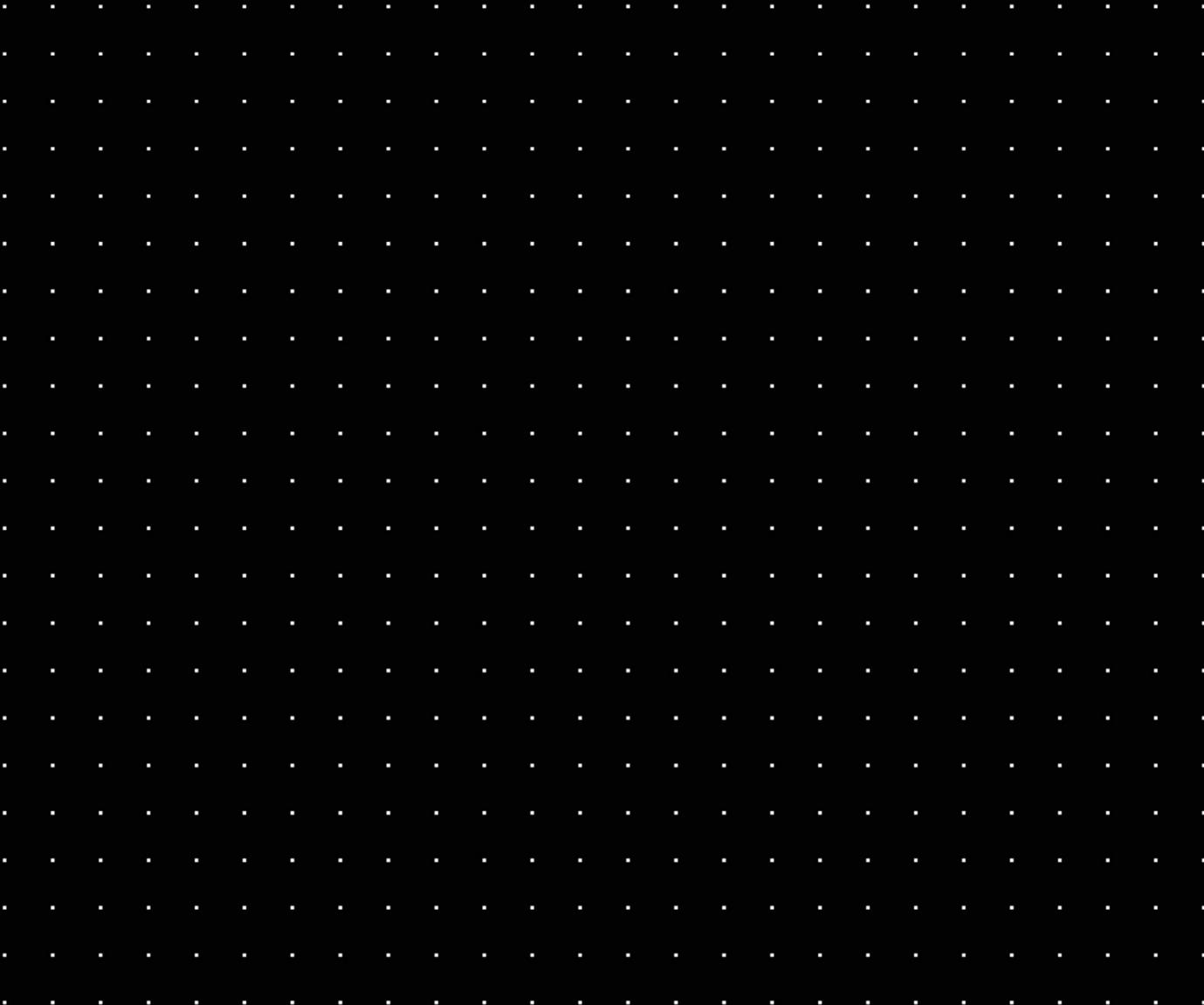


GEUTEBRÜCK

# Cam Check User Manual

Version: 1.0

11.01.2024



# Table Of Contents

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<b>About This Documentation</b> .....	<b>4</b>
<b>Legal Notice</b> .....	<b>5</b>
<b>Function Overview</b> .....	<b>6</b>
Web Interface .....	6
Image Comparison .....	6
Manual Image Comparison .....	6
Automatic Image Comparison .....	7
Report Generation .....	7
Manual Report Generation .....	7
Automatic Report Generation .....	7
<b>User Menu</b> .....	<b>8</b>
<b>Installation</b> .....	<b>9</b>
System Requirements .....	9
Server Installation .....	9
Client Installation .....	11
Open the Cam Check UI .....	16
<b>Administration User Interface</b> .....	<b>18</b>
Manage Sites .....	19
Add a Site .....	20
Edit a Site .....	20
Delete a Site .....	21
Manage Recorders .....	22
Add a Recorder .....	23
Edit a Recorder .....	24
Delete a Recorder .....	26
Manage Scheduled Report .....	27
<b>Operations User Interface</b> .....	<b>29</b>
Channels .....	30
Control the Channels Status .....	30
Manual Channel Check .....	31
View Current Live Image and Other Channel Inform- ation .....	32
Edit Reference Image of a Channel .....	33
Change Status of a Channel .....	33

Reports .....34

# About This Documentation

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Current software version: Cam Check 1.0.

The latest features and changes of the current software version are listed in the Release Notes.

**i** **Note that the illustrations in this documentation may not match those of your software version.**

# Legal Notice

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# Function Overview

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The Cam Check offers manual as well as automatic functions for comparing reference images with the current live images of a media channel. For this purpose, it has a web interface with individual configuration options.

## Web Interface

The Cam Check web interface **Cam Check UI** has two user interfaces, Administration and Operations.

In the **Administration User Interface**, you can do the following:

- Configure sites, recorders and channels
- Configuration of an automated image comparison based on recorders
- Configuration of a scheduled report

In the **Operations User Interface** you can do the following:

- Control the status of channels
- Perform a manual image comparison
- Create reports manually

## Image Comparison

The image comparison of reference and live image can be performed manually or automatically with the Cam Check.

### Manual Image Comparison

In the **Operations** user interface, you can perform a manual image comparison between the reference image and the live image of a media channel. In the manual check dialog of the respective channel (see **Manual Channel Check**), the reference and live image as well as further information of the channel are displayed so that you can check the channel manually at any time.

### Automatic Image Comparison

In the **Administration** user interface, you can configure an automatic image comparison between the reference image and the live image of a media channel based on a recorder. To do this, you can define a check interval for this recorder in the **Manage Recorders** view. The channels of the respective recorder are then automatically checked at the specified interval and the results are saved in the database.

### Report Generation

The reporting of an executed image comparison can be performed manually or automatically.

#### Manual Report Generation

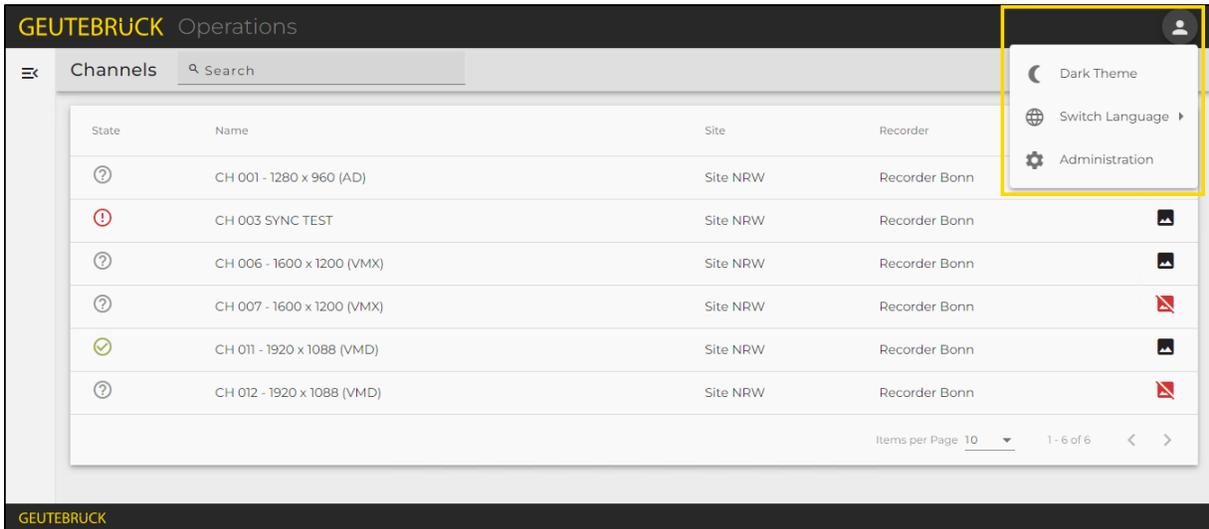
In the **Operations** user interface, you can configure and create the report manually (see **Reports**).

