a location - this includes indoor locations - will apply to the GIS view.

Drag and drop

Drag the device to a window to display it there. This is the only way to change a video view to a GIS view by dragging a placemark, an object or any other device with a location - this includes indoor locations - onto a video view. By dragging a camera onto a GIS view the GIS view will show the cameras location.

4.3 Media Windows

Media Windows can show a GIS View or other media. In most cases this would be the output of a surveillance camera (see Working with Camera Views). The following screenshot shows a comparison of real video imagery (above) and its virtual world representation (below).



Depending of the type of the device on display, the options and handling of the media windows differs a lot, as is explained in the following sections.

4.4 Working with GIS Views

GIS Views appear in a media window. You can open multiple *GIS Views*. The number depends on the setting and on computing power.

The term GIS means *Geographic Information System*. *GIS Views* show a graphical representation of the earth's surface. Depending on the systems configuration, cities and facilities are available as high-resolution 3D models.

It is up to the operator to navigate to a location of interest and to decide what he wants to see there. The operation principle is this: Navigate to a geographic location, adjust the viewing distance and the orientation and see what additional information is available at this location. The availability depends of course on the items configured in the system. If you have a camera or a watchman operating on site, you are able to see them in the *GIS View* and even able to interact with them.

4.4.1 Layers

Layers are information items that can be added to the basic terrain photos. The more layers are added and combined, the more complex the information is at the given location. Layers are created and configured in the system and organized in trees like devices. They cannot be dragged to a window, but activated via the corresponding check boxes. Activation will only show in an active GIS view, if the layer is related to the current location.

Note: There are also the layers of the TERRA 4D GIS Layer Model. This is a more technical approach. The combination of various information layers creates a rich impression of the location, showing e.g. 3D buildings, streets, infrastructure, borders and coordinates (longitude, latitude and elevation).

You can adjust the opacity of the layers to your viewing preferences: Check **Layers Opacity** below the layers tree. A small window section appears with some options and an opacity slider

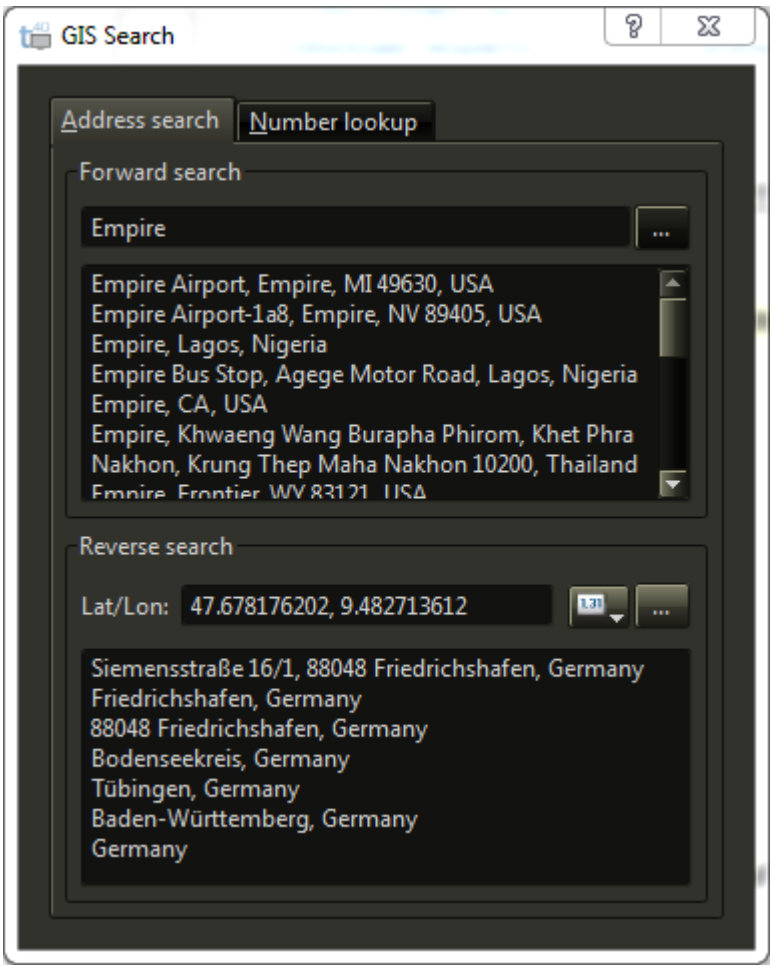
4.4.2 Navigation

There are several ways to navigate to and at a location.

- By applying devices: Drag a device from a device tree to a GIS view. The view will move to that location of the device. This is only possible with devices which have a geographic position. See the device type list in Working with Devices.
- By GIS Search
- By mouse controls: The following table shows which mouse and keyboard combinations can be used to manipulate the GIS view:

Mouse action	Keyboard	Effect
Hold down left mouse button		Pans the view.
Hold down middle mouse button	Combine with *Alt* to lower the sensitivity.	Rotates and tilts the view.
Hold down right mouse button		Zooms in and out.
Turn mouse wheel		Zoom in and out.
Turn mouse wheel	*Shift (+ Alt)*	Tilts up and down.
Turn mouse wheel	*Ctrl (+ Alt)*	Pans around center.
Double-click left mouse button		Zoom in to clicked point.
Double-click left mouse button	*Ctrl*	Zoom out if clicked point.
Click right mouse button		Shows context menu.

4.4.2.1 GIS Search



Forward search

Here you can enter a name of a known building, a city or an address. In the field below you will see the address found by the system. Press the three-dots to see the results. If you make a click at the location you want to use, the GIS view moves to this place and creates a virtual hotspot there. The

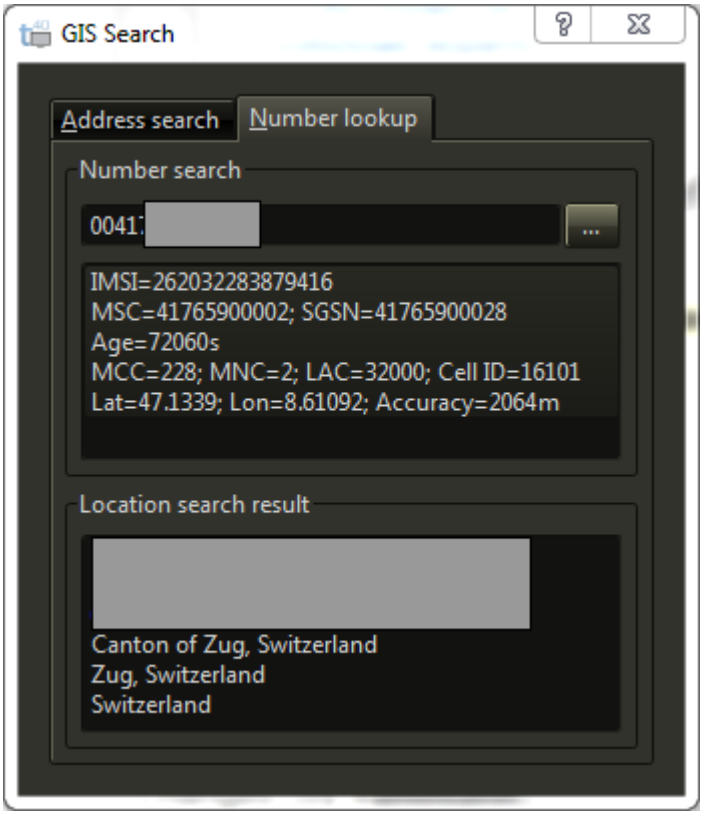
more accurate you name the search, the list will be smaller, e.g. type in *Empire State Building* will find exactly one location.

Reverse search

Here you see the GPS position of the place you select **Find Address...** from the context menu. Under this is the exact address of the location, here of the FAST Protect GmbH address. You can edit the GPS data, and after clicking at the three dots you will see the address. Select one location of the list and click at it to move the GIS view to this place.

Note: Only places on continents or islands are valid coordinates.

4.4.2.2 Number Lookup



Number lookup

Here you can enter a known cell phone number. Press *'Return'* or the three-dots to see the results. In the field below you will see the data found by the system. If you make a click at the location you want to use, the GIS view moves to this place and creates a virtual hotspot there.

4.4.3 Interactions

You can address many of the items and devices visible in a GIS View. When you point at a device, the mouse pointer changes to a hand symbol. Now you can either click at this item or open the context menu (right mouse button). The effect of clicking and the menu options depend on the type of device. For example, you are often able to start an intervention involving that device.

4.4.4 Toolbar

The toolbar of a GIS view contains the following items. Note that the availability of tools depends on what is currently displayed in the GIS view.

Switches back to the previous view.

Switches forward to the next view.

The view will react to the media player. This is a toggle. See Media Player.

The view will react according to layer selection. This is a toggle.

Selects base GIS layers.

Shows buildings in 3D. This is a toggle.

Highlights the areas covered by cameras. This is a toggle.

Shows camera images as video walls. This is a toggle.

Activates measure mode. In this mode the mouse can be used to draw a line in the GIS window. The corresponding length in the real world will be indicated. Use the handles at the line end to change the line. This is a toggle.

Activates circle selection. In this mode use the mouse to define a circle in the GIS window. Use the handles to change the circle. The corresponding diameter in the real world will be indicated. This circle can be used as a reference in a dynamic video window if there is one available. This is a toggle.

Camera control modes: If a camera control mode is selected, a single PTZ camera (selected via the PTZ Control Window) , or all PTZ cameras in sight will change their orientation in order to show the point of a double click insight the GIS view.

The options are:

- PTZ Control Off
- Single Control
- Multi Control

This is a toggle and the currently selected option is displayed at the toolbar.

Pops up a window where placemarks can be defined.

When a building is on display, it is "opened up" with this tool. This can be done either by selecting the floor or the absolute height. Use the toggle below the icon to switch between these options and the slider to set the value.

4.4.5 Context Menu

The context menu for a GIS view contains the following items. Note that devices visible in the view have their own context menus, depending on their type.

Step to previous view	Switches back to the previous view
Step to next view	Switches back to the previous view.
Use terrain point as reference in Dynamic Video Window	to use the selected point as reference point for selecting the cameras. Works only when a dynamic video window is available.
Add Placemark ...	Pops up a window where a placemark can be added.
Create User Incident	Creates an incident at the clicked location (see Handling Incidents).
Show GPS Coordinate from Top ...	Set the view to any coordinate (e.g. one received from another person). The view is from top. The field is pre-filled with the clicked coordinate.
Find Address...	Pops up the GIS search window, where you can search for geographic locations. The address of the location clicked in GIS view appears automatically.
Intervention...	Pops up the intervention window (see Making Interventions).
Media Window	Clears or renames the current window or to switch to a different grid layout. This is only available for fixed grids.

4.4.6 Placemarks

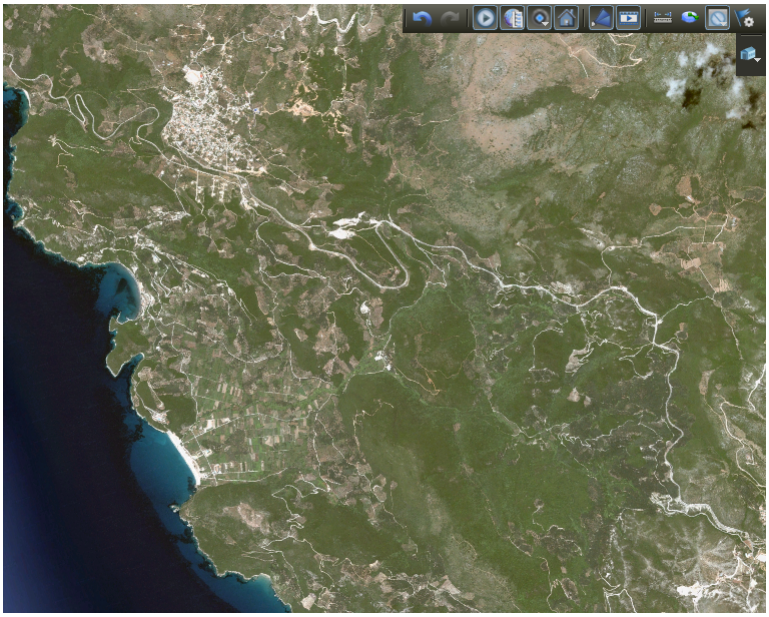
Placemarks are organized as devices and can be used to jump to a location. In the placemark manager, use **New** to create a placemark for the current location, **Edit** to change a placemark's parameter and **Delete** to delete it. A placemark is defined by these parameters:

Name	Name of the placemark
Level of use	Choose for whom the placemark should be available: **Global** - All users can use the placemark **Group** - only the users that are member of the user group selected can use the placemark **User** - only the user who created the placemark can use it
User group	If you chose group placemark for the level, you decide here on the group to which the placemark should be available. Only groups the current user is a member of can be selected.

4.4.7 GIS View Examples

Here are some examples for GIS views.

The following example shows a satellite photograph of a section of the earth's surface.



Satellite image of part of Greece

The following example shows a satellite photograph of a part of a city, where 3D representation of buildings has been added. Also, a helicopter operating a camera is shown flying above. This is a security item (camera) shown in its actual movement.

Helicopter above Rome

The following example shows a tilted satellite photograph with representations of selected building and two cameras.

The following example shows the inside of building with several security items.

4.4.8 Maximized view

This window will show a GIS view. Only the position and size of the window will be saved in a viewer layout.
To open this window double click e.g. a placemark from a device tree containing placemarks without an open GIS view of free space for such a view.

Note: If a video stream is opened without an appropriate view, it will be opened inside the maximized view closing the current GIS view.

Example of maximized GIS view

4.5 Working with Camera Views

The output of a surveillance camera is a video stream. It is displayed in a media window, after a camera device has been assigned to it.

If the camera is geographically calibrated, the video image becomes geo-referenced. Any position in view can now be exactly described by coordinates. Note that the coordinates are displayed at the mouse pointer when you move it across the view in hotspot mode.

4.5.1 Toolbar of a Camera Window

The toolbar of a camera windows contains the following items. Not all items are usable at every camera, depending if it is a fixed or a PTZ camera.

The view will be controlled the media player. This is a toggle. See Media Player. *Note: Disabling the player controlled state will activate the hotspot mode.*

A maximized video window will show the current video stream.

Activates the hotspot mode. It shows the coordinates. A double click inside the camera window will create a temporary (thus not saved) hotspot in the GIS view.

Selects/Deselects this camera for use in the PTZ Control Window.

Activates measure mode. In this mode the mouse can be used to draw a line in the media window. The corresponding 'real world' length and height will be indicated. Use the handles at the line end to change the line or move the whole line by moving the measure line itself. This is a toggle.

Activate/Deactivate the PTZ Direct Control mode.

Tracking mode: Tracks a person or a vehicle. After selecting an option, a white circle is displayed. A click will mark the object and causes all cameras active at the scene to mark the same spot with widening red circles. PTZ cameras will move into the correct orientation to show the object.

The options are:

- Tracking mode off
- Person

- Small Vehicle
- Big vehicle

This is a toggle and the currently selected option is displayed at the toolbar.

Select a preset from the drop down list. The camera will move directly to the preset view. Presets can be defined in the Configurator.

Note: The actual states of the toolbar widgets of a Dynamic Video Window will not be saved and restored if the Viewer get closed.

4.5.2 Context Menu of a Camera Window

The context menu for a camera view contains the following items. Note that devices visible in the view have their own context menus, depending on their type.

Show video	Assigns a selected video to another video window. This is useful to duplicate a camera view from a dynamic video window to a fixed grid window.
Show from behind	To have the corresponding GIS view show the camera location from behind the camera.
Show from top	To have the corresponding GIS view show the camera location from above the camera.
Intervention...	Pops up the intervention window (see Making Interventions).
Find Address...	Pops up the GIS search window, where you can search for geographic locations. The address of the location clicked in video view appears automatically.
Create User Incident	Creates an alarm at the clicked location (see *Handling Incidents*).
Media Window	Clears the window content, to rename the window, to switch to a different grid layout.

4.5.3 Context Menu of a Camera in GIS Window

If you make a right-click at a camera avatar you have a context menu to control this camera.

Show video	Assigns a selected video to another video window. This is useful to duplicate a camera view from a dynamic video window to a fixed grid window.
Camera View Coverage	Enables/Disables the coverage presentation of the selected camera. This is only available if the **Camera View Coverage Button** at the GIS window is enabled.
Video Projection	Enables/Disables the video board projection of the selected camera. This is only available if the **Camera Video Wall Button** at the GIS window is enabled.
Control PTZ	Select the camera for controlling with the PTZ Control Window (Only at PTZ cameras).
Presets	If you click at it a list of presets for this camera will appear. Select one to move the camera to this position (Only at PTZ cameras).
Intervention	Opens the intervention window, see Making Interventions. Additional to the normal intervention window an *Object* area will be added with the name and type of the camera.

4.5.4 Hotspots

When you double-click somewhere in the camera view, that location is handed over to the GIS view. The GIS view will show this spot marked with this symbol:

There are three display options:

- Double-click – Shows the hotspot from above.
- `Shift` + double-click – Shows the hotspot from the side.

- `Ctrl` + double-click – Shows the hotspot without changing the view.

4.5.5 PTZ Direct Control

When you activate this mode you can control the PTZ camera directly in the video window. In this mode you see a white cross in the video window.

To move a camera, click with the left mouse button at the position and the camera will move to it.

If you make a double-click the camera moves to the place and zoom to it.

If you click and hold the left mouse button and then move the mouse, you can define the zoom-in factor. Therefore you will see a white rectangle. The smaller the rectangle the greater is the zoom-in factor.

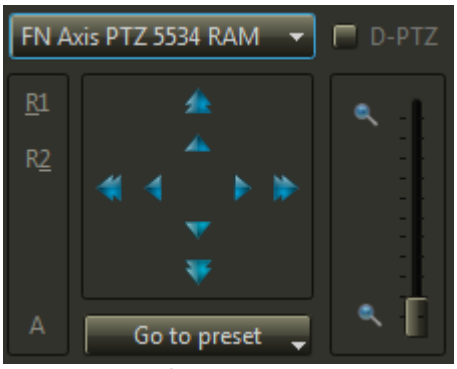
If you click and hold the right mouse button and then move the mouse, you can define the zoom-out factor. You will see again the white rectangle. The smaller the rectangle the greater is the zoom-out factor.

If you hold one of the mouse button and make a move but you see no rectangle than the maximum respectively the minimum zoom factor is reached.

4.5.6 PTZ Control Window

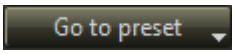
Provided the camera is moveable and can be remote controlled, the PTZ (Pan Tilt Zoom) control can be used to move it.

Select PTZ from the main menu or from a toolbar to open the PTZ control. The movements are reflected in the GIS view showing the camera and in the actual video stream in the camera window.



PTZ Control Window

Use the drop-down selector at the top of the PTZ tools window or use the to select a PTZ controlled camera. The buttons **R1**, **R2**, **A** and **D-PTZ** are only available if the device supports them.

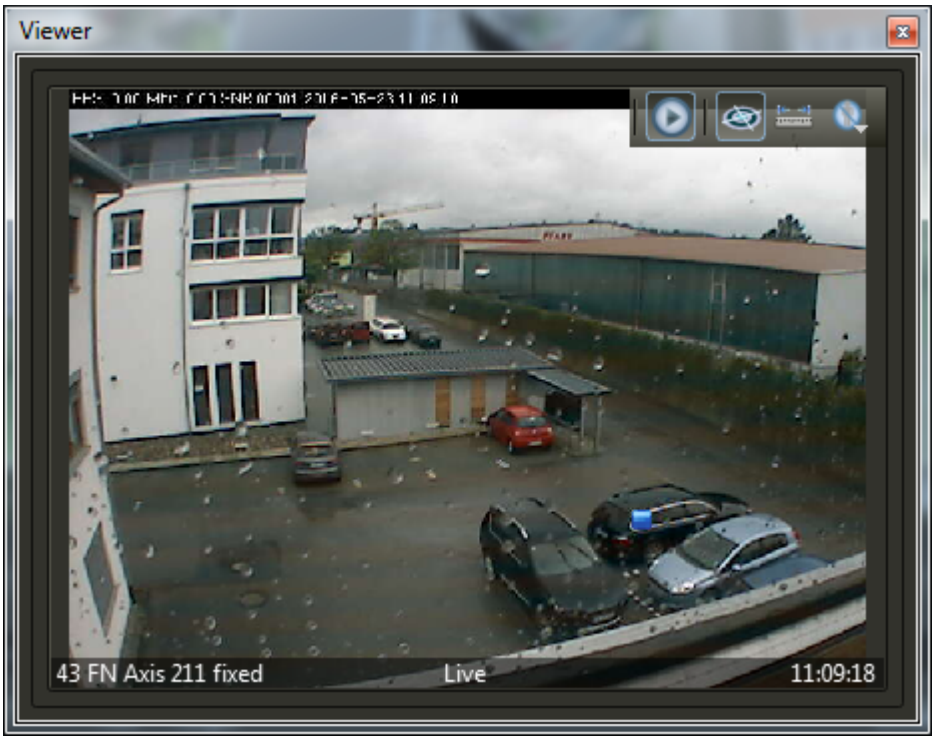
R1 or **R2**	Selects an internal camera relay.
A	Selects automatic mode
D-PTZ	Some cameras have only an digital zoom. This will activate it. Note: this will reduce image quality
	Tilts the camera. Single arrow is a small step, double arrows a big step.
	Turns the camera left and right. Single arrow is a small step, double arrows a big step.
	Changes the zoom settings.
	Go to a preset position. These could be defined in the Configurator.

4.5.7 Maximized view

This window will show a live camera stream. It only holds one camera at a time as a quick way to look into a video stream inside a big window. Only the position and size of the window will be saved in a viewer layout.
To open this window there are two options:

- Use the toolbar button from an existing video view.
- Use the *Show video* context menu entry of a device tree containing cameras without an open video view or a free space to open such a view.

Note: If e.g. a placemark is opened without an appropriate view, the placemark will be opened as GIS view inside the maximized view closing the current video view..



Example of maximized video view

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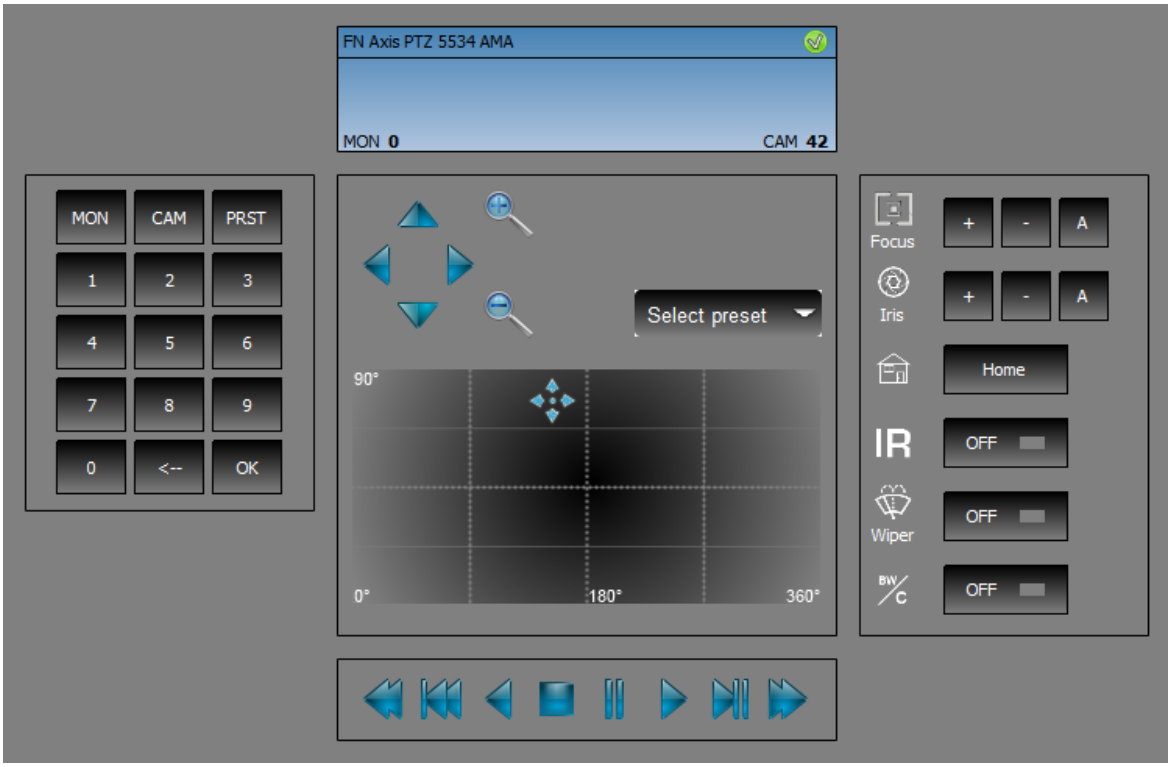
4.5.8 PTZ Control Keyboard

This is another possibility to move a PTZ camera. To activate this feature you have to set the action for a camera.



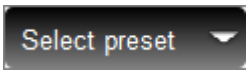
PTZ Control Keyboard

To use it you have to insert the name of the camera at the left field, e.g. *CAM42*. The video window shows you the number of the camera. Press **OK** to use your selection. In the area in the top you see the selected camera and the state.

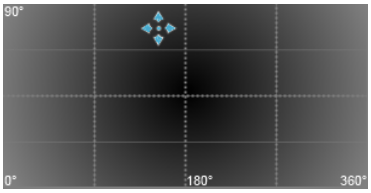
Not all cameras have all features included in this window. If you select one that is missing at the camera you will get no reaction, but it is possible to select them.

Move the camera to the four directions.

Increase/decrease the zoom of the camera.



If you click at it, you will get the list of the presets views, defined for this camera.

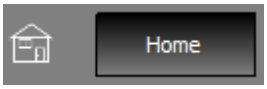


This field is usable like a track-pad of a notebook. Click inside and the cursor (the little four arrows) will jump to this place and the camera moves to the corresponding direction as fast as possible. If you click and hold the left mouse button, you can move around the camera smoothly.