#### Automatic Report Generation

In the **Administration** user interface, you can configure the schedule for automatic report creation. In the **Manage Scheduled Report** view, you can set at what time, interval, and format the report should be automatically generated in the background. Cam Check then automatically performs an image comparison of the reference and live images for all channels based on the configured schedule and saves the report in the local installation directory.

# User Menu

To open the user menu, click  in the upper right corner of the **Operations** or **Administration** user interface. The user menu opens.



The user menu contains the following options:

Option	Description
 Dark Theme  Light Theme	Change the design of the user interface.
 Switch Language	Change the language of the user interface.
 Administration  Operations	Switch between the <b>Administration</b> and <b>Operation</b> user interfaces.

# Installation

## System Requirements

The following system components are required for the initial installation and parametrization of the Cam Check:

System Component	Requirement
G-Core Server	<ul style="list-style-type: none"> <li>• G-Core Version 7.0</li> <li>• G-Core Web API</li> <li>• Operating system Windows 10 &amp; Windows Server 2019</li> </ul>
Cam Check Server	<ul style="list-style-type: none"> <li>• Redistributable C++ 2017 x64 (<a href="https://aka.ms/vs/17/release/vc_redist.x64.exe">https://aka.ms/vs/17/release/vc_redist.x64.exe</a>)</li> <li>• Microsoft .NET Framework 6</li> <li>• Operating system Windows 10 &amp; Windows Server 2019</li> <li>• Latest version of the Chrome browser</li> </ul>
Cam Check Client	<ul style="list-style-type: none"> <li>• Latest version of the Chrome browser</li> </ul>

## Server Installation

First install the local Cam Check server and then the Web API certificate.

1. Run the installation file `GeutebrueckCamCheck_Installer_xxx.exe` to install the Cam Check server. You can install the Cam Check server on a dedicated machine, a G-Core server, or an G-SIM server.

**i Note the system requirements for G-Core and the Cam Check server.**

2. Install the Web API certificate on the Cam Check server.

## INSTALLATION

- a. Select the certificate to be used by the G-Core Web API.
- b. Start the installation of the certificate by double-clicking it.
- c. Select **Local Machine** as the **Store Location**.
- d. Select **Personal** or **Trusted Root Certification Authorities** as the **Certificate store**.
- e. Go to the folder `C:\Program Files\Geutebrueck-\GeutebrueckCamCheck` and open the file `appsettings.json`.

3. Enter the certificate information there:

```
"GCoreWebApiCertStore": {  
  "IgnoreIPAddress": true,  
  "Certificate": {  
    "Subject": "CN=certname, C=Germany, S=Rhineland-Palatinate,  
O=Geutebrueck Gmbh, OU=Technology, STREET=Im Nassen 7-9,  
SN=1.0",  
    // "Thumbprint" : "1234",  
    "Location": "LocalMachine",  
    "Store": "My", // "This value can also be Root"  
    "AllowInvalid": true  
  }  
}
```

- To determine the certificate information to be specified in the „Subject“ line, do the following:
  1. Go to the location of the certificate on the local machine.
  2. Find and open the installed certificate.
  3. Open the **Details** tab and select the **Issuer** field.
  4. The certificate information is displayed in the text box.

**i** **The format of the certificate information must remain unchanged and conform to the format defaults shown in the example: One line separated by comma and no spaces between the letters and the equal sign.**

- Alternatively, the thumbprint can be used instead of the subject. To do this, replace „Subject“ with „Thumbprint“. The value to be specified is the thumbprint of the certificate, which you determine as follows:
  1. Go to the location of the certificate on the local machine.
  2. Find and open the installed certificate.

## INSTALLATION

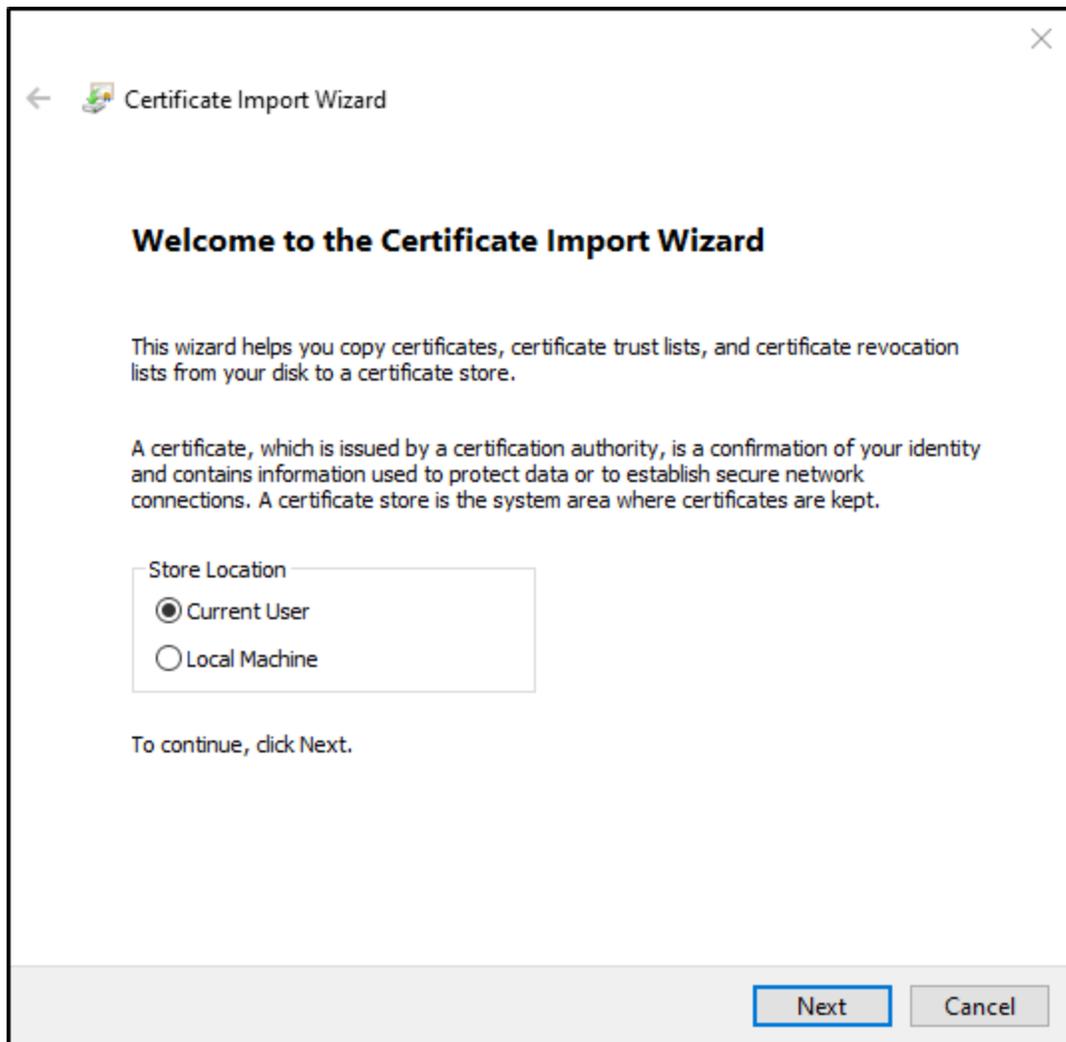
3. Open the **Details** tab and select the **Thumbprint** field.
4. The thumbprint of the certificate is displayed in the text box.
4. Restart the Cam Check to continue with the configuration in the web interface.

# Client Installation

Install the certificate for the Cam Check authentication on the clients on which the Cam Check is to be used.