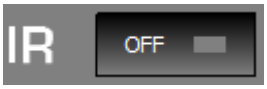
These are player control buttons. They works like the button in the Media Player.

Changes the focus of the camera.

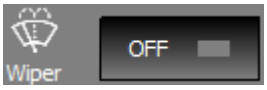
Changes the iris settings of the camera.



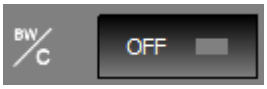
Moves the camera to the home position.



Activate/Deactivate the infrared possibility of a camera



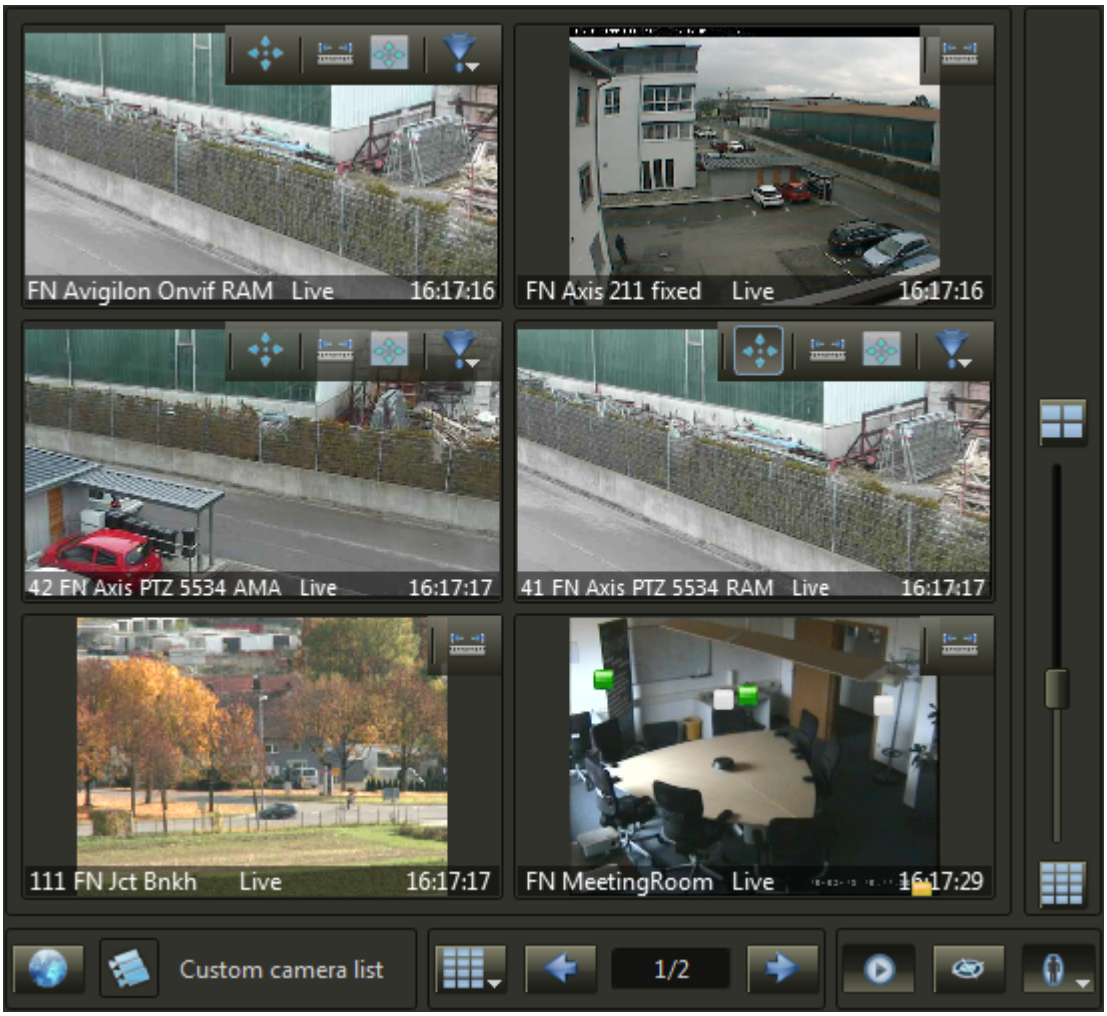
Activate/Deactivate the wiper of a camera.



Changes between black-white and color mode.

4.6 Dynamic Video Window

The *Dynamic Video Window* shows a number of camera views of a given camera list or in relation to a reference location. The reference can be an object or a place.



Dynamic grid example

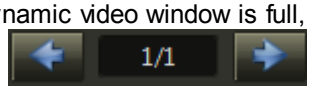
To set up a *Dynamic Video Window*, proceed as follows:

1. Select **Add Dynamic Video Window** in the main menu.
2. Move the new window to the desired location.
3. Select one or more cameras (or a single object or place) from the camera (object, place) tree. If a place or an object is selected, the grid will show nearby cameras, if one or more cameras are selected, exactly these camera(s) will be shown.
4. Drag it/them to the dynamic video window and drop it in the lower left corner. The upper left view is always the closest to the location.
5. Use the slider on the right or the buttons on top and bottom of the slider to  increase or  decrease the number of cameras near the reference.

6. Click at the icons right of the reference to select a grid mode:

Grid	Similar sized views
Portrait	One big view on top
Landscape	One big view on left side
Left-up	One big view in upper left corner

   The big window always shows the next view dragged into the grid.
   It can be changed by dragging any camera into the view.

7. If the dynamic video window is full, a new page is added automatically to 'show' other cameras.
   Use the 

   page selector to see the other pages.

8. Some controls like  player controlled,  hotspot mode or  multi-tracking mode do control the whole video windows grid at the same time.

The GIS sight filter button  can reduce the number of cameras displayed in dynamic video window. When the mouse is moved over the drop area of the dynamic video window the tool-tip shows the list of assigned and the list of filtered cameras.

Note: In contrast to a fixed camera view, the actual states of the video toolbar widgets will not be saved and restored, if the Viewer get closed.

4.7 Linked Media

A linked media is a slave window to the media window it was created from which is the master. The slave will replicate the master windows behavior in any way except the linked window content will lack the tool bars as they are not needed. This makes it possible to control a second screen, mostly a video wall which is out of sight of the controller who controls the content of the video wall.

To create a linked media, select the **Create Linked Media** entry from the **Media Window** context menu.

To remove a master / slave linkage, the slave window has to be destroyed.

Linked Fixed Media Window

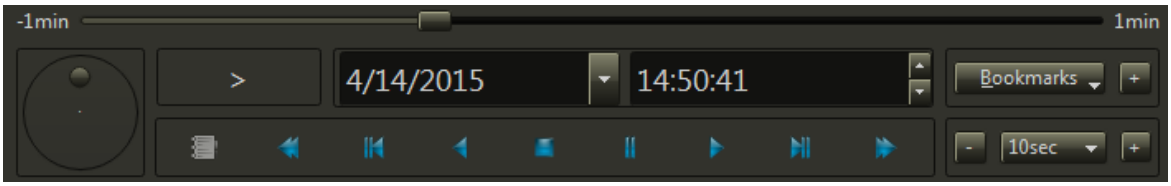
In a linked fixed media, the split layout inside the slaves window will of course follow the masters layout. All video or GIS views will replicate themselves to the correct position. All actions applied to the master GIS view will show also in the slaves view as will all video view changes.

Linked Dynamic Video Window

In a linked dynamic media window it is vital to keep the same aspect ratio of the slaves window as is the masters window in order to get a satisfying experience. As the dynamic video window will lay out the video windows dynamically, a different aspect ratio will lead to different behavior of the grid controls. Of course in the slave window all grid controls will be hidden and only the replicated video windows are shown.

4.8 Media Player

The *Media Player* is a playback tool to review any recorded media. It works in both GIS and camera views.

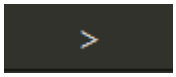


Player controls apply to any media window, where the player toggle  is activated.

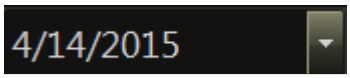
The player has the following controls:

The slider winds forward and back. The time spanned by the slider is selected via the jump time selector (see below). Note that times set to under 1 minute is always set to 1 minute in slider.

The shuttle wheel winds forward or backwards with increasing speed. Move this circular dial with the mouse.

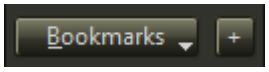


Indicates direction and speed.



Selects a date.

Selects a time of day.



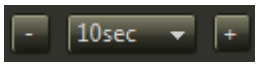
Selects a bookmark to show.

The tactical overview shows all object tracks at once (future and past) as well as an overview of all moved objects. Available only in playback mode.

Plays backwards.

Stops and pauses.

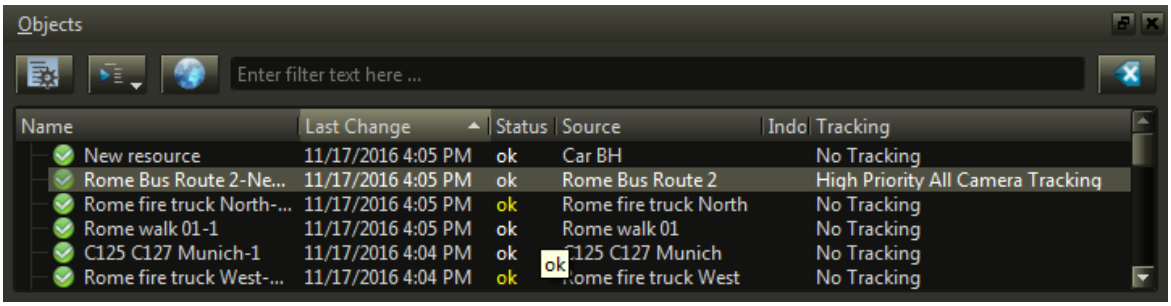
Plays forward.



Jumps backward or forward the selected interval.

4.9 Handling Objects

Any object tracked by the system is listed in the object tree, which has the same common elements like all device trees, see Working with Devices. In the objects tree the following columns are visible:



Name The name of the object. This name was set at creation time of the incident type in the Configurator, in front of the name is the state icon of the incident. Refer to the icons used at incident devices in Device Icons.

Last Change The time of last changes to the object. Usually this means time of last position update

Status Description Status description of tracking device which tracks the object

Source The name of the tracking device which tracks the object

Indoor Entity The name of the indoor entity the object is inside in

Tracking The currently active PTZ camera tracking mode

Double-click at an object to follow the object within a GIS view from behind.

Context menu at object

Follow from behind The GIS view moves to the location of the object and follows it from behind.

Follow from top The GIS view moves to the location of the object and follows it from top.

Show from behind The GIS view moves to the location of the object and shows it from behind.

Show from top The GIS view moves to the location of the object and shows it from top.

[Tracking] The currently active PTZ camera tracking mode is the header of the sub-menu (see below for further explanation):

- No Tracking
- Normal Nearest Camera Tracking
- High Priority Nearest Camera Tracking
- High Priority All Camera Tracking

[Add to incident] The currently active incident will be shown and used for adding the clicked object as a link with its current position

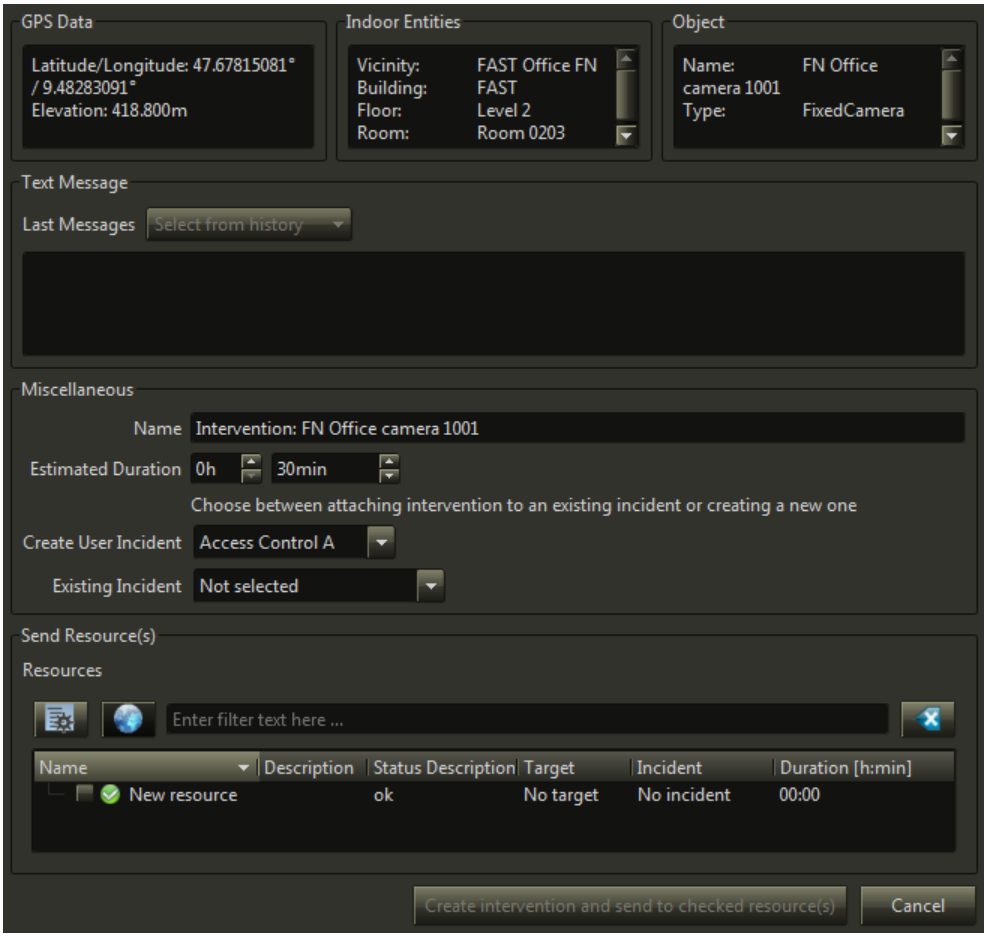
Context menu at object column Tracking

No Tracking	The object will not be tracked
Normal Nearest Camera Tracking	The nearest PTZ cameras will follow the object, but can be used by any operator or will follow any other object which will come into its sight
High Priority Nearest Camera Tracking	The nearest PTZ cameras will follow the object, but will not follow other objects
High Priority All Camera Tracking	All PTZ cameras (within sight) will follow the object, but will not follow other objects. Changing to this setting will force all other tracked objects to loose their tracking setting.

4.10 Making Interventions

An interventions is always part of an incident.

Whenever you spot some activities requiring an intervention, right-click into the related media window and select **Intervention...** from the pop-up menu.



Intervention initiated on a camera

The GPS data and the description of the detecting device (e.g. location of camera) are already filled in if available.

Write a text in the message field or select from previous messages. The coordinates are always inserted as a way point to direct the resource to the location.

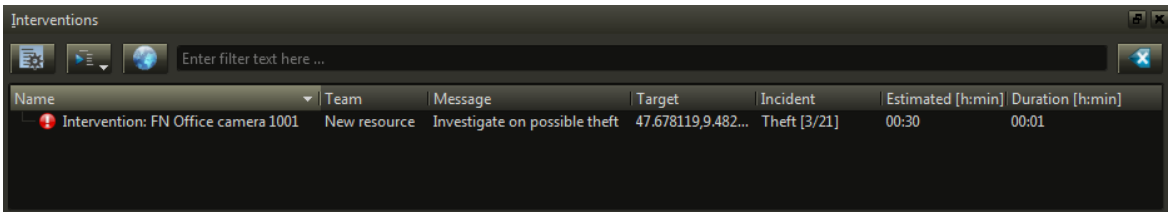
Name the intervention, set the estimated duration and select an existing incident or create a new one by selecting an incident type to link the new intervention to.

Select resources - initially sorted by their distance to the target - to be addressed and click the related **Create intervention and send to checked resources ...** button.

The mobile devices of the alerted teams will receive the message and the way point. In GIS view, a tracked resource with a new intervention point will not only have a track indicating the way the resource went, but also a 'future' track for where the resource should go.

4.10.1 Intervention Tree

Active interventions are added to the intervention tree, which have the same common elements like all device trees, see Working with Devices. In the intervetion tree the following columns are visible:



Name	The name of the intervention.
Team	All resources that were sent to the target.
Message	The message that initially was sent to the team members.
Target	The intervention target.
Incident	The incident to which the intervention was linked.
Estimated Time [h:min]	The currently set estimation time of the interventions duration. Can be reset via the context menu.
Duration [h:min]	The actual duration of the ongoing intervention.

Double-click at an incident to open the workflow of the incident.

If an incident is acknowledged the incident disappear from the list after the defined timeout, see **Player/Alarms** settings at Configurator - **Settings**.

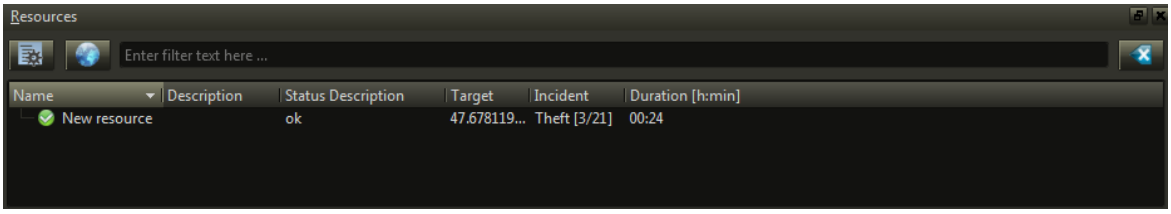
By disabling the context menu entry **Show Acknowledged Incidents**, all acknowledged incidents will not be listed in the tree at all.

Context menu in intervention tree

Show from Top	The GIS view moves to the location of the interventions target and shows it from top.
Rename Intervention ...	Opens dialog to rename the intervention.
Set Intervention duration ...	Opens dialog to reset the estimated time of the intervention.
Stop Intervention	Stops the intervention. All resources will be free afterward.

4.10.2 Resource Tree

Resources are shown at the resource tree, which have the same common elements like all device trees, see Working with Devices. In the resource tree the following columns are visible:



Name	The name of the resource.
Description	The description of the resource.
Status Description	The actual status description of the resource.
Target	The target the resource is currently targeting.
Incident	The current incident the resource is currently involved in.
Duration [h:min]	The time the resource is on duty without replacement.
Distance	The distance from target location.

Resource State

If any *Resource State* is defined, they can be selected from a group inside the context menu of a resource entry.

It could look like this:

Example

Note: After fresh configuration of resource states there will be no state selected as there is nothing such a default state. Just select the correct state and the system will remember the last selected state. If the last remembered state will be deleted from the configuration, again there will be no selected state. Just select a new appropriate state whoch again the system will remember.

4.11 Handling Incidents

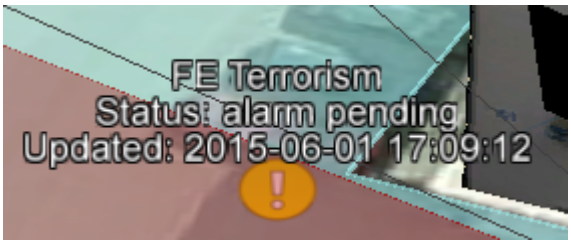
An incident is either triggered by events, e.g. a person breaching a barrier, or manually by an operator, e.g. when he detects critical activities or a technical failure.

To release an incident manually, right-click in a GIS or camera view and select **User Incident(s)**. Choose one of the predefined incident types.

Upon any incident release for which it is configured, the Workflow window appears automatically. Also, the complete screen is surrounded by a flashing frame and an alarm tone is heard if defined for this alarm level. Colors, sound and playing length can be set in the Configurator.

The alarm sound and the flashing frame are switched off by clicking the bell icon in the lower right screen corner:

It is possible to call the Workflow of an incident in the GIS view, for this right-click at the avatar and select **Open Incident ...** . Also an intervention can be initiated. If the mouse pointer is moved over the avatar some information about the incident is shown:



Incident avatar example

Context menu at avatar

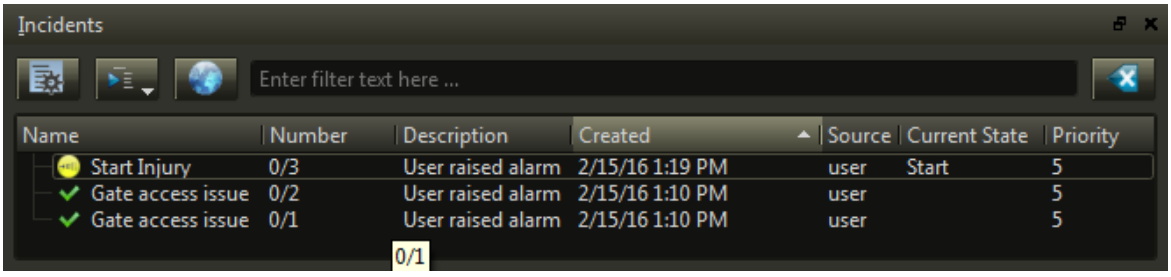
Open Incident ... / Acknowledge Incident	Opens the workflow defined for this incident or, if there is no workflow defined, just acknowledges the incident
Intervention	Initiate an intervention

Adding information to an Incident

It is possible to add locations or cameras as links to an incident. The currently open incident will be shown in a context menu entry **Add to incident (<name and number of incident>)** if a context menu is opened on a video view, inside the GIS view or on an object of a tree view as long as it is a location or a camera. An incident link will either have a still image of the cameras video stream of the links creation time, or a GIS snapshot of the position of the linked location. They can be reviewed either in an incident workflow if these links are integrated there or in the incident history.

4.11.1 Incident Tree

Active incidents are added to the incident tree, which has the same common elements like all device trees, see Working with Devices. In the incident tree the following columns are visible:



Name	The name of the incident. This name was set at creation time of the incident type in the Configurator, in front of the name is the state icon of the incident. Refer to the icons used at incident devices in Device Icons.
Number	The identification number of the incident (this column is called Id at the *Incident Management* window). First number identifies the server where the incident was created and the second number is an automatic id created by that server. As the servers working independent the server number is needed to distinguish two incidents that might get the same automatically generated id.
Description	This describes how the incident was triggered (this column is called *Text* at the *Incident Management* window)
Created	The time the incident was triggered.
Source	The user or the device which triggered the incident.
Current State	The current state in the workflow of the incident. *Note*: The tooltip of this cell will show all workflow states with the current state marked in upper letters.
Priority	The priority of the incident. If an incident is triggered or if it was assigned to a new user group, this defines at which place in the incident queue it will be sorted. These defines also which alarm level settings are used for this incident, see **Player/Alarms** settings at Configurator - **Program Settings**.

Double-click at an incident to open the workflow of the incident.

If an incident is acknowledged the incident disappear from the list after the defined timeout, see **Player/Alarms** settings at Configurator - **Settings**.

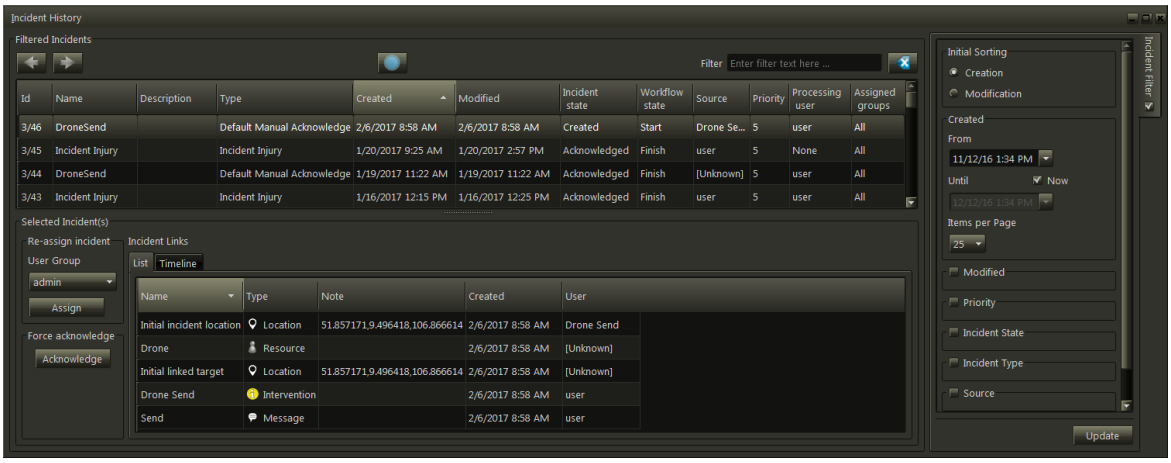
By disabling the context menu entry **Show Acknowledged Incidents**, all acknowledged incidents will not be listed in the tree at all.

Context menu at incident

Open Incident ... / Acknowledge Incident	Opens the workflow defined for this incident or, if there is no workflow defined, just acknowledges the incident
Show location from top	The GIS view moves to the location of the incident and shows it from top.
Goto creation time	Selecting this will bring the Viewer into playback mode and jump to the creation time of the incident
Intervention	Open the intervention dialog with pre-defined values from this inicident.
Show acknowledged incidents	The operator can choose if he wants to see acknowledged incidents in the tree

4.11.2 Incident History

To see additional information, select **Incident History...** in the View Menu or the equivalent toolbar button  to open the *Incident History* window. In this view all incidents kept in the database will be loaded into a list based on the Incident Filter.



A list of active incidents is displayed with detailed information. These columns are additional to the columns in the Incident tree:

Id The identification number of the incident (this column is called *Number* at the Incident tree). First number identifies the server where the incident was created and the second number is an automatic id created by that server. As the servers working independent the server number is needed to distinguish two incidents that might get the same automatically generated id.

Name Name of the incident.

Description Description of the incident.

Type Type of the incident.

Created When the incident was created.

Modified The time the incident was lastly changed

Incident state The current state of the incident. *Note*: The tooltip of this cell will show all incident states with the current state marked in upper letters.

Workflow state The current state in the workflow of the incident (this column is called *Current state* at the Incident tree). *Note*: The tooltip of this cell will show all workflow states with the current state marked in upper letters.