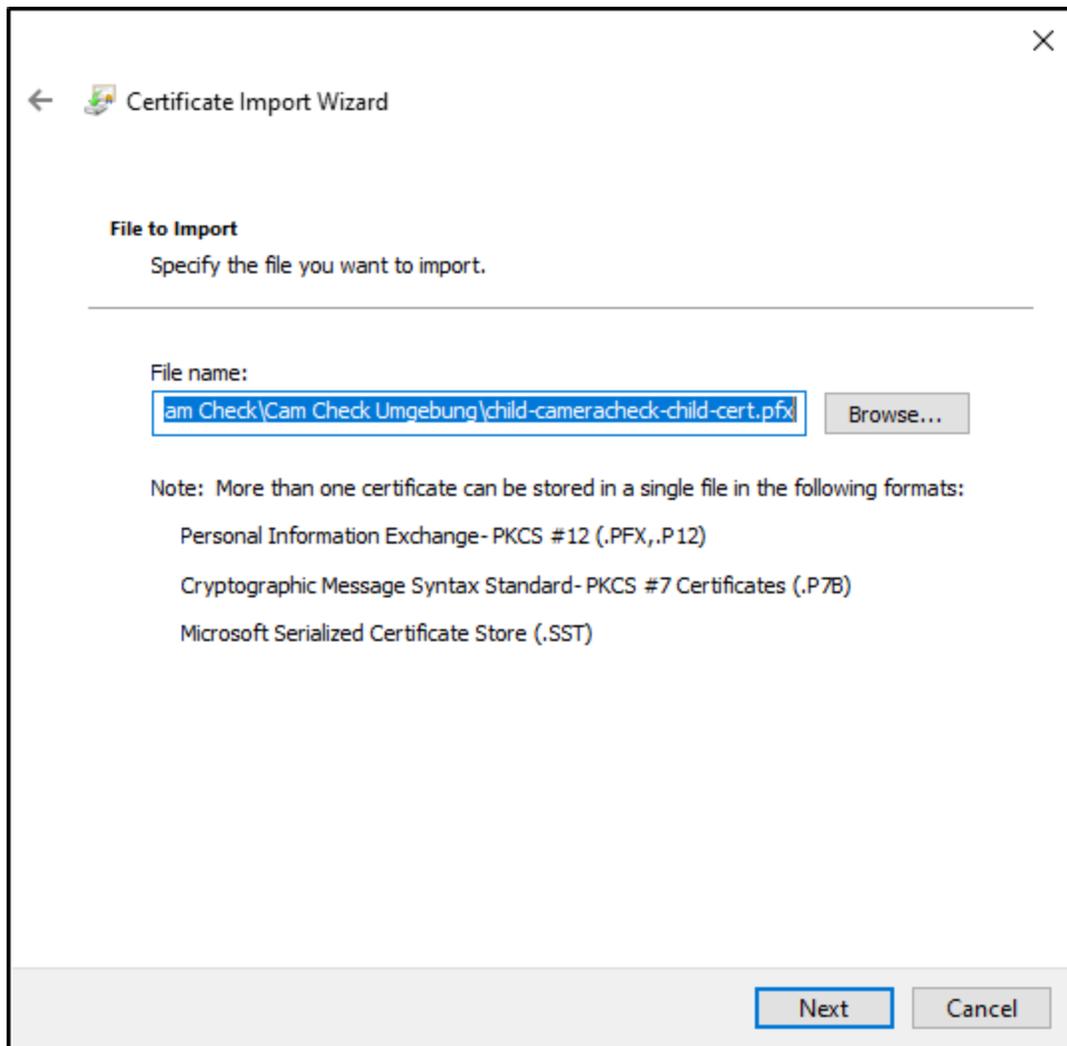
**i** **The Cam Check client requires the latest version of the Chrome browser.**

1. After installing the Web API certificate, find the certificate to be used for the Cam Check authentication of the user on the Cam Check server in the folder `C:\Program Files\Geutebrueck\GeutebrueckCamCheck\cameracheck-child-cert`.
2. Copy the certificate file `child-cameracheck-child-cert.pfx` to be able to move the certificate to the respective client computers.
3. Install the copied certificate file with a double click on the client that is to be used for the Cam Check.
4. The **Certificate Import Wizard** opens.
5. Select **Current User** as **Store Location** and click **Next**.