Source Who created the incident. This could be a user, a resource or an intervention.

Priority Priority of the incident.

Processing user The user currently working at the workflow

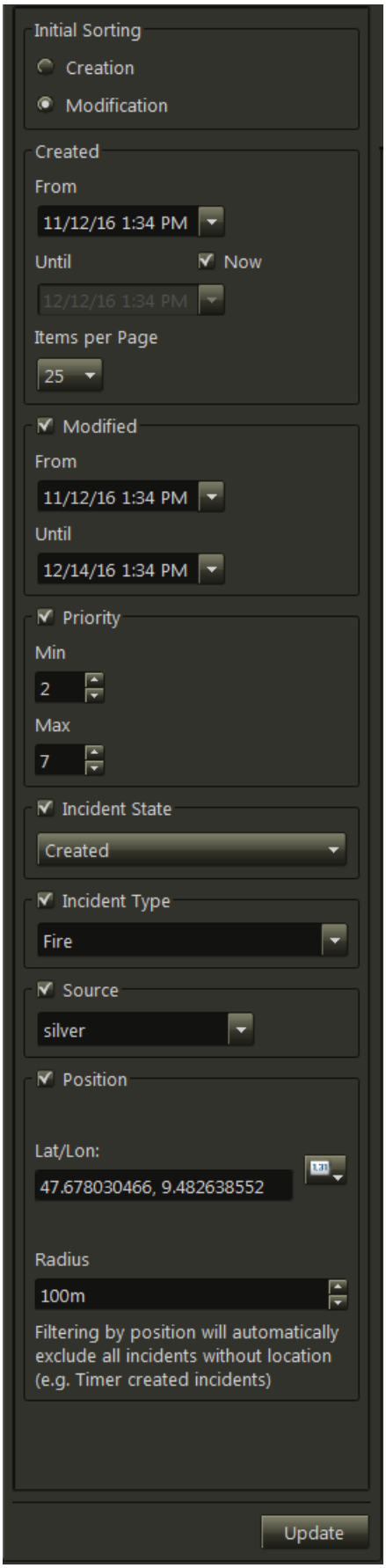
Assigned groups Here you see to which user group the incident is currently assigned

The *context menu* for an incident consists of these entries:

Open Incident ...	Opens the workflow defined for this incident
Show location from Top	The GIS view moves to the location of the incident and shows it from top.
Goto Creation Time	Selecting this will bring the Viewer into playback mode and jump to the creation time of the incident
Intervention ...	Create an intervention for this incident.

Filtering Incidents

The incident filter section can be collapsed for better usability of the window.



Example with all optional filters engaged

In order to filter the list of incidents loaded from the database into the history list there are several filter properties:

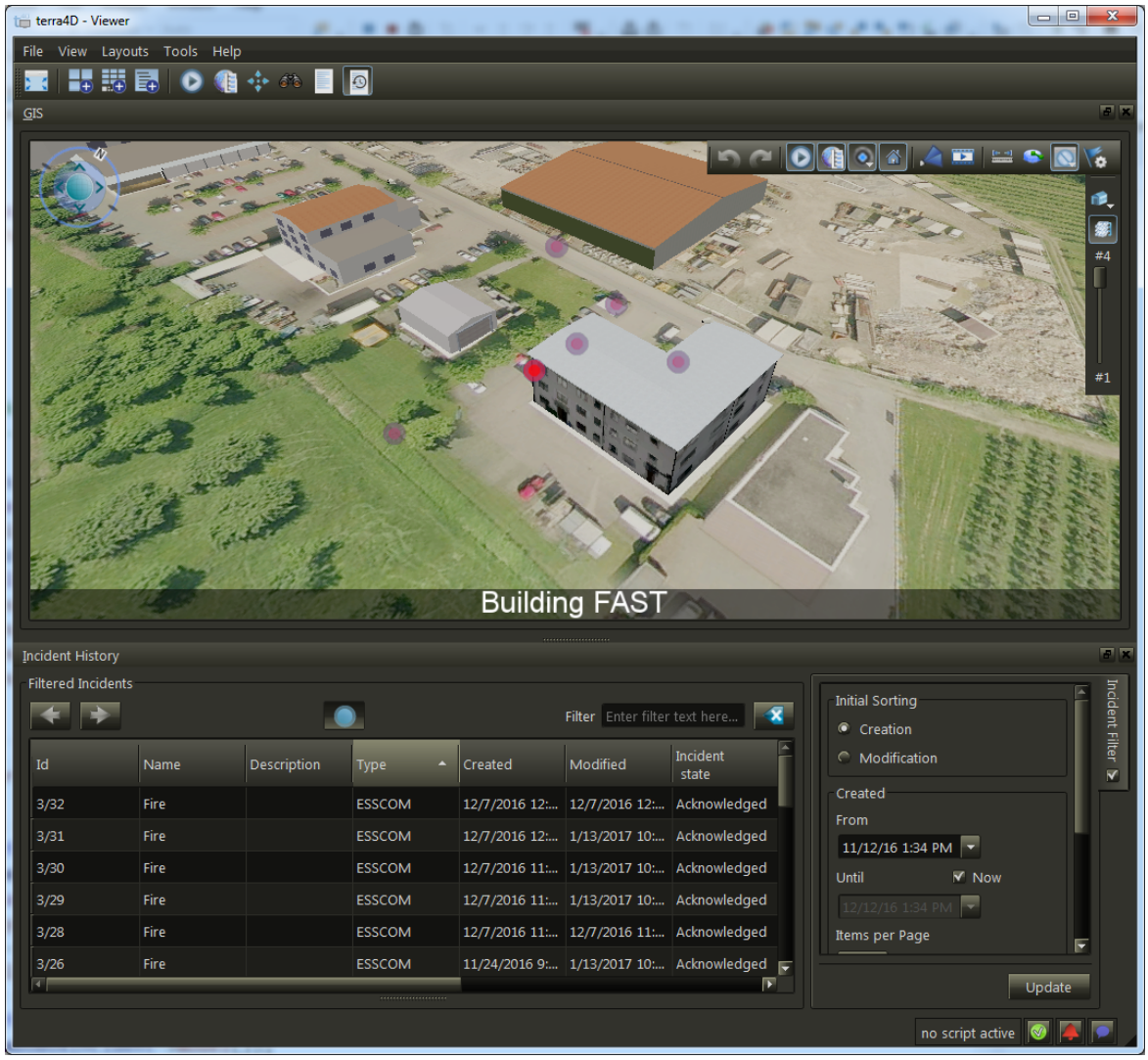
Initial Sorting	• **Creation**: The initial sorting done inside the database will be the creation date • **Modification**: The initial sorting done inside the database will be the modification date
Created	• **From**: All incidents *created* after this time • **Until**: All incidents *created* until this time. Select **Now** for easier filtering for recent incidents. • **Now:** If set, Until is disabled. • **Items per Page**: The number of incidents listed on one page at a time. Possible values are: 25. 50, 100, 250
Modifed (optional)	• **From**: All incidents *modified* after this time • **Until**: All incidents *modified* until this time
Priority (optional)	• **Min**: Minimum incident priority • **Max**: Maximum incident priority
Incident state (optional)	The current *incident state*. Possible values are: *Invalid, Created, Processing, Acknowledged, Reviewing, Reviewed*
Incident type (optional)	The *incident type* to search for. All configured types are listed.
Source	The incident *source* to search for. All configured sources which could trigger an event creating an incident are listed.
Position (optional)	• **Lat/Lon**: The position to look after • **Radius**: How far from the looked after position the incident could be

Note: All optional filter groups will collapse for better usability.

Click the **Update** button in order to get a newly filtered incident list from the database.

Heatmap

In order to get an overview on where the filtered incidents are, the open GIS views will show all incidents that are in listed in the incident list inside an overlay heatmap if the heatmap button is pressed.



Heatmap example

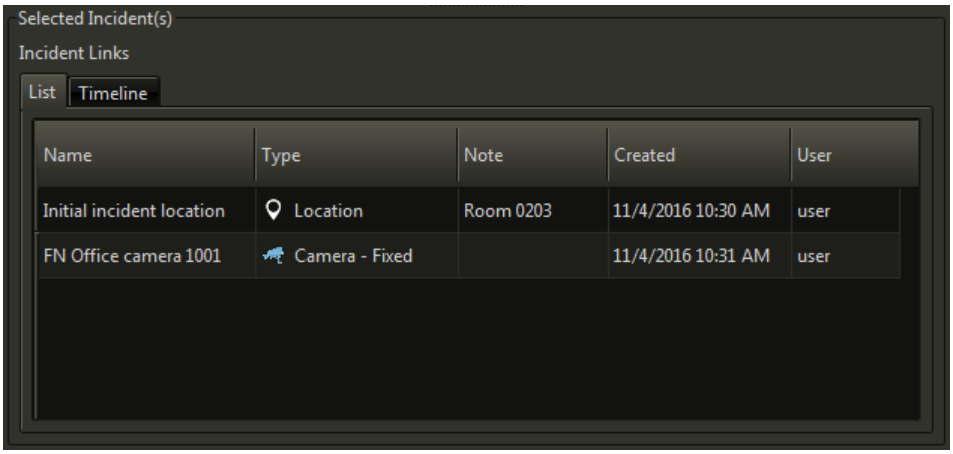
By pointing the mouse cursor on an incident the position of that particular incident will be marked temporarily with a hotspot avatar.

Work with a selected incident

After one or more incident(s) were selected they can be reviewed, re-assigned or forcible acknowledged.

List

The *Incident Links List* will appear if a single incident has been selected. With the help of the *Incident Links List* an incident can be reviewed.



Selected incident: Shown in list view

If a single incident was selected, all its **Incident Links** will be shown in a list with these properties:

Name	The name of the incident link
Type	The type of the incident link
Note	A note created by the user for the created link
Created	The creation time of the link
User	The user that created the link

Depending of the incident links *type* the *context menu* for an incident link consists of these entries:

Location

Show location from Top	This will show the location in a GIS view from top
Goto Creation Time	Selecting this will bring the Viewer into playback mode and jump to the creation time of the link

Camera

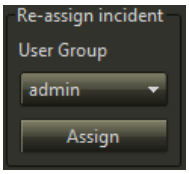
Show Video	This will show the video in a video view
Show from Behind	This will show the camera in a GIS view from behind
Show from Top	This will show the camera in a GIS view from top
Goto Creation Time	Selecting this will bring the Viewer into playback mode and jump to the creation time of the link

Object

Show from Behind	This will show the object in a GIS view from behind
Show from Top	This will show the object in a GIS view from top
Goto Creation Time	Selecting this will bring the Viewer into playback mode and jump to the creation time of the link

Re-assigning an incident

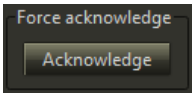
After selecting one or more incidents it can be re-assigned to another user group.



User Group	Select the user group the incident(s) will be re-assigned to
Assign	Re-assign an incident to the user group you selected with the drop down list above. If the current user is not part of this group, the workflow will disappear from his screen and will reappear at an operators screen of the selected group. After pressing the button a message to verify this decision will be opened.

Force Acknowledge

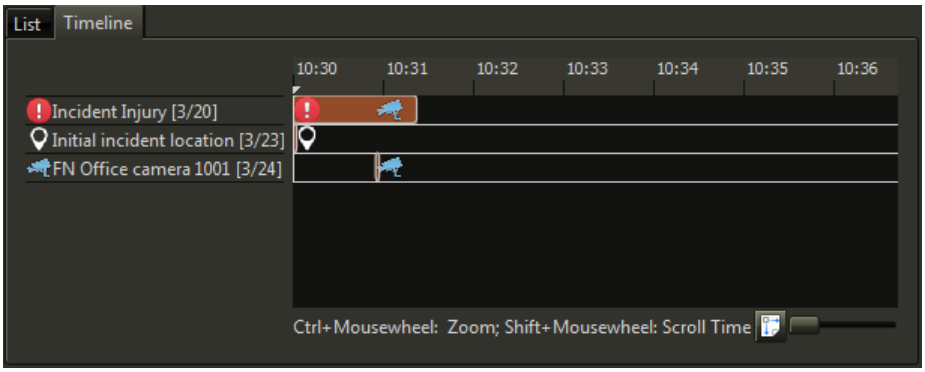
After selecting one or more incidents it can be forcible acknowledged. This will set the selected incidents immediately to the finished state.



To forcible acknowledge the selected incident press the **Acknowledge** button. After pressing the button a message to verify this decision will be opened.

Timeline

The *Timeline* view of the incident gives a good overview about the incidents changing's over time.



Selected incident: Shown in timeline view

In contrast to *the incident links* list, the selected incident itself is shown in the first track of the timeline. For additional timing information all created links will show up as an icon representation inside this track at their respective creation time.

Within the timeline it is also possible to alter the start and end times of a camera. This makes it possible to set better information for the specific camera from stored video content.This is done by setting the cursor (a simple click into the ruler section to the desired time) and call the context menu of the camera to be altered.