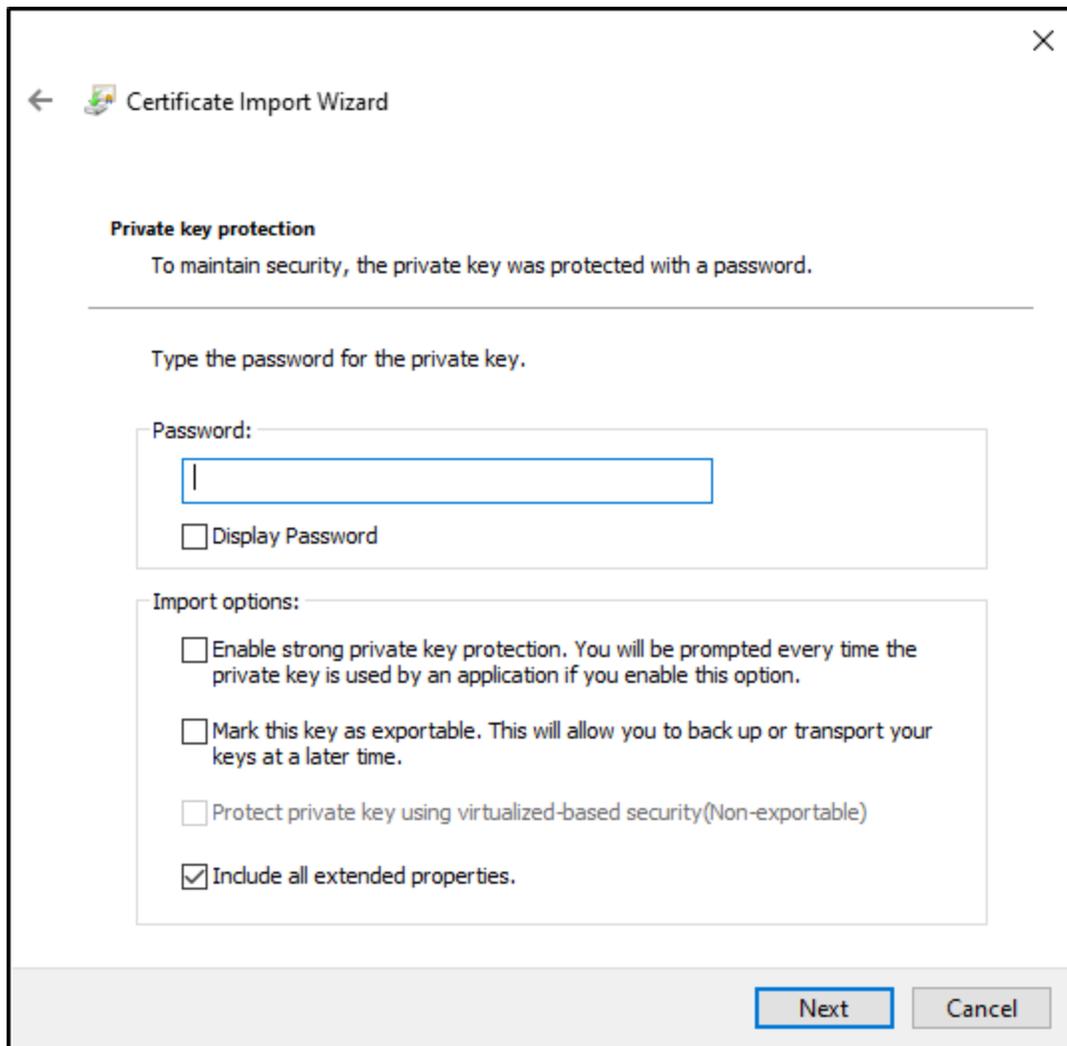


6. The **File to Import** can remain the default value already specified. Click **Next**.

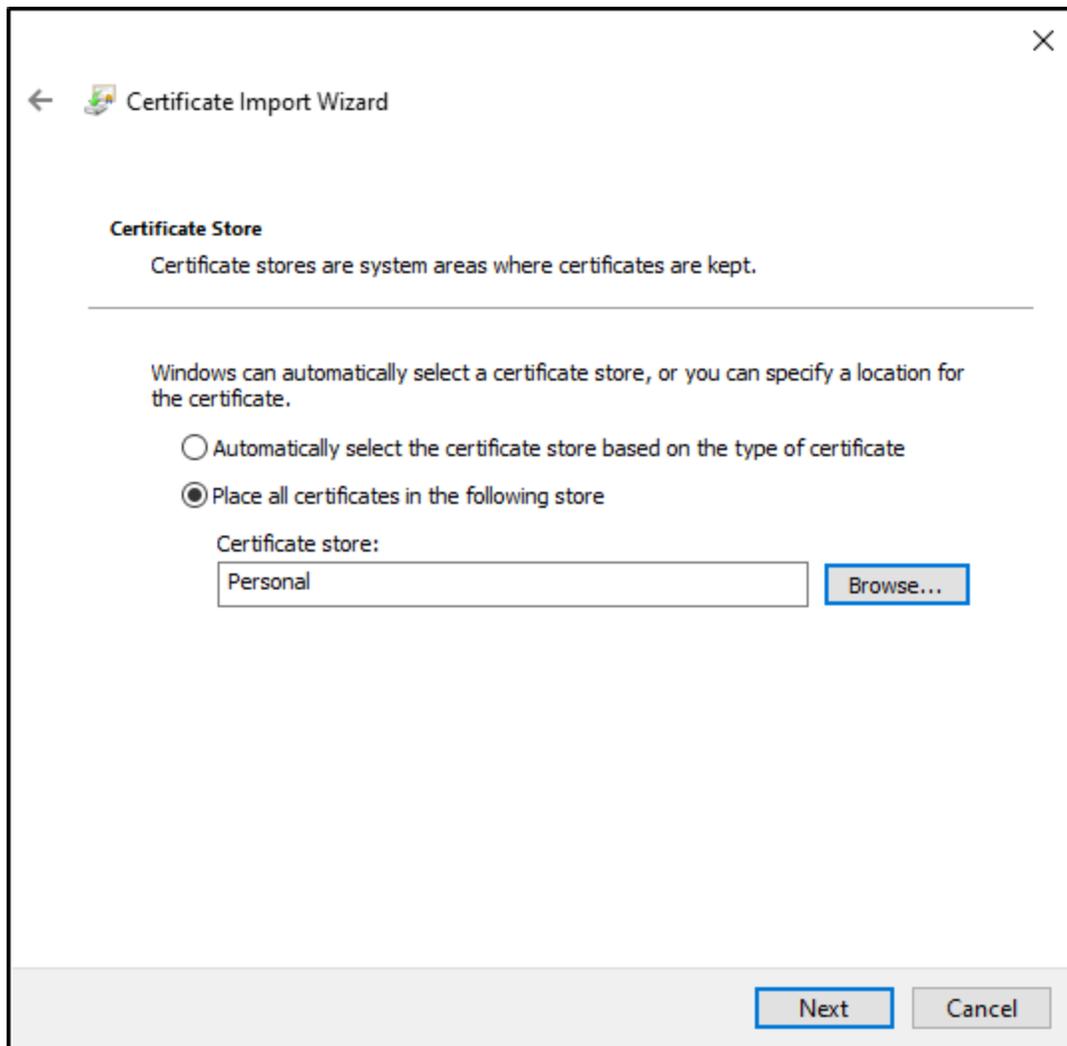
## INSTALLATION



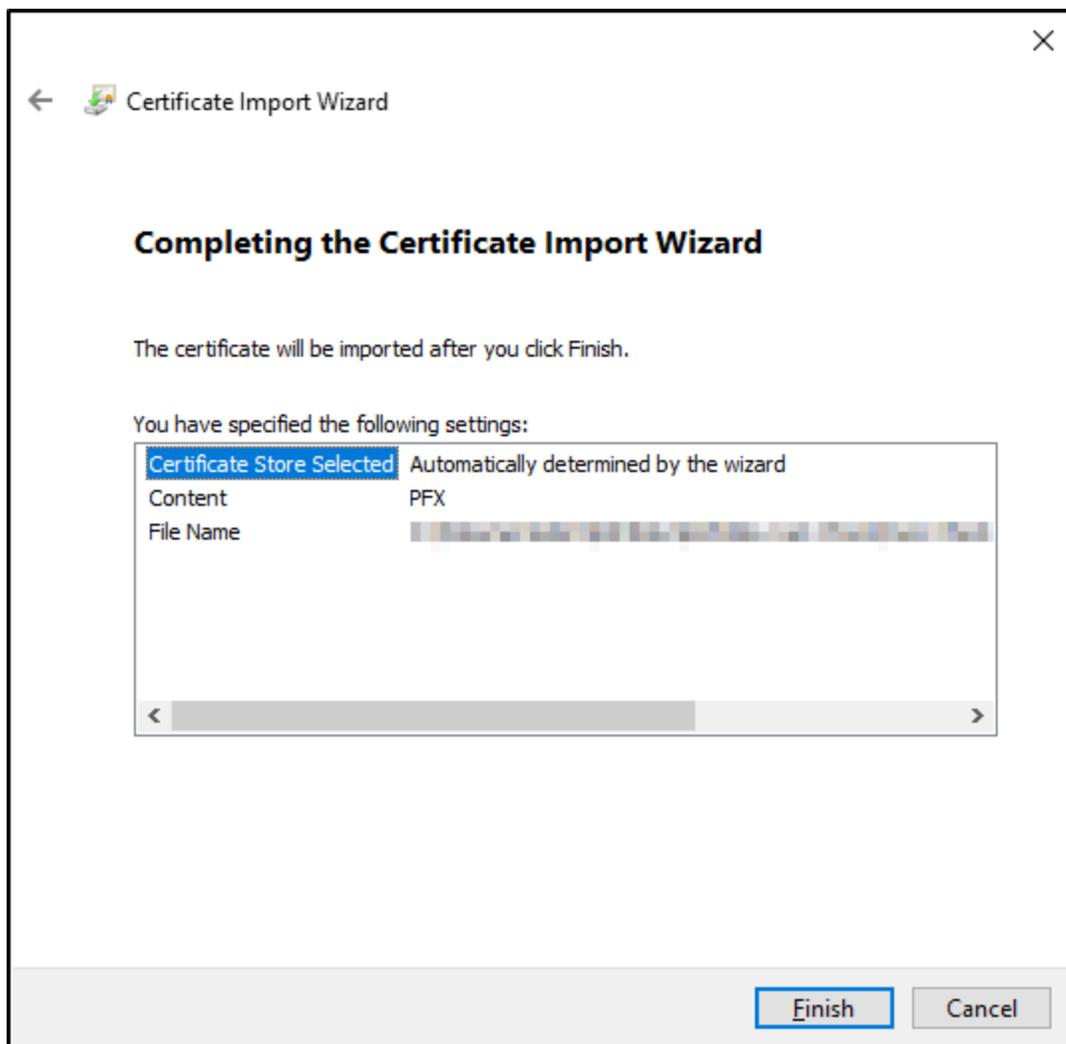
7. Type the password for the private key. This password is noted in the file `child-cameracheck-child-cert.pfx.password.txt` in the folder `C:\Program Files\Geutebrueck\GeutebrueckCamCheck\cameracheck-child-cert`.



8. Click **Next**.
9. Select the option **Place all certificates in the following store** for the certificate store.
10. Select **Personal** as Certificate store.



11. Click **Next**.
12. The dialog window **Completing the Certificate Import Wizard** lists your specified settings. Click **Finish**, to complete the installation.



→ When you open the Cam Check service in the browser for the first time on the respective computer or client, a pop-up window now appears asking you to select a certificate for authentication. Select the installed certificate and confirm with OK. The Cam Check service then opens.

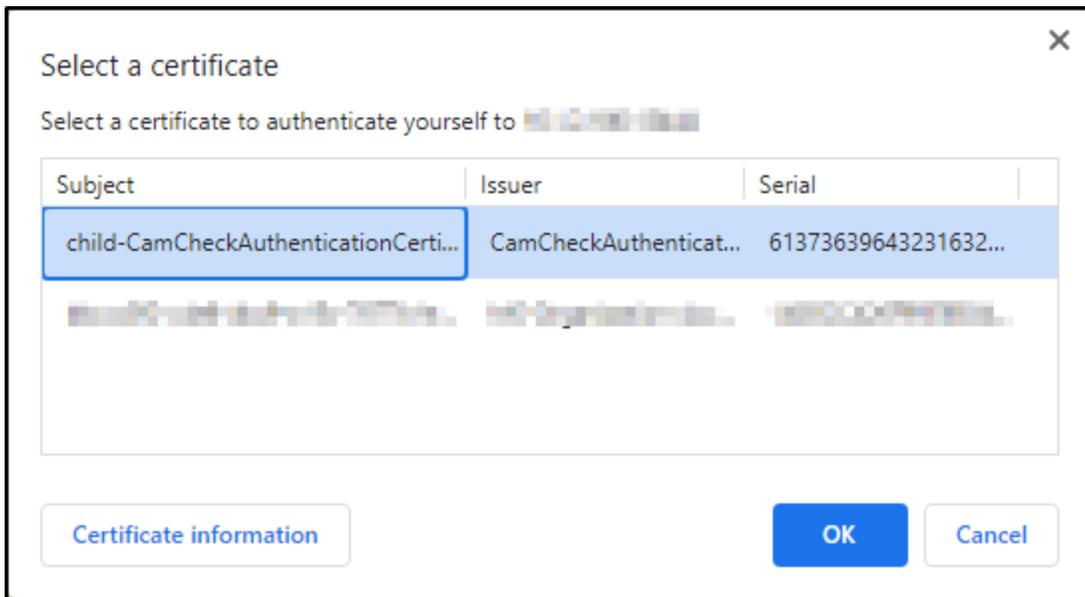
## Open the Cam Check UI

1. Open the CamCheck UI with the URL `http://<hostname or host-ip>:<port>`.

**i** Cam Check requires the latest version of the Chrome browser.

## INSTALLATION

2. When you open Cam Check in the browser, a pop-up window appears asking you to select a certificate for authentication.



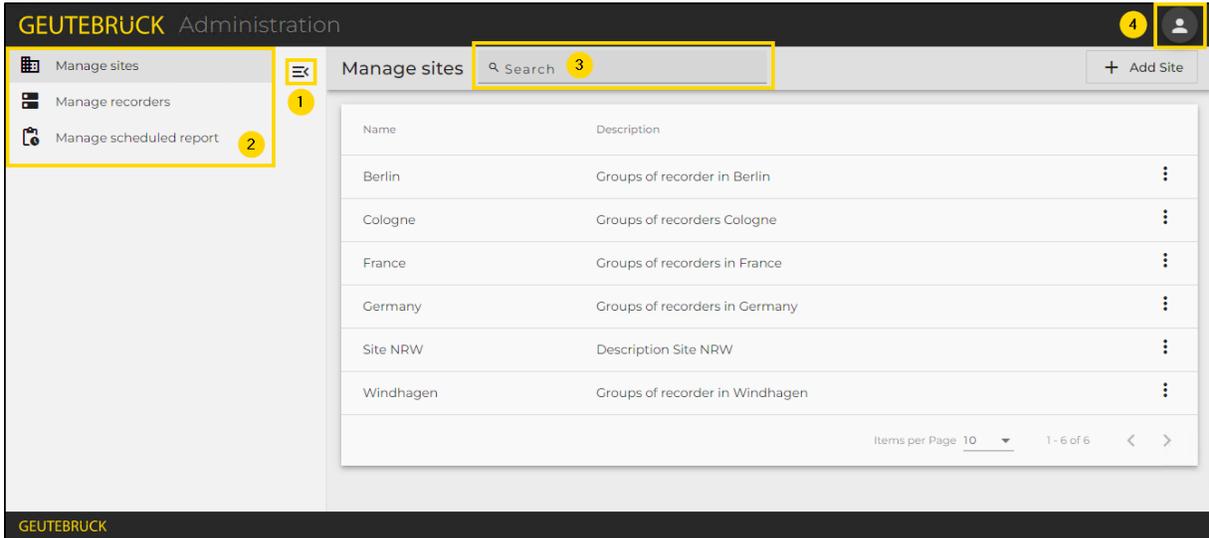
3. Select the Cam Check certificate and confirm with OK.  
→ The Cam Check web interface opens.

**i** When you open the Cam Check web interface in the browser for the first time, the error message **Your connection isn't private** appears. Click the **Advanced** button and then **Continue to localhost (unsafe)**.

**i** Mobile devices are currently not fully supported.

# Administration User Interface

In the Administration view, you can configure and manage the sites and recorders, as well as scheduled reports.



The user interface consists of the following elements:

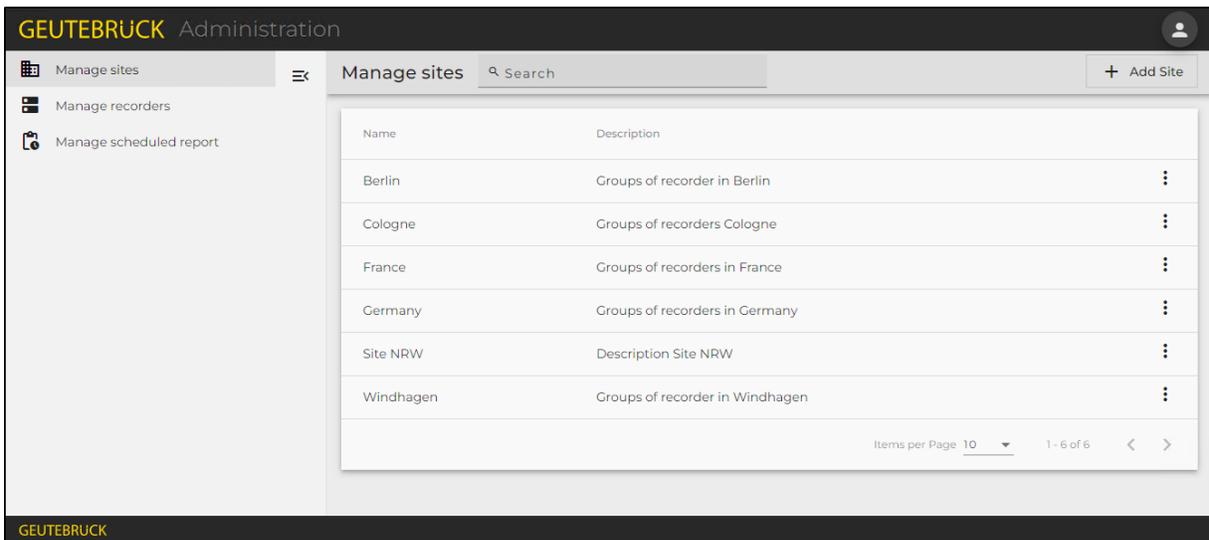
Element	Description
<p>1 Menu</p> 	<p>Opens or closes the menu bar.</p>
<p>2 Menu Bar</p>	<p>The menu bar contains the following menu items:</p> <ul style="list-style-type: none"> <li> <b>Manage Sites</b></li> <li> <b>Manage Recorders</b></li> <li> <b>Manage Scheduled Report</b></li> </ul>
<p>3 Search Bar</p> 	<p>By inserting a filter term, the table list is filtered. Spaces at the beginning and end of the search term are excluded from the search. The filter is applied to each attribute of the data (name, site, recorder).</p>

Element	Description
<p>4 User Menu </p>	<p>Opens the user menu. Here you can switch to the <b>Operations</b> user interface.</p>

## Manage Sites

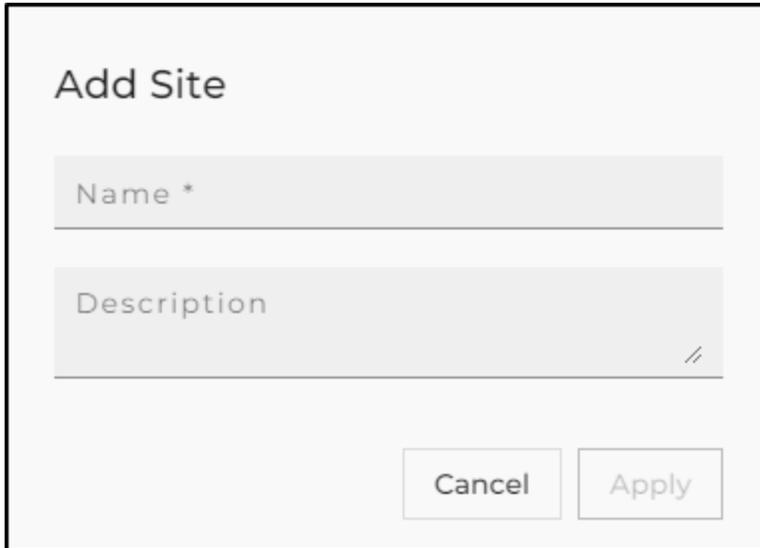
In the  Manage sites view all created sites are listed. You can manage the sites here by performing various actions:

- Add a Site
- Edit a Site
- Delete a Site



## Add a Site

1. Click  **Add Site**. The **Add Site** dialog window opens.

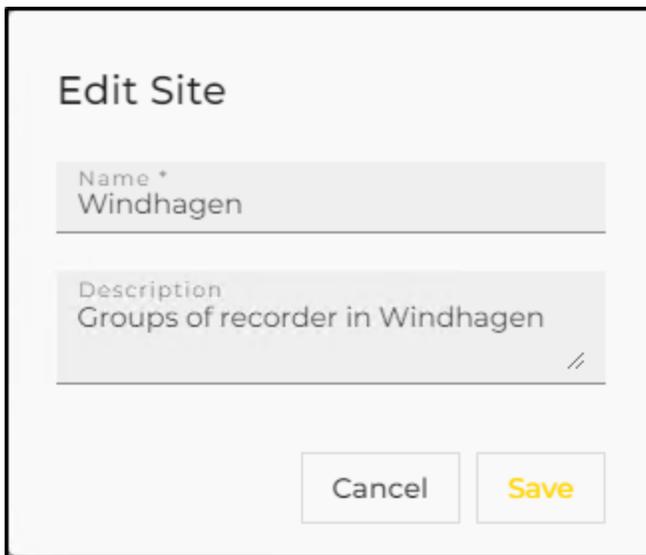


The screenshot shows a dialog box titled "Add Site". It contains two input fields: "Name \*" and "Description". The "Description" field has a double-slash icon in the bottom right corner. At the bottom of the dialog are two buttons: "Cancel" and "Apply".

2. Specify a unique site name.
3. Enter a description of the site (optional).
4. Click **Apply**.

## Edit a Site

1. Open the context menu of the respective site by clicking on  .
2. Click  **Edit**. The **Edit Site** dialog window opens.