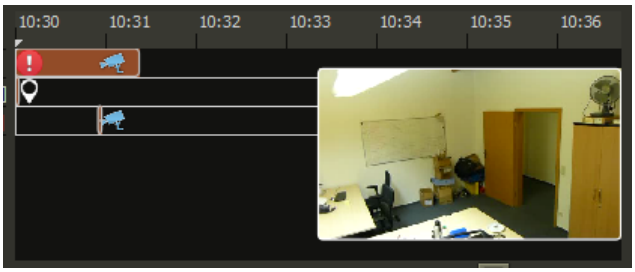
Context menus of the links are the same as in list view with the exception of cameras:

Camera

(Additional context menu entries)

Set Start to Ruler	Sets the camera link start time to the rulers time. NOTE: Appears only if ruler time is *before* camera link end time.
Set End to Ruler	Sets the camera link end time to the rulers time. NOTE: Appears only if ruler time is *after* camera link start time.

If a camera or a GIS image is available for the link, it will be shown inside the timeline by moving the mouse over the desired object.



By moving the mouse cursor over an object, an image will be shown if available

4.12 Workflows

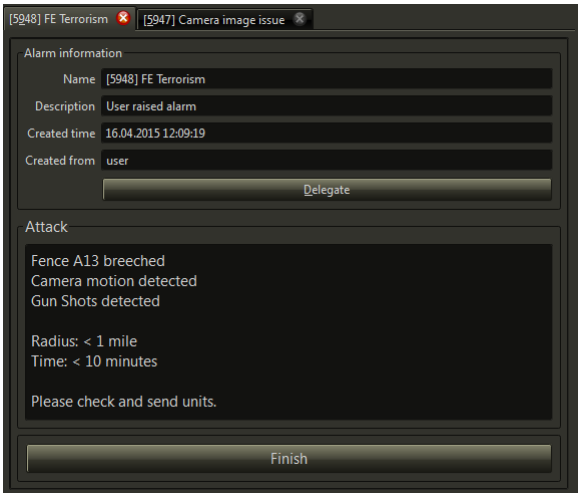
Workflows are procedures to be followed in case of certain events. In case of an alarm, the workflow is displayed in the alarm window. The workflow can contain text, pictures, graphics and command buttons. There can be multiple open workflows at the same time.

Workflows are set up in Configurator.

If you want open a pending workflow you can do it in the context menu of an alarm avatar, by double-click at an alarm in the alarm tree or by clicking at the menu point *Workflows* in the View menu.

4.12.1 Simple Workflow Example

Basic simple workflow



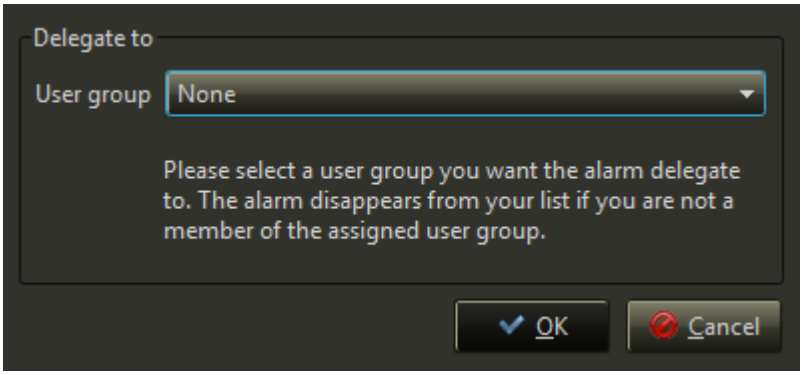
Basic Workflow Example

The simplest workflow is like the *Default Manual Acknowledge* workflow. At top of the window the currently open workflows are ordered in tabs. The tab heading shows the identification number and the name of the event.

Below is the Alarm information. There are some information which you also can see in the Alarm tree list or the Alarm Management window.

Name	The name of the alarm. This name was set by the creation of the alarm in the Configurator.
Description	This describes how the alarm was triggered.
Created time	The time the alarm was triggered.
Created from	The user or the device which triggered the alarm.

If the button **Delegate** is pressed, a window to delegate the alarm to another user group appears:

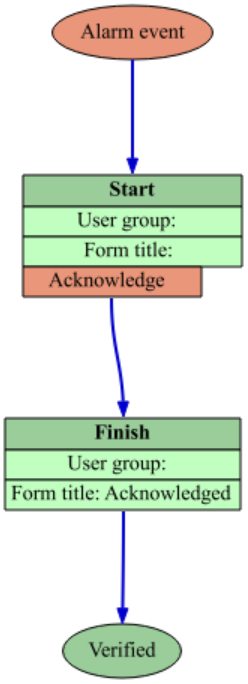


Select the *User group* and press **OK** to delegate it. If the logged on user is not a member of the new group the alarm disappears from the current list and appears at all members of the group.

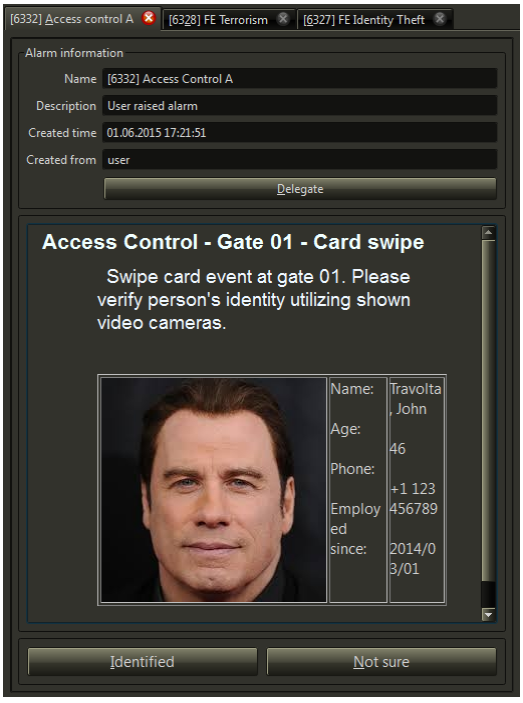
Below the **Delegate** button is the area whose title *Attack* and the text is defined at the Configurator for this workflow.

Finish will acknowledge the alarm and close the workflow.

Here the graphical visualization of the workflow (this could be seen in the Configurator):



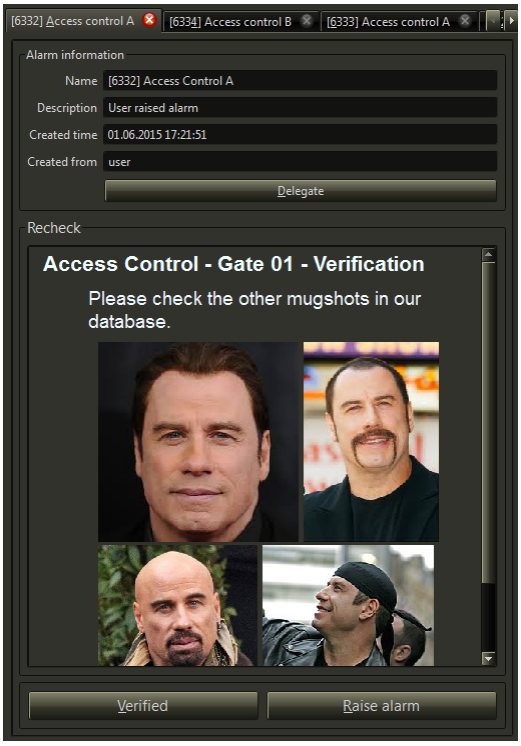
More complex simple workflow



There is the possibility to create complex workflows with a number of states and two or more exits of one state. In this example there are two exits to decide between: **Identified** and **Not sure**.

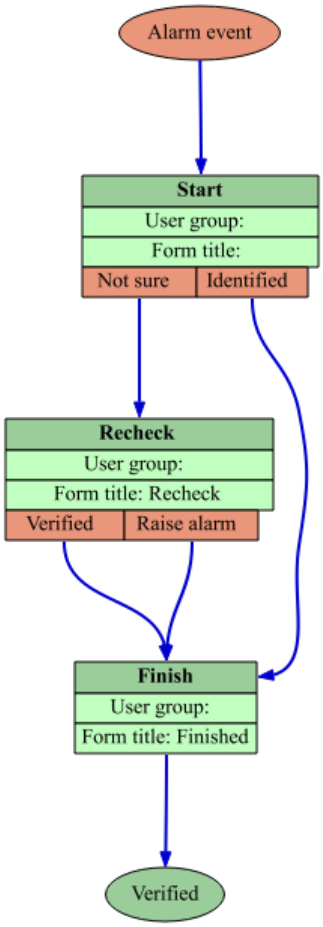
Press **Identified** and the workflow ends.

Press **Not sure** and you see this:

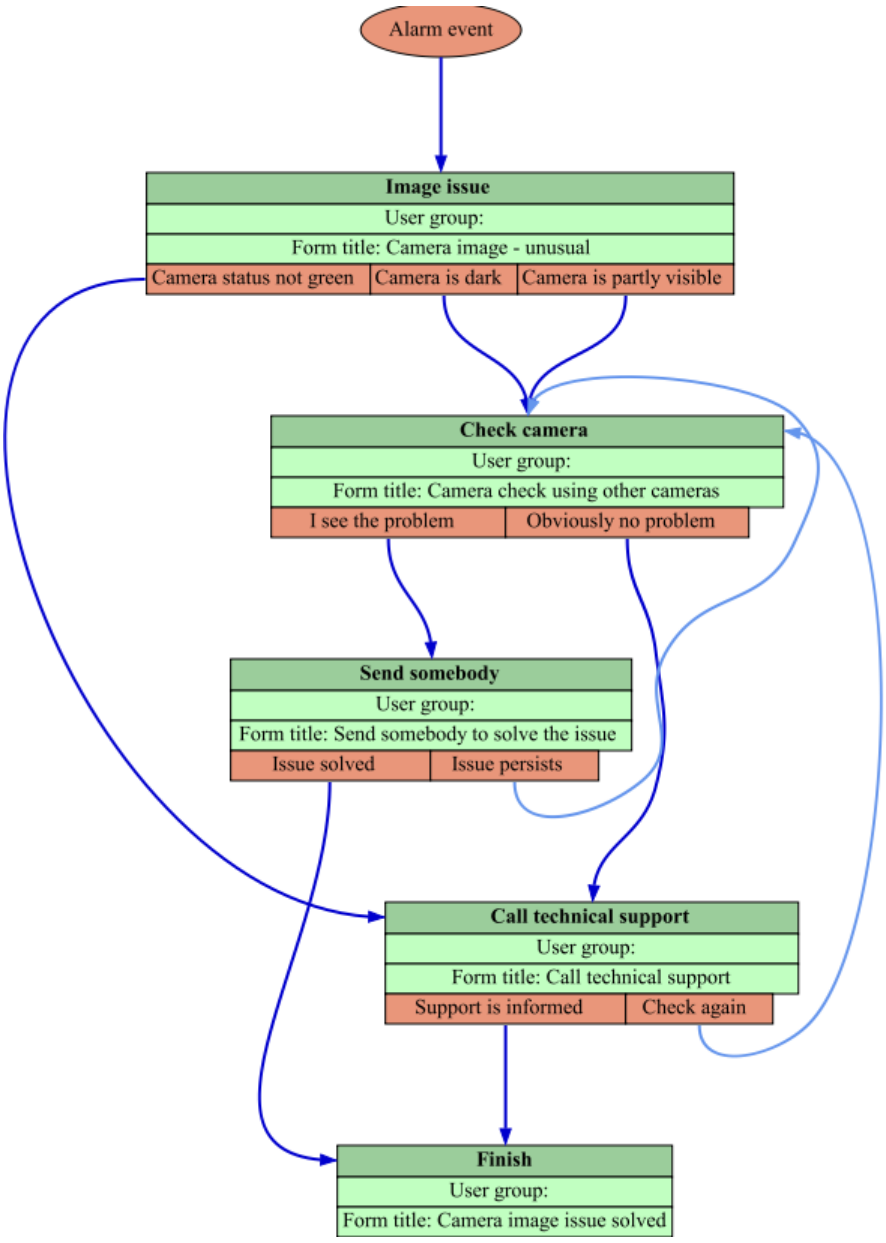


Here again there are two choices: **Verified** and **Raise alarm**, which both are finishing the workflow itself, but have different outcomes as their name indicates.

The workflow graph of this:



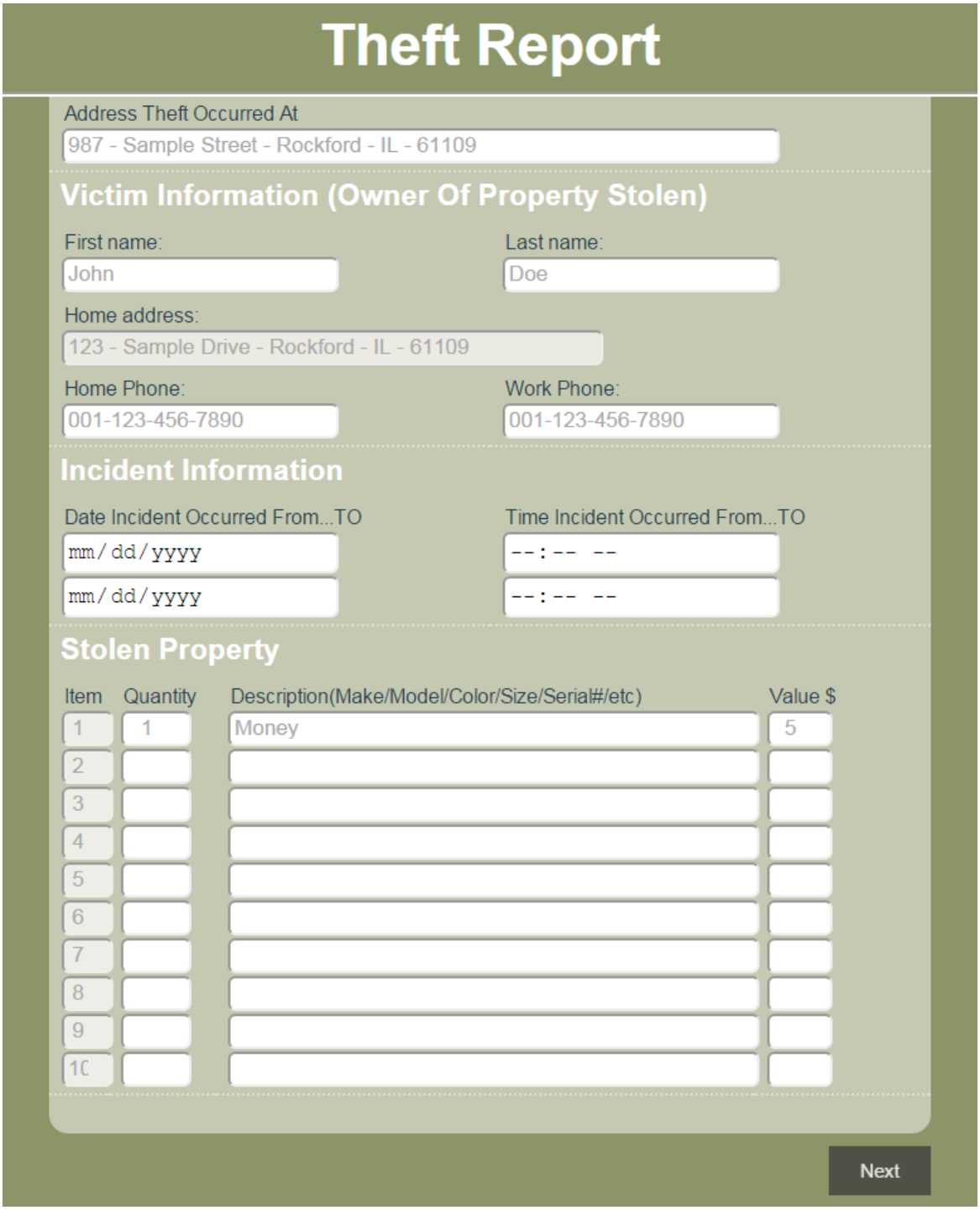
But it is also possible to jump back from one state to a previous state. This way more complex workflows are possible:



Note: Be careful to prevent endless loops, they will not detected and marked by the system.

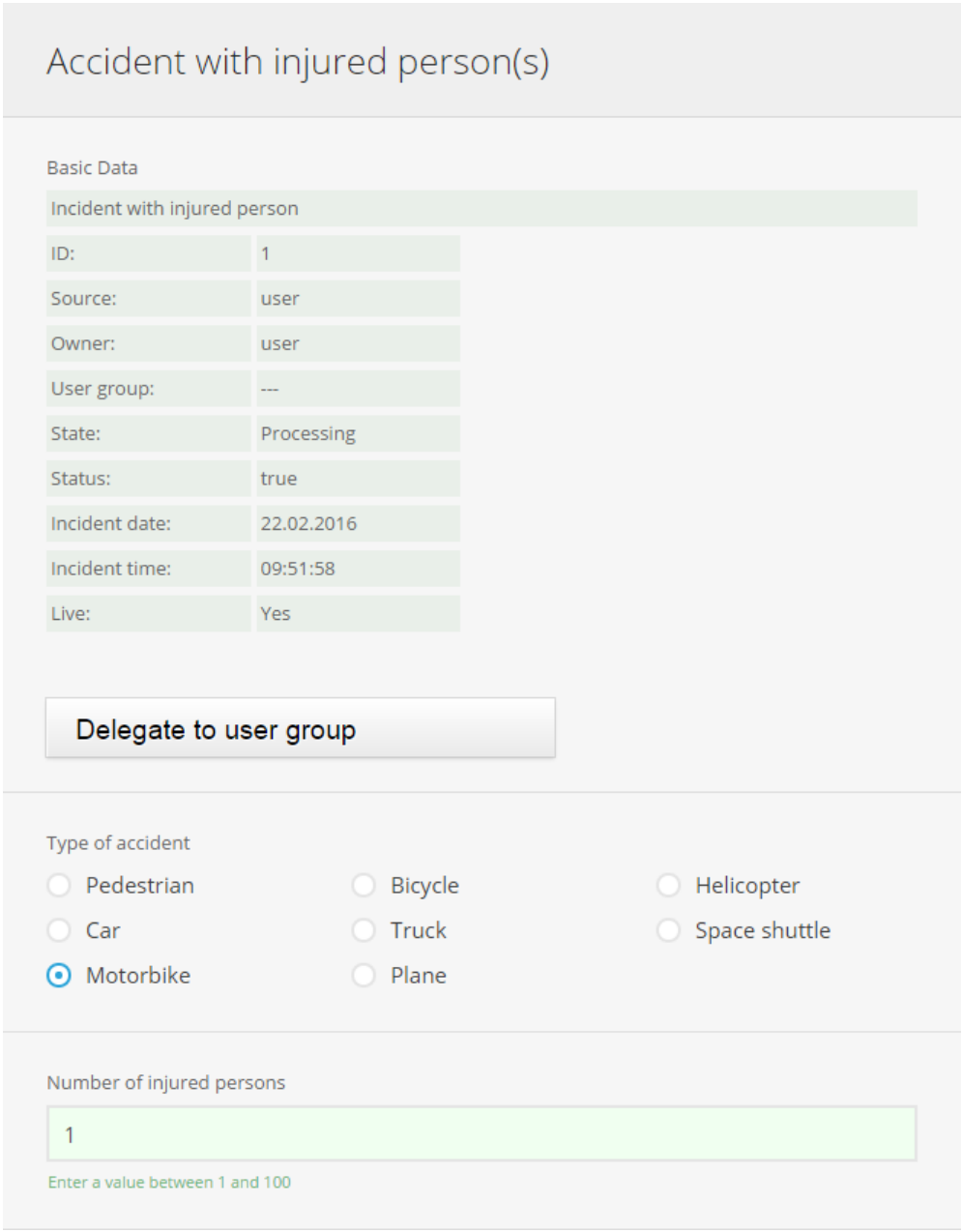
4.12.2 Interactive Report Example

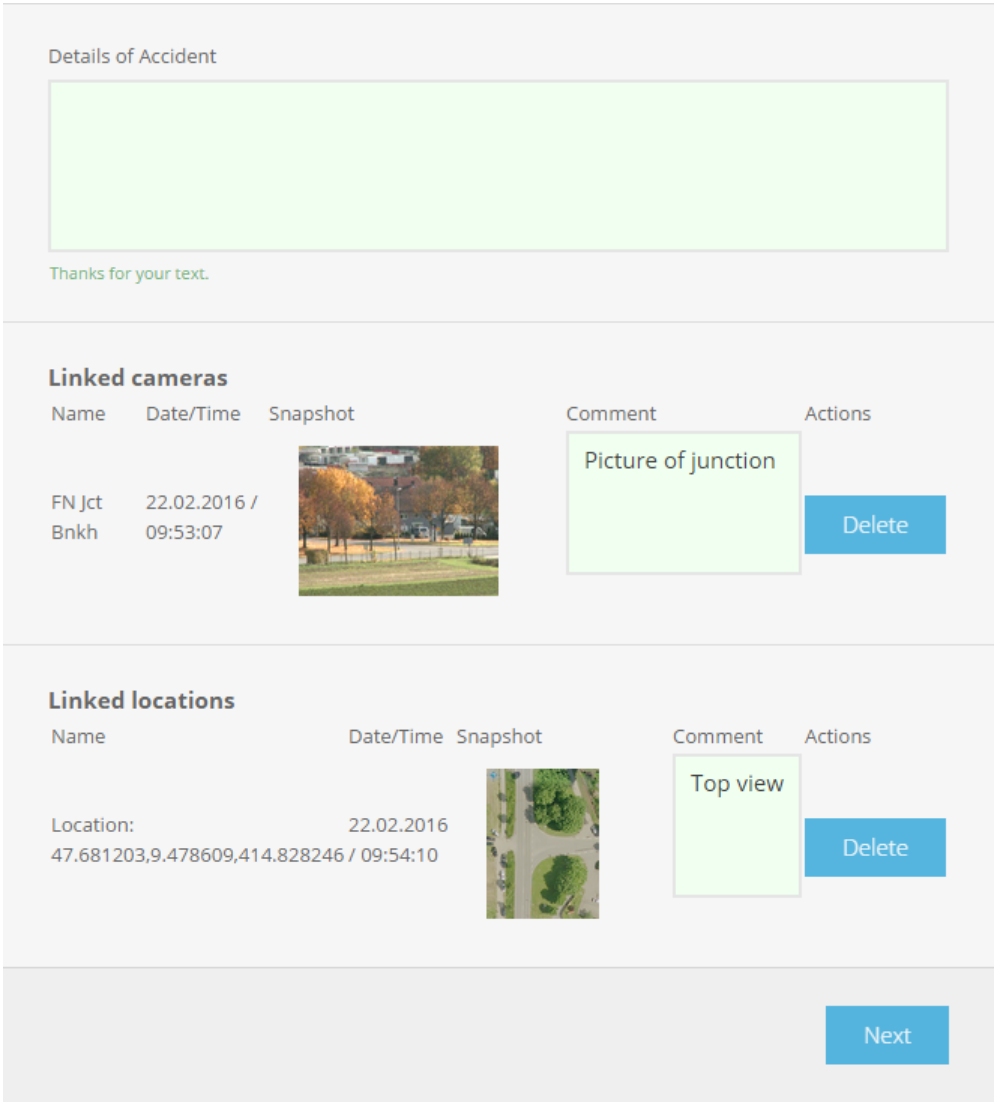
An approach to replicate existing paper reports consisting of numerous input fields and a familiar user interface might look like this:



This also is a simple workflow, but this will not go on to the next state until at least the full name of the victim is put into the form. This will reduce errors and improve quality of reports.

It is also possible to link camera pictures and GIS based location images to the incident and display them inside the interactive report:


Accident with injured person(s)
Basic Data
Incident with injured person
ID: 1
Source: user
Owner: user
User group: ---
State: Processing
Status: true
Incident date: 22.02.2016
Incident time: 09:51:58
Live: Yes
Delegate to user group
Type of accident
Pedestrian
Bicycle
Helicopter
Car
Truck
Space shuttle
Motorbike
Plane
Number of injured persons
1
Enter a value between 1 and 100



This will increase the situational awareness.

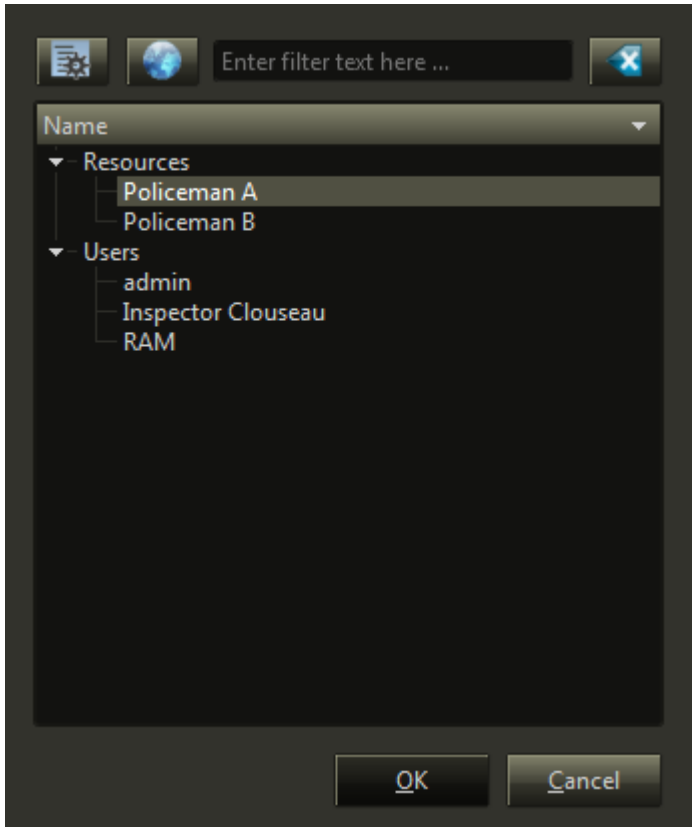
4.13 Messages

The messaging tool allows sending messages to another user. All user have to be known to the server.