**Edit Site**

Name \*  
Windhagen

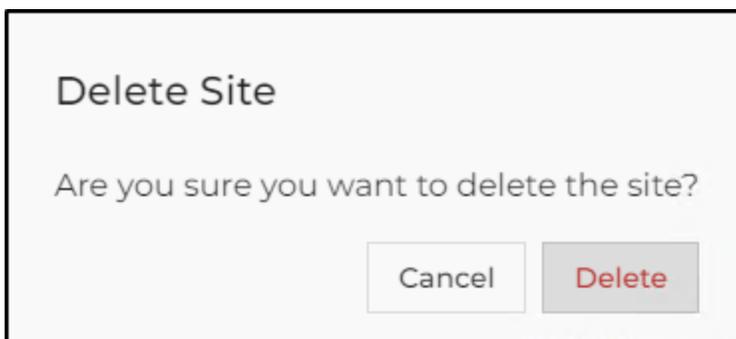
Description  
Groups of recorder in Windhagen

Cancel Save

3. You can edit the name and the description of the site.
4. Click **Apply**.

## Delete a Site

1. Open the context menu of the respective site by clicking on .
2. Click  **Delete**. The **Delete Site** dialog window opens.



**Delete Site**

Are you sure you want to delete the site?

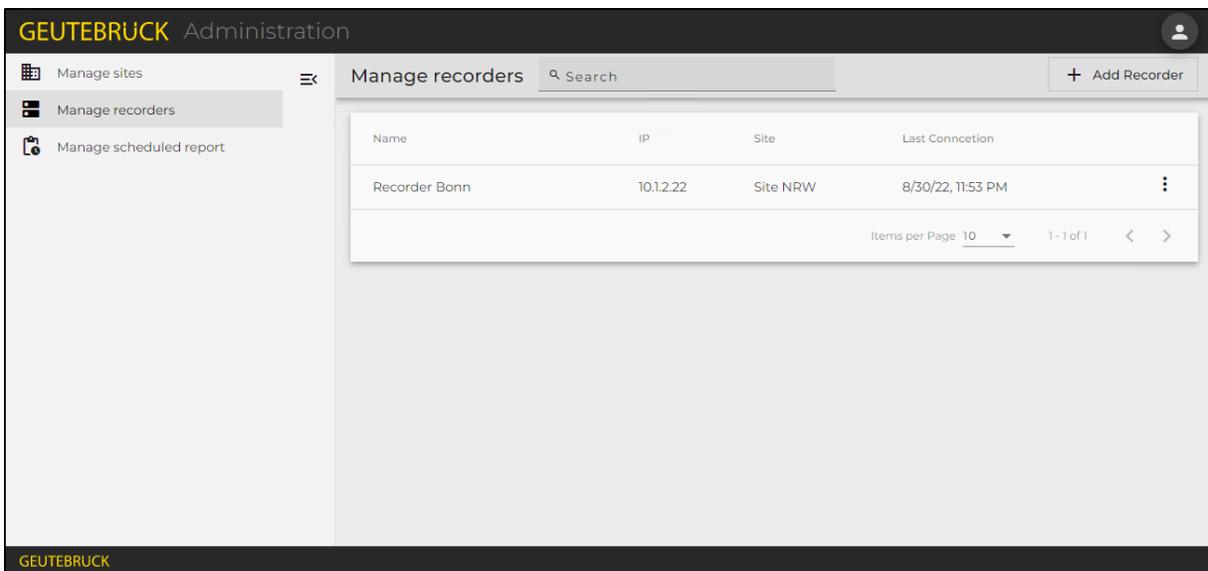
Cancel Delete

3. Confirm the dialog **Are you sure you want to delete the site?** with **Delete**.

# Manage Recorders

In the  Manage recorders view all created recorders are listed. You can manage the recorders here by performing various actions:

- **Add a Recorder**
- **Edit a Recorder**
- **Delete a Recorder**



## Add a Recorder

1. Click **+** Add Recorder. The Recorder dialog window opens.

2. Enter the following information:

Name	Description
Name	Specify a unique recorder name.
Site	Select the site of the recorder.
Check interval (hours)	Select a check interval for the recorder. The default value is 1. The min. value is 1 and the max. value is 168.
Description	Enter a description.
IP address	Enter the IP address or hostname of the recorder.
Username	Enter the username of the recorder.
Password	Enter the password of the recorder.
Threshold	Change the threshold value by moving the slider. The threshold is the deviation from the reference image to the live image in percent until the status of a channel changes.

## ADMINISTRATION USER INTERFACE

3. Click **Next**. The recorder settings are automatically saved and the message **Recorder is updated!** appears.
4. The second dialog window **Channels** opens.

<input type="checkbox"/>	Name
<input type="checkbox"/>	North Pacific hake
<input checked="" type="checkbox"/>	Haddock
<input checked="" type="checkbox"/>	Blue whiting
<input checked="" type="checkbox"/>	Chub mackerel
<input type="checkbox"/>	Pollock

Cancel Save

5. Select the channels to be checked by the Cam Check.
6. Click **Save**.

### Edit a Recorder

1. Open the context menu of the respective recorder by clicking on .
2. Click  **Edit**. The **Recorder** dialog window opens.

The screenshot displays the configuration page for a recorder. It is divided into two sections: '1 Recorder' and '2 Channels'. The 'Recorder' section contains the following fields:

- Name \***: Recorder Bonn
- IP address \***: 10.1.2.22
- Site \***: Site NRW (dropdown menu)
- Username \***: sysadmin
- Check intervall (hours)**: 10
- Password \***: .....
- Description**: Description Recorder Bonn
- Threshold**: 70% (slider control)

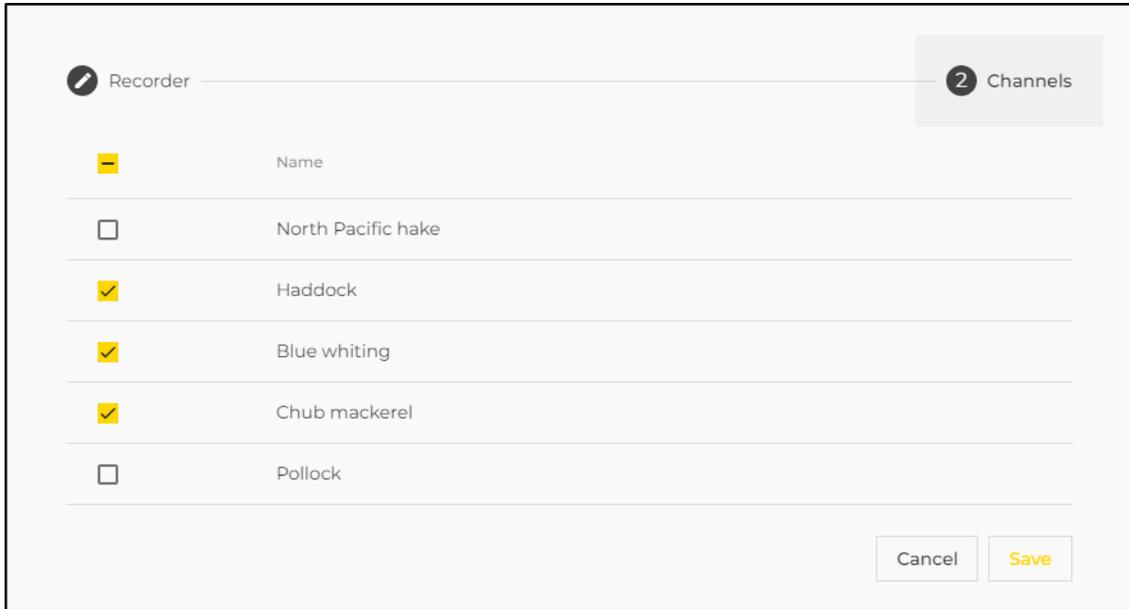
At the bottom right, there are two buttons: 'Cancel' and 'Next'.

3. You can edit the following information:

Name	Description
Name	Specify a unique recorder name.
Site	Select the site of the recorder.
Check intervall (hours)	Select a check interval for the recorder. The default value is 1. The min. value is 1 and the max. value is 168.
Description	Enter a description.
IP address	Enter the IP address or hostname of the recorder.
Username	Enter the username of the recorder.
Password	Enter the password of the recorder.
Threshold	Change the threshold value by moving the slider. The threshold is the deviation from the reference image to the live image in percent until the status of a channel changes.

## ADMINISTRATION USER INTERFACE

- Click **Next**. The recorder settings are automatically saved and the message **Recorder is updated!** appears.
- The second dialog window **Channels** opens.



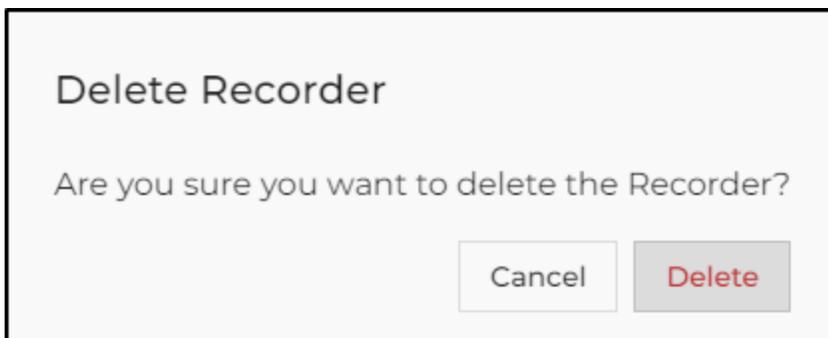
The screenshot shows a dialog window titled "Recorder" with a "Channels" tab. The window contains a table with columns for a checkbox and "Name". The table lists five fish species: North Pacific hake, Haddock, Blue whiting, Chub mackerel, and Pollock. The checkboxes for Haddock, Blue whiting, and Chub mackerel are checked. At the bottom right, there are "Cancel" and "Save" buttons.

	Name
<input type="checkbox"/>	North Pacific hake
<input checked="" type="checkbox"/>	Haddock
<input checked="" type="checkbox"/>	Blue whiting
<input checked="" type="checkbox"/>	Chub mackerel
<input type="checkbox"/>	Pollock

- Select the channels to be checked by the Cam Check.
- Click **Save**.

## Delete a Recorder

- Open the context menu of the respective recorder by clicking on  .
- Click  **Delete**. The **Delete Recorder** dialog window opens.



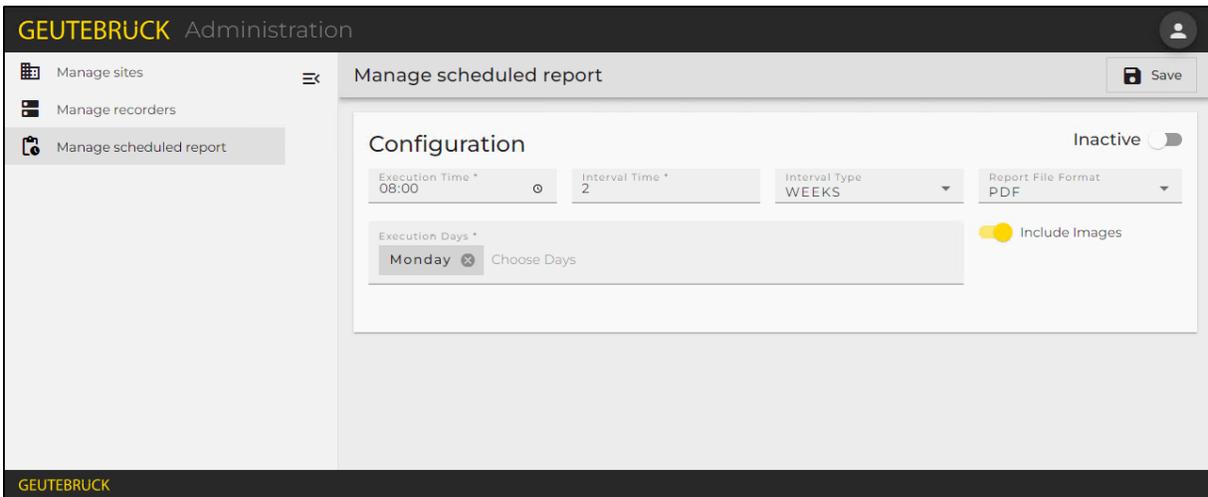
The screenshot shows a dialog window titled "Delete Recorder" with the text "Are you sure you want to delete the Recorder?". At the bottom right, there are "Cancel" and "Delete" buttons.

3. Confirm the dialog **Are you sure you want to delete the Recorder?** with **Delete**.

## Manage Scheduled Report

In the  **Manage Scheduled Report** view you can configure the schedule for the scheduled generation of a report.

You can set at which time, at which interval and in which format the report should be generated automatically in the background. The Cam Check then automatically performs an image comparison of the reference and live images for all channels, based on the configured schedule, and saves the report in the local installation directory.



How to configure the scheduled report:

1. In the **Execution Time** field, specify the time at which the report should be generated.

**i** **Note that the UTC time zone is used when configuring the scheduled report.**

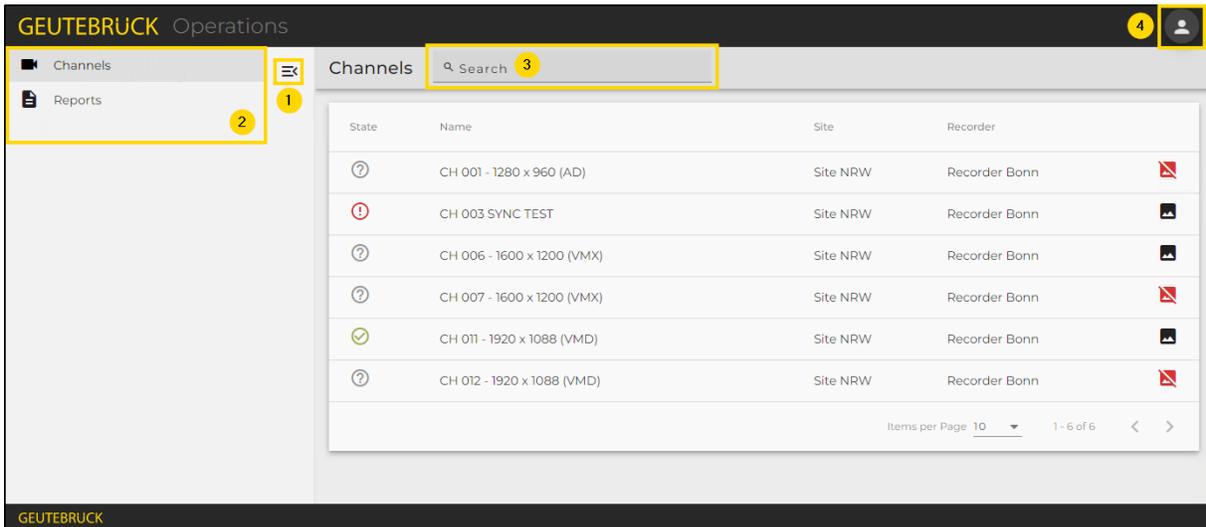
2. In the **Execution Days** field, select the days of the week on which the report should be generated. Click **Choose Days** to select the days of the week from the drop-down menu.
3. In the **Interval Time** field, specify the interval value of the report. The maximum value you can set is 12, the minimum value is 1.

## ADMINISTRATION USER INTERFACE

4. In the **Interval Type** drop-down menu, select the period for the interval value of the report. You can choose the period in weeks or months.
5. In the **Report File Format** drop-down menu, select the format in which you want to save the report. You can choose between PDF, HTML and CSV. The default value is PDF.
6. Enable or disable the **Include Images** slider to select whether the current live image and the reference image of the channels should be included in the report.
7. Enable or disable the scheduled report generation by setting the slider to **Active** or **Inactive**.
8. Click  **Save** to save the settings and update the configuration.
  - If you have set the scheduled reporting to **Inactive**, the message **Configuration successfully updated and report deactivated!** appears.
  - If you have set the scheduled reporting to **Active**, the message **Configuration successfully updated and report activated!** appears.
9. If you have saved the configuration and enabled scheduled reporting, the Cam Check automatically performs an image comparison for all channels based on the configured schedule and saves the report in the **Reports** folder in the local installation directory C:\Program Files\Geutebrueck-\CamCheck.

# Operations User Interface

In the Operations view, you can control the status of the channels, perform manual image comparison, and manual reporting.



The user interface consists of the following elements:

Element	Description
1 Menu 	Opens or closes the menu bar.
2 Menu Bar	The menu bar contains the following menu items: <ul style="list-style-type: none"> <li> Channels</li> <li> Reports</li> </ul>
3 Search Bar 	By inserting a filter term, the table list is filtered. Spaces at the beginning and end of the search term are excluded from the search. The filter is applied to each attribute of the data (name, site, recorder).
4 User	Opens the user menu. Here you can switch to the <b>Administration</b> user interface.