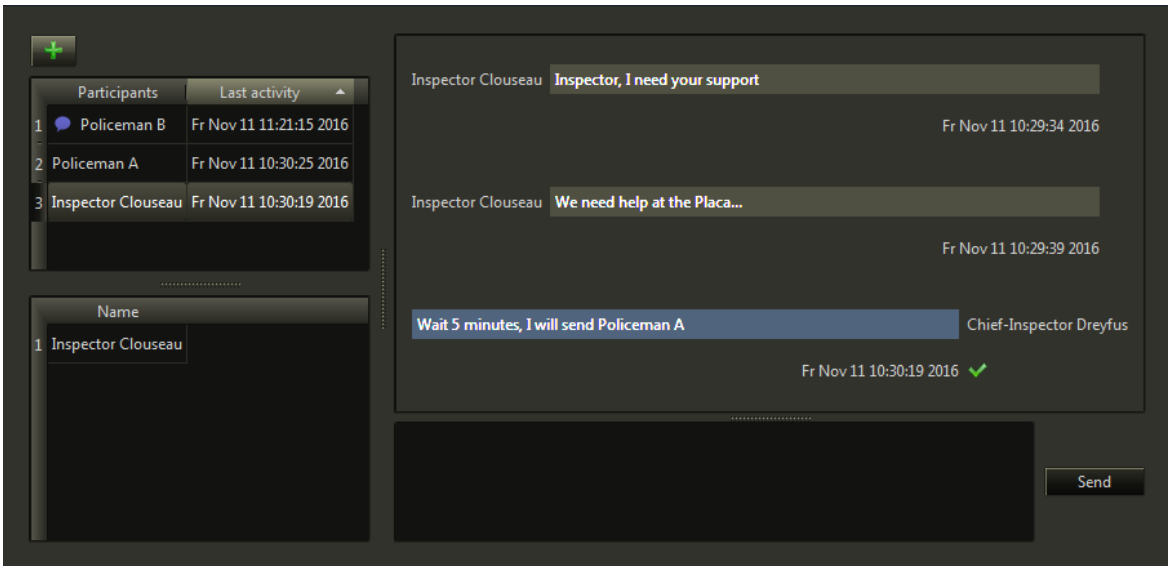
Click the message icon in the lower right screen corner:

In order to initiate a new conversation click the add button in the top left corner:

In the following dialog select one or more resource and users: Then click **OK**.



In the message window you can switch between conversations. Select a receiver and enter the message text. Then click **Send**.



Message example

In this example you see on the left side the list of users. The actual conversational partner is tagged, in this example *Inspector Clouseau*.

The violet icon at *Policeman B* shows that he has send you a message you don't have read yet.

In the right part of the window you see the history of messages. The operator, in this case *Chief-Inspector Dreyfus*, is violet and his name is at the right side, the opponents name is at the left side. Every user has his own history so you only see the history with the selected user.

Below the history is the message area. Write your text here and press at Send to send the message to the selected user.

4.14 Reporting

The reporting function displays information of events and status in a certain time span.

Select **Reporting...** in the main menu. The report appears in a window. Example:

Set the time span according to your needs.

Select the desired type of information via the tabs for device Status information, Messages and User information, the list changes accordingly. The columns of the *Device* section (left) changes also depending on the tab, see the respective chapter. The information at the *Data* section (right) are detailed information of the selected item.

Use the buttons above the list to filter the list to select e.g. a single user and his activities.

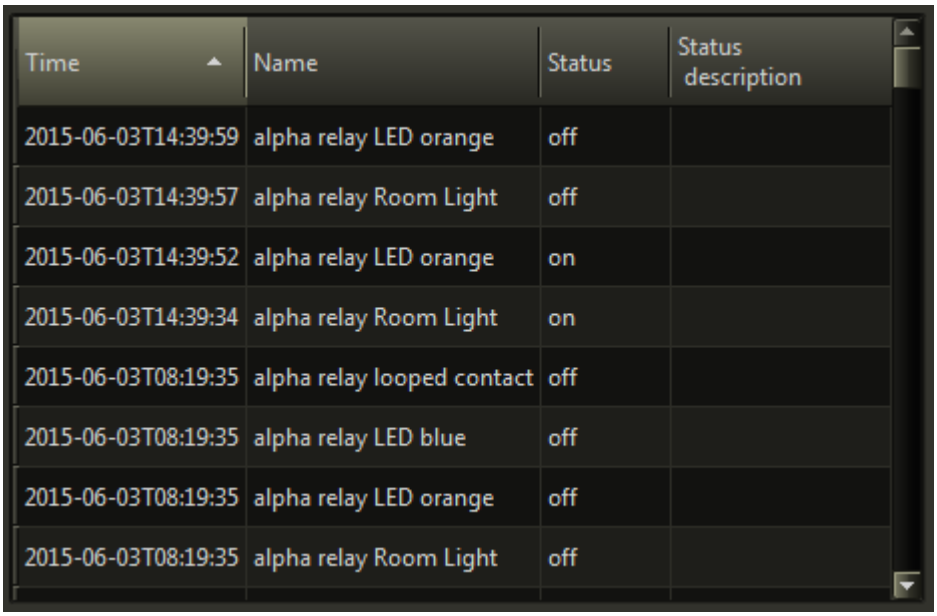
Mark a line to display detailed information in the data window. You may use a filter to reduce the amount of information.

Previous, Next are available if there a more messages to be displayed.

Text can be copied to a text editor or to an Excel sheet by using `Ctrl-C` and `Ctrl-V` keys.

4.14.1 Status

At *Status* reporting you see the device trees. If you click at a small white arrow (a node), the list expands. If necessary, do it again until you see the state icons of the device. If you click at a node itself, you see the state messages of all devices at the *Data* section.

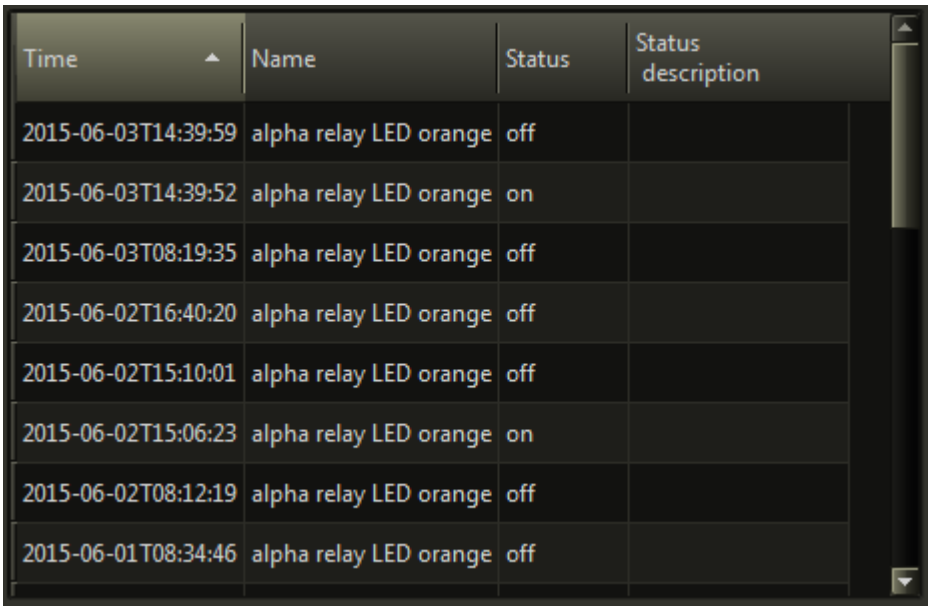


Time	Name	Status	Status description
2015-06-03T14:39:59	alpha relay LED orange	off	
2015-06-03T14:39:57	alpha relay Room Light	off	
2015-06-03T14:39:52	alpha relay LED orange	on	
2015-06-03T14:39:34	alpha relay Room Light	on	
2015-06-03T08:19:35	alpha relay looped contact	off	
2015-06-03T08:19:35	alpha relay LED blue	off	
2015-06-03T08:19:35	alpha relay LED orange	off	
2015-06-03T08:19:35	alpha relay Room Light	off	

Status example: relay devices

If you select a single device, the messages off only this device are shown in the *Data* section.

At the *Data* section you will see the states of the corresponding workflow of the alarm.



Time	Name	Status	Status description
2015-06-03T14:39:59	alpha relay LED orange	off	
2015-06-03T14:39:52	alpha relay LED orange	on	
2015-06-03T08:19:35	alpha relay LED orange	off	
2015-06-02T16:40:20	alpha relay LED orange	off	
2015-06-02T15:10:01	alpha relay LED orange	off	
2015-06-02T15:06:23	alpha relay LED orange	on	
2015-06-02T08:12:19	alpha relay LED orange	off	
2015-06-01T08:34:46	alpha relay LED orange	off	

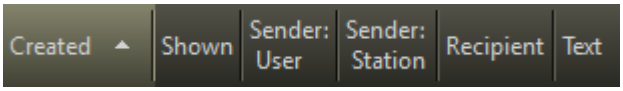
The *Data* section for *Status* details includes:

Time	When the state was changed.
Name	The name of the device.
Status	State of the device.
Status description	Shows the status description if defined.

4.14.2 Message

At *Message* reporting you see the list of users. Select one user to show the details at the *Data* section.

The columns at users are:



Created	When a message was created by the user
Shown	When the message was read by the recipient. If the message was not read by the recipient, it will show 'Not shown to date'.
Sender: User	Name of the selected user
Sender: Station	Name of the computer where the message was sended.
Recipient	The recipient of the message.
Text	The content of the message.

4.14.3 User

At *User* reporting you see the list of users. Select one user to show the actions this user had done at the *Data* section. This includes login, logout, lock start and end and other actions like *PTZ Moved.*

Time	Action	Processing user	Sender: Station	Camera
2015-06-02T16:40:18	Login	user	stefanplümper	None
2015-06-02T16:40:03	Lock End	user	stefanplümper	None
2015-06-02T15:56:15	Login	user	stefanplümper	None
2015-06-02T15:56:04	Logout	user	stefanplümper	None
2015-06-02T15:52:41	PTZ Moved	user	stefanplümper	FN Axis PTZ 5534 RAM
2015-06-02T15:33:19	PTZ Moved	user	stefanplümper	FN Axis PTZ 5534 RAM
2015-06-02T15:33:06	PTZ Moved	user	stefanplümper	FN Axis PTZ 5534 RAM
2015-06-02T15:32:52	PTZ Moved	user	stefanplümper	FN Axis PTZ 5534 RAM
2015-06-02T15:32:24	PTZ Moved	user	stefanplümper	FN Axis PTZ 5534 RAM

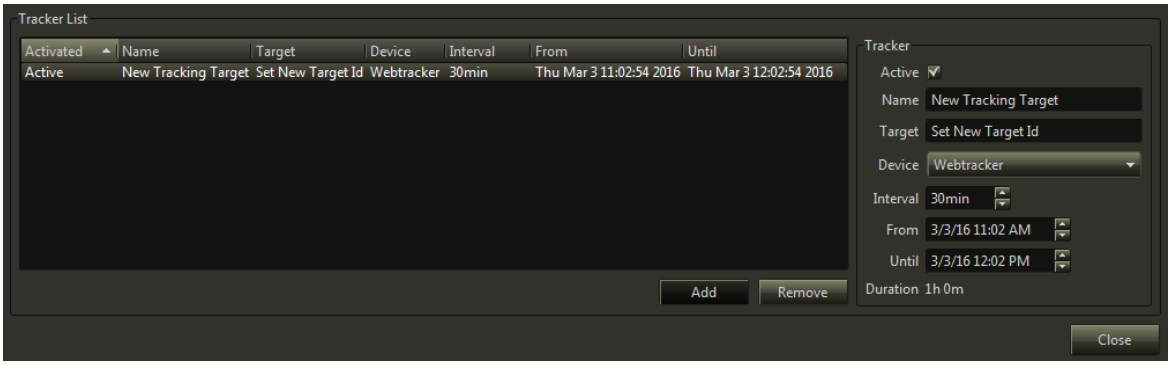
User actions example

Time	Time of the action
Action	Action done by the user
Processing user	Name of the user
Sender: Station	The user performed the action at this computer.
Camera	If an action with a camera is shown, you see here the name of the camera.

4.15 Tracker List

The Tracker List function manages tracking targets for specific tracker types, e.g. GSM tracking, that need a list of targets to be managed during operation.

Select **Manage Tracker List...** in the main menu.



Use the **Add** and **Remove** buttons to create a new tracker or delete the selected tracker.

Activated	Is the tracker *Active* or *Inactive.*
Name	The name of the tracker.
Target	The *Id* of the tracked target.
Device	The tracking device which creates the tracked object.
Interval	How often a track point will be added to the objects track.
From	When the tracker begin to track the target.
Until	Until when the tracker will track the target.

5 Appendix

The appendix contains some additional information.

5.1 Imprint and Addresses

Imprint

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5.2 Glossary

DEM	Digital elevation model. Elevation data without buildings and vegetation.
Device	All kinds of security-relevant items, configured and operating in the system
DSM	Digital surface model. Contains elevation data including buildings and vegetation.
GIS	Geographic Information System. The GIS view displays information in an exact geographical position.
GPS	Global Positioning System. Its coordinates are used to locate an item and navigate to it.
PTZ	Pan Tilt Zoom. A set of camera moving options.

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