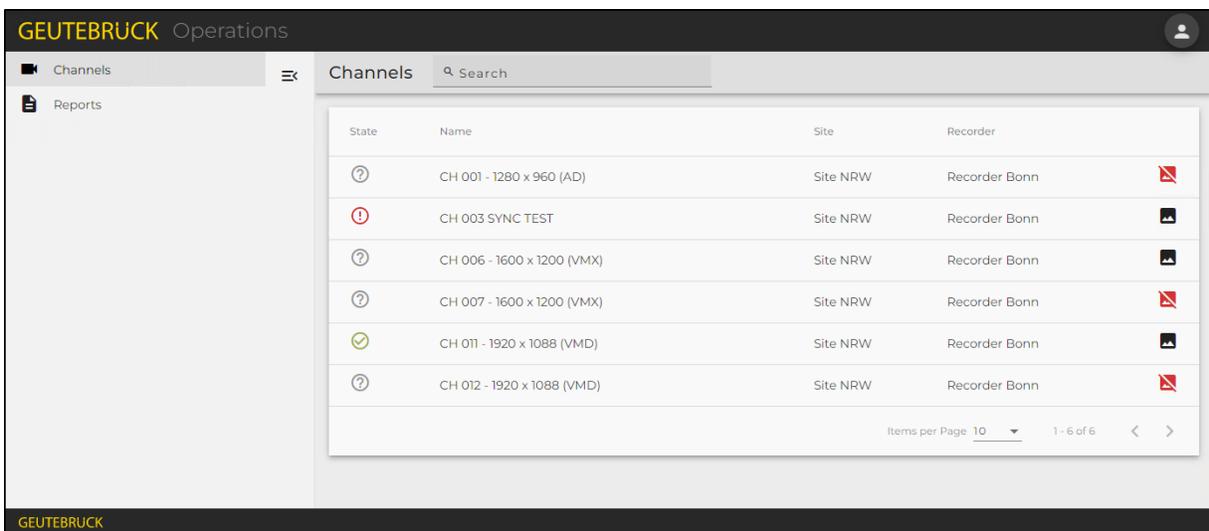
Element	Description
Menu 	

## Channels

In the  Channels view, all channels that are checked by Cam Check are listed.

In this view you can perform a manual check of the channels by performing various actions:

- **Control the Channels Status**
- **Manual Channel Check**
  - **View Current Live Image and Other Channel Information**
  - **Edit Reference Image of a Channel**
  - **Change Status of a Channel**



State	Name	Site	Recorder	
	CH 001 - 1280 x 960 (AD)	Site NRW	Recorder Bonn	
	CH 003 SYNC TEST	Site NRW	Recorder Bonn	
	CH 006 - 1600 x 1200 (VMX)	Site NRW	Recorder Bonn	
	CH 007 - 1600 x 1200 (VMX)	Site NRW	Recorder Bonn	
	CH 011 - 1920 x 1088 (VMD)	Site NRW	Recorder Bonn	
	CH 012 - 1920 x 1088 (VMD)	Site NRW	Recorder Bonn	

### Control the Channels Status

The channel list shows you the following information about the respective channels:

Information	Description
State	<p>Current status of the channel.</p> <p>The status of the last check performed (automatic or manual) is displayed.</p> <ul style="list-style-type: none"> <li>  <b>Ok</b> - No difference between live and reference image was detected.                 </li> <li>  <b>Unknown</b> - It is not possible to perform the check of the channel (e.g. because no reference image is available or due to network problems).                 </li> <li>  <b>Failure</b> - A difference between live and reference image was detected.                 </li> </ul>
Name	Name of the channel.
Site	Site of the channel.
Recorder	Recorder of the channel.
 	<p>Status of the reference image of the channel.</p> <ul style="list-style-type: none"> <li>  - The reference image is available.                 </li> <li>  - The reference image is missing. It is not possible to check the channel.                 </li> </ul>

## Manual Channel Check

Click on  or  of the respective channel. The manual check dialog opens.

🔍 Channel: CH 003 SYNC TEST

Reference Image



Live Image



Site:	Site NRW
Recorder:	Recorder Bonn
Reference created at:	25/08/2022, 13:53
Man. Check Time:	
Auto. Check Time:	30/08/2022, 23:53
State:	Unknown
Comment:	

Close
Refresh Data
Replace Reference
Change State
Delete Reference

### View Current Live Image and Other Channel Information

The following information of the channel is displayed in the manual check dialog:

Information	Description
Reference Image	Current reference image of the channel. If no reference image is available, the placeholder <b>NO REFERENCE IMAGE</b> is displayed.
Live Image	Current live image of the channel.
Site	Site of the channel.
Recorder	Recorder of the channel.
Reference created at	Creation date of the reference image.

Information	Description
Man. Check Time	Date and time of the last manual check.
Auto. Check Time	Date and time of the last automatic check.
State	Current status of the channel.
Comment	Comment about the channel.

Click **Refresh Data** to update the information of the channel.

### Edit Reference Image of a Channel

In the manual check dialog, you can perform the following actions to edit the reference image of the channel:

Action	Description
New Reference	Click this button to create a new reference image for the channel if none already exists.
Replace Reference	Click this button to replace the current reference image of the channel with a new one. The <b>Replace Reference Image</b> confirmation dialog appears. Confirm it with <b>Replace</b> .
Delete Reference	Click this button to delete the current reference image of the channel. The <b>Delete Reference Image</b> confirmation dialog appears. Confirm it with <b>Delete</b> .

### Change Status of a Channel

In the manual check dialog, you can change the status of the channel manually.

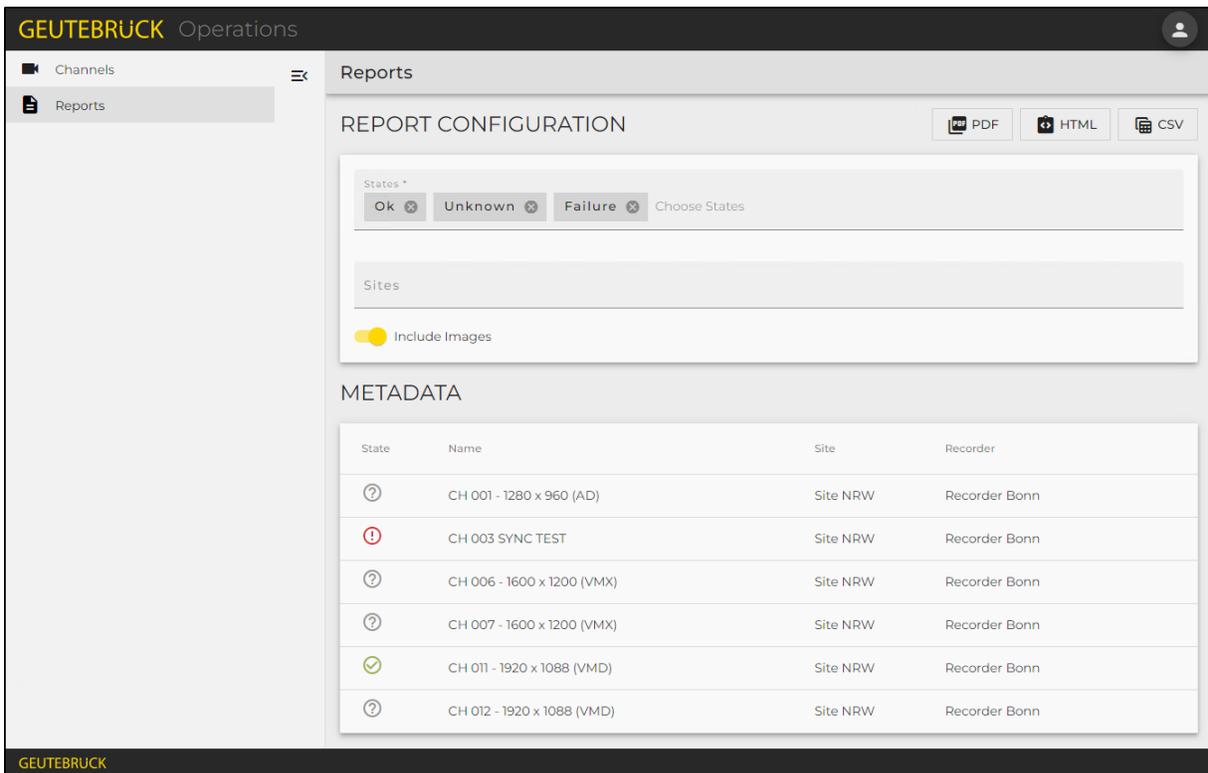
1. Click on the **Change State** button.
2. The **Change Channel State** dialog window opens.

The screenshot shows a dialog box titled "Change Channel State". At the top, there is a dropdown menu labeled "New State \*" with a yellow underline and a downward arrow. Below this is a text input field labeled "Comment \*" with a character count "0 / 256" in red text at the bottom right. At the bottom of the dialog, there are two buttons: "Cancel" and "Save".

3. In the New State drop-down menu, select the **New State** of the channel.
4. Enter a comment in the **Comment** text box to explain the change of state. The comment is mandatory and must be min. 20 characters and max. 256 characters long.
5. Click **Save**.

## Reports

In the  Reports view you can configure and create a report manually.



How to configure the manual report:

1. In the **States** field, select the states to be listed in the report. Click **Choose States** to select a state from the drop-down menu.
2. In the **Sites** field, select the sites to list in the report.
3. Enable or disable the **Include Images** slider to select whether the current live image and the reference image of the channels should be listed in the report.
4. The **META DATA** list updates according to your configuration and displays the following preview information:
  - State
  - Name
  - Site
  - Recorder

## OPERATIONS USER INTERFACE

5. Click the  PDF,  HTML or  CSV button to download the report in the respective format and save it locally.

Technical alterations reserved.

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